DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	1	434
				②	VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)			

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

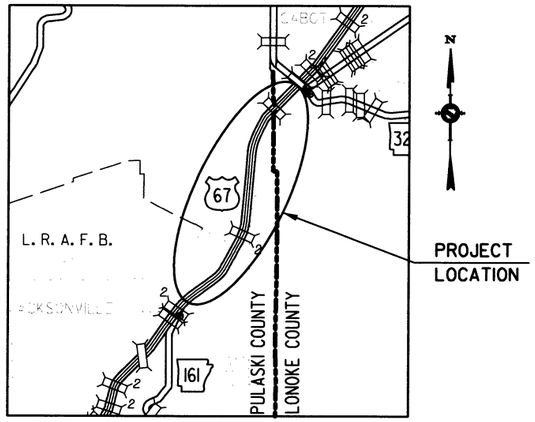
CONSTRUCTION PLANS

VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)

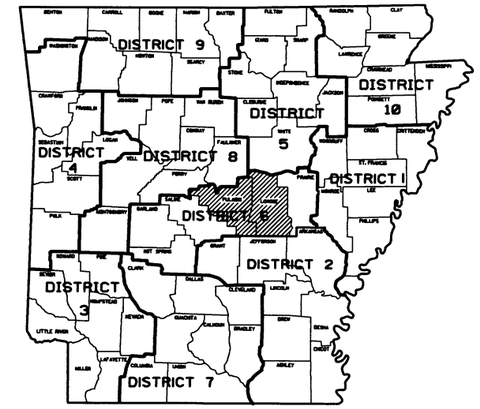
PULASKI & LONOKE COUNTIES
ROUTE 67 SECTIONS 10 & 11
F.A.P. ACNHPP-6043(2)

JOB CA0605

JOB CA0605



VICINITY MAP



ARK. HWY. DIST. NO. 6

BRIDGE CONSTRUCTION DATA

① STA. 787+79.75 ℄ CONST. HWY. 67 BRIDGE END
133'-6" INTEGRAL W-BEAM UNIT
BRIDGE NO. 07399
112'-0" CLEAR ROADWAY WIDTH
134'-6" BRIDGE LENGTH
STA. 789+14.25 ℄ CONST. HWY. 67 BRIDGE END

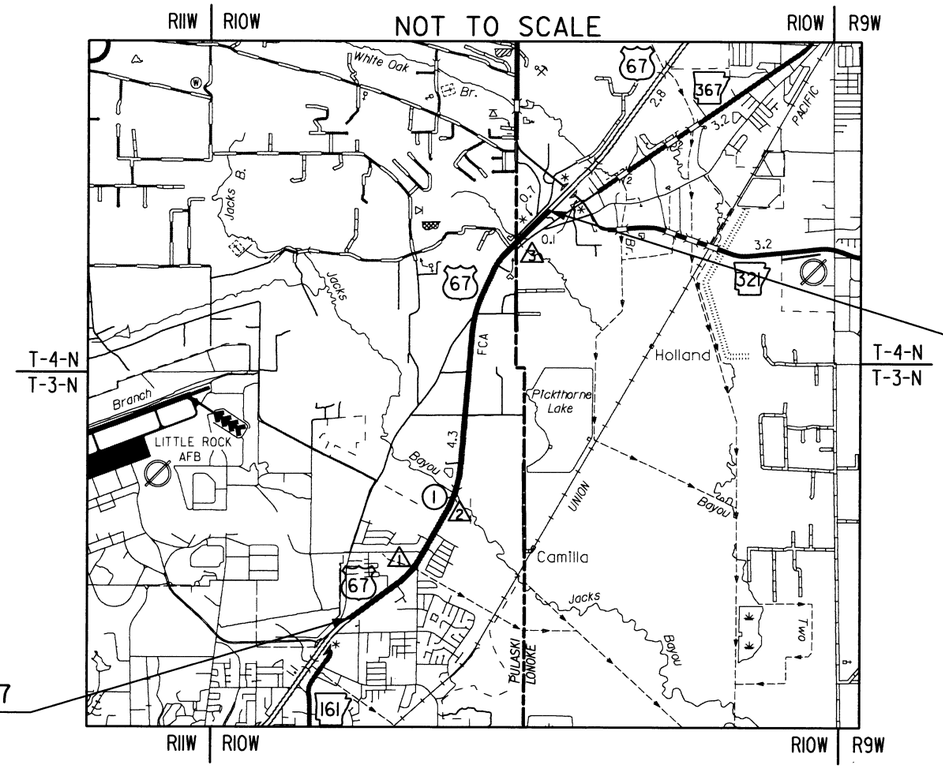
STRUCTURES OVER 20'-0" SPAN

⚠1 STA. 746+00 ℄ CONST. HWY. 67 CONSTRUCT
TRI. 6'X5'X255' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q_{50}= 626 CFS, D.A.= 512 ACRES
SPAN= 20.58'

⚠2 STA. 783+32.56 ℄ CONST. HWY. 67 CONSTRUCT
SEXT. 10'X5'X320' R.C. BX CULVERT
30° RT. FWD. SKEW
WITH 2:1 WINGS LT. & RT.
Q_{50}= 2145 CFS, D.A.= 6.82 SQ. M.
SPAN= 74.38'

⚠3 STA. 920+60 ℄ CONST. HWY. 67 CONSTRUCT
QUINT. 8'X5'X286' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q_{50}= 719 CFS, D.A.= 698 ACRES
SPAN= 43.67'

NOT TO SCALE



STA. 948+00.00 ℄ CONST. HWY. 67
END JOB CA0605
LOG MILE 0.54 (LONOKE COUNTY)

STA. 705+05.30 ℄ CONST. HWY. 67
BEGIN JOB CA0605
LOG MILE 11.24 (PULASKI COUNTY)

DESIGN TRAFFIC DATA - HWY. 67

DESIGN YEAR	2036
2016 ADT	69,000
2036 ADT	80,500
2036 DHV	8,800
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	10%
DESIGN SPEED	65 MPH

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°53' 28"	N 34°54' 41"	N 34°56' 49"
LONGITUDE	W 92°06' 09"	W 92°05' 00"	W 92°03' 58"

LENGTH COMPUTED ALONG ℄ CONST. HWY. 67

GROSS LENGTH OF PROJECT	24,294.70	FEET OR	4.601	MILES
NET LENGTH OF ROADWAY	24,021.57	FEET OR	4.550	MILES
NET LENGTH OF BRIDGES	273.13	FEET OR	0.052	MILES
NET LENGTH OF PROJECT	24,294.70	FEET OR	4.601	MILES

CERTIFICATE OF AUTHORIZATION ICA ENGINEERING, INC. No. 120 ARKANSAS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/7/16

P.E. JOB 061261

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
8/30/2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	CA0605	2	434

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9868 WILLIAM L. BAKER 11/30/16

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 WILLIAM L. BAKER

DATE REVISED 8/30/2016	DATE PLMED	DATE REVISED	DATE PLMED	FED.RD. DIST.NO. 6	STATE ARK.	FED.AID PROJ.NO.	SHEET NO. 2A	TOTAL SHEETS 434
				JOB NO. CA0605				

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GOVERNING SPECIFICATIONS

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

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ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB CA0605
FHWA-1273	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273	SUPPLEMENT - WAGE RATE DETERMINATION
100-3	CONTRACTOR'S LICENSE
102-2	ISSUANCE OF PROPOSALS
108-1	LIQUIDATED DAMAGES
108-2	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
303-1	AGGREGATE BASE COURSE
400-1	TACK COATS
410-1	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
604-1	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
606-1	PIPE CULVERTS FOR SIDE DRAINS
620-1	MULCH COVER
JOB CA0605	AIRPORT CLEARANCE REQUIREMENTS
JOB CA0605	ANIMAL PASSAGE SHELVES FOR WILDLIFE CROSSINGS
JOB CA0605	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB CA0605	AUTOMATED WORK ZONE INFORMATION SYSTEM
JOB CA0605	BARRIER WALL DELINEATOR
JOB CA0605	BIDDING REQUIREMENTS AND CONDITIONS
JOB CA0605	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB CA0605	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB CA0605	CABINET DRAWER ASSEMBLY
JOB CA0605	CARGO PREFERENCE ACT REQUIREMENTS
JOB CA0605	CHANNEL POST SIGN SUPPORT
JOB CA0605	CONCRETE BARRIER WALL
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JOB CA0605	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB CA0605	COORDINATION OF WORK
JOB CA0605	DELAY IN RIGHT OF WAY OCCUPANCY
JOB CA0605	DIRECT TENSION INDICATORS FOR HIGH STRENGTH BOLT ASSEMBLIES
JOB CA0605	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB CA0605	EDGE CARD VIDEO PROCESSOR
JOB CA0605	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB CA0605	ELECTRICAL CONDUCTORS-IN-CONDUIT
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JOB CA0605	EMPLOYMENT REPORTING
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JOB CA0605	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER WALL
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JOB CA0605	HIGH PERFORMANCE PAVEMENT MARKING
JOB CA0605	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
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JOB CA0605	LOUVERS FOR SIGNAL HEADS
JOB CA0605	MAINTENANCE OF TRAFFIC
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JOB CA0605	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
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JOB CA0605	PLASTIC PIPE
JOB CA0605	PROSECUTION AND PROGRESS - CONNECTING ARKANSAS PROGRAM
JOB CA0605	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE
JOB CA0605	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE
JOB CA0605	REMOVING EXISTING PORTLAND CEMENT CONCRETE PAVEMENT
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JOB CA0605	SHORING FOR CULVERTS
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JOB CA0605	STREET NAME SIGN (MAST ARM MOUNTED)
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JOB CA0605	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB CA0605	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE
JOB CA0605	UTILITY ADJUSTMENTS
JOB CA0605	VALUE ENGINEERING
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JOB CA0605	WARM MIX ASPHALT
JOB CA0605	WATER POLLUTION CONTROL
JOB CA0605	WIRE ROPE SAFETY FENCE (WRSF) SPECIFICATIONS

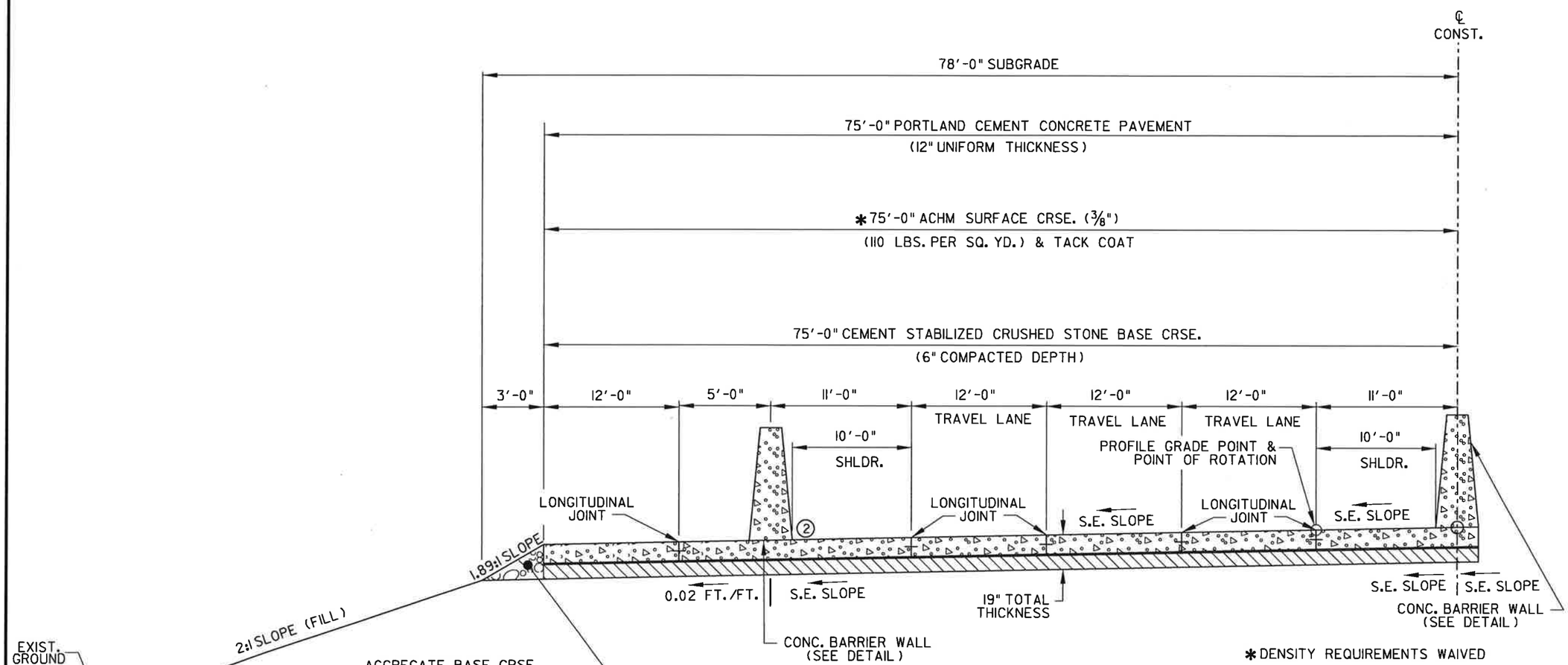
GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCES MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
9. THE CONTRACTOR SHALL CONTACT ALL FIBER OPTIC COMPANIES INVOLVED ON THIS PROJECT AT LEAST FIVE (5) WORKING DAYS BEFORE CONSTRUCTION, INCLUDING REMOVING AND INSTALLING ANY FENCING, AND TAKE EVERY PRECAUTION NECESSARY TO AVOID CONFLICT WITH THE FIBER OPTIC CABLES. THE CONTRACTOR SHALL TELEPHONE ARKANSAS ONE-CALL SYSTEM AT 1-800-482-8998 TO DETERMINE THE LOCATION OF THE BURIED FIBER OPTIC CABLES.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 23 PERMIT FOR CATEGORICAL EXCLUSIONS. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION 2014, AND SUPPLEMENTAL SPECIFICATION 110-1, FOR PERMIT REQUIREMENTS.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 WES L. BAKER 10/17/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	4	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - SUPERELEVATION WITH BARRIER WALL AND AUXILLARY LANE LT. MAIN LANES

STA. 705+05.30 LT. TO STA. 708+20.30 LT.

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08 FT./FT.

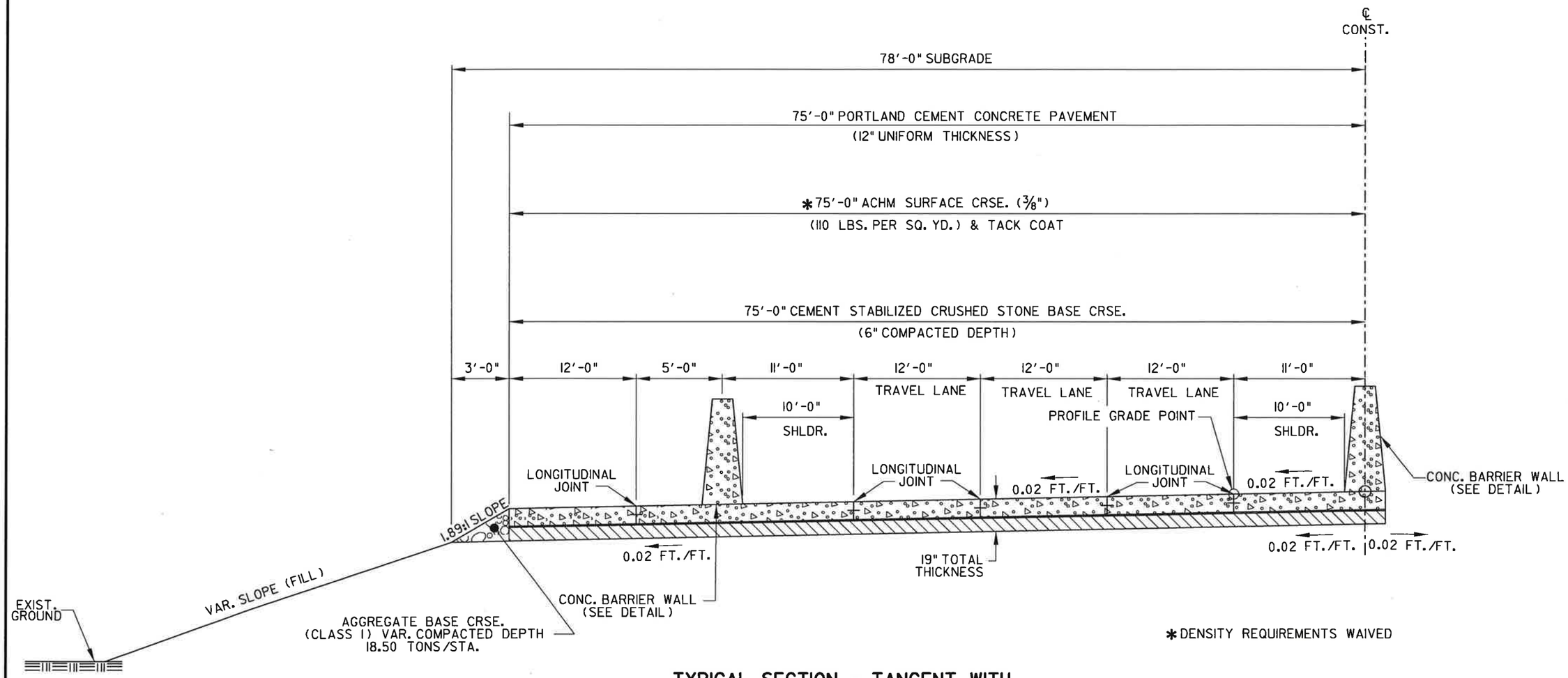
(3) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS.. ARE WAIVED.

(4) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	5	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH BARRIER WALL AND AUXILLARY LANE LT. MAIN LANES

STA. 708+20.30 LT. TO STA. 712+30.77 LT.

NOTES:

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

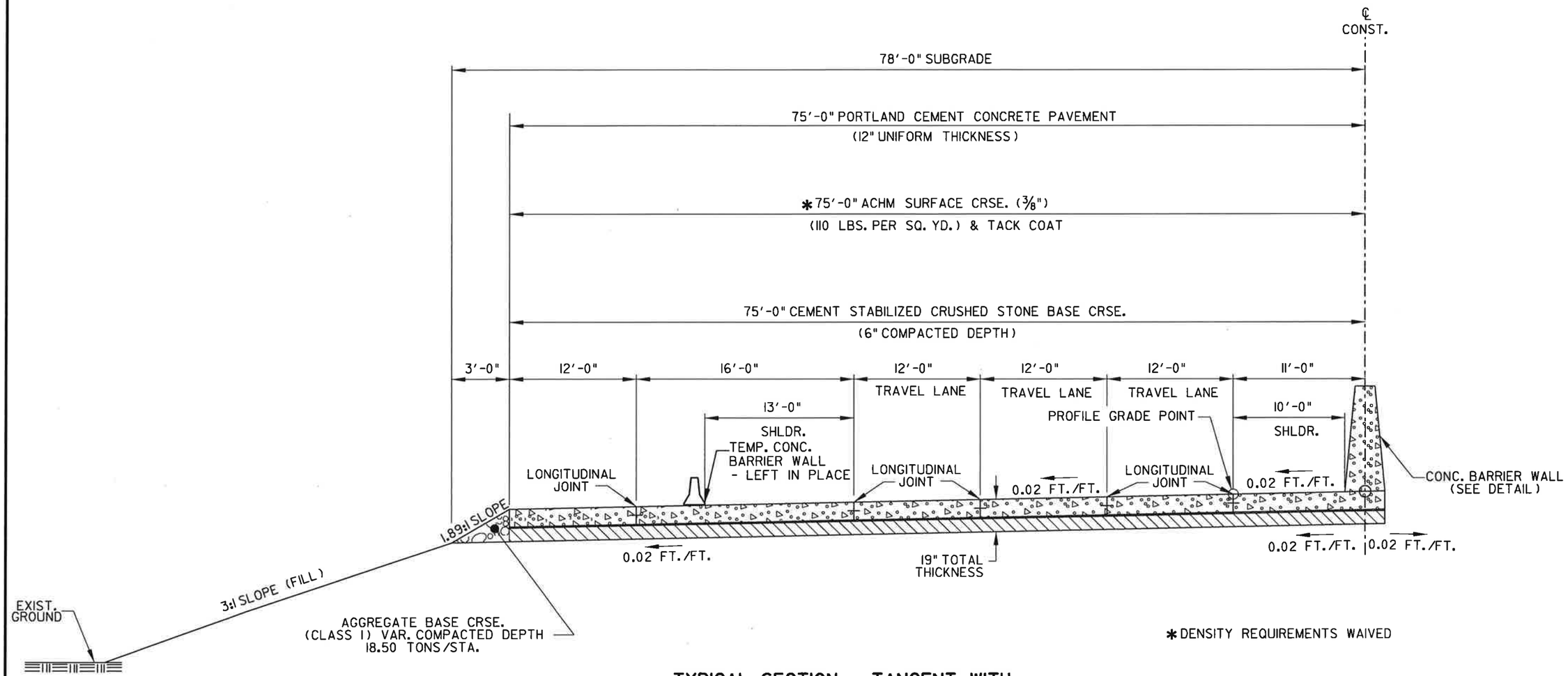
(2) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS. ARE WAIVED.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	5A	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH AUXILIARY LANE AND GORE LT. MAIN LANES

STA. 712+30.77 LT. TO STA. 713+96.90 LT.

NOTES:

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

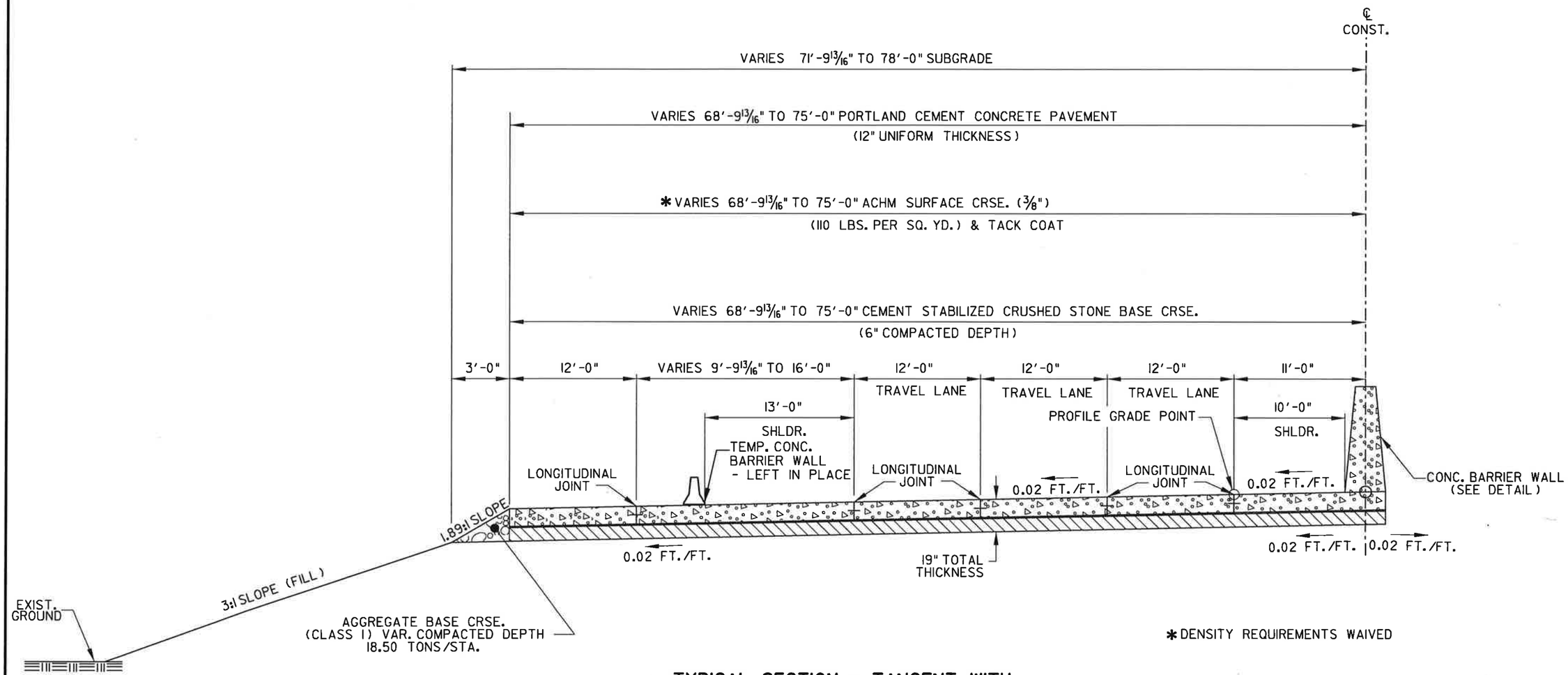
(2) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS. ARE WAIVED.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	5B	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH AUXILIARY LANE AND GORE TRANSITION LT. MAIN LANES

STA. 713+96.90 LT. TO STA. 715+50.00 LT.

NOTES:

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

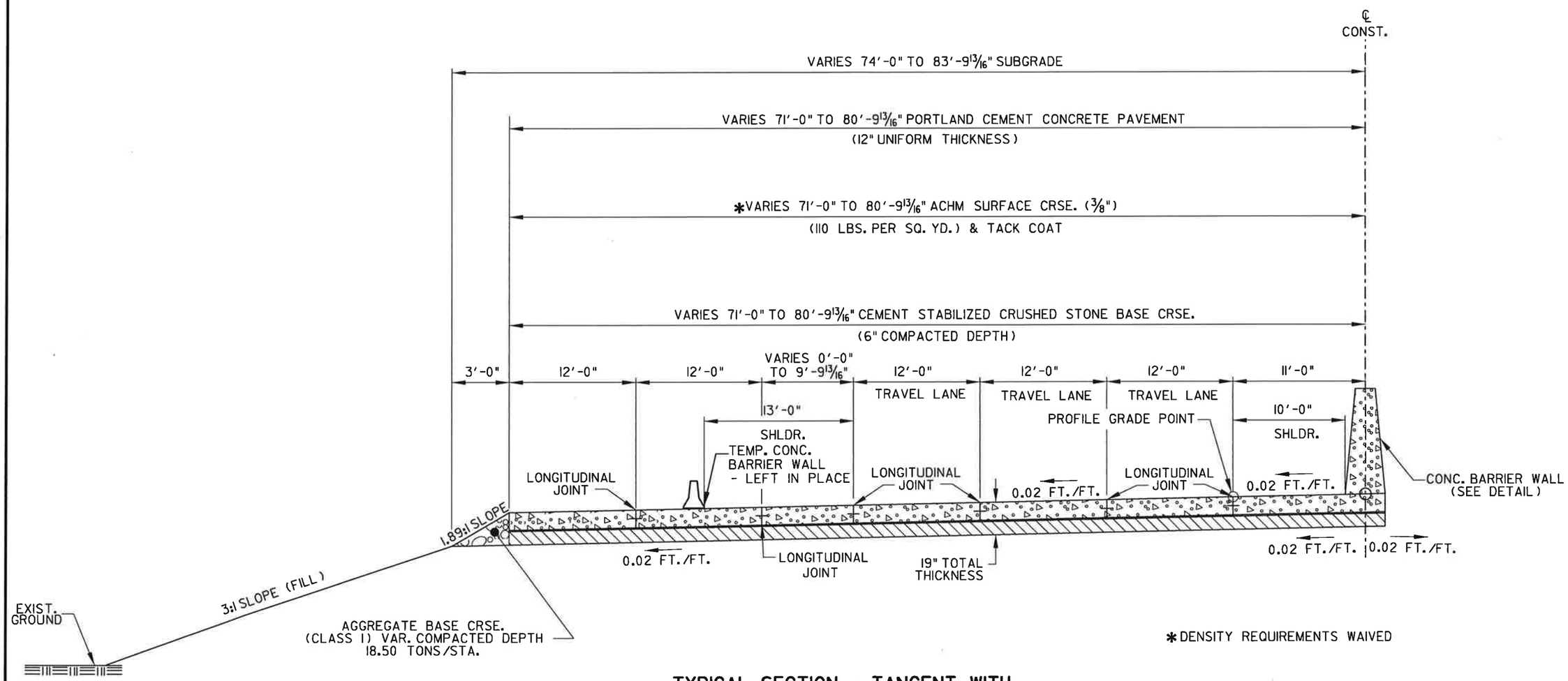
(2) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS. ARE WAIVED.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	5C	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH AUXILIARY LANES AND GORE TRANSITION LT. MAIN LANES

STA. 715+50.00 LT. TO STA. 716+43.03 LT.

NOTES:

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

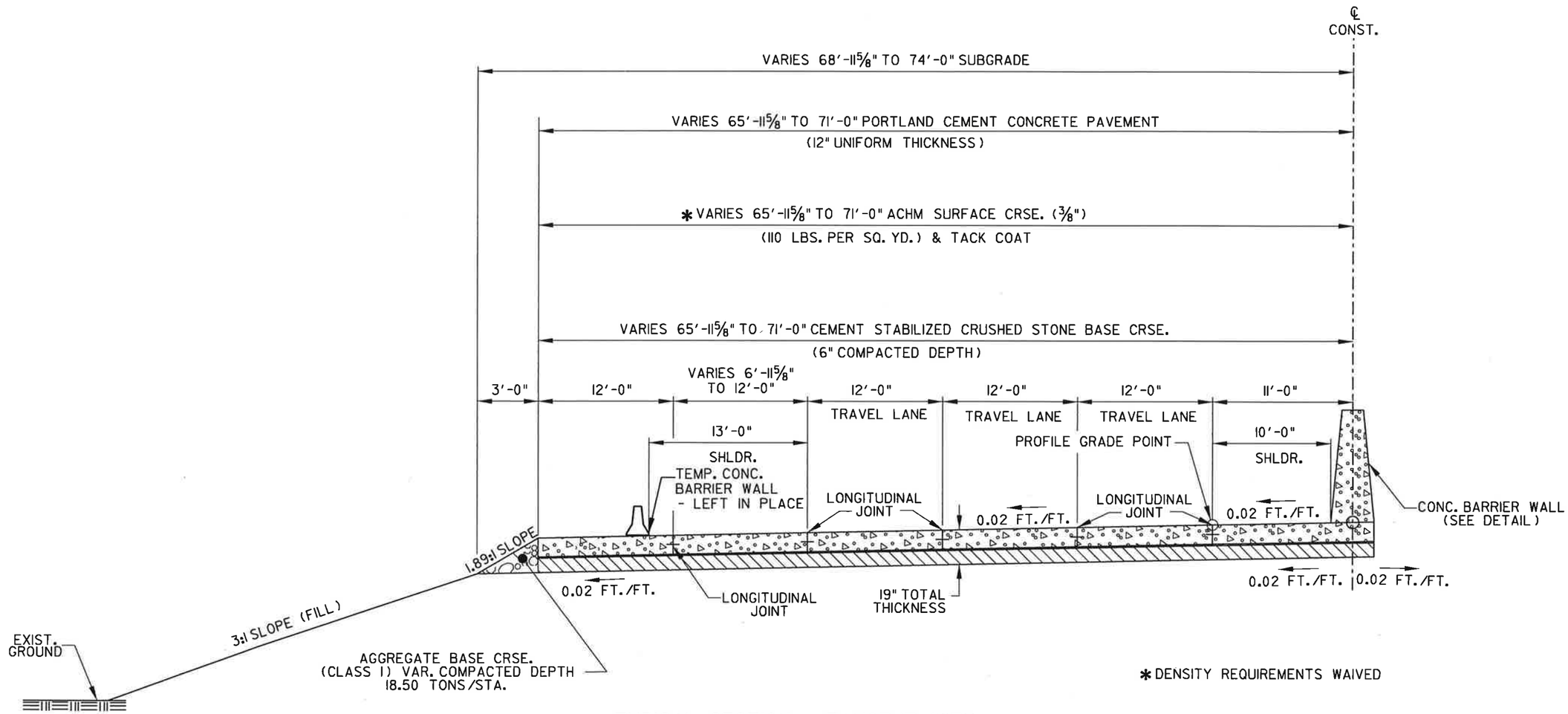
(2) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS. ARE WAIVED.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	5D	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH AUXILIARY LANE LT. MAIN LANES

STA. 716+43.03 LT. TO STA. 717+00.00 LT.

NOTES:

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

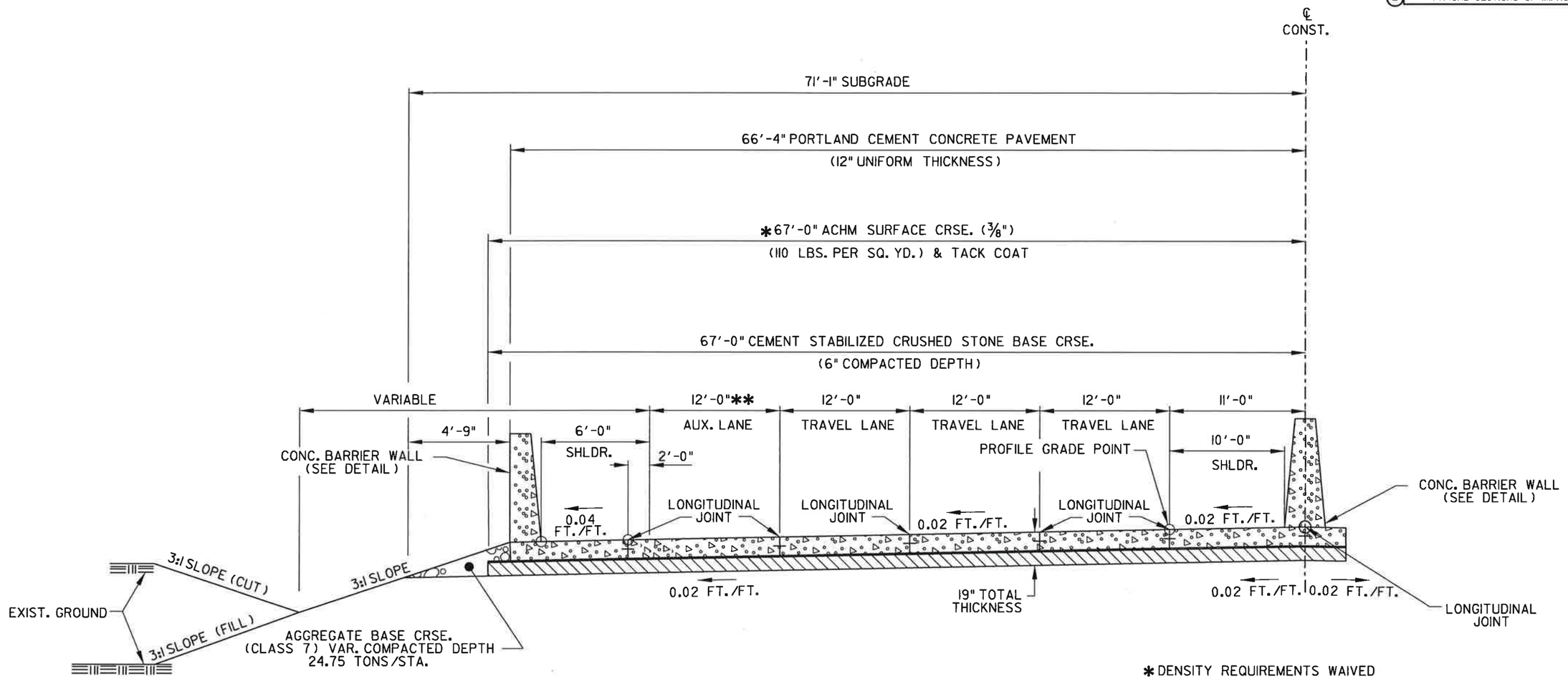
(2) AGGREGATE BASE COURSE (CLASS 1) SHALL BE UNIFORMLY COMPACTED, STABLE, AND FREE OF SEGREGATED AREAS. THE DENSITY REQUIREMENTS OF SECTION 303 OF THE AHTD STD. SPECS. ARE WAIVED.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	6	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT WITH AUXILIARY LANE LT. MAIN LANES

STA. 717+00.00 LT. TO STA. 731+65.49 LT.

**VARIES FROM 18'-11 5/8" AT STA. 717+00.00 TO 12'-0" AT STA. 718+58.22

NOTES:

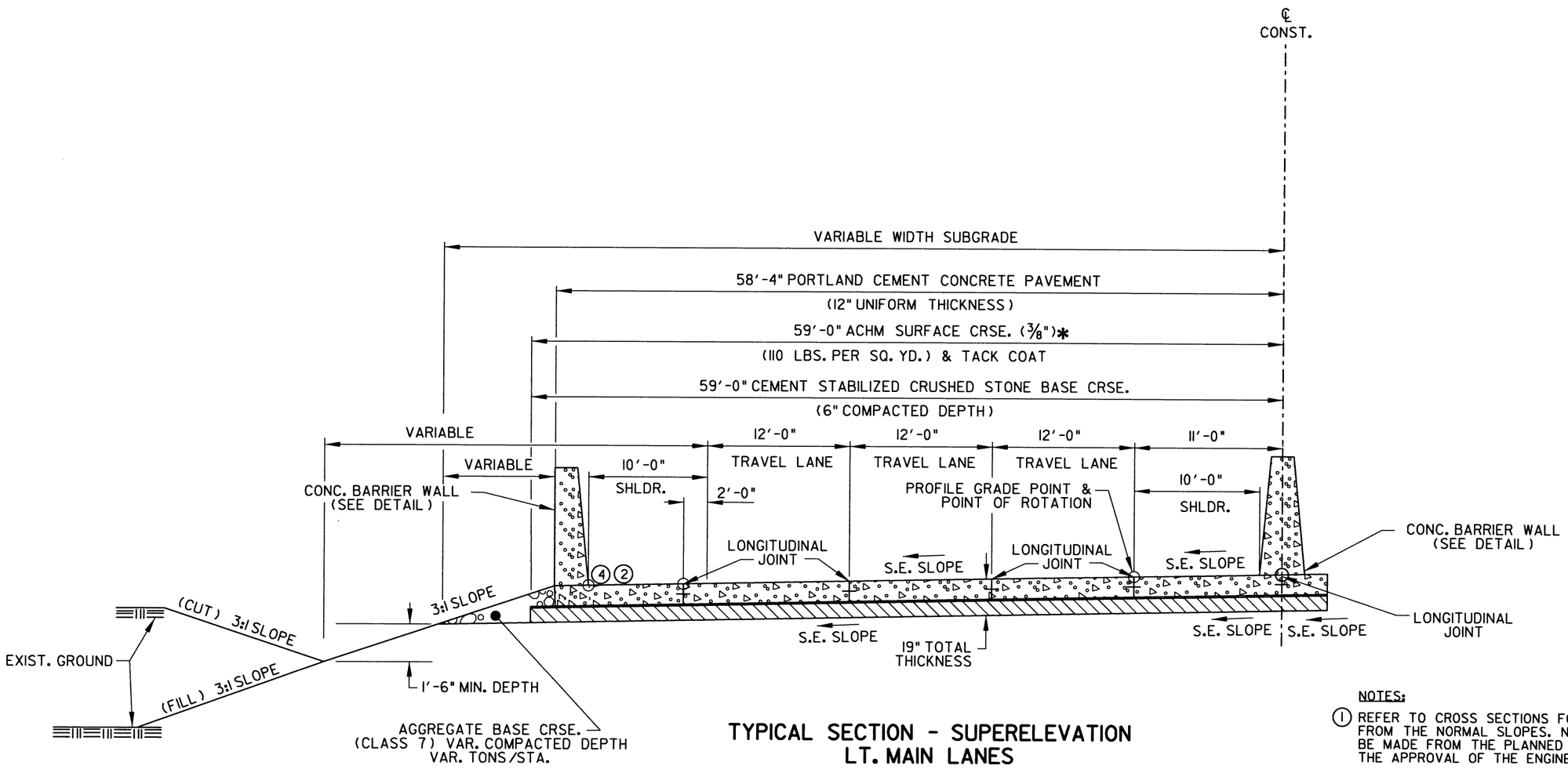
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	7	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - SUPERELEVATION
LT. MAIN LANES

STA. 736+60.00 LT. TO STA. 754+04.95 LT.
STA. 774+37.33 LT. TO STA. 805+44.39 LT.
STA. 865+43.54 LT. TO STA. 891+75.07 LT.
STA. 898+39.69 LT. TO STA. 914+69.76 LT.

* DENSITY REQUIREMENTS WAIVED

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08FT./FT.

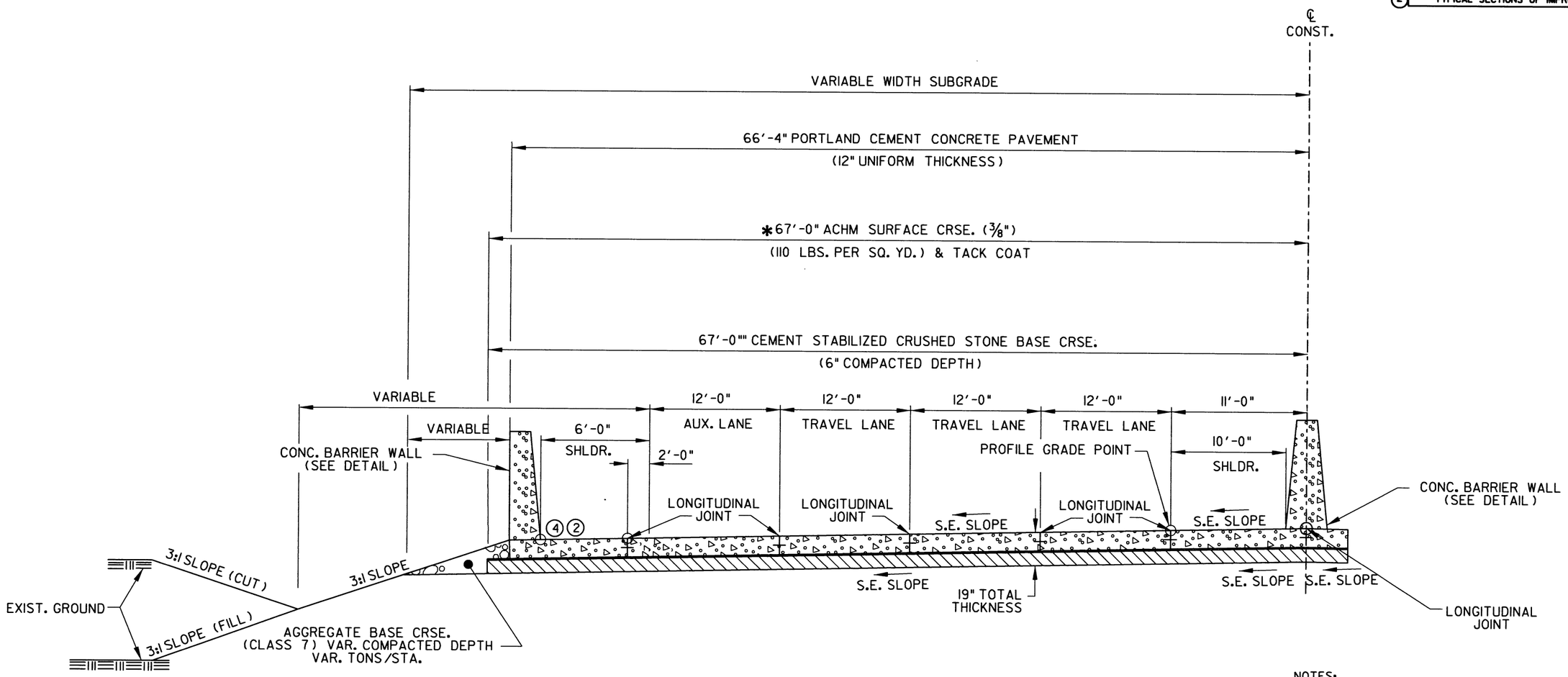
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) ON THE LOW SIDE OF SUPERELEVATED CURVES, SLOPE = 0.04 FT./FT. OR S.E. SLOPE, WHICHEVER IS GREATER.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	8	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - SUPERELEVATION WITH AUXILIARY LANE LT. MAIN LANES

STA. 731+65.49 LT. TO STA. 736+60.00 LT.

* DENSITY REQUIREMENTS WAIVED

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08FT./FT.

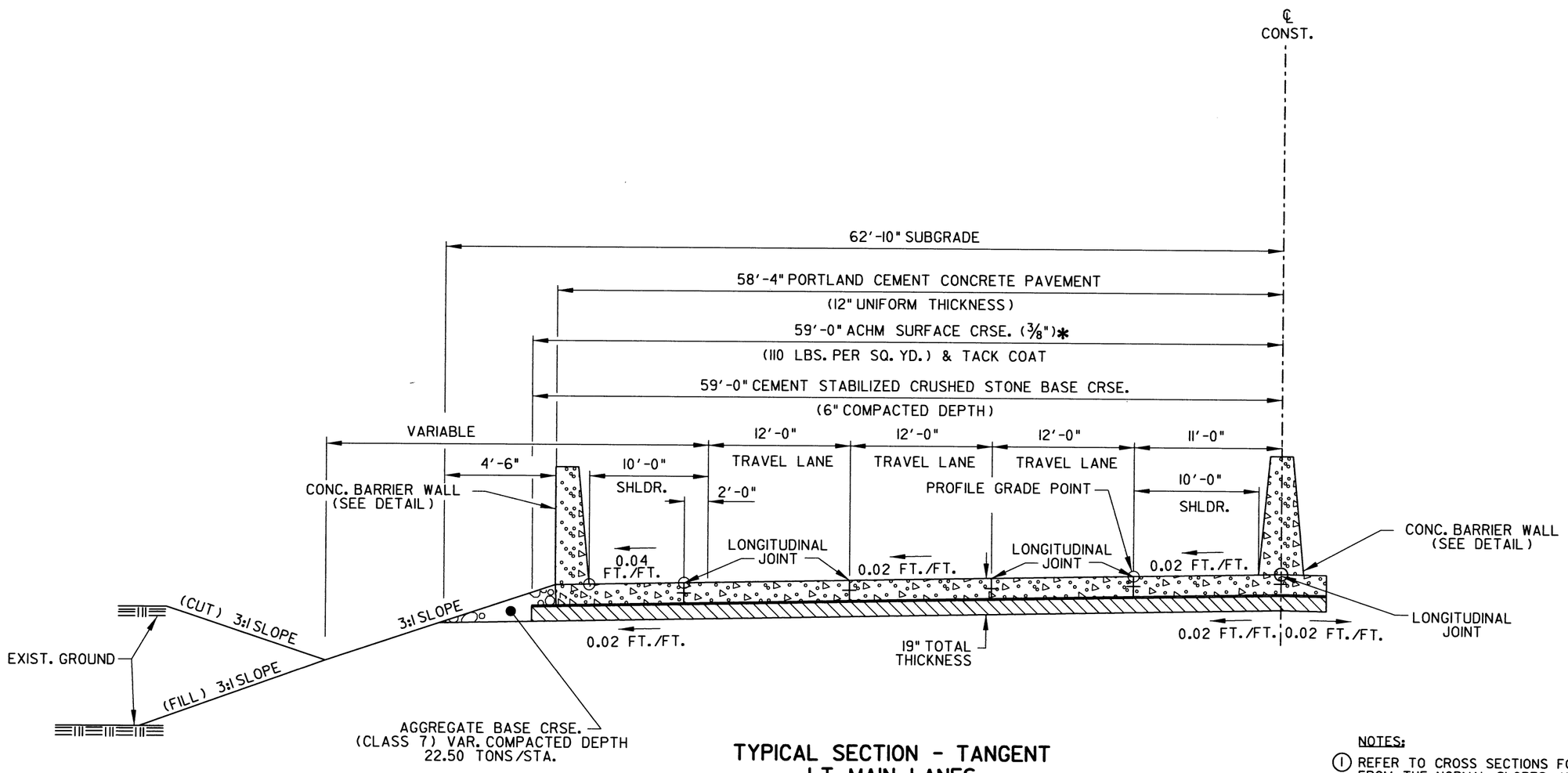
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) ON THE LOW SIDE OF SUPERELEVATED CURVES, SLOPE = 0.04 FT./FT. OR S.E. SLOPE, WHICHEVER IS GREATER.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	9	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
LT. MAIN LANES

STA. 754+04.95 LT. TO STA. 774+37.33 LT.
STA. 805+44.39 LT. TO STA. 865+43.54 LT.
STA. 891+75.07 LT. TO STA. 898+39.69 LT.
STA. 914+69.76 LT. TO STA. 936+25.00 LT.

* DENSITY REQUIREMENTS WAIVED

NOTES:

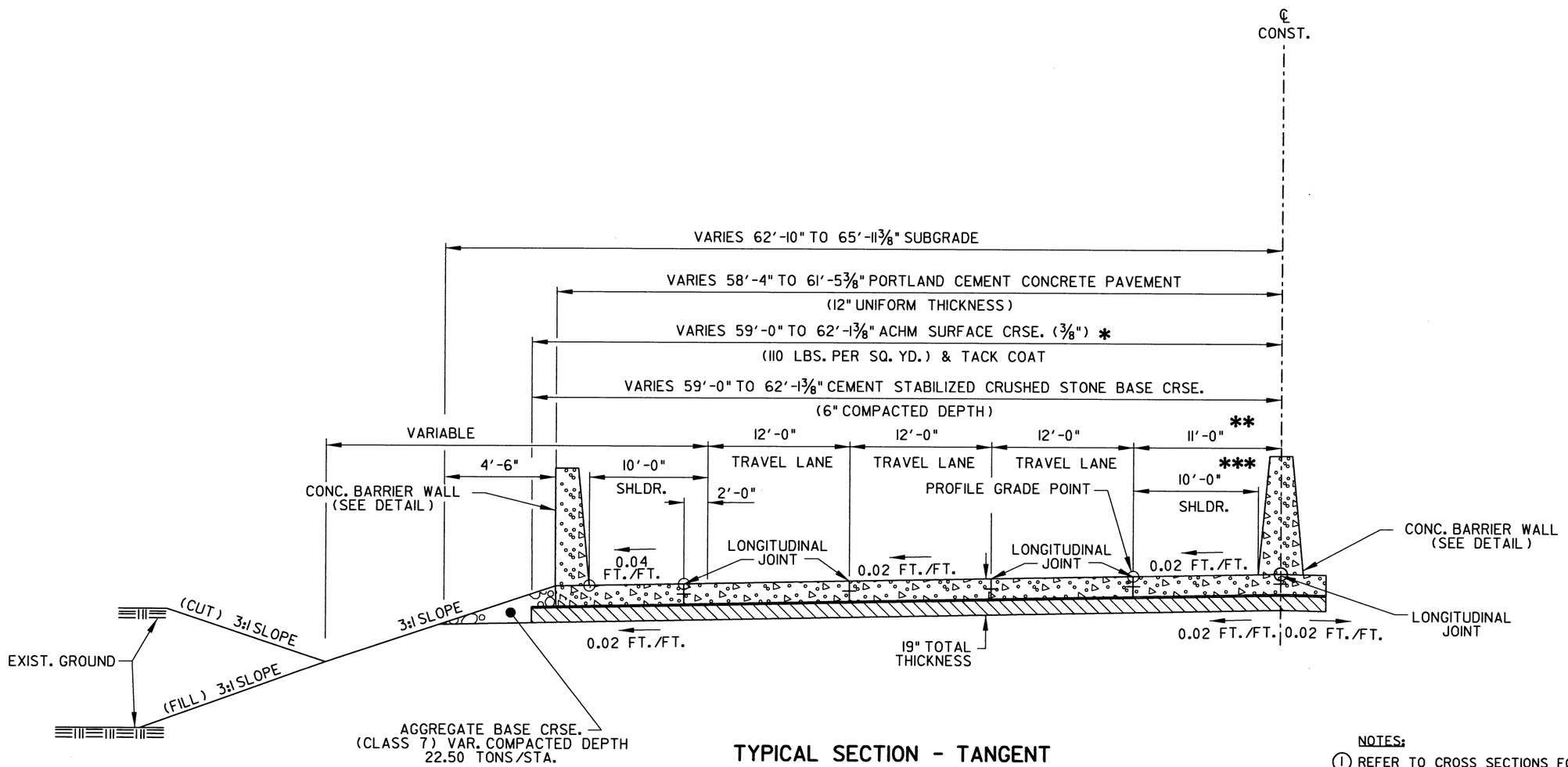
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	10	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
LT. MAIN LANES

STA. 936+25.00 LT. TO STA. 938+50.00 LT.

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

* DENSITY REQUIREMENTS WAIVED

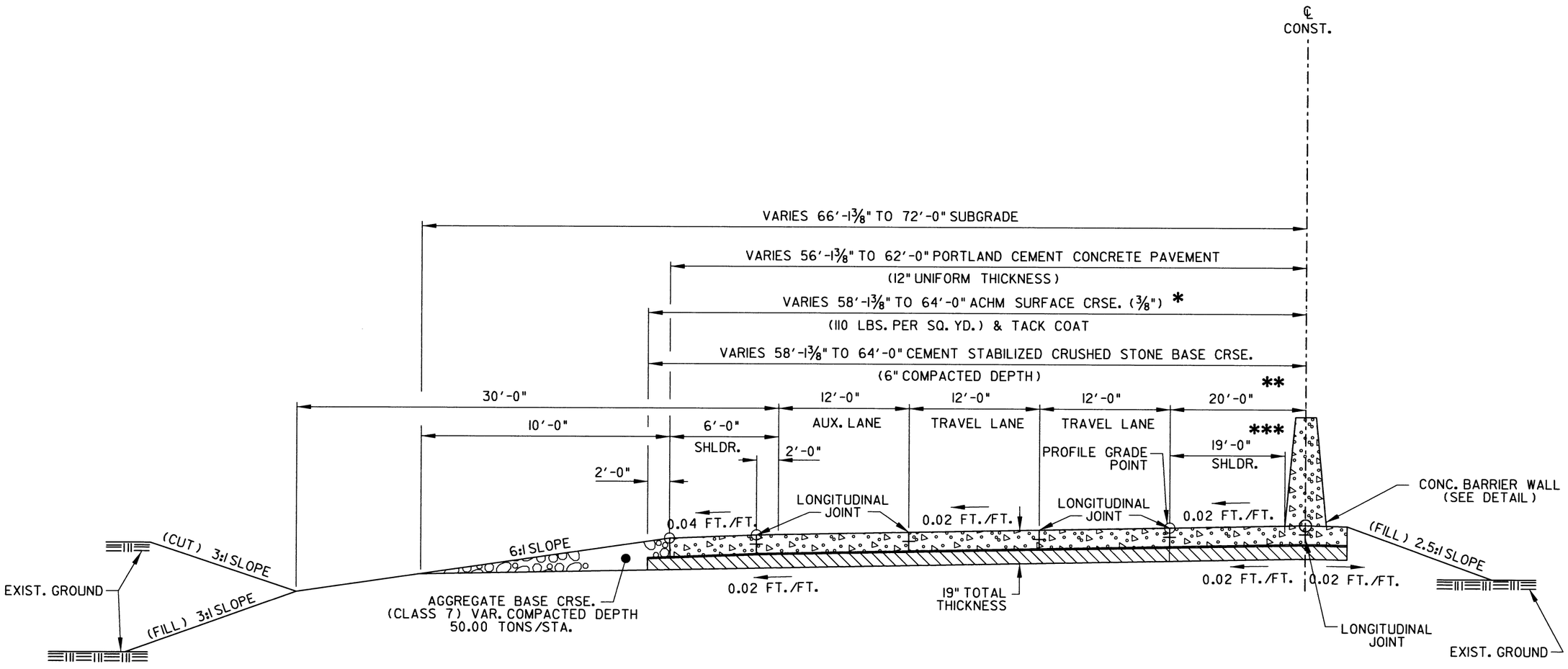
** VARIES FROM 11'-0" TO 14'-1 3/8"

*** VARIES FROM 10'-0" TO 13'-1 3/8"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	11	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
LT. MAIN LANES

STA. 938+50.00 LT. TO STA. 942+75.00 LT.

* DENSITY REQUIREMENTS WAIVED

** VARIES FROM 14'-1⅜" TO 20'-0"

*** VARIES FROM 13'-1⅜" TO 19'-0"

NOTES:

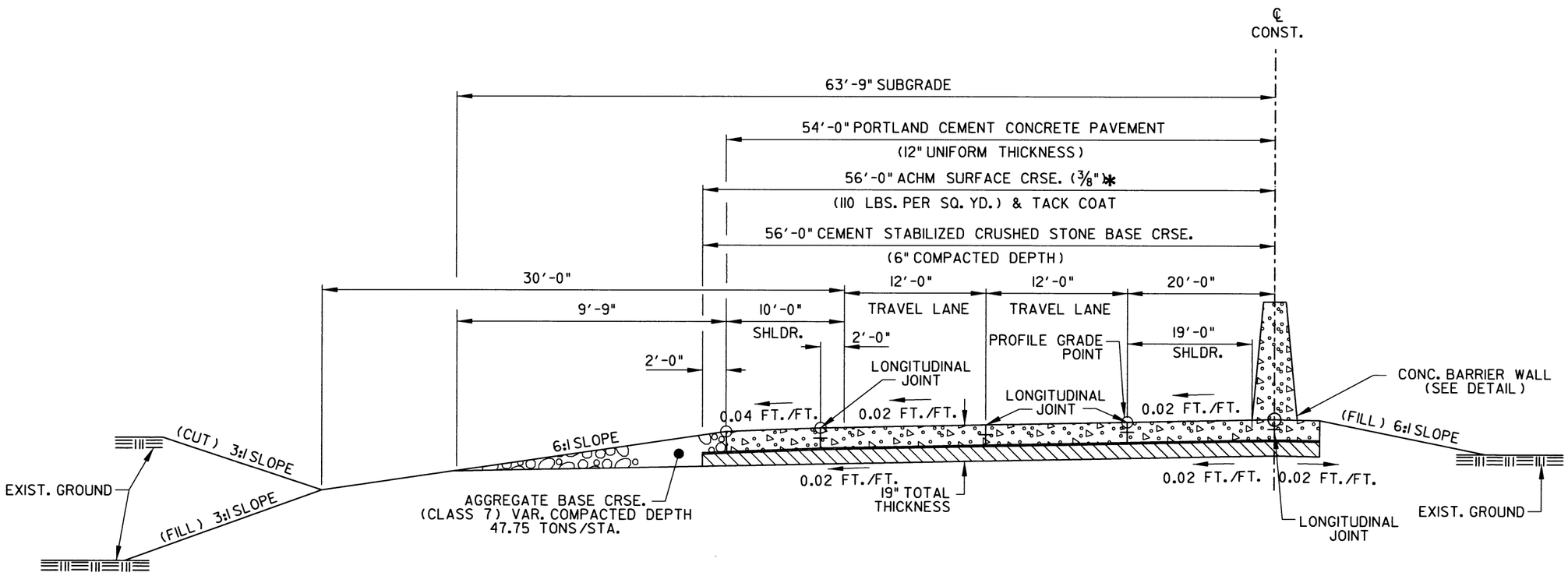
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	12	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
LT. MAIN LANES

STA. 942+75.00 LT. TO STA. 946+00.00 LT.

* DENSITY REQUIREMENTS WAIVED

NOTES:

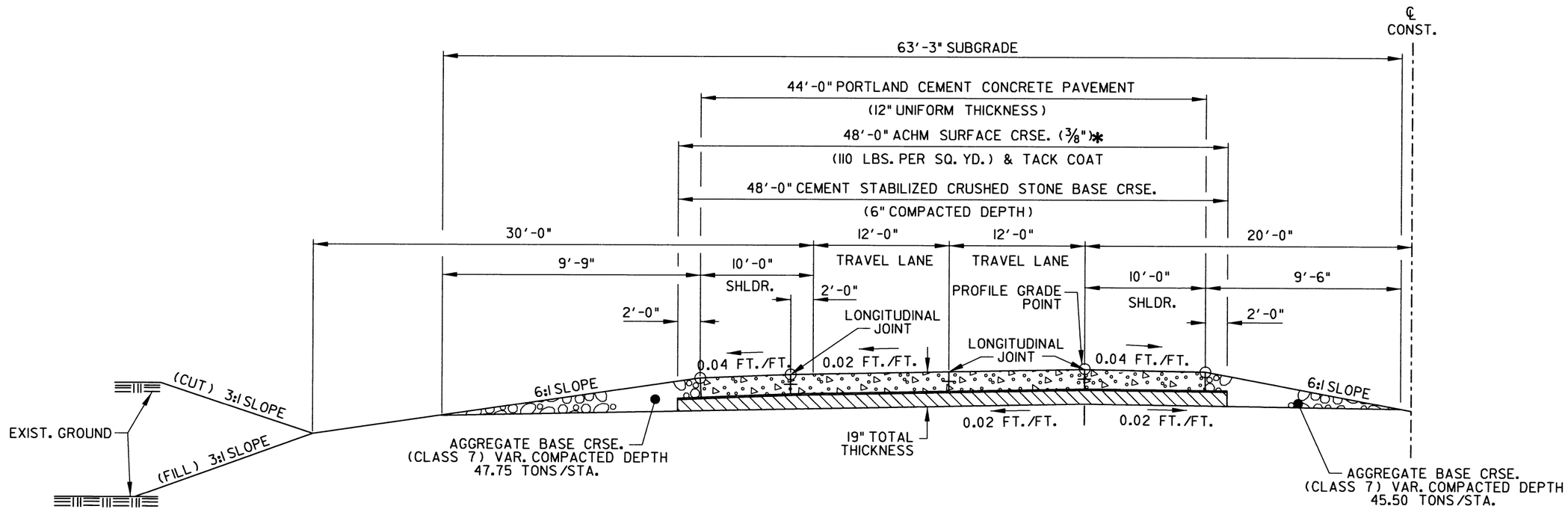
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	13	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
LT. MAIN LANES

STA. 946+00.00 LT. TO STA. 948+00.00 LT.

*DENSITY REQUIREMENTS WAIVED

NOTES:

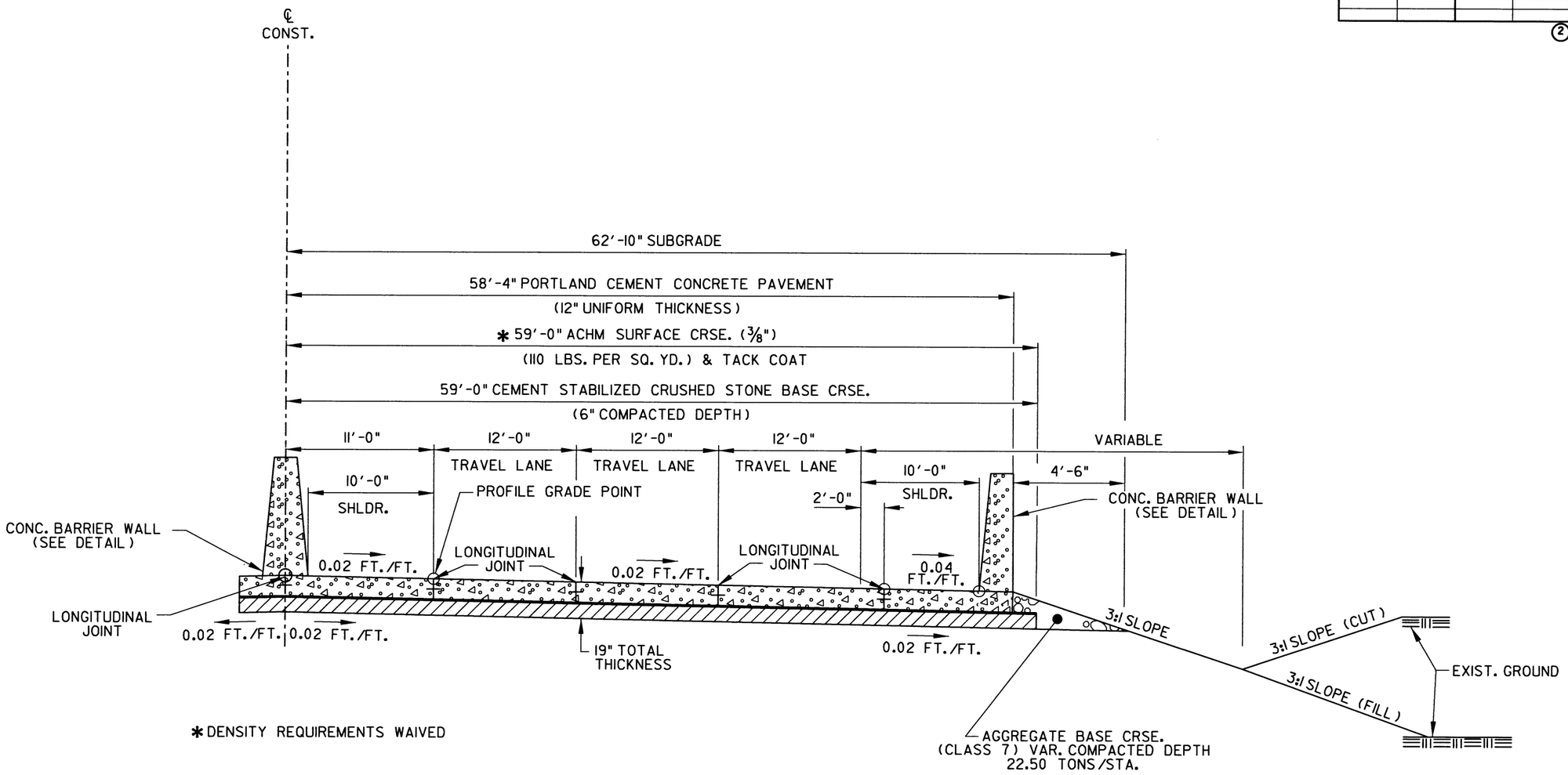
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	14	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT
RT. MAIN LANES

STA. 705+05.30 RT. TO STA. 707+05.75 RT.
STA. 711+37.24 RT. TO STA. 719+89.28 RT.
STA. 754+04.95 RT. TO STA. 774+37.33 RT.
STA. 805+44.39 RT. TO STA. 848+00.00 RT.
STA. 894+50.00 RT. TO STA. 898+39.69 RT.
STA. 914+69.76 RT. TO STA. 920+00.00 RT.

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/24/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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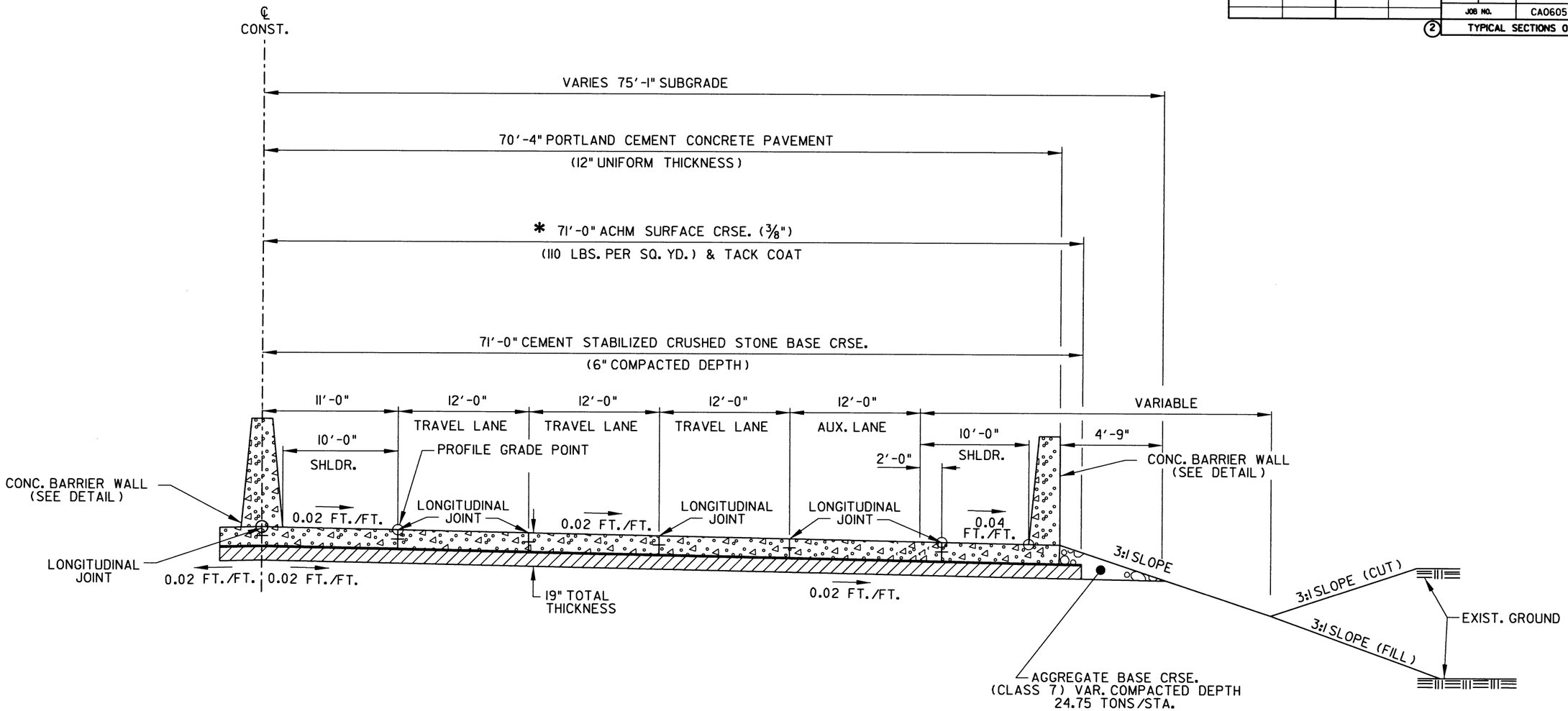
				JOB NO.		CA0605	15	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT WITH AUXILIARY LANE(S) RT. MAIN LANES

STA. 707+05.75 RT. TO STA. 711+37.24 RT.

NOTES:

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

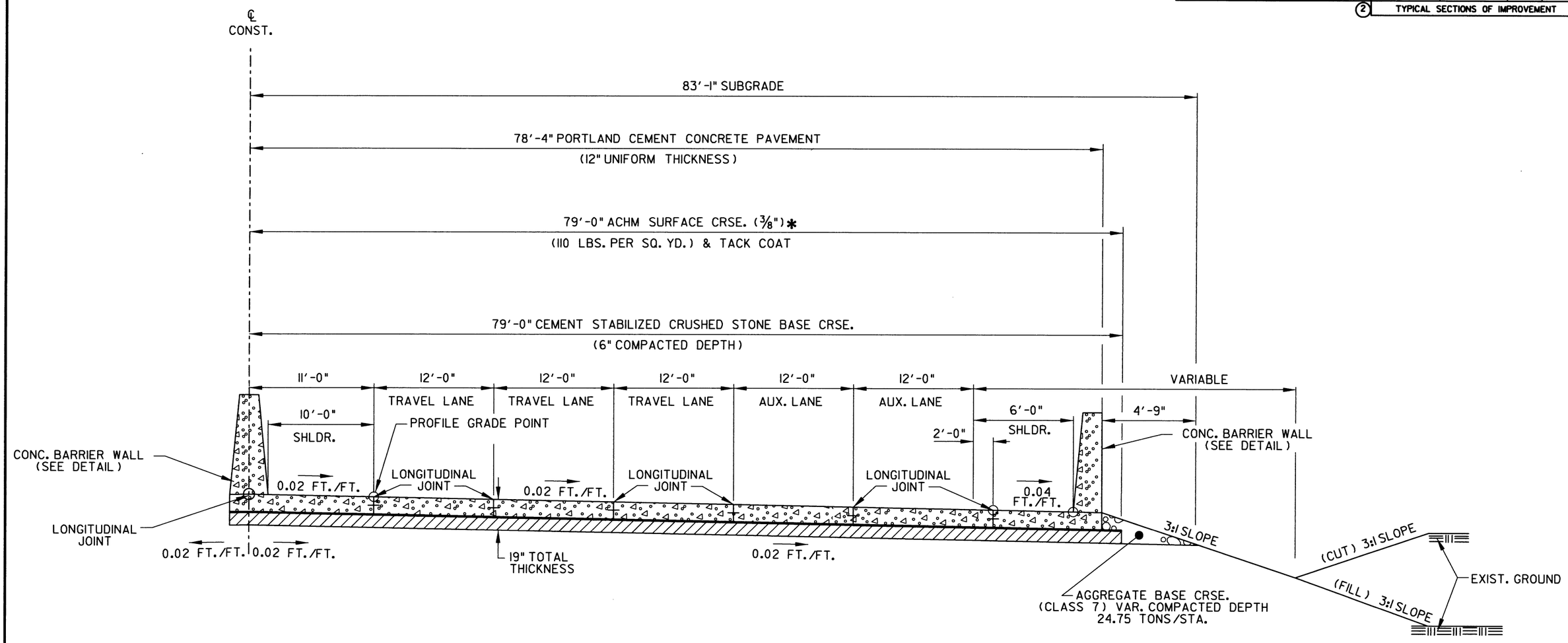
(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

* DENSITY REQUIREMENTS WAIVED

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	16	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT WITH AUXILIARY LANES RT. MAIN LANES

STA. 719+89.28 RT. TO STA. 729+89.28 RT.

NOTES:

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

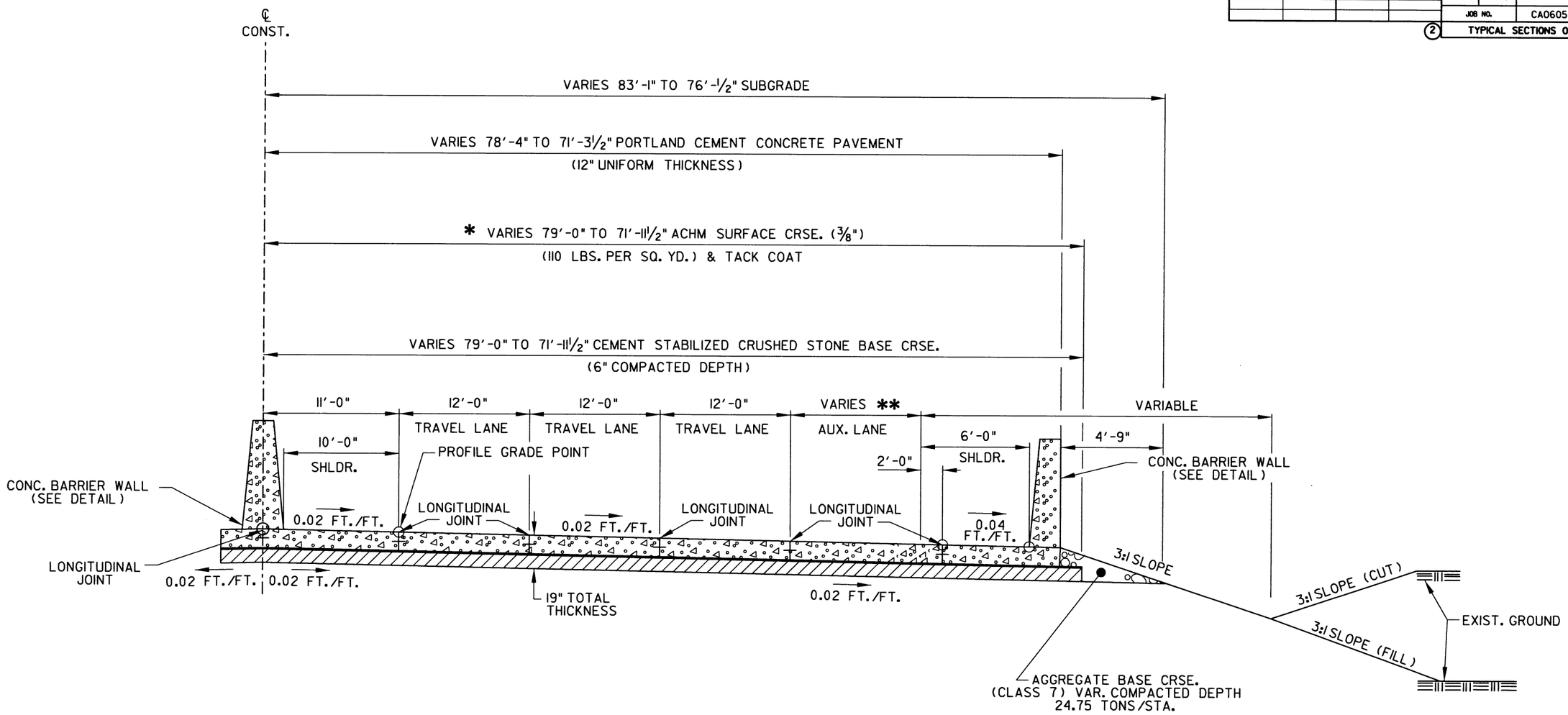
(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

*DENSITY REQUIREMENTS WAIVED

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 6/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	17	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT WITH AUXILIARY LANE(S) RT. MAIN LANES

STA. 729+89.28 RT. TO STA. 731+65.49 RT.

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

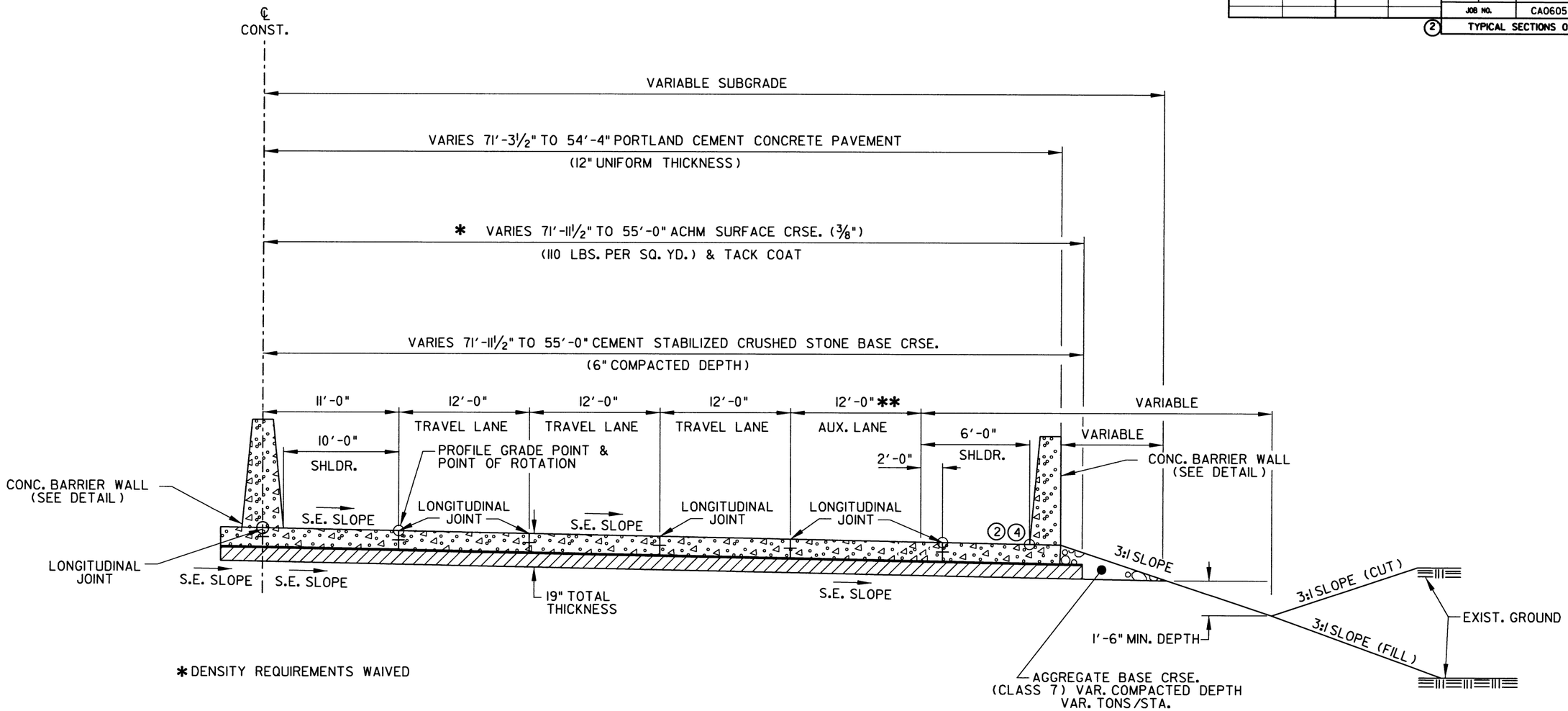
* DENSITY REQUIREMENTS WAIVED

** VARIES FROM 24'-0" AT STA. 729+89.28 TO 16'-11 1/2" AT STA. 731+65.49

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	18	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - SUPERELEVATION WITH AUXILIARY LANE(S) RT. MAIN LANES

STA. 731+65.49 RT. TO STA. 744+89.28 RT.

**VARIES FROM 16'-11½" AT STA. 731+65.49 TO 12'-0" AT STA. 732+89.28

VARIES FROM 12'-0" AT STA. 741+89.28 TO 0'-0" AT STA. 744+89.28

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08FT./FT.

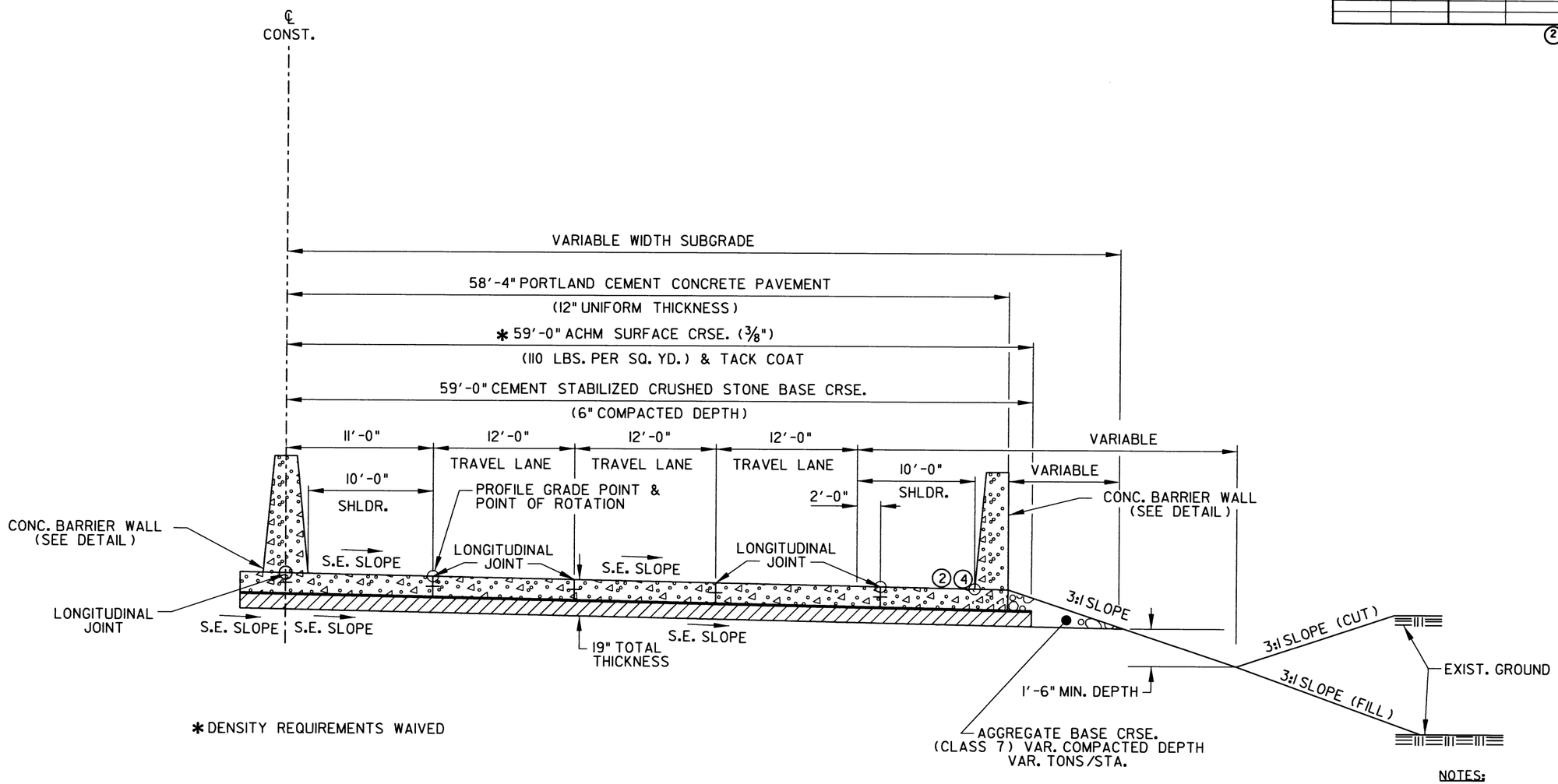
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) ON THE LOW SIDE OF SUPERELEVATED CURVES, SLOPE = 0.04 FT./FT. OR S.E. SLOPE, WHICHEVER IS GREATER.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	19	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - SUPERELEVATION
RT. MAIN LANES

STA. 744+89.28 RT. TO STA. 754+04.95 RT.
STA. 774+37.33 RT. TO STA. 805+44.39 RT.
STA. 868+00.00 RT. TO STA. 872+00.00 RT.
STA. 898+39.69 RT. TO STA. 914+69.76 RT.

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08FT./FT.

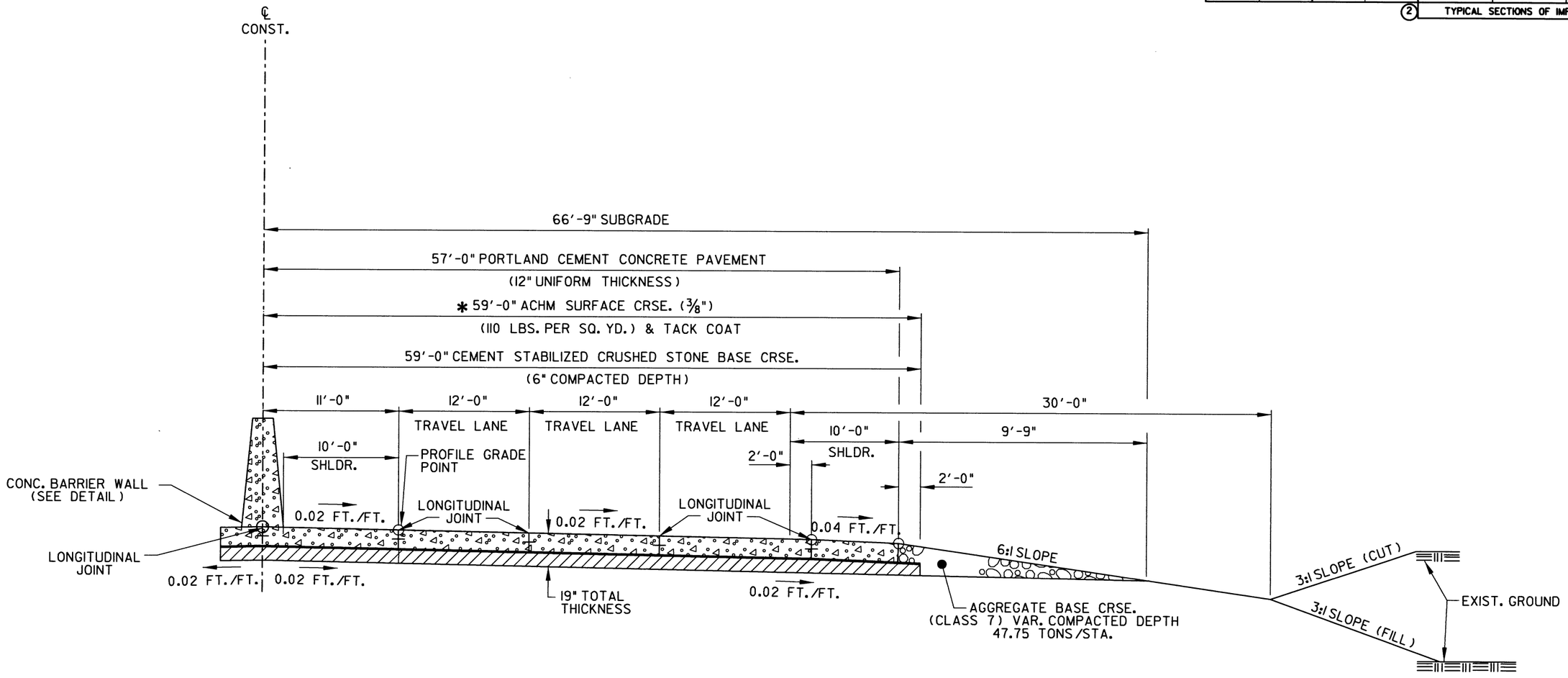
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) ON THE LOW SIDE OF SUPERELEVATED CURVES, SLOPE = 0.04 FT./FT. OR S.E. SLOPE, WHICHEVER IS GREATER.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	20	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT
RT. MAIN LANES

STA. 848+00.00 RT. TO STA. 865+43.54 RT.
STA. 891+75.07 RT. TO STA. 894+50.00 RT.
STA. 920+00.00 RT. TO STA. 934+73.75 RT.

NOTES:

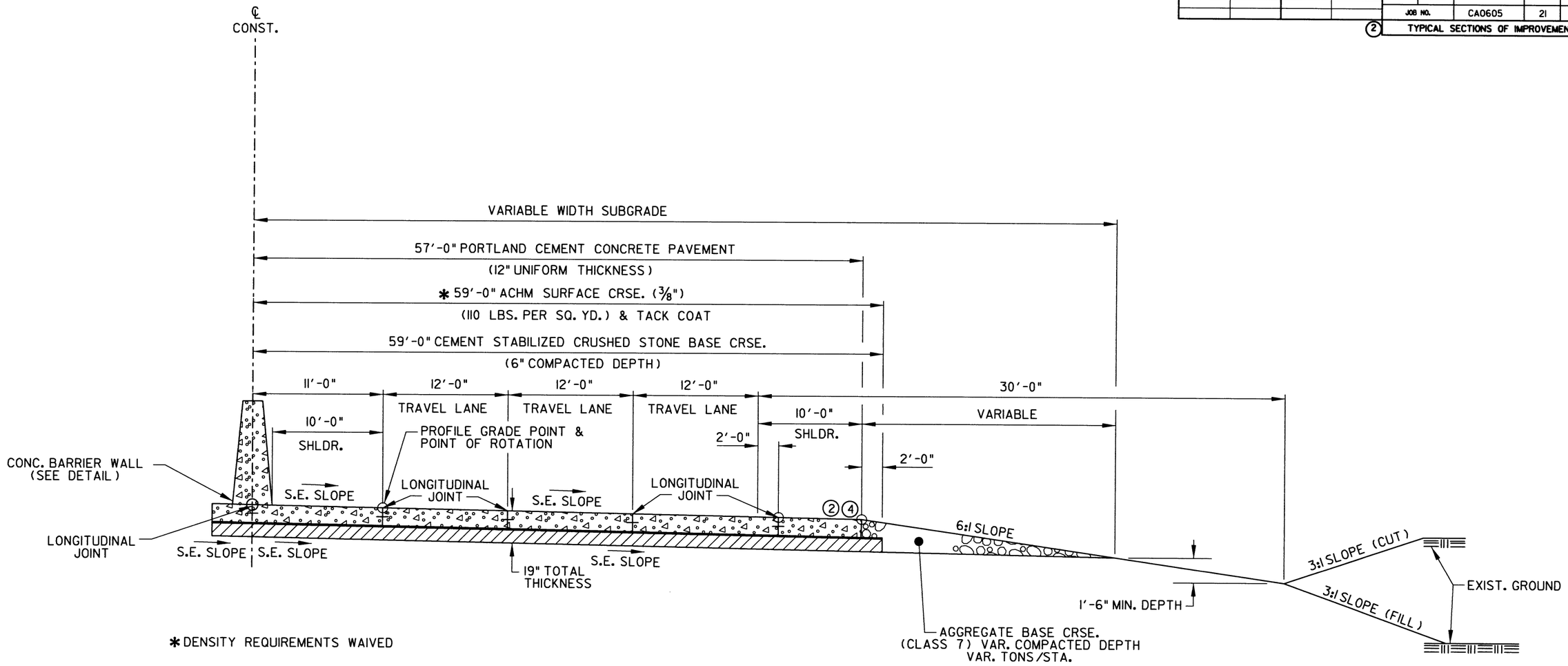
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	21	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - SUPERELEVATION
RT. MAIN LANES

STA. 865+43.54 RT. TO STA. 868+00.00 RT.
STA. 872+00.00 RT. TO STA. 891+75.07 RT.

NOTES:

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

(2) ON THE HIGH SIDE OF ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08FT./FT.

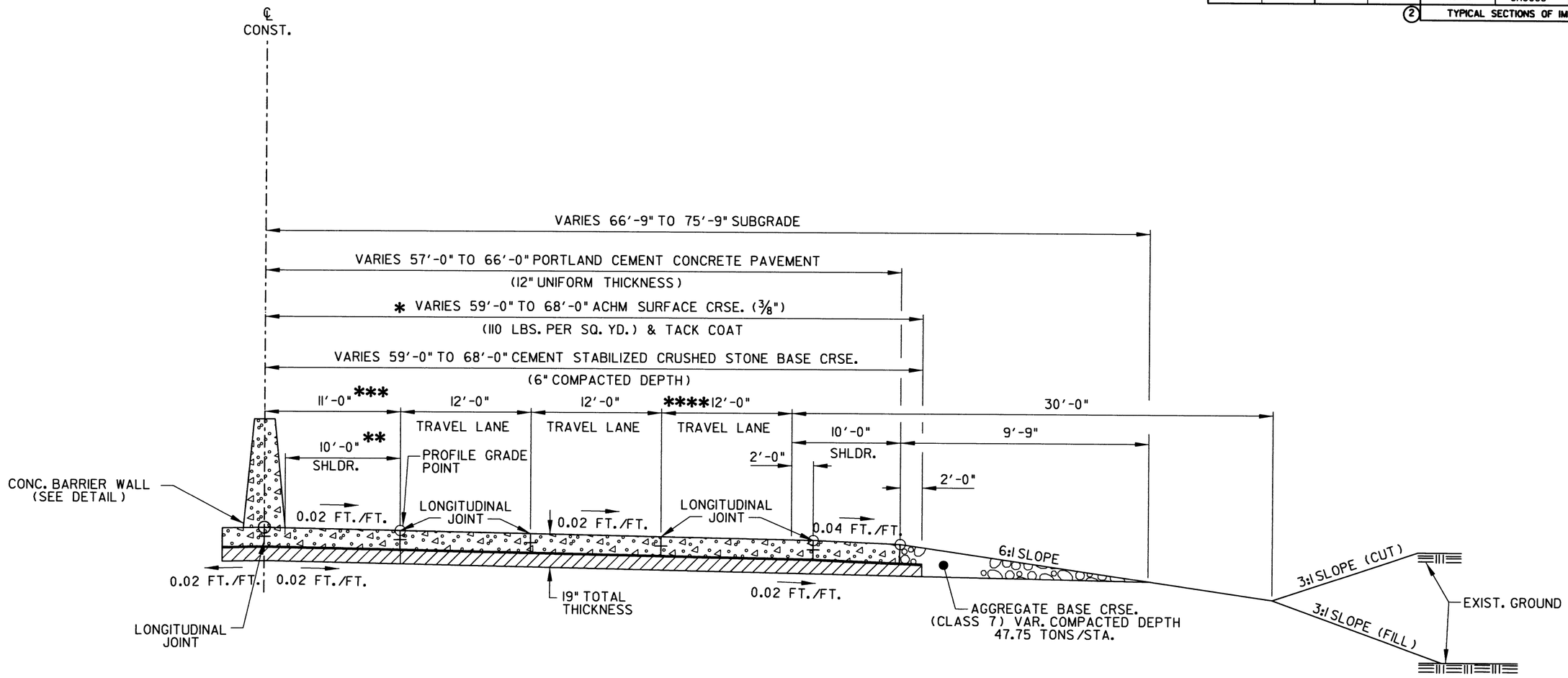
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) ON THE LOW SIDE OF SUPERELEVATED CURVES, SLOPE = 0.04 FT./FT. OR S.E. SLOPE, WHICHEVER IS GREATER.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	22	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT
RT. MAIN LANES

STA. 934+73.75 RT. TO STA. 941+23.75 RT.

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

** VARIES FROM 10'-0" AT STA. 934+73.75 TO 19'-0" AT STA. 941+23.75

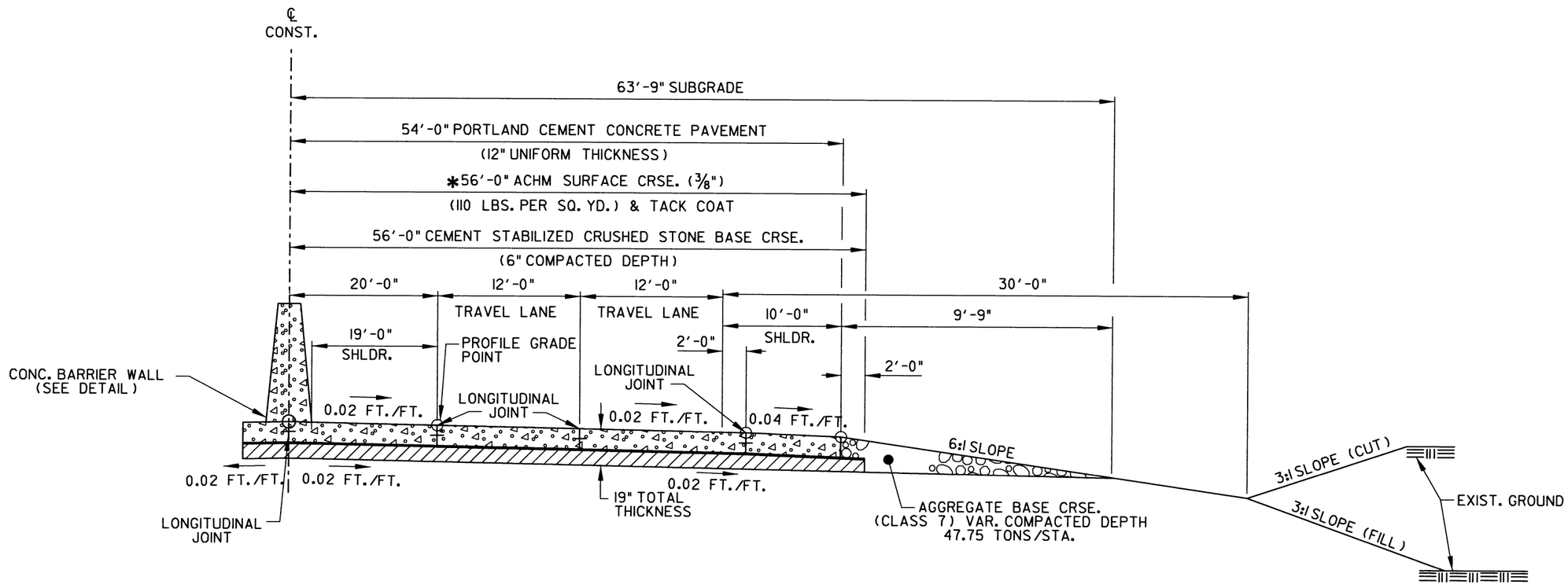
*** VARIES FROM 11'-0" AT STA. 934+73.75 TO 20'-0" AT STA. 941+23.75

**** VARIES FROM 12'-0" AT STA. 934+73.75 TO 17'-8" AT STA. 941+23.75

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/12

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	23	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



*DENSITY REQUIREMENTS WAIVED

TYPICAL SECTION - TANGENT
RT. MAIN LANES - 2 LANES

STA. 941+25.00 RT. TO STA. 946+00.00 RT.

NOTES:

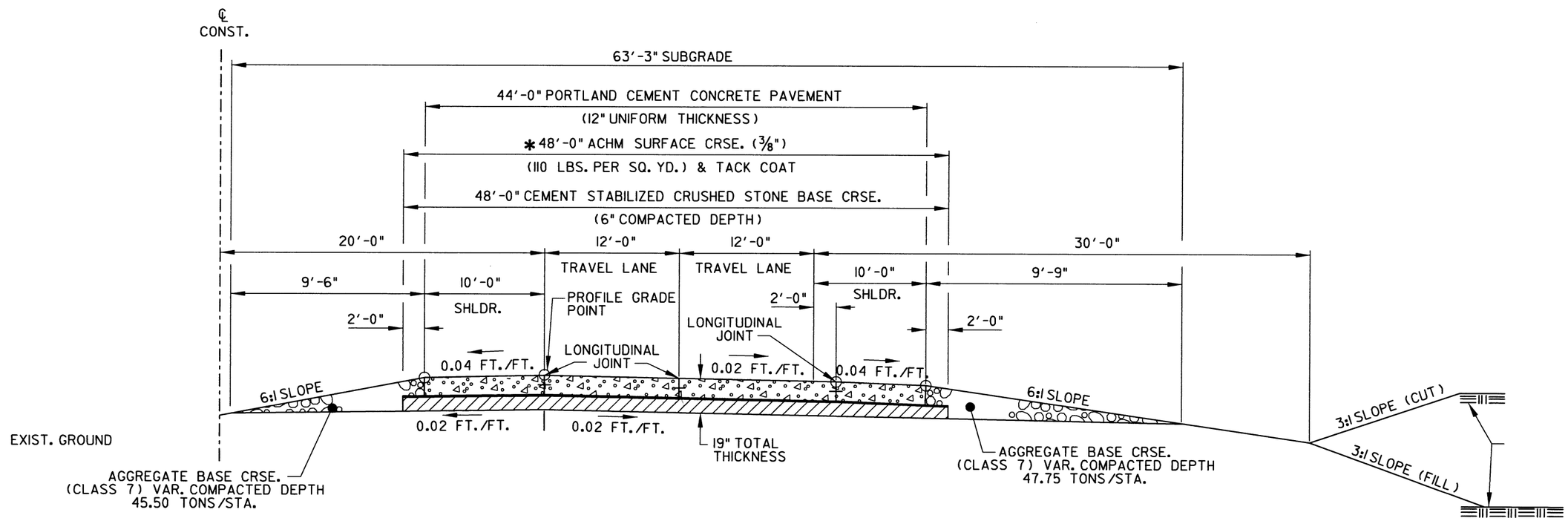
(1) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE NORMAL SLOPES. NO CHANGES SHALL BE MADE FROM THE PLANNED SLOPES WITHOUT THE APPROVAL OF THE ENGINEER.

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	24	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
RT. MAIN LANES

STA. 946+00.00 RT. TO STA. 948+00.00 RT.

* DENSITY REQUIREMENTS WAIVED

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	25	434

(2) TYPICAL SECTIONS OF IMPROVEMENT

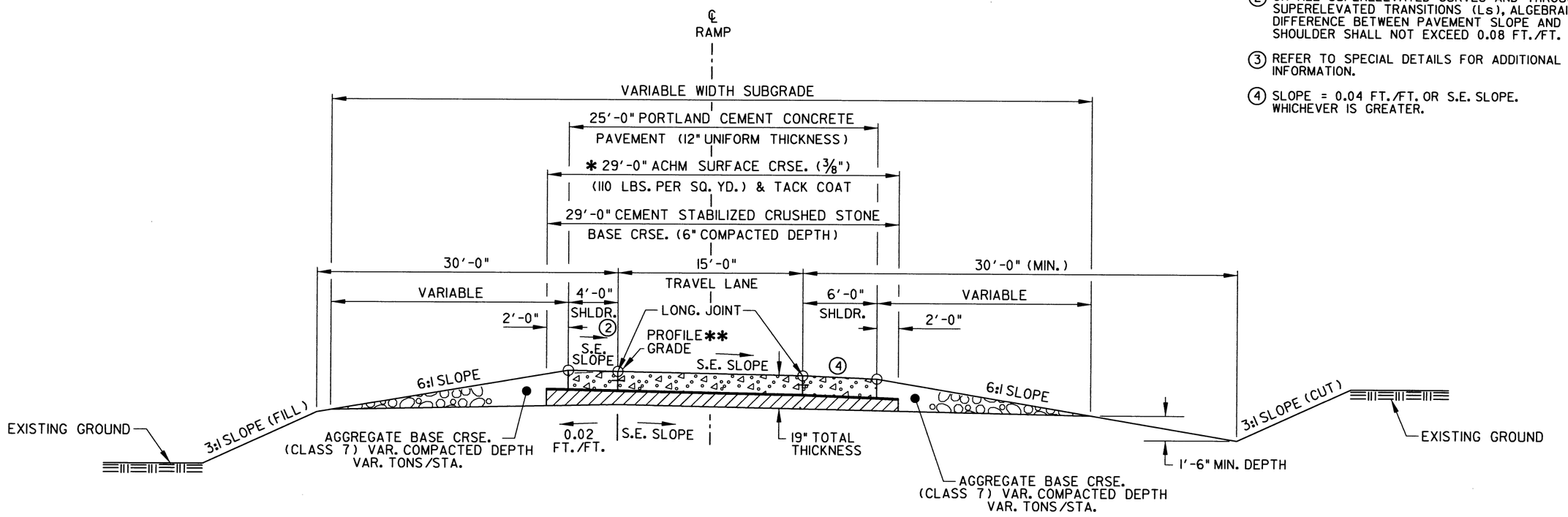
NOTES:

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

(2) ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08 FT./FT.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.



* DENSITY REQUIREMENTS WAIVED

** AND POINT OF ROTATION

TYPICAL SECTION - SUPERELEVATION INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)
VANDENBERG BLVD. RAMP I
STA. 711+37.08 TO STA. 714+47.66

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	26	434

(2) TYPICAL SECTIONS OF IMPROVEMENT

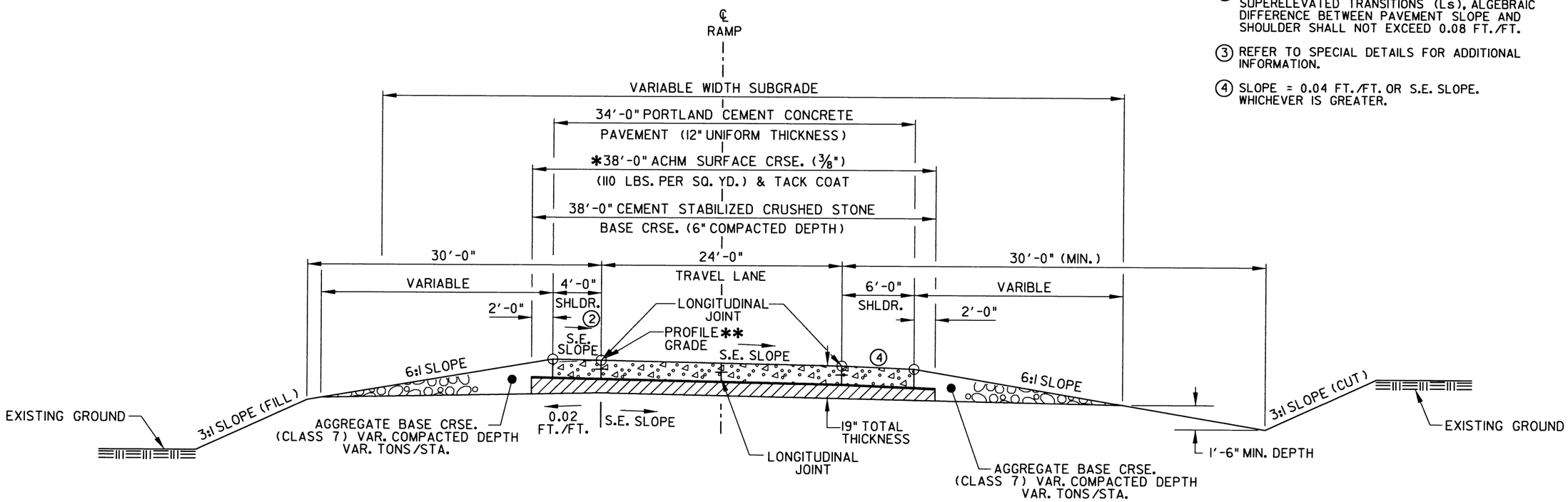
NOTES:

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

(2) ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08 FT./FT.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.



*DENSITY REQUIREMENTS WAIVED

**AND POINT OF ROTATION

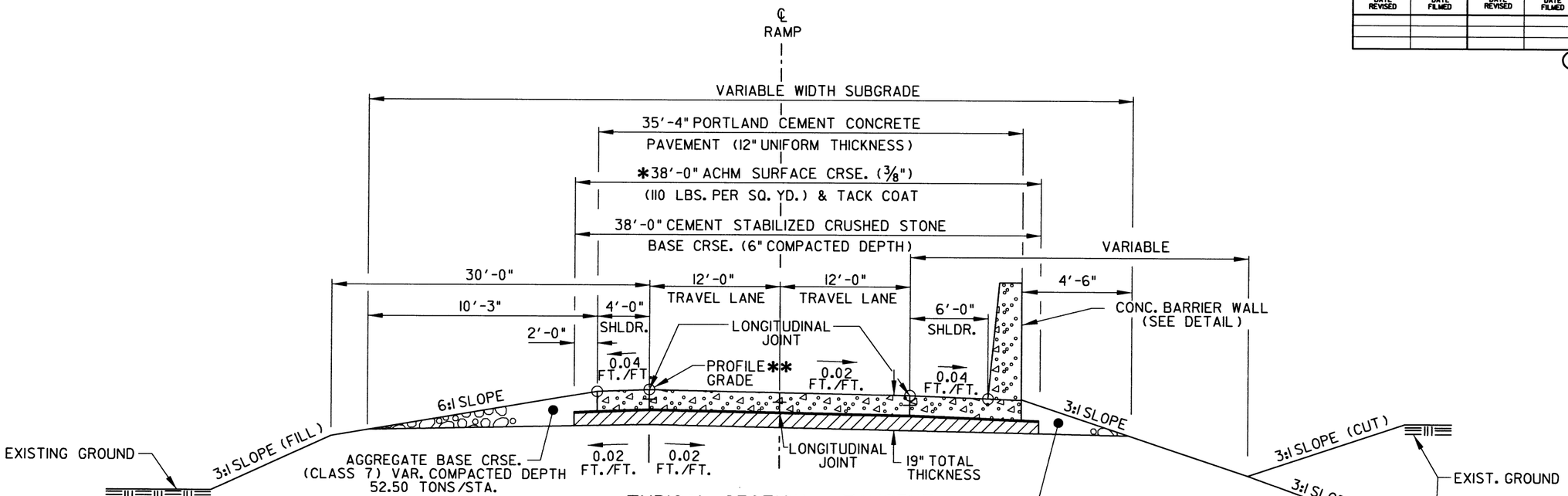
TYPICAL SECTION - SUPERELEVATION INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)
VANDENBERG BLVD. RAMP 2
STA. 713+44.11 TO STA. 714+09.55

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	27	434

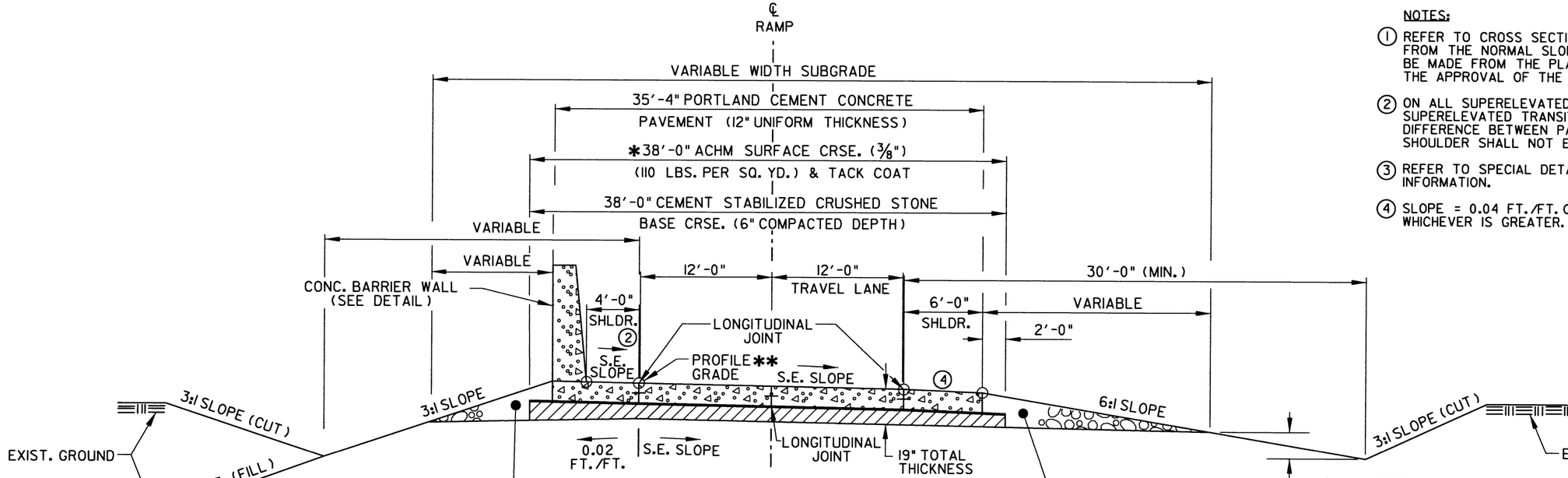
(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)
VANDENBERG BLVD. RAMP 2
STA. 716+70.82 TO STA. 719+89.83

*DENSITY REQUIREMENTS WAVED



TYPICAL SECTION - SUPERELEVATION INTERCHANGE RAMP

(SHOWN IN DIRECTION OF TRAFFIC)
VANDENBERG BLVD. RAMP 2
STA. 714+09.55 TO STA. 716+70.82

*DENSITY REQUIREMENTS WAVED

**AND POINT OF ROTATION

NOTES:

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

(2) ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08 FT./FT.

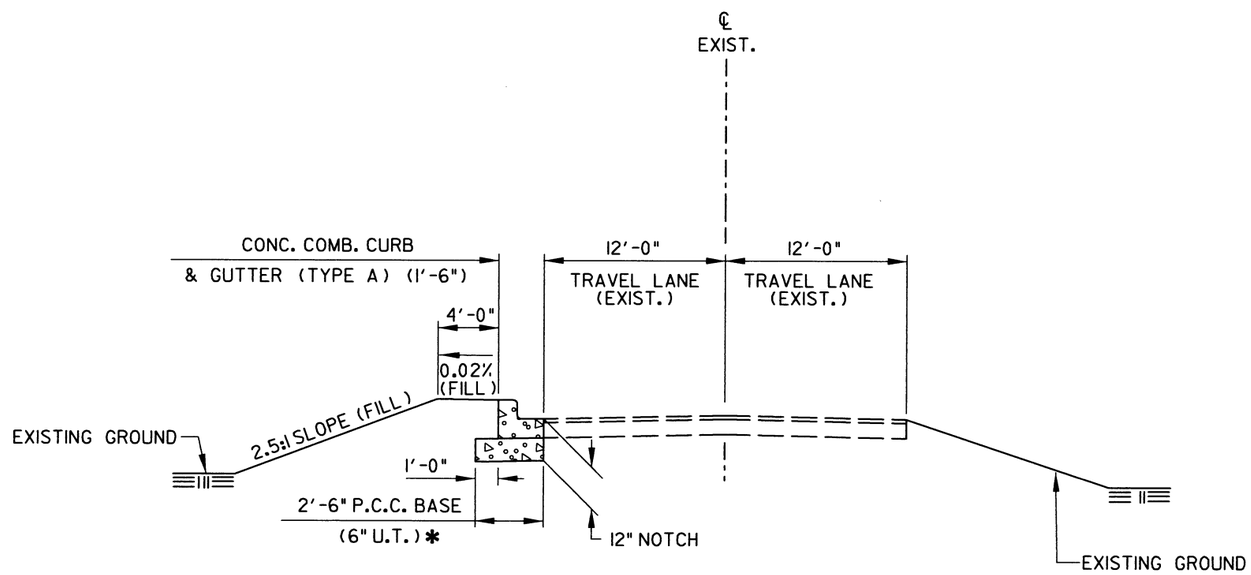
(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	28	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION
T.P. WHITE DRIVE
STA. 719+00.00 TO STA. 750+00.00

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

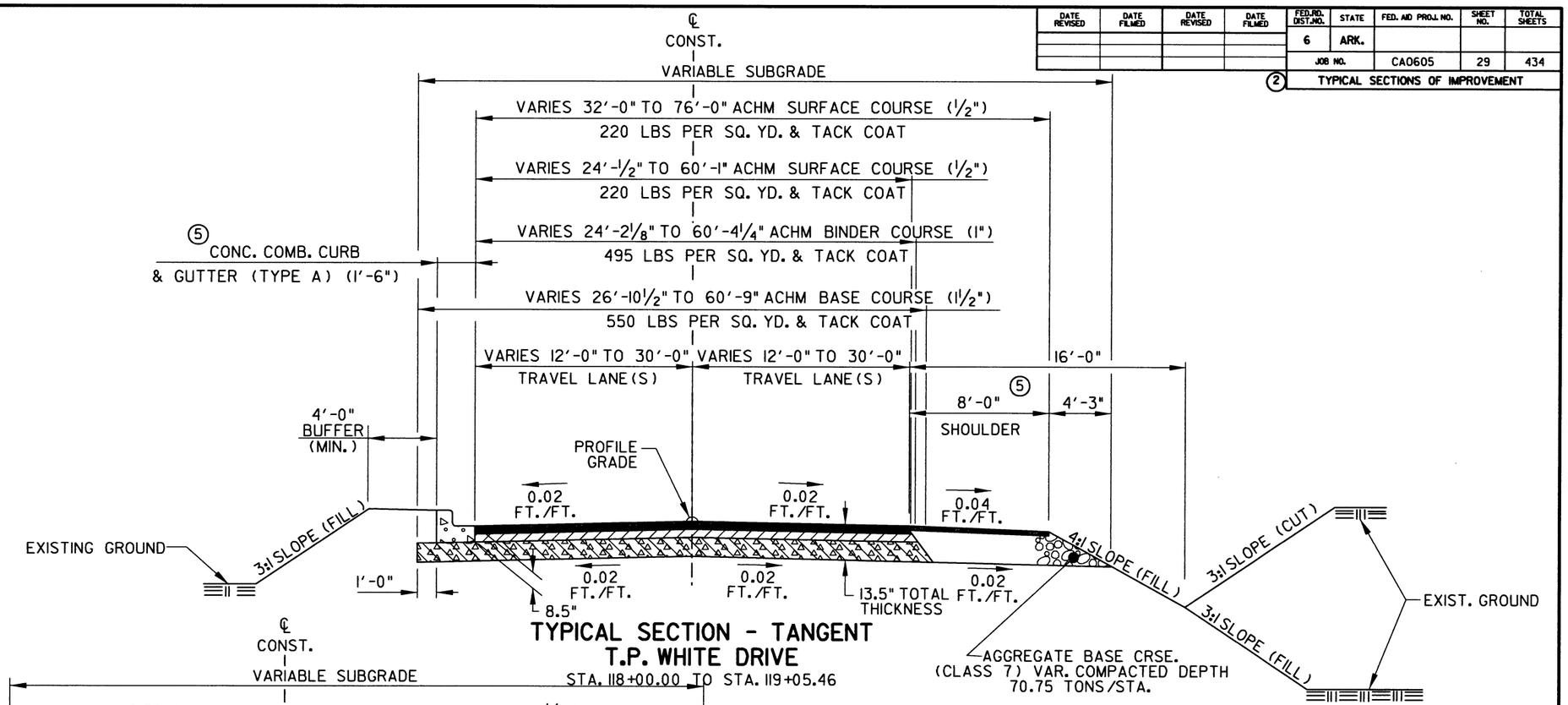
(3) PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

* SEE SPECIAL DETAILS FOR MESH FABRIC TYPE 3

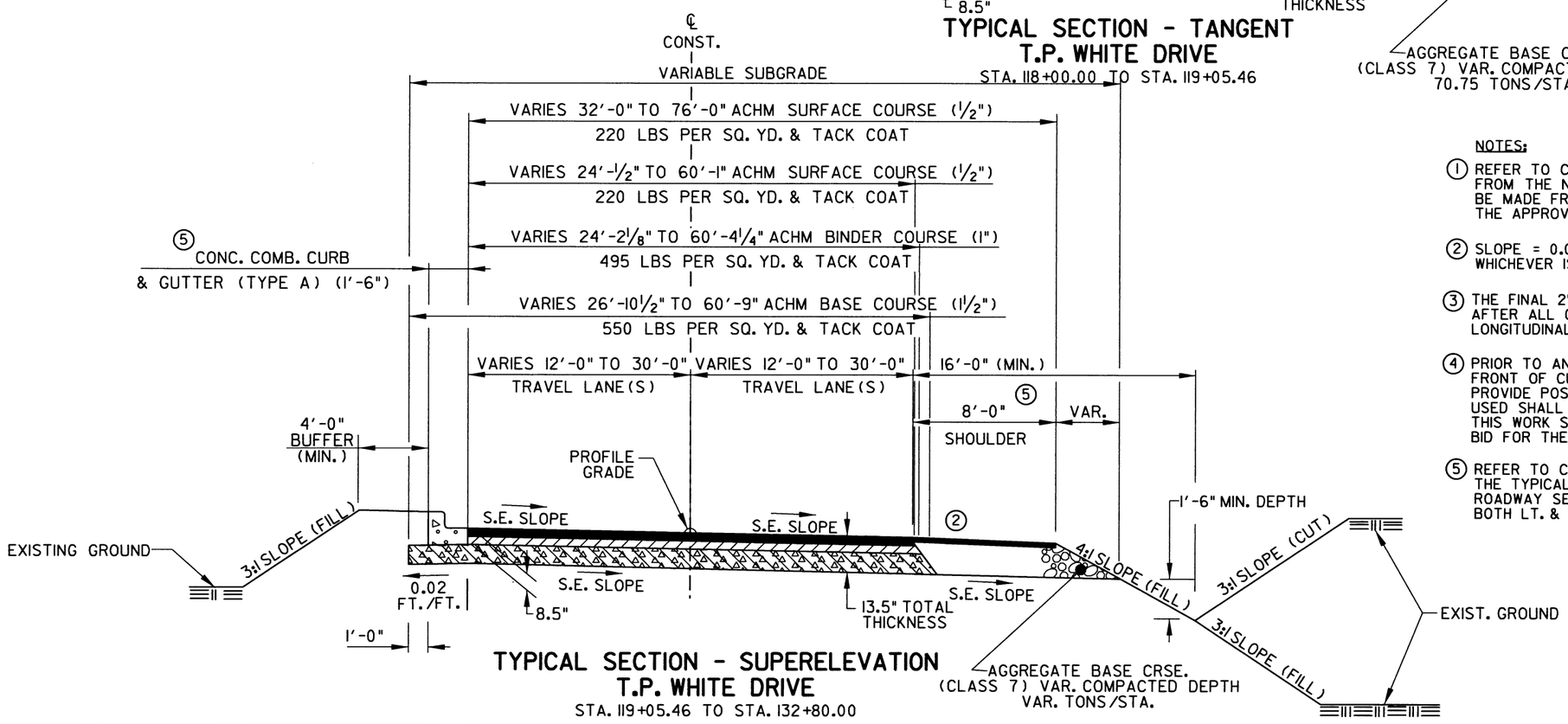
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	29	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
T.P. WHITE DRIVE
STA. 118+00.00 TO STA. 119+05.46



TYPICAL SECTION - SUPERELEVATION
T.P. WHITE DRIVE
STA. 119+05.46 TO STA. 132+80.00

NOTES:

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

(2) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.

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

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

(5) REFER TO CROSS SECTIONS FOR DEVIATION FROM THE TYPICAL SECTION AS SHOWN ON THIS SHEET. ROADWAY SECTION VARIES FROM CURB & GUTTER BOTH LT. & RT. TO OPEN SHOULDER BOTH LT. & RT.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/7/16

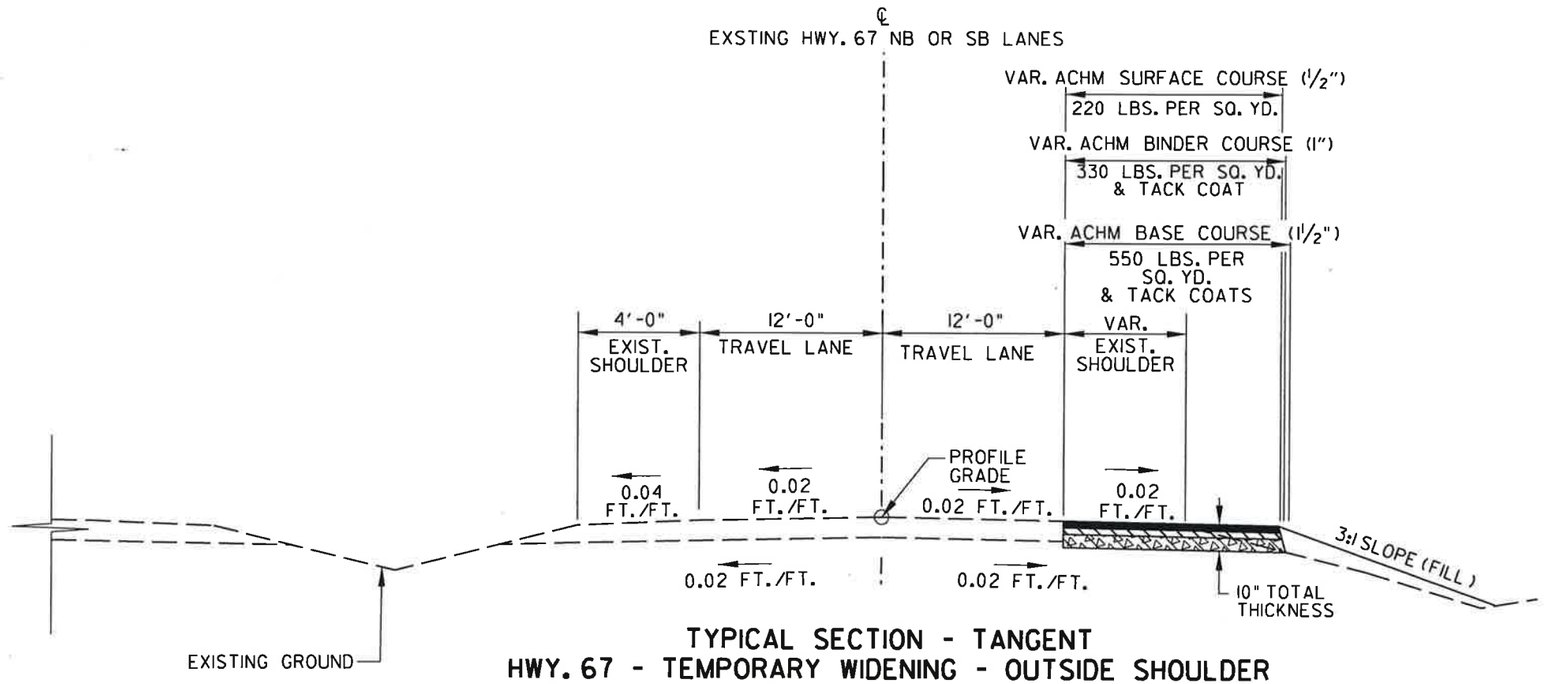
TYPICAL SECTIONS OF IMPROVEMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	30	434

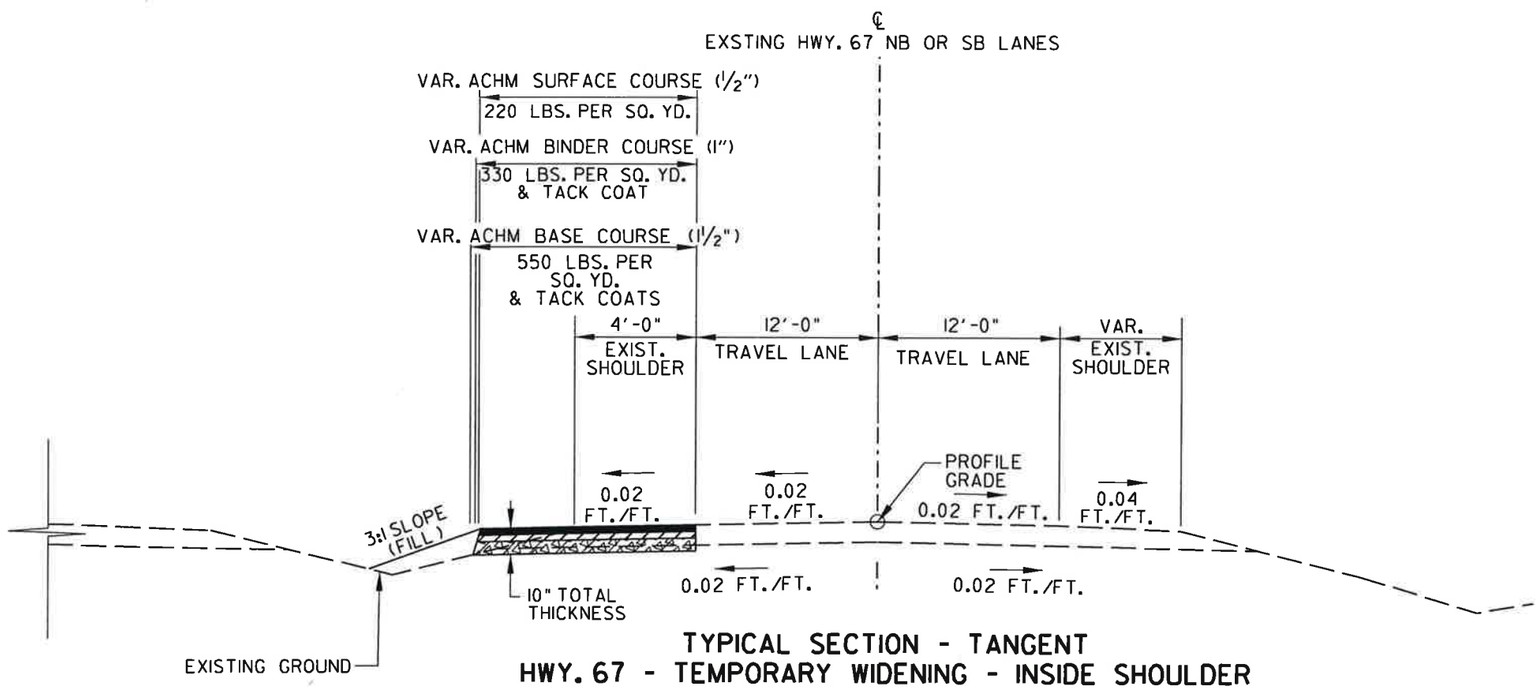
(2) TYPICAL SECTIONS OF IMPROVEMENT

NOTES:

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



TYPICAL SECTION - TANGENT
HWY. 67 - TEMPORARY WIDENING - OUTSIDE SHOULDER



TYPICAL SECTION - TANGENT
HWY. 67 - TEMPORARY WIDENING - INSIDE SHOULDER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

TYPICAL SECTIONS OF IMPROVEMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	31	434

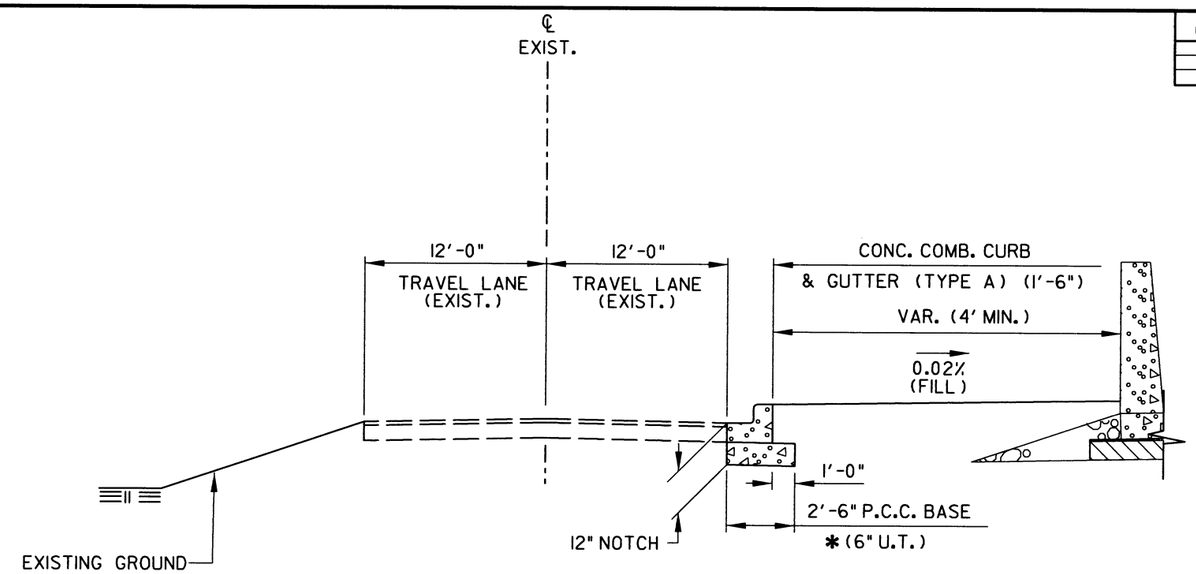
(2) TYPICAL SECTIONS OF IMPROVEMENT

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

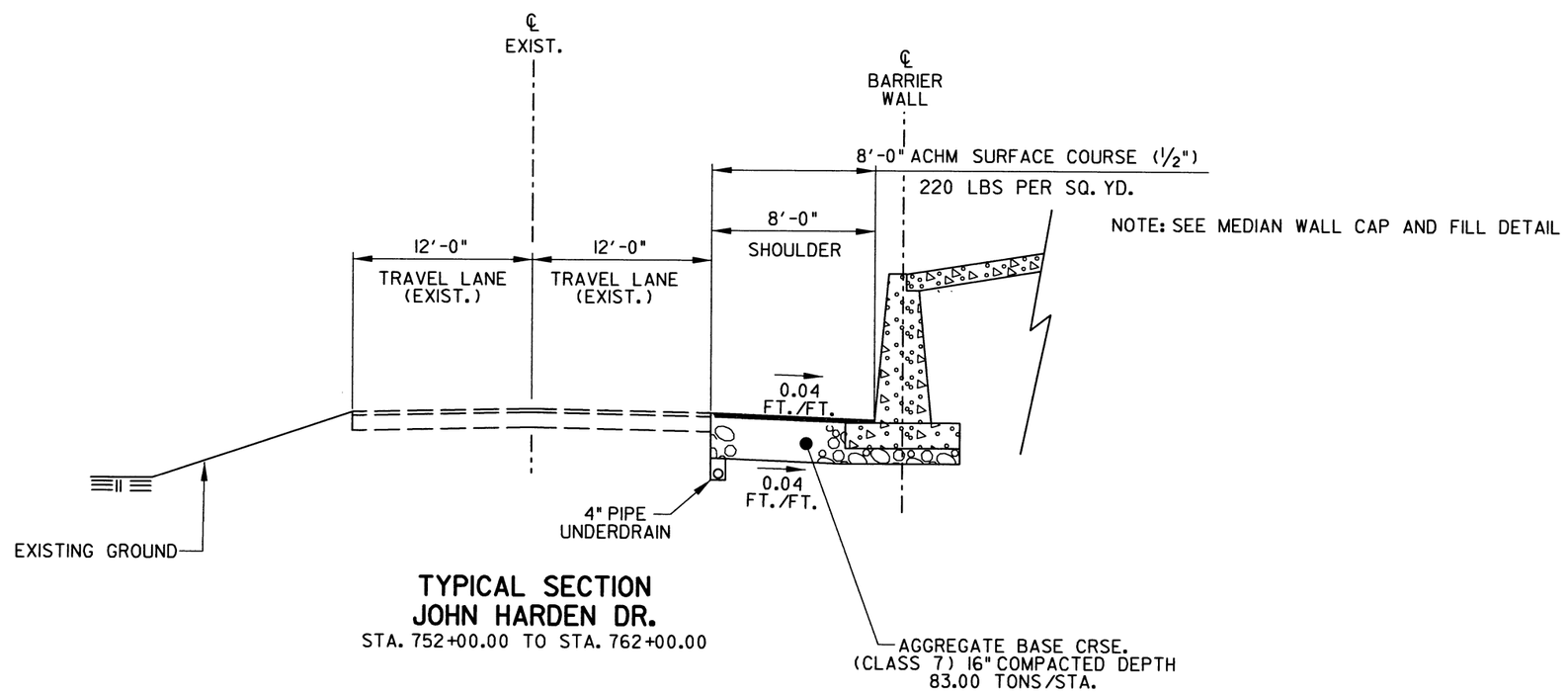
(3) PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.



TYPICAL SECTION
JOHN HARDEN DR.

STA. 705+05.30 TO STA. 720+00.00

*SEE SPECIAL DETAILS FOR MESH FABRIC TYPE 3



NOTE: SEE MEDIAN WALL CAP AND FILL DETAIL

TYPICAL SECTION
JOHN HARDEN DR.

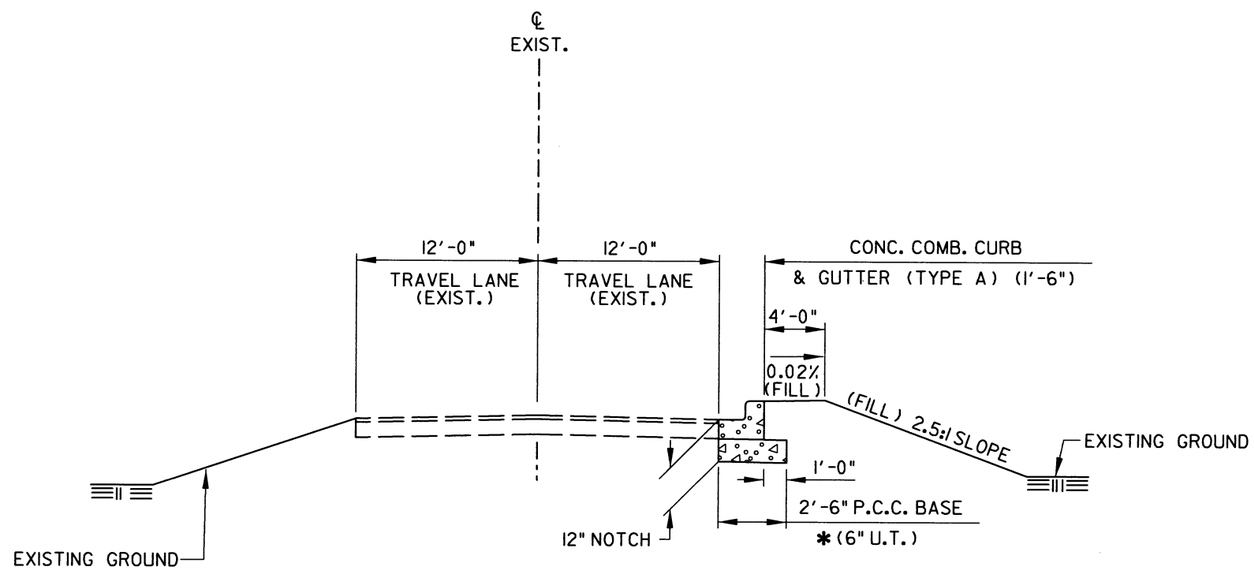
STA. 752+00.00 TO STA. 762+00.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

TYPICAL SECTIONS OF IMPROVEMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	32	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



* SEE SPECIAL DETAILS FOR MESH FABRIC TYPE 3

TYPICAL SECTION
JOHN HARDEN DR.

STA. 908+50.00 TO STA. 911+05.00

NOTES:

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

(2) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

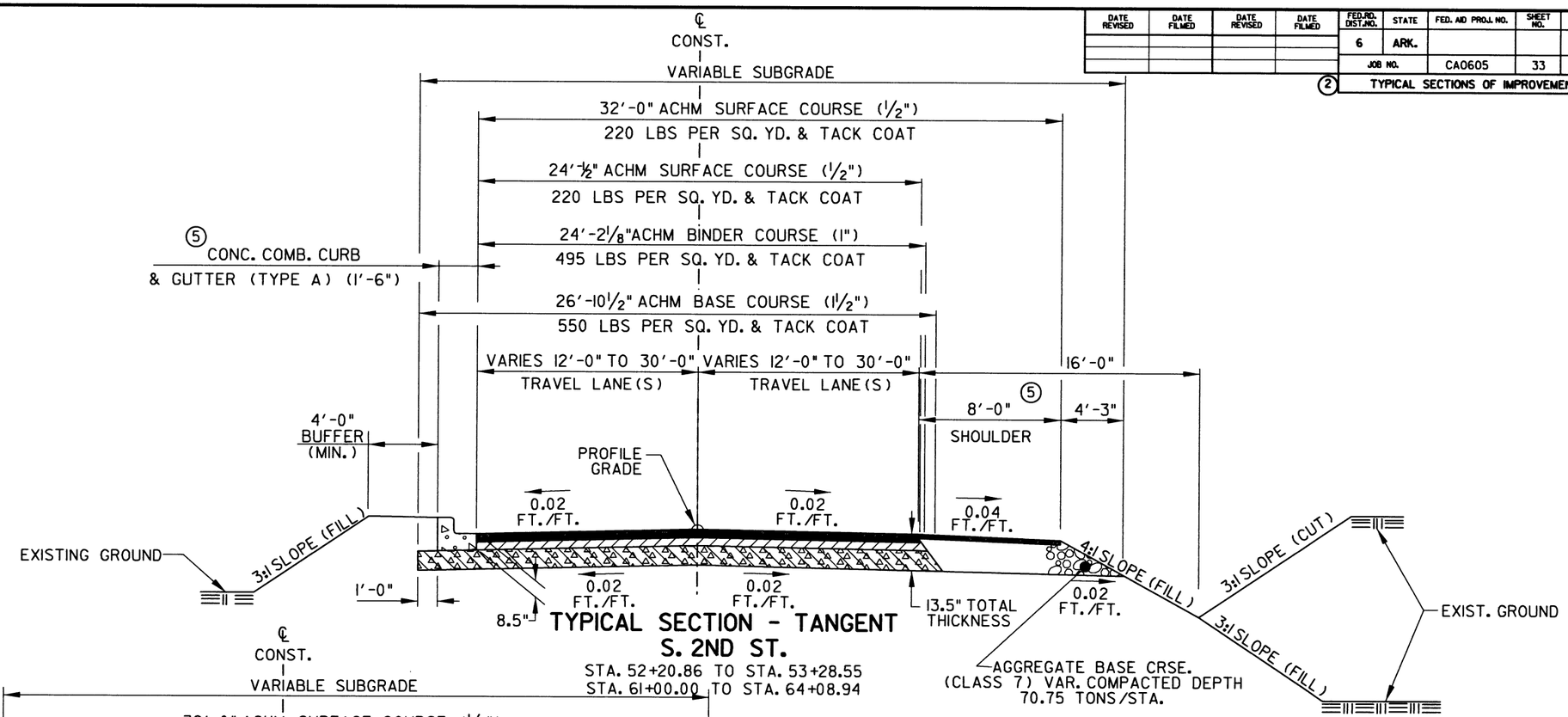
(3) PRIOR TO AND DURING PLACEMENT OF PAVEMENT IN FRONT OF CURB AND GUTTER, THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AT ALL TIMES. THE METHOD(S) USED SHALL BE APPROVED BY THE ENGINEER. PAYMENT FOR THIS WORK SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

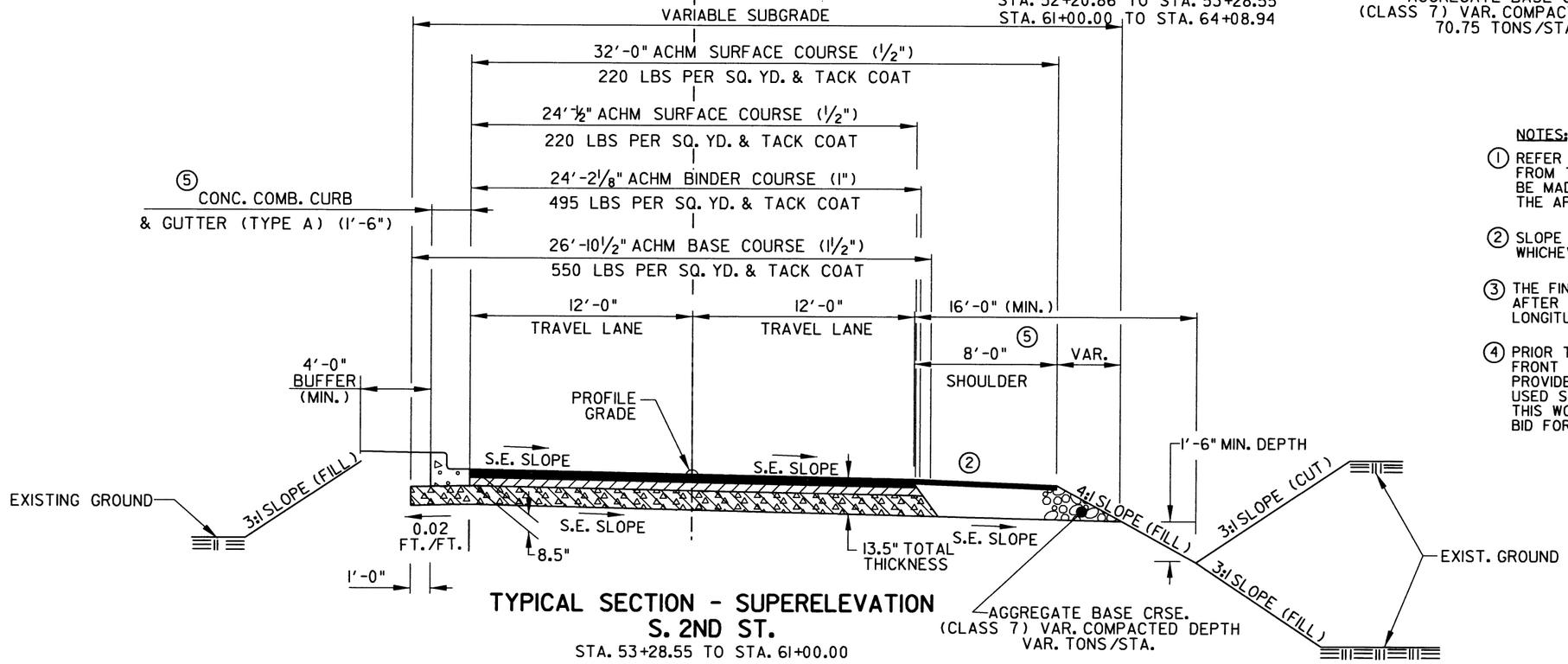
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	33	434

(2) TYPICAL SECTIONS OF IMPROVEMENT



TYPICAL SECTION - TANGENT
S. 2ND ST.

STA. 52+20.86 TO STA. 53+28.55
STA. 61+00.00 TO STA. 64+08.94



TYPICAL SECTION - SUPERELEVATION
S. 2ND ST.

STA. 53+28.55 TO STA. 61+00.00

NOTES:

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

(2) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.

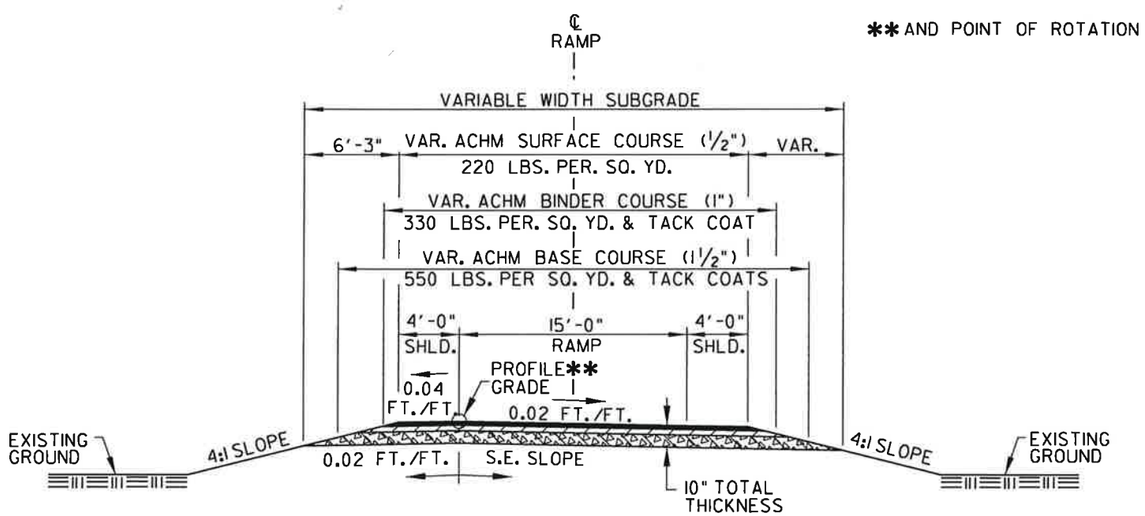
(3) THE FINAL 2" OF SURFACE COURSE IS TO BE PLACED AFTER ALL OTHER COURSES HAVE BEEN LAID. LONGITUDINAL JOINTS SHALL BE AT LANE LINES.

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 4/14/06

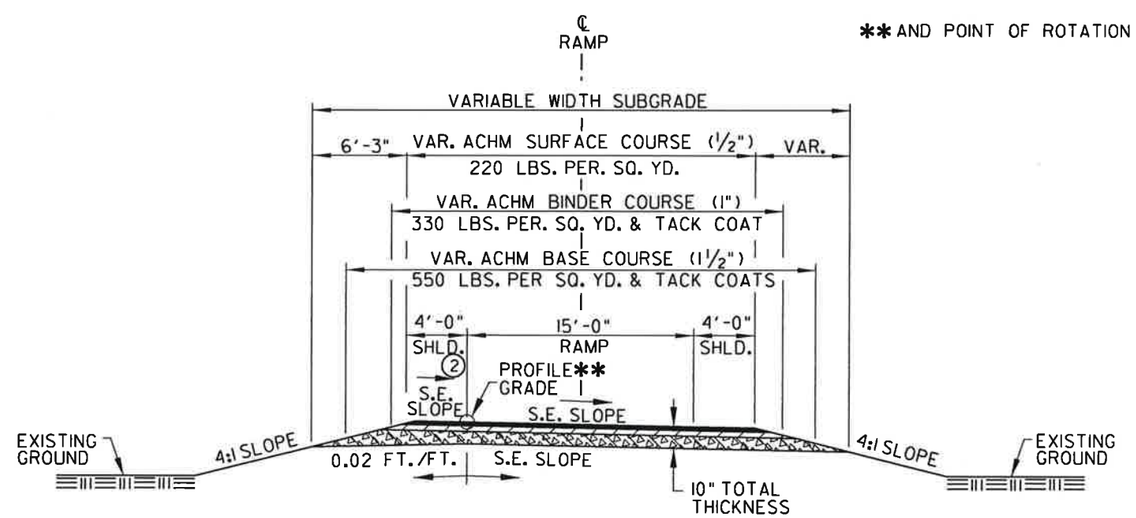
TYPICAL SECTIONS OF IMPROVEMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	34	434
				(2) TYPICAL SECTIONS OF IMPROVEMENT				



TYPICAL SECTION - TANGENT
TEMP. INTERCHANGE RAMP
FOR MAINTENANCE OF TRAFFIC

RAMP 2
STA. 712+00.00 TO STA. 715+18.85
RAMP 4 - 2B/3A/3B
STA. 700+88.36 TO STA. 704+03.97
RAMP 4 - 2B/3A
STA. 943+90.75 TO STA. 946+21.15
RAMP 4 - 2A
STA. 701+50.89 TO STA. 704+16.98
RAMP 4 - 2A
STA. 940+05.48 TO STA. 945+55.22



TYPICAL SECTION - SUPERELEVATION
TEMP. INTERCHANGE RAMP
FOR MAINTENANCE OF TRAFFIC

RAMP 1
STA. 944+77.09 TO STA. 949+28.42

NOTES:

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

(2) ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATED TRANSITIONS (Ls), ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SHALL NOT EXCEED 0.08 FT./FT.

(3) REFER TO SPECIAL DETAILS FOR ADDITIONAL INFORMATION.

(4) SLOPE = 0.04 FT./FT. OR S.E. SLOPE. WHICHEVER IS GREATER.

STATE OF ARKANSAS
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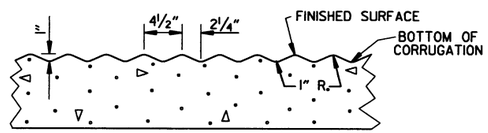
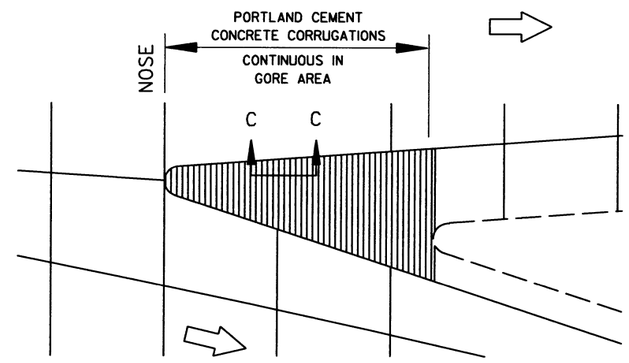
No. 5808
JAMES L. BARR
11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	35	434

2 SPECIAL DETAILS



SECTION C-C
CORRUGATED CONCRETE SHOULDERS



LAYOUT OF SHOULDER CORRUGATIONS
IN EXIT GORE AREAS

HWY. 5 INTERCHANGE
NB EXIT RAMP
(RAMP I)

STATE OF ARKANSAS
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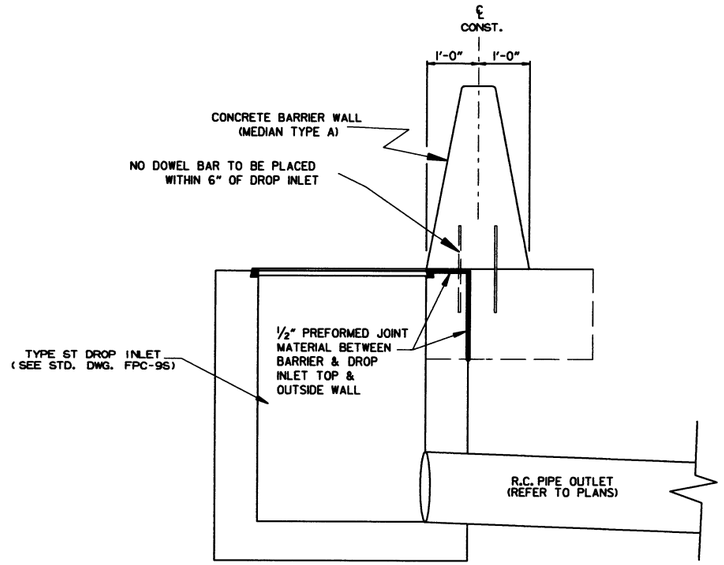
No. 9808
JAMES L. BARR
8/26/6

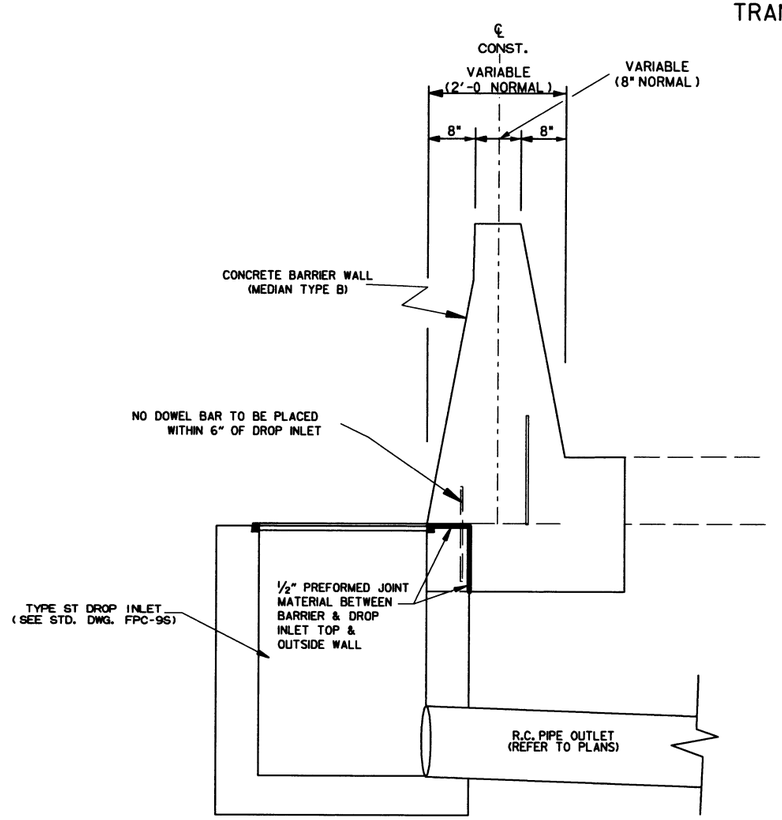
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	36	434

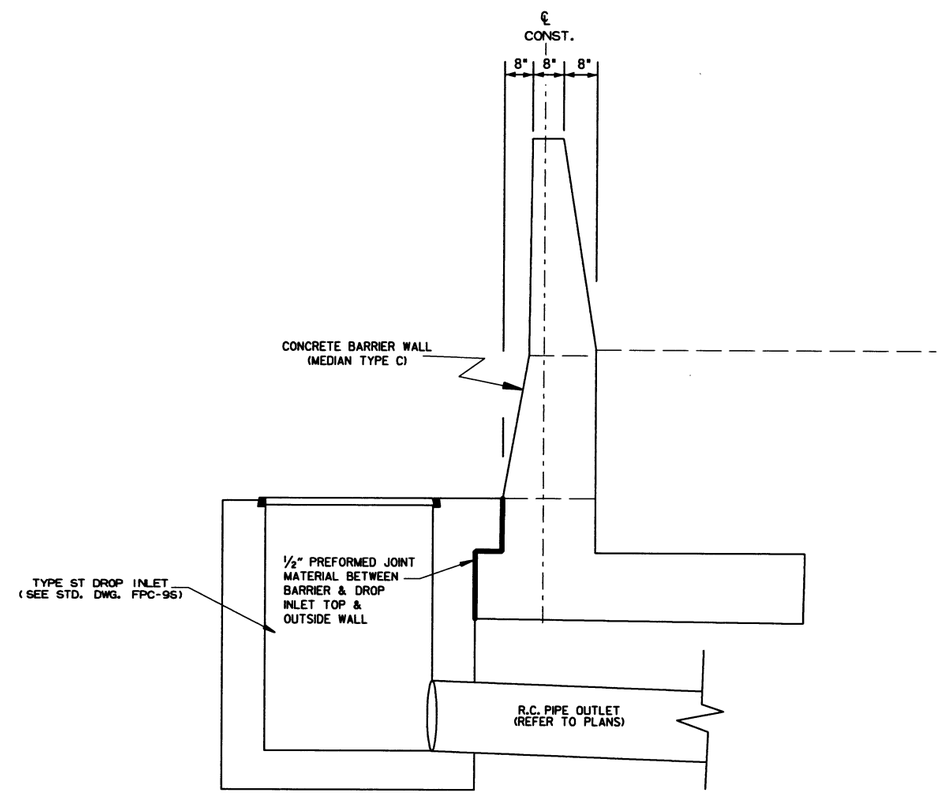
2 SPECIAL DETAILS



ADJACENT TO CONCRETE BARRIER WALL (MEDIAN TYPE A)
TRANSVERSE SECTION OF TYPE ST DROP INLET



ADJACENT TO CONCRETE BARRIER WALL (MEDIAN TYPE B)
TRANSVERSE SECTION OF TYPE ST DROP INLET



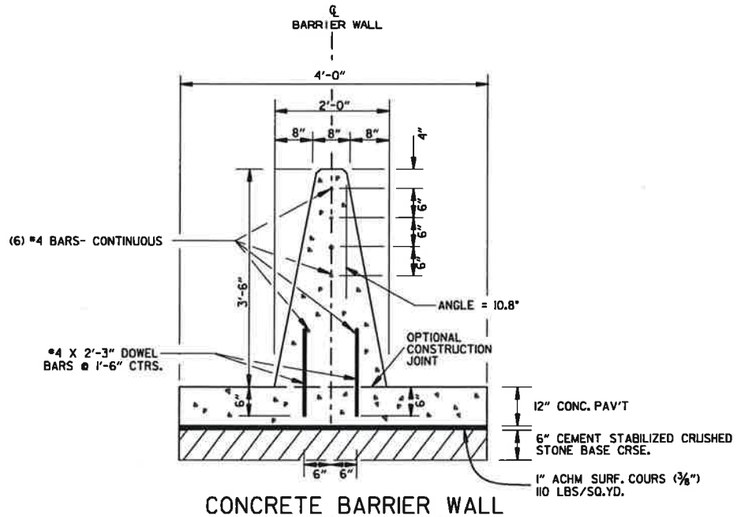
ADJACENT TO CONCRETE BARRIER WALL (MEDIAN TYPE C)
TRANSVERSE SECTION OF TYPE ST DROP INLET

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 3808 JAMES L. BARR 8/26/16

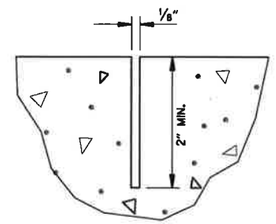
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	37	434

(2) SPECIAL DETAILS

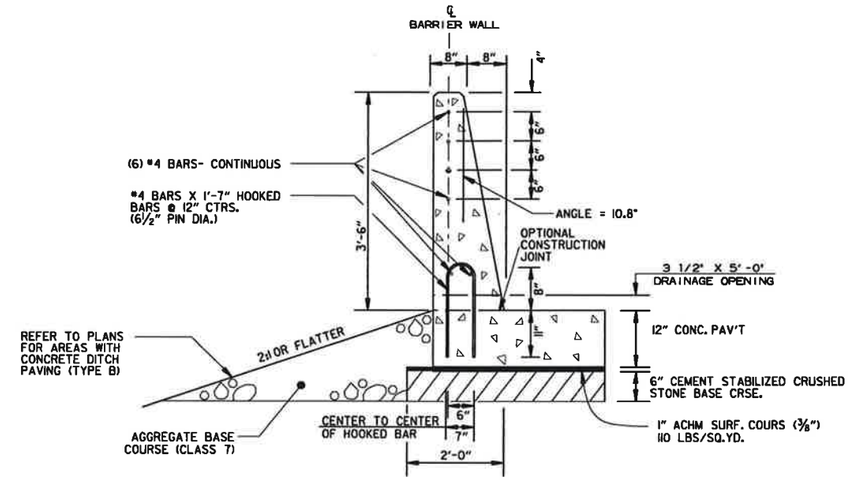


CONCRETE BARRIER WALL
(MEDIAN TYPE A)



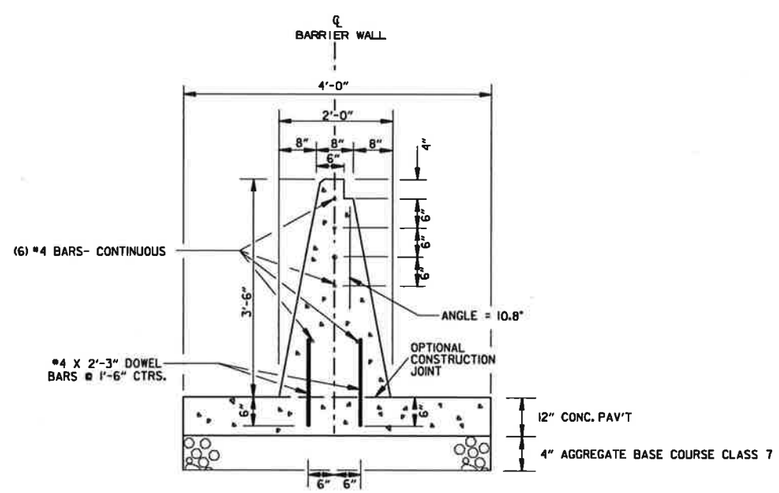
CONTRACTION JOINT DETAIL

NOTES FOR CONCRETE BARRIER WALL:
1. ALL EXPOSED EDGES SHALL HAVE 3/4" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. MEDIAN BARRIER TRANSITIONS WILL BE MEASURED AND PAID FOR AS "CONCRETE BARRIER WALL (MEDIAN TYPE A)".
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.



CONCRETE BARRIER WALL
(SIDE TYPE A)

NOTES FOR CONCRETE BARRIER WALL (SIDE TYPE A):
1. DRAINAGE OPENINGS TO BE CONSTRUCTED IN CONCRETE BARRIER WALL (SIDE TYPE A) AT EVERY 50' O.C. WHEN GRADE IS LESS THAN OR EQUAL TO 0.30%, 100' O.C. WHEN GRADE EXCEEDS 0.30%, AND AT SAG LOCATIONS UNLESS OTHERWISE SPECIFIED ON THE PLANS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.
2. DRAINAGE OPENINGS ARE NOT TO BE CONSTRUCTED IN CONCRETE BARRIER (SIDE TYPE A) AT THE FOLLOWING LOCATIONS:
   LT. OF C.L. CONST. HWY. 67 STA. 717+00.00 TO STA. 720+00.00
   RT. OF C.L. CONST. HWY. 67 STA. 706+00.00 TO STA. 709+00.00
   LT. OF C.L. CONST. HWY. 67 STA. 752+00.00 TO STA. 762+00.00
3. DRAINAGE OPENINGS TO BE CONSTRUCTED IN CONCRETE BARRIER WALL (SIDE TYPE A) AT EVERY 20' O.C. FOR 200' IN THE DIRECTION OF FLOW FOLLOWING SECTIONS WHERE NO DRAINAGE OPENINGS ARE TO BE CONSTRUCTED IN THE CONCRETE BARRIER WALL (SIDE TYPE A) AND IN LOCATIONS PRIOR TO AND AFTER SUPERELEVATED SECTIONS WOULD DIRECT FLOW ACROSS THE MAIN LANES.
4. CONCRETE DITCH PAVING IS TO BE PLACED AT ALL CONCRETE BARRIER WALL (SIDE TYPE A) DRAINAGE OPENINGS.



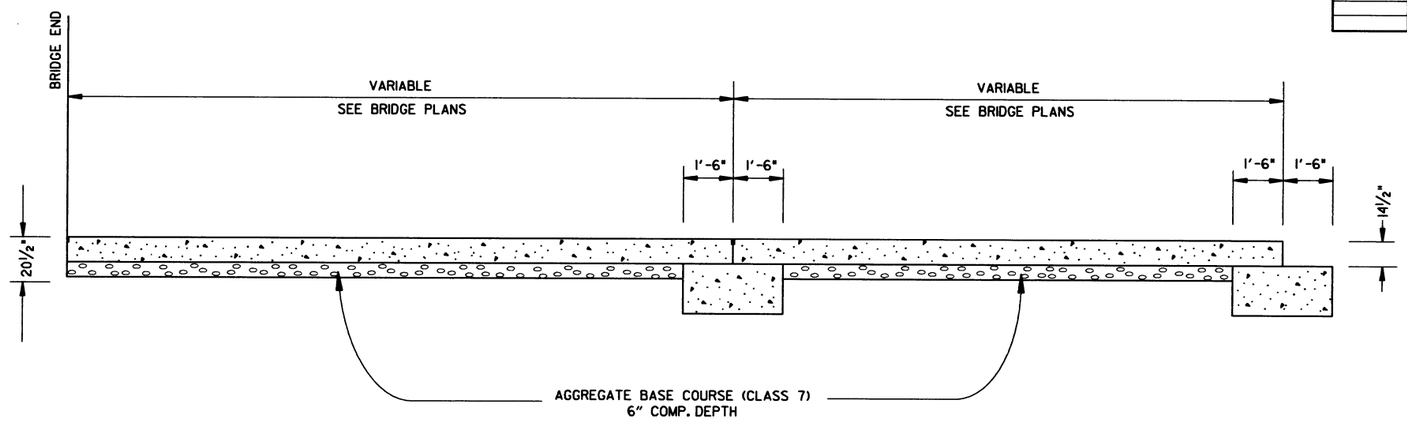
CONCRETE BARRIER WALL
(MEDIAN TYPE SPECIAL)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

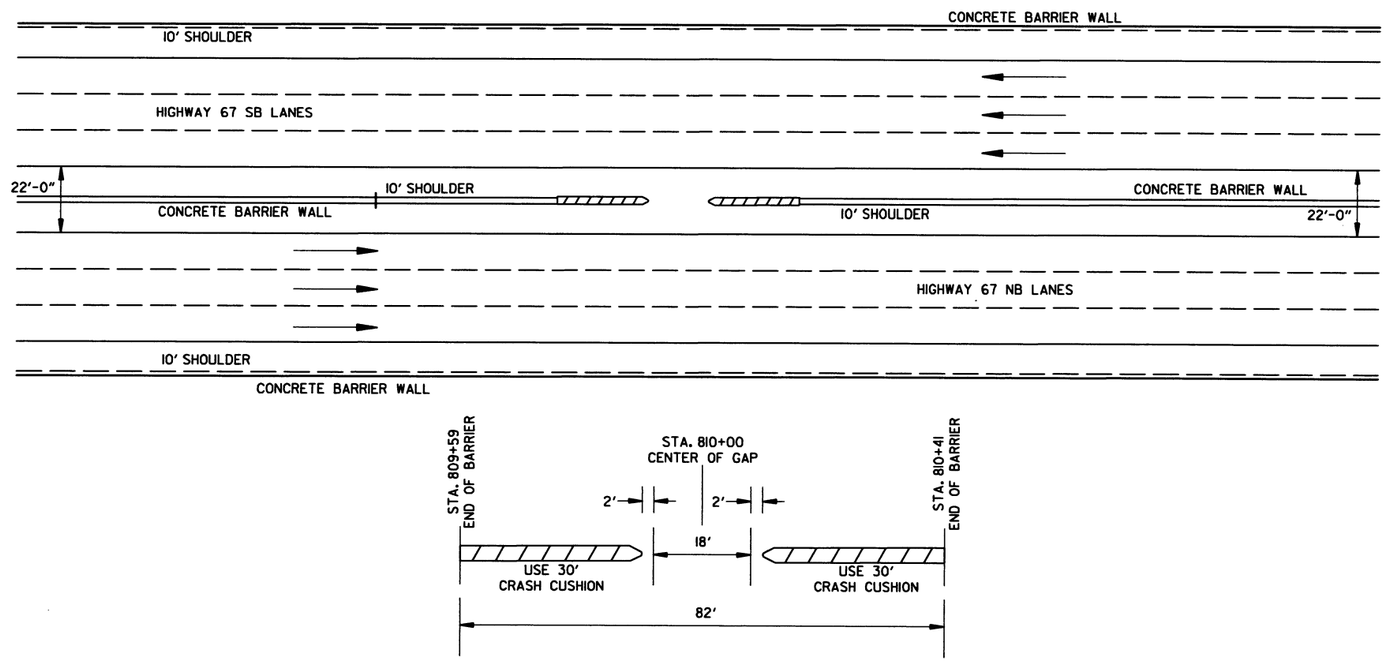
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	38	434

2 SPECIAL DETAILS



LONGITUDINAL SECTION OF APPROACH SLAB



DETAIL OF MEDIAN CROSSING

DIMENSIONS ARE TYPICAL BOTH DIRECTIONS

STATE OF ARKANSAS
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JAMES L. BARR
9/7/16

SPECIAL DETAILS

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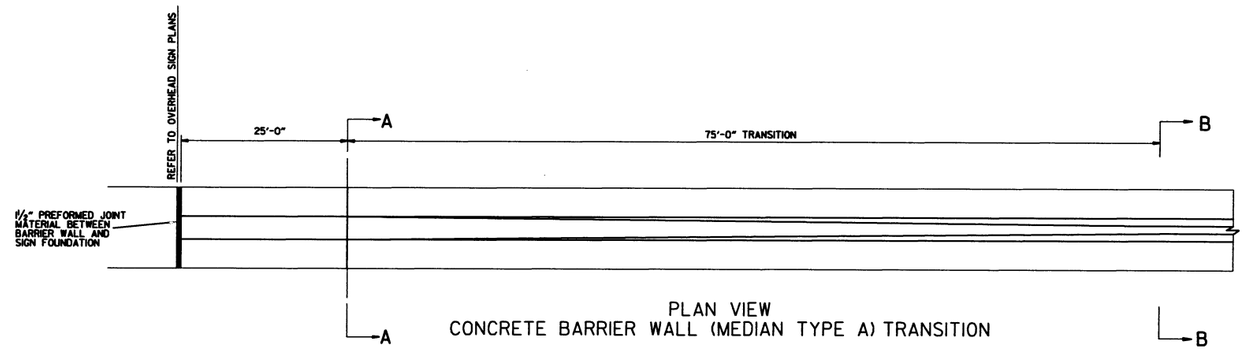
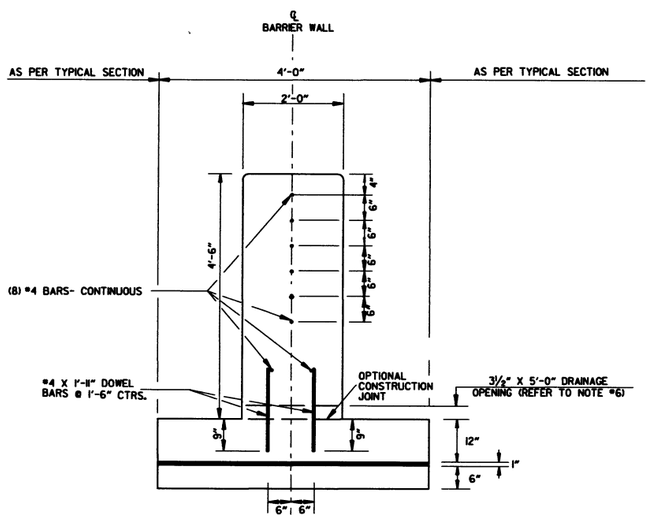
				6	ARK.			
				JOB NO.		CA0605	39	434

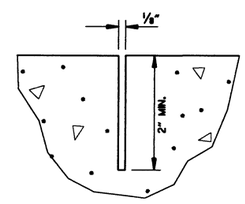
(2) SPECIAL DETAILS



PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSITION

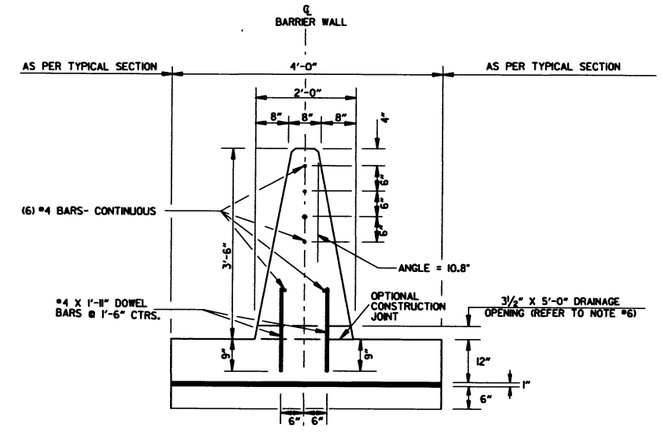


CONCRETE BARRIER WALL (MEDIAN TYPE A)
(SECTION A-A)



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



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

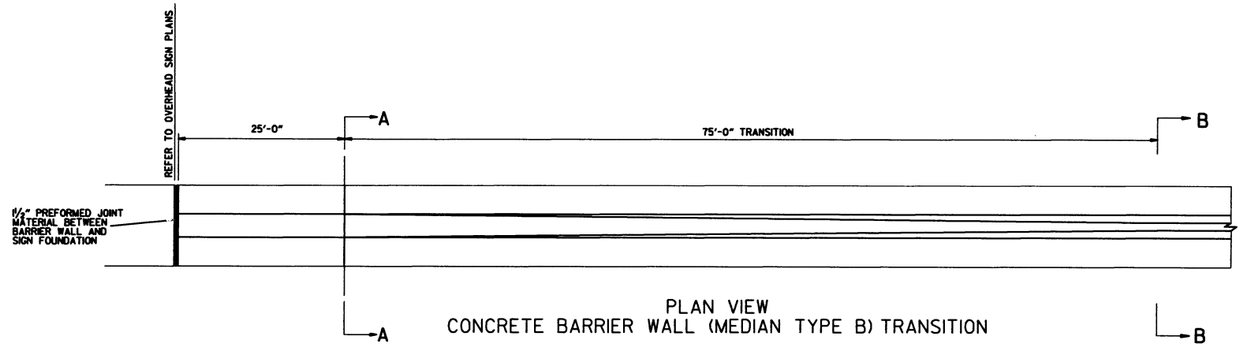
CONCRETE BARRIER WALL (MEDIAN TYPE A) TRANSITION
FOR OVERHEAD SIGN STRUCTURE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3808
JAMES L. BARR
8/26/16

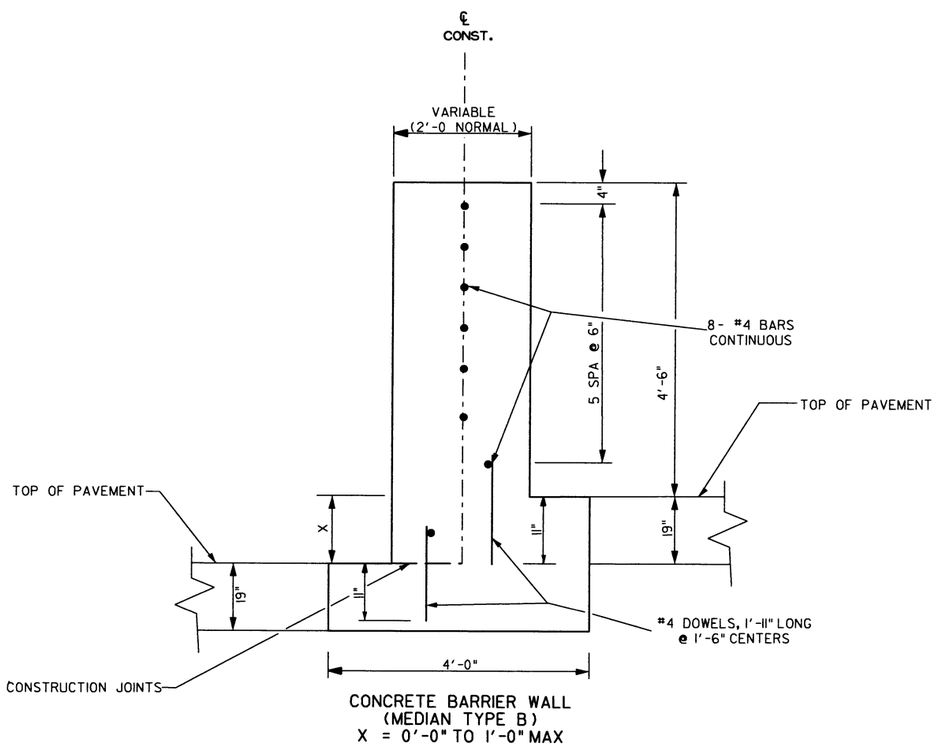
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	40	434

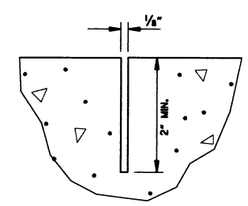
2 SPECIAL DETAILS



PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE B) TRANSITION



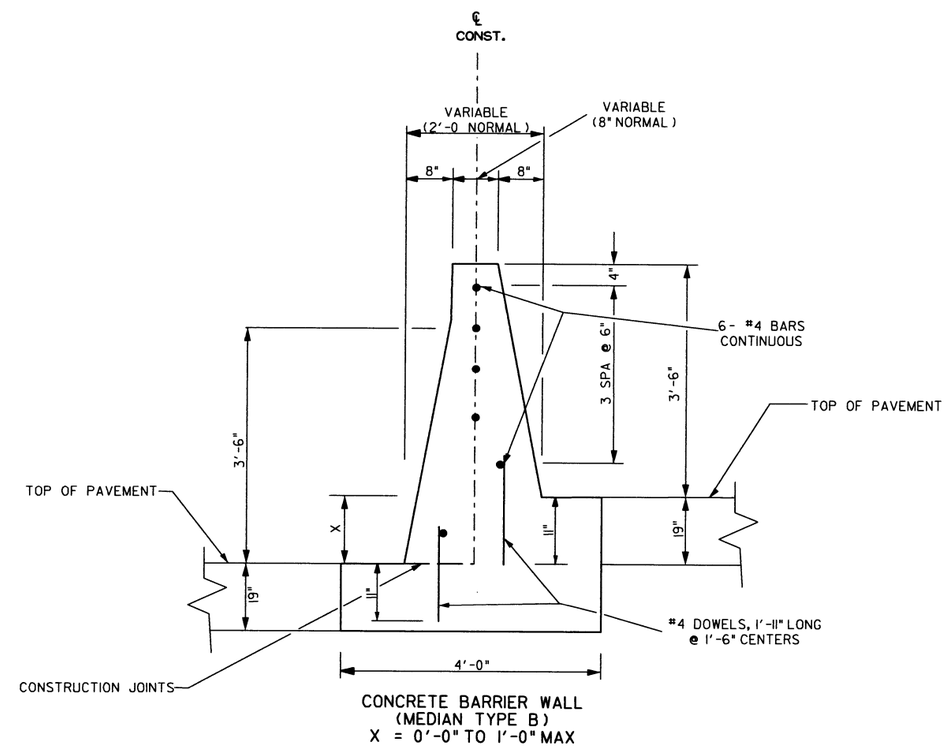
CONCRETE BARRIER WALL (MEDIAN TYPE B)
(SECTION A-A)



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.

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



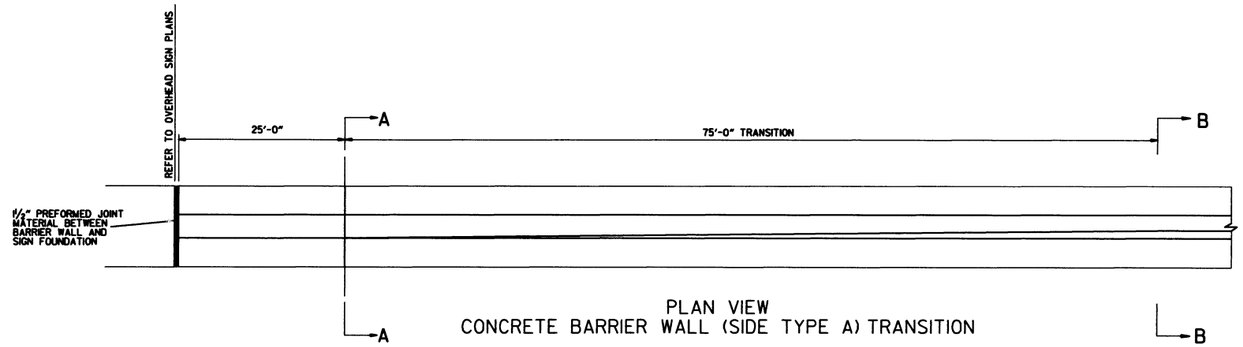
CONCRETE BARRIER WALL (MEDIAN TYPE B)
(SECTION B-B)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR

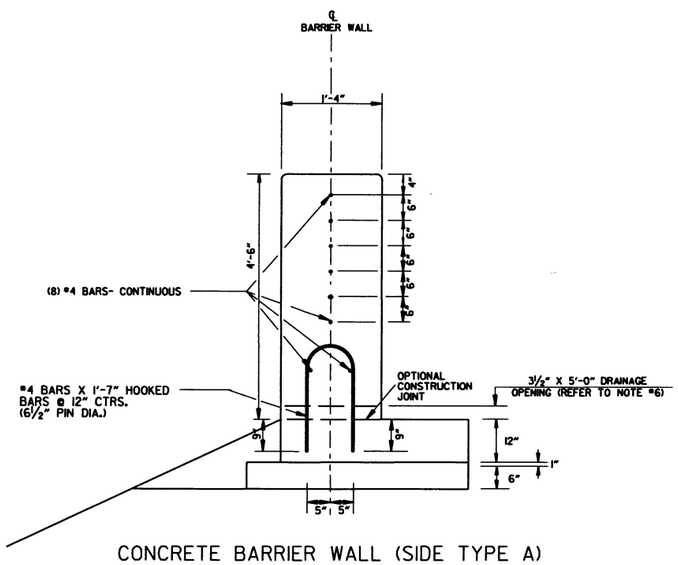
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	41	434

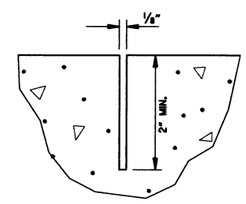
2 SPECIAL DETAILS



PLAN VIEW
CONCRETE BARRIER WALL (SIDE TYPE A) TRANSITION

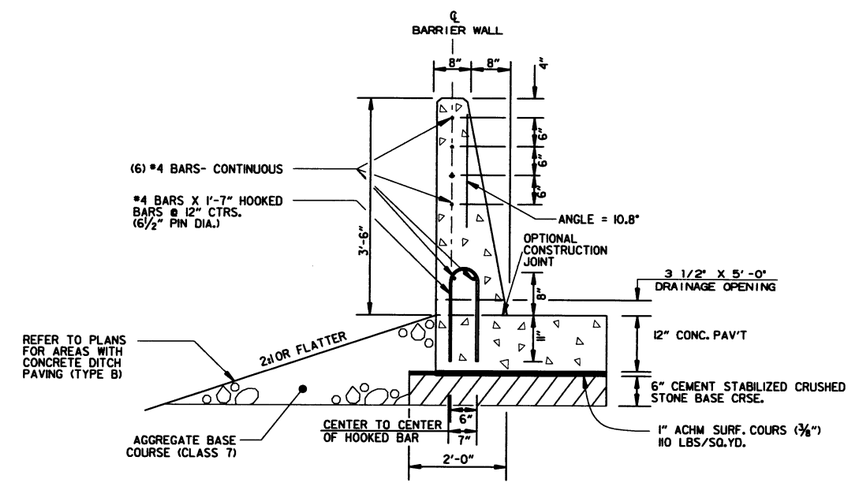


CONCRETE BARRIER WALL (SIDE TYPE A)
(SECTION A-A)



CONTRACTION JOINT DETAIL

NOTES FOR MEDIAN BARRIER:
1. ALL EXPOSED EDGES SHALL HAVE ¾" CHAMFERS.
2. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT 15'-0" MAXIMUM SPACING IN TOP AND SIDES OF MEDIAN BARRIER AND SHALL BE FORMED IN FRESH CONCRETE.
3. CONTRACTION JOINTS ARE NOT PERMITTED AT THE DOWEL BAR LOCATIONS.
4. ALL REINFORCING BARS SHALL HAVE 2" MINIMUM COVER.
5. DOWEL BARS WILL NOT BE REQUIRED IF BARRIER AND BASE ARE CAST AS A COMPLETE UNIT.
6. DRAINAGE OPENINGS TO BE CONSTRUCTED ADJACENT TO DROP INLETS. DOWEL BARS SHALL NOT BE PLACED WITHIN 3" OF DRAINAGE OPENINGS.



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

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

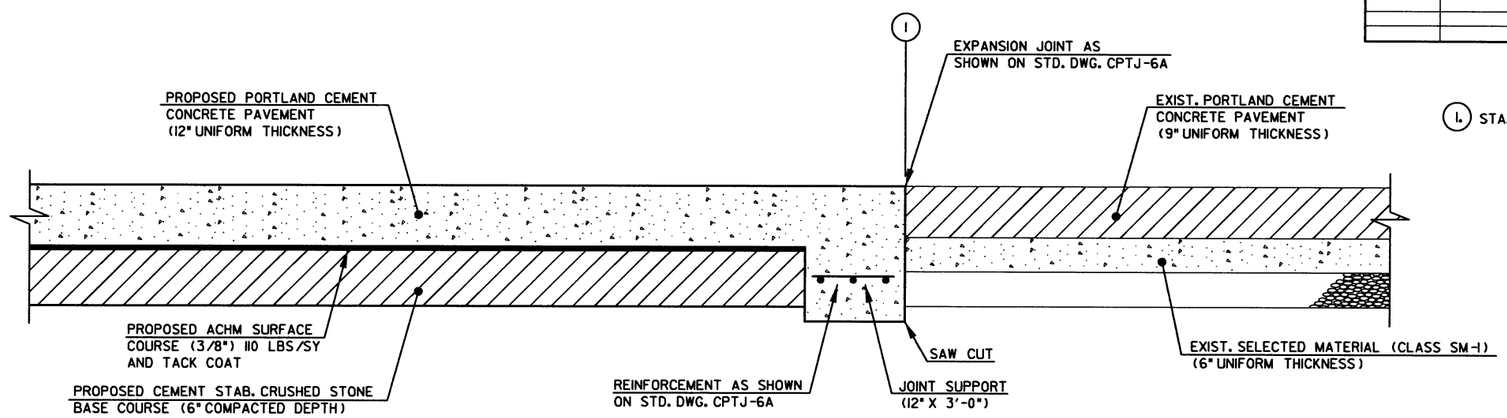
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SPECIAL DETAILS

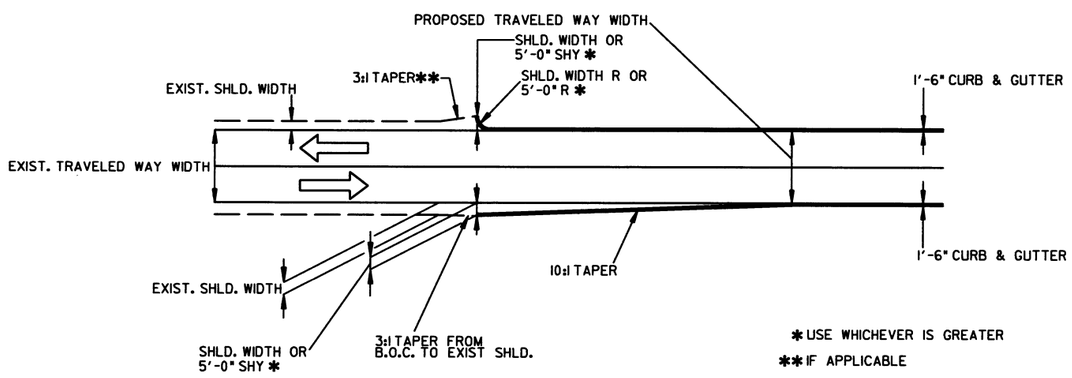
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	42	434

(2) SPECIAL DETAILS

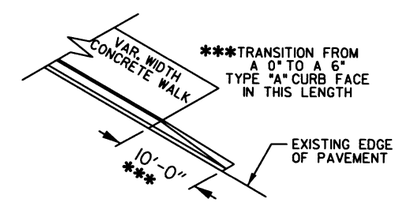
(1.) STA. 948+00.00 END JOB CA0605



DETAIL OF PAVEMENT TRANSITION - END OF PROJECT



TRANSITION FROM OPEN SHOULDER TO CURB & GUTTER SECTION



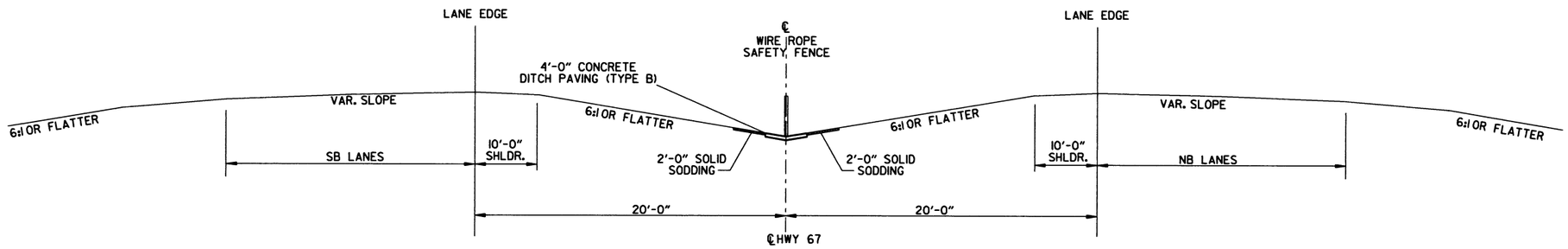
CURB TRANSITION DETAIL

STATE ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 9808 JAMES L. BARR 8/26/16

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	43	434

(2) SPECIAL DETAILS



WIRE ROPE SAFETY FENCE ON CENTERLINE OF HIGHWAY 67

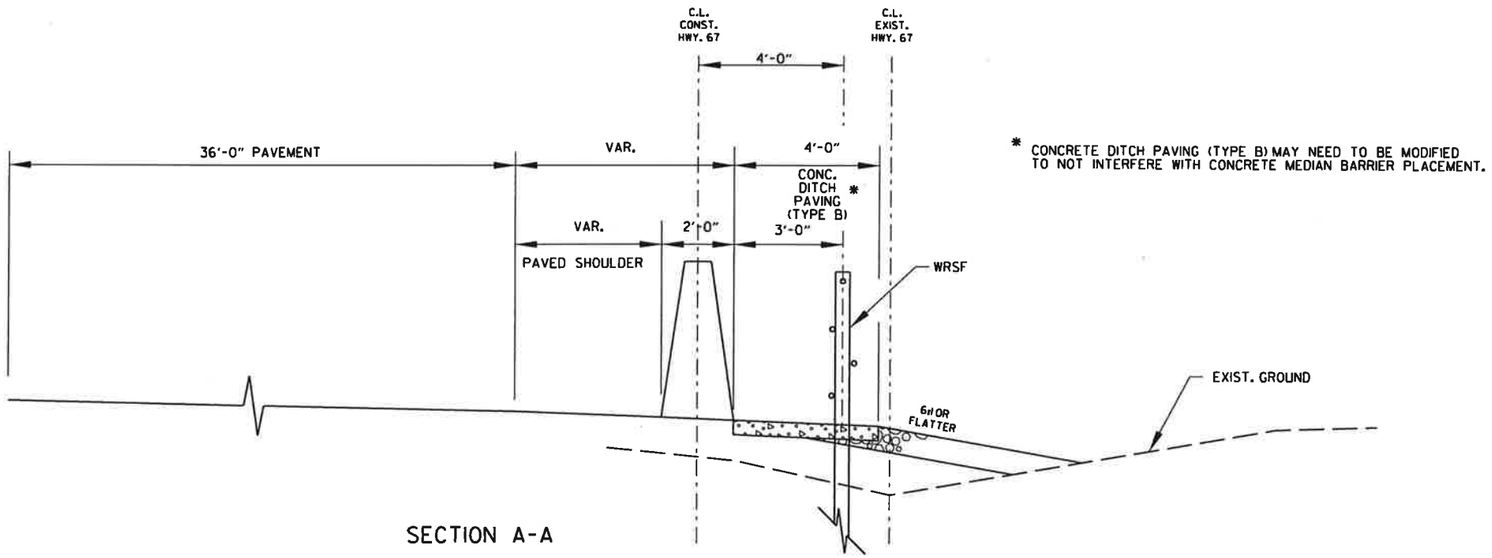
STA. 947+00.00 - STA. 948+00.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SPECIAL DETAILS

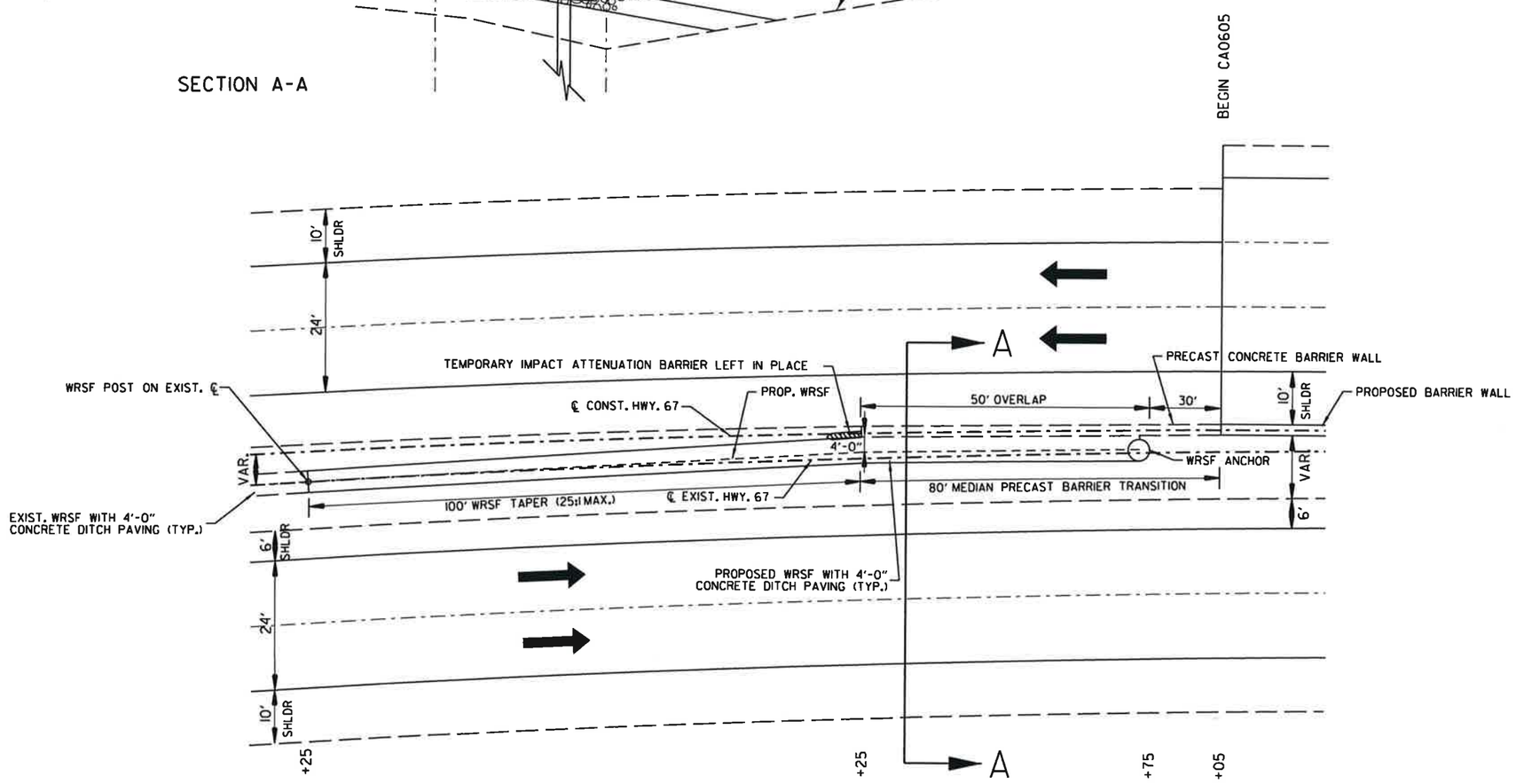
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	44	434

2 SPECIAL DETAILS



* CONCRETE DITCH PAVING (TYPE B) MAY NEED TO BE MODIFIED TO NOT INTERFERE WITH CONCRETE MEDIAN BARRIER PLACEMENT.

SECTION A-A



WIRE ROPE SAFETY FENCE (WRSF) - MEDIAN BARRIER TRANS. DETAIL AT BEGIN JOB CA0605

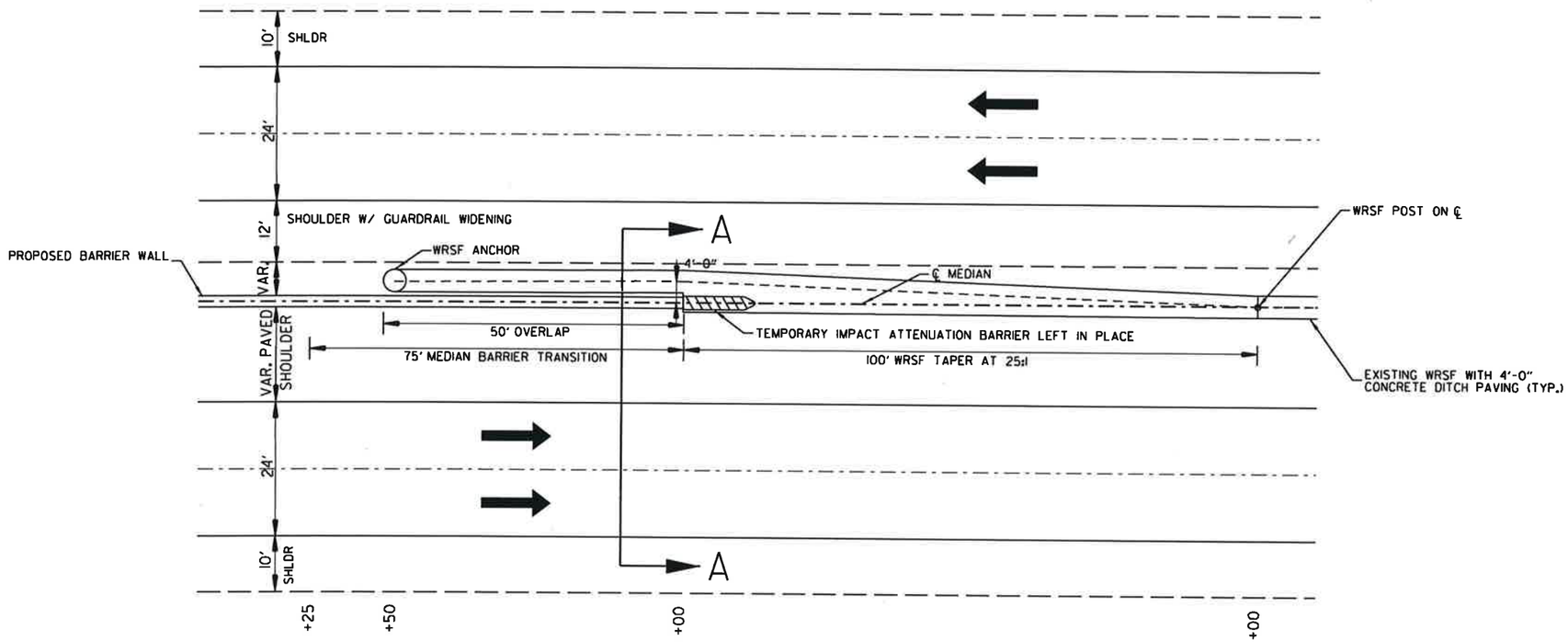
STA. 703+25.30 - STA. 705+05.30

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

SPECIAL DETAILS

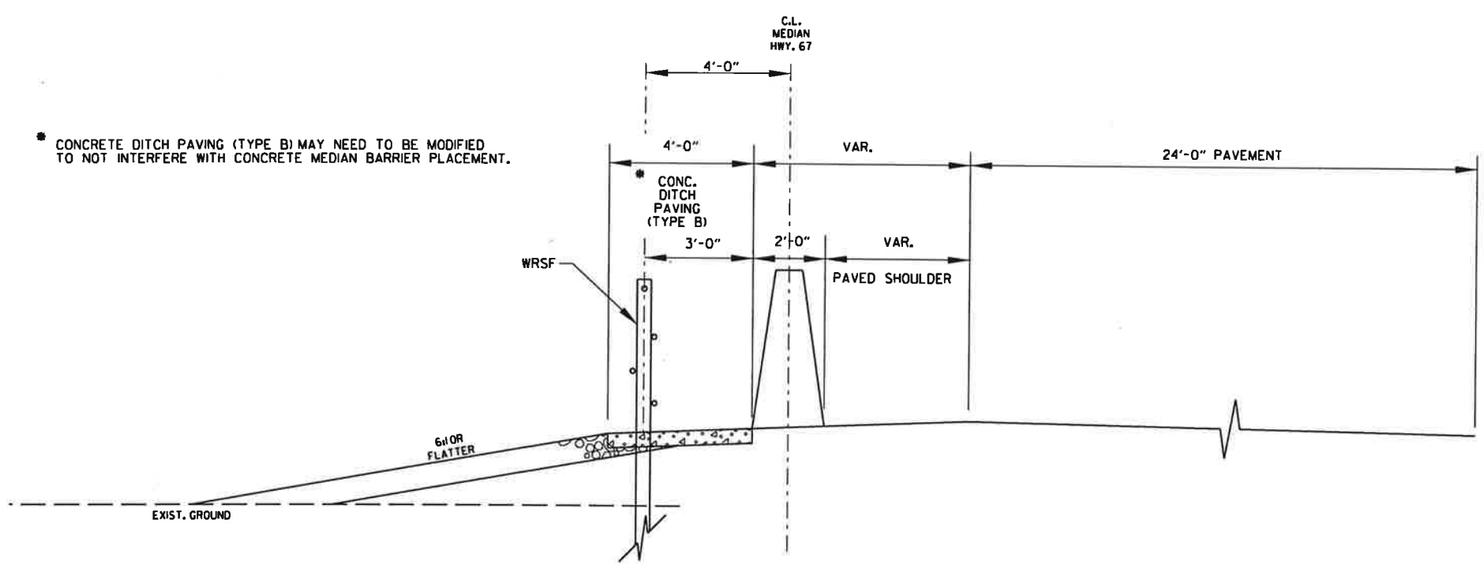
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	45	434

2 SPECIAL DETAILS



WIRE ROPE SAFETY FENCE (WRSF) - MEDIAN BARRIER TRANS. DETAIL

STA. 945+50 - STA. 948+00.00



SECTION A-A

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

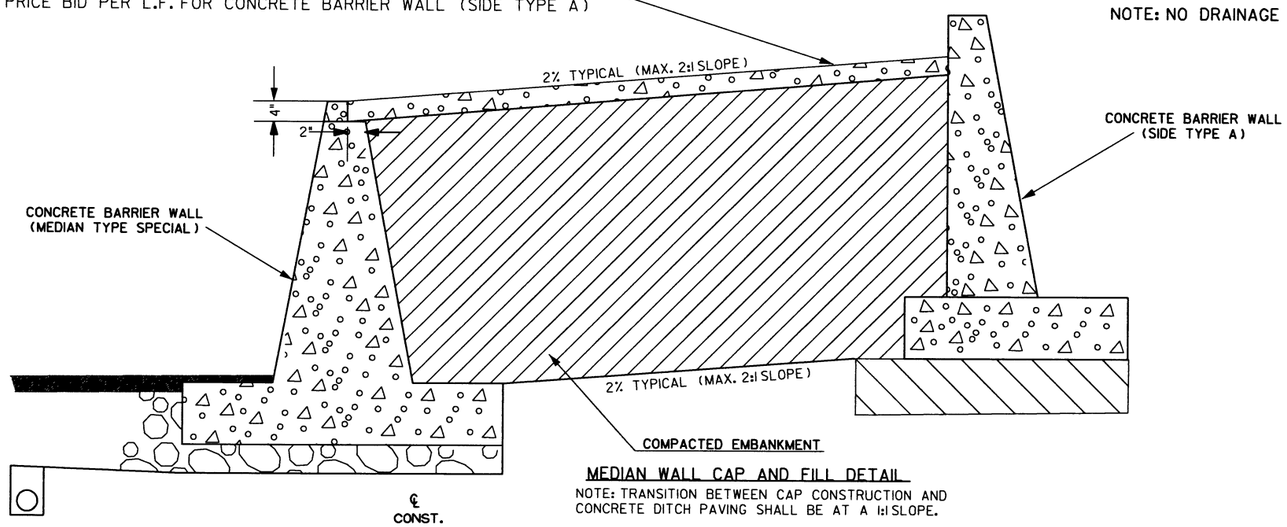
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	46	434

2 SPECIAL DETAILS

4" THICK CONCRETE CAP W/ 6X6 -6/6 WELDED WIRE FABRIC
NOTE: PLACE 1½" CLEAR BOTTOM OF CAP
COST OF THE CONC. CAP & AGGR. BASE TO BE INCLUDED
IN PRICE BID PER L.F. FOR CONCRETE BARRIER WALL (SIDE TYPE A)

NOTE: NO DRAINAGE SLOTS

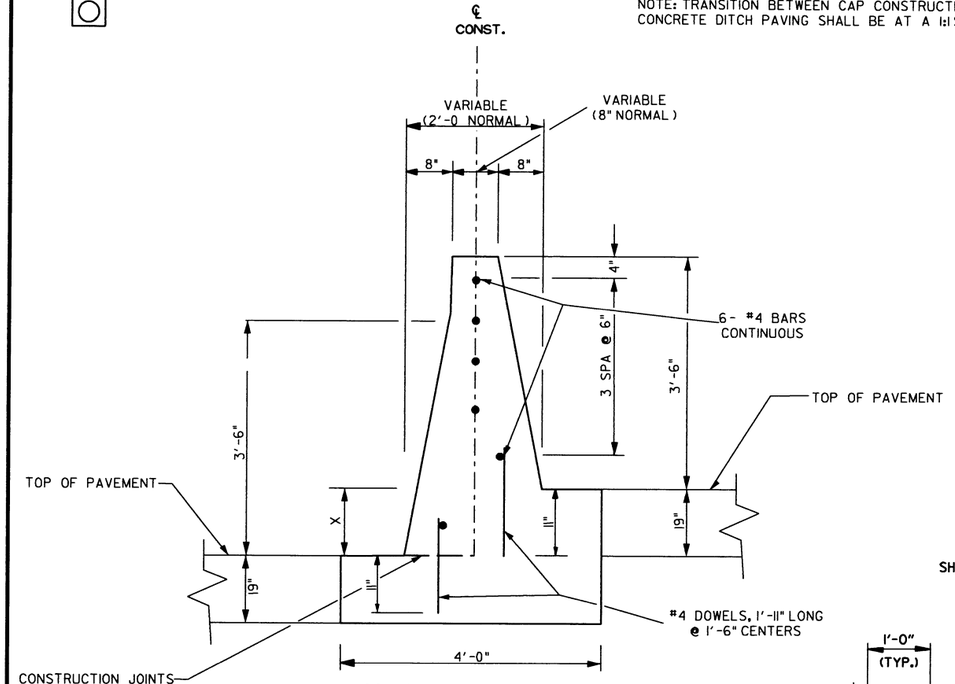


MEDIAN WALL CAP AND FILL DETAIL

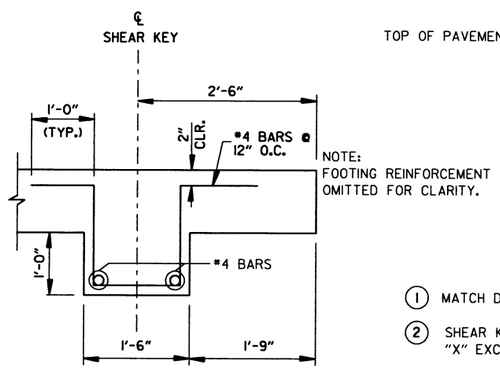
NOTE: TRANSITION BETWEEN CAP CONSTRUCTION AND CONCRETE DITCH PAVING SHALL BE AT A 1:1 SLOPE.

GENERAL NOTES FOR CONCRETE BARRIER WALLS

1. ALL BARRIER WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 631 OF THE STANDARD SPECIFICATIONS, 2014 EDITION.
2. CONTRACTION JOINTS REQUIRED @ 15'-0" MAXIMIMUM SPACING FOR BARRIER TYPES MEDIAN A & B. A 30'-0" MAXIMUM SPACING IS REQUIRED FOR TYPE MEDIAN C.
3. ALL CONTRACTION JOINTS TO BE FORMED IN FRESH CONCRETE ON TOP AND IN SIDES OF BARRIER WALL.
4. DOWEL BARS FOR BARRIER TYPES MEDIAN A & B WILL NOT BE REQUIRED IF BARRIER AND MININUM 4' WIDE BASE ARE CAST AS A COMPLETE UNIT.
5. ALL EXPOSED EDGES OF CONCRETE BARRIER WALL SHALL HAVE A ¾" CAMFER.
6. THE DESIGN OF BARRIER WALL TYPES MEDIAN C IS BASED ON A MININUM FOUNDATION BEARING CAPACITY OF ONE TON PER SQUARE FOOT. UNSTABLE MATERIAL SHALL BE REMOVED AND REPLACED TO PROVIDE A FIRM FOUNDATION AS DIRECTED BY THE ENGINEER.
7. SPACING BETWEEN EXPANSION JOINTS SHALL NOT EXCEED 400 FT. FOR BARRIER TYPES MEDIAN A & B OR 120 FT FOR BARRIER TYPES MEDIAN C. EXPANSION JOINTS SHALL BE FORMED USING 1" PREFORMED JOINT FILLER. CONTINUOUS REINFORCEMENT SHALL BE CUT 2" CLEAR OF EXPANSION JOINTS.

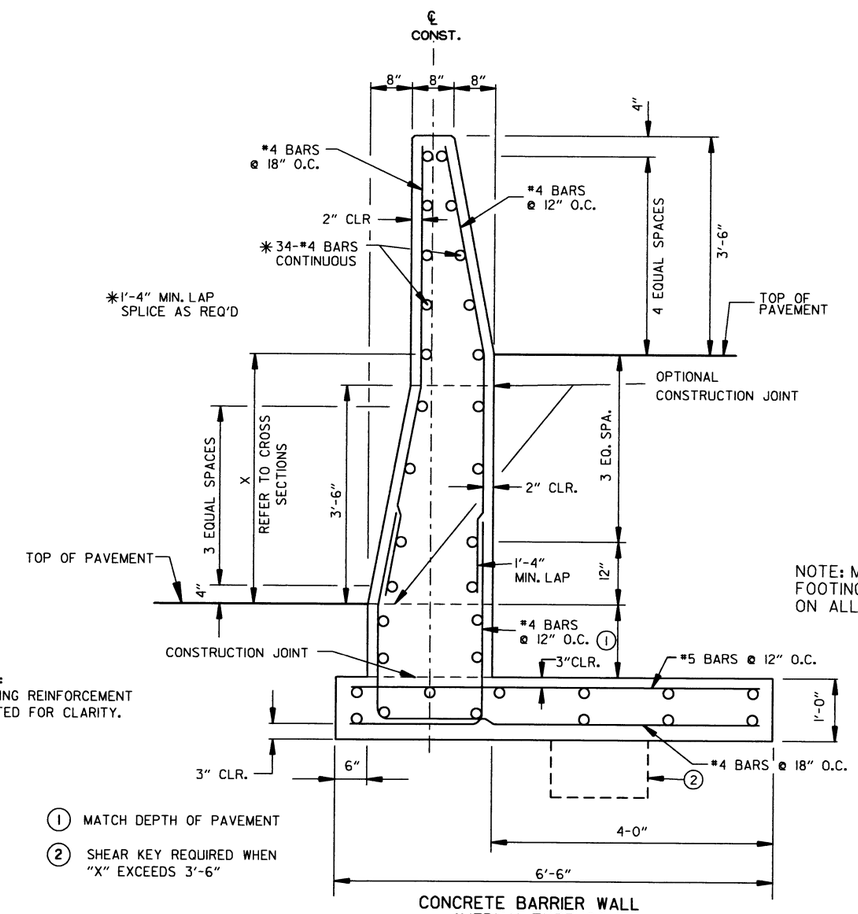


CONCRETE BARRIER WALL
(MEDIAN TYPE B)
X = 0'-0" TO 1'-0" MAX



NOTE: FOOTING REINFORCEMENT OMITTED FOR CLARITY.

SHEAR KEY DETAIL



NOTE: MAINTAIN 3" CLEARANCE ON ALL FOOTING REINFORCEMENT AND 2" CLEARANCE ON ALL OTHER REINFORCEMENT.

(1) MATCH DEPTH OF PAVEMENT

(2) SHEAR KEY REQUIRED WHEN "X" EXCEEDS 3'-6"

CONCRETE BARRIER WALL
(MEDIAN TYPE C)
X = 1'-0" TO 5'-0" MAX
(NOT TO SCALE)

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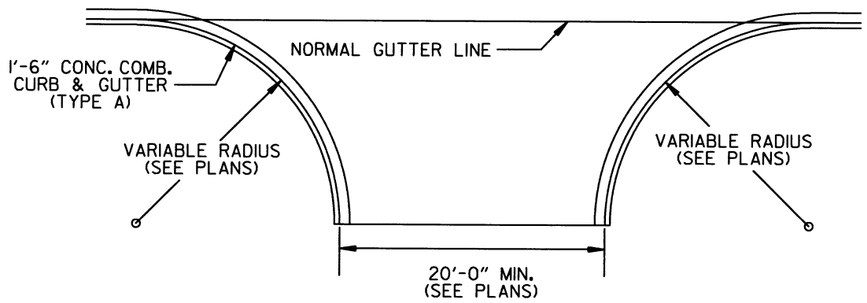
				6	ARK.			
				JOB NO.		CA0605	47	434

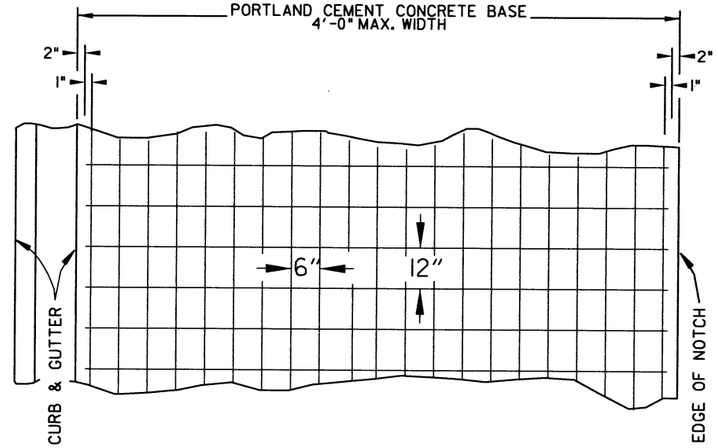
2 SPECIAL DETAILS



DETAIL FOR CITY STREET TURNOUT - CURB & GUTTER

NOTE: PAVEMENT STRUCTURE TO BE THE SAME AS JOHN HARDEN DR.

S. 2ND ST.
T.P. WHITE DRIVE

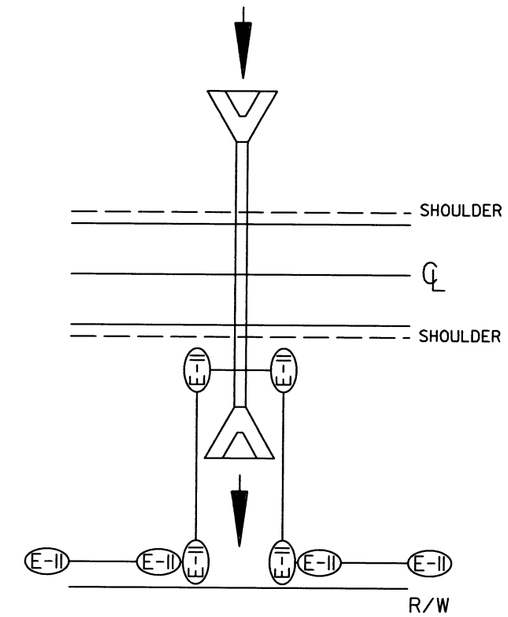


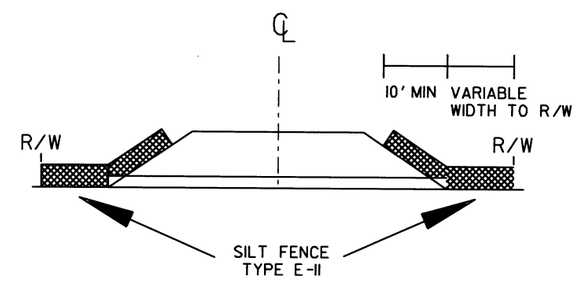
DETAIL OF REINFORCING STEEL FOR PAVEMENT (MESH FABRIC TYPE 3)

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

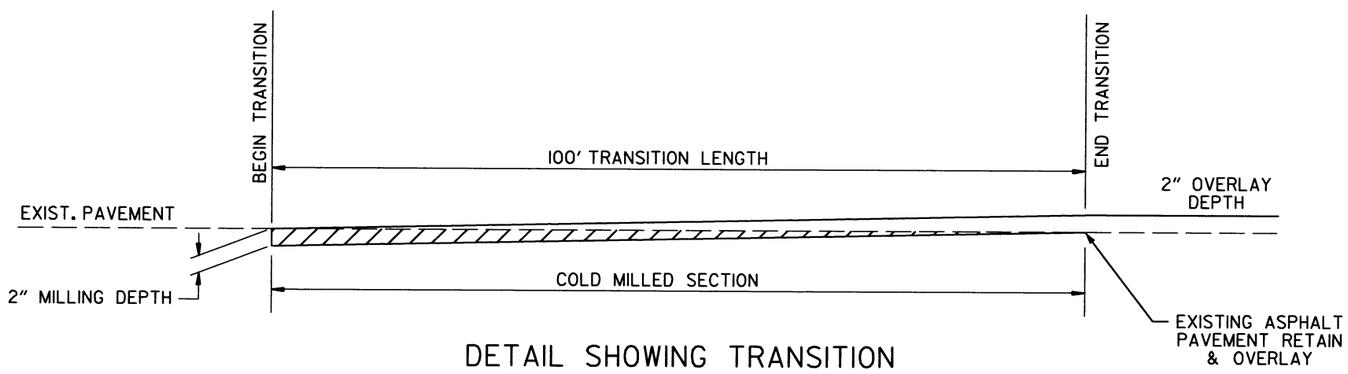
NOTES:

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





DETAIL OF SILT FENCE AT CROSS DRAINS



DETAIL SHOWING TRANSITION TO EXISTING PAVEMENT

TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER

STATE OF ARKANSAS
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No. 9808
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SPECIAL DETAILS

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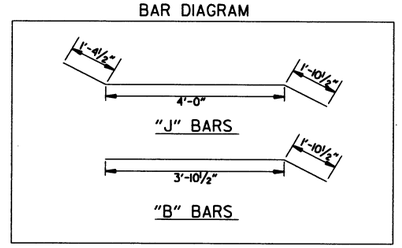
				6	ARK.			
				JOB NO.		CA0605	48	434

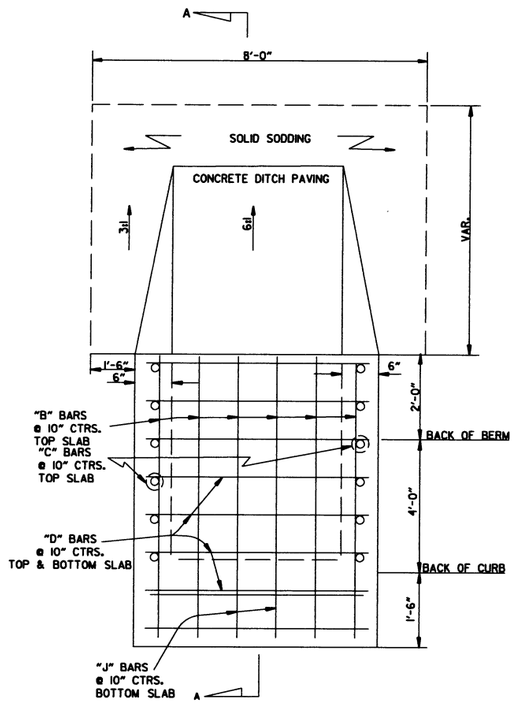
(2) SPECIAL DETAILS

BAR DIAGRAM

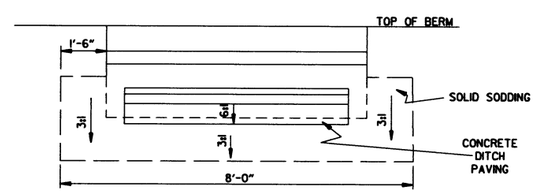


CLASS A CONC.	REINF. STEEL-RDWY. GRADE 60
CU. YDS.	POUND
1.41	88

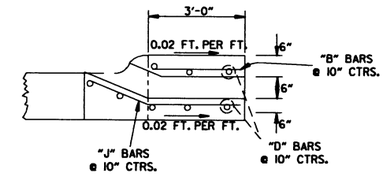
QUANTITIES FOR INFORMATION ONLY
DROP INLET (TYPE SPECIAL)



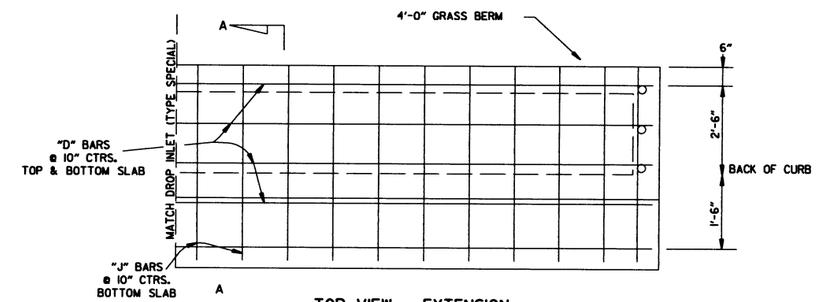
TOP VIEW



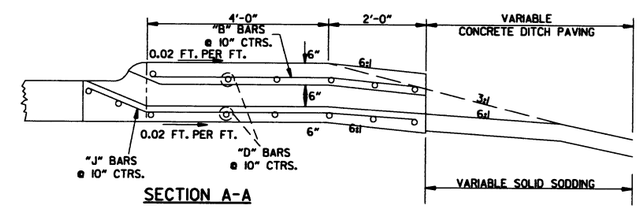
BACK VIEW



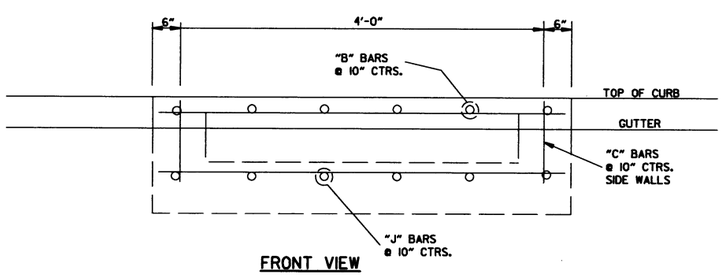
SECTION A-A - EXTENSION



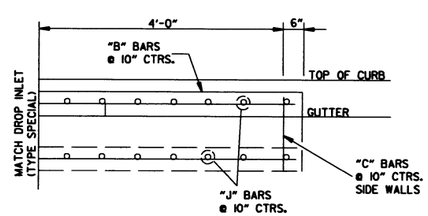
TOP VIEW - EXTENSION



SECTION A-A



FRONT VIEW



FRONT VIEW - EXTENSION

GENERAL NOTES
1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. ALL REINF. BARS SHALL BE # 4 AND HAVE 1½" COVER.
3. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL COMFORM TO THE CURVATURE OF THE CURB.
4. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
5. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
6. CONCRETE DITCH PAVING & SOLID SODDING SHALL BE PAID FOR SEPARATELY.
7. CONSTRUCT EXTENSIONS UPSTREAM OF DROP INLET UNLESS OTHERWISE SPECIFIED.

DROP INLET (TYPE SPECIAL)

SPECIAL DETAILS

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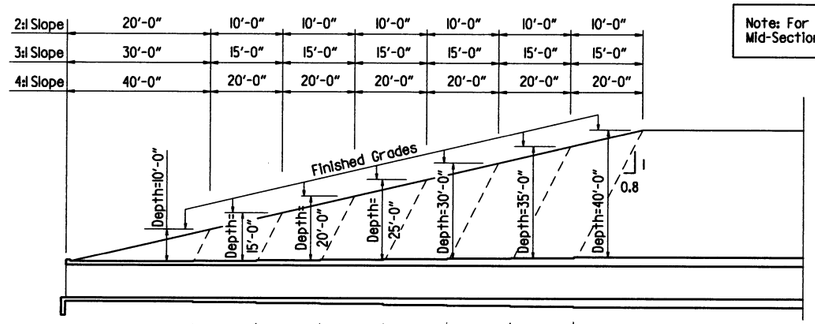
				6	ARK.			
				JOB NO.		CA0605	49	434

1 SPECIAL DETAILS



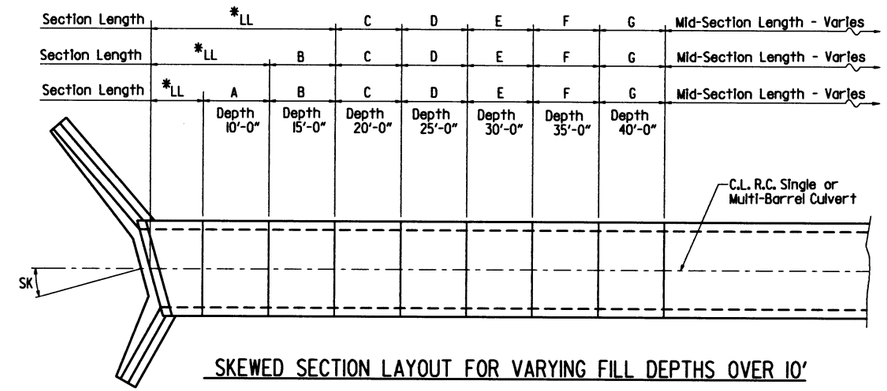
2:1 Slope	20'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	10'-0"	
3:1 Slope	30'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	15'-0"	
4:1 Slope	40'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	20'-0"	
Slope Section Length @ 2:1 Slope	A=12'-0"	B=6'-0"	C=6'-0"	D=6'-0"	E=6'-0"	F=6'-0"	G=6'-0"	Mid-Section Length - Varies
Slope Section Length @ 3:1 Slope	A=22'-0"	B=11'-0"	C=11'-0"	D=11'-0"	E=11'-0"	F=11'-0"	G=11'-0"	Mid-Section Length - Varies
Slope Section Length @ 4:1 Slope	A=32'-0"	B=16'-0"	C=16'-0"	D=16'-0"	E=16'-0"	F=16'-0"	G=16'-0"	Mid-Section Length - Varies

LONGITUDINAL SECTION LENGTH SCHEDULE FOR VARYING FILL DEPTHS OVER 10'

Lengths for Non-Skewed Boxes

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

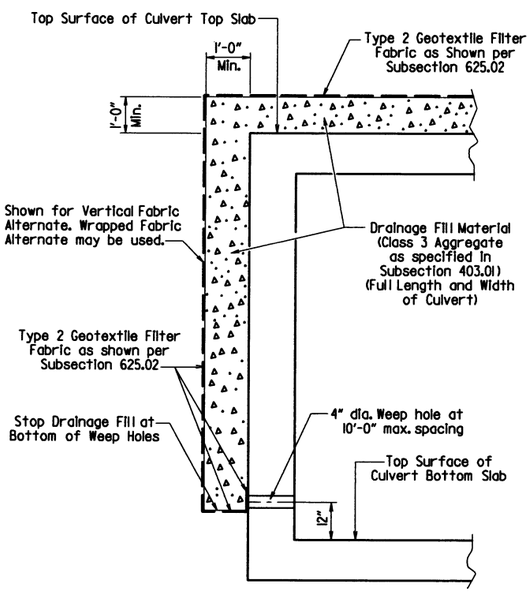
*LL = Skewed End Section Length - See "Skewed End Section Details" Length LL varies with skew angle, overall box width and fill depth and may eliminate the need for some slope section lengths as shown.



Section Length	*LL			C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL		B	C	D	E	F	G	Mid-Section Length - Varies
Section Length	*LL	A	B	C	D	E	F	G	Mid-Section Length - Varies
		Depth 10'-0"	Depth 15'-0"	Depth 20'-0"	Depth 25'-0"	Depth 30'-0"	Depth 35'-0"	Depth 40'-0"	

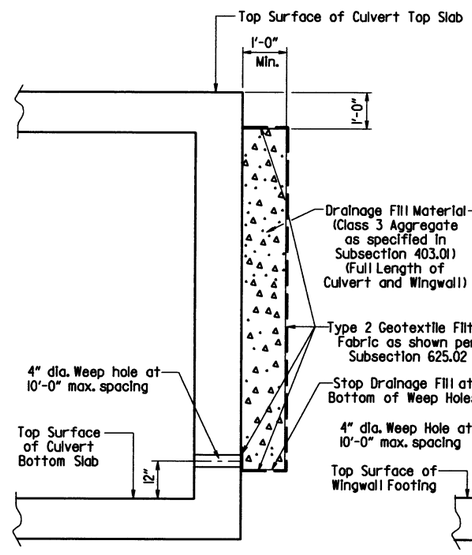
SKEWED SECTION LAYOUT FOR VARYING FILL DEPTHS OVER 10'

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

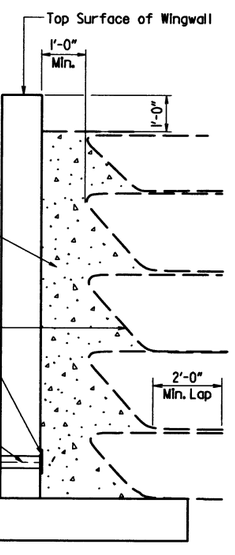


CULVERT DRAINAGE DETAIL FOR ROCK FILL

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



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.

WINGWALL & CULVERT DRAINAGE DETAIL

GENERAL NOTES:

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

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

LIVE LOADING: HL-93

All concrete shall be Class S with a minimum 28-day compressive strength of 3,500 psi and shall be poured in the dry. All exposed corners to have ¾" chamfers.

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

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

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

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

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

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

The barrel components of the culvert may be constructed using continuous pours. For longer culvert construction, the Contractor may use multiple pours with transverse construction joints spaced a minimum of 50 feet apart unless superseded by stage construction or site constraints as approved by the Engineer. Construction joints between footings and walls shall be made only where shown in the Plans. Joints shall be normal to the centerline of barrel and shall be keyed. Longitudinal reinforcing shall be continuous through joints unless shown otherwise. 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

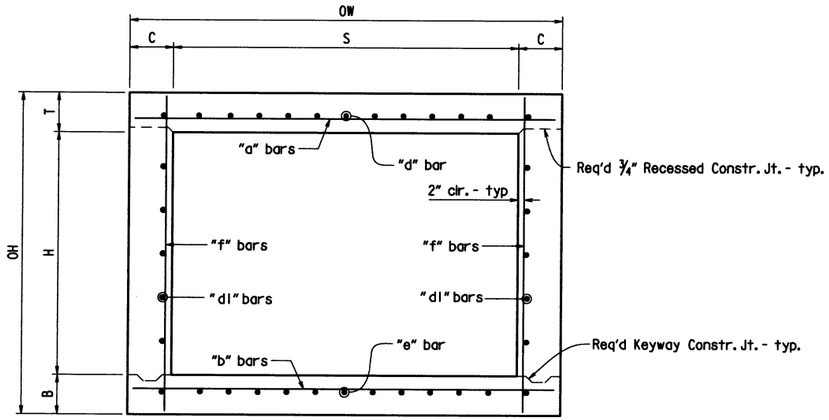
SPECIAL DETAILS

V 1.1.4 FILENAME

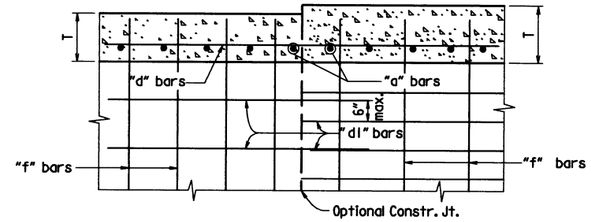
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	50	434

1 SPECIAL DETAILS

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



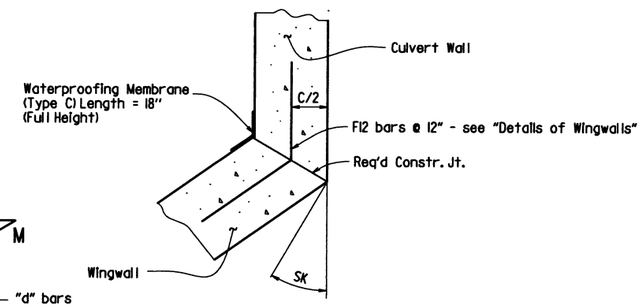
TYPICAL SECTION M-M



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

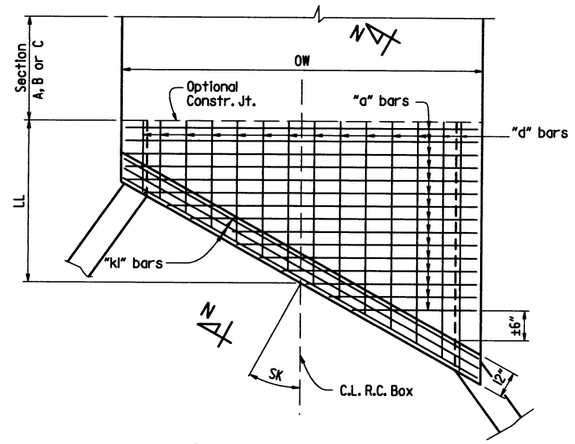
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR

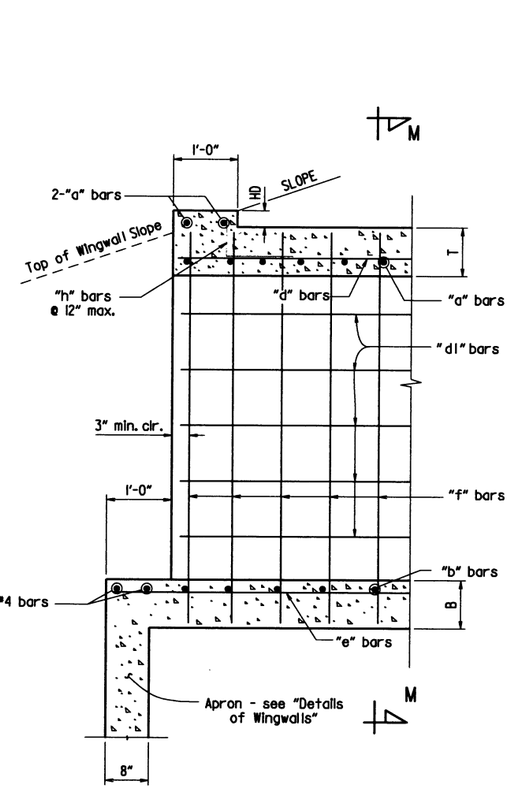


WINGWALL ATTACHMENT

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

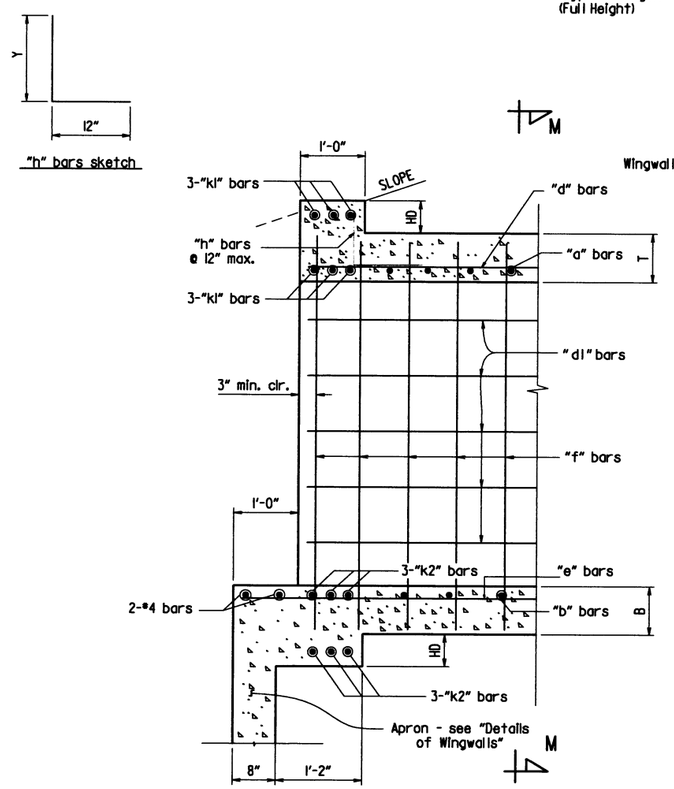


TOP SLAB REINFORCEMENT



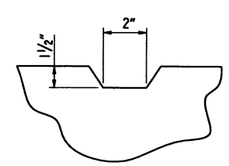
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



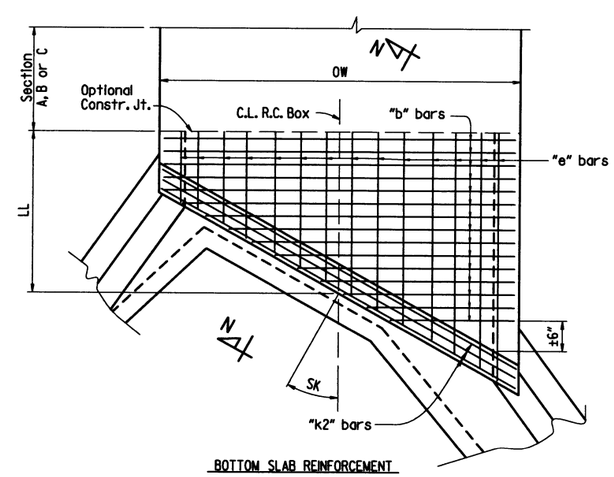
PART LONGITUDINAL SECTION N-N

(Skewed Ends)



TYPICAL KEYWAY DETAIL

(All Construction Joints)



BOTTOM SLAB REINFORCEMENT

SKEWED END SECTION DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

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

DETAILS OF SINGLE BARREL R.C. BOX CULVERT

SPECIAL DETAILS

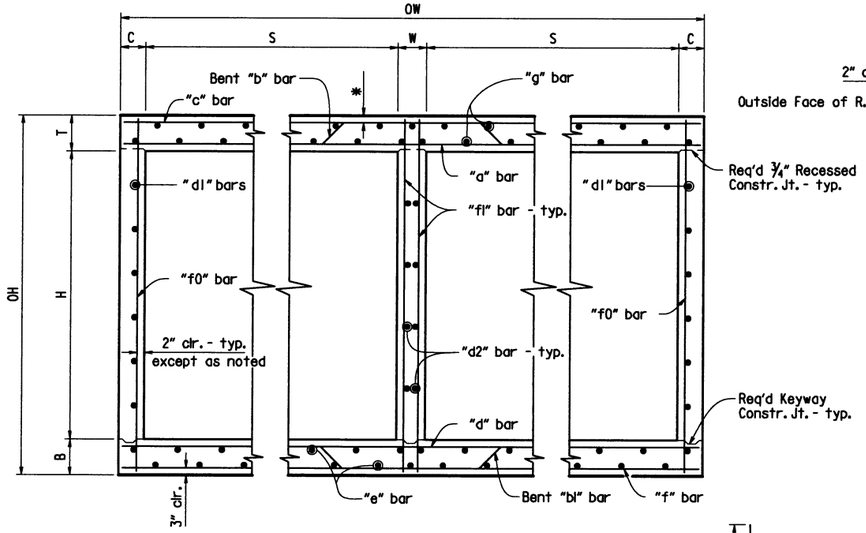
FILENAME

DATE REVISED	DATE FILMED	REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	51	434

1 SPECIAL DETAILS

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

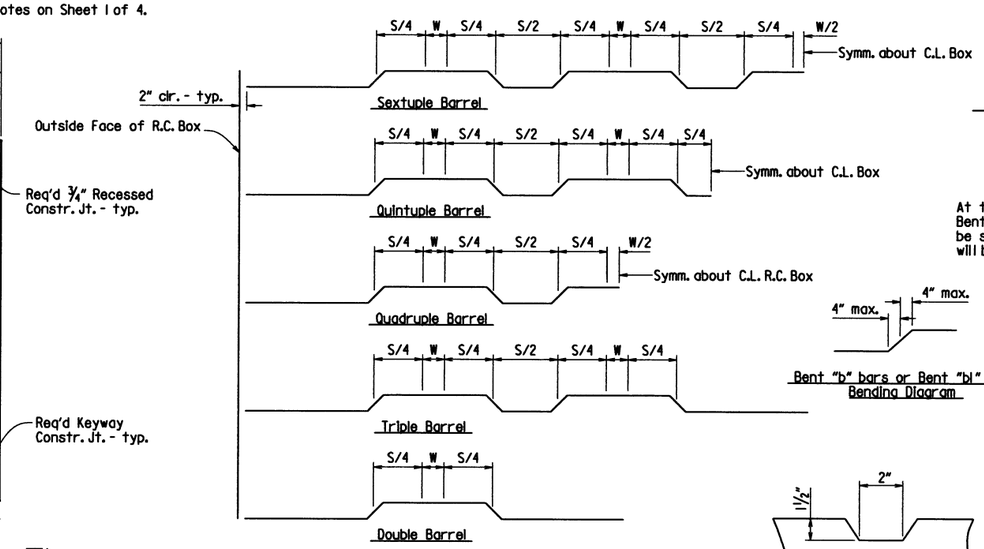
Note: When top slab of culvert serves as finished roadway surface, see General Notes on Sheet 1 of 4.



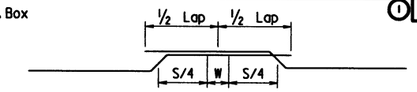
TYPICAL SECTION M-M

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

Bottom Slab
Straight "d" bars shall alternate with Bent "b1" bars in top.
Straight "f" bars shall alternate with Bent "b1" bars in bottom.



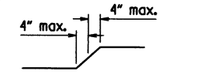
Bent "b" bars or Bent "b1" bars sketch



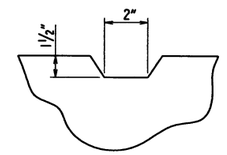
Lap Detail
For Bent "b" bars and Bent "b1" bars

At the Contractor's option in lieu of providing Bent "b" or Bent "b1" 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 "b1" bar.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

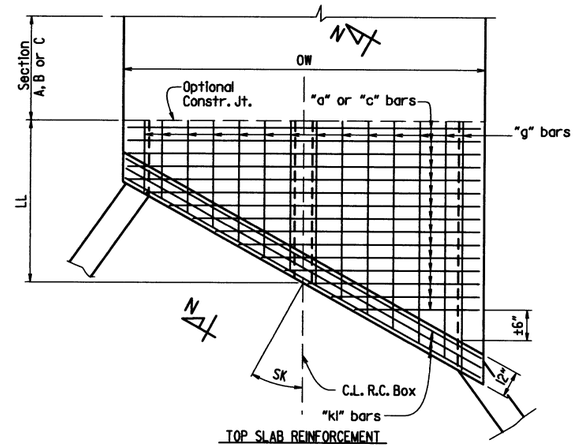


Bent "b" bars or Bent "b1" bars Bending Diagram

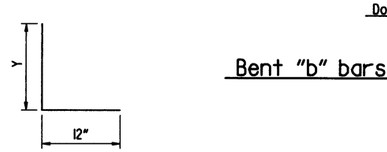


TYPICAL KEYWAY DETAIL

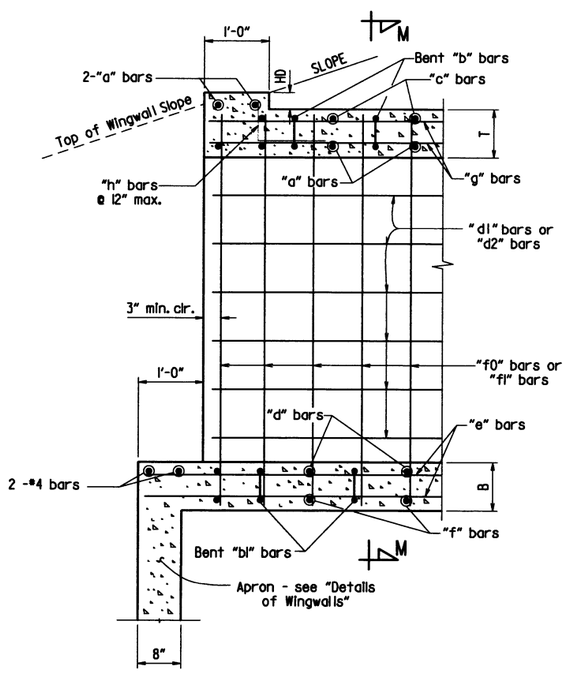
(All Construction Joints)



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

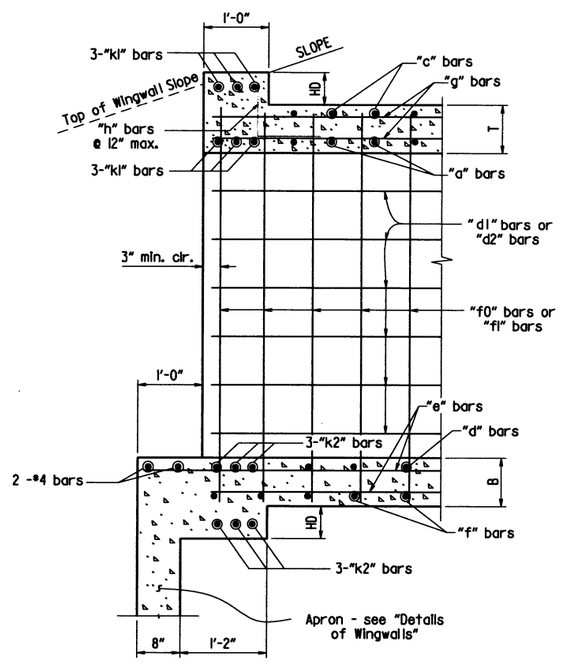


"h" bars sketch



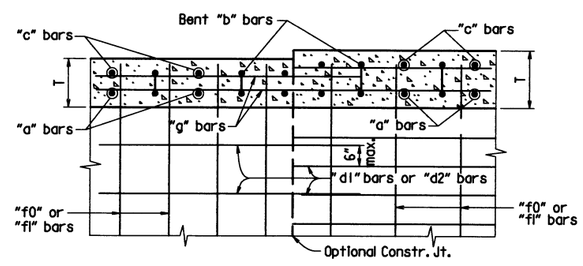
PART LONGITUDINAL SECTION

(Non-Skewed Ends)



PART LONGITUDINAL SECTION N-N

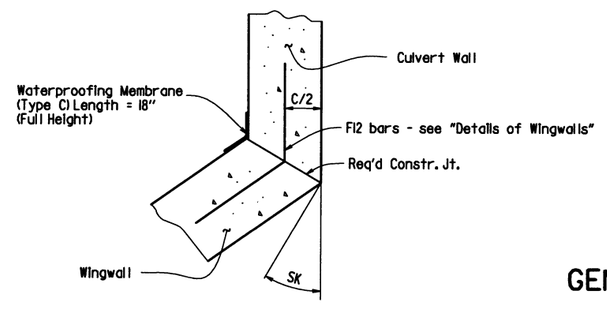
(Skewed Ends)



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

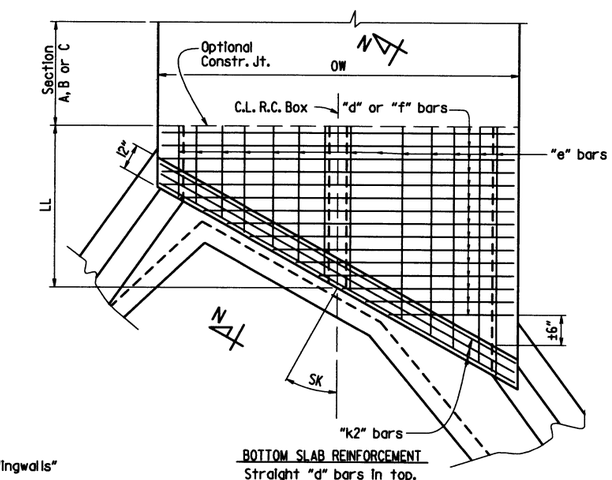
LONGITUDINAL LAP DETAIL AT CHANGE IN SECTIONS

TOP SLAB SHOWN, BOTTOM SLAB SIMILAR



WINGWALL ATTACHMENT

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



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

SKEWED END SECTION DETAILS

SHEET 3 OF 4
GENERAL DETAILS OF R.C. BOX CULVERT

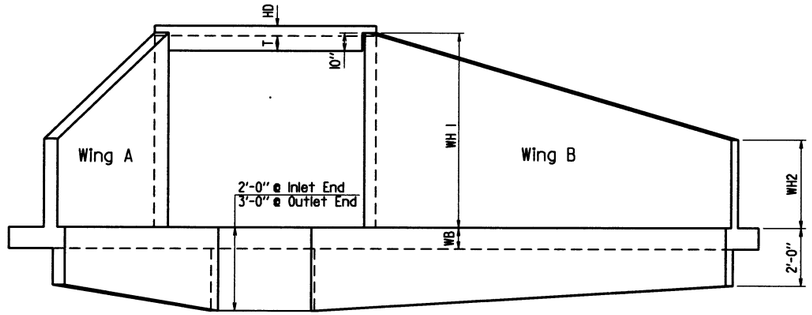
DETAILS OF MULTI-BARREL R.C. BOX CULVERT

SPECIAL DETAILS

FILENAME

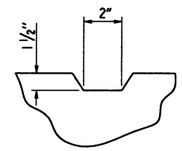
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	52	434

1 SPECIAL DETAILS



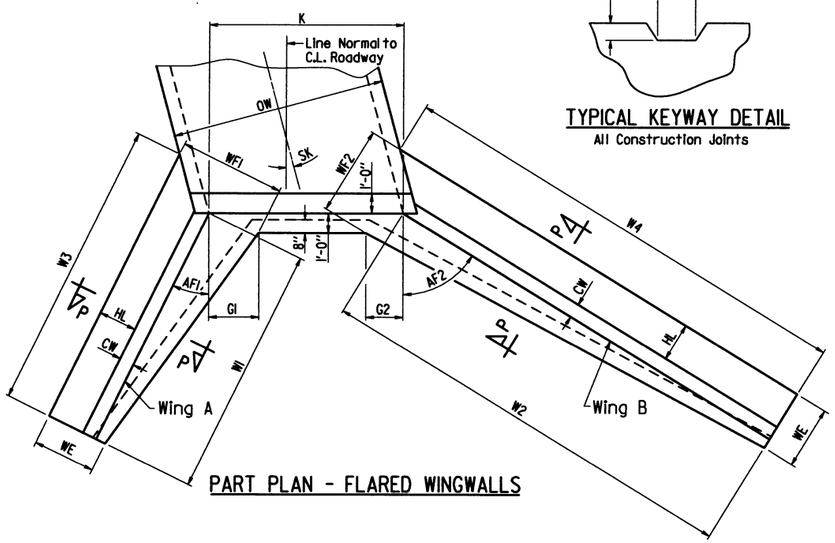
END ELEVATION

Flared Wingwalls Shown

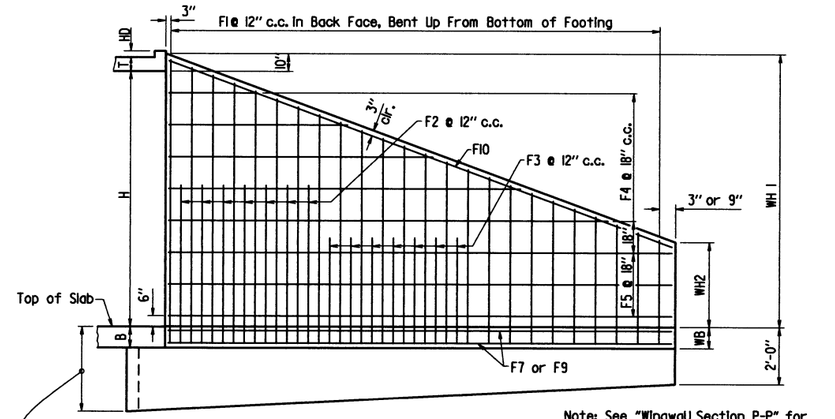


TYPICAL KEYWAY DETAIL

All Construction Joints



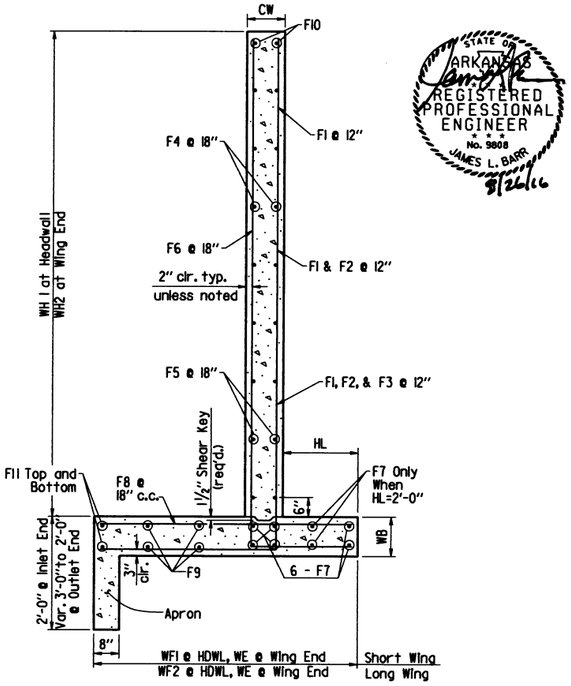
PART PLAN - FLARED WINGWALLS



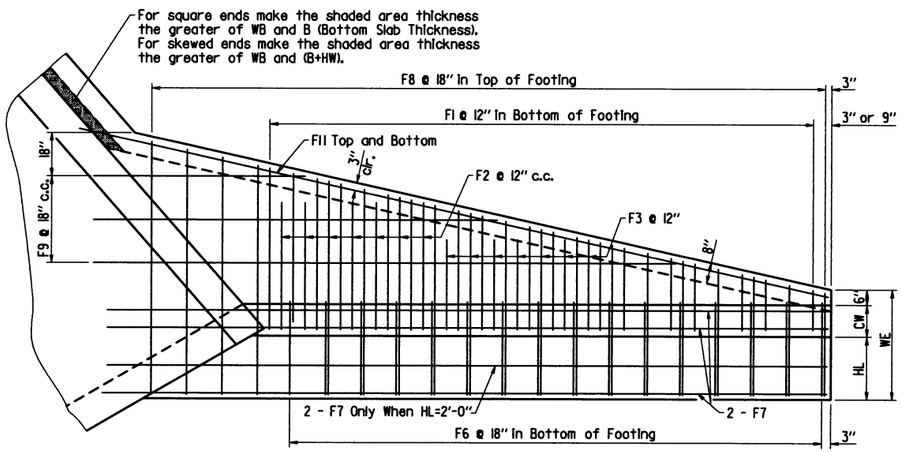
WINGWALL ELEVATION

Showing Back Face Reinforcement

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

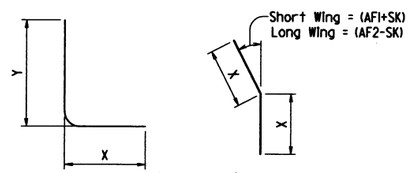


WINGWALL SECTION P-P



PLAN - FLARED WINGWALLS

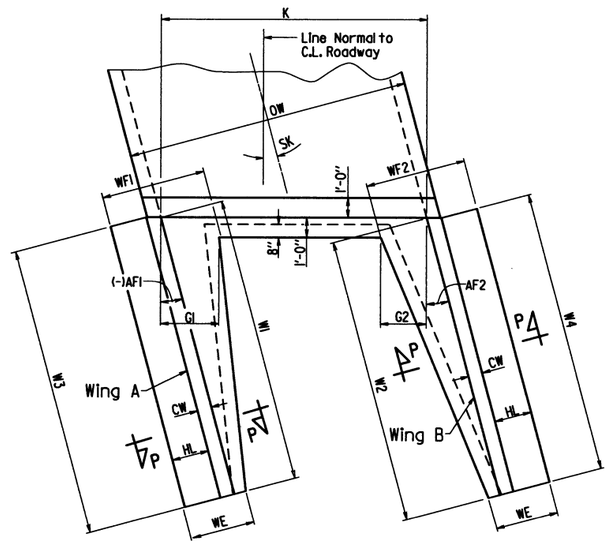
Showing Footing Reinforcement



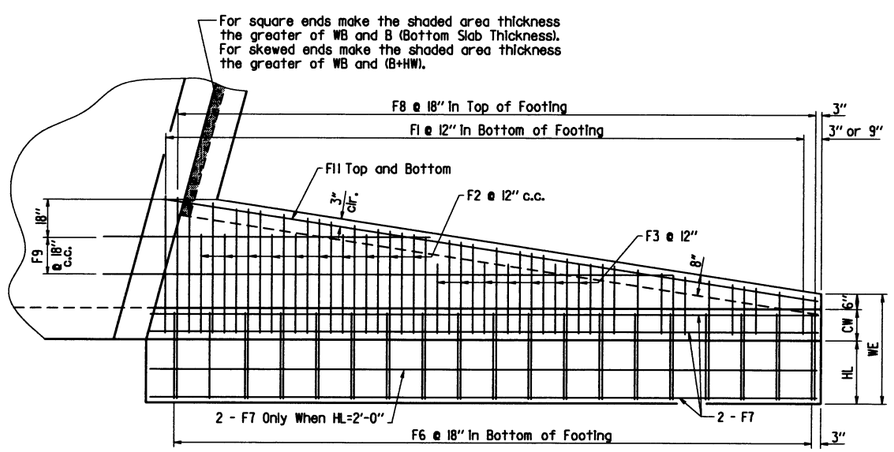
F1, F2, F3, & F6 BARS

*F12 BAR

*F12 is a straight bar for parallel wingwalls

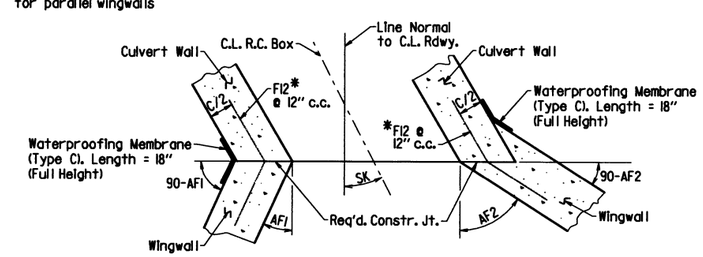


PART PLAN - PARALLEL WINGWALLS



PLAN - PARALLEL WINGWALLS

Showing Footing Reinforcement



CONSTRUCTION JOINTS

Flared Wingwalls Shown

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SHEET 4 OF 4

GENERAL DETAILS OF R.C. BOX CULVERT

DETAILS OF WINGWALLS

SPECIAL DETAILS

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.		CA0605	53	434

1 SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
20'-4"	5'-0"	0'-9"	0'-8"	0	3:1	19'-4"	1'-0"	5'-10"	1'-8"	30	30	2'-2"	2'-11 3/4"	2'-11 3/4"	0'-11 1/4"	0'-11 1/4"	14'-0"	14'-0"	15'-10 5/8"	15'-10 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
6.53	580

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS			F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY
WING A	4	12	14	L	Min	2'-10"	-	-	-	L -	-	-	-	L	-		4	18	6	Min
					Max	7'-6"														2'-1"
				X	Min	0'-9"				X -				X	-					
					Max	1'-7"														Max
				Y	Min	2'-2"				Y -				Y	-					12'-2"
					Max	6'-0"														
WING B	4	12	14	L	Min	2'-10"	-	-	-	L -	-	-	-	L	-		4	18	6	Min
					Max	7'-6"														2'-1"
				X	Min	0'-9"				X -				X	-					
					Max	1'-7"														Max
				Y	Min	2'-2"				Y -				Y	-					12'-2"
					Max	6'-0"														

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY
WING A	4	18	2	13'-8"	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min
									Max	7'-3"							1'-8"
								X	Min	1'-4"							
									Max	1'-4"							Max
								Y	Min	2'-0"							2'-6"
									Max	6'-0"							
WING B	4	18	2	13'-8"	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min
									Max	7'-3"							1'-8"
								X	Min	1'-4"							
									Max	1'-4"							Max
								Y	Min	2'-0"							2'-6"
									Max	6'-0"							

WING	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS			REINF. STEEL QTY. PER WING (LBS)
WING A	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"		290
				-													
														X	1'-8"		
				Max													
				-													
WING B	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"		290
				-													
														X	1'-8"		
				Max													
				-													

MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 3/26/16

TABULAR DATA BY: JPJ DATE: 03/11/16
CHECKED BY: JLB DATE: 07/03/16

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.

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D

R.C. BOX SECTION	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

R.C. BOX SECTION	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" HDWL BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D
3"	27	4	0'-7"	1'-7"	22

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
0.19	50
TOTAL	
0.19	50

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

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

A MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D
A	2	6	5	10	10	6	8	20'-4"	6'-8"	101.5	4	20'-0"	8	20'-6"	8	20'-0"	18	67

R.C. BOX SECTION	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
A	4	20'-0"	4	20'-5"	4	20'-0"	22	55	4	7	346	6'-4"	4	12	404	6'-4"

R.C. BOX SECTION	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	4	11	47	4	11	47	4	12	10	4	12	20

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
171.19	22334

A1 MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D
A	10	6	5	8	9	7	8	20'-6"	6'-5"	89.83	4	20'-2"	4	20'-6"	4	20'-2"	15	71

R.C. BOX SECTION	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH
A	4	20'-2"	4	20'-6"	4	20'-2"	14	76	4	6	358	6'-1"	4	12	356	6'-1"

R.C. BOX SECTION	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	4	12	41	4	12	41	4	12	10	4	12	20

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
138.21	15952

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
Sta. 746+00

SPECIAL DETAILS

Ver. 1.1.4 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.		CA0605	54	434

1 SPECIAL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

TABULAR DATA BY: JPJ DATE: 03/11/16
CHECKED BY: JLB DATE: 07/03/16

B MID-SECTION

	R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"				INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"				TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL			BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL			SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL			INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL			CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
												"a"		Bent "b"		"c"		SPACING	NO. REQ'D	"d"		Bent "b1"		"f"		SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	CU. YDS.	LBS.
	D	S	H	T	B	C	W	OW	OH	SL	SIZE	L	SIZE	L	SIZE	L			SIZE	L	SIZE	L	SIZE	L																										
B	15	6	5	8	9.5	7.5	8	20'-7"	6'-5 1/2"	62.71	4	20'-3"	8	20'-6"	4	20'-3"	14	53	4	20'-3"	5	20'-7"	4	20'-3"	12	62	5	8.5	176	6'-2"	4	12	248	6'-2"	4	12	41	4	11	47	4	12	10	4	12	20	99.72	14692

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B	CLASS "S" CONCRETE (Includes apron) OUTLET	REINFORCING STEEL (Includes apron and laps if required) OUTLET
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4	CU.YD	LBS.
20'-4"	5'-0"	0'-9"	0'-8"	0	3:1	19'-4"	1'-0"	5'-10"	1'-8"	30	30	2'-2"	2'-11 3/4"	2'-11 3/4"	0'-11 1/4"	0'-11 1/4"	14'-0"	14'-0"	15'-10 5/8"	15'-10 5/8"	7.30	580

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY		F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS		F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS		F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY		F6	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	12	14	L	Min	2'-10"	-	-	-	L	-	-	-	-	L	-	4	18	6	Min	4	18	2	13'-8"	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"	290
					Max	7'-6"														2'-1"									Max	7'-3"							1'-8"			-												
				X	Min	0'-9"				X	-				X	-				Max								X	Min	1'-4"							Max				Max									X	1'-8"	
					Max	1'-7"																							Max	1'-4"							2'-6"			-												
				Y	Min	2'-2"				Y	-				Y	-				12'-2"								Y	Min	2'-0"																					
					Max	6'-0"																							Max	6'-0"																					
WING B	4	12	14	L	Min	2'-10"	-	-	-	L	-	-	-	-	L	-	4	18	6	Min	4	18	2	13'-8"	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"	290
					Max	7'-6"														2'-1"									Max	7'-3"							1'-8"			-												
				X	Min	0'-9"				X	-				X	-				Max								X	Min	1'-4"							Max				Max									X	1'-8"	
					Max	1'-7"																							Max	1'-4"							2'-6"			-												
				Y	Min	2'-2"				Y	-				Y	-				12'-2"								Y	Min	2'-0"																					
					Max	6'-0"																							Max	6'-0"																					

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

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

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

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS								SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4"				INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4"				TOP SLAB DISTRIBUTION REINFORCING STEEL "g" LENGTH = SL			BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" LENGTH = SL			SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" LENGTH = SL			INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" LENGTH = SL			CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
											"a"		Bent "b"		"c"		SPACING	NO. REQ'D	"d"		Bent "b1"		"f"		SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	LENGTH	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	SIZE	SPACING	NO. REQ'D	CU. YDS.	LBS.
D	S	H	T	B	C	W	OW	OH	SL	SIZE	L	SIZE	L	SIZE	L			SIZE	L	SIZE	L	SIZE	L																										

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" HDWL BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D
3"	27	4	0'-7"	1'-7"	22

TOTAL	
0.19	50

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.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
TRIPLE BARREL BOX CULVERT
Sta. 746+00

SPECIAL DETAILS

Ver. LI14 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.		CA0605	55	434

(1) SPECIAL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 3/24/16

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
64'-5"	5'-0"	0'-9"	0'-8"	30	2:1	73'-2 3/4"	1'-0"	5'-10"	1'-8"	0	60	2'-2"	2'-8 1/8"	3'-8 5/8"	1'-0 1/8"	2'-4 3/8"	8'-0"	16'-6"	9'-10 5/8"	18'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
9.13	632

	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS
WING																						
WING A	4	12	8	L	Min	3'-0"	-	-	-	L -	-	-	-	L -	4	18	4	Min	4	18	2	7'-8"
					Max	7'-2"												4'-0"				
				X	Min	0'-9"				X -				X -				Max				
					Max	1'-4"												6'-10"				
				Y	Min	2'-4"				Y -				Y -								
					Max	5'-11"																
WING B	4	12	17	L	Min	2'-8"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	16'-2"
					Max	8'-1"												2'-6"				
				X	Min	0'-9"				X -				X -				Max				
					Max	2'-2"												14'-4"				
				Y	Min	2'-0"				Y -				Y -								
					Max	6'-0"																

	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING																													
WING A	4	18	6	L	Min	3'-4"	4	6	10'-9"	4	18	5	Min	-	-	-	Min	4	2	8'-7"	4	2	8'-10"	6	12	5	L	3'-4"	223
					Max	7'-2"							1'-8"				-												
				X	Min	1'-4"																							
					Max	1'-4"							Max				Max										X	1'-8"	
				Y	Min	2'-1"																							
					Max	5'-11"							2'-1"				-												
WING B	4	18	11	L	Min	3'-6"	4	6	19'-3"	4	18	13	Min	4	18	2	Min	4	2	16'-6"	4	2	21'-3"	6	12	5	L	3'-4"	409
					Max	7'-3"							1'-8"				20'-2"												
				X	Min	1'-4"																							
					Max	1'-4"							Max				Max										X	1'-8"	
				Y	Min	2'-3"																							
					Max	6'-0"							3'-3"				20'-2"												

MID-SECTION BAR LAP TABLE

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

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

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

TABULAR DATA BY: JLB DATE: 07/03/16
CHECKED BY: PAR DATE: 07/03/16

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.

(LL)

INLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH
30	2:1	10	10	5	20'-7"	13	3	13	6.5	8	64'-5"	7'-2"

	TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	"c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	"f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D
	5	6	Max 64'-1"	71	7	7	Max 64'-1"	61	6	4.5	Max 64'-1"	94	5	7	Max 64'-1"	61
			Min 3'-1"				Min 3'-1"				Min 3'-1"				Min 3'-1"	
			64'-1"	4			64'-1"	4			64'-1"	6			64'-1"	4

	SIDE WALL REINFORCING STEEL "f0" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	SPACING	NO. REQ'D	LENGTHS VARY
	5	7	72	6'-10"	4	12	220	6'-10"	4	8.5	191	Max 39'-0"
												Min 1'-10"

	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	SPACING	NO. REQ'D	LENGTHS VARY
	4	8.5	191	Max 39'-0"	4	12	5	LONG 38'-10"	4	12	10	LONG 32'-10"
				Min 1'-10"			5	SHORT 2'-1"			30	MID 26'-8"
											10	SHORT 8'-0"

CLASS "S" CONCRETE (Includes HDWL)	(1) REINFORCING STEEL (GR 60) (Includes HDWL)
CU. YDS.	LBS.
124.80	23569

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

"k1" HDWL BARS SIZE	LENGTH	NO. REQ'D	"k2" HDWL BARS SIZE	LENGTH	NO. REQ'D	"h" HDWL BARS SIZE	LENGTH	Y	NO. REQ'D
4	37'-11"	12	4	37'-11"	12	4	2'-0"	1'-0"	76

(A)

MID-SECTION

	R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)
		D	S	H	T	B	C	W	OW	OH	SL
A		2	10	5	12	12	6	8	64'-4"	7'-0"	122.08

	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
A	4	64'-0"	8	65'-9"	8	64'-0"	13	112	4	64'-0"	4	65'-8"	4	64'-0"	20	73

	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	4	7.5	390	6'-8"	4	12	1220	6'-8"	4	9	179

	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	4	9	179	4	12	10	4	12	50

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
679.73	99210

(A1)

MID-SECTION

	R.C. BOX SECTION	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	TOP SLAB THK.	BOTTOM SLAB THK	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT	SECTION LENGTH (FT.)
		D	S	H	T	B	C	W	OW	OH	SL
A		10	10	5	13	13	6.5	8	64'-5"	7'-2"	156.75

	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
A	4	64'-1"	6	66'-2"	5	64'-1"	16	117	4	64'-1"	4	65'-0"	4	64'-1"	9	209

	SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	5	7	536	6'-10"	4	12	1560	6'-10"	4	8.5	191

	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
A	4	8.5	191	4	12	10	4	12	50

CLASS "S" CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
938.48	112468

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
SEXTUPLE BARREL BOX CULVERT
Sta. 783+32.56

SPECIAL DETAILS

Ver. LI14 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.		CA0605	56	434

1 SPECIAL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

TABULAR DATA BY: JLB DATE: 07/03/16
CHECKED BY: PAR DATE: 07/03/16

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
64'-5"	10'-0"	0'-11"	0'-10"	30	2:1	73'-2 3/4"	2'-0"	10'-10"	3'-4"	0	60	3'-4"	4'-8 3/4"	7'-2 1/4"	1'-10 3/4"	6'-11 5/8"	15'-0"	30'-0"	18'-10 7/8"	33'-10 7/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
25.17	1770

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY			F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS			F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS			F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY
WING A	4	12	15	L	Min	5'-0"	5	12	2	L	7'-1"		4	12	4	L	5'-5"		4	18	10	Min
					Max	13'-6"																2'-2"
				X	Min	0'-11"				X	2'-3"					X	1'-10"					Max
					Max	2'-5"																14'-2"
				Y	Min	4'-2"				Y	4'-11"					Y	3'-8"					
					Max	11'-2"																
WING B	4	12	30	L	Min	4'-9"	6	12	8	L	9'-5"		4	12	8	L	6'-0"		4	18	10	Min
					Max	15'-3"																4'-6"
				X	Min	0'-11"				X	3'-4"					X	2'-5"					Max
					Max	4'-2"																28'-6"
				Y	Min	3'-11"				Y	6'-2"					Y	3'-8"					
					Max	11'-2"																

WING	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY			F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS			REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	4	14'-8"	4	18	10	L	Min	6'-9"	4	8	19'-9"	4	18	10	Min	4	18	2	Min	4	2	16'-4"	4	2	15'-11"	6	12	10	L	3'-4"		580
									Max	13'-7"							2'-10"				16'-10"													
								X	Min	2'-6"							Max				Max										X	1'-8"		
									Max	2'-6"																								
								Y	Min	4'-4"							4'-2"				16'-10"													
									Max	11'-2"																								
WING B	4	18	4	29'-8"	4	18	10	L	Min	6'-6"	4	8	34'-9"	4	18	24	Min	4	18	4	Min	4	2	30'-5"	4	2	39'-0"	6	12	10	L	3'-4"		1190
									Max	13'-7"							2'-10"				16'-6"													
								X	Min	2'-6"							Max				Max										X	1'-8"		
									Max	2'-6"																								
								Y	Min	4'-1"							6'-7"				30'-4"													
									Max	11'-2"																								

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

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

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

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVER ALL WIDTH	OVER ALL HEIGHT
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH
30	2:1	10	10	5	20'-7"	13	3	13	6.5	8	64'-5"	7'-2"

TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	"c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D	BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	"f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D
5	6	Max	71	7	7	Max	61	6	4.5	Max	94	5	7	Max	61
		64'-1"				64'-1"				64'-1"				64'-1"	
		Min				Min				Min				Min	
		3'-1"				3'-1"				3'-1"				3'-1"	
		64'-1"	4			64'-1"	4			64'-1"	6			64'-1"	4

SIDE WALL REINFORCING STEEL "f0" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	SPACING	NO. REQ'D	LENGTHS VARY
5	7	72	6'-10"	4	12	220	6'-10"	4	8.5	191	Max
											39'-0"
											Min
											1'-10"

BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	SPACING	NO. REQ'D	LENGTHS VARY
4	8.5	191	Max	4	12	5	LONG	4	12	10	LONG
			39'-0"				38'-10"				32'-10"
			Min			5	SHORT			30	MID
			1'-10"				2'-1"				26'-8"
										10	SHORT
											8'-0"

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	1 REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
124.80	23569

"k1" HDWL BARS SIZE	LENGTH	NO. REQ'D	"k2" HDWL BARS SIZE	LENGTH	NO. REQ'D	"h" HDWL BARS SIZE	LENGTH	Y	NO. REQ'D
4	37'-11"	12	4	37'-11"	12	4	2'-0"	1'-0"	76

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK B	SIDE WALL THK C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL

TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D

BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" HDWL BARS SIZE	Y	LENGTH	NO. REQ'D

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
TOTAL	
0.00	0

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.

SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT

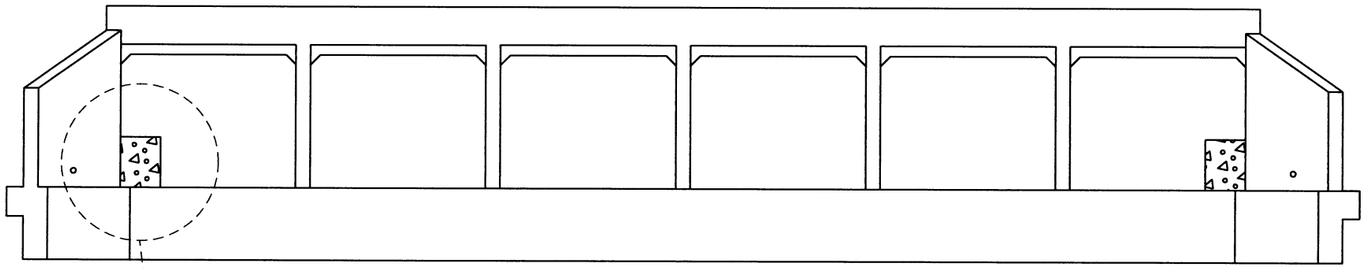
SEXTUPLE BARREL BOX CULVERT
Sta. 783+32.56

SPECIAL DETAILS

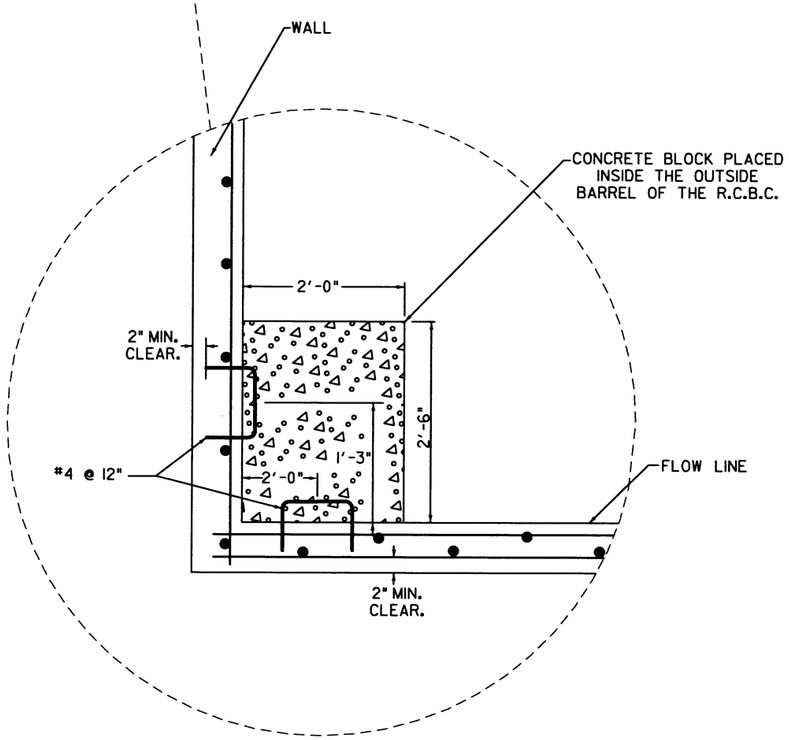
Ver. 1.1.4 FILENAME

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	57	434

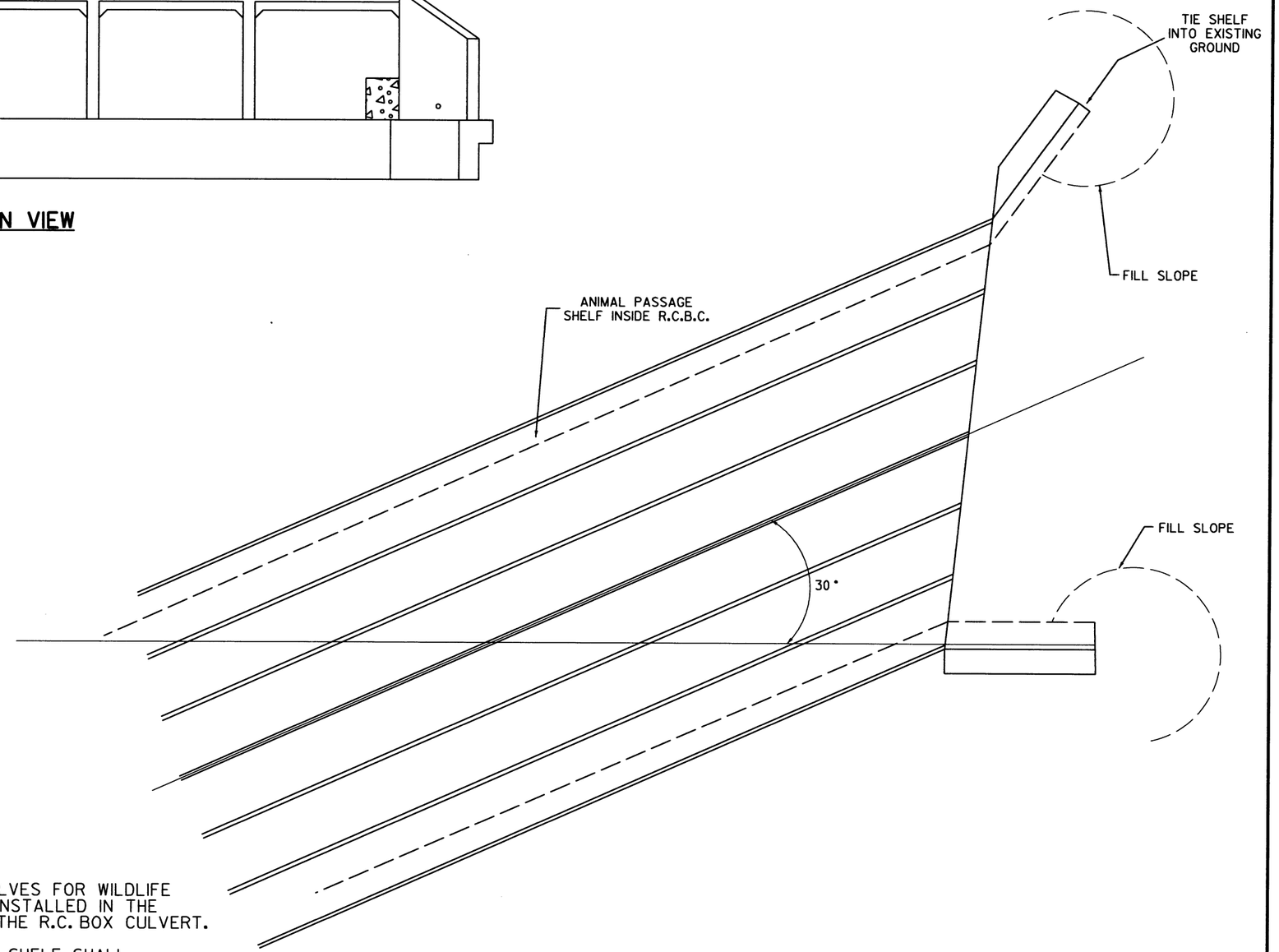
(2) SPECIAL DETAILS



END SECTION VIEW



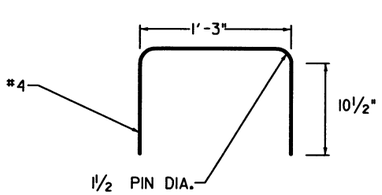
INSET A



TOP SECTION VIEW

NOTES:

1. ANIMAL PASSAGE SHELVES FOR WILDLIFE CROSSING SHALL BE INSTALLED IN THE OUTSIDE BARREL OF THE R.C. BOX CULVERT.
2. THE ANIMAL PASSAGE SHELF SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS AS SHOWN ON THIS SHEET AND IN ACCORDANCE TO SP-ANIMAL PASSAGE SHELVES FOR WILDLIFE CROSSINGS.
3. THE ANIMAL PASSAGE SHELF SHALL EXTEND BEYOND THE BARREL AND BE PARALLEL TO THE WING WALL.



BENDING DETAIL

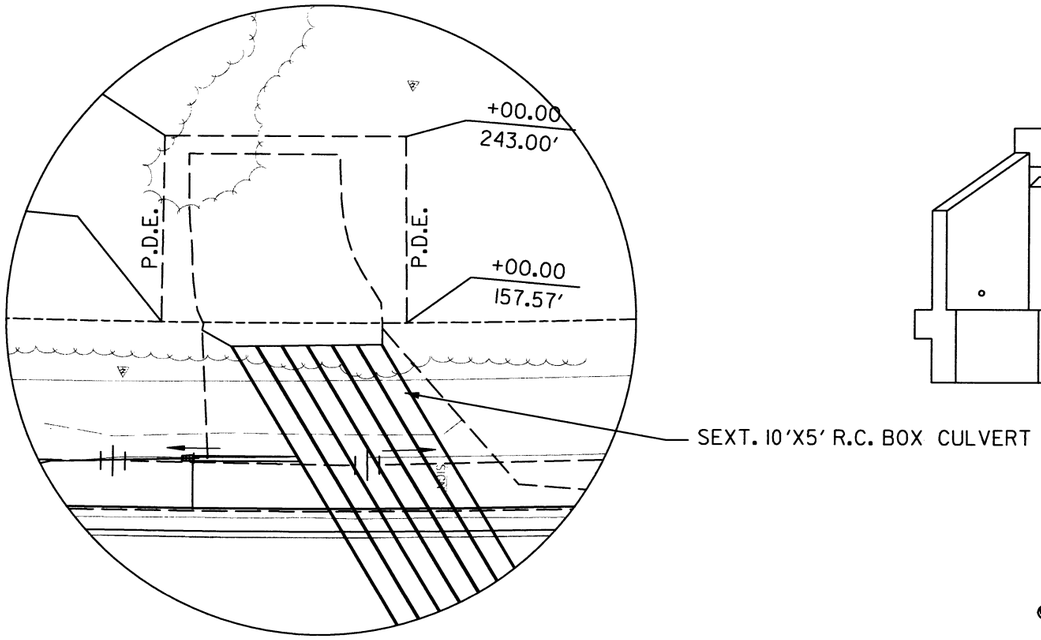
ANIMAL PASSAGE DETAIL
STA. 783+32.56
SEXT. 10'X5'X320' R.C.B.C.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/26/16

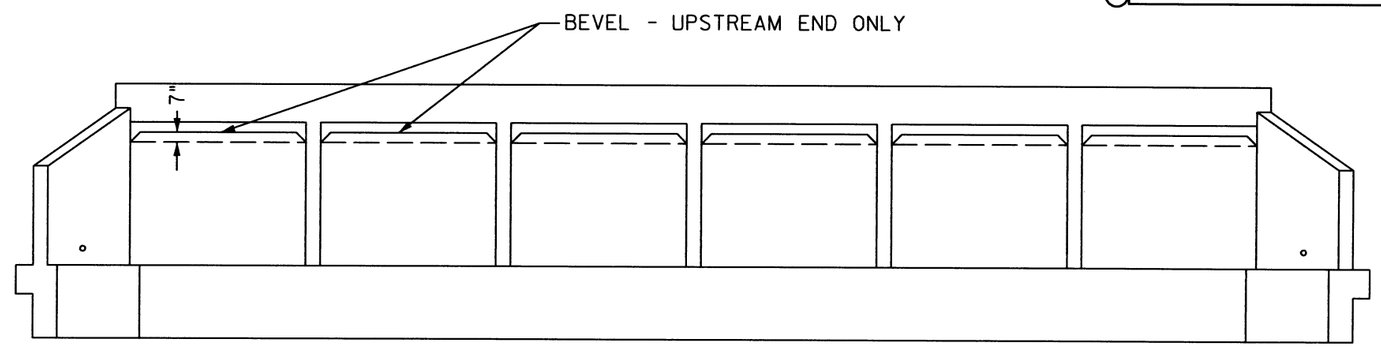
SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	58	434

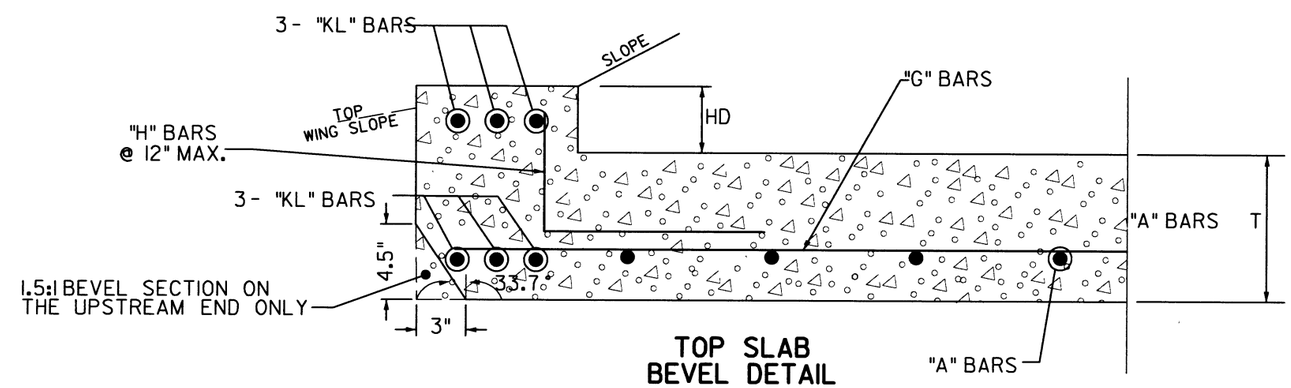
(2) SPECIAL DETAILS



PLAN VIEW

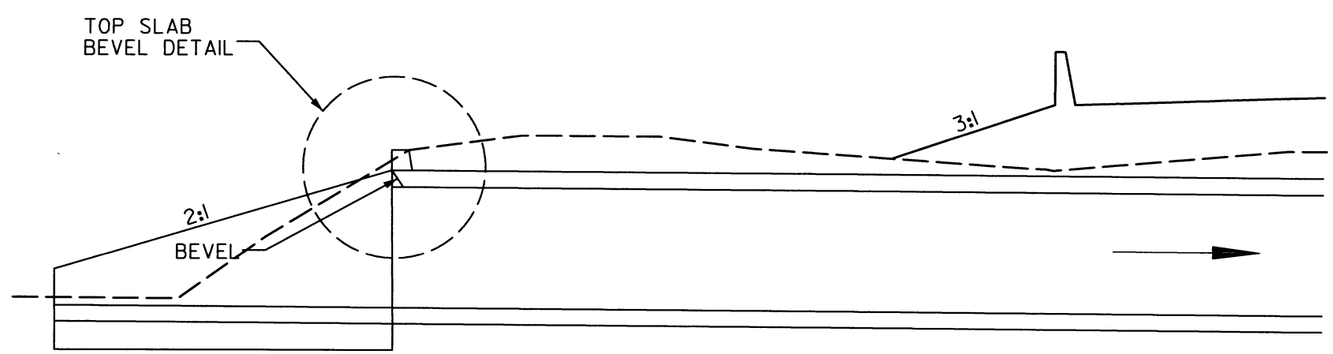


END SECTION VIEW



TOP SLAB BEVEL DETAIL

STA. 783+32.56 ℄ CONST. HWY. 67 CONSTRUCT
SEXT. 10' x 5' x 320' R.C. BOX CULVERT
30 DEGREE RT. FWD. SKEW
WITH D.I. IN MEDIAN 3'-0" X 3'-0" X H= 7'-2"
WITH 2:1 WINGS LT. & RT.
Q50 = 2145 CFS, D.A. = 6.8 SQ. MI.



CULVERT SECTION VIEW

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

HWY. 67 BOX CULVERT STA. 783+32.56
(UPSTREAM END) BEVEL DETAIL

SPECIAL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	59	434

1 SPECIAL DETAILS

INLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
43'-8"	5'-0"	0'-9"	0'-8"	0	3:1	42'-8"	1'-0"	5'-10"	1'-8"	30	30	2'-2"	2'-11 3/4"	2'-11 3/4"	0'-11 1/4"	0'-11 1/4"	14'-0"	14'-0"	15'-10 5/8"	15'-10 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
INLET	INLET
CU.YD	LBS.
7.90	616

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY		F1	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS
WING A	4	12	14	L	Min	2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"
					Max	7'-6"												2'-1"				
				X	Min	0'-9"				X -				X -				Max				
					Max	1'-7"												12'-2"				
				Y	Min	2'-2"				Y -				Y -								
					Max	6'-0"																
WING B	4	12	14	L	Min	2'-10"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-8"
					Max	7'-6"												2'-1"				
				X	Min	0'-9"				X -				X -				Max				
					Max	1'-7"												12'-2"				
				Y	Min	2'-2"				Y -				Y -								
					Max	6'-0"																

WING	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY		F6	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS			REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"	X 1'-8"	308
					Max	7'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max												
					Max	1'-4"							2'-6"				-												
				Y	Min	2'-0"																							
					Max	6'-0"																							
WING B	4	18	10	L	Min	3'-3"	4	6	16'-9"	4	18	10	Min	-	-	-	Min	4	2	14'-2"	4	2	15'-8"	6	12	5	L	3'-4"	X 1'-8"	308
					Max	7'-3"							1'-8"				-												
				X	Min	1'-4"							Max				Max												
					Max	1'-4"							2'-6"				-												
				Y	Min	2'-0"																							
					Max	6'-0"																							

MID-SECTION BAR LAP TABLE

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

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

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

TABULAR DATA BY: JPJ DATE: 03/11/16
CHECKED BY: JLB DATE: 07/03/16

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.

INLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL DEPTH	ADDITIONAL REINF. FOR HDWL	"h" HDWL BARS			
HD	LBS.	SIZE	Y	LENGTH	NO. REQ'D
3"	58	4	0'-10"	1'-10"	45

CLASS 'S' CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
TOTAL	
0.40	113

(A) MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
A	2	8	5	11	11	6	8	43'-8"	6'-10"	66.5	4	43'-4"	8	44'-6"	8	43'-4"	17	46	4	43'-4"	4	44'-5"	4	43'-4"	22	36

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	7	228	6'-6"	4	12	528	6'-6"	4	10	109	4	10	109	4	12	10	4	12	40

CLASS 'S' CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
242.33	32393

(A1) MID-SECTION

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL	TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	Bent "b" SIZE	Bent "b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D	BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	Bent "b1" SIZE	Bent "b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D
A	10	8	5	11	11	6	8	43'-8"	6'-10"	214.667	4	43'-4"	5	44'-7"	4	43'-4"	16	160	4	43'-4"	5	44'-5"	4	43'-4"	14	183

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D
4	4	1286	6'-6"	4	12	1712	6'-6"	4	10	109	4	10	109	4	12	10	4	12	40

CLASS 'S' CONCRETE	REINFORCING STEEL (GR. 60)
CU. YDS.	LBS.
782.25	90616

Design Fill Depth	Range of Actual Fill Depth
2	0.0 ft - 2.0 ft
5	>2.0 ft - 5.0 ft
10	>5.0 ft - 10.0 ft
15	>10.0 ft - 15.0 ft
20	>15.0 ft - 20.0 ft
25	>20.0 ft - 25.0 ft
30	>25.0 ft - 30.0 ft
35	>30.0 ft - 35.0 ft
40	>35.0 ft - 40.0 ft

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

SHEET 1 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
Sta. 920+60

SPECIAL DETAILS

Ver. 1.9 14 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.		CA0605	60	434

① SPECIAL DETAILS

OUTLET WINGWALL TABLE

OVER ALL WIDTH	CLEAR HEIGHT	FOOTING THK.	WING WALL THK.	BOX SKEW (DEG.)	SLOPE	HDWL LENGTH	HEEL	WALL HEIGHT AT HDWL	WALL HEIGHT AT WING END	WINGWALL ANGLE (DEGREE) WING A	WINGWALL ANGLE (DEGREE) WING B	FOOTING WIDTH AT WALL END	WIDTH OF WING FOOTINGS AT HDWL WING A	WIDTH OF WING FOOTINGS AT HDWL WING B	FOOTING DIMENSION PARALLEL WITH HDWL WING A	FOOTING DIMENSION PARALLEL WITH HDWL WING B	LENGTH OF WINGWALLS WING A	LENGTH OF WINGWALLS WING B	LENGTH OF FOOTING HEEL WING A	LENGTH OF FOOTING HEEL WING B
OW	H	WB	CW	SK	SL	K	HL	WH1	WH2	AF1	AF2	WE	WF1	WF2	G1	G2	W1	W2	W3	W4
43'-8"	5'-0"	0'-9"	0'-8"	7.5	3:1	43'-0 3/8"	1'-0"	5'-10"	1'-8"	22.5	37.5	2'-2"	2'-11 5/8"	3'-0 7/8"	0'-11 7/8"	1'-0"	13'-6"	15'-6"	15'-4 5/8"	17'-4 5/8"

CLASS "S" CONCRETE (Includes apron)	REINFORCING STEEL (Includes apron and laps if required)
OUTLET	OUTLET
CU.YD	LBS.
9.50	633

WING	F1 BAR SIZE	F1 MAX. SPACING	F1 NO. REQ'D	F1 LENGTHS VARY		F1 LENGTHS	F2 BAR SIZE	F2 SPACING	F2 NO. REQ'D	F2 LENGTHS	F3 BAR SIZE	F3 SPACING	F3 NO. REQ'D	F3 LENGTHS	F4 BAR SIZE	F4 SPACING	F4 NO. REQ'D	F4 LENGTHS VARY	F5 BAR SIZE	F5 SPACING	F5 NO. REQ'D	F5 LENGTHS
WING A	4	12	14	L	Min	2'-8"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	13'-2"
					Max	7'-6"												2'-0"				
				X	Min	0'-9"				X -				X -				Max				
					Max	1'-7"												11'-9"				
				Y	Min	2'-0"				Y -				Y -								
					Max	6'-0"																
WING B	4	12	16	L	Min	2'-8"	-	-	-	L -	-	-	-	L -	4	18	6	Min	4	18	2	15'-2"
					Max	7'-7"												2'-4"				
				X	Min	0'-9"				X -				X -				Max				
					Max	1'-8"												13'-6"				
				Y	Min	2'-0"				Y -				Y -								
					Max	6'-0"																

WING	F6 BAR SIZE	F6 SPACING	F6 NO. REQ'D	F6 LENGTHS VARY		F6 LENGTHS	F7 BAR SIZE	F7 NO. REQ'D	F7 LENGTHS	F8 BAR SIZE	F8 SPACING	F8 NO. REQ'D	F8 LENGTHS VARY	F9 BAR SIZE	F9 SPACING	F9 NO. REQ'D	F9 LENGTHS	F10 BAR SIZE	F10 NO. REQ'D	F10 LENGTHS	F11 BAR SIZE	F11 NO. REQ'D	F11 LENGTHS	F12 BAR SIZE	F12 SPACING	F12 NO. REQ'D	F12 LENGTHS		REINF. STEEL QTY. PER WING (LBS)
WING A	4	18	9	L	Min	3'-7"	4	6	16'-3"	4	18	9	Min	-	-	-	Min	4	2	13'-8"	4	2	14'-11"	6	12	5	L	3'-4"	298
					Max	7'-3"							1'-8"				-											
				X	Min	1'-4"																						
					Max	1'-4"							Max				Max										X	1'-8"
				Y	Min	2'-4"							2'-5"				-											
					Max	6'-0"																						
WING B	4	18	11	L	Min	3'-3"	4	6	18'-3"	4	18	11	Min	-	-	-	Min	4	2	15'-7"	4	2	17'-6"	6	12	5	L	3'-4"	335
					Max	7'-3"							1'-8"				-											
				X	Min	1'-4"																						
					Max	1'-4"							Max				Max										X	1'-8"
				Y	Min	2'-0"							2'-7"				-											
					Max	6'-0"																						

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

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 3/26/16

TABULAR DATA BY: JPJ DATE: 03/11/16
CHECKED BY: JLB DATE: 07/03/16

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

OUTLET SKEWED END SECTION

SKEW (DEGREE)	SLOPE	DESIGN FILL DEPTH (FT.)	CLEAR SPAN (FT.)	CLEAR HEIGHT (FT.)	SECTION LENGTH	TOP SLAB THK.	HDWL DEPTH	BOTTOM SLAB THK.	SIDE WALL THK.	INTERIOR WALL THK.	OVERALL WIDTH	OVERALL HEIGHT
SK	SL	D	S	H	LL	T	HD	B	C	W	OW	OH
7.5	3:1	10	8	5	4'-10"	11	3	11	6	8	43'-8"	6'-10"

TOP SLAB REINFORCING STEEL "a" SIZE	"a" SPACING	"a" LENGTHS VARY	"a" NO. REQ'D	"c" SIZE	"c" SPACING	"c" LENGTHS VARY	"c" NO. REQ'D
4	8.5	Max	6	4	8	Max	7
		43'-4"				43'-4"	
		Min				Min	
		11'-8"				11'-8"	
		43'-4"	3			43'-4"	3

BOTTOM SLAB REINFORCING STEEL "d" SIZE	"d" SPACING	"d" LENGTHS VARY	"d" NO. REQ'D	"f" SIZE	"f" SPACING	"f" LENGTHS VARY	"f" NO. REQ'D
4	6	Max	9	4	8	Max	7
		43'-4"				43'-4"	
		Min				Min	
		11'-8"				11'-8"	
		43'-4"	4			43'-4"	3

SIDE WALL REINFORCING STEEL "f0" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" SIZE	SPACING	NO. REQ'D	LENGTH
5	8	15	6'-6"	4	12	48	6'-6"

TOP SLAB DISTRIBUTION REINFORCING STEEL "g" SIZE	SPACING	NO. REQ'D	LENGTHS VARY	BOTTOM SLAB DISTRIBUTION REINFORCING STEEL "e" SIZE	SPACING	NO. REQ'D	LENGTHS VARY
4	10	109	Max	4	10	109	Max
			7'-7"				7'-7"
			Min				Min
			1'-10"				1'-10"

SIDE WALL DISTRIBUTION REINFORCING STEEL "d1" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL DISTRIBUTION REINFORCING STEEL "d2" SIZE	SPACING	NO. REQ'D	LENGTH
4	12	5	LONG	4	12	10	LONG
			7'-6"				6'-5"
		5	SHORT			20	MID
			1'-11"				5'-3"
						10	SHORT
							3'-0"

CLASS "S" CONCRETE (Includes HDWL) CU. YDS.	① REINFORCING STEEL (GR 60) (Includes HDWL) LBS.
18.85	2476

"k1" HDWL BARS SIZE	LENGTH	NO. REQ'D	"k2" HDWL BARS SIZE	LENGTH	NO. REQ'D	"h" HDWL BARS SIZE	LENGTH	Y	NO. REQ'D
4	43'-9"	6	4	43'-9"	6	4	1'-10"	0'-10"	46

OUTLET SLOPE SECTION(S)

R.C. BOX SECTION	DESIGN FILL DEPTH (FT.) D	CLEAR SPAN (FT.) S	CLEAR HEIGHT (FT.) H	TOP SLAB THK. T	BOTTOM SLAB THK. B	SIDE WALL THK. C	INTERIOR WALL THK. W	OVER ALL WIDTH OW	OVER ALL HEIGHT OH	SECTION LENGTH (FT.) SL

TOP SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "a" SIZE	"a" L	"b" SIZE	"b" L	"c" SIZE	"c" L	SPACING	NO. REQ'D

BOTTOM SLAB REINFORCING STEEL LENGTH = OW - 4" + BENDS "d" SIZE	"d" L	"b1" SIZE	"b1" L	"f" SIZE	"f" L	SPACING	NO. REQ'D

SIDE WALL REINFORCING STEEL "f0" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH	INTERIOR WALL REINFORCING STEEL "f1" LENGTH = OH - 4" SIZE	SPACING	NO. REQ'D	LENGTH

TOP SLAB DISTRIBUTION REINF. STEEL "g" LENGTH = SL SIZE	SPACING	NO. REQ'D	BOTTOM SLAB DISTRIBUTION REINF. STEEL "e" LENGTH = SL SIZE	SPACING	NO. REQ'D	SIDE WALL DISTRIBUTION REINF. STEEL "d1" LENGTH = SL SIZE	SPACING	NO. REQ'D	INTERIOR WALL DISTRIBUTION REINF. STEEL "d2" LENGTH = SL SIZE	SPACING	NO. REQ'D

HDWL DEPTH HD	ADDITIONAL REINF. FOR HDWL LBS.	"h" BARS SIZE	Y	LENGTH	NO. REQ'D

CLASS "S" CONCRETE CU. YDS.	REINFORCING STEEL (GR. 60) LBS.
TOTAL	
#VALUE!	#VALUE!

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.

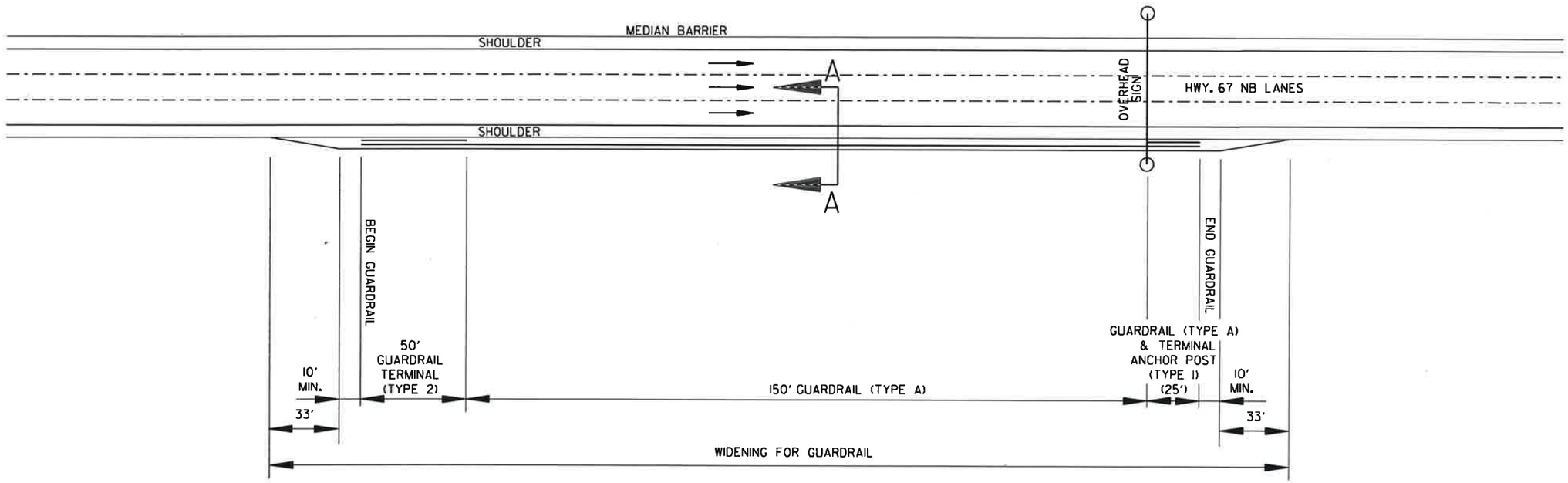
SHEET 2 OF 2
DETAILS OF R.C. BOX CULVERT
QUINTUPLE BARREL BOX CULVERT
Sta. 920+60

SPECIAL DETAILS

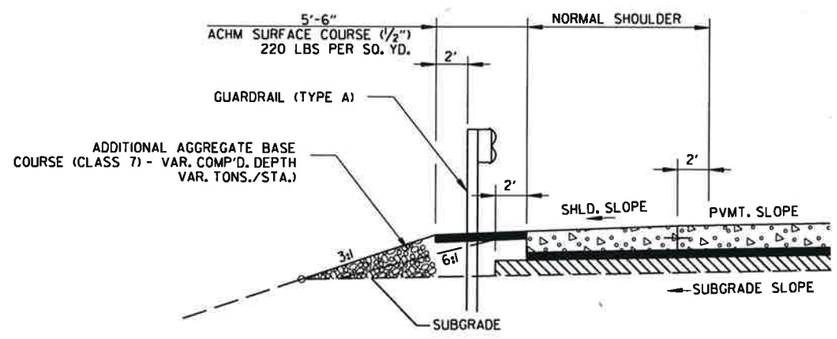
FILENAME

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	60A	434

(2) SPECIAL DETAILS



GUARDRAIL DETAIL AT OVERHEAD SIGN STRUCTURE



SECTION A-A

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

SPECIAL DETAILS

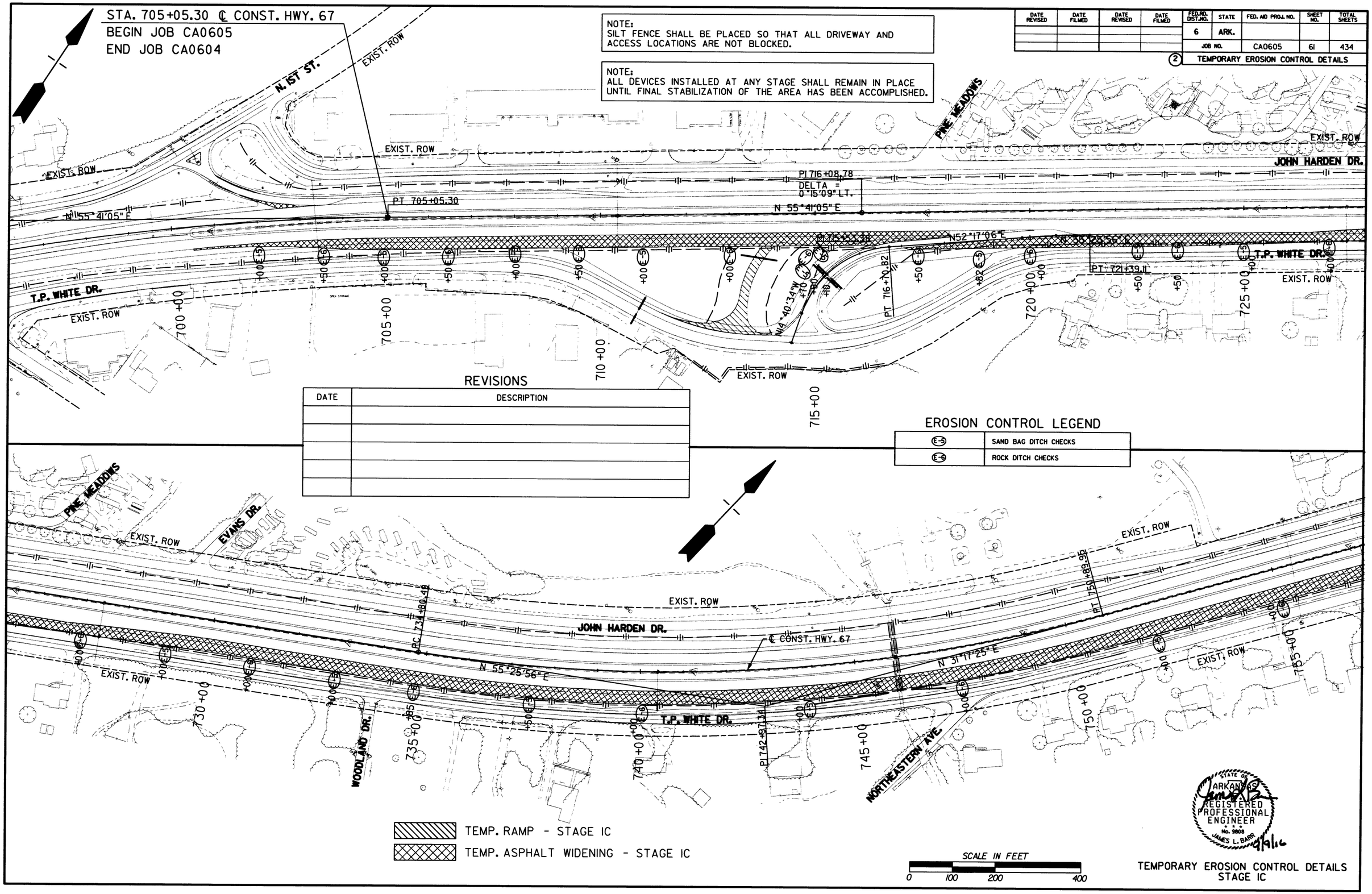
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	61	434

(2) TEMPORARY EROSION CONTROL DETAILS

STA. 705+05.30 ℄ CONST. HWY. 67
BEGIN JOB CA0605
END JOB CA0604

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS

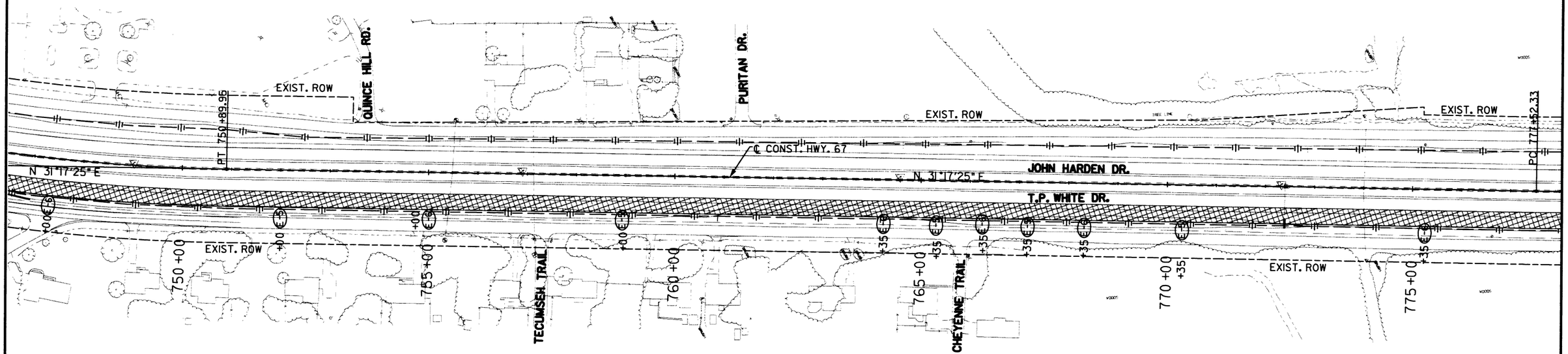
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/21/16

TEMPORARY EROSION CONTROL DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	62	434

(2) TEMPORARY EROSION CONTROL DETAILS



EROSION CONTROL LEGEND

(E-5)	SAND BAG DITCH CHECKS
(E-6)	ROCK DITCH CHECKS

REVISIONS

DATE	DESCRIPTION

TEMP. ASPHALT WIDENING - STAGE IC

SCALE IN FEET

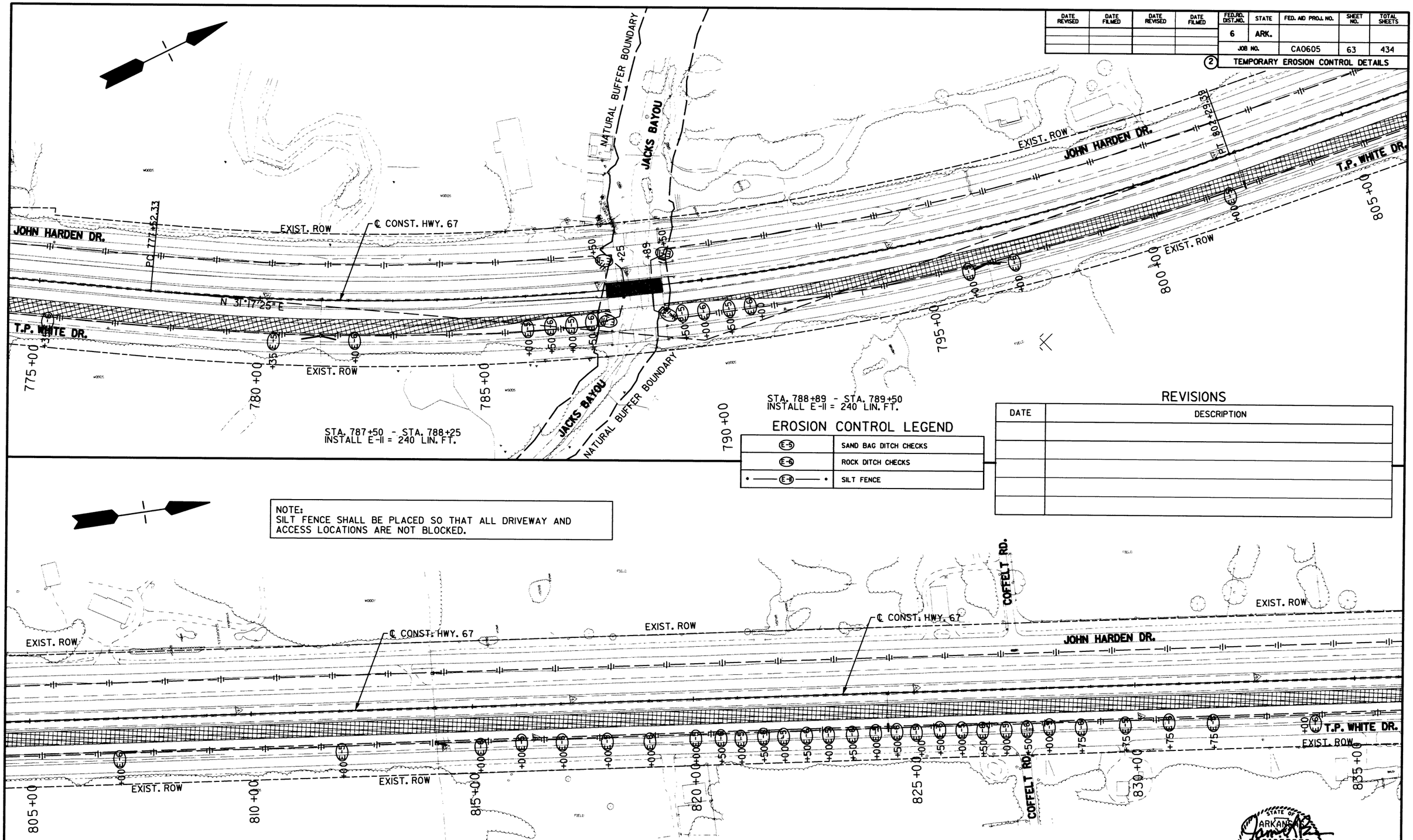
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/9/16

TEMPORARY EROSION CONTROL DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	63	434

(2) TEMPORARY EROSION CONTROL DETAILS



EROSION CONTROL LEGEND

(E-5)	SAND BAG DITCH CHECKS
(E-6)	ROCK DITCH CHECKS
• —— (E-11) —— •	SILT FENCE

REVISIONS

DATE	DESCRIPTION

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

TEMP. ASPHALT WIDENING - STAGE IC

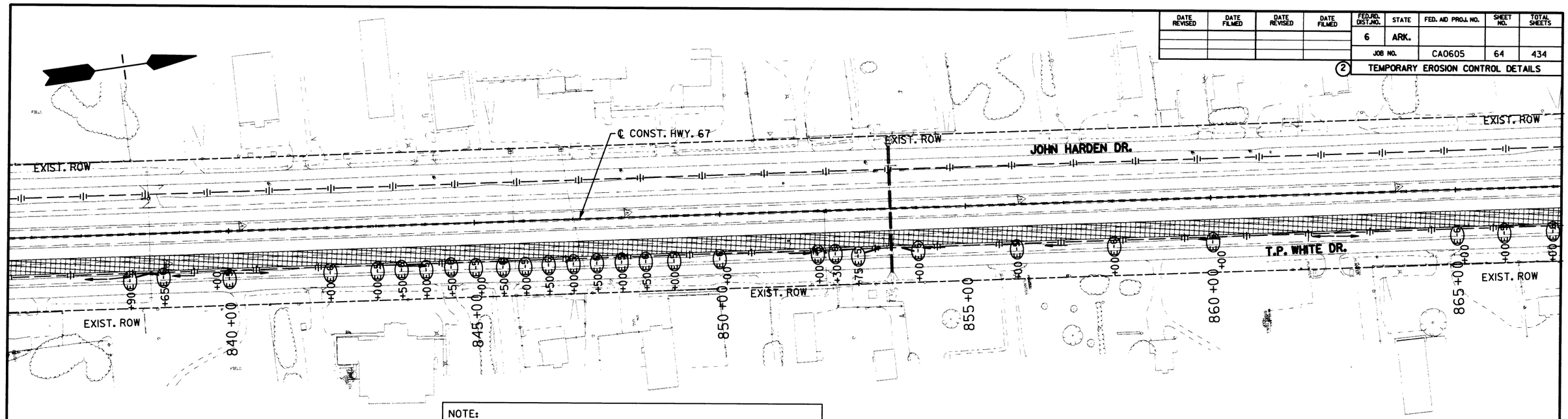
SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	64	434

2 TEMPORARY EROSION CONTROL DETAILS



NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

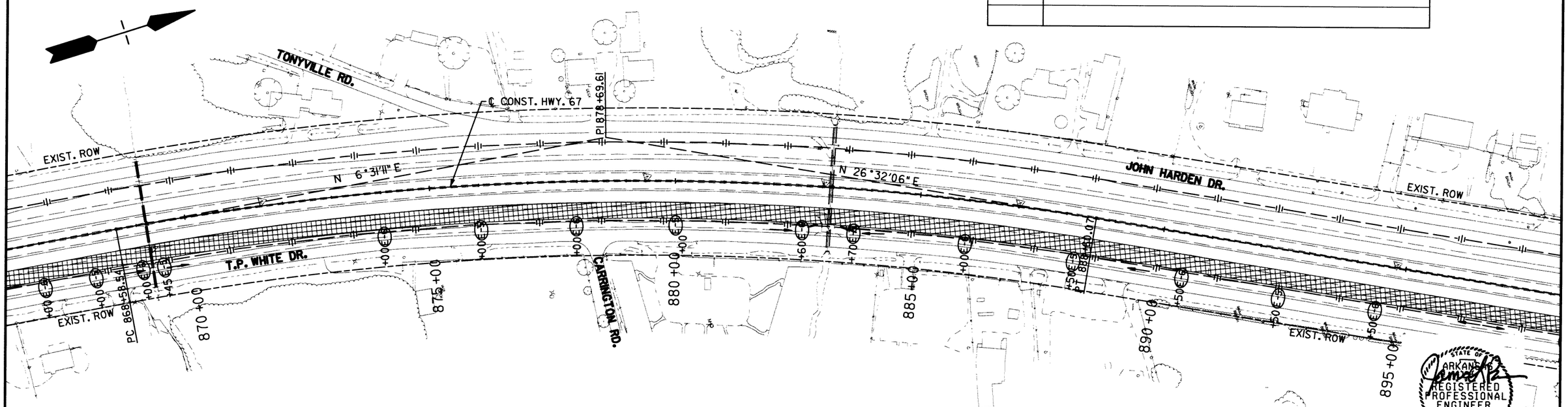
NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-8	SILT FENCE

REVISIONS

DATE	DESCRIPTION



TEMP. ASPHALT WIDENING - STAGE IC

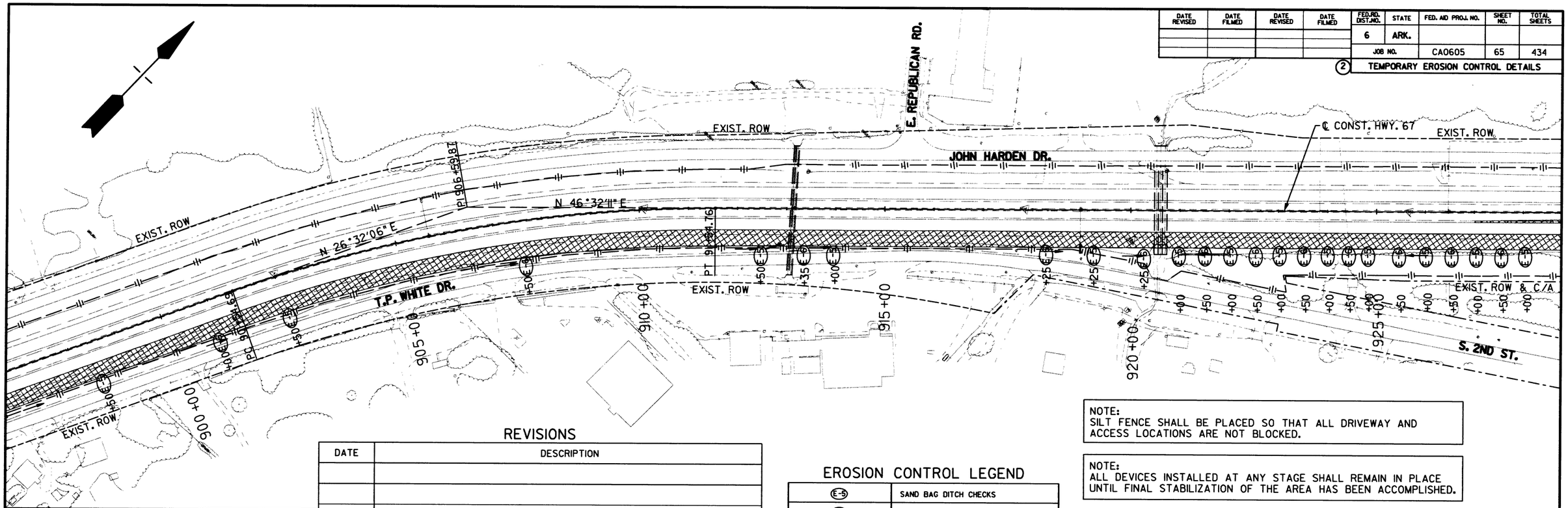
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
4/4/06

TEMPORARY EROSION CONTROL DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	65	434

(2) TEMPORARY EROSION CONTROL DETAILS



NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

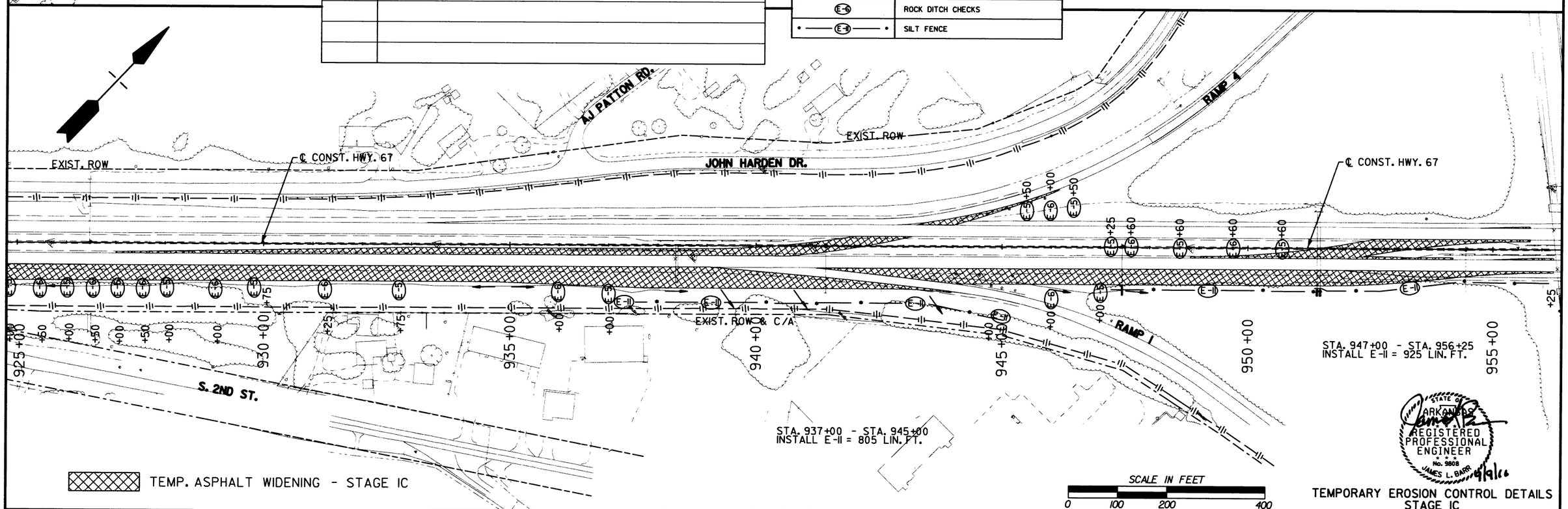
NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

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

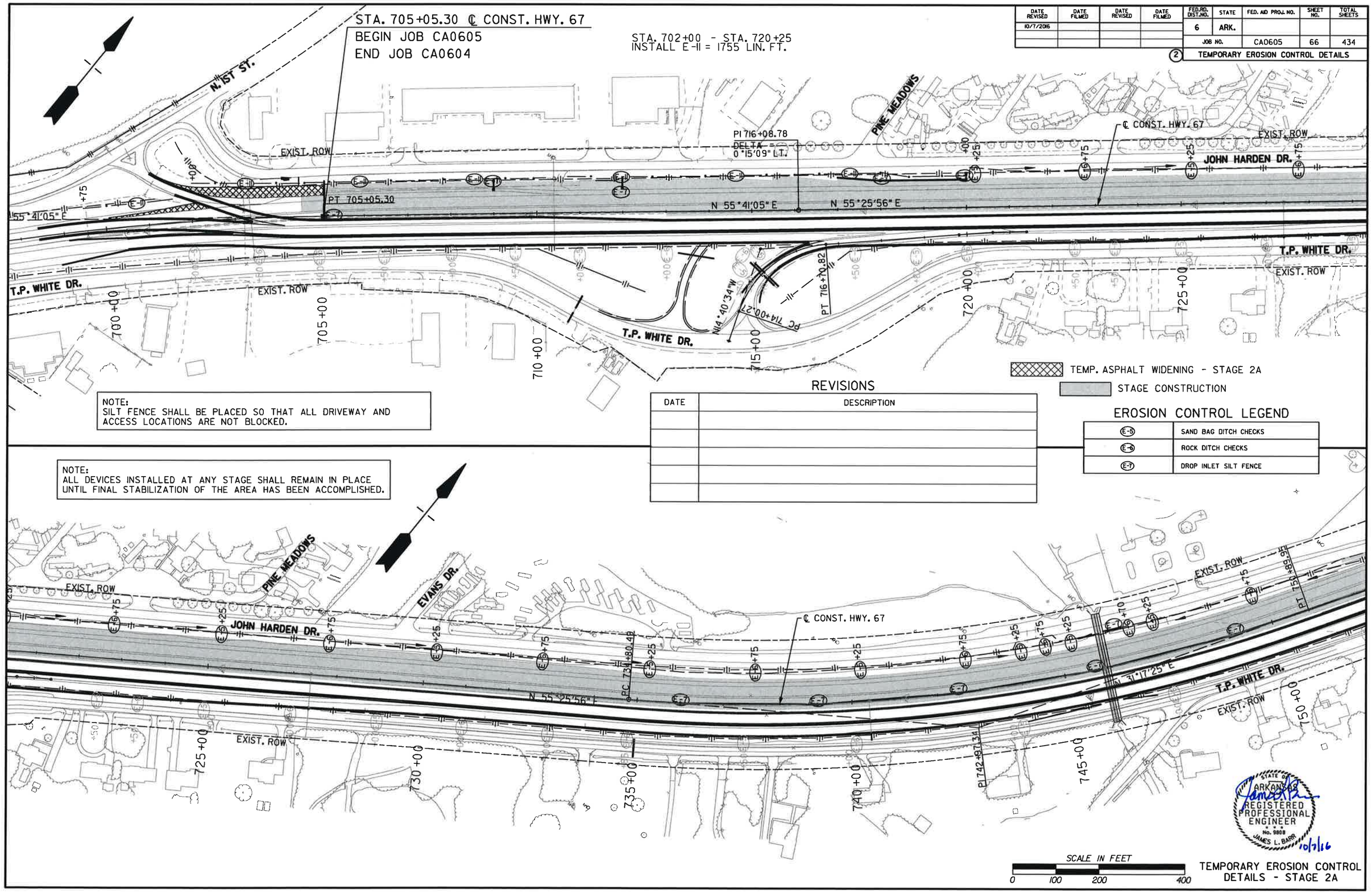


STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 4/9/16

TEMPORARY EROSION CONTROL DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	66	434

(2) TEMPORARY EROSION CONTROL DETAILS



NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 2A

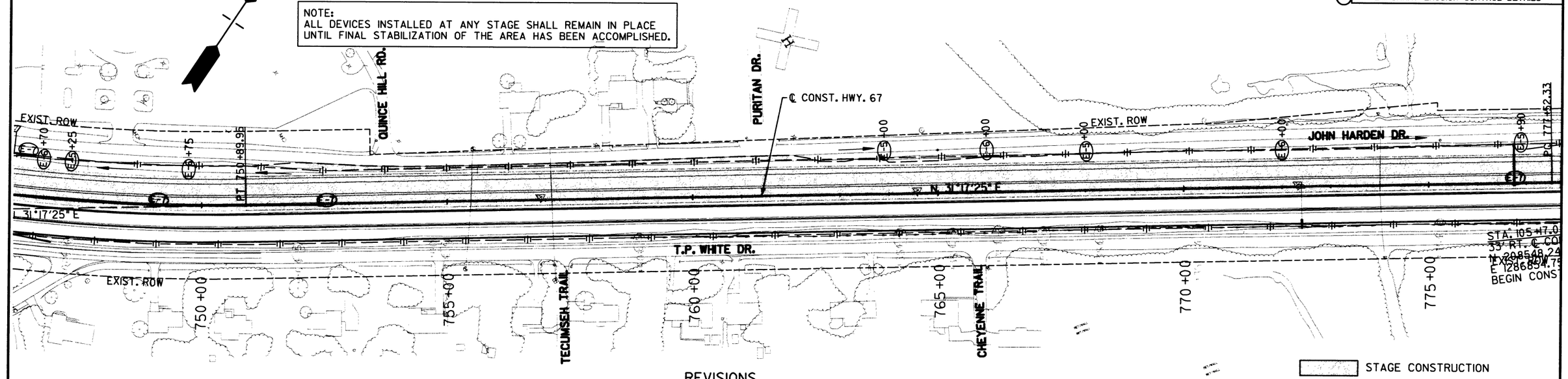
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	67	434

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



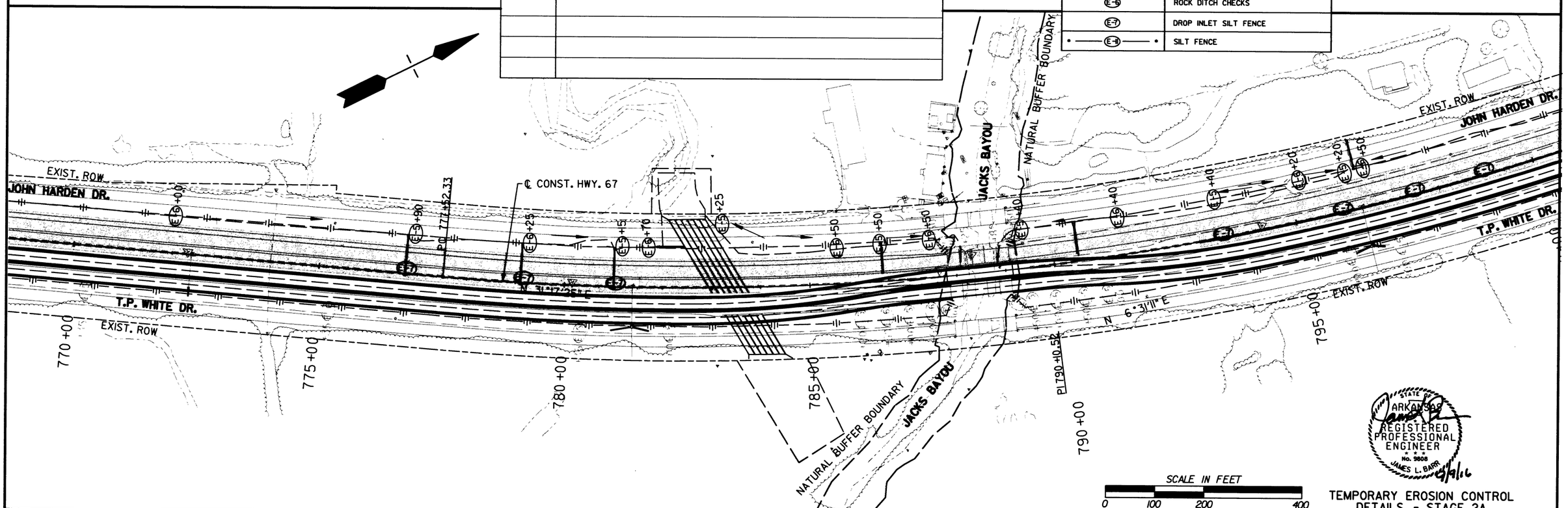
STAGE CONSTRUCTION

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

(E-5)	SAND BAG DITCH CHECKS
(E-6)	ROCK DITCH CHECKS
(E-7)	DROP INLET SILT FENCE
• —— (E-8) —— •	SILT FENCE



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/9/16

SCALE IN FEET
0 100 200 400

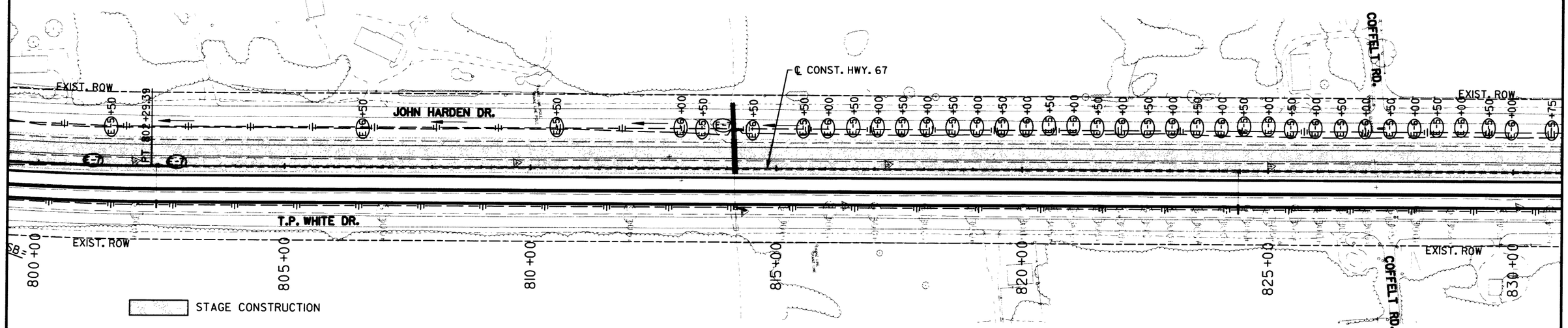
TEMPORARY EROSION CONTROL DETAILS - STAGE 2A

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	68	434

(2) TEMPORARY EROSION CONTROL DETAILS



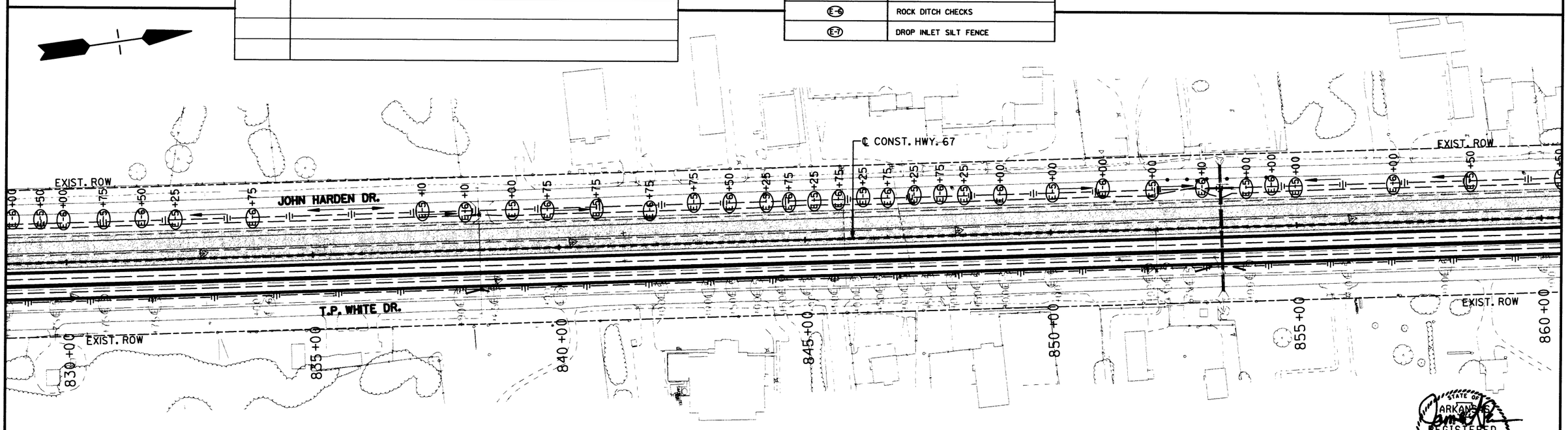
REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



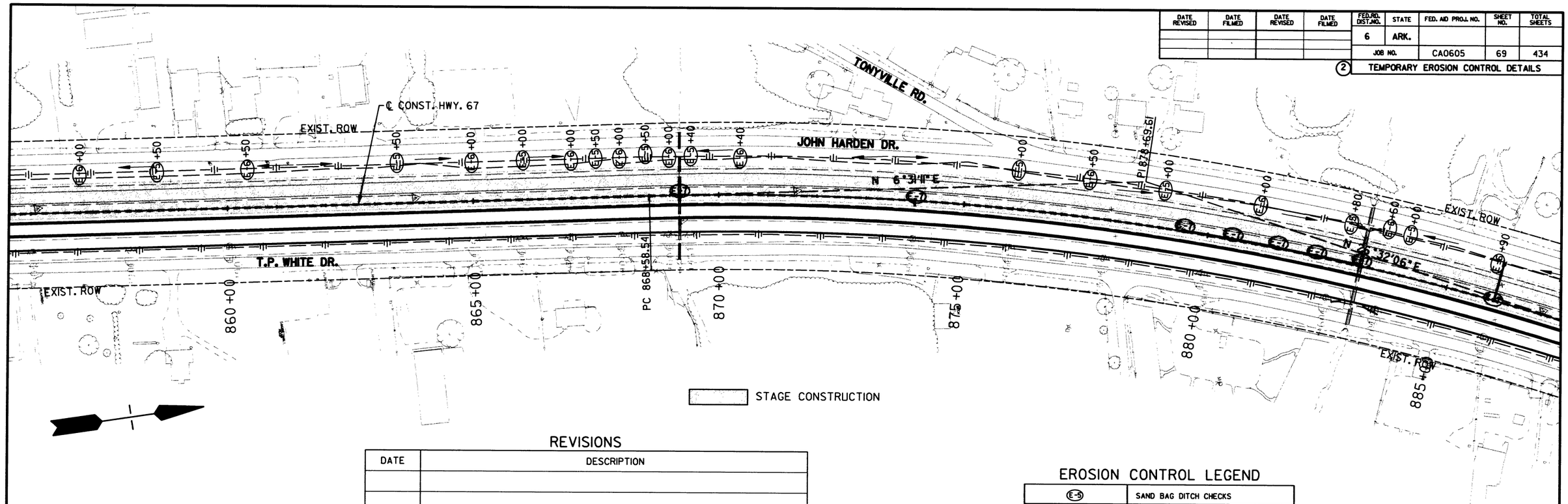
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
4/9/16

SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS - STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	69	434

(2) TEMPORARY EROSION CONTROL DETAILS

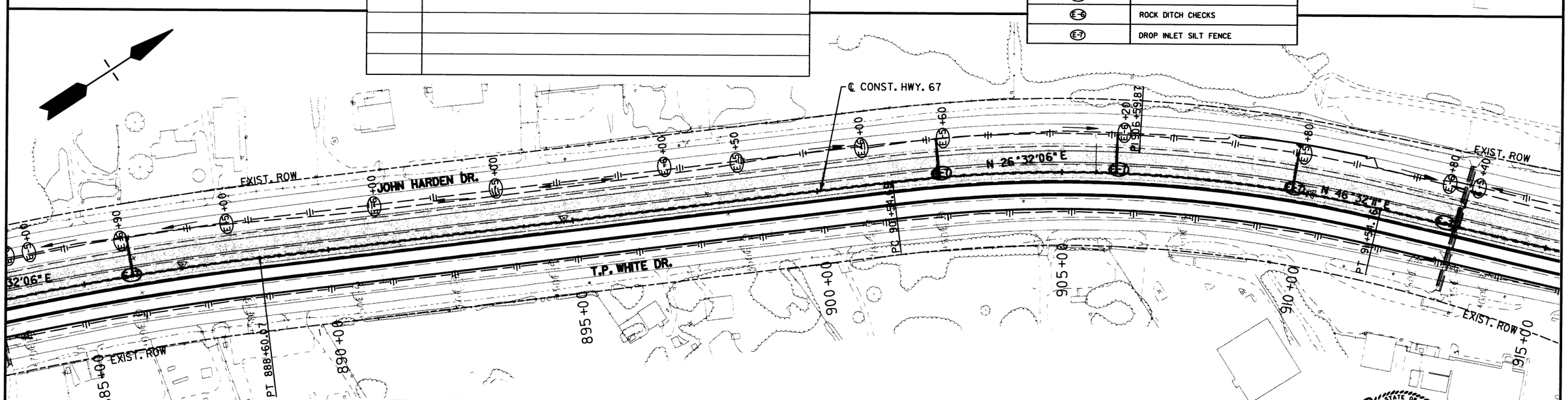


REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE



NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/8/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 2A

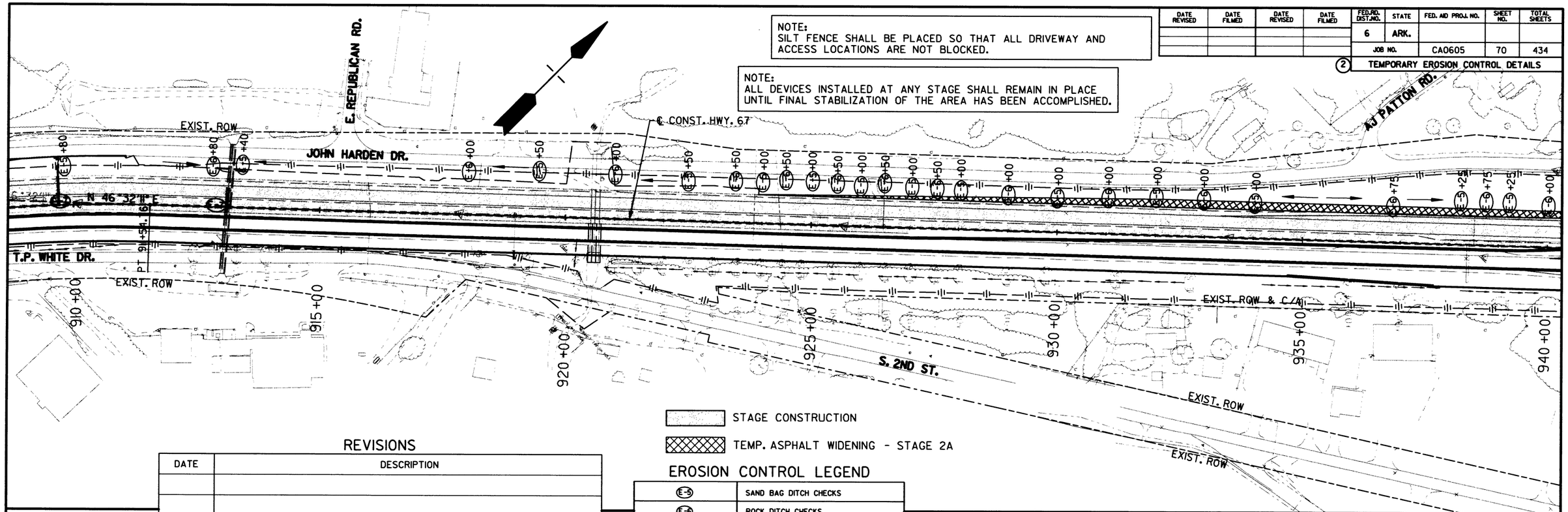
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	70	434

2 TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



STAGE CONSTRUCTION

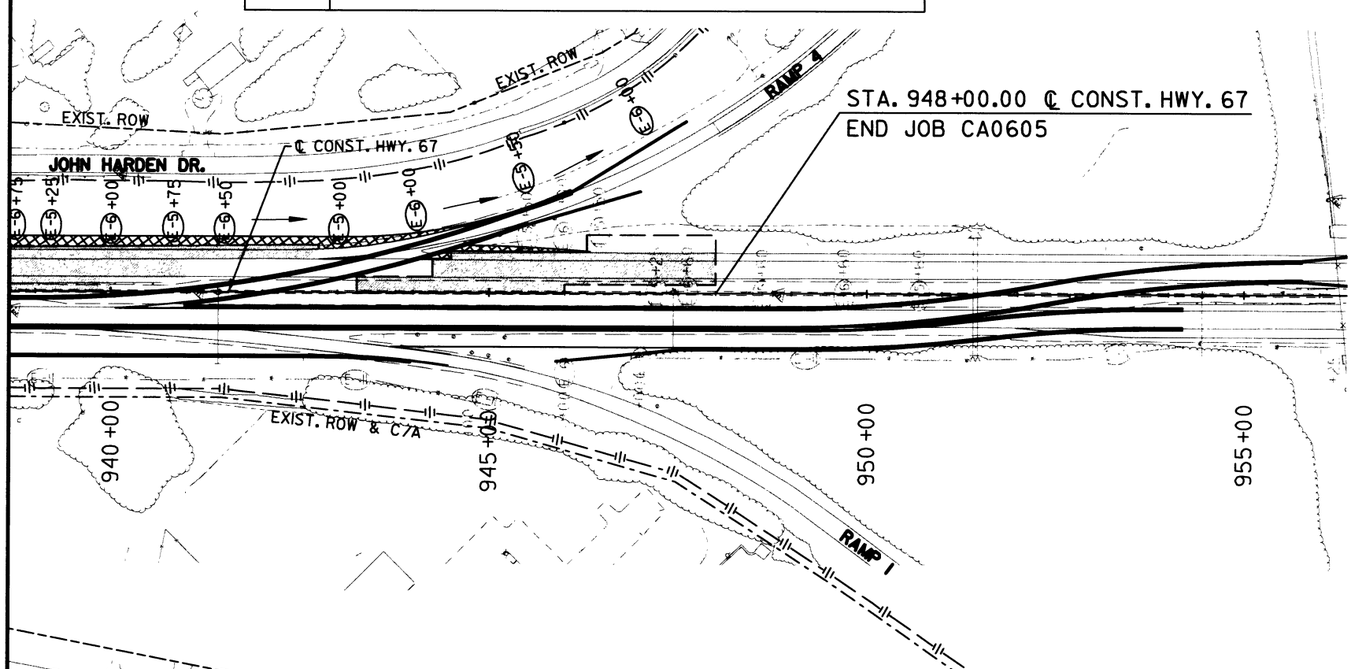
TEMP. ASPHALT WIDENING - STAGE 2A

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

REVISIONS

DATE	DESCRIPTION



SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/9/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 2A

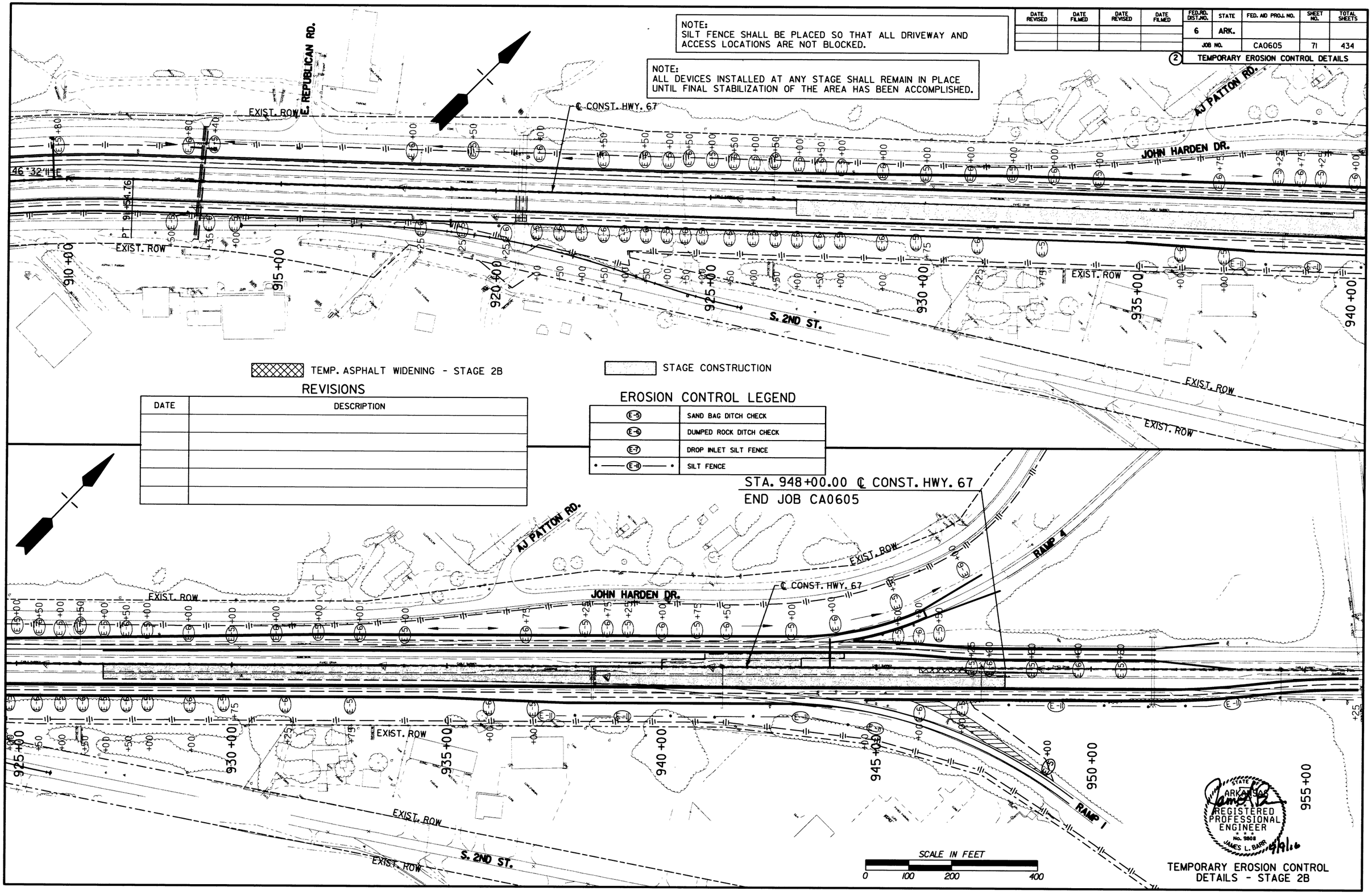
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	71	434

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



TEMP. ASPHALT WIDENING - STAGE 2B

STAGE CONSTRUCTION

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

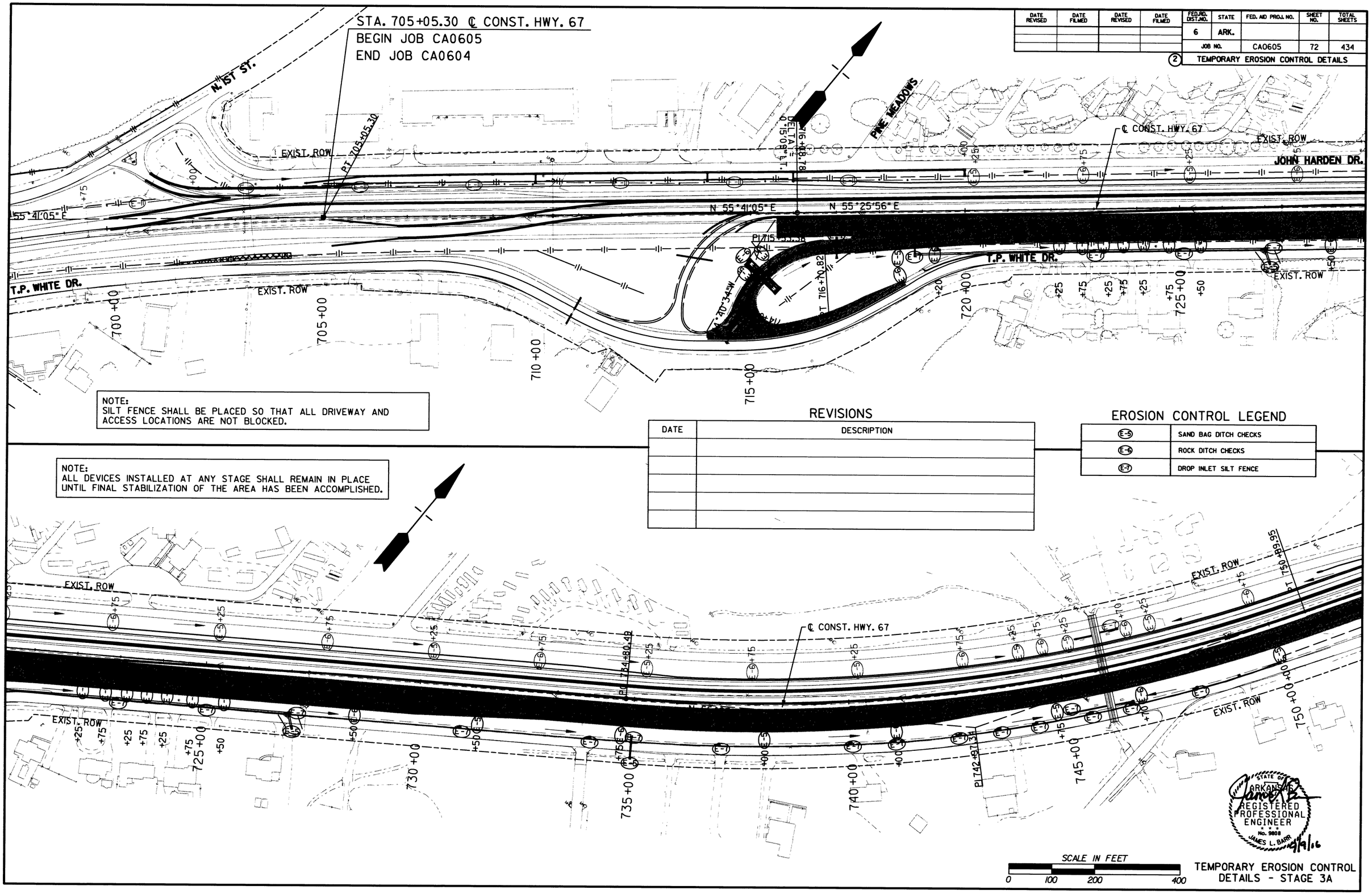
E-5	SAND BAG DITCH CHECK
E-6	DUMPED ROCK DITCH CHECK
E-7	DROP INLET SILT FENCE
• —— E-11 —— •	SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
4/9/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 2B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	72	434

(2) TEMPORARY EROSION CONTROL DETAILS



NOTE:
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NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/9/16

SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS - STAGE 3A

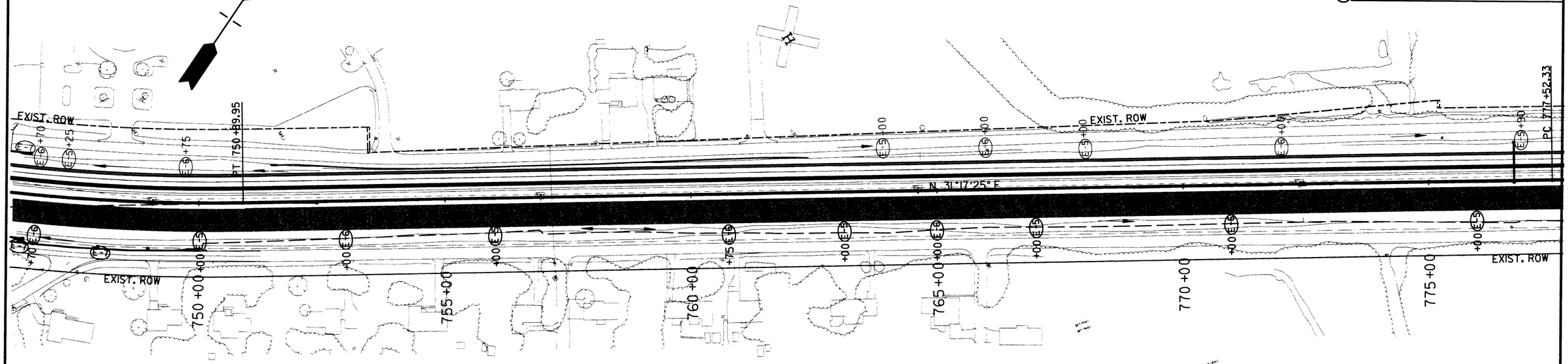
NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	73	434

(2) TEMPORARY EROSION CONTROL DETAILS

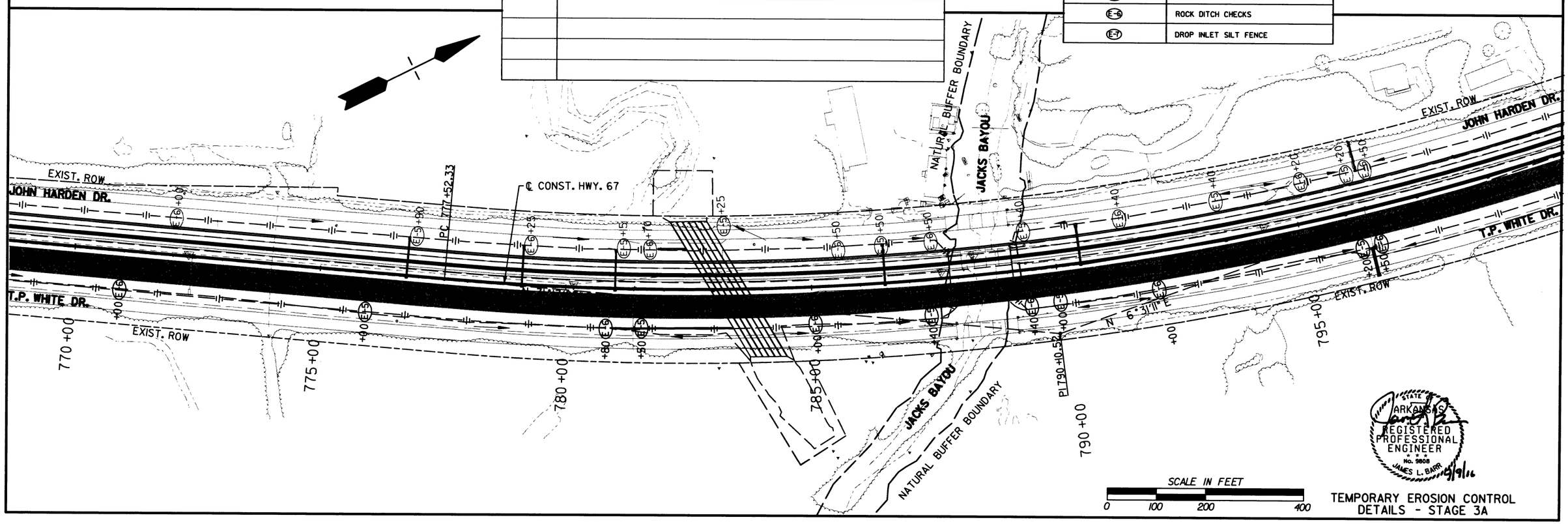


REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE



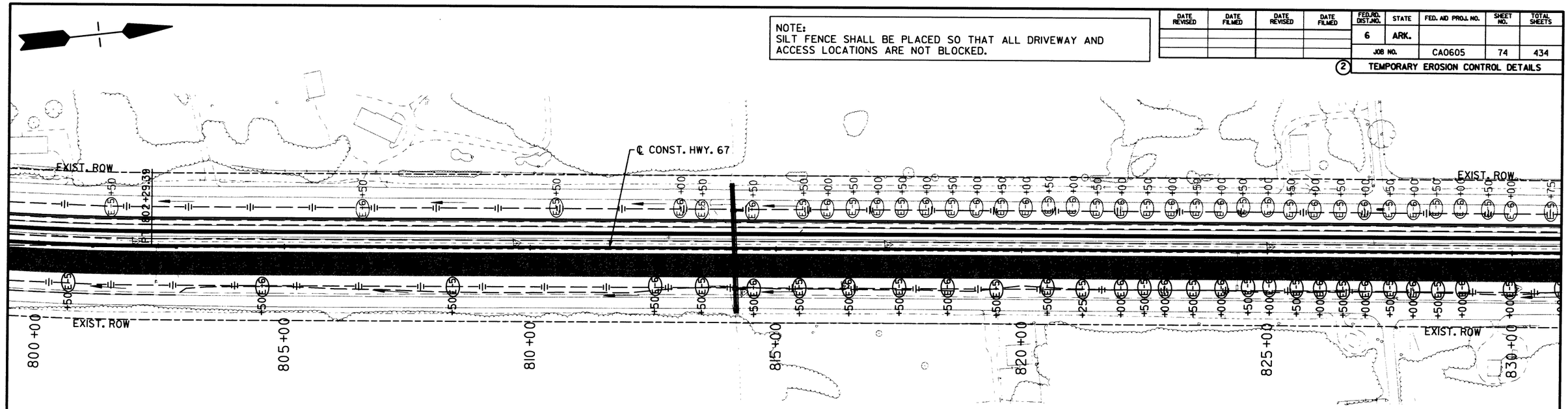
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/9/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 3A

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	74	434

(2) TEMPORARY EROSION CONTROL DETAILS



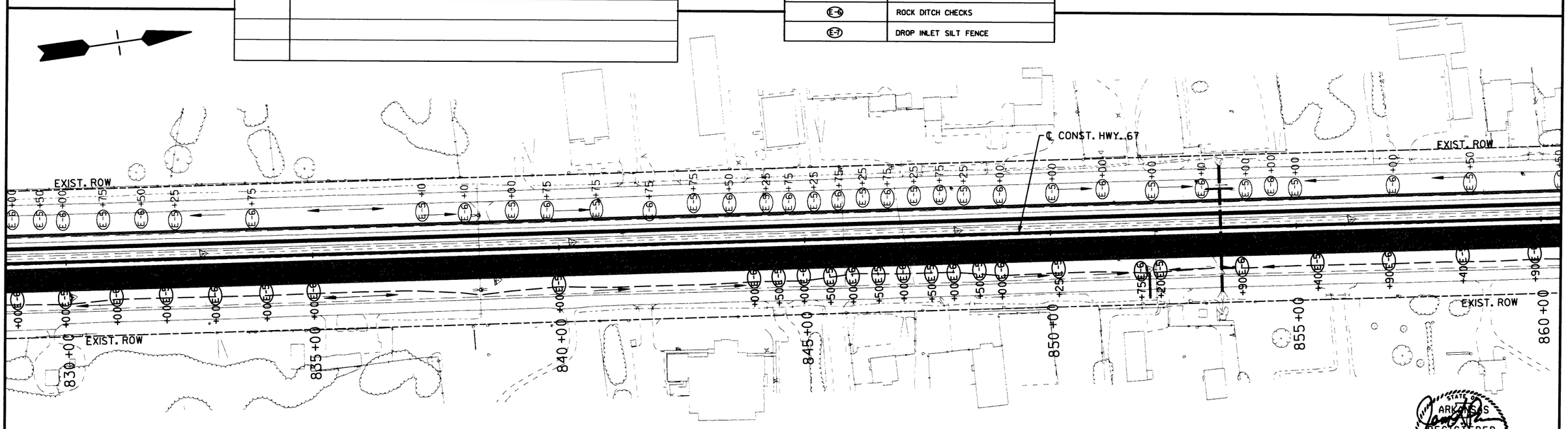
REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

NOTE:
ALL DEVICES INSTALLED AT ANY STAGE SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE AREA HAS BEEN ACCOMPLISHED.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
5/9/16

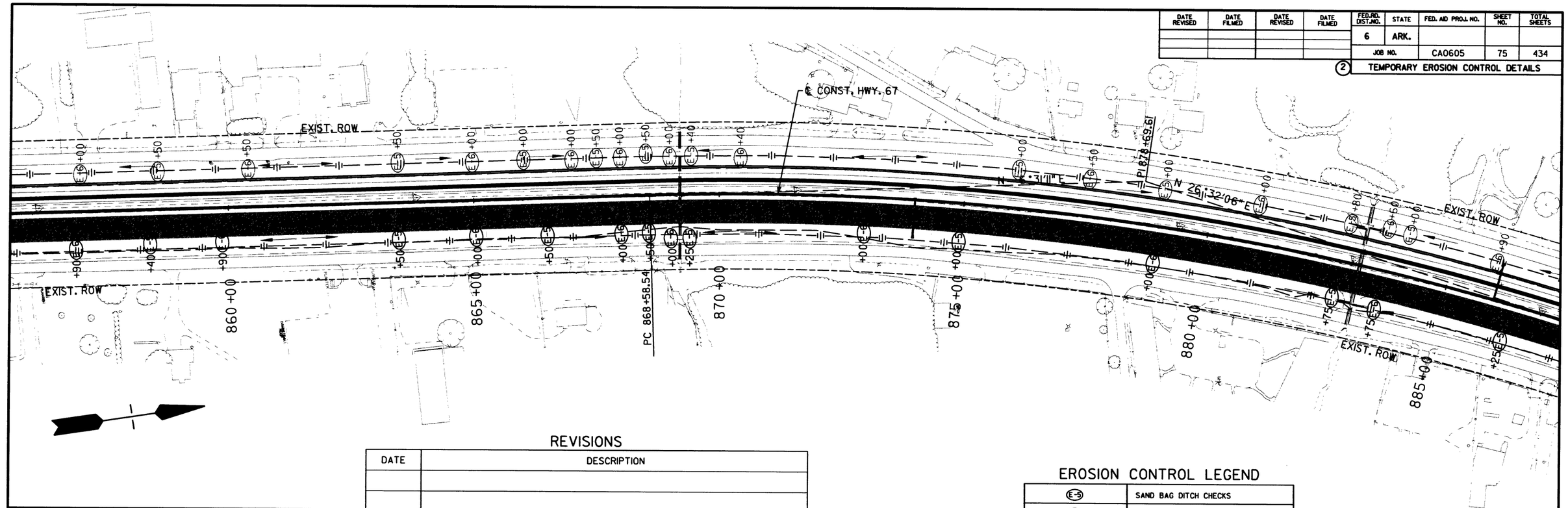
SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS - STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	75	434

2 TEMPORARY EROSION CONTROL DETAILS

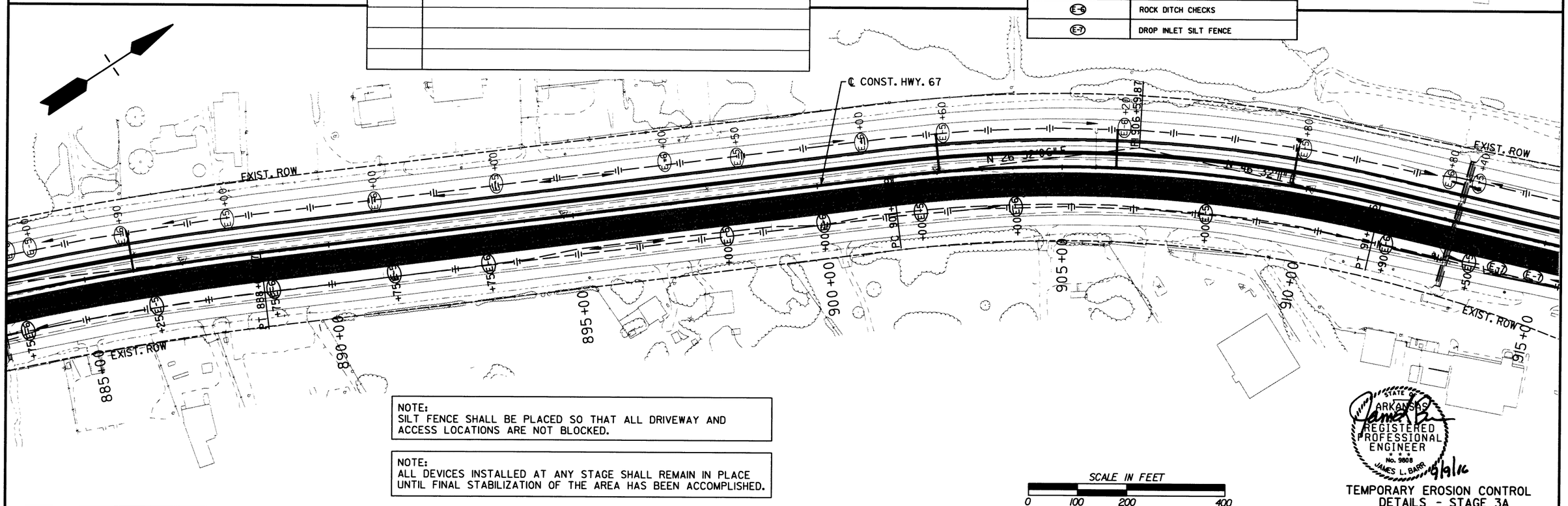


REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE



NOTE:
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SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
6/9/16

TEMPORARY EROSION CONTROL DETAILS - STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	76	434

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.

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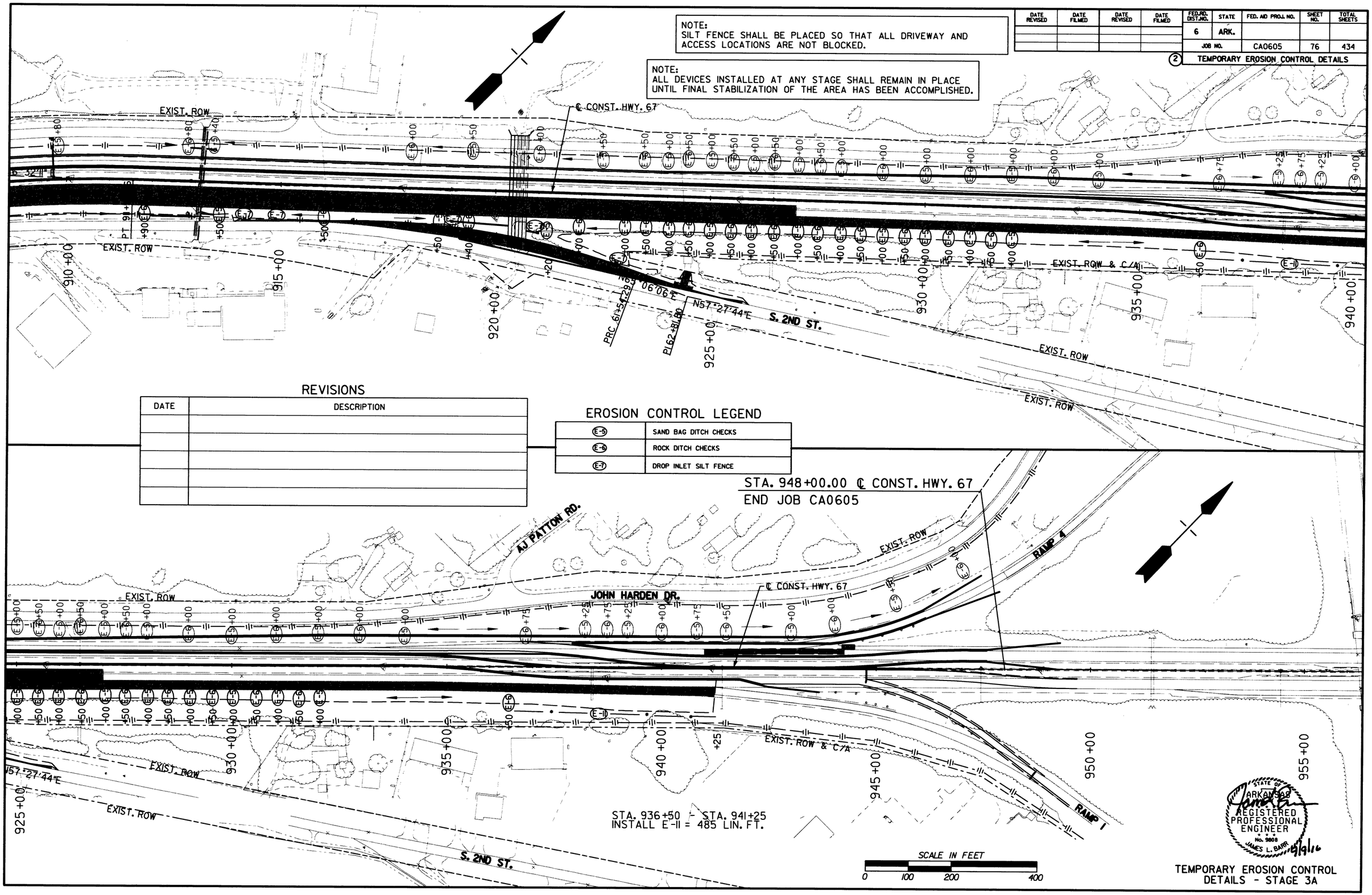


REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3808
JAMES L. BARR
9/9/16

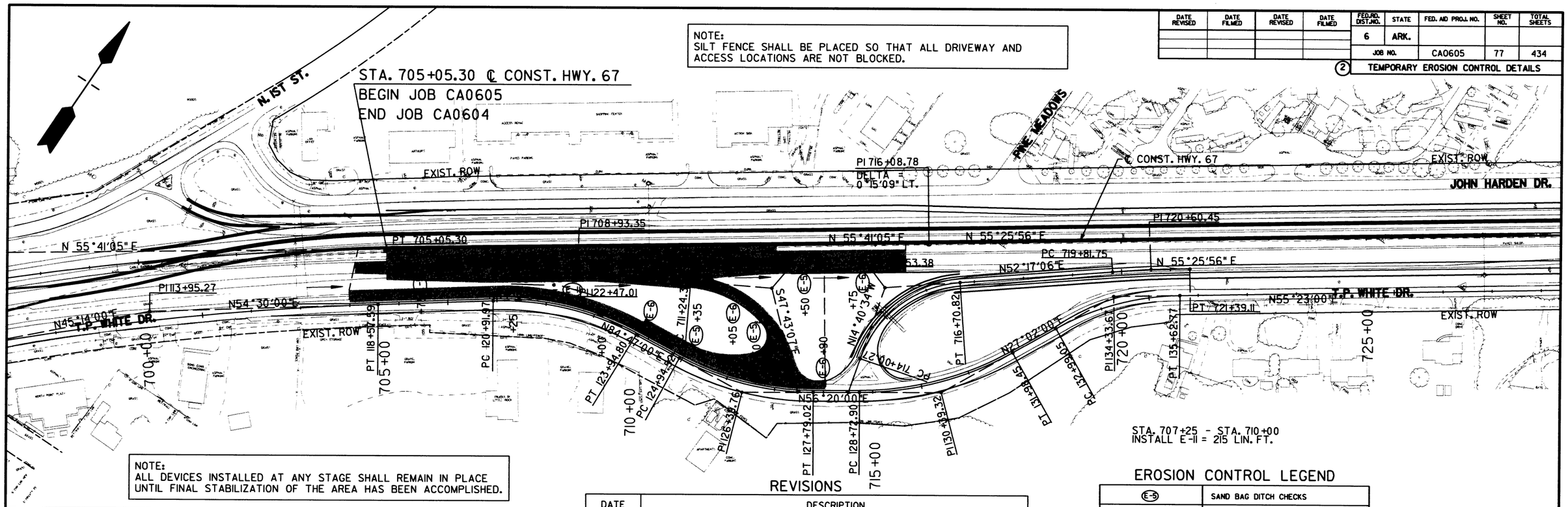
TEMPORARY EROSION CONTROL DETAILS - STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	77	434

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.



NOTE:
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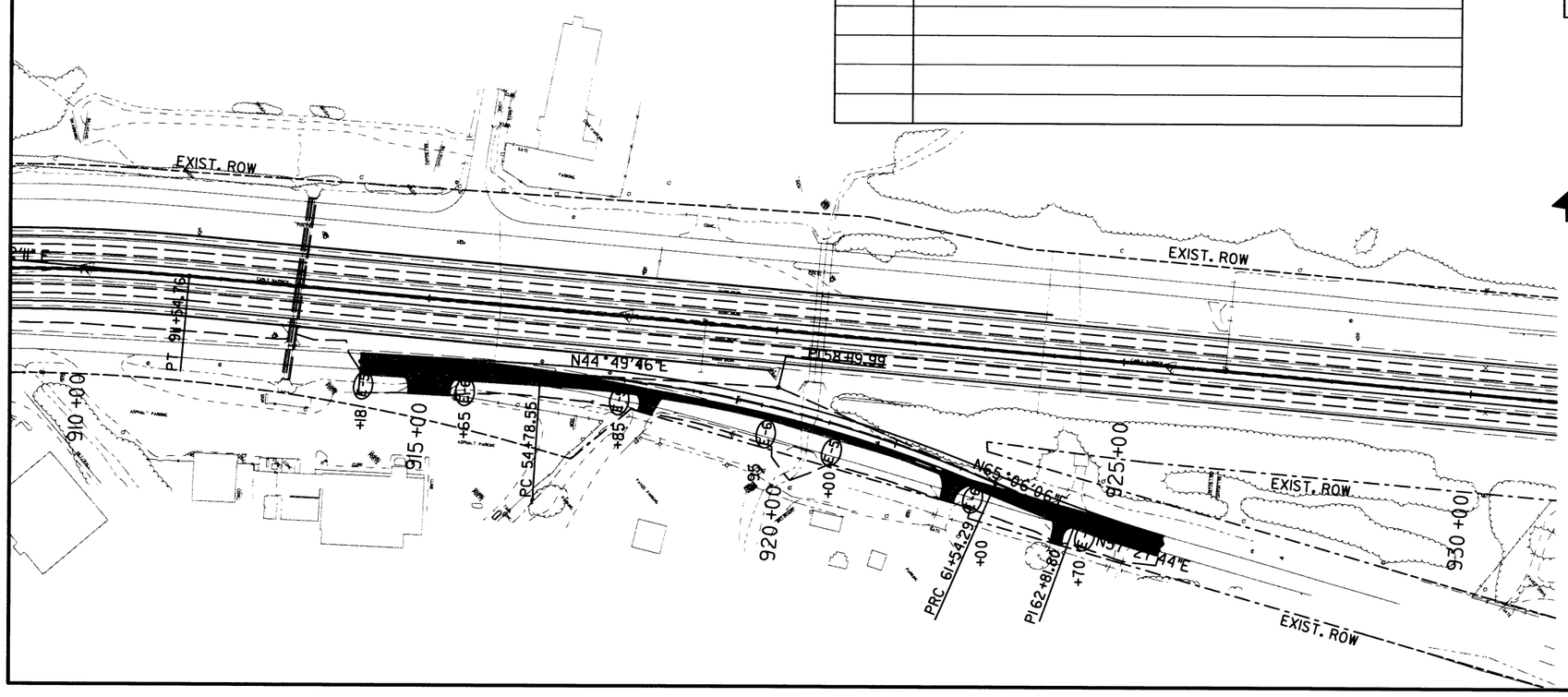
REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

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



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 3908
JAMES L. BARR
4/4/06

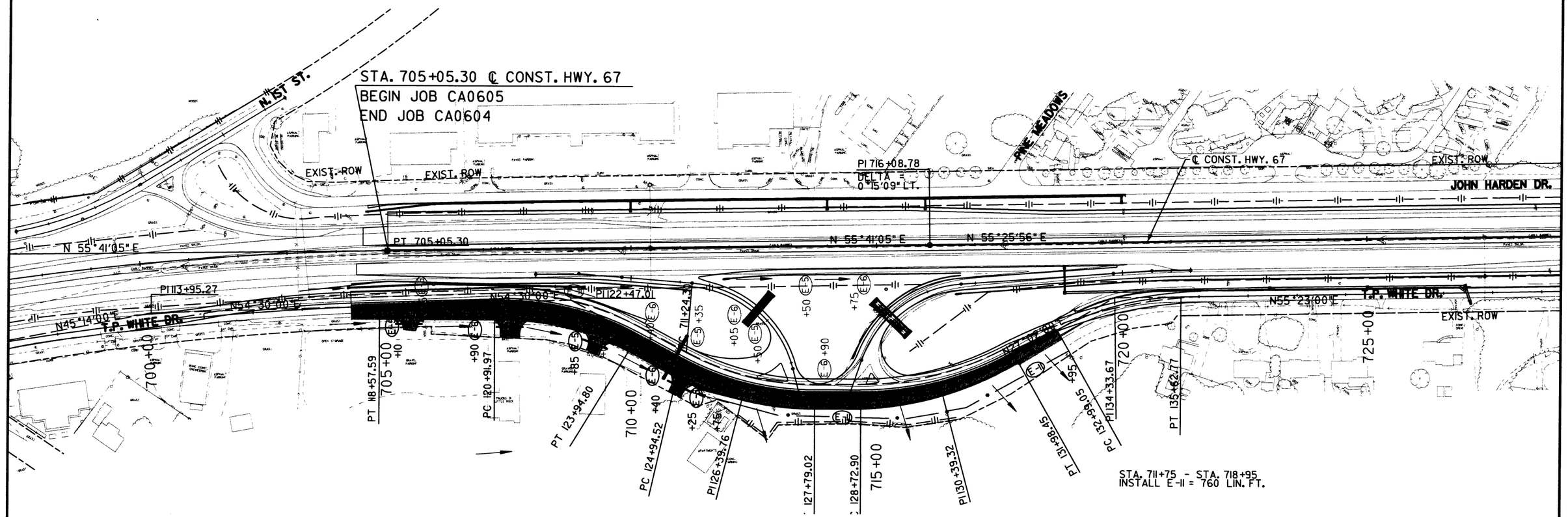
SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS - STAGE 3B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	78	434

(2) TEMPORARY EROSION CONTROL DETAILS

NOTE:
SILT FENCE SHALL BE PLACED SO THAT ALL DRIVEWAY AND ACCESS LOCATIONS ARE NOT BLOCKED.



NOTE:
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REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

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

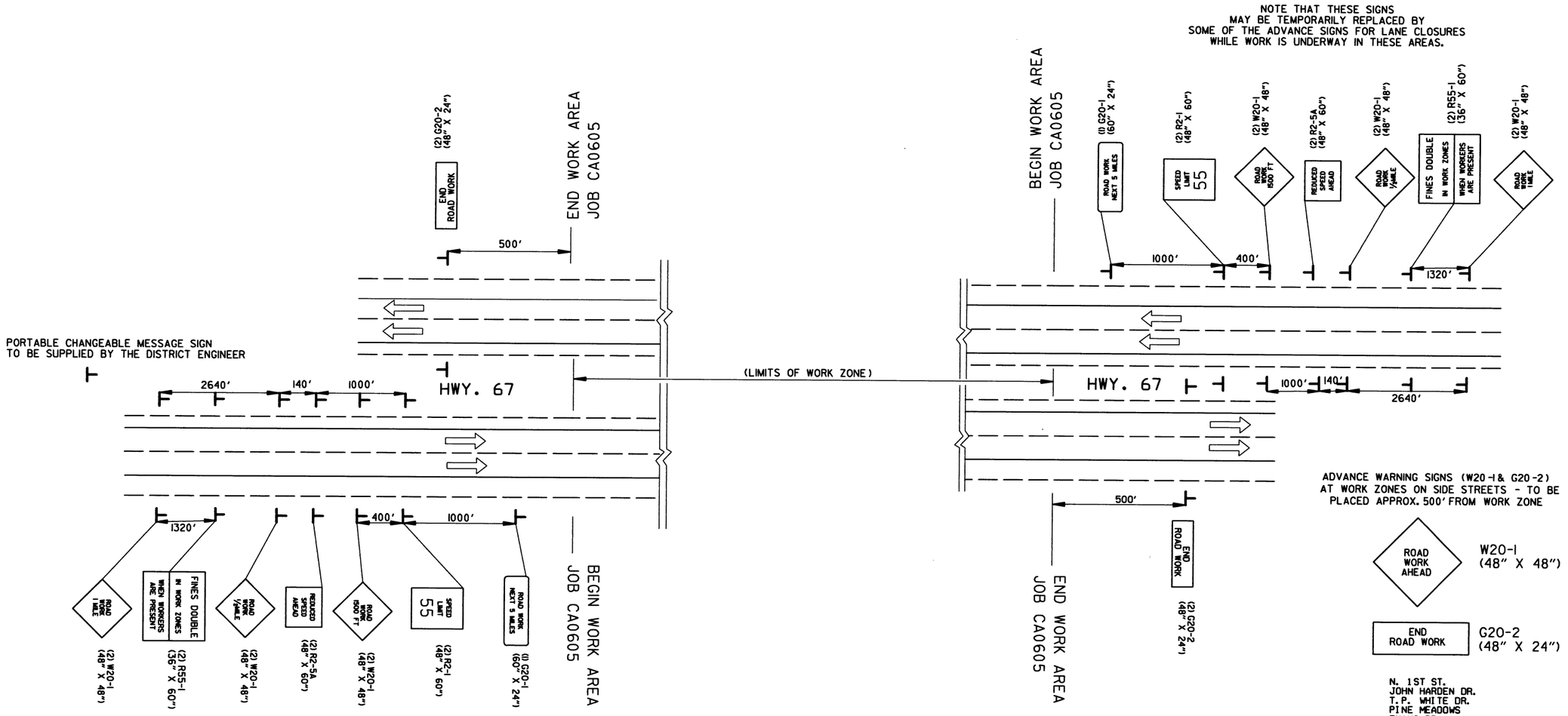
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/9/10

SCALE IN FEET
0 100 200 400

TEMPORARY EROSION CONTROL DETAILS - STAGE 3C

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	79	434

(2) MAINTENANCE OF TRAFFIC DETAILS



ADVANCE WARNING SIGNS (W20-1 & G20-2) AT WORK ZONES ON SIDE STREETS - TO BE PLACED APPROX. 500' FROM WORK ZONE

ROAD WORK AHEAD — W20-1 (48" X 48")

END ROAD WORK — G20-2 (48" X 24")

N. 1ST ST.
JOHN HARDEN DR.
T.P. WHITE DR.
PINE MEADOWS
EVANS DR.
WOODLAND DR.
NORTHEASTERN AVE.
QUINCE HILL RD.
TECUMSEH TRAIL
PURITAN DR.
CHEYENNE TRAIL
LANCELOT LN.
COFFELT RD.
TONYVILLE RD.
CARRINGTON RD.
E. REPUBLICAN DR.
S. 2ND ST.
AJ PATTON RD.

ADVANCE WARNING SIGNS AT BEGINNING AND END OF JOB CA0605
ALL STAGES

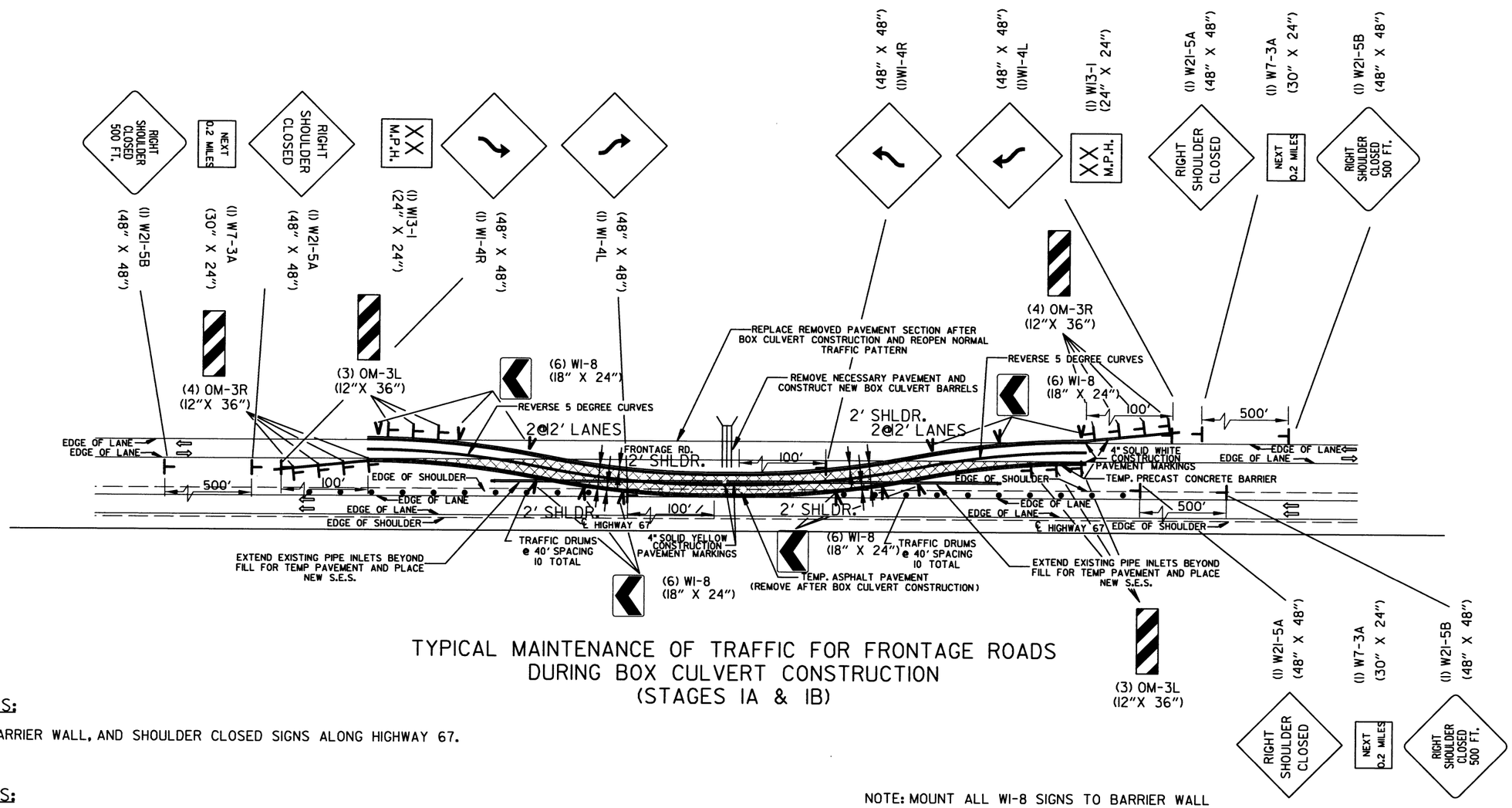
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 12/26/16

MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	80	434

(2) MAINTENANCE OF TRAFFIC DETAILS



TYPICAL MAINTENANCE OF TRAFFIC FOR FRONTAGE ROADS
DURING BOX CULVERT CONSTRUCTION
(STAGES IA & IB)

STAGE IA NOTES:

PLACE BARRELS, BARRIER WALL, AND SHOULDER CLOSED SIGNS ALONG HIGHWAY 67.

STAGE IB NOTES:

PLACE REMAINING BARRIER WALL, SIGNS, AND CONSTRUCT TEMPORARY PAVEMENT SECTIONS.

CONSTRUCT BOX CULVERT SECTIONS.

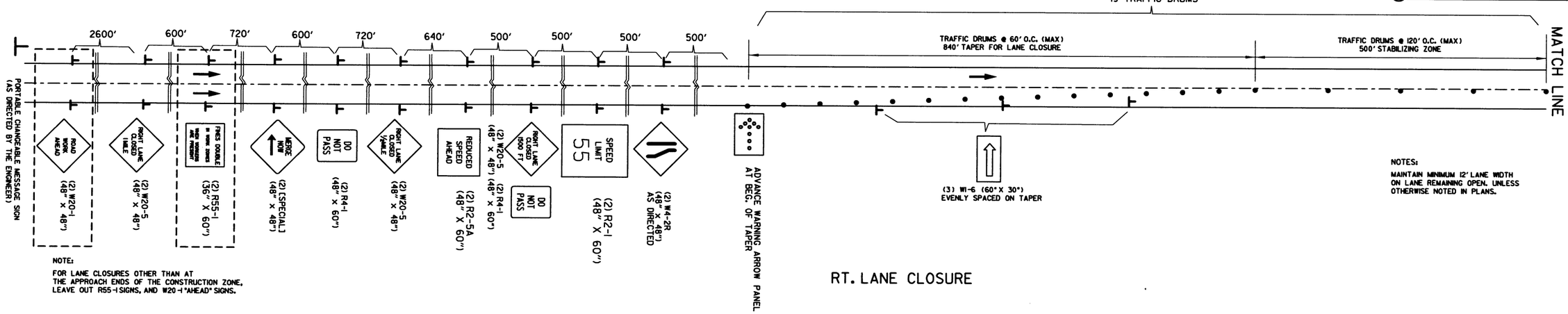
TEMPORARY WIDENING PAVEMENT SECTION TO BE USED FOR STAGE IB PAVEMENT SECTIONS.

NOTE: MOUNT ALL W1-8 SIGNS TO BARRIER WALL

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	81	434

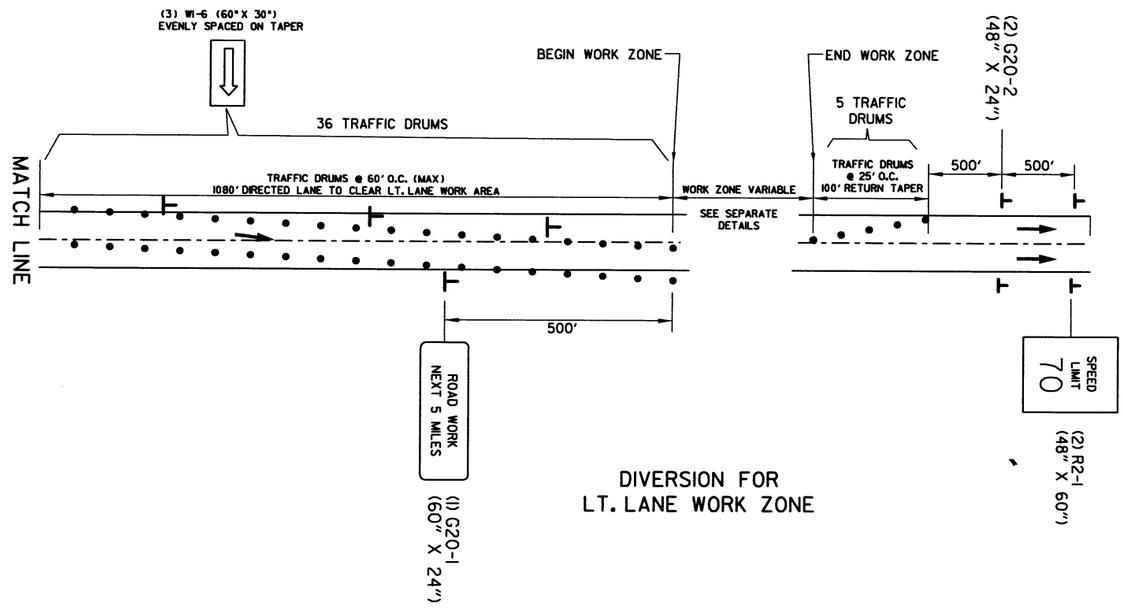
(2) MAINTENANCE OF TRAFFIC DETAILS



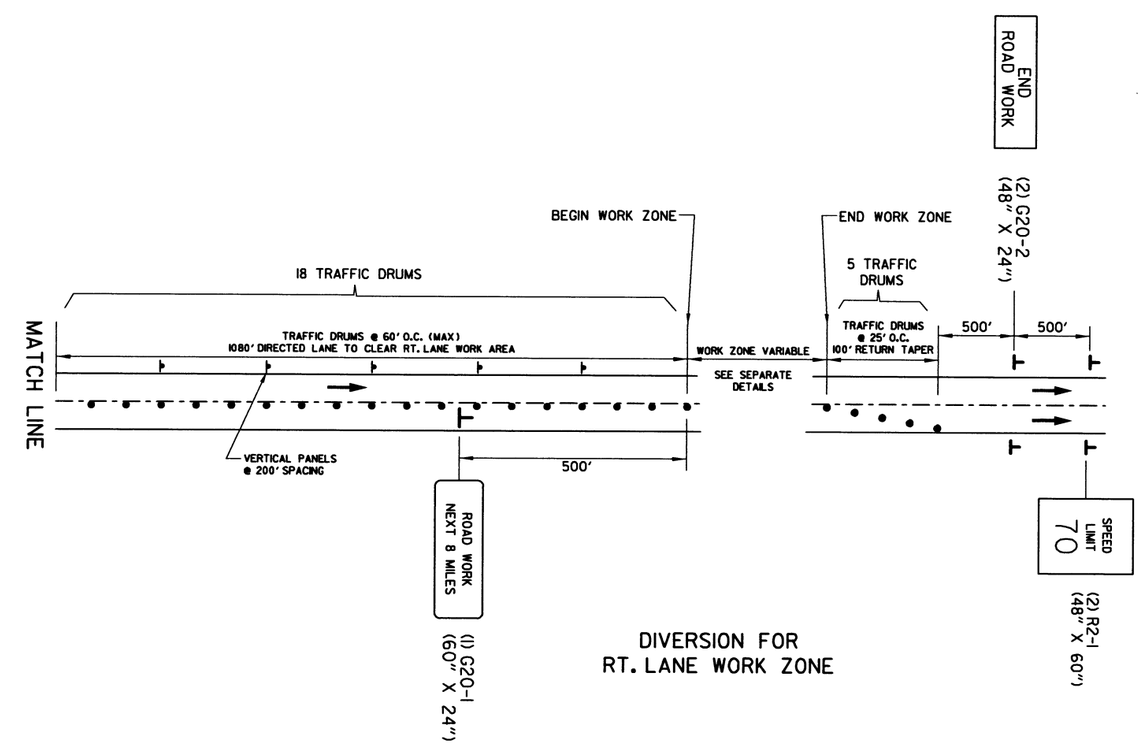
NOTE:
FOR LANE CLOSURES OTHER THAN AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE, LEAVE OUT R55-1 SIGNS, AND W20-1 "AHEAD" SIGNS.

NOTES:
MAINTAIN MINIMUM 12' LANE WIDTH ON LANE REMAINING OPEN. UNLESS OTHERWISE NOTED IN PLANS.

RT. LANE CLOSURE



DIVERSION FOR
LT. LANE WORK ZONE



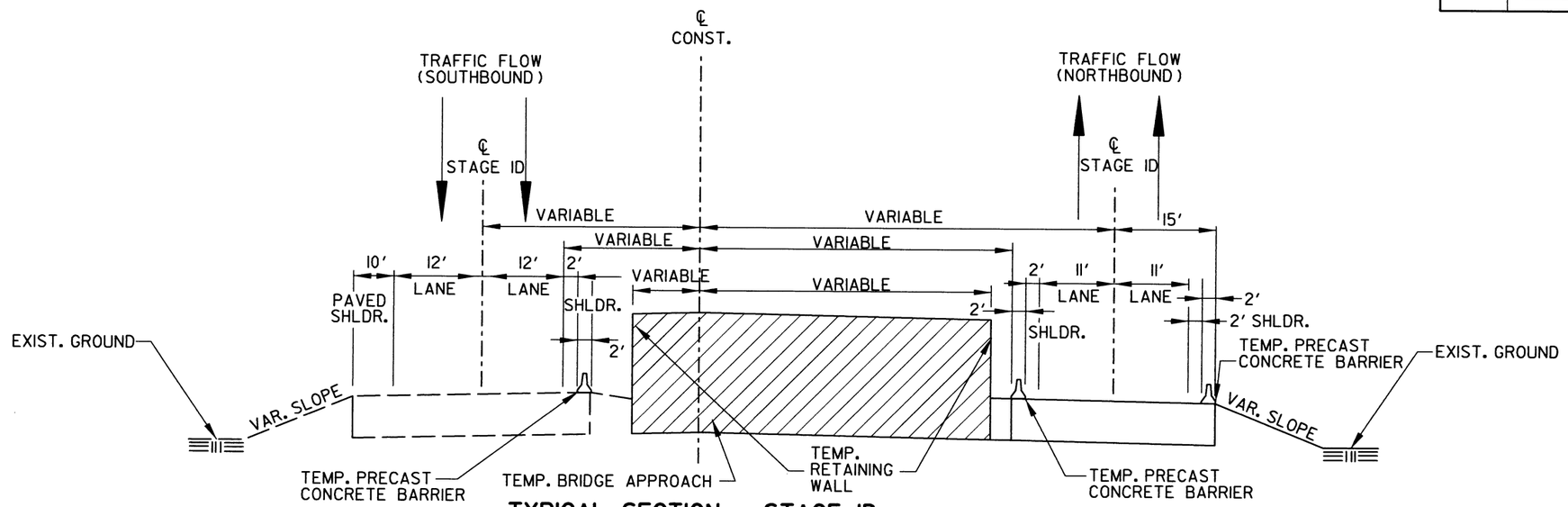
DIVERSION FOR
RT. LANE WORK ZONE

STATE OF ARKANSAS
JAMES L. BARR
REGISTERED PROFESSIONAL ENGINEER
No. 9808
4/26/06

ADVANCE SIGNS AND LANE CLOSURES ALL STAGES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	82	434

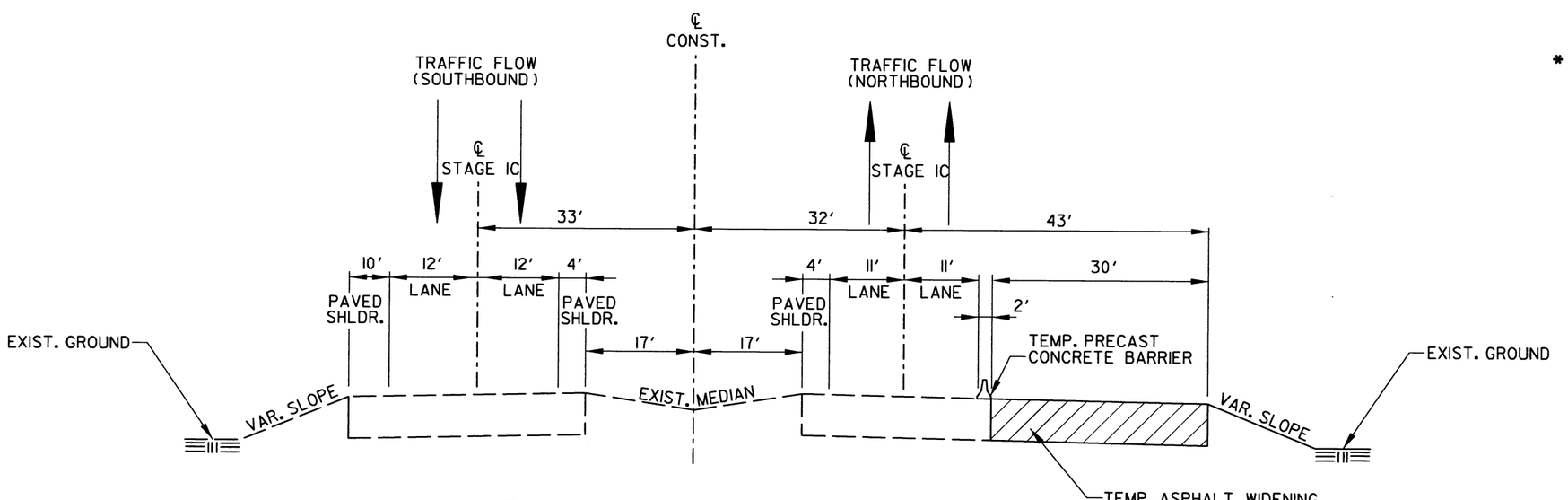
(2) MAINTENANCE OF TRAFFIC DETAILS



TYPICAL SECTION - STAGE ID
MAIN LANES

STAGE CONSTRUCTION

* SEE MAINTENANCE OF TRAFFIC DETAILS FOR ADDITIONAL INFORMATION

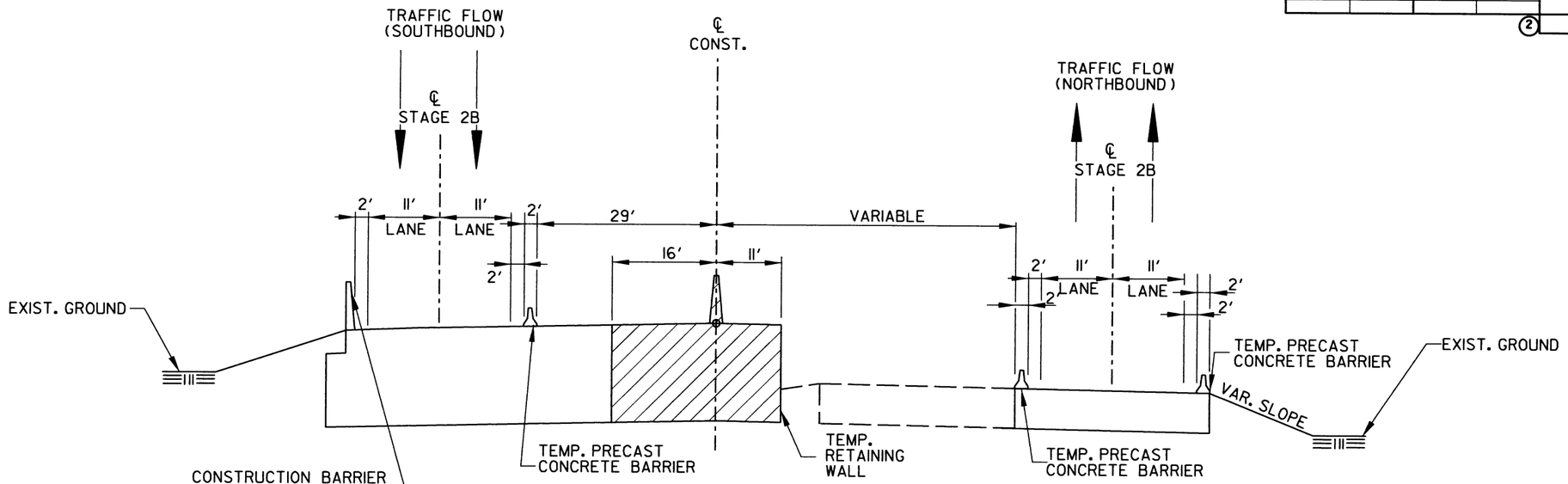


TYPICAL SECTION - STAGE IC
MAIN LANES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/17

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	83	434

(2) MAINTENANCE OF TRAFFIC DETAILS

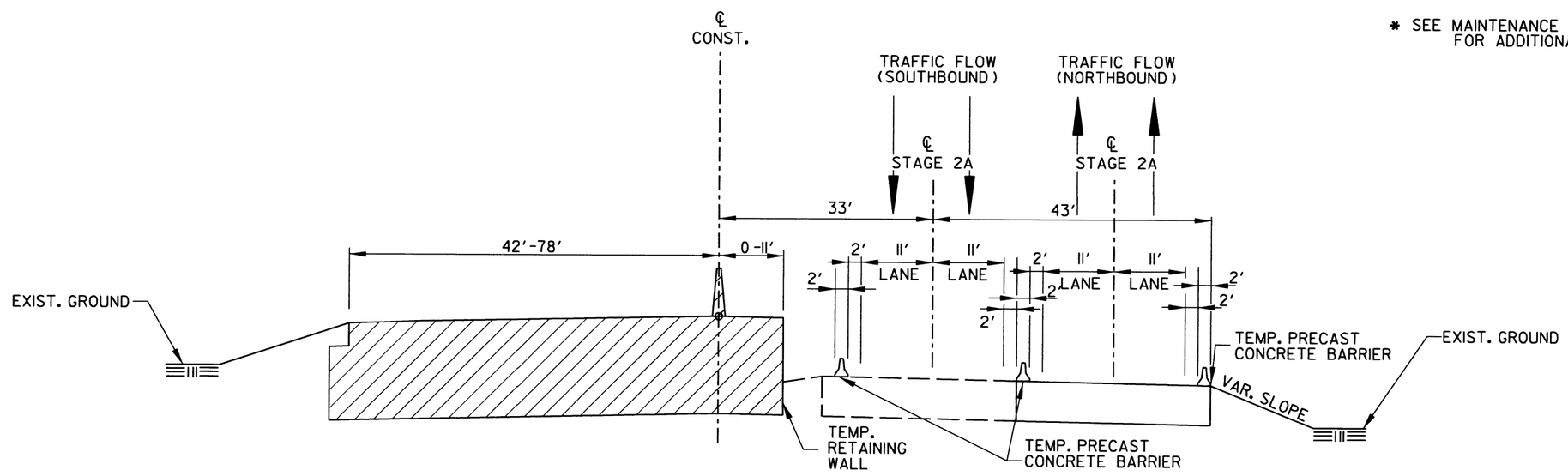


TYPICAL SECTION - STAGE 2B MAIN LANES

STA. 784+00 TO 793+00

STAGE CONSTRUCTION

* SEE MAINTENANCE OF TRAFFIC DETAILS FOR ADDITIONAL INFORMATION

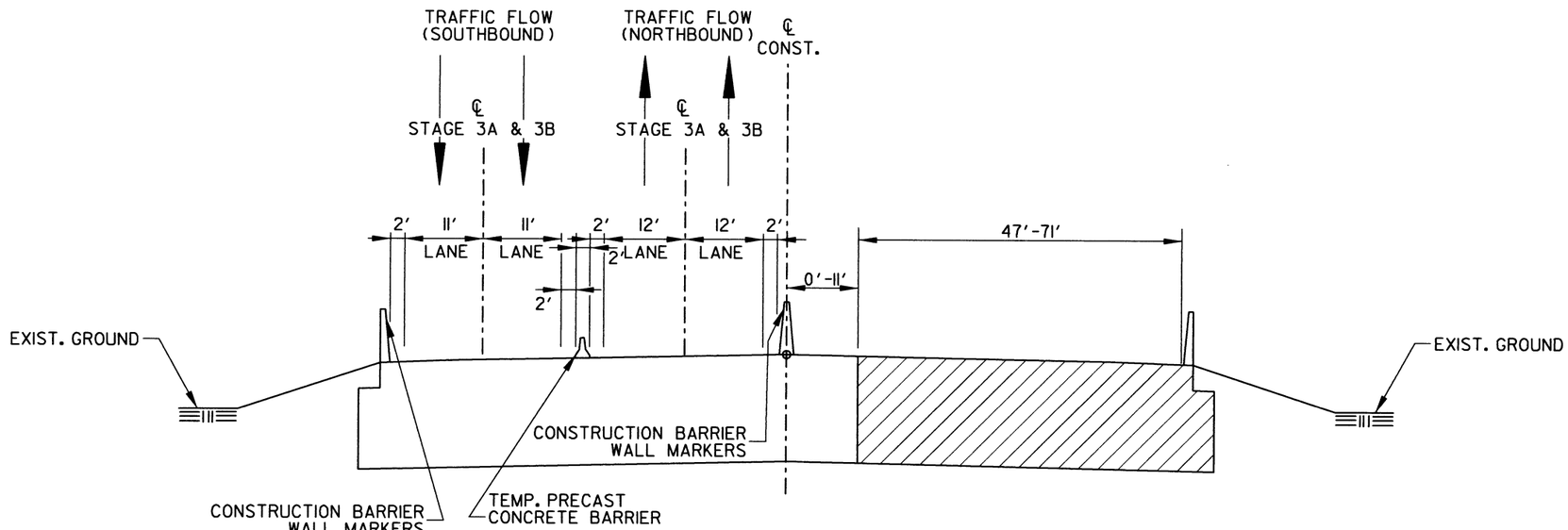


TYPICAL SECTION - STAGE 2A MAIN LANES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	84	434

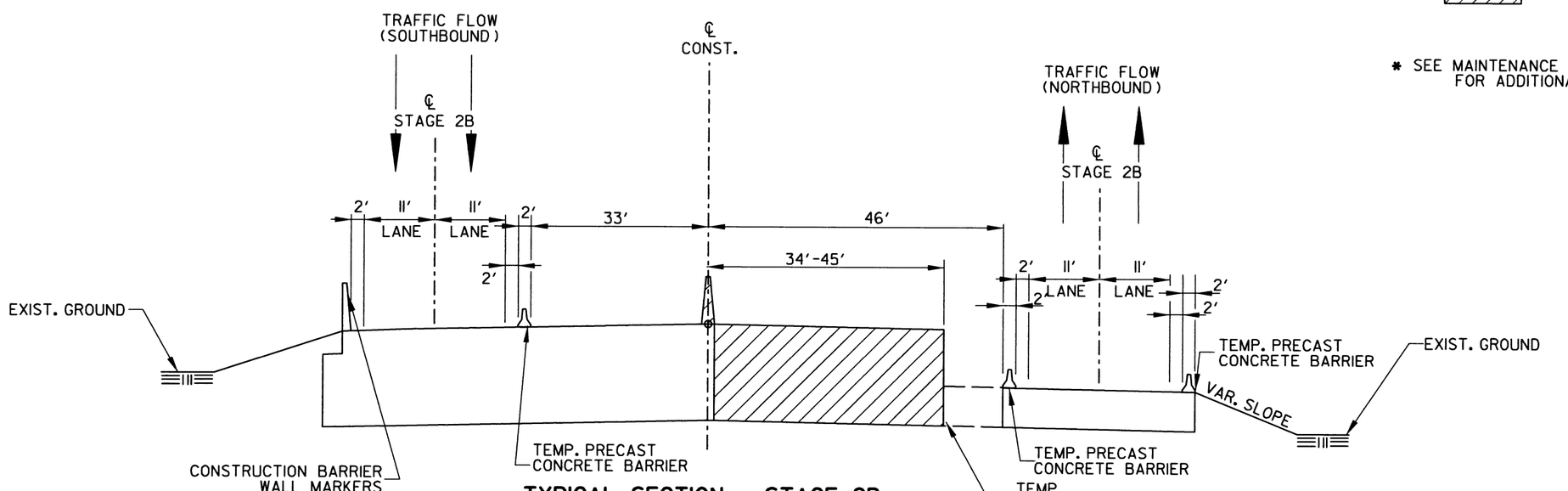
(2) MAINTENANCE OF TRAFFIC DETAILS



TYPICAL SECTION - STAGE 3A & 3B MAIN LANES

STAGE CONSTRUCTION

* SEE MAINTENANCE OF TRAFFIC DETAILS FOR ADDITIONAL INFORMATION



TYPICAL SECTION - STAGE 2B MAIN LANES

STA. 927+00 TO 948+00

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/04

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

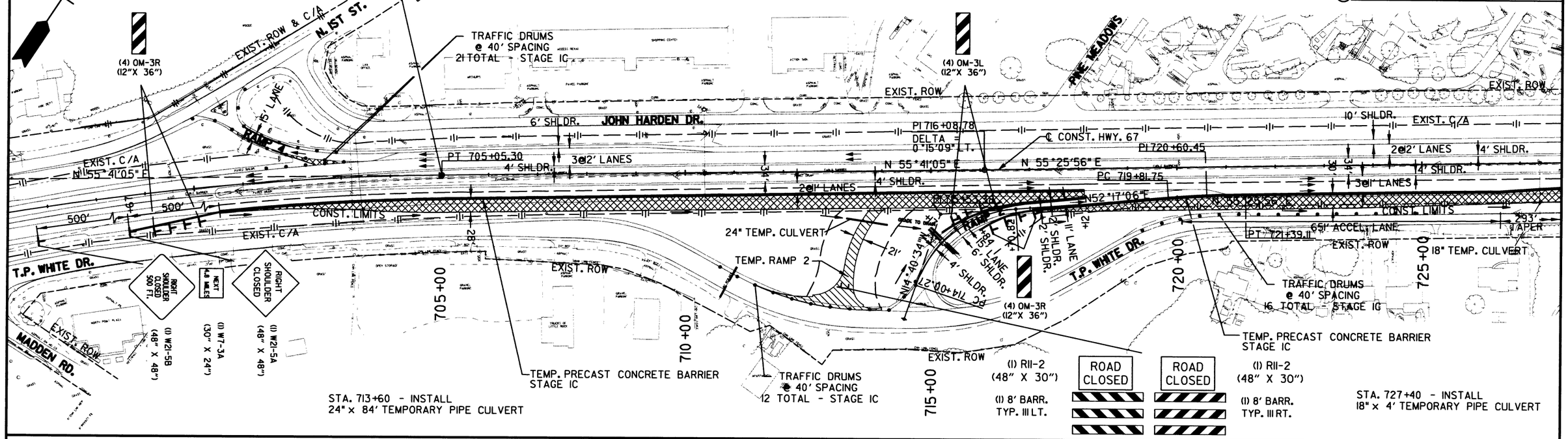
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	85	434

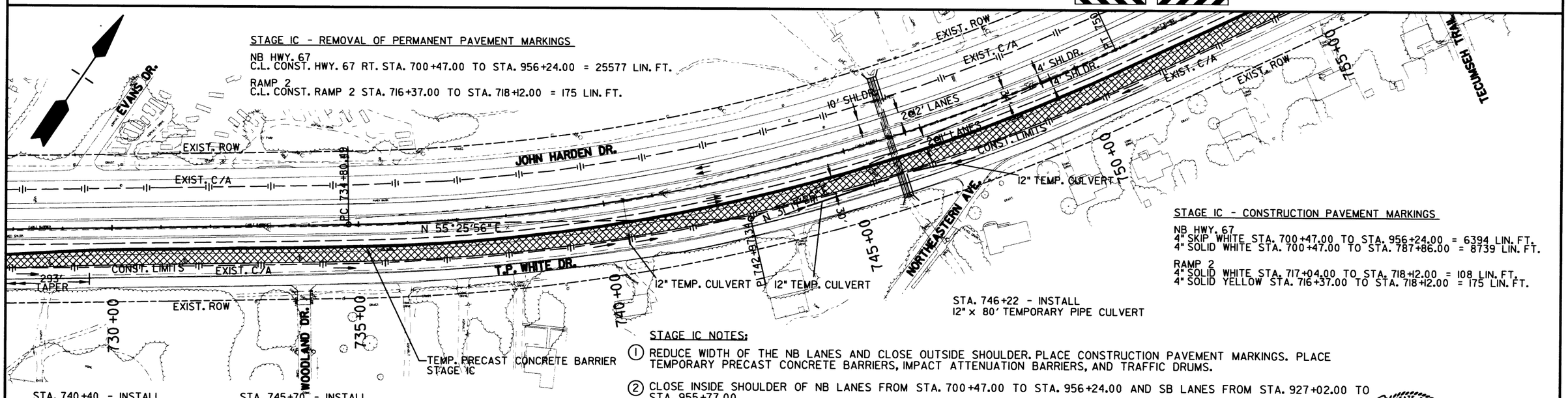
(2) MAINTENANCE OF TRAFFIC DETAILS

STA. 705+05.30 ℄ CONST. HWY. 67
BEGIN JOB CA0605
END JOB CA0604

STAGE IC - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 698+67.00 TO ℄ HWY. 67 RT. OF R.M.L. STA. 787+86.00 = 8919 LIN. FT.
℄ CONST. RAMP 2 RT. STA. 715+84.00 TO ℄ CONST. RAMP 2 RT. STA. 718+12.00 = 228 LIN. FT.
℄ CONST. RAMP 2 LT. STA. 715+17.00 TO ℄ CONST. RAMP 2 LT. STA. 718+12.00 = 295 LIN. FT.





STAGE IC - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 700+47.00 TO STA. 956+24.00 = 25577 LIN. FT.

RAMP 2
C.L. CONST. RAMP 2 STA. 716+37.00 TO STA. 718+12.00 = 175 LIN. FT.

STAGE IC - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 700+47.00 TO STA. 956+24.00 = 6394 LIN. FT.
4" SOLID WHITE STA. 700+47.00 TO STA. 787+86.00 = 8739 LIN. FT.

RAMP 2
4" SOLID WHITE STA. 717+04.00 TO STA. 718+12.00 = 108 LIN. FT.
4" SOLID YELLOW STA. 716+37.00 TO STA. 718+12.00 = 175 LIN. FT.

STAGE IC NOTES:

1. REDUCE WIDTH OF THE NB LANES AND CLOSE OUTSIDE SHOULDER. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, AND TRAFFIC DRUMS.
2. CLOSE INSIDE SHOULDER OF NB LANES FROM STA. 700+47.00 TO STA. 956+24.00 AND SB LANES FROM STA. 927+02.00 TO STA. 955+77.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF NB LANES AS SHOWN FROM STA. 700+47.00 TO STA. 956+24.00.
4. CONSTRUCT TEMPORARY WIDENING ON LT. OF NB LANES AS SHOWN FROM STA. 927+02.00 TO STA. 955+77.00.
5. CONSTRUCT TEMPORARY RAMP 2.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. RAMP PAVEMENT - STAGE IC
TEMP. ASPHALT WIDENING - STAGE IC

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	86	434

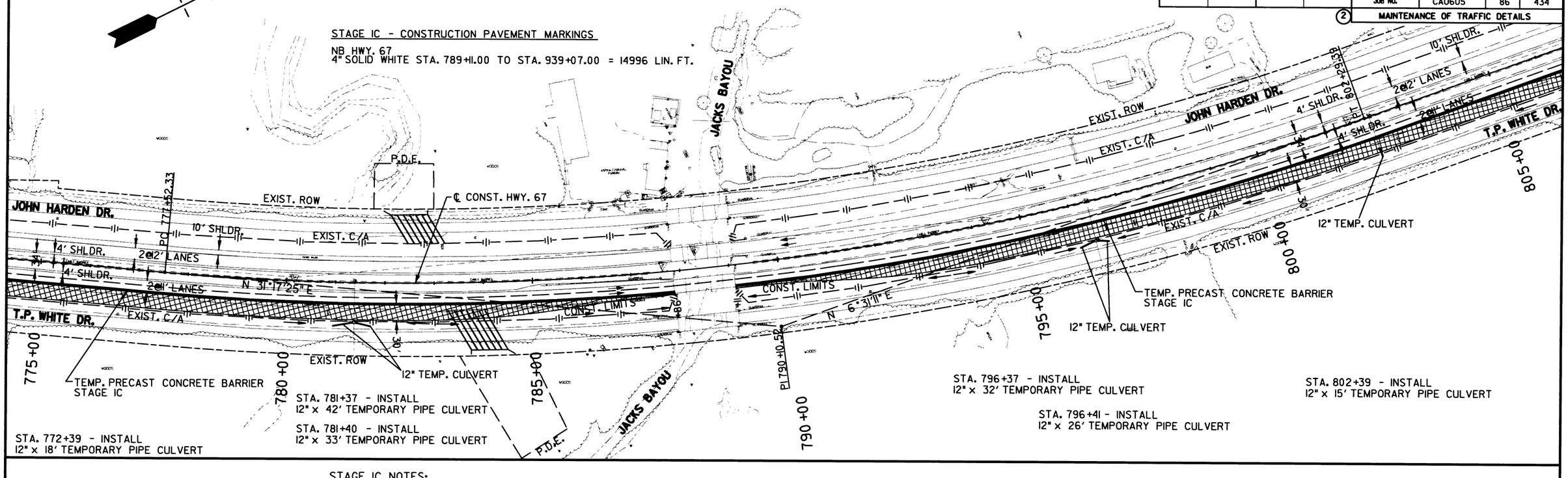
(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE IC - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 789+11.00 TO ℄ HWY. 67 RT. OF R.M.L. STA. 939+07.00 = 14996 LIN. FT.

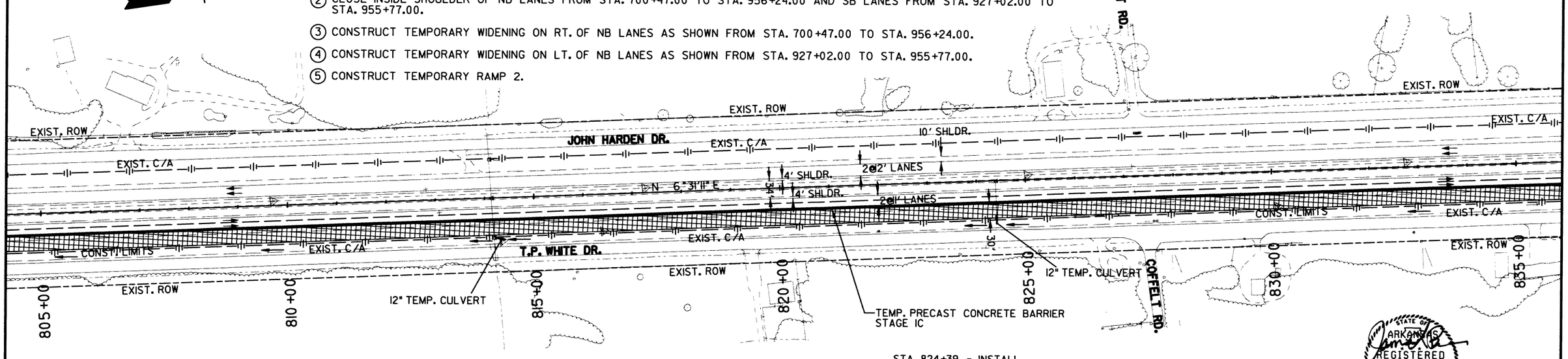
STAGE IC - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SOLID WHITE STA. 789+11.00 TO STA. 939+07.00 = 14996 LIN. FT.



STAGE IC NOTES:

1. REDUCE WIDTH OF THE NB LANES AND CLOSE OUTSIDE SHOULDER. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, AND TRAFFIC DRUMS.
2. CLOSE INSIDE SHOULDER OF NB LANES FROM STA. 700+47.00 TO STA. 956+24.00 AND SB LANES FROM STA. 927+02.00 TO STA. 955+77.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF NB LANES AS SHOWN FROM STA. 700+47.00 TO STA. 956+24.00.
4. CONSTRUCT TEMPORARY WIDENING ON LT. OF NB LANES AS SHOWN FROM STA. 927+02.00 TO STA. 955+77.00.
5. CONSTRUCT TEMPORARY RAMP 2.



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASPHALT WIDENING - STAGE IC

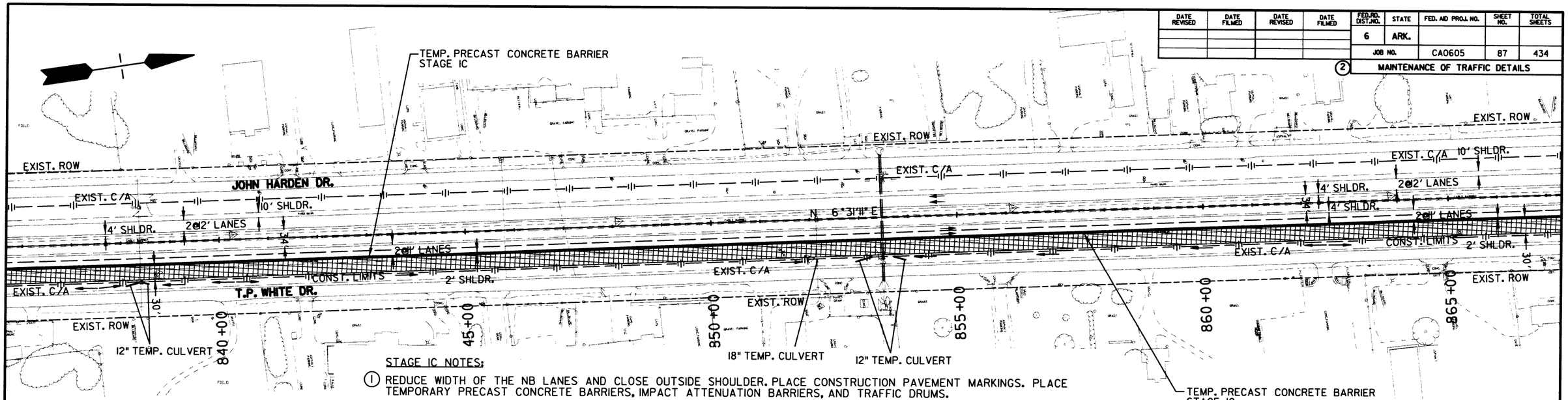
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	87	434

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE IC NOTES:

(1) REDUCE WIDTH OF THE NB LANES AND CLOSE OUTSIDE SHOULDER. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, AND TRAFFIC DRUMS.

(2) CLOSE INSIDE SHOULDER OF NB LANES FROM STA. 700+47.00 TO STA. 956+24.00 AND SB LANES FROM STA. 927+02.00 TO STA. 955+77.00.

(3) CONSTRUCT TEMPORARY WIDENING ON RT. OF NB LANES AS SHOWN FROM STA. 700+47.00 TO STA. 956+24.00.

(4) CONSTRUCT TEMPORARY WIDENING ON LT. OF NB LANES AS SHOWN FROM STA. 927+02.00 TO STA. 955+77.00.

(5) CONSTRUCT TEMPORARY RAMP 2.

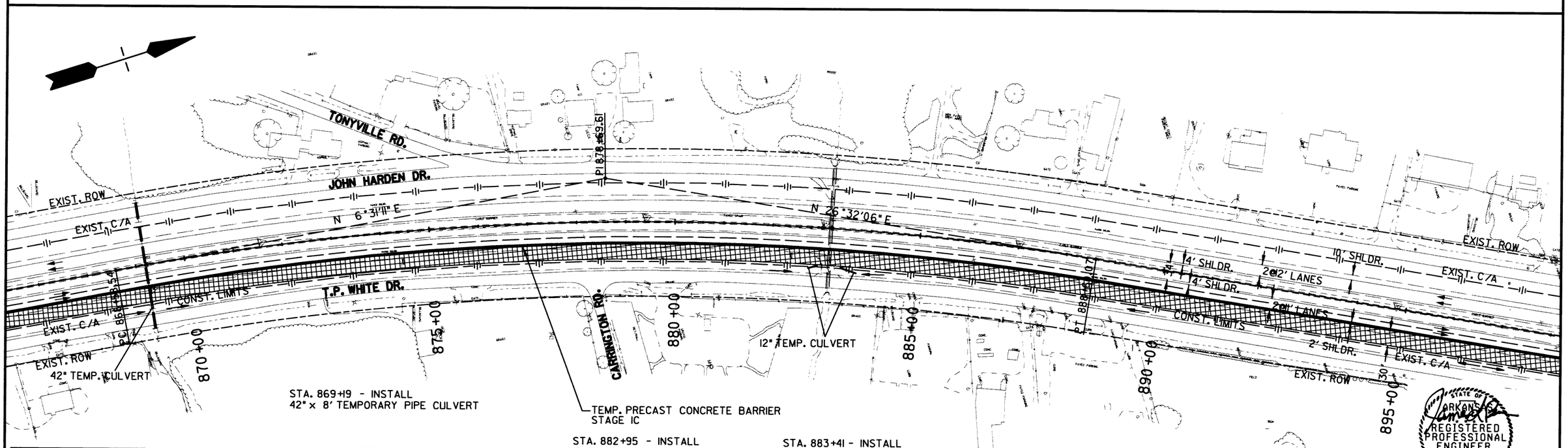
STA. 838+37 - INSTALL
12" x 30' TEMPORARY PIPE CULVERT

STA. 838+41 - INSTALL
12" x 15' TEMPORARY PIPE CULVERT

STA. 852+13 - INSTALL
18" x 5' TEMPORARY PIPE CULVERT

STA. 853+25 - INSTALL
12" x 34' TEMPORARY PIPE CULVERT

STA. 853+69 - INSTALL
12" x 25' TEMPORARY PIPE CULVERT



STA. 869+19 - INSTALL
42" x 8' TEMPORARY PIPE CULVERT

STA. 882+95 - INSTALL
12" x 20' TEMPORARY PIPE CULVERT

STA. 883+41 - INSTALL
12" x 34' TEMPORARY PIPE CULVERT

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASPHALT WIDENING - STAGE IC

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE IC

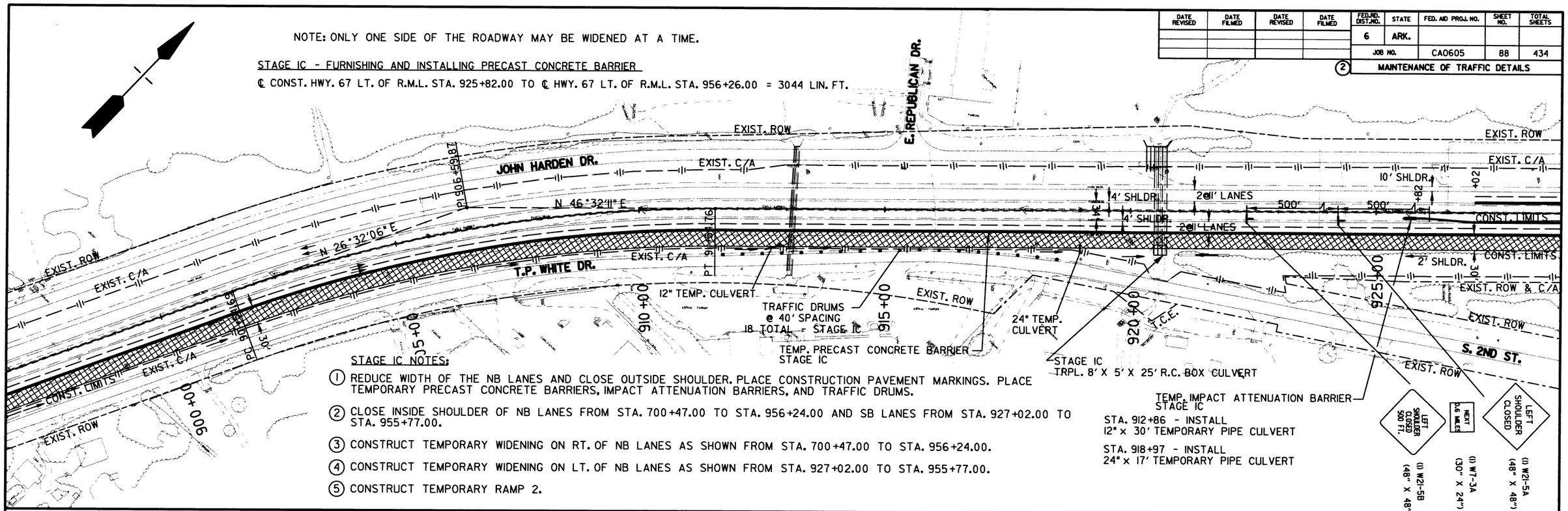
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	88	434

(2) MAINTENANCE OF TRAFFIC DETAILS

NOTE: ONLY ONE SIDE OF THE ROADWAY MAY BE WIDENED AT A TIME.

STAGE IC - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 925+82.00 TO ℄ HWY. 67 LT. OF R.M.L. STA. 956+26.00 = 3044 LIN. FT.



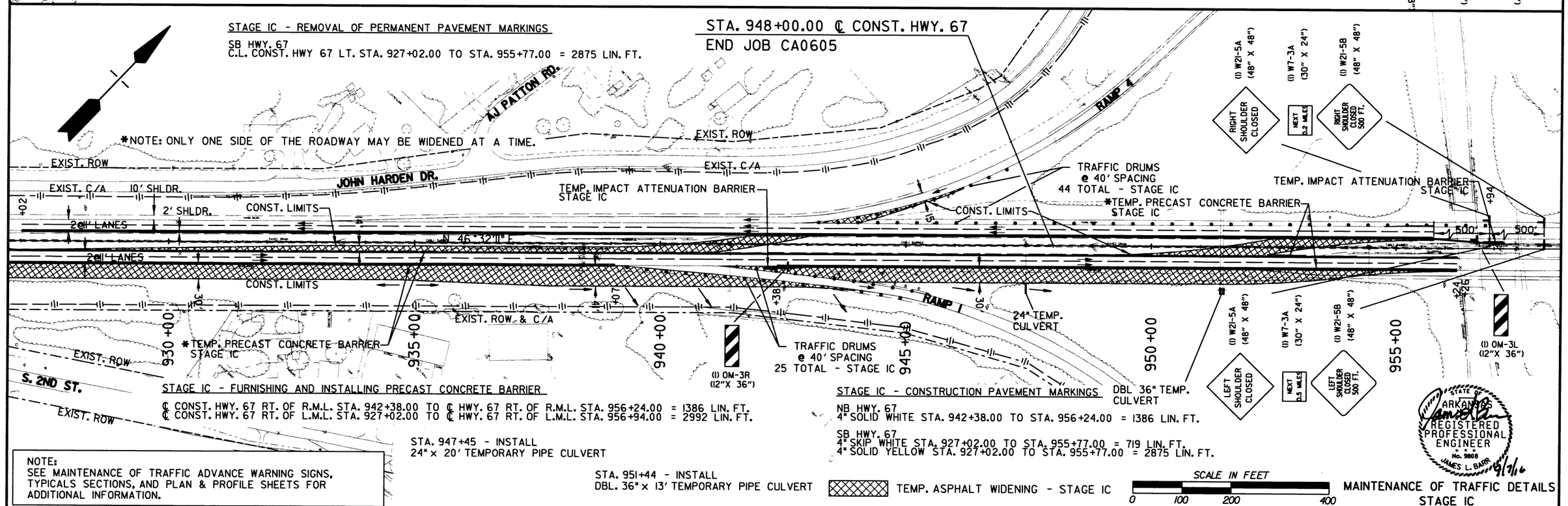
STAGE IC NOTES:

1. REDUCE WIDTH OF THE NB LANES AND CLOSE OUTSIDE SHOULDER. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, AND TRAFFIC DRUMS.
2. CLOSE INSIDE SHOULDER OF NB LANES FROM STA. 700+47.00 TO STA. 956+24.00 AND SB LANES FROM STA. 927+02.00 TO STA. 955+77.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF NB LANES AS SHOWN FROM STA. 700+47.00 TO STA. 956+24.00.
4. CONSTRUCT TEMPORARY WIDENING ON LT. OF NB LANES AS SHOWN FROM STA. 927+02.00 TO STA. 955+77.00.
5. CONSTRUCT TEMPORARY RAMP 2.

STAGE IC - REMOVAL OF PERMANENT PAVEMENT MARKINGS

SB HWY. 67
C.L. CONST. HWY 67 LT. STA. 927+02.00 TO STA. 955+77.00 = 2875 LIN. FT.

STA. 948+00.00 ℄ CONST. HWY. 67
END JOB CA0605



STAGE IC - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 942+38.00 TO ℄ HWY. 67 RT. OF R.M.L. STA. 956+24.00 = 1386 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 927+02.00 TO ℄ HWY. 67 RT. OF L.M.L. STA. 956+94.00 = 2992 LIN. FT.

STAGE IC - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SOLID WHITE STA. 942+38.00 TO STA. 956+24.00 = 1386 LIN. FT.

SB HWY. 67
4" SKIP WHITE STA. 927+02.00 TO STA. 955+77.00 = 719 LIN. FT.
4" SOLID YELLOW STA. 927+02.00 TO STA. 955+77.00 = 2875 LIN. FT.

STA. 947+45 - INSTALL 24" x 20' TEMPORARY PIPE CULVERT

STA. 951+44 - INSTALL DBL. 36" x 13' TEMPORARY PIPE CULVERT

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASPHALT WIDENING - STAGE IC

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 5/7/16

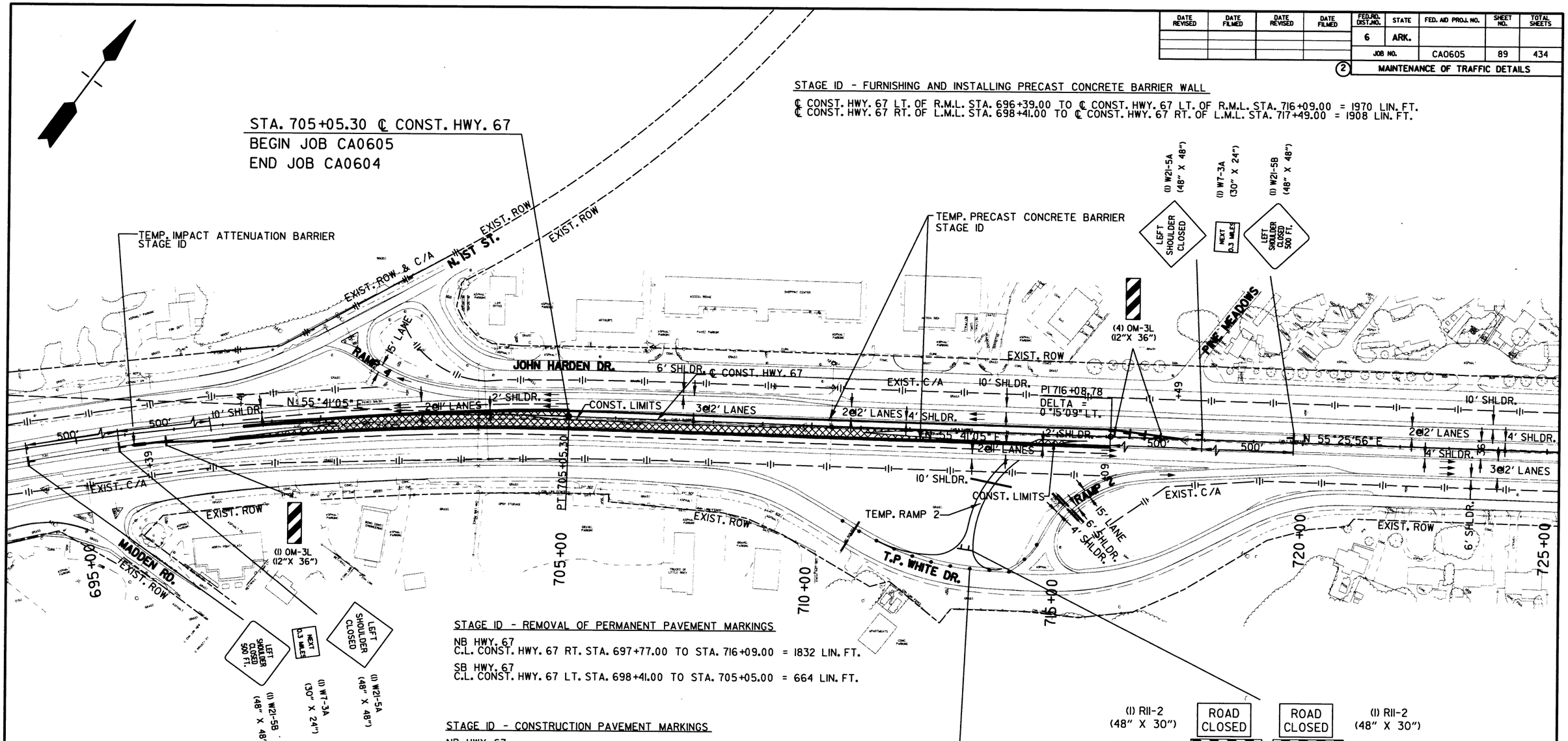
MAINTENANCE OF TRAFFIC DETAILS
STAGE IC

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	89	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE ID - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WALL

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 696+39.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 716+09.00 = 1970 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 698+41.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 717+49.00 = 1908 LIN. FT.



STAGE ID - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 697+77.00 TO STA. 716+09.00 = 1832 LIN. FT.

SB HWY. 67
C.L. CONST. HWY. 67 LT. STA. 698+41.00 TO STA. 705+05.00 = 664 LIN. FT.

STAGE ID - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 697+77.00 TO STA. 716+09.00 = 458 LIN. FT.
4" SOLID YELLOW STA. 697+77.00 TO STA. 716+09.00 = 1832 LIN. FT.

SB HWY. 67
4" SKIP WHITE 698+41.00 TO STA. 705+05.00 = 166 LIN. FT.
4" SOLID YELLOW STA. 698+41.00 TO STA. 705+05.00 = 664 LIN. FT.

STAGE ID NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS AND IMPACT ATTENUATION BARRIERS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE ID MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING IN THE MEDIAN AS SHOWN FROM STA. 697+77.00 TO STA. 716+09.00 AND STA. 782+27.00 TO STA. 794+38.00.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASHPHALT WIDENING - STAGE ID

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE ID

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	90	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE ID - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 775+44.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 799+52.00 = 2408 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 782+27.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 795+98.00 = 1371 LIN. FT.

STAGE ID - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 775+48.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 799+52.00 = 2404 LIN. FT.

STAGE ID - REMOVAL OF PERMANENT PAVEMENT MARKINGS

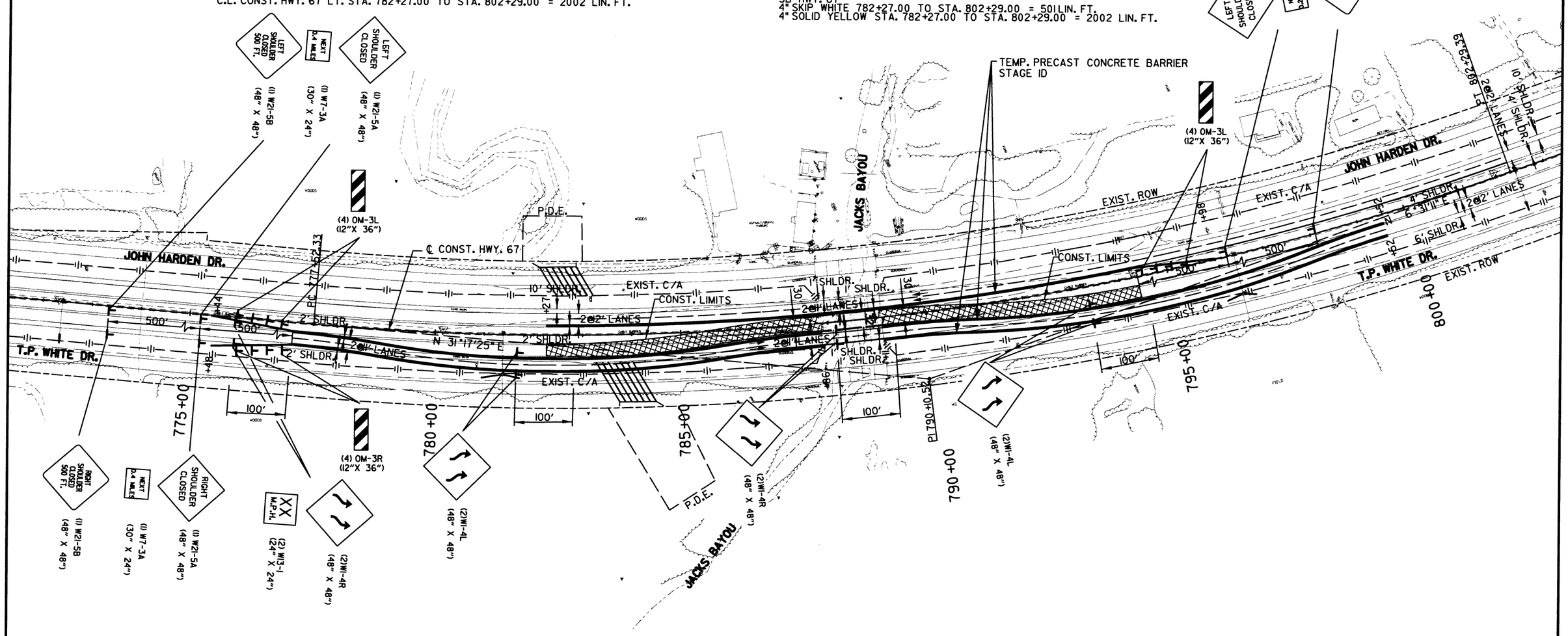
NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 777+11.00 TO STA. 799+52.00 = 2241 LIN. FT.

SB HWY. 67
C.L. CONST. HWY. 67 LT. STA. 782+27.00 TO STA. 802+29.00 = 2002 LIN. FT.

STAGE ID - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 777+11.00 TO STA. 799+52.00 = 560 LIN. FT.
4" SOLID WHITE STA. 777+11.00 TO STA. 799+52.00 = 2241 LIN. FT.
4" SOLID YELLOW STA. 777+11.00 TO STA. 799+52.00 = 2241 LIN. FT.

SB HWY. 67
4" SKIP WHITE 782+27.00 TO STA. 802+29.00 = 501 LIN. FT.
4" SOLID YELLOW STA. 782+27.00 TO STA. 802+29.00 = 2002 LIN. FT.



STAGE ID NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS AND IMPACT ATTENUATION BARRIERS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE ID MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING IN THE MEDIAN AS SHOWN FROM STA. 697+77.00 TO STA. 716+09.00 AND STA. 782+27.00 TO STA. 794+38.00.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

TEMP. BRIDGE APPROACH CONST. - STAGE ID

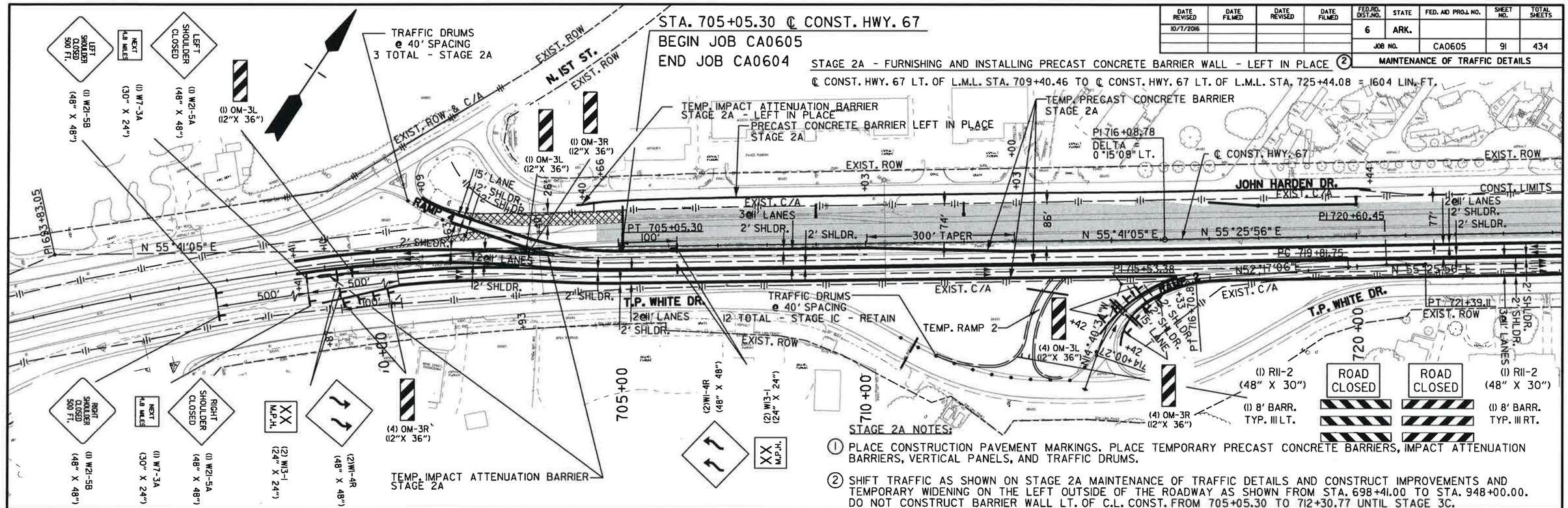
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/24/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE ID

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	91	434

MAINTENANCE OF TRAFFIC DETAILS



STAGE 2A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING ON THE LEFT OUTSIDE OF THE ROADWAY AS SHOWN FROM STA. 698+41.00 TO STA. 948+00.00. DO NOT CONSTRUCT BARRIER WALL LT. OF C.L. CONST. FROM 705+05.30 TO 712+30.77 UNTIL STAGE 3C.

STAGE 2A - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 698+87.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 782+74.00 = 8387 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 699+10.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 738+03.00 = 3893 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 698+41.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 702+93.00 = 452 LIN. FT.
℄ CONST. RAMP 2 RT. STA. 714+42.00 TO ℄ CONST. RAMP 2 RT. STA. 716+33.00 = 191 LIN. FT.
℄ CONST. RAMP 2 LT. STA. 714+42.00 TO ℄ CONST. RAMP 2 LT. STA. 716+33.00 = 191 LIN. FT.

STAGE 2A - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WALL

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 738+03.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 782+74.00 = 4471 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 698+41.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 703+40.00 = 499 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 701+63.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 703+40.00 = 177 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 701+09.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 703+40.00 = 231 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 703+40.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 947+61.00 = 2442 LIN. FT.

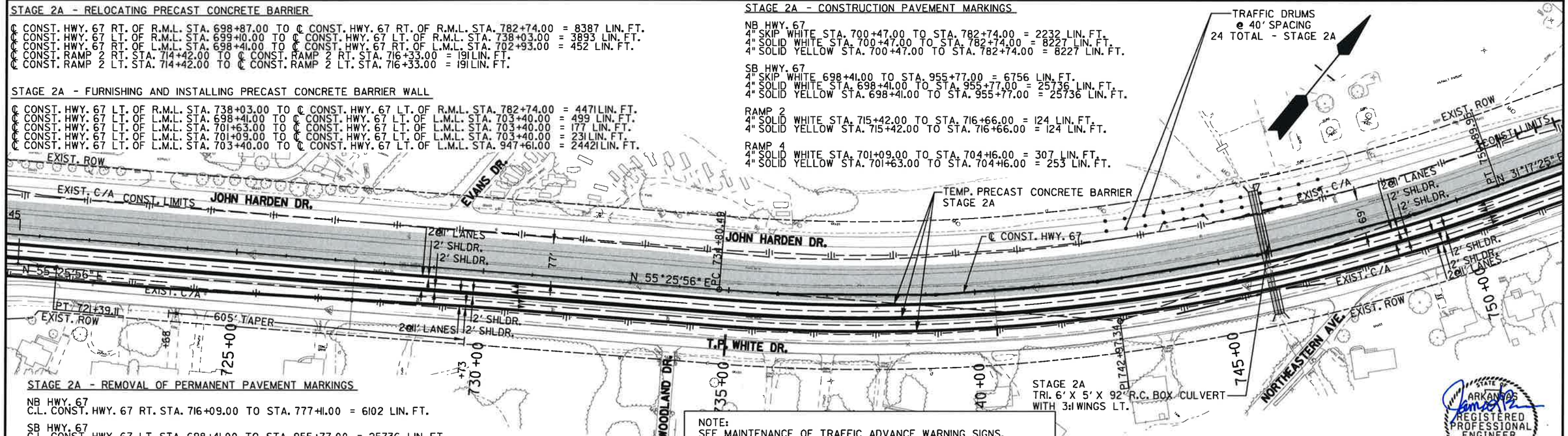
STAGE 2A - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 700+47.00 TO STA. 782+74.00 = 2232 LIN. FT.
4" SOLID WHITE STA. 700+47.00 TO STA. 782+74.00 = 8227 LIN. FT.
4" SOLID YELLOW STA. 700+47.00 TO STA. 782+74.00 = 8227 LIN. FT.

SB HWY. 67
4" SKIP WHITE 698+41.00 TO STA. 955+77.00 = 6756 LIN. FT.
4" SOLID WHITE STA. 698+41.00 TO STA. 955+77.00 = 25736 LIN. FT.
4" SOLID YELLOW STA. 698+41.00 TO STA. 955+77.00 = 25736 LIN. FT.

RAMP 2
4" SOLID WHITE STA. 715+42.00 TO STA. 716+66.00 = 124 LIN. FT.
4" SOLID YELLOW STA. 715+42.00 TO STA. 716+66.00 = 124 LIN. FT.

RAMP 4
4" SOLID WHITE STA. 701+09.00 TO STA. 704+16.00 = 307 LIN. FT.
4" SOLID YELLOW STA. 701+63.00 TO STA. 704+16.00 = 253 LIN. FT.



STAGE 2A - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 716+09.00 TO STA. 777+11.00 = 6102 LIN. FT.

SB HWY. 67
C.L. CONST. HWY. 67 LT. STA. 698+41.00 TO STA. 955+77.00 = 25736 LIN. FT.

RAMP 2
C.L. CONST. RAMP 2 STA. 715+42.00 TO STA. 717+04.00 = 162 LIN. FT.

RAMP 4
C.L. CONST. HWY. 67 LT STA. 701+09.00 TO STA. 704+16.00 = 307 LIN. FT.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASPHALT WIDENING - STAGE 2A

STAGE CONSTRUCTION

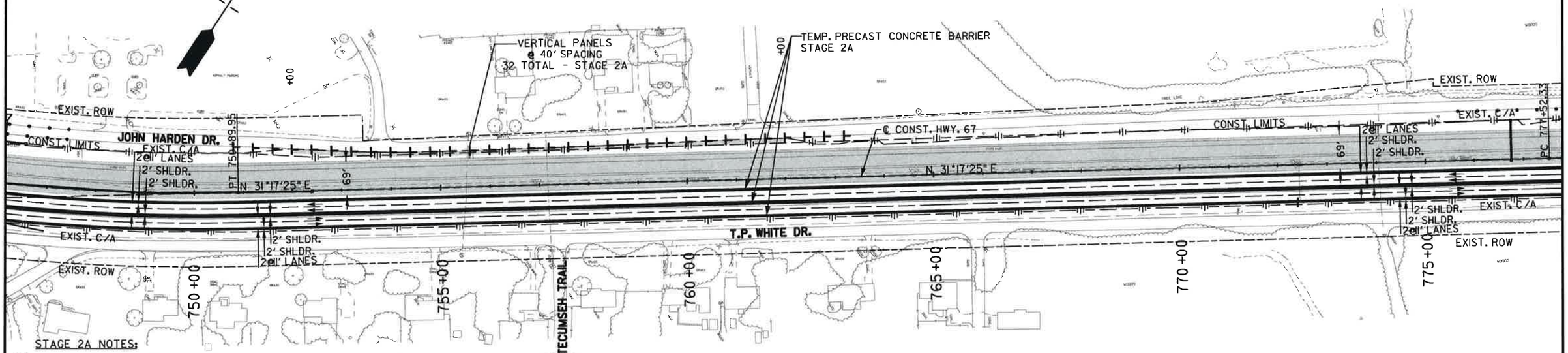
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	92	434

(2) MAINTENANCE OF TRAFFIC DETAILS



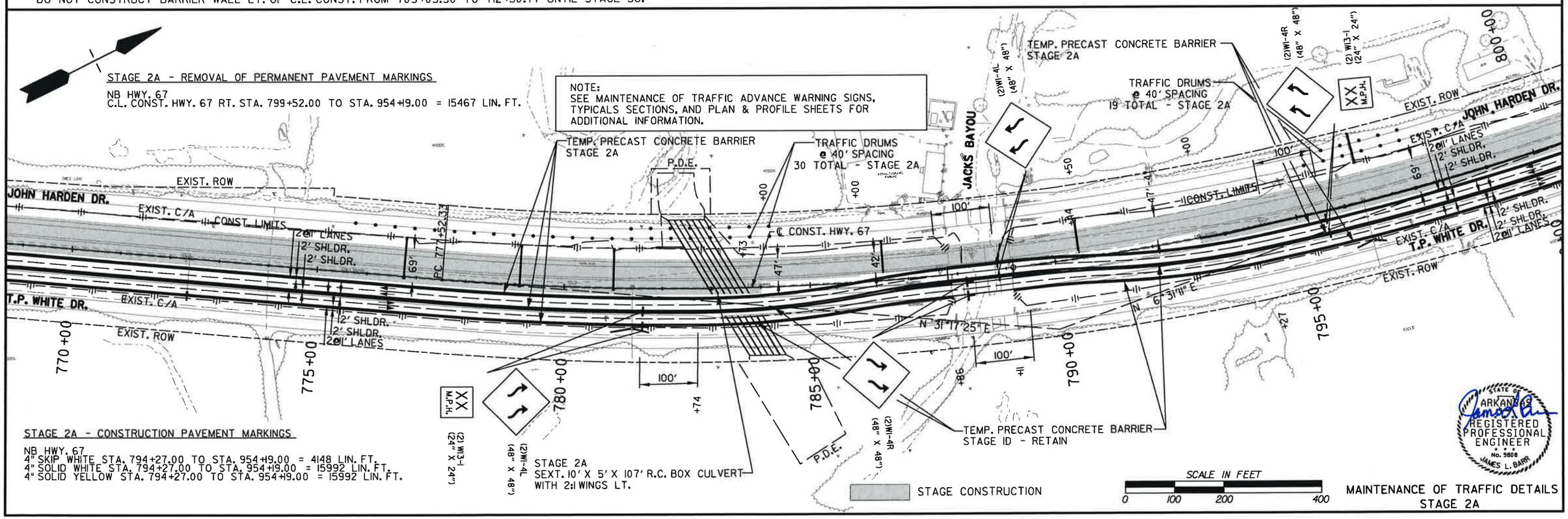
STAGE 2A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING ON THE LEFT OUTSIDE OF THE ROADWAY AS SHOWN FROM STA. 698+41.00 TO STA. 948+00.00 DO NOT CONSTRUCT BARRIER WALL LT. OF C.L. CONST. FROM 705+05.30 TO 712+30.77 UNTIL STAGE 3C.

STAGE 2A - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 794+27.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 943+96.00 = 14969 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 794+27.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 833+04.00 = 3877 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 783+73.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 790+44.00 = 671 LIN. FT.



STAGE 2A - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 799+52.00 TO STA. 954+19.00 = 15467 LIN. FT.

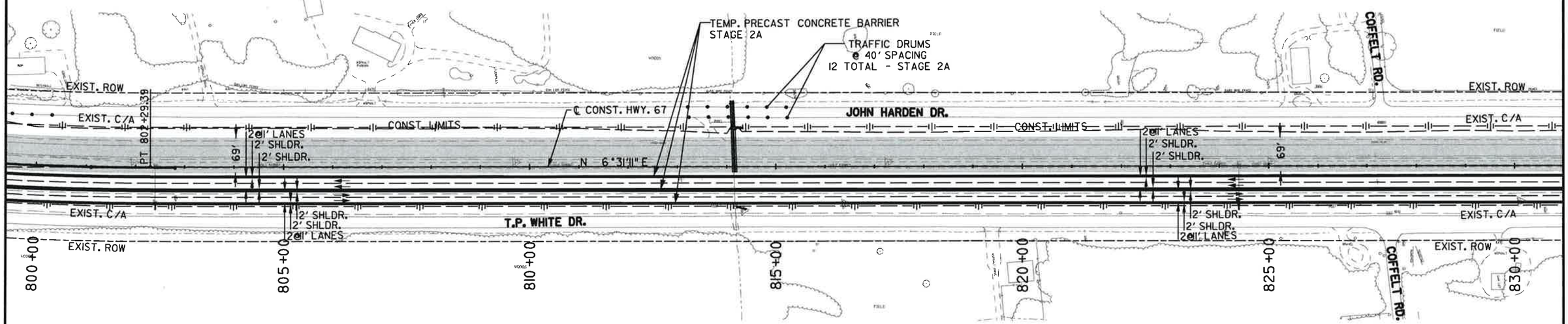
STAGE 2A - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 794+27.00 TO STA. 954+19.00 = 4148 LIN. FT.
4" SOLID WHITE STA. 794+27.00 TO STA. 954+19.00 = 15992 LIN. FT.
4" SOLID YELLOW STA. 794+27.00 TO STA. 954+19.00 = 15992 LIN. FT.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	93	434

(2) MAINTENANCE OF TRAFFIC DETAILS



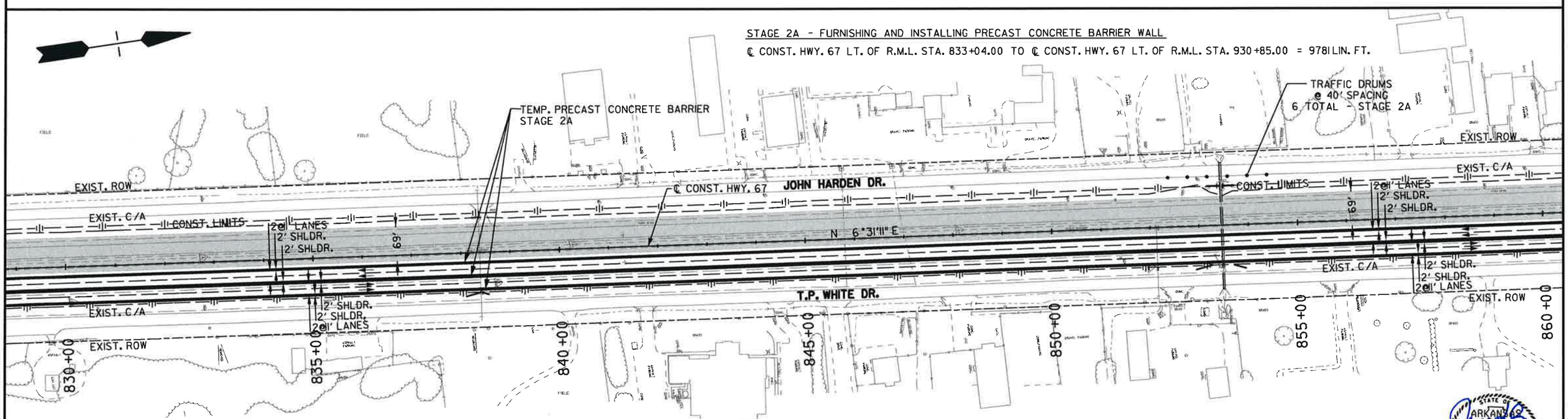
STAGE 2A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING ON THE LEFT OUTSIDE OF THE ROADWAY AS SHOWN FROM STA. 698+41.00 TO STA. 948+00.00 DO NOT CONSTRUCT BARRIER WALL LT. OF C.L. CONST. FROM 705+05.30 TO 712+30.77 UNTIL STAGE 3C.

STAGE 2A - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WALL

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 833+04.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 930+85.00 = 9781 LIN. FT.



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

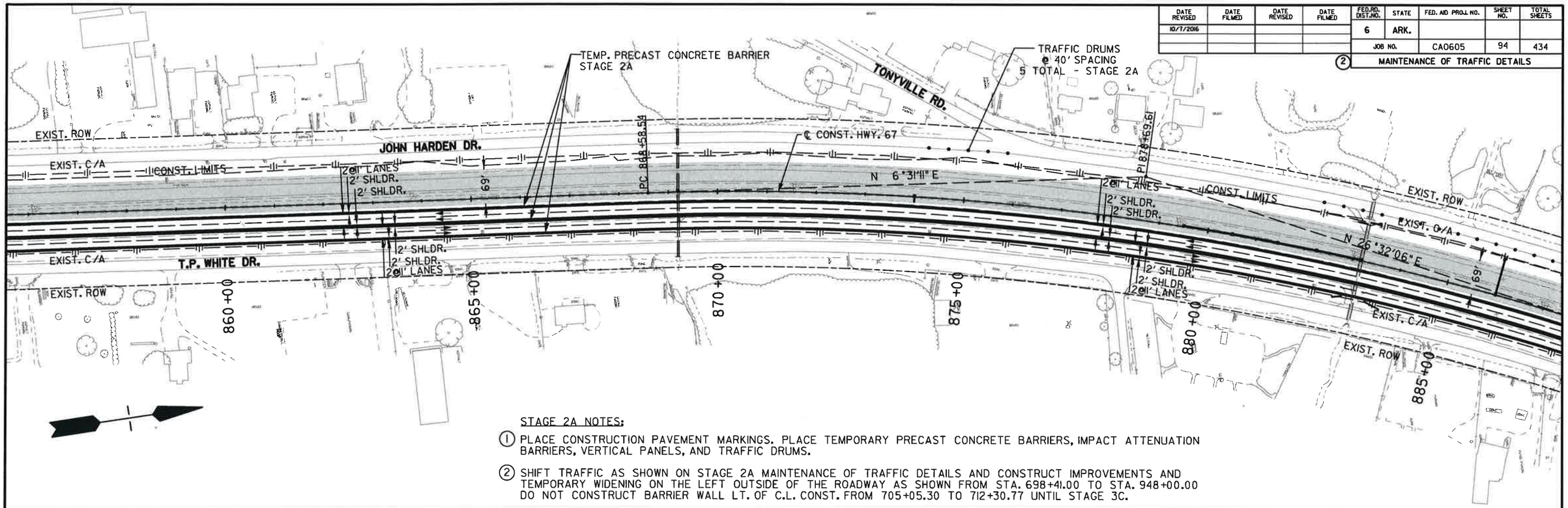
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10-7-16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	94	434

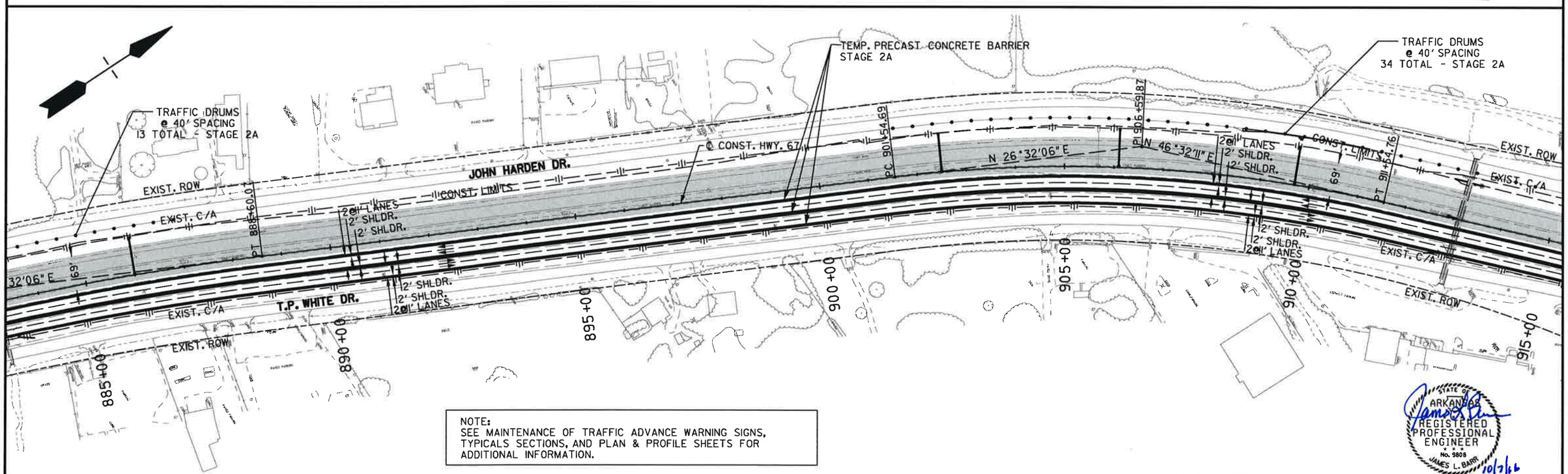
(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 2A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING ON THE LEFT OUTSIDE OF THE ROADWAY AS SHOWN FROM STA. 698+41.00 TO STA. 948+00.00 DO NOT CONSTRUCT BARRIER WALL LT. OF C.L. CONST. FROM 705+05.30 TO 712+30.77 UNTIL STAGE 3C.



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

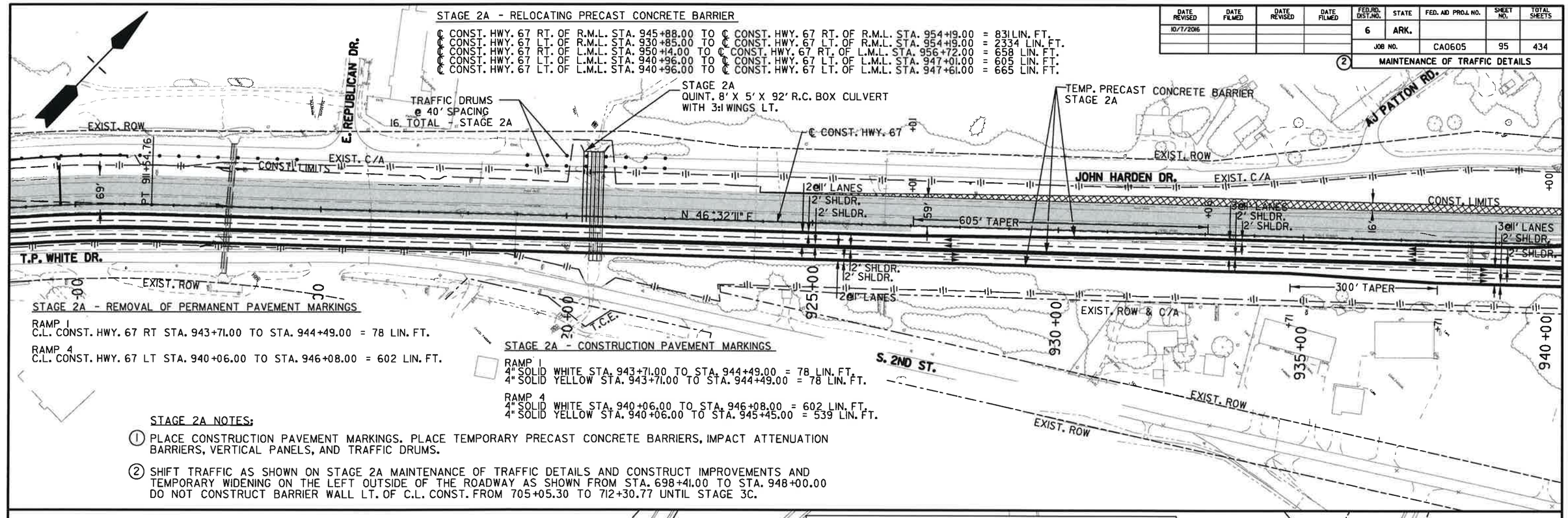
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	95	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2A - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 945+88.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 954+19.00 = 831 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 930+85.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 954+19.00 = 2334 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 950+14.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 956+72.00 = 658 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 940+96.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 947+01.00 = 605 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 940+96.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 947+61.00 = 665 LIN. FT.



STAGE 2A - REMOVAL OF PERMANENT PAVEMENT MARKINGS

RAMP 1
C.L. CONST. HWY. 67 RT STA. 943+71.00 TO STA. 944+49.00 = 78 LIN. FT.

RAMP 4
C.L. CONST. HWY. 67 LT STA. 940+06.00 TO STA. 946+08.00 = 602 LIN. FT.

STAGE 2A - CONSTRUCTION PAVEMENT MARKINGS

RAMP 1
4" SOLID WHITE STA. 943+71.00 TO STA. 944+49.00 = 78 LIN. FT.
4" SOLID YELLOW STA. 943+71.00 TO STA. 944+49.00 = 78 LIN. FT.

RAMP 4
4" SOLID WHITE STA. 940+06.00 TO STA. 946+08.00 = 602 LIN. FT.
4" SOLID YELLOW STA. 940+06.00 TO STA. 945+45.00 = 539 LIN. FT.

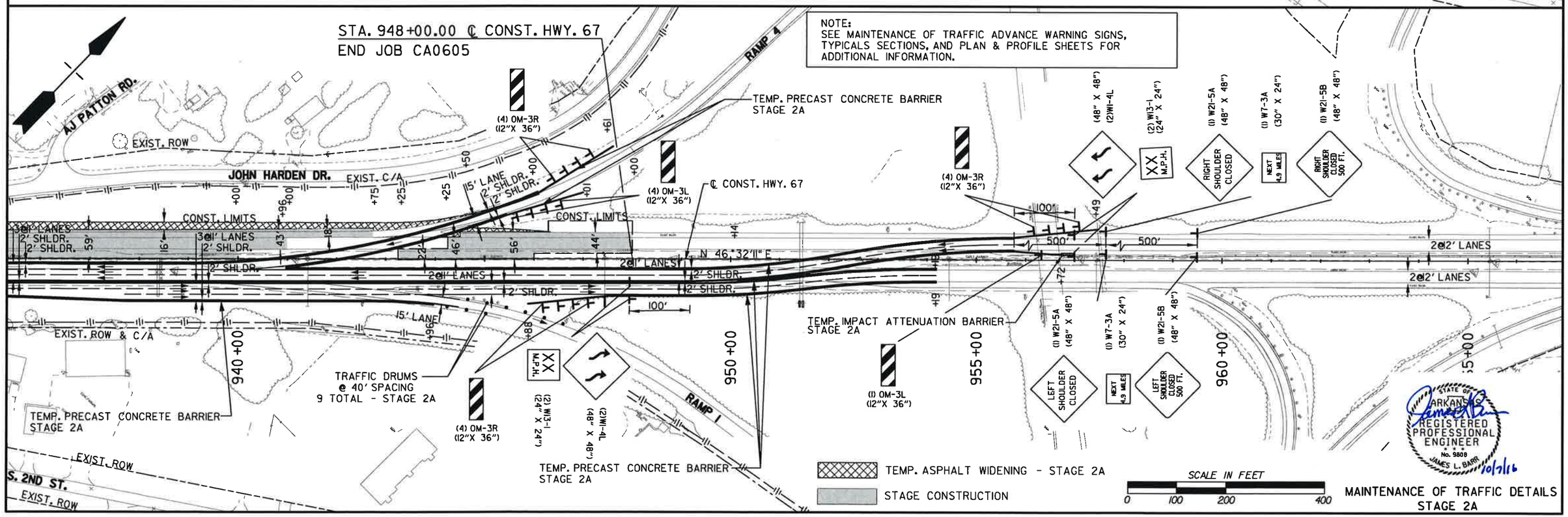
STAGE 2A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING ON THE LEFT OUTSIDE OF THE ROADWAY AS SHOWN FROM STA. 698+41.00 TO STA. 948+00.00 DO NOT CONSTRUCT BARRIER WALL LT. OF C.L. CONST. FROM 705+05.30 TO 712+30.77 UNTIL STAGE 3C.

STA. 948+00.00 ℄ CONST. HWY. 67
END JOB CA0605

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.



TEMP. ASPHALT WIDENING - STAGE 2A

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

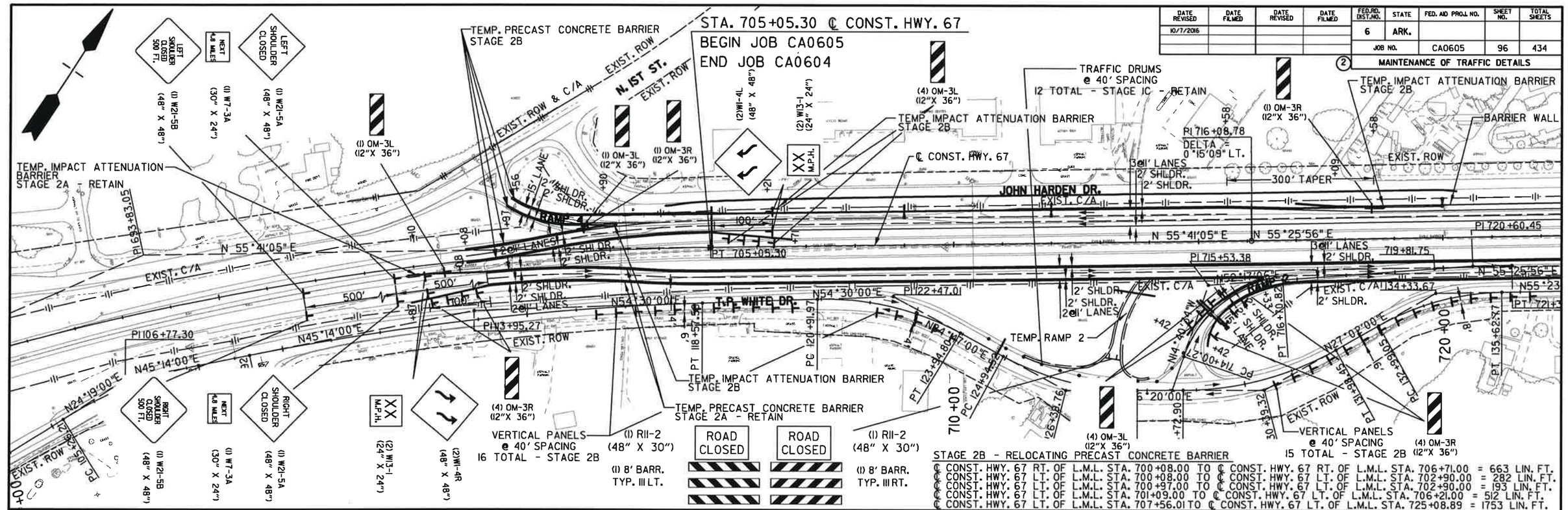
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	96	434

② MAINTENANCE OF TRAFFIC DETAILS



STAGE 2B - RELOCATING PRECAST CONCRETE BARRIER

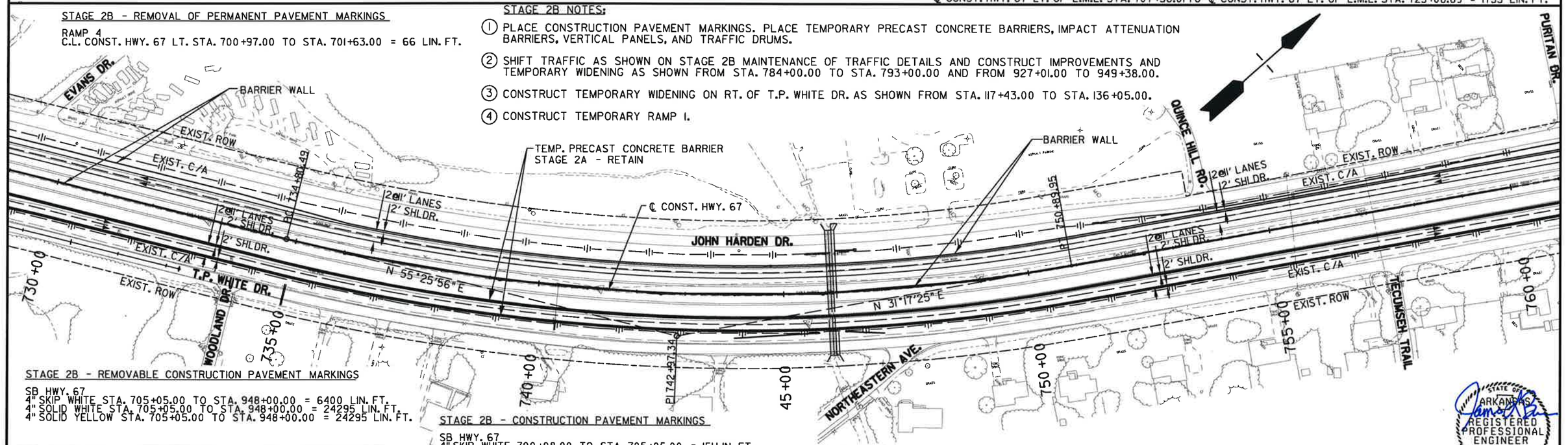
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 700+08.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 706+71.00 = 663 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 700+08.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 702+90.00 = 282 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 700+97.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 702+90.00 = 193 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 701+09.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 706+21.00 = 512 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 707+56.01 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 725+08.89 = 1753 LIN. FT.

STAGE 2B - REMOVAL OF PERMANENT PAVEMENT MARKINGS

RAMP 4
C.L. CONST. HWY. 67 LT. STA. 700+97.00 TO STA. 701+63.00 = 66 LIN. FT.

STAGE 2B NOTES:

1. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.
2. SHIFT TRAFFIC AS SHOWN ON STAGE 2B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING AS SHOWN FROM STA. 784+00.00 TO STA. 793+00.00 AND FROM 927+01.00 TO 949+38.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF T.P. WHITE DR. AS SHOWN FROM STA. 117+43.00 TO STA. 136+05.00.
4. CONSTRUCT TEMPORARY RAMP 1.



STAGE 2B - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

SB HWY. 67
4" SKIP WHITE STA. 705+05.00 TO STA. 948+00.00 = 6400 LIN. FT.
4" SOLID WHITE STA. 705+05.00 TO STA. 948+00.00 = 24295 LIN. FT.
4" SOLID YELLOW STA. 705+05.00 TO STA. 948+00.00 = 24295 LIN. FT.

STAGE 2B - CONSTRUCTION PAVEMENT MARKINGS

SB HWY. 67
4" SKIP WHITE STA. 700+08.00 TO STA. 705+05.00 = 151 LIN. FT.
4" SOLID WHITE STA. 700+08.00 TO STA. 705+05.00 = 497 LIN. FT.
4" SOLID YELLOW STA. 700+08.00 TO STA. 705+05.00 = 497 LIN. FT.

RAMP 4
4" SOLID WHITE STA. 701+09.00 TO STA. 704+05.00 = 296 LIN. FT.
4" SOLID YELLOW STA. 700+97.00 TO STA. 704+05.00 = 308 LIN. FT.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. ASPHALT WIDENING - STAGE 2B

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

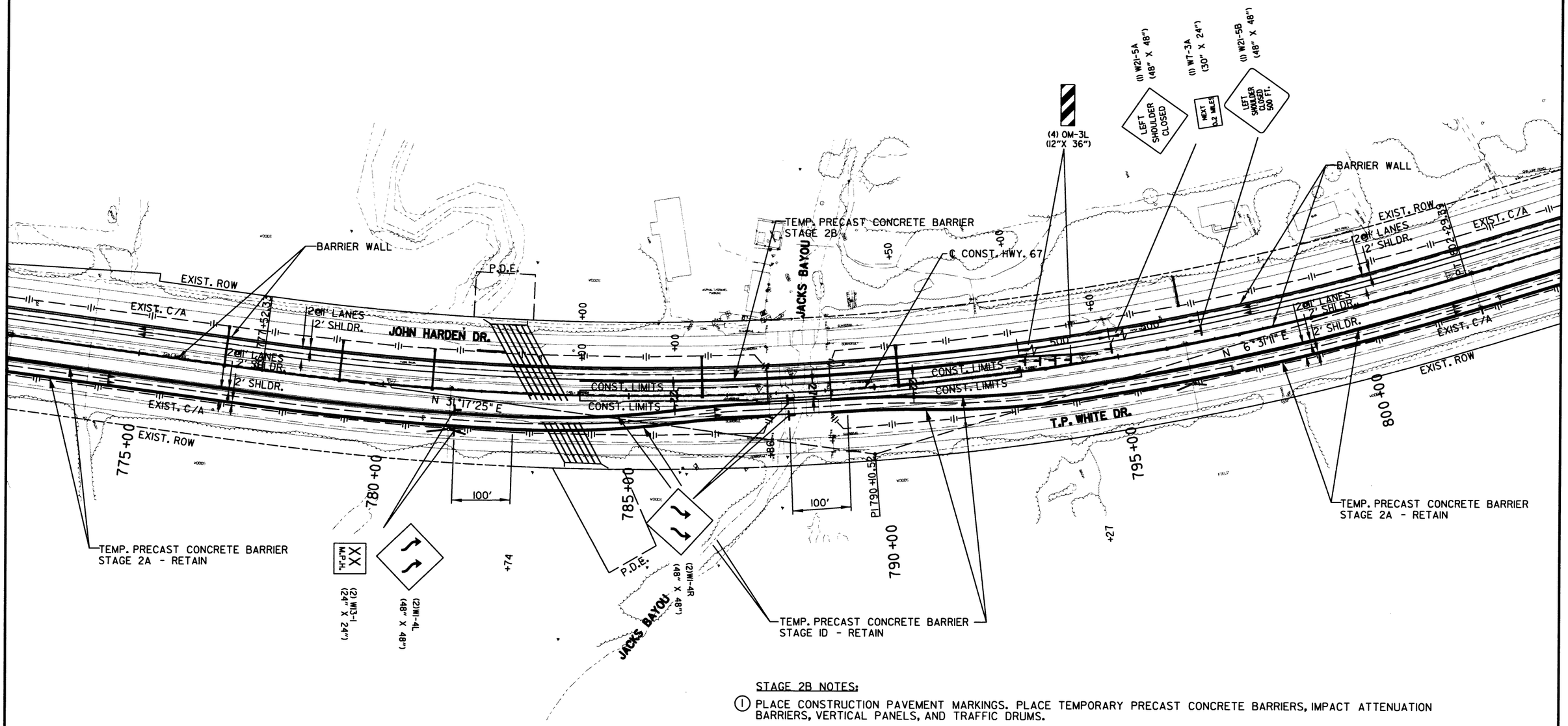
MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	97	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 2B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF L.M.L. STA. 784+00.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 794+60.00 = 1060 LIN. FT.



STAGE 2B NOTES:

1. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.
2. SHIFT TRAFFIC AS SHOWN ON STAGE 2B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING AS SHOWN FROM STA. 784+00.00 TO STA. 793+00.00 AND FROM 927+01.00 TO 949+38.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF T.P. WHITE DR. AS SHOWN FROM STA. 117+43.00 TO STA. 136+05.00.
4. CONSTRUCT TEMPORARY RAMP I.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

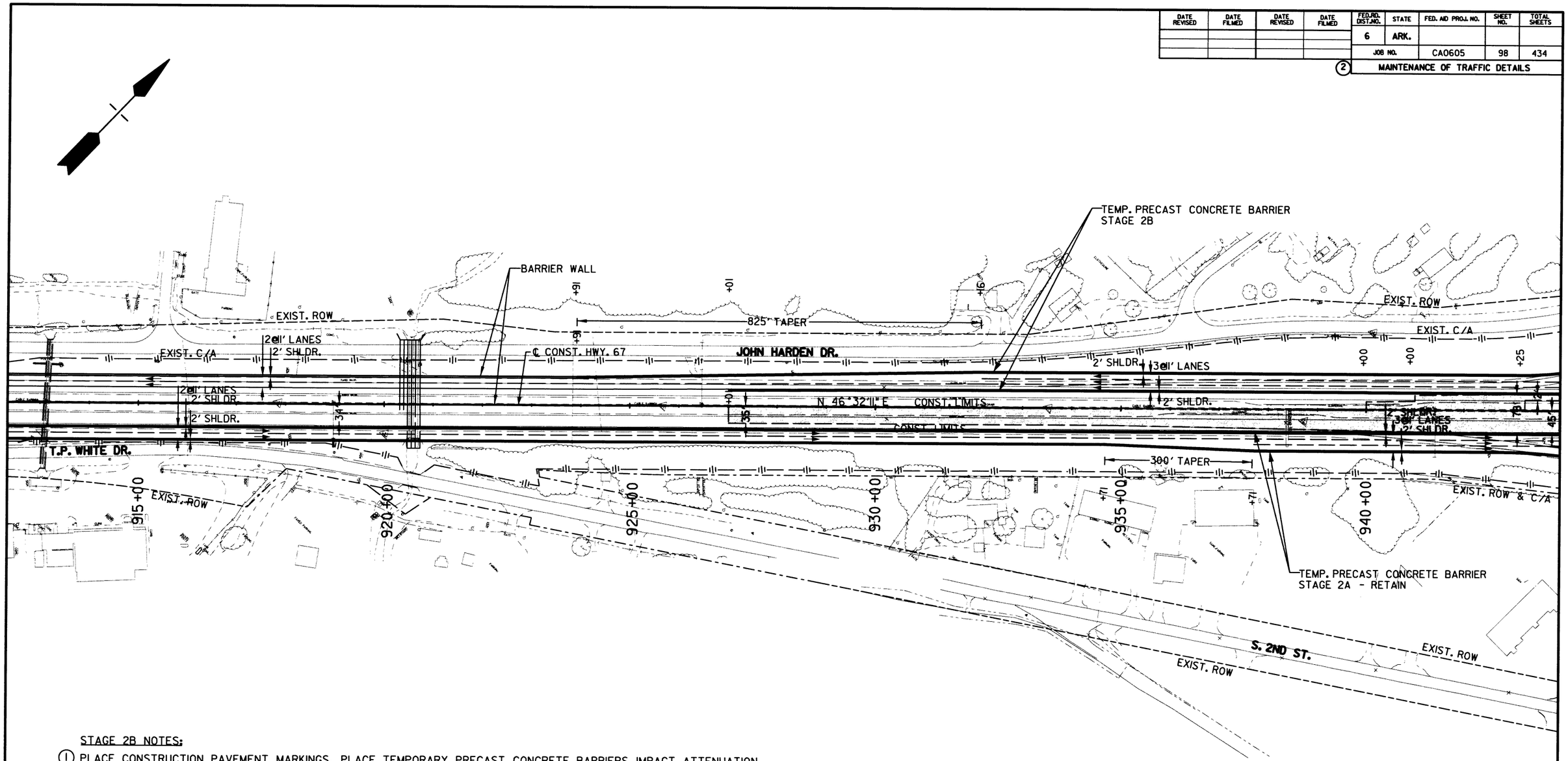
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	98	434

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 2B NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 2B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING AS SHOWN FROM STA. 784+00.00 TO STA. 793+00.00 AND FROM 927+01.00 TO 949+38.00.

(3) CONSTRUCT TEMPORARY WIDENING ON RT. OF T.P. WHITE DR. AS SHOWN FROM STA. 117+43.00 TO STA. 136+05.00.

(4) CONSTRUCT TEMPORARY RAMP I.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
6/24/17

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

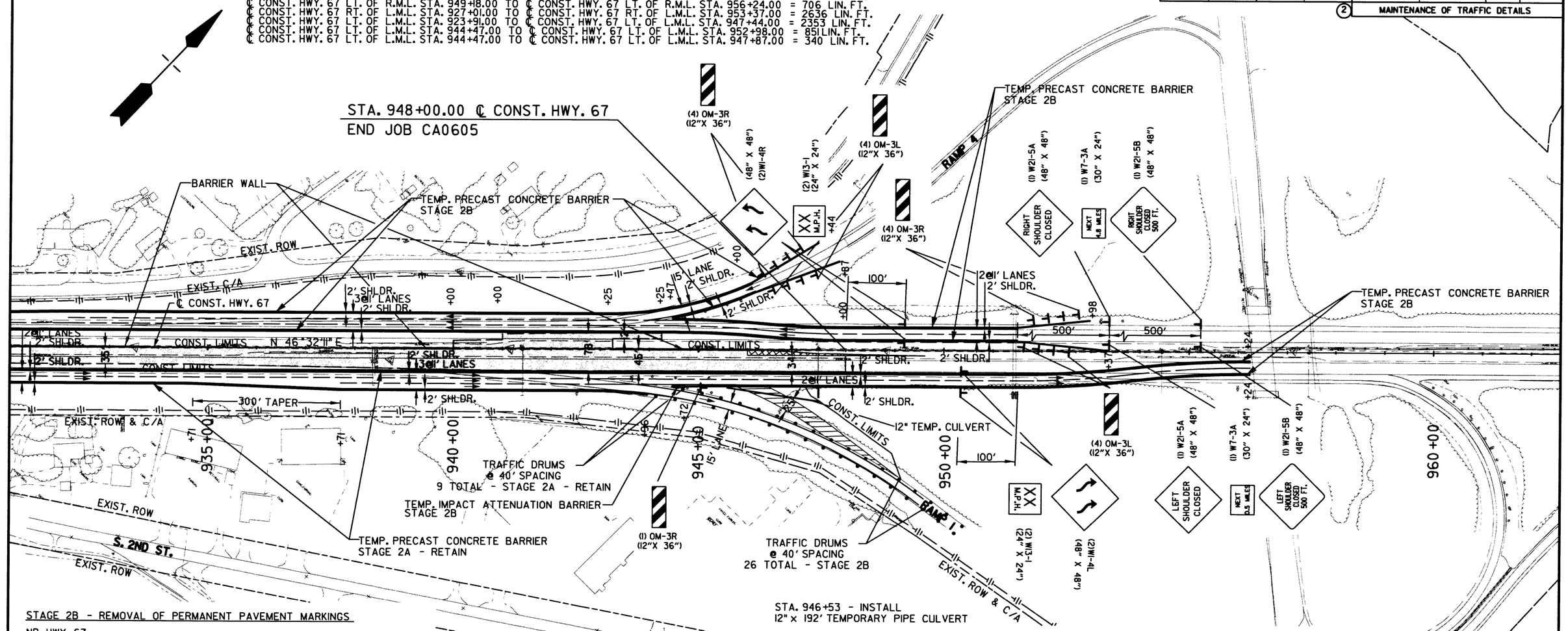
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	99	434

2 MAINTENANCE OF TRAFFIC DETAILS

STAGE 2B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 949+18.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 956+24.00 = 706 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 949+18.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 956+24.00 = 706 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 927+01.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 953+37.00 = 2636 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 923+91.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 947+44.00 = 2353 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 944+47.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 952+98.00 = 851 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 944+47.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 947+87.00 = 340 LIN. FT.



STAGE 2B - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT STA. 954+19.00 TO STA. 956+24.00 = 205 LIN. FT.

RAMP 1
C.L. CONST. HWY. 67 RT STA. 944+49.00 TO STA. 949+60.00 = 511 LIN. FT.

RAMP 4
C.L. CONST. HWY. 67 LT STA. 945+45.00 TO STA. 946+16.00 = 71 LIN. FT.

STAGE 2B - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE 949+18.00 TO STA. 956+24.00 = 177 LIN. FT.
4" SOLID WHITE STA. 949+18.00 TO STA. 956+24.00 = 706 LIN. FT.
4" SOLID YELLOW STA. 9949+18.00 TO STA. 956+24.00 = 706 LIN. FT.

SB HWY. 67
4" SKIP WHITE 948+00.00 TO STA. 951+50.00 = 316 LIN. FT.
4" SOLID WHITE STA. 948+00.00 TO STA. 951+50.00 = 350 LIN. FT.
4" SOLID YELLOW STA. 948+00.00 TO STA. 951+50.00 = 350 LIN. FT.

RAMP 1
4" SOLID WHITE STA. 944+49.00 TO STA. 949+60.00 = 511 LIN. FT.
4" SOLID YELLOW STA. 944+49.00 TO STA. 949+60.00 = 511 LIN. FT.

RAMP 4
4" SOLID WHITE STA. 943+91.00 TO STA. 946+09.00 = 218 LIN. FT.
4" SOLID YELLOW STA. 943+91.00 TO STA. 946+15.00 = 224 LIN. FT.

STAGE 2B NOTES:

1. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.
2. SHIFT TRAFFIC AS SHOWN ON STAGE 2B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AND TEMPORARY WIDENING AS SHOWN FROM STA. 784+00.00 TO STA. 793+00.00 AND FROM 927+01.00 TO 949+38.00.
3. CONSTRUCT TEMPORARY WIDENING ON RT. OF T.P. WHITE DR. AS SHOWN FROM STA. 117+43.00 TO STA. 136+05.00.
4. CONSTRUCT TEMPORARY RAMP 1.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

TEMP. RAMP PAVEMENT - STAGE 2B
TEMP. ASPHALT WIDENING - STAGE 2B
STAGE CONSTRUCTION

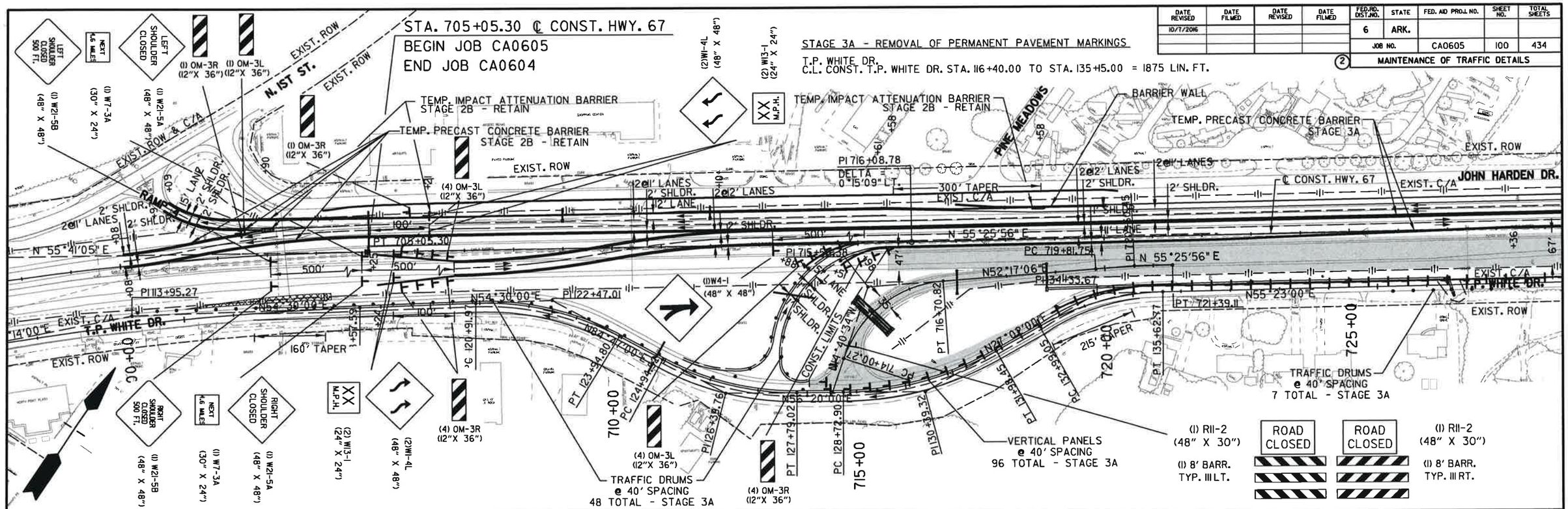
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
6/24/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	100	434

(2) MAINTENANCE OF TRAFFIC DETAILS



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE 3A - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 705+24.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 728+36.00 = 2312 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 705+25.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 712+10.00 = 685 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 705+11.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 940+37.00 = 23526 LIN. FT.
℄ CONST. TEMP. RAMP 2 LT. STA. 713+88 TO ℄ CONST. TEMP. RAMP 2 LT. STA. 714+98.00 = 110 LIN. FT.
℄ CONST. TEMP. RAMP 2 RT. STA. 714+51 TO ℄ CONST. TEMP. RAMP 2 RT. STA. 714+98.00 = 47 LIN. FT.

STAGE 3A - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

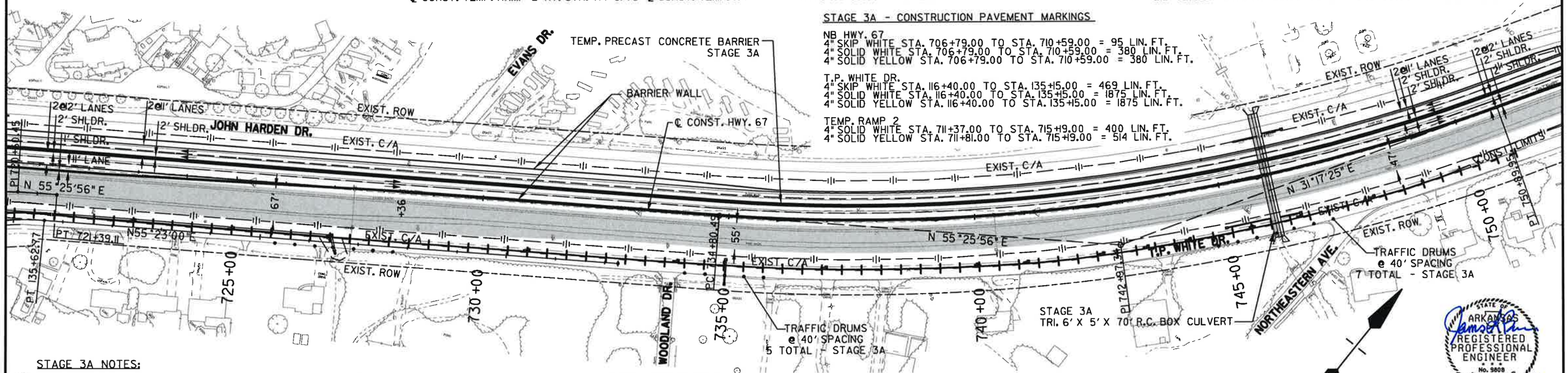
NB HWY. 67
4" SKIP WHITE STA. 710+59.00 TO STA. 948+00.00 = 6114 LIN. FT.
4" SOLID WHITE STA. 710+59.00 TO STA. 948+00.00 = 23741 LIN. FT.
4" SOLID YELLOW STA. 710+59.00 TO STA. 948+00.00 = 23741 LIN. FT.

STAGE 3A - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 706+79.00 TO STA. 710+59.00 = 95 LIN. FT.
4" SOLID WHITE STA. 706+79.00 TO STA. 710+59.00 = 380 LIN. FT.
4" SOLID YELLOW STA. 706+79.00 TO STA. 710+59.00 = 380 LIN. FT.

T.P. WHITE DR.
4" SKIP WHITE STA. 116+40.00 TO STA. 135+15.00 = 469 LIN. FT.
4" SOLID WHITE STA. 116+40.00 TO STA. 135+15.00 = 1875 LIN. FT.
4" SOLID YELLOW STA. 116+40.00 TO STA. 135+15.00 = 1875 LIN. FT.

TEMP. RAMP 2
4" SOLID WHITE STA. 711+37.00 TO STA. 715+19.00 = 400 LIN. FT.
4" SOLID YELLOW STA. 711+81.00 TO STA. 715+19.00 = 514 LIN. FT.



STAGE 3A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AS SHOWN FROM STA. 713+95.00 TO STA. 944+50.00 AND START CONSTRUCTION OF T.P. WHITE DR. AND S. 2ND ST. AS SHOWN.

TEMP. ASPHALT WIDENING - STAGE 3A

STAGE CONSTRUCTION

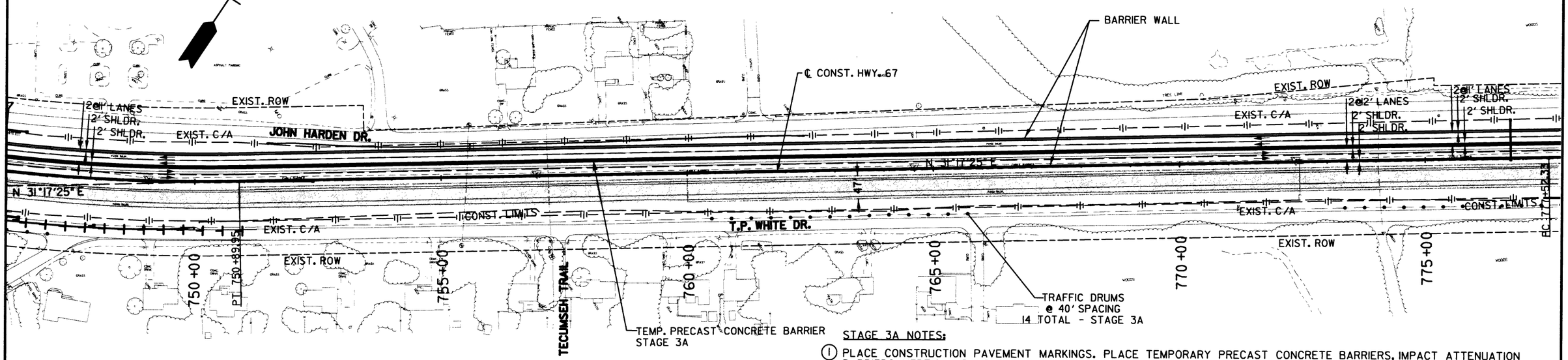
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	101	434

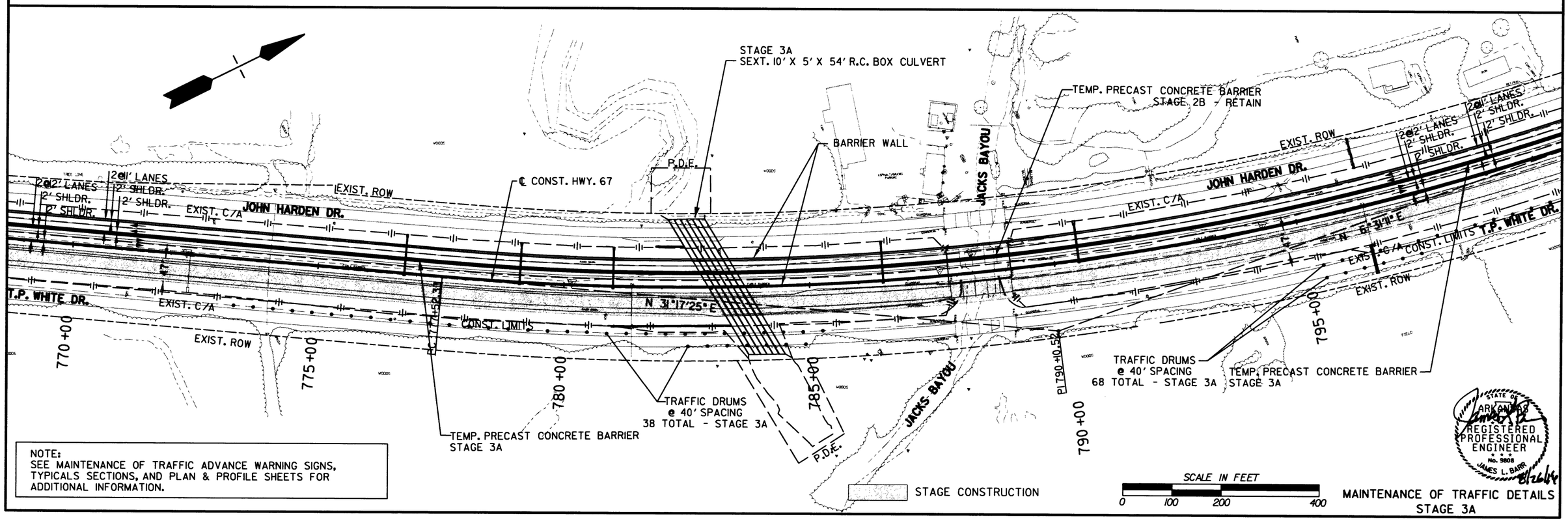
(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 3A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AS SHOWN FROM STA. 713+95.00 TO STA. 944+50.00 AND START CONSTRUCTION OF T.P. WHITE DR. AND S. 2ND ST. AS SHOWN.

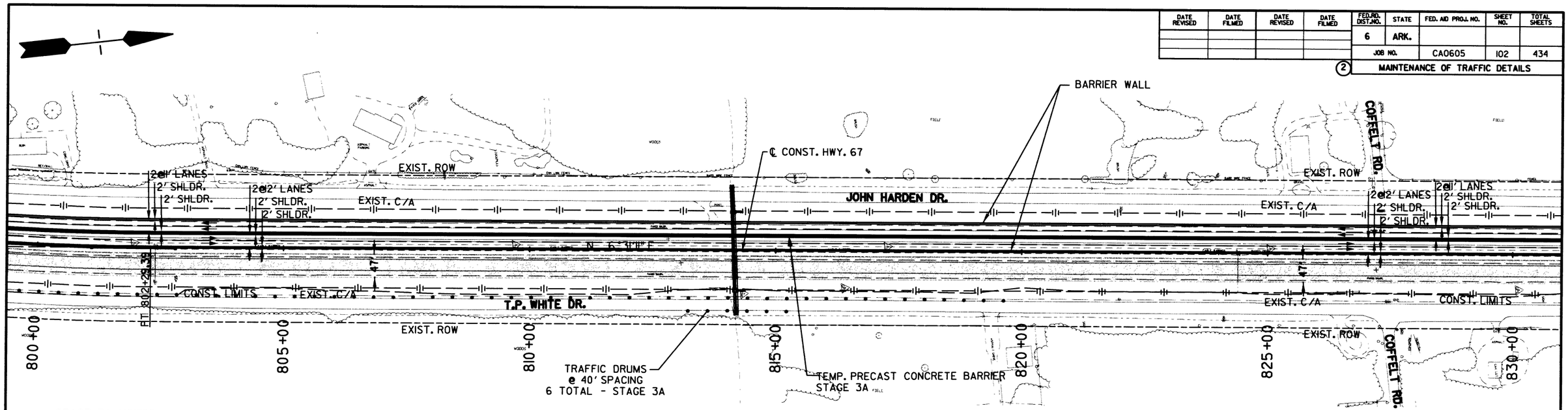


NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	102	434

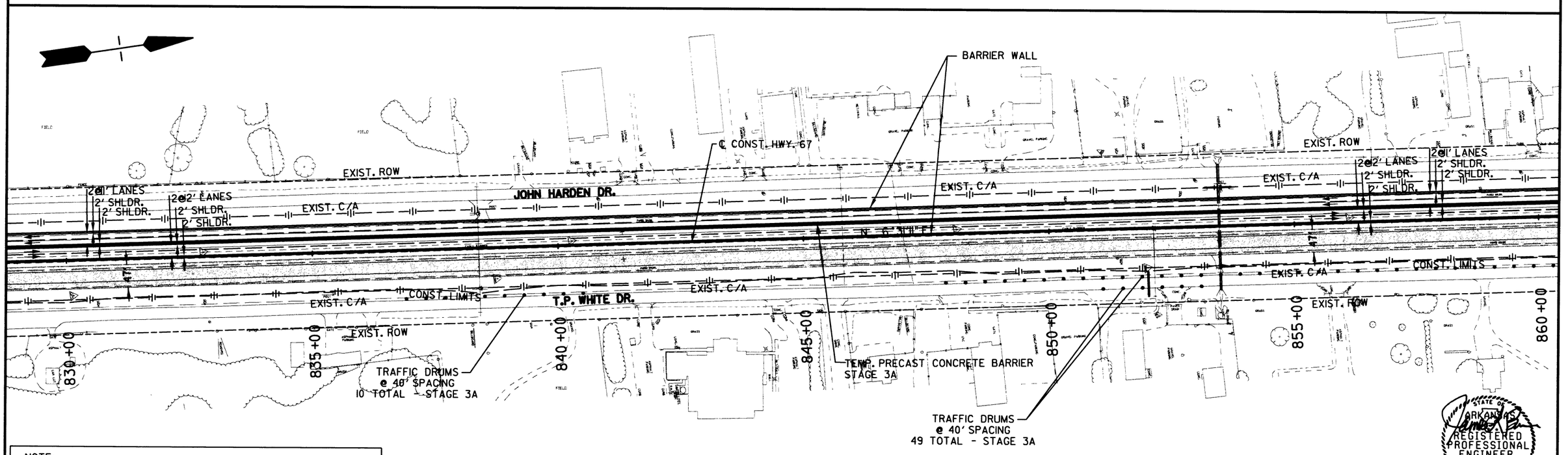
(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 3A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AS SHOWN FROM STA. 713+95.00 TO STA. 944+50.00 AND START CONSTRUCTION OF T.P. WHITE DR. AND S. 2ND ST. AS SHOWN.



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

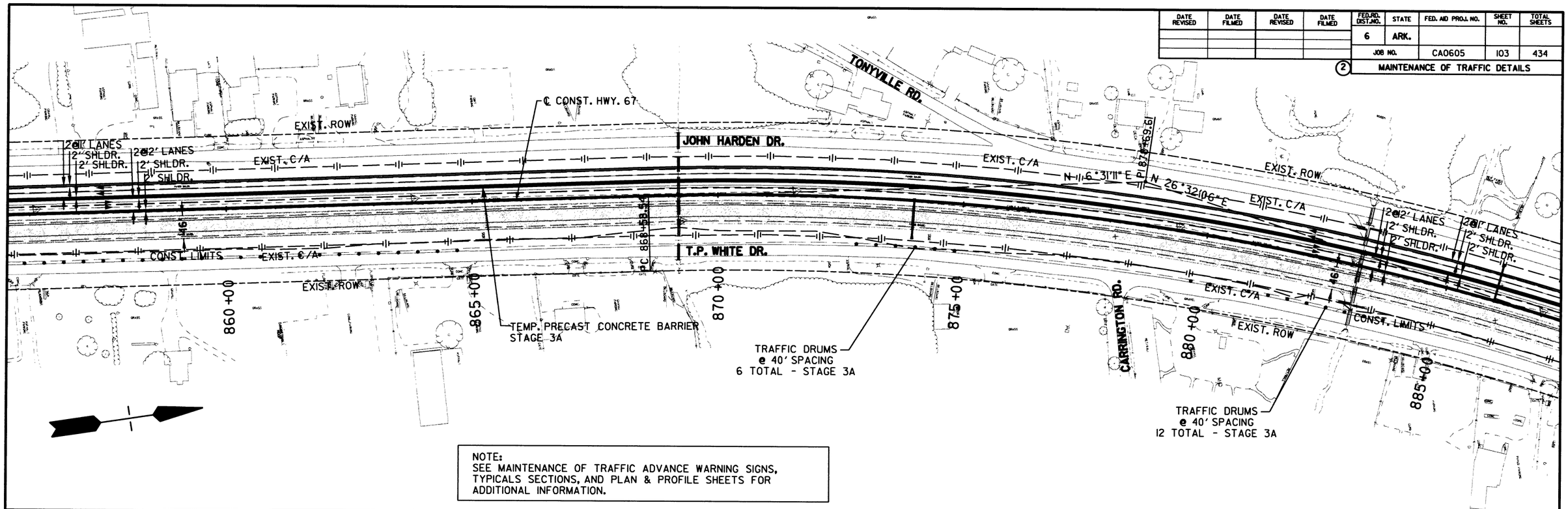
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/08

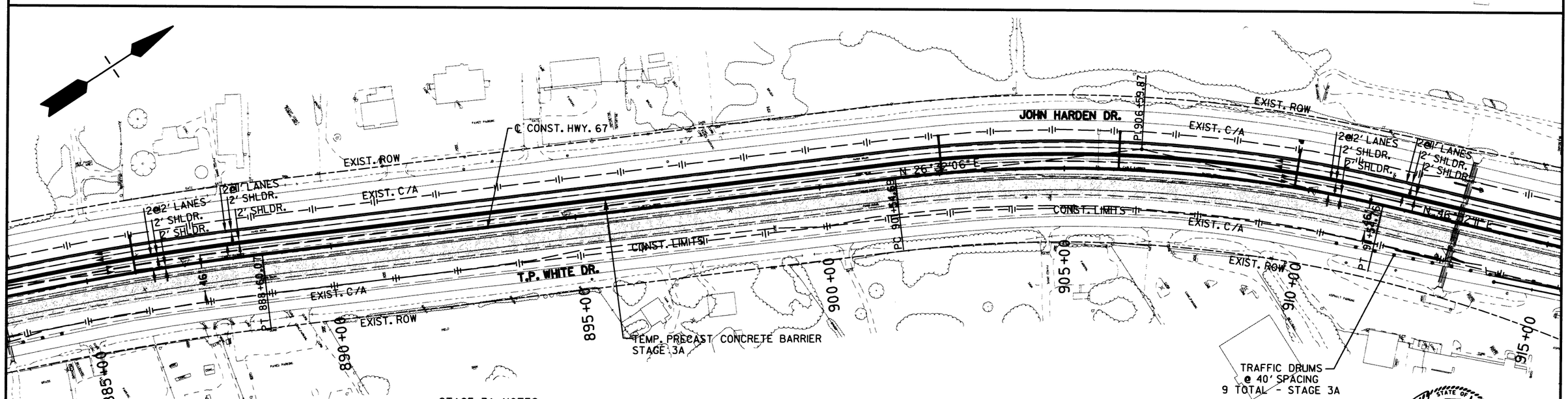
MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	103	434

(2) MAINTENANCE OF TRAFFIC DETAILS



NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.



STAGE 3A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AS SHOWN FROM STA. 713+95.00 TO STA. 944+50.00 AND START CONSTRUCTION OF T.P. WHITE DR. AND S. 2ND ST. AS SHOWN.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/66

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

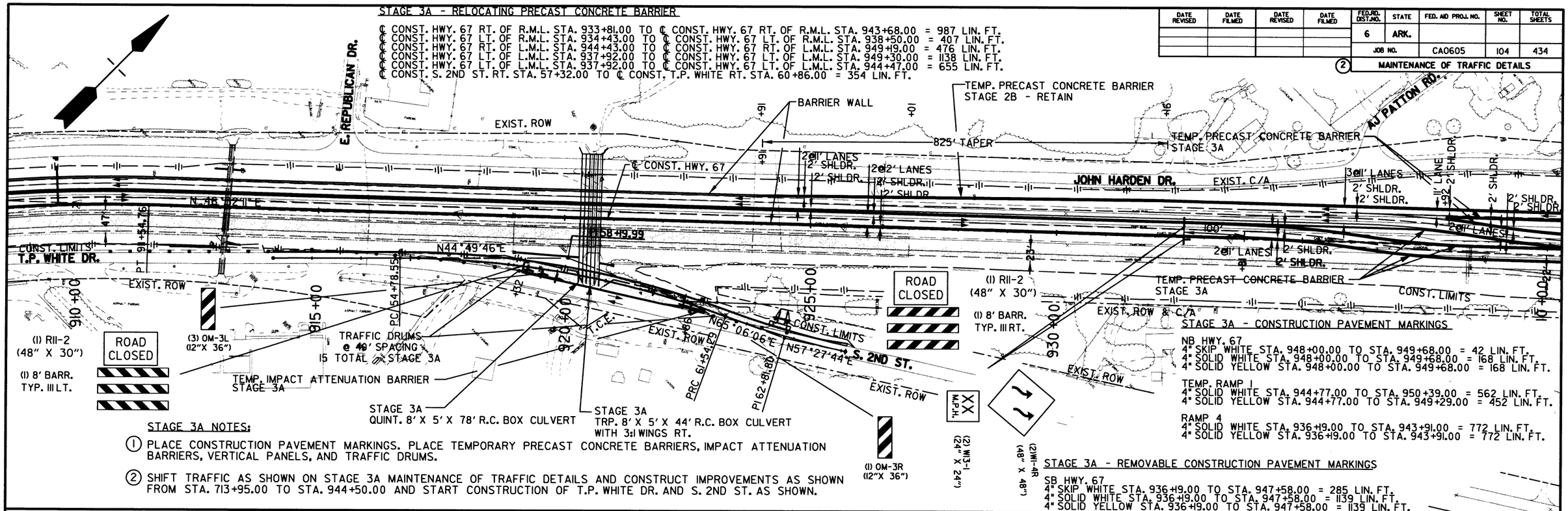
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	104	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3A - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 933+81.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 943+68.00 = 987 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 934+43.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 938+50.00 = 407 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 944+43.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 949+19.00 = 476 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 937+92.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 949+30.00 = 1138 LIN. FT.
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 937+92.00 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 944+47.00 = 655 LIN. FT.
℄ CONST. S. 2ND ST. RT. STA. 57+32.00 TO ℄ CONST. T.P. WHITE RT. STA. 60+86.00 = 354 LIN. FT.



STAGE 3A NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3A MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT IMPROVEMENTS AS SHOWN FROM STA. 713+95.00 TO STA. 944+50.00 AND START CONSTRUCTION OF T.P. WHITE DR. AND S. 2ND ST. AS SHOWN.

STAGE 3A - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 948+00.00 TO STA. 949+68.00 = 42 LIN. FT.
4" SOLID WHITE STA. 948+00.00 TO STA. 949+68.00 = 168 LIN. FT.
4" SOLID YELLOW STA. 948+00.00 TO STA. 949+68.00 = 168 LIN. FT.

TEMP. RAMP 1
4" SOLID WHITE STA. 944+77.00 TO STA. 950+39.00 = 562 LIN. FT.
4" SOLID YELLOW STA. 944+77.00 TO STA. 949+29.00 = 452 LIN. FT.

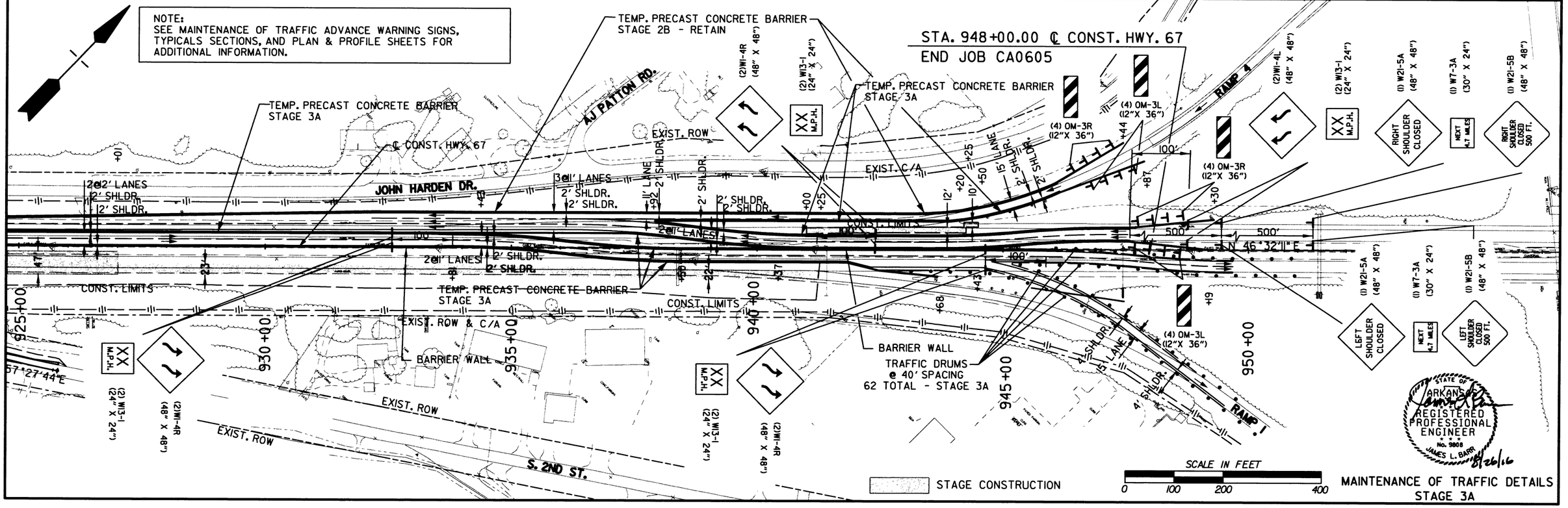
RAMP 4
4" SOLID WHITE STA. 936+19.00 TO STA. 943+91.00 = 772 LIN. FT.
4" SOLID YELLOW STA. 936+19.00 TO STA. 943+91.00 = 772 LIN. FT.

STAGE 3A - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

SB HWY. 67
4" SKIP WHITE STA. 936+19.00 TO STA. 947+58.00 = 285 LIN. FT.
4" SOLID WHITE STA. 936+19.00 TO STA. 947+58.00 = 1139 LIN. FT.
4" SOLID YELLOW STA. 936+19.00 TO STA. 947+58.00 = 1139 LIN. FT.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STA. 948+00.00 ℄ CONST. HWY. 67
END JOB CA0605

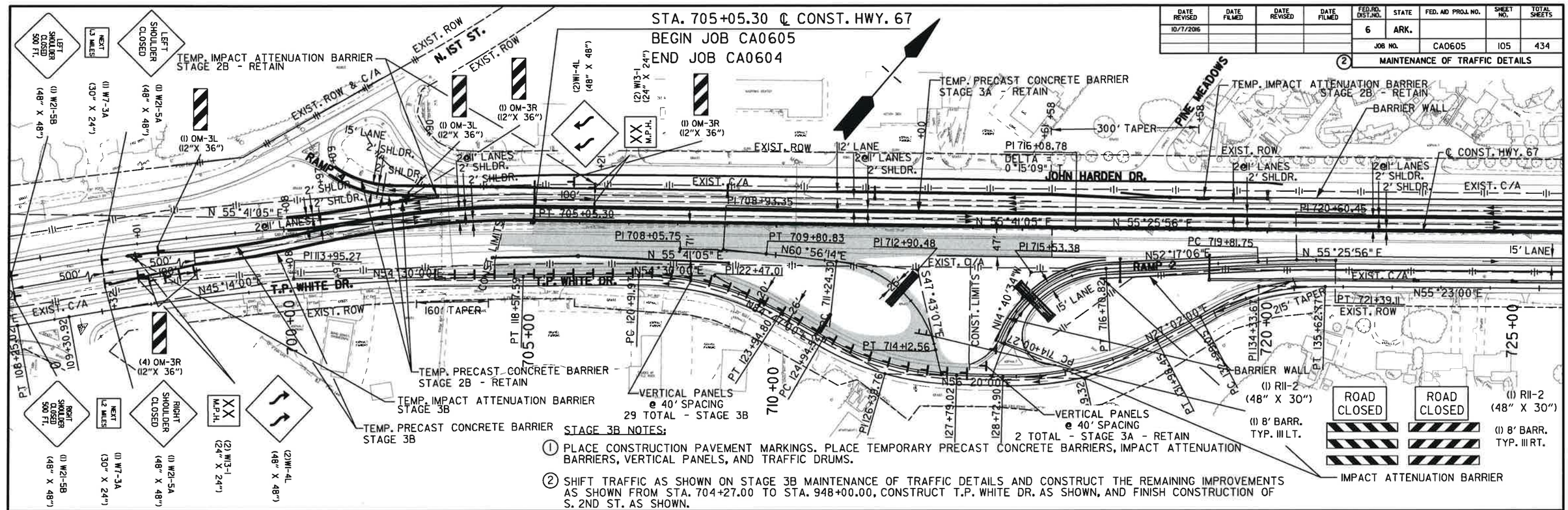


MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	105	434

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 3B NOTES:

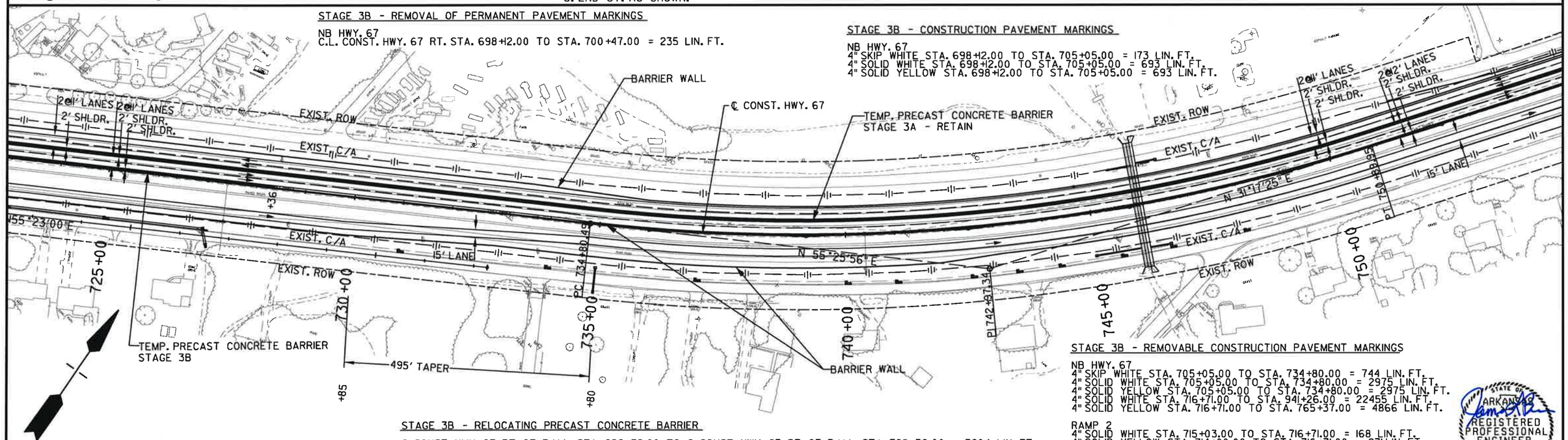
1. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.
2. SHIFT TRAFFIC AS SHOWN ON STAGE 3B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT THE REMAINING IMPROVEMENTS AS SHOWN FROM STA. 704+27.00 TO STA. 948+00.00, CONSTRUCT T.P. WHITE DR. AS SHOWN, AND FINISH CONSTRUCTION OF S. 2ND ST. AS SHOWN.

STAGE 3B - REMOVAL OF PERMANENT PAVEMENT MARKINGS

NB HWY. 67
C.L. CONST. HWY. 67 RT. STA. 698+12.00 TO STA. 700+47.00 = 235 LIN. FT.

STAGE 3B - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 698+12.00 TO STA. 705+05.00 = 173 LIN. FT.
4" SOLID WHITE STA. 698+12.00 TO STA. 705+05.00 = 693 LIN. FT.
4" SOLID YELLOW STA. 698+12.00 TO STA. 705+05.00 = 693 LIN. FT.



STAGE 3B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 RT. OF R.M.L. STA. 696+32.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 728+36.00 = 3204 LIN. FT.
℄ CONST. HWY. 67 LT. OF R.M.L. STA. 697+10.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 700+97.00 = 387 LIN. FT.

STAGE 3B - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 705+05.00 TO STA. 734+80.00 = 744 LIN. FT.
4" SOLID WHITE STA. 705+05.00 TO STA. 734+80.00 = 2975 LIN. FT.
4" SOLID YELLOW STA. 705+05.00 TO STA. 734+80.00 = 2975 LIN. FT.
4" SOLID WHITE STA. 716+71.00 TO STA. 941+26.00 = 22455 LIN. FT.
4" SOLID YELLOW STA. 716+71.00 TO STA. 765+37.00 = 4866 LIN. FT.

RAMP 2
4" SOLID WHITE STA. 715+03.00 TO STA. 716+71.00 = 168 LIN. FT.
4" SOLID YELLOW STA. 714+00.00 TO STA. 716+71.00 = 271 LIN. FT.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

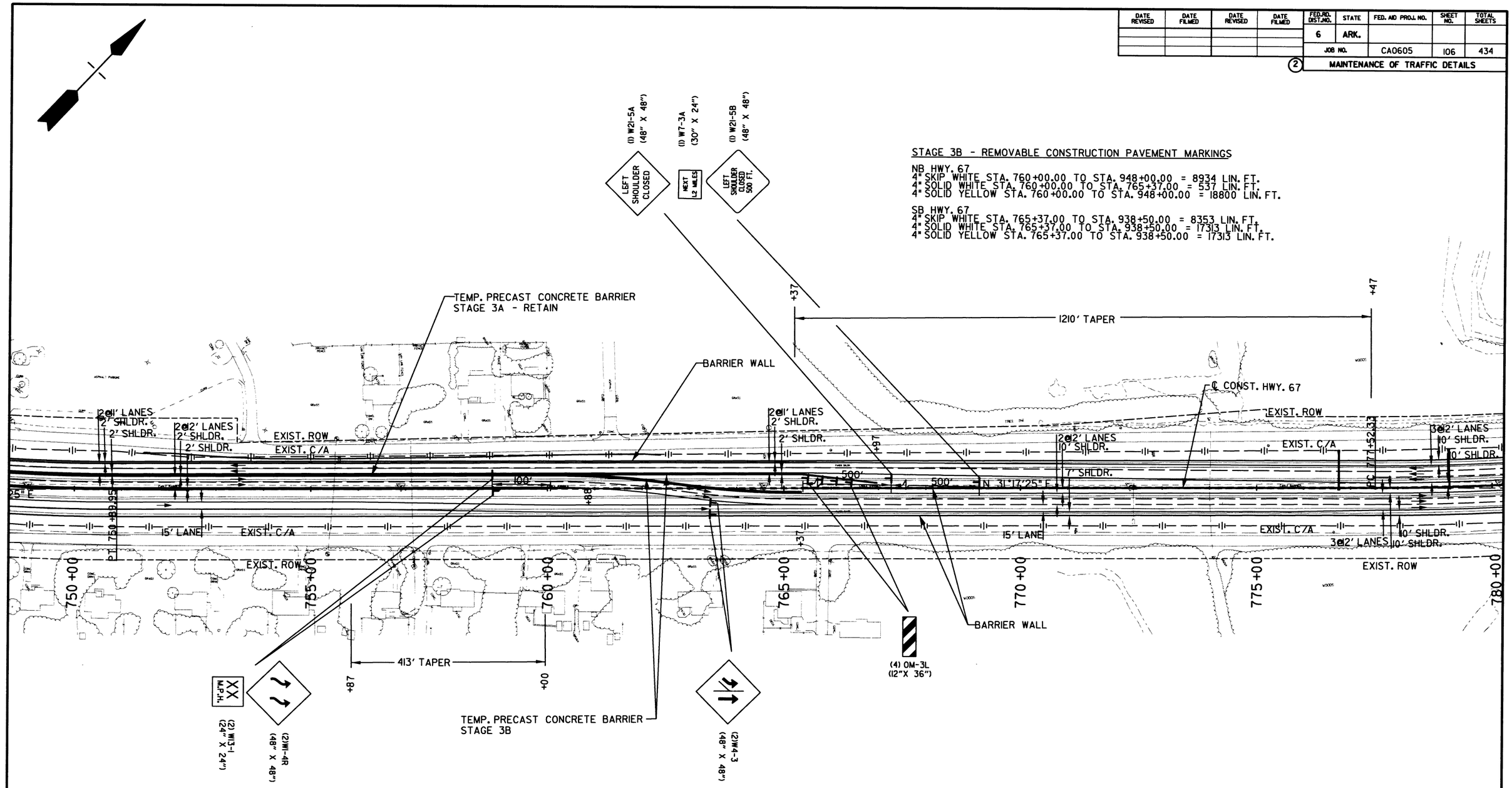
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	106	434

(2) MAINTENANCE OF TRAFFIC DETAILS



STAGE 3B - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 760+00.00 TO STA. 948+00.00 = 8934 LIN. FT.
4" SOLID WHITE STA. 760+00.00 TO STA. 765+37.00 = 537 LIN. FT.
4" SOLID YELLOW STA. 760+00.00 TO STA. 948+00.00 = 18800 LIN. FT.

SB HWY. 67
4" SKIP WHITE STA. 765+37.00 TO STA. 938+50.00 = 8353 LIN. FT.
4" SOLID WHITE STA. 765+37.00 TO STA. 938+50.00 = 17313 LIN. FT.
4" SOLID YELLOW STA. 765+37.00 TO STA. 938+50.00 = 17313 LIN. FT.

STAGE 3B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 760+88.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 765+37.00 = 2334 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 765+37.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 766+97.00 = 658 LIN. FT.

STAGE 3B NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT THE REMAINING IMPROVEMENTS AS SHOWN FROM STA. 704+27.00 TO STA. 948+00.00, CONSTRUCT T.P. WHITE DR. AS SHOWN, AND FINISH CONSTRUCTION OF S. 2ND ST. AS SHOWN.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	107	434

(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 931+52.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 938+50.00 = 698 LIN. FT.
℄ CONST. HWY. 67 RT. OF L.M.L. STA. 932+50.00 TO ℄ CONST. HWY. 67 RT. OF L.M.L. STA. 940+67.00 = 817 LIN. FT.
℄ CONST. HWY. 67 RT. OF R.M.L. STA. 940+62.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 951+50.00 = 1088 LIN. FT.
℄ CONST. HWY. 67 RT. OF R.M.L. STA. 940+62.00 TO ℄ CONST. HWY. 67 RT. OF R.M.L. STA. 944+53.00 = 391 LIN. FT.
℄ CONST. S. 2ND ST. RT. STA. 57+29.00 TO ℄ CONST. T.P. WHITE RT. STA. 60+35.00 = 306 LIN. FT.

STAGE 3B - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SOLID WHITE STA. 934+74.00 TO STA. 948+00.00 = 1326 LIN. FT.

RAMP I
4" SOLID YELLOW STA. 934+74.00 TO STA. 941+26.00 = 652 LIN. FT.

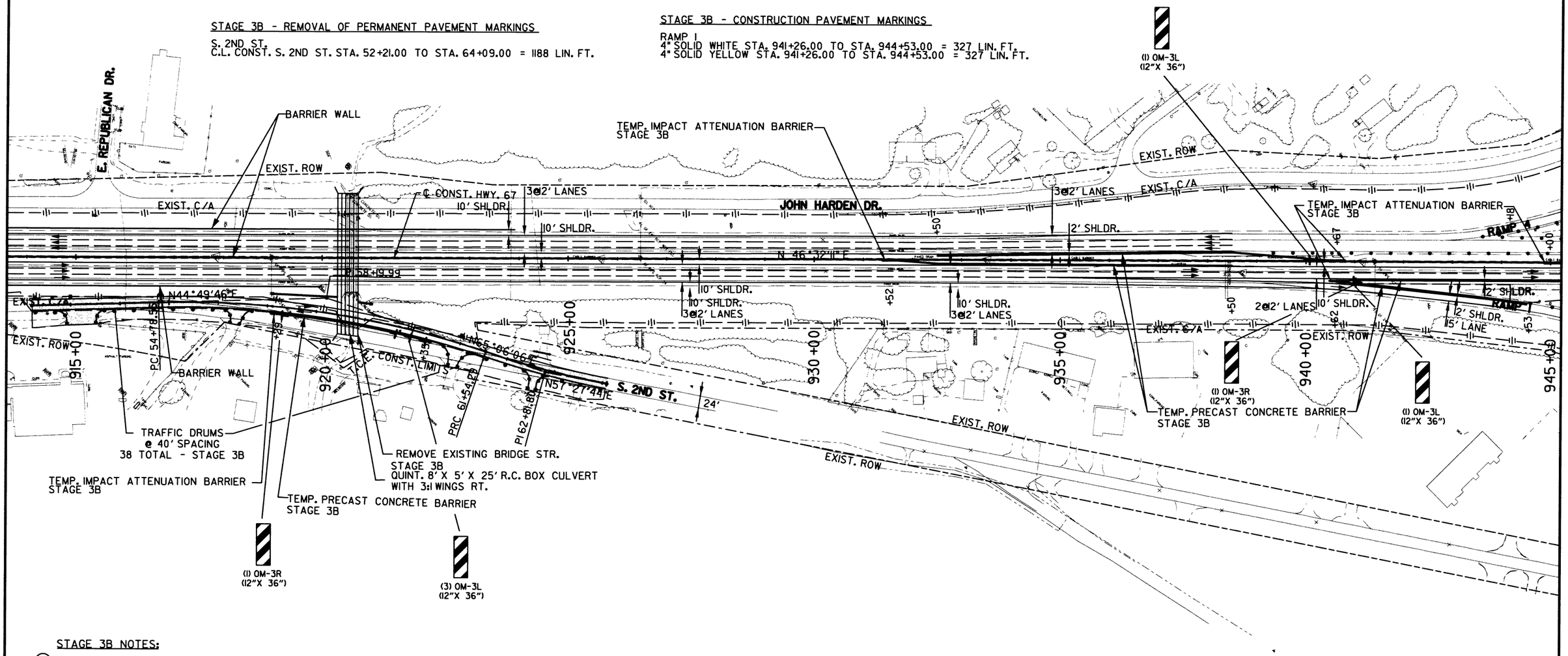
S. 2ND ST.
4" SKIP WHITE STA. 52+21.00 TO STA. 64+09.00 = 297 LIN. FT.
4" SOLID WHITE STA. 52+21.00 TO STA. 64+09.00 = 1188 LIN. FT.
4" SOLID YELLOW STA. 52+21.00 TO STA. 64+09.00 = 1188 LIN. FT.

STAGE 3B - REMOVAL OF PERMANENT PAVEMENT MARKINGS

S. 2ND ST.
C.L. CONST. S. 2ND ST. STA. 52+21.00 TO STA. 64+09.00 = 1188 LIN. FT.

STAGE 3B - CONSTRUCTION PAVEMENT MARKINGS

RAMP I
4" SOLID WHITE STA. 941+26.00 TO STA. 944+53.00 = 327 LIN. FT.
4" SOLID YELLOW STA. 941+26.00 TO STA. 944+53.00 = 327 LIN. FT.



STAGE 3B NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT THE REMAINING IMPROVEMENTS AS SHOWN FROM STA. 704+27.00 TO STA. 948+00.00, CONSTRUCT T.P. WHITE DR. AS SHOWN, AND FINISH CONSTRUCTION OF S. 2ND ST. AS SHOWN.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	108	434

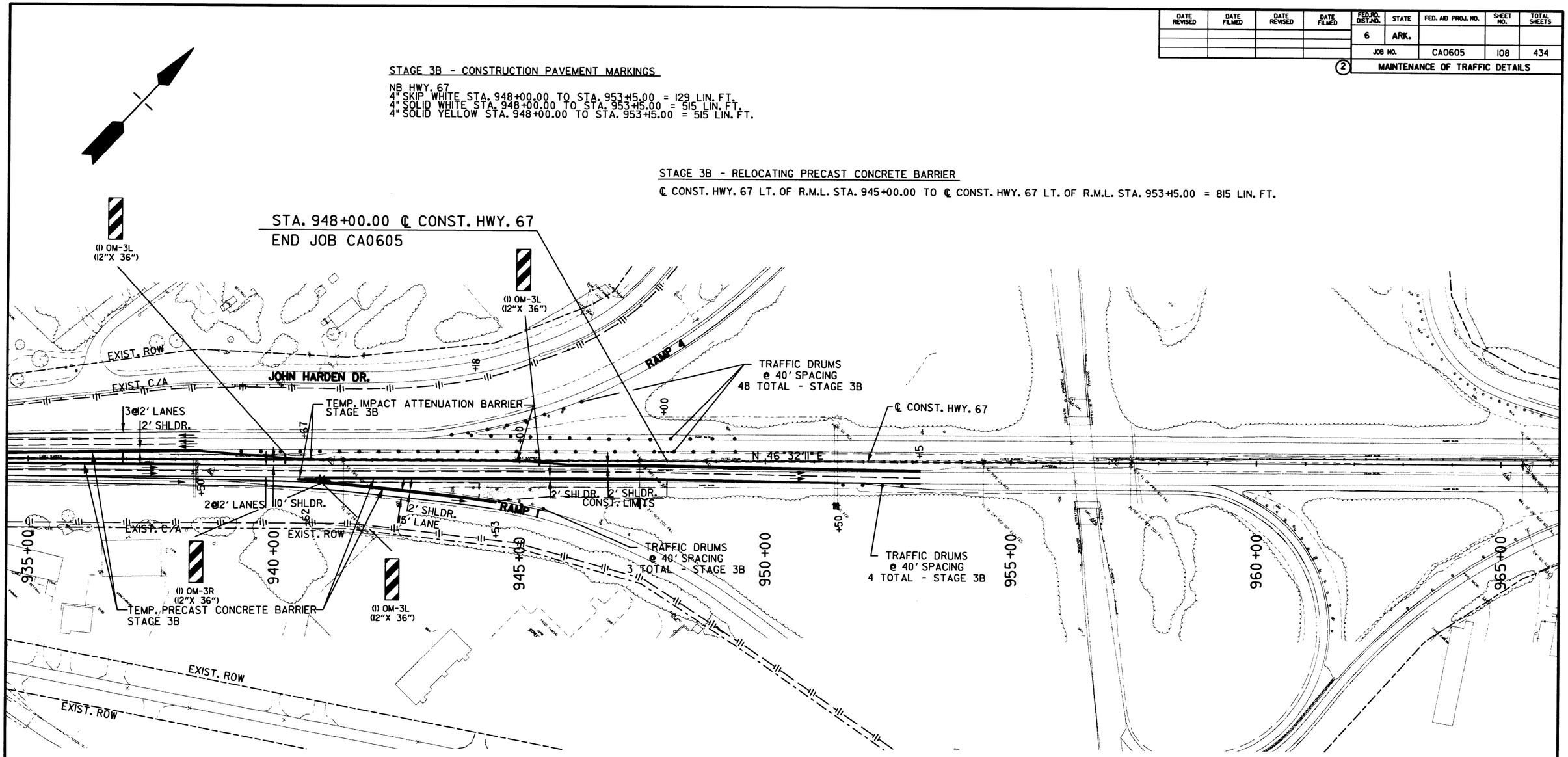
(2) MAINTENANCE OF TRAFFIC DETAILS

STAGE 3B - CONSTRUCTION PAVEMENT MARKINGS

NB HWY. 67
4" SKIP WHITE STA. 948+00.00 TO STA. 953+15.00 = 129 LIN. FT.
4" SOLID WHITE STA. 948+00.00 TO STA. 953+15.00 = 515 LIN. FT.
4" SOLID YELLOW STA. 948+00.00 TO STA. 953+15.00 = 515 LIN. FT.

STAGE 3B - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF R.M.L. STA. 945+00.00 TO ℄ CONST. HWY. 67 LT. OF R.M.L. STA. 953+15.00 = 815 LIN. FT.



STAGE 3B NOTES:

(1) PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE TEMPORARY PRECAST CONCRETE BARRIERS, IMPACT ATTENUATION BARRIERS, VERTICAL PANELS, AND TRAFFIC DRUMS.

(2) SHIFT TRAFFIC AS SHOWN ON STAGE 3B MAINTENANCE OF TRAFFIC DETAILS AND CONSTRUCT THE REMAINING IMPROVEMENTS AS SHOWN FROM STA. 704+27.00 TO STA. 948+00.00, CONSTRUCT T.P. WHITE DR. AS SHOWN, AND FINISH CONSTRUCTION OF S. 2ND ST. AS SHOWN.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

STAGE CONSTRUCTION

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/25/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	109	434
				(2)	MAINTENANCE OF TRAFFIC DETAILS			

STAGE 3C - REMOVAL OF PERMANENT PAVEMENT MARKINGS

T.P. WHITE DR.
C.L. CONST. T.P. WHITE DR. STA. 113+59.00 TO STA. 116+40.00 = 281 LIN. FT.
C.L. CONST. T.P. WHITE DR. STA. 135+15.00 TO STA. 136+05.00 = 90 LIN. FT.

STAGE 3C - RELOCATING PRECAST CONCRETE BARRIER

℄ CONST. HWY. 67 LT. OF L.M.L. STA. 705+05.30 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 711+80.89 = 676 LIN. FT.

STAGE 3C - FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER WALL - LEFT IN PLACE

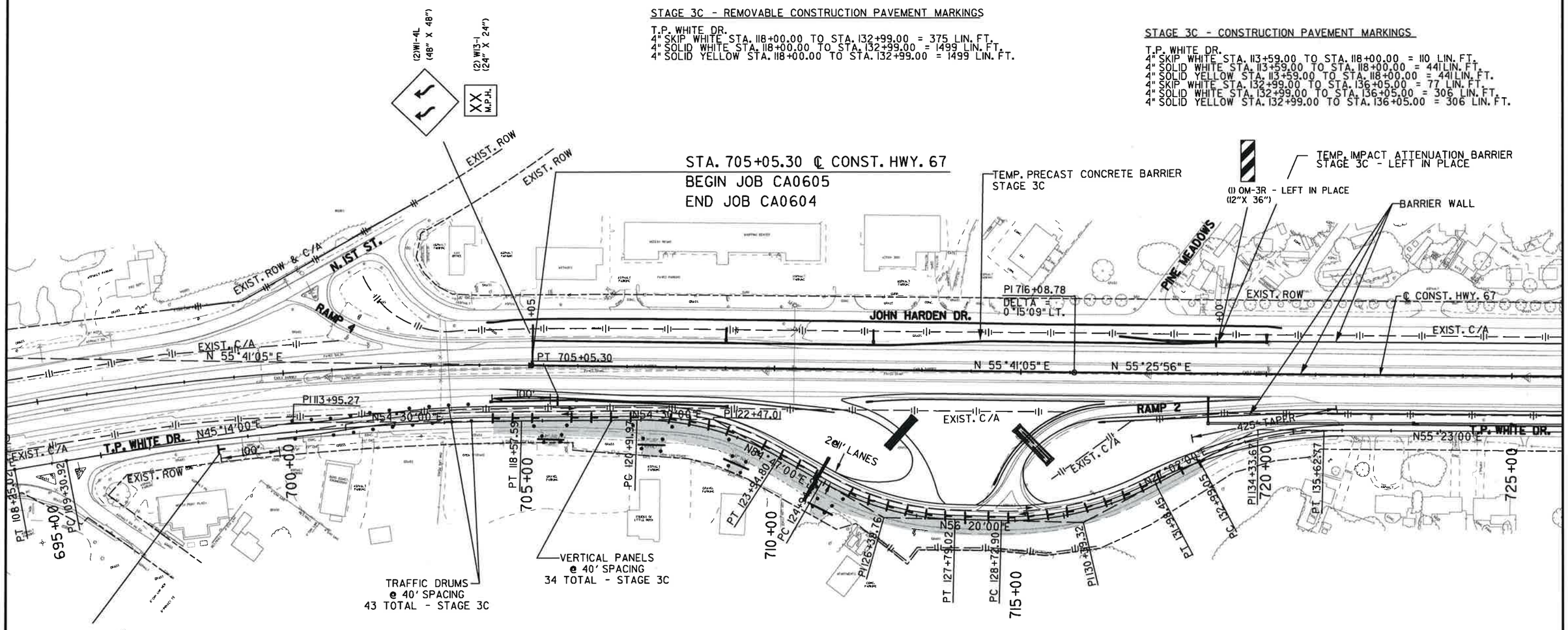
℄ CONST. HWY. 67 LT. OF L.M.L. STA. 711+80.89 TO ℄ CONST. HWY. 67 LT. OF L.M.L. STA. 719+00.00 = 719 LIN. FT.

STAGE 3C - REMOVABLE CONSTRUCTION PAVEMENT MARKINGS

T.P. WHITE DR.
4" SKIP WHITE STA. 118+00.00 TO STA. 132+99.00 = 375 LIN. FT.
4" SOLID WHITE STA. 118+00.00 TO STA. 132+99.00 = 1499 LIN. FT.
4" SOLID YELLOW STA. 118+00.00 TO STA. 132+99.00 = 1499 LIN. FT.

STAGE 3C - CONSTRUCTION PAVEMENT MARKINGS

T.P. WHITE DR.
4" SKIP WHITE STA. 113+59.00 TO STA. 118+00.00 = 110 LIN. FT.
4" SOLID WHITE STA. 113+59.00 TO STA. 118+00.00 = 441 LIN. FT.
4" SOLID YELLOW STA. 113+59.00 TO STA. 118+00.00 = 441 LIN. FT.
4" SKIP WHITE STA. 132+99.00 TO STA. 136+05.00 = 77 LIN. FT.
4" SOLID WHITE STA. 132+99.00 TO STA. 136+05.00 = 306 LIN. FT.
4" SOLID YELLOW STA. 132+99.00 TO STA. 136+05.00 = 306 LIN. FT.



STAGE 3C NOTES:

1. PLACE CONSTRUCTION PAVEMENT MARKINGS. PLACE VERTICAL PANELS AND TRAFFIC DRUMS.
2. SHIFT TRAFFIC AS SHOWN ON STAGE 3C MAINTENANCE OF TRAFFIC DETAILS AND FINISH CONSTRUCTION OF T.P. WHITE DR. AS SHOWN.

NOTE:
SEE MAINTENANCE OF TRAFFIC ADVANCE WARNING SIGNS, TYPICALS SECTIONS, AND PLAN & PROFILE SHEETS FOR ADDITIONAL INFORMATION.

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3C

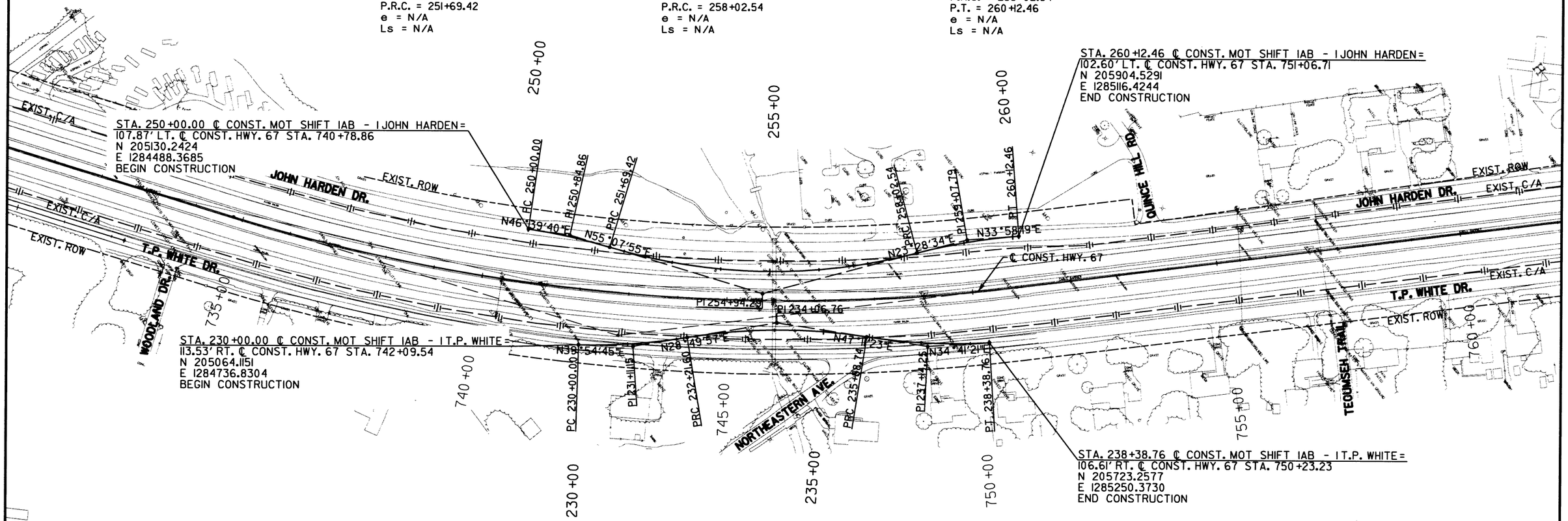
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	110	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS

MOT SHIFT IAB - IJOHN HARDEN
P.I. = 250+84.86
Δ = 8°28'16" RT.
D = 5°00'00"
T = 84.86'
L = 169.42'
P.C. = 250+00.00
P.R.C. = 251+69.42
e = N/A
Ls = N/A

MOT SHIFT IAB - IJOHN HARDEN
P.I. = 254+94.29
Δ = 31°39'21" LT.
D = 5°00'00"
T = 324.87'
L = 633.12'
P.R.C. = 251+69.42
P.R.C. = 258+02.54
e = N/A
Ls = N/A

MOT SHIFT IAB - IJOHN HARDEN
P.I. = 259+07.79
Δ = 10°29'45" RT.
D = 5°00'00"
T = 105.25'
L = 209.92'
P.R.C. = 258+02.54
P.T. = 260+12.46
e = N/A
Ls = N/A



MOT SHIFT IAB - IT.P. WHITE
P.I. = 231+11.15
Δ = 11°04'48" LT.
D = 5°00'00"
T = 111.15'
L = 221.60'
P.C. = 230+00.00
P.R.C. = 232+21.60
e = N/A
Ls = N/A

MOT SHIFT IAB - IT.P. WHITE
P.I. = 234+06.76
Δ = 18°21'26" RT.
D = 5°00'00"
T = 185.16'
L = 367.15'
P.R.C. = 232+21.60
P.R.C. = 235+88.74
e = N/A
Ls = N/A

MOT SHIFT IAB - IT.P. WHITE
P.I. = 237+14.25
Δ = 12°30'03" LT.
D = 5°00'00"
T = 125.51'
L = 250.02'
P.R.C. = 235+88.74
P.T. = 238+38.76
e = N/A
Ls = N/A

SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
2/26/06

MAINTENANCE OF TRAFFIC ALIGNMENTS

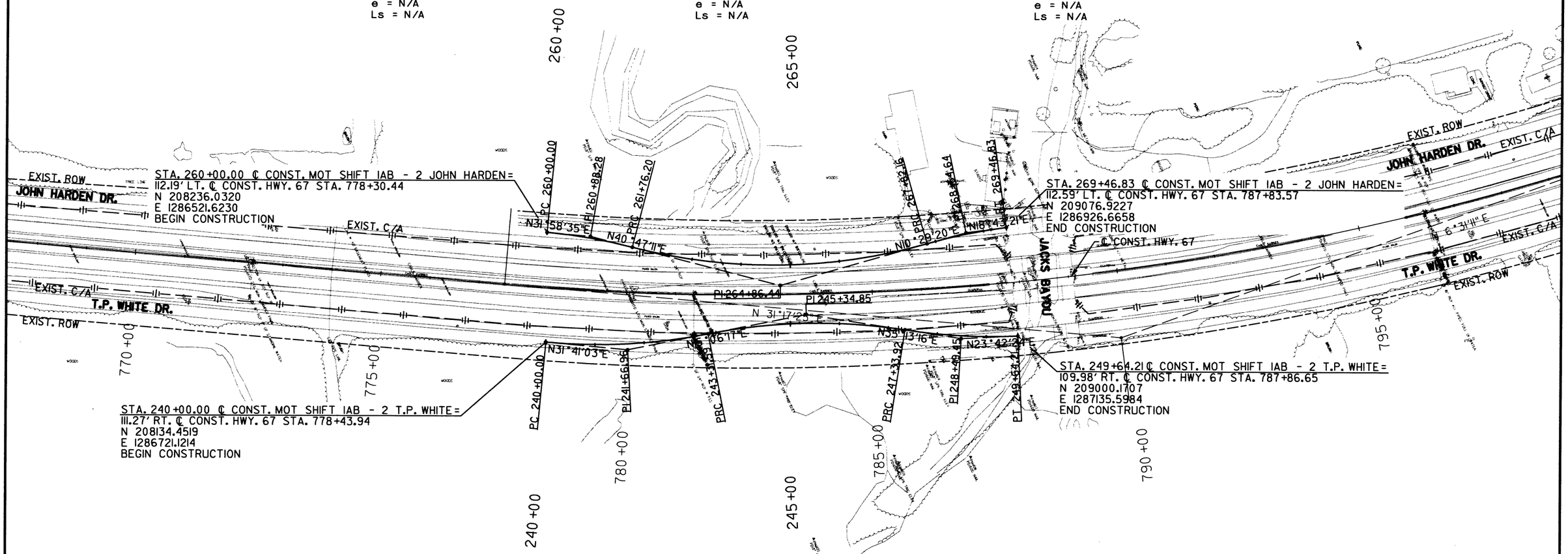
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	III	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS

MOT SHIFT IAB - 2 JOHN HARDEN
P.I. = 260+88.28
Δ = 8°48'37" RT.
D = 5°00'00"
T = 88.28'
L = 176.20'
P.C. = 260+00.00
P.R.C. = 261+76.20
e = N/A
Ls = N/A

MOT SHIFT IAB - 2 JOHN HARDEN
P.I. = 264+86.44
Δ = 30°17'52" LT.
D = 5°00'00"
T = 310.24'
L = 605.96'
P.R.C. = 261+76.20
P.R.C. = 267+82.16
e = N/A
Ls = N/A

MOT SHIFT IAB - 2 JOHN HARDEN
P.I. = 268+64.64
Δ = 8°14'01" RT.
D = 5°00'00"
T = 82.48'
L = 164.67'
P.R.C. = 267+82.16
P.T. = 269+46.83
e = N/A
Ls = N/A



MOT SHIFT IAB - 2 T.P. WHITE
P.I. = 241+66.96
Δ = 16°34'46" LT.
D = 5°00'00"
T = 166.96'
L = 331.59'
P.C. = 240+00.00
P.R.C. = 243+31.59
e = N/A
Ls = N/A

MOT SHIFT IAB - 2 T.P. WHITE
P.I. = 245+34.85
Δ = 20°06'59" RT.
D = 5°00'00"
T = 203.26'
L = 402.33'
P.R.C. = 243+31.59
P.R.C. = 247+33.92
e = N/A
Ls = N/A

MOT SHIFT IAB - 2 T.P. WHITE
P.I. = 248+49.45
Δ = 11°30'52" LT.
D = 5°00'00"
T = 115.53'
L = 230.29'
P.R.C. = 247+33.92
P.T. = 249+64.21
e = N/A
Ls = N/A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SCALE IN FEET
0 100 200 400

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

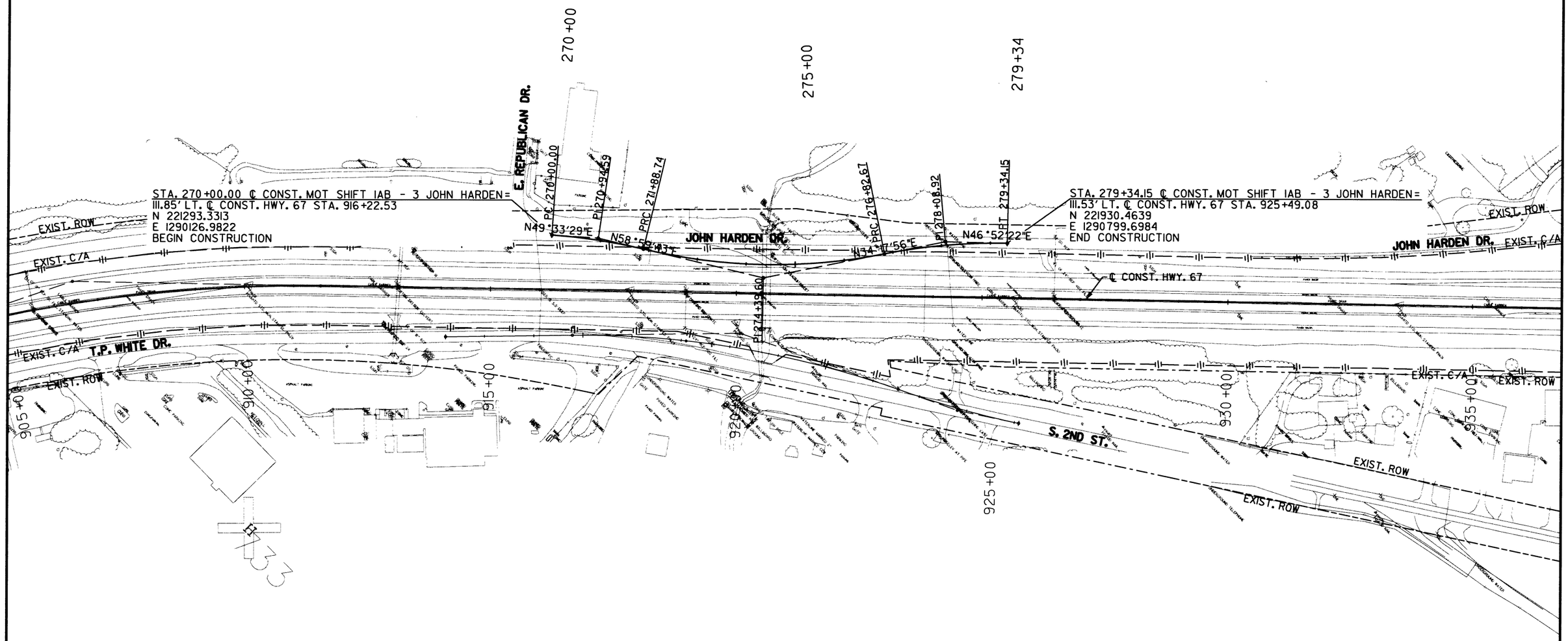
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	112	434

2 MAINTENANCE OF TRAFFIC ALIGNMENTS

MOT SHIFT IAB - 3 JOHN HARDEN
P.I. = 270+94.59
Δ = 9°26'14" RT.
D = 5°00'00"
T = 94.59'
L = 188.74'
P.C. = 270+00.00
P.R.C. = 271+88.74
e = N/A
Ls = N/A

MOT SHIFT IAB - 3 JOHN HARDEN
P.I. = 274+39.60
Δ = 24°41'47" LT.
D = 5°00'00"
T = 250.86'
L = 493.93'
P.R.C. = 271+88.74
P.R.C. = 276+82.67
e = N/A
Ls = N/A

MOT SHIFT IAB - 3 JOHN HARDEN
P.I. = 278+08.92
Δ = 12°34'26" RT.
D = 5°00'00"
T = 126.25'
L = 251.48'
P.R.C. = 276+82.67
P.T. = 279+34.15
e = N/A
Ls = N/A



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SCALE IN FEET
0 100 200 400

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	113	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS

MOT SHIFT ID - 1NB
P.I. = 10+88.61
Δ = 5°18'46" RT.
D = 3°00'00"
T = 88.61'
L = 177.09'
P.C. = 10+00.00
P.R.C. = 11+77.09
e = N/A
Ls = N/A

MOT SHIFT ID - 1NB
P.I. = 13+43.00
Δ = 9°55'46" LT.
D = 3°00'00"
T = 165.91'
L = 330.98'
P.R.C. = 11+77.09
P.T. = 15+08.07
e = N/A
Ls = N/A

MOT SHIFT ID/2A/2B - 2 NB
P.I. = 21+64.78
Δ = 9°51'44" LT.
D = 3°00'00"
T = 164.78'
L = 328.74'
P.C. = 20+00.00
P.R.C. = 23+28.74
e = N/A
Ls = N/A

MOT SHIFT ID/2A/2B - 2 NB
P.I. = 24+11.64
Δ = 4°58'13" RT.
D = 3°00'00"
T = 82.89'
L = 165.68'
P.R.C. = 23+28.74
P.T. = 24+94.42
e = N/A
Ls = N/A

MOT SHIFT ID/2A/2B - 3 NB
P.I. = 30+82.89
Δ = 4°58'13" RT.
D = 3°00'00"
T = 82.89'
L = 165.68'
P.C. = 30+00.00
P.R.C. = 31+65.68
e = N/A
Ls = N/A

MOT SHIFT ID/2A/2B - 3 NB
P.I. = 33+30.46
Δ = 9°51'44" LT.
D = 3°00'00"
T = 164.78'
L = 328.74'
P.R.C. = 31+65.68
P.T. = 34+94.42
e = N/A
Ls = N/A

MOT SHIFT ID - 4 NB
P.I. = 41+66.23
Δ = 9°56'55" LT.
D = 3°00'00"
T = 166.23'
L = 331.62'
P.C. = 40+00.00
P.R.C. = 43+31.62
e = N/A
Ls = N/A

MOT SHIFT ID - 4 NB
P.I. = 44+15.23
Δ = 5°00'50" RT.
D = 3°00'00"
T = 83.62'
L = 167.13'
P.R.C. = 43+31.62
P.T. = 44+98.74
e = N/A
Ls = N/A

STA. 30+00.00 ℄ CONST. MOT SHIFT ID/2A/2B - 3 NB=
32.5' RT. ℄ CONST. HWY. 67 STA. 789+37.43
N 209170.1867
E 1287115.5843
BEGIN CONSTRUCTION

STA. 40+00.00 ℄ CONST. MOT SHIFT ID - 4 NB=
61' RT. ℄ CONST. HWY. 67 STA. 794+58.46
N 209664.5396
E 1287294.9045
BEGIN CONSTRUCTION

STA. 44+98.74 ℄ CONST. MOT SHIFT ID - 4 NB=
32' RT. ℄ CONST. HWY. 67 STA. 799+51.94
N 210157.3313
E 1287367.9147
END CONSTRUCTION

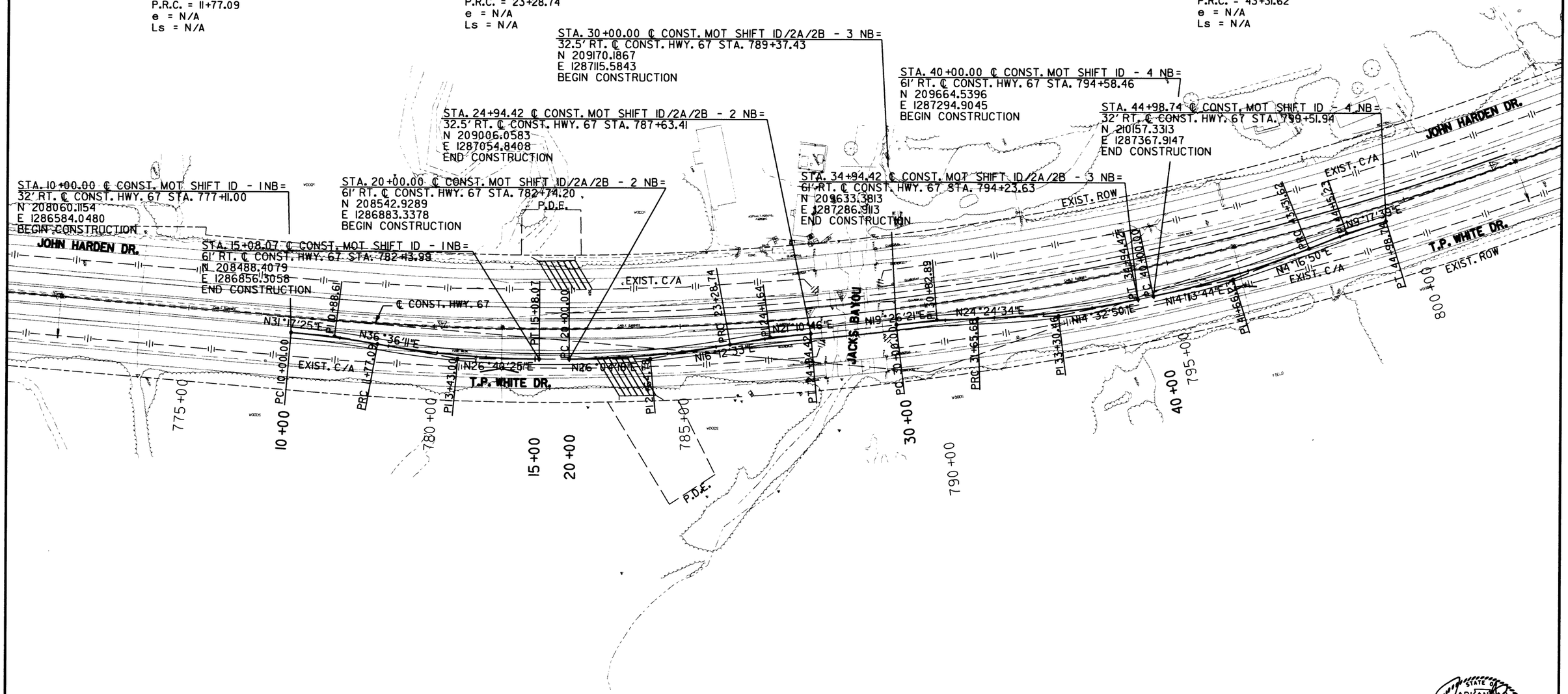
STA. 24+94.42 ℄ CONST. MOT SHIFT ID/2A/2B - 2 NB=
32.5' RT. ℄ CONST. HWY. 67 STA. 787+63.41
N 209006.0583
E 1287054.8408
END CONSTRUCTION

STA. 10+00.00 ℄ CONST. MOT SHIFT ID - 1NB=
32' RT. ℄ CONST. HWY. 67 STA. 777+11.00
N 208060.1154
E 1286584.0480
BEGIN CONSTRUCTION

STA. 20+00.00 ℄ CONST. MOT SHIFT ID/2A/2B - 2 NB=
61' RT. ℄ CONST. HWY. 67 STA. 782+74.20
N 208542.9289
E 1286883.3378
BEGIN CONSTRUCTION

STA. 34+94.42 ℄ CONST. MOT SHIFT ID/2A/2B - 3 NB=
61' RT. ℄ CONST. HWY. 67 STA. 794+23.63
N 209633.3813
E 1287286.9113
END CONSTRUCTION

STA. 15+08.07 ℄ CONST. MOT SHIFT ID - 1NB=
61' RT. ℄ CONST. HWY. 67 STA. 782+13.99
N 208488.4079
E 1286856.5058
END CONSTRUCTION



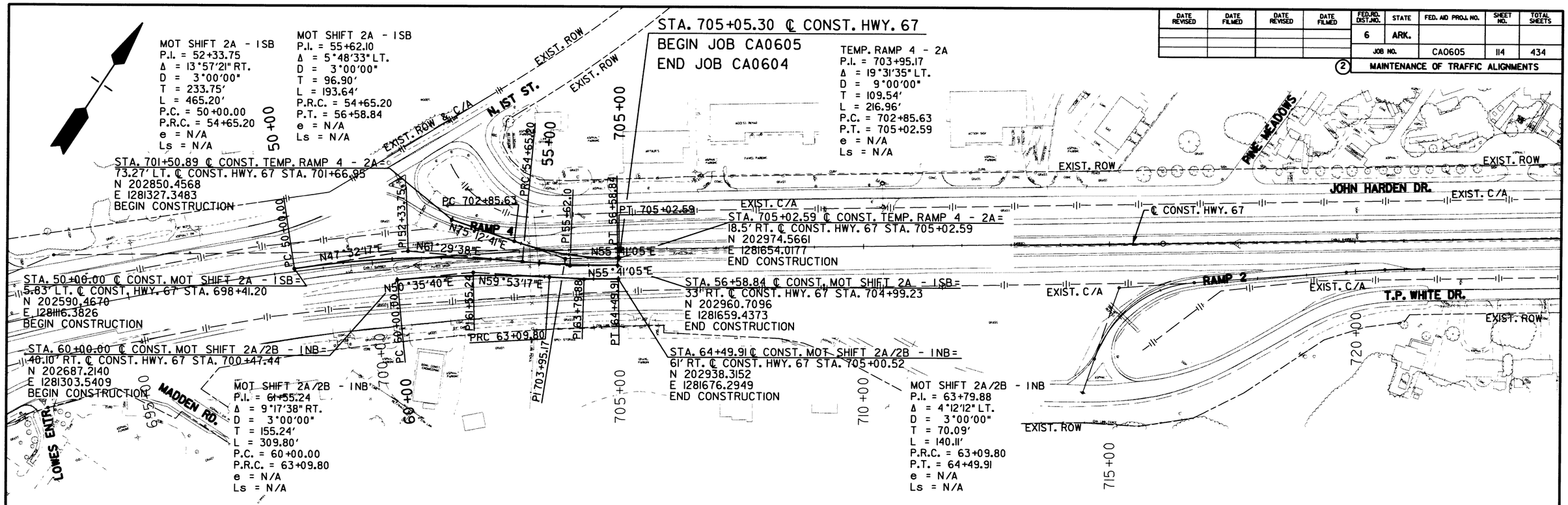
SCALE IN FEET
0 100 200 400

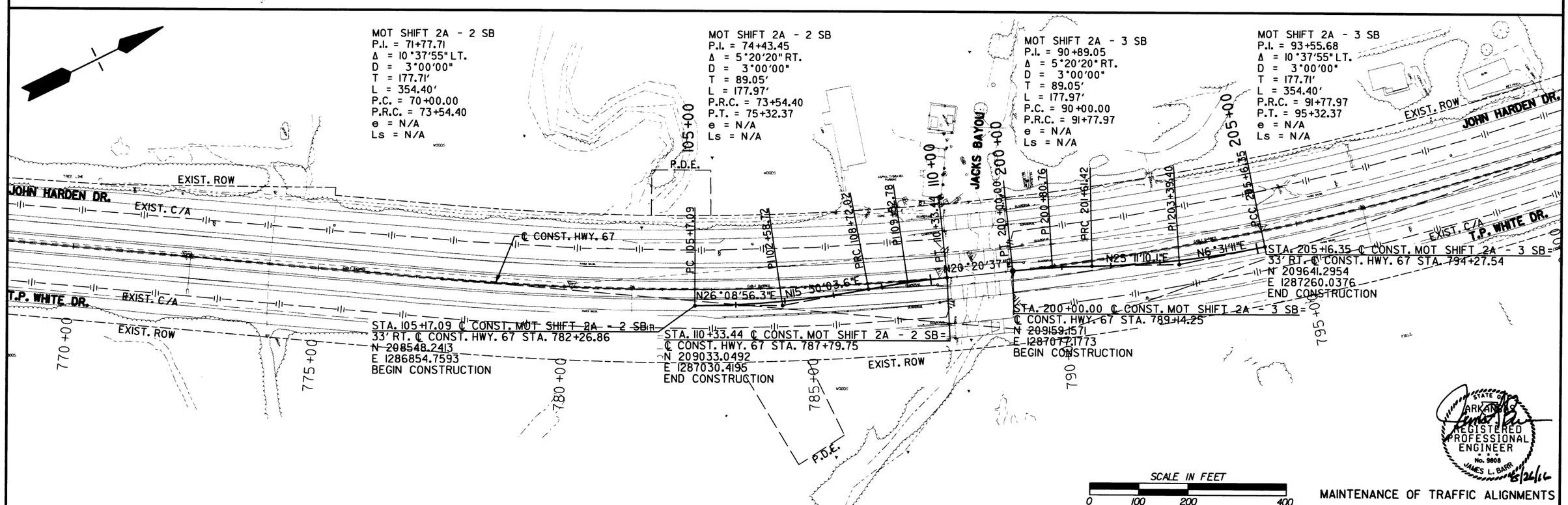
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/10

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	114	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS





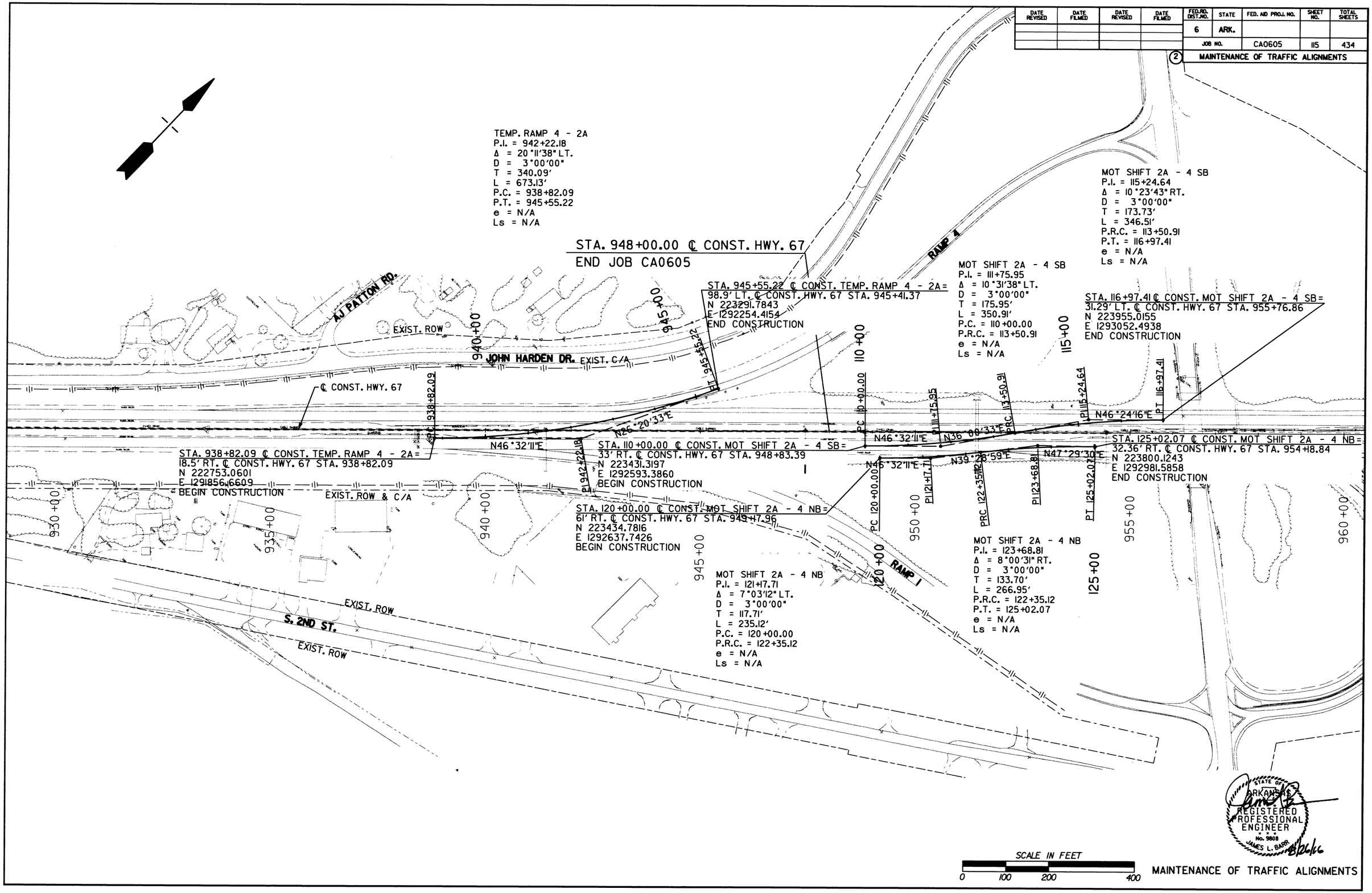
SCALE IN FEET
0 100 200 400

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	115	434

2 MAINTENANCE OF TRAFFIC ALIGNMENTS

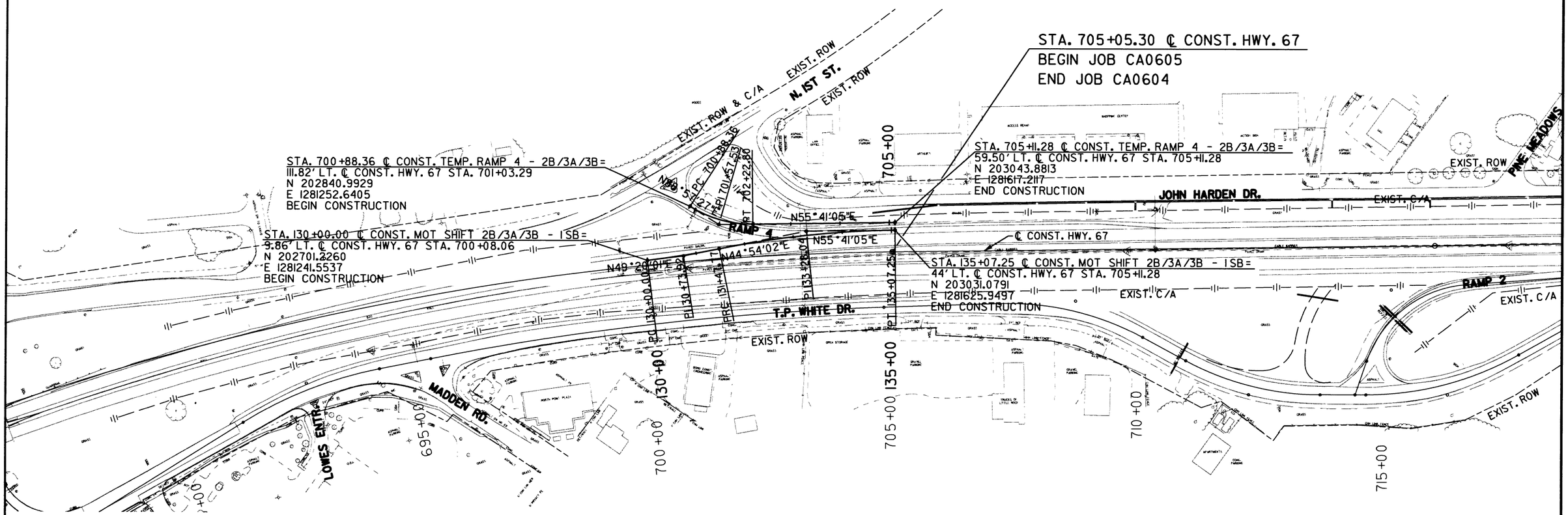


MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	116	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS

TEMP. RAMP 4 - 2B/3A/3B
P.I. = 701+57.53
Δ = 33°16'22" LT.
D = 24°45'00"
T = 69.17'
L = 134.44'
P.C. = 700+88.36
P.T. = 702+22.80
e = N/A
Ls = N/A



MOT SHIFT 2B/3A/3B - 1SB
P.I. = 130+73.92
Δ = 4°25'59" LT.
D = 3°00'00"
T = 73.92'
L = 147.77'
P.C. = 130+00.00
P.R.C. = 131+47.77
e = N/A
Ls = N/A

MOT SHIFT 2B/3A/3B - 1SB
P.I. = 133+28.04
Δ = 10°47'04" RT.
D = 3°00'00"
T = 180.27'
L = 359.48'
P.R.C. = 131+47.77
P.T. = 135+07.25
e = N/A
Ls = N/A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BAKER
8/26/10

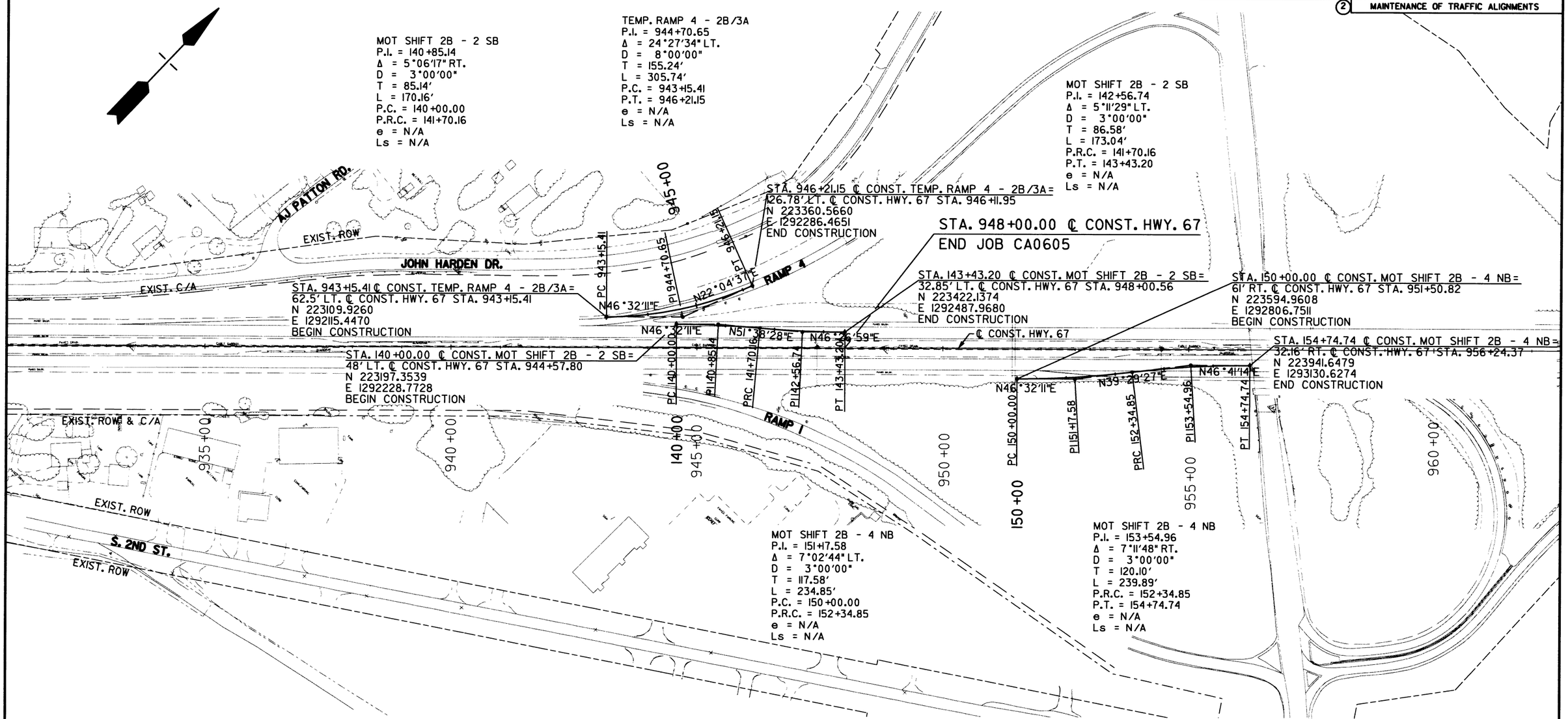
SCALE IN FEET
0 100 200 400

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	117	434

2 MAINTENANCE OF TRAFFIC ALIGNMENTS



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/06

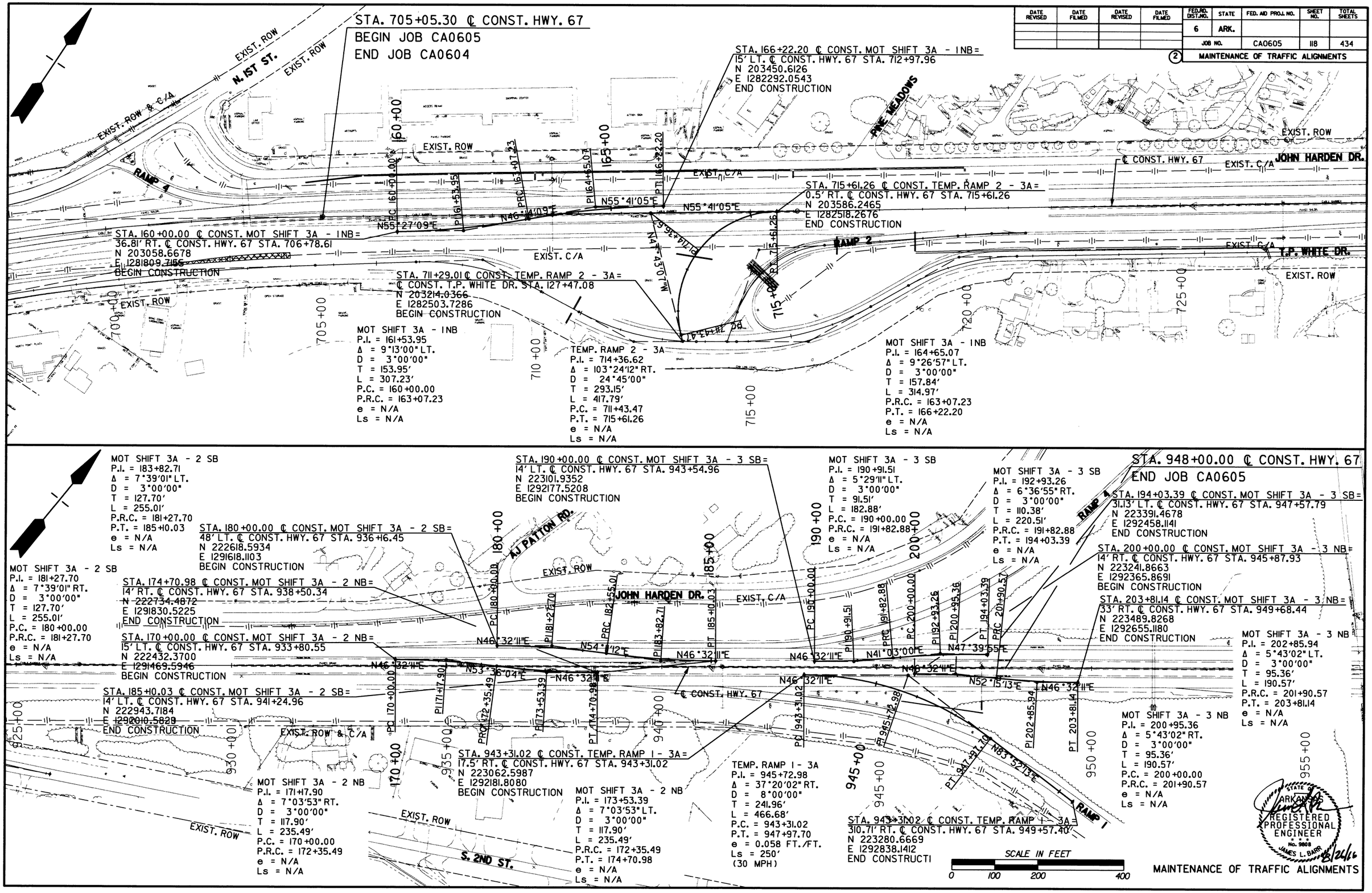
SCALE IN FEET
0 100 200 400

MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	118	434

(2) MAINTENANCE OF TRAFFIC ALIGNMENTS



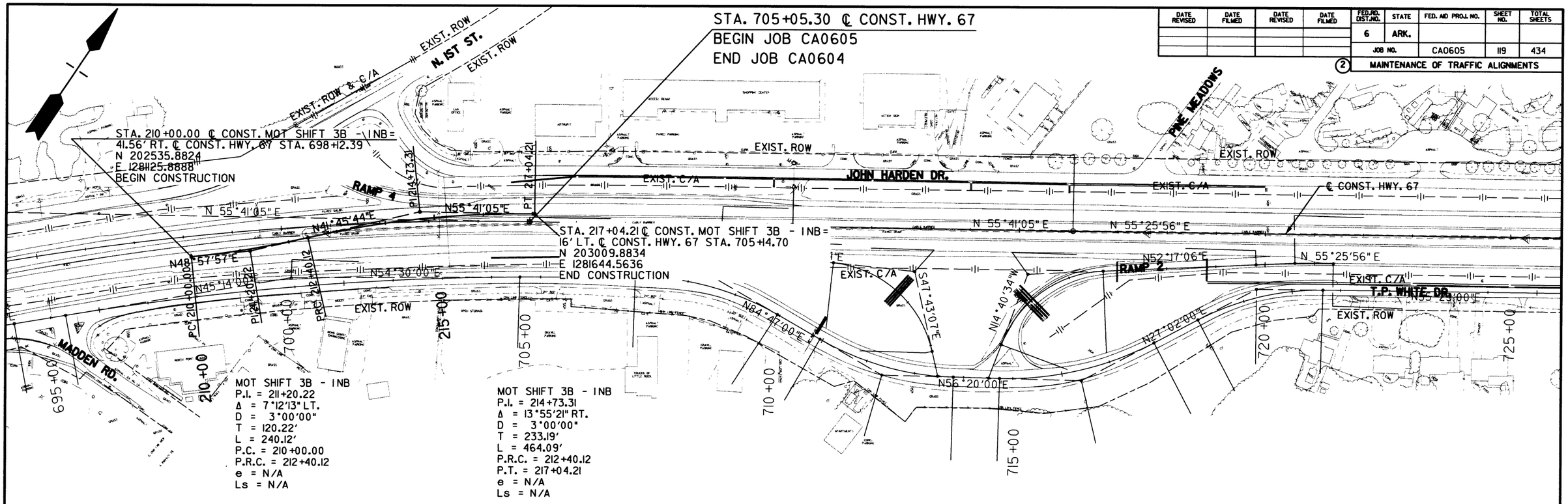
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER C.E. No. 9808 JAMES L. BARR 8/24/06

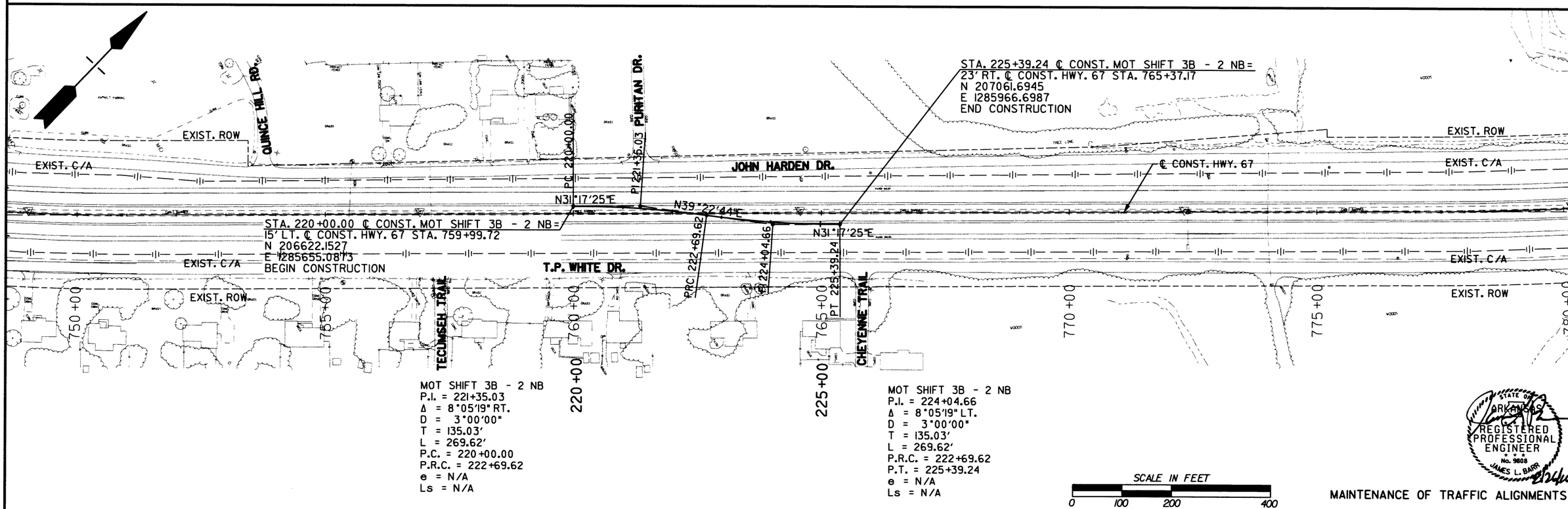
MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	119	434

2 MAINTENANCE OF TRAFFIC ALIGNMENTS





STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
2/24/

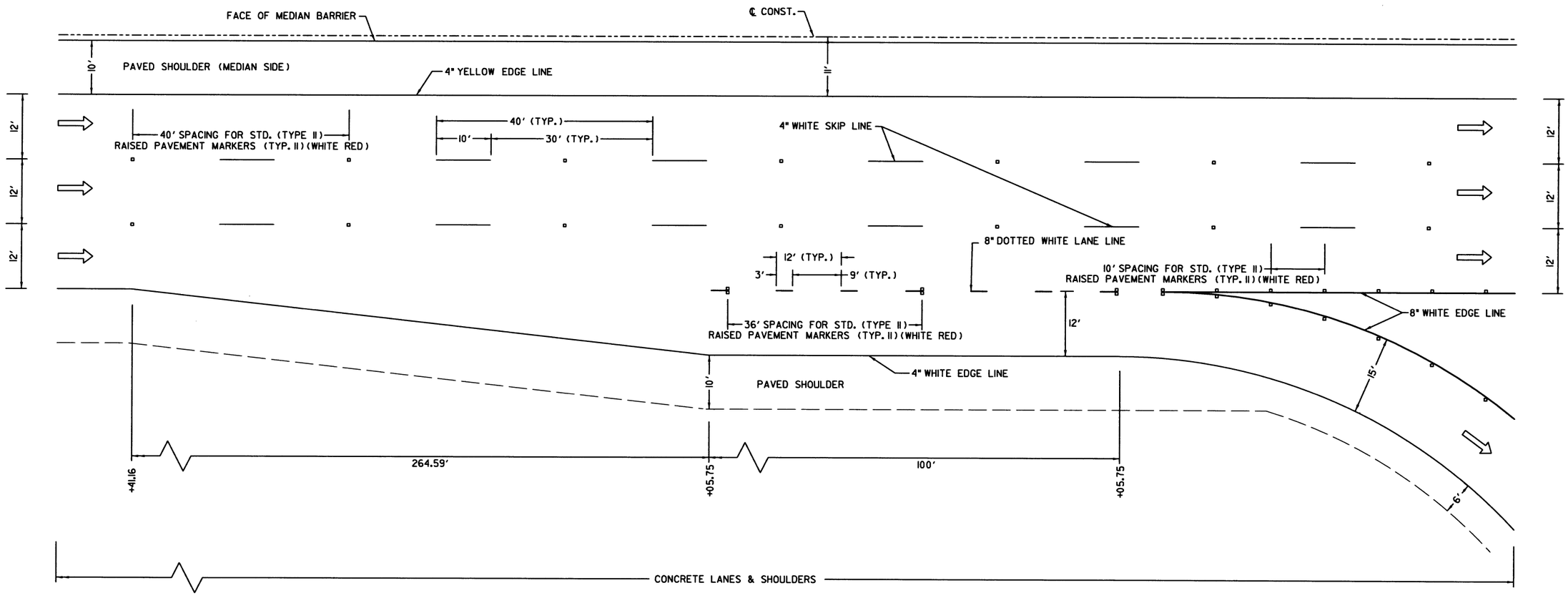
MAINTENANCE OF TRAFFIC ALIGNMENTS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	120	434

(2) PERMANENT PAVEMENT MARKING DETAILS

CONCRETE ROADWAY

DOTTED LANE LINES - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
SKIP LINE - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
EDGE LINES - PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE MARKING TAPE (ALT. NO. 2)
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING



PERMANENT PAVEMENT MARKING DETAILS
NORTHBOUND HWY. 67 SHOWN ABOVE

STA. 704+41.16 RT. TO 709+81.27 RT.

SEE STANDARD DRAWINGS PM-1 AND PM-2
FOR ADDITIONAL INFORMATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/06

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	121	434

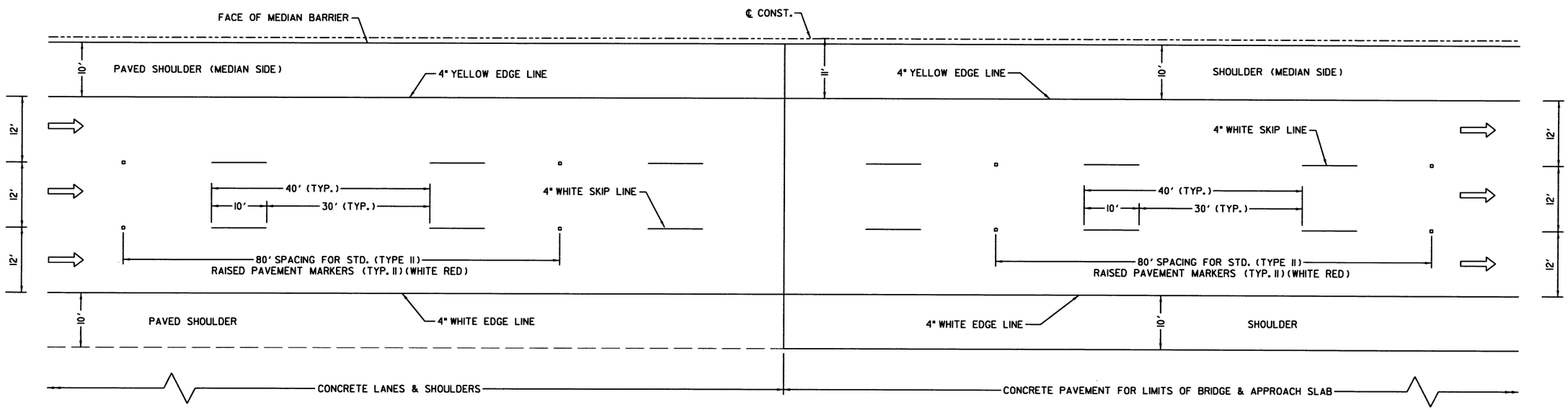
(2) PERMANENT PAVEMENT MARKING DETAILS

CONCRETE ROADWAY

SKIP LINE - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
EDGE LINES - PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE MARKING TAPE (ALT. NO. 2)
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING

CONCRETE BRIDGE

SKIP LINE - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
EDGE LINES - PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE MARKING TAPE (ALT. NO. 2)
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING



PERMANENT PAVEMENT MARKING DETAILS
NORTHBOUND HWY. 67 SHOWN ABOVE

(REVERSE FOR SOUTHBOUND HWY. 67)
STA. 709+81.27 RT. TO STA. 719+89.28 RT.
STA. 744+89.28 RT. TO STA. 914+44.67 RT.
STA. 729+82.29 LT. TO STA. 942+75.00 LT.

SEE STANDARD DRAWINGS PM-1 AND PM-2
FOR ADDITIONAL INFORMATION

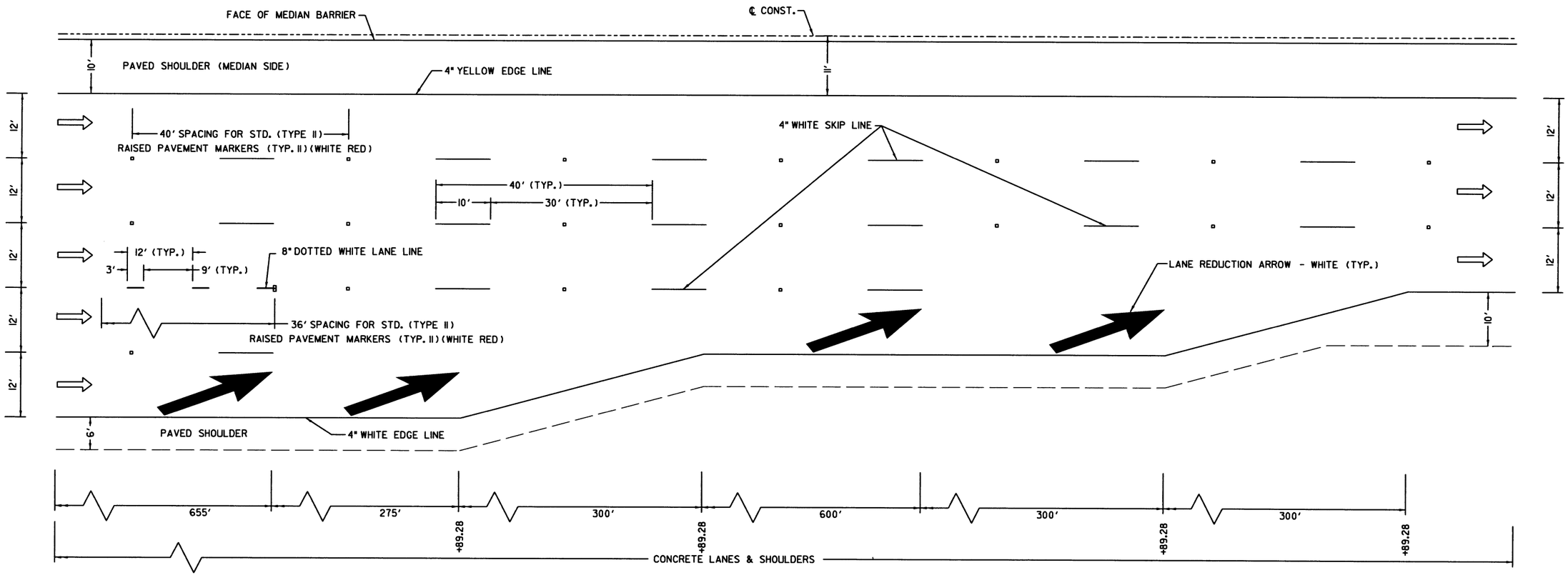
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/24/06

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	122	434

(2) PERMANENT PAVEMENT MARKING DETAILS

CONCRETE ROADWAY

DOTTED LANE LINES - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
SKIP LINE - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
EDGE LINES - PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE MARKING TAPE (ALT. NO. 2)
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING



PERMANENT PAVEMENT MARKING DETAILS
NORTHBOUND HWY. 67 SHOWN ABOVE
STA. 719+89.28 RT. TO STA. 744+89.28 RT.

SEE STANDARD DRAWINGS PM-1 AND PM-2
FOR ADDITIONAL INFORMATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

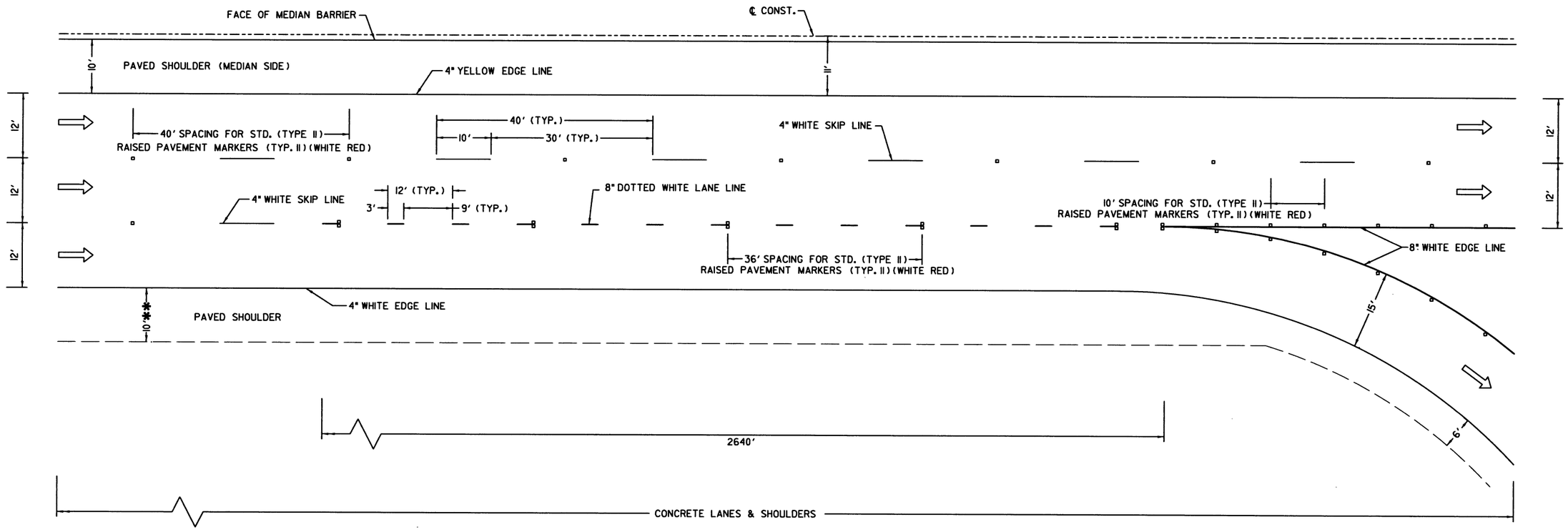
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	123	434

(2) PERMANENT PAVEMENT MARKING DETAILS

CONCRETE ROADWAY

DOTTED LANE LINES - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
SKIP LINE - CONTRAST PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE CONTRAST MARKING TAPE (ALT. NO. 2)
EDGE LINES - PROFILE THERMO (ALT. NO. 1) OR HIGH PERFORMANCE MARKING TAPE (ALT. NO. 2)
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING



PERMANENT PAVEMENT MARKING DETAILS
NORTHBOUND HWY. 67 SHOWN ABOVE
(REVERSE FOR SOUTHBOUND HWY. 67)
STA. 914+44.67 RT. TO STA. 941+25.55 RT.
STA. 702+68.83 LT. TO STA. 729+82.29 LT.

** VARIES FROM 10' TO 30'

SEE STANDARD DRAWINGS PM-1 AND PM-2
FOR ADDITIONAL INFORMATION

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SIGNING SUMMARY OF QUANTITIES			
ITEM NUMBER	ITEM	TOTAL	UNIT
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	108	CU. YD.
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	38	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	2	TON
617	GUARDRAIL (TYPE A)	600	LIN. FT.
617	TERMINAL ANCHOR POSTS (TYPE 1)	1	EACH
617	GUARDRAIL TERMINAL (TYPE 2)	2	EACH
617	THRIE BEAM GUARDRAIL TERMINAL	1	EACH
SP	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE	1	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)	6	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)	29	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-2)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-43-03)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-30)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-31)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-32)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-33)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-34)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-067-43-04)	1	EACH
SP & 725	GUIDE SIGN ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	1807	SQ.FT.
SP &725	GUIDE SIGN OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	1929	SQ.FT.
SP & 726	STANDARD SIGNS	928	SQ.FT.
SP & 727	EXIT NUMBER PANEL (TYPE A)	389	SQ.FT.
SP & 729	CHANNEL POST SIGN SUPPORT (TYPE U-1)	43	EACH
SP & 729	CHANNEL POST SIGN SUPPORT (TYPE U-2)	5	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	17619	POUND
730	BREAKAWAY SIGN SUPPORT (TYPE G-3)	765	POUND

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/11/2016				6	ARK.			
				JOB NO.		CA0605	125	434

(2) SIGNING QUANTITIES

GUIDE SIGNING QUANTITIES

SIGN NO.	OH	BM	G-2	G-3	GUIDE SIGN LENGTH (LIN. FT.)	GUIDE SIGN HEIGHT (LIN. FT.)	GUIDE SIGN SQ.FT.	BREAKAWAY SIGN SUPPORT: STEEL SECT. A-572 BEAM	STEEL SECT. A-572 LBS	SIGN POST LENGTH H-1 (LIN FT)	SIGN POST LENGTH H-2 (LIN FT)	SIGN POST LENGTH H-3 (LIN FT)	STUB POST H-1 (LIN FT)	STUB POST H-2 (LIN FT)	STUB POST H-3 (LIN FT)	FOOTING DIA. (LIN FT)	FOOTING DEPTH (LIN FT)	FOOTING EMBED. (LIN FT)	SIGN POST AND STUB (POUND) G-2	SIGN POST AND STUB (POUND) G-3	EXIT NUMBER PANEL LEGEND	TYPE A (SQ.FT.)	TYPE B (SQ.FT.)	TYPE C (SQ.FT.)
GM-067-60-STA652+80NB			1		13.00	8.00	104.00	W8	22	16.06	15.86		5.94	5.94		3	8.5	5.61	963.60		11B	28.75		
GM-067-60-STA 661+80NB				1	21.00	6.00	126.00	W8	14	13.61	14.91	16.22	3.30	3.30	3.30	3	4.5	2.97		764.96	11A	28.75		
GM-067-60-STA 671+35NB			1		15.50	6.50	100.75	W8	22	14.13	14.55		4.29	4.29		3	6	3.96	819.72		11A	28.75		
GM-067-60-STA684+60NB			1		13.00	8.00	104.00	W8	22	15.89	19.54		5.94	5.94		3	8.5	5.61	1040.82		11B	28.75		
SS-067-RAMP-60-STA701+60SB			1		6.50	3.00	19.50	W6	12	16.03	16.03		4.02	4.02		1.5	5.5	3.70	481.20					
EX-067-60-STA701+83SB			1		6.50	5.00	32.50	W6	10	13.50	13.50		3.68	3.68		1.5	5	3.35	343.60					
GM-067-60-STA704+31NB			1		13.00	6.00	78.00	W8	14	15.87	18.10		3.33	3.33		3	4.5	3.00	568.82		11 B	28.75		
EX-067-RAMP-60-STA711+94NB			1		9.00	5.00	45.00	W8	12	12.33	12.61		4.33	4.33		3	6	4.00	403.20					
GM-067-RAMP-60-STA712+72NB			1		7.00	3.50	24.50	W6	12	12.98	14.82		4.62	4.62		1.5	6.5	4.29	444.48					
SS-067-FR-60-STA713+86NB10.19			1		5.50	2.50	13.75	W6	8	11.57	11.20		3.33	3.33		1.5	4.5	3.00	235.44					
SS-067-FR-60-STA715+44SB			1		5.50	2.50	13.75	W6	9	12.85	12.77		3.33	3.33		1.5	4.5	3.00	290.52					
OH-067-60-STA718+50SB-A	1				15.50	13.00	201.50														11	23.75		
OH-067-60-STA718+50SB-B	1				17.50	13.00	227.50																	
OH-067-60-STA744+90SB	1				21.00	10.00	210.00														11	23.75		
OH-067-60-STA771+30SB-A	1				21.00	10.00	210.00														11	23.75		
OH-067-60-STA771+30SB-B	1				16.50	5.50	90.75																	
GM-067-60-STA758+20NB			1		9.50	3.50	33.25	W6	12	15.53	17.43		4.62	4.62		1.5	6.5	4.29	506.40					
LFG-067-60-STA764+63SB			1		11.50	15.00	172.50	W10	25	24.15	26.61		6.60	6.60		3	9.5	6.27	1599.00					
GM-067-FR-60-STA771+18NB			1		4.50	2.00	9.00	W6	8	10.46	11.36		3.33	3.33		1.5	4.5	3.00	227.84					
GM-067-FR-60-STA771+19SB			1		4.50	2.00	9.00	W6	8	10.46	11.36		3.33	3.33		1.5	4.5	3.00	227.84					
					5.00	2.50	12.50																	
LLC-067-60-STA772+88SB			1		11.50	15.00	172.50	W10	24	23.43	25.73		6.60	6.60		3	9.5	6.27	1496.64					
GM-067-60-STA797+26NB			1		8.50	4.50	38.25	W6	10	12.98	15.02		3.63	3.63		1.5	5	3.30	352.60					
GM-067-60-STA850+22SB			1		4.00	4.50	18.00	W6	9	12.43	13.23		3.63	3.63		1.5	5	3.30	296.28					
GM-067-60-STA851+43NB			1		4.00	4.50	18.00	W6	11	15.39	16.19		3.96	3.96		1.5	5.5	3.63	434.50					
GM-067-60-STA852+73SB			1		8.50	4.50	38.25	W6	10	12.73	14.43		3.33	3.33		1.5	4.5	3.00	338.20					
GM-067-60-STA865+24NB			1		12.00	5.00	60.00	W8	14	14.97	13.76		3.33	3.33		3	4.5	3.00	495.46					
LC-067-60-STA874+39NB			1		11.50	12.00	138.00	W8	22	23.79	23.52		5.94	5.94		3	8.5	5.61	1302.18					
LG-067-60-STA882+38NB			1		11.50	12.00	138.00	W8	22	24.18	22.91		5.94	5.94		3	8.5	5.61	1297.34					
OH-067-60-STA891+03NB	1				18.00	12.00	216.00														16 A-B	35.00		
LF-067-60-STA898+98NB			1		11.50	12.50	143.75	W8	21	20.93	23.23		5.94	5.94		3	8.5	5.61	1176.84					
OH-067-60-STA914+95NB-A	1				13.50	10.50	141.75														16 A	28.75		
OH-067-60-STA914+95NB-B	1				18.50	10.00	185.00														16 B	28.75		
GM-067-FR-60-STA918+06SB			1		4.00	1.50	6.00	W6	7	8.00	11.10		3.08	3.08		1.5	4	2.75	176.82					
GM-067-60-STA918+06SB			1		4.00	1.50	6.00	W6	8	9.90	11.10		3.08	3.08		1.5	4	2.75	217.28					
GM-067-43-STA918+11NB			1		4.00	1.50	6.00	W6	7	9.43	10.23		3.08	3.08		1.5	4	2.75	180.74					
GM-067-FR-60-STA918+42SB			1		4.00	1.50	6.00	W6	8	9.90	11.10		3.08	3.08		1.5	4	2.75	217.28					
GM-067-FR-43-STA918+22NB			1		4.00	1.50	6.00	W6	7	9.43	10.23		3.08	3.08		1.5	4	2.75	180.74					
GM-067-FR-43-STA918+81NB			1		4.00	1.50	6.00	W6	10	12.77	13.57		3.33	3.33		1.5	4.5	3.00	330.00					
OH-067-43-STA938+39NB-A	1				12.00	8.00	96.00														16 A	28.75		
OH-067-43-STA938+39NB-B	1				18.00	10.00	180.00														16 B	28.75		
EX-067-RAMP-43-STA943+62NB			1		9.00	5.00	45.00	W8	12	12.33	12.61		4.33	4.33		3	6	4.00	403.20					
OH-067-43-STA956+71NB-BRIDGE		1			17.00	10.00	170.00														16 B	23.75		
EX-067-RAMP-43-STA960+19NB			1		9.00	5.00	45.00	W8	15	15.00	15.00		4.03	4.03		3	5.5	3.70	570.90					
					9.00	2.00	18.00																	
GUIDE SIGNS ROADSIDE MOUNTED TOTALS							**1806.75**																	
GUIDE SIGNS OVERHEAD MOUNTED TOTALS							**1928.50**																	
TOTALS	**10**	**1**	**31**	**1**			**3735.25**												**17619.48**	**764.96**		**388.75**	**0.00**	**0.00**

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/11/16

SIGNING QUANTITIES

STANDARD SIGNS FLAT SHEET

SIGN NO.	STANDARD SIGNS FLAT SHEET I-BEAM SIGN SUPPORTS						COMMENT
	TYPE					STANDARD SIGN TO BE MOUNTED	
LOCATION	U-1	U-2	G-1	G2-1	G2-2	SIGN NO.	
LFG-067-60-STA656+80NB						NA	EXIT PLAQUE
LFG-067-60-STA656+80NB						NA	EXIT PLAQUE
GM-067-60-STA 661+80NB						NA	EXIT PLAQUE
LLC-067-60-STA666+00NB						NA	EXIT PLAQUE
LLC-067-60-STA666+00NB						NA	EXIT PLAQUE
GM-067-60-STA 671+35NB						NA	EXIT PLAQUE
SS-067-RAMP-60-STA700+28NB	1					R5-1	TYPE A SUPPORT ASSEMBLY
SS-067-RAMP-60-STA700+60NB	1					R5-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA700+43SB		1				W1-7	TYPE B SUPPORT ASSEMBLY
SS-067-FR-60-STA700+73SB			1			M4-5,M1-5,M6-2L	
SS-067-RAMP-60-STA701+56SB			1			R5-1,R1-2	
SS-067-RAMP-60-STA701+14NB				1		R5-1A	
SS-067-RAMP-60-STA701+43NB				1		R5-1A	
SS-067-RAMP-60-STA701+45NB	1					W6-3	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA702+16SB		1				W1-7	TYPE B SUPPORT ASSEMBLY
SS-067-FR-60-STA701+76NB	1					AD,M6-1R	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA702+62SB	1					R1-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA702+74SB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA703+11SB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA703+54SB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-RAMP-60-STA703+73SB				1		W3-3	
SS-067-FR-60-STA705+34SB	1					W3-1A	TYPE A SUPPORT ASSEMBLY
SS-067-60-STA706+04NB	1					W13-2	TYPE A SUPPORT ASSEMBLY
LLFG-067-RAMP-60-STA702+18SB		1				AD,AD,AD,M5-1L,AD,AD,AD,M5-1L	TYPE B SUPPORT ASSEMBLY
SS-067-FR-60-STA708+19NB			1			M4-5,M3-1,M1-4,M1-4,M6-3	
SS-067-FR-60-STA709+07SB	1					W1-2A	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA710+13SB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA710+18NB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA710+22NB				1		W3-3	
SS-067-RAMP-60-STA711+00NB				1		W3-3	
SS-067-RAMP-60-STA712+66NB				1		R5-1A	
SS-067-RAMP-60-STA713+38NB				1		R5-1A	
SS-067-FR-60-STA713+86NB						M4-5,M3-1,M1-4,M1-4,M6-1L	ATTACHED TO GUIDE SIGN ASSEMBLY
SS-067-60-STA715+02NB				1		W4-1R	
SS-067-RAMP-60-STA715+18NB	1					R1-2	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA715+44SB						M4-5,M3-1,M1-4,M1-4,M6-1R	ATTACHED TO GUIDE SIGN ASSEMBLY
SS-067-FR-60-STA718+69SB				1		W3-3	
SS-067-60-STA720+10NB				1		R2-1	
SS-067-60-STA720+10NB				1		R2-1	
SS-067-FR-60-STA724+44SB			1			M4-5,M3-1,M1-4,M1-4,M6-3	
SS-067-60-STA725+07NB				1		W9-2	
SS-067-60-STA726+40NB				1		R4-3	
SS-067-60-STA728+40SB				1		R4-3	
SS-067-FR-60-STA728+71SB	1					W1-5R	TYPE A SUPPORT ASSEMBLY
SS-067-60-STA730+05NB				1		W4-2R	
SS-067-60-STA738+09NB				1		W9-2	
SS-067-60-STA742+01NB				1		W4-2R	
SS-067-60-STA746+00SB				1		W3-5	
SS-067-60-STA746+00SB				1		W3-5	
SS-067-FR-60-STA746+45NB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA746+45NB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-60-STA747+90NB				1		R2-1	
SS-067-60-STA747+92NB				1		R2-1	
SS-067-60-STA752+00NB			1			M3-1,M1-4,M1-4	
SS-067-FR-60-STA766+00SB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA766+00NB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA771+21SB	1					W3-5	TYPE A SUPPORT ASSEMBLY
SS-067-60-STA780+82NB				1		W8-13	
SS-067-60-STA780+83NB				1		W8-13	
SS-067-FR-60-STA785+28NB	1					W8-13	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA785+90NB	1					W8-13	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA787+82NB	1					OM-3L	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA787+82NB	1					OM-3R	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA787+88SB	1					OM-3L	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA787+86NB	1					OM-3R	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA789+13SB	1					OM-3R	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA789+14SB	1					OM-3L	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA789+11SB	1					OM-3R	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA789+12SB	1					OM-3L	TYPE C SUPPORT ASSEMBLY
SS-067-FR-60-STA791+02SB	1					W8-13	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA791+76SB	1					W8-13	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA793+22SB	1					W3-5	TYPE A SUPPORT ASSEMBLY
SS-067-60-STA796+01SB				1		W8-13	
SS-067-60-STA796+02SB				1		W8-13	
SS-067-FR-60-STA821+33NB	1					W2-2R	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA821+99SB	1					R2-1	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA822+04NB	1					W2-2L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA827+48WB		1				W1-7	TYPE B SUPPORT ASSEMBLY
SS-067-FR-60-STA827+32EB		1				W1-7	TYPE B SUPPORT ASSEMBLY
SS-067-FR-60-STA832+82SB	1					W2-2L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA832+85SB	1					W2-2R	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA916+69NB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA917+19NB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-60-STA917+68NB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-43-STA918+13NB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-FR-43-STA919+00NB	1					W1-8R,W1-8L	TYPE A SUPPORT ASSEMBLY
SS-067-43-STA928+13SB			1			M3-3,M1-4,M1-4	
SS-067-RAMP-43-STA942+55NB				1		W13-3	
SS-067-43-STA949+21SB				1		W4-3R	
SS-067-43-STA953+45NB				1		W13-8	
SS-067-RAMP-43-STA956+03NB					1	W1-11,W13-1P	
SS-067-43-STA959+00NB				1		W13-7	
TOTAL TYPE A	**35**						
TOTAL TYPE C	**8**						
TOTAL	**43**	**5**	**6**	**29**	**1**		

SIGNING QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. DAVIS 11/01/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FEDERAL DISTRICT NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
9/7/2016				JOB NO.		CA0605	126	434

2

SIGNING QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/11/2016				JOB NO.		CA0605	127	434
				(2)	SIGNING QUANTITIES			

STANDARD ROADSIDE SIGNS SHEET ALUMINUM 0.125" THICKNESS (GREATER THAN 5 SQ.FT.)

SIGN NO.	SIZE OF SIGN	UNIT AREA (SQ.FT.)	QUANTITY REQUIRED	TOTAL SIGN AREA (SQ.FT.)	LEGEND/ BACKGROUND
R1-1	36"x36"	9.00	1	9.00	RED/WHITE
R1-2	36"x36"x36"	9.00	2	18.00	RED/WHITE
R2-1	48"x60"	20.00	4	80.00	BLACK/WHITE
R4-3	48"x60"	20.00	2	40.00	BLACK/WHITE
R5-1	30"x30"	6.25	5	31.25	RED/WHITE
R5-1A	36"x24"	6.00	4	24.00	RED/WHITE
W1-2A	36"x36"	9.00	1	9.00	BLACK/YELLOW
W1-5R	36"x36"	9.00	1	9.00	BLACK/YELLOW
W1-7	48"x24"	8.00	4	32.00	BLACK/YELLOW
W1-11	48"x48"	16.00	1	16.00	BLACK/YELLOW
W2-2L	30"x30"	6.25	2	12.50	BLACK/YELLOW
W2-2R	30"x30"	6.25	2	12.50	BLACK/YELLOW
W3-1A	36"x36"	9.00	1	9.00	BLACK/YELLOW
W3-3	48"x48"	16.00	4	64.00	BLACK/YELLOW
W3-5	36"x36"	9.00	2	18.00	BLACK/YELLOW
W3-5	48"x48"	16.00	2	32.00	BLACK/YELLOW
W4-1R	48"x48"	16.00	1	16.00	BLACK/YELLOW
W4-2R	48"x48"	16.00	2	32.00	BLACK/YELLOW
W4-3R	48"x48"	16.00	1	16.00	BLACK/YELLOW
W6-3	36"x36"	9.00	1	9.00	BLACK/YELLOW
W8-13	36"x36"	9.00	4	36.00	BLACK/YELLOW
W8-13	48"x48"	16.00	4	64.00	BLACK/YELLOW
W9-2	48"x48"	16.00	2	32.00	BLACK/YELLOW
W13-1P	30"x30"	6.25	1	6.25	BLACK/YELLOW
W13-2	36"x48"	12.00	2	24.00	BLACK/YELLOW
W13-3	36"x48"	12.00	1	12.00	BLACK/YELLOW
W13-7	36"x60"	15.00	1	15.00	BLACK/YELLOW
W13-8	36"x60"	15.00	1	15.00	BLACK/YELLOW
TOTAL 0.125" THICKNESS				**693.50**	

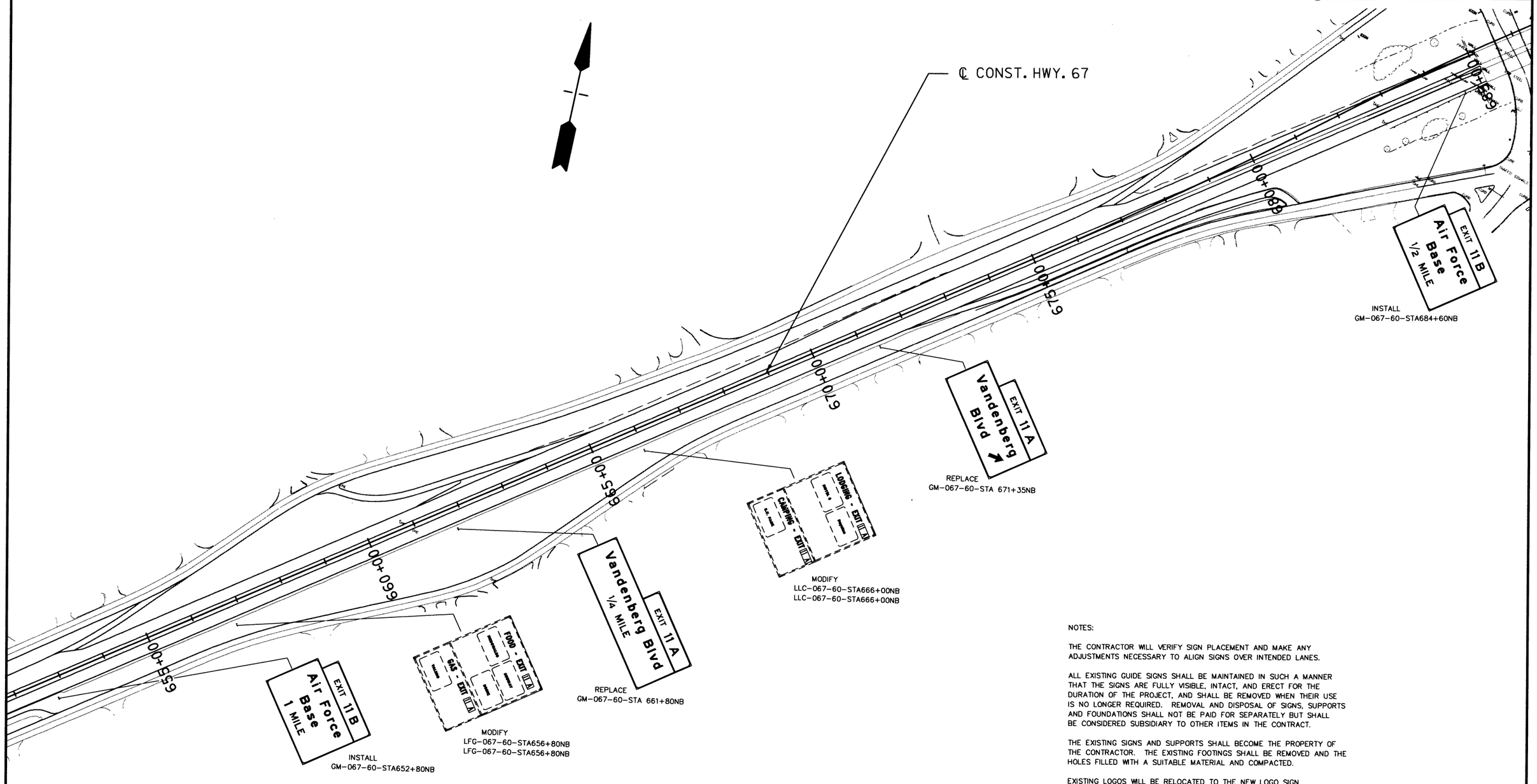
STANDARD ROADSIDE SIGNS SHEET ALUMINUM 0.100" THICKNESS (5 SQ.FT. OR LESS)

SIGN NO.	SIZE OF SIGN	UNIT AREA (SQ.FT.)	QUANTITY REQUIRED	TOTAL SIGN AREA (SQ.FT.)	LEGEND/ BACKGROUND
AD	24"x18"	3.00	7	21.00	NA
M1-4	24"x24"	4.00	6	24.00	BLACK/WHITE
M1-4	30"x24"	5.00	6	30.00	BLACK/WHITE
M1-5	30"x24"	5.00	1	5.00	BLACK/WHITE
M3-1	24"x12"	2.00	5	10.00	BLACK/WHITE
M3-3	24"x12"	2.00	1	2.00	BLACK/WHITE
M4-5	24"x12"	2.00	5	10.00	BLACK/WHITE
M5-1L	21"x15"	2.19	2	4.38	BLACK/WHITE
M6-1L	21"x15"	2.19	1	2.19	BLACK/WHITE
M6-1R	21"x15"	2.19	2	4.38	BLACK/WHITE
M6-2L	21"x15"	2.19	1	2.19	BLACK/WHITE
M6-3	21"x15"	2.19	2	4.38	BLACK/WHITE
OM-3L	12"x36"	3.00	4	12.00	BLACK/WHITE
OM-3R	12"x36"	3.00	4	12.00	BLACK/WHITE
R2-1	24"x30"	5.00	7	35.00	BLACK/WHITE
W1-8L	18"x24"	3.00	8	24.00	BLACK/WHITE
W1-8R	18"x24"	3.00	8	24.00	BLACK/WHITE
NA	24"x12"	2.00	4	8.00	WHITE/BLUE
TOTAL 0.100" THICKNESS				**234.52**	

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	128	434

(2) SIGN PLACEMENT SHEET



NOTES:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

ALL EXISTING GUIDE SIGNS SHALL BE MAINTAINED IN SUCH A MANNER THAT THE SIGNS ARE FULLY VISIBLE, INTACT, AND ERECT FOR THE DURATION OF THE PROJECT, AND SHALL BE REMOVED WHEN THEIR USE IS NO LONGER REQUIRED. REMOVAL AND DISPOSAL OF SIGNS, SUPPORTS AND FOUNDATIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

THE EXISTING SIGNS AND SUPPORTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING FOOTINGS SHALL BE REMOVED AND THE HOLES FILLED WITH A SUITABLE MATERIAL AND COMPACTED.

EXISTING LOGOS WILL BE RELOCATED TO THE NEW LOGO SIGN BY THE CONTRACTOR. THE EXISTING FOOTINGS SHALL BE REMOVED AND THE HOLES FILLED WITH A SUITABLE MATERIAL AND COMPACTED.

EXISTING LOGOS WILL BE RELOCATED TO THE NEW LOGO SIGN BY THE CONTRACTOR. THE LOGO INSTALLATION SHALL NOT BE PAID FOR SEPERATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

SCALE IN FEET

0 100 200 400

1" = 200'

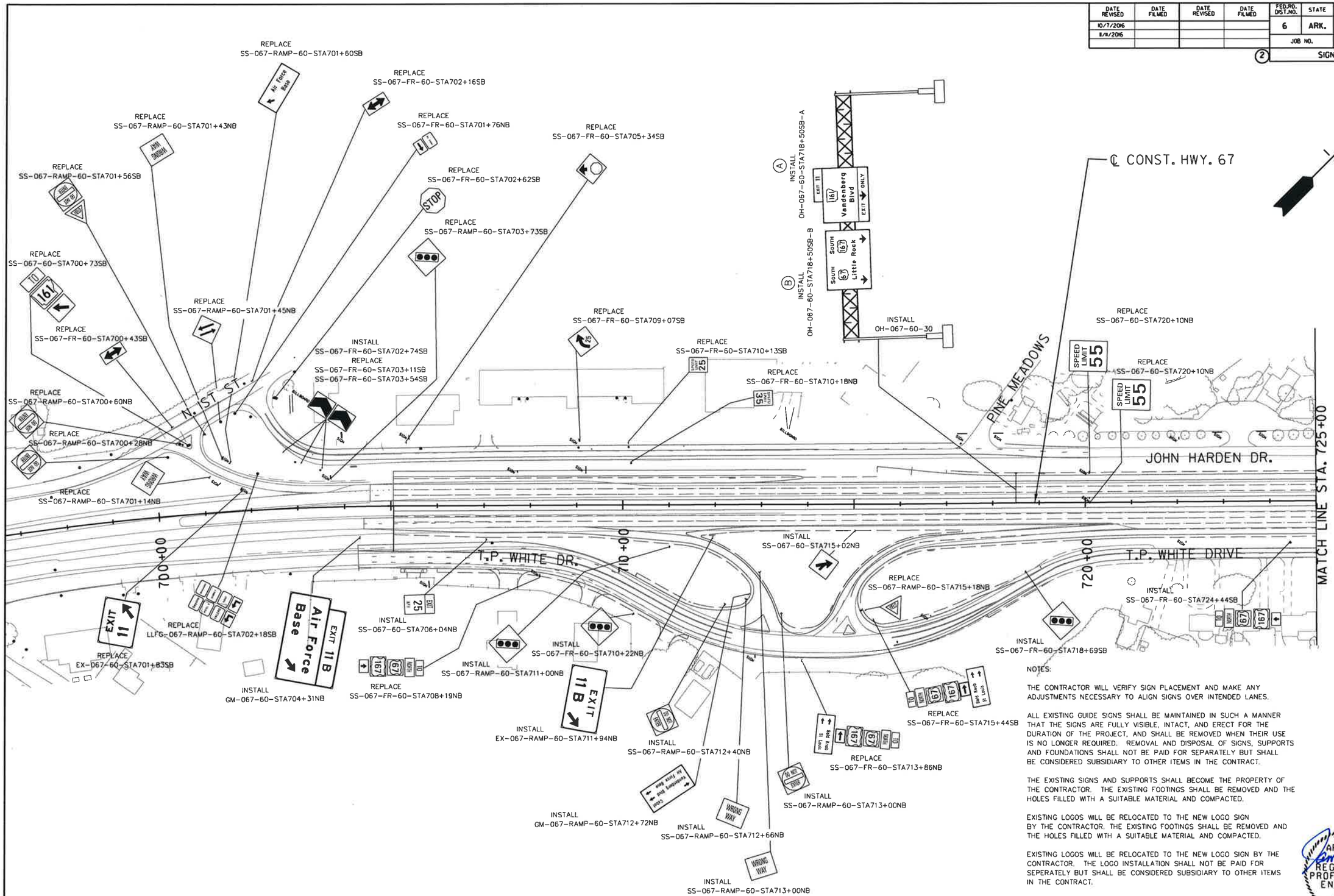
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			
11/11/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	129	434

2 SIGN PLACEMENT SHEET



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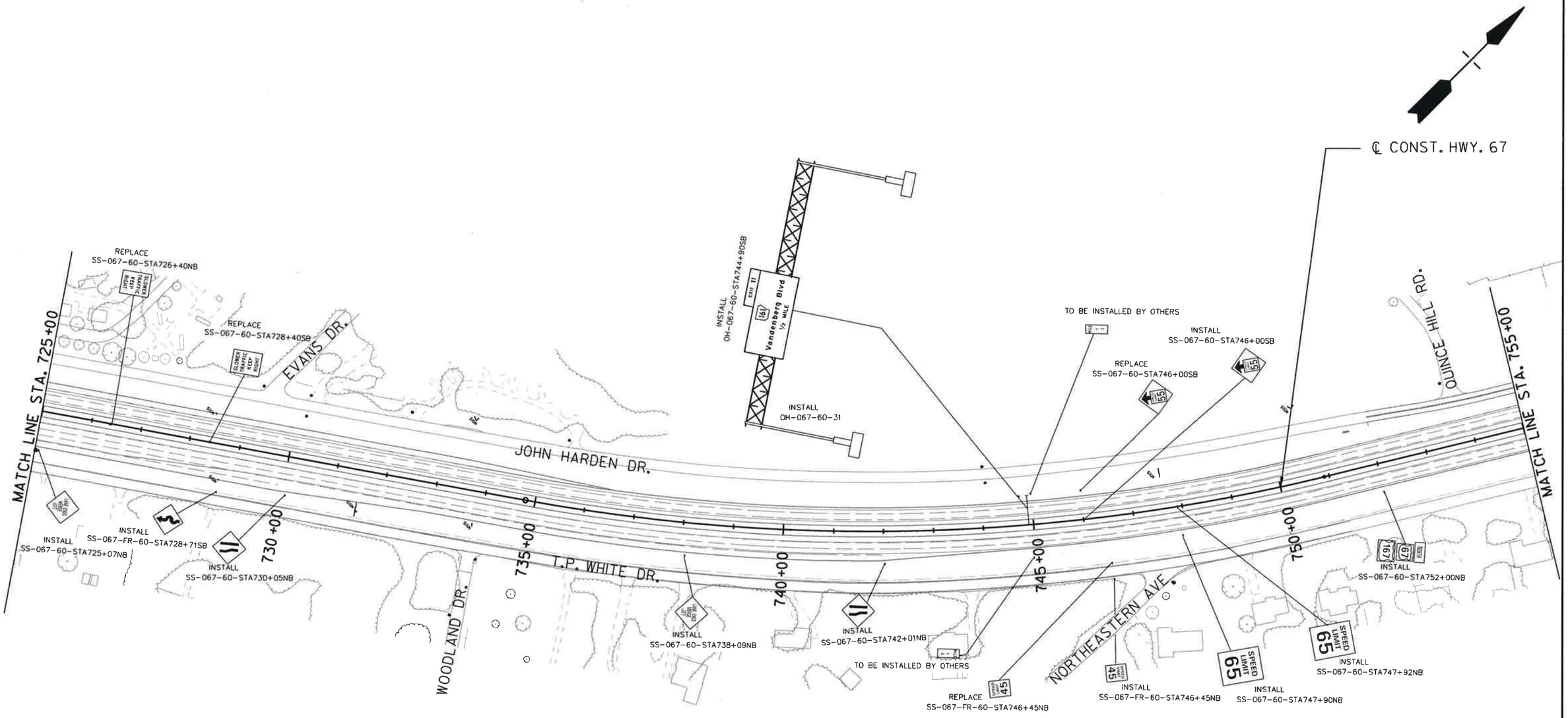
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/11/16

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/8/2016				6	ARK.			
				JOB NO.		CA0605	130	434

2 SIGN PLACEMENT SHEET



SCALE IN FEET

0 100 200 400

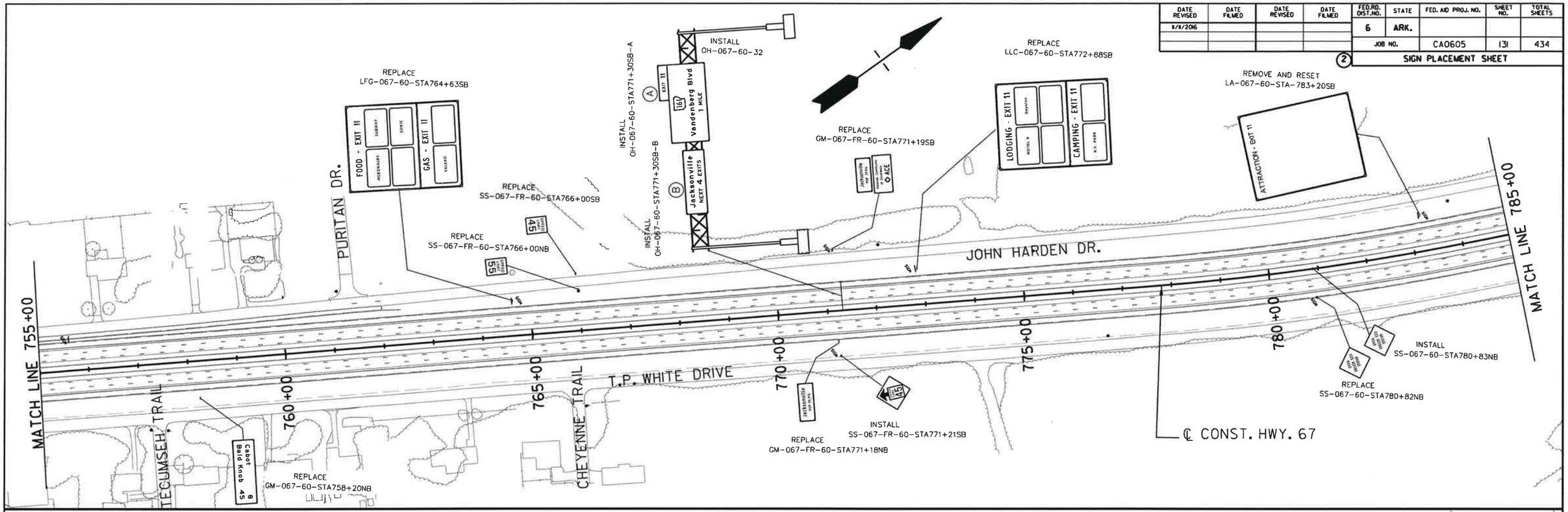
1" = 200'

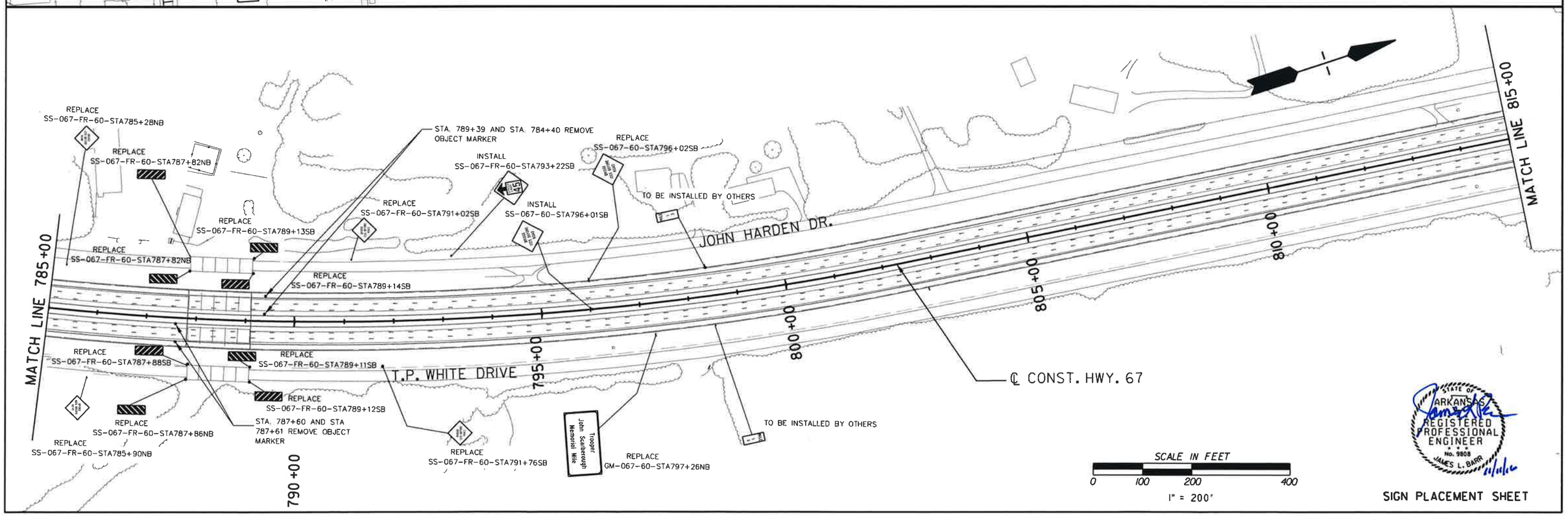
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/11/16

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	131	434

2 SIGN PLACEMENT SHEET





SCALE IN FEET

0 100 200 400

1" = 200'

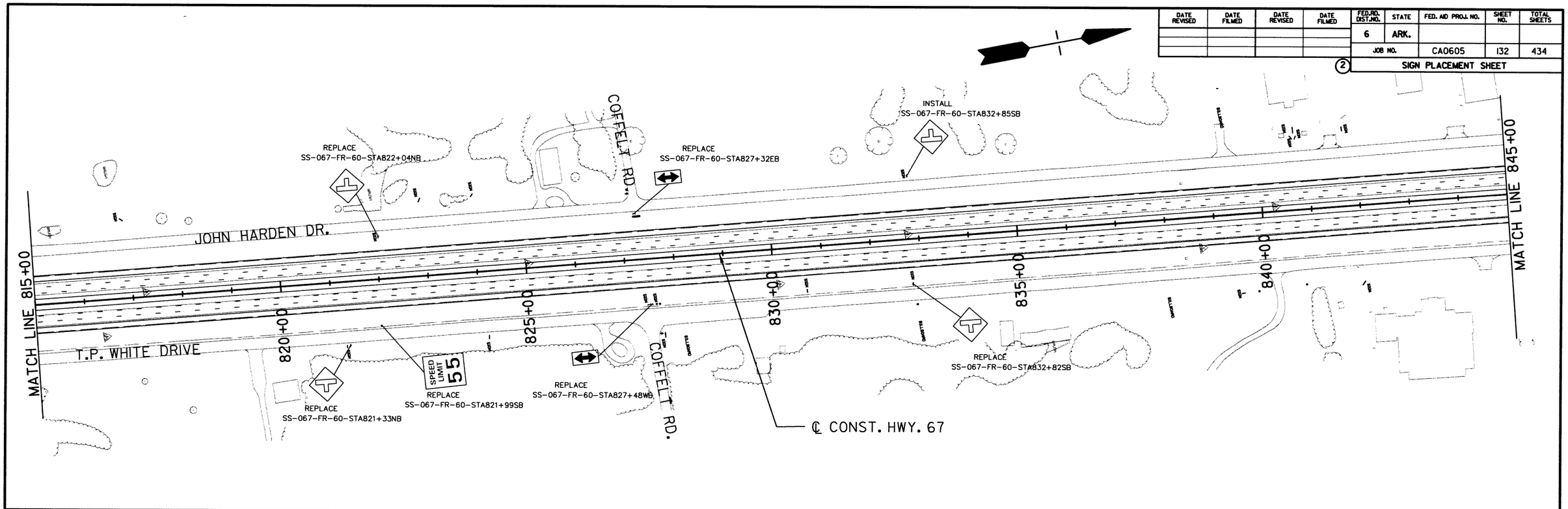
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/11/16

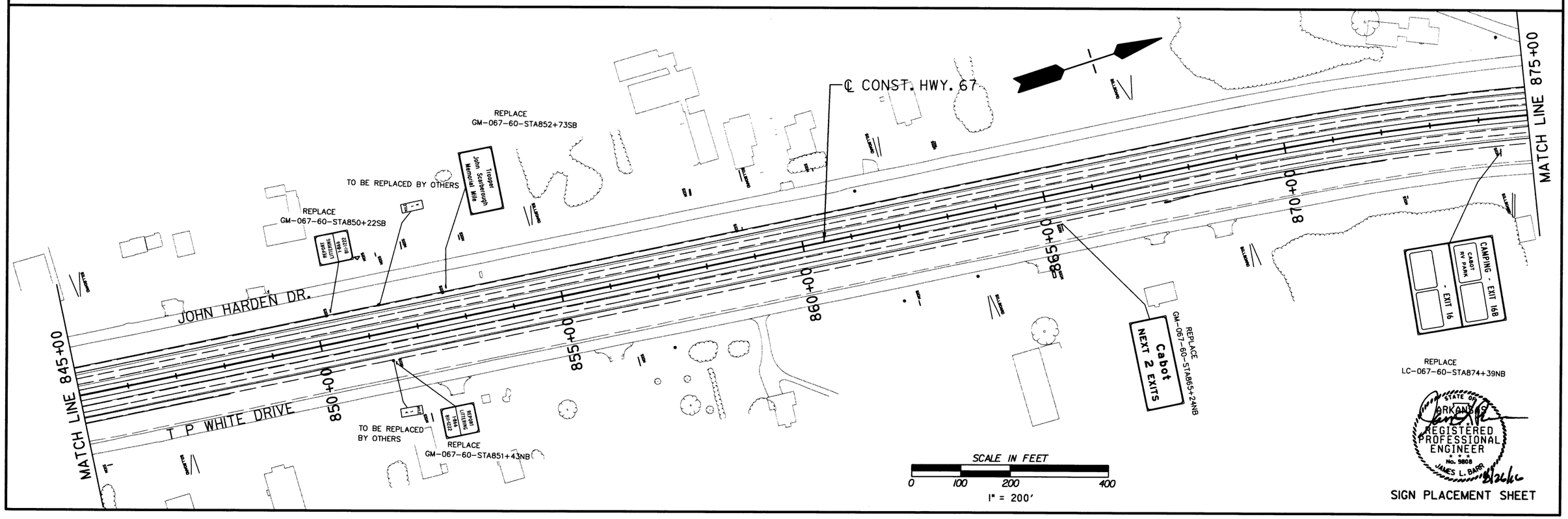
SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	132	434

2 SIGN PLACEMENT SHEET



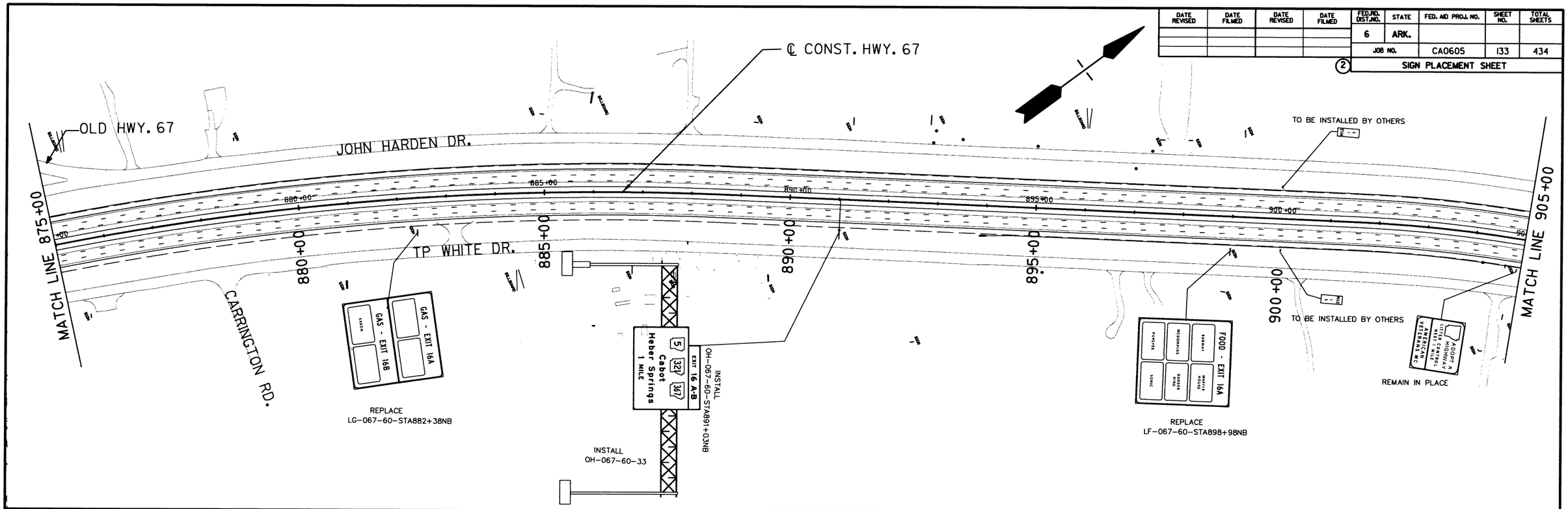


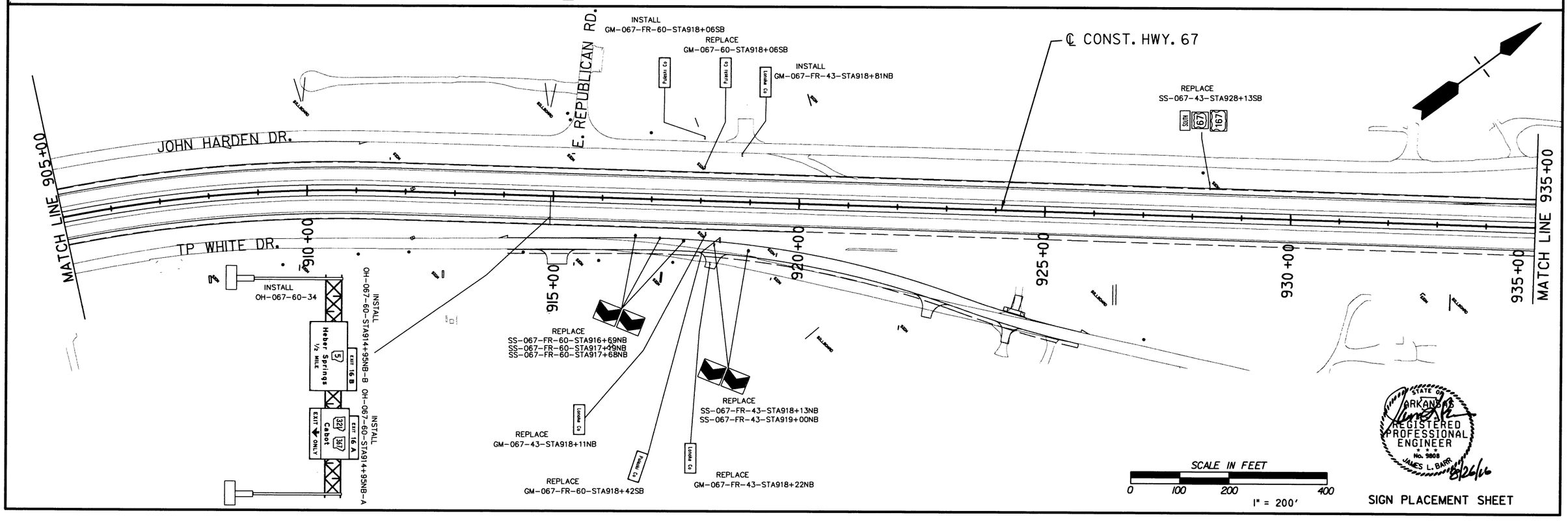
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9808
JAMES L. BARR
8/26/16

SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	133	434

2 SIGN PLACEMENT SHEET

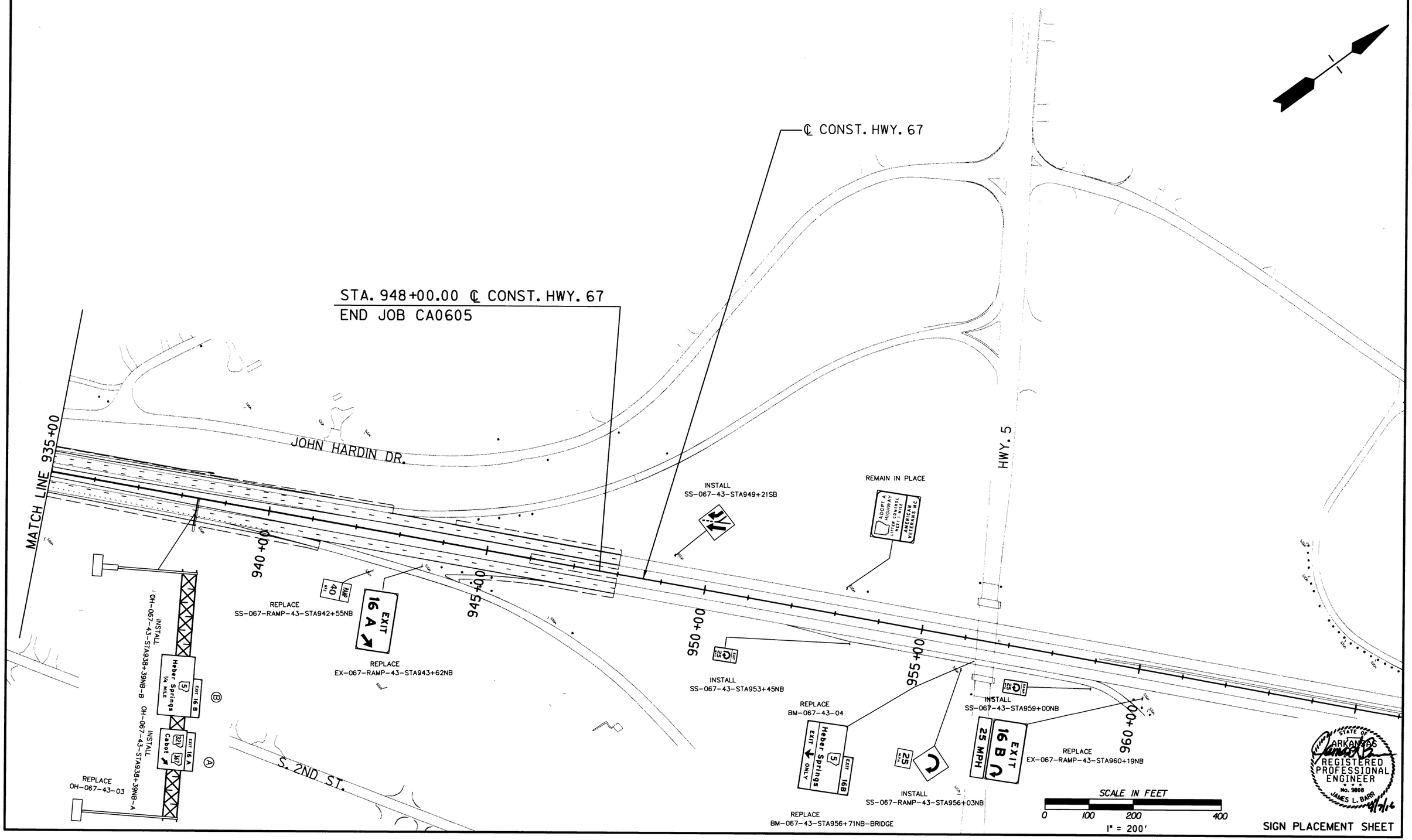




SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	134	434

(2) SIGN PLACEMENT SHEET



SIGN PLACEMENT SHEET

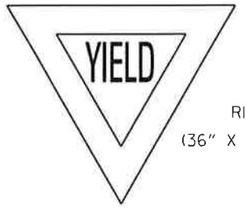
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/8/2016				JOB NO.		CA0605	135	434
				②	SIGN LAYOUT SHEET			

M4-5
(24" X 12")

MI-5
(30" X 24")

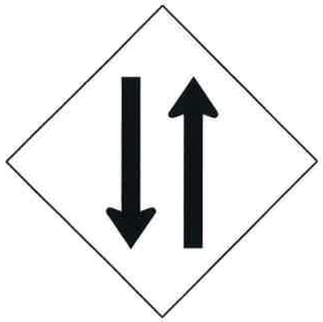
M6-2L
(21" X 15")

SS-067-60-STA700+73SB



RI-2
(36" X 36" X 36")

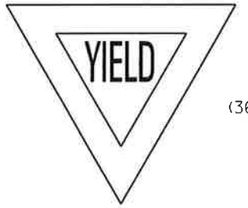
SS-067-RAMP-60-STA715+18NB



W6-3
(36" X 36")

SS-067-RAMP-60-STA701+45NB

R5-1
(30" X 30")

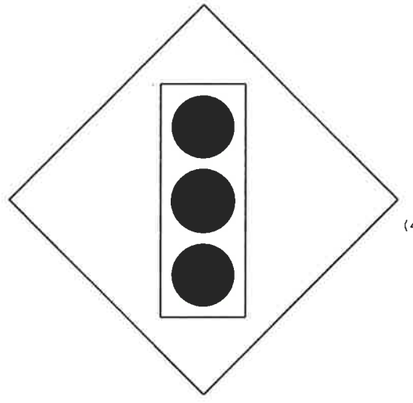


RI-2
(36" X 36" X 36")

SS-067-RAMP-60-STA701+56SB

R4-3
(48" X 60")

SS-067-60-STA726+40NB
SS-067-60-STA728+40SB

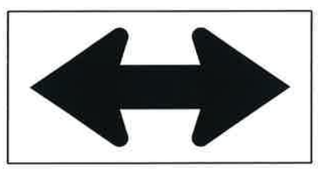


W3-3
(48" X 48")

SS-067-RAMP-60-STA703+73SB
SS-067-FR-60-STA710+22NB
SS-067-RAMP-60-STA711+00NB
SS-067-FR-60-STA718+69SB

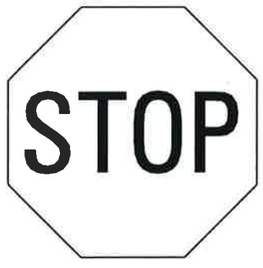
R5-1A
(36" X 24")

SS-067-RAMP-60-STA701+14NB
SS-067-RAMP-60-STA701+43NB
SS-067-RAMP-60-STA712+66NB
SS-067-RAMP-60-STA713+38NB



WI-7
(48" X 24")

SS-067-FR-60-STA700+43SB
SS-067-FR-60-STA702+16SB
SS-067-FR-60-STA827+48WB
SS-067-FR-60-STA827+32EB



RI-1
(36" X 36")

SS-067-FR-60-STA702+62SB

R5-1
(30" X 30")

SS-067-RAMP-60-STA700+28NB
SS-067-RAMP-60-STA700+60NB
SS-067-RAMP-60-STA712+40NB
SS-067-RAMP-60-STA713+00NB

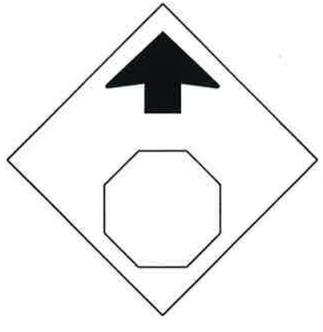
WI-8L
(18" X 24")

WI-8R
(18" X 24")

SS-067-FR-60-STA702+74SB
SS-067-FR-60-STA703+11SB
SS-067-FR-60-STA703+54SB
SS-067-FR-60-STA916+69NB
SS-067-FR-60-STA917+19NB
SS-067-FR-60-STA917+68NB
SS-067-FR-43-STA918+13NB
SS-067-FR-43-STA919+00NB

W4-3R
(48" X 48")

SS-067-43-STA949+21SB



W3-1A
(36" X 36")

SS-067-FR-60-STA705+34SB

AD - ADVERTISEMENT DIRECTIONAL SIGN

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/11/2016				6	ARK.			
				JOB NO.		CA0605	136	434

(2) SIGN LAYOUT SHEET

M4-5 (24" X 12")

M3-1 (24" X 12")

MI-4 (24" X 24")

MI-4 (30" X 24")

M6-3 (21" X 15")

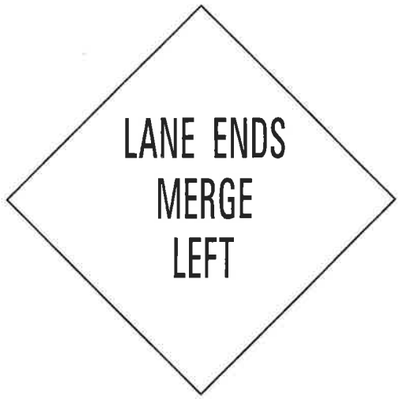
SS-067-FR-60-STA708+19NB
SS-067-FR-60-STA724+44SB

WI-2A (36" X 36")

SS-067-FR-60-STA709+07SB

W4-IR (48" X 48")

SS-067-60-STA715+02NB

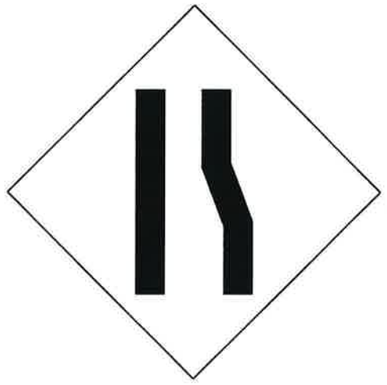


W9-2 (48" X 48")

SS-067-60-STA725+07NB
SS-067-60-STA738+09NB

WI-5R (36" X 36")

SS-067-FR-60-STA728+71SB



W4-2R (48" X 48")

SS-067-60-STA730+05NB
SS-067-60-STA742+01NB

R2-1 (48" X 60")

SS-067-60-STA747+92NB
SS-067-60-STA747+90NB

R2-1 (24" X 30")

SS-067-FR-60-STA710+13SB

R2-1 (48" X 60")

SS-067-60-STA720+10NB
SS-067-60-STA720+10NB

W3-5 (48" X 48")

SS-067-60-STA746+00SB
SS-067-60-STA746+00SB

R2-1 (24" X 30")

SS-067-FR-60-STA766+00NB
SS-067-FR-60-STA821+99SB

R2-1 (24" X 30")

SS-067-FR-60-STA710+18NB

R2-1 (24" X 30")

SS-067-FR-60-STA746+45NB
SS-067-FR-60-STA746+45NB
SS-067-FR-60-STA766+00SB

AD - ADVERTISEMENT DIRECTIONAL SIGN

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	137	434

2 SIGN LAYOUT SHEET

W3-5
(36" X 36")

SS-067-FR-60-STA771+21SB
SS-067-FR-60-STA793+22SB

OM-3L
(12" X 36")

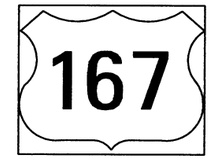
SS-067-FR-60-STA787+88SB
SS-067-FR-60-STA789+12SB
SS-067-FR-60-STA787+82NB
SS-067-FR-60-STA789+14SB

OM-3R
(12" X 36")

SS-067-FR-60-STA787+82NB
SS-067-FR-60-STA787+86NB
SS-067-FR-60-STA789+11SB
SS-067-FR-60-STA789+13SB

M3-3
(24" X 12")

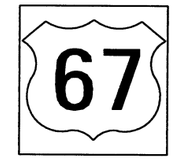
M1-4
(24" X 24")



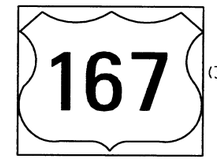
M1-4
(30" X 24")

SS-067-43-STA928+13SB

M3-1
(24" X 12")



M1-4
(24" X 24")

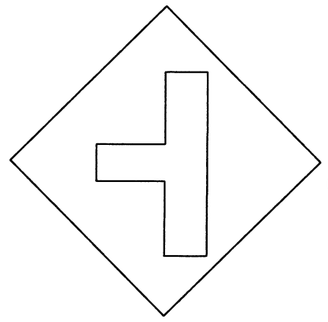


M1-4
(30" X 24")

SS-067-60-STA752+00NB

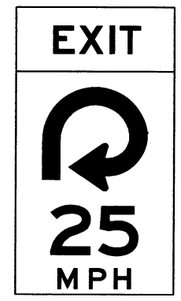
W8-13
(48" X 48")

SS-067-60-STA780+82NB
SS-067-60-STA780+83NB
SS-067-60-STA796+01SB
SS-067-60-STA796+02SB



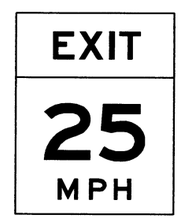
W2-2L
(30" X 30")

SS-067-FR-60-STA822+04NB
SS-067-FR-60-STA832+82SB



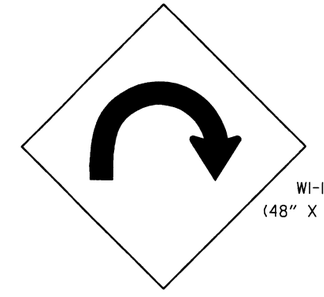
W13-8
(36" X 60")

SS-067-43-STA953+45NB



W13-2
(36" X 48")

SS-067-60-STA706+04NB



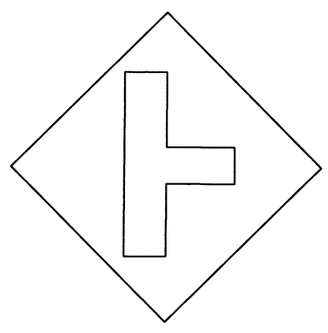
W1-11
(48" X 48")

W13-1P
(30" X 30")

SS-067-RAMP-43-STA956+03NB

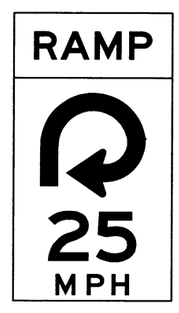
W8-13
(36" X 36")

SS-067-FR-60-STA785+28NB
SS-067-FR-60-STA785+90NB
SS-067-FR-60-STA791+02SB
SS-067-FR-60-STA791+76SB



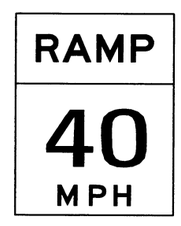
W2-2R
(30" X 30")

SS-067-FR-60-STA821+33NB
SS-067-FR-60-STA832+85SB



W13-7
(36" X 60")

SS-067-43-STA959+00NB



W13-3
(36" X 48")

SS-067-RAMP-43-STA942+55NB

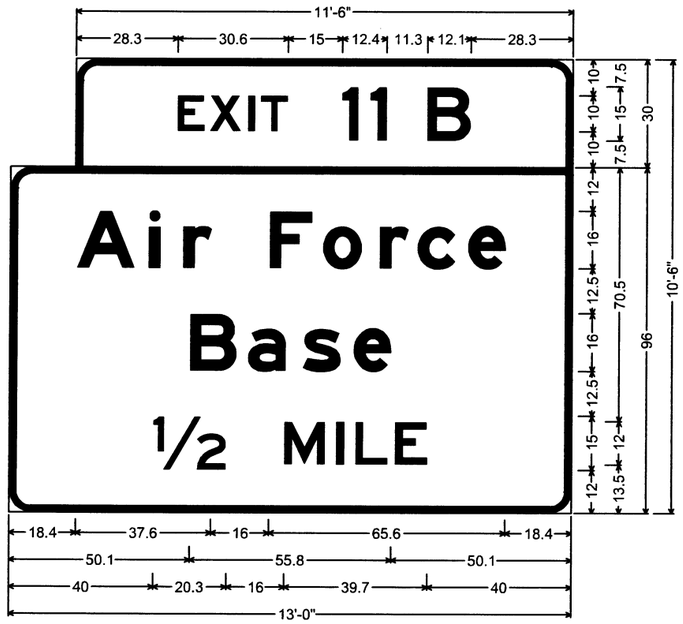
AD - ADVERTISEMENT DIRECTIONAL SIGN

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

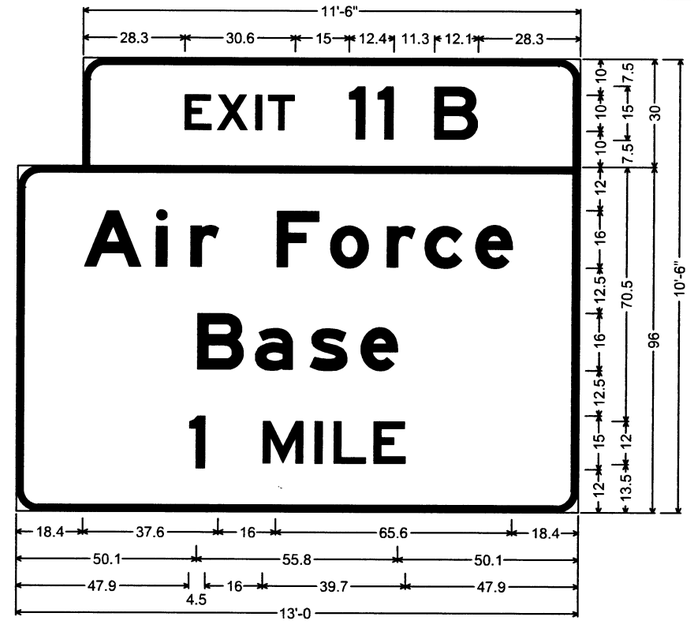
SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	138	434

2 SIGN LAYOUT SHEET

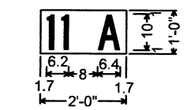


GM-067-60-STA652+80NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K; [11] E 2K; [B] E 2K;
6.0" Radius, 2.0" Border, White on Green;
[Air Force] E Mod 2K; [Base] E Mod 2K; [1/2 MILE] E 2K;

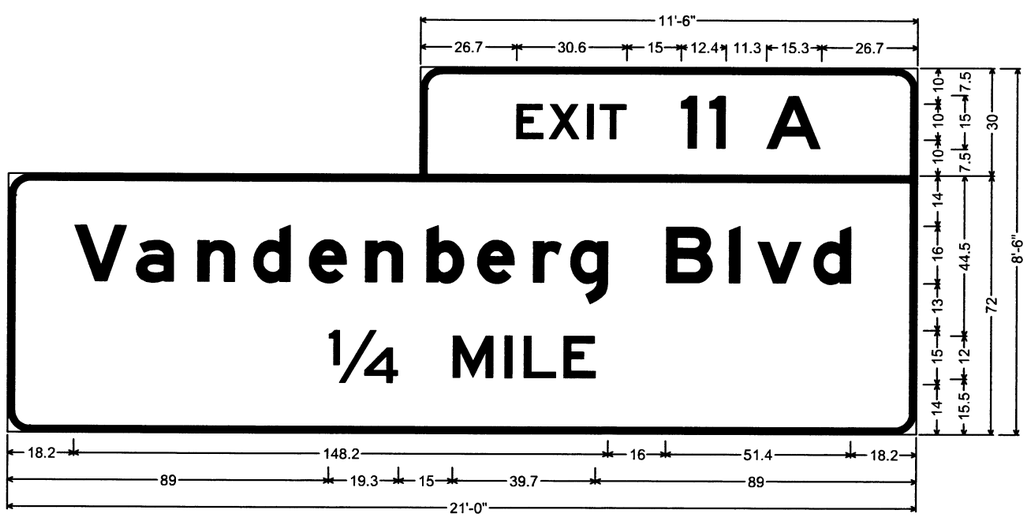


GM-067-60-STA684+60NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K; [11] E 2K; [B] E 2K;
6.0" Radius, 2.0" Border, White on Green;
[Air Force] E Mod 2K; [Base] E Mod 2K; [1 MILE] E 2K;

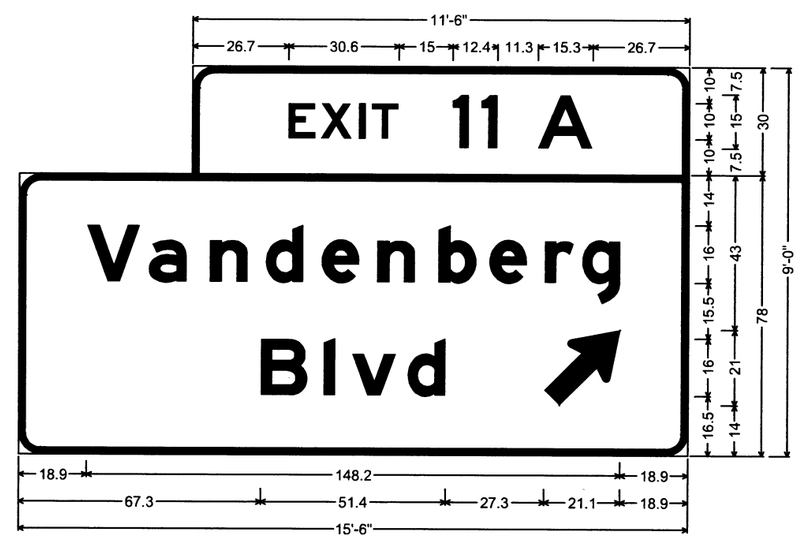
Sign should be field verified prior to plaque fabrication.



LLC-067-60-STA666+00NB
LLC-067-60-STA666+00NB
LFG-067-60-STA656+80NB
LFG-067-60-STA656+80NB
No border, White on Blue;
[11] C 2K;
[A] C 2K;



GM-067-60-STA661+80NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K; [11] E 2K; [A] E 2K;
6.0" Radius, 2.0" Border, White on Green;
[Vandenberg Blvd] E Mod 2K; [1/4 MILE] E 2K;



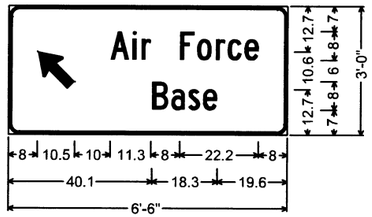
GM-067-60-STA661+80NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K; [11] E 2K; [A] E 2K;
6.0" Radius, 2.0" Border, White on Green;
[Vandenberg] E Mod 2K; [Blvd] E Mod 2K; Standard Arrow Custom 26.8" X 16.0" 45°;

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

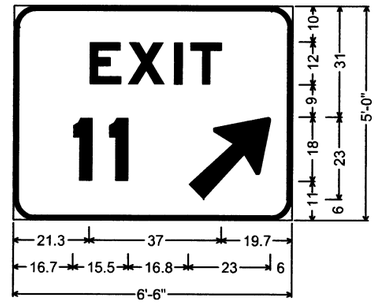
SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	139	434

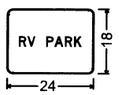
2 SIGN LAYOUT SHEET



SS-067-RAMP-60-STA701+60SB
3.0" Radius, 1.0" Border, White on Green;
Standard Arrow Custom 13.4" X 8.0" 135°;
[Air Force] C 2K; [Base] C 2K;

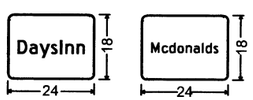


EX-067-60-STA701+83SB
6.0" Radius, 1.5" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
Arrow Custom - 29.3" 45°;

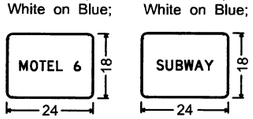


1.5" Radius,
0.4" Border,
White on Blue;

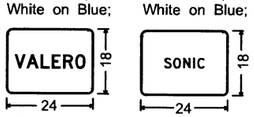
M6-IR
(21" X 15")
SS-067-FR-60-STA701+76NB



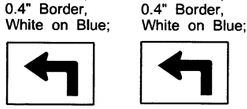
1.5" Radius, 0.4" Border, White on Blue;
1.5" Radius, 0.4" Border, White on Blue;



1.5" Radius, 0.4" Border, White on Blue;
1.5" Radius, 0.4" Border, White on Blue;

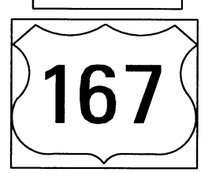


1.5" Radius, 0.4" Border, White on Blue;
1.5" Radius, 0.4" Border, White on Blue;

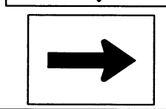


M5-IL
(21" X 15")
M5-IL
(21" X 15")
LLFG-067-RAMP-60-STA702+18SB

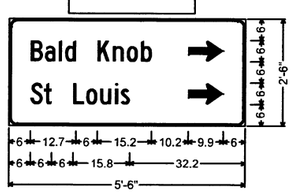
M4-5
(24" X 12")
M3-1
(24" X 12")
M1-4
(24" X 24")



M1-4
(30" X 24")



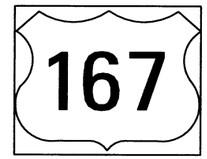
M6-IR
(21" X 15")



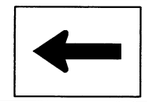
SS-067-FR-60-STA715+44SB
2.25" Radius, 0.75" Border, White on Green;
[Bald Knob] C 2K;
Standard Arrow Custom 9.9" X 6.0" 0°;
[St Louis] C 2K;
Standard Arrow Custom 9.9" X 6.0" 0°;

M4-5
(24" X 12")
M3-1
(24" X 12")

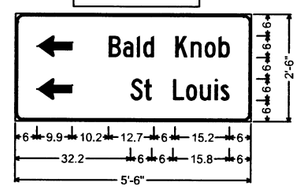
M1-4
(24" X 24")



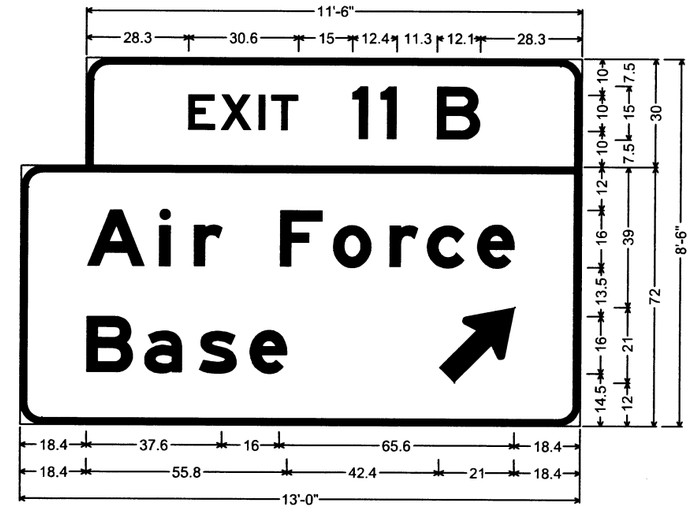
M1-4
(30" X 24")



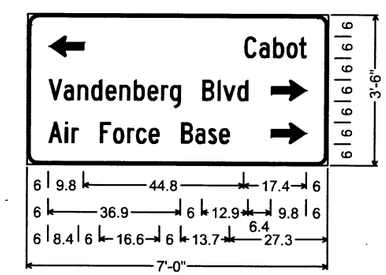
M6-IL
(21" X 15")



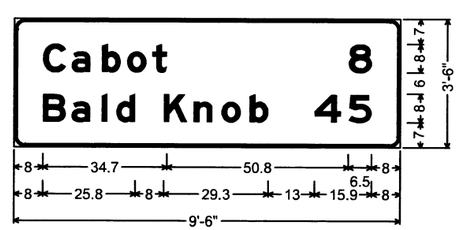
SS-067-FR-60-STA713+86NB
2.25" Radius, 0.75" Border, White on Green;
Standard Arrow Custom 9.9" X 6.0" 180°;
[Bald Knob] C 2K;
Standard Arrow Custom 9.9" X 6.0" 180°;
[St Louis] C 2K;



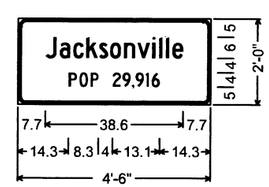
GM-067-60-STA704+31NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K; [11] E 2K; [B] E 2K;
6.0" Radius, 2.0" Border, White on Green;
[Air Force] E Mod 2K; [Base] E Mod 2K;
Standard Arrow Custom 26.8" X 16.0" 45°;



GM-067-60-STA712+70NB
3.0" Radius, 1.0" Border, White on Green;
Standard Arrow Custom 9.9" X 6.0" 180°;
[Cabot] C 2K; [Vandenberg Blvd] C 2K;
Standard Arrow Custom 9.9" X 6.0" 0°;
[Air Force Base] C 2K;
Standard Arrow Custom 9.9" X 6.0" 0°;



GM-067-60-STA758+20NB
3.0" Radius, 1.0" Border, White on Green;
[Cabot] E Mod 2K; [8] E Mod 2K;
[Bald Knob] E Mod 2K; [45] E Mod 2K;



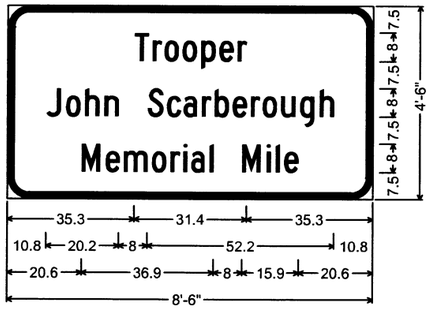
GM-067-FR-60-STA771+18NB
2.25" Radius, 1.0" Border, White on Green;
[Jacksonville] C 2K;
[POP 29,916] C 2K;

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/06

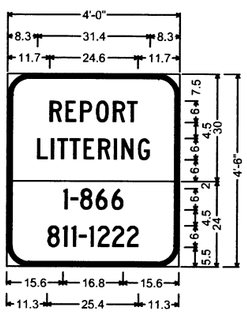
SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	140	434

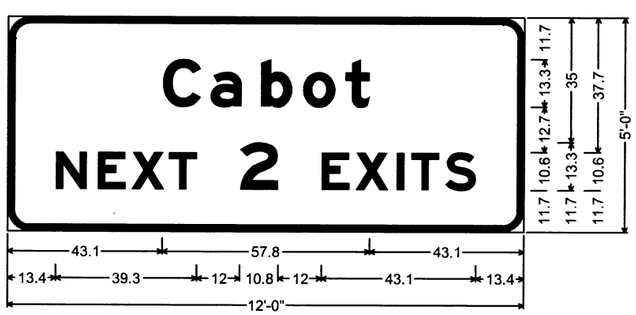
2 SIGN LAYOUT SHEET



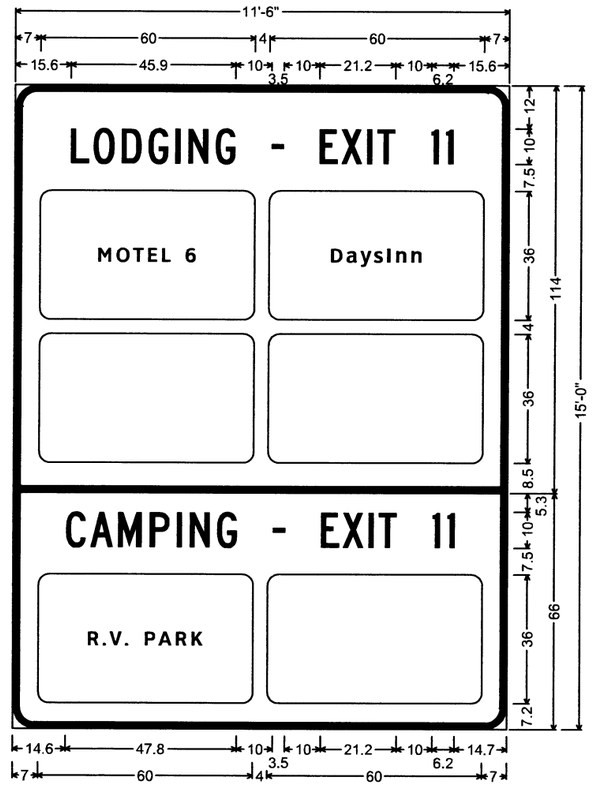
GM-067-60-STA797+26NB
GM-067-60-STA852+73SB
6.0" Radius, 2.0" Border, White on Blue;
[Trooper] C 2K; [John Scarberough] C 2K;
[Memorial Mile] C 2K;
Table of letter and object lefts.



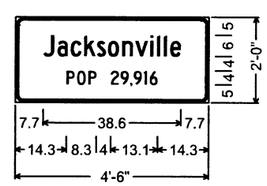
GM-067-60-STA850+22SB
GM-067-60-STA851+43NB
6.0" Radius, 1.5" Border, Green on White;
[REPORT] C 2K;
[LITTERING] C 2K;
6.0" Radius, 1.5" Border, White on Green;
[1-866] C 2K;
[811-1222] C 2K;



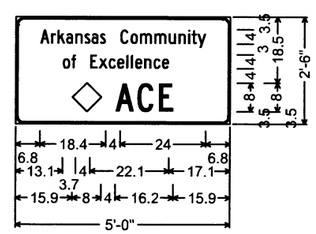
GM-067-60-STA865+24NB
6.0" Radius, 2.0" Border, White on Green;
[Cabot] E Mod 2K; [NEXT 2 EXITS] E Mod 2K;



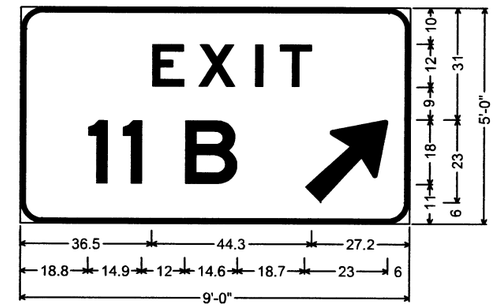
LLC-067-60-STA772+88SB
6.0" Radius, 2.0" Border, White on Blue;
[LODGING - EXIT 11] C 2K;
6.0" Radius, 2.0" Border, White on Blue;
[CAMPING - EXIT 11] C 2K;



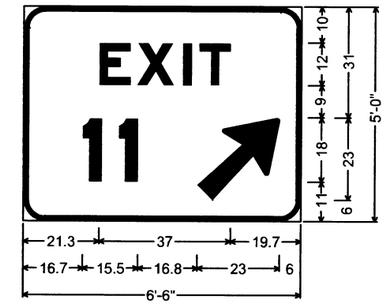
2.25" Radius, 1.0" Border, White on Green;
[Jacksonville] C 2K;
[POP 29,916] C 2K;



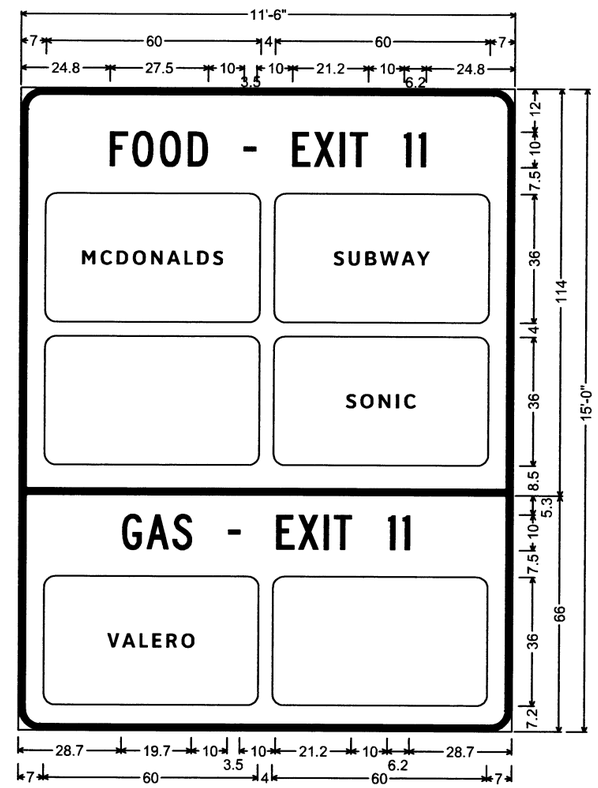
GM-067-FR-60-STA771+19SB
2.25" Radius, 0.75" Border, White on Green;
[Arkansas Community] C 2K;
[of Excellence] C 2K;
[ACE] C 2K;



EX-067-RAMP-60-STA711+94NB
6.0" Radius, 1.5" Border, White on Green;
[EXIT] E 2K 225% spacing; [11 B] E 2K;
Arrow Custom - 29.3" 45°;



FUTURE - EX-067-RAMP-60-STA711+94NB
6.0" Radius, 1.5" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
Arrow Custom - 29.3" 45°;



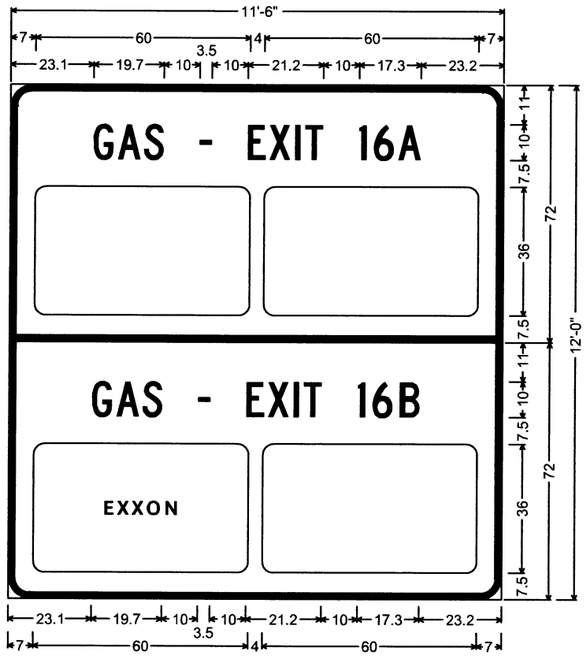
LFG-067-60-STA764+63SB
6.0" Radius, 2.0" Border, White on Blue;
[FOOD - EXIT 11] C 2K;
6.0" Radius, 2.0" Border, White on Blue;
[GAS - EXIT 11] C 2K;

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

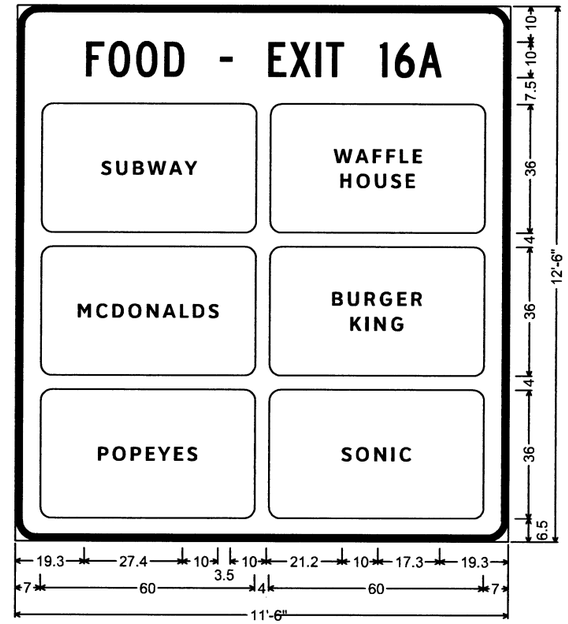
SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	141	434

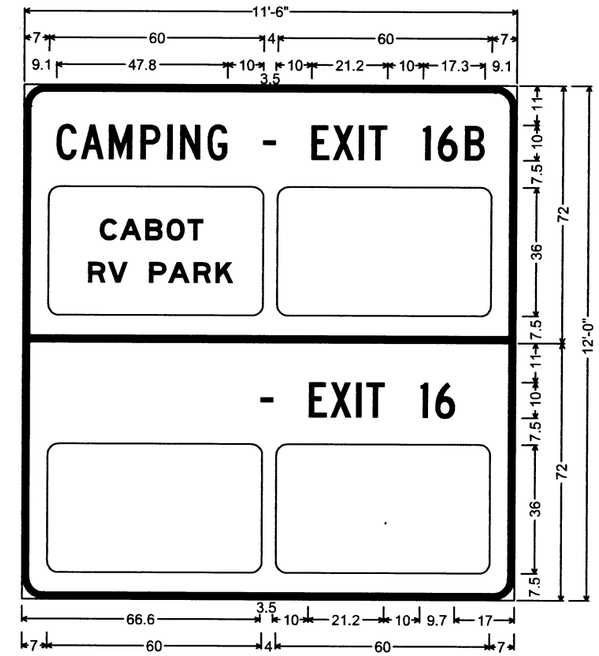
(2) SIGN LAYOUT SHEET



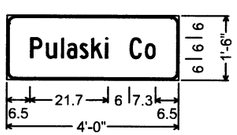
LG-067-60-STA882+38NB
6.0" Radius, 2.0" Border, White on Blue;
[GAS - EXIT 16A] C 2K;
6.0" Radius, 2.0" Border, White on Blue;
[GAS - EXIT 16B] C 2K;



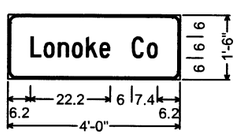
LF-067-60-STA898+98NB
6.0" Radius, 2.0" Border, White on Blue;
[FOOD - EXIT 16A] C 2K;



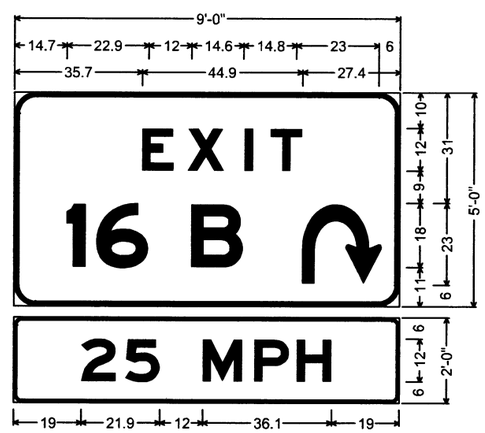
LC-067-60-STA874+39NB
6.0" Radius, 2.0" Border, White on Blue;
[CAMPING - EXIT 16B] C 2K;
6.0" Radius, 2.0" Border, White on Blue;
[- EXIT 16] C 2K;



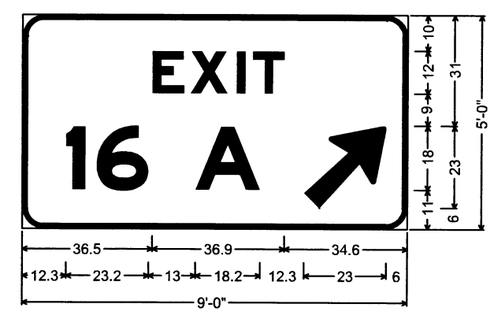
GM-067-FR-60-STA918+06SB
GM-067-60-STA918+06SB
GM-067-FR-60-STA918+42SB
2.25" Radius, 0.75" Border, White on Green;
[Pulaski Co] C 2K;



GM-067-43-STA918+11NB
GM-067-FR-43-STA918+22NB
GM-067-FR-43-STA918+81NB
2.25" Radius, 0.75" Border, White on Green;
[Lonoke Co] C 2K;



EX-067-RAMP-43-STA960+19NB
6.0" Radius, 1.5" Border, White on Green;
[EXIT] E Mod 2K 225% spacing;
[16 B] E Mod 2K 67% spacing;
Arrow Custom - 23" ;
2.25" Radius, 1.0" Border, Black on Yellow;
[35] E Mod 2K; [MPH] E Mod 2K;



EX-067-RAMP-43-STA943+62NB
6.0" Radius, 1.5" Border, White on Green;
[EXIT] E Mod 2K; [16 A] E Mod 2K 73% spacing;
Arrow Custom - 29.3" 45°;

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	142	434

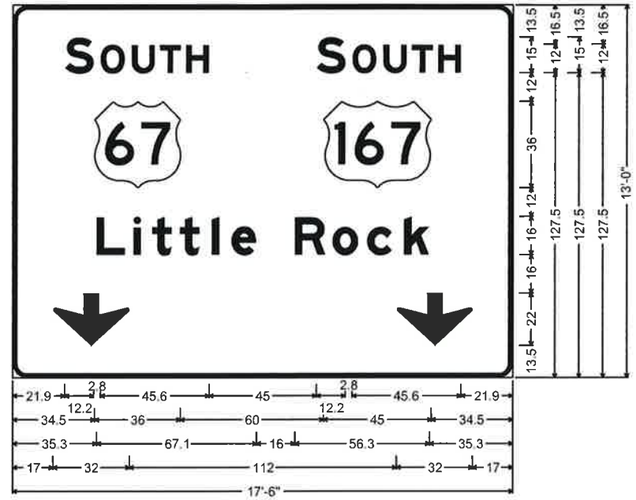
(2) SIGN LAYOUT SHEET

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.

(B)

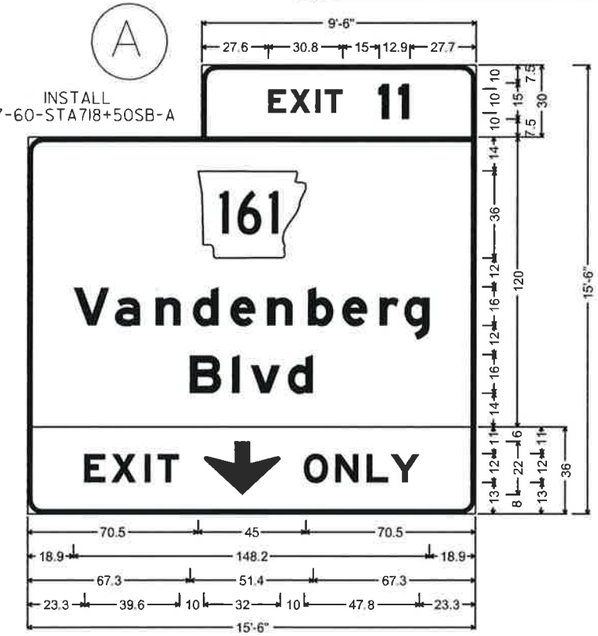
INSTALL
OH-067-60-STA718+50SB-B



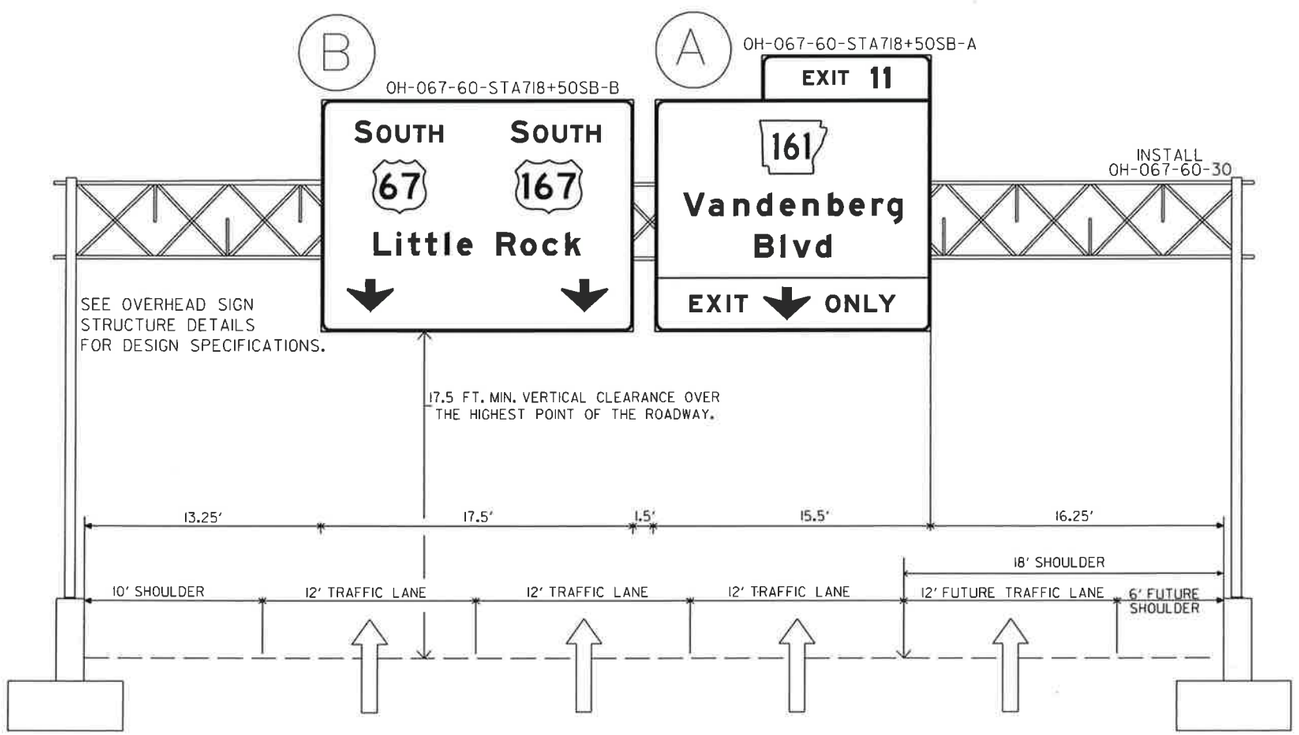
OH-067-60-STA718+50SB-B
6.0" Radius, 2.0" Border, White on Green;
[SOUTH] E Mod 2K; [SOUTH] E Mod 2K; M1-4: M1-4: [Little Rock] E Mod 2K;
Down Arrow 22.0" 270°; Down Arrow 22.0" 270°;

(A)

INSTALL
OH-067-60-STA718+50SB-A



OH-067-60-STA718+50SB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Vandenberg] E Mod 2K; [Blvd] E Mod 2K;
6.0" Radius, 2.0" Border, Black on Yellow;
[EXIT] E Mod 2K specified length; Down Arrow 22.0" 270°;
[ONLY] E Mod 2K specified length;

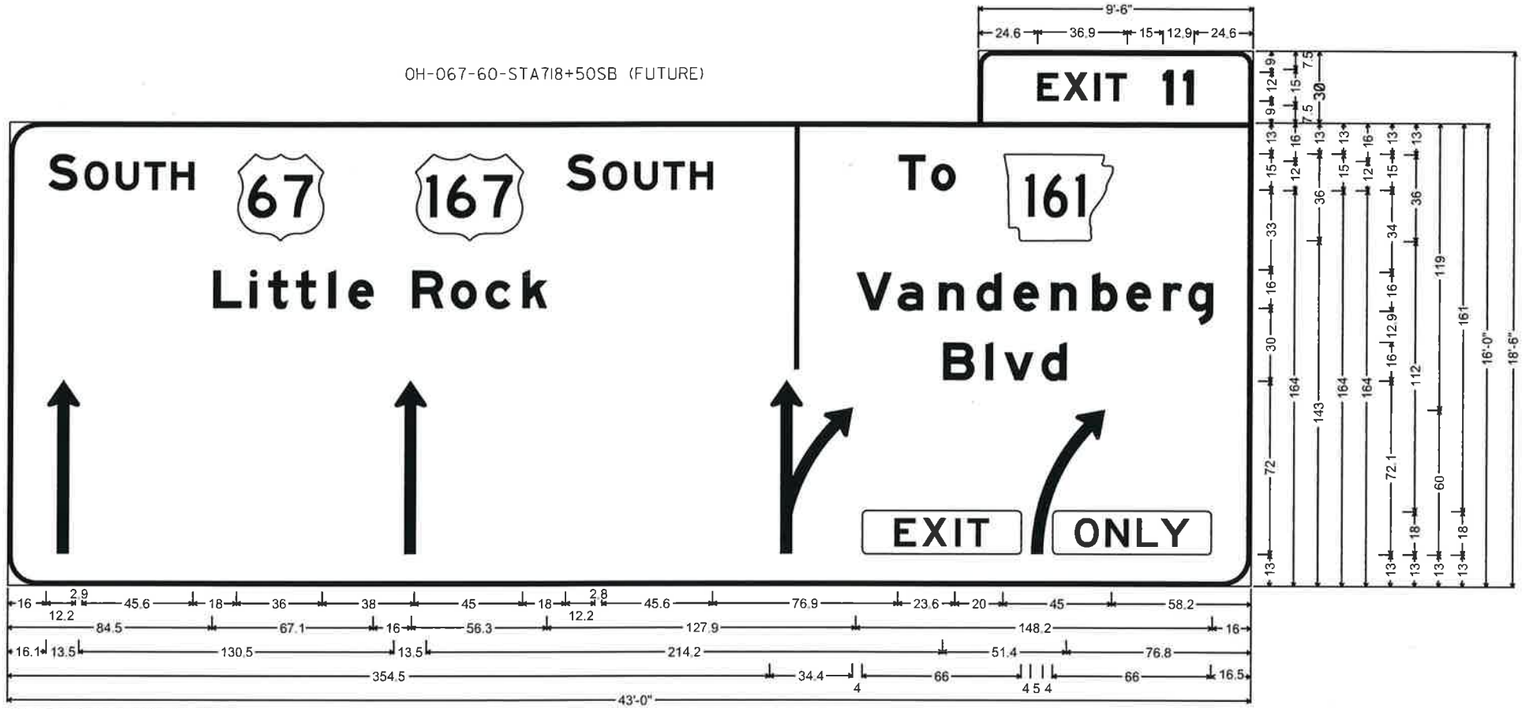


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/8/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	143	434

(2) SIGN LAYOUT SHEET

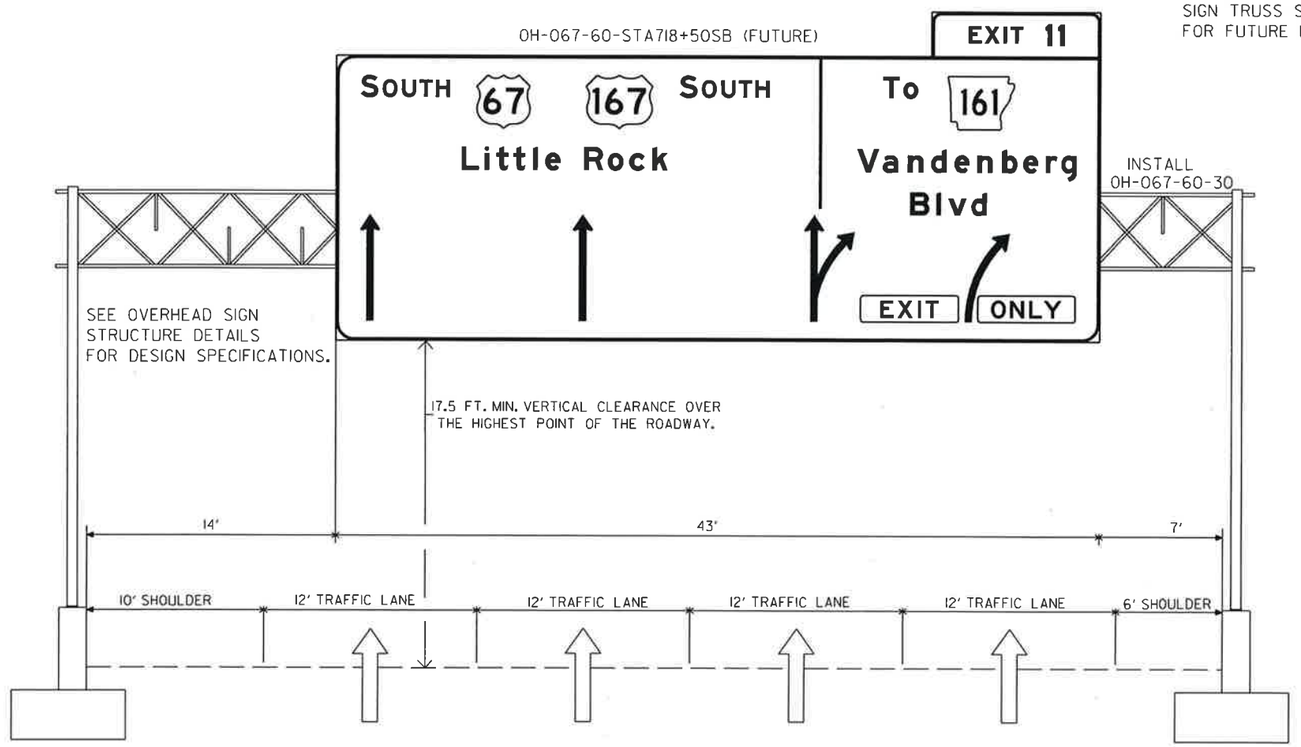


OH-067-60-STA718+50SB (FUTURE)
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
12.0" Radius, 2.0" Border, White on Green;
[SOUTH] E Mod 2K; [SOUTH] E Mod 2K; [Little Rock] E Mod 2K; [To] E Mod 2K; M1-5; [Vandenberg] E Mod 2K; [Blvd] E Mod 2K;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.

SIGNS ARE FOR FUTURE USE.
SIGN TRUSS STRUCTURE TO BE DESIGNED FOR FUTURE USE SIGNS.

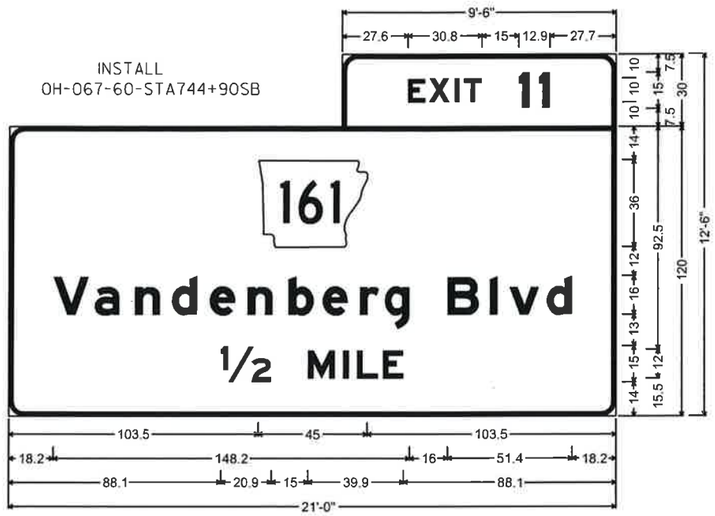


STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	144	434
				2	SIGN LAYOUT SHEET			

INSTALL
OH-067-60-STA744+90SB

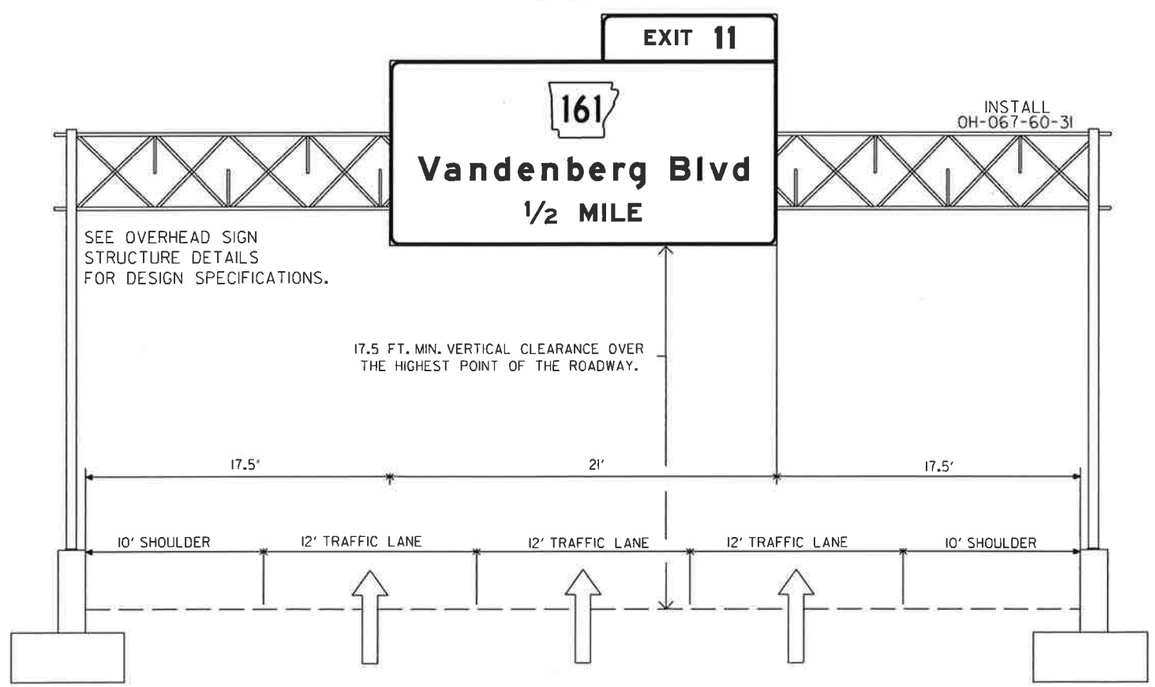


OH-067-60-STA744+90SB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Vandenberg Blvd] E Mod 2K; [1/2] E Mod 2K; [MILE] E Mod 2K;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.

INSTALL
OH-067-60-STA744+90SB



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/11/2016				6	ARK.			
				JOB NO.		CA0605	145	434

(2) SIGN LAYOUT SHEET

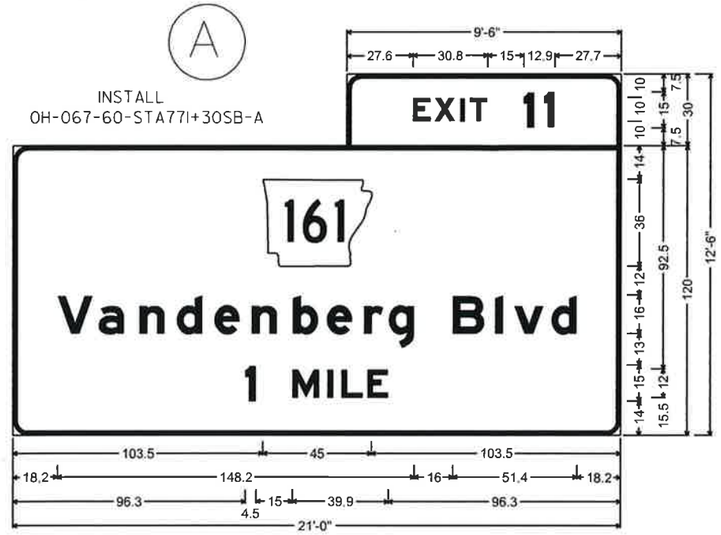
(B)

INSTALL
OH-067-60-STA771+30SB-B

OH-067-60-STA771+30SB-B
6.0" Radius, 2.0" Border, White on Green;
[Jacksonville] E Mod 2K; [NEXT 4 EXITS] E Mod 2K;

(A)

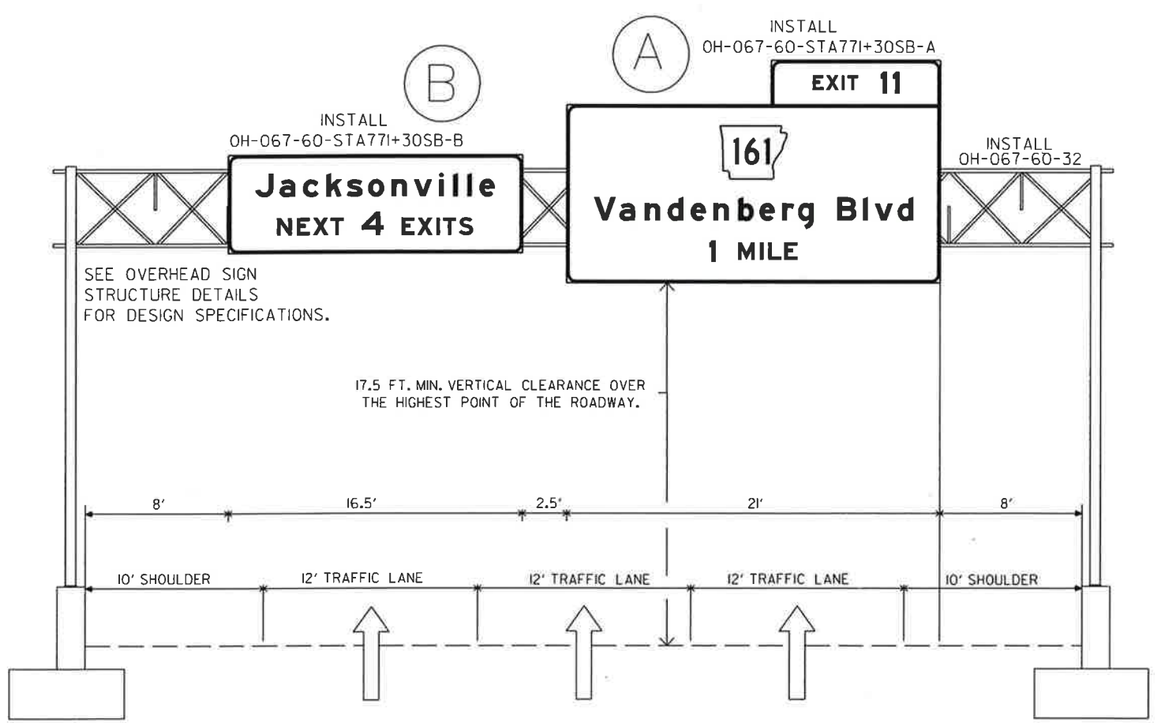
INSTALL
OH-067-60-STA771+30SB-A



OH-067-60-STA771+30SB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [11] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Vandenberg Blvd] E Mod 2K; [1] E Mod 2K; [MILE] E Mod 2K;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.

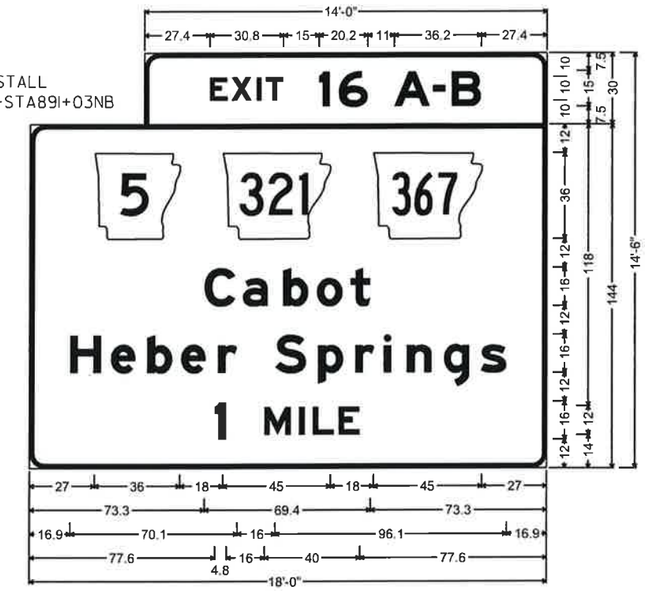


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/8/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	146	434
				(2) SIGN LAYOUT SHEET				

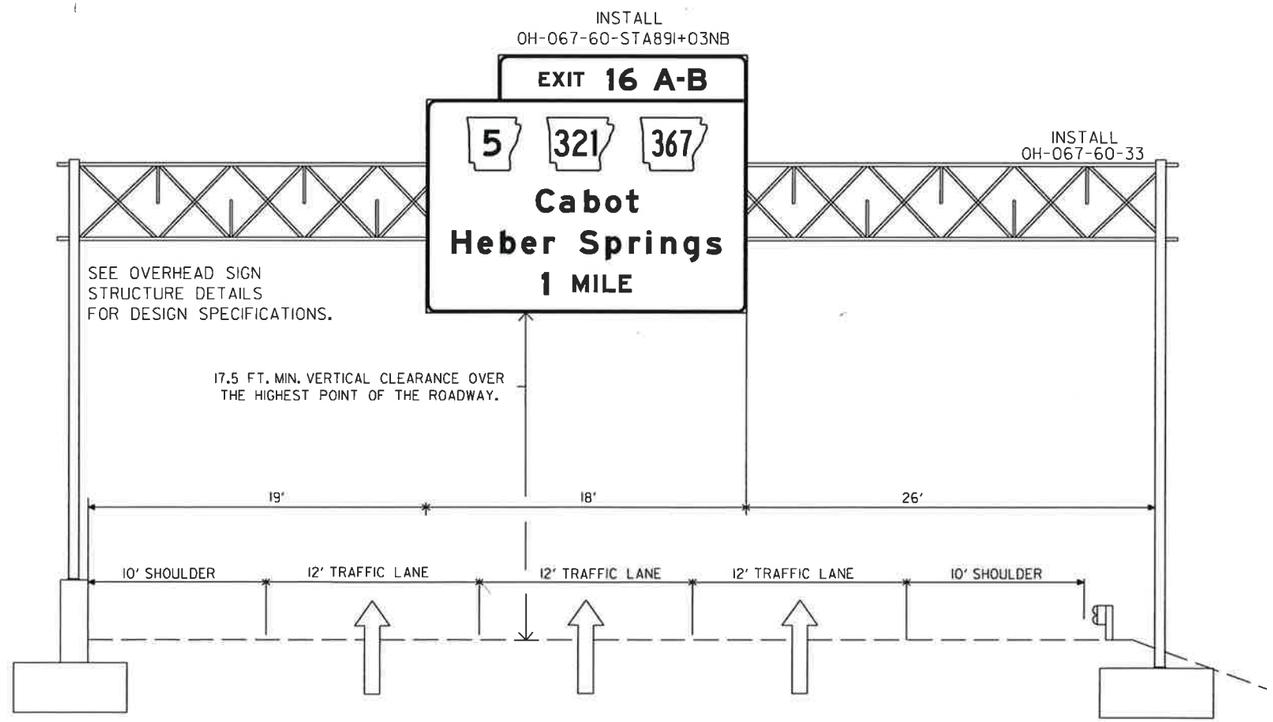
INSTALL
OH-067-60-STA891+03NB



OH-067-60-STA891+03NB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [16] E Mod 2K; [A-B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; M1-5; M1-5; [Cabot] E Mod 2K; [Heber Springs] E Mod 2K; [1 MILE] E Mod 2K;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.



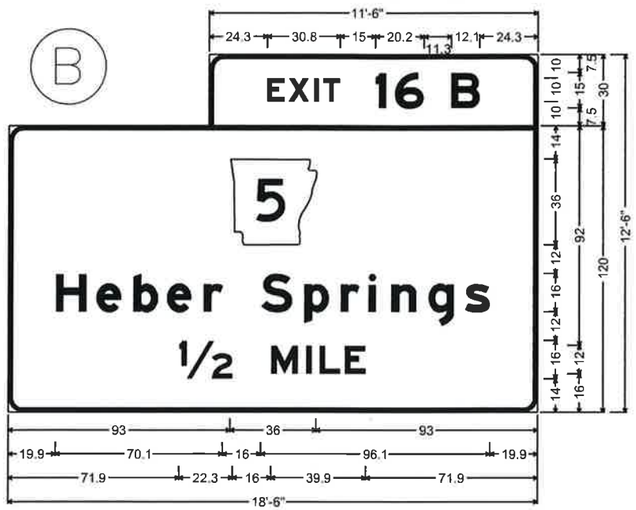
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	147	434

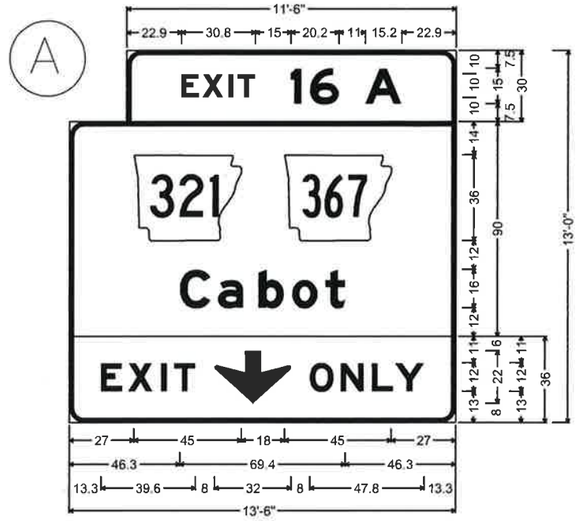
(2) SIGN LAYOUT SHEET

INSTALL
OH-067-60-STA914+95NB-B



OH-067-60-STA914+95NB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [16] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Heber Springs] E Mod 2K; [1/2 MILE] E Mod 2K;

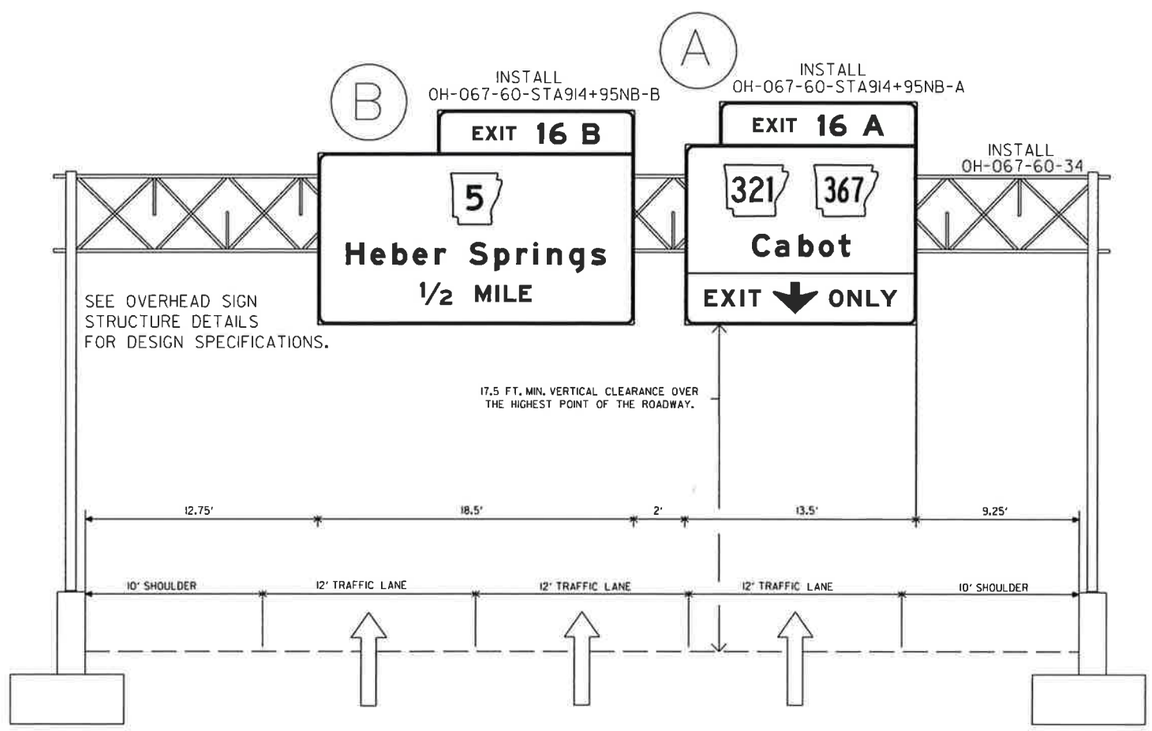
INSTALL
OH-067-60-STA914+95NB-A



OH-067-60-STA914+95NB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [16] E Mod 2K; [A] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; M1-5; [Cabot] E Mod 2K;
6.0" Radius, 2.0" Border, Black on Yellow;
[EXIT] E Mod 2K specified length;
Down Arrow 22.0" 270°;
[ONLY] E Mod 2K specified length;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

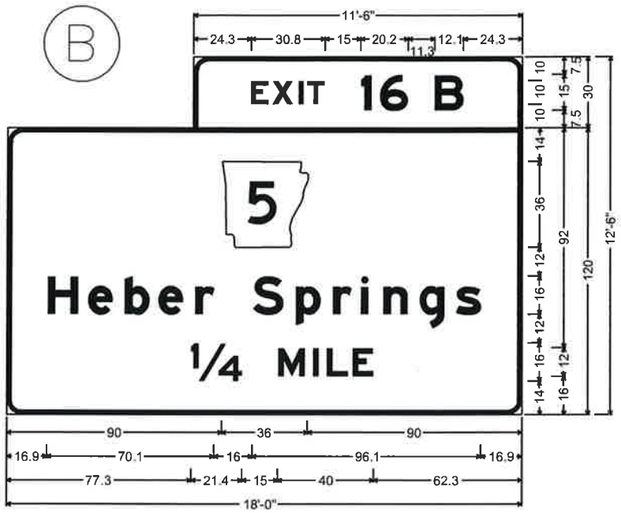
SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.



SIGN LAYOUT SHEET

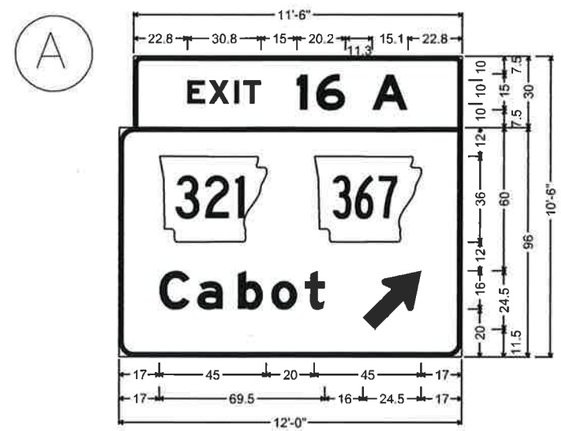
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/8/2016				6	ARK.			
				JOB NO.		CA0605	148	434
				(2)	SIGN LAYOUT SHEET			

REPLACE
OH-067-43-STA938+39NB-B



OH-067-43-STA938+39NB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [16] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Heber Springs] E Mod 2K; [1/4 MILE] E Mod 2K;

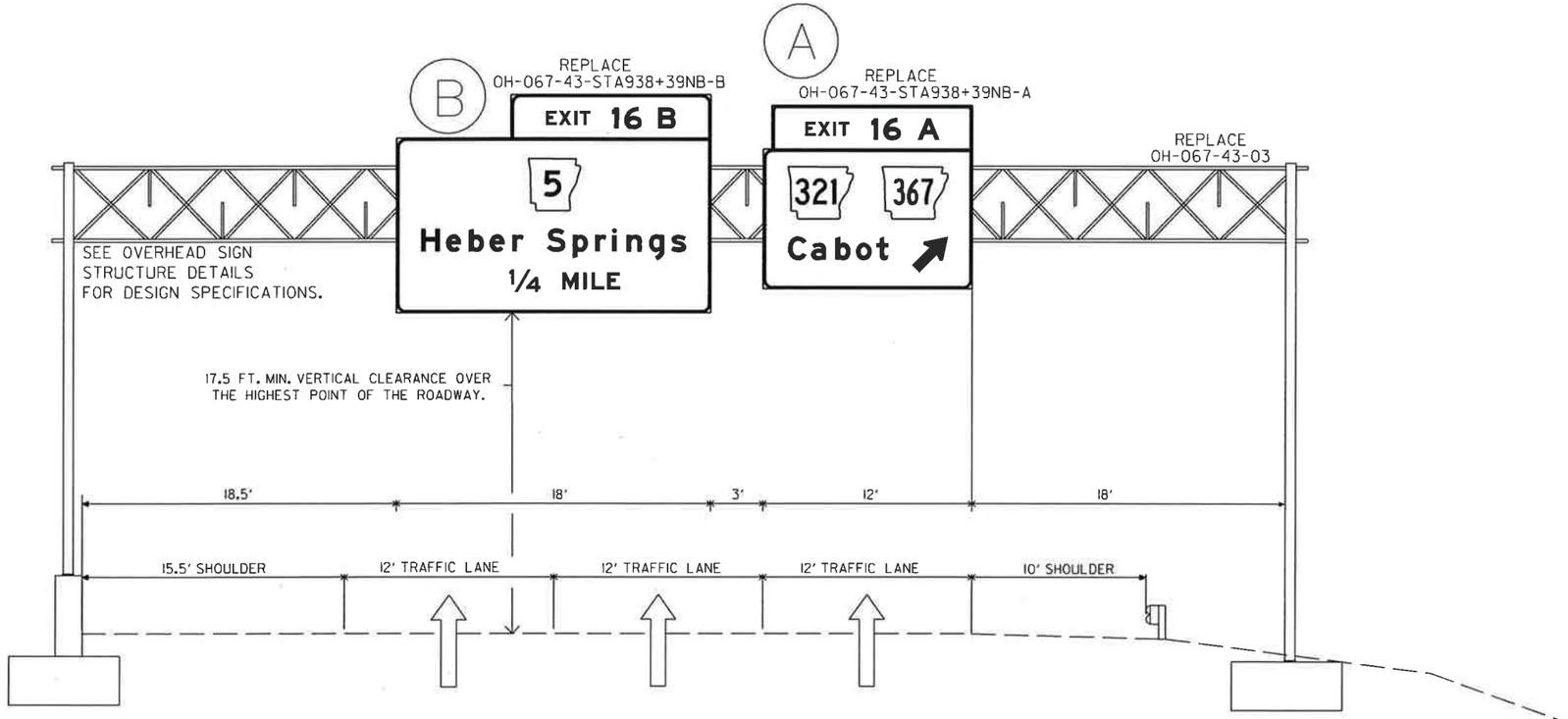
REPLACE
OH-067-43-STA938+39NB-A



OH-067-43-STA938+39NB-A
3.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K; [16] E Mod 2K; [A] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; M1-5; [Cabot] E Mod 2K;
Standard Arrow Custom 31.1" X 18.0" 45°;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.



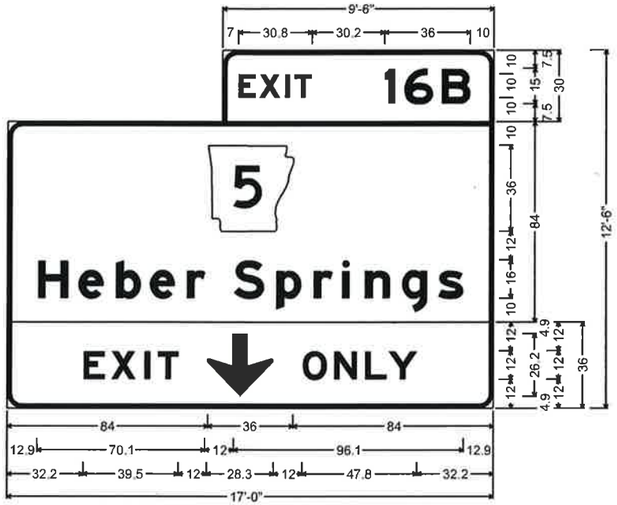
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/8/2016				6	ARK.			
				JOB NO.		CA0605	149	434

(2) SIGN LAYOUT SHEET

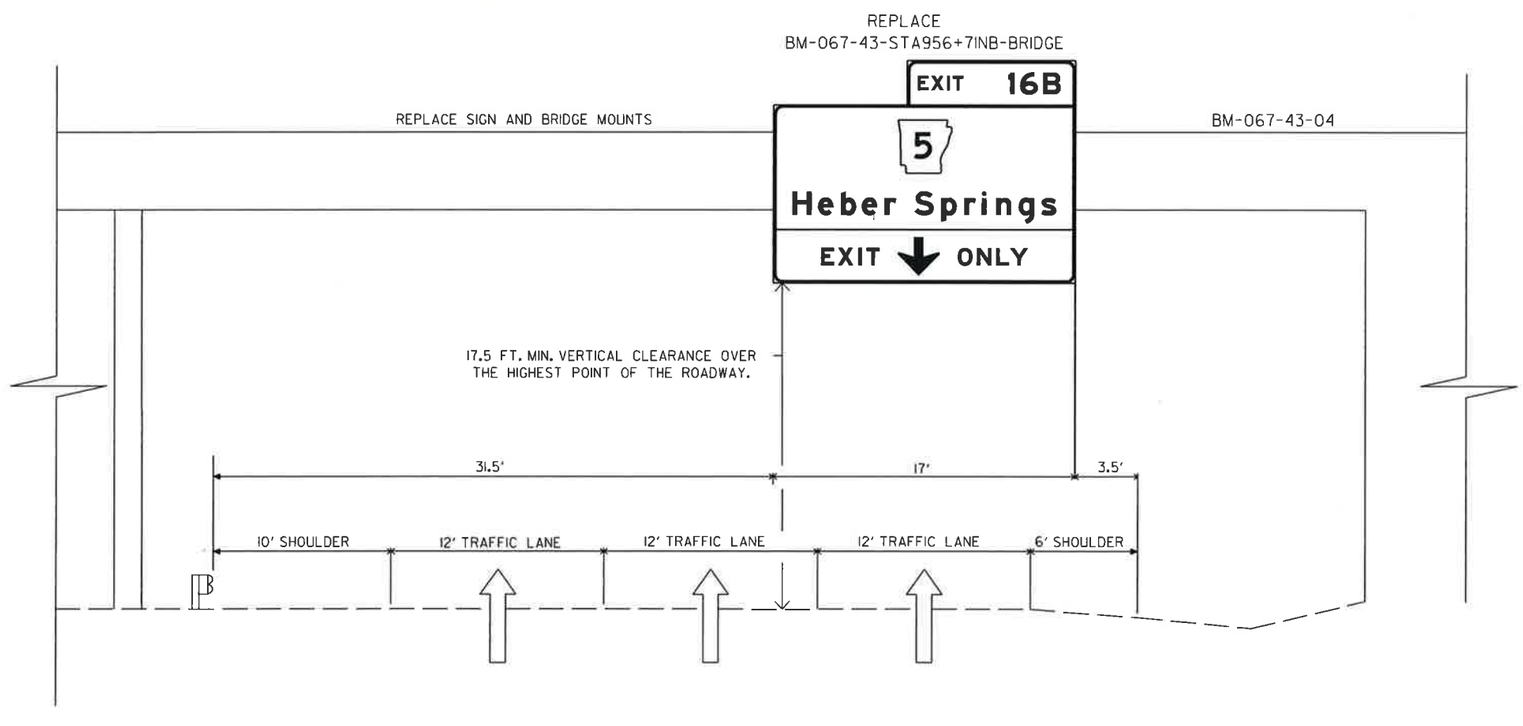
REPLACE
BM-067-43-STA956+71NB-BRIDGE



BM-067-43-STA956+71NB-BRIDGE
6.0" Radius, 2.0" Border, While on Green;
[EXIT] E Mod 2K; [16B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
M1-5; [Heber] E Mod 2K; [Springs] E Mod 2K;
6.0" Radius, 2.0" Border, Black on Yellow;
[EXIT] E Mod 2K specified length; Down Arrow Custom - 26.2" 270°;
[ONLY] E Mod 2K specified length;

NOTES:
THE CONTRACTOR WILL VERIFY SIGN LAYOUT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHAEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURE AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDINGT LANDE CLOSURES WILL BE PAID SUBSIDIARY TO PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST COMFORM WITH THE MUTCD.



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/11/16

SIGN LAYOUT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	150	434

(2) SOIL LOG

SOIL LOG

STATION	LOCATION	DEPTH FEET	A.A.S.H.T.O. CLASSIFICATION	LIQUID LIMIT	PLASTICITY INDEX	COLOR
730+00	60' RT. OF PROPOSED C.L. HWY. 67	0-5	A-4 (4)	24	9	BROWN
736+00	70' RT. OF PROPOSED C.L. HWY. 67	4.5-6	A-4 (1)	19	5	BROWN/TAN
736+00	70' RT. OF PROPOSED C.L. HWY. 67	9.5-10.7	A-6 (3)	26	11	BROWN/GRAY
736+00	70' RT. OF PROPOSED C.L. HWY. 67	14.5-16	A-6 (9)	34	14	BROWN/GRAY
747+00	60' RT. OF PROPOSED C.L. HWY. 67	4.2-5.7	A-6 (9)	31	13	BROWN/TAN/GRAY
747+00	60' RT. OF PROPOSED C.L. HWY. 67	9.2-10.7	A-6 (17)	40	19	TAN/GRAY
747+00	60' RT. OF PROPOSED C.L. HWY. 67	19.2-20.4	A-6 (9)	32	11	GRAY/TAN
747+00	60' RT. OF PROPOSED C.L. HWY. 67	24.2-25.7	A-7-6 (18)	42	20	BROWN/GRAY
787+88	15' LT. OF PROPOSED C.L. HWY. 67	14.8-16.3	A-4 (0)	20	2	BROWN/GRAY
787+88	15' LT. OF PROPOSED C.L. HWY. 67	19.8-21.8	A-6 (14)	37	16	BROWN
787+88	15' LT. OF PROPOSED C.L. HWY. 67	29.8-31.3	A-6 (8)	30	13	ORANGE/GRAY
787+88	15' LT. OF PROPOSED C.L. HWY. 67	34.8-36.3	A-4 (1)	22	6	BROWN
787+88	46' RT. OF PROPOSED C.L. HWY. 67	4.4-5.9	A-4 (8)	30	9	BROWN/BLACK
787+88	46' RT. OF PROPOSED C.L. HWY. 67	14.4-15.7	A-4 (0)	22	1	BROWN/GRAY
787+88	46' RT. OF PROPOSED C.L. HWY. 67	19.4-20.9	A-6 (12)	34	13	GRAY/ORANGE
787+88	46' RT. OF PROPOSED C.L. HWY. 67	24.4-25.9	A-6 (16)	39	16	TAN/GRAY/BLACK
787+88	46' RT. OF PROPOSED C.L. HWY. 67	34.4-35.9	A-4 (7)	28	8	TAN/BROWN/BLACK
787+88	46' RT. OF PROPOSED C.L. HWY. 67	39.4-40.4	A-1-b (0)	24	6	BROWN/TAN
788+25	15' RT. OF PROPOSED C.L. HWY. 67	4.7-6.2	A-4 (1)	23	3	BROWN/TAN
788+25	15' RT. OF PROPOSED C.L. HWY. 67	14.7-16.2	A-4 (6)	27	10	TAN/BROWN/GRAY
788+25	15' RT. OF PROPOSED C.L. HWY. 67	19.7-21.2	A-6 (8)	36	16	BROWN/TAN/GRAY
788+25	15' RT. OF PROPOSED C.L. HWY. 67	24.7-26.3	A-4 (2)	24	8	BROWN/TAN/BLACK
788+25	46' LT. OF PROPOSED C.L. HWY. 67	1.1-2.6	A-4 (2)	26	3	BROWN/GRAY
788+25	46' LT. OF PROPOSED C.L. HWY. 67	11.1-12.6	A-6 (17)	40	17	BROWN/GRAY
788+25	46' LT. OF PROPOSED C.L. HWY. 67	16.1-17.9	A-4 (6)	25	10	BROWN/TAN
788+25	46' LT. OF PROPOSED C.L. HWY. 67	26.1-27.6	A-4 (2)	26	9	BROWN/TAN
788+25	46' LT. OF PROPOSED C.L. HWY. 67	31.1-32.6	A-4 (1)	21	5	BROWN/GRAY
788+70	15' LT. OF PROPOSED C.L. HWY. 67	10-11.5	A-6 (16)	36	17	GRAY/ORANGE/TAN
788+70	15' LT. OF PROPOSED C.L. HWY. 67	15-16.5	A-4 (4)	25	7	BROWN
788+70	15' LT. OF PROPOSED C.L. HWY. 67	30-31.5	A-4 (2)	26	8	BROWN
788+70	46' RT. OF PROPOSED C.L. HWY. 67	4.1-5.4	A-4 (0)	21	1	GRAY/ORANGE
788+70	46' RT. OF PROPOSED C.L. HWY. 67	9.1-10.6	A-6 (12)	35	13	BROWN/GRAY
788+70	46' RT. OF PROPOSED C.L. HWY. 67	14.1-15.6	A-4 (2)	25	8	BROWN
788+70	46' RT. OF PROPOSED C.L. HWY. 67	19.1-20.6	A-4 (6)	28	8	BROWN/GRAY
788+70	46' RT. OF PROPOSED C.L. HWY. 67	24.1-25.6	A-4 (0)	23	4	BROWN
788+70	46' RT. OF PROPOSED C.L. HWY. 67	29.1-30.6	A-2-6 (1)	30	13	BROWN
789+05	15' RT. OF PROPOSED C.L. HWY. 67	15.2-16.7	A-6 (16)	38	16	TAN
789+05	15' RT. OF PROPOSED C.L. HWY. 67	20.2-21.9	A-4 (6)	28	9	GRAY/TAN/BROWN
789+05	15' RT. OF PROPOSED C.L. HWY. 67	25.2-26.7	A-4 (0)	20	2	TAN
789+05	15' RT. OF PROPOSED C.L. HWY. 67	30.2-31.7	A-4 (2)	23	5	TAN/BROWN
789+05	46' LT. OF PROPOSED C.L. HWY. 67	9.6-11.1	A-4 (5)	28	6	GRAY/TAN
789+05	46' LT. OF PROPOSED C.L. HWY. 67	14.6-16.1	A-6 (18)	38	19	TAN/GRAY/BLACK
789+05	46' LT. OF PROPOSED C.L. HWY. 67	29.6-30.6	A-4 (1)	27	8	BROWN
789+05	46' LT. OF PROPOSED C.L. HWY. 67	34.6-36.1	A-1-b (0)	22	5	GRAY/TAN
789+05	46' LT. OF PROPOSED C.L. HWY. 67	39.6-40.8	A-6 (0)	30	11	GRAY/TAN
802+00	60' RT. OF PROPOSED C.L. HWY. 67	4.1-5.1	A-4 (10)	33	10	BROWN
802+00	60' RT. OF PROPOSED C.L. HWY. 67	9.1-10.6	A-7-6 (27)	51	24	BROWN/GRAY
802+00	60' RT. OF PROPOSED C.L. HWY. 67	14.1-15.8	A-4 (4)	25	6	BROWN/TAN
822+00	60' RT. OF PROPOSED C.L. HWY. 67	4.0-5.5	A-4 (2)	26	10	TAN/GRAY
822+00	60' RT. OF PROPOSED C.L. HWY. 67	9-9.3	A-4 (0)	15	2	BROWN/TAN
822+00	60' RT. OF PROPOSED C.L. HWY. 67	9.6-11.1	A-4 (0)	15	1	BROWN/GRAY
822+00	60' RT. OF PROPOSED C.L. HWY. 67	14-15	A-4 (0)	16	2	TAN
826+00	60' RT. OF PROPOSED C.L. HWY. 67	0-5	A-6 (2)	25	11	BROWN
846+00	60' RT. OF PROPOSED C.L. HWY. 67	0-5	A-4 (2)	23	9	BROWN
863+00	110' LT. OF PROPOSED C.L. HWY. 67	9.5-11	A-2-7 (2)	42	20	TAN/GRAY
863+00	110' LT. OF PROPOSED C.L. HWY. 67	14.5-16	A-6 (8)	37	16	BROWN/TAN/GRAY
870+00	60' LT. OF PROPOSED C.L. HWY. 67	9.8-11.3	A-6 (5)	30	13	GRAY
870+00	60' LT. OF PROPOSED C.L. HWY. 67	14.8-16.3	A-4 (0)	23	6	GRAY/ORANGE
870+00	60' LT. OF PROPOSED C.L. HWY. 67	19.8-21.3	A-4 (1)	24	7	GRAY
885+00	60' LT. OF PROPOSED C.L. HWY. 67	4.7-6.2	A-4 (4)	26	7	GRAY/BROWN
885+00	60' LT. OF PROPOSED C.L. HWY. 67	9.7-10.7	A-6 (16)	39	18	TAN/GRAY
885+00	60' LT. OF PROPOSED C.L. HWY. 67	14.7-16.2	A-7-6 (17)	42	22	GRAY/BROWN
891+00	60' LT. OF PROPOSED C.L. HWY. 67	0-5	A-4 (2)	22	6	RED/BROWN
896+00	60' LT. OF PROPOSED C.L. HWY. 67	0-5	A-6 (14)	38	16	DARK BROWN
903+00	60' LT. OF PROPOSED C.L. HWY. 67	4.7-6.2	A-7-6 (16)	41	20	GRAY/BROWN
903+00	60' LT. OF PROPOSED C.L. HWY. 67	9.7-11.2	A-4 (1)	28	6	BROWN/GRAY
926+00	60' LT. OF PROPOSED C.L. HWY. 67	0-5	A-2-4 (0)	23	6	BROWN/RED
934+00	115' LT. OF PROPOSED C.L. HWY. 67	4-5.5	A-4 (0)	31	8	BROWN/RED
934+00	115' LT. OF PROPOSED C.L. HWY. 67	14-14.9	A-4 (2)	30	8	BROWN
941+00	60' LT. OF PROPOSED C.L. HWY. 67	0-5	A-2-4 (0)	23	6	BROWN/RED

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SOIL LOG

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	151	434
				②	QUANTITIES			

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1 A	STAGE 1 B	STAGE 1 C	STAGE 1 D	STAGE 2 A	STAGE 2 B	STAGE 3 A	STAGE 3 B	STAGE 3 C	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED NO.	TOTAL SIGNS REQUIRED SQ. FT.	SIGNS LEFT IN PLACE	VERTICAL PANELS	TRAFFIC DRUMS	TEMPORARY IMPACT ATTENUATION BARRIER LEFT IN PLACE	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN	BARRICADES (TYPE III) RIGHT	BARRICADES (TYPE III) LEFT	FURNISHING & INSTALLING PRECAST CONC. BARRIER	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	MOBILE SPEED NOTIFICATION SYSTEM	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)
			LIN. FT. / EACH													EACH			DAY	WEEK	LIN. FT.						EACH	
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W20-1	ROAD WORK AHEAD	48"x48"	22	22	22	22	22	22	22	22	22	22	22	352.0														
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W20-5	RIGHT LANE CLOSED 1500 FT.	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
R55-1	FINES DOUBLE IN WORK ZONES WHEN WORKERS ARE PRESENT	36"x60"	4	4	4	4	4	4	4	4	4	4	4	60.0														
G20-1	ROAD WORK NEXT 5 MILES	60"x24"	2	2	2	2	2	2	2	2	2	2	2	20.0														
G20-2	END ROAD WORK	48"x24"	22	22	22	22	22	22	22	22	22	22	22	176.0														
W13-1	SPEED LIMIT (ADVISORY)	24"x24"	6	6		2	12	10	14	6	4	14	14	56.0														
R11-2	ROAD CLOSED	48"x30"			2	2	2	2	4	2		4	4	40.0														
W1-8	CHEVRONS	18"x24"	72	72								72	72	216.0														
W1-6	LEFT ARROW	60"x30"	12	12	12	12	12	12	12	12	12	12	12	150.0														
OM-3L	OBJECT MARKER	12"x36"	21	21	5	13	11	22	14	9		22	22	66.0														
OM-3R	OBJECT MARKER	12"x36"	21	21	9	4	21	19	15	8	1	21	21	63.0														
W1-4R	REVERSE CURVE RT.	48"x48"	6	6		4	8	6	8	2		8	8	128.0														
W1-4L	REVERSE CURVE LT.	48"x48"	6	6		4	8	6	6	4	4	8	8	128.0														
W4-1	MERGE AHEAD	48"x48"							1			1	1	16.0														
W4-2R	MERGE SYMBOL	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W4-3	ADDED LANE SIGN	48"x48"	2	2	2	2	2	2	2	2	2	2	2	32.0														
SPECIAL	MERGE NOW LEFT ARROW	48"x48"	4	4	4	4	4	4	4	4	4	4	4	64.0														
W7-3A	NEXT XX MILES	30"x24"	9	9	4	5	4	5	4	3		9	9	45.0														
W21-5A	LEFT/RIGHT SHOULDER CLOSED	48"x48"	9	9	4	5	4	5	4	3		9	9	144.0														
W21-5B	LT/RT SHOULDER CLOSED, 500 FT.	48"x48"	9	9	4	5	4	5	4	3		9	9	144.0														
R2-1	SPEED LIMIT	48"x60"	8	8	8	8	8	8	8	8	8	8	8	160.0														
R4-1	DO NOT PASS	48"x60"	8	8	8	8	8	8	8	8	8	8	8	160.0														
R2-5A	REDUCED SPEED AHEAD	48"x60"	4	4	4	4	4	4	4	4	4	4	4	80.0														
OM-3R	OBJECT MARKER - SIGNS LEFT IN PLACE	12"x36"									1	1	1		3.0													
	VERTICAL PANELS						29		96	29	34	96				96												
	TRAFFIC DRUMS		60	60	136	12	183	47	367	92	43	367					367											
	TYPE III BARRICADE-RT. (8')				1	1	1	1	2	1		2									16							
	TYPE III BARRICADE-LT. (8')				1	1	1	1	2	1		2										16						
	ADVANCE WARNING ARROW PANEL		2	2	2	2	2	2	2	2	2	2							1460									
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		500	6011	25349	7657	39580					79097											79097					
	LEFT IN PLACE PRECAST CONCRETE BARRIER						1604			106	719	2429												2429				
	RELOCATING PRECAST CONCRETE BARRIER			500	6511	2404	37724	12055	30697	10392	676	100959													100959			
	PORTABLE CHANGEABLE MESSAGE SIGN		2	2	2	2	2	2	2	2	2	2								208								
✱	TEMPORARY IMPACT ATTENUATION BARRIER		4	4	7	5	7	7	7	15	4	15														15		
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)											15																15
	TEMPORARY IMPACT ATTENUATION BARRIER - LEFT IN PLACE						1		3	3	4	4						4										
	MOBILE SPEED NOTIFICATION SYSTEM		2	2	2	2	2	2	2	2	2	2															2	
TOTALS:														2748.0	3.0	96	367	4	1460	208	16	16	79097	2429	100959	15	2	15

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

✱ NOTE: FOUR TEMPORARY IMPACT ATTENUATION BARRIERS TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.

TEMPORARY RETAINING WALL

STATION	STATION	LOCATION	LENGTH STAGE 1D	LENGTH STAGE 2A	LENGTH STAGE 2B	SQUARE FOOT STAGE 1D	SQUARE FOOT STAGE 2A	SQUARE FOOT STAGE 2B	SELECT GRANULAR BACKFILL STAGE 1D	SELECT GRANULAR BACKFILL STAGE 2A	SELECT GRANULAR BACKFILL STAGE 2B
			LIN. FT.			SQ. FT.			CU. YD.		
733+00.00	757+00.00	RT. OF C.L. CONST. HWY. 67		2400			13935			2323	
763+00.00	787+79.75	RT. OF C.L. CONST. HWY. 67		2480			11526			1921	
784+00.00	787+79.75	LT. OF C.L. CONST. HWY. 67			380			1649			275
784+00.00	787+79.75	LT. AND RT. OF C.L. CONST. HWY. 67	380			2623			437		
789+14.25	845+00.00	RT. OF C.L. CONST. HWY. 67		5586			21287			3548	
789+14.25	793+00.00	LT. OF C.L. CONST. HWY. 67			386			1714			286
789+14.25	793+00.00	LT. AND RT. OF C.L. CONST. HWY. 67	380			2308			385		
868+00.00	873+00.00	RT. OF C.L. CONST. HWY. 67		500			1350			225	
883+00.00	925+00.00	RT. OF C.L. CONST. HWY. 67		4200			15998			2666	
TOTALS:			760	15166	766	4931	64096	3363	822	10683	561

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

	LOCATION	TON	TACK COAT GALLON
✱	ENTIRE PROJECT - TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	115	230
	TOTALS:	115	230

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

✱ QUANTITY ESTIMATED - SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

AUTOMATED WORK ZONE INFORMATION SYSTEM

LOCATION	✱ AWIS MOBILIZATION	✱ AWIS OPERATION	✱ DEVICE RELOCATION	FURNISH AND INSTALL ✱ CLOSED CIRCUIT TELEVISION SYSTEM	FURNISH AND INSTALL ✱ PUBLIC NOTIFICATION SYSTEM	FURNISH AND INSTALL ✱ VARIABLE MESSAGE SIGN	FURNISH AND INSTALL ✱ VEHICLE DETECTION SYSTEM
	LUMP SUM	MONTH	EACH				
ENTIRE PROJECT	1.00	24	20	3	2	9	31
TOTALS:	1.00	24	20	3	2	9	31

✱ QUANTITIES ARE ESTIMATED. REFER TO SECTION 104.03 OF THE STANDARD SPECIFICATIONS.
REFER TO "AUTOMATED WORK ZONE INFORMATION SYSTEM" SPECIAL PROVISION

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	152	434

(2) QUANTITIES

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1				STAGE 2		STAGE 3			END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	BARRIER WALL DELINEATORS	RAISED PAVEMENT MARKERS	THERMOPLASTIC PAVEMENT MARKING						REFLECTORIZED PAINT PAVEMENT MARKING	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	HIGH PERFORMANCE PAVEMENT MARKING		
	A	B	C	D	A	B	A	B	C							TYPE II (WHITE/RED)	4" WHITE	4" YELLOW	8" WHITE	12" WHITE	WORDS	ARROWS	10" WHITE	4" WHITE	4" WHITE	4" YELLOW	8" WHITE
	LIN. FT. - EACH										LIN. FT.		LIN. FT.		EACH		LIN. FT.				EACH		LIN. FT.	LIN. FT.	LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS			28627	6739	48454	653		235	371		85279																
BARRIER WALL DELINEATORS						625	625								1250												
CONSTRUCTION PAVEMENT MARKINGS	6288		35392	10665	115151	5818	4705	3372	1681			183072															
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS			2795	4002	29994	27146	26668	42599	54024				187228														
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS						54990	56159	110355	3373					224877													
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)										2701						2701											
THERMOPLASTIC PAVEMENT MARKING WHITE (4")										4365							4365										
THERMOPLASTIC PAVEMENT MARKING YELLOW (4")										7957								7957									
THERMOPLASTIC PAVEMENT MARKING WHITE (8")										230									230								
THERMOPLASTIC PAVEMENT MARKING WHITE (12")										72										72							
THERMOPLASTIC PAVEMENT MARKING WORDS										2											2						
THERMOPLASTIC PAVEMENT MARKING ARROWS										10												10					
REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")										383													383				
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING WHITE (4")										23001														23001			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")										49770															49770		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")										49781																49781	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")										1842																	1842
TOTALS:											**85279**	**183072**	**187228**	**224877**	**1250**	**2701**	**4365**	**7957**	**230**	**72**	**2**	**10**	**383**	**23001**	**49770**	**49781**	**1842**

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

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

NOTE: THERMOPLASTIC PAVEMENT MARKINGS MAY BE SUBSTITUTED FOR INVERTED PROFILE PAVEMENT MARKINGS AT INTERSECTIONS, ISLANDS, TURNOUTS, AND OTHER SIMILAR LOCATIONS AS DIRECTED BY THE ENGINEER.

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-10)	OBLITERATION OF SEDIMENT BASIN	SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	STAGE 1C						6.25	6.25	127.5	1903	260		2210			255
ENTIRE	PROJECT	STAGE 2A	9.30	18.60	9.30	948.6	9.30				1782	243	825	1775			258
ENTIRE	PROJECT	STAGE 2B									11	2					1
ENTIRE	PROJECT	STAGE 3A	16.23	32.46	16.23	1655.5	16.23				1562	213	575	485			181
ENTIRE	PROJECT	STAGE 3B	2.00	4.00	2.00	204.0	2.00				165	23		215			23
ENTIRE	PROJECT	STAGE 3C	0.44	0.88	0.44	44.9	0.44				55	8		760			33
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.								175.00	175.00	3570.0	550	75	250	1200	1200	1200	1304
TOTALS:			**27.97**	**55.94**	**27.97**	**2853.0**	**27.97**	**181.25**	**181.25**	**3697.5**	**6028**	**824**	**1650**	**6645**	**1200**	**1200**	**2055**

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
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	153	434

2 QUANTITIES

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE DITCH PAVING	WIRE ROPE SAFETY FENCE	CONCRETE PAVEMENT	POSTS	GUARDRAIL
			SQ. YD.	LIN. FT.	SQ. YD.	EACH	LIN. FT.
705+05	787+38	MEDIAN - C.L. CONST. HWY. 67		8233			
705+05	787+38	MEDIAN - C.L. CONST. HWY. 67	3659				
705+05	787+85	RT. - C.L. CONST. HWY. 67			22176		
705+05	787+85	LT. - C.L. CONST. HWY. 67			21948		
710+86	710+86	RT. - C.L. CONST. HWY. 67					
727+40	727+40	RT. - C.L. CONST. HWY. 67					
740+40	740+40	RT. - C.L. CONST. HWY. 67					
745+68	745+68	LT. - C.L. CONST. HWY. 67					
745+70	745+70	RT. - C.L. CONST. HWY. 67					
745+75	745+75	LT. - C.L. CONST. HWY. 67				6	
746+22	746+22	LT. - C.L. CONST. HWY. 67					
746+22	746+22	RT. - C.L. CONST. HWY. 67					
772+39	772+39	RT. - C.L. CONST. HWY. 67					
781+36	781+36	RT. - C.L. CONST. HWY. 67					
781+39	781+39	RT. - C.L. CONST. HWY. 67					
781+42	781+42	RT. - C.L. CONST. HWY. 67					
783+20	787+86	RT. - C.L. CONST. HWY. 67					466
784+88	787+59	RT. - C.L. CONST. HWY. 67					271
789+10	948+00	RT. - C.L. CONST. HWY. 67			40622		
789+10	948+00	LT. - C.L. CONST. HWY. 67			41124		
789+11	792+22	LT. - C.L. CONST. HWY. 67					311
789+11	794+17	LT. - C.L. CONST. HWY. 67					506
789+50	948+00	MEDIAN - C.L. CONST. HWY. 67		15850			
789+50	948+00	MEDIAN - C.L. CONST. HWY. 67	7044				
794+37	794+37	LT. - C.L. CONST. HWY. 67				14	
796+35	796+35	RT. - C.L. CONST. HWY. 67					
796+40	796+40	LT. - C.L. CONST. HWY. 67					
796+43	796+43	RT. - C.L. CONST. HWY. 67					
802+30	802+30	MEDIAN - C.L. CONST. HWY. 67					
814+11	814+11	LT. - C.L. CONST. HWY. 67					
814+10	814+10	LT. - C.L. CONST. HWY. 67				11	
814+10	814+10	RT. - C.L. CONST. HWY. 67				7	
814+15	814+15	LT. - C.L. CONST. HWY. 67					
814+17	814+17	RT. - C.L. CONST. HWY. 67					
814+21	814+21	RT. - C.L. CONST. HWY. 67					
824+39	824+39	RT. - C.L. CONST. HWY. 67					
826+33	826+33	RT. - C.L. CONST. HWY. 67				19	
835+27	835+37	RT. - C.L. CONST. HWY. 67					
838+35	838+35	RT. - C.L. CONST. HWY. 67					
838+39	838+39	LT. - C.L. CONST. HWY. 67					
838+39	838+39	LT. - C.L. CONST. HWY. 67					
838+39	838+39	RT. - C.L. CONST. HWY. 67					
838+44	838+44	RT. - C.L. CONST. HWY. 67					
852+13	852+13	MEDIAN - C.L. CONST. HWY. 67					
852+13	852+13	RT. - C.L. CONST. HWY. 67					
853+35	853+35	LT. - C.L. CONST. HWY. 67					
853+48	853+48	LT. - C.L. CONST. HWY. 67				5	
853+48	853+48	RT. - C.L. CONST. HWY. 67				5	
853+60	853+60	RT. - C.L. CONST. HWY. 67					
853+60	853+60	LT. - C.L. CONST. HWY. 67					
883+05	883+05	LT. - C.L. CONST. HWY. 67					
883+05	883+05	RT. - C.L. CONST. HWY. 67					
883+17	883+17	LT. - C.L. CONST. HWY. 67				6	
883+17	883+17	RT. - C.L. CONST. HWY. 67				1	
883+32	883+32	RT. - C.L. CONST. HWY. 67					
883+32	883+32	LT. - C.L. CONST. HWY. 67					
905+68	905+68	LT. - C.L. CONST. HWY. 67					
913+17	913+17	LT. - C.L. CONST. HWY. 67				8	
920+61	920+61	LT. - C.L. CONST. HWY. 67				12	
926+46	926+46	LT. - C.L. CONST. HWY. 67					
935+91	938+94	LT. - C.L. CONST. HWY. 67					303
TOTALS:			**10703**	**24083**	**125870**	**94**	**1857**

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

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	DESCRIPTION	PIPE CULVERTS	BOX CULVERTS	JUNCTION BOXES	DROP INLETS
		EACH	EACH	EACH	EACH
710+36	LT. - C.L. CONST. HWY. 67	1			
710+40	LT. - C.L. CONST. HWY. 67	1			
710+40	RT. - C.L. CONST. HWY. 67	1			1
710+40	RT. - C.L. CONST. HWY. 67	1			1
710+40	LT. - C.L. CONST. HWY. 67	1			1
710+86	RT. - C.L. CONST. HWY. 67	1			1
727+38	RT. - C.L. CONST. HWY. 67	1			
727+40	RT. - C.L. CONST. HWY. 67	1		1	
727+40	RT. - C.L. CONST. HWY. 67	1			1
740+40	MEDIAN - C.L. CONST. HWY. 67	1			1
745+68	LT. - C.L. CONST. HWY. 67	1			
745+70	RT. - C.L. CONST. HWY. 67	1			
745+96	MEDIAN - C.L. CONST. HWY. 67		1		1
746+22	LT. - C.L. CONST. HWY. 67	1			
746+22	RT. - C.L. CONST. HWY. 67	1			
772+39	MEDIAN - C.L. CONST. HWY. 67	1			1
781+36	RT. - C.L. CONST. HWY. 67	1			
781+42	RT. - C.L. CONST. HWY. 67	1			
796+35	RT. - C.L. CONST. HWY. 67	1			
796+39	MEDIAN - C.L. CONST. HWY. 67	1			1
796+39	RT. - C.L. CONST. HWY. 67	1		1	
796+40	LT. - C.L. CONST. HWY. 67	1			
796+43	RT. - C.L. CONST. HWY. 67	1			
802+30	MEDIAN - C.L. CONST. HWY. 67	1			1
814+11	LT. - C.L. CONST. HWY. 67	1		1	
814+14	MEDIAN - C.L. CONST. HWY. 67	2			1
814+15	LT. - C.L. CONST. HWY. 67	1			
814+17	RT. - C.L. CONST. HWY. 67	1		1	
814+21	RT. - C.L. CONST. HWY. 67	1			
824+39	RT. - C.L. CONST. HWY. 67	1			1
838+35	RT. - C.L. CONST. HWY. 67	1			
838+39	LT. - C.L. CONST. HWY. 67	1			
838+39	LT. - C.L. CONST. HWY. 67	1			
838+39	LT. - C.L. CONST. HWY. 67	1		1	
838+39	RT. - C.L. CONST. HWY. 67	1		1	
838+44	RT. - C.L. CONST. HWY. 67	1			
852+13	MEDIAN - C.L. CONST. HWY. 67	1			1
852+13	RT. - C.L. CONST. HWY. 67	1			
853+35	LT. - C.L. CONST. HWY. 67	1			
853+60	RT. - C.L. CONST. HWY. 67	1			
853+60	LT. - C.L. CONST. HWY. 67	1			
869+20	MEDIAN - C.L. CONST. HWY. 67				1
883+05	LT. - C.L. CONST. HWY. 67	1			
883+05	RT. - C.L. CONST. HWY. 67	1			
883+20	MEDIAN - C.L. CONST. HWY. 67				1
883+32	RT. - C.L. CONST. HWY. 67	1			
883+32	LT. - C.L. CONST. HWY. 67	1			
905+68	LT. - C.L. CONST. HWY. 67	1			1
912+95	RT. - C.L. CONST. HWY. 67	1			1
913+34	RT. - C.L. CONST. HWY. 67	1			
913+43	LT. - C.L. CONST. HWY. 67	1			1
918+97	MEDIAN - C.L. CONST. HWY. 67	1	1		1
926+46	MEDIAN - C.L. CONST. HWY. 67	1			1
TOTALS:		**51**	**2**	**6**	**20**

NOTE: QUANTITIES SHOWN ABOVE FOR REMOVAL AND DISPOSAL OF PIPE CULVERTS SHALL INCLUDE THE REMOVAL AND DISPOSAL OF ANY HEADWALLS OR FLARED END SECTIONS.

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
781+91	785+33	C.L. CONST. HWY. 67 - LT. & RT.	4	4
TOTALS:			**4**	**4**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	154	434

(2) QUANTITIES

EARTHWORK

STATION	STATION	LOCATION	STAGE 1B UNCLASSIFIED EXCAVATION	STAGE 1B COMPACTED EMBANKMENT	STAGE 1C UNCLASSIFIED EXCAVATION	STAGE 1C COMPACTED EMBANKMENT	STAGE 1D UNCLASSIFIED EXCAVATION	STAGE 1D COMPACTED EMBANKMENT	STAGE 2A UNCLASSIFIED EXCAVATION	STAGE 2A COMPACTED EMBANKMENT	STAGE 2B UNCLASSIFIED EXCAVATION	STAGE 2B COMPACTED EMBANKMENT	STAGE 3A UNCLASSIFIED EXCAVATION	STAGE 3A COMPACTED EMBANKMENT	STAGE 3B UNCLASSIFIED EXCAVATION	STAGE 3B COMPACTED EMBANKMENT	STAGE 3C UNCLASSIFIED EXCAVATION	STAGE 3C COMPACTED EMBANKMENT
			CU. YD.		CU. YD.		CU. YD.		CU. YD.		CU. YD.		CU. YD.		CU. YD.		CU. YD.	
698+12.00	956+24.00	HWY. 67			18631	31631	855	2271	13158	114958	6371	1568	36650	60934	417			
944+77.09	949+28.42	RAMP 1 - HWY. 5											1056	620				
711+50.11	715+18.85	RAMP 2 - VAN. BLVD.											1078	598				
113+59.00	136+05.00	T.P. WHITE DR.									142		247	291	1089	1076	3871	447
52+21.00	64+09.00	S. 2ND ST.											333	2109	3961			
		* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	875	875														
TOTALS:			875	875	18631	31631	855	2271	13154	112963	6513	1568	39364	64552	5467	1076	3871	447

* QUANTITY ESTIMATED - SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

SUMMARY OF EARTHWORK

DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	SELECT GRANULAR BACKFILL	SOIL STABILIZATION
	CU. YD.			TON
STAGE 1B	875	875		
STAGE 1C	18631	31631		
STAGE 1D	855	2271	822	
STAGE 2A	13154	112963	10683	
STAGE 2B	6513	1568	561	
STAGE 3A	39364	64552		
STAGE 3B	5467	1076		
STAGE 3C	3871	447		
CHANNEL EXCAVATION	2856			
BRIDGE EXCAVATION	174			
DRIVEWAYS - ENTIRE PROJECT	185	275		
* ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER				200
TOTALS:	91945	215658	12066	200

*QUANTITY ESTIMATED - SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	"B"	CONC. DITCH PAVING (TYPE A)	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	FEET	SQ. YD.	SQ. YD.	SQ. YD.	M. GAL.
720+00.00	722+89.11	LT. L.M.L.	289.11	17.01			546.42	128.49	1.62
741+00.00	745+50.00	LT. L.M.L.	450.00	23.26			1163.00	200.00	2.52
751+00.00	752+00.00	LT. L.M.L.	100.00	11.58			128.67	44.44	0.56
764+00.00	766+00.00	LT. L.M.L.	200.00	8.48			186.44	88.89	1.12
781+00.00	781+92.00	LT. L.M.L.	92.00	22.47			229.69	40.89	0.52
785+00.00	787+50.00	LT. L.M.L.	250.00	14.67			407.50	111.11	1.40
796+00.00	799+00.00	LT. L.M.L.	300.00	23.07	VAR.	769.00		133.33	1.68
868+00.00	871+00.00	LT. L.M.L.	300.00	14.50			483.33	133.33	1.68
901+00.00	917+50.00	LT. L.M.L.	1650.00	22.28			4084.67	733.33	9.24
705+05.30	709+00.00	RT. R.M.L.	394.70	12.84			563.00	175.42	2.21
719+89.28	723+00.00	RT. R.M.L.	310.72	14.71			507.85	138.10	1.74
725+00.00	727+00.00	RT. R.M.L.	200.00	9.17			203.78	88.89	1.12
728+00.00	753+00.00	RT. R.M.L.	2500.00	22.41			6225.00	1111.11	14.00
779+00.00	781+00.00	RT. R.M.L.	200.00	21.97			488.22	88.89	1.12
784+00.00	787+50.00	RT. R.M.L.	350.00	19.39			754.06	155.56	1.96
789+25.00	796+00.00	RT. R.M.L.	675.00	17.78			1333.50	300.00	3.78
800+00.00	803+00.00	RT. R.M.L.	300.00	31.83			1061.00	133.33	1.68
869+00.00	870+00.00	RT. R.M.L.	100.00	9.95			110.56	44.44	0.56
913+10.00	919+00.00	RT. R.M.L.	590.00	11.65			763.72	262.22	3.30
704+05.30	705+55.30	C.L. CONST. HWY. 67	150.00	4.00			66.67	66.67	0.84
945+50.00	947+00.00	C.L. CONST. HWY. 67	150.00	4.00			66.67	66.67	0.84
58+20.00	58+50.00	RT. T.P. WHITE DR.	30.00	5.00			16.67	13.33	0.17
58+90.00	60+00.00	RT. T.P. WHITE DR.	110.00	5.00			61.11	48.89	0.62
* TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			3150.00	5.00			1750.00	1400.00	17.64
TOTALS:						769.00	21203.53	5707.33	71.92

BASIS OF ESTIMATE:
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING.
* NOTE: QUANTITY ESTIMATED - SEE SECTION 104.03 OF THE STANDARD SPECIFICATIONS

EROSION CONTROL MATTING

STATION	STATION	LOCATION	LENGTH	CLASS 3
			LIN. FT.	SQ. YD.
705+05.30	711+00.00	LT. OF C.L. CONST. HWY. 67	594.70	528.62
709+00.00	712+83.87	RT. OF C.L. CONST. HWY. 67	383.87	341.22
714+93.88	719+17.00	RT. OF C.L. CONST. HWY. 67	423.12	376.11
722+00.00	745+00.00	RT. OF C.L. CONST. HWY. 67	2300.00	2044.44
734+00.00	741+00.00	LT. OF C.L. CONST. HWY. 67	700.00	622.22
745+00.00	780+00.00	LT. OF C.L. CONST. HWY. 67	3500.00	3111.11
745+50.00	746+50.00	RT. OF C.L. CONST. HWY. 67	100.00	88.89
747+00.00	757+00.00	RT. OF C.L. CONST. HWY. 67	1000.00	888.89
758+00.00	759+00.00	RT. OF C.L. CONST. HWY. 67	100.00	88.89
766+00.00	787+79.75	RT. OF C.L. CONST. HWY. 67	2179.75	1937.56
781+92.00	787+79.75	LT. OF C.L. CONST. HWY. 67	587.75	522.44
789+14.25	796+00.00	LT. OF C.L. CONST. HWY. 67	685.75	609.56
789+14.25	796+40.00	RT. OF C.L. CONST. HWY. 67	725.75	645.11
798+00.00	809+00.00	LT. OF C.L. CONST. HWY. 67	1100.00	977.78
803+00.00	804+00.00	RT. OF C.L. CONST. HWY. 67	100.00	88.89
805+00.00	836+00.00	RT. OF C.L. CONST. HWY. 67	3100.00	2755.56
811+00.00	838+00.00	LT. OF C.L. CONST. HWY. 67	2700.00	2400.00
837+00.00	838+00.00	RT. OF C.L. CONST. HWY. 67	100.00	88.89
839+00.00	864+00.00	LT. OF C.L. CONST. HWY. 67	2500.00	2222.22
840+00.00	860+00.00	RT. OF C.L. CONST. HWY. 67	2000.00	1777.78
862+00.00	874+00.00	RT. OF C.L. CONST. HWY. 67	1200.00	1066.67
865+00.00	873+00.00	LT. OF C.L. CONST. HWY. 67	800.00	711.11
878+00.00	905+00.00	LT. OF C.L. CONST. HWY. 67	2700.00	2400.00
880+00.00	881+00.00	RT. OF C.L. CONST. HWY. 67	100.00	88.89
882+25.00	907+00.00	RT. OF C.L. CONST. HWY. 67	2475.00	2200.00
911+00.00	913+40.00	LT. OF C.L. CONST. HWY. 67	240.00	213.33
912+00.00	948+00.00	RT. OF C.L. CONST. HWY. 67	3600.00	3200.00
917+00.00	948+00.00	LT. OF C.L. CONST. HWY. 67	3100.00	2755.56
946+00.00	948+00.00	C.L. CONST. HWY. 67	200.00	177.78
TOTAL:				34929.52

NOTE: AVERAGE WIDTH = 8'-0"

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	155	434

2

QUANTITIES

STRUCTURES (BOX 1 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	(CLASS III) 30"	(CLASS III) 36"	(CLASS III) 42"	(CLASS IV) 24"	(CLASS IV) 30"	(CLASS IV) 36"	(CLASS IV) 29"X18"	(CLASS V) 24"	(CLASS V) 30"	(CLASS V) 36"	(CLASS V) 42"	(CLASS V) 29"X18"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	30"	29"X18"	SAFETY END SECTIONS FOR R.C. PIPE CULVERTS (CLASS 2) 18"	24"	30"	36"	42"	TEMPORARY CULVERTS 12"	18"	24"	36"	42"	DROP INLETS TYPE C	RM	ST	TM	SPECIAL	EXT. 4'	8'	JUNCTION BOXES (TYPE E)	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.													EACH								LIN. FT.					EACH									SQ.YD.	M.GAL.	
52+28	LT. OF C.L. CONST. S. 2ND ST.																															1								SPECIAL DETAILS
53+00	LT. OF C.L. CONST. S. 2ND ST.																															1								SPECIAL DETAILS
61+00	LT. OF C.L. CONST. S. 2ND ST.																															1		1						SPECIAL DETAILS
118+00	LT. OF C.L. CONST. T.P. WHITE DR.									104					1																						8	0.10	FES-1, FES-2, PCC-1
119+05	LT. OF C.L. CONST. T.P. WHITE DR.	10																										1							1					FPC-9E, FPC-9M, PCC-1
124+84	C.L. CONST. T.P. WHITE DR.									200									4																					PCC-1, SES-1
705+30	RT. OF C.L. CONST. HWY. 67	364													1																					1	8	0.10	FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
705+30	LT. OF C.L. CONST. HWY. 67					78																								1										FPC-9S, PCC-1
709+00	LT. OF C.L. CONST. HWY. 67									22																				1										FPC-9S, PCC-1
712+00	LT. OF C.L. CONST. HWY. 67									22																				1										FPC-9S, PCC-1
712+68	RT. OF C.L. CONST. HWY. 67	296													4				4																		32	0.40	FES-1, FES-2, PCC-1, SES-1
715+06	RT. OF C.L. CONST. HWY. 67								172								4																				52	0.66	FES-1, FES-2, PCC-1
718+00	LT. OF C.L. CONST. HWY. 67		196																											1										FPC-9S, PCC-1
718+82	RT. OF C.L. CONST. HWY. 67	46																												1										FPC-9D, PCC-1
718+82	RT. OF C.L. CONST. HWY. 67				414																								1											FPC-9D, PCC-1
720+00	LT. OF C.L. CONST. HWY. 67		10													1														1							13	0.16	FES-1, FES-2, FPC-9S, PCC-1
723+00	RT. OF C.L. CONST. HWY. 67				196																							1							1					FPC-9E, FPC-9M, PCC-1
725+00	RT. OF C.L. CONST. HWY. 67				196																							1							1					FPC-9E, FPC-9M, PCC-1
727+00	RT. OF C.L. CONST. HWY. 67												28									1						1							1					FES-1, FES-2, FPC-9E, FPC-9M, PCC-1
731+00	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
734+00	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
735+00	RT. OF C.L. CONST. HWY. 67						48									1													1								13	0.16	FES-1, FES-2, FPC-9D, PCC-1
736+00	C.L. CONST. HWY. 67	316																												1										FPC-9S, PCC-1
737+00	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
739+20	C.L. CONST. HWY. 67	78																												1										FPC-9S, PCC-1
740+00	RT. OF C.L. CONST. HWY. 67																															1		2						SPECIAL DETAILS
741+00	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
742+50	C.L. CONST. HWY. 67	326																												1										FPC-9S, PCC-1
742+50	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
743+40	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
744+25	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
745+00	RT. OF C.L. CONST. HWY. 67	84																											1											FPC-9D, PCC-1
745+50	LT. OF C.L. CONST. HWY. 67			34																	1																			PCC-1, SES-1
745+50	RT. OF C.L. CONST. HWY. 67																															1		2						SPECIAL DETAILS
745+80	C.L. CONST. HWY. 67	8																												1										FPC-9S, PCC-1
746+50	LT. OF C.L. CONST. HWY. 67	46																											1											FPC-9D, PCC-1
746+50	RT. OF C.L. CONST. HWY. 67	46																											1											FPC-9D, PCC-1
746+50	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
748+00	RT. OF C.L. CONST. HWY. 67																															1			1					SPECIAL DETAILS
749+00	RT. OF C.L. CONST. HWY. 67																															1								SPECIAL DETAILS
749+10	C.L. CONST. HWY. 67	300																												1										FPC-9S, PCC-1
752+40	C.L. CONST. HWY. 67	326																												1										FPC-9S, PCC-1
776+75	C.L. CONST. HWY. 67	84													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
779+10	C.L. CONST. HWY. 67	84													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
781+00	C.L. CONST. HWY. 67	80													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
781+00	RT. OF C.L. CONST. HWY. 67		240																	1																				PCC-1, SES-1
781+92	LT. OF C.L. CONST. HWY. 67		52																	1																				PCC-1, SES-1
783+33	C.L. CONST. HWY. 67																														1									FPC-9D
786+50	C.L. CONST. HWY. 67	74													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
790+50	C.L. CONST. HWY. 67		72													1														1							13	0.16	FES-1, FES-2, FPC-9S, PCC-1
793+50	C.L. CONST. HWY. 67		296																											1										FPC-9S, PCC-1
796+00	C.L. CONST. HWY. 67		246																											1										FPC-9S, PCC-1
796+40	RT. OF C.L. CONST. HWY. 67													116			4																				52	0.66	FES-1, FES-2, PCC-1
796+40	LT. OF C.L. CONST. HWY. 67									38					2																						16	0.20	FES-1, FES-2, PCC-1
797+50	C.L. CONST. HWY. 67	146																												1										FPC-9S, PCC-1
799+00	C.L. CONST. HWY. 67				146																									1										FPC-9S, PCC-1
801+10	C.L. CONST. HWY. 67									206																				1										FPC-9S, PCC-1
802+80	C.L. CONST. HWY. 67									166																				1										FPC-9S, PCC-1
814+11	LT. OF C.L. CONST. HWY. 67										100									2																				PCC-1, SES-1
814+14	LT. OF C.L. CONST. HWY. 67							312																												1				FPC-9E, PCC-1
814+14	RT. OF C.L. CONST. HWY. 67											96									2															1				FPC-9E, PCC-1, SES-1
814+30	LT. OF C.L. CONST. HWY. 67										10									1																				PCC-1, SES-1
814+30	RT. OF C.L. CONST. HWY. 67					10													1																					PCC-1, SES-1
838+39	LT. OF C.L. CONST. HWY. 67									46					1				1																					
852+00	RT. OF C.L. CONST. HWY. 67										42									2																				PCC-1, SES-1
853+25	LT. OF C.L. CONST. HWY. 67	20																	1																					PCC-1, SES-1
853+70	LT. OF C.L. CONST. HWY. 67	22																	1																					PCC-1, SES-1
853+70	RT. OF C.L. CONST. HWY. 67	22																	1																					PCC-1, SES-1
869+20	C.L. CONST. HWY. 67																													1										FPC-9S
SUBTOTALS (BOX 1 OF 2):		2778	1112	34	806	234	48	312	172	804	152	96	28	116	13	3	8		13	7	3	1						4	5	24	1	15	5	13	3	239	3.00	

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

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

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	156	434
				2	QUANTITIES			

STRUCTURES (BOX 2 OF 2)

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT (CLASS III) 24"	(CLASS III) 30"	(CLASS III) 36"	(CLASS III) 42"	(CLASS IV) 24"	(CLASS IV) 30"	(CLASS IV) 36"	(CLASS IV) 29"X18"	(CLASS V) 24"	(CLASS V) 30"	(CLASS V) 36"	(CLASS V) 42"	(CLASS V) 29"X18"	FLARED END SECTIONS FOR R.C. PIPE CULVERTS 24"	30"	29"X18"	SAFETY END SECTIONS FOR R.C. PIPE CULVERTS (CLASS 2) 18"	24"	30"	36"	42"	TEMPORARY CULVERTS 12"	18"	24"	36"	42"	DROP INLETS TYPE C	RM	ST	TM	SPECIAL	EXT. 4'	8'	JUNCTION BOXES (TYPE E)	SOLID SODDING	WATER	STD. DWG. NOS.
		LIN. FT.													EACH								LIN. FT.					EACH									SQ.YD.	M.GAL.	
874+00	RT. OF C.L. CONST. HWY. 67	74													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
879+50	C.L. CONST. HWY. 67	96																												1										FPC-9S, PCC-1
880+50	C.L. CONST. HWY. 67	92																												1										FPC-9S, PCC-1
881+45	C.L. CONST. HWY. 67	76																												1										FPC-9S, PCC-1
882+25	C.L. CONST. HWY. 67	90																												1										FPC-9S, PCC-1
883+00	LT. OF C.L. CONST. HWY. 67	24																	1																					PCC-1, SES-1
883+00	RT. OF C.L. CONST. HWY. 67	24																		1																				PCC-1, SES-1
883+20	C.L. CONST. HWY. 67																															1								FPC-9D
883+40	LT. OF C.L. CONST. HWY. 67	24																	1																					PCC-1, SES-1
883+40	RT. OF C.L. CONST. HWY. 67	24																	1																					PCC-1, SES-1
886+00	C.L. CONST. HWY. 67	76													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
902+50	C.L. CONST. HWY. 67	76													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
906+10	C.L. CONST. HWY. 67	78													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
909+70	C.L. CONST. HWY. 67	78													1															1							8	0.10	FES-1, FES-2, FPC-9S, PCC-1
909+70	C.L. CONST. HWY. 67																																1	1						SPECIAL DETAILS
912+00	RT. OF C.L. CONST. HWY. 67	100																	1																					PCC-1, SES-1
912+90	LT. OF C.L. CONST. HWY. 67	22																	1																					PCC-1, SES-1
912+90	C.L. CONST. HWY. 67	16																												1										FPC-9S, PCC-1
913+40	LT. OF C.L. CONST. HWY. 67	18																	1																					PCC-1, SES-1
913+40	RT. OF C.L. CONST. HWY. 67	26																	1																					PCC-1, SES-1
919+00	RT. OF C.L. CONST. HWY. 67	130																											1											FPC-9D, PCC-1
921+00	RT. OF C.L. CONST. HWY. 67	18																											1											FPC-9D, PCC-1
713+69	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																								76															PCM-1
727+40	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																							4																PCM-1
740+40	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						18																	PCM-1
744+50	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
744+50	RT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
744+80	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						174																	PCM-1
746+54	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						80																	PCM-1
747+50	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
747+50	RT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
772+40	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																							18																PCM-1
781+18	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						42																	PCM-1
781+57	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						33																	PCM-1
781+80	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
781+80	RT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
784+80	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
784+80	RT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
796+21	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						32																	PCM-1
796+53	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						26																	PCM-1
802+40	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						15																	PCM-1
814+28	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						21																	PCM-1
824+40	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						18																	PCM-1
838+23	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						30																	PCM-1
838+48	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						15																	PCM-1
852+13	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																							4																PCM-1
853+08	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						34																	PCM-1
853+82	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						25																	PCM-1
869+19	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																									8														PCM-1
882+83	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						20																	PCM-1
883+55	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						34																	PCM-1
912+70	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																						30																	PCM-1
918+97	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																								17															PCM-1
919+10	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
922+10	LT. OF C.L. CONST. HWY. 67 - STAGE 1B																	1						150																PCM-1, SES-1
946+53	RT. OF C.L. CONST. HWY. 67 - STAGE 2B																						192																	PCM-1
947+45	RT. OF C.L. CONST. HWY. 67 - STAGE 1C																								20															PCM-1
951+50	RT. OF C.L. CONST. HWY. 67 - STAGE 1C				2																					26														PCM-1
SUBTOTALS (BOX 1 OF 2):		2778	1112	34	806	234	48	312	172	804	152	96	28	116	13	3	8		13	7	3	1						4	5	24	1	15	5	13	3	239	3.00	
SUBTOTALS (BOX 2 OF 2):		1162			2										5			10	7	1			839	1526	113	26	8		2	10	1	1	1				40	0.50	
TOTALS:		3940	1112	34	808	234	48	312	172	804	152	96	28	116	18	3	8	10	20	8	3	1	839	1526	113	26	8	4	7	34	2	16	6	13	3	279	3.50	

STRUCTURES OVER 20'-0" SPAN

STATION	LOCATION	DESCRIPTION	SPAN	HEIGHT	LENGTH	ANIMAL PASSAGE SHELVES	CLASS S CONCRETE - ROADWAY	REINFORCING STEEL - ROADWAY (GRADE 60)	UNCLASSIFIED EXCAVATION FOR STRUCTURES - ROADWAY	SOLID SODDING	WATER	STANDARD DRAWINGS
			LIN. FT.				CU. YD.	POUND	CU. YD.	SQ. YD.	M. GAL.	
746+00	C.L. CONST. HWY. 67	CONST. NEW TRIPLE BARREL BOX CULVERT	6	5	255		423.33	54192	368	21.1	0.27	RCB-1, RCB-2
783+32.56	C.L. CONST. HWY. 67	CONST. NEW SEXTUPLE BARREL BOX CULVERT	10	5	320	640	1902.11	261218	1761	44.2	0.56	RCB-1, RCB-2, SPECIAL DETAILS
920+60	C.L. CONST. HWY. 67	CONST. NEW QUINTUPLE BARREL BOX CULVERT	8	5	286		1061.23	126847	928	32.4	0.41	RCB-1, RCB-2
TOTALS:						640	3386.67	442257	3057	97.7	1.24	

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

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

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

APPROACH GUTTERS AND SLABS

BRIDGE NUMBER	APPROACH SLABS TYPE 1 SPECIAL	APPROACH GUTTERS TYPE 1 SPECIAL LT.	APPROACH GUTTERS TYPE 1 SPECIAL RT.	APPROACH GUTTERS	APPROACH SLABS	REINFORCING STEEL-RDWY. (GR. 60)	AGGREGATE BASE COURSE CLASS 7
				CU.YD.	CU.YD.	POUND	TON
07339	2				403.76	49830	31.2
07399		2		42.98		4286	240.2
07399			2	42.82		4278	240.2
TOTALS:				85.80	403.76	58394	511.6

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	157	434
				(2)	QUANTITIES			

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (1/2") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	SIDE DRAINS			STANDARD DRAWINGS
										18"	24"	28"X20"	
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	LIN. FT.			
119+18	RT	T.P. WHITE DR.	28	118+90	119+46	49.78	37.89	4.17	15.47		44		DR-1, PCC-1, PCM-1, PCP-1, PCP-2
121+25	RT	T.P. WHITE DR.	40				105.57	11.61	43.11		52		PCC-1, PCM-1, PCP-1, PCP-2
123+21	RT	T.P. WHITE DR.	28				64.03	7.04	26.15		42		PCC-1, PCM-1, PCP-1, PCP-2
125+15	RT	T.P. WHITE DR.	28				73.37	8.07	29.96		42		PCC-1, PCM-1, PCP-1, PCP-2
53+21	RT	S. 2ND ST.	40				97.79	10.76	39.93	50			PCC-1, PCM-1, PCP-1, PCP-2
56+34	RT	S. 2ND ST.	22				47.40	5.21	19.36		36		PCC-1, PCM-1, PCP-1, PCP-2
60+99	RT	S. 2ND ST.	20				52.29	5.75	21.35				PCC-1, PCM-1, PCP-1, PCP-2
62+66	LT	S. 2ND ST.	16	62+44	62+88	39.11	53.33	5.87	21.78			28	DR-1, PCC-1, PCM-1, PCP-1, PCP-2
62+66	RT	S. 2ND ST.	16				54.95	6.04	22.44				PCC-1, PCM-1, PCP-1, PCP-2
TOTALS:						88.89	586.62	64.52	239.55	50	216	28	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

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

** FOR INFORMATION ONLY.

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

PORTLAND CEMENT CONCRETE CORRUGATIONS

LOCATION	SQ. YD.
RAMP 1 - T.P. WHITE	38
RAMP 1 - HWY 5	39
TOTAL:	77

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	SIDE TYPE A	MEDIAN TYPE A	MEDIAN TYPE B	MEDIAN TYPE C	MEDIAN TYPE SPECIAL
			LIN. FT.				
717+00.00	787+79.75	LT. OF C.L. CONST. HWY. 67	7080				
751+60.27	762+39.08	LT. OF C.L. CONST. HWY. 67	1079				
789+14.25	938+48.98	LT. OF C.L. CONST. HWY. 67	14935				
705+05.30	711+22.10	RT. OF C.L. CONST. HWY. 67	617				
711+70.84	716+70.42	RT. OF C.L. CONST. HWY. 67	500				
716+72.43	787+79.75	RT. OF C.L. CONST. HWY. 67	7107				
789+22.86	848+00.00	RT. OF C.L. CONST. HWY. 67	5877				
867+51.00	873+00.00	RT. OF C.L. CONST. HWY. 67	549				
894+01.00	920+00.00	RT. OF C.L. CONST. HWY. 67	2599				
705+05.30	712+30.77	LT. OF C.L. CONST. HWY. 67		725			
708+20.30	731+65.49	C.L. CONST. HWY. 67		2345			
754+04.95	774+37.33	C.L. CONST. HWY. 67		2032			
805+44.39	809+59.00	C.L. CONST. HWY. 67		415			
810+41.00	865+43.54	C.L. CONST. HWY. 67		5503			
891+75.07	898+39.69	C.L. CONST. HWY. 67		665			
914+69.76	948+00.00	C.L. CONST. HWY. 67		3330			
705+05.30	708+20.30	C.L. CONST. HWY. 67			315		
731+65.49	754+04.95	C.L. CONST. HWY. 67			2239		
774+37.33	805+44.39	C.L. CONST. HWY. 67			3107		
865+43.54	891+75.07	C.L. CONST. HWY. 67			2632		
898+39.69	901+75.00	C.L. CONST. HWY. 67			335		
910+27.00	914+69.76	C.L. CONST. HWY. 67			443		
901+75.00	910+27.00	C.L. CONST. HWY. 67				852	
751+60.27	762+39.08	LT. OF C.L. CONST. HWY. 67					1079
TOTALS:			40343	15015	9071	852	1079

NOTE: UNLESS OTHERWISE NOTED ALL STATIONING AND LENGTHS SHOWN ABOVE ARE BASED ON C.L. CONST. HWY. 67.

JOINT SUPPORTS

LOCATION	WIDTH OF SUPPORT	NUMBER OF SUPPORTS	CLASS "S" CONCRETE - ROADWAY
	LIN. FT.		CU. YD.
RAMP 1 - (EXIT RAMP)	15	3	5.00
RAMP 2 - (ENTRANCE RAMP)	15	3	5.00
TOTAL:			10.00

NOTE: SEE STD. DRWG. TR-1A FOR LOCATION OF JOINT SUPPORTS AT ENTRANCE & EXIT RAMPS.

CRASH CUSHION

STATION	LOCATION	EACH
712+00	C.L. CONST. HWY. 67 - RT. - R.M.L.	1
712+31	C.L. CONST. HWY. 67 - LT. - L.M.L.	1
751+60	C.L. CONST. HWY. 67 - LT. - RT. OF JOHN HARDEN DR. LANES	1
809+59	C.L. CONST. HWY. 67	1
810+41	C.L. CONST. HWY. 67	1
867+51	C.L. CONST. HWY. 67 - RT. - R.M.L.	1
938+49	C.L. CONST. HWY. 67 - LT. - L.M.L.	1
714+10	C.L. CONST. RAMP 2 - LT.	1
716+71	C.L. CONST. RAMP 2 - RT.	1
TOTAL:		9

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	158	434
				2	QUANTITIES			

BASE AND SURFACING - SIDE ROADS & TEMP. PAVEMENT

STATION	STATION	LOCATION	LENGTH	ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2") NORMAL				TOTAL	TACK COAT 0.05 GAL. PER SQ. YD.				AGGREGATE BASE COURSE CLASS 7	
			FEET	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.	TON	PG 64-22 TON	TOTAL WID. FEET	SQ.YD.	GALLONS / SQ.YD.	GALLON	TON / STATION	TON
JOHN HARDEN DR.																						
752+00.00	762+00.00	SHOULDER WIDENING WITH CONCRETE SIDE BARRIER	1000.00									8.00	888.89	220.00	97.78	97.78					83.00	830.00
S. 2ND ST.																						
52+20.86	53+28.55	TANGENT - C&G L.T. - 0200 CROSS SLOPE	107.69	26.88	321.63	550.00	88.45	24.19	289.45	495.00	71.64	24.04	287.65	220.00	31.64	31.64	150.22	1797.47	0.05	89.87	70.75	76.19
		FINAL ACHM SURFACE COURSE LIFT	107.69									32.00	382.90	220.00	42.12	42.12						
53+28.55	55+28.55	SUPER TRANS. - C&G L.T. - 0200 CROSS SLOPE	200.00	26.88	597.33	550.00	164.27	24.19	537.56	495.00	133.05	24.04	534.22	220.00	58.78	58.78	150.22	3338.22	0.05	166.91	77.25	154.50
		FINAL ACHM SURFACE COURSE LIFT	200.00									32.00	711.11	220.00	78.22	78.22						
55+28.55	59+00.00	MAX. SUPER - C&G L.T. - - 0400 CROSS SLOPE	371.45	26.88	1109.40	550.00	305.09	24.19	998.38	495.00	247.10	24.04	992.16	220.00	109.14	109.14	150.22	6199.91	0.05	310.00	83.75	311.09
		FINAL ACHM SURFACE COURSE LIFT	371.45									32.00	1320.71	220.00	145.28	145.28						
59+00.00	59+50.00	SUPER TRANS. - C&G L.T. - 0400 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	78.75	39.38
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
59+50.00	60+00.00	SUPER TRANS. - FORESLOPE TRANS. RT. - C&G L.T. - 0250 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	131.50	65.75
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
60+00.00	60+50.00	SUPER TRANS. - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	180.00	90.00
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
60+50.00	61+00.00	SUPER TRANS. - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	185.25	92.63
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
61+00.00	61+50.00	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	147.75	73.88
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
61+50.00	62+50.00	TANGENT - C&G L.T. - 0200 CROSS SLOPE	100.00	26.88	298.67	550.00	82.13	24.19	268.78	495.00	66.52	24.04	267.11	220.00	29.38	29.38	150.22	1669.11	0.05	83.46	100.75	100.75
		FINAL ACHM SURFACE COURSE LIFT	100.00									32.00	355.56	220.00	39.11	39.11						
62+50.00	62+65.57	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	15.57	26.88	46.50	550.00	12.79	24.19	41.85	495.00	10.36	24.04	41.59	220.00	4.57	4.57	150.22	259.88	0.05	12.99	121.00	18.84
		FINAL ACHM SURFACE COURSE LIFT	15.57									32.00	55.36	220.00	6.09	6.09						
62+65.57	63+00.00	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	34.43	26.88	102.83	550.00	28.28	24.19	92.54	495.00	22.90	24.04	91.97	220.00	10.12	10.12	150.22	574.67	0.05	28.73	110.50	38.05
		FINAL ACHM SURFACE COURSE LIFT	34.43									32.00	122.42	220.00	13.47	13.47						
63+00.00	63+50.00	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	106.25	53.13
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
63+50.00	64+00.00	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	50.00	26.88	149.33	550.00	41.07	24.19	134.39	495.00	33.26	24.04	133.56	220.00	14.69	14.69	150.22	834.56	0.05	41.73	101.75	50.88
		FINAL ACHM SURFACE COURSE LIFT	50.00									32.00	177.78	220.00	19.56	19.56						
64+00.00	64+08.94	TANGENT - FORESLOPE TRANS. RT. - C&G L.T. - 0200 CROSS SLOPE	8.94	26.88	26.70	550.00	7.34	24.19	24.03	495.00	5.95	24.04	23.88	220.00	2.63	2.63	150.22	149.22	0.05	7.46	35.50	3.17
		FINAL ACHM SURFACE COURSE LIFT	8.94									32.00	31.79	220.00	3.50	3.50						
T.P. WHITE DR.																						
118+00.00	119+05.46	TANGENT - C&G L.T.&RT. - TAPER - 0200 CROSS SLOPE	105.46	54.98	644.24	550.00	177.17	49.98	585.65	495.00	144.95	49.98	585.65	220.00	64.42	64.42	309.88	3631.10	0.05	181.56		
		FINAL ACHM SURFACE COURSE LIFT	105.46									50.00	585.89	220.00	64.45	64.45						
119+05.46	119+53.33	SUPER TRANS. - C&G L.T.&RT. - TAPER - 0200 CROSS SLOPE	47.87	57.85	307.70	550.00	84.62	52.85	281.10	495.00	69.57	52.85	281.10	220.00	30.92	30.92	327.10	1739.81	0.05	86.99		
		FINAL ACHM SURFACE COURSE LIFT	47.87									52.80	280.84	220.00	30.89	30.89						
119+53.33	119+60.00	MAX. SUPER - C&G L.T.&RT. - TAPER - VAR. CROSS SLOPE	6.67	58.86	43.62	550.00	12.00	53.86	39.92	495.00	9.88	53.86	39.92	220.00	4.39	4.39	333.16	246.91	0.05	12.35		
		FINAL ACHM SURFACE COURSE LIFT	6.67									53.90	39.95	220.00	4.39	4.39						
119+60.00	121+20.00	MAX. SUPER - C&G L.T. - TAPER - VAR. CROSS SLOPE	160.00	60.28	1071.64	550.00	294.70	57.58	1023.64	495.00	253.35	57.40	1020.44	220.00	112.25	112.25	350.52	6231.47	0.05	311.57	70.75	113.20
		FINAL ACHM SURFACE COURSE LIFT	160.00									65.40	1162.67	220.00	127.89	127.89						
121+20.00	123+48.92	MAX. SUPER - C&G L.T. - VAR. CROSS SLOPE	228.92	62.92	1600.41	550.00	440.11	60.22	1531.73	495.00	379.10	60.04	1527.15	220.00	167.99	167.99	366.36	9318.57	0.05	465.93	70.75	161.96
		FINAL ACHM SURFACE COURSE LIFT	228.92									68.00	1729.62	220.00	190.26	190.26						
123+48.92	123+94.80	SUPER TRANS. - C&G L.T. - VAR. CROSS SLOPE	45.88	62.92	320.75	550.00	88.21	60.22	306.99	495.00	75.98	60.04	306.07	220.00	33.67	33.67	366.36	1867.62	0.05	93.38	70.75	32.46
		FINAL ACHM SURFACE COURSE LIFT	45.88									68.00	346.65	220.00	38.13	38.13						
123+94.80	124+44.66	SUPER TRANS. - VAR. CROSS SLOPE	49.86	60.83	337.00	550.00	92.68	60.43	334.78	495.00	82.86	60.08	332.84	220.00	36.61	36.61	362.68	2009.25	0.05	100.46	146.50	73.04
		FINAL ACHM SURFACE COURSE LIFT	49.86									76.00	421.04	220.00	46.31	46.31						
124+44.66	124+94.52	TANGENT - SUPER TRANS. - 0200 CROSS SLOPE	49.86	60.84	337.05	550.00	92.69	60.44	334.84	495.00	82.87	60.08	332.84	220.00	36.61	36.61	362.72	2009.47	0.05	100.47	146.50	73.04
		FINAL ACHM SURFACE COURSE LIFT	49.86									76.00	421.04	220.00	46.31	46.31						
124+94.52	125+40.40	SUPER TRANS. - RAMP TE L.T. - VAR. CROSS SLOPE	45.88	48.62	247.85	550.00	68.16	48.22	245.81	495.00	60.84	48.04	244.90	220.00	26.94	26.94	289.76	1477.13	0.05	73.86	79.50	36.47
		FINAL ACHM SURFACE COURSE LIFT	45.88									56.00	285.48	220.00	31.40	31.40						
125+40.40	125+54.86	MAX. SUPER - RAMP TE L.T. - VAR. CROSS SLOPE	14.46	48.66	78.18	550.00	21.50	48.26	77.54	495.00	19.19	48.08	77.25	220.00	8.50	8.50	290.00	465.93	0.05	23.30	78.25	11.31
		FINAL ACHM SURFACE COURSE LIFT	14.46									56.00	89.97	220.00	9.90	9.90						
125+54.86	128+72.90	MAX. SUPER - RAMP TE L.T. - C&G RT. - VAR. CROSS SLOPE	318.04	50.54	1785.97	550.00	491.14	48.04	1697.63	495.00	420.16	48.04	1697.63	220.00	186.74	186.74	293.24	10362.45	0.05	518.12		
		FINAL ACHM SURFACE COURSE LIFT	318.04									56.00	1978.92	220.00	217.68	217.68						
128+72.90	129+89.24	MAX. SUPER - RAMP TE L.T. - C&G RT. - TAPER - VAR. CROSS SLOPE	116.34	48.34	624.88	550.00	171.84	45.84	592.56	495.00	146.66	45.84	592.56	220.00	65.18	65.18	280.04	3619.98	0.05	181.00		
		FINAL ACHM SURFACE COURSE LIFT	116.34									53.80	695.45	220.00	76.50	76.50						
129+89.24	131+88.88	MAX. SUPER - C&G RT. - TAPER - VAR. CROSS SLOPE	199.64	51.68	1146.38	550.00	315.25	48.98	1086.49	495.00	268.91	46.80	1082.49	220.00	119.07	119.07	298.92	6630.71	0.05	331.54	70.75	141.25
		FINAL ACHM SURFACE COURSE LIFT	199.64									56.80	1259.95	220.00	138.59	138.59						
131+88.88	131+98.89	SUPER TRANS. - C&G RT. - TAPER - VAR. CROSS SLOPE	10.01	44.92	49.96	550.00	13.74	42.22	46.96	495.00	11.62	42.04	46.76	220.00	5.14	5.14	258.36	287.35	0.05	14.37	70.75	7.08
		FINAL ACHM SURFACE COURSE LIFT	10.01									50.00	55.61	220.00	6.12	6.12						
131+98.89	132+99.05	SUPER TRANS. - TAPER - VAR. CROSS SLOPE	100.16	35.96	400.19	550.00	110.05	35.56	395.74	495.00	97.95	35.20	391.74	220.00	43.09	43.09	213.44	2375.35	0.05	118.77	146.00	146.23
		FINAL ACHM SURFACE COURSE LIFT	100.16									51.20	569.80	220.00	62.68	62.68						
TEMP. WIDENING - STAGE 1B																						
740+78.86	751+06.71	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	1027.85	27.79	3173.77	550.00	872.79	25.04	2859.71	330.00	471.85	23.79	2716.95	220.00	298.86	298.86	104.41	11924.20	0.05	596.21		
742+09.54	750+23.23	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	813.69	29.18	2638.16	550.00	725.49	26.43	2389.54	330.00	394.27	25.18	2276.52	220.00	250.42	250.42	109.97	9942.39	0.05	497.12		
778+30.44	787+83.57	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	953.13	28.75	3044.72	550.00	837.30	26.00	2753.49	330.00	454.33	24.75	2621.11	220.00	288.32	288.32	108.25	11464.04	0.05	573.20		
778+43.94	787+80.65	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	942.71	26.68	2794.61	550.00	768.52	23.93	2506.56	330.00	413.58	22.68	2375.63	220.00	261.32	261.32	99.97	10471.41	0.05	523.57		
916+22.53	925+49.08	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	926.55	27.83	2865.10	550.00	787.90	25.08	2581.99	330.00	426.03	23.83	2453.30	220.00	269.86	269.86	104.57	10765.48	0.05	538.27		
TEMP. WIDENING - STAGE 1C																						
700+96.56	702+97.51	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	200.95	9.60	214.35	550.00	58.95	6.85	152.95	330.00	25.24	5.60	125.04	220.00	13.75	13.75	31.65	706.67	0.05	35.33		
700+47.54	718+11.28	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	1763.74	28.80	5643.97	550.00	1552.09	26.05	5105.05	330.00	842.33	24.80	4860.08	220.00	534.61	534.61	108.45	21253.07	0.05	1062.65		
717+05.28	787+86.33	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	7081.05	34.00	26750.63	550.00	7356.42	31.25	24586.98	330.00	4056.85	30.00	23693.50	220.00	2596.39	2596.39	129.25	101691.75	0.05	5084.59		
789+10.61	927+00.00	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	13789.39	35.20	53931.84	550.00	14831.26	32.45	49718.41	330.00	8203.54	31.20	47803.22	220.00	5258.35	5258.35	134.05	205385.30	0.05	10269.27		
927+00.00	956+24.41	TEMP. WIDENING L.T. AND RT. OF C.L. CONST. HWY. 67	2924.41	45.70	14849.50	550.00	4083.61	42.95	13955.93	330.00	2302.73	41.70	13549.77	220.00	1490.47	1490.47	176.05	57204.71	0.05	2860.24		
TEMP. RAMP 2 CONN. - STAGE 1C																						
711+37.86	712+33.34	TEMP RAMP - TAPER	95.48	58.50	620.62	550.00	170.67	55.75	591.45	330.00	97.59	54.50	578.18	220.00	63.60	63.60	227.25	2410.87	0.05	120.54		
712+33.34	713+79.05	TEMP RAMP	145.71	27.00	437.13	550.00	120.21	24.25	392.61	330.00	64.78	23.00	372.37	220.00	40.96	40.96	101.25	1639.24	0.05	81.96		
TEMP. WIDENING - STAGE 1D																						
697+76.36	719+09.30	TEMP. WIDENING L.T. AND RT. OF C.L. CONST. HWY. 67	2132.94	19.70	4668.77	550.00	1283.91	16.95	4017.04	330.00	662.81	15.70	3720.80	220.00	409.29	409.29	72.05	17075.37	0.05	853.77		
782+26.83	787+82.75	TEMP. WIDENING L.T. AND RT. OF C.L. CONST. HWY. 67	555.92	34.00	2100.14	550.00	577.54	31.25	1930.28	330.00	318.50	30.00	1853.07	220.00	203.84	203.84	129.25	7983.63	0.05	399.18		
789+10.77	794+39.02	TEMP. WIDENING L.T. AND RT. OF C.L. CONST. HWY. 67	528.25	34.00	1995.61	550.00	548.79	31.25	1834.20	330.00	302.64	30.00	1760.83	220.00	193.69	193.69	129.25	7586.26	0.05	379.31		
TEMP. WIDENING - STAGE 2A																						
698+40.86	705+05.30	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	664.44	19.50	1439.62	550.00	395.90	16.75	1236.60	330.00	204.04	15.50	1144.31	220.00	125.87	125.87	71.25	5260.15	0.05	263.01		
923+91.46	946+09.62	TEMP. WIDENING L.T. OF C.L. CONST. HWY. 67	2217.56	15.70	3868.41	550.00	1063.81	12.95	3190.82	330.00	526.49	11.70	2882.83	220.00	317.11	317.11	56.05	13810.47	0.05	690.52		
TEMP. WIDENING - STAGE 2B																						
116+40.00	120+45.54	TEMP. WIDENING L.T. OF C.L. CONST. T.P. WHITE DR.	405.54	7.50	337.95	550.00	92.94	4.75	214.04	330.00	35.32	3.50	157.71	220.00	17.35	17.35	23.25	1047.65	0.05	52.38		
122+17.29	123+87.74	TEMP. WIDENING L.T. OF C.L. CONST. T.P. WHITE DR.	170.45	5.90	111.74	550.00	30.73	3.15	59.66	330.00	9.84	1.90	35.98	220.00	3.96	3.96	16.85	319.12	0.05	15.96		
130+59.16	136+04.01	TEMP. WIDENING RT. OF C.L. CONST. T.P. WHITE DR.	544.85	8.70	526.69	550.00	144.84	5.95	360.21	330.00	59.43	4.70	284.53	220.00	31.30	31.30	28.05	1698.12	0.05	84.91		
946+00.00	949+61.68	TEMP. WIDENING RT. OF C.L. CONST. HWY. 67	361.68	8.20	329.53	550.00	90.62	5.45	219.02	330.00	36.14	4.20	168.78	220.00	18.57	18.57	26.05	1046.86	0.05	52.34		
TEMP. RAMP 1 CONN. - STAGE 2B																						
946+18.02	947+98.29	TEMP RAMP	180.27	27.00	540.81	550.00	148.72	24.25	485.73	330.00	80.15	23.00	460.69	220.00	50.68	50.68	101.25	2028.04	0.05	101.40		
947+98.29	949+75.31	TEMP RAMP - TAPER	177.02	13.60	267.50	550.00	73.56	10.85	213.41	330.00	35.21	9.60	188.82	220.00	20.77	20.77	47.65	937.22	0.05	46.86		
TOTALS:					145695.36		40066.27		133130.38		22937.92		142762.96			15703.92		575755.52		28787.79		2794.28

BASIS OF ESTIMATE:

ACHM BASE COURSE (1-1/2") - MINERAL AGGREGATE = 96.2%, ASPHALT BINDER (PG 64-22) = 3.8%
ACHM BINDER COURSE (1") - MINERAL AGGREGATE = 95.6%, ASPHALT BINDER (PG 64-22) = 4.4%
ACHM SURFACE COURSE (1/2") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%

Nmax = 115 (PG 64-22)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	159	434

2 QUANTITIES

BASE AND SURFACING - HWY. 67 & RAMPS (BOX 1 OF 3)

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.)		ACHM SURFACE COURSE (3/8") NORMAL				TACK COAT 0.05 GAL. PER SQ. YD.				AGGREGATE BASE COURSE CLASS 7	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	TON / STATION	TON
			FEET	FEET	SQ. YD.	TON	TON	FEET		FEET				FEET					
CL CONST. HWY. 67																			
705+05.30	708+20.30	LT. OF CL CONST. - SUPER TRANS. - AUX. LANE SHOULDER - CONC. BARRIER - 3:1	315.00	75.00	2625.00	55.13	863.63	75.00	2625.00	75.00	2625.00	110.00	144.38	75.00	2625.00	0.05	131.25		
708+20.30	712+30.77	LT. OF CL CONST. - TANGENT - AUX. LANE - CONC. BARRIER - 3:1 - .0200 CROSS SLOPE	410.47	75.00	3420.58	71.83	1125.37	75.00	3420.58	75.00	3420.58	110.00	188.13	75.00	3420.58	0.05	171.03		
712+30.77	713+96.90	LT. OF CL CONST. - TANGENT - AUX. LANE AND GORE - 3:1 - .0200 CROSS SLOPE	166.13	75.00	1384.42	29.07	455.47	75.00	1384.42	75.00	1384.42	110.00	76.14	75.00	1384.42	0.05	69.22		
713+96.90	715+50.00	LT. OF CL CONST. - TANGENT - AUX. LANE AND GORE TRANS. - 3:1 - .0200 CROSS SLOPE	153.10	71.91	1223.27	25.69	402.46	71.91	1223.27	71.91	1223.27	110.00	67.28	71.91	1223.27	0.05	61.16		
715+50.00	716+43.03	LT. OF CL CONST. - TANGENT - 2 AUX. LANES AND GORE TRANS. - 3:1 - .0200 CROSS SLOPE	93.03	75.91	784.66	16.48	258.15	75.91	784.66	75.91	784.66	110.00	43.16	75.91	784.66	0.05	39.23		
716+43.03	717+00.00	LT. OF CL CONST. - TANGENT - AUX. LANE - 3:1 - .0200 CROSS SLOPE	56.97	68.48	433.48	9.10	142.61	68.48	433.48	68.48	433.48	110.00	23.84	68.48	433.48	0.05	21.67		
717+00.00	718+58.22	LT. OF CL CONST. - TANGENT - TAPER - AUX. LANE - CONC. SIDE BARRIER - 3:1 - .0200 CROSS SLOPE	158.22	70.48	1239.04	26.02	407.64	69.81	1227.26	70.48	1239.04	110.00	68.15	70.48	1239.04	0.05	61.95	24.75	39.16
718+58.22	720+00.00	LT. OF CL CONST. - TANGENT - AUX. LANE - CONC. SIDE BARRIER - 3:1 - .0200 CROSS SLOPE	141.78	67.00	1055.47	22.16	347.25	66.33	1044.92	67.00	1055.47	110.00	58.05	67.00	1055.47	0.05	52.77	24.75	35.09
720+00.00	722+89.11	LT. OF CL CONST. - TANGENT - AUX. LANE - CONC. SIDE BARRIER - 2:1 - .0200 CROSS SLOPE	289.11	67.00	2152.26	45.20	708.09	66.33	2130.74	67.00	2152.26	110.00	118.37	67.00	2152.26	0.05	107.61	16.25	46.98
722+89.11	731+65.49	LT. OF CL CONST. - TANGENT - AUX. LANE - CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	876.38	67.00	6524.16	137.01	2146.45	66.33	6458.92	67.00	6524.16	110.00	358.83	67.00	6524.16	0.05	326.21	20.50	179.66
731+65.49	733+58.22	LT. OF CL CONST. - SUPER TRANS. - AUX. LANE - CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	192.73	67.00	1434.77	30.13	472.04	66.33	1420.42	67.00	1434.77	110.00	78.91	67.00	1434.77	0.05	71.74	21.75	41.92
733+58.22	735+85.49	LT. OF CL CONST. - SUPER TRANS. - TAPER - CONC. SIDE BARRIER - 2.5:1 - .0328 CROSS SLOPE	227.27	63.29	1598.21	33.56	525.81	62.59	1580.54	63.29	1598.21	110.00	87.90	63.29	1598.21	0.05	79.91	23.75	53.98
735+85.49	736+58.22	LT. OF CL CONST. - MAX. SUPER - TAPER - CONC. SIDE BARRIER - 2.5:1 - .0480 CROSS SLOPE	72.73	59.64	481.96	10.12	158.56	58.94	476.30	59.64	481.96	110.00	26.51	59.64	481.96	0.05	24.10	24.75	18.00
736+58.22	741+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.5:1 - .0480 CROSS SLOPE	441.78	59.00	2896.11	60.82	952.82	58.33	2863.23	59.00	2896.11	110.00	159.29	59.00	2896.11	0.05	144.81	24.75	109.34
741+00.00	745+50.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0480 CROSS SLOPE	450.00	59.00	2950.00	61.95	970.55	58.33	2916.50	59.00	2950.00	110.00	162.25	59.00	2950.00	0.05	147.50	20.00	90.00
745+50.00	749+84.95	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - .0480 CROSS SLOPE	434.95	59.00	2851.34	59.88	938.09	58.33	2818.96	59.00	2851.34	110.00	156.82	59.00	2851.34	0.05	142.57	32.50	141.36
749+84.95	751+00.00	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0480 CROSS SLOPE	115.05	59.00	754.22	15.84	248.14	58.33	745.65	59.00	754.22	110.00	41.48	59.00	754.22	0.05	37.71	31.75	36.53
751+00.00	752+00.00	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - .0403 CROSS SLOPE	100.00	59.00	655.56	13.77	215.68	58.33	648.11	59.00	655.56	110.00	36.06	59.00	655.56	0.05	32.78	18.50	18.50
752+00.00	754+04.95	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0337 CROSS SLOPE	204.95	59.00	1343.56	28.21	442.03	58.33	1328.30	59.00	1343.56	110.00	73.90	59.00	1343.56	0.05	67.18	25.50	52.26
754+04.95	764+00.00	LT. OF CL CONST. - TANGENT- CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	995.05	59.00	6523.11	136.99	2146.10	58.33	6449.03	59.00	6523.11	110.00	358.77	59.00	6523.11	0.05	326.16	22.50	223.89
764+00.00	766+00.00	LT. OF CL CONST. - TANGENT- CONC. SIDE BARRIER - 2.0:1 - .0200 CROSS SLOPE	200.00	59.00	1311.11	27.53	431.36	58.33	1296.22	59.00	1311.11	110.00	72.11	59.00	1311.11	0.05	65.56	14.25	28.50
766+00.00	768+00.00	LT. OF CL CONST. - TANGENT- CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	200.00	59.00	1311.11	27.53	431.36	58.33	1296.22	59.00	1311.11	110.00	72.11	59.00	1311.11	0.05	65.56	18.25	36.50
768+00.00	774+37.33	LT. OF CL CONST. - TANGENT- CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	637.33	59.00	4178.05	87.74	1374.58	58.33	4130.61	59.00	4178.05	110.00	229.79	59.00	4178.05	0.05	208.90	22.50	143.40
774+37.33	778+57.33	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	58.33	2722.07	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	26.75	112.35
778+57.33	781+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - .0330 CROSS SLOPE	242.67	59.00	1590.84	33.41	523.39	58.33	1572.77	59.00	1590.84	110.00	87.50	59.00	1590.84	0.05	79.54	30.75	74.62
781+00.00	781+92.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	92.00	59.00	603.11	12.67	198.42	58.33	596.26	59.00	603.11	110.00	33.17	59.00	603.11	0.05	30.16	18.50	17.02
781+92.00	785+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - .0330 CROSS SLOPE	308.00	59.00	2019.11	42.40	664.29	58.33	1996.18	59.00	2019.11	110.00	111.05	59.00	2019.11	0.05	100.96	30.75	94.71
785+00.00	787+79.75	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	279.75	59.00	1833.92	38.51	603.36	58.33	1813.09	59.00	1833.92	110.00	100.87	59.00	1833.92	0.05	91.70	18.50	51.75
787+79.75	789+14.25	BRIDGE	134.50																
789+14.25	790+50.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.5:1 - .0330CROSS SLOPE	135.75	59.00	889.92	18.69	292.78	58.33	879.81	59.00	889.92	110.00	48.95	59.00	889.92	0.05	44.50	24.75	33.60
790+50.00	792+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - .0330 CROSS SLOPE	150.00	59.00	983.33	20.65	323.52	58.33	972.17	59.00	983.33	110.00	54.08	59.00	983.33	0.05	49.17	30.75	46.13
792+00.00	796+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.5:1 - .0330 CROSS SLOPE	400.00	59.00	2622.22	55.07	862.71	58.33	2592.44	59.00	2622.22	110.00	144.22	59.00	2622.22	0.05	131.11	24.75	99.00
796+00.00	799+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	300.00	59.00	1966.67	41.30	647.03	58.33	1944.33	59.00	1966.67	110.00	108.17	59.00	1966.67	0.05	98.33	18.50	55.50
799+00.00	801+24.39	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - .0330 CROSS SLOPE	224.39	59.00	1471.00	30.89	483.96	58.33	1454.30	59.00	1471.00	110.00	80.91	59.00	1471.00	0.05	73.55	30.75	69.00
801+24.39	805+44.39	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0330 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	58.33	2722.07	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	26.75	112.35
805+44.39	814+00.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - BERM TRANS. - 3.0:1 - .0200 CROSS SLOPE	855.61	59.00	5609.00	117.79	1845.36	58.33	5545.30	59.00	5609.00	110.00	308.50	59.00	5609.00	0.05	280.45	22.50	192.51
814+00.00	814+14.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - BERM - 10:1 - .0200 CROSS SLOPE	14.00	59.00	91.78	1.93	30.20	58.33	90.74	59.00	91.78	110.00	5.05	59.00	91.78	0.05	4.59	57.75	8.09
814+14.00	814+30.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - BERM TRANS. 3.0:1 - .0200 CROSS SLOPE	16.00	59.00	104.89	2.20	34.51	58.33	103.70	59.00	104.89	110.00	5.77	59.00	104.89	0.05	5.24	57.75	9.24
814+30.00	862+00.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	4770.00	59.00	31270.00	656.67	10287.83	58.33	30914.90	59.00	31270.00	110.00	1719.85	59.00	31270.00	0.05	1563.50	22.50	1073.25
862+00.00	865+43.54	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	343.54	59.00	2252.10	47.29	740.94	58.33	2226.52	59.00	2252.10	110.00	123.87	59.00	2252.10	0.05	112.61	18.25	62.70
865+43.54	866+00.00	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	56.46	59.00	370.13	7.77	121.77	58.33	365.92	59.00	370.13	110.00	20.36	59.00	370.13	0.05	18.51	22.00	12.42
866+00.00	868+00.00	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0129 CROSS SLOPE	200.00	59.00	1311.11	27.53	431.36	58.33	1296.22	59.00	1311.11	110.00	72.11	59.00	1311.11	0.05	65.56	37.25	74.50
868+00.00	869+63.54	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - -.0124 CROSS SLOPE	163.54	59.00	1072.10	22.51	352.72	58.33	1059.92	59.00	1072.10	110.00	58.97	59.00	1072.10	0.05	53.61	30.75	50.29
869+63.54	871+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - -.0330 CROSS SLOPE	136.46	59.00	894.57	18.79	294.31	58.33	884.41	59.00	894.57	110.00	49.20	59.00	894.57	0.05	44.73	34.00	46.40
871+00.00	883+00.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - -.0330 CROSS SLOPE	1200.00	59.00	7866.67	165.20	2588.13	58.33	7777.33	59.00	7866.67	110.00	432.67	59.00	7866.67	0.05	393.33	53.25	639.00
883+00.00	883+40.00	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 4.0:1 - -.0330 CROSS SLOPE	40.00	59.00	262.22	5.51	86.27	58.33	259.24	59.00	262.22	110.00	14.42	59.00	262.22	0.05	13.11	74.50	29.80
883+40.00	887+55.07	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - -.0330 CROSS SLOPE	415.07	59.00	2721.01	57.14	895.21	58.33	2690.11	59.00	2721.01	110.00	149.66	59.00	2721.01	0.05	136.05	53.25	221.02
887+55.07	891+75.07	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - -.0330 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	58.33	2722.07	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	38.00	159.60
891+75.07	898+39.70	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	664.63	59.00	4357.02	91.50	1433.46	58.33	4307.54	59.00	4357.02	110.00	239.64	59.00	4357.02	0.05	217.85	22.50	149.54
898+39.70	901+00.00	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	260.30	59.00	1706.41	35.83	561.41	58.33	1687.03	59.00	1706.41	110.00	93.85	59.00	1706.41	0.05	85.32	37.75	98.26
901+00.00	902+59.70	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - -.0308 CROSS SLOPE	159.70	59.00	1046.92	21.99	344.44	58.33	1035.03	59.00	1046.92	110.00	57.58	59.00	1046.92	0.05	52.35	37.50	59.89
902+59.70	910+49.77	LT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - -.0620 CROSS SLOPE	790.07	59.00	5179.35	108.77	1704.01	58.33	5120.53	59.00	5179.35	110.00	284.86	59.00	5179.35	0.05	258.97	43.25	341.71
910+49.77	914+69.77	LT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - -.0620 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	58.33	2722.07	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	28.75	120.75
914+69.77	917+50.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.0:1 - .0200 CROSS SLOPE	280.23	59.00	1837.06	38.58	604.39	58.33	1816.20	59.00	1837.06	110.00	101.04	59.00	1837.06	0.05	91.85	14.25	39.93
917+50.00	925+50.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	800.00	59.00	5244.44	110.13	1725.42	58.33	5184.89	59.00	5244.44	110.00	288.44	59.00	5244.44	0.05	262.22	22.50	180.00
925+50.00	928+50.00	LT. OF CL CONST. - TANGENT - 6.0:1 - .0200 CROSS SLOPE	300.00	59.00	1966.67	41.30	647.03	57.00	1900.00	59.00	1966.67	110.00	108.17	59.00	1966.67	0.05	98.33	47.75	143.25
928+50.00	934+00.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.5:1 - .0200 CROSS SLOPE	550.00	59.00	3605.56	75.72	1186.23	58.33	3564.61	59.00	3605.56	110.00	198.31	59.00	3605.56	0.05	180.28	18.25	100.38
934+00.00	936+25.00	LT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	225.00	59.00	1475.00	30.98	485.28	58.33	1458.25	59.00	1475.00	110.00	81.13	59.00	1475.00	0.05	73.75	22.50	50.63
936+25.00	938+00.00	LT. OF CL CONST. - TANGENT - MEDIAN TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0200 CROSS SLOPE	175.00	59.00	1147.22	24.09	377.44	58.33	1134.19	59.00	1147.22	110.00	63.10	59.00	1147.22	0.05	57.36	22.50	39.38
938+00.00	942+75.00	LT. OF CL CONST. - TANGENT - MEDIAN TRANS. - 6.0:1 - .0200 CROSS SLOPE	475.00	62.00	3272.22	68.72	1076.56	60.00	3166.67	62.00	3272.22	110.00	179.97	62.00	3272.22	0.05	163.61	47.75	226.81
942+75.00	944+20.29	LT. OF CL CONST. - TANGENT - SAW CUT - .0200 CROSS SLOPE - NO CLASS 7	145.29	45.00	726.45	15.26	239.00	45.00	726.45	45.00	726.45	110.00	39.95	45.00	726.45	0.05	36.32		
944+20.29	946+00.00	LT. OF CL CONST. - TANGENT - 2 LANES - 6.0:1 - .0200 CROSS SLOPE	179.71	57.00	1138.16	23.90	374.45	55.00	1098.23	57.00	1138.16	110.00	62.60	57.00	1138.16	0.05	56.91	47.75	85.81
946+00.00	948+00.00	LT. OF CL CONST. - TANGENT - OPEN MEDIAN - 2 LANES - 6.0:1 - .0200 CROSS SLOPE	200.00	48.00	1066.67	22.40	350.93	44.00	977.78	48.00	1066.67	110.00	58.67	48.00	1066.67	0.05	53.33	47.75	95.50
SUBTOTALS (BOX 1 OF 3):					161719.62	3396.13	53205.76		159804.68		161719.62		8894.61		161719.62		8086.02		6371.76

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (3/8") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%

CEMENT STABILIZED CRUSH STONE BASE - AGGREGATE = 94.0%, CEMENT = 6.0%

Nmax = 115 (PG 64-22)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BAIR 10/7/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	160	434

(2) QUANTITIES

BASE AND SURFACING - HWY. 67 & RAMPS (BOX 2 OF 3)

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.)		ACHM SURFACE COURSE (3/8") NORMAL				TACK COAT 0.05 GAL. PER SQ. YD.				AGGREGATE BASE COURSE CLASS 7	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	TON / STATION	TON
			FEET	FEET	SQ. YD.	TON	TON	FEET		FEET				FEET					
CL CONST. HWY. 67																			
705+05.30	707+05.75	RT. OF CL CONST. - TANGENT- TAPER - CONC. SIDE BARRIER - 3:1 - - 0200 CROSS SLOPE	200.45	67.29	1498.70	31.47	493.07	66.59	1483.11	67.29	1498.70	110.00	82.43	67.29	1498.70	0.05	74.94	24.75	49.61
707+05.75	708+05.75	RT. OF CL CONST. - TANGENT - AUX. LANE - CONC. SIDE BARRIER - 3:1 - - 0200 CROSS SLOPE	100.00	71.00	788.89	16.57	259.54	70.33	781.44	71.00	788.89	110.00	43.39	71.00	788.89	0.05	39.44	24.75	24.75
708+05.75	709+00.00	RT. OF CL CONST. - TANGENT - RAMP TRANS. - CONC. SIDE BARRIER - 3:1 - - 0200 CROSS SLOPE	94.25	71.00	743.53	15.61	244.62	70.33	736.51	71.00	743.53	110.00	40.89	71.00	743.53	0.05	37.18	24.75	23.33
709+00.00	711+22.10	RT. OF CL CONST. - TANGENT - RAMP TRANS. - CONC. SIDE BARRIER - 2.5:1 - - 0200 CROSS SLOPE	222.10	79.56	1963.36	41.23	645.95	78.86	1946.09	79.56	1963.36	110.00	107.98	79.56	1963.36	0.05	98.17	20.50	45.53
711+22.10	711+37.26	RT. OF CL CONST. - TANGENT - RAMP TRANS. - 6.0:1 - - 0200 CROSS SLOPE	15.16	89.70	151.09	3.17	49.71	87.72	147.76	89.70	151.09	110.00	8.31	89.70	151.09	0.05	7.55	47.75	7.24
711+37.26	711+70.84	RT. OF CL CONST. - TANGENT - GORE TRANS. - NO CLASS 7	33.58	63.91	238.46	5.01	78.45	63.91	238.46	63.91	238.46	110.00	13.12	63.91	238.46	0.05	11.92		
711+70.84	713+28.21	RT. OF CL CONST. - TANGENT - GORE TRANS. - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	157.37	63.57	1111.56	23.34	365.70	62.87	1099.32	63.57	1111.56	110.00	61.14	63.57	1111.56	0.05	55.58	24.75	38.95
713+28.21	716+70.42	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	342.21	59.03	2244.52	47.13	738.45	58.33	2217.90	59.03	2244.52	110.00	123.45	59.03	2244.52	0.05	112.23	24.75	84.70
716+70.42	717+34.56	RT. OF CL CONST. - TANGENT - GORE TRANS. - NO CLASS 7	64.14	59.00	420.47	8.83	138.33	57.00	406.22	59.00	420.47	110.00	23.13	59.00	420.47	0.05	21.02		
717+34.56	719+89.28	RT. OF CL CONST. - TANGENT - GORE TRANS. - NO CLASS 7	254.72	54.00	1528.32	32.09	502.82	54.00	1528.32	54.00	1528.32	110.00	84.06	54.00	1528.32	0.05	76.42		
719+89.28	721+39.11	RT. OF CL CONST. - TANGENT - RAMP TRANS. - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	149.83	81.01	1348.64	28.32	443.70	80.31	1336.98	81.01	1348.64	110.00	74.18	81.01	1348.64	0.05	67.43	16.25	24.35
721+39.11	723+00.00	RT. OF CL CONST. - TANGENT - 2 AUX. LANES - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	160.89	79.00	1412.26	29.66	464.63	78.33	1400.28	79.00	1412.26	110.00	77.67	79.00	1412.26	0.05	70.61	16.25	26.14
723+00.00	725+00.00	RT. OF CL CONST. - TANGENT - 2 AUX. LANES - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	200.00	79.00	1755.56	36.87	577.58	78.33	1740.67	79.00	1755.56	110.00	96.56	79.00	1755.56	0.05	87.78	24.75	49.50
725+00.00	727+00.00	RT. OF CL CONST. - TANGENT - 2 AUX. LANES - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	200.00	79.00	1755.56	36.87	577.58	78.33	1740.67	79.00	1755.56	110.00	96.56	79.00	1755.56	0.05	87.78	16.25	32.50
727+00.00	728+00.00	RT. OF CL CONST. - TANGENT - 2 AUX. LANES - CONC. SIDE BARRIER - 2.5:1 - - 0200 CROSS SLOPE	100.00	79.00	877.78	18.43	288.79	78.33	870.33	79.00	877.78	110.00	48.28	79.00	877.78	0.05	43.89	20.50	20.50
728+00.00	729+89.28	RT. OF CL CONST. - TANGENT - 2 AUX. LANES - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	189.28	79.00	1661.46	34.89	546.62	78.33	1647.37	79.00	1661.46	110.00	91.38	79.00	1661.46	0.05	83.07	16.25	30.76
729+89.28	731+65.49	RT. OF CL CONST. - TANGENT - TAPER - AUX. LANE - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	176.21	75.51	1478.40	31.05	486.39	74.81	1464.70	75.51	1478.40	110.00	81.31	75.51	1478.40	0.05	73.92	16.25	28.63
731+65.49	732+89.28	RT. OF CL CONST. - SUPER TRANS. - TAPER - AUX. LANE - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	123.79	69.51	956.07	20.08	314.55	68.81	946.44	69.51	956.07	110.00	52.58	69.51	956.07	0.05	47.80	19.00	23.52
732+89.28	735+85.49	RT. OF CL CONST. - SUPER TRANS. - AUX. LANE - CONC. SIDE BARRIER - 2.0:1 - .0000 CROSS SLOPE	296.21	67.00	2205.12	46.31	725.48	66.33	2183.07	67.00	2205.12	110.00	121.28	67.00	2205.12	0.05	110.26	26.25	77.76
735+85.49	741+89.28	RT. OF CL CONST. - MAX. SUPER - AUX. LANE - CONC. SIDE BARRIER - 2.0:1 - .0480 CROSS SLOPE	603.79	67.00	4494.88	94.39	1478.82	66.33	4449.93	67.00	4494.88	110.00	247.22	67.00	4494.88	0.05	224.74	30.75	185.67
741+89.28	744+89.28	RT. OF CL CONST. - MAX. SUPER - TAPER - CONC. SIDE BARRIER - 2.0:1 - .0480 CROSS SLOPE	300.00	63.00	2100.00	44.10	690.90	62.32	2077.33	63.00	2100.00	110.00	115.50	63.00	2100.00	0.05	105.00	34.75	104.25
744+89.28	749+84.95	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0480 CROSS SLOPE	495.67	59.00	3249.39	68.24	1069.05	58.33	3212.49	59.00	3249.39	110.00	178.72	59.00	3249.39	0.05	162.47	38.75	192.07
749+84.95	753+00.00	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - .0480 CROSS SLOPE	315.05	59.00	2065.33	43.37	679.49	58.33	2041.87	59.00	2065.33	110.00	113.59	59.00	2065.33	0.05	103.27	30.25	95.30
753+00.00	754+04.95	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.5:1 - - 0030 CROSS SLOPE	104.95	59.00	688.01	14.45	226.36	58.33	680.19	59.00	688.01	110.00	37.84	59.00	688.01	0.05	34.40	23.50	24.66
754+04.95	757+00.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.5:1 - - 0200 CROSS SLOPE	295.05	59.00	1934.22	40.62	636.36	58.33	1912.25	59.00	1934.22	110.00	106.38	59.00	1934.22	0.05	96.71	18.50	54.58
757+00.00	761+00.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	400.00	59.00	2622.22	55.07	862.71	58.33	2592.44	59.00	2622.22	110.00	144.22	59.00	2622.22	0.05	131.11	22.50	90.00
761+00.00	764+00.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.5:1 - - 0200 CROSS SLOPE	300.00	59.00	1966.67	41.30	647.03	58.33	1944.33	59.00	1966.67	110.00	108.17	59.00	1966.67	0.05	98.33	18.50	55.50
764+00.00	774+37.33	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	1037.33	59.00	6800.27	142.81	2237.29	58.33	6723.05	59.00	6800.27	110.00	374.01	59.00	6800.27	0.05	340.01	22.50	233.40
774+37.33	777+00.00	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	262.67	59.00	1721.95	36.16	566.52	58.33	1702.39	59.00	1721.95	110.00	94.71	59.00	1721.95	0.05	86.10	32.50	85.37
777+00.00	778+57.33	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.5:1 - .0131 CROSS SLOPE	157.33	59.00	1031.39	21.66	339.33	58.33	1019.67	59.00	1031.39	110.00	56.73	59.00	1031.39	0.05	51.57	39.00	61.36
778+57.33	779+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.5:1 - .0330 CROSS SLOPE	42.67	59.00	279.73	5.87	92.03	58.33	276.55	59.00	279.73	110.00	15.39	59.00	279.73	0.05	13.99	42.75	18.24
779+00.00	781+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	200.00	59.00	1311.11	27.53	431.36	58.33	1296.22	59.00	1311.11	110.00	72.11	59.00	1311.11	0.05	65.56	34.25	68.50
781+00.00	784+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 4.0:1 - .0330 CROSS SLOPE	300.00	59.00	1966.67	41.30	647.03	58.33	1944.33	59.00	1966.67	110.00	108.17	59.00	1966.67	0.05	98.33	74.50	223.50
784+00.00	787+79.75	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	379.75	59.00	2489.47	52.28	819.04	58.33	2461.20	59.00	2489.47	110.00	136.92	59.00	2489.47	0.05	124.47	34.25	130.06
787+79.75	789+14.25	BRIDGE		59.00															
789+14.25	796+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	685.75	59.00	4495.47	94.40	1479.01	58.33	4444.42	59.00	4495.47	110.00	247.25	59.00	4495.47	0.05	224.77	34.25	234.87
796+00.00	800+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.5:1 - .0330 CROSS SLOPE	400.00	59.00	2622.22	55.07	862.71	58.33	2592.44	59.00	2622.22	110.00	144.22	59.00	2622.22	0.05	131.11	42.75	171.00
800+00.00	801+24.39	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	124.39	59.00	815.45	17.12	268.28	58.33	806.19	59.00	815.45	110.00	44.85	59.00	815.45	0.05	40.77	34.25	42.60
801+24.39	803+00.00	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - .0330 CROSS SLOPE	175.61	59.00	1151.22	24.18	378.75	58.33	1138.15	59.00	1151.22	110.00	63.32	59.00	1151.22	0.05	57.56	30.75	54.00
803+00.00	805+44.39	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - .0108 CROSS SLOPE	244.39	59.00	1602.11	33.64	527.09	58.33	1583.92	59.00	1602.11	110.00	88.12	59.00	1602.11	0.05	80.11	32.25	78.82
805+44.39	848+01.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	4256.61	59.00	27904.44	585.99	9180.56	58.33	27587.56	59.00	27904.44	110.00	1534.74	59.00	27904.44	0.05	1395.22	22.50	957.74
848+01.00	865+43.54	RT. OF CL CONST. - TANGENT - 6.0:1 - - 0200 CROSS SLOPE	1742.54	59.00	11423.32	239.89	3758.27	57.00	11036.09	59.00	11423.32	110.00	628.28	59.00	11423.32	0.05	571.17	47.75	832.06
865+43.54	868+00.00	RT. OF CL CONST. - SUPER TRANS. - 6.0:1 - - 0200 CROSS SLOPE	256.46	59.00	1681.24	35.31	553.13	57.00	1624.25	59.00	1681.24	110.00	92.47	59.00	1681.24	0.05	84.06	54.75	140.41
868+00.00	869+00.00	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - - 0279 CROSS SLOPE	100.00	59.00	655.56	13.77	215.68	58.33	648.11	59.00	655.56	110.00	36.06	59.00	655.56	0.05	32.78	29.25	29.25
869+00.00	869+63.54	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - - 0310 CROSS SLOPE	63.54	59.00	416.54	8.75	137.04	58.33	411.81	59.00	416.54	110.00	22.91	59.00	416.54	0.05	20.83	18.50	11.75
869+63.54	870+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 2.0:1 - - 0330 CROSS SLOPE	36.46	59.00	239.02	5.02	78.64	58.33	236.30	59.00	239.02	110.00	13.15	59.00	239.02	0.05	11.95	18.50	6.75
870+00.00	873+00.00	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - - 0330 CROSS SLOPE	300.00	59.00	1966.67	41.30	647.03	58.33	1944.33	59.00	1966.67	110.00	108.17	59.00	1966.67	0.05	98.33	31.00	93.00
873+00.00	887+55.07	RT. OF CL CONST. - MAX. SUPER - 6.0:1 - - 0330 CROSS SLOPE	1455.07	59.00	9538.79	200.31	3138.26	57.00	9215.44	59.00	9538.79	110.00	524.63	59.00	9538.79	0.05	476.94	64.75	942.16
887+55.07	891+75.07	RT. OF CL CONST. - SUPER TRANS. - 6.0:1 - - 0330 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	57.00	2660.00	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	54.75	229.95
891+75.07	894+50.00	RT. OF CL CONST. - TANGENT- 6.0:1 - - 0200 CROSS SLOPE	274.93	59.00	1802.32	37.85	592.96	57.00	1741.22	59.00	1802.32	110.00	99.13	59.00	1802.32	0.05	90.12	47.75	131.28
894+50.00	898+39.70	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	389.70	59.00	2554.70	53.65	840.50	58.33	2525.69	59.00	2554.70	110.00	140.51	59.00	2554.70	0.05	127.74	22.50	87.68
898+39.70	902+59.70	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - - 0200 CROSS SLOPE	420.00	59.00	2753.33	57.82	905.85	58.33	2722.07	59.00	2753.33	110.00	151.43	59.00	2753.33	0.05	137.67	28.25	118.65
902+59.70	910+49.77	RT. OF CL CONST. - MAX. SUPER - CONC. SIDE BARRIER - 3.0:1 - - 0620 CROSS SLOPE	790.07	59.00	5179.35	108.77	1704.01	58.33	5120.53	59.00	5179.35	110.00	284.86	59.00	5179.35	0.05	258.97	34.00	268.62
910+49.77	913+10.00	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 3.0:1 - - 0620 CROSS SLOPE	260.23	59.00	1705.95	35.82	561.26	58.33	1686.58	59.00	1705.95	110.00	93.83	59.00	1705.95	0.05	85.30	32.50	84.57
913+10.00	914+69.77	RT. OF CL CONST. - SUPER TRANS. - CONC. SIDE BARRIER - 2.0:1 - - 0360 CROSS SLOPE	159.77	59.00	1047.38	21.99	344.59	58.33	1035.49	59.00	1047.38	110.00	57.61	59.00	1047.38	0.05	52.37	16.50	26.36
914+69.77	919+00.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.0:1 - - 0200 CROSS SLOPE	430.23	59.00	2820.40	59.23	927.91	58.33	2788.37	59.00	2820.40	110.00	155.12	59.00	2820.40	0.05	141.02	14.25	61.31
919+00.00	920+00.00	RT. OF CL CONST. - TANGENT - CONC. SIDE BARRIER - 2.5:1 - - 0200 CROSS SLOPE	100.00	59.00	655.56	13.77	215.68	58.33	648.11	59.00	655.56	110.00	36.06	59.00	655.56	0.05	32.78	18.25	18.25
920+00.00	934+73.39	RT. OF CL CONST. - TANGENT - 6.0:1 - - 0200 CROSS SLOPE	1473.39	59.00	9658.89	202.84	3177.77	57.00	9331.47	59.00	9658.89	110.00	531.24	59.00	9658.89	0.05	482.94	47.75	703.54
934+73.39	941+00.22	RT. OF CL CONST. - TANGENT - TAPER - 6.0:1 - - 0200 CROSS SLOPE	626.83	63.80	4443.53	93.31	1461.92	61.82	4305.63	63.80	4443.53	110.00	244.39	63.80	4443.53	0.05	222.18	47.75	299.31
941+00.22	941+23.60	RT. OF CL CONST. - TANGENT - RAMP TAPER - 6.0:1 - - 0200 CROSS SLOPE	23.38	69.70	181.07	3.80	59.57	67.66	175.77	69.70	181.07	110.00	9.96	69.70	181.07	0.05	9.05	47.75	11.16
941+23.60	944+50.73	RT. OF CL CONST. - TANGENT - SAW CUT - .0200 CROSS SLOPE - NO CLASS 7	327.13	63.90	2322.62	48.78	764.14	63.91	2322.99	63.90	2322.62	110.00	127.74	63.90	2322.62	0.05	116.13		
944+50.73	946+00.00	RT. OF CL CONST. - TANGENT - GORE TRANS. - 6.0:1 - - 0200 CROSS SLOPE	149.27	72.20	1197.48	25.15	393.97	70.23	1164.80	72.20	1197.48	110.00	65.86	72.20	1197.48	0.05	59.87		
946+00.00	946+85.04	RT. OF CL CONST. - TANGENT - GORE TRANS. - OPEN MEDIAN - 6.0:1 - - 0200 CROSS SLOPE	85.04	54.80	517.80	10.87	170.36	50.82	480.19	54.80	517.80	110.00	28.48	54.80	517.80	0.05	25.89	47.75	40.61
946+85.04	948+00.00	RT. OF CL CONST. - TANGENT - OPEN MEDIAN - 6.0:1 - - 0200 CROSS SLOPE	114.96	48.00	613.12	12.88	201.72	44.00	562.03	48.00	613.12	110.00	33.72	48.00	613.12	0.05	30.66	47.75	54.89
SUBTOTALS (BOX 2 OF 3):					**163579.94**	**3435.18**	**53817.79**		**160789.83**		**163579.94**		**8996.92**		**163579.94**		**8179.01**		**7940.82**

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (3/8") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
CEMENT STABILIZED CRUSH STONE BASE - AGGREGATE = 94.0%, CEMENT = 6.0%

Nmax = 115 (PG 64-22)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/9/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	161	434

2 QUANTITIES

BASE AND SURFACING - HWY. 67 & RAMPS (BOX 3 OF 3)

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				PORTLAND CEMENT CONCRETE PAVEMENT (12" U.T.)		ACHM SURFACE COURSE (3/8") NORMAL				TACK COAT 0.05 GAL. PER SQ. YD.				AGGREGATE BASE COURSE CLASS 7	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ.YD.	AVG. WID.	SQ.YD.	POUND / SQ.YD.	TON	TOTAL WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	TON / STATION	TON
			FEET	FEET	SQ. YD.	TON	TON	FEET		FEET				FEET					
CL CONST. RAMP 1																			
711+37.08	711+67.13	SUPER TRANS. - GORE AREA - 6:1 LT., 6:1 RT., - -.0250 CROSS SLOPE	30.05	29.00	96.83	2.03	31.86	25.00	83.47	29.00	96.83	110.00	5.33	29.00	96.83	0.05	4.84	142.50	42.82
711+67.13	712+68.43	SUPER TRANS. - 6:1 LT., 6:1 RT., - -.0368 CROSS SLOPE	101.30	29.00	326.41	6.85	107.39	25.00	281.39	29.00	326.41	110.00	17.95	29.00	326.41	0.05	16.32	170.00	172.21
712+68.43	713+04.47	MAX. SUPER - SUPER TRANS. - 6:1 LT., 6:1 RT., - -.0767 CROSS SLOPE	36.04	29.00	116.13	2.44	38.21	25.00	100.11	29.00	116.13	110.00	6.39	29.00	116.13	0.05	5.81	180.75	65.14
713+04.47	714+47.66	SUPER TRANS. - RADIUS - 6:1 LT., 6:1 RT., - -.0589 CROSS SLOPE	143.19	77.80	1237.80	25.99	407.24	73.80	1174.16	77.80	1237.80	110.00	68.08	77.80	1237.80	0.05	61.89	135.50	194.02
CL CONST. RAMP 2																			
713+42.56	714+00.27	CROSS SLOPE TRANS - RADIUS - 6:1 LT. - .0070 CROSS SLOPE	57.71	92.10	590.57	12.40	194.30	90.10	577.74	92.10	590.57	110.00	32.48	92.10	590.57	0.05	29.53	118.75	68.53
714+00.27	714+09.55	SUPER TRANS. - RADIUS - 6:1 LT., 6:1 RT., - -.0200 CROSS SLOPE	9.28	71.50	73.72	1.55	24.25	67.50	69.60	71.50	73.72	110.00	4.05	71.50	73.72	0.05	3.69	129.00	11.97
714+09.55	715+05.51	SUPER TRANS. - RADIUS - CONC. SIDE BARRIER LT. - 3:1 LT., 6:1 RT., - -.0237 CROSS SLOPE	95.96	96.97	1033.92	21.71	340.16	94.30	1005.45	96.97	1033.92	110.00	56.87	96.97	1033.92	0.05	51.70	114.50	109.87
715+05.51	715+35.55	SUPER TRANS. - CONC. SIDE BARRIER LT. - 3:1 LT., 6:1 RT., - -.0621 CROSS SLOPE	30.04	38.00	126.84	2.66	41.73	35.30	117.82	38.00	126.84	110.00	6.98	38.00	126.84	0.05	6.34	138.25	41.53
715+35.55	716+70.82	MAX. SUPER - SUPER TRANS. - CONC. SIDE BARRIER LT. - 3:1 LT., 6:1 RT., - -.0741 CROSS SLOPE	135.27	38.00	571.14	11.99	187.91	35.30	530.56	38.00	571.14	110.00	31.41	38.00	571.14	0.05	28.56	110.50	149.47
716+70.82	719+89.83	TANGENT - GORE LT. - 6:1 LT., CONC. SIDE BARRIER RT., 3:1 RT., - -.0200 CROSS SLOPE	319.01	38.00	1346.93	28.29	443.14	34.00	1205.15	38.00	1346.93	110.00	74.08	38.00	1346.93	0.05	67.35	50.50	161.10
SUBTOTALS (BOX 1 OF 3):					161719.62	3396.13	53205.76		159804.68		161719.62		8894.61		161719.62		8086.02		6371.76
SUBTOTALS (BOX 2 OF 3):					163579.94	3435.18	53817.79		160789.83		163579.94		8996.92		163579.94		8179.01		7940.82
SUBTOTALS (BOX 3 OF 3):					5520.29	115.91	1816.19		5145.46		5520.29		303.62		5520.29		276.03		1016.66
TOTALS:					330819.85	6947.22	108839.74		325739.96		330819.85		18195.15		330819.85		16541.06		15329.24

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (3/8") - MINERAL AGGREGATE = 95.0%, ASPHALT BINDER (PG 64-22) = 5.0%
CEMENT STABILIZED CRUSH STONE BASE - AGGREGATE = 94.0%, CEMENT = 6.0%

Nmax = 115 (PG 64-22)

CONCRETE COMBINATION CURB AND GUTTER

STATION	STATION	LOCATION	TYPE A (1' 6")
			LIN. FT.
118+00	119+70	LT. & RT. OF C.L. CONST. T.P WHITE DR.	340
119+70	123+95	LT. OF C.L. CONST. T.P WHITE DR.	425
125+55	131+99	RT. OF C.L. CONST. T.P WHITE DR.	644
719+00	750+00	C.L. CONST. HWY. 67 - LT. OF T.P. WHITE LANES	3100
908+52	911+05	C.L. CONST. HWY 67 - RT. OF JOHN HARDEN LANES	253
52+21	62+51	LT. OF C.L.CONST. S. 2ND ST.	1030
62+80	64+09	LT. OF C.L. CONST. S. 2ND ST.	129
TOTAL:			5921

AGGREGATE BASE COURSE (CLASS 1)

STATION	STATION	LOCATIONS	AGGREGATE BASE COURSE CLASS 1	
			TON/STATION	TON
705+05	717+00	LT. OF C.L. CONST. HWY. 67	18.50	221.08
TOTAL:				221.08

WIRE ROPE SAFETY FENCE

STATION	STATION	DESCRIPTION	WIRE ROPE SAFETY FENCE	SOLID SODDING	WATER
			LIN. FT.	SQ. YD.	M. GAL.
703+25	704+75	C.L. CONST. HWY 67 - TRANS. C.L. MEDIAN	150	33.3	0.42
945+50	947+00	C.L. CONST. HWY 67 - TRANS. C.L. MEDIAN	150	33.3	0.42
TOTALS:			300	66.6	0.84

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

CONCRETE ISLAND

STATION	LOCATION	CURB FACE TYPE	CONCRETE ISLAND SQ.YD.
126+89	LT. OF C.L. CONST. T.P. WHITE DR.	B	121
128+98	LT. OF C.L. CONST. T.P. WHITE DR.	B	33
TOTAL:			154

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
731+65	744+89	HWY. 67 MAIN LANES	1324	7
744+89	754+05	HWY. 67 MAIN LANES	916	5
774+37	805+44	HWY. 67 MAIN LANES	3107	14
865+44	891+75	HWY. 67 MAIN LANES	2631	12
898+40	914+70	HWY. 67 MAIN LANES	1630	8
53+29	61+00	S. 2ND ST.	771	5
119+05	132+80	T.P. WHITE DRIVE	1375	7
711+37	714+48	VANDENBERG BLVD. RAMP 1	311	3
713+44	716+71	VANDENBERG BLVD. RAMP 2	327	3
TOTALS:			12392	64

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

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
* ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	500
ENGINEER	
TOTAL:	500

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

PAVEMENT REPAIR OVER CULVERTS (CONCRETE)

STATION	LOCATION	WIDTH	LENGTH	CU.YD.
		FEET		
874+00	C.L. CONST. HWY. 67	8.50	41	20.4
TOTAL:				20.4

AVG. DEPTH = 19"

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
727+04	T.P. WHITE DR.	10.25	21	18
735+00	T.P. WHITE DR.	9.08	20	16
796+37	T.P. WHITE DR.	12.33	23	24
814+20	T.P. WHITE DR.	17.33	28	42
852+00	T.P. WHITE DR.	9.08	27	21
796+40	JOHN HARDEN DR.	8.50	21	15
814+11	JOHN HARDEN DR.	15.67	21	28
TOTAL:				164

AVG. DEPTH = 14"

CONCRETE BASE

STATION	STATION	LOCATION	LENGTH	PORTLAND CEMENT CONCRETE BASE	
				AVG. WID.	6 INCH U.T.
			FEET	FEET	SQ. YD.
719+00	750+00	C.L. CONST. HWY. 67 - LT. OF T.P. WHITE MAIN LANES	3100.00	2.50	861.11
908+52	911+05	C.L. CONST. HWY. 67 - RT. OF JOHN HARDEN MAIN LANES	253.00	2.50	70.28
TOTAL:					931.39

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

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.		CA0605	162	434
				(1) 07399		QUANTITIES		58981

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. CA0605

BRIDGE NUMBER	NAME PLATE TITLE	UNIT OF STRUCTURE	ITEM NUMBER	205	802	802	803	804	804	805	805	805	SP & 807	812	816	816
			ITEM	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. _)	CLASS S CONCRETE - BRIDGE	CLASS S(AE) CONCRETE - BRIDGE	CLASS I PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	EPOXY COATED REINFORCING STEEL (GRADE 60)	STEEL [1] SHELL PILING (18" DIA.)	PREBORING	PILE ENCASEMENT	STRUCTURAL STEEL IN BEAM SPANS (M 270, GRADE 50W)	BRIDGE NAME PLATE (TYPE D)	FILTER BLANKET	DUMPED RIPRAP
			UNIT	LUMP SUM	CUBIC YARD	CUBIC YARD	GALLON	POUND	POUND	LINEAR FOOT	LINEAR FOOT	LINEAR FOOT	POUND	EACH	SQUARE YARD	CUBIC YARD
07399	JACKS BAYOU	BENT NO. 1			39.02			3,845	680	686					323	162
		BENT NO. 2			45.48			5,145		644	140	154				
		BENT NO. 3			45.48			5,145		644	140	157				
		BENT NO. 4			39.02			3,845	680	644					328	164
		133'-6" INTEGRAL W-BEAM UNIT				531.60	38.9		135,560				295,970	2		
		SITE NO. 1 (BRIDGE 02975)		1												
		SITE NO. 2 (BRIDGE A2975)		1												
		TOTALS FOR BRIDGE NO. 07399			169.00	531.60	38.9	17,980	136,920	2,618	280	311	295,970	2	651	326
		SITE NO. 3 (BRIDGE 01364) [2]		1												
		TOTALS FOR JOB NO. CA0605		--	169.00	531.60	38.9	17,980	136,920	2,618	280	311	295,970	2	651	326

[1] Piles shall conform to Std. Dwg. No. 55021. Piles shall be equipped with the Vaned Tip Detail. The quantities shown for steel piling are for estimating and bidding purposes only. Actual quantities for steel piling will be determined in the field.

[2] Existing Bridge No. 01364 (Sta. 920+00) is 30' wide by 35' long and consists of a single concrete beam span supported by concrete abutments. The bridge shall be removed in accordance with Section 205 and all material shall become the property of the Contractor.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY D. MILLER

Larry D. Miller 8-24-16

BRIDGE ENGINEER

SCHEDULE OF BRIDGE QUANTITIES
VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)
PULASKI & LONOKE COUNTIES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 07-16 FILENAME: CA0605_Q.dgn
CHECKED BY: LM DATE: 7-8-16 SCALE: NONE
DESIGNED BY: DLM DATE: 06-16

BRIDGE NO. 07399 DRAWING NO. 58981

SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	4	STATION
201	GRUBBING	4	STATION
SP & 202	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	125870	SQ. YD.
202	REMOVAL AND DISPOSAL OF JUNCTION BOXES	6	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS	20	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	51	EACH
202	REMOVAL AND DISPOSAL OF BOX CULVERTS	2	EACH
202	REMOVAL AND DISPOSAL OF GUARDRAIL	1857	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	10703	SQ. YD.
SP & 202	REMOVAL AND DISPOSAL OF WIRE ROPE SAFETY FENCE	24083	LIN. FT.
SP	REMOVAL AND DISPOSAL OF OVERHEAD SIGN STRUCTURE	1	EACH
202	REMOVAL AND DISPOSAL OF POSTS	94	EACH
210	UNCLASSIFIED EXCAVATION	91945	CU. YD.
SP & 210	COMPACTED EMBANKMENT	215658	CU. YD.
SP & 210	SOIL STABILIZATION	200	TON
SP	SELECT GRANULAR BACKFILL	12066	CU. YD.
SS & 303	AGGREGATE BASE COURSE (CLASS 1)	221	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	18983	TON
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	108840	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	6947	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	330820	SQ. YD.
309	PORTLAND CEMENT CONCRETE BASE (6" UNIFORM THICKNESS)	931	SQ. YD.
SS & 401	TACK COAT	45329	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	38544	TON
SP & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	1523	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	21929	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")	1009	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	17285	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	910	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	15018	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	790	TON
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	115	TON
501	PORTLAND CEMENT CONCRETE PAVEMENT (12" UNIFORM THICKNESS)	325740	SQ. YD.
504	APPROACH SLABS	403.76	CU. YD.
504	APPROACH GUTTERS	85.80	CU. YD.
505	PORTLAND CEMENT CONCRETE DRIVEWAY	88.89	SQ. YD.
506	PORTLAND CEMENT CONCRETE CORRUGATIONS	77	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
602	FURNISHING FIELD LABORATORY	1	EACH
SP & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	TRAFFIC CONTROL SUPERVISOR	1.00	LUMP SUM
603	12" TEMPORARY CULVERT	839	LIN. FT.
603	18" TEMPORARY CULVERT	1526	LIN. FT.
603	24" TEMPORARY CULVERT	113	LIN. FT.
603	36" TEMPORARY CULVERT	26	LIN. FT.
603	42" TEMPORARY CULVERT	8	LIN. FT.
SS & 604	SIGNS	2748	SQ. FT.
SP, SS & 604	SIGNS LEFT IN PLACE	3	SQ. FT.
SS & 604	BARRICADES	32	LIN. FT.
SS & 604	TRAFFIC DRUMS	367	EACH
604	ADVANCE WARNING ARROW PANEL	1460	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN	208	WEEK
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	79097	LIN. FT.
SP	MOBILE SPEED NOTIFICATION SYSTEM	2	EACH
604	RELOCATING PRECAST CONCRETE BARRIER	100959	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	183072	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	224877	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	187228	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	85279	LIN. FT.
SS & 604	VERTICAL PANELS	96	EACH
SP & 604	FURNISHING, INSTALLING AND LEAVING IN PLACE PRECAST CONCRETE BARRIER	2429	LIN. FT.
SP	AWIS MOBILIZATION	1.00	LUMP SUM
SP	AWIS OPERATION	24	MONTH
SP	DEVICE RELOCATION	20	EACH
SP	FURNISH AND INSTALL CLOSED CIRCUIT TELEVISION SYSTEM	3	EACH
SP	FURNISH AND INSTALL PUBLIC NOTIFICATION SYSTEM	2	EACH
SP	FURNISH AND INSTALL VARIABLE MESSAGE SIGN	9	EACH
SP	FURNISH AND INSTALL VEHICLE DETECTION SYSTEM	31	EACH
605	CONCRETE DITCH PAVING (TYPE A)	769	SQ. YD.
SP & 605	CONCRETE DITCH PAVING (TYPE B)	21204	SQ. YD.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	3940	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	234	LIN. FT.
606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	804	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	1112	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	48	LIN. FT.
606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	152	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	34	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS IV)	312	LIN. FT.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	96	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	808	LIN. FT.
606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	28	LIN. FT.
606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS IV)	172	LIN. FT.
606	29" X 18" REINFORCED CONCRETE ARCH PIPE CULVERTS (CLASS V)	116	LIN. FT.
SP, SS, & 606	18" SIDE DRAIN	50	LIN. FT.
SP, SS, & 606	24" SIDE DRAIN	216	LIN. FT.
SS & 606	28" X 20" SIDE DRAIN	28	LIN. FT.
606	18" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2)	10	EACH
606	24" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2)	20	EACH
606	30" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2)	8	EACH
606	36" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2)	3	EACH
606	42" SAFETY END SECTIONS FOR CROSS DRAIN PIPE CULVERTS (CLASS 2)	1	EACH
606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	18	EACH
606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	3	EACH
606	29" X 18" FLARED END SECTIONS FOR REINFORCED CONCRETE ARCH PIPE CULVERTS	8	EACH
606	SELECTED PIPE BEDDING	500	CU. YD.
609	DROP INLETS (TYPE C)	4	EACH
609	DROP INLETS (TYPE RM)	7	EACH
609	DROP INLETS (TYPE ST)	34	EACH
609	DROP INLETS (TYPE TM)	2	EACH
609	DROP INLETS (TYPE SPECIAL)	16	EACH
609	JUNCTION BOXES (TYPE E)	3	EACH
609	DROP INLET EXTENSIONS (4')	6	EACH
609	DROP INLET EXTENSIONS (8')	13	EACH
611	UNDERDRAIN OUTLET PROTECTORS	64	EACH
611	4" PIPE UNDERDRAINS	12392	LIN. FT.
615	PAVEMENT REPAIR OVER CULVERTS (CONCRETE)	20.4	CU. YD.
615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)	164	TON
617	GUARDRAIL (TYPE A)	600	LIN. FT.
617	TERMINAL ANCHOR POSTS (TYPE 1)	1	EACH
617	GUARDRAIL TERMINAL (TYPE 2)	2	EACH
617	THRIE BEAM GUARDRAIL TERMINAL	1	EACH
SP	WIRE ROPE SAFETY FENCE	300	LIN. FT.
620	LIME	56	TON
620	SEEDING	27.97	ACRE
SS & 620	MULCH COVER	209.22	ACRE
620	WATER	6628.0	M.GAL.
621	TEMPORARY SEEDING	181.25	ACRE
621	SILT FENCE	6645	LIN. FT.
621	SAND BAG DITCH CHECKS	6028	BAG
621	ROCK DITCH CHECKS	824	CU. YD.
621	DROP INLET SILT FENCE	1650	LIN. FT.
621	SEDIMENT BASIN	1200	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN	1200	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL	2055	CU. YD.
623	SECOND SEEDING APPLICATION	27.97	ACRE
624	SOLID SODDING	6151	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)	34930	SQ. YD.
SP & 631	CONCRETE BARRIER WALL (SIDE TYPE A)	40343	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE A)	15015	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE B)	9071	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE C)	852	LIN. FT.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SPECIAL)	1079	LIN. FT.
632	CONCRETE ISLAND	154	SQ. YD.
634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")	5921	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM

ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BAKER 11/8/06

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	578	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	281	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	27	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	32	LIN. FT.
710	NON-METALLIC CONDUIT (2")	43	LIN. FT.
710	NON-METALLIC CONDUIT (3")	253	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SP	18" STREET NAME SIGN	1	EACH
SP	ANTENNA CABLE (TYPE 6)	67	LIN. FT.
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	326	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	205	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	37	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	502	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY	3	EACH
SP	LOUVERS	8	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (10")	383	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (4")	4365	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (8")	230	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")	72	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (4")	7957	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	2	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	10	EACH
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	49770	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	49770	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8") (ALTERNATE NO. 1)	1842	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (8") (ALTERNATE NO. 2)	1842	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	49781	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	49781	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	23001	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	23001	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	2701	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)	6	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-1)	29	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-2)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-43-03)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-30)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-31)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-32)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-33)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-067-60-34)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-067-43-04)	1	EACH
SP & 725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	1807	SQ. FT.
SP & 725	GUIDE SIGN-OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	1929	SQ. FT.
SP & 726	STANDARD SIGN	928	SQ. FT.
SP & 727	EXIT NUMBER PANEL (TYPE A)	389	SQ. FT.
SP & 729	CHANNEL POST SIGN SUPPORT (TYPE U-1)	43	EACH
SP & 729	CHANNEL POST SIGN SUPPORT (TYPE U-2)	5	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	17619	POUND
730	BREAKAWAY SIGN SUPPORT (TYPE G-3)	765	POUND
731	TEMPORARY IMPACT ATTENUATION BARRIER LEFT IN PLACE	4	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	15	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	15	EACH
732	CRASH CUSHION	9	EACH
SP & 733	VIDEO DETECTOR (CLR)	5	EACH
733	VIDEO CABLE	678	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP & 733	VEHICLE DETECTOR RACK (12 CHANNEL)	1	EACH
802	CLASS S CONCRETE-ROADWAY	10	CU. YD.
804	REINFORCING STEEL-ROADWAY (GRADE 60)	58394	POUND
SP	BARRIER WALL DELINEATOR	1250	EACH
SP	TEMPORARY RETAINING WALL	72390	SQ. FT.
	STRUCTURES OVER 20' SPAN		
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 1)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 2)	1.00	LUMP SUM
205	REMOVAL OF EXISTING BRIDGE STRUCTURE (SITE NO. 3)	1.00	LUMP SUM
636	BRIDGE CONSTRUCTION CONTROL	1.00	LUMP SUM
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY	3057	CU. YD.
802	CLASS S CONCRETE-ROADWAY	3386.67	CU. YD.
802	CLASS S CONCRETE-BRIDGE	169.00	CU. YD.
802	CLASS S(AE) CONCRETE-BRIDGE	531.60	CU. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	38.9	GAL.
804	REINFORCING STEEL-BRIDGE (GRADE 60)	17980	POUND
804	EPOXY COATED REINFORCING STEEL (GRADE 60)	136920	POUND
804	REINFORCING STEEL-ROADWAY (GRADE 60)	442257	POUND
805	PREBORING	280	LIN. FT.
805	PILE ENCASEMENT	311	LIN. FT.
805	STEEL SHELL PILING (18" DIAMETER)	2618	LIN. FT.
SP & 807	STRUCTURAL STEEL IN BEAM SPANS (M270-GR50W)	295970	POUND
812	BRIDGE NAME PLATE (TYPE D)	2	EACH
816	FILTER BLANKET	651	SQ. YD.
816	DUMPED RIPRAP	326	CU. YD.
SP	ANIMAL PASSAGE SHELVES	640	LIN. FT.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
10/7/2016	REVISED PLAN SHEETS AND QUANTITIES FOR PAVEMENT MARKING UPDATES, SIGNING PLAN UPDATES, ADDITION OF BARRIER WALL FOR RAMP 4, AND REVISED "SITE USE (A+C METHOD)" SPECIAL PROVISION. ADDED SPECIAL PROVISION "TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES LEFT IN PLACE".	3, 4, 5, 5A, 5B, 5C, 5D, 6, 37, 66, 91-96, 100, 105, 109, 124, 126, 127, 129, 135, 151, 152, 154-157, 159, 161, 163, 164, 166, 167, 172, 173, 175-179, 220, 221, 335-339, 347
10/14/2016	ADDED SPECIAL PROVISION "ASSESSMENT OF WORKING DAYS – MAINTENANCE OF TRAFFIC".	3, 164
10/17/2016	REMOVED SPECIAL PROVISION "MANDATORY ELECTRONIC DOCUMENT SUBMITTAL".	3, 164
11/11/2016	REVISED OH SIGN LOCATIONS AND OH SIGNS (OH-067-60-30, OH-067-60-31, OH-067-60-32). REVISED STATE ROUTE SHIELD TO M1-5 SIGN. REVISED LOCATION OF W3-5 SIGNS. REVISED SIGNING QUANTITIES.	2, 124 - 127, 129-131, 135, 136, 142-149, 164, 249, 255, 267-272
11/30/2016	REVISED TEMPORARY RAMP TYPICAL SECTIONS; REVISED TEMPORARY WIDENING TYPICAL SECTIONS; REVISED WIRE ROPE SAFETY FENCE SPECIAL DETAILS; REVISED QUANTITIES FOR UNCLASSIFIED EXCAVATION, TACK COAT, ACHM, 18" TEMP. CULVERT, RELOCATING PRECAST CONC. BARRIER, 18" SAFETY END SECTION, 30" RCP (CLASS III); REVISED SP - WRSF SPECIFICATIONS; REVISED SP - R&D OF WRSF; REVISED SP - TEMP RETAINING WALLS; ADDED QUANTITIES FOR GUARDRAIL, TERMINAL ANCHOR POSTS (TYPE 1), GUARDRAIL TERMINAL (TYPE 2), THRIE BEAM GUARDRAIL TERMINAL, PORTLAND CEMENT CONCRETE CORRUGATIONS; REVISED OH SIGNS.	2, 2A, 30, 34, 44, 45, 60A, 124, 146, 151, 154, 155, 156, 157, 158, 163, 164, 173, 198, 205, 338, 391, 392, 406, 407

DATE REVISED	DATE PLANED	DATE REVISED	DATE PLANED
10/17/2016		11/30/2016	
10/17/2016			

FED.ROD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	CA0605	164	434

JOB NO.

(2) SUMMARY OF QUANTITIES AND REVISIONS

SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BAKER

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	165	434

2 SURVEY CONTROL DETAILS

SURVEY CONTROL COORDINATES
Project Name: CA0605
Date: 8/19/2014
Coordinate System: Arkansas State Plane Coordinates
Based on AHTD GPS PTS : *600026-600026A, 430016-430016A, & 430017-430017A*
Projected to Ground Coordinates
Units: U.S. Survey Foot

Point No.	Northing	SY	Easting	SX	Elevation	SZ	Feature Code	Point Description
1	202741.4490	0.0040	1281339.3074	0.0030	293.84	0.004	CTL	PD:AHTD STD. MON. STAMPED PN:1
2	203262.1793	0.0030	1282059.1334	0.0020	284.79	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:2
3	203702.9238	0.0030	1282699.3243	0.0020	277.27	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:3
4	204140.8012	0.0020	1283335.7183	0.0010	269.24	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:4
5	204584.8545	0.0040	1283981.3778	0.0030	263.53	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:5
6	205089.8522	0.0020	1284612.0876	0.0020	260.46	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:6
7	205685.9974	0.0020	1285106.2351	0.0020	261.25	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:7
8	206357.7099	0.0030	1285518.7823	0.0030	266.72	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:8
9	207013.2391	0.0030	1285916.8918	0.0030	262.10	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:9
10	207674.5594	0.0040	1286320.2712	0.0040	256.94	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:10
11	208348.2227	0.0030	1286720.5344	0.0030	256.70	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:11
12	209030.3401	0.0040	1287028.5395	0.0040	258.11	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:12
13	209658.7835	0.0040	1287236.7902	0.0030	257.13	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:13
14	210409.8340	0.0040	1287378.1252	0.0040	256.61	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:14
15	211179.8333	0.0040	1287466.3202	0.0030	258.98	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:15
16	211930.7009	0.0040	1287552.0605	0.0030	265.17	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:16
17	212703.5243	0.0040	1287640.2299	0.0030	285.25	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:17
18	213471.6820	0.0040	1287727.7867	0.0030	303.13	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:18
19	214216.4218	0.0060	1287812.7307	0.0050	302.31	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:19
20	214995.8996	0.0060	1287901.7287	0.0050	282.74	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:20
21	215792.1528	0.0060	1287992.4410	0.0050	281.86	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:21
22	216556.8397	0.0040	1288079.8361	0.0040	283.15	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:22
23	217327.3196	0.0030	1288176.2957	0.0030	274.91	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:23
24	218089.5190	0.0030	1288359.3229	0.0030	270.83	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:24
25	218798.5964	0.0030	1288635.0422	0.0030	271.36	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:25
26	219496.7248	0.0030	1288982.0008	0.0030	273.96	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:26
27	220179.5431	0.0030	1289324.9743	0.0030	271.46	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:27
28	220794.9602	0.0030	1289776.4862	0.0030	271.38	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:28
29	221330.4950	0.0040	1290337.0938	0.0030	270.45	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:29
30	221867.2311	0.0040	1290906.7155	0.0030	285.51	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:30
31	222406.9490	0.0050	1291476.0697	0.0040	299.04	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:31
32	222932.7125	0.0060	1292030.8153	0.0050	291.27	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:32
33	223460.6354	0.0081	1292588.1857	0.0083	281.58	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:33
34	224034.3424	0.0069	1293187.2559	0.0074	277.88	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:34
35	224610.4742	0.0080	1293804.3818	0.0065	274.86	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:35
36	225135.3663	0.0083	1294356.1876	0.0066	273.18	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:36
37	225714.2094	0.0090	1294909.8608	0.0070	273.31	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:37
38	226303.6781	0.0080	1295400.6988	0.0064	278.87	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:38
39	226885.7055	0.0079	1295844.3425	0.0063	297.96	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:39
40	227431.6134	0.0083	1296259.6028	0.0065	300.10	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:40
41	228030.4828	0.0080	1296715.3071	0.0068	283.00	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:41
42	228666.4661	0.0089	1297199.3243	0.0073	271.70	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:42
43	229231.7181	0.0082	1297629.1911	0.0066	271.55	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:43
44	230544.8006	0.0083	1298627.2223	0.0066	271.72	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:44
45	231244.3175	0.0074	1299158.6481	0.0057	275.04	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:45
46	232449.2182	0.0075	1300074.9617	0.0058	280.87	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:46
47	233075.7768	0.0081	1300551.4755	0.0063	282.32	0.007	CTL	PD:AHTD STD. MON. STAMPED PN:47
48	233701.1037	0.0080	1301026.8799	0.0064	283.97	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:48
49	234305.9388	0.0088	1301486.6676	0.0071	285.39	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:49
50	234901.5846	0.0050	1301939.6613	0.0040	287.07	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:50
51	235500.7630	0.0050	1302410.2344	0.0040	304.87	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:51
52	235958.6106	0.0050	1302972.7646	0.0030	326.68	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:52
53	236236.2210	0.0040	1303622.9176	0.0040	336.47	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:53
54	236427.4577	0.0040	1304330.2182	0.0040	327.25	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:54
55	236618.7119	0.0040	1305041.7217	0.0040	315.99	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:55
56	236853.5456	0.0040	1305667.5160	0.0040	319.17	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:56
57	237181.5860	0.0040	1306314.6994	0.0040	306.79	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:57
58	237633.4264	0.0040	1306900.3634	0.0030	302.60	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:58
59	238101.8154	0.0030	1307436.7397	0.0030	308.35	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:59
60	238562.8126	0.0030	1307963.8324	0.0030	299.84	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:60
61	239092.8868	0.0030	1308569.8645	0.0030	288.53	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:61
62	239611.2947	0.0040	1309162.4780	0.0030	287.46	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:62
63	240108.9064	0.0040	1309730.5424	0.0030	285.82	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:63
64	240629.4337	0.0040	1310326.4619	0.0001	280.97	0.000	CTL	PD:AHTD STD. MON. STAMPED PN:64
65	241147.1826	0.0040	1310919.3355	0.0030	268.62	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:65
66	241592.2499	0.0040	1311459.3939	0.0030	254.91	0.000	CTL	PD:AHTD STD. MON. STAMPED PN:66
67	242349.6505	0.0040	1312294.1296	0.0030	254.37	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:67
68	242818.3164	0.0050	1312834.2493	0.0040	257.72	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:68
69	243305.9329	0.0040	1313462.9990	0.0030	264.26	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:69
70	244213.2665	0.0040	1314751.9469	0.0030	258.62	0.004	CTL	PD:AHTD STD. MON. STAMPED PN:70
71	244628.0178	0.0050	1315341.4027	0.0040	247.15	0.004	CTL	PD:AHTD STD. MON. STAMPED PN:71
72	245056.0965	0.0050	1315949.8919	0.0040	245.13	0.004	CTL	PD:AHTD STD. MON. STAMPED PN:72
73	234942.0600	0.0096	1301938.1100	0.0104	286.01	0.003	CTL	PD:AHTD STD. MON. STAMPED PN:73
74	235469.3073	0.0084	1302366.5741	0.0093	301.61	0.005	CTL	PD:AHTD STD. MON. STAMPED PN:74
75	235929.7775	0.0090	1302898.5796	0.0104	322.49	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:75
76	236225.1828	0.0085	1303566.4640	0.0101	335.54	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:76
77	236423.3328	0.0090	1304287.7168	0.0109	327.30	0.006	CTL	PD:AHTD STD. MON. STAMPED PN:77
78	236601.0834	0.0090	1304941.2868	0.0108	315.60	0.004	CTL	PD:AHTD STD. MON. STAMPED PN:78
100	200731.1045	0.0001	1280183.1433	0.0001	272.48	0.004	GPS	PD:AHTD GPS #600026A
101	202244.0308	0.0001	1280894.2338	0.0001	299.94	0.004	GPS	PD:AHTD GPS #600069
102	211834.9996	0.0001	1287625.6936	0.0001	261.48	0.006	GPS	PD:AHTD GPS #600070A
103	213198.2556	0.0001	1287777.9360	0.0001	295.80	0.006	GPS	PD:AHTD GPS #600070
104	222976.3786	0.0001	1291848.5965	0.0001	302.68	0.007	GPS	PD:AHTD GPS #430001A
105	223916.7988	0.0001	1293240.6094	0.0001	297.29	0.000	GPS	PD:AHTD GPS #430001
106	229897.5879	0.0001	1298110.3399	0.0001	271.50	0.000	GPS	PD:AHTD GPS #430014
107	231758.1622	0.0001	1299694.0216	0.0001	278.38	0.007	GPS	PD:AHTD GPS #430014A
108	236139.9677	0.0001	1313487.4107	0.0001	0.00	0.000	GPS	PD:AHTD GPS #430017
109	236052.3618	0.0001	1315674.0151	0.0001	0.00	0.000	GPS	PD:AHTD GPS #430017A
110	241881.7614	0.0001	1311789.6137	0.0001	249.20	0.005	GPS	PD:AHTD GPS #430016A
111	243751.5287	0.0001	1314130.8001	0.0001	269.12	0.004	GPS	PD:AHTD GPS #430016
900	199296.2451	30.0000	1285521.8711	30.0000	256.99	0.001	TBM	PD:CHSLD SQ SE CON HW
901	199601.9369	30.0000	1283022.6574	30.0000	270.79	0.003	TBM	PD:CHSLD SQ W EDGE SIDEWALK
902	200311.9040	30.0000	1280857.1889	30.0000	269.45	0.003	TBM	PD:CHLSD SQ NW COR CA
903	204151.1777	30.0000	1283526.9968	30.0000	267.01	0.005	TBM	PD:CHSD SQ IN CONC MH PAD
904	205363.0911	30.0000	1284944.2818	30.0000	257.12	0.005	TBM	PD:CHSD SQ SW CRNR CONC HW
905	209102.1206	30.0000	1287029.9903	30.0000	259.59	0.005	TBM	PD:CHSD SQ NW CRNR BR
906	211629.2537	30.0000	1287615.1347	30.0000	260.45	0.006	TBM	PD:CHSD SQ SW CRNR 4'X4' CONC MH PAD
907	214055.5665	30.0000	1287866.9939	30.0000	303.50	0.006	TBM	PD:CHSD SQ NW CRNR CONC MH PAD
908	215369.7952	30.0000	1288034.6280	30.0000	274.88	0.006	TBM	PD:CHSD SQ NW CRNR HW
909	217088.4430	30.0000	1288202.5782	30.0000	271.47	0.006	TBM	PD:CHSD SQ SW CRNR HW
910	218432.9171	30.0000	1288478.4467	30.0000	268.15	0.006	TBM	PD:CHSD SQ NE CRNR HW
911	221434.1432	30.0000	1290537.2658	30.0000	271.28	0.007	TBM	PD:CHSD SQ CNTR OF HW 911-901 JOB#061229
912	222747.5539	30.0000	1291870.2538	30.0000	295.20	0.007	TBM	PD:CHSD SQ IN CONC SN BASE 912=902 JOB#061229
913	224061.1326	30.0000	1293036.6276	30.0000	301.10	0.007	TBM	PD:CHSD SQR IN NW BR CNR
914	225980.7900	30.0000	1295202.1731	30.0000	270.68	0.007	TBM	PD:CHSD SQ IN NW CNR OF HW
915	228204.1352	30.0000	1296951.4133	30.0000	271.17	0.007	TBM	PD:CHSD SQ IN CNTR OF HW
916	224566.1770	30.0000	1293786.1711	30.0000	272.67	0.007	TBM	PD:CHSD SQ IN CNTR OF HW
917	229922.3340	30.0000	1298117.5411	30.0000	272.90	0.007	TBM	PD:CHSD SQ IN NW CNR OF BR ON ROCKWOOD DR.
918	232044.7460	30.0000	1299866.2853	30.0000	277.73	0.007	TBM	PD:CHSD SQ CNTR OF HW
919	233156.5931	30.0000	1300615.7508	30.0000	279.27	0.006	TBM	PD:CHSD SQ IN CNTR OF HW
920	233965.1754	30.0000	1301281.8273	30.0000	280.82	0.006	TBM	PD:CHSD SQ IN CNTR OF HW
921	234874.8479	30.0000	1302031.1198	30.0000	283.87	0.006	TBM	PD:CHSD SQ IN CNTR OF HW
922	235279.1530	30.0000	1302364.1230	30.0000	322.19	0.007	TBM	PD:CHSD SQ IN SE CNR OF BR ON HWY 89 OVERPASS
923	236491.6944	30.0000	1304777.6887	30.0000	312.89	0.006	TBM	PD:CHSD SQ IN CNTR OF HW
924	237401.1930	30.0000	1306774.9530	30.0000	297.46	0.006	TBM	PD:CHSD SQ IN CNTR OF HW
925	238513.1381	30.0000	1308023.2619	30.0000	295.71	0.006	TBM	PD:CHSD SQ IN DROP INLET
926	239422.9337	30.0000	1309188.2497	30.0000	283.68	0.005	TBM	PD:CHSD SQ IN CNTR OF HW
927	240332.7882	30.0000	1310186.7644	30.0000	278.81	0.005	TBM	PD:CHSD SQ IN CNTR OF HW
928	241545.9816	30.0000	1311434.8222	30.0000	255.71	0.005	TBM	PD:CHSD SQ IN NW BR CNR
929	242759.2320	30.0000	1312932.3622	30.0000	253.61	0.005	TBM	PD:CHSD SQ IN CNTR OF HW
930	244073.6887	30.0000	1314762.5345	30.0000	257.19	0.004	TBM	PD:CHSD SQ IN CENTER OF HW
931	244882.6460	30.0000	1315927.1073	30.0000	264.64	0.003	TBM	PD:CHSD SQ IN SW COR OF OVERPASS BR HWY 305
932	242456.2542	30.0000	1316842.5509	30.0000	243.41	0.003	TBM	PD:CHSD SQ IN SE COR OF BR ON HWY 305
933	242456.2524	30.0000	1316842.5519	30.0000	288.08	0.002	TBM	PD:CHSD SQ CTR OF CA

*Standard Primary Control Monument - Rebar and Cap - Standard - 5/8"x 24" Rebar with 2"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. AHTD monuments will be stamped "Arkansas Hwy & Trans Dept" with "PN: ###" & "Job ######". Monuments that are set by Consultants will be stamped "Arkansas Hwy & Trans Dept" with "PN:###", "Job#######", & "PS####". The consultant Professional Surveyor in charge will stamp his/her PS license number on the cap.

**Standard GPS Control Point Monument - 5/8" x 48" Rebar with 2.5"Aluminum Cap stamped: "(include all common information here)" plus other markings indicated in the point description of the individual point. These monuments will be stamped "Ark. State Hwy Trans. Dept.", "GPS Survey", & "Point No. ######".

SX, SY, SZ – Represents the standard error estimate of the coordinate values of each point at the 67% confidence level (one sigma) based on the least squares analysis of the control network. See the AASHTO SDMS Technical Data Guide data tag definition for SX:, SY:, and SZ: for additional information. These values shall be used when control points are added and the entire network is reprocessed using least square analysis. A value of 0.001 is defined as fixed (no adjustment) in the least square analysis process. A value of 30 is defined as location by handheld GPS device or scaled from USGS Quadmap.

Reference Control points (1500 series) shall be used to re-establish horizontal datum if the primary control has been destroyed. These reference control points shall not be used for vertical control unless the elevation has been established from the project datum with 3-wire level techiniques.

All additional project control shall be occupied, measured, and adjusted with direct survey ties to at least two of the control points listed in the table above. New survey control shall not be independent of the survey control listed above. This includes horizontal coordinates and elevations.

Positional Accuracy: Horizontal - GPS (1.0 cm± 1PPM)
Horizontal - Primary (2.0cm± 20PPM):
Horizontal - Secondary (3 cm ± 50PPM):
Vertical - NGS 1st Order (±4mm x Vdist in km)
Vertical - NGS 2nd Order (±6mm x Vdist in km)
Vertical - NGS 3rd Order (±8mm x Vdist in km)

Horizontal Datum: NAD 1983 (1997) State Plane Zone: 0301 - North Zone
A project CAF of: 0.999987300 has been used to compute the above coordinates.
This CAF is intended for use within the project limits only.
Grid Distance = Ground Distance X CAF
If Coordinates are listed as Ground:
To compute Grid Coordinates, multiply the Ground Coordinates by CAF about the origin of X=0 & Y=0
If Coordinates are listed as Grid:
To compute Ground Coordinates, divide the Grid Coordinates by CAF about the origin of X=0 & Y=0

Vertical Datum: NAVD 1988 based NGS BM:
A project Elevation Factor of: 0.9999867939 has been computed and incorporated in the above CAF.
This is based on the average elevation of the project: 276.09 Feet
3-Wire Leveling techniques have been used to establish elevations on
Points: 1-90, 91-111 From NGS BM: RV 152 & RV 135

Basis of Bearing: Grid Bearings based on AHTD GPS points:
Convergence Angle is: 00 02 01.9 LEFT at PN: 37
LT: 34-57-12.4 N LG: 092-03-29.5 W
Grid Azimuth = Astronomical Azimuth - Convergence Angle

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	166	434

(2) SURVEY CONTROL DETAILS

CONSTRUCTION C.L.

HORIZONTAL ALIGNMENT — HWY. 67

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8003	586+31.99	194091.0759	1273910.5043
PT	8005	598+41.51	195111.9570	1274532.6697
PI	8006	600+00.00	195221.1031	1274647.6002
PI	8007	604+50.00	195528.8568	1274975.9034
PC	8008	634+44.76	197582.7196	1277155.4106
PT	8010	644+32.79	198318.8200	1277812.6331
PC	8011	674+53.71	200737.1404	1279623.0665
PRC	8013	682+30.43	201274.2215	1280067.1354
PT	8015	705+05.30	202991.3690	1281645.8195
PI	8016	716+08.78	203613.4475	1282557.2331
PC	8017	734+80.49	204675.4195	1284098.5027
PT	8019	750+89.95	205836.9255	1285195.3973
PC	8020	777+52.33	208112.0522	1286578.1673
PT	8022	802+29.39	210437.2814	1287374.4979
PC	8023	868+58.54	217023.5626	1288127.2065
PT	8025	888+60.07	218932.6540	1288693.6970
PC	8026	901+54.69	220090.9109	1289272.0662
PT	8028	911+54.76	220890.3792	1289864.4128
POE	8029	971+25.97	224997.9303	1294198.3778

HORIZONTAL ALIGNMENT — T.P. WHITE DR.

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8039	105+26.21	201972.6551	1280742.1413
PT	8041	108+25.02	202216.7357	1280911.6238
PC	8042	109+30.92	202291.3139	1280986.8119
PT	8044	118+57.59	202887.9635	1281694.5200
PC	8045	120+91.97	203024.0676	1281885.3309
PT	8047	123+94.80	203128.1984	1282165.9547
PC	8048	124+94.52	203137.2646	1282265.2551
PT	8053	127+79.02	203230.9897	1282530.7857
PC	8054	128+72.90	203283.0331	1282608.9198
PT	8056	131+98.45	203523.5277	1282823.0672
PC	8251	132+99.05	203613.1357	1282868.7905
PT	8059	135+62.77	203809.5187	1283040.7613
POE	8060	147+27.16	204470.9895	1283999.0213

HORIZONTAL ALIGNMENT — S. 2ND ST.

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8254	50+00.00	220837.5959	1289962.7268
PC	8255	54+78.55	221176.9899	1290300.1050
PRC	8257	61+54.29	221562.8920	1290850.5234
POE	8259	64+08.94	221685.1589	1291073.6808

HORIZONTAL ALIGNMENT — RAMP 1

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8239	708+05.75	203118.2070	1281923.0046
PT	8241	709+80.83	203210.1480	1282071.9340
PC	8242	711+24.30	203279.8405	1282197.3389
PT	8244	714+12.56	203248.7644	1282465.5382
POE	8221	714+64.18	203214.0366	1282503.7286

HORIZONTAL ALIGNMENT — RAMP 2

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8000	713+27.65	203270.7335	1282590.4541
PC	8034	714+00.27	203340.9805	1282572.0564
PT	8036	716+70.82	203582.7614	1282654.3862
PC	8037	719+81.75	203772.9686	1282900.3525
POE	8261	721+39.11	203865.7657	1283027.4162

HORIZONTAL ALIGNMENT — N. 1ST ST.

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8111	445+32.19	202602.9775	1280995.7580
PT	8113	448+04.42	202823.8439	1281152.4466
POE	8114	451+46.80	203133.7769	1281297.9195

HORIZONTAL ALIGNMENT — RAMP 4

DESCRIPTION	POINT	STATION	NORTHING	EASTING
POB	8403	713+96.05	203555.9509	1282339.9554
PRC	8405	716+22.93	203672.4335	1282534.4908
POE	8407	718+58.22	203793.6779	1282735.9696

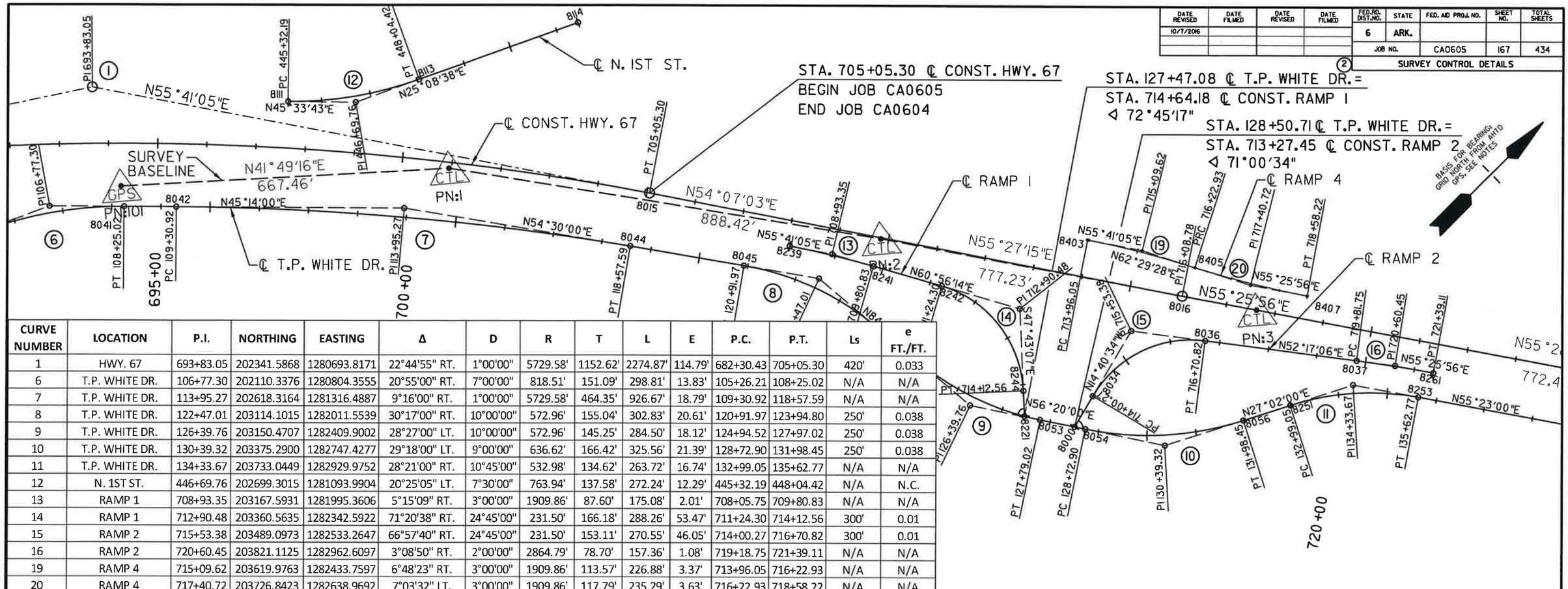
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16

SURVEY CONTROL DETAILS

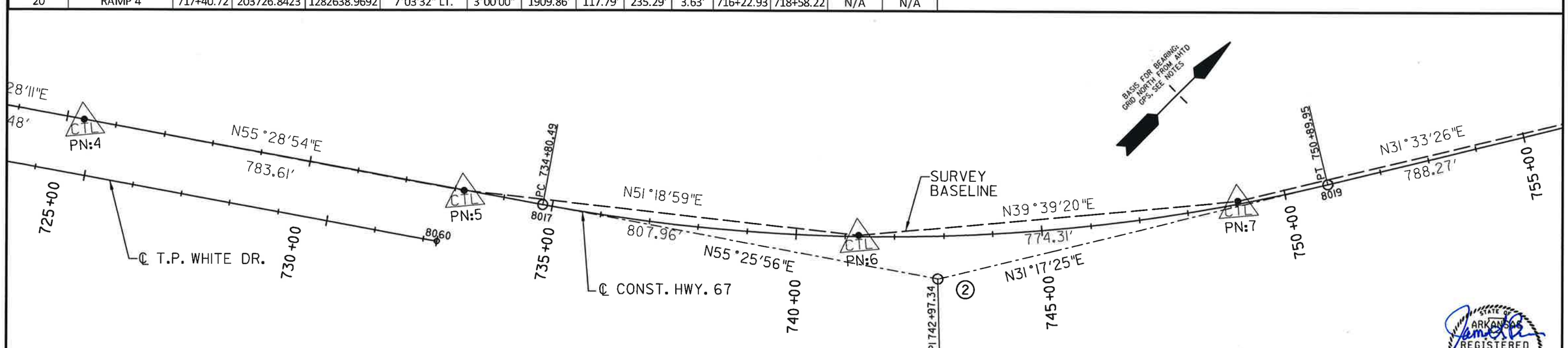
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	167	434

(2) SURVEY CONTROL DETAILS



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
1	HWY. 67	693+83.05	202341.5868	1280693.8171	22°44'55" RT.	1°00'00"	5729.58'	1152.62'	2274.87'	114.79'	682+30.43	705+05.30	420'	0.033
6	T.P. WHITE DR.	106+77.30	202110.3376	1280804.3555	20°55'00" RT.	7°00'00"	818.51'	151.09'	298.81'	13.83'	105+26.21	108+25.02	N/A	N/A
7	T.P. WHITE DR.	113+95.27	202618.3164	1281316.4887	9°16'00" RT.	1°00'00"	5729.58'	464.35'	926.67'	18.79'	109+30.92	118+57.59	N/A	N/A
8	T.P. WHITE DR.	122+47.01	203114.1015	1282011.5539	30°17'00" RT.	10°00'00"	572.96'	155.04'	302.83'	20.61'	120+91.97	123+94.80	250'	0.038
9	T.P. WHITE DR.	126+39.76	203150.4707	1282409.9002	28°27'00" LT.	10°00'00"	572.96'	145.25'	284.50'	18.12'	124+94.52	127+97.02	250'	0.038
10	T.P. WHITE DR.	130+39.32	203375.2900	1282747.4277	29°18'00" LT.	9°00'00"	636.62'	166.42'	325.56'	21.39'	128+72.90	131+98.45	250'	0.038
11	T.P. WHITE DR.	134+33.67	203733.0449	1282929.9752	28°21'00" RT.	10°45'00"	532.98'	134.62'	263.72'	16.74'	132+99.05	135+62.77	N/A	N/A
12	N. 1ST ST.	446+69.76	202699.3015	1281093.9904	20°25'05" LT.	7°30'00"	763.94'	137.58'	272.24'	12.29'	445+32.19	448+04.42	N/A	N.C.
13	RAMP 1	708+93.35	203167.5931	1281995.3606	5°15'09" RT.	3°00'00"	1909.86'	87.60'	175.08'	2.01'	708+05.75	709+80.83	N/A	N/A
14	RAMP 1	712+90.48	203360.5635	1282342.5922	71°20'38" RT.	24°45'00"	231.50'	166.18'	288.26'	53.47'	711+24.30	714+12.56	300'	0.01
15	RAMP 2	715+53.38	203489.0973	1282533.2647	66°57'40" RT.	24°45'00"	231.50'	153.11'	270.55'	46.05'	714+00.27	716+70.82	300'	0.01
16	RAMP 2	720+60.45	203821.1125	1282962.6097	3°08'50" RT.	2°00'00"	2864.79'	78.70'	157.36'	1.08'	719+18.75	721+39.11	N/A	N/A
19	RAMP 4	715+09.62	203619.9763	1282433.7597	6°48'23" RT.	3°00'00"	1909.86'	113.57'	226.88'	3.37'	713+96.05	716+22.93	N/A	N/A
20	RAMP 4	717+40.72	203726.8423	1282638.9692	7°03'32" LT.	3°00'00"	1909.86'	117.79'	235.29'	3.63'	716+22.93	718+58.22	N/A	N/A



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
2	HWY. 67	742+97.34	205138.8862	1284771.1450	24°08'31" LT.	1°30'00"	3819.72'	816.85'	1609.46'	86.37'	734+80.49	750+89.95	420'	0.048

SCALE IN FEET
0 100 200 400
1" = 200'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

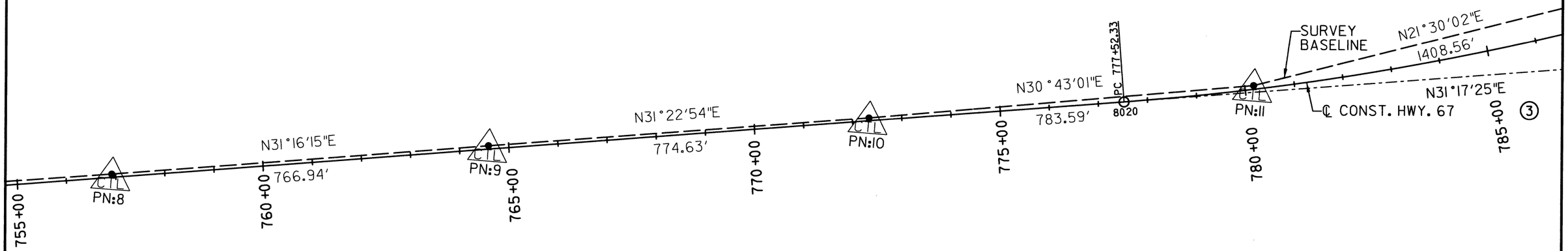
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	168	434

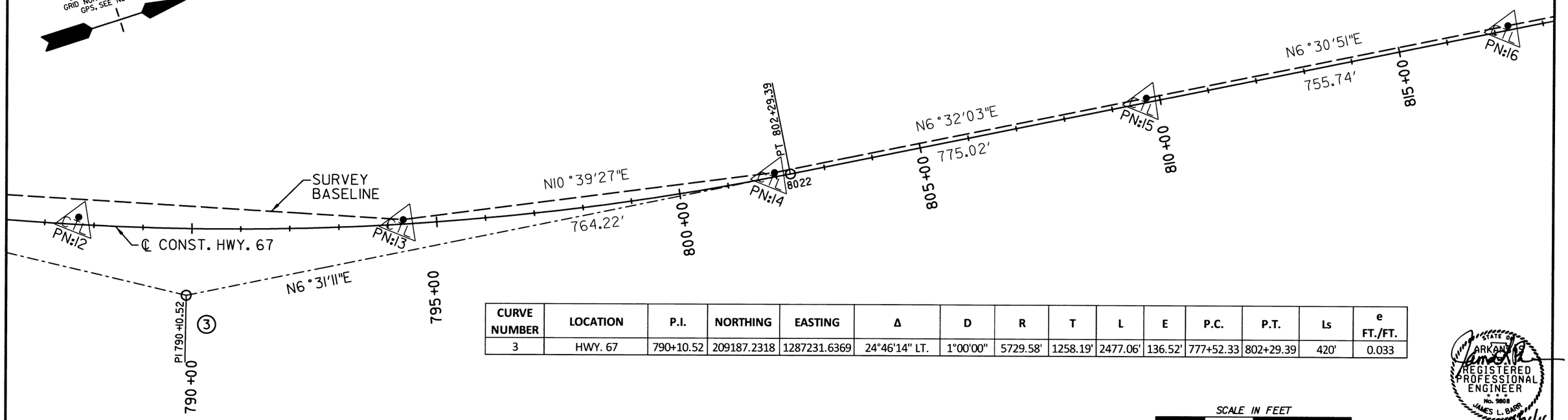
(2) SURVEY CONTROL DETAILS

BASIS FOR BEARINGS: GRID NORTH FROM AHTD GPS, SEE NOTES

CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
3	HWY. 67	790+10.52	209187.2318	1287231.6369	24°46'14" LT.	1°00'00"	5729.58'	1258.19'	2477.06'	136.52'	777+52.33	802+29.39	420'	0.033



BASIS FOR BEARING: GRID NORTH FROM AHTD GPS, SEE NOTES



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
3	HWY. 67	790+10.52	209187.2318	1287231.6369	24°46'14" LT.	1°00'00"	5729.58'	1258.19'	2477.06'	136.52'	777+52.33	802+29.39	420'	0.033

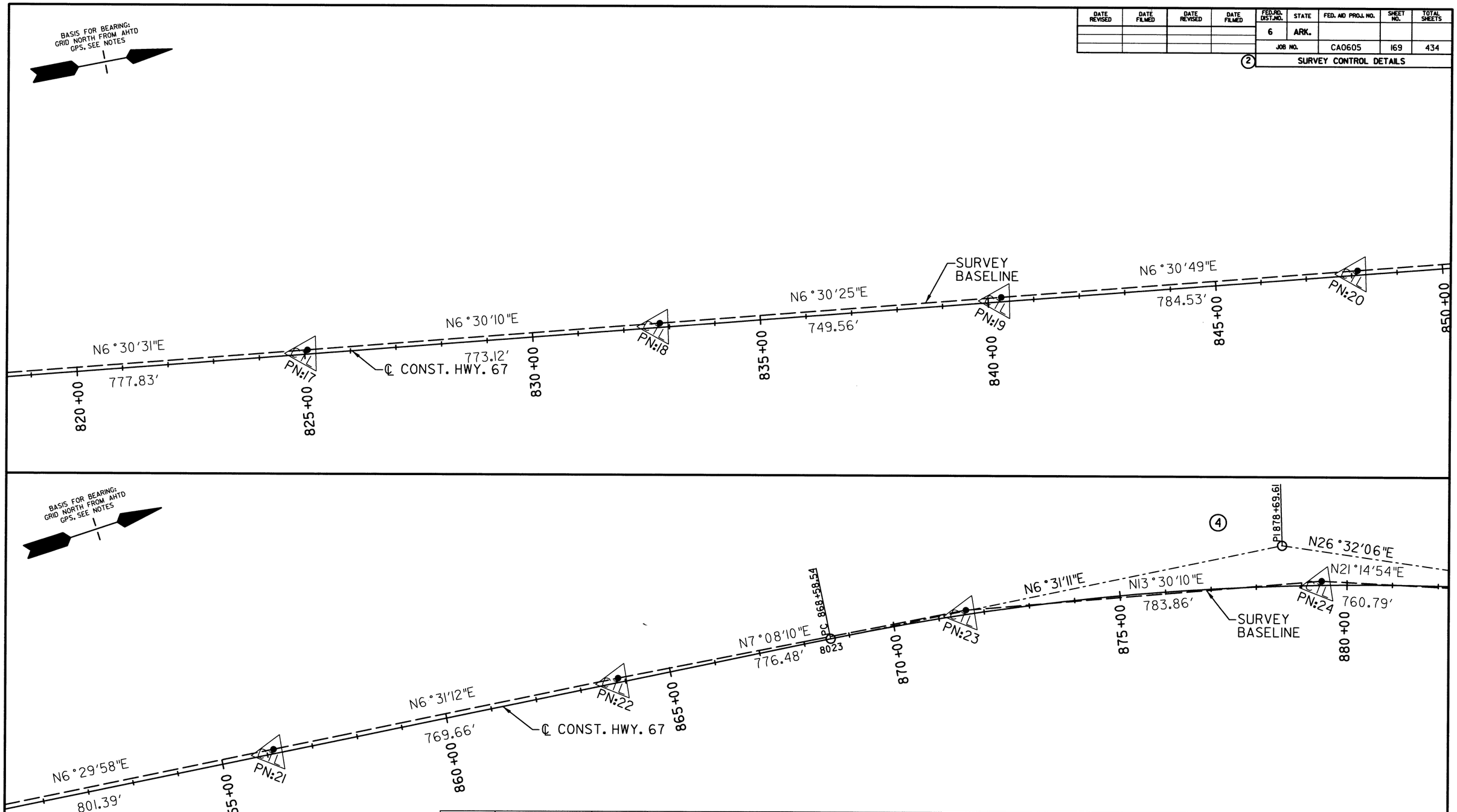
SCALE IN FEET
0 100 200 400
1" = 200'

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	169	434

2 SURVEY CONTROL DETAILS



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
4	HWY. 67	878+69.61	218028.0910	1288242.0084	20°00'55" RT.	1°00'00"	5729.58'	1011.07'	2001.53'	88.52'	868+58.54	888+60.07	420'	0.033

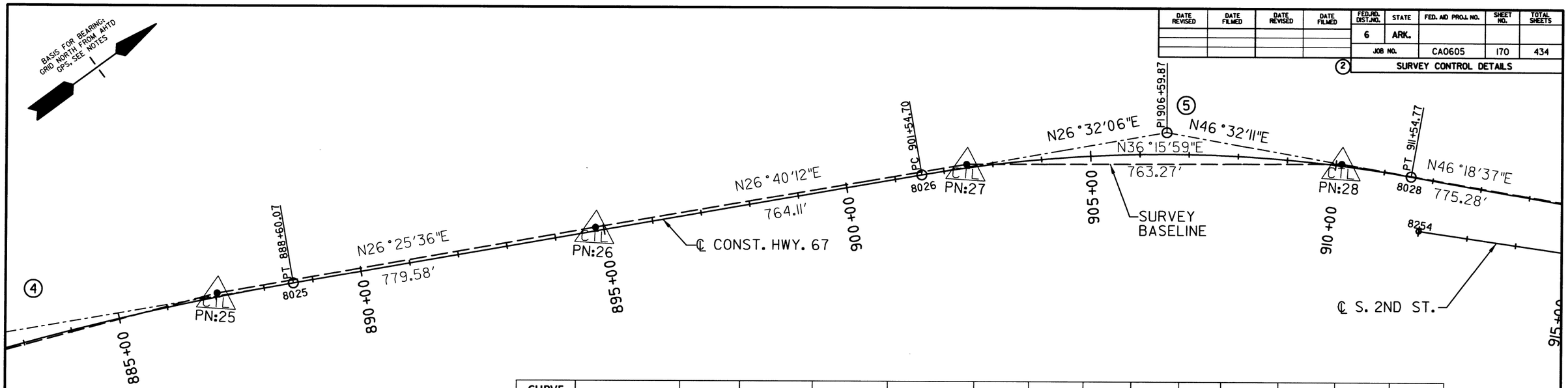
SCALE IN FEET
0 100 200 400
1" = 200'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

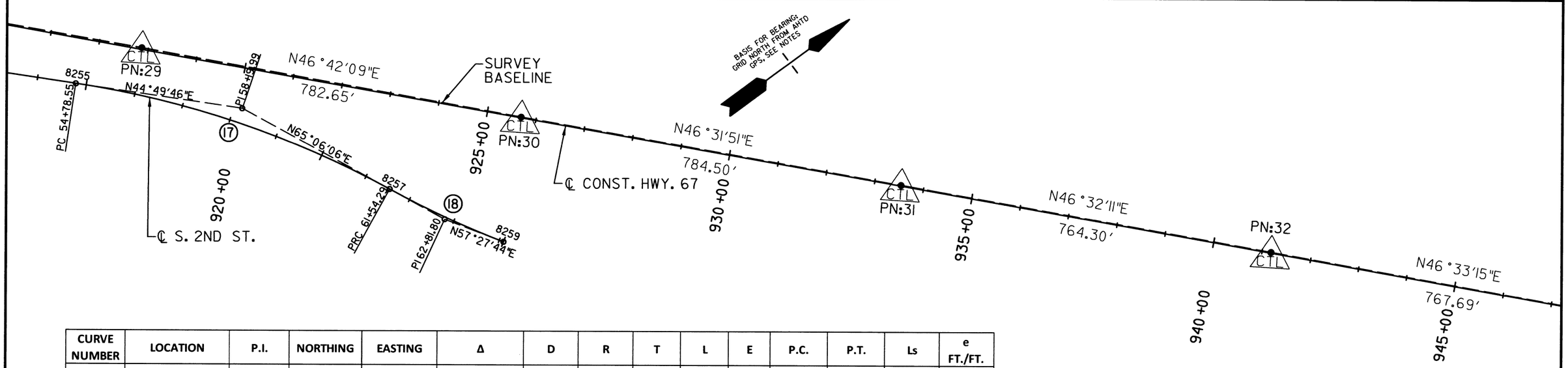
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	170	434

2 SURVEY CONTROL DETAILS



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
4	HWY. 67	878+69.61	218028.0910	1288242.0084	20°00'55" RT.	1°00'00"	5729.58'	1011.07'	2001.53'	88.52'	868+58.54	888+60.07	420'	0.033
5	HWY. 67	906+59.87	220542.8721	1289497.7506	20°00'05" RT.	2°00'00"	2864.79'	505.18'	1000.07'	44.20'	901+54.69	911+54.76	420'	0.062



CURVE NUMBER	LOCATION	P.I.	NORTHING	EASTING	Δ	D	R	T	L	E	P.C.	P.T.	Ls	e FT./FT.
17	S. 2ND ST.	58+19.99	221419.1421	1290540.819	20°16'20" RT.	3°00'00"	1909.86'	341.44'	675.74'	30.28'	54+78.55	61+54.29	200'	0.04
18	S. 2ND ST.	62+81.80	221616.5759	1290966.1837	7°38'22" LT.	3°00'00"	1909.86'	127.51'	254.65'	4.25'	61+54.29	64+08.94	N/A	N/A

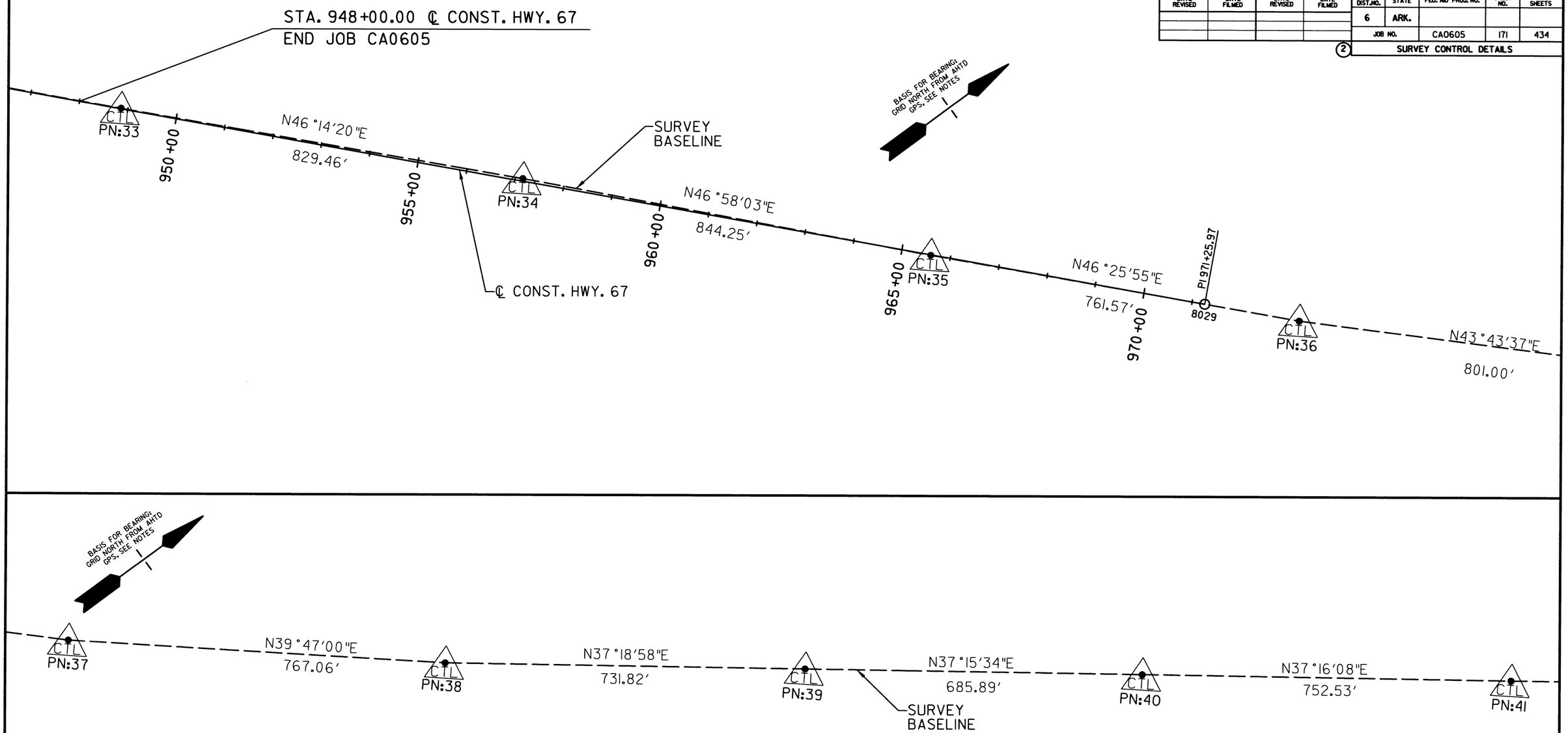
SCALE IN FEET
0 100 200 400
1" = 200'

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	171	434

2 SURVEY CONTROL DETAILS



SCALE IN FEET

0 100 200 400

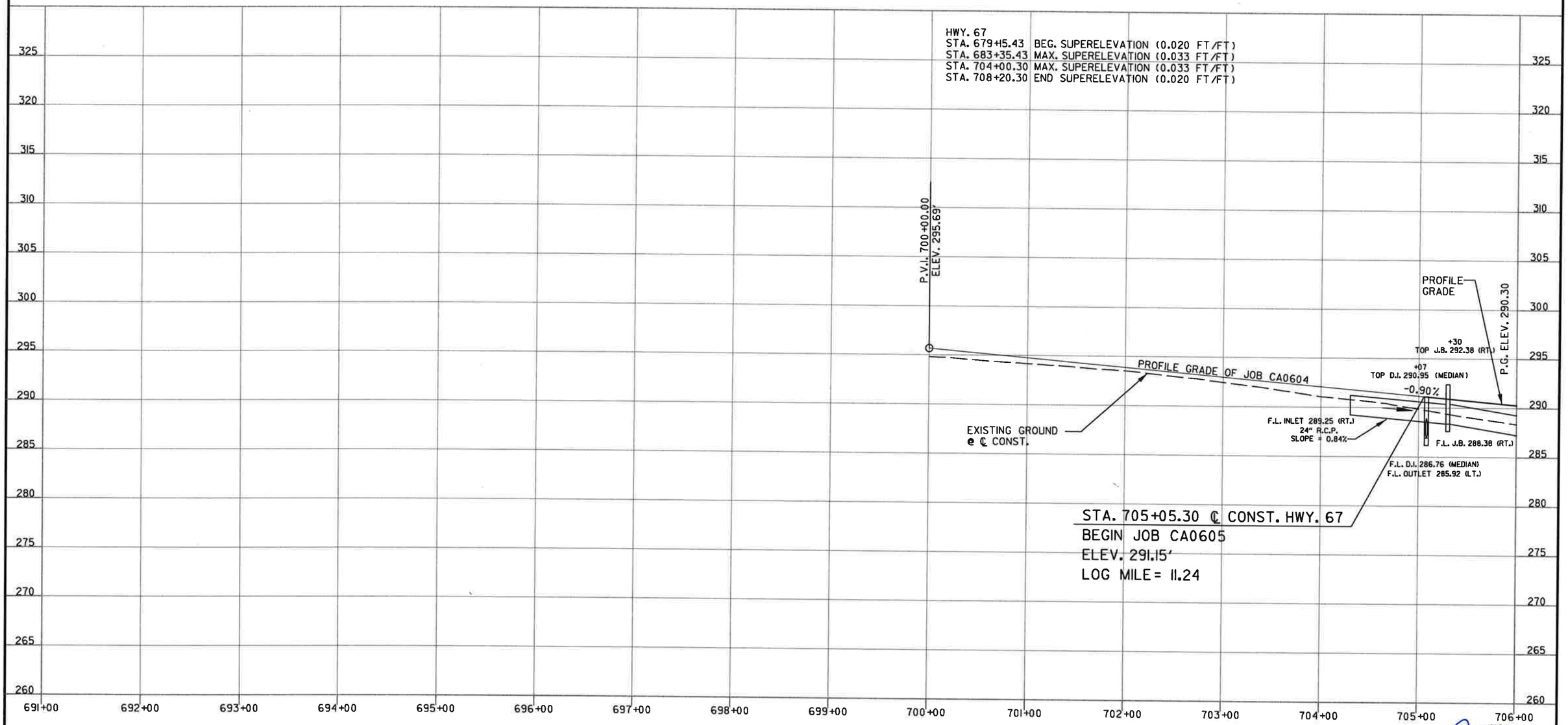
1" = 200'

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	172	434

(2) PROFILE STA. 700+00 TO 706+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

PROFILE MAIN LANES
STA. 700+00 TO 706+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			
11/30/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	173	434

(2) PLAN STA. 705+05 TO 718+00

STA. 705+07 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 4'-2¼"
WITH BACK OPENING TO ALLOW FLOW FROM
EXISTING DITCH AT BEGINNING OF JOB
WITH 24" x 78' R.C. PIPE OUTLET ON LT.
(CLASS IV)(TYPE 3 BEDDING)

STA. 709+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL ON LT.
3'-0" x 3'-0" x H= 4'-6"
WITH 24" x 22' R.C. PIPE OUTLET ON LT.
(CLASS V)(TYPE 3 BEDDING)

STA. 712+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL ON LT.
3'-0" x 3'-0" x H= 4'-6"
WITH 24" x 22' R.C. PIPE CULVERT ON LT.
TEMPORARILY CAP D.I. AND PLUG PIPE CULVERT UNTIL
CONSTRUCTION CAN BE COMPLETED IN JOB CA0604
(CLASS V)(TYPE 3 BEDDING)

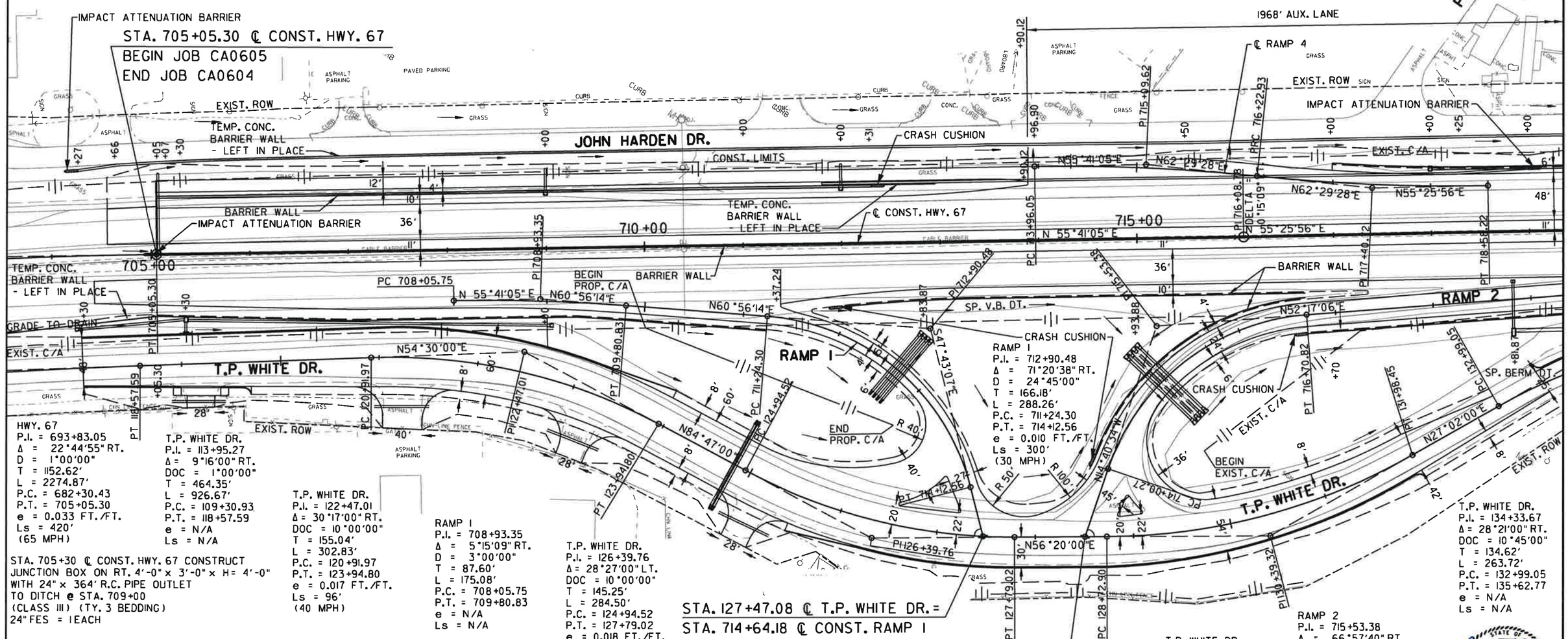
STA. 718+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL ON LT.
3'-0" x 3'-0" x H= 5'-0"
WITH 30" x 196' R.C. PIPE CULVERT
TO D.I. @ STA. 720+00 ON LT.
(CLASS III)(TYPE 3 BEDDING)

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
705+05.30	708+20.30	315'	℄	MEDIAN TYPE B
705+05.30	712+30.77	725'	LT	MEDIAN TYPE A
705+05.30	711+22.10	617'	RT	SIDE TYPE A
708+20.30	731+65.49	2345'	℄	MEDIAN TYPE A
711+70.84	716+70.42	500'	RT	SIDE TYPE A
716+72.43	787+79.75	7107'	RT	SIDE TYPE A
717+00.00	787+79.75	7080'	LT	SIDE TYPE A

RAMP 4
P.I. = 715+09.62
Δ = 6°48'23" RT.
D = 3°00'00"
T = 113.57'
L = 226.88'
P.C. = 713+96.05
P.R.C. = 716+22.93
e = N/A
Ls = N/A

RAMP 4
P.I. = 717+40.72
Δ = 7°03'32" LT.
D = 3°00'00"
T = 117.79'
L = 235.29'
P.R.C. = 716+22.93
P.T. = 718+58.22
e = N/A
Ls = N/A



STA. 127+47.08 ℄ T.P. WHITE DR. =
STA. 714+64.18 ℄ CONST. RAMP 1
◁ 72°45'17"

STA. 128+50.71 ℄ T.P. WHITE DR. =
STA. 713+27.45 ℄ CONST. RAMP 2
◁ 71°00'34"

STA. 705+30 ℄ CONST. HWY. 67 CONSTRUCT
JUNCTION BOX ON RT. 4'-0" x 3'-0" x H= 4'-0"
WITH 24" x 364' R.C. PIPE OUTLET
TO DITCH @ STA. 709+00
(CLASS III) (TY. 3 BEDDING)
24" FES = 1 EACH

℄ CONST. HWY. 67
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
705+05.30	709+00	394.70'	RT	12.84'	563

STA. 710+86 ℄ CONST. HWY. 67 - IN PLACE
18" x 70' R.C. PIPE CULVERT CROSS DRAIN 223' ON RT.
WITH FES LT. AND RT.
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

PLAN MAIN LANES
STA. 705+05 TO 718+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	174	434
				2	PLAN STA. 705+50 TO 718+00			

STA. 118+00 ℄ CONST. T.P. WHITE DR. CONSTRUCT
24" x 104' R.C. PIPE INLET 39' ON LT. WITH FES LT.
TO J.B. @ HWY. 67 STA. 709+00
(CLASS V) (TYPE 3 BEDDING)
24" FES = 1 EACH
Q50 = 14.31 CFS, D.A. = 2.98 ACRES

STA. 119+05.46 ℄ CONST. T.P. WHITE DR. CONSTRUCT
DROP INLET ON LT. H= 3'-6"
WITH 8' EXTENSION AND 24" x 10'
PIPE CULVERT TO D.I. @ HWY. 67 STA. 705+30 ON RT.
TYPE MO DROP INLET = 4'-0" DIA.
TYPE C DROP INLET = 4'-0" x 2'-6"
24" R.C. PIPE (CLASS III) (TYPE 3 BEDDING) = 10 LIN. FT.

STA. 119+18 ℄ CONST. T.P. WHITE DR. - IN PLACE
24" x 50' C.M. PIPE CULVERT SIDE DRAIN 34' ON RT.
REMOVE
INSTALL 24" X 44' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 35 CU. YDS. UNCLASSIFIED
EXCAVATION

STA. 121+25 ℄ CONST. T.P. WHITE DR. - IN PLACE
24" x 52' C.M. PIPE CULVERT SIDE DRAIN 42' ON RT.
REMOVE
INSTALL 24" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 30 CU. YDS. COMP. EMB. &
30 CU. YDS. UNCLASSIFIED EXCAVATION

STA. 705+05 - STA. 787+38 ℄ CONST. HWY. 67 - IN PLACE
8233 LIN. FT. 3-STRAND CABLE BARRIER
REMOVE

STA. 705+05 - STA. 787+38 ℄ CONST. HWY. 67 - IN PLACE
8233' x 4' WIDE CONCRETE
DITCH PAVING IN MEDIAN
REMOVE

STA. 705+05 - STA. 787+38 ℄ CONST. HWY. 67 - IN PLACE
8233 L.F. WIRE ROPE
SAFETY FENCE IN MEDIAN
REMOVE

STA. 706+51 ℄ CONST. HWY. 67 - IN PLACE
18" x 35' PLASTIC PIPE 137' ON LT.
RETAIN

STA. 124+84 ℄ CONST. T.P. WHITE DR. CONSTRUCT
DBL. 24" x 100' R.C. PIPE CULVERT
(CLASS V) (TYPE 3 BEDDING) WITH
SES LT. & RT.
24" SES = 4 EACH
Q50 = 19.87 CFS, D.A. = 6.04 ACRES

STA. 712+68.43 ℄ CONST. RAMP 1 CONSTRUCT
QUAD. 24" x 74' R.C. PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & SES RT.
24" FES = 4 EACH
24" SES = 4 EACH
Q50 = 42.94 CFS, D.A. = 11.79 ACRES

STA. 123+21 ℄ CONST. T.P. WHITE DR. - IN PLACE
24" x 38' C.M. PIPE CULVERT SIDE DRAIN 38' ON RT.
REMOVE
INSTALL 24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 25 CU. YDS. COMP. EMB. &
15 CU. YDS. UNCLASSIFIED EXCAVATION

STA. 125+15 ℄ CONST. T.P. WHITE DR. INSTALL
24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 25 CU. YDS. COMP. EMB. &
10 CU. YDS. UNCLASSIFIED EXCAVATION

STA. 710+36 ℄ CONST. HWY. 67 - IN PLACE
24" x 4' R.C. PIPE INLET 76' ON LT. WITH S.E.S.
TO D.I. @ STA. 710+40
REMOVE

STA. 710+40 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET 128' ON LT.
RETAIN

STA. 710+40 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET 79' ON LT. WITH
24" x 44' R.C. PIPE CULVERT
TO D.I. @ STA. 710+40
REMOVE

STA. 710+40 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET 1' ON RT. WITH
24" x 78' R.C. PIPE CULVERT
TO D.I. @ STA. 710+40
REMOVE

STA. 710+40 ℄ CONST. HWY. 67 - IN PLACE
24" x 65' R.C. PIPE INLET 70' ON RT.
TO D.I. @ STA. 710+40
REMOVE

STA. 715+06 ℄ CONST. RAMP 2 CONSTRUCT
DBL. 29" x 18" x 86' R.C. ARCH PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & RT.
29" x 18" FES = 4 EACH
Q50 = 48.82 CFS, D.A. = 13.70 ACRES

STA. 715+06 ℄ CONST. RAMP 2 - IN PLACE
DBL. 29" x 18" x 86' R.C. ARCH PIPE CULVERT
WITH FES LT. & RT.
RETAIN
Q50 = 48.82 CFS, D.A. = 13.70 ACRES

STATE OF ARKANSAS
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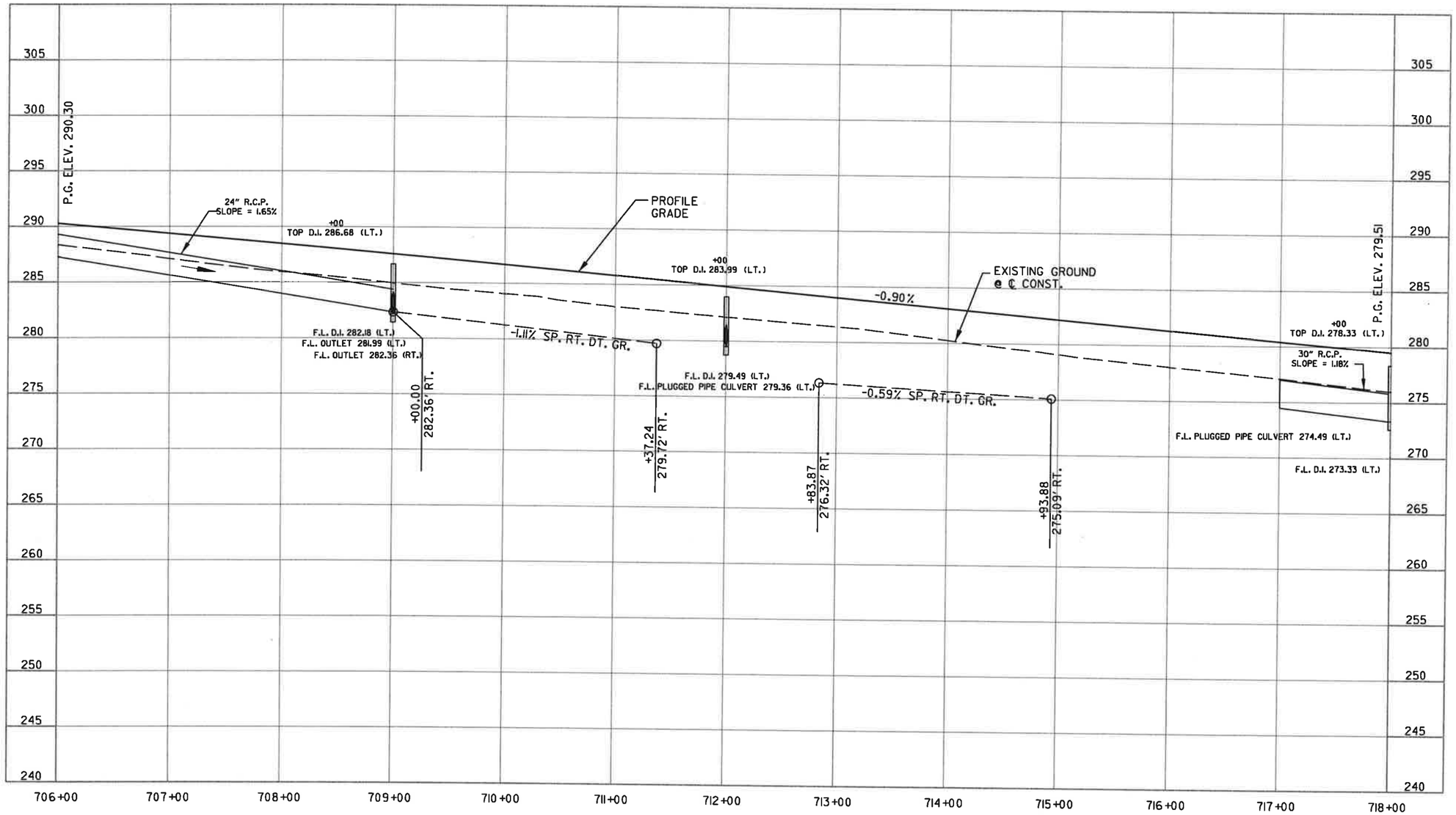
No. 9808
JAMES L. BARR
8/26/66

PLAN MAIN LANES
STA. 705+05 TO 718+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	175	434

(2) PROFILE STA. 706+00 TO 718+00



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REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

PROFILE MAIN LANES
STA. 706+00 TO 718+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	176	434
				②	PLAN STA. 718+00 TO 732+00			

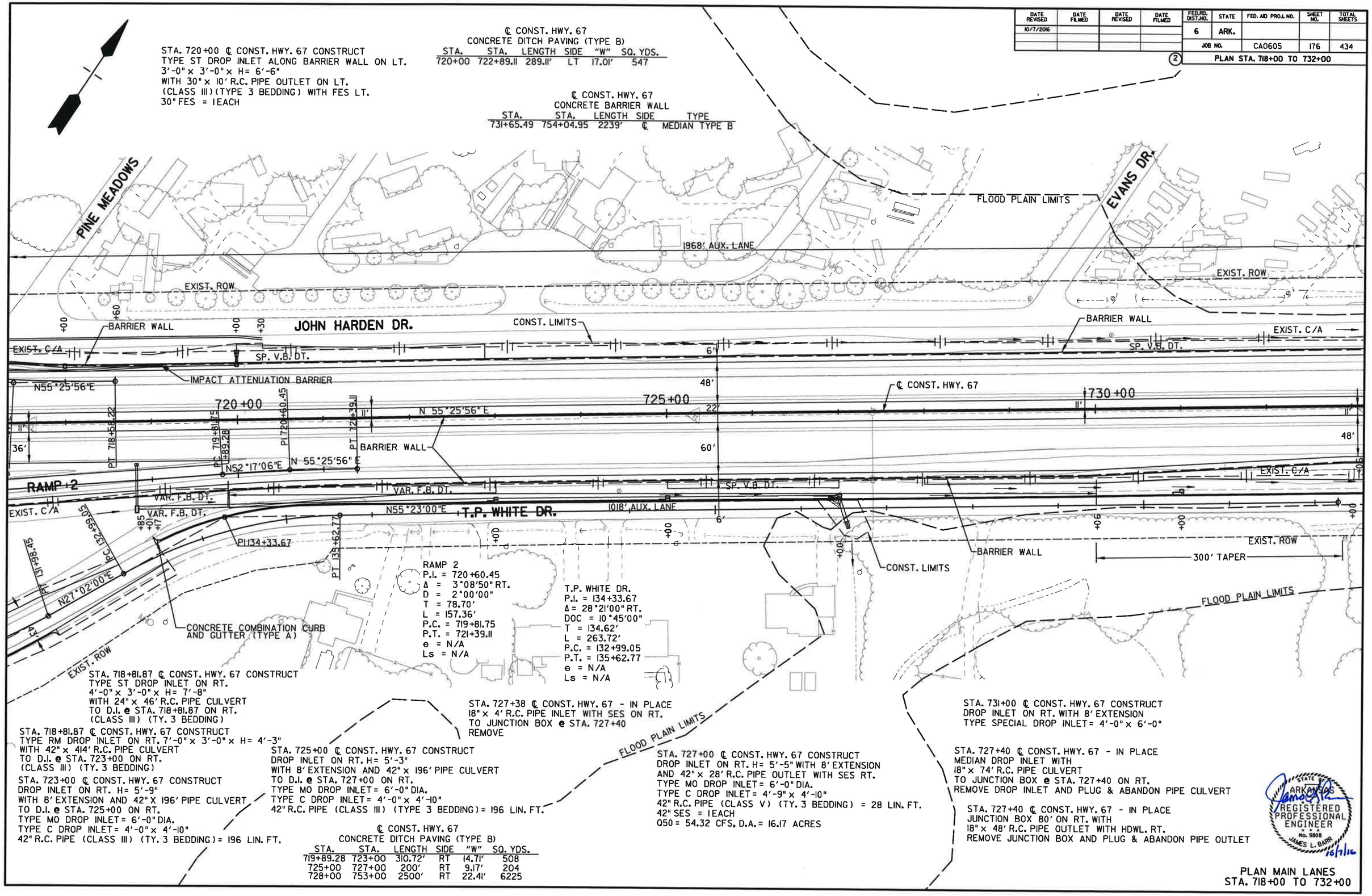
STA. 720+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL ON LT.
3'-0" x 3'-0" x H= 6'-6"
WITH 30" x 10' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3 BEDDING) WITH FES LT.
30" FES = 1 EACH

℄ CONST. HWY. 67
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
720+00	722+89.11	289.11'	LT	17.01'	547

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
731+65.49	754+04.95	2239'	℄	MEDIAN TYPE B



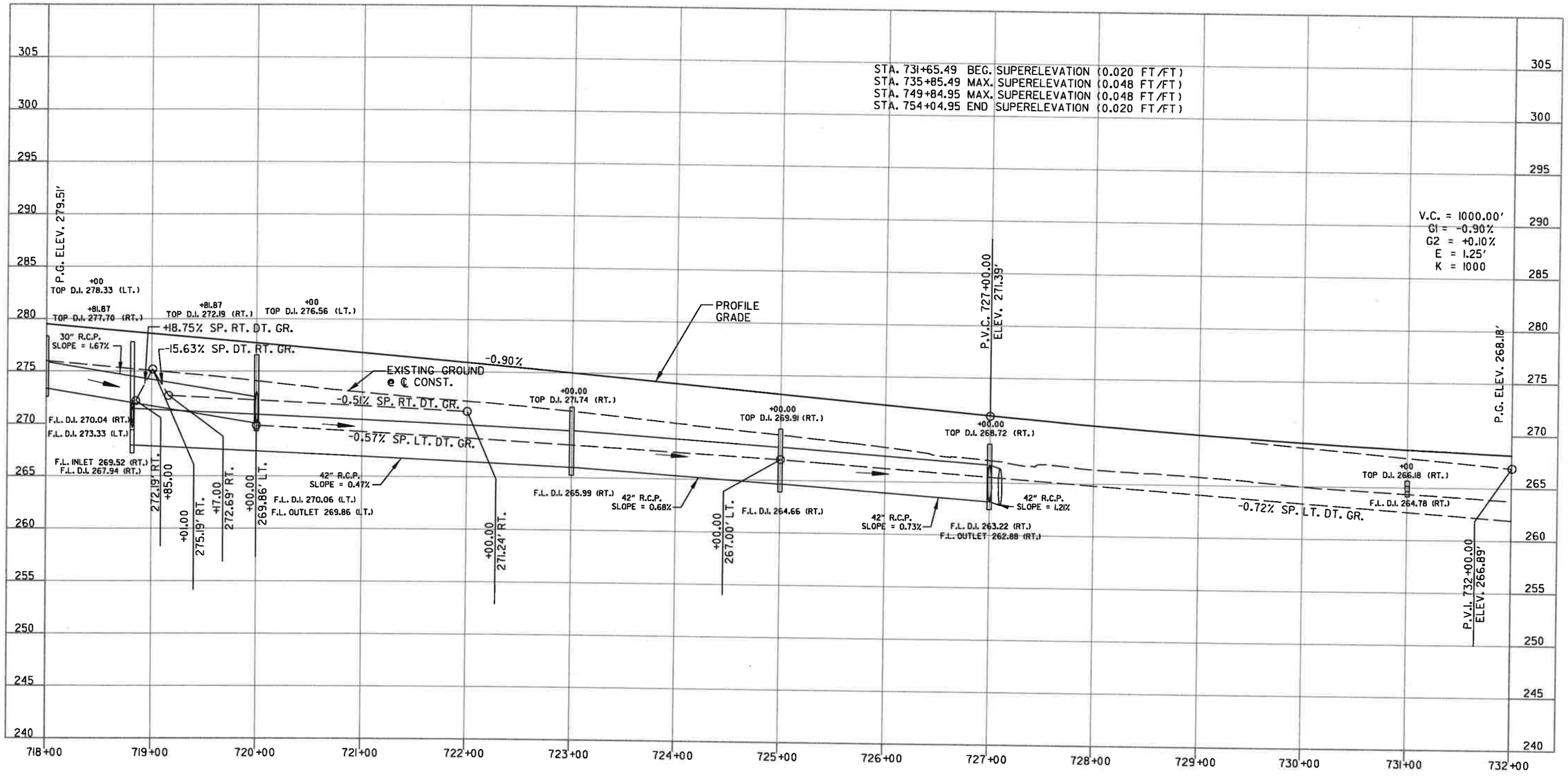
℄ CONST. HWY. 67
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
719+89.28	723+00	310.72'	RT	14.71'	508
725+00	727+00	200'	RT	9.17'	204
728+00	753+00	2500'	RT	22.41'	6225

PLAN MAIN LANES
STA. 718+00 TO 732+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	177	434

(2) PROFILE STA. 718+00 TO 732+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

PROFILE MAIN LANES
STA. 718+00 TO 732+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	178	434

(2) PLAN STA. 732+00 TO 746+00

REMOVAL & DISPOSAL OF EXISTING GUARD CABLE

STA. 745+93 TO STA. 746+08 ℄ CONST. HWY. 67 LT. - L.M.L. - 15 LIN. FT.

℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
741+00	745+50	450'	LT	23.26'	1163

STA. 735+99.88 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 316' R.C. PIPE CULVERT
TO D.I. @ STA. 739+20 IN MEDIAN
(CLASS III)(TYPE 3 BEDDING)

STA. 742+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 9'-6"
WITH 24" x 326' R.C. PIPE CULVERT
TO D.I. @ STA. 745+80 IN MEDIAN
(CLASS III)(TYPE 3) BEDDING

STA. 745+80 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 12'-6"
WITH 24" x 8' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ 745+96
(CLASS III)(TYPE 3) BEDDING

REMOVAL & DISPOSAL OF EXISTING GUARD CABLE POSTS EACH

STA. 745+75 ℄ CONST. HWY. 67 LT. - L.M.L. - 6

STA. 739+20 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-6"
WITH 24" x 78' R.C. PIPE OUTLET ON RT.
(CLASS III)(TYPE 3) BEDDING WITH FES. RT.

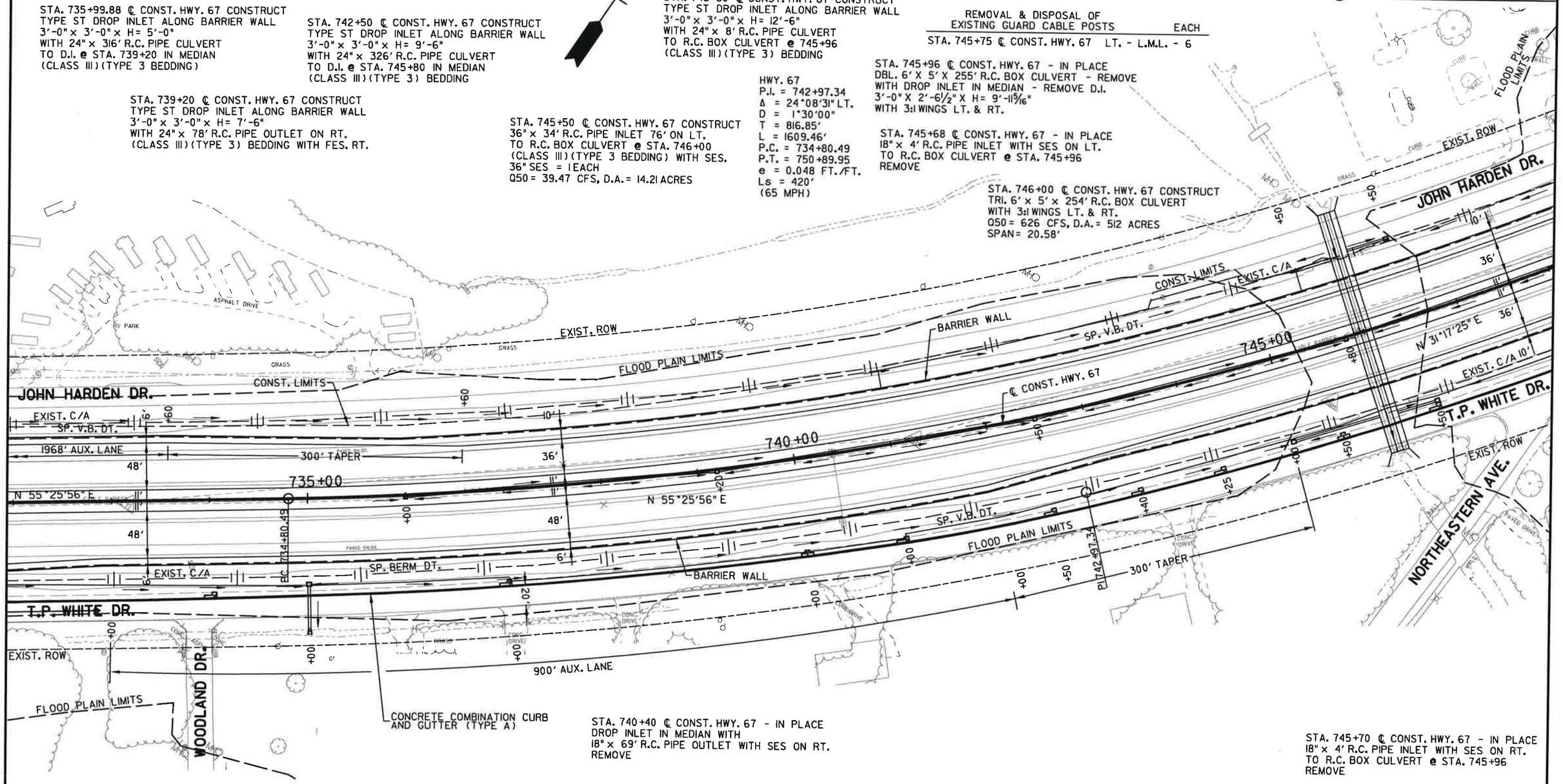
STA. 745+50 ℄ CONST. HWY. 67 CONSTRUCT
36" x 34' R.C. PIPE INLET 76' ON LT.
TO R.C. BOX CULVERT @ STA. 746+00
(CLASS III)(TYPE 3 BEDDING) WITH SES.
36" SES = 1 EACH
Q50 = 39.47 CFS, D.A. = 14.21 ACRES

HWY. 67
P.I. = 742+97.34
Δ = 24°08'31" LT.
D = 1°30'00"
T = 816.85'
L = 1609.46'
P.C. = 734+80.49
P.T. = 750+89.95
e = 0.048 FT./FT.
Ls = 420'
(65 MPH)

STA. 745+96 ℄ CONST. HWY. 67 - IN PLACE
DBL. 6' X 5' X 255' R.C. BOX CULVERT - REMOVE
WITH DROP INLET IN MEDIAN - REMOVE D.I.
3'-0" X 2'-6½" X H= 9'-11 5/16"
WITH 3:1 WINGS LT. & RT.

STA. 745+68 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET WITH SES ON LT.
TO R.C. BOX CULVERT @ STA. 745+96
REMOVE

STA. 746+00 ℄ CONST. HWY. 67 CONSTRUCT
TRI. 6' x 5' x 254' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 626 CFS, D.A. = 512 ACRES
SPAN = 20.58'



CONCRETE COMBINATION CURB AND GUTTER (TYPE A)

STA. 740+40 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 69' R.C. PIPE OUTLET WITH SES ON RT.
REMOVE

STA. 745+70 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET WITH SES ON RT.
TO R.C. BOX CULVERT @ STA. 745+96
REMOVE

STA. 735+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-2½"
WITH 30" x 48' R.C. PIPE OUTLET WITH FES TO DITCH ON RT.
(CLASS IV) (TY. 3 BEDDING)
30" FES = 1 EACH

STA. 734+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 741+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 740+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 4' EXTENSIONS LT. AND RT.
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 737+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 744+25 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 743+40 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 742+50 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 745+50 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 4' EXTENSIONS LT. AND RT.
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

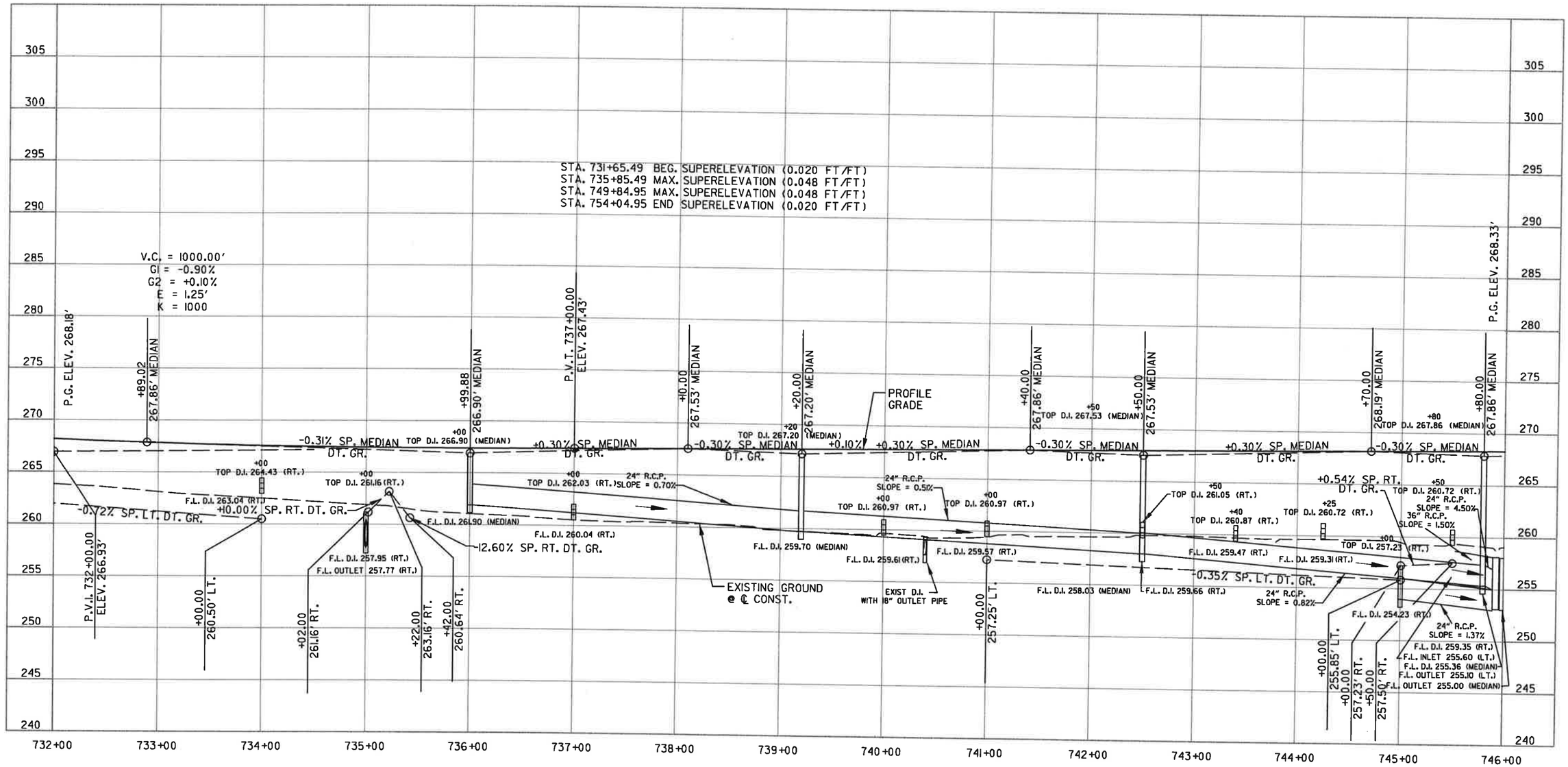
STA. 745+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 84' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 746+00
(CLASS III) (TY. 3 BEDDING)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

PLAN MAIN LANES
STA. 732+00 TO 746+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	179	434

(2) PROFILE STA. 732+00 TO 746+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16

PROFILE MAIN LANES
STA. 732+00 TO 746+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	180	434

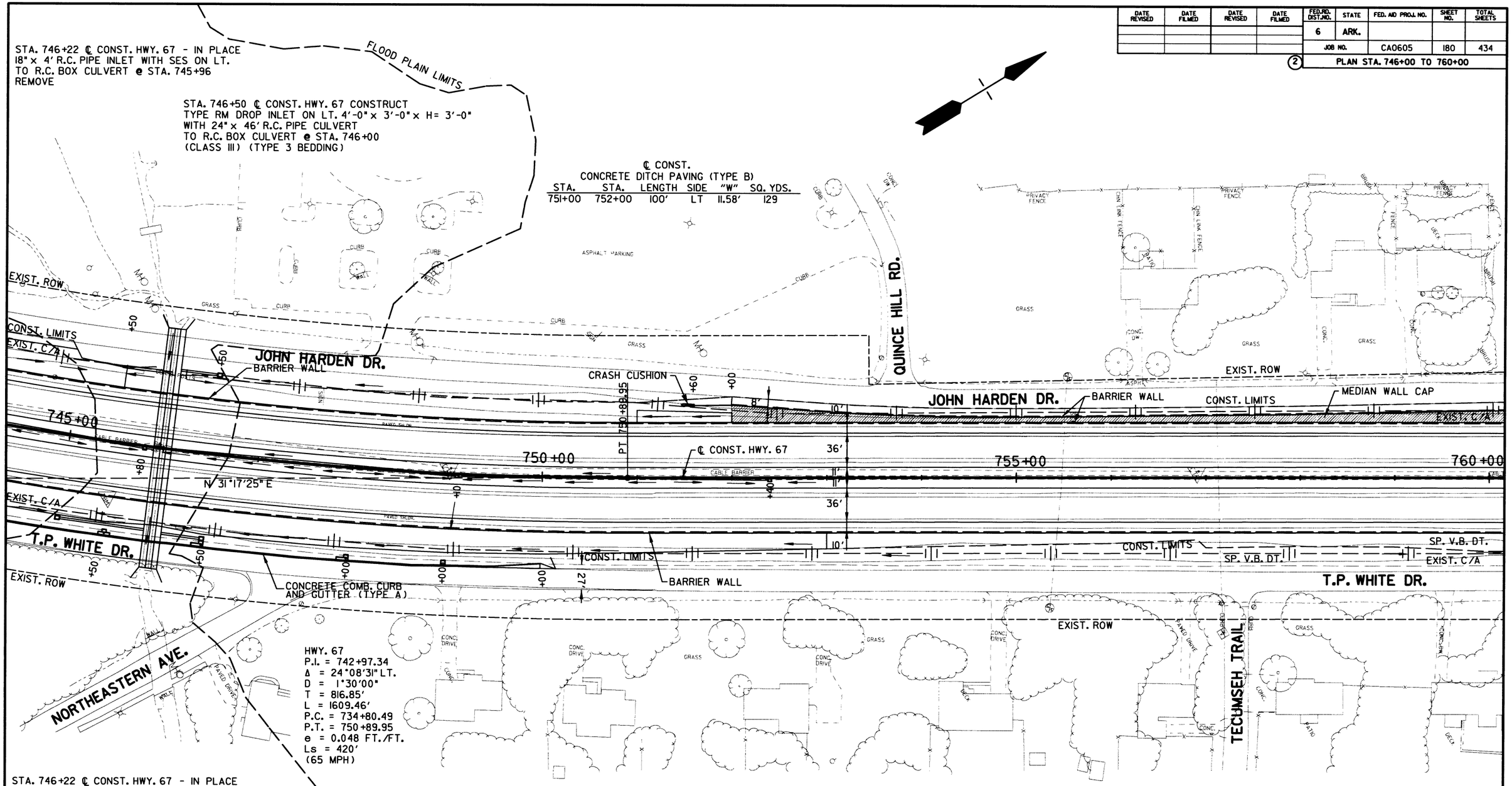
(2) PLAN STA. 746+00 TO 760+00

STA. 746+22 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET WITH SES ON LT.
TO R.C. BOX CULVERT @ STA. 745+96
REMOVE

STA. 746+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON LT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 46' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 746+00
(CLASS III) (TYPE 3 BEDDING)

℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
751+00	752+00	100'	LT	11.58'	129



HWY. 67
P.I. = 742+97.34
Δ = 24°08'31" LT.
D = 1°30'00"
T = 816.85'
L = 1609.46'
P.C. = 734+80.49
P.T. = 750+89.95
e = 0.048 FT./FT.
Ls = 420'
(65 MPH)

STA. 746+22 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET WITH SES ON RT.
TO R.C. BOX CULVERT @ STA. 745+96
REMOVE

STA. 746+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 46' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 746+00
(CLASS III) (TYPE 3 BEDDING)

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
751+60.27	762+39.08	1079'	LT	MEDIAN TYPE SPECIAL
751+60.27	762+39.08	1079'	LT	SIDE TYPE A
754+04.95	774+37.33	2032'	℄	MEDIAN TYPE A

STA. 746+50 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"

STA. 749+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT.
TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"

STA. 749+10 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 9'-0"
WITH 24" x 300' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 745+96
(CLASS III) (TYPE 3 BEDDING)

STA. 748+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"

STA. 752+40 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-0"
WITH 24" x 326' R.C. PIPE CULVERT
TO D.I. @ 749+10 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STATE OF ARKANSAS
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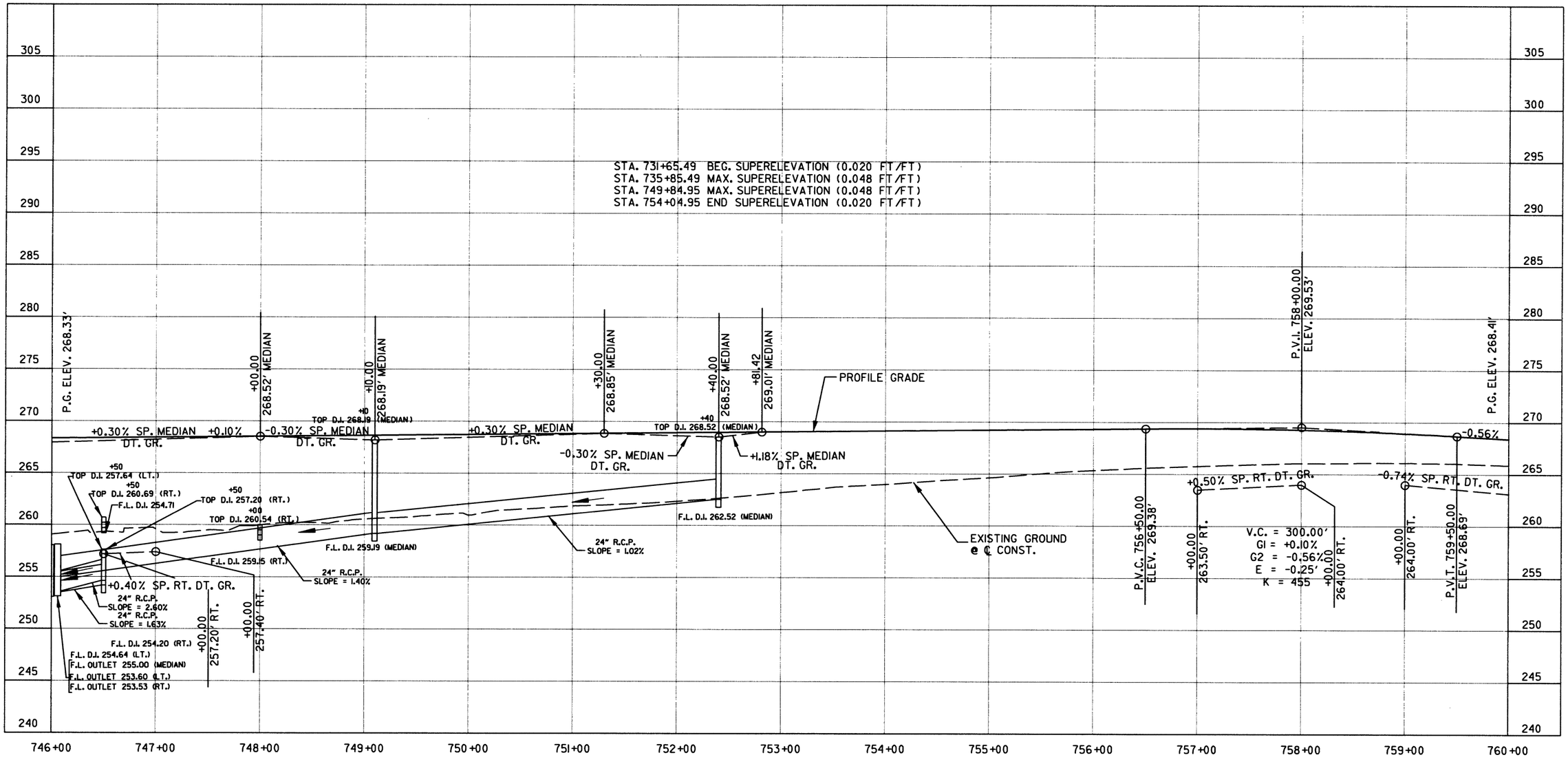
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 746+00 TO 760+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	181	434

(2) PROFILE STA. 746+00 TO 760+00



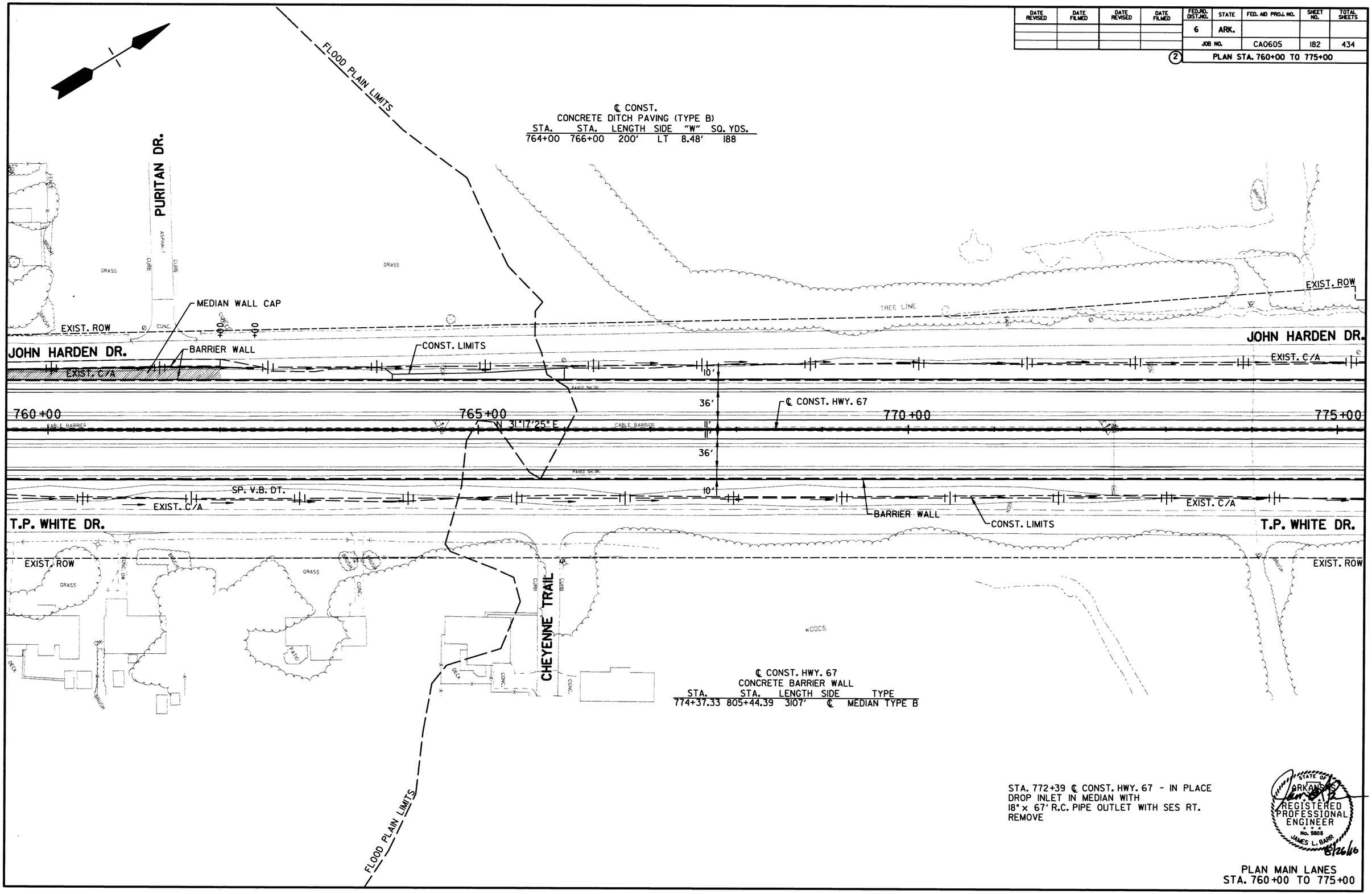
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/24/06

PROFILE MAIN LANES
STA. 746+00 TO 760+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	182	434

2 PLAN STA. 760+00 TO 775+00



℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
764+00	766+00	200'	LT	8.48'	188

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
774+37.33	805+44.39	3107'	℄	MEDIAN TYPE B

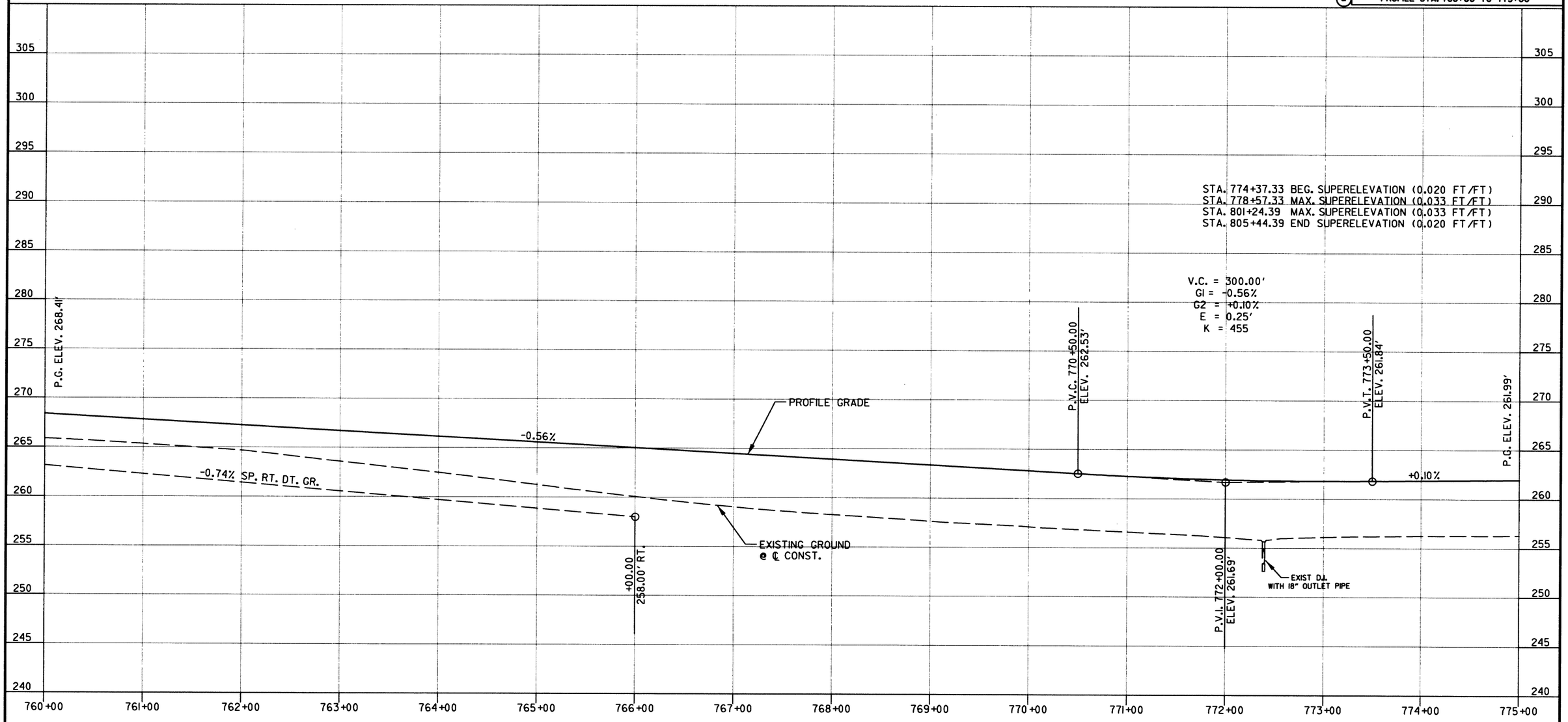
STA. 772+39 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 67' R.C. PIPE OUTLET WITH SES RT.
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 760+00 TO 775+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	183	434

(2) PROFILE STA. 760+00 TO 775+00

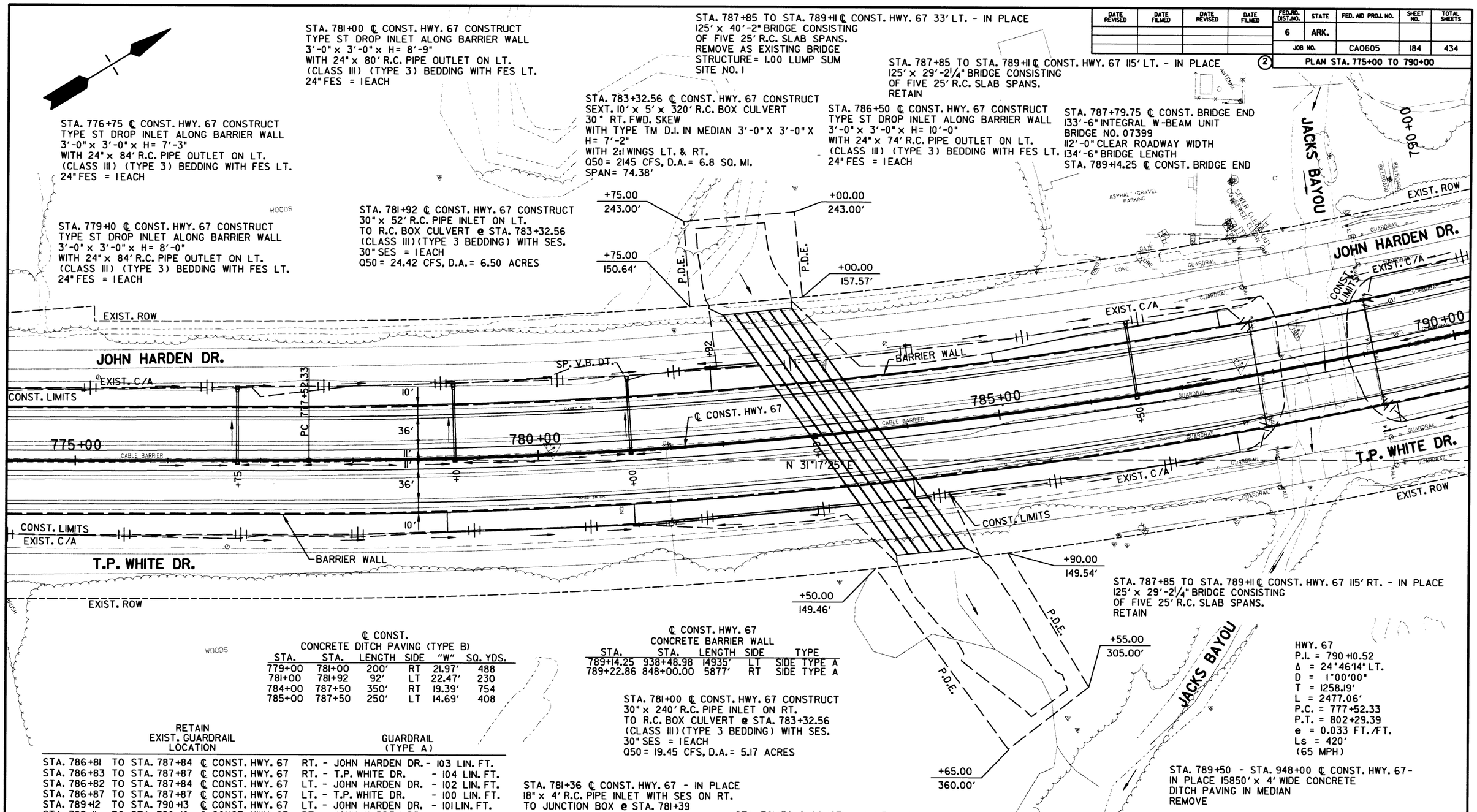


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 760+00 TO 775+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	184	434

(2) PLAN STA. 775+00 TO 790+00



℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
779+00	781+00	200'	RT	21.97'	488
781+00	781+92	92'	LT	22.47'	230
784+00	787+50	350'	RT	19.39'	754
785+00	787+50	250'	LT	14.69'	408

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
789+14.25	938+48.98	14935'	LT	SIDE TYPE A
789+22.86	848+00.00	5877'	RT	SIDE TYPE A

RETAIN
EXIST. GUARDRAIL
LOCATION — GUARDRAIL (TYPE A)

STA. 786+81	TO STA. 787+84	℄ CONST. HWY. 67	RT. - JOHN HARDEN DR.	- 103 LIN. FT.
STA. 786+83	TO STA. 787+87	℄ CONST. HWY. 67	RT. - T.P. WHITE DR.	- 104 LIN. FT.
STA. 786+82	TO STA. 787+84	℄ CONST. HWY. 67	LT. - JOHN HARDEN DR.	- 102 LIN. FT.
STA. 786+87	TO STA. 787+87	℄ CONST. HWY. 67	LT. - T.P. WHITE DR.	- 100 LIN. FT.
STA. 789+12	TO STA. 790+13	℄ CONST. HWY. 67	LT. - JOHN HARDEN DR.	- 101 LIN. FT.
STA. 789+11	TO STA. 790+10	℄ CONST. HWY. 67	RT. - JOHN HARDEN DR.	- 99 LIN. FT.
STA. 789+10	TO STA. 790+08	℄ CONST. HWY. 67	LT. - T.P. WHITE DR.	- 98 LIN. FT.
STA. 789+10	TO STA. 790+07	℄ CONST. HWY. 67	RT. - T.P. WHITE DR.	- 97 LIN. FT.

REMOVAL & DISPOSAL
OF EXIST. GUARDRAIL
LOCATION — GUARDRAIL

STA. 783+20	TO STA. 787+86	℄ CONST. HWY. 67	RT. - R.M.L.	- 466 LIN. FT.
STA. 784+88	TO STA. 787+59	℄ CONST. HWY. 67	LT. - R.M.L.	- 271 LIN. FT.
STA. 789+11	TO STA. 792+22	℄ CONST. HWY. 67	RT. - L.M.L.	- 311 LIN. FT.
STA. 789+11	TO STA. 794+17	℄ CONST. HWY. 67	LT. - L.M.L.	- 506 LIN. FT.

PLAN MAIN LANES
STA. 775+00 TO 790+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	185	434

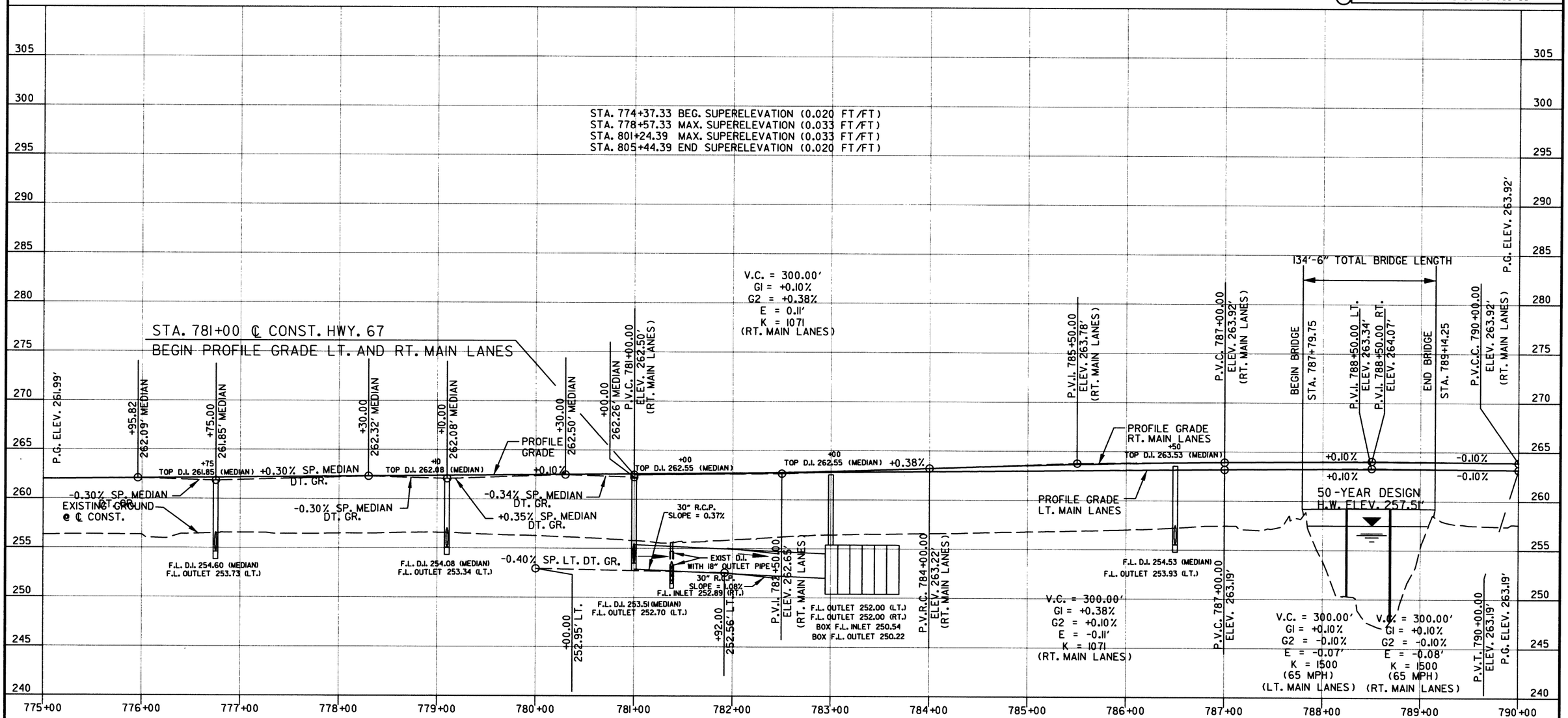
(2) PROFILE STA. 775+00 TO 790+00

STREAM NAME
JACKS BAYOU

STATION
STA. 788+63

STREAM TYPE
INTERMITTENT

TOP OF CHANNEL
257.5 ft. msl



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 775+00 TO 790+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	186	434
				2	PLAN STA. 790+00 TO 805+00			

STA. 790+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 9'-2"
WITH 30" x 72' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
30" FES = 1 EACH

STA. 796+40 ℄ CONST. HWY. 67 - IN PLACE
18" x 49' R.C. PIPE CULVERT 110' ON LT. WITH
HDWL. RT. AND LT. - REMOVE

℄ CONST.
CONCRETE DITCH PAVING (TYPE A)

STA.	STA.	LENGTH	SIDE	"B"	"W"	SQ. YDS.
796+00	799+00	300'	LT	VAR.	23.07'	769

REMOVAL & DISPOSAL OF EXISTING GUARD CABLE POST	EACH
STA. 794+37 ℄ CONST. HWY. 67 LT. - L.M.L. -	14

STA. 796+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 38' R.C. PIPE CULVERT LT.
(CLASS V)(TYPE 3 BEDDING) WITH
FES LT. & RT.
24" FES = 2 EACH
Q50 = 15.61 CFS, D.A. = 4.60 ACRES

STA. 799+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 4'-5"
WITH 24" x 146' R.C. PIPE CULVERT
TO D.I. @ STA. 797+50 IN MEDIAN
(CLASS IV) (TYPE 3) BEDDING

STA. 802+80 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 3'-6"
WITH 24" x 166' R.C. PIPE CULVERT
TO D.I. @ STA. 801+10 IN MEDIAN
(CLASS V) (TYPE 3) BEDDING

STA. 801+10 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 3'-10"
WITH 24" x 206' R.C. PIPE CULVERT
TO D.I. @ STA. 799+00 IN MEDIAN
(CLASS V) (TYPE 3) BEDDING

JACKS BAYOU
EXIST. ROW
JOHN HARDEN DR.
EXIST. C/A
CONST. LIMITS
790+00
795+00
800+00
805+00
BARRIER WALL
VAR. F.B. DT. VAR. F.B. DT.
℄ CONST. HWY. 67
N 6°31'11" E
CONST. LIMITS
EXIST. C/A
SP. V.B. DT.
PT 802+29.39
T.P. WHITE DR.
PI 790+10.52
WOODS
LANCELOT LN.
RUIN
CONC. DRIVE
ASPHALT DRIVE
CHAIN LINK FENCE
CABLE BARRIER
BRUSH
FIELD
GRAVEL
GATE

HWY. 67
P.I. = 790+10.52
Δ = 24°46'14" LT.
D = 1°00'00"
T = 1258.19'
L = 2477.06'
P.C. = 777+52.33
P.T. = 802+29.39
e = 0.033 FT./FT.
Ls = 420'
(65 MPH)

STA. 793+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-7"
WITH 30" x 296' R.C. PIPE CULVERT
TO D.I. @ STA. 790+50 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 796+39 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 78' R.C. PIPE CULVERT
TO JUNCTION BOX @ STA. 796+39
REMOVE

STA. 796+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-6"
WITH 30" x 246' R.C. PIPE CULVERT
TO D.I. @ STA. 793+50 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 796+39 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 82' ON RT. WITH
18" x 52' R.C. PIPE OUTLET
REMOVE

STA. 796+35 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET 84' ON RT. WITH SES
TO JUNCTION BOX @ STA. 796+39
REMOVE

STA. 796+40 ℄ CONST. HWY. 67 CONSTRUCT
DBL. 29" x 18" x 58' R.C. PIPE CULVERT RT.
(CLASS V) (TYPE 3 BEDDING) WITH
FES LT. & RT.
29" x 18" FES = 4 EACH
Q50 = 12.22 CFS, D.A. = 4.18 ACRES

STA. 796+43 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET 84' ON RT. WITH SES
TO JUNCTION BOX @ STA. 796+39
REMOVE

STA. 797+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-1"
WITH 24" x 146' R.C. PIPE CULVERT
TO D.I. @ STA. 796+00 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 802+30 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 69' R.C. PIPE OUTLET WITH HDWL. RT.
REMOVE

℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

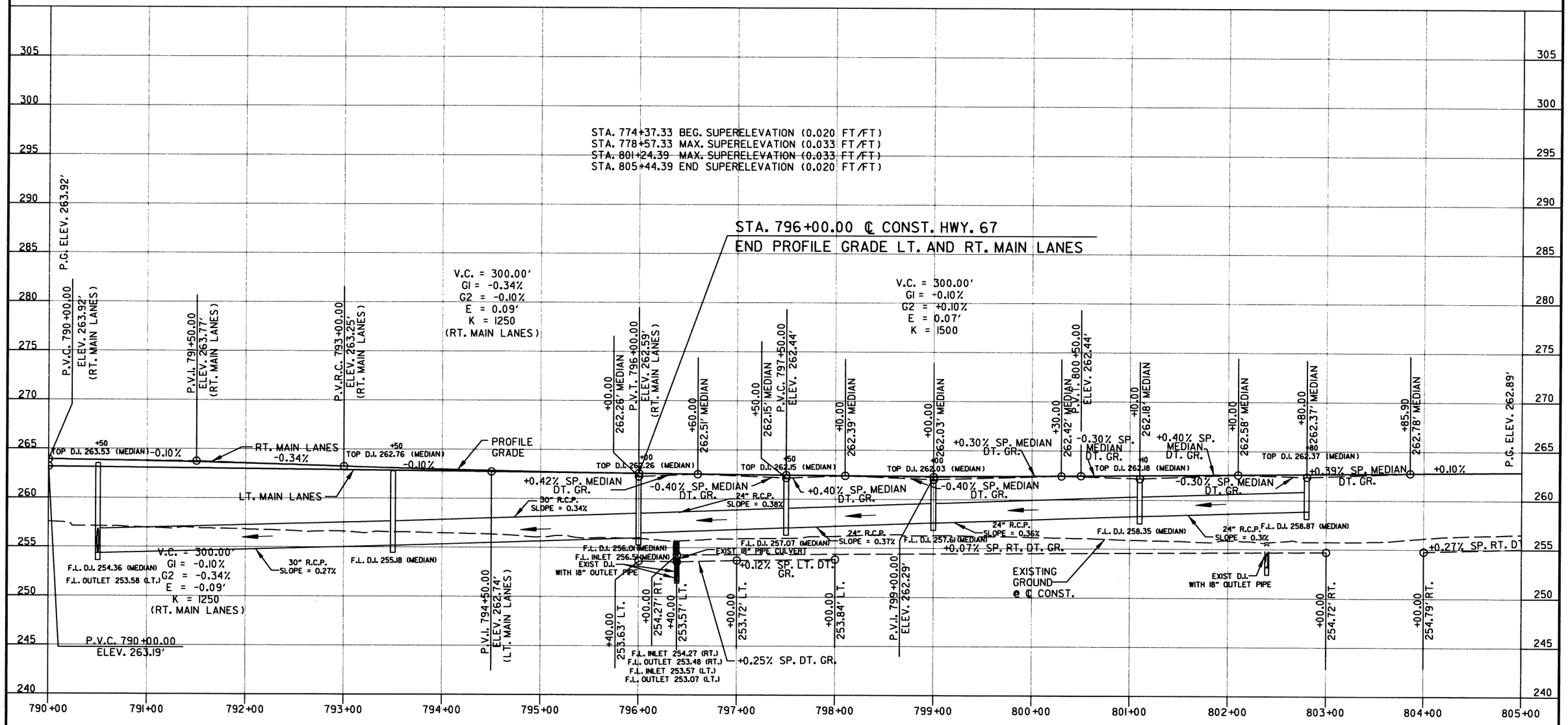
STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
789+25	796+00	675'	RT	17.79'	1334
800+00	803+00	300'	RT	31.83'	1061

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/10

PLAN MAIN LANES
STA. 790+00 TO 805+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	187	434

(2) PROFILE STA. 790+00 TO 805+00



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

PROFILE MAIN LANES
STA. 790+00 TO 805+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	188	434

2 PLAN STA. 805+00 TO 820+00

STA. 814+11 ℄ CONST. HWY. 67 CONSTRUCT
DBL. 30" x 50' R.C. PIPE INLET ON LT.
TO JUNCTION BOX @ STA. 814+14
(CLASS V)(TYPE 3 BEDDING)
WITH SES LT.
30" SES = 2 EACH
Q50 = 26.93 CFS, D.A. = 47.35 ACRES

STA. 814+14 ℄ CONST. HWY. 67 CONSTRUCT
TYPE E JUNCTION BOX ON LT. 12'-0" x 3'-0" x H= 3'-5½"
WITH DBL. 36" x 156' R.C. PIPE CULVERTS
TO JUNCTION BOX @ STA. 814+14 ON RT.
36" R.C. PIPE (CLASS IV) (TY. 3 BEDDING) = 312 LIN. FT.
Q50 = 43.57 CFS, D.A. = 52.97 ACRES

STA. 814+11 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 78' ON LT. WITH
30" x 49' R.C. PIPE INLET WITH HDWL LT.
REMOVE

STA. 814+15 ℄ CONST. HWY. 67 - IN PLACE
18" x 8' R.C. PIPE INLET 78' ON LT. WITH SES
TO JUNCTION BOX @ STA. 814+11
REMOVE

STA. 814+14 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
30" x 74' R.C. PIPE CULVERT
TO JUNCTION BOX @ STA. 814+11
AND 30" x 76' R.C. PIPE CULVERT
TO D.I. @ STA. 814+14
REMOVE

REMOVAL & DISPOSAL OF
EXISTING GUARD CABLE POST — EACH

STA. 814+10 ℄ CONST. HWY. 67 LT. - L.M.L. - 11
STA. 814+10 ℄ CONST. HWY. 67 RT. - R.M.L. - 7

STA. 814+30 ℄ CONST. HWY. 67 CONSTRUCT
30" x 10' R.C. PIPE INLET ON LT.
TO JUNCTION BOX @ STA. 814+14 ON LT.
(CLASS V)(TYPE 3 BEDDING) WITH SES
30" SES = 1 EACH
Q50 = 24.69 CFS, D.A. = 5.62 ACRES

FLOOD PLAIN LIMITS

BARRIER WALL

EXIST. ROW

JOHN HARDEN DR.

EXIST. C/A

CONST. LIMITS

SP. V.B. DT.

SP. BERM DT.

℄ CONST. HWY. 67

805+00

810+00

815+00

820+00

N 6°31'11" E

CABLE BARRIER

CRASH CUSHION

10'

36'

11'

36'

10'

+59

+41

+00

+14

+30

VAR. F.B. DT.

T.P. WHITE DR.

WOODS

FIELD

STA. 814+17 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 82' ON RT. WITH
30" x 44' R.C. PIPE OUTLET WITH HDWL. RT.
REMOVE

STA. 814+21 ℄ CONST. HWY. 67 - IN PLACE
18" x 8' R.C. PIPE CULVERT 83' ON RT. WITH SES
TO JUNCTION BOX @ STA. 814+17
REMOVE

STA. 814+14 ℄ CONST. HWY. 67 CONSTRUCT
TYPE E JUNCTION BOX ON RT. 12'-0" x 3'-0" x H= 4'-1½"
WITH DBL. 36" x 48' R.C. PIPE OUTLETS WITH SES RT.
TO DITCH ON RT.
36" R.C. PIPE (CLASS V) (TYPE 3 BEDDING) = 96 LIN. FT.
36" SES = 2 EACH
Q50 = 58.43 CFS, D.A. = 58.32 ACRES

STA. 814+30 ℄ CONST. HWY. 67 CONSTRUCT
24" x 10' R.C. PIPE INLET ON RT.
TO JUNCTION BOX @ STA. 814+14 ON RT.
(CLASS IV)(TYPE 3 BEDDING) WITH SES
24" SES = 1 EACH
Q50 = 21.46 CFS, D.A. = 5.35 ACRES

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
805+44.39	809+59.00	415'	℄	MEDIAN TYPE A
810+41.00	865+43.54	5503'	℄	MEDIAN TYPE A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
4/7/06

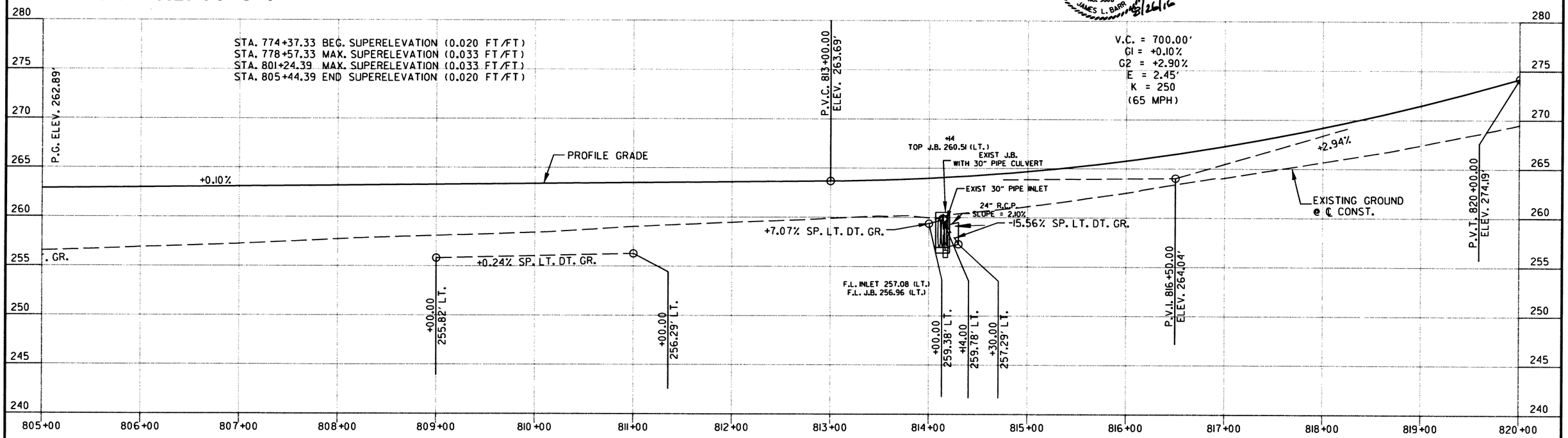
PLAN MAIN LANES
STA. 805+00 TO 820+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	189	434

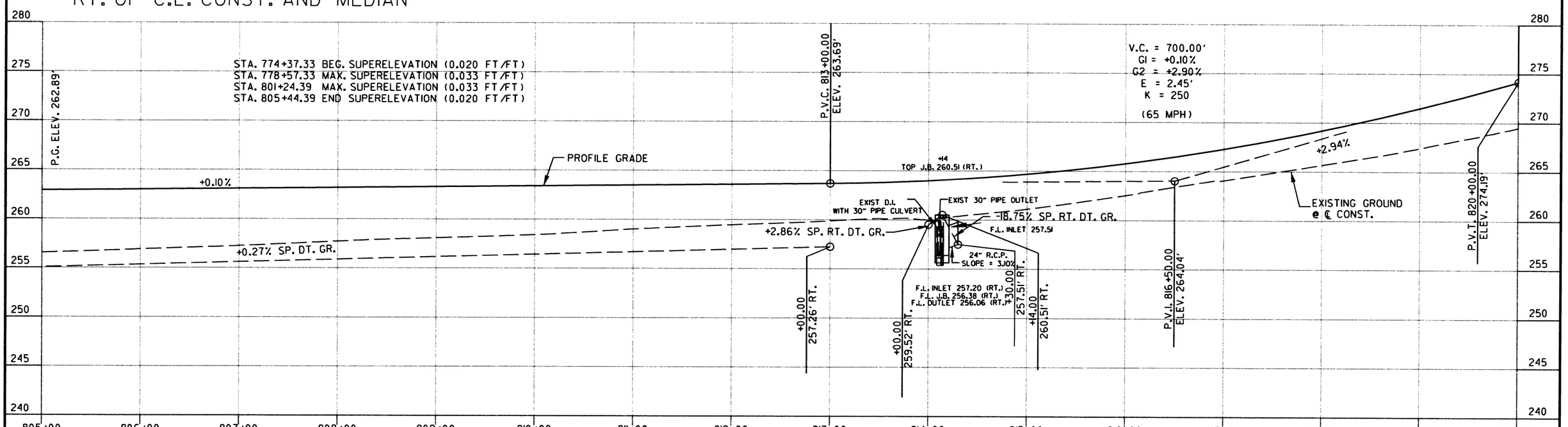
(2) PROFILE STA. 805+00 TO 820+00

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/26/16

LT. OF C.L. CONST.



RT. OF C.L. CONST. AND MEDIAN

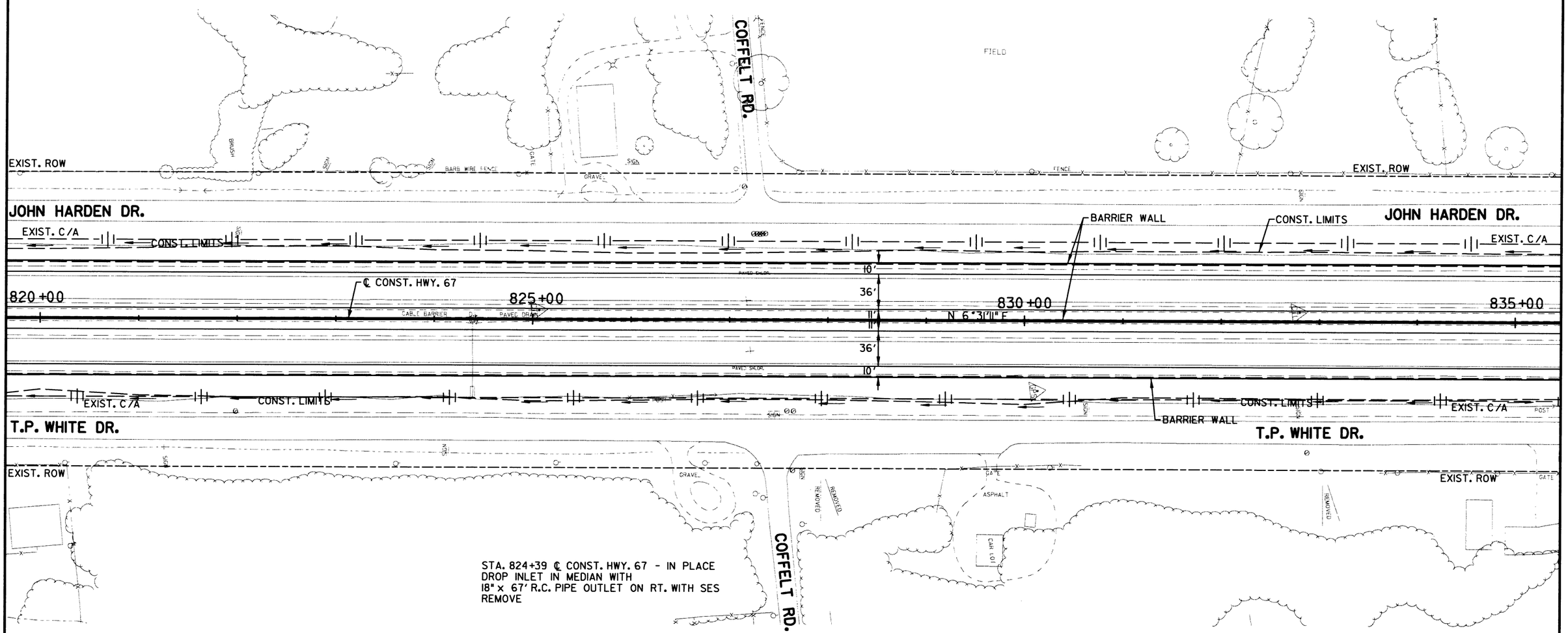


PROFILE MAIN LANES
STA. 805+00 TO 820+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	190	434

2 PLAN STA. 820+00 TO 835+00



STA. 824+39 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 67' R.C. PIPE OUTLET ON RT. WITH SES
REMOVE

REMOVAL & DISPOSAL OF EXISTING GUARD CABLE POST	EACH

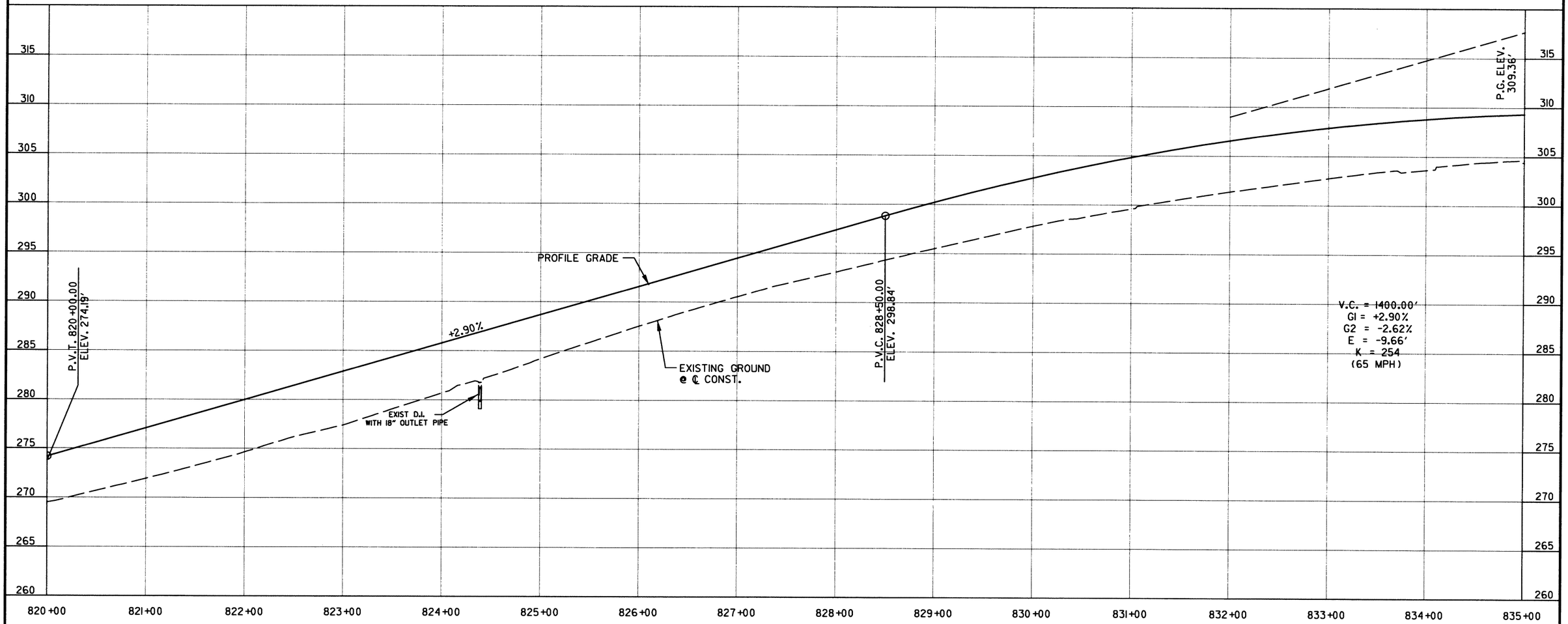
STA. 826+33 ℄ CONST. HWY. 67 RT. - R.M.L. - 19

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 820+00 TO 835+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	191	434

(2) PROFILE STA. 820+00 TO 835+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 820+00 TO 835+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	192	434

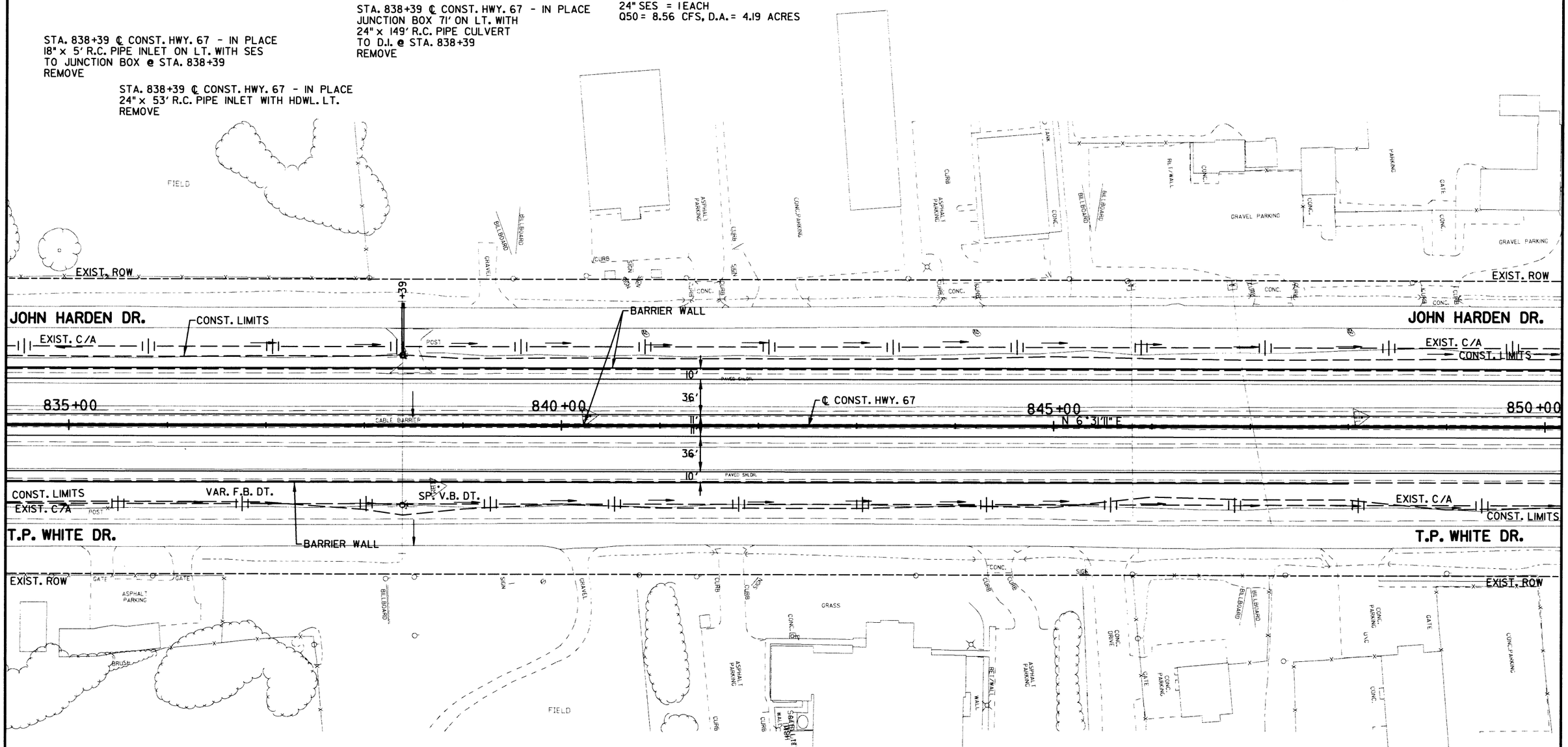
(2) PLAN STA. 835+00 TO 850+00

STA. 838+39 ℄ CONST. HWY. 67 CONSTRUCT
24" x 46' R.C. PIPE CULVERT ON LT.
(CLASS V)(TYPE 3 BEDDING) WITH
SES LT. & FES RT.
24" FES = 1 EACH
24" SES = 1 EACH
Q50 = 8.56 CFS, D.A. = 4.19 ACRES

STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
18" x 5' R.C. PIPE INLET ON LT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 71' ON LT. WITH
24" x 149' R.C. PIPE CULVERT
TO D.I. @ STA. 838+39
REMOVE

STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
24" x 53' R.C. PIPE INLET WITH HDWL. LT.
REMOVE



REMOVAL & DISPOSAL OF
EXISTING GUARD CABLE POST — EACH

STA. 835+27 ℄ CONST. HWY. 67 RT. - R.M.L. - 8

STA. 838+44 ℄ CONST. HWY. 67 - IN PLACE
18" x 5' R.C. PIPE INLET ON RT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

STA. 838+35 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET 80' ON RT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

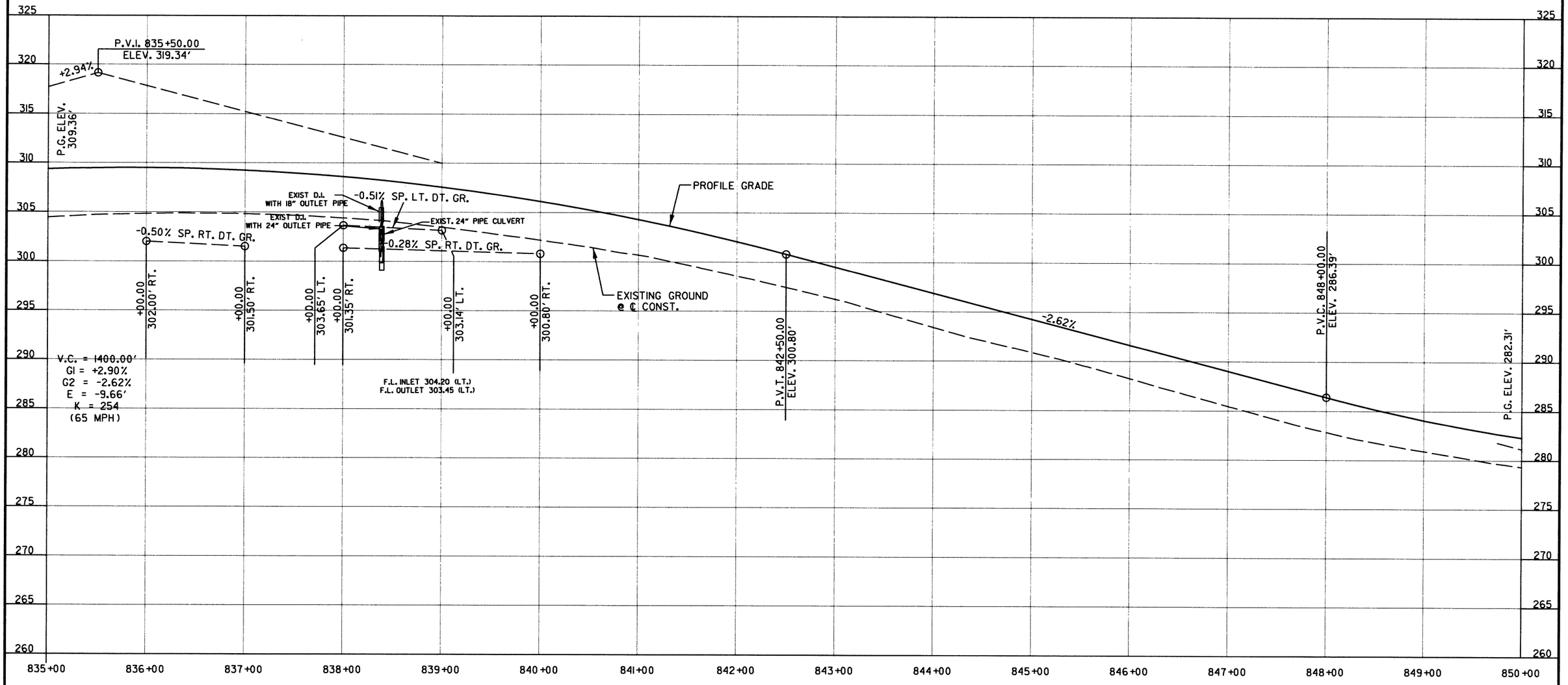
STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 81' ON RT. WITH
24" x 48' R.C. PIPE OUTLET WITH HDWL. RT.
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 835+00 TO 850+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	193	434

(2) PROFILE STA. 835+00 TO 850+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9801
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 835+00 TO 850+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	194	434

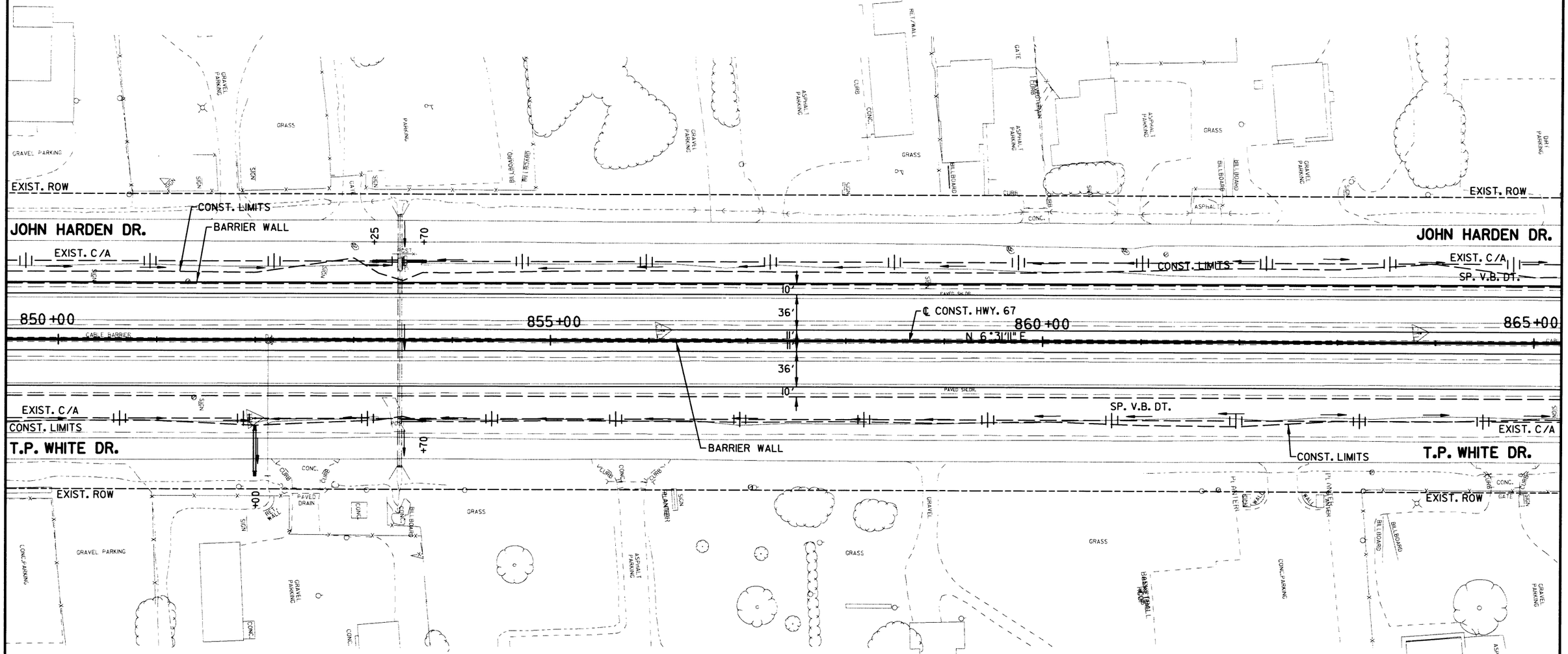
(2) PLAN STA. 850+00 TO 865+00

STA. 853+35 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 78' ON LT. WITH SES
TO R.C. BOX CULVERT @ STA. 853+47
REMOVE

STA. 853+60 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 78' ON LT. WITH SES
TO R.C. BOX CULVERT @ STA. 853+47
REMOVE

STA. 853+25 ℄ CONST. HWY. 67 CONSTRUCT
24" x 20' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 853+50
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 20.98 CFS, D.A. = 4.56 ACRES

STA. 853+70 ℄ CONST. HWY. 67 CONSTRUCT
24" x 22' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 853+50
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 12.68 CFS, D.A. = 2.02 ACRES



STA. 852+00 ℄ CONST. HWY. 67 CONSTRUCT
30" x 42' R.C. PIPE CULVERT ON RT.
(CLASS V)(TYPE 3 BEDDING) WITH
SES LT. & RT.
30" SES = 2 EACH
Q50 = 23.38 CFS, D.A. = 4.13 ACRES

STA. 852+13 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 78' R.C. PIPE OUTLET WITH HDWL. RT.
REMOVE

STA. 852+13 ℄ CONST. HWY. 67 - IN PLACE
18" x 54' R.C. PIPE CULVERT 112' ON RT. WITH HDWL. LT. AND RT.
REMOVE

STA. 853+35 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 80' ON RT. WITH SES
TO R.C. BOX CULVERT @ STA. 853+47
RETAIN
Q50 = 2.16 CFS, D.A. = 0.27 ACRES

STA. 853+47 ℄ CONST. HWY. 67 - IN PLACE
6' x 4' x 256' R.C. BOX CULVERT
RETAIN

STA. 853+60 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 80' ON RT. WITH SES
TO R.C. BOX CULVERT @ STA. 853+47
REMOVE

STA. 853+70 ℄ CONST. HWY. 67 CONSTRUCT
24" x 22' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 853+50
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES. = 1 EACH
Q50 = 9.29 CFS, D.A. = 1.73 ACRES

REMOVAL & DISPOSAL OF
EXISTING GUARD CABLE POST

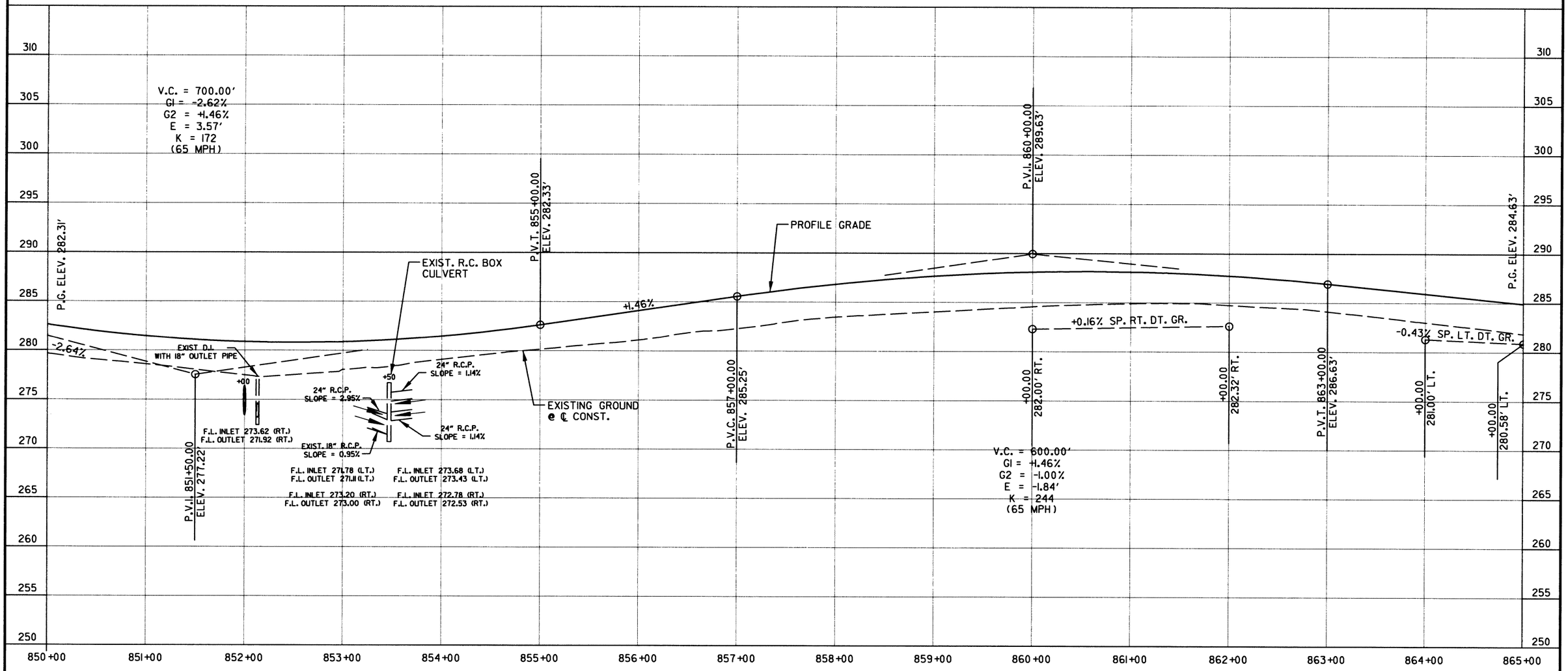
	EACH
STA. 853+48 ℄ CONST. HWY. 67 LT. - L.M.L.	5
STA. 853+48 ℄ CONST. HWY. 67 RT. - R.M.L.	5

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 850+00 TO 865+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	195	434

(2) PROFILE STA. 850+00 TO 865+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BAIRD
8/26/66

PROFILE MAIN LANES
STA. 850+00 TO 865+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	196	434

(2) PLAN STA. 865+00 TO 880+00

STA. 869+21 ℄ CONST. HWY. 67 - IN PLACE
42" x 40' R.C. PIPE CULVERT 108' ON LT. WITH HDWL. LT. AND RT.
RETAIN

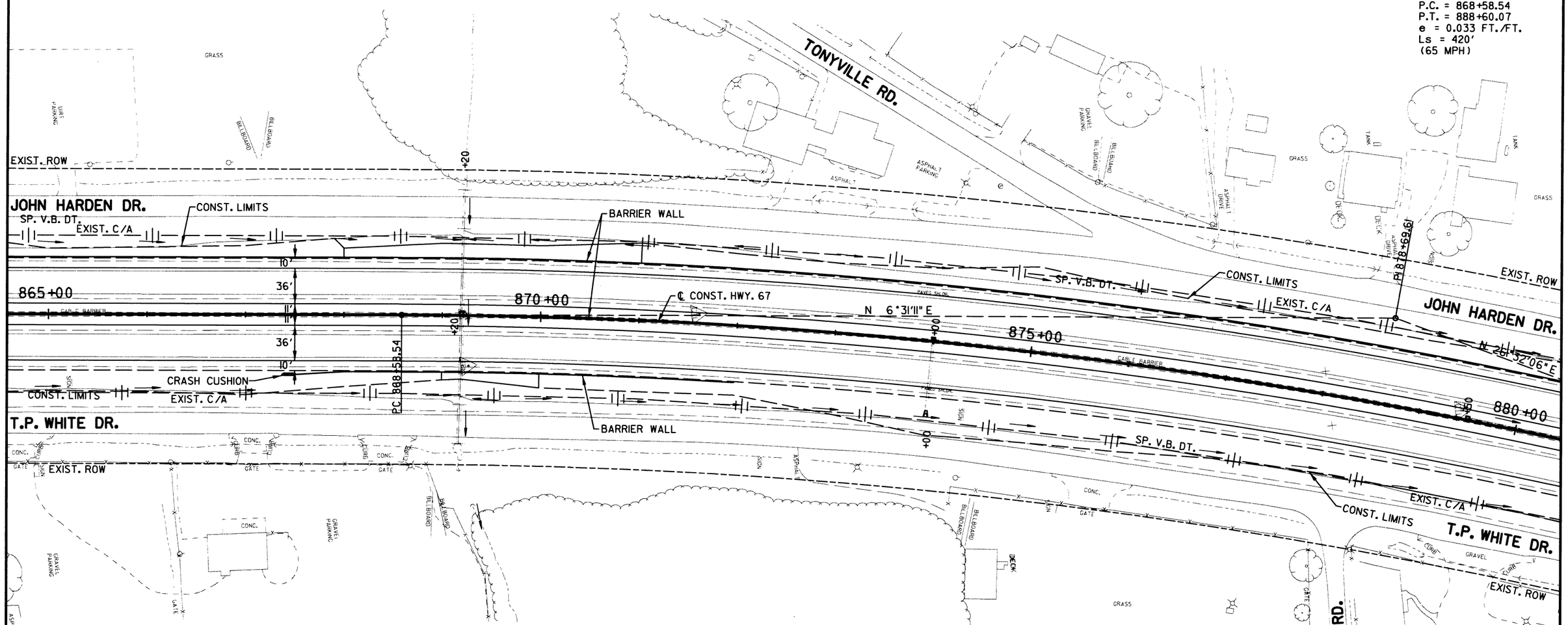
℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
868+00	871+00	300'	LT	14.50'	483
869+00	870+00	100'	RT	9.95'	111

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
865+43.54	891+75.07	2632'	℄	MEDIAN TYPE B
867+51.00	873+00.00	549'	RT	SIDE TYPE A

HWY. 67
P.I. = 878+69.61
Δ = 20°00'55" RT.
D = 1°00'00"
T = 1011.07'
L = 2001.53'
P.C. = 868+58.54
P.T. = 888+60.07
e = 0.033 FT./FT.
Ls = 420'
(65 MPH)



STA. 869+20 ℄ CONST. HWY. 67- IN PLACE
DROP INLET IN MEDIAN WITH
42" x 75' R.C. PIPE INLET WITH HDWL. LT. - RETAIN
AND 42" x 80' R.C. PIPE OUTLET WITH HDWL. RT. - RETAIN
REMOVE DROP INLET AND CONSTRUCT
TYPE TM DROP INLET IN MEDIAN ON LT. SIDE OF BARRIER WALL
3'-0" x 3'-0" x H= 12'-0"
Q50 = 15.19 CFS, D.A.= 2.72 ACRES

STA. 869+19 ℄ CONST. HWY. 67 - IN PLACE
42" X 41' R.C. PIPE CULVERT 151' RT. WITH HDWL. LT. AND RT.
RETAIN

STA. 874+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-9"
WITH 24" x 74' R.C. PIPE OUTLET ON RT.
(CLASS III) (TYPE 3) BEDDING WITH FES RT.
24" FES = 1 EACH

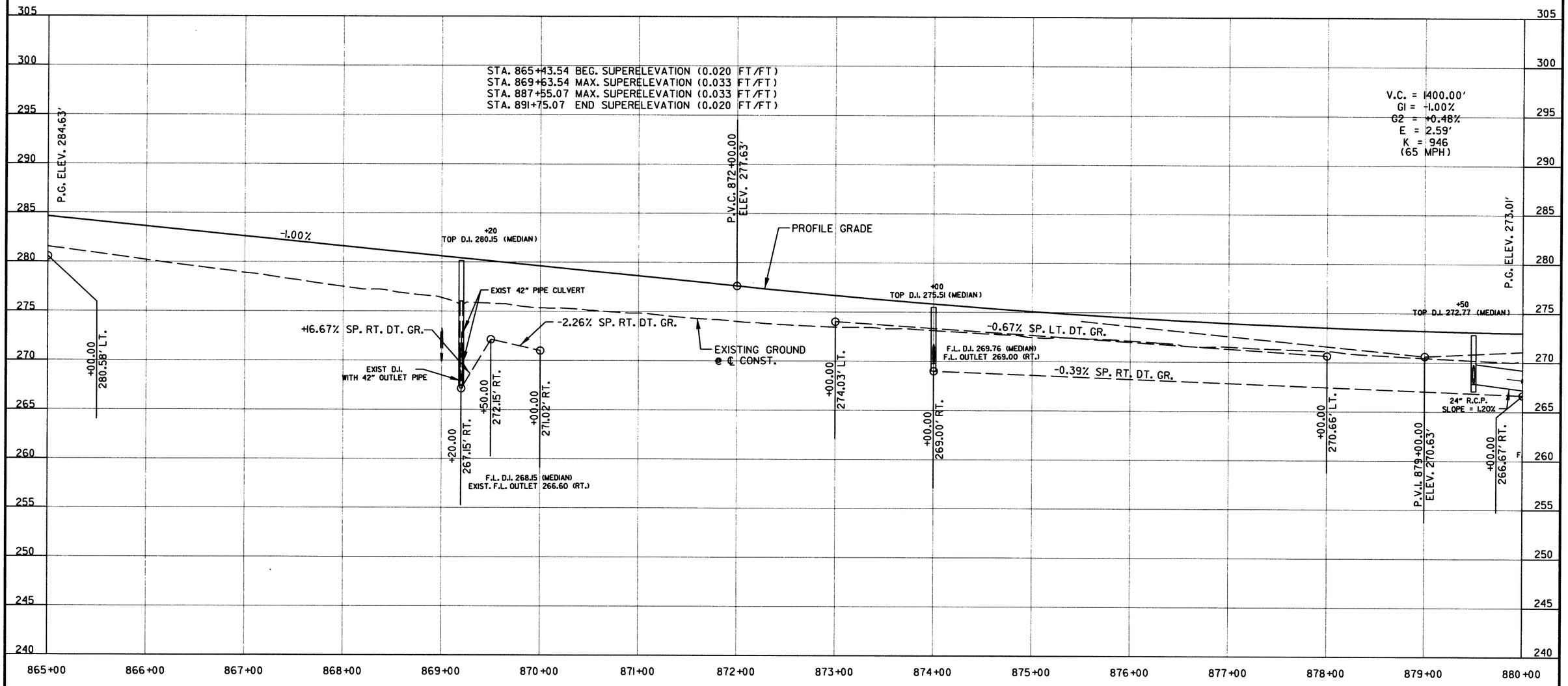
STA. 879+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 96' R.C. PIPE CULVERT
TO D.I. @ STA. 880+50 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 865+00 TO 880+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	197	434

(2) PROFILE STA. 865+00 TO 880+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 865+00 TO 880+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
11/30/2016			

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	198	434

2 PLAN STA. 880+00 TO 895+00

HWY. 67
P.I. = 878+69.61
Δ = 20°00'55" RT.
D = 1°00'00"
T = 1011.07'
L = 2001.53'
P.C. = 868+58.54
P.T. = 888+60.07
e = 0.033 FT./FT.
Ls = 420'
(65 MPH)

REMOVAL & DISPOSAL OF EXISTING GUARD CABLE POST — EACH
STA. 883+17 ℄ CONST. HWY. 67 LT. - L.M.L. - 6
STA. 883+17 ℄ CONST. HWY. 67 RT. - R.M.L. - 1

STA. 883+05 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 78 ON LT. WITH SES
TO R.C. BOX CULVERT @ STA. 883+18
REMOVE

STA. 883+32 ℄ CONST. HWY. 67 - IN PLACE
18" x 20' R.C. PIPE INLET 78' ON LT. WITH SES
TO R.C. BOX CULVERT @ STA. 883+18
REMOVE

STA. 886+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 76' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH

STA. 883+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 9.99 CFS, D.A. = 2.92 ACRES

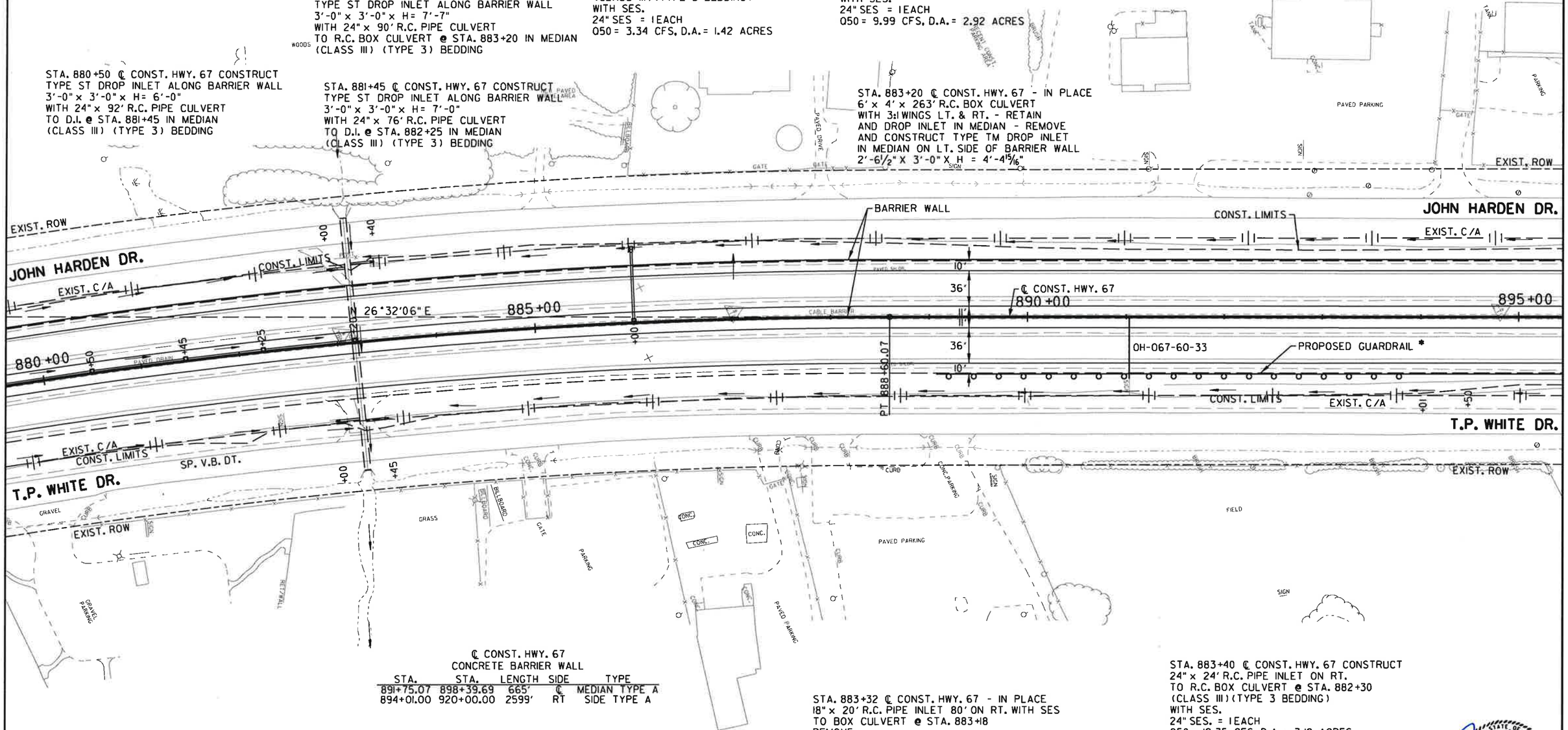
STA. 883+00 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 3.34 CFS, D.A. = 1.42 ACRES

STA. 882+25 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-7"
WITH 24" x 90' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 883+20 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 880+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-0"
WITH 24" x 92' R.C. PIPE CULVERT
TO D.I. @ STA. 881+45 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 881+45 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-0"
WITH 24" x 76' R.C. PIPE CULVERT
TO D.I. @ STA. 882+25 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING

STA. 883+20 ℄ CONST. HWY. 67 - IN PLACE
6' x 4' x 263' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT. - RETAIN
AND DROP INLET IN MEDIAN - REMOVE
AND CONSTRUCT TYPE TM DROP INLET
IN MEDIAN ON LT. SIDE OF BARRIER WALL
2'-6½" X 3'-0" X H = 4'-4 15/16"



℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
891+75.07	898+39.69	665'	℄	MEDIAN TYPE A
894+01.00	920+00.00	2599'	RT	SIDE TYPE A

STA. 883+00 ℄ CONST. HWY. 67 CONSTRUCT
30" x 24' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
30" SES. = 1 EACH
Q50 = 13.78 CFS, D.A. = 3.24 ACRES

STA. 883+05 ℄ CONST. HWY. 67 - IN PLACE
18" x 22' R.C. PIPE INLET 80' ON RT. WITH SES
TO BOX CULVERT @ STA. 883+18
REMOVE

STA. 883+32 ℄ CONST. HWY. 67 - IN PLACE
18" x 20' R.C. PIPE INLET 80' ON RT. WITH SES
TO BOX CULVERT @ STA. 883+18
REMOVE

STA. 883+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 882+30
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES. = 1 EACH
Q50 = 12.35 CFS, D.A. = 3.12 ACRES

LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 889+07.25 TO STA. 894+01.00 RT. OF R.M.L.	425 LIN. FT.	1 EACH	1 EACH

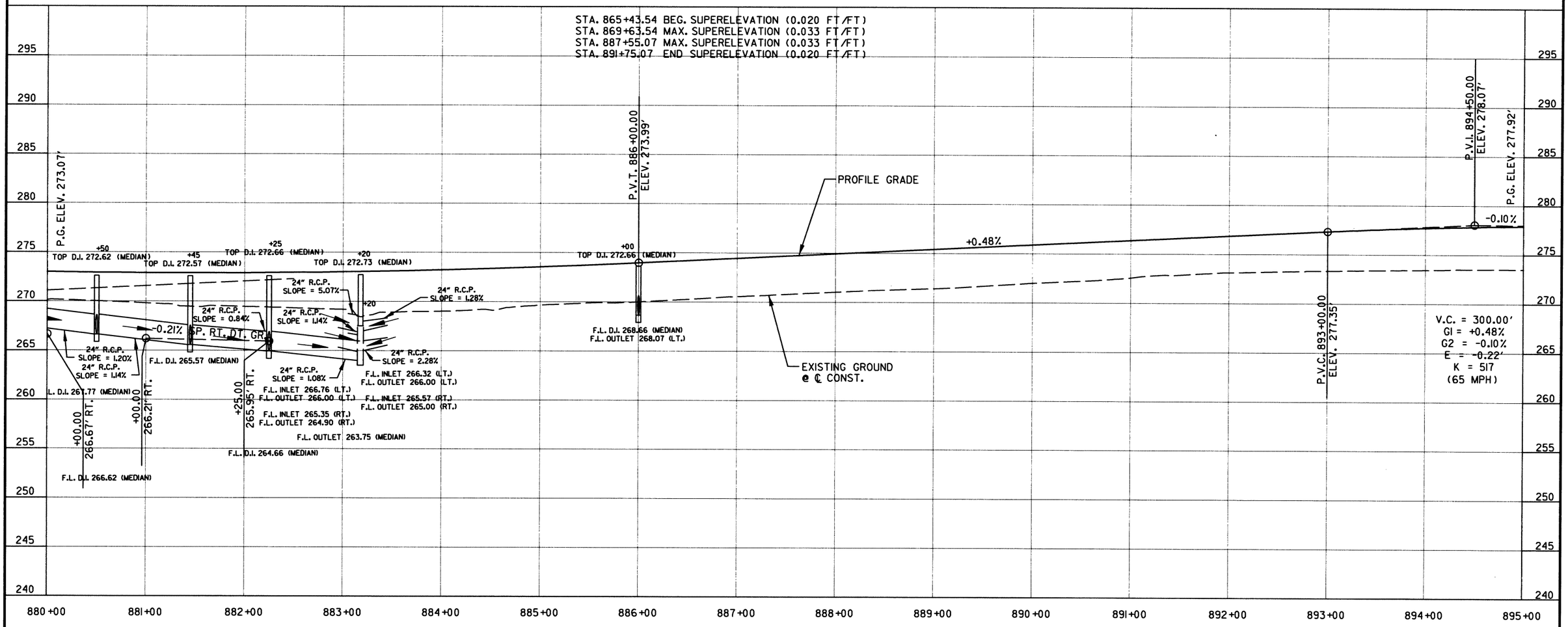
* SEE SIGNING SHEETS, SPECIAL DETAILS, AND GUARDRAIL STD. DWGS. FOR ADDITIONAL INFORMATION.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
11/30/16

PLAN MAIN LANES
STA. 880+00 TO 895+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	199	434

(2) PROFILE STA. 880+00 TO 895+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/96

PROFILE MAIN LANES
STA. 880+00 TO 895+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	200	434

2 PLAN STA. 895+00 TO 910+00

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
898+39.69	901+75.00	335'	℄	MEDIAN TYPE B
901+75.00	910+27.00	852'	℄	MEDIAN TYPE C

℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
901+00	917+50	1650'	LT	22.28'	4084

STA. 902+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-6"
WITH 24" x 76' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH

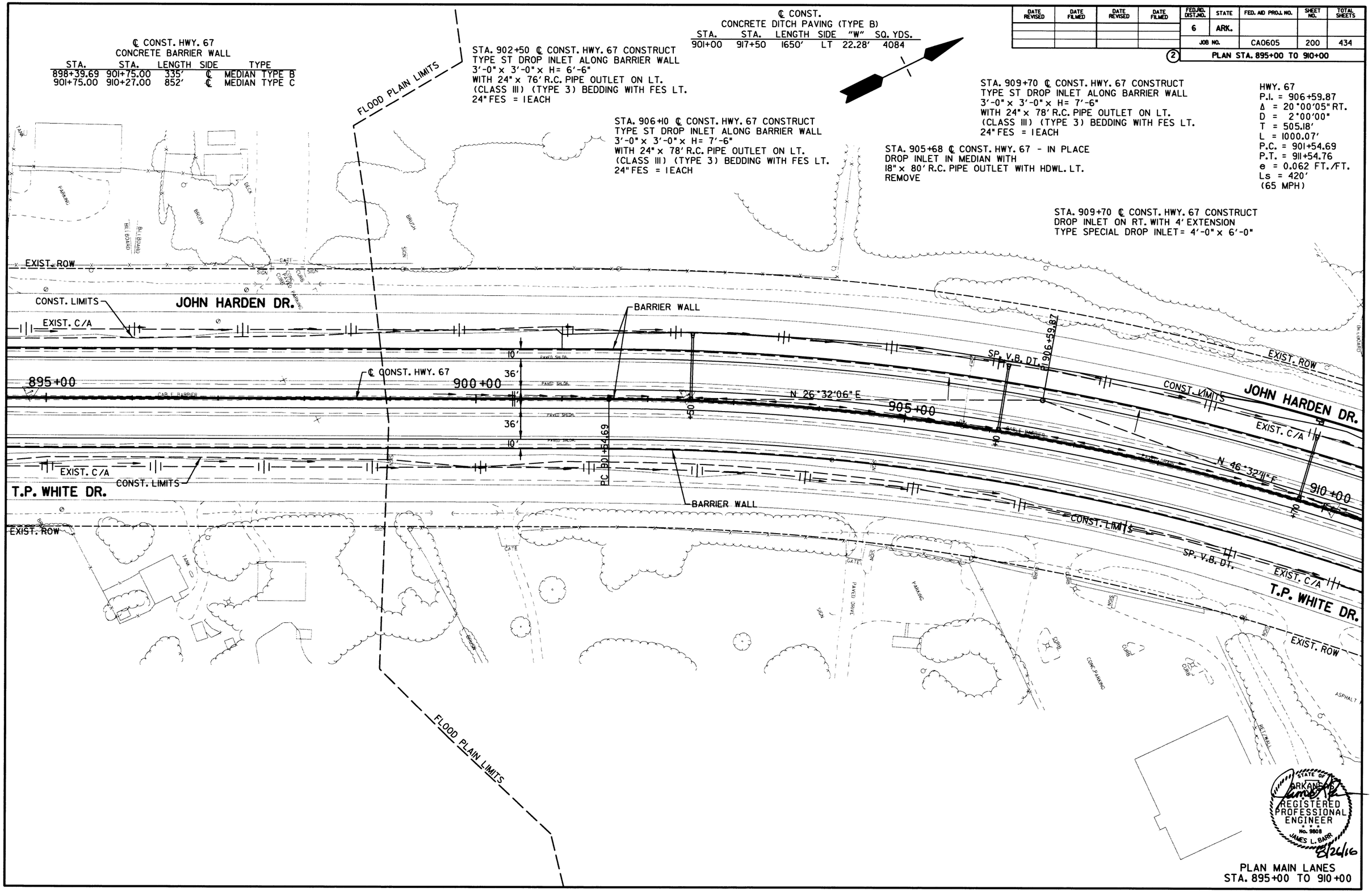
STA. 906+10 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-6"
WITH 24" x 78' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH

STA. 909+70 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-6"
WITH 24" x 78' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH

STA. 905+68 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
18" x 80' R.C. PIPE OUTLET WITH HDWL. LT.
REMOVE

HWY. 67
P.I. = 906+59.87
Δ = 20°00'05" RT.
D = 2°00'00"
T = 505.18'
L = 1000.07'
P.C. = 901+54.69
P.T. = 911+54.76
e = 0.062 FT./FT.
Ls = 420'
(65 MPH)

STA. 909+70 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 4' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

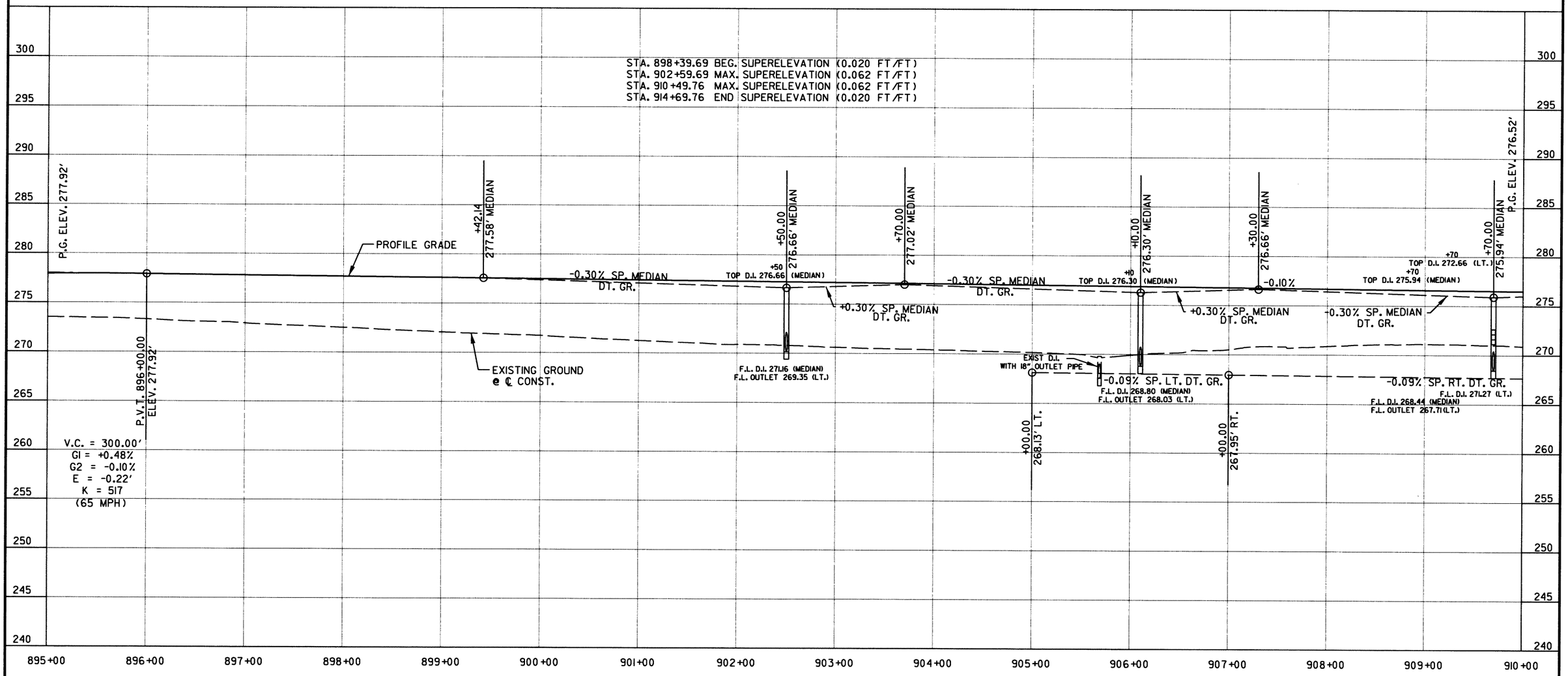


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/24/16

PLAN MAIN LANES
STA. 895+00 TO 910+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	201	434

(2) PROFILE STA. 895+00 TO 910+00



STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 895+00 TO 910+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	202	434

(2) PLAN STA. 911+00 TO 926+00

STA. 913+00 ℄ CONST. HWY. 67 - IN PLACE
18" x 20' R.C. PIPE INLET 76' ON LT.
TO BOX CULVERT @ STA. 913+13
PLUG & ABANDON

STA. 913+43 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET 75' ON LT. WITH
18" x 20' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 913+13
REMOVE

STA. 912+90 ℄ CONST. HWY. 67 CONSTRUCT
24" x 22' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 913+15
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1 EACH
Q50 = 15.80 CFS, D.A. = 4.57 ACRES

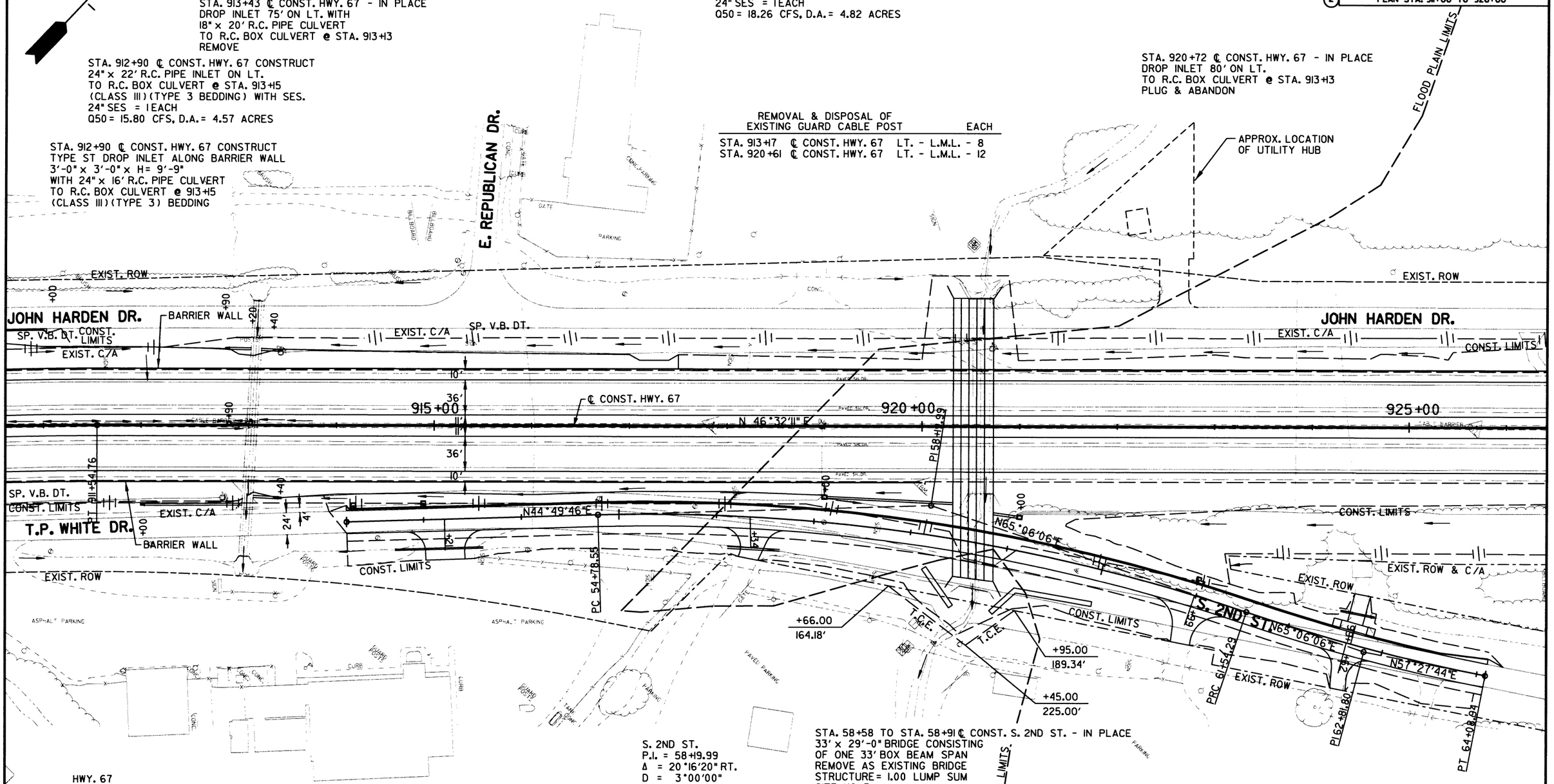
STA. 912+90 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H = 9'-9"
WITH 24" x 16' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ 913+15
(CLASS III)(TYPE 3) BEDDING

STA. 913+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 18' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 913+20
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1 EACH
Q50 = 18.26 CFS, D.A. = 4.82 ACRES

STA. 920+72 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET 80' ON LT.
TO R.C. BOX CULVERT @ STA. 913+13
PLUG & ABANDON

REMOVAL & DISPOSAL OF
EXISTING GUARD CABLE POST — EACH

STA. 913+17 ℄ CONST. HWY. 67 LT. - L.M.L. - 8
STA. 920+61 ℄ CONST. HWY. 67 LT. - L.M.L. - 12



HWY. 67
P.I. = 906+59.87
Δ = 20°00'05" RT.
D = 2°00'00"
T = 505.18'
L = 1000.07'
P.C. = 901+54.69
P.T. = 911+54.76
e = 0.062 FT./FT.
Ls = 420'
(65 MPH)

℄ CONST.
CONCRETE DITCH PAVING (TYPE B)

STA.	STA.	LENGTH	SIDE	"W"	SQ. YDS.
58+20	58+50	30'	RT T.P. WHITE DR.	5.00'	17
58+90	60+00	110'	RT T.P. WHITE DR.	5.00'	61
913+10	919+00	590'	RT	11.65'	764

S. 2ND ST.
P.I. = 58+19.99
Δ = 20°16'20" RT.
D = 3°00'00"
T = 341.44'
L = 675.74'
P.C. = 54+78.55
P.T. = 61+54.29
e = 0.040
Ls = 200'
(40 MPH)

STA. 58+58 TO STA. 58+91 ℄ CONST. S. 2ND ST. - IN PLACE
33' x 29'-0" BRIDGE CONSISTING
OF ONE 33' BOX BEAM SPAN
REMOVE AS EXISTING BRIDGE
STRUCTURE = 1.00 LUMP SUM
SITE NO. 3

℄ CONST. HWY. 67
CONCRETE BARRIER WALL

STA.	STA.	LENGTH	SIDE	TYPE
910+27.00	914+69.76	443'	℄	MEDIAN TYPE B
914+69.76	948+00.00	3330'	℄	MEDIAN TYPE A

S. 2ND ST.
P.I. = 62+81.80
Δ = 7°38'22" LT.
D = 3°00'00"
T = 127.51'
L = 254.65'
P.C. = 61+54.29
P.T. = 64+08.94
e = NA
Ls = NA
(40 MPH)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
4/7/14

PLAN MAIN LANES
STA. 911+00 TO 926+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	203	434

(2) PLAN STA. 911+00 TO 926+00

STA. 912+00 ℄ CONST. HWY. 67 CONSTRUCT
24" x 100' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 913+15
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1 EACH
Q50 = 14.52 CFS, D.A. = 4.23 ACRES

STA. 913+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 26' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 913+20
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1 EACH
Q50 = 2.70 CFS, D.A. = 0.36 ACRES

STA. 919+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 130' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 920+55
(CLASS III) (TY. 3 BEDDING)

STA. 920+60 ℄ CONST. HWY. 67 CONSTRUCT
QUINT. 8' x 5' x 286' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 719 CFS, D.A. = 698 ACRES
SPAN = 43.67'

STA. 921+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 18' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 920+55
(CLASS III) (TY. 3 BEDDING)

STA. 52+28 ℄ CONST. S. 2ND ST. CONSTRUCT
DROP INLET ON LT.
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 53+00 ℄ CONST. S. 2ND ST. CONSTRUCT
DROP INLET ON LT.
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 61+00 ℄ CONST. S. 2ND ST. CONSTRUCT
DROP INLET ON LT. WITH 4' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

STA. 53+21 ℄ CONST. S. 2ND ST. INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 15 CU. YDS. COMP. EMB. &
75 CU. YDS. UNCLASSIFIED EXCAVATION

STA. 56+34 ℄ CONST. S. 2ND ST. INSTALL
24" X 36' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 25 CU. YDS. COMP. EMB. &
5 CU. YDS. UNCLASSIFIED EXCAVATION

STA. 60+99 ℄ CONST. S. 2ND ST. INSTALL
24" X 48' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 100 CU. YDS. COMP. EMB.

STA. 62+66 ℄ CONST. S. 2ND ST. INSTALL
24" X 20" X 28' ARCH PIPE CULVERT
LT. SIDE DRAIN
CONSTRUCT APPROACH ON LT. = 5 CU. YDS. COMP. EMB. & 15
CU. YDS. UNCLASSIFIED EXCAVATION

STA. 62+66 ℄ CONST. S. 2ND ST. INSTALL
24" X 38' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 50 CU. YDS. COMP. EMB.

STA. 912+95 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET WITH 24" x 20' R.C. PIPE INLET 76' ON RT.
TO R.C. BOX CULVERT @ STA. 913+13
REMOVE

STA. 913+12 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN
TO R.C. BOX CULVERT @ STA. 913+13
MODIFY DROP INLET AND CAP TOP

STA. 913+13 ℄ CONST. HWY. 67 - IN PLACE
DBL. 5' x 3' x 263' R.C. BOX CULVERT
RETAIN

STA. 913+34 ℄ CONST. HWY. 67 - IN PLACE
18" x 20' R.C. PIPE INLET 75' ON RT.
TO BOX CULVERT @ STA. 913+13
REMOVE

STA. 918+97 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
24" x 69' R.C. PIPE OUTLET WITH HDWL. RT.
PLUG AND ABANDON

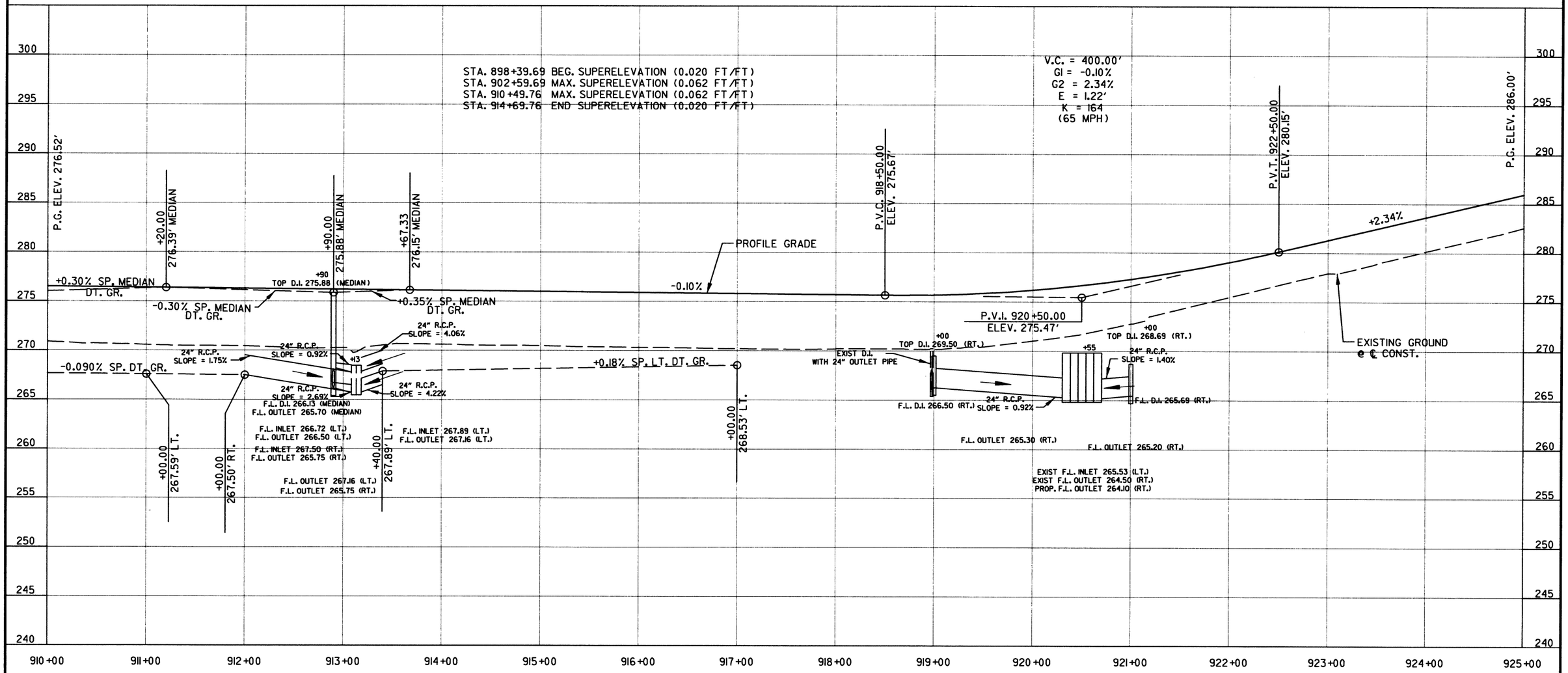
STA. 920+60 ℄ CONST. HWY. 67 - IN PLACE
TRI. 8' x 5' x 201' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
REMOVE

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PLAN MAIN LANES
STA. 911+00 TO 926+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	204	434

(2) PROFILE STA. 910+00 TO 925+00

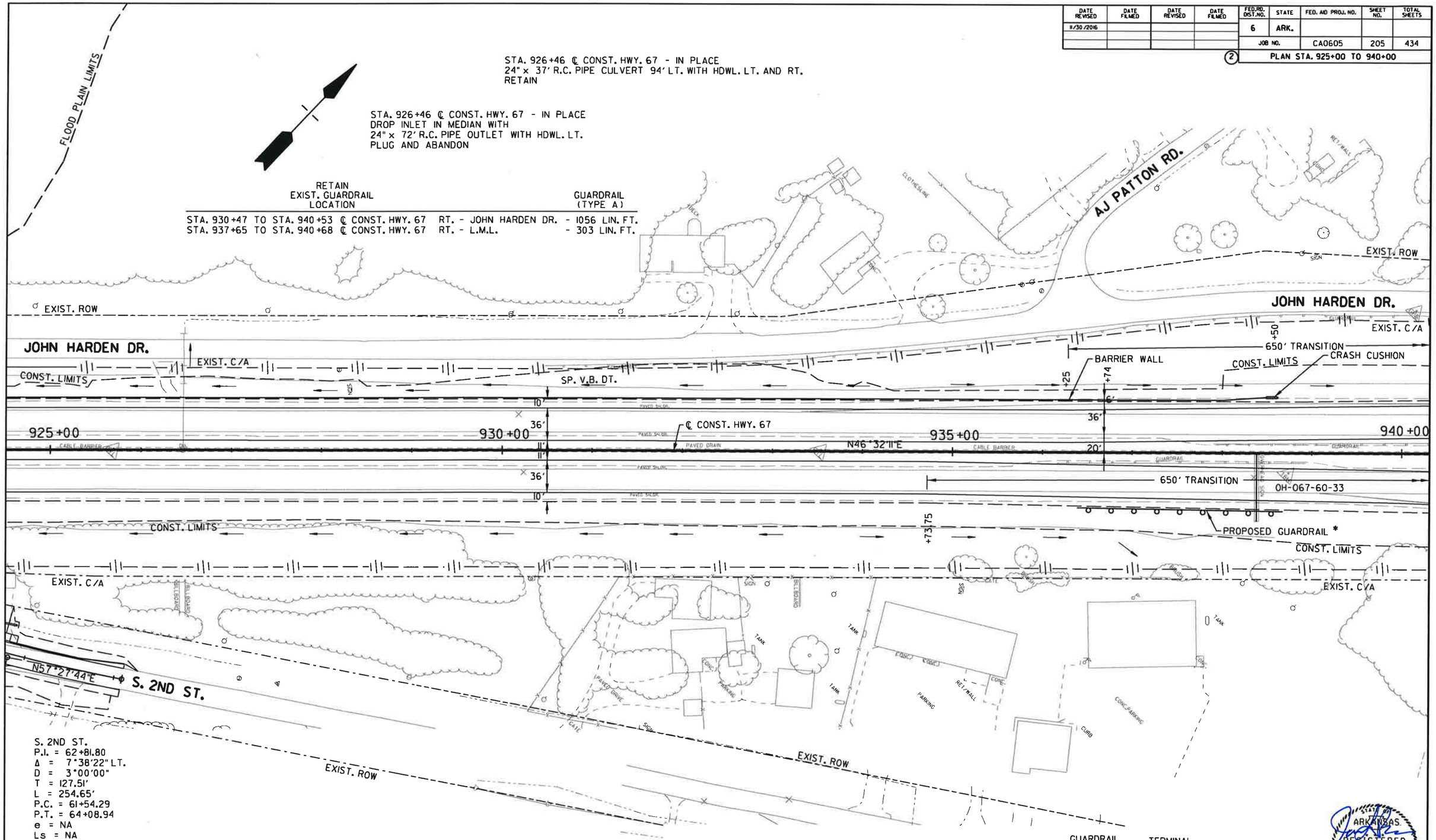


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 910+00 TO 925+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	205	434

(2) PLAN STA. 925+00 TO 940+00



RETAIN EXIST. GUARDRAIL LOCATION

		GUARDRAIL (TYPE A)
STA. 930+47 TO STA. 940+53 ℄ CONST. HWY. 67	RT. - JOHN HARDEN DR.	- 1056 LIN. FT.
STA. 937+65 TO STA. 940+68 ℄ CONST. HWY. 67	RT. - L.M.L.	- 303 LIN. FT.

REMOVAL & DISPOSAL OF EXIST. GUARDRAIL LOCATION

	GUARDRAIL
STA. 935+91 TO STA. 938+94 ℄ CONST. HWY. 67 LT. - R.M.L.	- 303 LIN. FT.

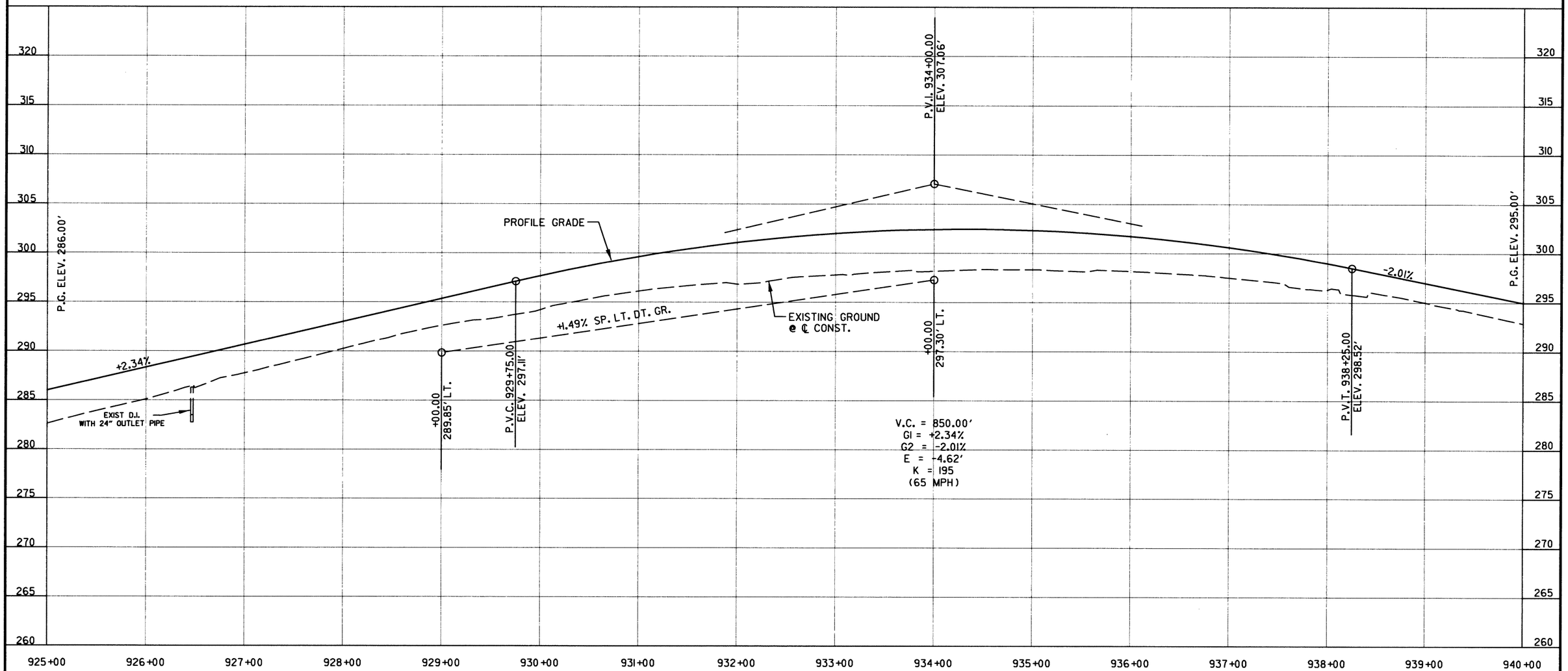
LOCATION	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
STA. 936+39.00 TO STA. 938+64.00 RT. OF R.M.L.	175 LIN. FT.	1 EACH	1 EACH

* SEE SIGNING SHEETS, SPECIAL DETAILS, AND GUARDRAIL STD. DWGS. FOR ADDITIONAL INFORMATION.

PLAN MAIN LANES
STA. 925+00 TO 940+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	206	434

(2) PROFILE STA. 925+00 TO 940+00



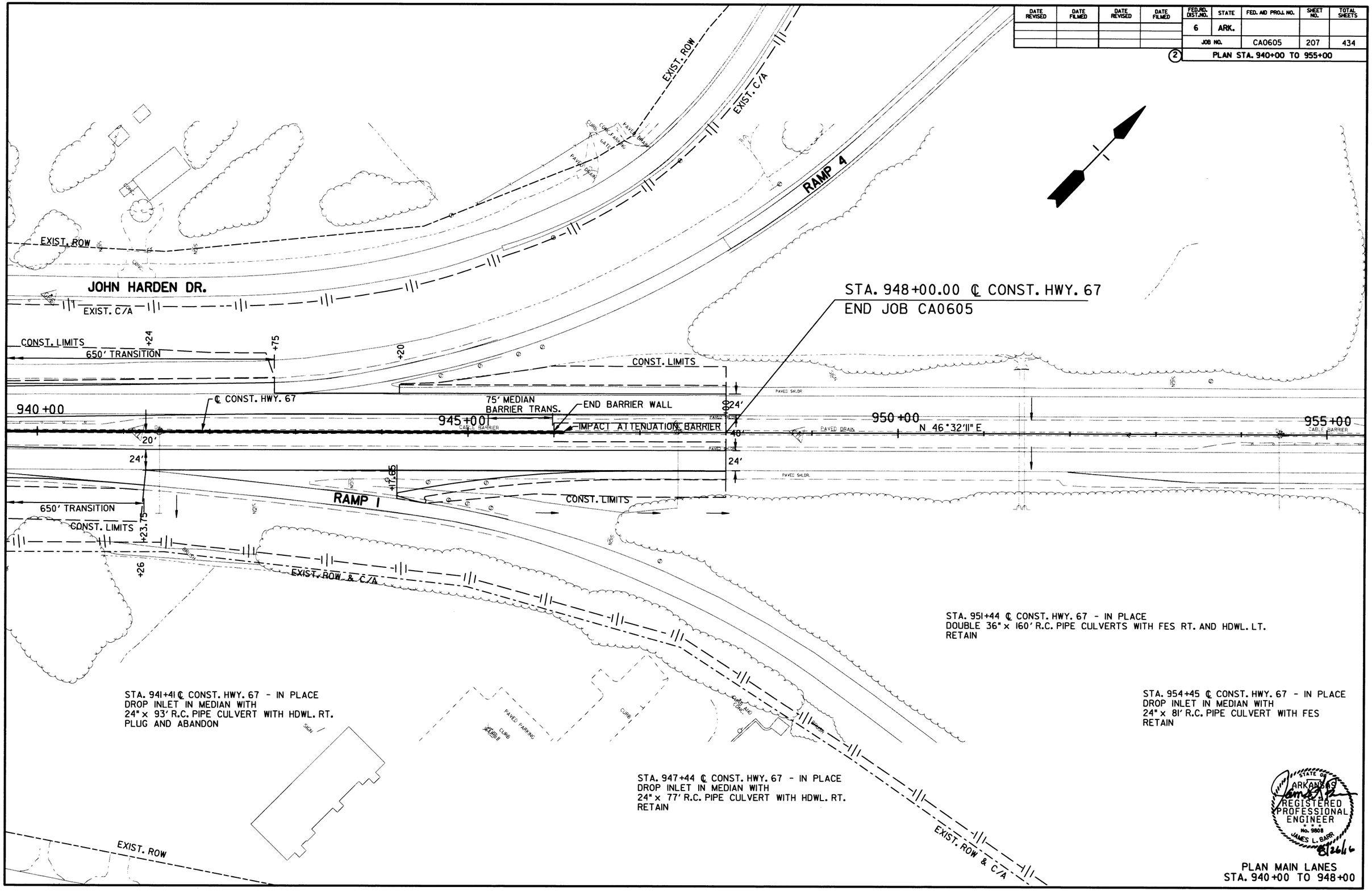
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 925+00 TO 940+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	207	434

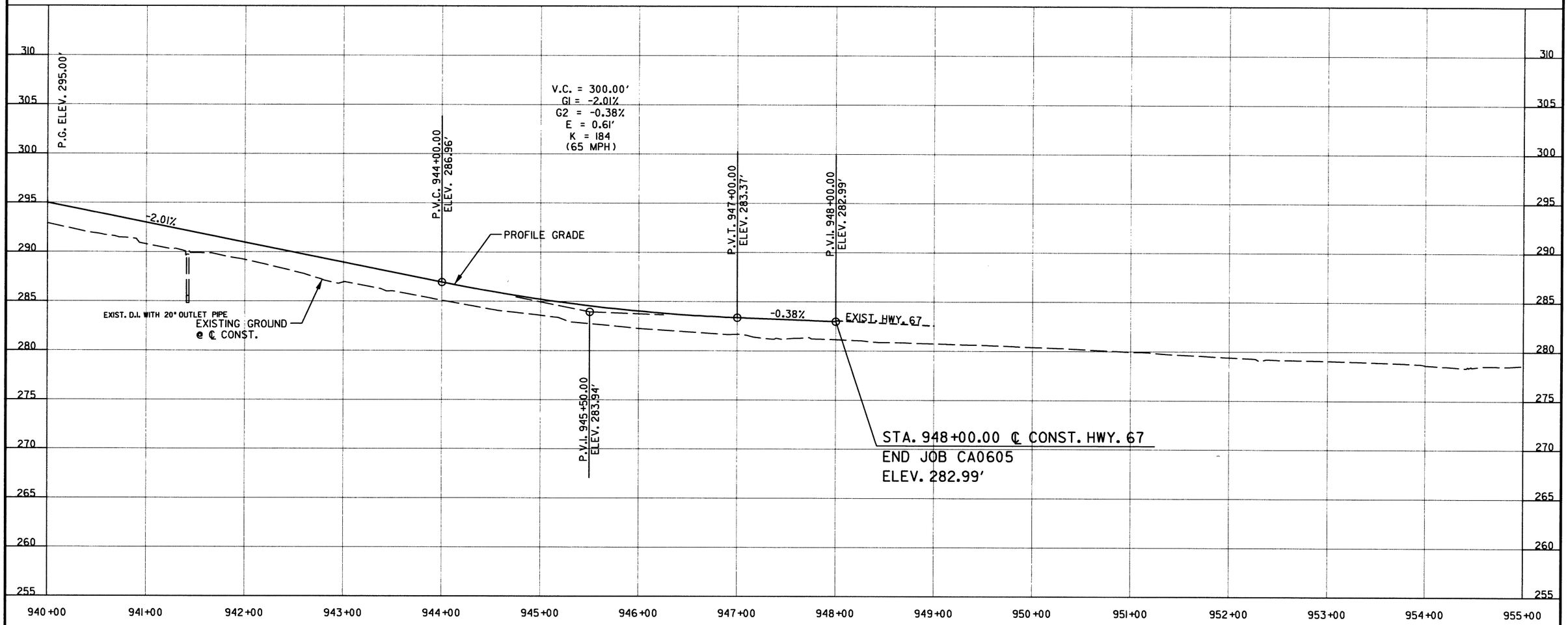
2 PLAN STA. 940+00 TO 955+00



PLAN MAIN LANES
STA. 940+00 TO 948+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	208	434

(2) PROFILE STA. 940+00 TO 955+00

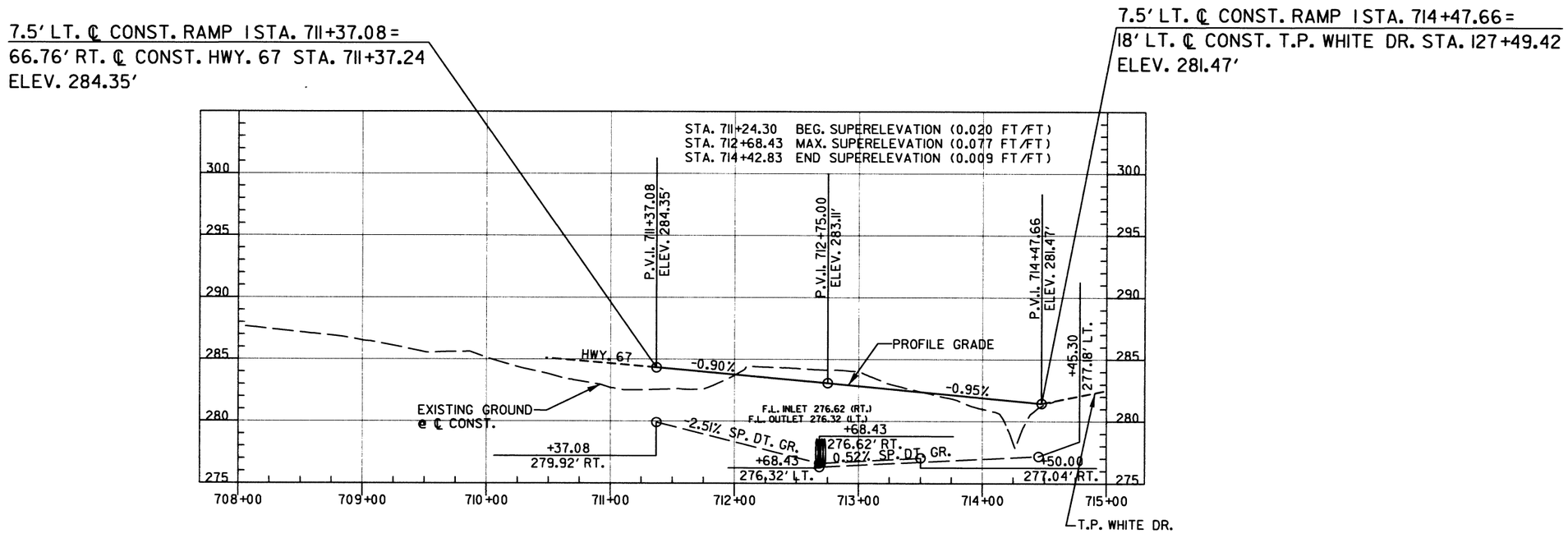


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE MAIN LANES
STA. 940+00 TO 955+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	209	434

(2) PROFILE RAMP I (VAN. BLVD. EXIT)
STA. 708+00 TO 715+00



STATE OF ARKANSAS
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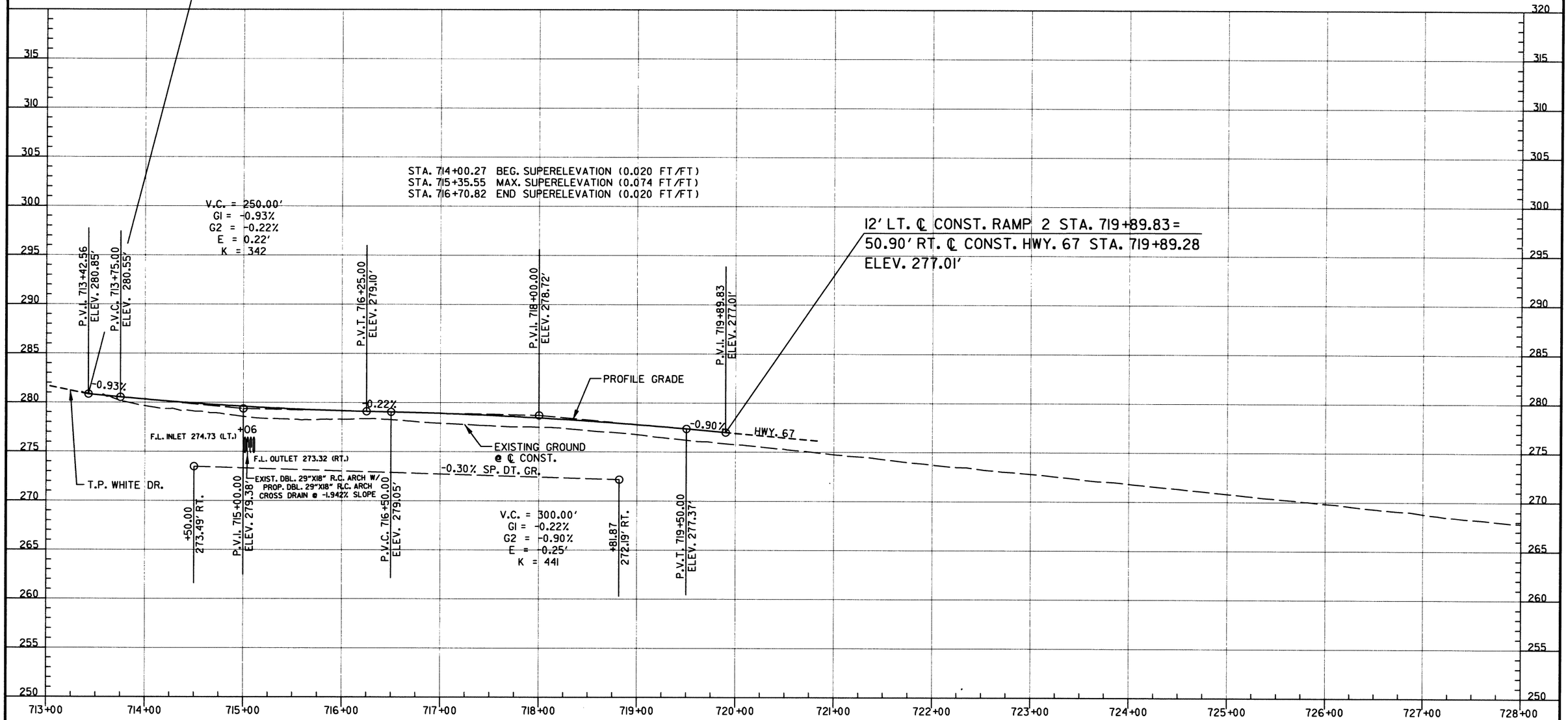
No. 9808
JAMES L. BARR
8/26/16

PROFILE RAMP I
STA. 708+00 TO 715+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	210	434

(2) PROFILE RAMP 2 (VAN. BLVD. ENTRANCE)
STA. 713+00 TO 728+00

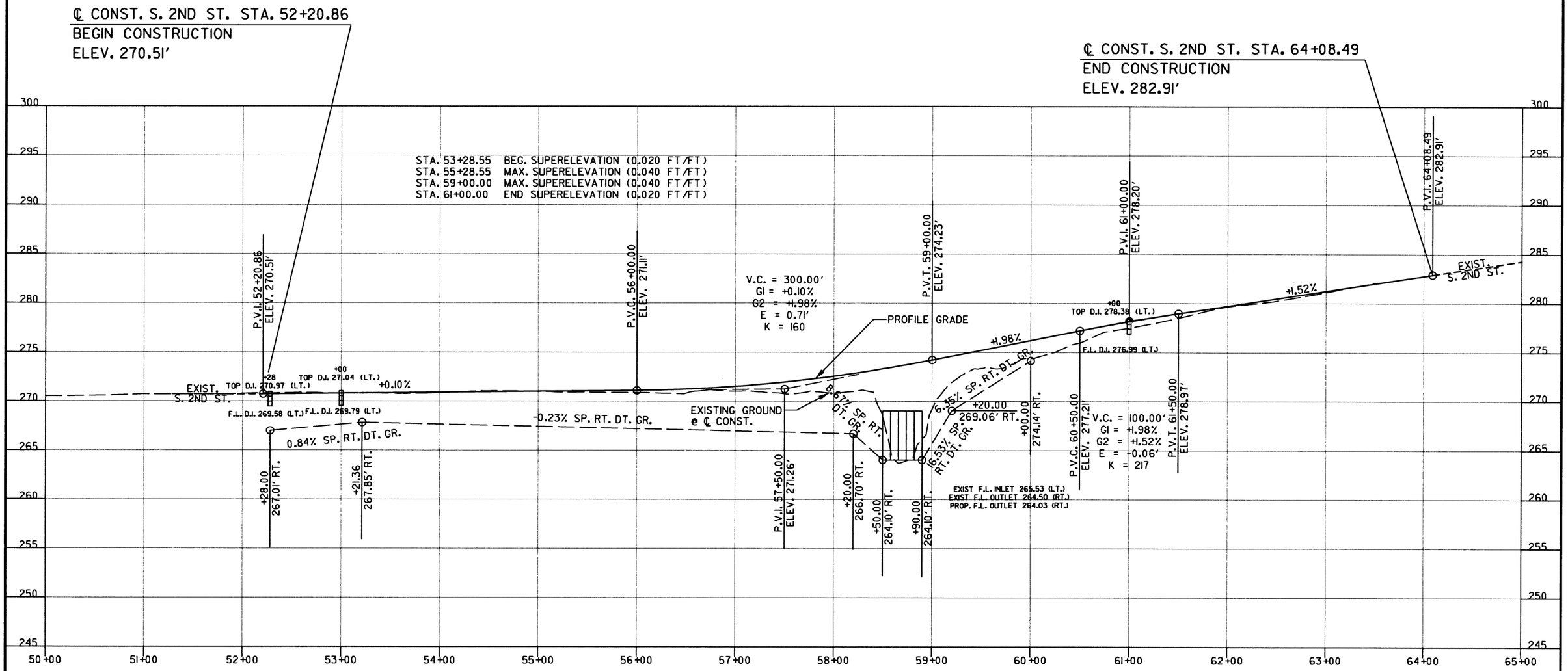


STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE RAMP 2 (VAN. BLVD. ENTRANCE)
STA. 713+00 TO 728+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	211	434

(2) PROFILE S. 2ND. ST. STA. 50+00 TO 65+00



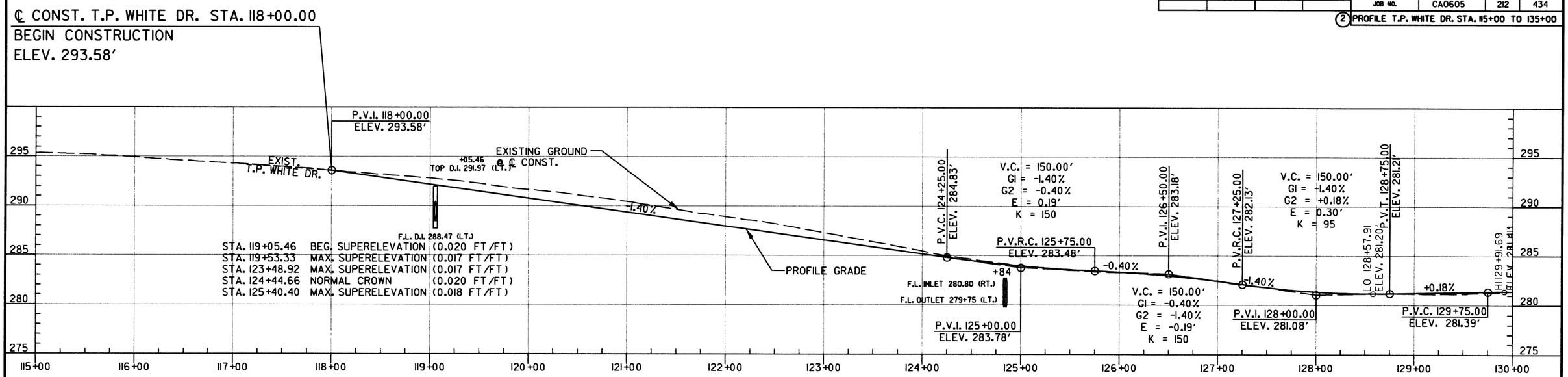
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

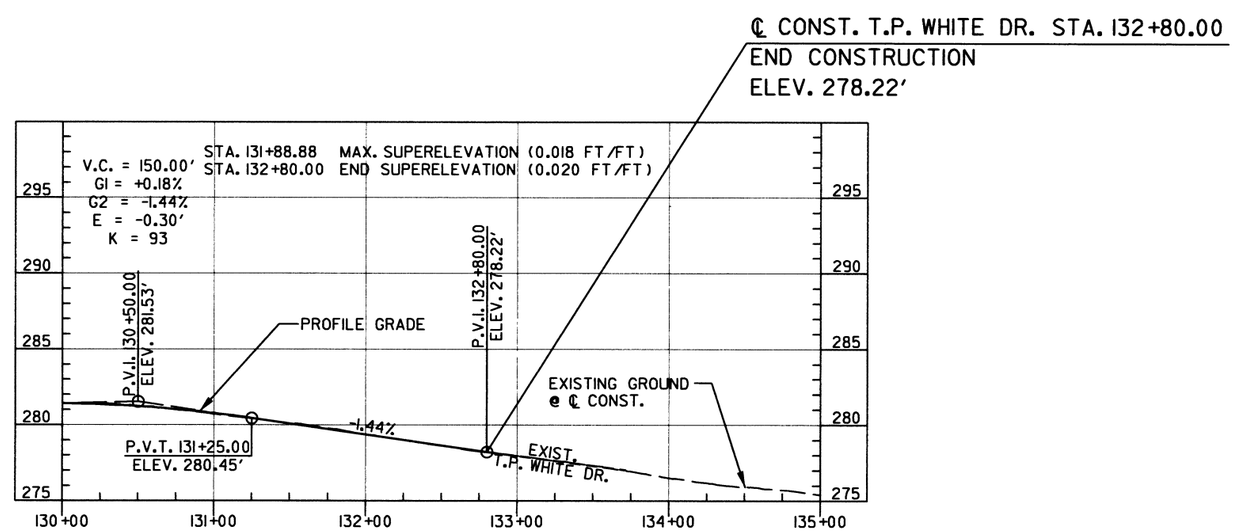
PROFILE S. 2ND ST.
STA. 50+00 TO 65+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	212	434

(2) PROFILE T.P. WHITE DR. STA. 115+00 TO 135+00





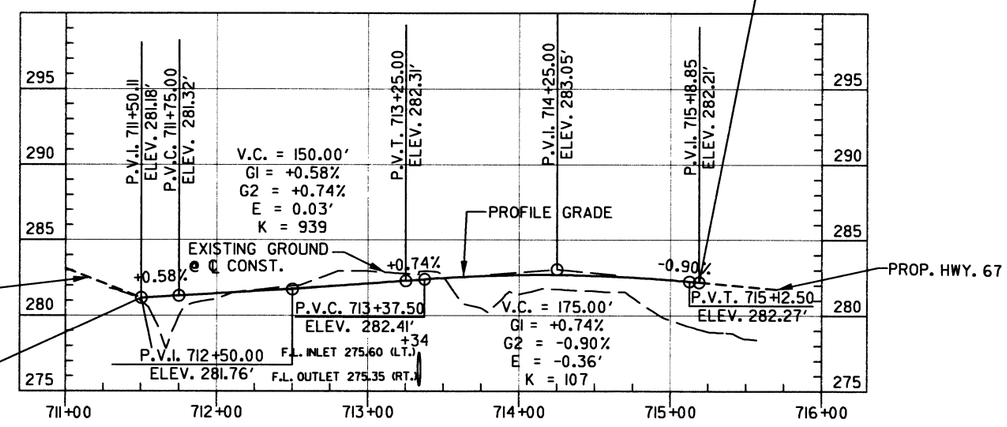
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE T.P. WHITE DR.
STA. 115+00 TO 135+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	213	434

(2) PROFILE TEMP. RAMP 2 (VAN. BLVD. ENTRANCE)
STA. 711+00 TO 716+00

7.5' LT. ℄ CONST. TEMP. RAMP 2 STA. 715+18.85 =
3' LT. ℄ CONST. HWY. 67 STA. 715+17.72
ELEV. 282.21'



7.5' LT. ℄ CONST. TEMP. RAMP 2 STA. 711+50.11
END CONSTRUCTION
ELEV. 281.18'

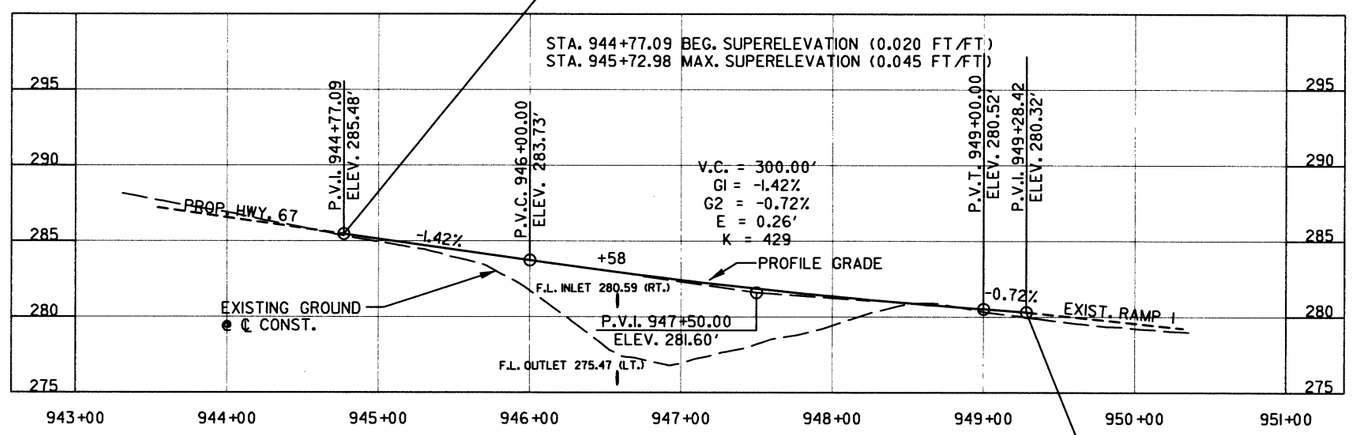
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE TEMP. RAMP 2 (VAN. BLVD. ENTRANCE)
STA. 711+00 TO 716+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	214	434

(2) PROFILE TEMP. RAMP I (HWY. 5 EXIT)
STA. 943+00 TO 951+00

7.5' LT. ℄ CONST. TEMP. RAMP I STA. 944+77.09 =
25' RT. ℄ CONST. HWY. 67 STA. 944+77.60
ELEV. 285.48'



7.5' LT. ℄ CONST. TEMP. RAMP I STA. 949+28.42
END CONSTRUCTION
ELEV. 280.32'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

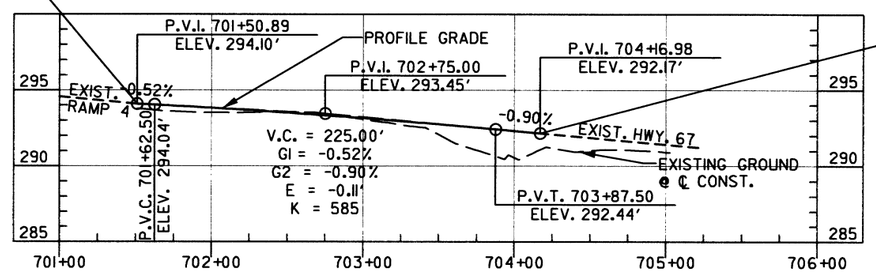
PROFILE TEMP. RAMP I (HWY. 5 EXIT)
STA. 943+00 TO 951+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	215	434

(2) PROFILE TEMP. EXIT RAMP 4 (VAN. BLVD.)
STA. 700+00 TO 706+00

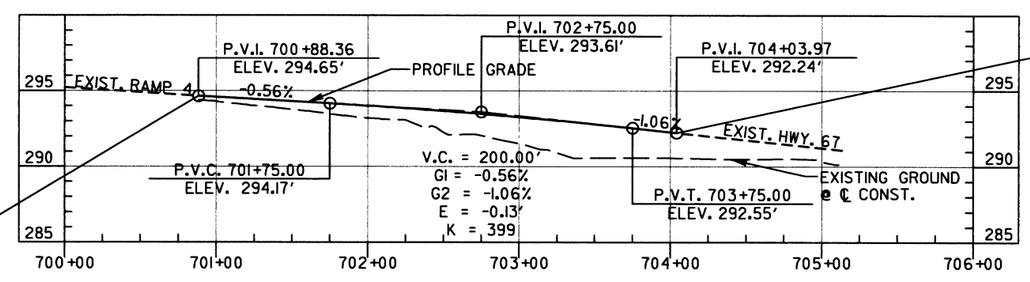
7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 701+50.89
END CONSTRUCTION
ELEV. 294.10'

TEMP. RAMP 4 - MOT 2A



7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 704+16.98 =
19.49' RT. ℄ CONST. HWY. 67 STA. 704+15.93
ELEV. 292.17'

TEMP. RAMP 4 - MOT 2B/3A/3B



7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 704+03.97 =
52.89' LT. ℄ CONST. HWY. 67 STA. 704+04.89
ELEV. 292.24'

7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 700+88.36
END CONSTRUCTION
ELEV. 294.65'

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/96

PROFILE TEMP. EXIT RAMP 4 (VAN. BLVD.)
STA. 700+00 TO 706+00

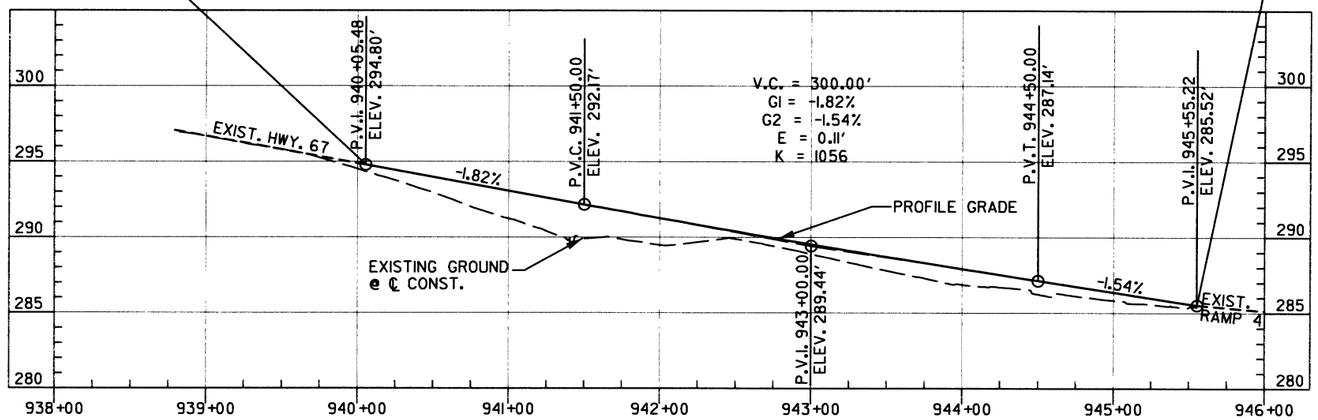
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	216	434

(2) PROFILE TEMP. ENTRANCE RAMP 4 (HWY. 5)
STA. 938+00 TO 947+00

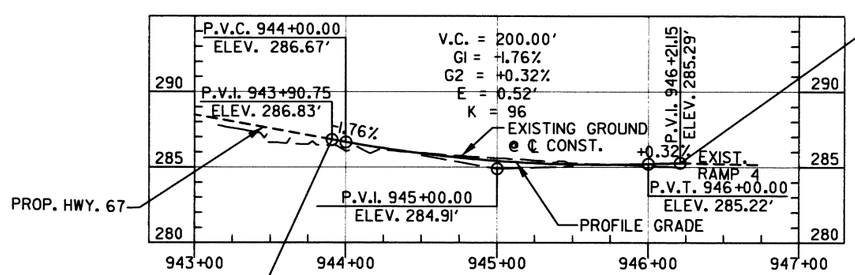
7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 940+05.48 =
22' RT. ℄ CONST. HWY. 67 STA. 940+05.88
ELEV. 294.80'

7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 945+55.22
END CONSTRUCTION
ELEV. 285.52'

TEMP. RAMP 4 - MOT 2A



TEMP. RAMP 4 - MOT 2B/3A



7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 946+21.15
END CONSTRUCTION
ELEV. 285.29'

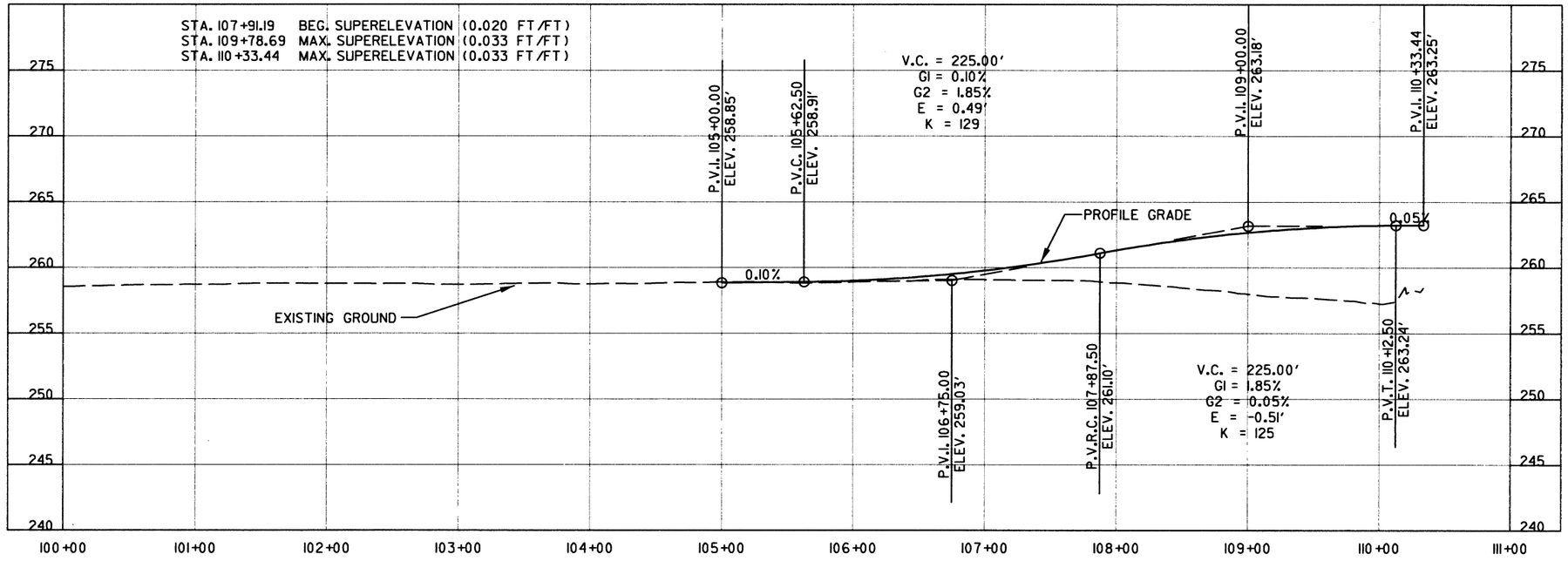
7.5' RT. ℄ CONST. TEMP. RAMP 4 STA. 943+90.75 =
59' LT. ℄ CONST. HWY. 67 STA. 943+91.39
ELEV. 286.83'

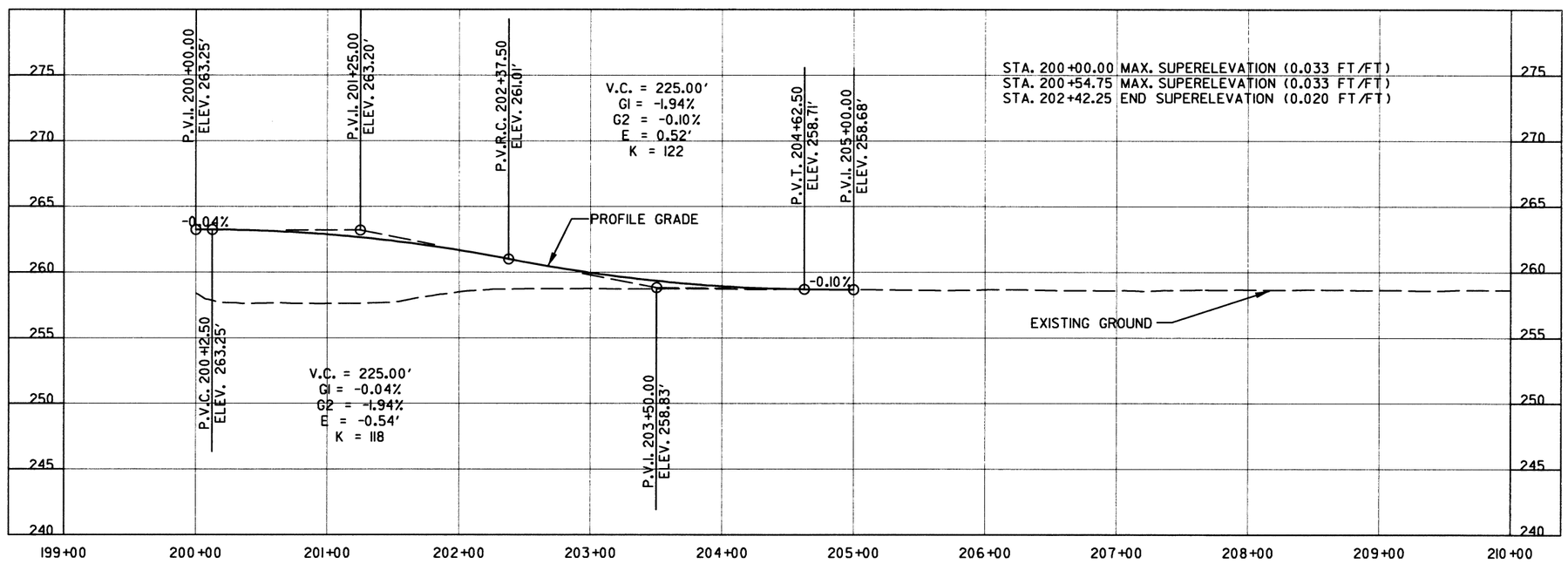
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
9/19/06

PROFILE TEMP. ENTRANCE RAMP 4 (HWY. 5)
STA. 938+00 TO 947+00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	217	434

(2) PROFILE TEMP. APPROACH STAGE ID
SOUTH AND NORTH APPROACHES





STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

PROFILE TEMP. APPROACH STAGE ID
SOUTH AND NORTH APPROACHES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

TRAFFIC SIGNAL NOTES:

1. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2014) NATIONAL ELECTRICAL CODE, NFPA 101(2012) LIFE SAFETY CODE, STATE ELECTRICAL CODE AND LOCAL ELECTRICAL CODE.
2. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (EGC) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND EGC TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.
3. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. IF THE SERVICE POINT IS OVER 10 FEET FROM THE CONTROLLER, THE CONTRACTOR SHALL PROVIDE AND INSTALL A SEPARATE TWO CIRCUIT EXTERNAL BREAKER (SECONDARY BREAKER) ON OR NEAR THE TRAFFIC SIGNAL CONTROLLER CABINET AND SHALL INSTALL CONDUIT, ELECTRICAL SERVICE WIRE (2c/#6 USE RATED, WITH GROUND TYPICAL), AND PERFORM WIRING TO TAP TO THE CITY'S MAIN BREAKER AS PART OF THIS CONTRACT. CONDUIT IS PAID FOR AS A SEPARATE ITEM OF THIS CONTRACT. TWO CIRCUIT BREAKERS, CONSIDERED SUBSIDIARY TO THE CONTROL EQUIPMENT, ARE NEEDED WHERE STREET LIGHTING IS INCLUDED. AS PART OF THE SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2c/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT FROM THE CIRCUIT SERVING THE TRAFFIC SIGNAL CONTROL EQUIPMENT FROM THE POINT OF TIE-IN AT THE SECONDARY BREAKER PROVIDED BY THE CONTRACTOR.
4. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE.
5. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO THE CONTROLLER.
6. CONTROLLER CABINET SHALL BE WIRED SUCH THAT DURING FLASH OPERATIONS POWER TO THE LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS.
7. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
8. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE DETAILS MAY BE USED.
9. TRAFFIC SIGNAL POLES SHALL BE GALVANIZED. BACKPLATES SHALL BE SUPPLIED FOR ALL SIGNAL HEADS.
10. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PAVEMENT MARKING PLAN SHEETS.
11. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR SIGNAL HEAD CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON SPECIAL DETAILS). PAYMENT WILL BE INCLUDED IN SECTION 714, AHTD STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
12. ALL BOXES SHALL BE (TYPE 2 HD) UNLESS OTHERWISE INDICATED. ALL CONDUIT SHALL BE 3" DIAMETER UNLESS SPECIFIED ON PLANS.
13. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.
14. LUMINAIRE ASSEMBLIES SHALL BE OF THE FULL CUTOFF TYPE.
15. HARDWARE INPUTS MAY BE DETERMINED BY SUPPLIER. EACH DETECTOR OUTPUT SHALL INPUT THE CONTROLLER THROUGH A SEPARATE INPUT UNLESS OTHERWISE NOTED AND BE PROGRAMMED TO ACTUATE THE ASSOCIATED PHASE. COMBINATION (COMB.) DETECTORS SHALL ALSO BE PROGRAMMED TO PROVIDE VEHICLE COUNT/OCCUPANCY DATA.
16. THE LOCAL RADIO WITH ANTENNA SHALL BE COMPATIBLE WITH THE EXISTING CLOSED LOOP SYSTEM IN THE CITY.
17. TO DETERMINE UTILITY CLEARANCES ABOVE THE TRAFFIC SIGNAL POLE, REFER TO THE POLE SCHEDULE FOR VERTICAL SHAFT HEIGHT. WHERE THE POLE SCHEDULE INDICATES THAT A LUMINAIRE ARM WILL BE USED, 38 FEET SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE LUMINAIRE ARM. WHERE THE POLE SCHEDULE INDICATES A TRAFFIC SIGNAL POLE WITHOUT A LUMINAIRE ARM, A HEIGHT OF 21' SHOULD BE USED TO DETERMINE UTILITY CLEARANCE ABOVE THE TRAFFIC SIGNAL MAST ARM. AN ADDITIONAL 6 FEET SHOULD BE USED DIRECTLY ABOVE "VIDEO DETECTOR" AT LOCATIONS SHOWN ON THE SIGNAL PLANS.
18. THE DESIRABLE MINIMUM DISTANCE FROM THE FACE OF ROADWAY CURB OR SHOULDER EDGE TO THE FACE OF NON-BREAKAWAY POLE OR OBSTRUCTION IS 6 FEET. REFER TO TRAFFIC SIGNAL PLANS FOR SPECIFIC LOCATION OF POLES, CONTROLLER AND ANY OTHER NON-BREAKAWAY OBSTRUCTIONS. REFER TO "DESIGN PARAMETERS, MINIMUM CLEAR ZONE DISTANCE" FOR MINIMUM DISTANCE FROM THE EDGE OF TRAVELED WAY TO THE FACE OF A NON-BREAKAWAY POLE OR OBSTRUCTION. TRAFFIC SIGNAL POLES OR ANY OTHER NON-BREAKAWAY OBSTRUCTION SHALL NOT BE INSTALLED WITHIN THE CLEAR ZONE.
19. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.
20. CONNECTION OF TRAFFIC SIGNAL DISPLAY TO FIELD WIRING SHALL UTILIZE AN APPROVED TERMINAL STRIP BEHIND HAND-HOLE COVER AT BASE OF POLE. TERMINAL STRIP SHALL PROVIDE PROTECTION TO PREVENT EXPOSURE TO THE PUBLIC IN THE EVENT THAT POLE COVER IS MISSING. PAYMENT FOR TERMINAL STRIPS SHALL BE INCLUDED IN ITEM 714-TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION.
21. CONTROLLER CABINET LAYOUT AND ORIENTATION SHALL CONFORM TO IMSA STANDARDS.
22. ONE VIDEO PROGRAMMNG MODULE SHALL BE PROVIDED FOR AIMING AND SETUP OF DETECTORS IF THE VIDEO SYSTEM CANNOT BE ADJUSTED THROUGH HARDWARE AND SOFTWARE PROVIDED BY ITEMS WITHIN THE JOB.
23. TRAFFIC SIGNAL CONTRACTOR MUST NOTIFY RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO SIGNAL RELATED WORK. NO WORK ON TRAFFIC SIGNALS WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.
24. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.
25. DOOR PANEL TEST PUSH BUTTONS SHALL ACTUATE INDICATED PHASES. DETECTOR ASSIGNMENTS AND/OR SIDE PANEL JUMPERS MAY REQUIRE MODFICATION.
26. ALL SYSTEM DETECTOR RACKS AND ASSOCIATED EQUIPMENT SHALL BE PROTECTED BY THE MAIN CONTROLLER CABINET POWER SURGE PROTECTION.

LOCATION:	T.P. WHITE DR./HWY. 67 RAMP 1
CITY:	JACKSONVILLE
COUNTY:	PULASKI
DISTRICT:	6
DRAWN BY:	PAR

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	219	434

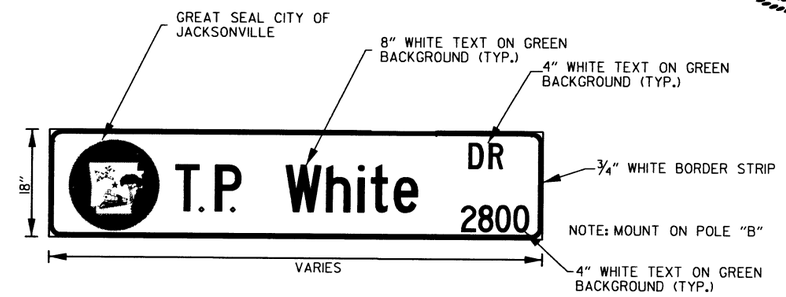
(2) SUMMARY OF TRAFFIC SIGNAL QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/9/16

SUMMARY OF TRAFFIC SIGNAL QUANTITIES

ITEM NO.	ITEM	T.P. WHITE DR./ HWY. 67 RAMP 1	UNIT
SP & 701	SYSTEM LOCAL CONTROLLER TS2-TYPE 2 (8 PHASES)	1	EACH
SP & 706	TRAFFIC SIGNAL HEAD, LED, (3 SECTION, 1 WAY)	10	EACH
708	TRAFFIC SIGNAL CABLE (5C/14 A.W.G.)	578	LIN. FT.
708	TRAFFIC SIGNAL CABLE (12C/14 A.W.G.)	281	LIN. FT.
708	TRAFFIC SIGNAL CABLE (20C/14 A.W.G.)	27	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.25")	32	LIN. FT.
710	NON-METALLIC CONDUIT (2")	43	LIN. FT.
710	NON-METALLIC CONDUIT (3")	253	LIN. FT.
711	CONCRETE PULL BOX (TYPE 2 HD)	4	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (40')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (42')	1	EACH
714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (48')	1	EACH
SP	SERVICE POINT ASSEMBLY (2 CIRCUITS)	1	EACH
✳ SP & 733	VIDEO DETECTOR (CLR)	5	EACH
733	VIDEO CABLE	678	LIN. FT.
733	VIDEO MONITOR (CLR)	1	EACH
✳ SP & 733	VIDEO PROCESSOR, EDGE CARD (2 CAMERA)	4	EACH
SP & 733	VEHICLE DETECTOR RACK (12 CHANNEL)	1	EACH
SP	ANTENNA CABLE (TYPE 6)	67	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	37	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/8 A.W.G., E.G.C.)	326	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/12 A.W.G., E.G.C.)	205	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	502	LIN. FT.
SP	LED LUMINAIRE ASSEMBLY	3	EACH
SP	LOCAL RADIO WITH ANTENNA	1	EACH
SP	LOUVERS	8	EACH
SP	18" STREET NAME SIGN	1	EACH

✳ ONE SPARE VIDEO PROCESSOR AND VIDEO DETECTOR PROVIDED TO CITY.



NOTES:

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

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

3. SEE STD. DETAIL SHEET FOR MORE INFORMATION FOR MOUNTING ON MAST ARM ASSEMBLY.

4. THE SERIES C 2000 FONT SHALL BE USED FOR ALL LETTERS.

LOCATION: T.P. WHITE DR./HWY. 67 RAMP 1
CITY: JACKSONVILLE
COUNTY: PULASKI
DISTRICT: 6
DRAWN BY: PAR

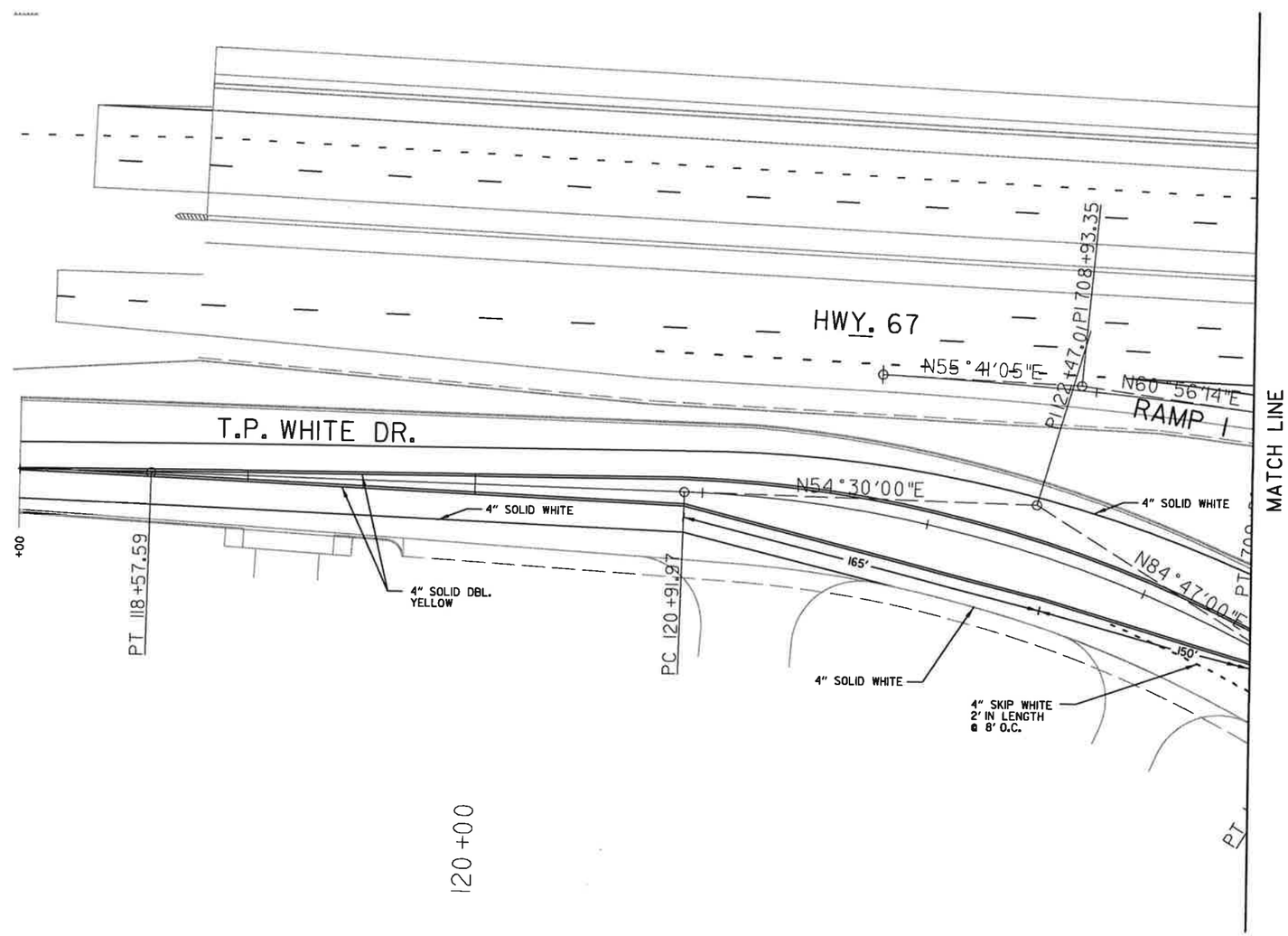
7/7/2016

CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	220	434

(2) SIGNALIZATION PLAN SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
10/7/16



PAVEMENT MARKING DETAIL - T.P. WHITE DR.

NOTE: SEE STANDARD DRAWINGS PM-1 AND PM-2 FOR ADDITIONAL INFORMATION.

NOTE: UNLESS OTHERWISE SPECIFIED, ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

SCALE IN FEET
0 30 60 120

LOCATION: T.P. WHITE DR./HWY. 67 RAMP 1
CITY: JACKSONVILLE
COUNTY: PULASKI
DISTRICT: 6
DRAWN BY: PAR

7/6/2016

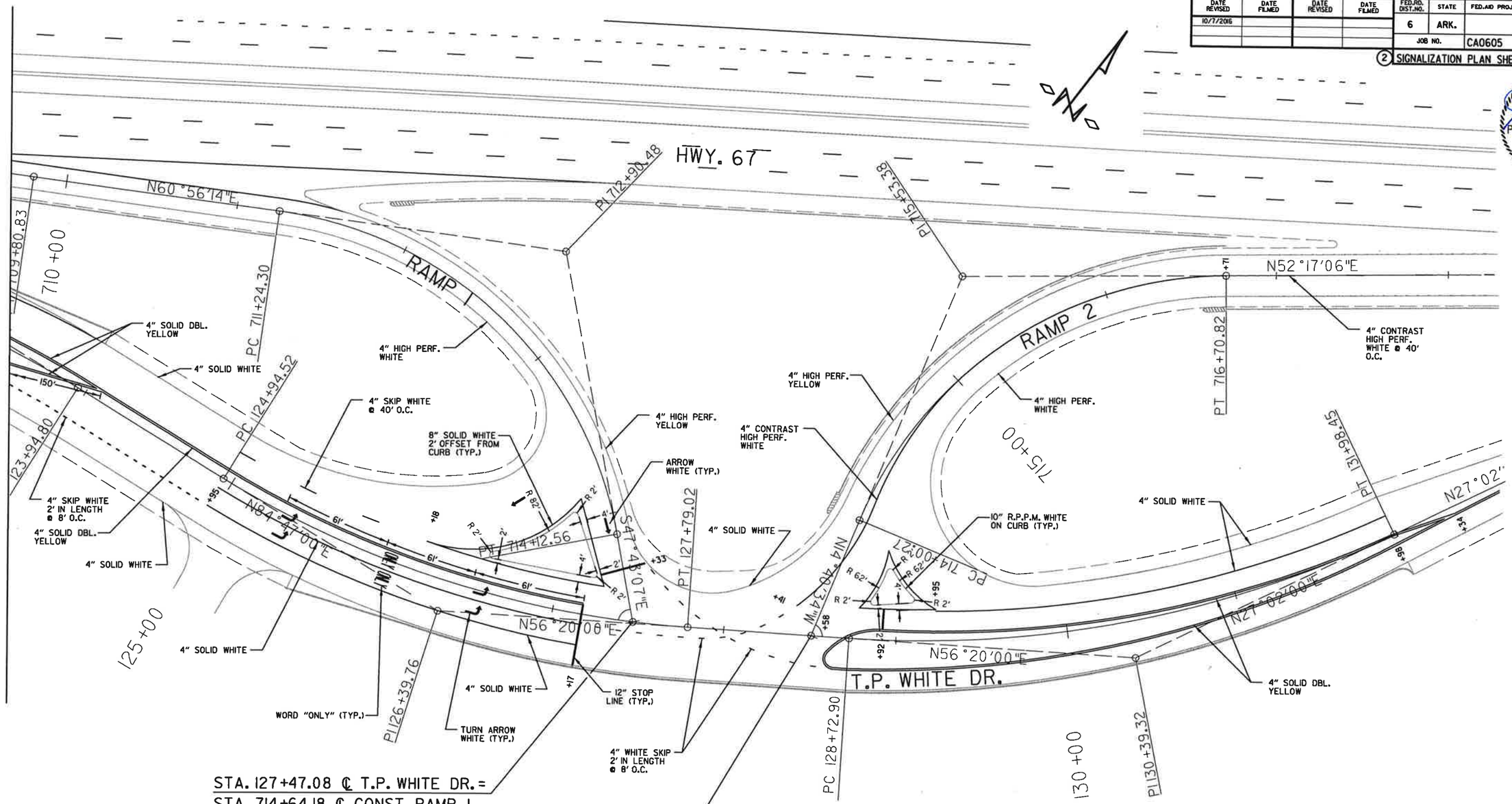
CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
10/7/2016			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	221	434

(2) SIGNALIZATION PLAN SHEETS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 10/7/16



STA. 127+47.08 ℄ T.P. WHITE DR. =
STA. 714+64.18 ℄ CONST. RAMP 1
◁ 72°45'17"

STA. 128+50.71 ℄ T.P. WHITE DR. =
STA. 713+27.45 ℄ CONST. RAMP 2
◁ 71°00'34"

INTERSECTION DETAIL - T.P. WHITE DR./HWY. 67 RAMP 1

NOTE: UNLESS OTHERWISE SPECIFIED, ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.

NOTE: R.P.P.M. = REFLECTORIZED PAINT PAVEMENT MARKING

NOTE: SEE STANDARD DRAWINGS PM-1 AND PM-2 FOR ADDITIONAL INFORMATION.

SCALE IN FEET
0 30 60 120

LOCATION:	T.P. WHITE DR./HWY. 67 RAMP 1
CITY:	JACKSONVILLE
COUNTY:	PULASKI
DISTRICT:	6
DRAWN BY:	PAR

7/6/2016

CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

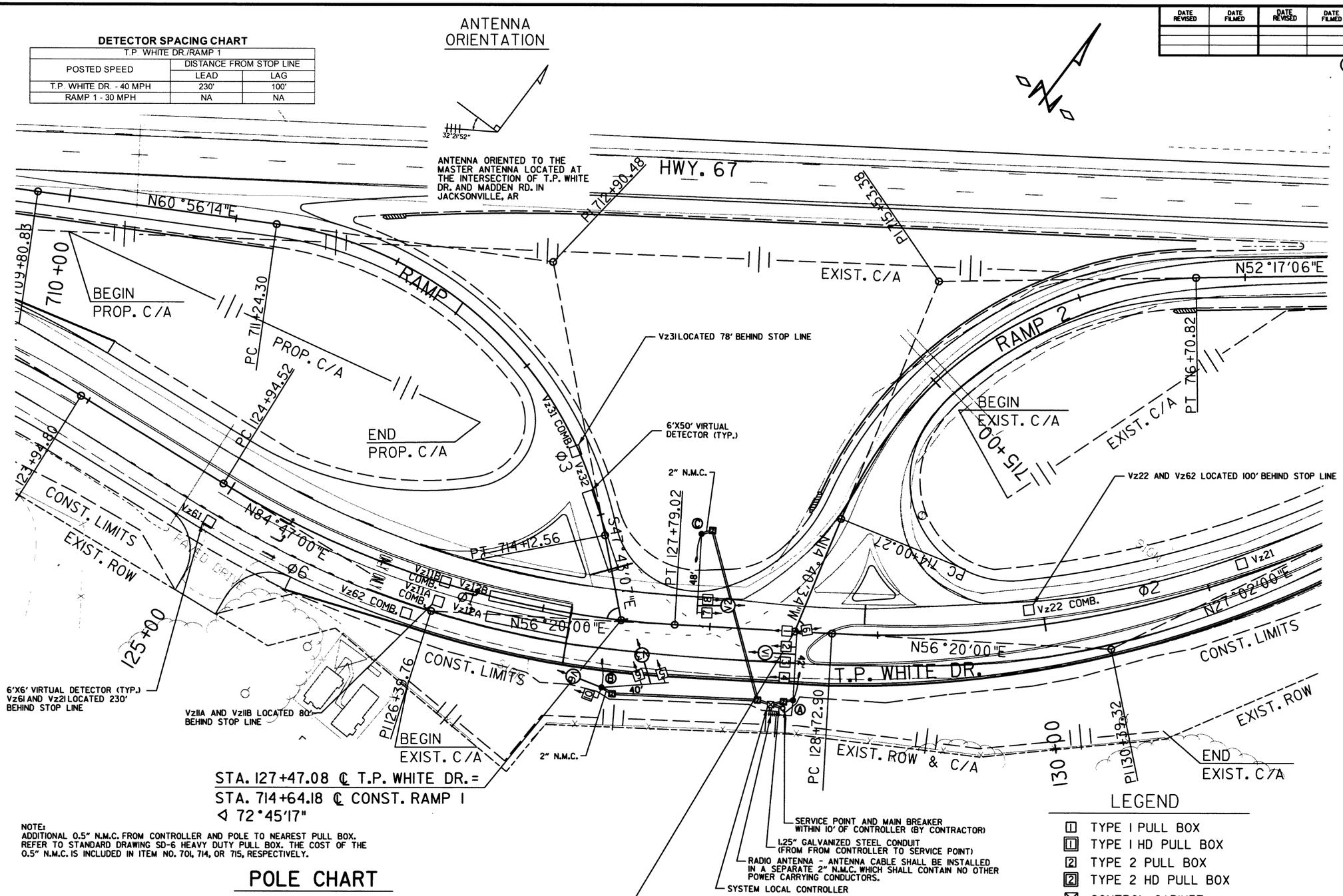
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	222	434

(2) SIGNALIZATION PLAN SHEETS

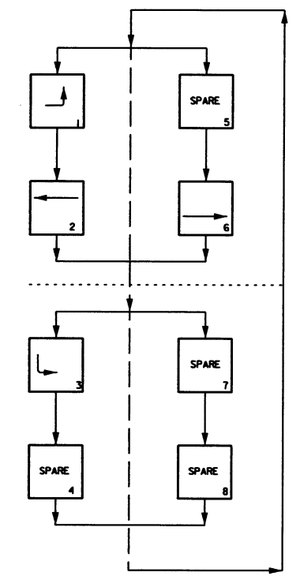
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 9/9/16

DETECTOR SPACING CHART

T.P. WHITE DR./RAMP 1		
POSTED SPEED	DISTANCE FROM STOP LINE	
	LEAD	LAG
T.P. WHITE DR. - 40 MPH	230'	100'
RAMP 1 - 30 MPH	NA	NA

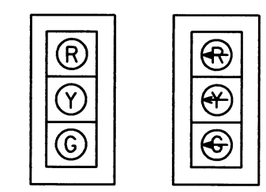


PHASING DIAGRAM



LED SIGNAL FACES

12" LENSES



*3,4,5,6,7 8,9,10 *1,2

NOTE:
ADDITIONAL 0.5" N.M.C. FROM CONTROLLER AND POLE TO NEAREST PULL BOX. REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX. THE COST OF THE 0.5" N.M.C. IS INCLUDED IN ITEM NO. 701, 714, OR 715, RESPECTIVELY.

POLE CHART

POLE	MAST ARM(S) LENGTH	MAST ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	VERTICAL SHAFT LENGTH	LUM. ARM LENGTH	LUM. ARM'S ORIENTATION ANGLE FROM HAND HOLE (CLOCKWISE)	T.P. WHITE DR. STATION	NORTHING EASTING
A	42'	180 DEGREES	35'-0"	15'-0"	180 DEGREES	STA. 128+51.95 41.15' RT.	N 203237.1688 E 1282614.2970
B	40'	259 DEGREES	35'-0"	15'-0"	180 DEGREES	STA. 127+40.42 41.27' RT.	N 203174.8816 E 1282518.4800
C	48'	180 DEGREES	35'-0"	25'-0"	180 DEGREES	STA. 127+91.85 55.03' LT.	N 203283.9040 E 1282510.9548

LEGEND

- TYPE 1 PULL BOX
- TYPE 1 HD PULL BOX
- TYPE 2 PULL BOX
- TYPE 2 HD PULL BOX
- CONTROL CABINET
- SIGNAL HEAD
- N.M.C.-NON-METALLIC CONDUIT
- VIDEO DETECTOR

SCALE IN FEET
0 30 60 120

LOCATION: T.P. WHITE DR./HWY. 67 RAMP 1
CITY: JACKSONVILLE
COUNTY: PULASKI
DISTRICT: 6
DRAWN BY: PAR

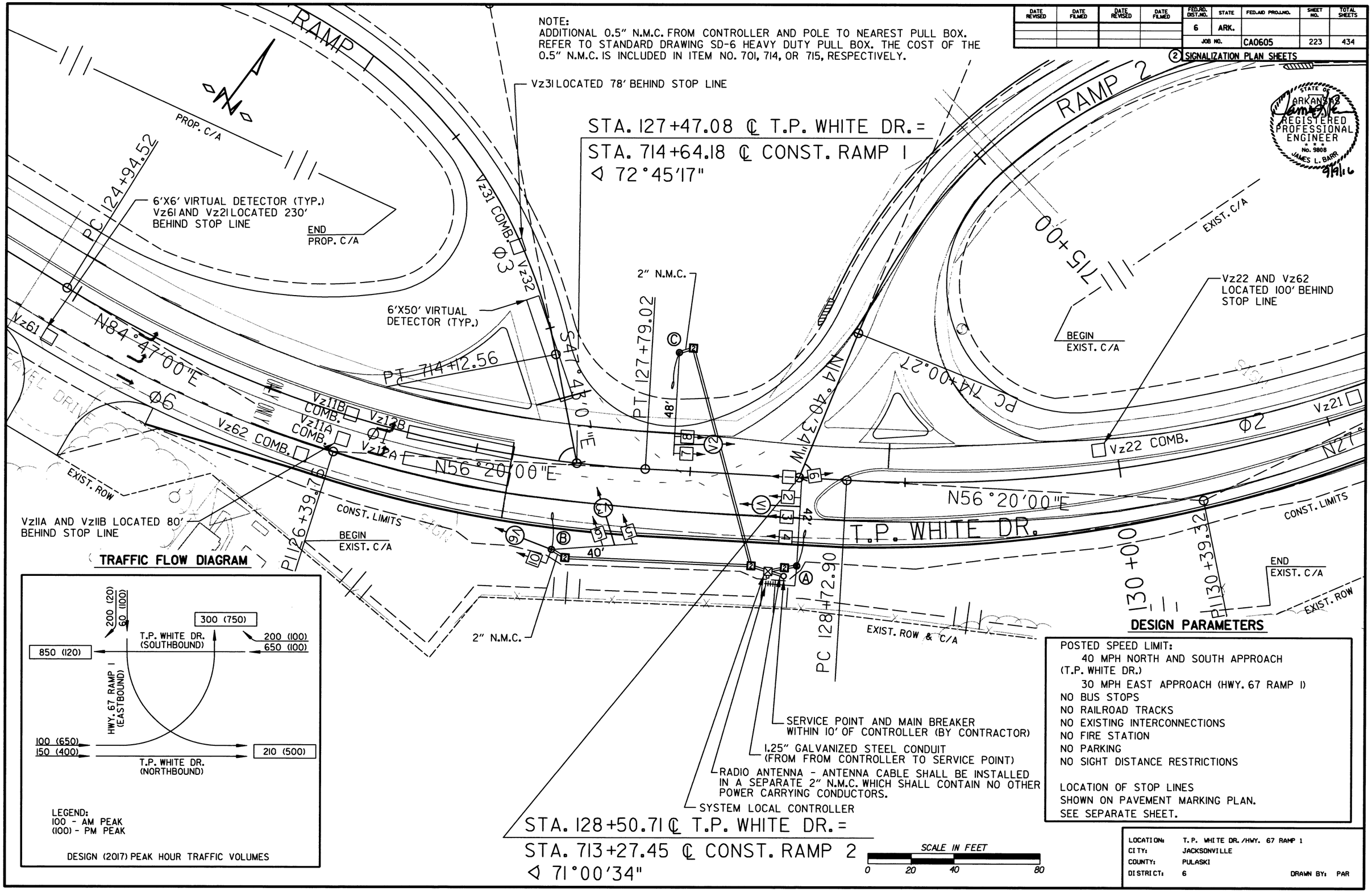
7/6/2016

CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	223	434

(2) SIGNALIZATION PLAN SHEETS

NOTE:
ADDITIONAL 0.5" N.M.C. FROM CONTROLLER AND POLE TO NEAREST PULL BOX. REFER TO STANDARD DRAWING SD-6 HEAVY DUTY PULL BOX. THE COST OF THE 0.5" N.M.C. IS INCLUDED IN ITEM NO. 701, 714, OR 715, RESPECTIVELY.



TRAFFIC FLOW DIAGRAM

DESIGN PARAMETERS

POSTED SPEED LIMIT:
40 MPH NORTH AND SOUTH APPROACH (T.P. WHITE DR.)
30 MPH EAST APPROACH (HWY. 67 RAMP 1)
NO BUS STOPS
NO RAILROAD TRACKS
NO EXISTING INTERCONNECTIONS
NO FIRE STATION
NO PARKING
NO SIGHT DISTANCE RESTRICTIONS

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

LOCATION:	T.P. WHITE DR./HWY. 67 RAMP 1	
CITY:	JACKSONVILLE	
COUNTY:	PULASKI	
DISTRICT:	6	DRAWN BY: PAR

7/7/2016

CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	224	434

(2) SIGNALIZATION PLAN SHEETS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 9808 JAMES L. BARR 8/24/16

DETECTOR CHART

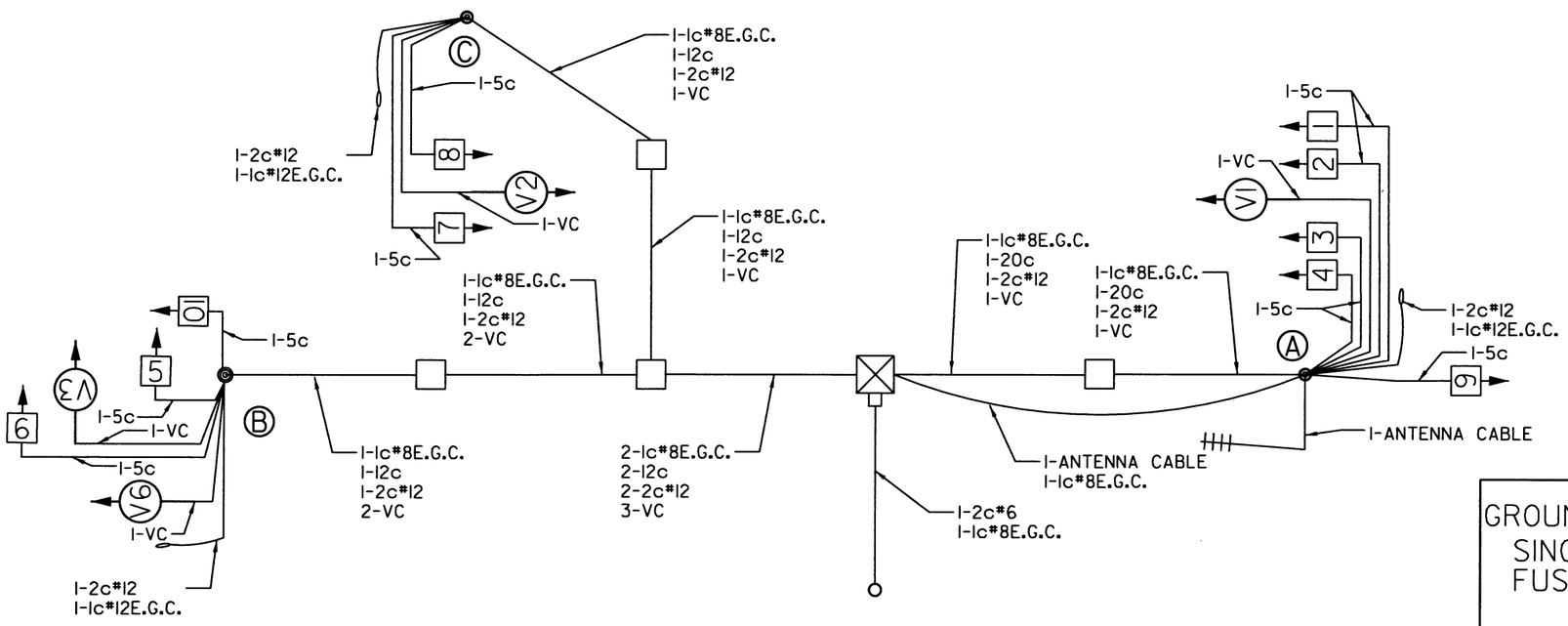
DETECTOR I.D. NUMBER	DIRECTION & LOCATION	TYPE	DET. NUM.	HARDWARE INPUTS: CAB. TER. NUM.	HARDWARE INPUTS: AMP. CHN. NUM.	HARDWARE INPUTS: CON. INP. NUM.	PROGRAM ASSIGNMENTS: LOCAL PHS.	PROGRAM ASSIGNMENTS: LOCAL SYS. DET.	PROGRAM ASSIGNMENTS: MSTR. SYS. DET.	COMMENT	TUBE LENGTH
Vz11A&B	NB LT ADV	COMBO		-	1	V9	1	1	-	VIDEO 1	23"
Vz12A&B	NB LT PRESENT	LOCAL		-	2	V1	1		-	VIDEO 1	23"
Vz21	SB ADV	LOCAL		-	5	V2	2		-	VIDEO 2	37"
Vz22	SB NEAR	COMBO		-	6	V10	2	2	-	VIDEO 2	37"
Vz31	EB ADV	COMBO		-	9	V11	3	3	-	VIDEO 3	23"
Vz32	EB PRESENT	LOCAL		-	10	V3	3		-	VIDEO 3	23"
Vz61	NB ADV	LOCAL		-	3	V6	6		-	VIDEO 6	23"
Vz62	NB NEAR	COMBO		-	4	V14	6	6	-	VIDEO 1	23"

CONTROLLER INPUT ABBREVIATIONS:
V1 - V8 = VEHICLE INPUT
V9 - V16 = SYSTEM OR AUXILIARY INPUT
P1 - P8 = PEDESTRIAN INPUT

SPARE AMP.CHN.* = 7,8,11&12

NOTE: "AMP.CHN." REFERS TO THE DETECTOR RACK OUTPUT POSITION. THIS IS WIRED TO THE CONTROLLER INPUT DETECTOR NUMBER THAT IS PROGRAMMED TO ACTIVATE THE DESIGNATED PHASE.

WIRING DIAGRAM



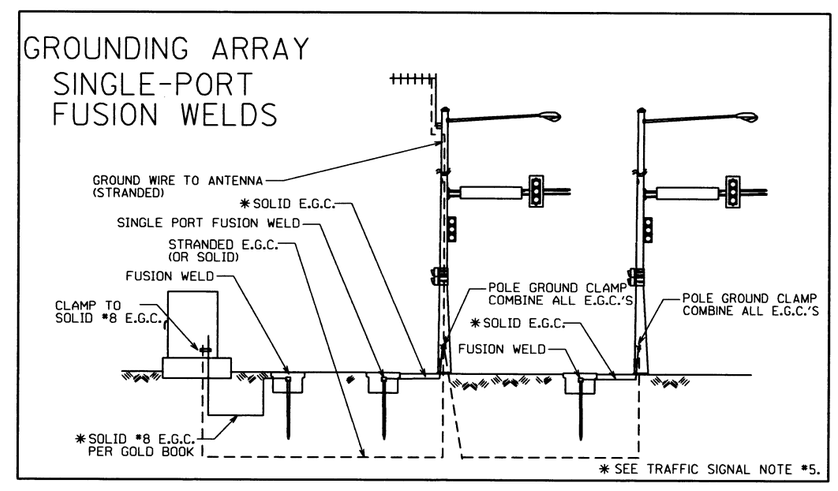
INTERVAL CHART

SIGNAL FACES	INTERVALS: 1+6	CLR.	2+6	CLR.	3	CLR.	FLASH SEQ.
1	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
2	~~G~~	~~Y~~	~~R~~	~~R~~	~~R~~	~~R~~	~~R~~
3	G	**	G	**	R	R	R
4	G	**	G	**	R	R	R
5	R	R	R	R	G	Y	R
6	R	R	R	R	G	Y	R
7	R	R	G	Y	R	R	R
8	R	R	G	Y	R	R	R
9	R	R	G	Y	R	R	R
10	G	**	G	**	R	R	R

** DENOTES GREEN OR YELLOW BALL DEPENDING ON NEXT PHASE

NOTES:

1. A SEPARATE 5c/#14 AWG SHALL BE PROVIDED FROM EACH 3 SECTION HEAD TO THE BASE OF POLE.
2. ALL DETECTOR RACK CHANNELS, INCLUDING UNUSED, SHALL BE BROUGHT TO TERMINAL STRIP IN DETECTOR AREA ON CABINET.
3. THE LOCAL GOVERNMENT SHALL BE RESPONSIBLE FOR PROVIDING POWER TO THE SERVICE POINT.
4. PROVIDE SEPARATE CONDUIT FOR ANTENNA CABLE.
5. ADDITIONAL 1-1c*8E.G.C. IN SEPARATE CONDUIT REQUIRED FROM POLE AND CONTROLLER TO NEAREST PULL BOX. REFER TO STANDARD DRAWING SD-6, HEAVY DUTY PULL BOX AND GROUNDING ARRAY DETAIL. COST OF ADDITONAL 1-1c*8E.G.C. INCLUDED IN ITEMS 701 AND 714.



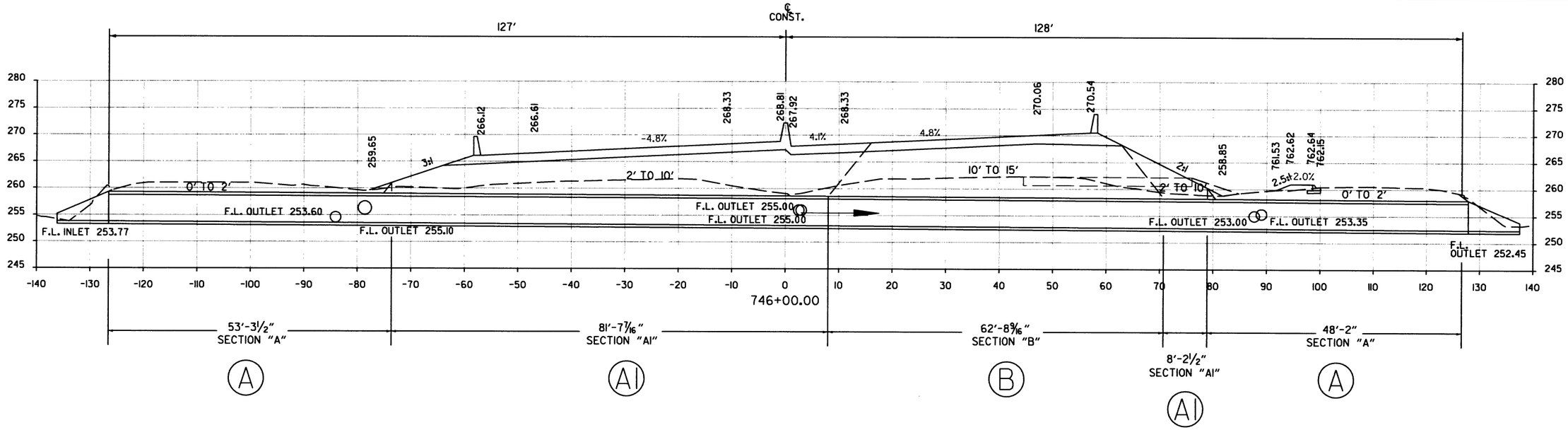
LOCATION:	T.P. WHITE DR./HWY. 67 RAMP 1
CITY:	JACKSONVILLE
COUNTY:	PULASKI
DISTRICT:	6
DRAWN BY:	PAR

7/6/2016

CA0605

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	225	434

2 CULVERT DIAGRAM



STA. 746+00 ℄ CONST. HWY. 67 CONSTRUCT
TRI. 6' x 5' x 254' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 626 CFS, D.A. = 512 ACRES
SPAN = 20.58'

QUANTITIES - STA. 746+00

SECTION	LENGTH	CLASS "S" CONCRETE-ROADWAY		REINFORCING STEEL - ROADWAY (GRADE 60)		UNCLASSIFIED EXCAVATION FOR STRUCTURES ROADWAY	SOLID SODDING	WATER	STANDARD DRAWING NO.
		PER LINEAR FOOT-BARREL	TOTAL	PER LINEAR FOOT-BARREL	TOTAL				
	FEET	CU. YD.		POUND		CU. YD.	S.Y.	M. GALLON	
SECTION "A"	101.46	1.69	171.19	220.13	22334	367.82			RCB-1, RCB-2, SPECIAL DETAILS
SECTION "A1"	89.83	1.54	138.21	177.58	15952				RCB-1, RCB-2, SPECIAL DETAILS
SECTION "B"	62.71	1.59	99.72	234.28	14692				RCB-1, RCB-2, SPECIAL DETAILS
FOUR WINGS			13.83		1060		21.1	0.27	RCB-1, RCB-2, SPECIAL DETAILS
ADD. STEEL AND CONC.			0.38		154				RCB-1, RCB-2, SPECIAL DETAILS
TOTALS			423.33		54192	367.82	21.1	0.27	

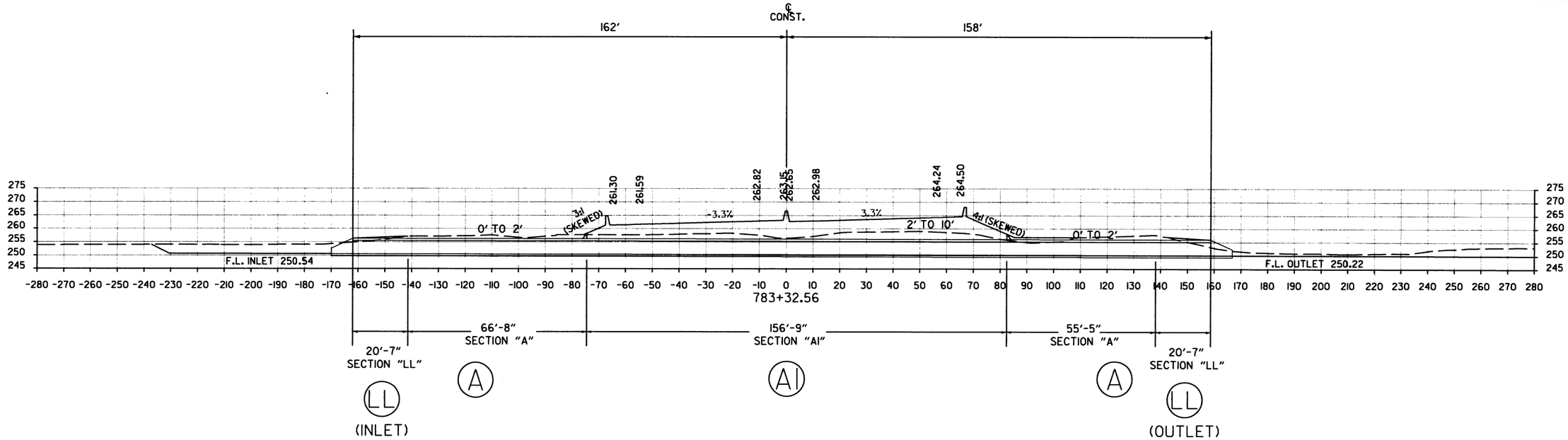
BASIS OF ESTIMATE: WATER= 12.6 GAL. PER SQ.YD. SOLID SODDING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

CULVERT DIAGRAM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	226	434

2 CULVERT DIAGRAMS



STA. 783+32.56 ℄ CONST. HWY. 67 CONSTRUCT
SEXT. 10' x 5' x 320' R.C. BOX CULVERT
30° RT. FWD. SKEW
WITH TYPE TM D.I. IN MEDIAN 3'-0" X 3'-0" X H= 7'-2"
WITH 2:1 WINGS LT. & RT.
Q50= 2145 CFS, D.A.= 6.8 SQ. MI.
SPAN= 74.38'

QUANTITIES - STA. 783+32.56

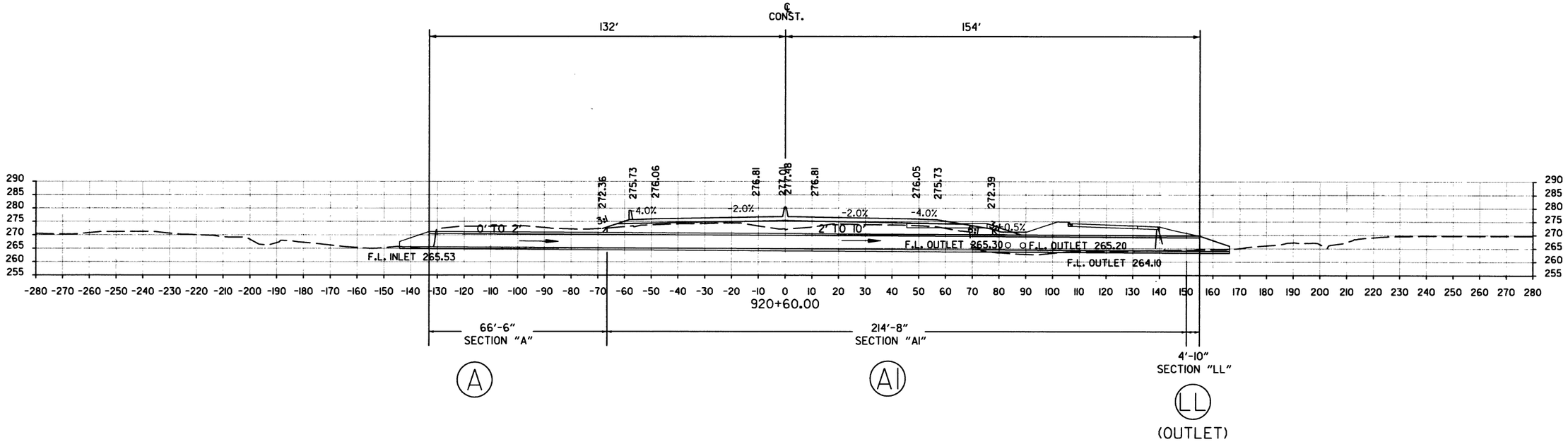
SECTION	LENGTH	CLASS "S" CONCRETE-ROADWAY		REINFORCING STEEL - ROADWAY (GRADE 60)		UNCLASSIFIED EXCAVATION FOR STRUCTURES ROADWAY	SOLID SODDING	WATER	STANDARD DRAWING NO.
		PER LINEAR FOOT-BARREL	TOTAL	PER LINEAR FOOT-BARREL	TOTAL				
	FEET	CU. YD.		POUND		CU. YD.	S.Y.	M. GALLON	
SECTION "A"	122.08	5.57	679.73	812.66	99210	1761.29			RCB-1, RCB-2, SPECIAL DETAILS
SECTION "A1"	156.75	5.99	938.48	717.50	112468				RCB-1, RCB-2, SPECIAL DETAILS
SECTION "LL"	41.17	6.06	249.60	1144.96	47138				
FOUR WINGS			34.30		2402		44.2	0.56	RCB-1, RCB-2, SPECIAL DETAILS
TOTALS			1902.11		261218	1761.29	44.2	0.56	

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

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	227	434

(2) CULVERT DIAGRAMS



STA. 920+60 ℄ CONST. HWY. 67 CONSTRUCT
QUINT. 8' x 5' x 286' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 719 CFS, D.A. = 698 ACRES
SPAN = 43.67'

QUANTITIES - STA. 920+60.00

SECTION	LENGTH	CLASS "S" CONCRETE-ROADWAY		REINFORCING STEEL - ROADWAY (GRADE 60)		UNCLASSIFIED EXCAVATION FOR STRUCTURES ROADWAY	SOLID SODDING	WATER	STANDARD DRAWING NO.
		PER LINEAR FOOT-BARREL	TOTAL	PER LINEAR FOOT-BARREL	TOTAL				
	FEET	CU. YD.		POUND		CU. YD.	S.Y.	M. GALLON	
SECTION "A"	66.5	3.64	242.33	487.11	32393	927.75			RCB-1, RCB-2, SPECIAL DETAILS
SECTION "AI"	214.67	3.64	782.25	422.12	90616				RCB-1, RCB-2, SPECIAL DETAILS
SECTION "LL"	4.83	3.90	18.85	512.63	2476				
FOUR WINGS			17.40		1249		32.4	0.41	RCB-1, RCB-2, SPECIAL DETAILS
ADD. STEEL AND CONC.			0.40		113				RCB-1, RCB-2, SPECIAL DETAILS
TOTALS			1061.23		126847	927.75	32.4	0.41	

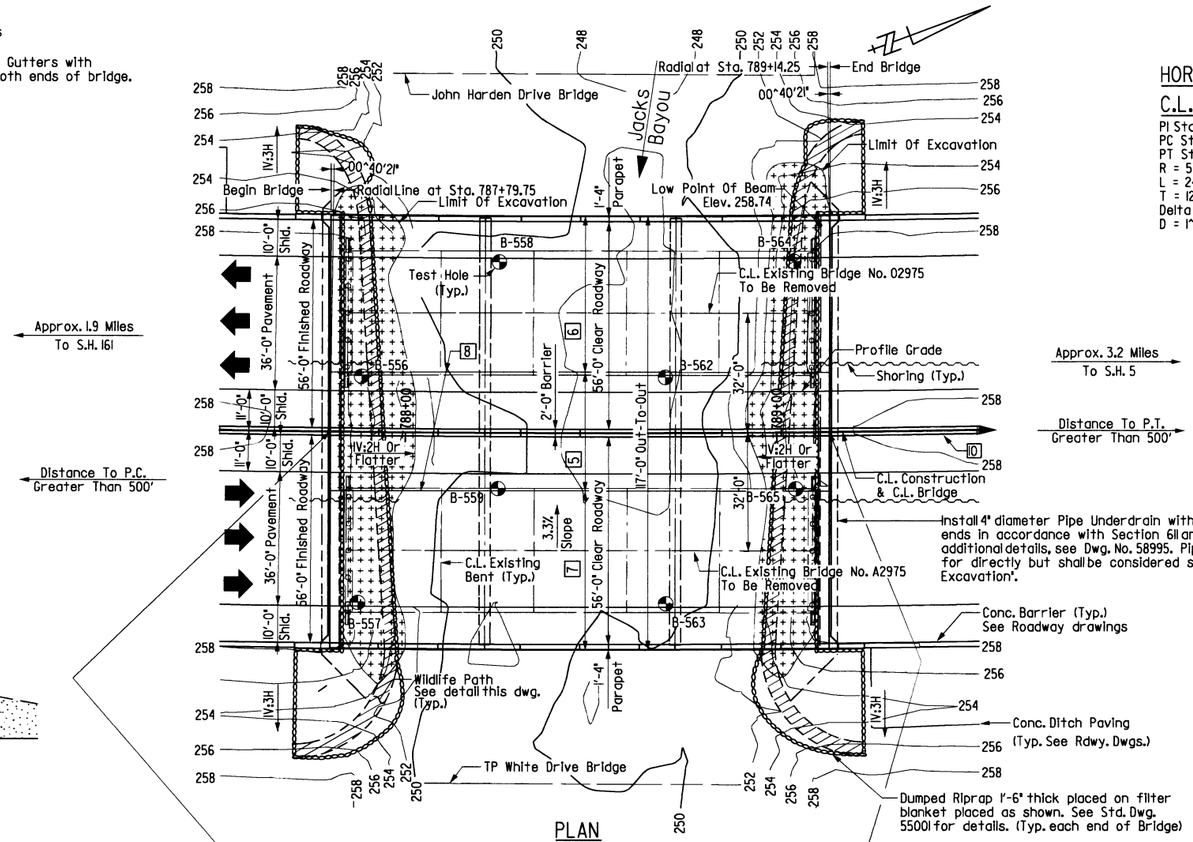
BASIS OF ESTIMATE: WATER= 12.6 GAL. PER SQ.YD. SOLID SODDING

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9808
JAMES L. BARR
8/26/16

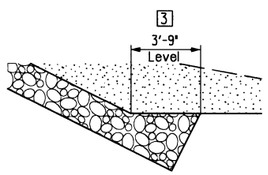
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	228	434
				(1) 07399		LAYOUT		58982

For R/W Data, See Roadway Plans

Note: Use Type Special I Approach Gutters with Type Special I Approach Slab at both ends of bridge.



PLAN



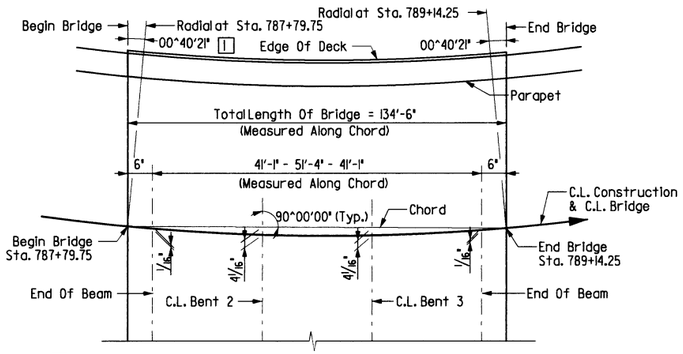
WILDLIFE PATH DETAIL

No Scale

HORIZONTAL CURVE DATA

C.L. Construction Hwy. 67

PI Sta 790+10.52
PC Sta 777+52.33
PT Sta 802+29.39
R = 5729.58
L = 2477.06
T = 1258.19
Delta = 24°46'14" Left
D = 1°00'00"



1 Angle is measured between the Beginning of the bridge and a line radial to C.L. bridge at Station 787+79.75.

All bents are parallel. See Alignment Sketch.

C.L. Bridge and C.L. Construction are on a 1°00'00" curve left. All bents are skewed as shown from C.L. Bridge and perpendicular to a chord drawn from beginning of bridge to end of bridge at C.L. Bridge. Unless noted otherwise, longitudinal lines of the bridge and approach slabs and gutters shall be constructed on curves concentric with C.L. Bridge. Beams are straight and shall be placed parallel to the chord.

ALIGNMENT SKETCH

No Scale

The proposed bridge is positioned to avoid interference with the existing substructure. The Contractor shall verify the location of the existing substructure. Any adjustments necessary to fit the proposed bridge shall be submitted to the Engineer for approval.

4 Measured along chord line extending from Begin Bridge to End Bridge. See ALIGNMENT SKETCH for more information

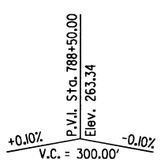
5 32'-0" Stage 1D Construction (Measured perpendicular to chord)

6 Stage 2A Construction - varies from 42'-6" to 42'-1 1/4"

7 Stage 3A Construction - varies from 42'-6" to 42'-10 3/4"

8 Longitudinal Construction Joint (Parallel to chord)

9 Shoring may be required during construction. Payment for this work, if required, shall be considered subsidiary to the pay item "Unclassified Excavation - Bridge". See SP CA0605 "Shoring".



VERTICAL CURVE DATA

(Along Profile Grade)

2 Top of Deck @ C.L. Bridge To Low Steel = 4'-10 7/16"

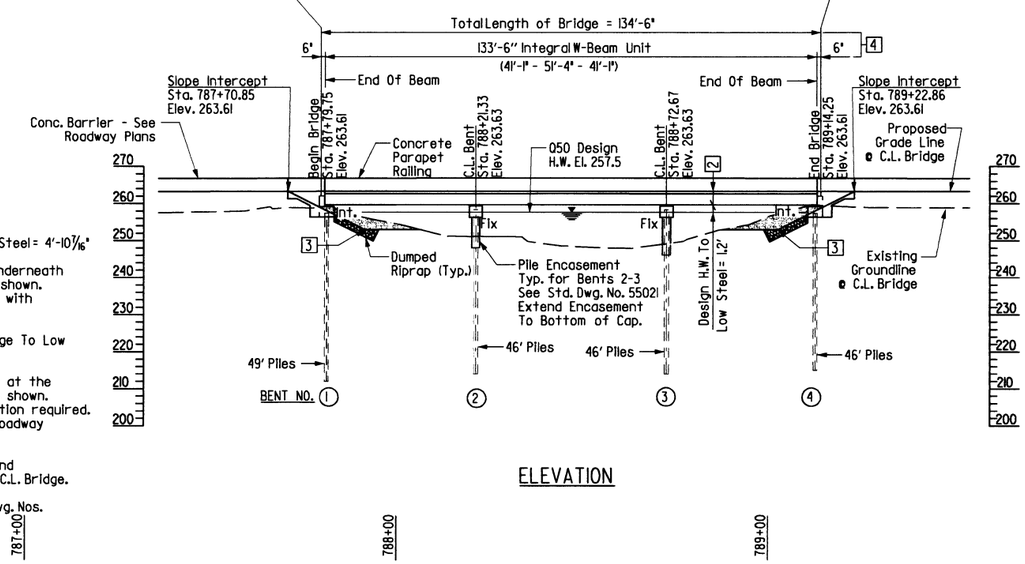
3 Top of Wildlife Path = Elev. 253.0 underneath bridge. Tie to existing ground as shown. Surface to be crushed aggregate with maximum diameter less than 1/2".

Top Of Deck @ C.L. Bent @ C.L. Bridge To Low Side Top Of Cap = 5'-11 1/16"

Excavate the existing embankment at the bridge ends to achieve the slopes shown. Approximately 173 cu. yd. of excavation required. (This quantity is included in the Roadway excavation quantity.)

Unless noted otherwise, stations and elevations shown are taken along C.L. Bridge.

For Soil Borings and Legend, See Dwg. Nos. 58983-58984.



ELEVATION

HYDRAULIC DATA

FLOOD DESCRIPTION	FREQUENCY	** TOTAL DISCHARGE	DISCHARGE THRU BRIDGE OPENING	* NATURAL WATER SURFACE ELEVATION	WATER SURFACE ELEV. WITH BACKWATER
	YEARS	CFS	CFS	FEET	FEET
Design	50	4890	2745	255.5	257.5
Base	100	5669	3643	255.7	258.1
Extreme	500	7221	4998	256.1	258.6
Overtopping	>500	----	----	----	----

* Unconstricted water surface without structures or roadway approaches.

** Includes water through bridge opening and box culvert at Sta. 783+32.

Q100 backwater elevation for existing structure = 258.3 feet
Proposed Low Bridge Chord Elevation = 258.74 feet

Drainage area = 15.556 square miles
Historical H.W. Elev. = 258.3 feet

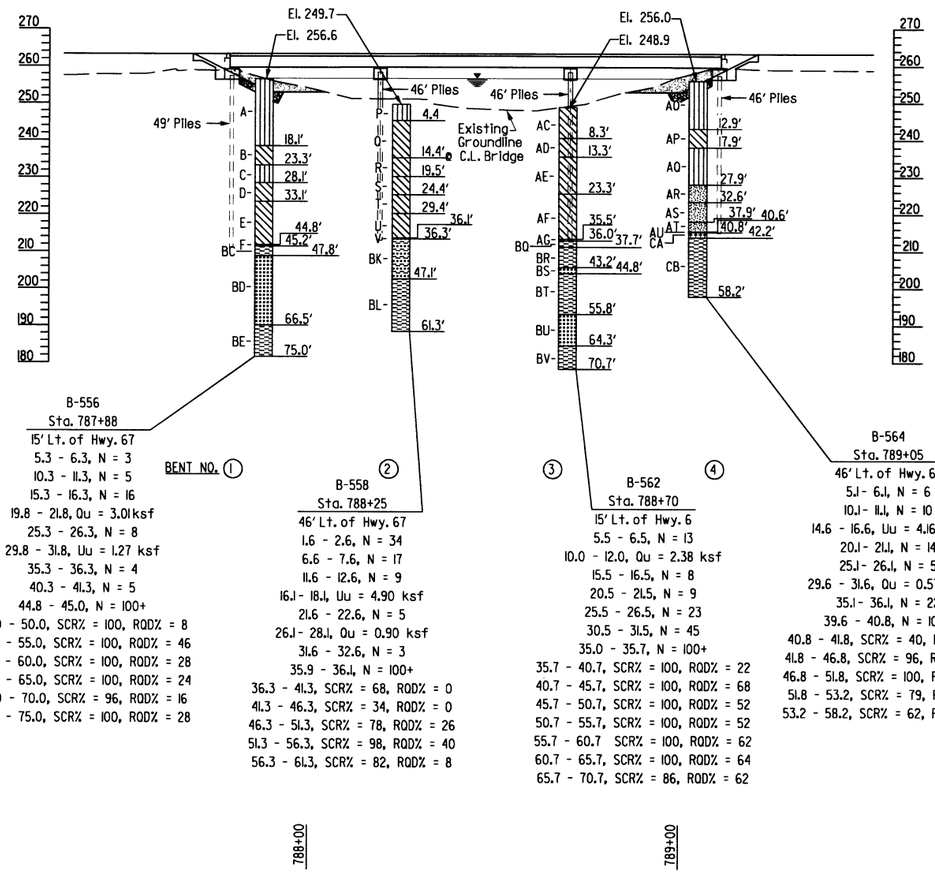
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13331 LARRY W. MILLER
Larry W. Miller 8-24-16
BRIDGE ENGINEER

SHEET 1 OF 3
LAYOUT OF BRIDGE OVER JACKS BAYOU
VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)
PULASKI & LONOKE COUNTIES
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LWM DATE: 04-14 FILENAME: bCA0605xl_L1.dgn
CHECKED BY: DM DATE: 08-06-16 SCALE: 1" = 20'-0"
DESIGNED BY: LWM DATE: 04-14

BRIDGE NO. 07399 DRAWING NO. 58982

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.		CA0605	229	434
				(1) 07399		LAYOUT		58983



ELEVATION - SOUTHBOUND LANES

1" = 20'-0"

For Soil Boring Legend, See Dwg. No. 58984.

GENERAL NOTES

BENCH MARK: AHTD monument. Survey control point No. 12. N=209030.34, E=1287028.54, Elev. 258.11

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2012, 6th Edition) with Interim specifications.

LIVE LOADING: HL93

SEISMIC ZONE: 2 SDI = 0.234g Site Class=D

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	F'c = 4,000 psi
Class S Concrete (Substructure)	F'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322 Type A, Gr. 60)	Fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

BORING LOGS: Boring Logs may be obtained from the Construction Contract Procurement Section of the Program Management Division.

STEEL SHELL PILING: Piling in all Bents shall be 18" diameter concrete filled steel shell piles and shall be driven to a minimum safe bearing capacity of 154 tons per pile.

All piling shall be driven with an approved air, steam, or diesel hammer and shall be driven into material designated as shale or sandstone on the boring legend. Lengths shown are for estimating quantities and for use in determining payment for cut-off and build-up in accordance with the Standard Specifications.

Piles in end bents shall be driven after embankment to bottom of cap is in place.

PREBORING: Preboring is required for all piles in Bents 1 & 4 to a depth of 10' below the bottom of cap. Prebored holes shall be 6" greater than the diameter of the pile cross-section and shall be backfilled with sand or pea gravel after piles are in place. This required preboring will be paid for at the unit price bid for "Preboring". The Contractor shall be responsible for keeping holes free of debris prior to backfilling, which may require the use of temporary casings or other methods. Temporary casings, if required, shall not be paid for directly but shall be considered subsidiary to the item "Preboring".

BRIDGE DECK: The concrete bridge deck shall be given a tine finish as specified for final finishing in Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish.

CLASS 1 PROTECTIVE SURFACE TREATMENT: Class 1 Protective Surface Treatment shall be applied to the roadway surface, traffic faces and top of the concrete parapet rail and median barrier.

EXISTING BRIDGE: Existing Bridge Nos. 02975 & A2975 are 33'-6" wide and 125'-0" long and consist of reinforced concrete slab spans on pile bents with concrete piles. The existing bridges are located on the proposed alignment. Plans for existing bridges will be made available to the Contractor upon request to Construction Contract Procurement Section of the Program Management Division. Existing Dwg. Nos. 8756, 8757, 5472-5475.

REMOVAL AND SALVAGE: The existing bridges (Nos. 02975 & A2975) shall be removed in accordance with details of stage construction and with Section 205. All material from existing bridges shall become the property of the Contractor.

SHORING: Shoring may be required during construction. Payment for this work, if required, shall be considered subsidiary to the pay item "Unclassified Excavation - Bridge". See SP CA0605 "Shoring".

MAINTENANCE OF TRAFFIC: See Roadway Drawings.

DETAIL DRAWINGS:	DRAWING NO.
End Bents	58987-58988
Intermediate Bents	58989-58990
133'-6" Integral W-Beam Unit	58991-58999
Type Special Approach Gutters	59000
Type Special Approach Slab	59001-59002
Dumped Riprap	55001
Permanent Steel Deck Forms	55005
Bridge Name Plate	55010
Steel Shell Piling	55021

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

SHEET 2 OF 3

LAYOUT OF BRIDGE OVER JACKS BAYOU

VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)

PULASKI & LONOKE COUNTIES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: LWM DATE: 08-15 FILENAME: bCA0605xl.L2.dgn

CHECKED BY: DM DATE: 05-06-16 SCALE: 1" = 20'-0"

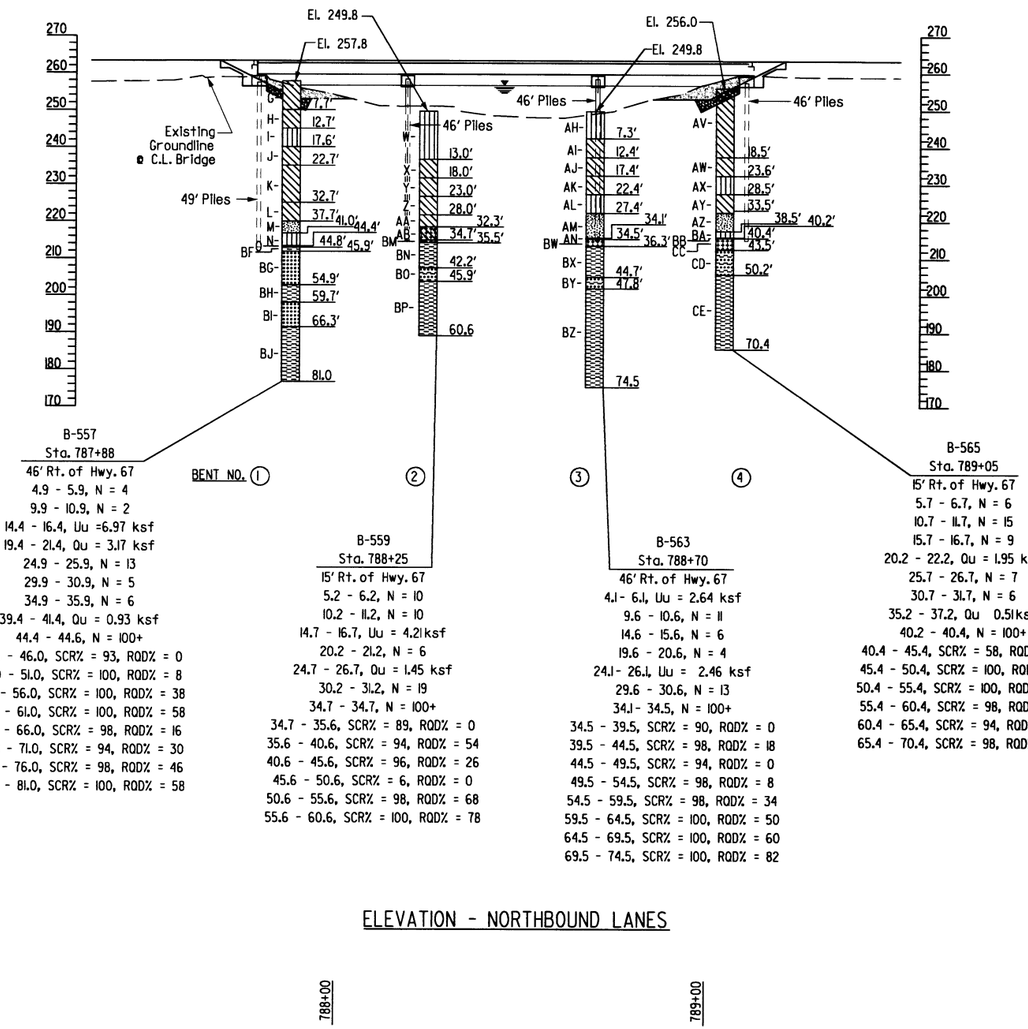
DESIGNED BY: LWM DATE: 08-15

BRIDGE NO. 07399 DRAWING NO. 58983

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.		CA0605	230	434
				(1) 07399		LAYOUT		58984

BORING LEGEND

A - Brown & gray, soft to very stiff, silt.
B - Brown, stiff, lean clay.
C - Brown & gray, medium stiff, silt.
D - Orange & gray, medium stiff, lean clay with sand.
E - Brown & gray, soft to medium stiff, sandy, silty clay.
F - Weathered Shale.
G - Brown & black, soft, lean clay.
H - Gray, soft, lean clay.
I - Brown & gray, v. stiff, silt.
J - Gray & orange, stiff, lean clay.
K - Tan, gray, black & brown, medium stiff to stiff, lean clay.
L - Tan, brown & black, medium stiff, lean clay.
M - Brown & tan, v. loose, silty, clayey sand.
N - Brown, tan, black, loose sand w/gravel & silt.
O - Weathered Shale.
P - Brown & gray, hard, silt.
Q - Brown & gray, stiff to very stiff, lean clay.
R - Brown & tan, v. stiff, lean clay with sand.
S - Brown & dark brown, medium stiff, sandy, silty clay.
T - Brown & tan, soft, sandy, lean clay.
U - Brown & gray, soft, sandy, silty clay.
V - Weathered Shale.
W - Brown & tan, stiff, silt.
X - Tan, brown & gray, v. stiff, lean clay with sand.
Y - Brown, tan & gray, medium stiff, sandy, lean clay.
Z - Brown, tan & black, med. stiff, sandy, lean clay.
AA - Brown, tan, gray, very stiff to very hard, sandy, lean clay.
AB - Weathered Shale w/clay seams.
AC - Light brown, stiff, silty clay.
AD - Gray orange & tan, stiff, lean clay.
AE - Brown, medium stiff, silty clay.
AF - Brown, very stiff to very hard, sandy, lean clay.
AG - Weathered Shale.
AH - Gray & orange, stiff, silt.
AI - Brown & gray, stiff, lean clay.
AJ - Brown, medium stiff, sandy, lean clay.
AK - Brown & gray, soft, lean clay.
AL - Brown, medium stiff, sandy silt.
AM - Brown, medium dense to very dense, clayey sand.
AN - Weathered Shale & Sandstone.
AO - Gray & tan, medium stiff to stiff, silt.
AP - Gray & black, v. stiff, lean clay.
AQ - Gray & tan, medium stiff to stiff, silt.
AR - Brown, v. loose, clayey sand.
AS - Gray & tan, medium dense, silty, clayey sand with gravel.
AT - Gray & tan, very dense, clayey sand with gravel.
AU - Weathered Shale & Sandstone.
AV - Tan, medium stiff to stiff, lean clay.
AW - Gray, tan & brown, medium stiff, lean clay.
AX - Tan, medium stiff, silt with sand.
AY - Tan & brown, medium stiff, silty clay with sand.
AZ - Brown & gray, v. loose, silty sand.
BA - Brown, very hard, silt with sand.
BB - Weathered Shale.
BC - Shale: Black-dk. gray, scat. orange-brown, slightly to moderately weathered, moderately hard.
BD - Sandstone: Light gray, gray, black-dk. gray, slightly weathered, moderately hard, v.f. to f. grain.
BE - Shale: Dark gray-black, slightly weathered to fresh, moderately hard.
BF - Shale: Olive gray-dk. gray, orange-brown, moderately to severly weathered, med. hard, v.f.
BG - Sandstone: Light gray, black-dk. gray, orange-brown, moderate grading to slightly weathered, med. to mod. hard, v.f. to f. grain.
BH - Shale: Dark gray-black, scat. lt. gray, moderately to slightly weathered, soft grading to mod. hard.
BI - Sandstone: Light gray, black-dk. gray, moderate grading to slightly weathered, med. to mod. hard, v.f. to f. grain.
BJ - Shale: Dark gray to black, lt. gray, severely weathered to fresh, med. to mod. hard.
BK - Sandstone & Shale: Light gray, dk. gray-black, orange-brown, mod. to severly weathered, mod. hard, v.f. to f. grain.
BL - Shale: Black-dk. gray, scattered lt. gray, fresh to slightly weathered, mod. hard.
BM - Interlayered Clay & Shale.
BN - Shale: Black-dk. gray, lt. gray, orange-brown, mod. to slightly weathered, med. hard.
BO - Sandstone & Shale: Dark gray-black, slightly weathered, med. to mod. hard.
BP - Shale: Black-dk. gray, fresh, mod. hard.
BQ - Shale: Olive gray, brown-orange, dk. gray-black, mod. to severly weathered, soft to med. hard.
BR - Shale: Dark gray-black, brown-orange seams, slightly to moderately weathered, med. to mod. hard.
BS - Sandstone: Light gray, gray, slightly weathered, mod. hard, v.f. to f. grain.
BT - Shale: Dark gray-black, fresh to slightly weathered, mod. hard.
BU - Sandstone: Light gray, dk. gray-black, fresh to slightly weathered, mod. hard, v.f. to f. grain.
BV - Shale: Black-dk. gray, fresh, mod. hard.
BW - Shale: Olive gray, orange-brown, mod. to severly weathered, med. hard.
BX - Shale: Olive gray, green-gray, orange-brown, grades to dk. gray, mod. weathered, med. to mod. hard.
BY - Sandstone & Shale: Light gray, black, orange-brown, slightly to moderately weathered, mod. hard, v.f. to f. grain.
BZ - Shale: Black-dk. gray, lt. gray, slightly to moderately weathered, med. hard.
CA - Weathered Fragments: Black, lt. olive gray, orange-brown.
CB - Shale: Black-dk. gray, brown-orange, mod. weathered to fresh, med. to mod. hard.
CC - Shale & Clay: Dark gray, olive gray, orange-brown, slightly to moderately weathered.
CD - Shale & Sandstone: Dark gray-black, lt. gray, orange-brown, slightly weathered, med. to mod. hard.
CE - Shale: Black-dk. gray, slightly to moderately weathered, med. to mod. hard.



ELEVATION - NORTHBOUND LANES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

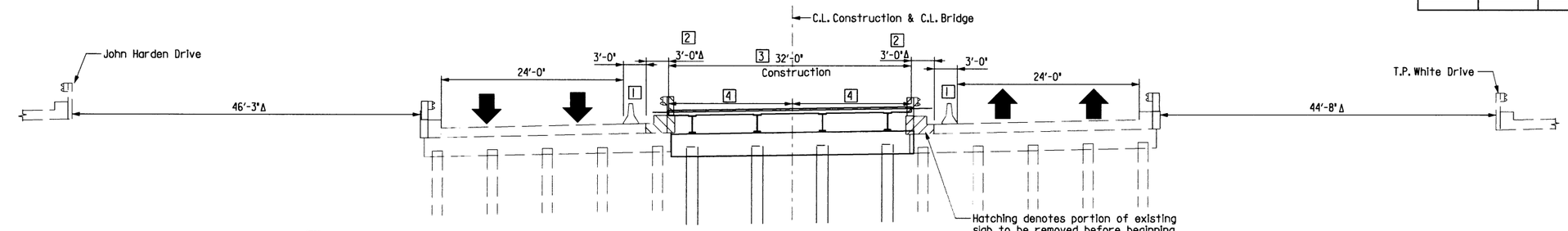
BRIDGE ENGINEER

SHEET 3 OF 3
LAYOUT OF BRIDGE OVER JACKS BAYOU
VANDENBERG BLVD. - HWY. 5 (WIDENING) (S)
PULASKI & LONOKE COUNTIES
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LWM DATE: 08-15
CHECKED BY: DM DATE: 05-06-16
DESIGNED BY: LWM DATE: 08-15
FILENAME: bCA0605xl.L3.dgn
SCALE: 1" = 20'-0"

BRIDGE NO. 07399 DRAWING NO. 58984

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.		CA0605	231	434
				(1) 07399		STAGE CONSTRUCTION		58985



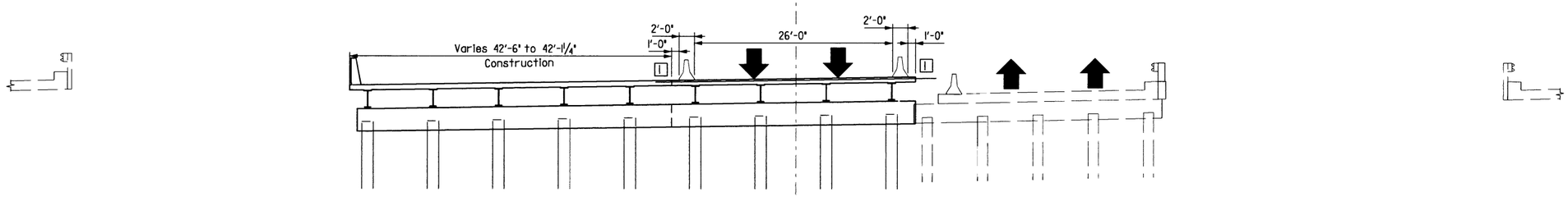
1 Temporary Precast Barrier. Connect to deck per Std. Dwg. No. TC-4.

2 Existing bridges are straight. All beams in new construction and edges of deck in Stage 1D shall be straight and parallel to the Chord. See 'ALIGNMENT SKETCH' on Dwg. No. 58982 for details.

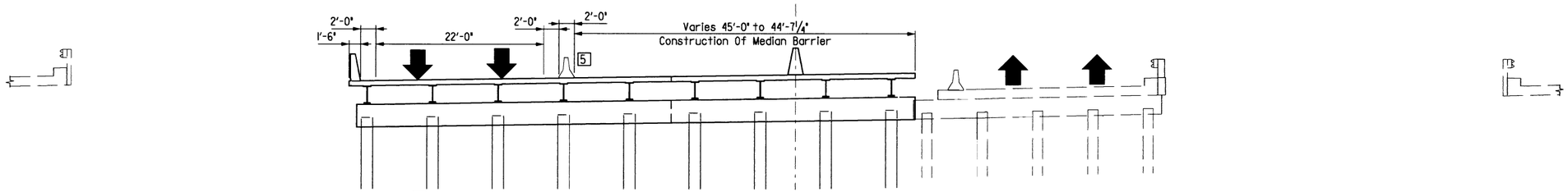
3 Stage 1D deck construction measured perpendicular to chord.

4 Varies. 16'-0" at Begin and End of Bridge.

STAGE 1D
(Looking Ahead)



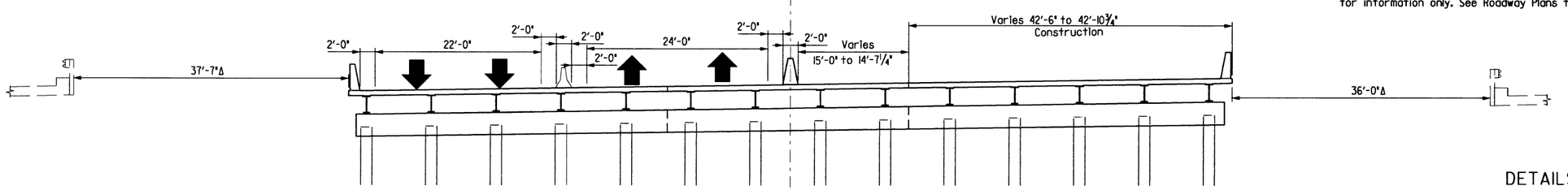
STAGE 2A
(Looking Ahead)



5 Temporary Precast Barrier. Do not connect to deck.

STAGE 2B
(Looking Ahead)

Details which relate to Maintenance of Traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.



STAGE 3A
(Looking Ahead)

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13336 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

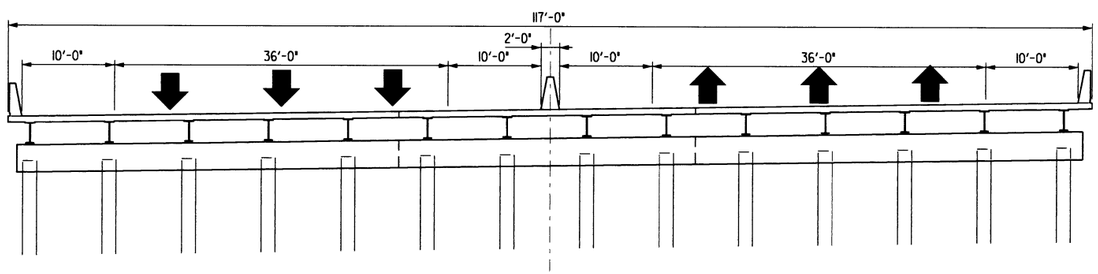
SHEET 1 OF 2
DETAILS OF STAGE CONSTRUCTION
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LWM DATE: 04-14
CHECKED BY: DM DATE: 05-06-16
DESIGNED BY: LWM DATE: 04-14

FILENAME: bCA0605xl_L4.dgn
SCALE: 1/8" = 1'-0"

BRIDGE NO. 07399 DRAWING NO. 58985

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.		CA0605	232	434
				(1) 07399	STAGE CONSTRUCTION			58986



STAGE 3B & FINAL
(Looking Ahead)

Details which relate to Maintenance of Traffic are shown on the bridge plans for information only. See Roadway Plans for Maintenance of Traffic.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11339 LARRY W. MILLER

8-24-16

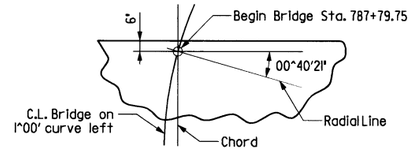
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF STAGE CONSTRUCTION
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LWM DATE: 04-14 FILENAME: bCA0605xl_L5.dgn
CHECKED BY: DM DATE: 05-06-16 SCALE: As Shown
DESIGNED BY: LWM DATE: 04-14

BRIDGE NO. 07399 DRAWING NO. 58986

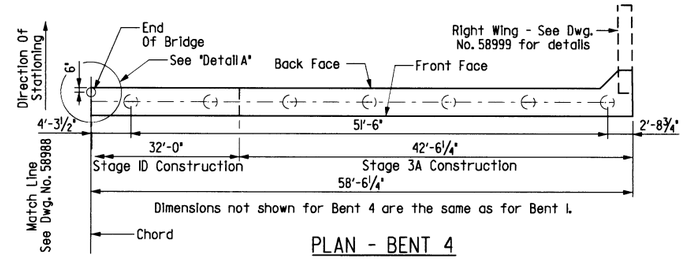
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	233	434
				(1) 07399		END BENTS		58987



BENT 1

BENT 4

DETAIL A



PLAN - BENT 4

⅛" = 1'-0"

SUBSTRUCTURE GENERAL NOTES

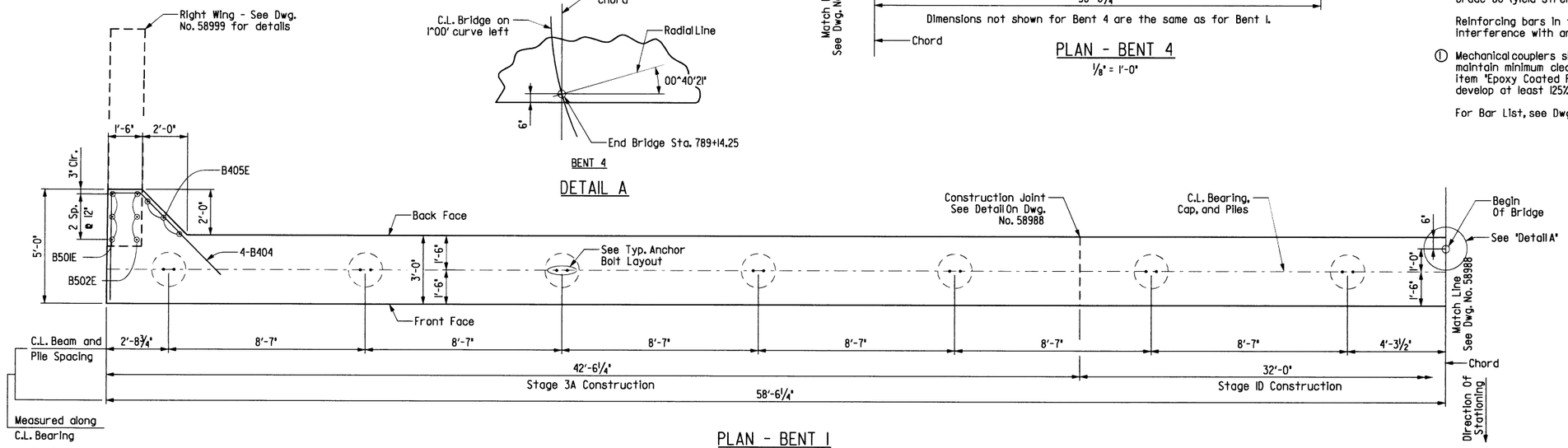
All concrete shall be Class "S" with a minimum 28 day compressive strength f'c = 3,500 psi. Concrete shall be poured in the dry and all exposed corners shall be chamfered ¾" unless otherwise noted.

All reinforcing steel shall conform to AASHTO M31 or M322 Type A, Grade 60 (yield strength = 60,000 psi).

Reinforcing bars in top of cap shall be properly placed to avoid interference with anchor bolts or sheet metal sleeves.

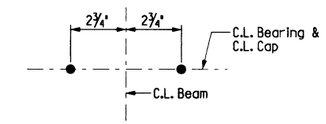
(1) Mechanical couplers shall be from the Qualified Products List, shall maintain minimum clearances shown, and their payment is subsidiary to the item "Epoxy Coated Reinforcing Steel (Grade 60)". The couplers shall develop at least 125% of the specified yield strength of the bar.

For Bar List, see Dwg. No. 58988.



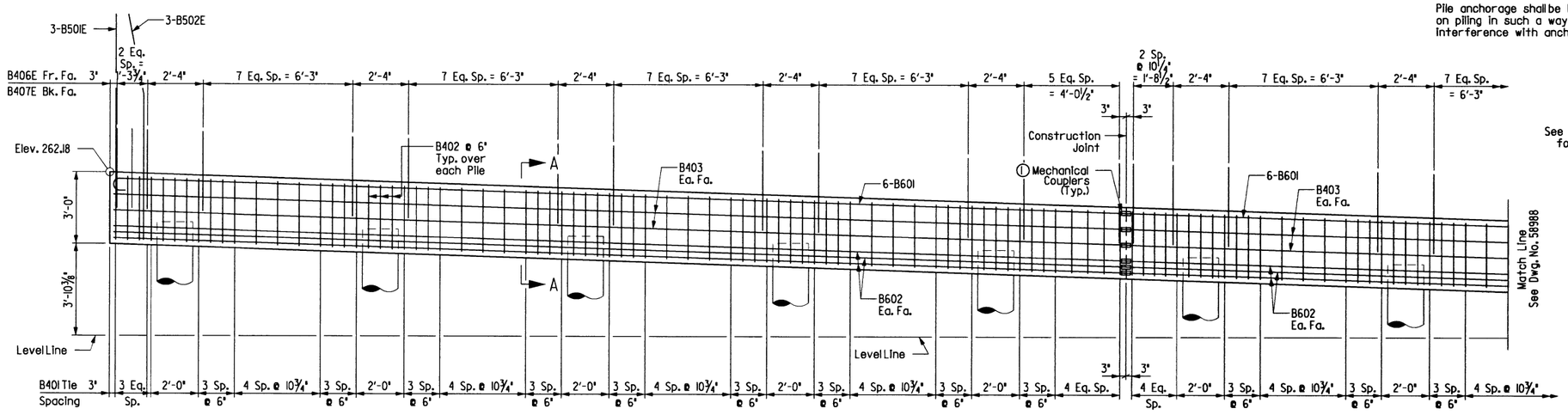
PLAN - BENT 1

Scale: ⅜" = 1'-0"



TYP. ANCHOR BOLT LAYOUT

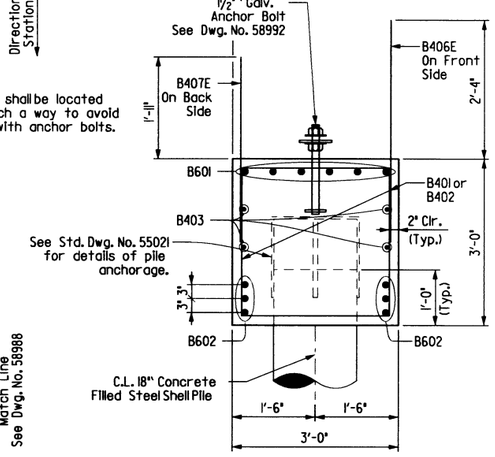
No Scale



ELEVATION

Looking Back
Scale: ⅜" = 1'-0"

Pile anchorage shall be located on piling in such a way to avoid interference with anchor bolts.



SECTION A-A

Scale: ¾" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

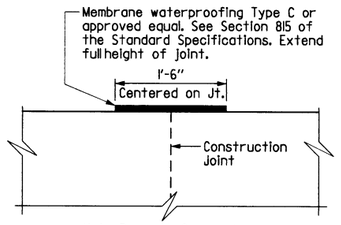
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF END BENTS
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_bll.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 58987

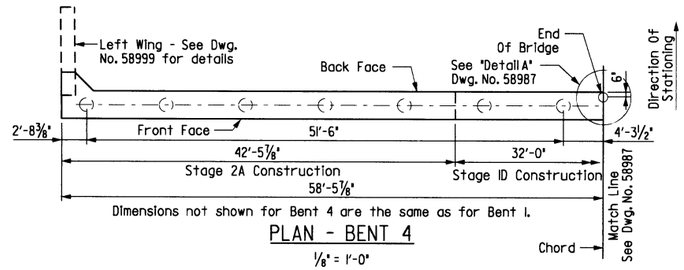
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	234	434
				① 07399		END BENTS		58988



Note: Payment for membrane to be considered subsidiary to Class S Concrete-Bridge.

CONST. JOINT DETAIL

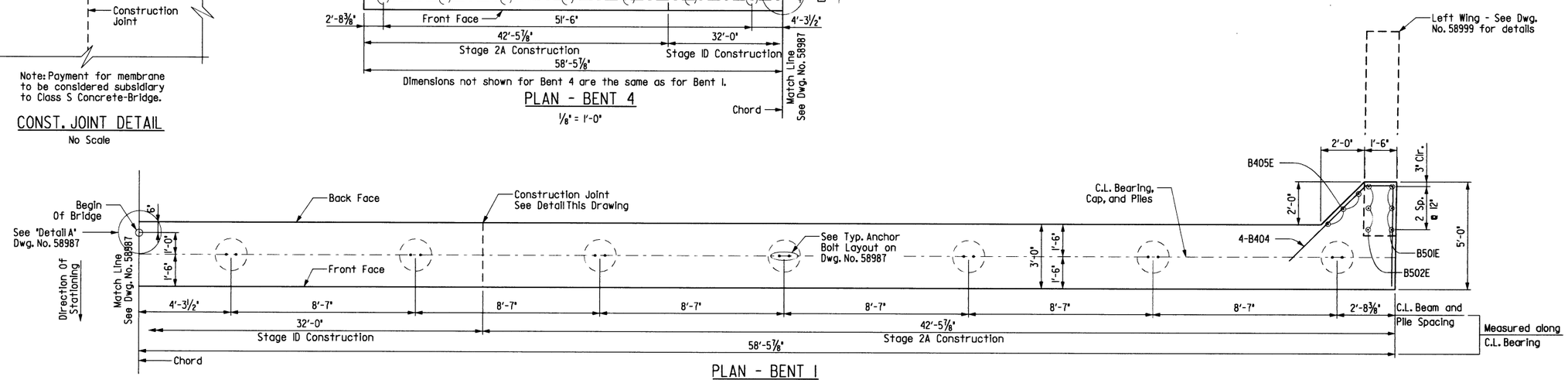
No Scale



Dimensions not shown for Bent 4 are the same as for Bent 1.

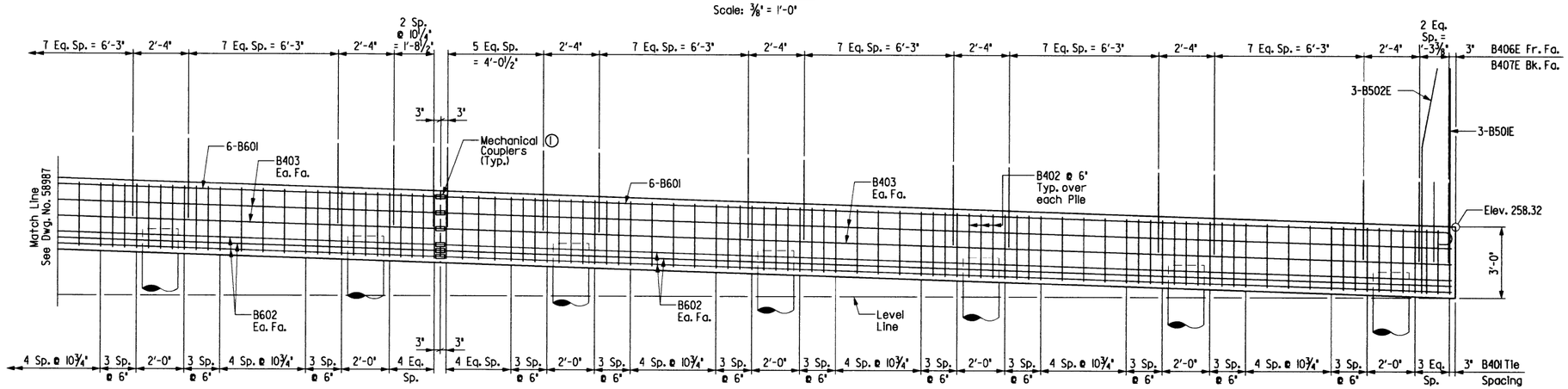
PLAN - BENT 4

⅛" = 1'-0"



PLAN - BENT 1

Scale: ⅜" = 1'-0"



ELEVATION

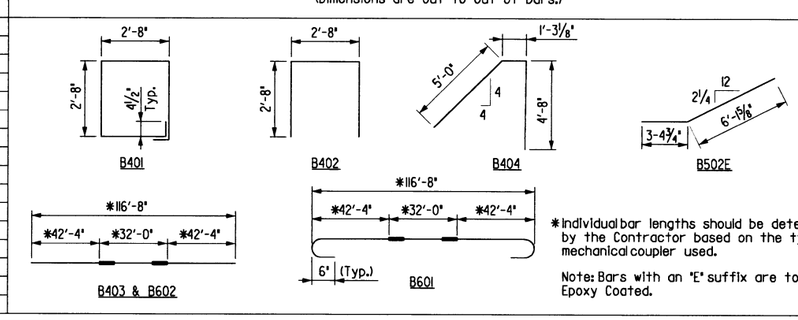
Looking Back
Scale: ⅜" = 1'-0"

② See Dwg. No. 58999 for additional details.

BAR LIST - PER BENT

	Mark	Number Required	Length	Pin Dia.
	B401	155	11'-0"	2"
	B402	42	7'-10"	2"
	B403	4	116'-8"	Str.
	B404	8	10'-10"	2"
	B601	6	118'-0"	4½"
	B602	6	116'-8"	Str.
②	B405E	6	4'-8"	Str.
②	B406E	112	3'-10"	Str.
②	B407E	112	3'-5"	Str.
	B501E	6	9'-6"	Str.
	B502E	6	9'-7"	2½"

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



*Individual bar lengths should be determinded by the Contractor based on the type of mechanical coupler used.

Note: Bars with an "E" suffix are to be Epoxy Coated.

① Denotes: Mechanical couplers shall be from the Qualified Products List, shall maintain minimum clearances shown, and their payment is subsidiary to the item "Reinforcing Steel - Bridge (Grade 60)". The couplers shall develop at least 125% of the specified yield strength of the bar.

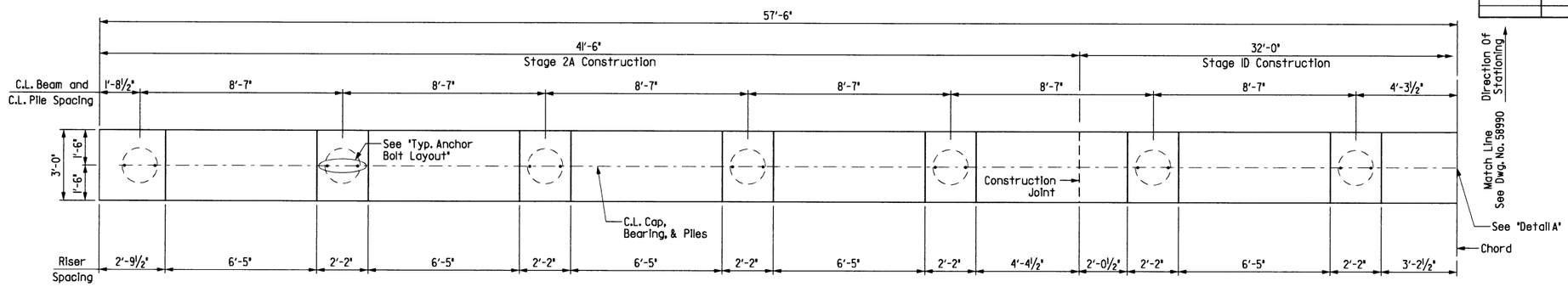
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11339 LARRY W. MILLER
8-24-16
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF END BENTS
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

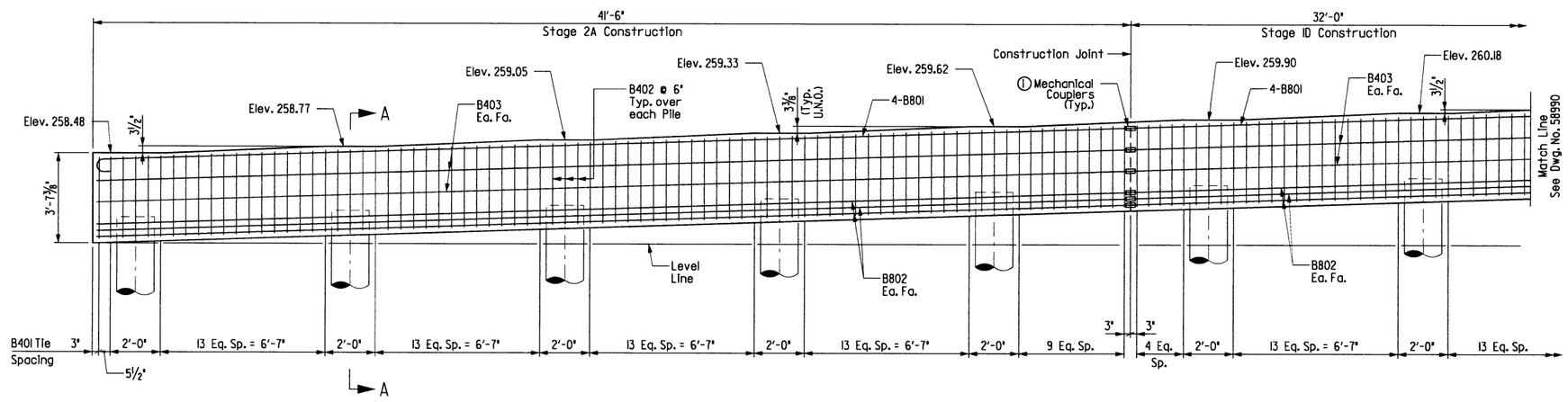
DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl.bl2.dgn
SCALE: ⅜" = 1'-0"

BRIDGE NO. 07399 DRAWING NO. 58988

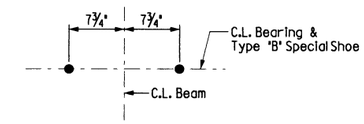
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	235	434
				(1) 07399		INT. BENTS		58989



PLAN
Scale: ⅜" = 1'-0"



ELEVATION
Looking Ahead
Scale: ⅜" = 1'-0"



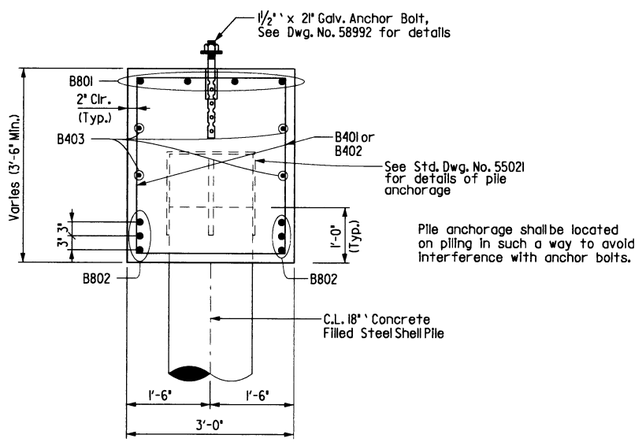
NOTE: For Details of Type "B" Special Shoe, See Dwg. No. 58992.

TYP. ANCHOR BOLT LAYOUT
No Scale

(1) Denotes: Mechanical couplers shall be from the Qualified Products List, shall maintain minimum clearances shown, and their payment is subsidiary to the item "Reinforcing Steel - Bridge (Grade 60)". The couplers shall develop at least 125% of the specified yield strength of the bar.

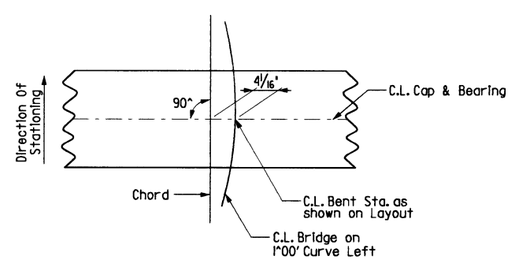
Couplers may be replaced with lap splices if it is determined in the field that there is sufficient room.

Minimum Lap Lengths:
#8 Bars in Top = 5'-0"
#8 Bars in Bottom = 3'-7"
#4 Bars = 1'-8"



Pile anchorage shall be located on piling in such a way to avoid interference with anchor bolts.

SECTION A-A
Scale: ¾" = 1'-0"



DETAIL A
Bent 2 & 3

NOTES

For General Notes, see 58987.

For additional Reinforcement Steel Information, see 58987.

For additional Information, see layout.

For Bar List, see Dwg. No. 58990.

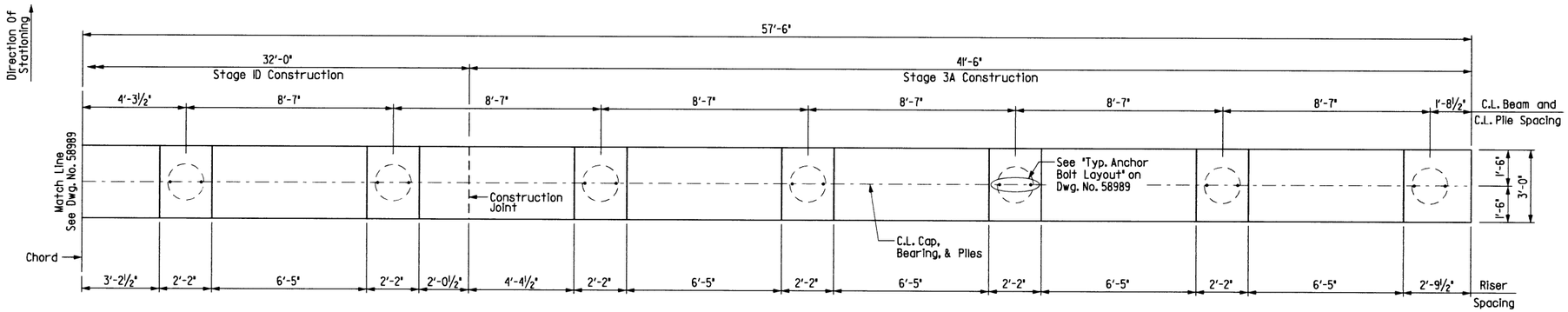
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER
8-24-16
BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF BENTS 2 & 3
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DM DATE: 06-16 FILENAME: bCA0605x1_b21.dgn
CHECKED BY: LM DATE: 7-8-16 SCALE: As Shown
DESIGNED BY: DM DATE: 05-16

BRIDGE NO. 07399 DRAWING NO. 58989

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.		CA0605	236	434
				(1) 07399		INT. BENTS		58990



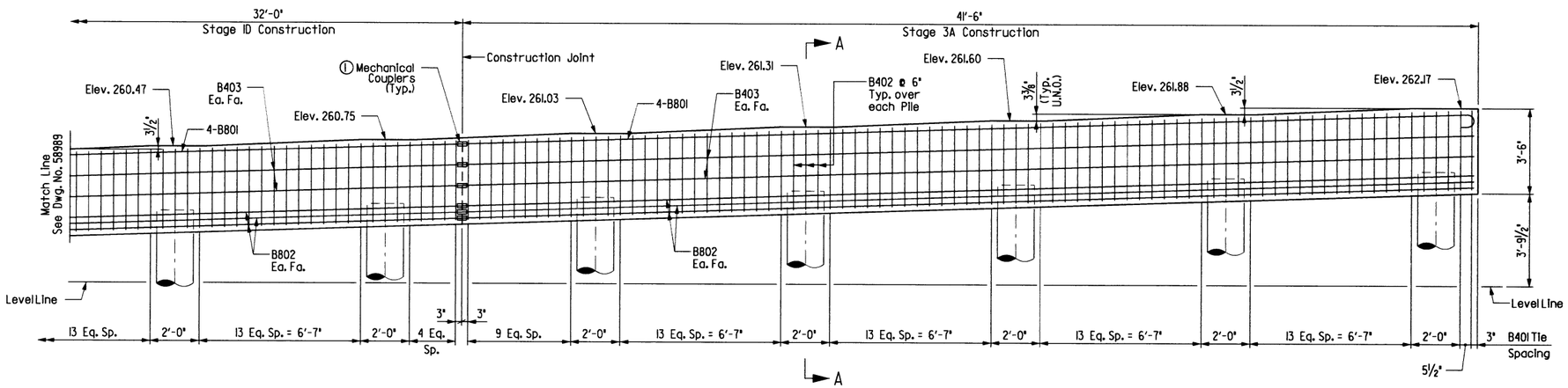
PLAN

Scale: ⅜" = 1'-0"

For GENERAL NOTES FOR SUBSTRUCTURE, see Dwg. No. 58987.

For SECTION A-A, see Dwg. No. 58989.

For additional information, see LAYOUT on Dwg. No. 58982.



ELEVATION

Looking Ahead
Scale: ⅜" = 1'-0"

(1) Denotes: Mechanical couplers shall be from the Qualified Products List, shall maintain minimum clearances shown, and their payment is subsidiary to the item "Reinforcing Steel - Bridge (Grade 60)". The couplers shall develop at least 125% of the specified yield strength of the bar.

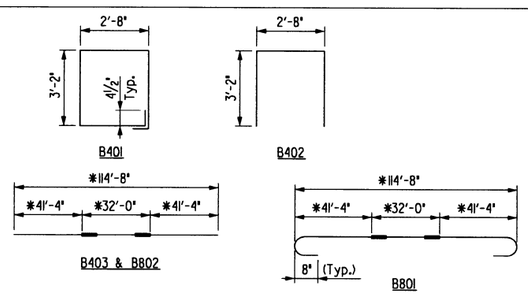
Couplers may be replaced with lap splices if it is determined in the field that there is sufficient room.

Minimum Lap Lengths:
#8 Bars in Top = 5'-0"
#8 Bars in Bottom = 3'-7"
#4 Bars = 1'-8"

BAR LIST - PER BENT

Mark	Number Required	Length	Pin Dia.
B401	188	12'-0"	2"
B402	42	8'-11"	2"
B403	4	114'-8"	Str.
B801	4	116'-6"	6"
B802	6	114'-8"	Str.

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



*Individual bar lengths should be determined by the Contractor based on the type of mechanical coupler used.

Couplers may be replaced with lap splices if it is determined in the field that there is sufficient room.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

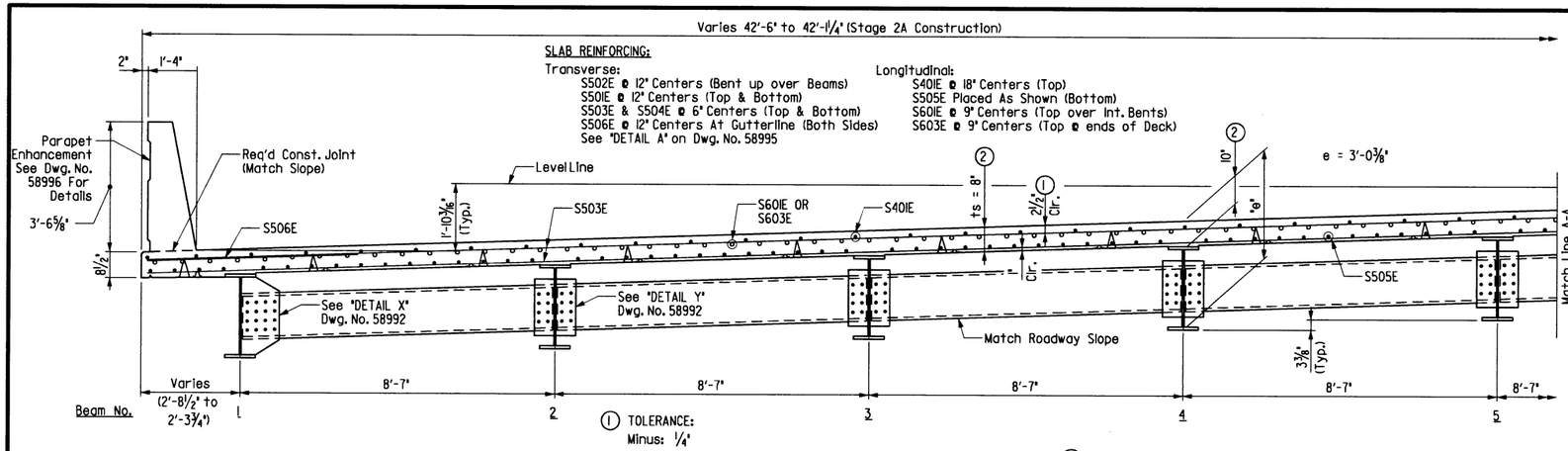
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF BENTS 2 & 3
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16 FILENAME: bCA0605xl.b22.dgn
CHECKED BY: LM DATE: 7-8-16 SCALE: As Shown
DESIGNED BY: DLM DATE: 05-16

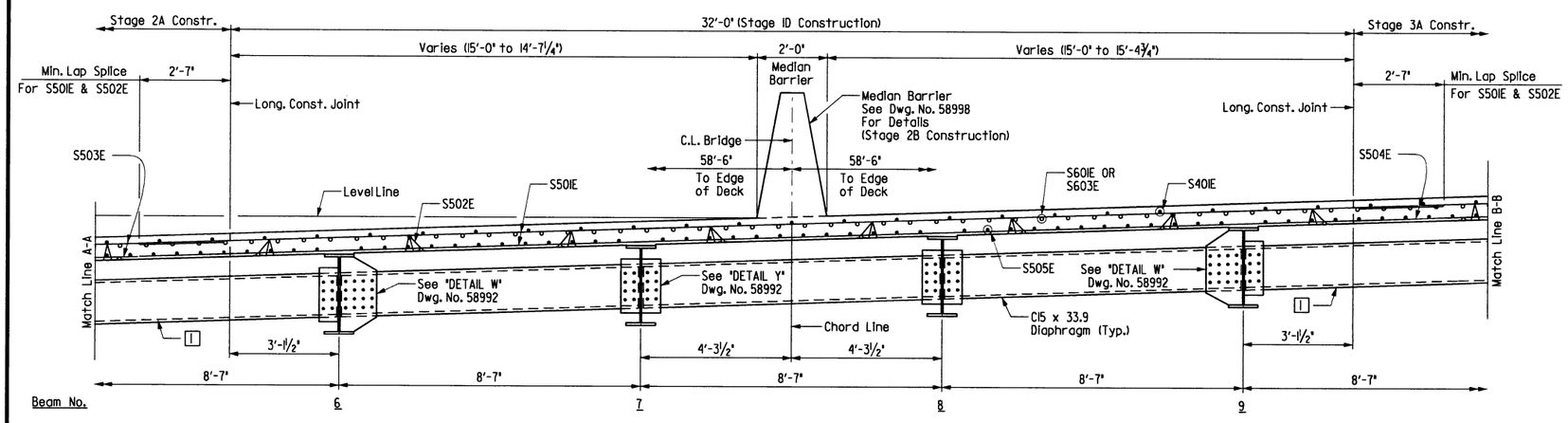
BRIDGE NO. 07399 DRAWING NO. 58990

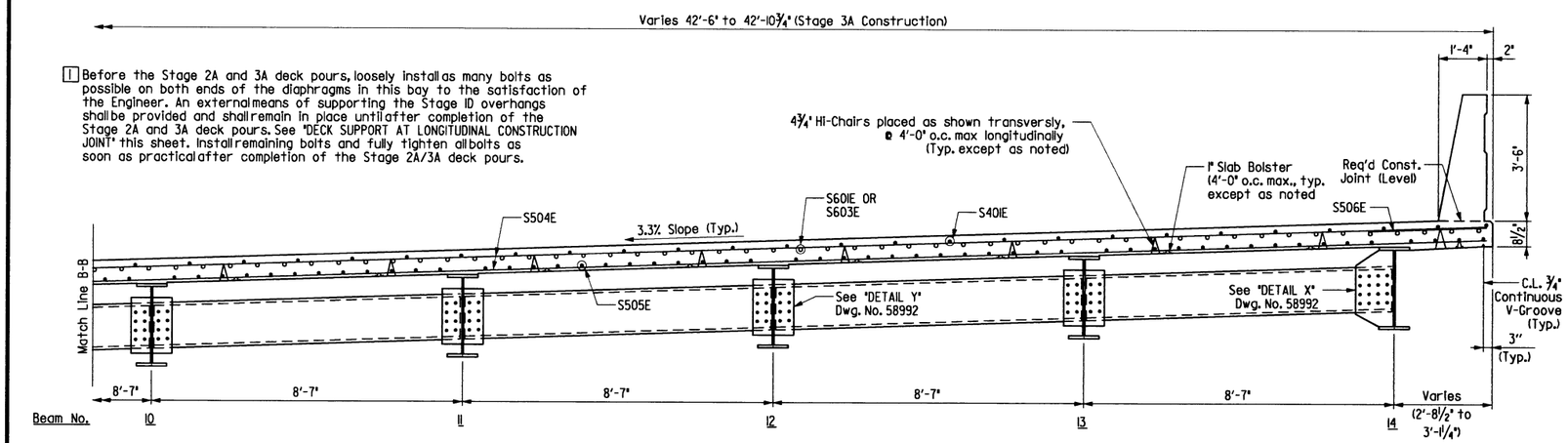
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	237	434
				(1) 07399		SPAN DETAILS		58991



(1) TOLERANCE:
Minus: ¼"
Plus: Equal to amount of slab thickening used to meet slab thickness tolerance. See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".

(2) See "ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED".





[1] Before the Stage 2A and 3A deck pours, loosely install as many bolts as possible on both ends of the diaphragms in this bay to the satisfaction of the Engineer. An external means of supporting the Stage 1D overhangs shall be provided and shall remain in place until after completion of the Stage 2A and 3A deck pours. See "DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT" this sheet. Install remaining bolts and fully tighten all bolts as soon as practical after completion of the Stage 2A/3A deck pours.

TYPICAL SECTION

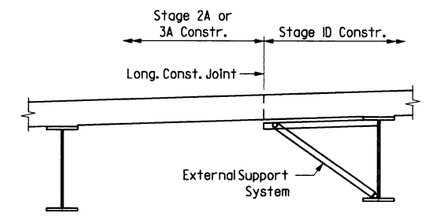
Looking Ahead
½" = 1'-0"

NOTES:

One Epoxy Coated #5 bar in the top and one Epoxy Coated #5 bar in the bottom may be substituted for each bar S502E, S504E, S508E. Payment will be based on the weight of bar S502E, S504E & S508E.

Class 1 Protective Surface Treatment shall be applied to the Roadway Surface and the traffic face and Top of Concrete Parapet Rail & Median Barrier.

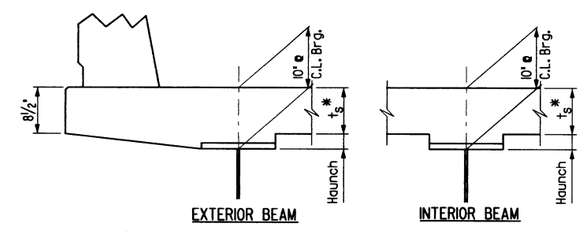
All bars designated with an E suffix are to be epoxy coated.



Stage 1D external supports in this bay shall remain in place until after completion of the Stage 2A & 3A deck pours. See Subsection 802.15 for additional information regarding their removal.

DECK SUPPORT AT LONGITUDINAL CONSTRUCTION JOINT

Looking Ahead
No Scale



Note: ts = slab thickness as shown on "TYPICAL SECTION".
*Tolerance when removable deck forming is used is +½", -¼".
Haunch forming is required and shall be adjusted to maintain slab thickness tolerance.

ADJUSTMENT FOR SLAB THICKNESS TOLERANCE WHEN REMOVABLE DECK FORMING IS USED

No Scale

Haunch dimension may vary within the following limits to maintain the grade and slab thickness tolerance; Minimum - occurs when the top flange contacts the bottom reinforcing steel; Maximum - top flange thickness plus 1¼". No increase in concrete and structural steel quantities will be made to maintain tolerances.

Tolerances shown are applicable only when removable deck forming is used. See Std. Dwg. No. 55005 for tolerances when permanent steel deck forms are used. Payment for concrete shall be based on removable deck forming.

SHEET 1 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11339 LARRY W. MILLER
Larry W. Miller 8-24-16
BRIDGE ENGINEER

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_sl.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 58991

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.		CA0605	238	434
				(1) 07399		SPAN DETAILS		58992

SUPERSTRUCTURE GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS: AASHTO LRFD Bridge Design Specifications (2012, 6th Edition) with interim specifications.

LIVE LOADING: HL93

SEISMIC ZONE: 2 SDI = 0.234g Site Class=D

MATERIALS AND STRENGTHS:

Class S(AE) Concrete (Superstructure)	F'c = 4,000 psi
Class S Concrete (Substructure)	F'c = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322 Type A, Gr. 60)	Fy = 60,000 psi
Structural Steel (AASHTO M270, Gr. 50W)	Fy = 50,000 psi
Structural Steel (AASHTO M270, Gr. 36)	Fy = 36,000 psi

STRUCTURAL STEEL:
All structural steel shall be AASHTO M270, Gr. 50W unless otherwise noted and shall be paid for as STRUCTURAL STEEL IN BEAM SPANS (M270, Gr. 50W). Structural steel completely embedded in concrete may be AASHTO M270, Gr. 36. All exposed surfaces shall be cleaned in accordance with Subsection 807.84(e) unless noted otherwise. M270, Gr. 50W steel shall not be painted unless noted otherwise.

Longitudinal beams and all splice plates are considered main load carrying members and shall meet the Longitudinal Charpy V-Notch Test specified in Subsection 807.05 of the Standard Specifications. This work and material will not be paid for directly but are considered subsidiary to the item STRUCTURAL STEEL IN BEAMS SPANS (M270, Gr. 50W.)

All beams shall be blocked in their true position in the shop with webs horizontal and as specified in Subsection 807.54 (b)(2) of the Standard Specifications. The camber, length of sections, distance between bearings, and openings of joints shall be measured with the beams in their true position. This information shall become a part of the permanent records of this job. The component parts shall be match-marked in this assembly and these marks shall be shown on the erection diagram. All beam dimensions are based on a temperature of 60° F. A tolerance of 1/4" +/- is allowed for camber.

Field splice flange plates shall be cut and fabricated so that the primary direction of rolling is parallel to the direction of the main tensile and/or compressive stresses.

Drawings show general features of design only. Shop drawings shall be made in accordance with Subsection 807.04, submitted, and approval secured before fabrication is begun.

Diaphragms shall be installed as beams are erected. All bolts in diaphragms and field splices shall be installed and tightened in accordance with Subsection 807.71 prior to pouring the concrete deck, unless noted otherwise.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Field connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 3/4" diameter and open holes shall be 13/16". Holes for 3/4" diameter bolts may be 15/16" diameter if a washer is supplied for use under both the nut and head of the bolt. Bolt spacing shall be 2 1/2" for 3/4" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of exterior webs and the bottom of flanges.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval; however, additional welds used for attaching falsework support devices or screed rail supports to the structural steel that do not exceed the limitations of subsection 802.13 will not require approval prior to construction. All welding shall conform to Subsection 807.26.

Anchor bolts shall be galvanized according to Subsection 807.07 and shall be Grade 55.

CONCRETE:
Concrete shall be poured in the dry and all exposed corners shall be chamfered 3/4" unless otherwise noted.

The superstructure details shown are for use when removable deck forming is used and are the basis for measurement of Class S(AE) Concrete. See Standard Drawing No. 55005 for allowable modifications and for tolerances when Permanent Steel Bridge Deck Forms are used.

Concrete in bridge superstructure shall be placed, consolidated and screeded off for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The concrete deck shall be given a tine finish in accordance with Subsection 802.19 for Class 5 Tined Bridge Roadway Surface Finish. Movement of the finishing machine across new concrete shall be on planks placed on the surface and shall be prohibited for 72 hours after finishing the pour. Sufficient concrete must be placed ahead of the strike-off to fully load the beam. If a longitudinal strike-off is used, a vertical camber adjustment must be made in the strike-off to account for the future dead load deflection due to the railing.

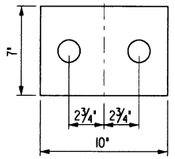
A minimum of 72 hours shall elapse between completion of the deck and the pouring of the parapet railing. Any railing pours made before the entire deck has been placed and cured must be approved by the Engineer.

REINFORCING STEEL:
The reinforcing steel shall be accurately located in the forms and firmly held in place by steel wire supports sufficient in size and number to prevent displacement during the course of construction. The wire supports will not be paid for directly but will be considered subsidiary to the item EPOXY COATED REINFORCING STEEL (Grade 60.)

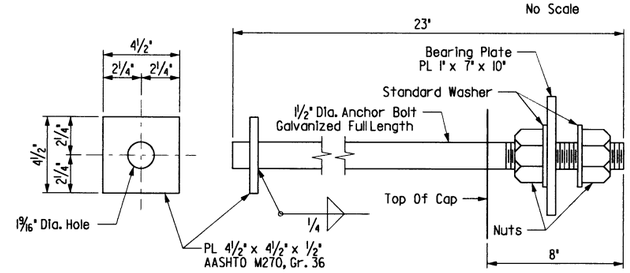
TABLE FOR WELD

Material Thickness of Thicker Part Joined (Inches)	Minimum Size of Fillet Weld (Inches)	Single Pass Weld Must Be Used
To 3/4" Inclusive	1/4"	
Over 3/4"	5/16"	

NOTE: When a fillet weld size, as shown on the plans, is larger than the minimum, the first pass shall be that specified for minimum size of fillet weld.



END BENT BEARING PLATE DETAIL
No Scale

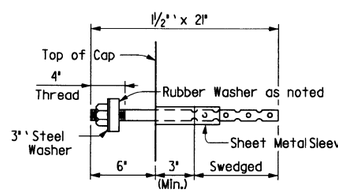


ANCHOR BOLT DETAIL FOR END BENTS
No Scale

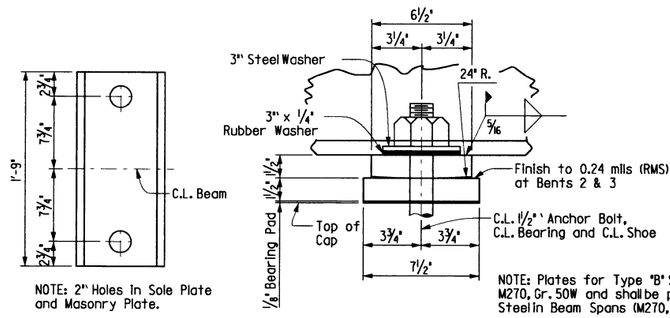
Use lower nut and washer to adjust to grade. Snug tight top nut and washer after grade is adjusted.

NOTE:

Anchor bolts shall comply with AASHTO M314, Grade 55 with Supplementary Requirement S1 and galvanized according to Subsection 807.07. Nuts for bolts shall be as specified in Subsection 807.07. Plates, anchor bolts, nuts and washers shall be paid for at the unit price bid for "Structural Steel in Beam Spans (M270. Gr. 50W)".



ANCHOR BOLT DETAIL FOR INTERMEDIATE BENTS
No Scale

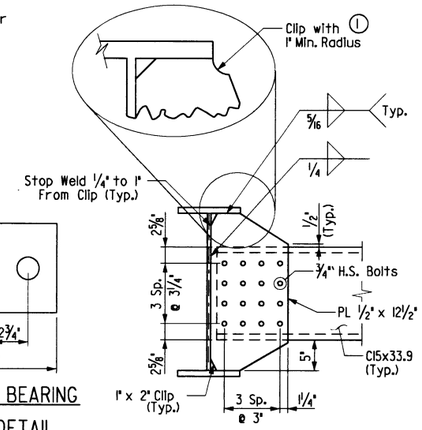


NOTE: 2" Holes in Sole Plate and Masonry Plate.

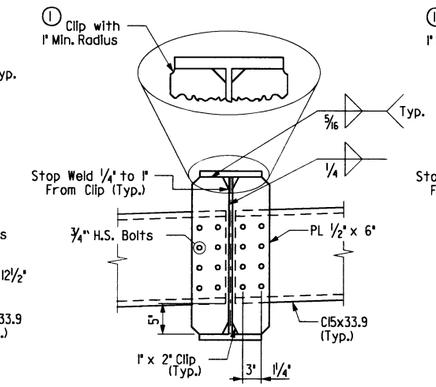
NOTE: Plates for Type "B" Special Shoes shall be M270, Gr. 50W and shall be paid for as "Structural Steel in Beam Spans (M270, Gr. 50W)."

TYPE "B" SPECIAL SHOE AT INTERMEDIATE BENTS
No Scale

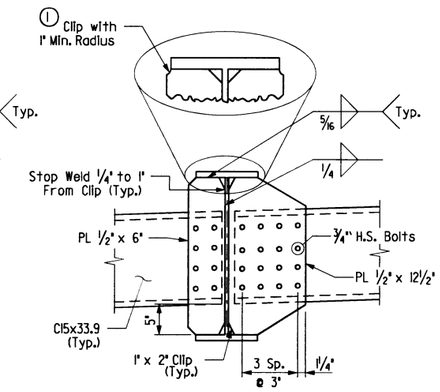
(1) If permanent steel bridge deck forms are used, the fabricator shall clip the plate as necessary to accomodate the deck form support.



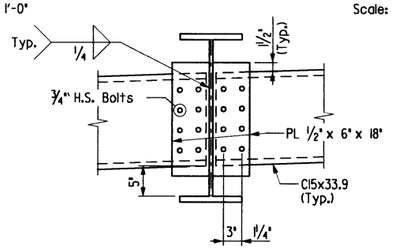
DETAIL X
Scale: 1" = 1'-0"



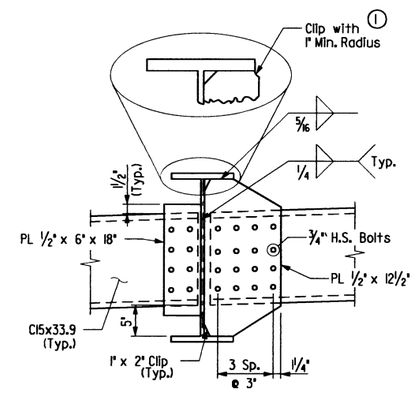
DETAIL V
Scale: 1" = 1'-0"



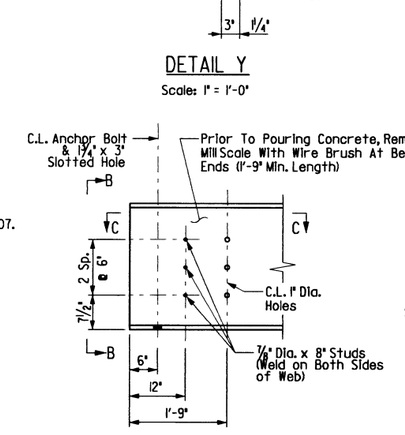
DETAIL Z
Scale: 1" = 1'-0"



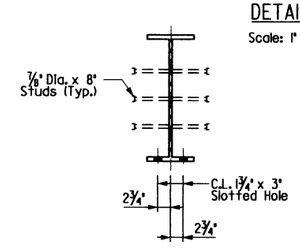
DETAIL Y
Scale: 1" = 1'-0"



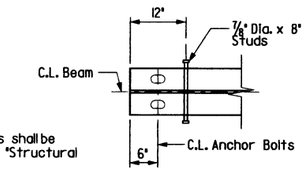
DETAIL W
Scale: 1" = 1'-0"



DETAIL G
Scale: 3/4" = 1'-0"



VIEW B-B
Scale: 3/4" = 1'-0"



SECTION C-C
Scale: 3/4" = 1'-0"

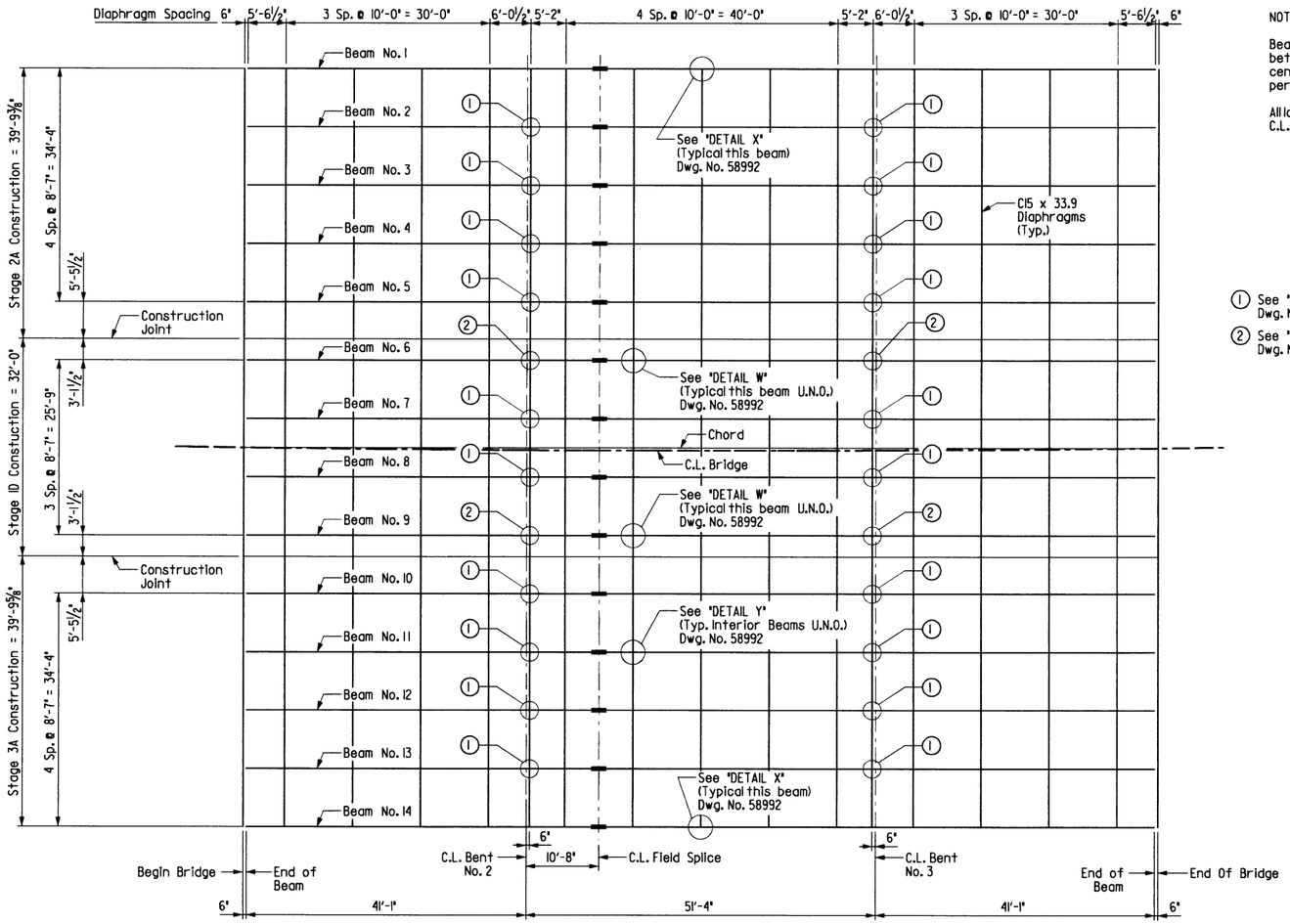
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11339 LARRY W. MILLER
8-24-16
BRIDGE ENGINEER

SHEET 2 OF 9
DETAILS OF 133'-6" INTEGRAL
W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM	DATE: 06-16	FILENAME: bCA0605xl_s2.dgn
CHECKED BY: DM	DATE: 07-06-16	SCALE: As Shown
DESIGNED BY: DLM	DATE: 05-16	

BRIDGE NO. 07399 DRAWING NO. 58992

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.		CA0605	239	434
				(1) 07399		SPAN DETAILS		58993



FRAMING PLAN

Scale: 3/32" = 1'-0"

NOTES:

Beams are straight and parallel to the chord between the begin and end bridge points on the centerline of construction. All diaphragms are perpendicular to the beams.

All longitudinal dimensions are taken along C.L. beams, unless noted otherwise.

(1) See "DETAIL V" Dwg. No. 58992

(2) See "DETAIL Z" Dwg. No. 58992

TABLE OF DEAD LOAD DEFLECTIONS (INCHES)

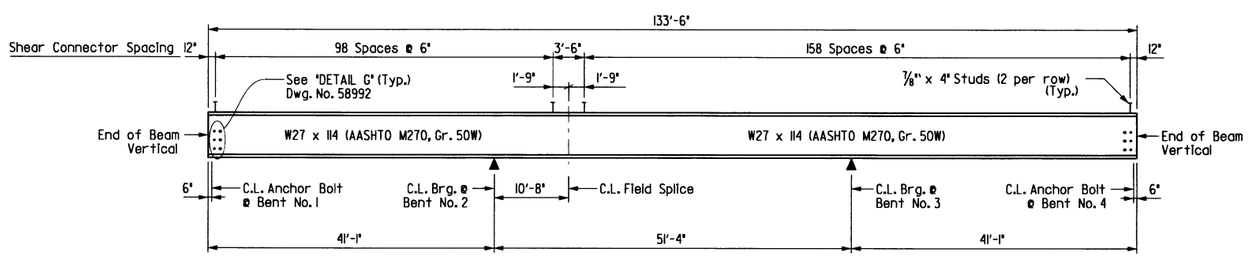
Tolerance for camber for dead load deflection plus vertical curve is +/- ¼". Deflections shown are along the centerline beam from the plane perpendicular to the web extending from centerline bearing to centerline bearing. Vertical curve corrections not included. Negative sign (-) indicates upward deflection.

	POINT OF DEFLECTION	INTERIOR BEAM Structural Steel	INTERIOR BEAM Structural Steel+Slab	INTERIOR BEAM Structural Steel+Slab +Para. Rail	EXTERIOR BEAM Structural Steel	EXTERIOR BEAM Structural Steel+Slab	EXTERIOR BEAM Structural Steel+Slab +Para. Rail
SPAN NO. 1 or 3	1.00	0.00	0.00	0.00	0.00	0.00	0.00
	1.10	0.01	0.08	0.09	0.01	0.08	0.09
	1.20	0.02	0.15	0.17	0.02	0.15	0.17
	1.30	0.03	0.20	0.22	0.03	0.20	0.23
	1.40	0.03	0.22	0.25	0.03	0.22	0.25
	1.50	0.03	0.21	0.24	0.03	0.21	0.24
	1.60	0.02	0.17	0.20	0.02	0.17	0.20
	1.70	0.02	0.12	0.14	0.02	0.12	0.14
	1.80	0.01	0.07	0.07	0.01	0.07	0.07
	1.90	0.00	0.02	0.02	0.00	0.02	0.02
SPAN NO. 2	2.00	0.00	0.00	0.00	0.00	0.00	0.00
	2.10	0.01	0.01	0.01	0.01	0.01	0.01
	2.20	0.02	0.05	0.06	0.02	0.05	0.06
	2.30	0.03	0.13	0.14	0.03	0.13	0.15
	2.40	0.04	0.21	0.23	0.04	0.21	0.23
C.L. Unit	2.50	0.04	0.26	0.29	0.04	0.26	0.30

NOTE: Deflections are symmetrical about C.L. Unit.

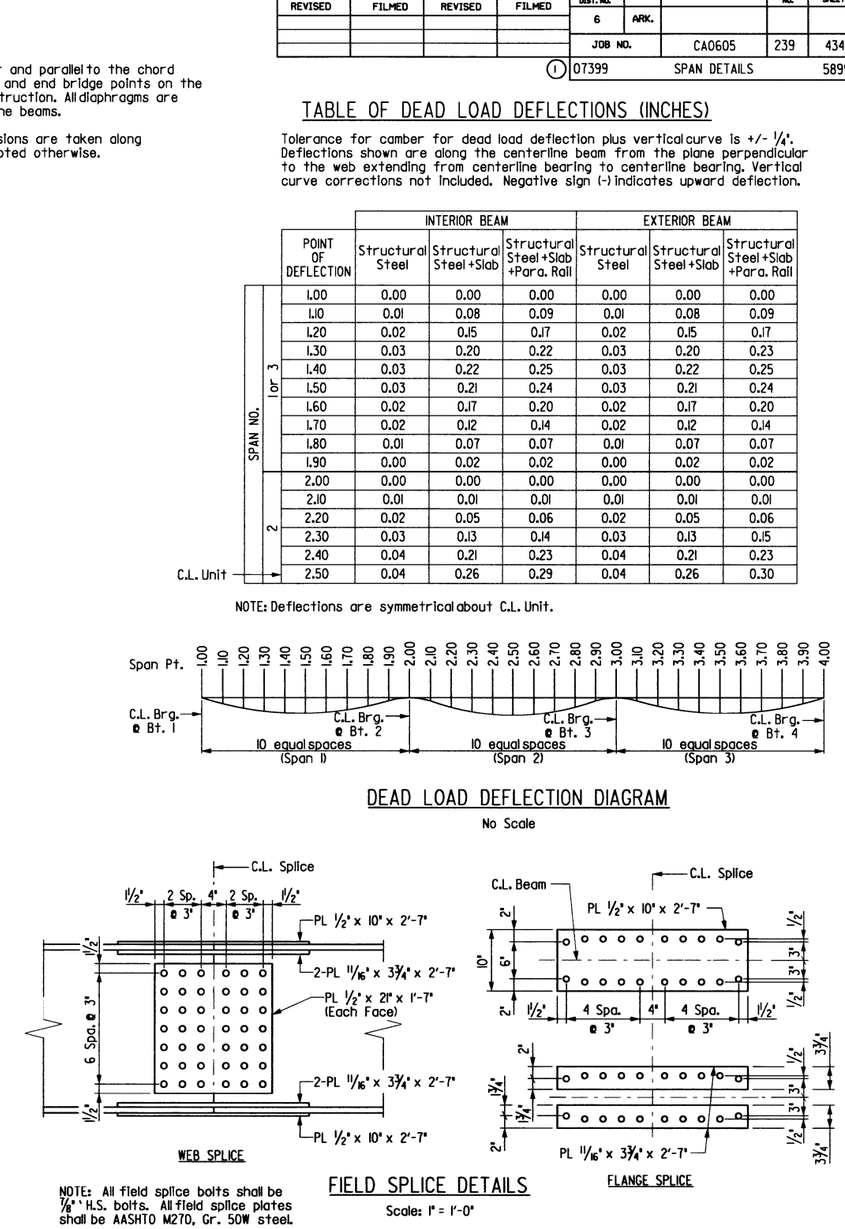
DEAD LOAD DEFLECTION DIAGRAM

No Scale



TYPICAL BEAM ELEVATION

No Scale

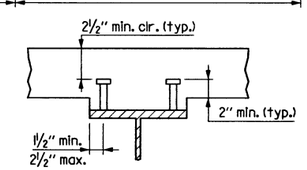


NOTE: All field splice bolts shall be ⅞" H.S. bolts. All field splice plates shall be AASHTO M270, Gr. 50W steel.

FIELD SPLICE DETAILS

Scale: 1" = 1'-0"

NOTE: Bolted field splices may be eliminated or shop welded splices may be substituted with the approval of the Engineer. Payment will be made on the basis of plan quantities.



SHEAR CONNECTOR DETAIL

No Scale

Stud Shear Connectors shown shall be ⅞" dia. x 4" long, granular flux filled, solid fluxed or equal, and automatically end welded to the beam flange in accordance with the recommendations of the Manufacturer. ¾" dia. studs may be used in place of the ⅞" dia. studs shown, at the ratio of 1.361- ¾" dia. studs in place of one ⅞" dia. stud. ⅞" dia. studs will be used as basis for measurement of structural steel in shear connectors. Maximum stud spacing = 24".

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

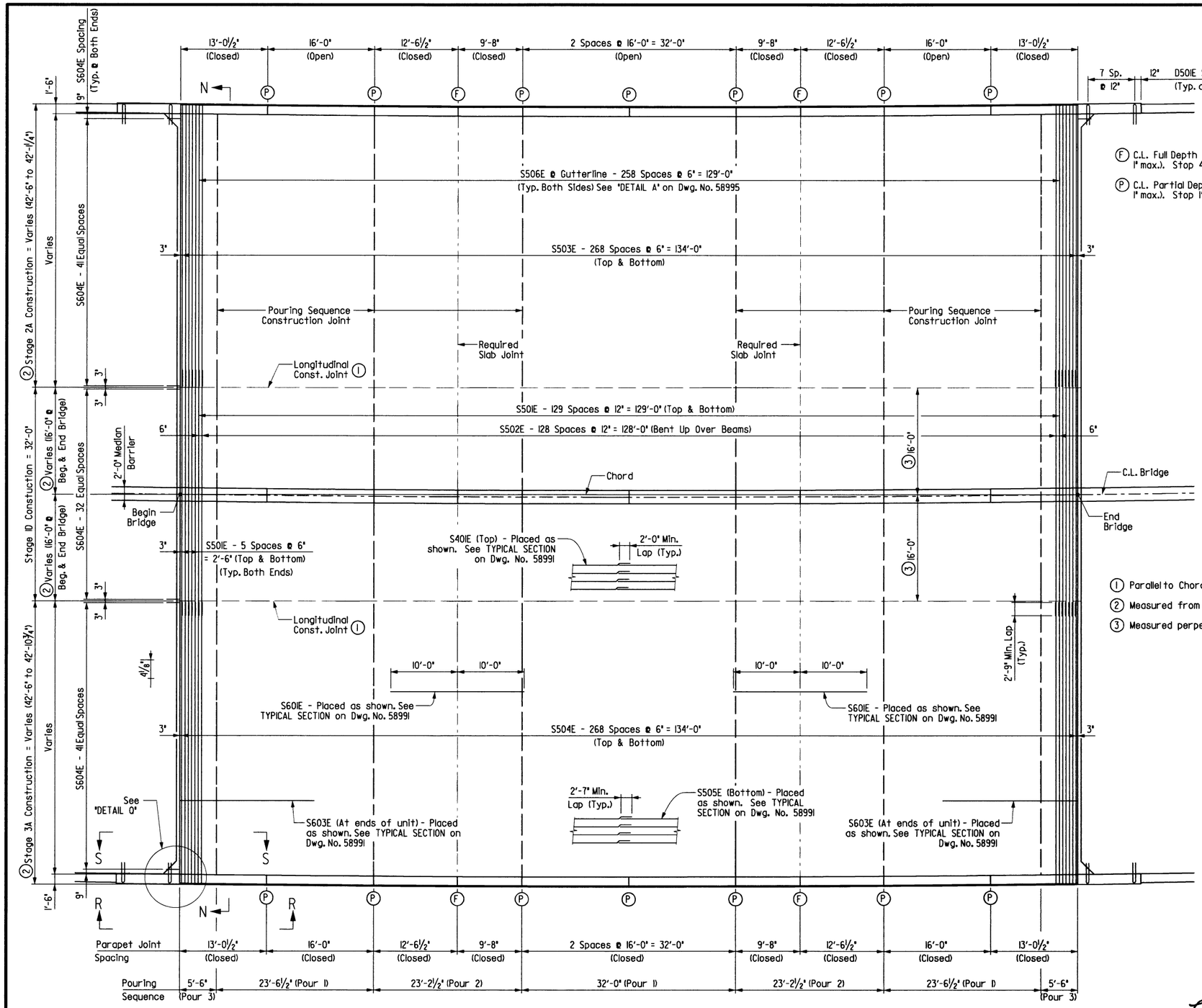
SHEET 3 OF 9
DETAILS OF 133'-6" INTEGRAL
W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s3.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 58993

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.		CA0605	240	434
				(1) 07399		SPAN DETAILS		58994

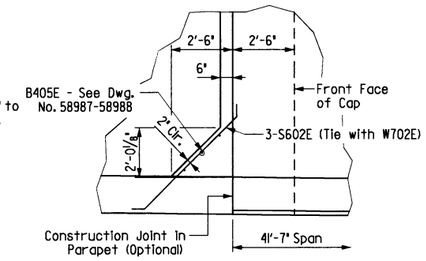


NOTE:
C.L. Bridge is in a 1°0'00" horizontal curve to the left. All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Bridge. All transverse reinforcing shall be placed normal to beams.

REINFORCING PLAN AND DECK POURING SEQUENCE

Scale: ⅛" = 1'-0"

NOTE:
For "VIEW R-R" and "SECTION S-S", See Dwg. No. 58999.
For "VIEW N", See Dwg. No. 58995.



DETAIL Q

No Scale

½" x 1" formed joint with Type 3 or 4 joint sealer. See Subsection 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Cost of joint shall be included in item CLASS S(AE) CONCRETE-BRIDGE.

LONGITUDINAL CONSTRUCTION JOINT

No Scale

C.L. ½" x 1" Slab Joint

Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsection 501.02 (h) and 501.05 (j). Backer rod filler will not be required. Joint Sealer shall be measured and paid for as Class S(AE) Concrete-Bridge. Slab joints shall extend to the outside edge of the deck slab. Slab joints shall be installed before the parapet railing is poured. If slab joints are to be sawed, they shall be sawed as soon as the concrete has sufficiently set up to allow the sawing of joint without damage to the slab. Slab joints shall be placed at all Pouring Sequence Construction Joints and Required Slab Joint locations. The joint sealer shall extend across the deck slab (gutterline to gutterline). Slab joints shall align with parapet open joints.

SLAB JOINT DETAIL

No Scale

NOTE:

Pours must be made in order as numbered. Pours with the same number may be placed simultaneously or separately. 48 hours shall elapse between the end of a pour and the start of the next pour. 72 hours shall elapse between the end of a pour and the start of the adjacent pour. Any railing pours made before the entire slab unit has been placed must be approved by the Engineer. Concrete in bridge superstructure shall be placed, consolidated and screeded for the entire pour before any concrete has taken its initial set. This may require the use of a retarding agent.

The Contractor must obtain approval from the Engineer for any deviations from the pouring sequence shown.

Required slab joints and pouring sequence joints shall align with parapet open joint at the gutterline (except at end bent closure pour joints).

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11330 LARRY W. MILLER
Larry W. Miller 8-24-16
BRIDGE ENGINEER

SHEET 4 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s4.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 58994

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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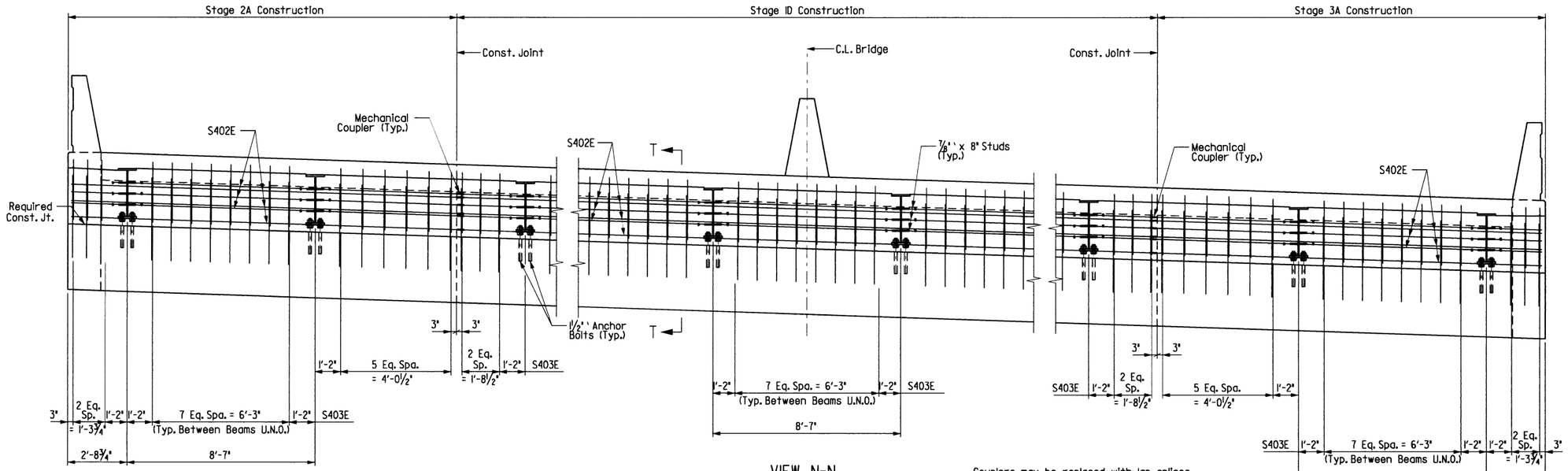
				JOB NO.		CA0605	241	434
				(1) 07399		SPAN DETAILS		58995

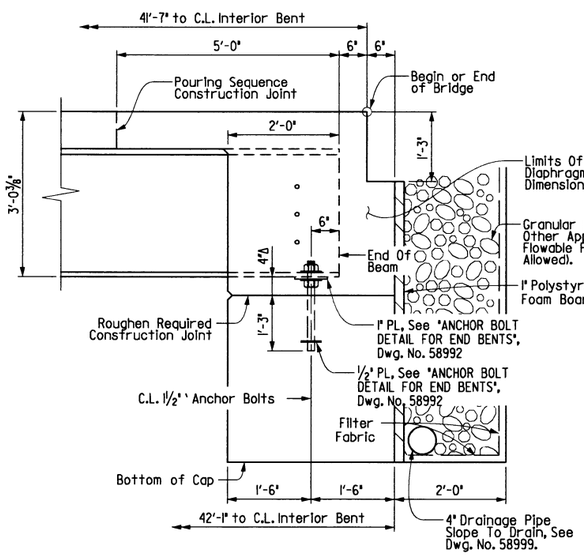


VIEW N-N

(Looking Back - Bent 1)
Bent 4 Similar
Scale: 3/8" = 1'-0"

Couplers may be replaced with lap splices if it is determined in the field that there is sufficient room.

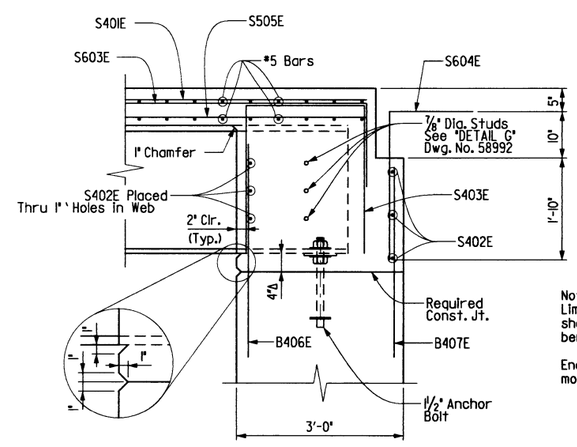
Minimum Lap Length:
#4 Bar = 2'-0"



SECTION AT END BENT

NO SCALE

Note:
For additional details of pipe underdrain see Std. Dwg. No. PU-1 and Section 611. Pipe underdrains, outlet protectors, granular materials, drain pipe, filter fabric and polystyrene foam board will not be measured or paid for separately, but will be considered subsidiary to the unit price bid for "Class S Concrete-Bridge".

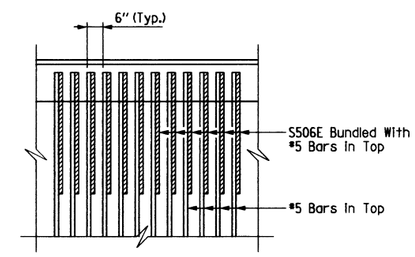


SECTION T-T

Scale: 3/4" = 1'-0"

Note:
Limits of concrete end diaphragm shall match plan dimensions of end bent cap.

End Diaphragm shall be poured monolithically with deck slab.



DETAIL A

No Scale

STATE OF ARKANSAS
LARRY W. MILLER
REGISTERED PROFESSIONAL ENGINEER
No. 11339
8-24-16

BRIDGE ENGINEER

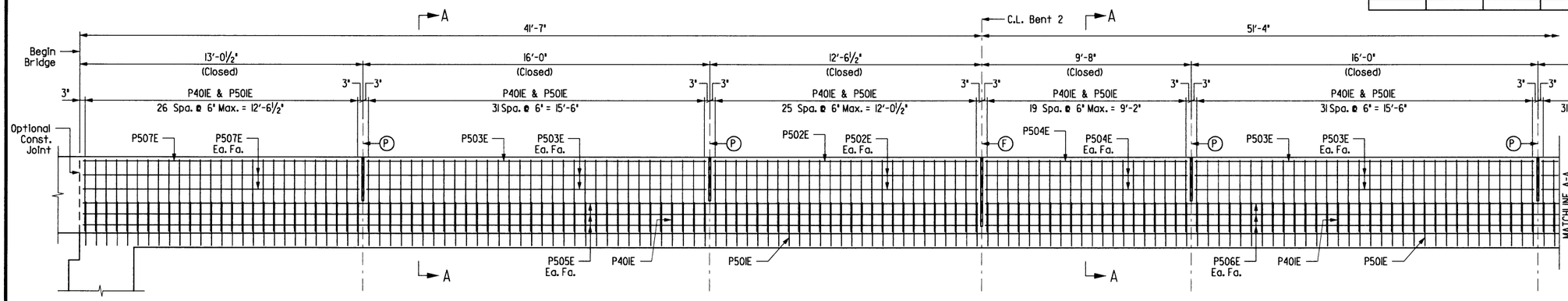
SHEET 5 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s5.dgn
SCALE: As Shown

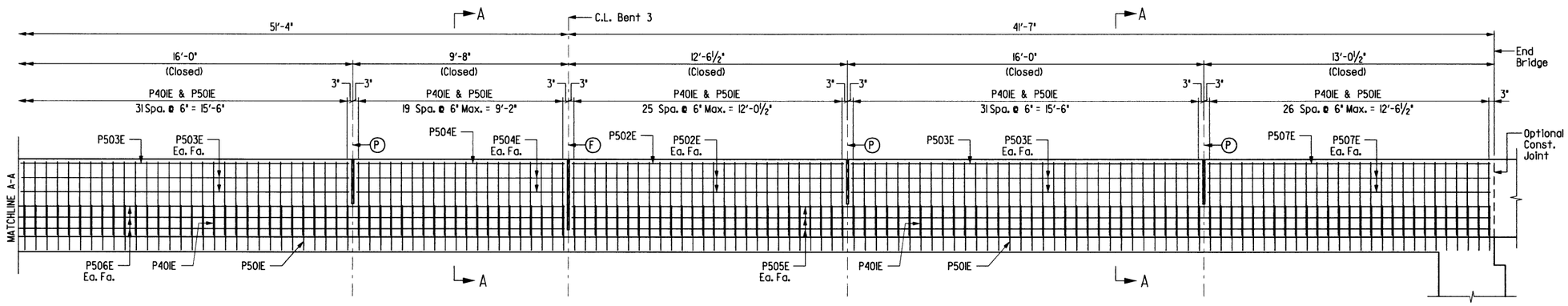
BRIDGE NO. 07399 DRAWING NO. 58995

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.		CA0605	242	434
				(1) 07399		SPAN DETAILS		58996



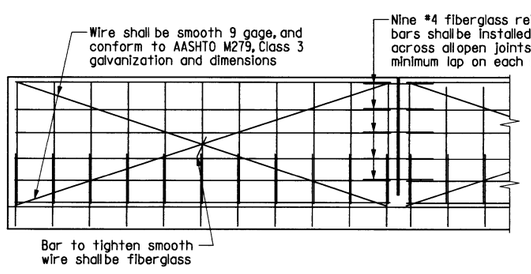
(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab.

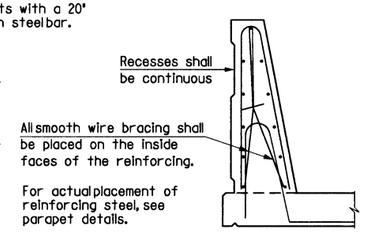


DETAILS OF PARAPET RAIL - HIGH SIDE OF BRIDGE

Scale: 3/8" = 1'-0"



All panels shall be braced as shown to prevent racking. All open joints shall be sawed as soon as practical to a minimum width of 1/4". To control cracking before sawing all joints must be grooved before the concrete is set. Sawing of the joints must be controlled so it will follow the grooved joint.

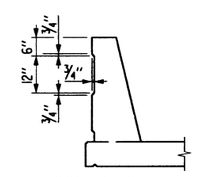


The extruded parapet shall conform to the horizontal and vertical lines shown on the plans or as directed by the Engineer and shall present a smooth, uniform appearance and texture. Exposed surfaces may be given a light brush finish or a Class 3 Textured Coating Finish in place of Class 2 Rubbed Finish.

DETAILS OF OPTIONAL SLIPFORMING OF CONCRETE PARAPET RAIL

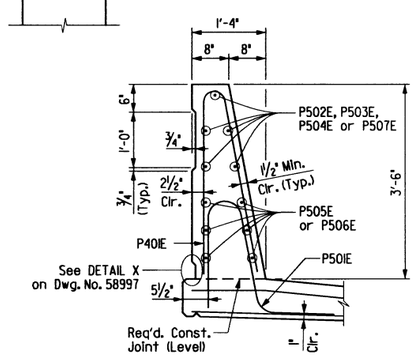
No Scale

Note: Details shown are for concrete parapet rails. Median barrier details are similar.



CONTINUOUS PARAPET ENHANCEMENT

Scale: 1/2" = 1'-0"



SECTION A-A

Scale: 3/4" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13390 LARRY W. MILLER

Larry W. Miller 7-24-16

BRIDGE ENGINEER

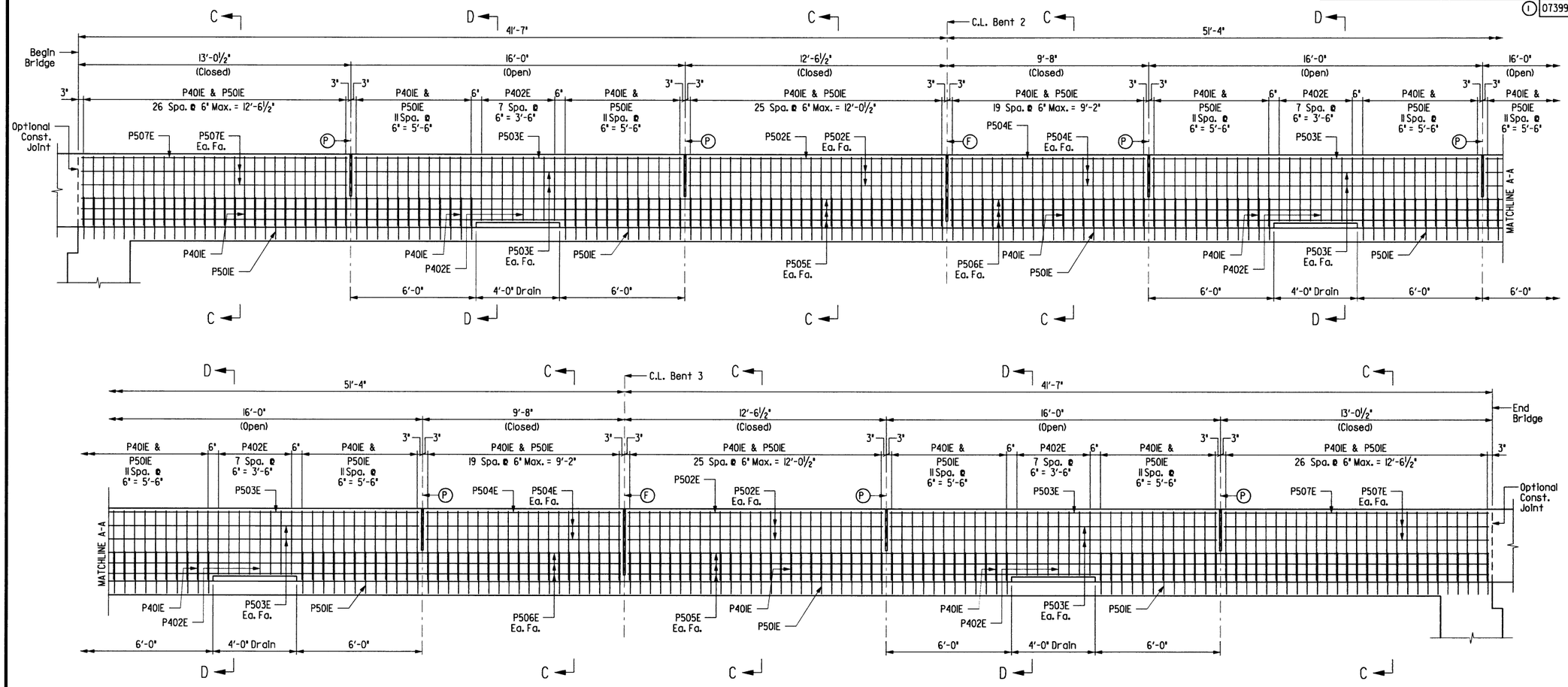
SHEET 6 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s6.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 58996

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.		CA0605	243	434
				(I) 07399		SPAN DETAILS		58997

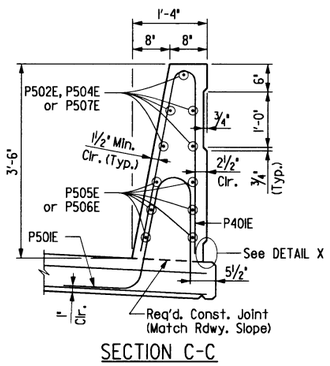


DETAILS OF PARAPET RAIL - LOW SIDE OF BRIDGE

Scale: ⅜" = 1'-0"

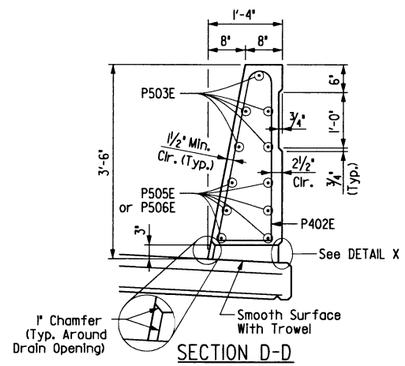
(P) C.L. Partial Depth Parapet Joint (¼" to 1" max.). Stop 1'-6" from top of slab.

(F) C.L. Full Depth Parapet Joint (¼" to 1" max.). Stop 4" from top of slab.



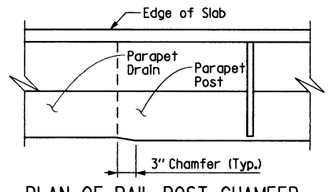
SECTION C-C

Scale: ¾" = 1'-0"



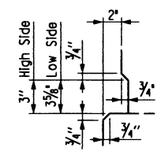
SECTION D-D

Scale: ¾" = 1'-0"



PLAN OF RAIL POST CHAMFER

(Typ. for Open Parapet Panels Only)
1" = 1'-0"



DETAIL X

No Scale

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

SHEET 7 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

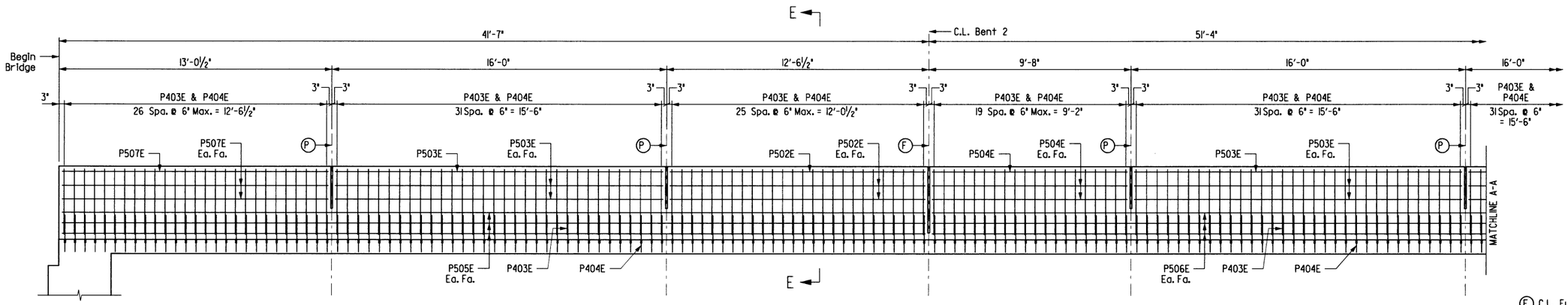
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s7.dgn
SCALE: As Shown

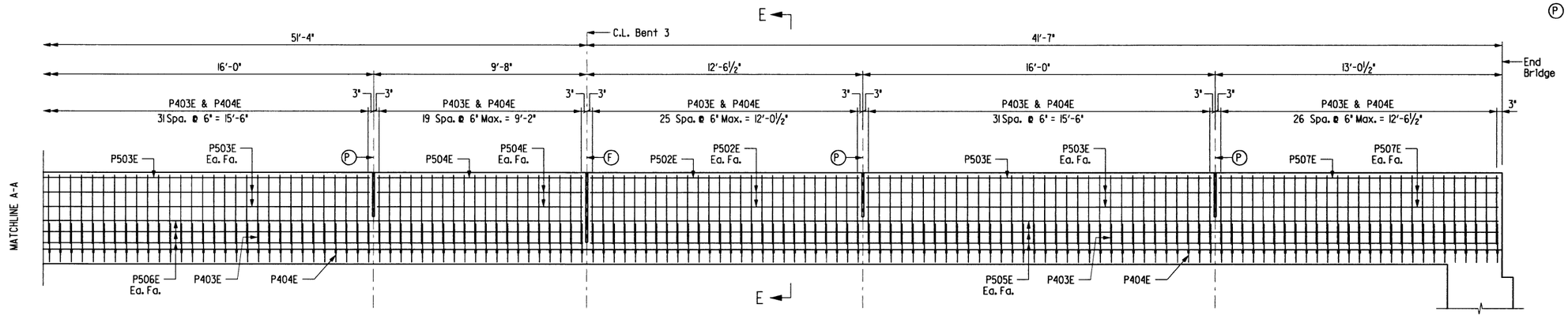
BRIDGE NO. 07399 DRAWING NO. 58997

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.		CA0605	244	434
				(1) 07399		SPAN DETAILS		58998



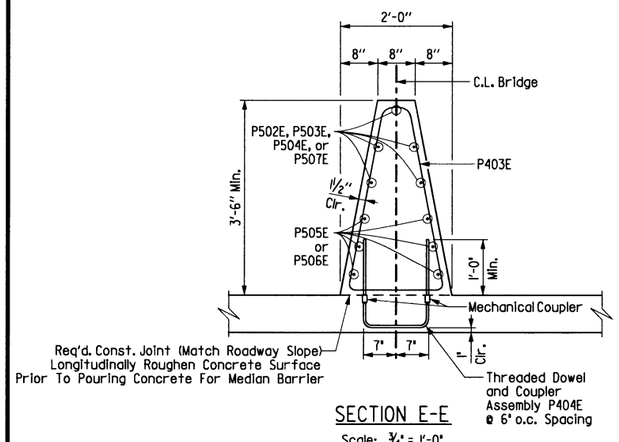
(F) C.L. Full Depth Parapet Joint (1/4" to 1" max.). Stop 4" from top of slab.

(P) C.L. Partial Depth Parapet Joint (1/4" to 1" max.). Stop 1'-6" from top of slab.



DETAILS OF MEDIAN BARRIER RAIL

Scale: 3/8" = 1'-0"



SECTION E-E

Scale: 3/4" = 1'-0"

NOTES:
The Threaded Dowel and Coupler Assembly shall consist of a QPL approved mechanical splice with protective cap and threaded dowelbars as shown and shall develop at least 125% of the yield strength of the dowelbars. Mechanical couplers will not be paid for separately but will be considered subsidiary to the unit price bid for "EPOXY COATED REINFORCING STEEL (GRADE 60)".

Dowel bars shall be of minimum 60 ksi yield strength and threaded as required. Threaded Dowel and Coupler Assembly, except mating surfaces, shall be epoxy coated in accordance with the requirements of Section 804.

Protect threads in couplers until median barrier is constructed.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

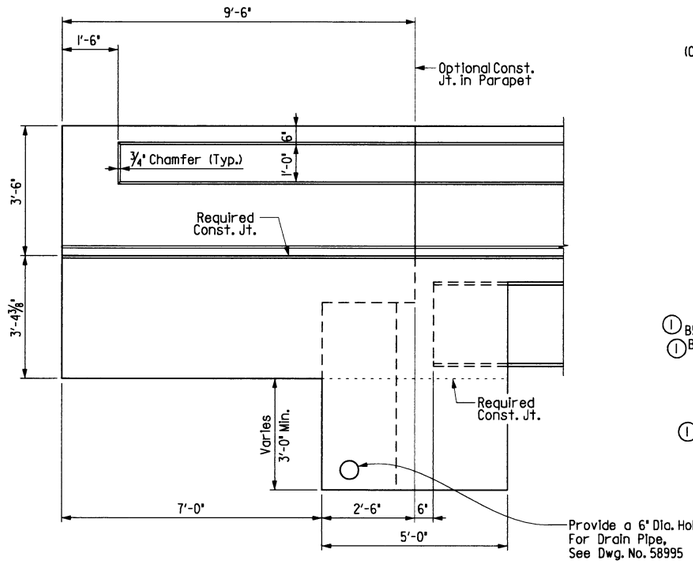
SHEET 8 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16
FILENAME: bCA0605xl_s8.dgn
SCALE: As Shown

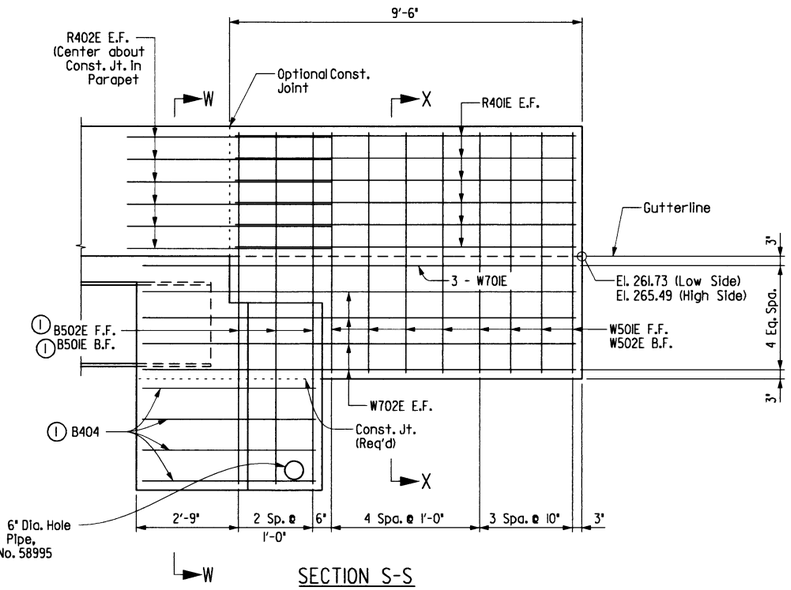
BRIDGE NO. 07399 DRAWING NO. 58998

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.		CA0605	245	434
				(1) 07399		SPAN DETAILS		58999



VIEW R-R

Scale: 1/2" = 1'-0"



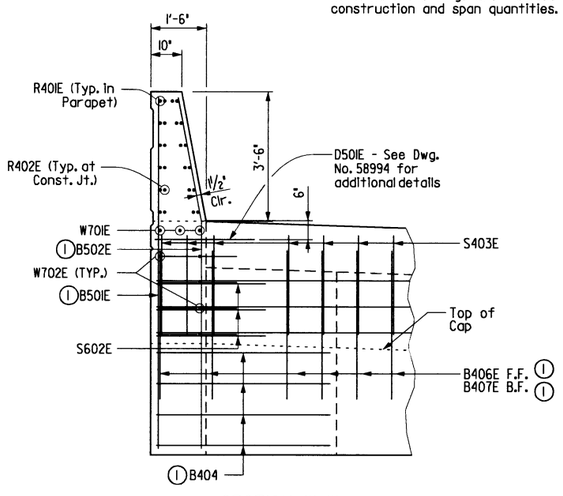
SECTION S-S

Scale: 1/2" = 1'-0"

(1) See End Bent Details on Dwg. No. 58987-58988 for reinforcing and additional details.

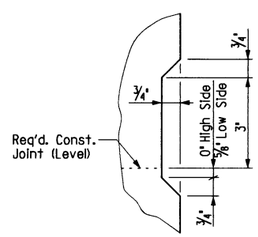
Note: Rails and wings shall be constructed concentric to C.L. Bridge arc.

Note: Rails and wings are included in span construction and span quantities.



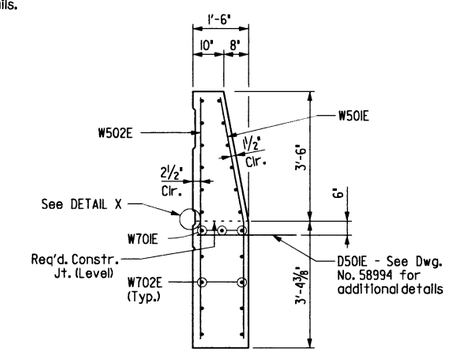
SECTION W-W

Scale: 1/2" = 1'-0"



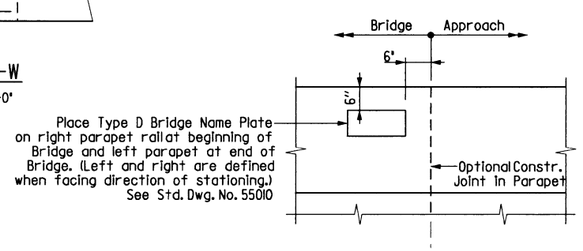
DETAIL X

No Scale



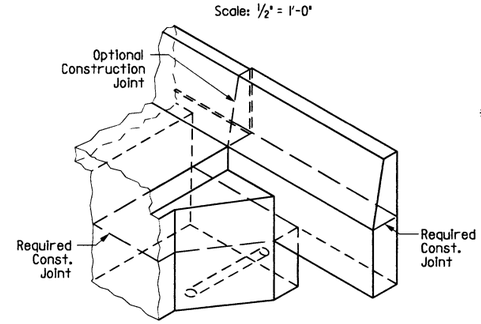
SECTION X-X

Scale: 1/2" = 1'-0"



NAME PLATE DETAIL

No Scale



THREE DIMENSIONAL VIEW OF WING & RAIL

No Scale

BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
S401E	316	35'-1"	Str.
S402E	12	116'-8"	Str.
S403E	224	7'-4"	2"
S501E	280	37'-6"	Str.
S502E	129	38'-4"	2 1/2"
S503E	538	41'-11"	Str.
S504E	538	42'-4"	Str.
S505E	492	46'-6"	Str.
S506E	518	5'-9"	Str.
S601E	312	20'-0"	Str.
S602E	12	7'-4"	4 1/2"
S603E	312	21'-6"	4 1/2"
S604E	234	4'-4"	4 1/2"
D501E	32	6'-2"	3 3/4"
P401E	516	6'-9"	3 3/4"
P402E	32	7'-9"	3 3/4"
P403E	274	8'-11"	2"
P404E	274	4'-3"	2"
P501E	516	5'-7"	3 3/4"
P502E	30	12'-1"	Str.
P503E	60	15'-7"	Str.
P504E	30	9'-3"	Str.
P505E	36	41'-3"	Str.
P506E	18	50'-11"	Str.
P507E	30	12'-9"	Str.
R401E	48	9'-2"	Str.
R402E	48	5'-6"	Str.
W501E	32	6'-6"	3 3/4"
W502E	32	6'-6"	Str.
W701E	12	11'-8"	Str.
W702E	32	12'-8"	5 1/4"

NOTES:

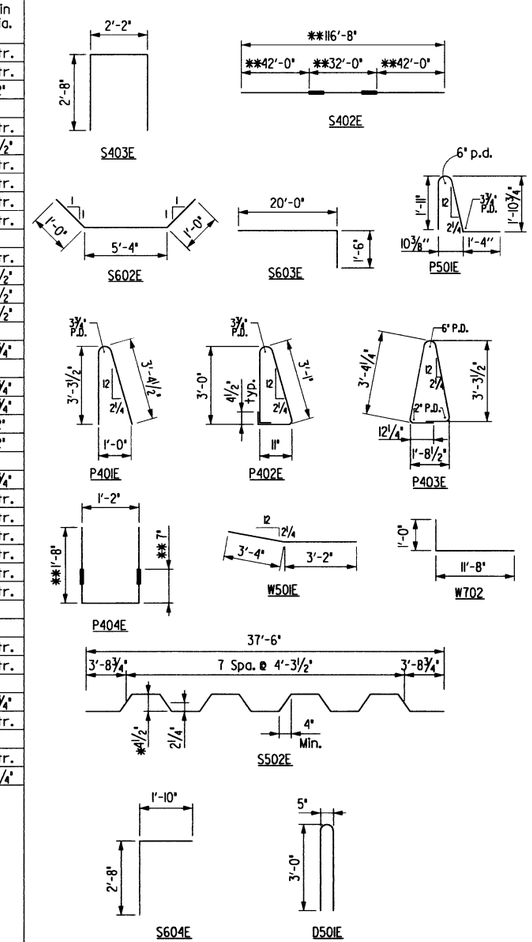
Dimensions are out to out of bars.

Bars with an "E" suffix are to be epoxy coated.

*1/2" overtolerance no undertolerance

**Individual bar lengths should be determinded by the Contractor based on the type of mechanical coupler used.

BENDING DIAGRAMS



SHEET 9 OF 9
DETAILS OF 133'-6" INTEGRAL W-BEAM UNIT
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13339 LARRY W. MILLER

8-24-16

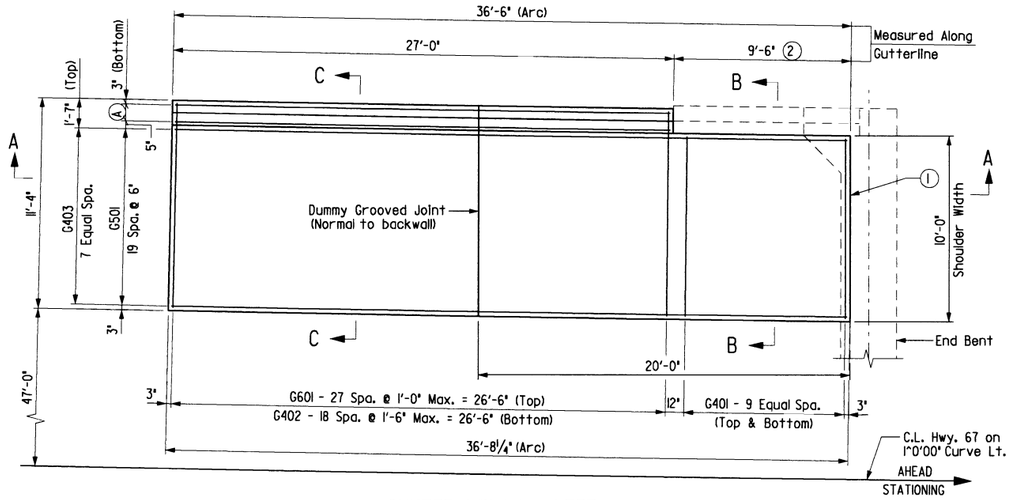
BRIDGE ENGINEER

DRAWN BY: DLM DATE: 06-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: DLM DATE: 05-16

FILENAME: bCA0605xl_s9.dgn
SCALE: As Shown

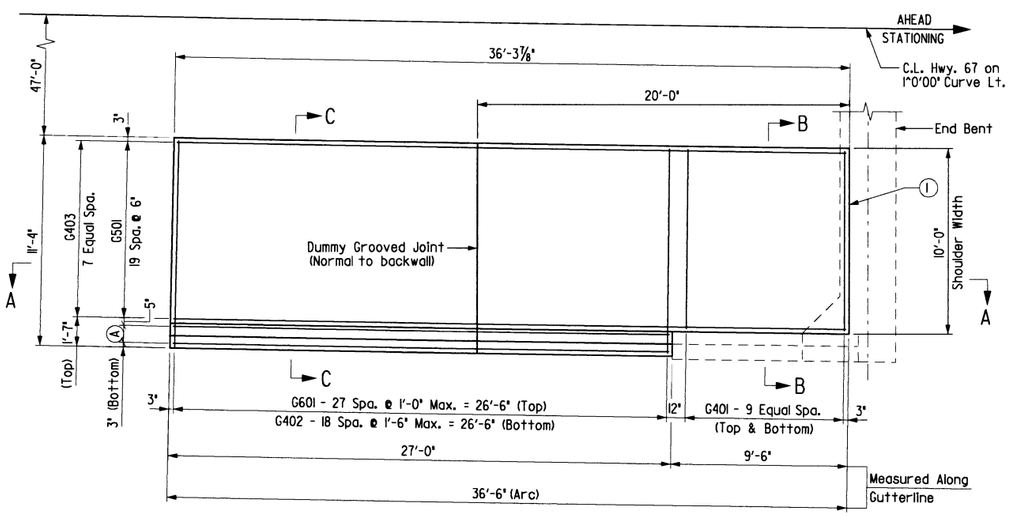
BRIDGE NO. 07399 DRAWING NO. 58999

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.		CA0605	246	434
				(1) 07399		APPR. GUTTERS		59000



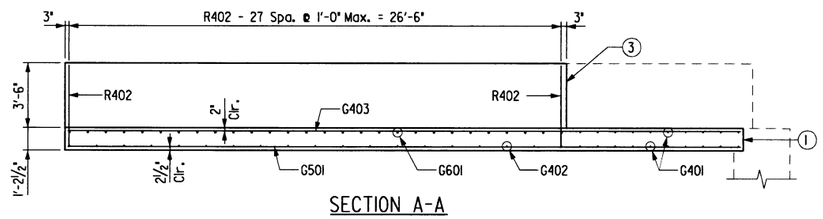
GUTTER 1 PLAN - LEFT

(Begin Bridge shown, End Bridge similar)
Scale: ¼" = 1'-0"



GUTTER 1 PLAN - RIGHT

(Begin Bridge shown, End Bridge similar)
Scale: ¼" = 1'-0"



SECTION A-A

(Gutter 1 - Left shown, Gutter 1 - Right similar)
Scale: ¼" = 1'-0"

GENERAL NOTES

For GENERAL NOTES, see Drawing No. 58992.

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

All reinforcing steel shall be grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

All transverse reinforcing steel shall be placed on radial lines. Spacing is measured along the gutterline.

Approach Gutters (Type Special1) will be measured and paid for in accordance with Section 504 of the Standard Specifications.

Construct Approach Gutter on concentric arcs to C.L. Hwy. 67.

The surface finishes shall match that used on the bridge.

(1) ½" x 1" Poured Jt. Sealer (Type 3 or 4) as per Subsection 501.02(h)(2). Backer rod is not required.

(2) See End Bent Details for construction of Rail and Wingwall.

(3) ½" Preformed Joint (AASHTO M 153, Type 1) and ½" x 1" Poured Jt. Sealer (Type 3 or 4) as per Subsection 501.02(h)(2).

(A) G502 - 2 Spa. @ 5½" = 11"

C.L. Bridge is in a 1°0'00" horizontal curve to the left. All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Bridge. All transverse reinforcing shall be placed radially.

BAR LIST FOR ONE TYPE 1 - LEFT SPECIAL APPROACH GUTTER

Mark	No. Req'd.	Length	Pin Dia.
G401	20	9'-8"	Str.
G402	19	11'-0"	Str.
G403	8	36'-2"	Str.
G501	20	36'-2"	Str.
G502	3	26'-7"	Str.
G601	28	12'-4"	4 1/2"
R401	8	26'-7"	Str.
R402	28	9'-9"	2"

BAR LIST FOR ONE TYPE 1 - RIGHT SPECIAL APPROACH GUTTER

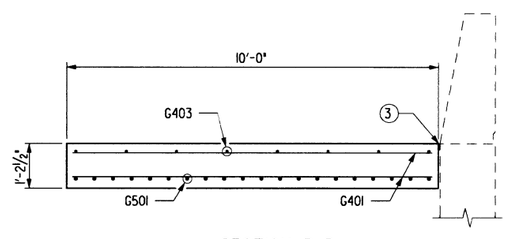
Mark	No. Req'd.	Length	Pin Dia.
G401	20	9'-8"	Str.
G402	19	11'-0"	Str.
G403	8	36'-0"	Str.
G501	20	36'-0"	Str.
G502	3	26'-8"	Str.
G601	28	12'-4"	4 1/2"
R401	8	26'-8"	Str.
R402	28	9'-9"	2"

QUANTITIES FOR ONE TYPE 1 - LEFT SPECIAL APPROACH GUTTER

Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
2,143	21.49

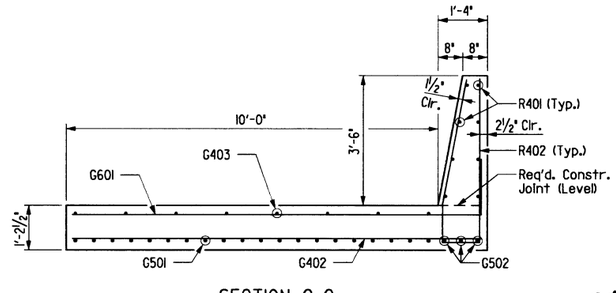
QUANTITIES FOR ONE TYPE 1 - RIGHT SPECIAL APPROACH GUTTER

Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
2,139	21.41



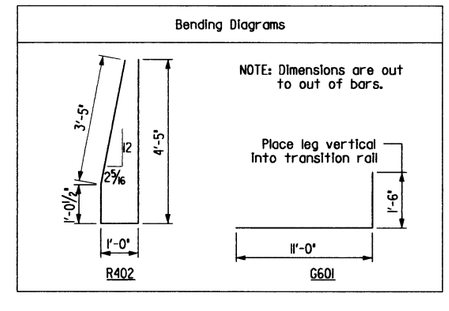
SECTION B-B

Scale: ½" = 1'-0"



SECTION C-C

Scale: ½" = 1'-0"



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 11339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

DETAILS OF TYPE SPECIAL 1 APPROACH GUTTER JACKS BAYOU

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: JAP DATE: 06-16 FILENAME: bCA0605xl_gl.dgn

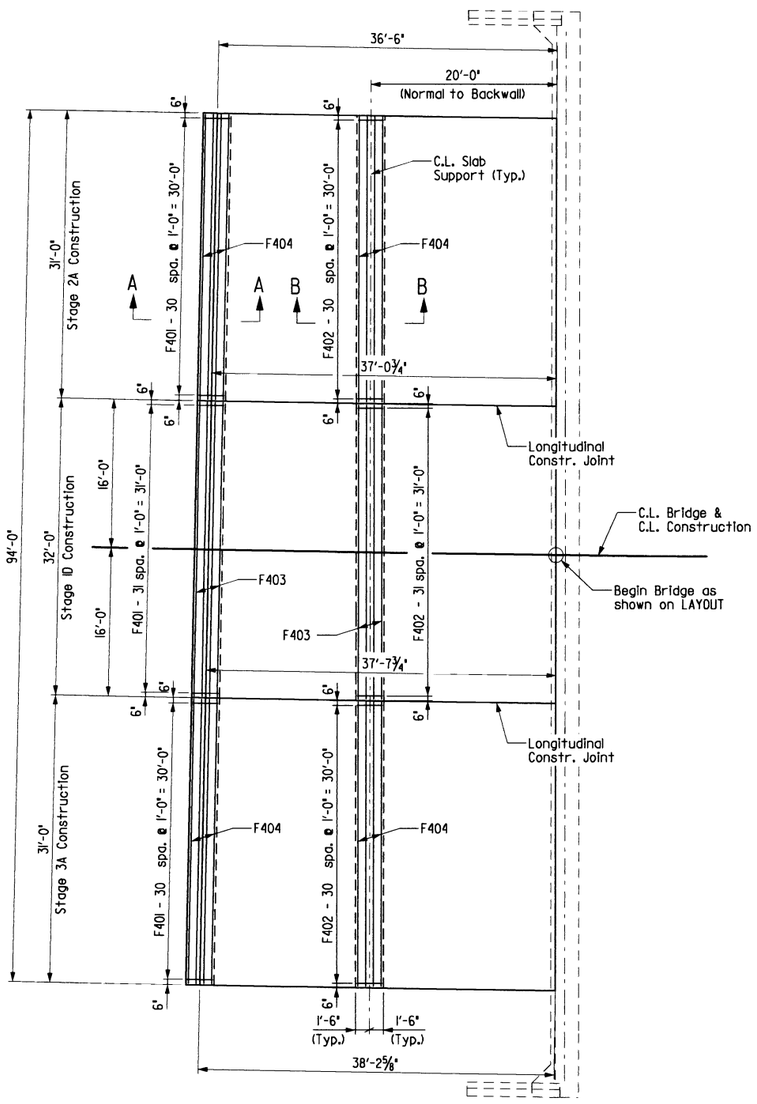
CHECKED BY: LM DATE: 7-8-16 SCALE: As Shown

DESIGNED BY: JAP DATE: 06-16

BRIDGE NO. 07399 DRAWING NO. 59000

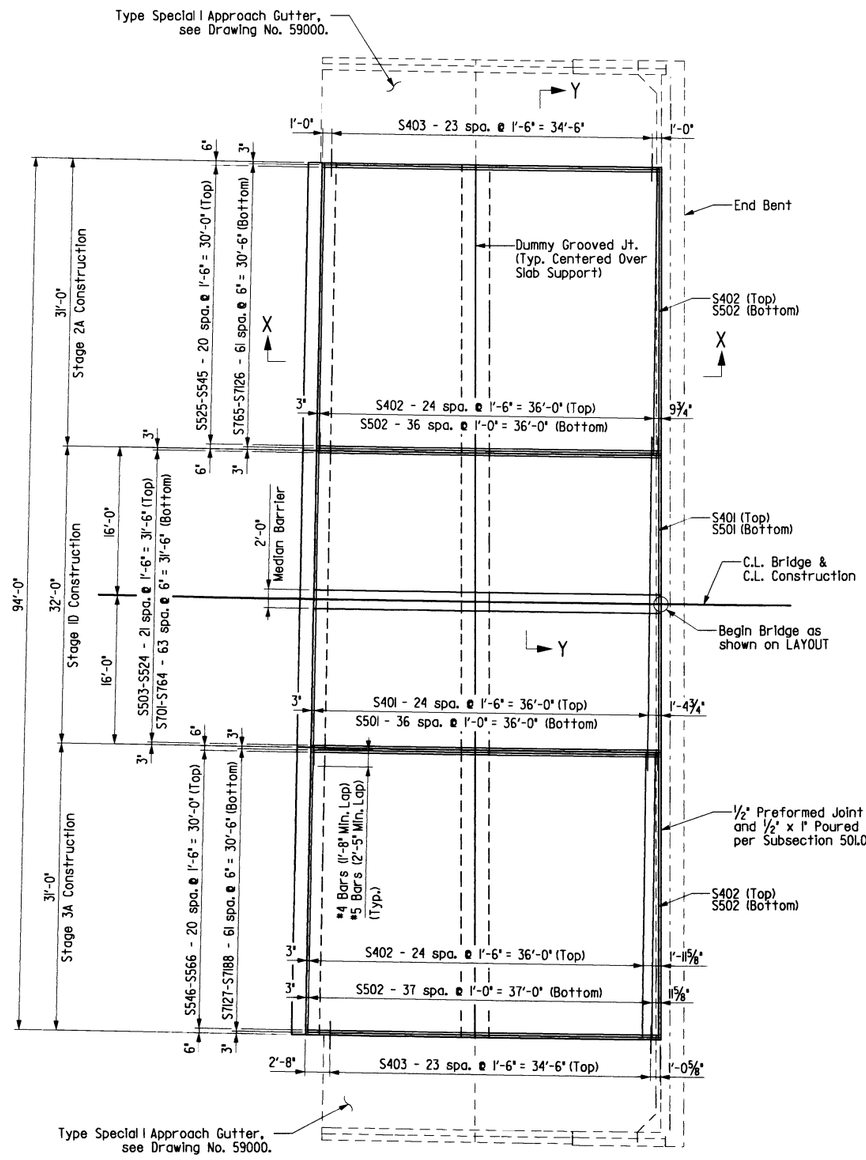
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	247	434
				(1) 07399		APPR. SLAB		59001

C.L. Bridge is in a 1°0'00" horizontal curve to the left. All longitudinal lines and longitudinal reinforcing steel shall be placed on curves concentric with C.L. Bridge. All transverse reinforcing shall be placed radially. Spacing of transverse bars is measured at the left side of the stage. (Left is defined when facing ahead on stationing.)



PLAN OF SLAB SUPPORTS

(Begin Bridge Shown, End Bridge Similar)
Scale: ⅛" = 1'-0"



PLAN OF SLAB

Approach Slab (Type Special I)
(Begin Bridge Shown, End Bridge Similar)
Scale: ⅛" = 1'-0"

GENERAL NOTES

For GENERAL NOTES, see Drawing No. 58992.

For sections, see Drawing No. 59002.

For details of median barrier, see Drawing No. 59002.

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

All reinforcing steel shall be grade 60 (yield strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

All transverse reinforcing steel shall be placed on radial lines. Spacing is measured along the gutterline.

Approach Slabs (Type Special I) will be measured and paid for in accordance with Section 504 of the Standard Specifications.

The surface finishes shall match that used on the bridge deck.

Construct Approach Slabs on concentric arcs to C.L. Hwy. 67.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 1 1339 LARRY W. MILLER

Larry W. Miller 8-24-16

BRIDGE ENGINEER

SHEET 1 OF 2
DETAILS OF TYPE SPECIAL I
APPROACH SLAB
JACKS BAYOU
ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: JAP DATE: 6-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: JAP DATE: 6-16
FILENAME: bCA0605xl_asl.dgn
SCALE: As Shown

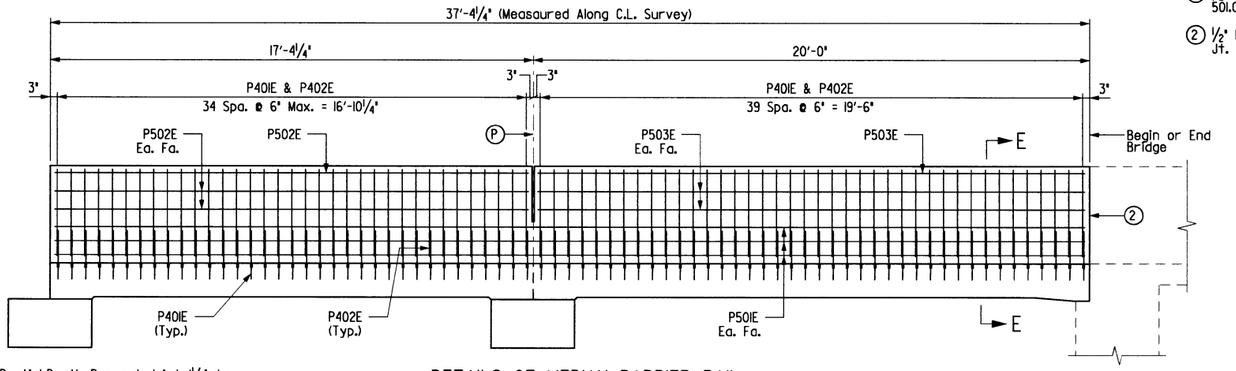
BRIDGE NO. 07399 DRAWING NO. 59001

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.		CA0605	248	434
(1) 07399		APPR. SLAB		59002

(1) ½" x 1" Poured Jt. Sealer (Type 3 or 4) as per Subsection 501.02(h)(2). Backer rod is not required.

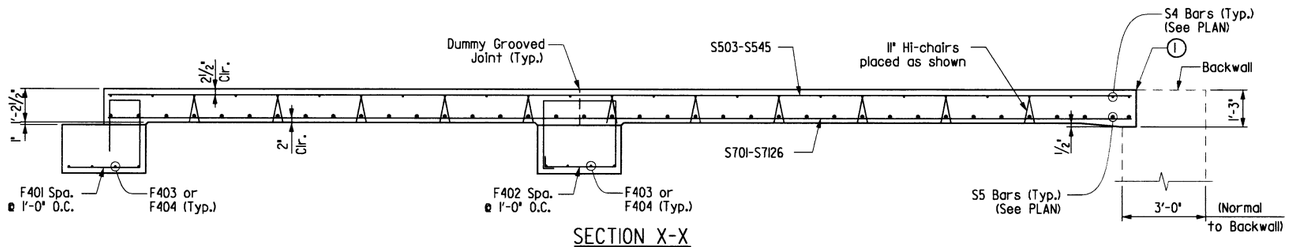
(2) ½" Preformed Joint (AASHTO M 153, Type II) and ½" x 1" Poured Jt. Sealer (Type 3 or 4) as per Subsection 501.02(h)(2).



(P) C.L. Partial Depth Parapet Joint (¼" to 1" max.). Stop 1'-6" from top of slab.

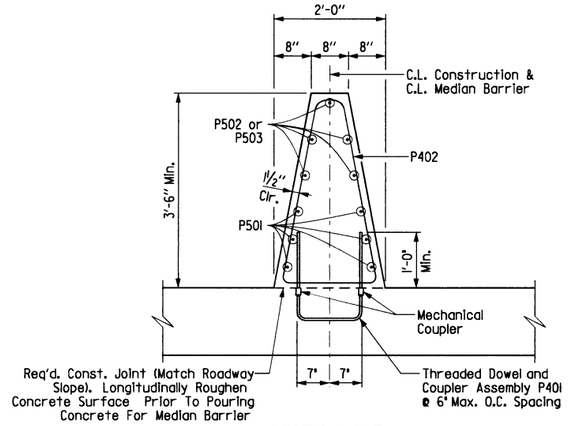
DETAILS OF MEDIAN BARRIER RAIL

Scale: ⅜" = 1'-0"



SECTION X-X

Scale: ⅜" = 1'-0"



SECTION E-E

Scale: ¾" = 1'-0"

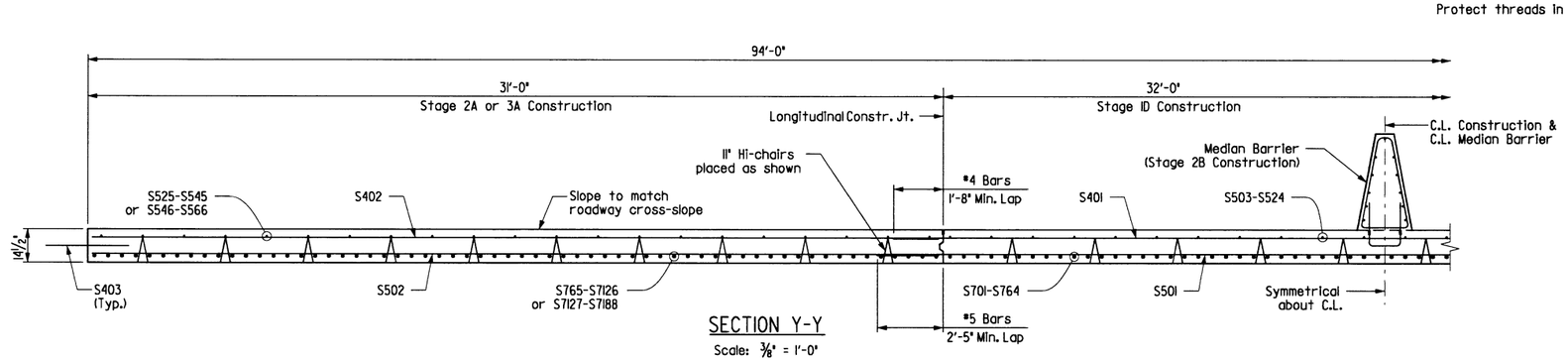
NOTES:
The Threaded Dowel and Coupler Assembly shall consist of a QPL approved mechanical splice with protective cap and threaded dowel bars as shown and shall develop at least 125% of the yield strength of the dowel bars. Mechanical couplers will not be paid for separately but will be considered subsidiary to the unit price bid for reinforcing steel.

Dowel bars shall be of minimum 60 ksi yield strength and threaded as required. Threaded Dowel and Coupler Assembly, except mating surfaces, shall be epoxy coated in accordance with the requirements of Section 804.

Protect threads in couplers until median barrier is constructed.

BAR LIST - ONE TYPE SPECIAL I APPROACH SLAB

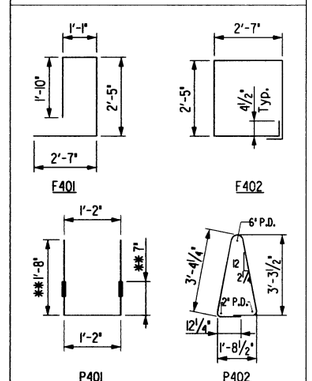
Mark	No. Req'd.	Length	Pin Dia.
F401	94	7'-8"	2"
F402	94	10'-4"	2"
F403	8	31'-8"	Str.
F404	16	30'-8"	Str.
P401	75	4'-3"	2"
P402	75	8'-11"	2"
P501	6	37'-0"	Str.
P502	5	17'-0"	Str.
P503	5	19'-8"	Str.
S401	26	35'-8"	Str.
S402	52	30'-8"	Str.
S403	48	3'-0"	Str.
S501	38	37'-2"	Str.
S502	77	30'-8"	Str.
S503 to S524	1 Each	36'-8" to 37'-3"	Str.
S525 to S545	1 Each	36'-2" to 36'-8"	Str.
S546 to S566	1 Each	37'-4" to 37'-10"	Str.
S701 to S764	1 Each	36'-8" to 37'-3"	Str.
S765 to S7126	1 Each	36'-2" to 36'-8"	Str.
S7127 to S7188	1 Each	37'-3" to 37'-10"	Str.



SECTION Y-Y

Scale: ⅜" = 1'-0"

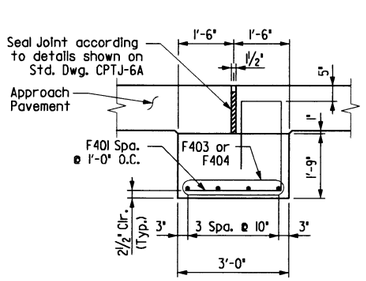
BENDING DIAGRAMS



** Individual bar lengths should be determinded by the Contractor based on the type of mechanical coupler used.

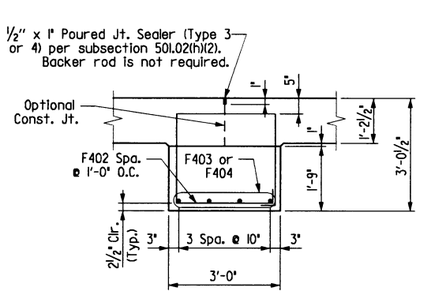
QUANTITIES FOR ONE TYPE SPECIAL I APPROACH SLAB

Reinforcing Steel (Lbs.)	Concrete (Cu. Yds.)
25,103	201.88



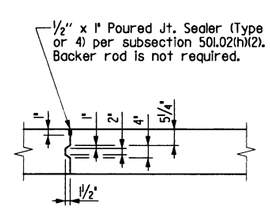
SECTION A-A

Scale: ½" = 1'-0"



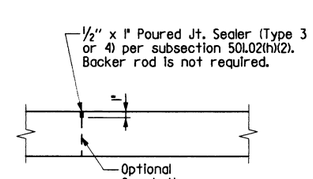
SECTION B-B

Scale: ½" = 1'-0"



DETAILS OF LONGITUDINAL CONSTRUCTION JOINT

Scale: ½" = 1'-0"



DETAILS OF DUMMY GROOVED JOINT

Scale: ½" = 1'-0"

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13330 LARRY W. MILLER
8-24-16
BRIDGE ENGINEER

SHEET 2 OF 2
DETAILS OF TYPE SPECIAL I APPROACH SLAB
JACKS BAYOU
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

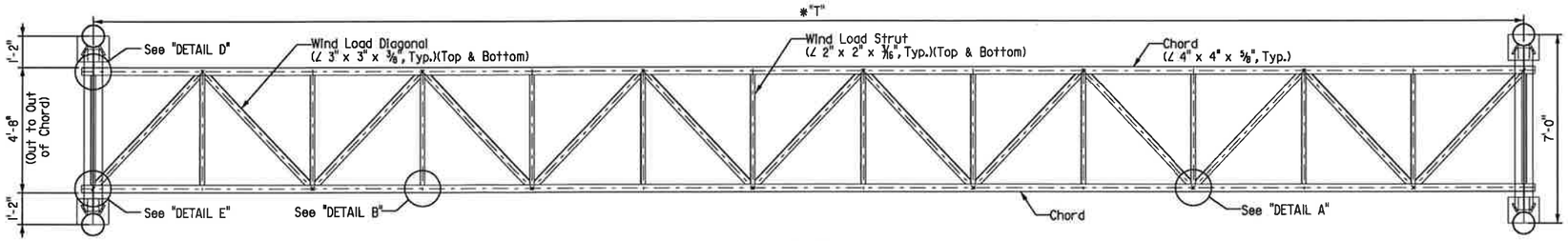
DRAWN BY: JAP DATE: 7-16
CHECKED BY: LM DATE: 7-8-16
DESIGNED BY: JAP DATE: 7-16
FILENAME: bCA0605xl_as2.dgn
SCALE: As Shown

BRIDGE NO. 07399 DRAWING NO. 59002

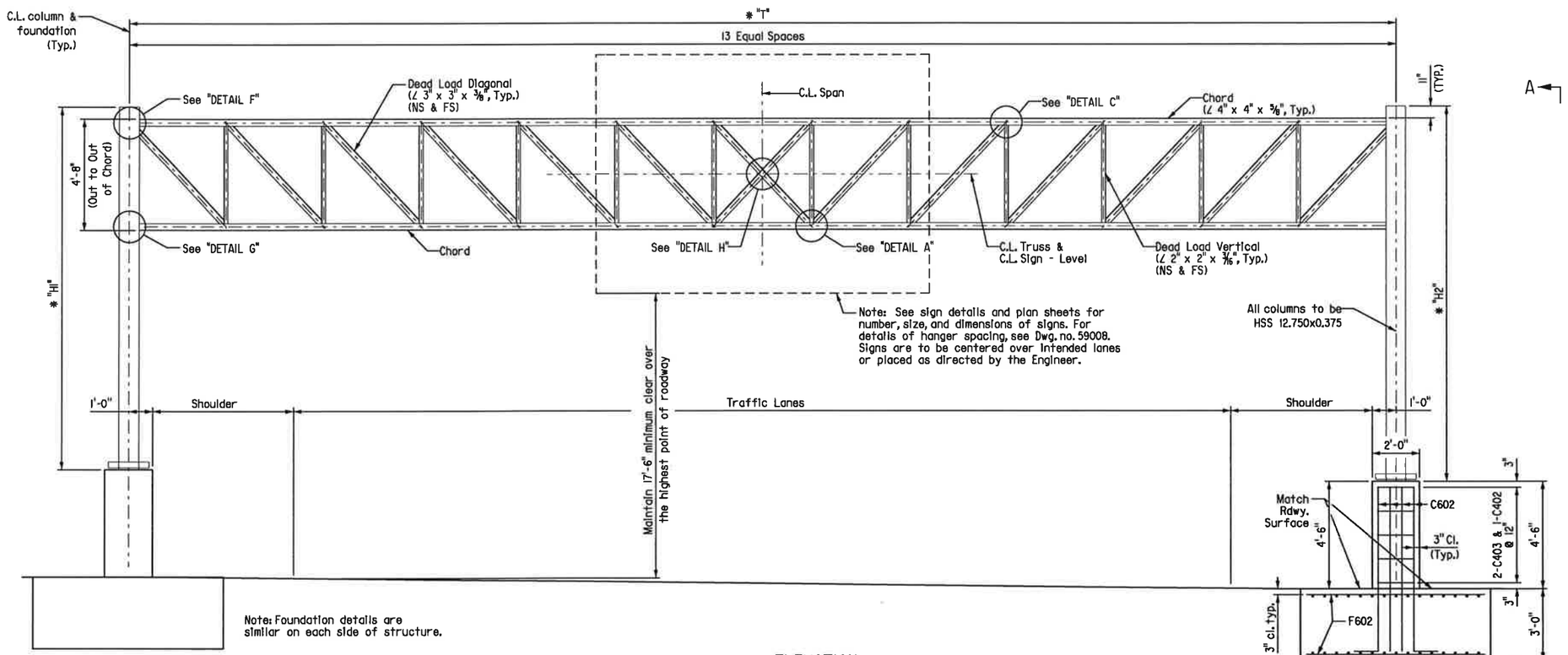
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				6	ARK.			
				JOB NO.		CA0605	249	434
				(1) SEE TABLE		OVERHEAD SIGNS		59003

Note: For "VIEW A-A", see Dwg. No. 59004.

Note: For "DETAIL A" thru "DETAIL H", see Dwg. No. 59005.



PLAN



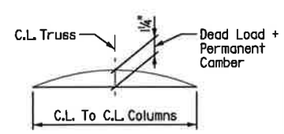
Note: For "BAR LIST" and "BAR BENDING DETAILS", See Dwg. No. 59004.

Note: Foundation details are similar on each side of structure.

ELEVATION

Note: For median barrier on either side of foundation, See roadway plans.

⚠ Added Structure No. 11-11-16 CDB



TRUSS CAMBER DETAIL

TABLE

STRUCTURE NUMBER	* "T" (Min.)
OH-067-60-32	58'-0"
OH-067-60-34	58'-0"
⚠ OH-067-60-31	58'-0"

APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

STRUCTURE NUMBER	CLASS S CONCRETE (cu. yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. yd.)
EACH STRUCTURE	44.00	5,360	52

* Note: The Contractor shall make field measurements to determine the column heights "H1" & "H2" that are required to maintain the minimum vertical clearance with the C.L. of the sign located at the C.L. of the truss. These column heights shall be shown on the shop drawings with a note stating that the contractor has made the required field measurements. If the structure height ("H1" or "H2") exceeds 30'-0" contact the Engineer. The Contractor shall also verify that the variable "T" is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.

ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 8/24/16

BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS FOR 55' TO 60'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

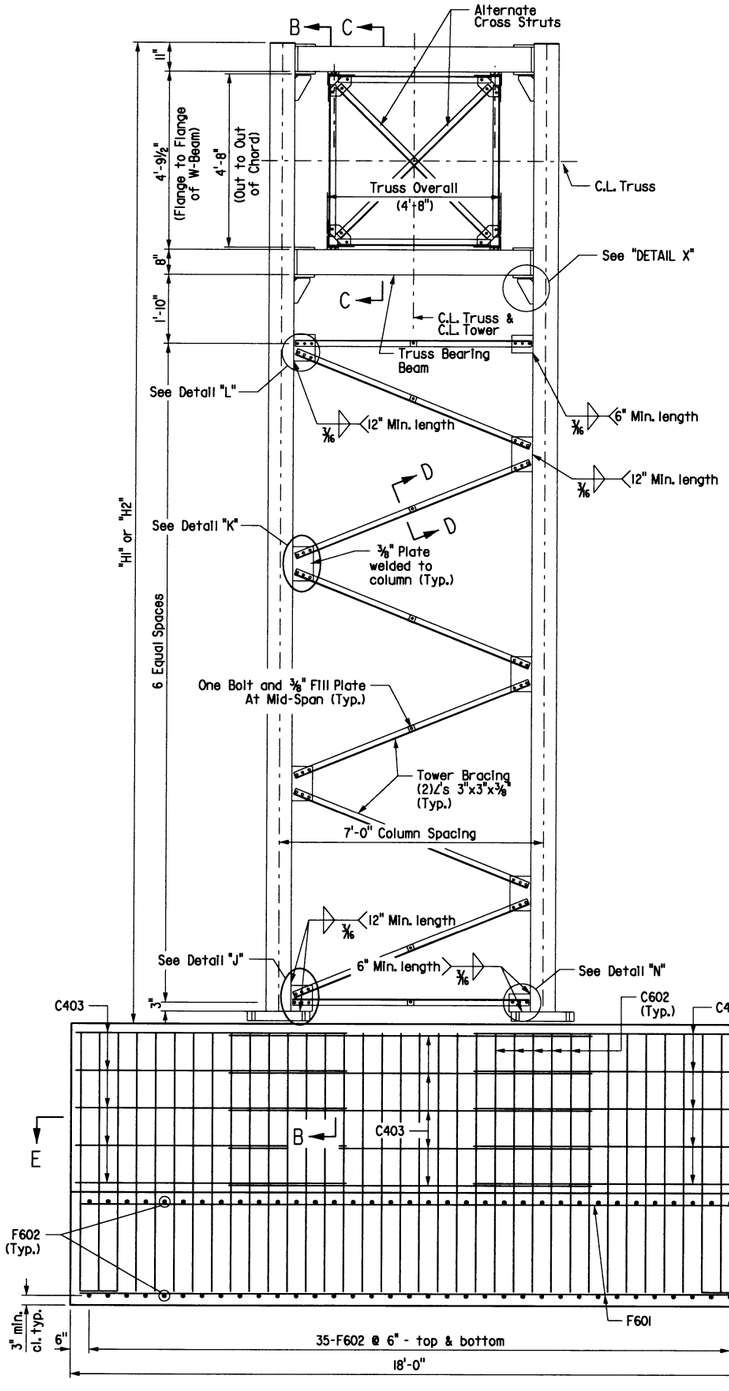
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

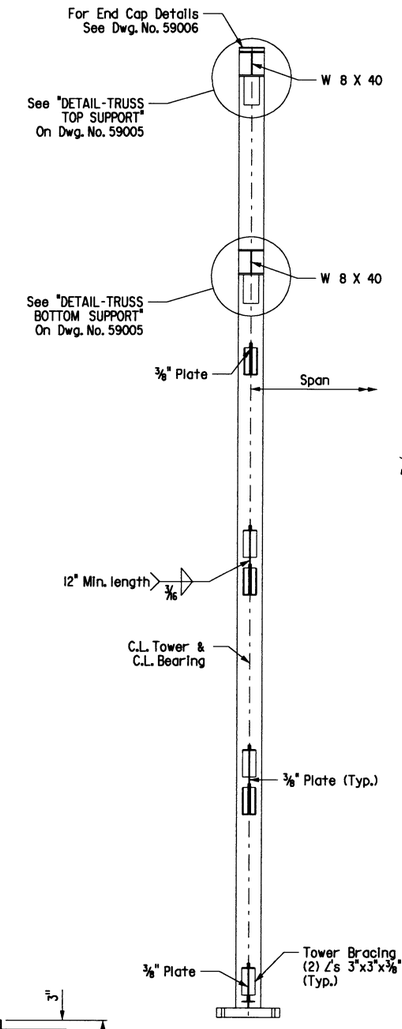
FILENAME: sCA0605X1_SL11.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59003

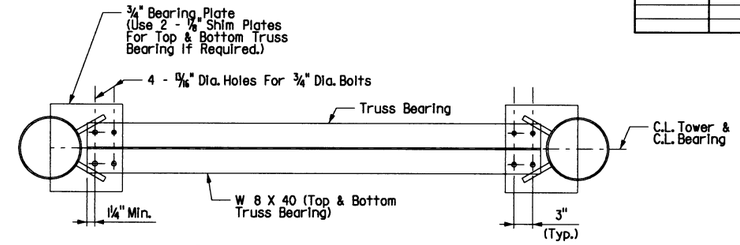
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	250	434
				1 SEE TABLE		OVERHEAD SIGNS		59004



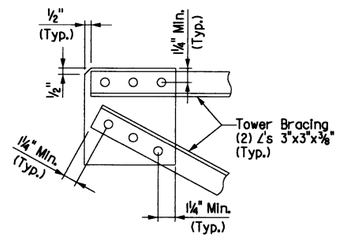
VIEW A-A



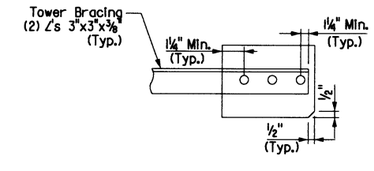
SECTION B-B



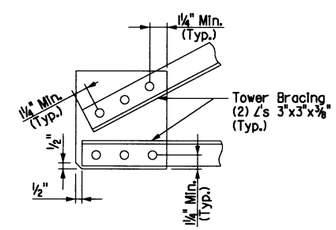
PLAN AT TRUSS BEARING



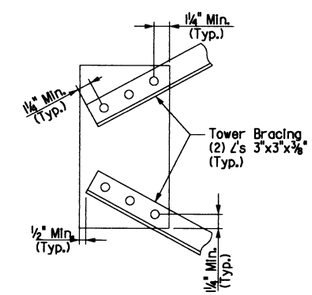
DETAIL "L" [1]



DETAIL "N" [1]

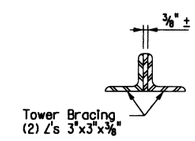


DETAIL "J" [1]

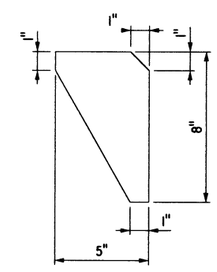


DETAIL "K" [1]

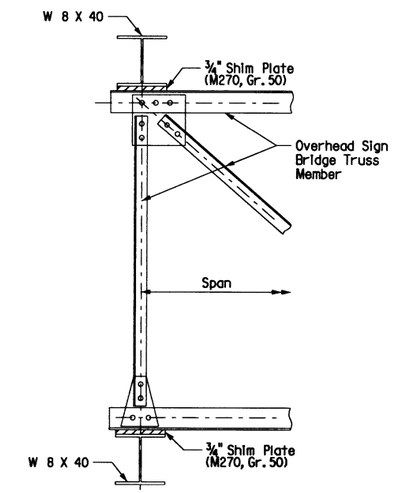
[1] Bolts shall be 3/4" Dia. and open holes shall be 13/16". Minimum center to center bolt spacing shall be 2½".



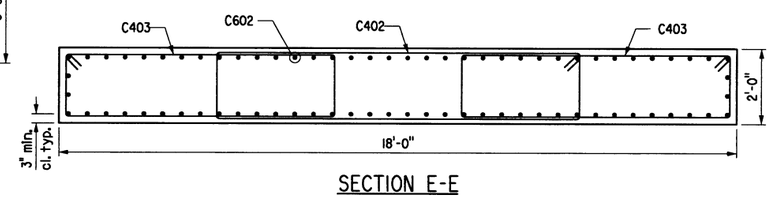
SECTION D-D



DETAIL "X"



SECTION C-C

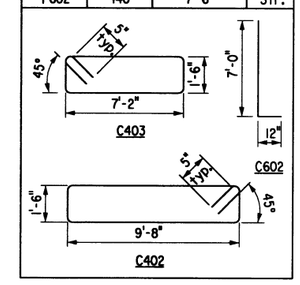


SECTION E-E

BAR LIST - PER STRUCTURE

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

Mark	No. Req'd.	Length	Pin Dia.
C402	10	23'-2"	3"
C403	20	18'-2"	4½"
C602	152	7'-11"	Str.
F601	60	17'-6"	Str.
F602	140	7'-6"	Str.



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 04/24/16

BRIDGE ENGINEER

SHEET 2 OF 6
DETAILS FOR 55' TO 60' OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X1_SD11.dgn

CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale

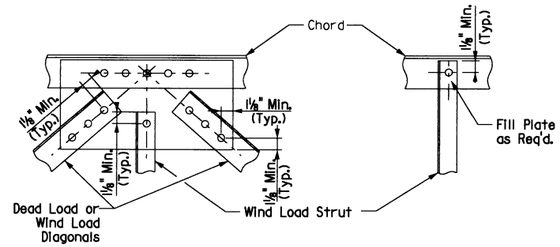
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59004

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.		CA0605	251	434
				(1) SEE TABLE		OVERHEAD SIGNS		59005

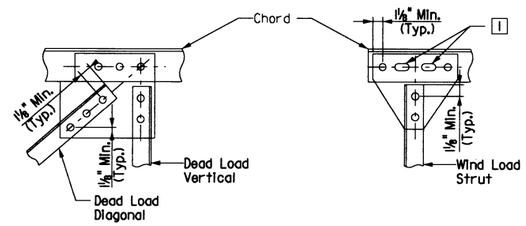
[1] Slotted hole in Gusset Plate and Chord Angle 11/16" x 2". Use Plate Washer on Gusset Plate side. 11/16" diameter hole in 3/4" Shim Plate and Beam Flange.

Note: All Gusset plates shall be 3/8" thick.



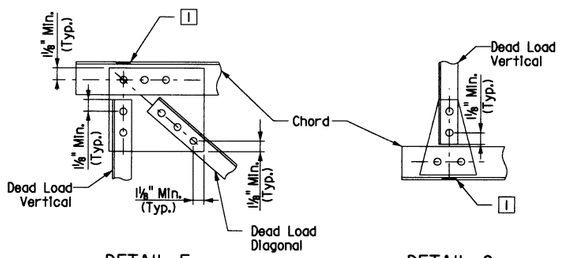
DETAIL A

DETAIL B



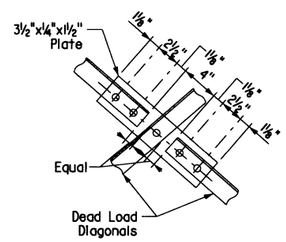
DETAIL C

DETAIL D

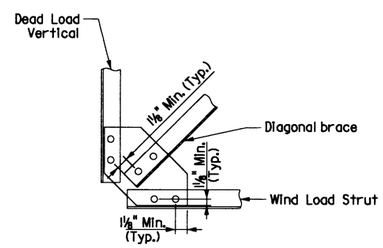


DETAIL F

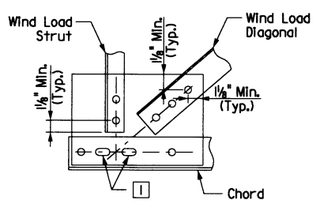
DETAIL G



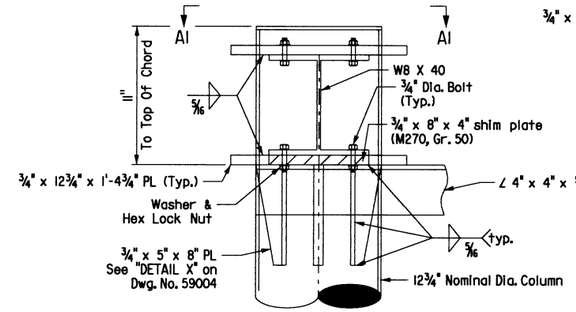
DETAIL H



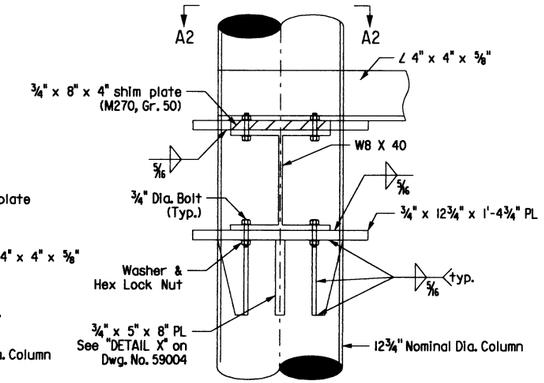
DETAIL M



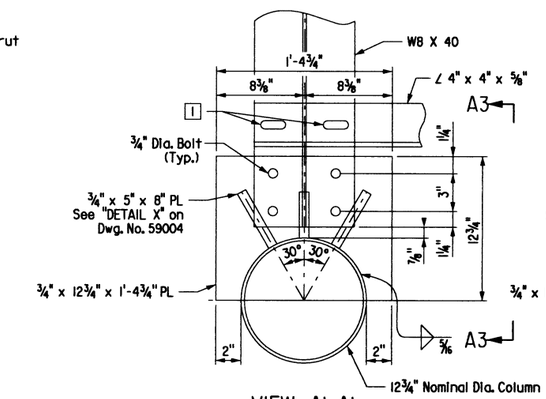
DETAIL E



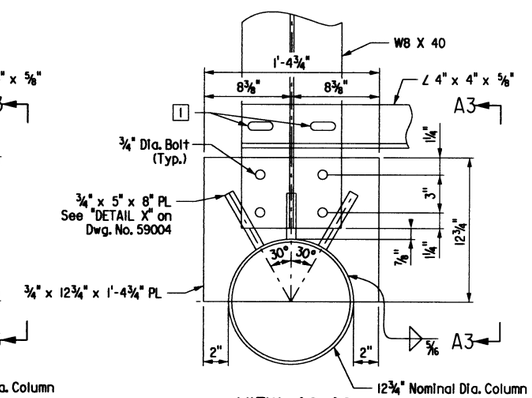
DETAIL - TRUSS TOP SUPPORT



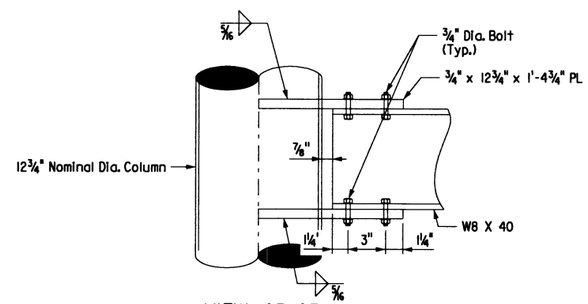
DETAIL - TRUSS BOTTOM SUPPORT



VIEW A1-A1



VIEW A2-A2



VIEW A3-A3

Note: 3/4" x 5" x 8" Plate Not Shown For Clarity.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BENNETT 3/24/16

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS FOR 55' TO 60'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

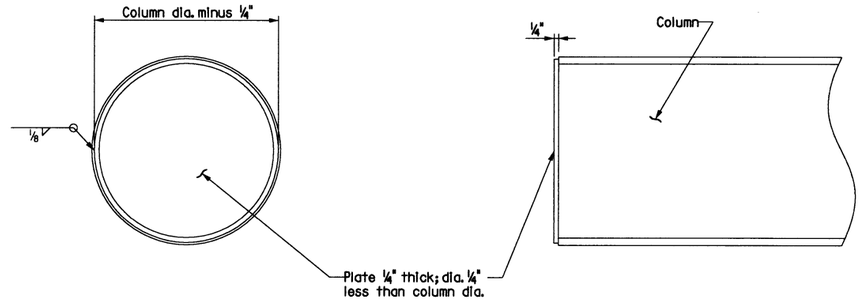
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16
FILENAME: sCA0605X1_SD12.dgn
SCALE: Not to Scale

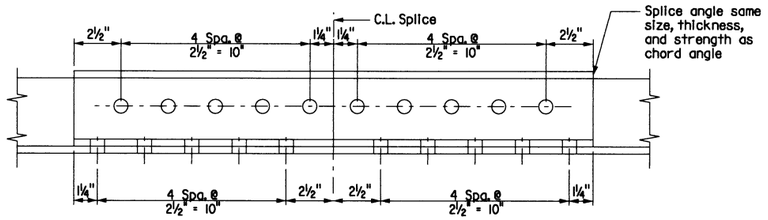
STRUCTURE NO. SEE TABLE DRAWING NO. 59005

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.		CA0605	252	434
				(1) SEE TABLE		OVERHEAD SIGNS		59006

Note: For "DETAIL M" see Dwg. No. 59005.

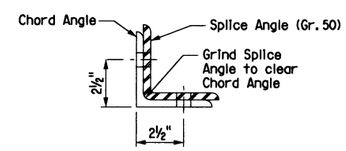


END CAP DETAILS



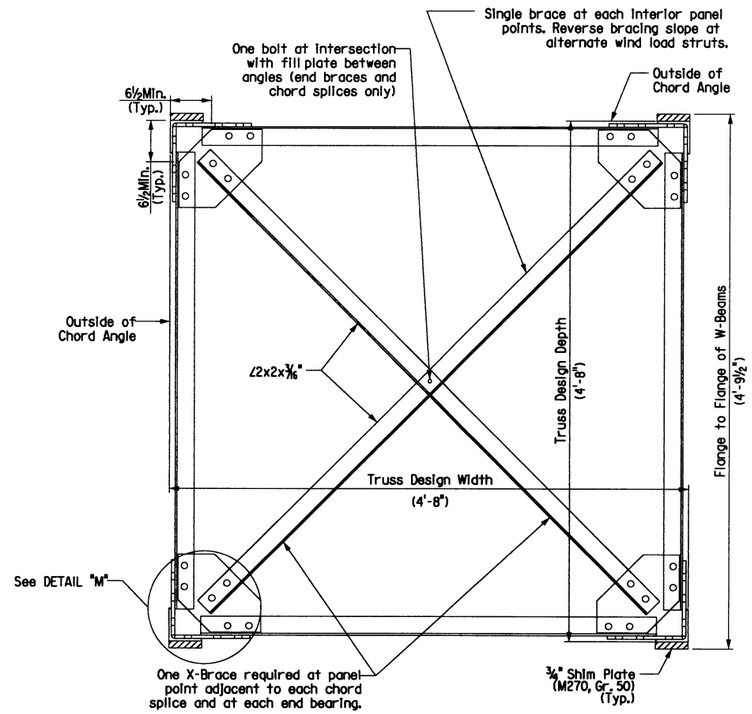
OPTIONAL CHORD SPLICE USING ANGLES [1]

(Place splice angle on inside of truss)
(4" ∠ Shown)

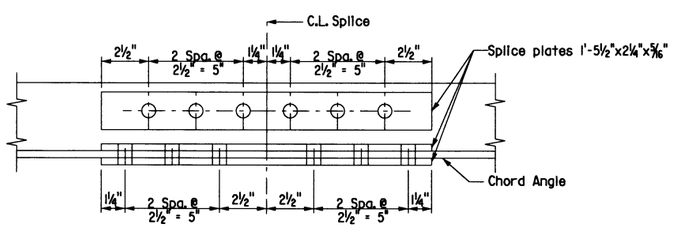


SECTION ON C.L. SPLICE

(4" ∠ Shown)

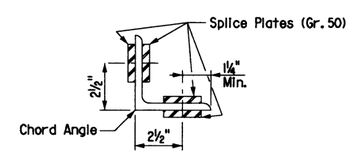


TRUSS SECTION



CHORD SPLICE USING PLATES [1]

(4" ∠ Shown)



SECTION ON C.L. SPLICE

(4" ∠ Shown)

[1] Bolts shall be ¾" Dia. and open holes shall be 13/16". Minimum center to center bolt spacing shall be 2½".

SPLICE DETAILS

Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13578 CARTER D. BURGESS 3/16

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS FOR 55' TO 60'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

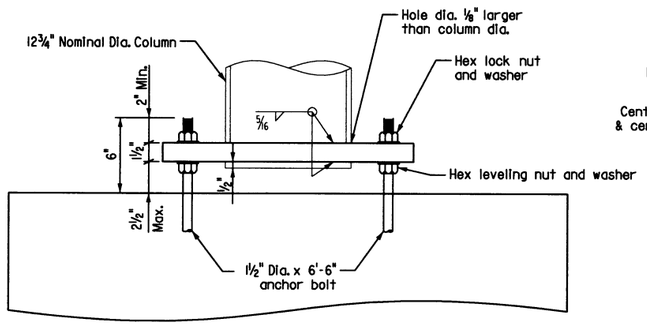
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

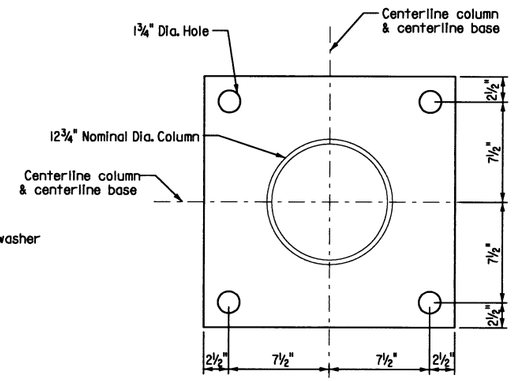
FILENAME: sCA0605X1_SD13.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59006

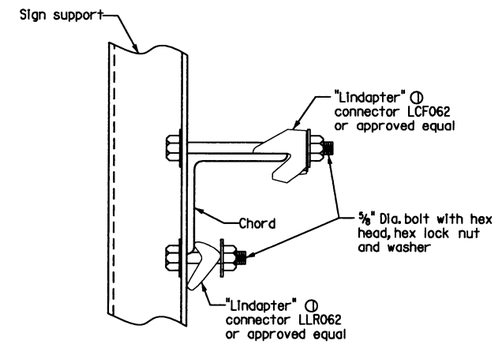
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	253	434
				① SEE TABLE		OVERHEAD SIGNS		59007

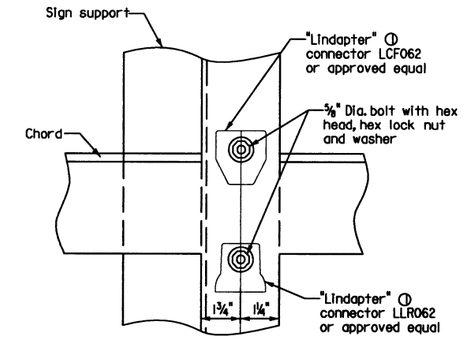


ELEVATION - COLUMN BASE

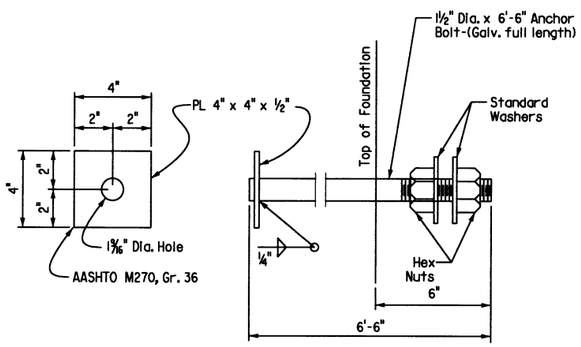


PLAN - COLUMN BASE



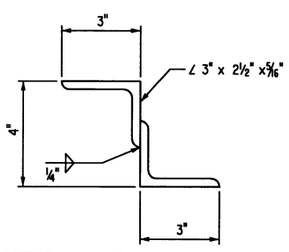


TOP CHORD



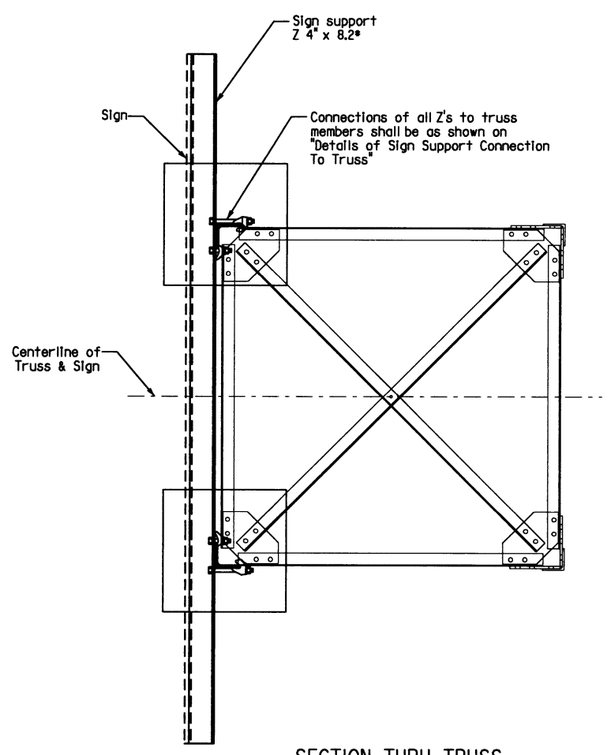
Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

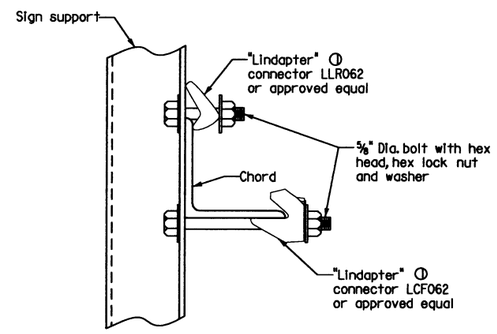


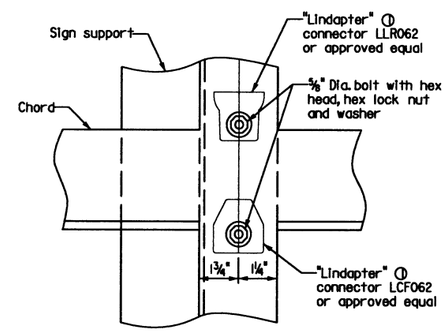
NOTE: Structural Z support may be fabricated from angles as shown.

DETAIL OF ALTERNATE Z SUPPORT



SECTION THRU TRUSS





① Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recomendations. All connectors, bolts, nuts, and washers shall be galvanized.

BOTTOM CHORD

NOTE:
Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTION TO TRUSS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BERRY 5/24/16

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS FOR 55' TO 60'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16
FILENAME: sCA0605X1_SD14.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59007

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.		CA0605	254	434
				(1) SEE TABLE		OVERHEAD SIGNS		59008

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS:

Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 2009 (Sixth Edition).

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15' tall. Use of additional sign area must be approved by the Engineer.

If the structure height ('H1' or 'H2') exceeds 30'-0" contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete_____f'c = 3,500psi
Reinforcing Steel (AASHTO M31 or M53, Grade 60)_____fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Plate:_____AASHTO M270, Gr. 50 (Fy = 50,000 psi).
[1] Pipe:_____ASTM A139 Gr. C, straight-seam welded (Fy=42,000psi),
ASTM A500 Gr. B (Fy = 42,000 psi),
ASTM A501 Gr. B (Fy = 50,000 psi),
ASTM A714 Class 2, Gr. II, Type E or S (Fy = 50,000 psi)
Z-Shapes:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Shim Plates:_____ASTM A1011, SS, Gr. 36, Type 2, or Grade 40.
Bolts:_____AASHTO M164, Type 1.
Locknuts - Approved Type:_____Meeting or exceeding AASHTO M292
Washers:_____AASHTO M293
Nuts:_____AASHTO M291 or M292, Gr. 2H or Gr. DH (Gr. 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

No circumferential butt welds will be allowed in any pipe sections.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 5/8" diameter and open holes shall be 11/16". Bolt spacing shall be 2 1/4" for 5/8" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with subsection 807.07.

All truss frame bolts shall comply with AASHTO M164 Type 1, galvanized according to Subsection 807.06. Nuts and washers for AASHTO M164 Type 1 bolts shall be furnished and galvanized in accordance with subsection 807.06.

Field splices shall be located in order to avoid sign panel connections. There shall be a maximum of two field splices and they shall be spaced a minimum of 15 ft. apart.

All main load carrying tension members greater than 1/2" in thickness shall conform to the requirements of the Longitudinal Charpy V-notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job CA0605 "STEEL SIGN STRUCTURES".

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel, using the magnetic particle method. Critical welds shall include: column to base plate welds and truss bottom support to column.

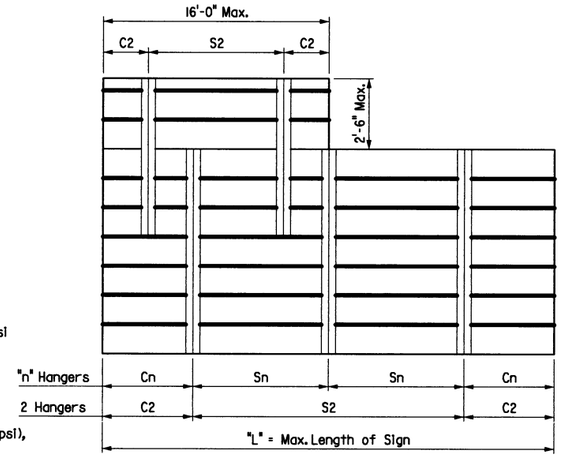
Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Steel Overhead Sign Structure". The excavations for the footings shall be back-filled before the structure is attached to the foundations.

Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.

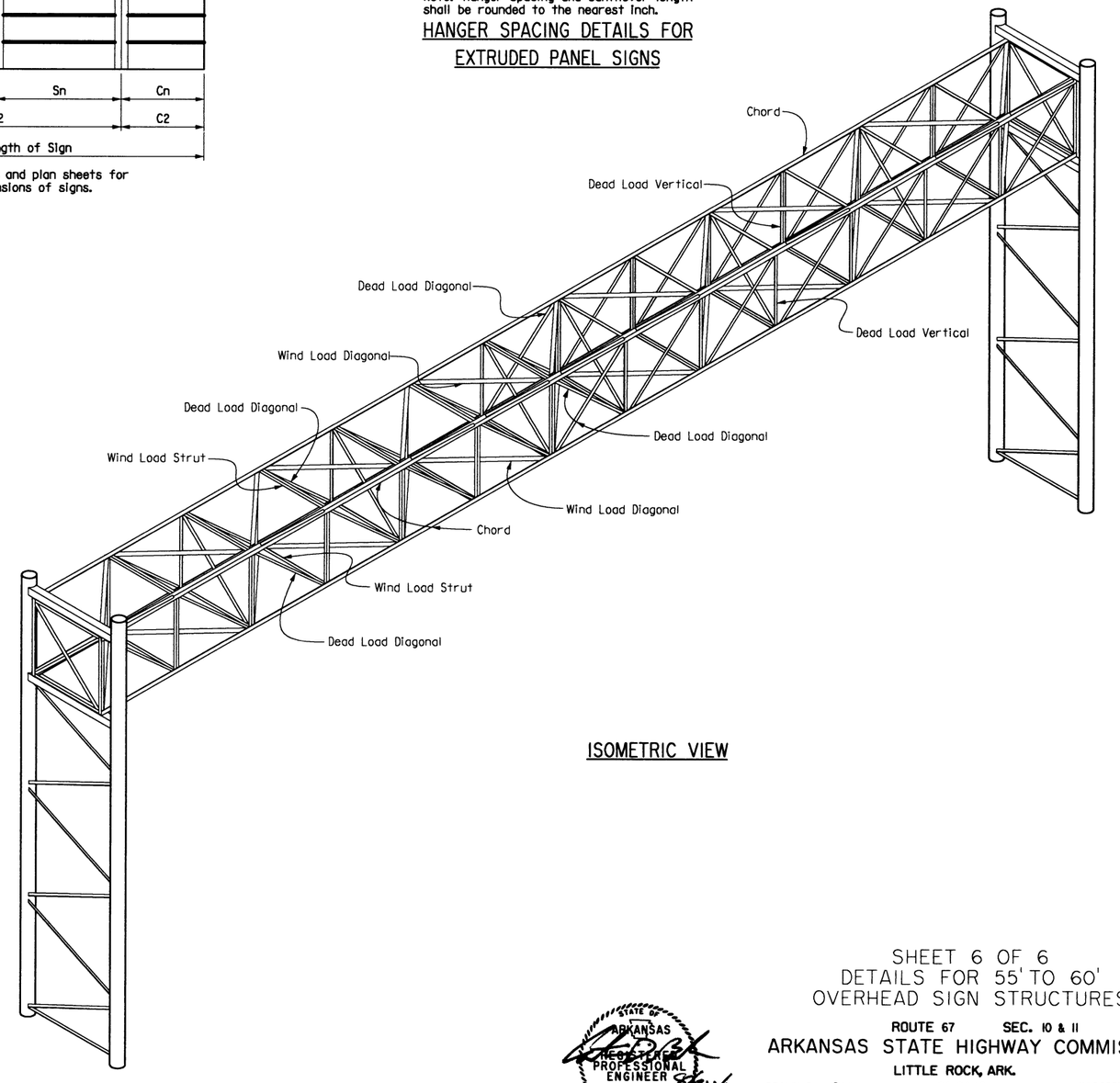


Note: See sign details and plan sheets for number, size and dimensions of signs.

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing "Sn"
15'-0"	2 Hangers	0.21 x "L"	0.58 x "L"
30'-0"	3 Hangers	0.145 x "L"	0.355 x "L"
45'-0"	4 Hangers	0.107 x "L"	0.262 x "L"

Note: Hanger spacing and cantilever length shall be rounded to the nearest inch.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS



ISOMETRIC VIEW

[1] In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equation:
CE = %C + %Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %Mo/50 - %V/10

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 12570 CARTER D. BEARDEN 8/24/16

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS FOR 55' TO 60'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

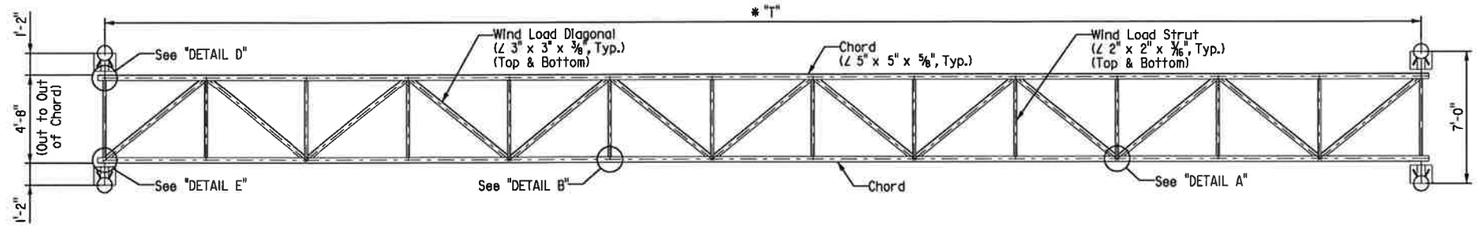
DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X1_SD15.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59008

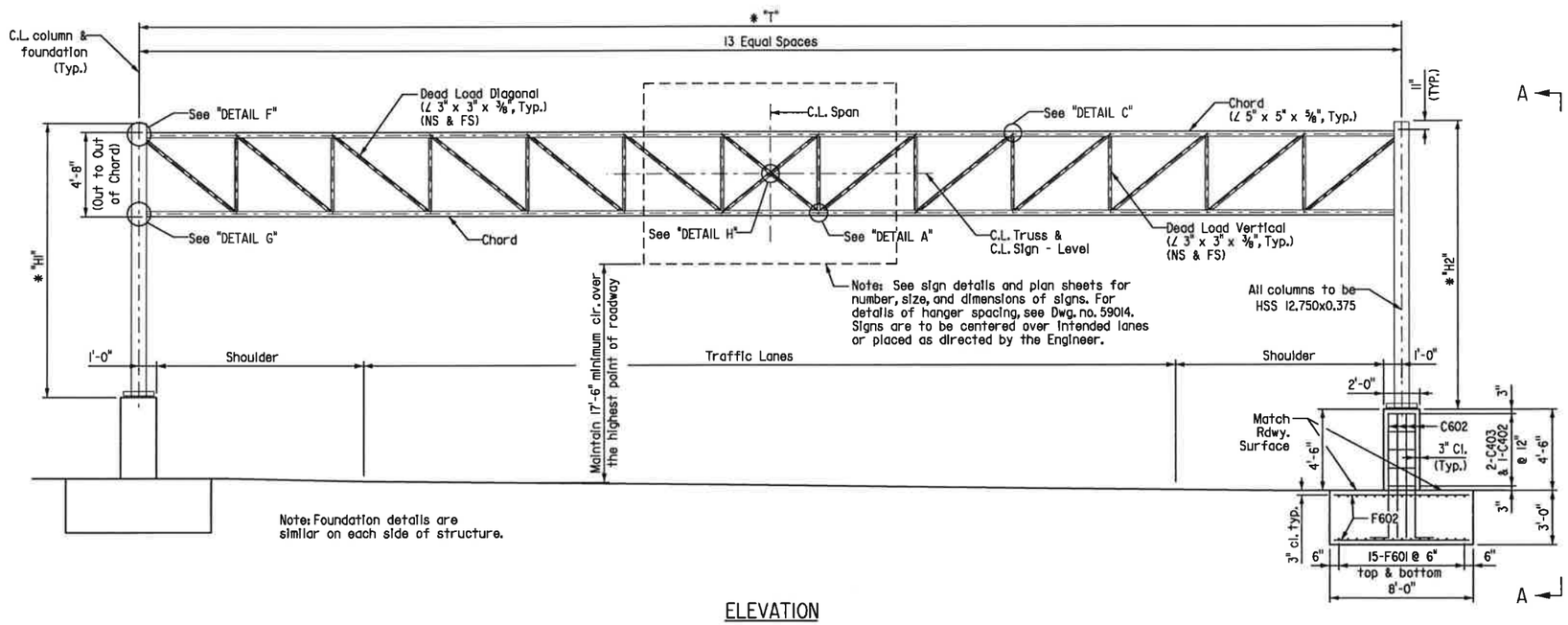
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				6	ARK.			
				JOB NO.		CA0605	255	434
				(1) SEE TABLE		OVERHEAD SIGNS		59009

Note: For "VIEW A-A", see Dwg. No. 59010.

Note: For "DETAIL A" thru "DETAIL H", see Dwg. No. 59011.

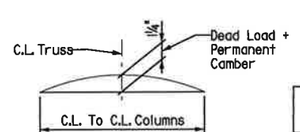


PLAN



ELEVATION

Note: For "BAR LIST" and "BAR BENDING DETAILS", See Dwg. No. 59010.



TRUSS CAMBER DETAIL

TABLE

STRUCTURE NUMBER	* "T" (Min.)
~~OH-067-60-31~~	~~70'-0"~~
OH-067-60-30 △	66'-0"

APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

STRUCTURE NUMBER	CLASS S CONCRETE (cu. yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. yd.)
EACH STRUCTURE	44.00	5,360	52

△ Revised Structure No. and Span. 11-11-16 CDB

* Note: The Contractor shall make field measurements to determine the column heights "H1" & "H2" that are required to maintain the minimum vertical clearance with the C.L. of the sign located at the C.L. of the truss. These column heights shall be shown on the shop drawings with a note stating that the contractor has made the required field measurements. If the structure height ("H1" or "H2") exceeds 30'-0" contact the Engineer. The Contractor shall also verify that the variable "T" is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 11/24/16

BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

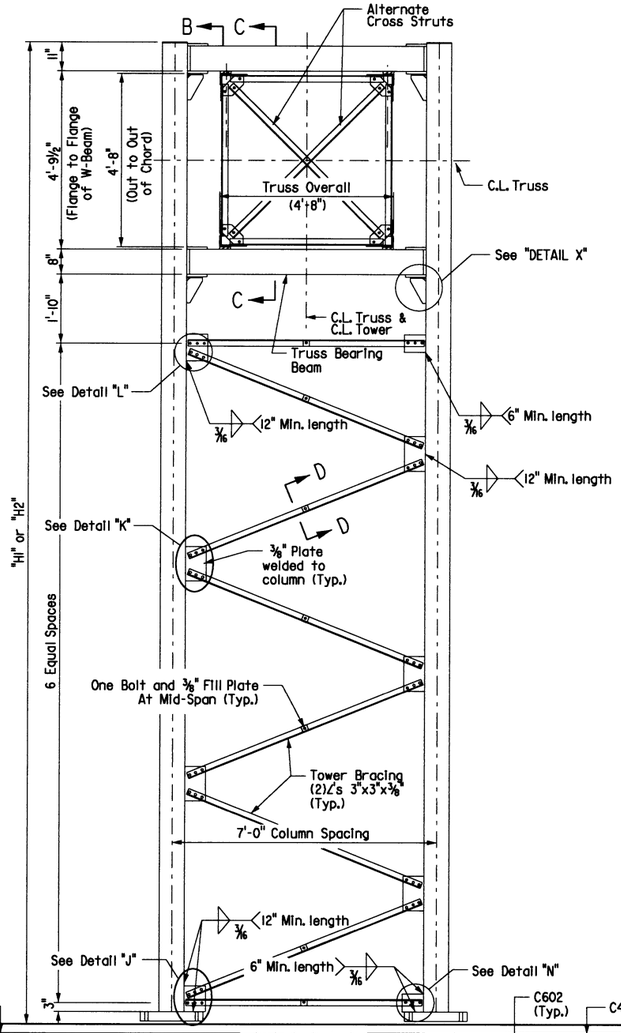
ARKANSAS STATE HIGHWAY COMMISSION

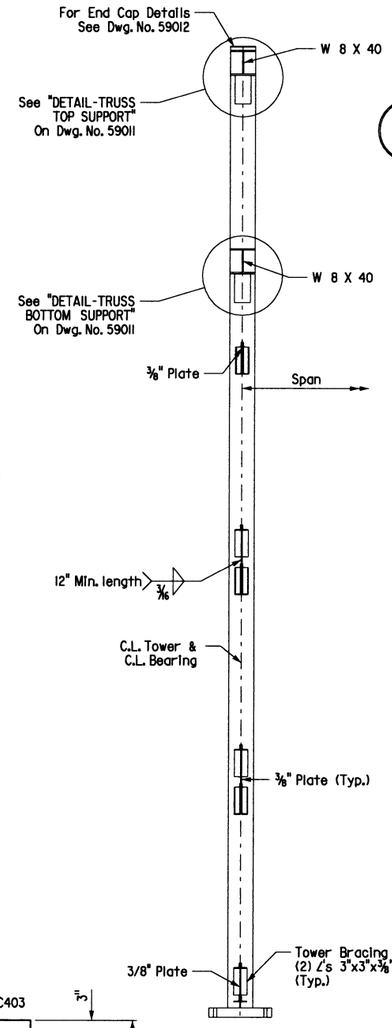
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X2_SL11.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

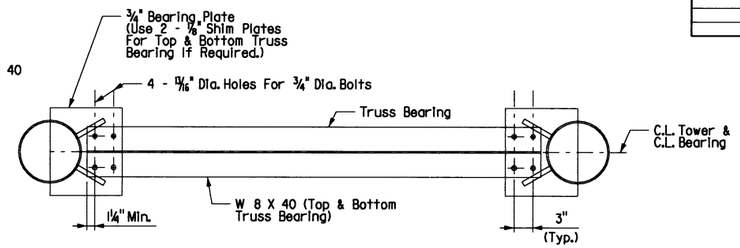
STRUCTURE NO. SEE TABLE DRAWING NO. 59009

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.		CA0605	256	434
				1 SEE TABLE		OVERHEAD SIGNS		59010

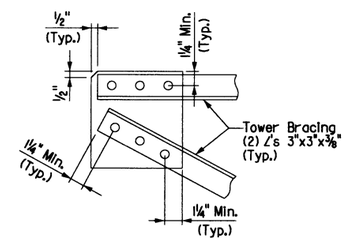




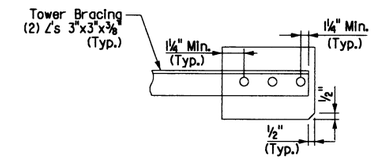
SECTION B-B



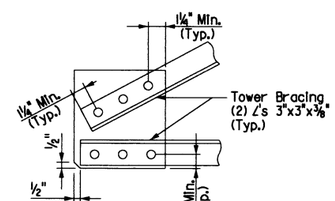
PLAN AT TRUSS BEARING



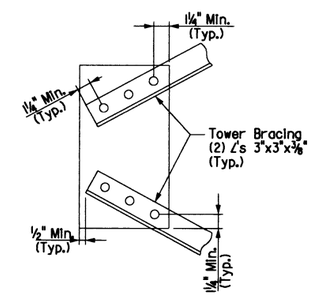
DETAIL "L" 1



DETAIL "N" 1

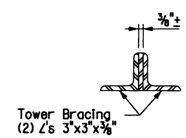


DETAIL "J" 1

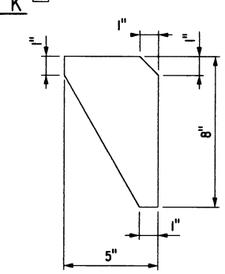


DETAIL "K" 1

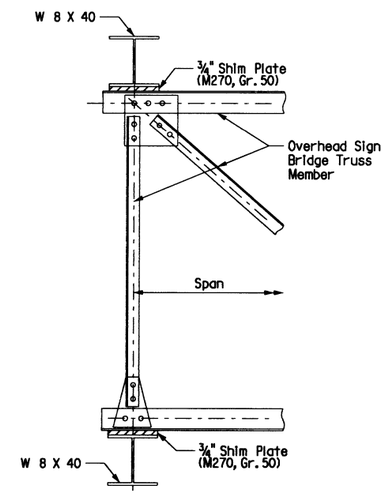
1 Bolts shall be 3/4" Dia. and open holes shall be 13/16". Minimum center to center bolt spacing shall be 2½".



SECTION D-D



DETAIL "X"

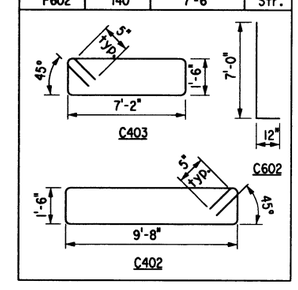


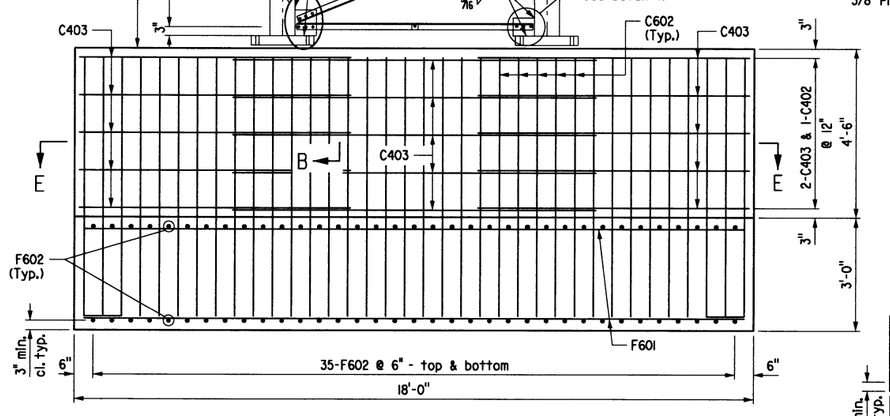
SECTION C-C

BAR LIST - PER STRUCTURE

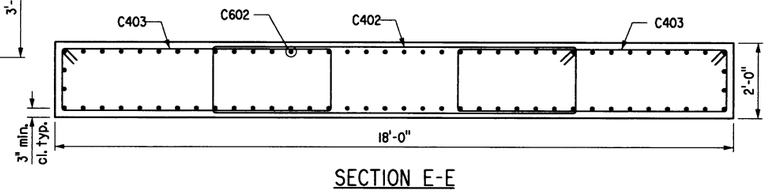
Bending Diagrams
(Dimensions are out to out of bars.)

Mark	No. Req'd.	Length	Pin Dia.
C402	10	23'-2"	3"
C403	20	18'-2"	4½"
C602	152	7'-11"	Str.
F601	60	17'-6"	Str.
F602	140	7'-6"	Str.





VIEW A-A



SECTION E-E

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 8/24/16

BRIDGE ENGINEER

SHEET 2 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

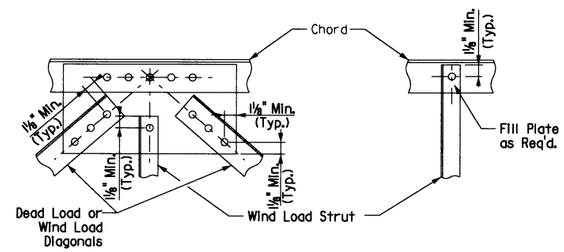
DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16
FILENAME: sCA0605X2_SD11.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59010

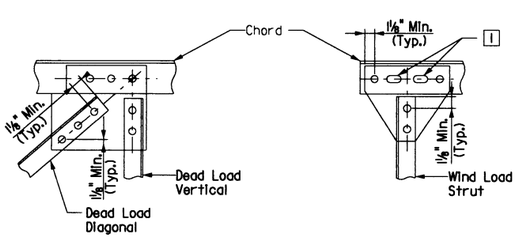
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	257	434
				(1) SEE TABLE		OVERHEAD SIGNS		59011

[1] Slotted hole in Gusset Plate and Chord Angle 11/16" x 2". Use Plate Washer on Gusset Plate side. 11/16" diameter hole in 3/4" Shim Plate and Beam Flange.

Note: All Gusset plates shall be 3/8" thick.



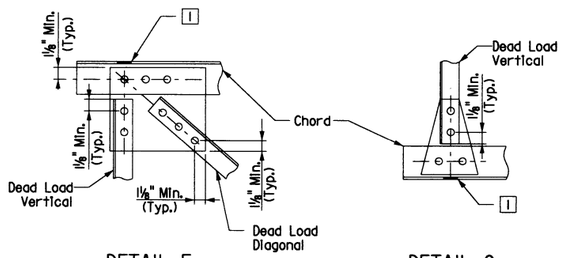
DETAIL A



DETAIL B

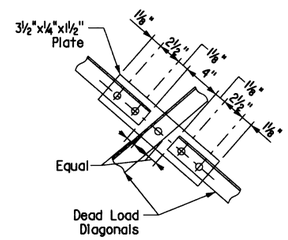
DETAIL C

DETAIL D

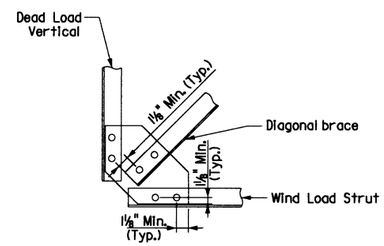


DETAIL F

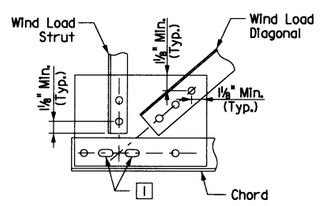
DETAIL G



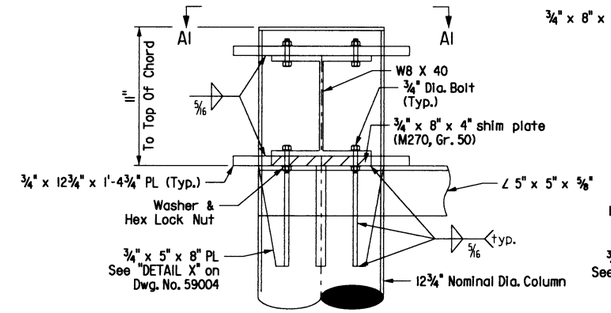
DETAIL H



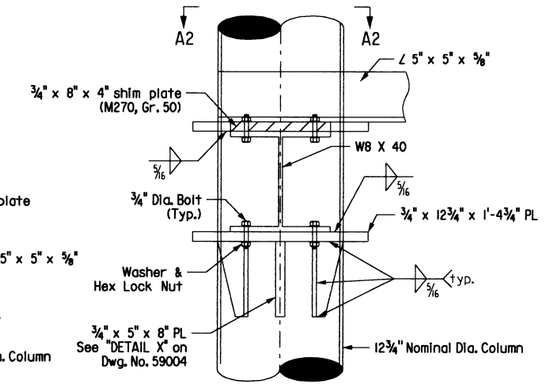
DETAIL M



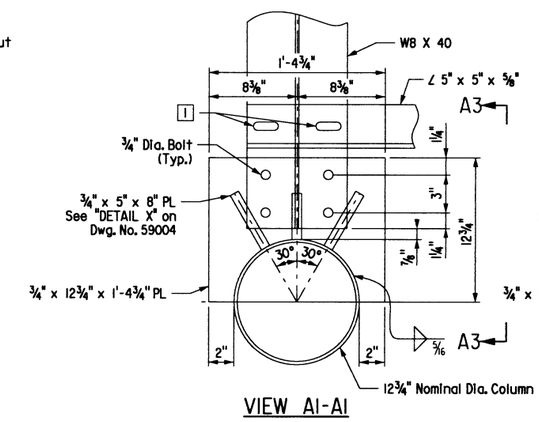
DETAIL E



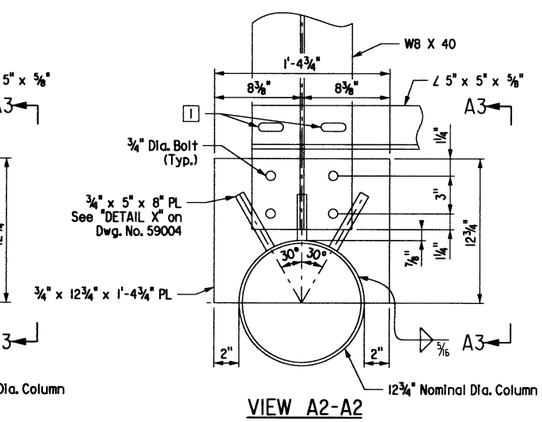
DETAIL - TRUSS TOP SUPPORT



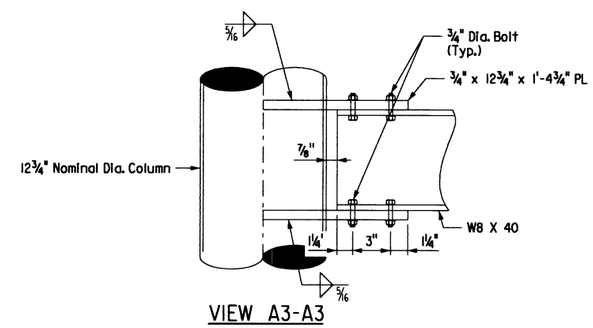
DETAIL - TRUSS BOTTOM SUPPORT



VIEW A1-A1



VIEW A2-A2



VIEW A3-A3

Note: 3/4" x 5" x 8" Plate Not Shown For Clarity.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 03/24/16

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

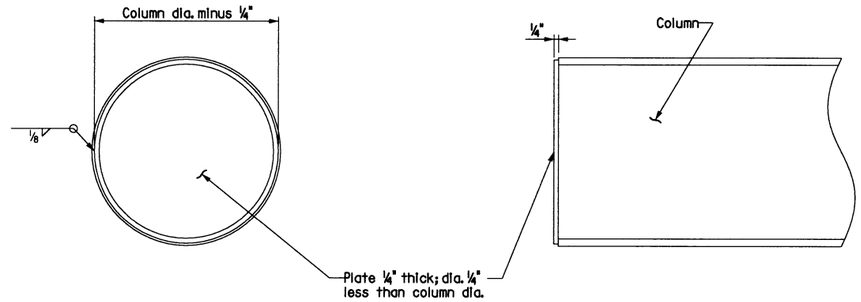
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16
FILENAME: sCA0605X2_SD12.dgn
SCALE: Not to Scale

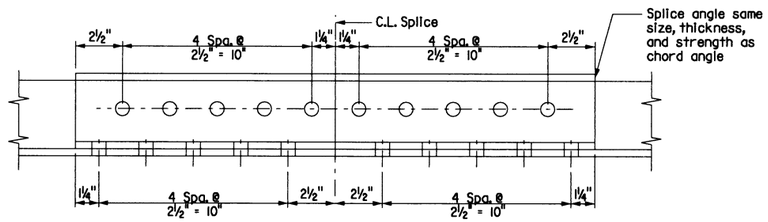
STRUCTURE NO. SEE TABLE DRAWING NO. 59011

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.		CA0605	258	434
				(1) SEE TABLE		OVERHEAD SIGNS		59012



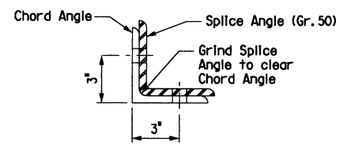
END CAP DETAILS

Note: For "DETAIL M" see Dwg. No. 59011.



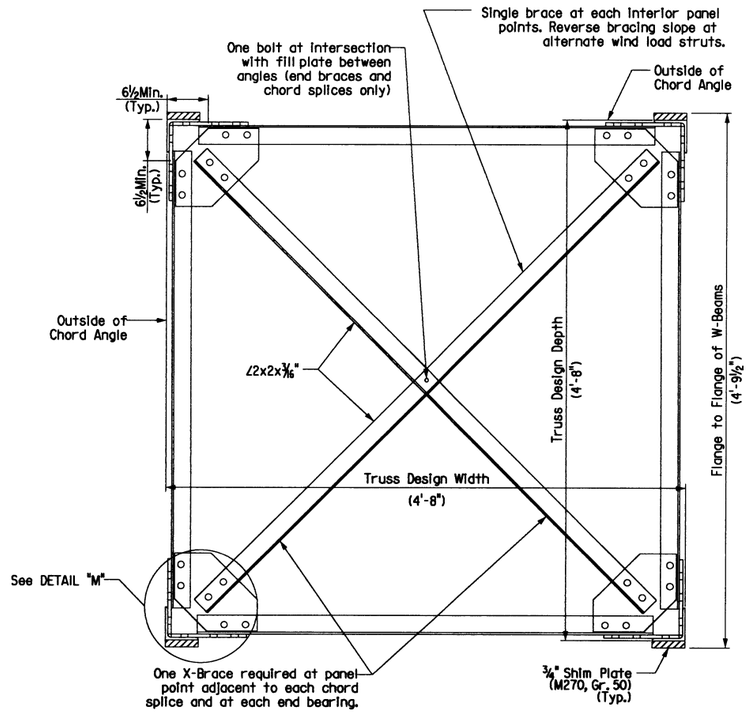
OPTIONAL CHORD SPLICE USING ANGLES [1]

(Place splice angle on inside of truss)
(5" ∠ Shown)

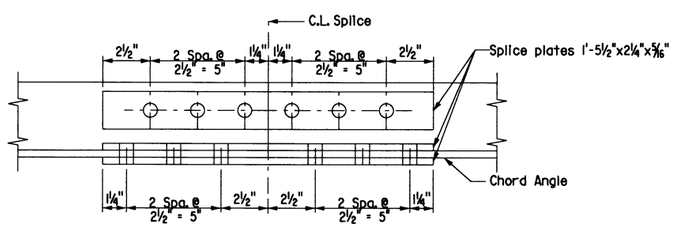


SECTION ON C.L. SPLICE

(5" ∠ Shown)

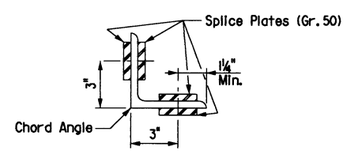


TRUSS SECTION



CHORD SPLICE USING PLATES [1]

(5" ∠ Shown)



SECTION ON C.L. SPLICE

(5" ∠ Shown)

[1] Bolts shall be ¾" Dia. and open holes shall be 13/16". Minimum center to center bolt spacing shall be 2½".

SPLICE DETAILS

Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 4/4/16

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

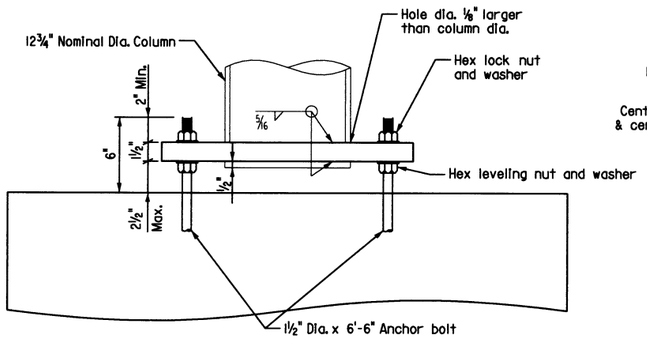
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

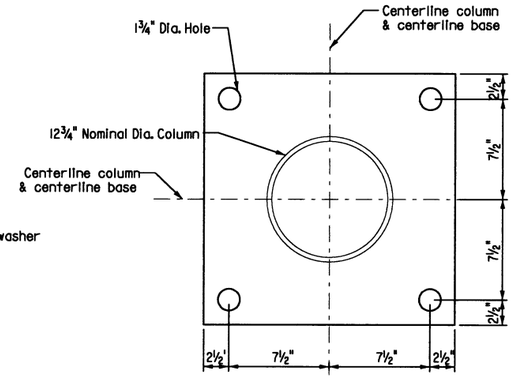
DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X2_SD13.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59012

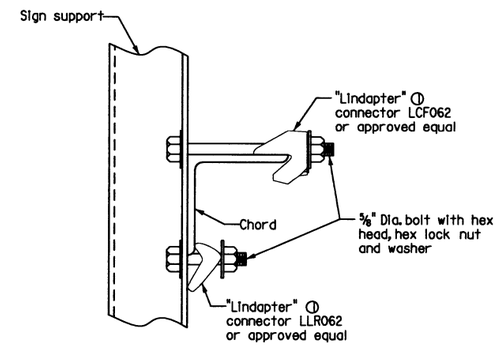
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	259	434
				① SEE TABLE		OVERHEAD SIGNS		59013

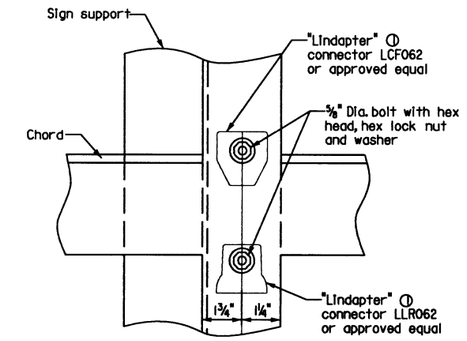


ELEVATION - COLUMN BASE

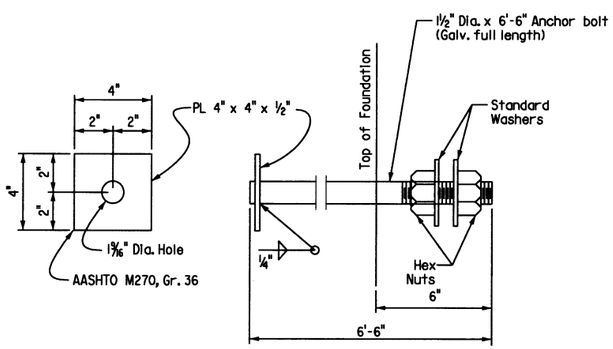


PLAN - COLUMN BASE



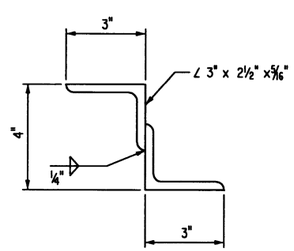


TOP CHORD



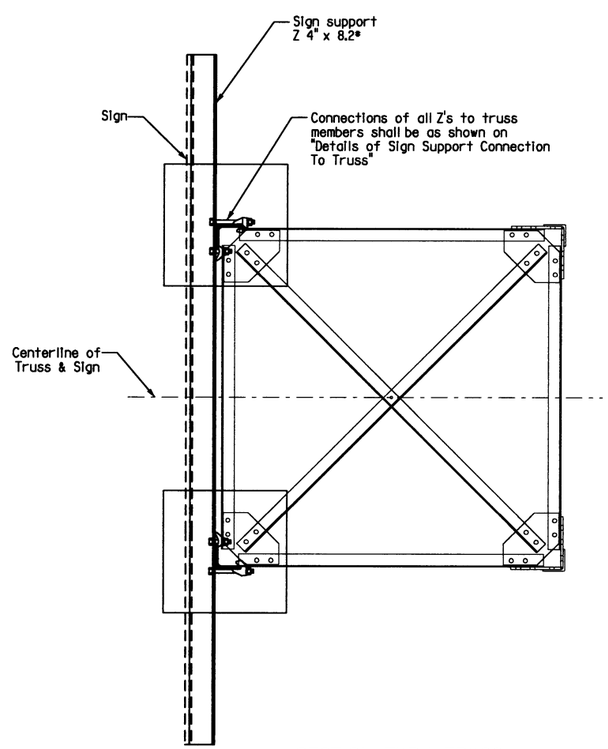
Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

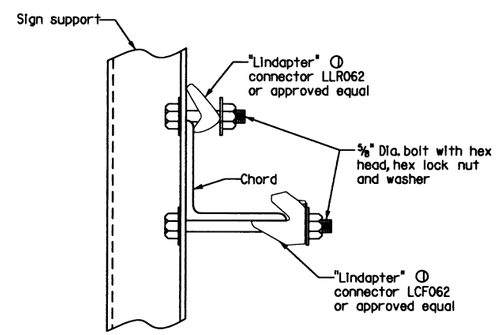


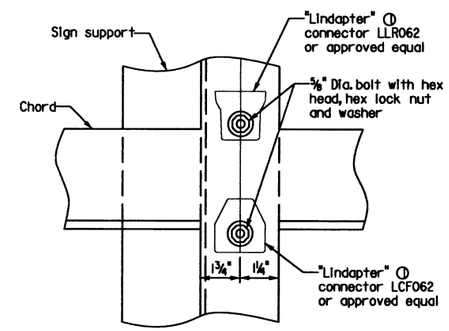
NOTE: Structural Z support may be fabricated from angles as shown.

DETAIL OF ALTERNATE Z SUPPORT



SECTION THRU TRUSS





① Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recomendations. All connectors, bolts, nuts, and washers shall be galvanized.

BOTTOM CHORD

NOTE:
Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTION TO TRUSS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 5/24/16

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X2_SD14.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59013

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.		CA0605	260	434
				(1) SEE TABLE		OVERHEAD SIGNS		59014

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS:

Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 2009 (Sixth Edition).

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15' tall. Use of additional sign area must be approved by the Engineer.

If the structure height ('H1' or 'H2') exceeds 30'-0" contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete_____f'c = 3,500psi
Reinforcing Steel (AASHTO M31 or M53, Grade 60)_____fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Plate:_____AASHTO M270, Gr. 50 (Fy = 50,000 psi).
[1] Pipe:_____ASTM A139 Gr. C, straight-seam welded (Fy=42,000psi),
ASTM A500 Gr. B (Fy = 42,000 psi),
ASTM A501 Gr. B (Fy = 50,000 psi),
ASTM A714 Class 2, Gr. II, Type E or S (Fy = 50,000 psi)
Z-Shapes:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Shim Plates:_____ASTM A1011, SS, Gr. 36, Type 2, or Grade 40.
Bolts:_____AASHTO M164, Type 1.
Locknuts - Approved Type:_____Meeting or exceeding AASHTO M292
Washers:_____AASHTO M293
Nuts:_____AASHTO M291 or M292, Gr. 2H or Gr. DH (Gr. 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

No circumferential butt welds will be allowed in any pipe sections.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 5/8" diameter and open holes shall be 11/16". Bolt spacing shall be 2 1/4" for 5/8" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with subsection 807.07.

All truss frame bolts shall comply with AASHTO M164 Type 1, galvanized according to Subsection 807.06. Nuts and washers for AASHTO M164 Type 1 bolts shall be furnished and galvanized in accordance with subsection 807.06.

Field splices shall be located in order to avoid sign panel connections. There shall be a maximum of two field splices and they shall be spaced a minimum of 15 ft. apart.

All main load carrying tension members greater than 1/2" in thickness shall conform to the requirements of the Longitudinal Charpy V-notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job CA0605 "STEEL SIGN STRUCTURES".

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel, using the magnetic particle method. Critical welds shall include: column to base plate welds and truss bottom support to column.

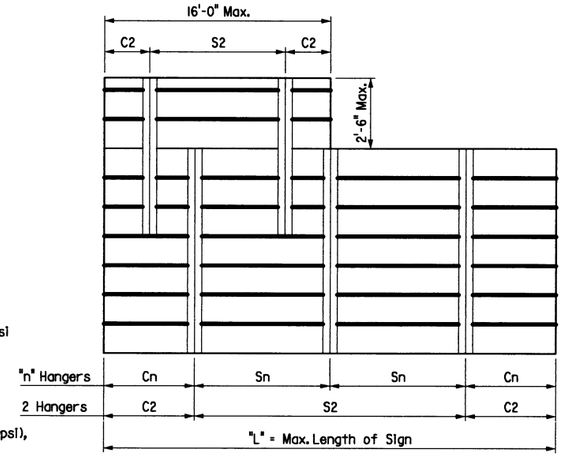
Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Steel Overhead Sign Structure". The excavations for the footings shall be back-filled before the structure is attached to the foundations.

Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.

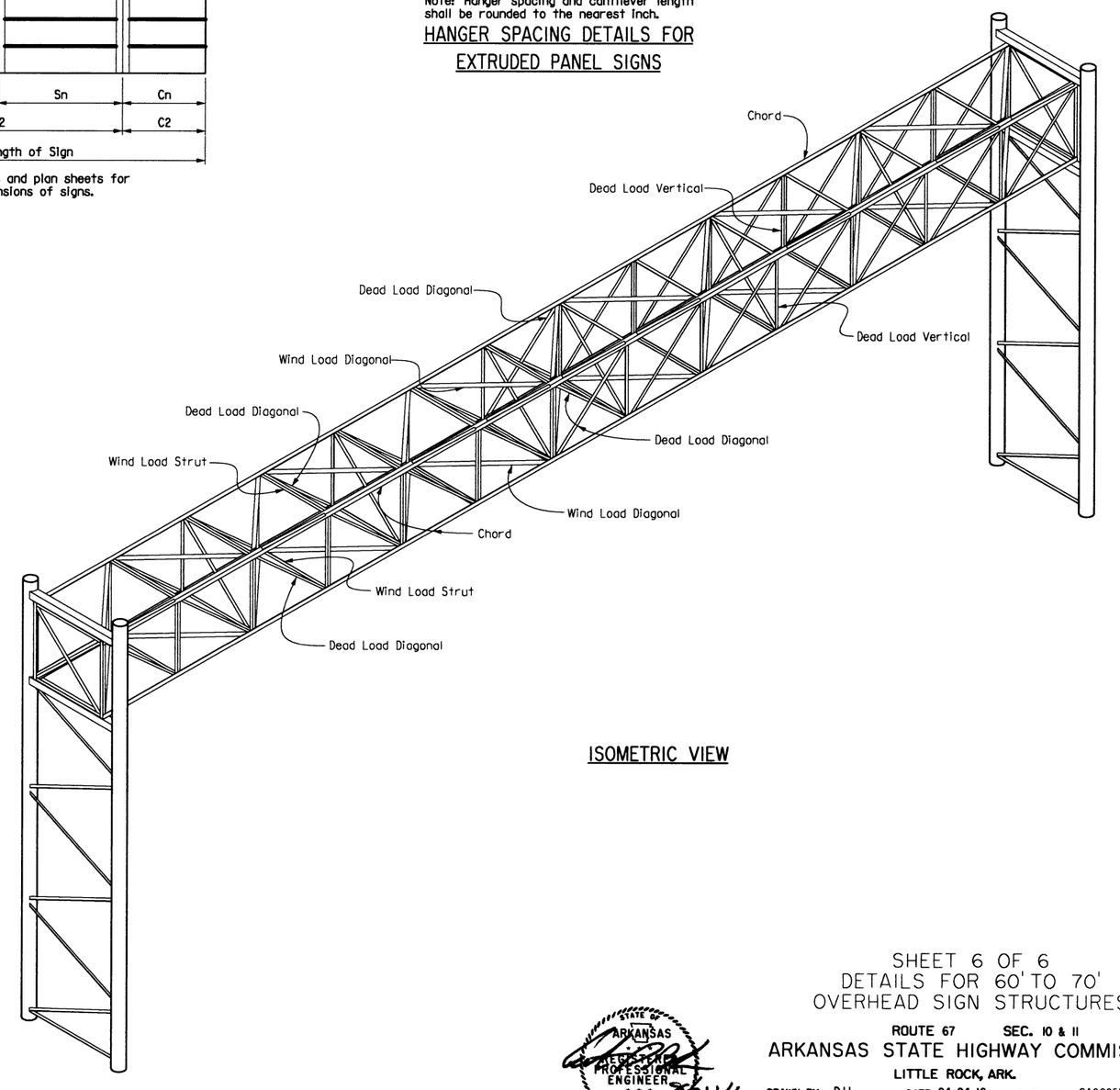


Note: See sign details and plan sheets for number, size and dimensions of signs.

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing "Sn"
15'-0"	2 Hangers	0.21 x "L"	0.58 x "L"
30'-0"	3 Hangers	0.145 x "L"	0.355 x "L"
45'-0"	4 Hangers	0.107 x "L"	0.262 x "L"

Note: Hanger spacing and cantilever length shall be rounded to the nearest inch.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS



ISOMETRIC VIEW

[1] In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equation:
CE = %C + %Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %Mo/50 - %V/10

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 08170 CARTER D. BEARDEN
BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

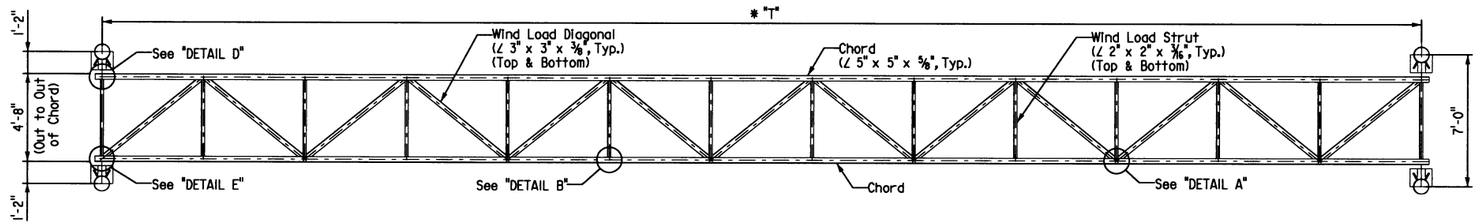
ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X2_SD15.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16
STRUCTURE NO. SEE TABLE DRAWING NO. 59014

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.		CA0605	261	434
				(1) SEE TABLE		OVERHEAD SIGNS		59015

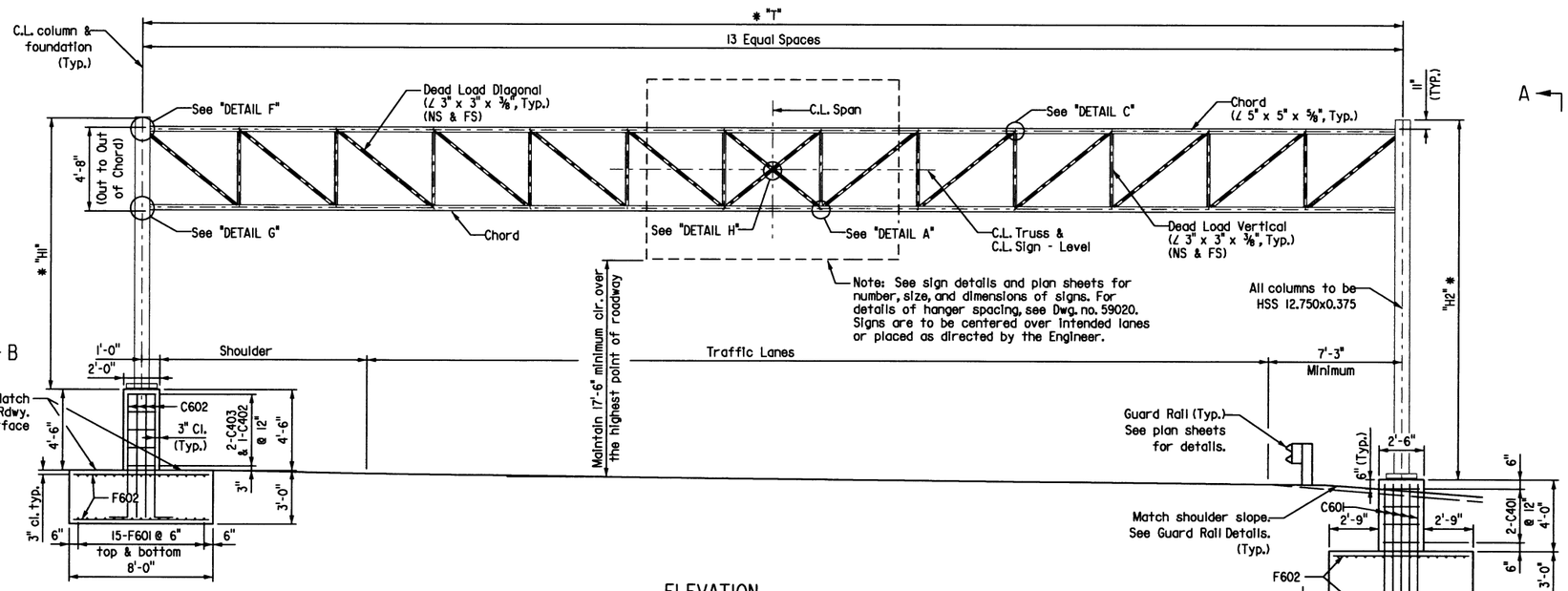
Note: For "VIEW A-A", see Dwg. No. 59016.

Note: For "DETAIL A" thru "DETAIL H", see Dwg. No. 59017.



PLAN

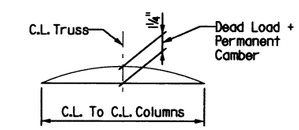
* Note: The Contractor shall make field measurements to determine the column heights "H1" & "H2" that are required to maintain the minimum vertical clearance with the C.L. of the sign located at the C.L. of the truss. These column heights shall be shown on the shop drawings with a note stating that the contractor has made the required field measurements. If the structure height ("H1" or "H2") exceeds 30'-0" contact the Engineer. The Contractor shall also verify that the variable "T" is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.



ELEVATION

FOUNDATION A

FOUNDATION B



TRUSS CAMBER DETAIL

APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

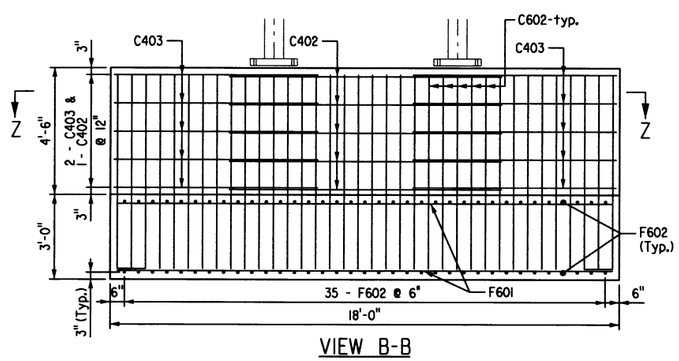
FOUNDATION	STRUCTURE NUMBER	CLASS S CONCRETE (cu. yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. yd.)
A	EACH STRUCTURE	22.00	2,680	26
B	EACH STRUCTURE	19.70	2,410	60

TABLE

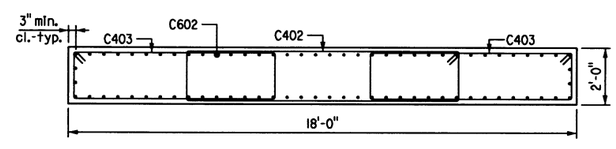
STRUCTURE NUMBER	* "T" (Min.)
OH-067-60-33	65'-0"
OH-067-43-03	70'-0"

Note: For "BAR LIST" and "BAR BENDING DETAILS", See Dwg. No. 59016.

Note: For median barrier on either side of Foundation A, See roadway plans.



VIEW B-B



SECTION Z-Z

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 9/24/16

BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

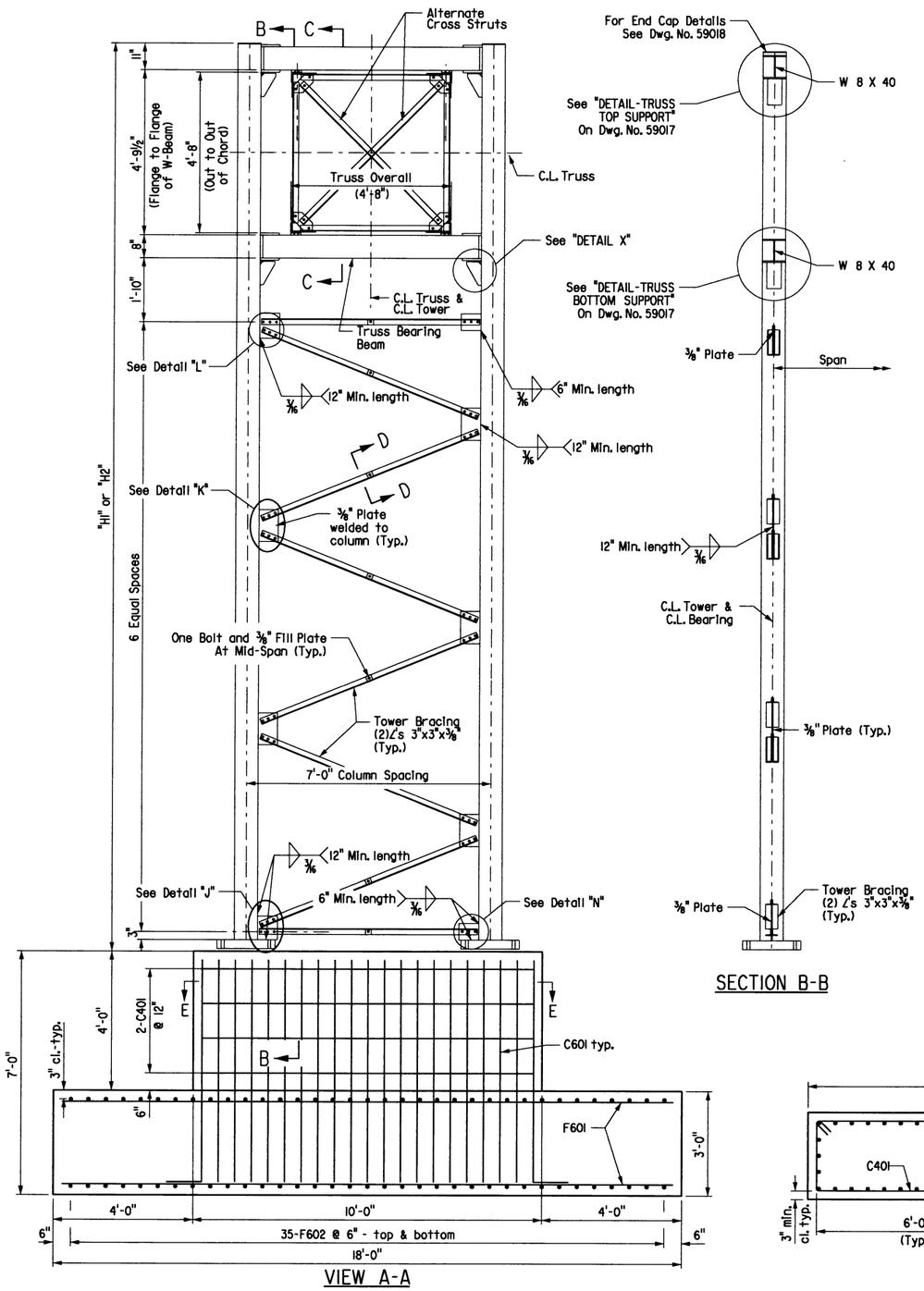
LITTLE ROCK, ARK.

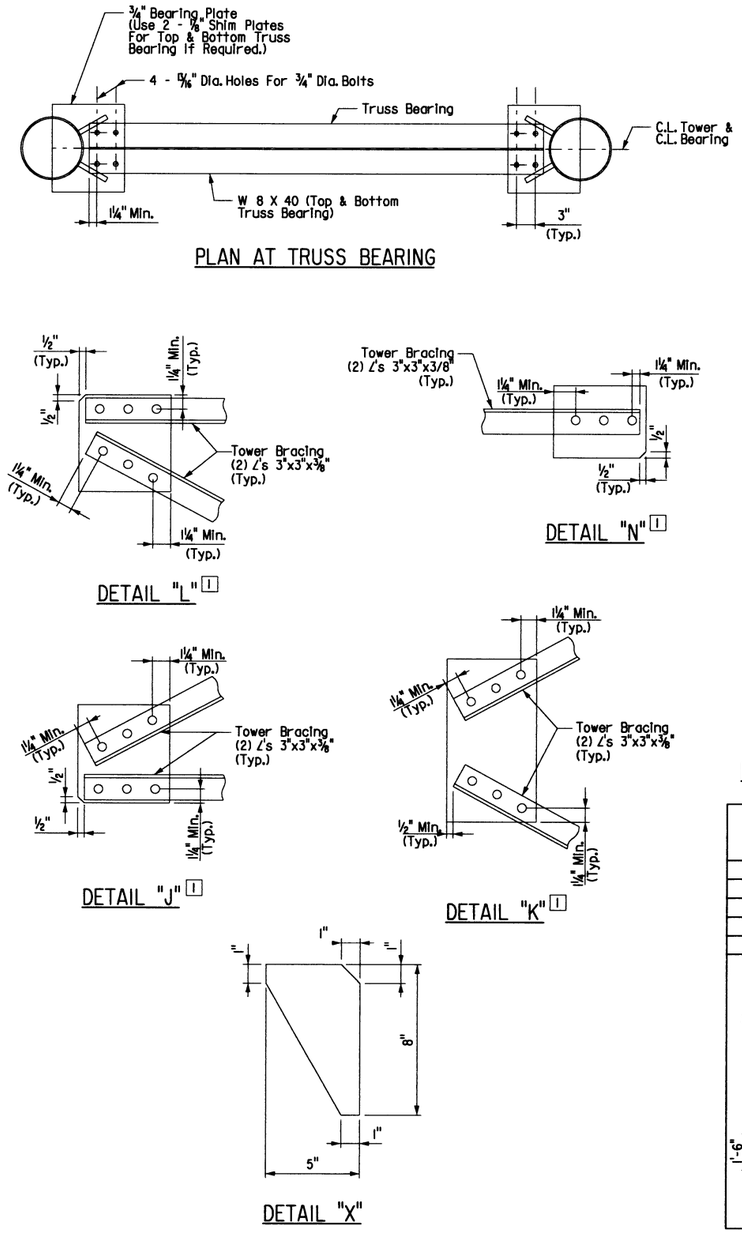
DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

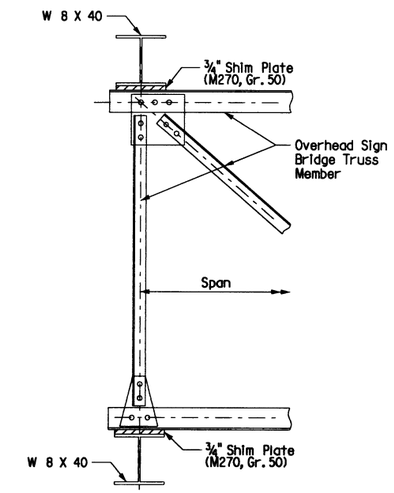
FILENAME: sCA0605X3_SL11.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59015

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.		CA0605	262	434
				(1) SEE TABLE		OVERHEAD SIGNS		59016





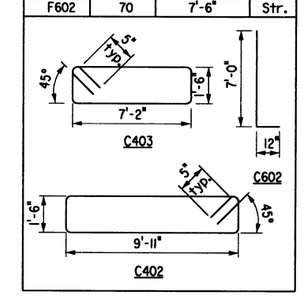


[1] Bolts shall be 3/4" Dia. and open holes shall be 15/16". Minimum center to center bolt spacing shall be 2½".

BAR LIST - FOUNDATION A

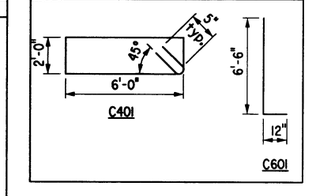
Bending Diagrams (Dimensions are out to out of bars.)

Mark	No. Req'd.	Length	Pin Dia.
C402	5	23'-8"	3"
C403	10	18'-2"	3"
C602	76	7'-11"	4½"
F601	30	17'-6"	Str.
F602	70	7'-6"	Str.



BAR LIST - FOUNDATION B

Mark	No. Req'd.	Length	Pin Dia.
C401	8	16'-6"	3"
C601	48	7'-5"	4½"
F601	30	17'-6"	Str.
F602	70	7'-6"	Str.



STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 4/24/16

BRIDGE ENGINEER

SHEET 2 OF 6
DETAILS FOR 60' TO 70' OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

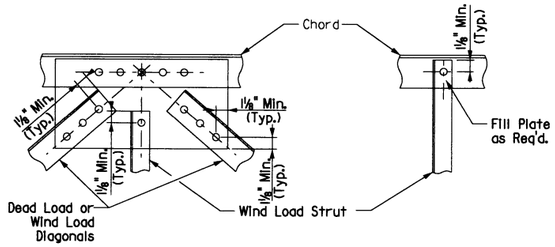
FILENAME: sCA0605X3_SD11.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59016

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.		CA0605	263	434
				(1) SEE TABLE		OVERHEAD SIGNS		59017

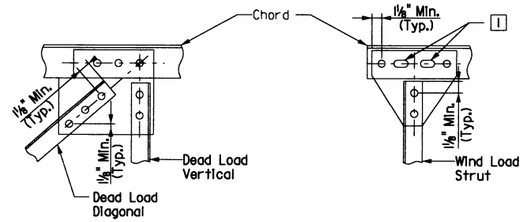
[1] Slotted hole in Gusset Plate and Chord Angle 11/16" x 2". Use Plate Washer on Gusset Plate side. 11/16" diameter hole in 3/4" Shim Plate and Beam Flange.

Note: All Gusset plates shall be 3/8" thick.



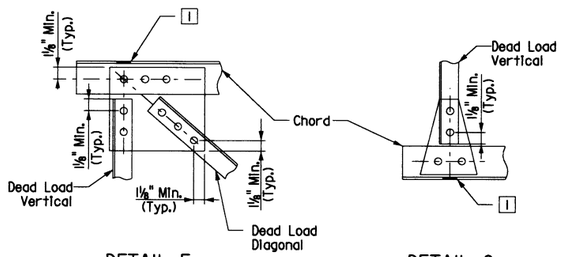
DETAIL A

DETAIL B



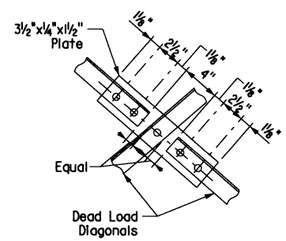
DETAIL C

DETAIL D

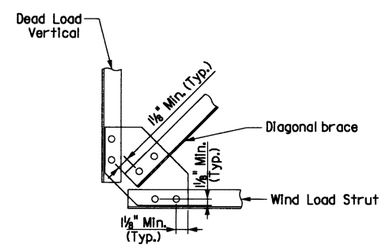


DETAIL F

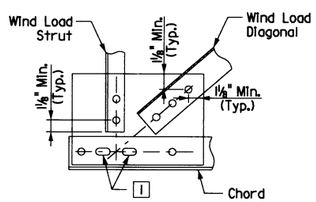
DETAIL G



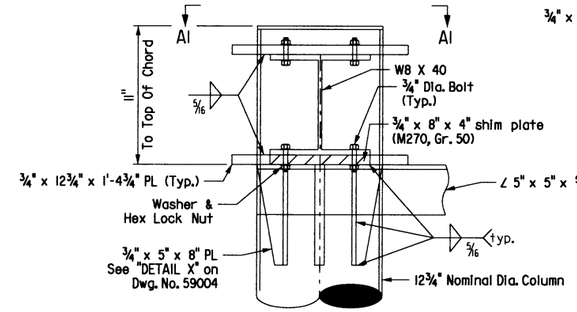
DETAIL H



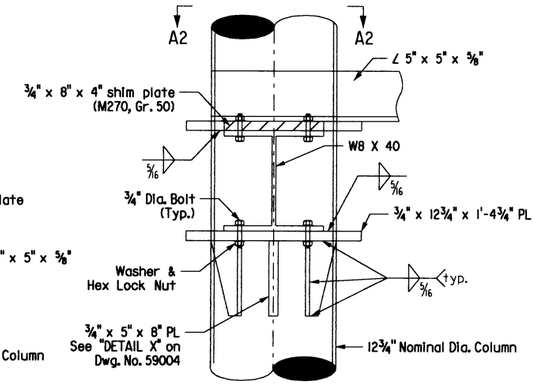
DETAIL M



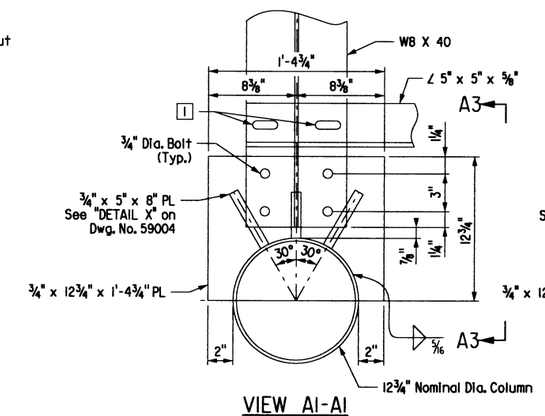
DETAIL E



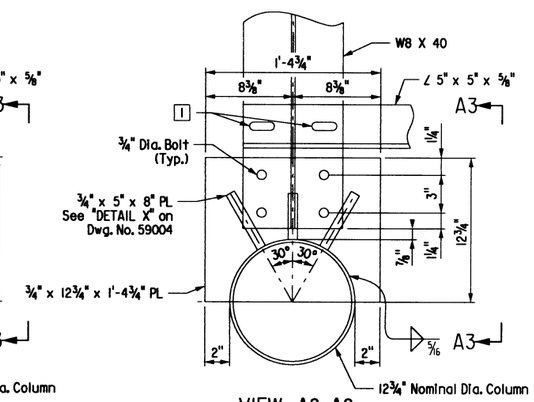
DETAIL - TRUSS TOP SUPPORT



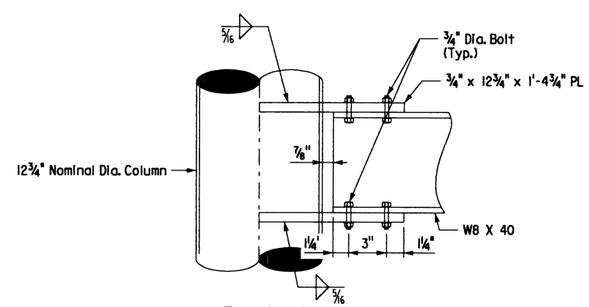
DETAIL - TRUSS BOTTOM SUPPORT



VIEW A1-A1



VIEW A2-A2



VIEW A3-A3

Note: ¾" x 5" x 8" Plate Not Shown For Clarity.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 4/14

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

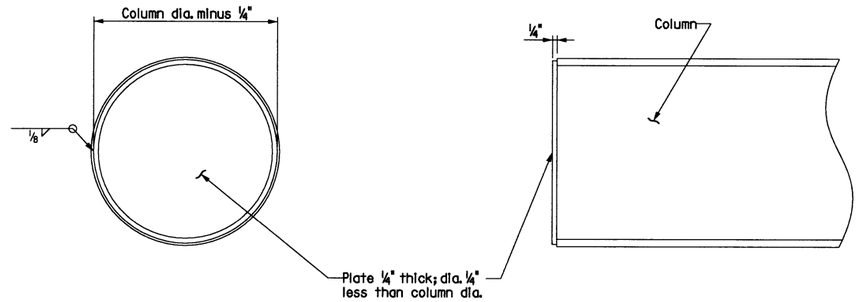
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X3_SDI2.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

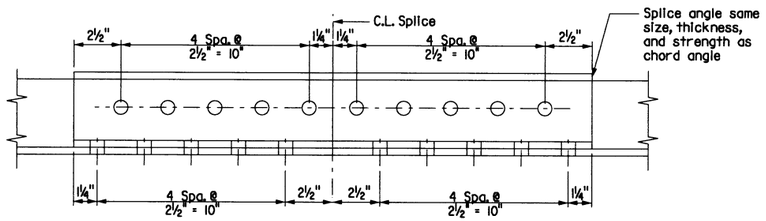
STRUCTURE NO. SEE TABLE DRAWING NO. 59017

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.		CA0605	264	434
				(1) SEE TABLE		OVERHEAD SIGNS		59018

Note: For "DETAIL M" see Dwg. No. 59017.

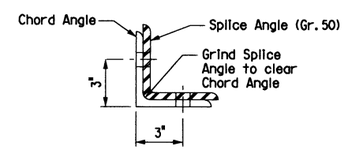


END CAP DETAILS



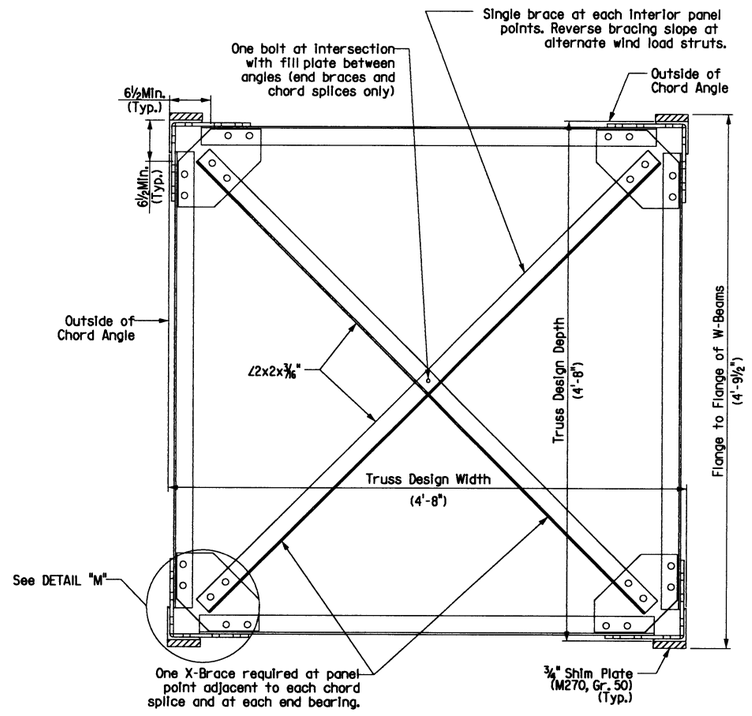
OPTIONAL CHORD SPLICE USING ANGLES [1]

(Place splice angle on inside of truss)
(5" ∠ Shown)

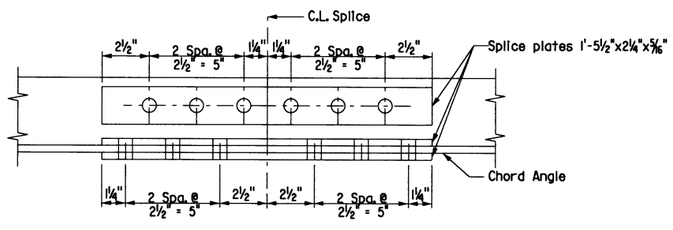


SECTION ON C.L. SPLICE

(5" ∠ Shown)

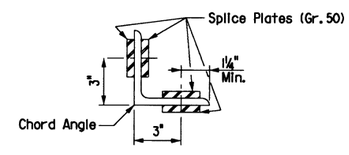


TRUSS SECTION



CHORD SPLICE USING PLATES [1]

(5" ∠ Shown)



SECTION ON C.L. SPLICE

(5" ∠ Shown)

[1] Bolts shall be ¾" Dia. and open holes shall be 13/16". Minimum center to center bolt spacing shall be 2½".

SPLICE DETAILS

Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BENNETT 8/24/16

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

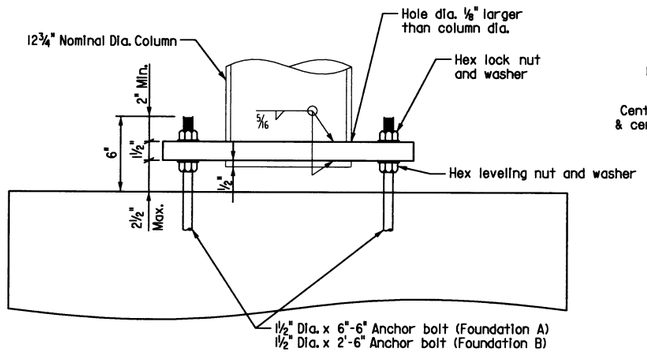
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

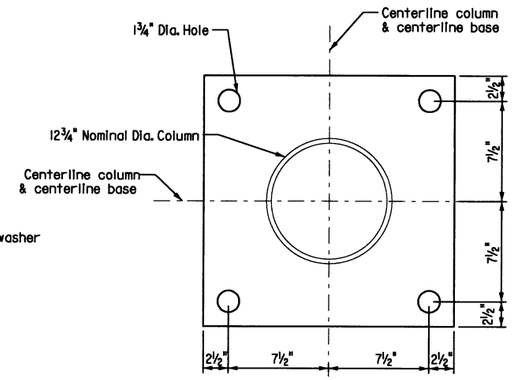
DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X3_SD13.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59018

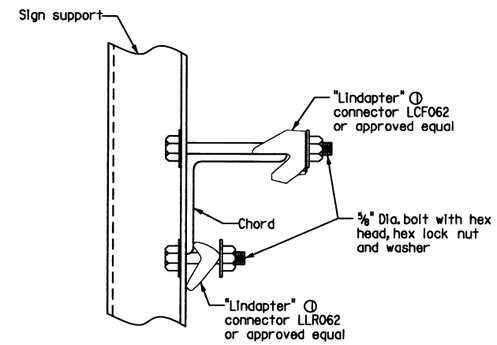
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	265	434
				(1) SEE TABLE		OVERHEAD SIGNS		59019

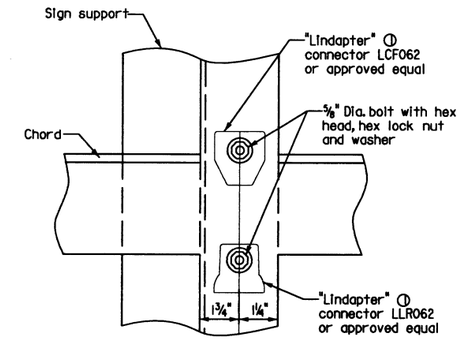


ELEVATION - COLUMN BASE

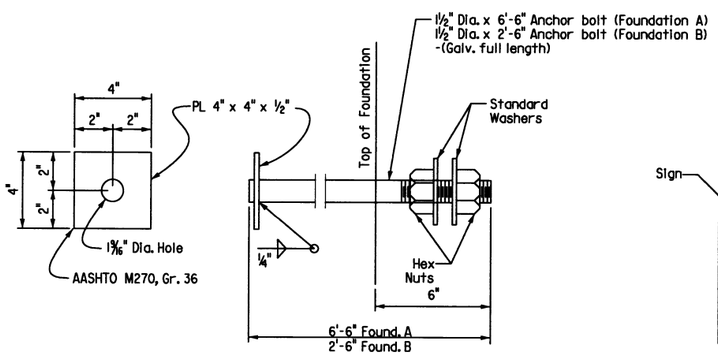


PLAN - COLUMN BASE



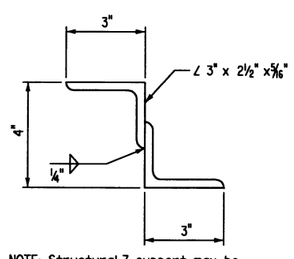


TOP CHORD



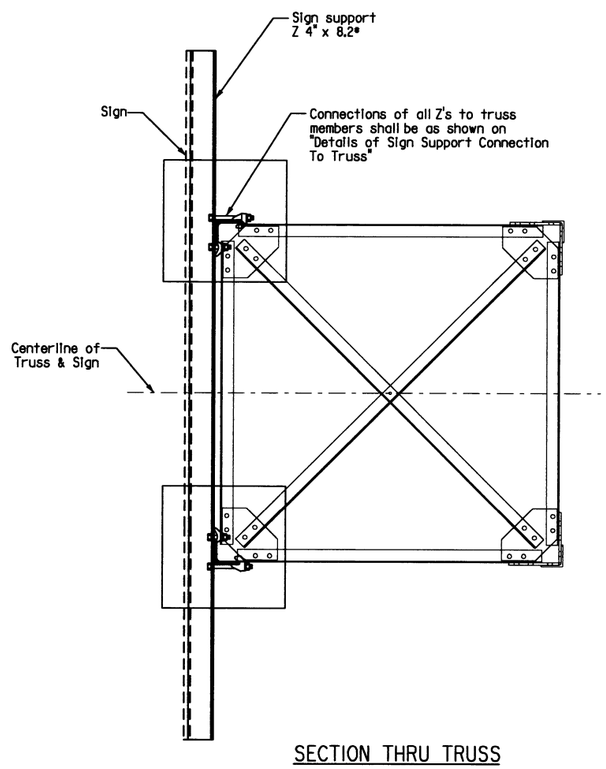
Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

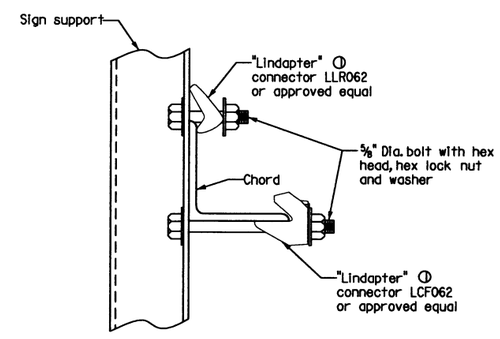


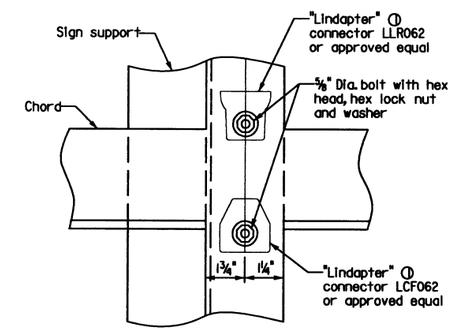
NOTE: Structural Z support may be fabricated from angles as shown.

DETAIL OF ALTERNATE Z SUPPORT



SECTION THRU TRUSS





① Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recomendations. All connectors, bolts, nuts, and washers shall be galvanized.

BOTTOM CHORD

NOTE:
Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTION TO TRUSS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BENNETT 8/24/16

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X3_SD14.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59019

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.		CA0605	266	434
				(1) SEE TABLE		OVERHEAD SIGNS		59020

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS:

Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 2009 (Sixth Edition).

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15' tall. Use of additional sign area must be approved by the Engineer.

If the structure height ('H1' or 'H2') exceeds 30'-0" contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete_____f'c = 3,500psi
Reinforcing Steel (AASHTO M31 or M53, Grade 60)_____fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Plate:_____AASHTO M270, Gr. 50 (Fy = 50,000 psi).
[1] Pipe:_____ASTM A139 Gr. C, straight-seam welded (Fy=42,000psi),
ASTM A500 Gr. B (Fy = 42,000 psi),
ASTM A501 Gr. B (Fy = 50,000 psi),
ASTM A714 Class 2, Gr. II, Type E or S (Fy = 50,000 psi)
Z-Shapes:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Shim Plates:_____ASTM A1011, SS, Gr. 36, Type 2, or Grade 40.
Bolts:_____AASHTO M164, Type 1.
Locknuts - Approved Type:_____Meeting or exceeding AASHTO M292
Washers:_____AASHTO M293
Nuts:_____AASHTO M291 or M292, Gr. 2H or Gr. DH (Gr. 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

No circumferential butt welds will be allowed in any pipe sections.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be 5/8" diameter and open holes shall be 11/16". Bolt spacing shall be 2 1/4" for 5/8" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with subsection 807.07.

All truss frame bolts shall comply with AASHTO M164 Type 1, galvanized according to Subsection 807.06. Nuts and washers for AASHTO M164 Type 1 bolts shall be furnished and galvanized in accordance with subsection 807.06.

Field splices shall be located in order to avoid sign panel connections. There shall be a maximum of two field splices and they shall be spaced a minimum of 15 ft. apart.

All main load carrying tension members greater than 1/2" in thickness shall conform to the requirements of the Longitudinal Charpy V-notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job CA0605 "STEEL SIGN STRUCTURES".

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel, using the magnetic particle method. Critical welds shall include: column to base plate welds and truss bottom support to column.

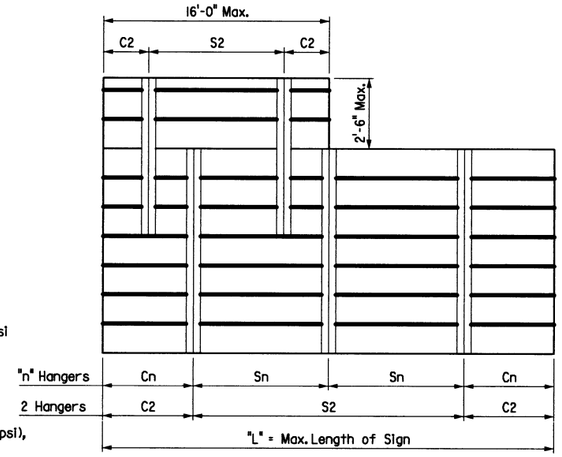
Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Steel Overhead Sign Structure". The excavations for the footings shall be back-filled before the structure is attached to the foundations.

Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.

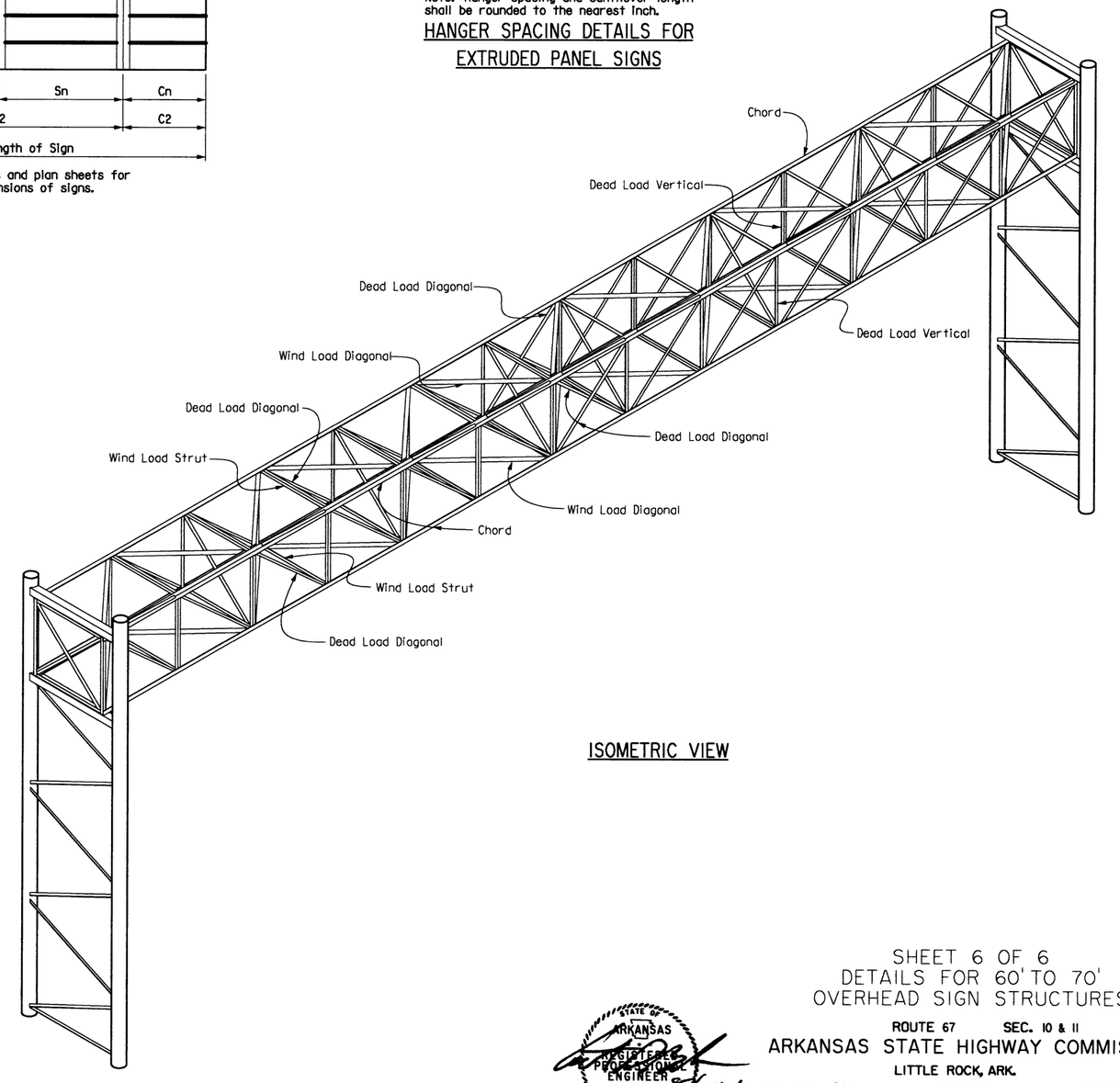


Note: See sign details and plan sheets for number, size and dimensions of signs.

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing "Sn"
15'-0"	2 Hangers	0.21 x "L"	0.58 x "L"
30'-0"	3 Hangers	0.145 x "L"	0.355 x "L"
45'-0"	4 Hangers	0.107 x "L"	0.262 x "L"

Note: Hanger spacing and cantilever length shall be rounded to the nearest inch.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS



ISOMETRIC VIEW

[1] In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equation:
CE = %C + %Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %Mo/50 - %V/10

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER NO. 13570 CARTER D. BENNETT 8/24/16

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS FOR 60' TO 70'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X3_SD15.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

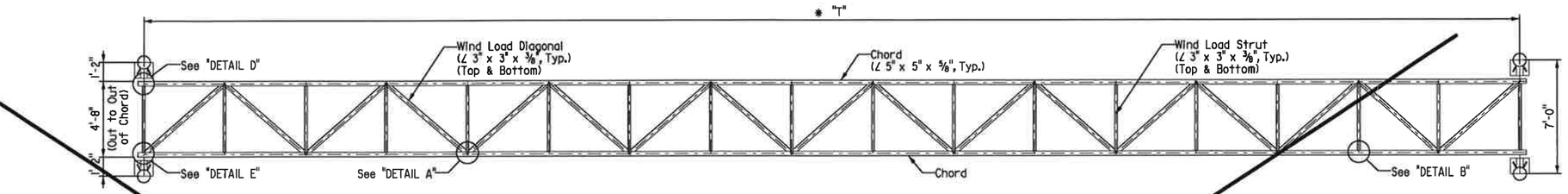
STRUCTURE NO. SEE TABLE DRAWING NO. 59020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
11-11-16			

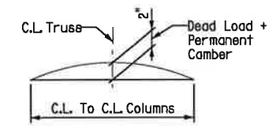
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	267	434
SEE TABLE		OVERHEAD SIGNS		59021

Note: For "VIEW A-A", see Dwg. No. 59022.

Note: For "DETAIL A" thru "DETAIL H", see Dwg. No. 59023.

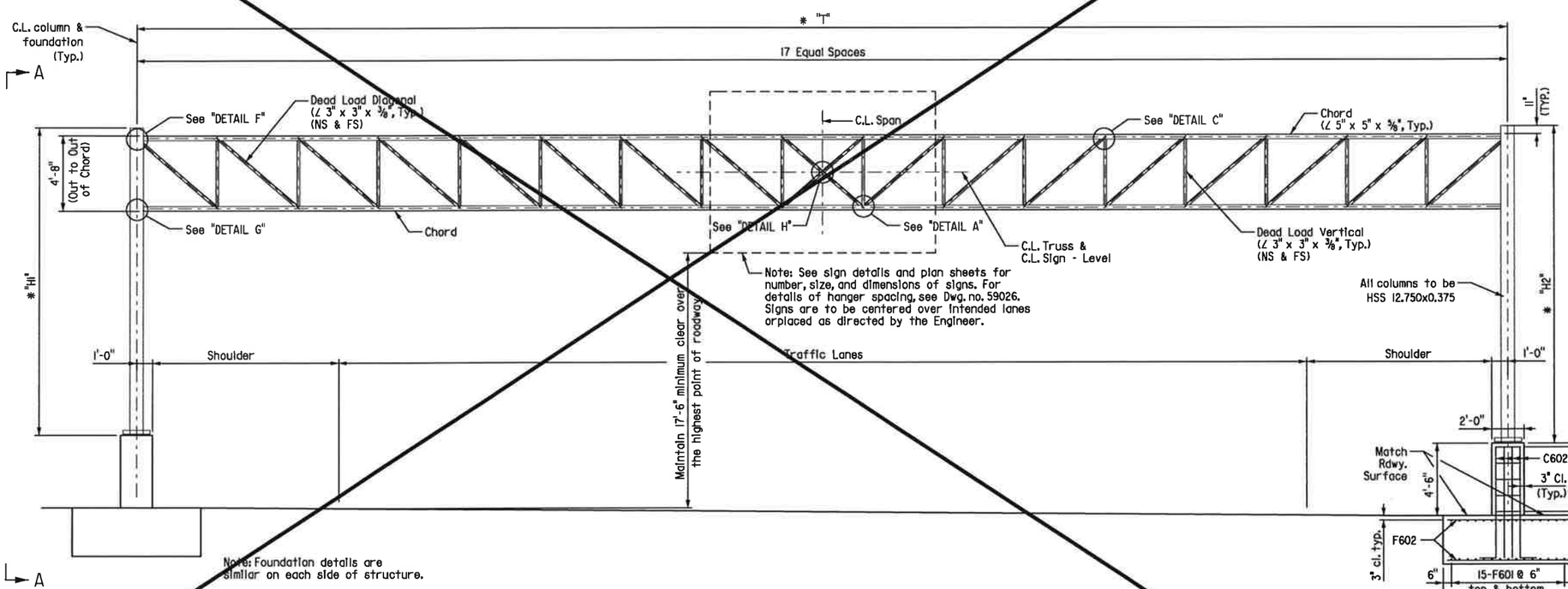


PLAN



TRUSS CAMBER DETAIL

No Scale



ELEVATION

Note: For "BAR LIST" and "BAR BENDING DETAILS", See Dwg. No. 59022.

TABLE

STRUCTURE NUMBER	* "T" (Min.)
OH-067-60-30	82'-0"

⚠ This drawing is eliminated. 11-11-16 CDB

* Note: The Contractor shall make field measurements to determine the column heights "H1" & "H2" that are required to maintain the minimum vertical clearance with the C.L. of the sign located at the C.L. of the truss. These column heights shall be shown on the shop drawings with a note stating that the contractor has made the required field measurements. If the structure height ("H1" or "H2") exceeds 30'-0" contact the Engineer. The Contractor shall also verify that the variable "T" is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.

APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

STRUCTURE NUMBER	CLASS S CONCRETE (cu. yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. yd.)
EACH STRUCTURE	48.88	5,936	60

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 04/24/16

BRIDGE ENGINEER

SHEET 1 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

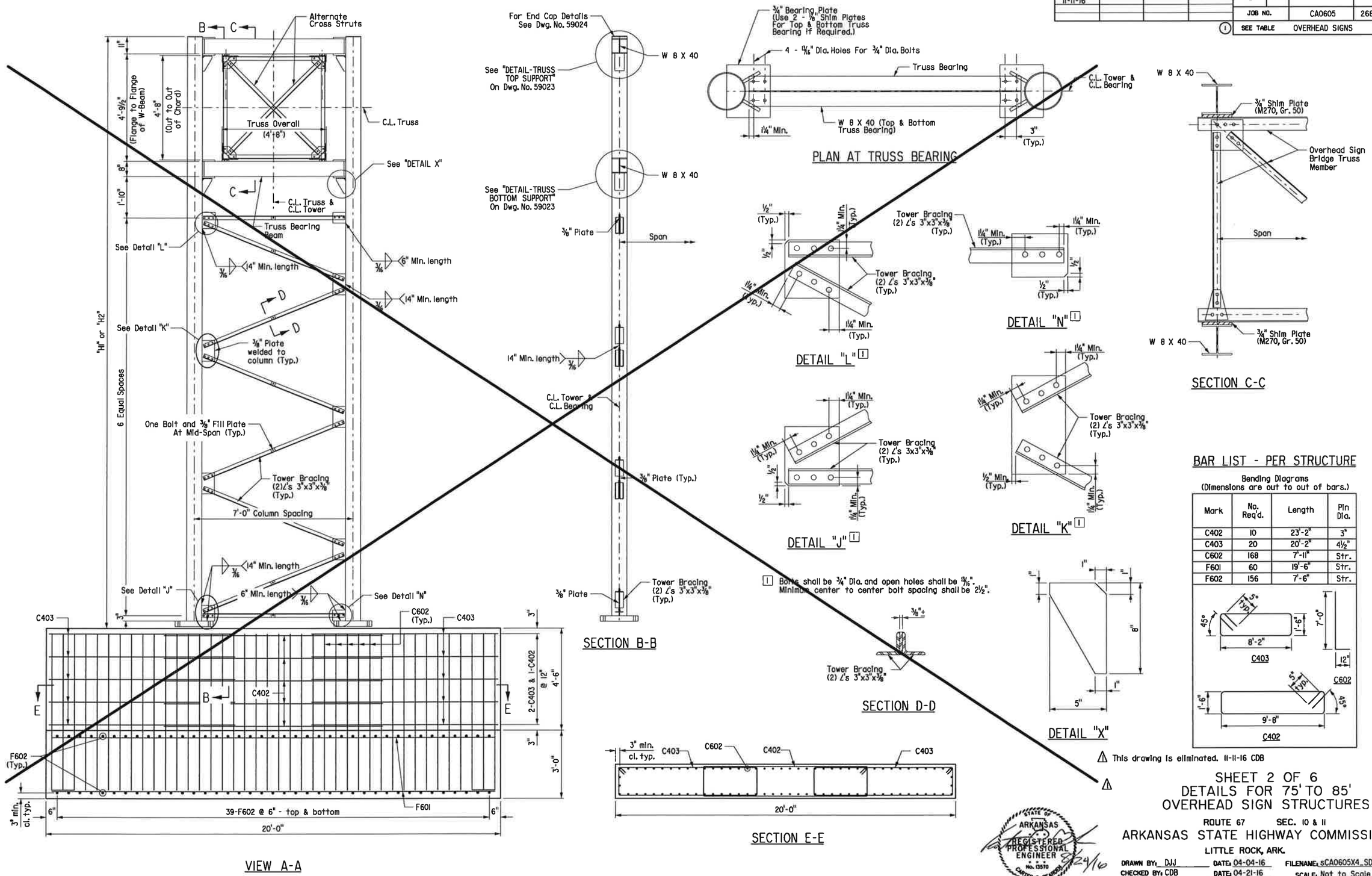
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X4_SL11.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59021

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				8	ARK.			
				JOB NO.		CA0605	268	434
				(1) SEE TABLE		OVERHEAD SIGNS		59022



BAR LIST - PER STRUCTURE

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

Mark	No. Req'd.	Length	Pin Dia.
C402	10	23'-2"	3"
C403	20	20'-2"	4½"
C602	168	7'-11"	Str.
F601	60	19'-6"	Str.
F602	156	7'-6"	Str.

⚠ This drawing is eliminated. 11-11-16 CDB

SHEET 2 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 8/24/16

BRIDGE ENGINEER

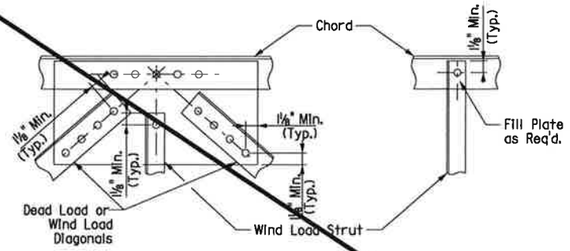
DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X4_SD11.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59022

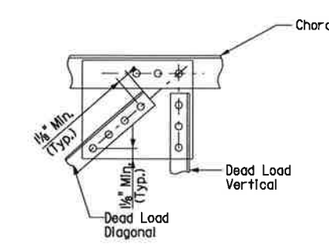
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				6	ARK.			
				JOB NO.		CA0605	269	434
				(1) SEE TABLE		OVERHEAD SIGNS		59023

[1] Slotted hole in Gusset Plate and Chord Angle 11/16" x 2". Use Plate Washer on Gusset Plate side. 11/16" diameter hole in 3/4" Shim Plate and Beam Flange.

Note: All Gusset plates shall be 3/8" thick.

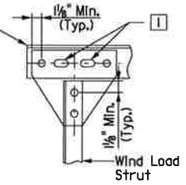


DETAIL A

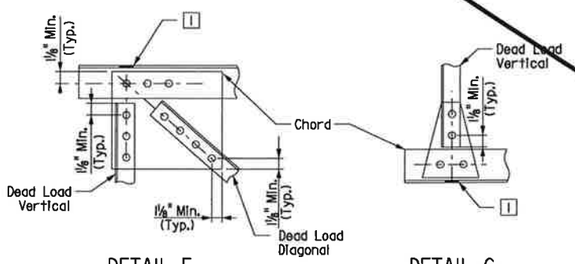


DETAIL B

DETAIL C

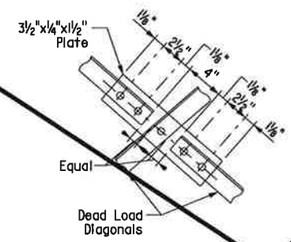


DETAIL D

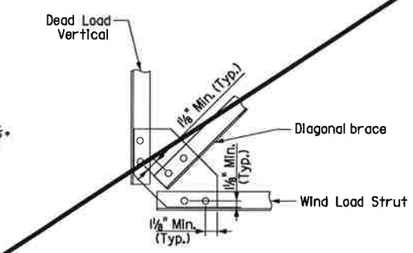


DETAIL F

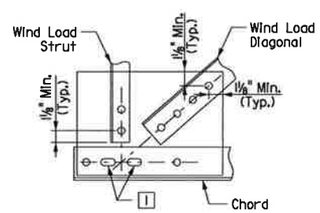
DETAIL G



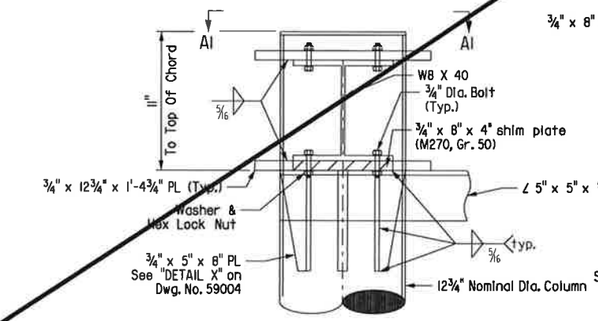
DETAIL H



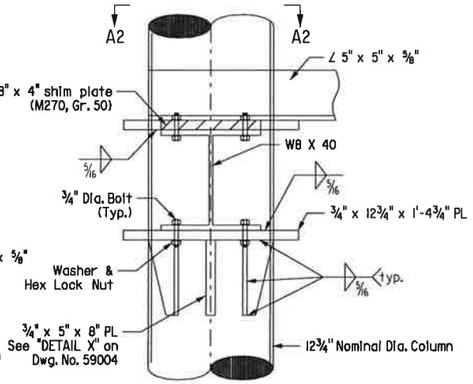
DETAIL M



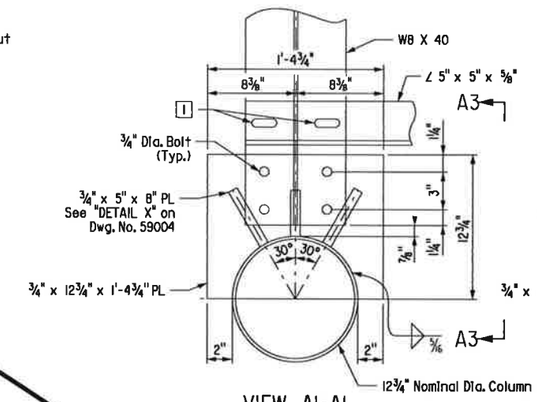
DETAIL E



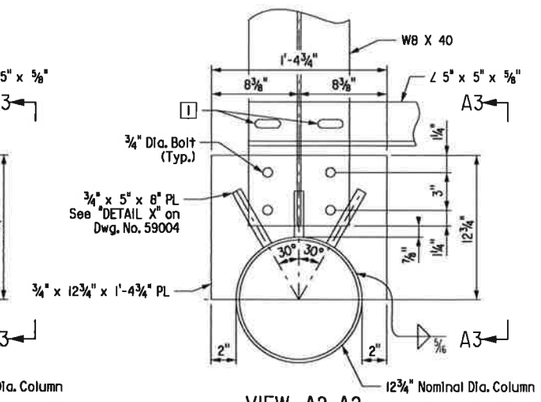
DETAIL - TRUSS TOP SUPPORT



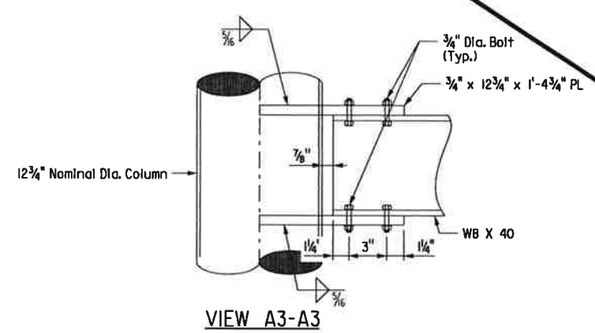
DETAIL - TRUSS BOTTOM SUPPORT



VIEW A1-A1



VIEW A2-A2



VIEW A3-A3

Note: 3/4" x 5" x 8" Plate Not Shown For Clarity.

⚠ This drawing is eliminated. 11-11-16 CDB

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 5/24/16

BRIDGE ENGINEER

SHEET 3 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

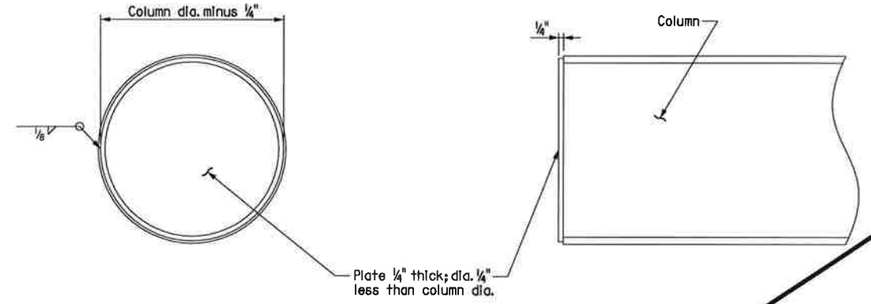
DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

FILENAME: sCA0605X4_SDI2.dgn
SCALE: Not to Scale

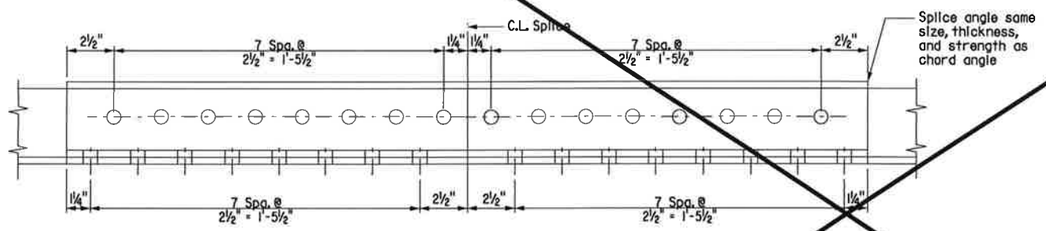
STRUCTURE NO. SEE TABLE DRAWING NO. 59023

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				6	ARK.			
				JOB NO.		CA0605	270	434
				(1) SEE TABLE		OVERHEAD SIGNS		59024

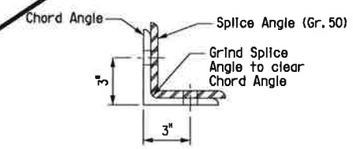
Note: For "DETAIL M" see Dwg. No. 59023.



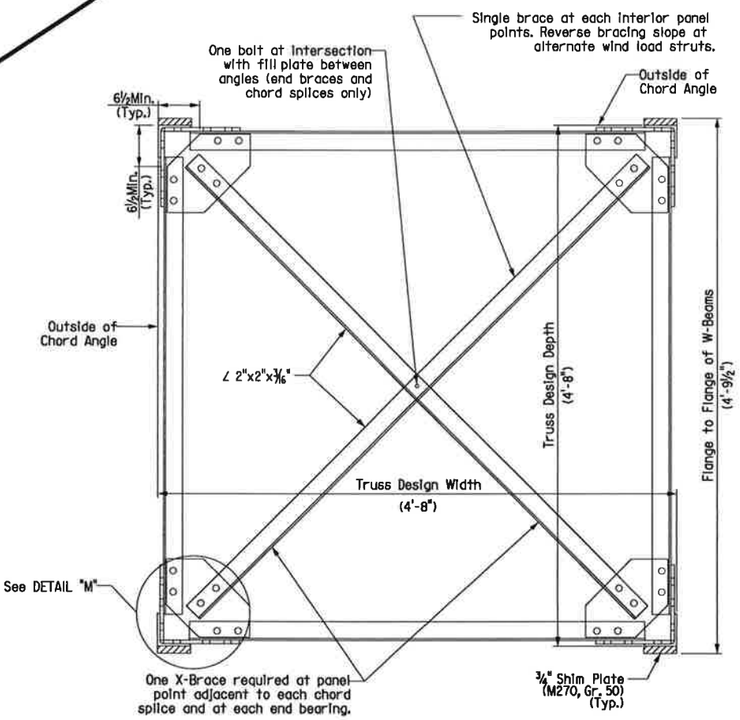
END CAP DETAILS



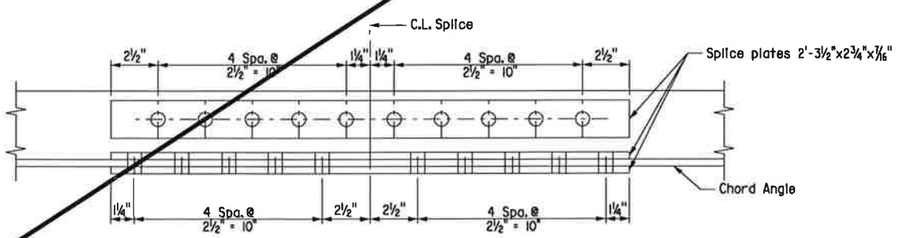
OPTIONAL CHORD SPLICE USING ANGLES [1]
(Place splice angle on inside of truss)
(5" ∠ Shown)



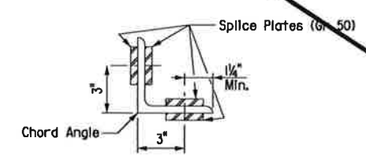
SECTION ON C.L. SPLICE
(5" ∠ Shown)



TRUSS SECTION



CHORD SPLICE USING PLATES [1]
(5" ∠ Shown)



SECTION ON C.L. SPLICE
(5" ∠ Shown)

[1] Bolts shall be ¾" Dia. and open holes shall be 9/16". Minimum center to center bolt spacing shall be 2½".

SPLICE DETAILS

Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

⚠ This drawing is eliminated. 11-11-16 CDB

⚠

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 3/24/16

BRIDGE ENGINEER

SHEET 4 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

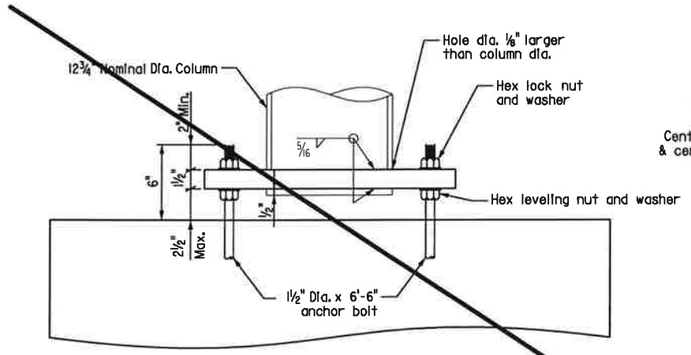
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

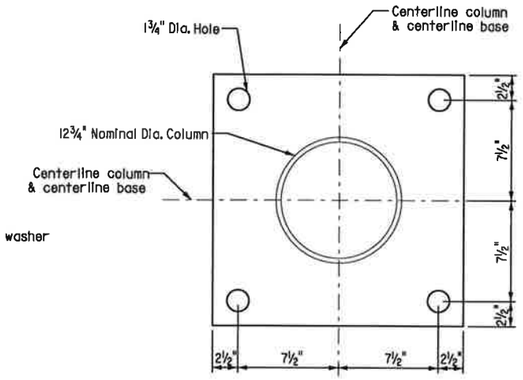
DRAWN BY: DJJ DATE: 04-04-16 FILENAME: sCA0605X4_SD13.dgn
CHECKED BY: CDB DATE: 04-21-16 SCALE: Not to Scale
DESIGNED BY: DJJ DATE: 04-04-16

STRUCTURE NO. SEE TABLE DRAWING NO. 59024

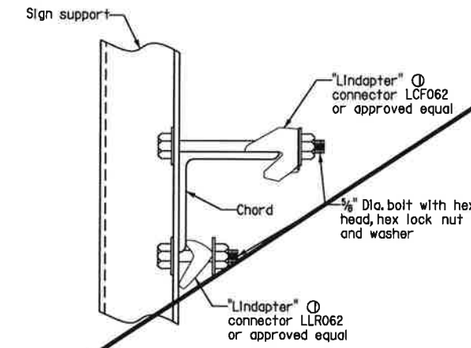
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				8	ARK.			
				JOB NO.		CA0605	271	434
				① SEE TABLE		OVERHEAD SIGNS		59025

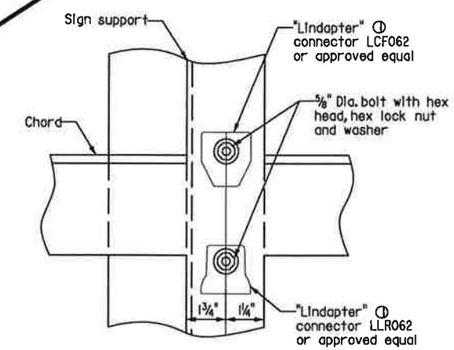


ELEVATION - COLUMN BASE

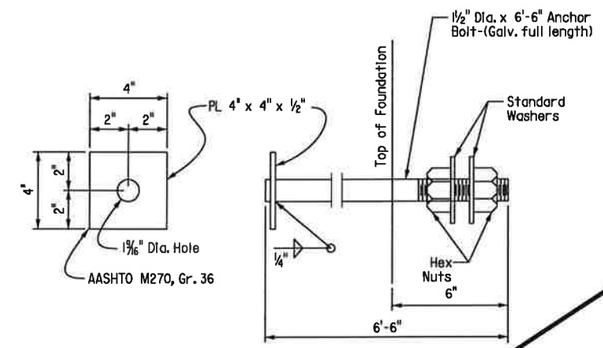


PLAN - COLUMN BASE





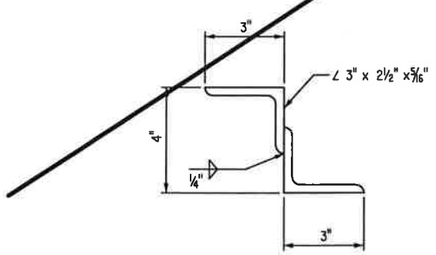
TOP CHORD



Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for bolts shall be as specified in Section 807.07.

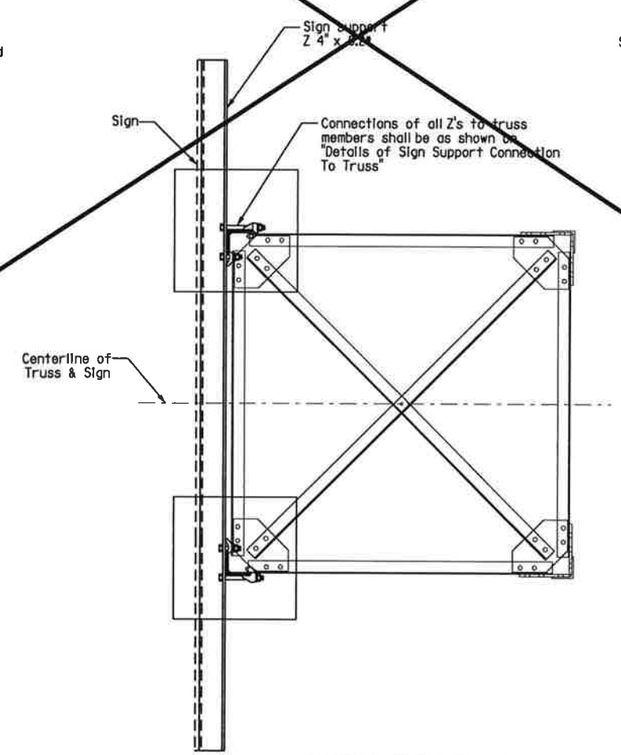
ANCHOR BOLT DETAIL

No Scale

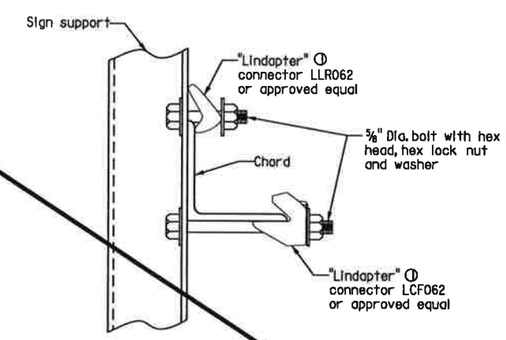


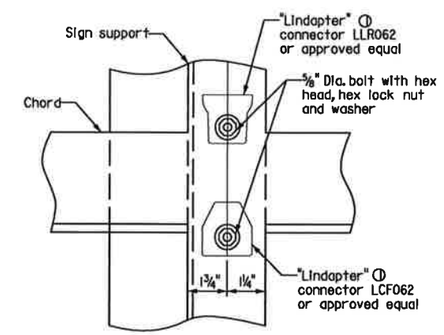
NOTE: Structural Z support may be fabricated from angles as shown.

DETAIL OF ALTERNATE Z SUPPORT



SECTION THRU TRUSS





① Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recomendations. All connectors, bolts, nuts, and washers shall be galvanized.

BOTTOM CHORD

NOTE:
Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTION TO TRUSS

⚠ This drawing is eliminated. 11-11-16 CDB

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 03570 CARTER D. BERGER 4/24/16

BRIDGE ENGINEER

SHEET 5 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16

FILENAME: sCA0605X4_SD14.dgn
SCALE: Not to Scale

STRUCTURE NO. SEE TABLE DRAWING NO. 59025

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11-11-16				6	ARK.			
				JOB NO.		CA0605	272	434
				(1) SEE TABLE		OVERHEAD SIGNS		59026

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction (2014 Edition) with applicable Supplemental Specifications and Special Provisions. Unless otherwise noted in the plans, Section and Subsection numbers refer to the Standard Construction Specifications.

DESIGN SPECIFICATIONS:

Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 2009 (Sixth Edition).

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15' tall. Use of additional sign area must be approved by the Engineer.

If the structure height ('H1' or 'H2') exceeds 30'-0" contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete ..... f'c = 3,500psi
Reinforcing Steel (AASHTO M31 or M53, Grade 60) ..... fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles: ..... AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Plate: ..... AASHTO M270, Gr. 50 (Fy = 50,000 psi).
[1] Pipe: ..... ASTM A139 Gr. C, straight-seam welded (Fy=42,000psi),
ASTM A500 Gr. B (Fy = 42,000 psi),
ASTM A501 Gr. B (Fy = 50,000 psi),
ASTM A714 Class 2, Gr. II, Type E or S (Fy = 50,000 psi)
Z-Shapes: ..... AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Shim Plates: ..... ASTM A1011, SS, Gr. 36, Type 2, or Grade 40.
Bolts: ..... AASHTO M164, Type I.
Locknuts - Approved Type: ..... Meeting or exceeding AASHTO M292
Washers: ..... AASHTO M293
Nuts: ..... AASHTO M291 or M292, Gr. 2H or Gr. DH (Gr. 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

No circumferential butt welds will be allowed in any pipe sections.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be ⅝" diameter and open holes shall be 11/16". Bolt spacing shall be 2¼" for ⅝" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with subsection 807.07.

All truss frame bolts shall comply with AASHTO M164 Type I, galvanized according to Subsection 807.06. Nuts and washers for AASHTO M164 Type I bolts shall be furnished and galvanized in accordance with subsection 807.06.

Field splices shall be located in order to avoid sign panel connections. There shall be a maximum of two field splices and they shall be spaced a minimum of 15 ft. apart.

All main load carrying tension members greater than ½" in thickness shall conform to the requirements of the Longitudinal Charpy V-notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job CA0605 "STEEL SIGN STRUCTURES".

All fillet welds of critical members shall be tested according to AWS D1.1 Structural Welding Code - Steel, using the magnetic particle method. Critical welds shall include: column to base plate welds and truss bottom support to column.

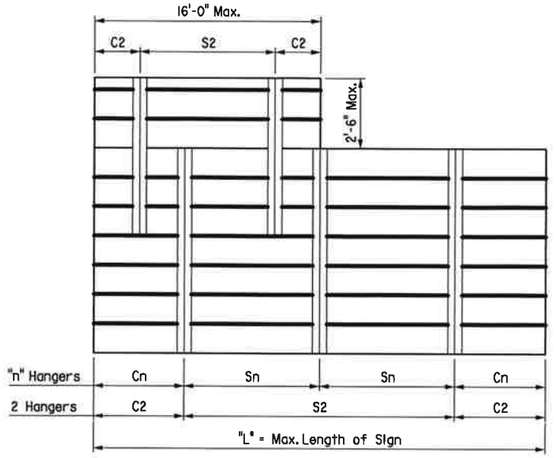
Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Steel Overhead Sign Structure". The excavations for the footings shall be back-filled before the structure is attached to the foundations.

Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.



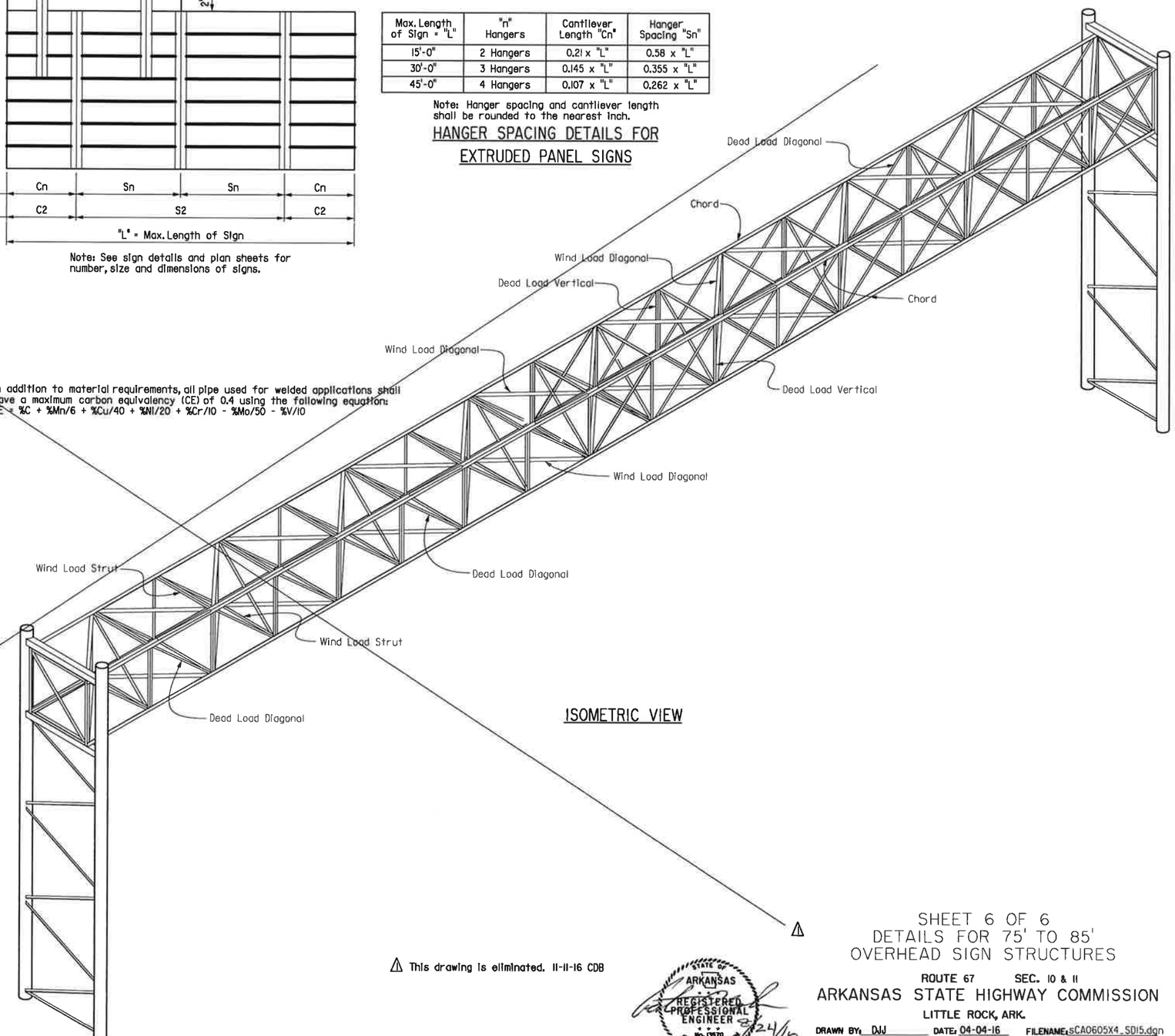
Note: See sign details and plan sheets for number, size and dimensions of signs.

Max. Length of Sign = "L"	"n" Hangers	Cantilever Length "Cn"	Hanger Spacing "Sn"
15'-0"	2 Hangers	0.21 x "L"	0.58 x "L"
30'-0"	3 Hangers	0.145 x "L"	0.355 x "L"
45'-0"	4 Hangers	0.107 x "L"	0.262 x "L"

Note: Hanger spacing and cantilever length shall be rounded to the nearest inch.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

[1] In addition to material requirements, all pipe used for welded applications shall have a maximum carbon equivalency (CE) of 0.4 using the following equation:
CE = %C + %Mn/6 + %Cu/40 + %Ni/20 + %Cr/10 - %Mo/50 - %V/10



ISOMETRIC VIEW

⚠ This drawing is eliminated. 11-11-16 CDB

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEASLEY 8/24/16

BRIDGE ENGINEER

SHEET 6 OF 6
DETAILS FOR 75' TO 85'
OVERHEAD SIGN STRUCTURES

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

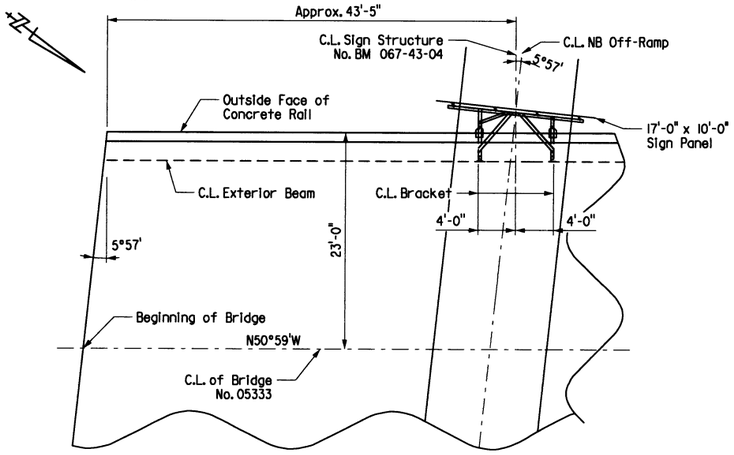
LITTLE ROCK, ARK.

DRAWN BY: DJJ DATE: 04-04-16
CHECKED BY: CDB DATE: 04-21-16
DESIGNED BY: DJJ DATE: 04-04-16
FILENAME: sCA0605X4_SD15.dgn
SCALE: Not to Scale

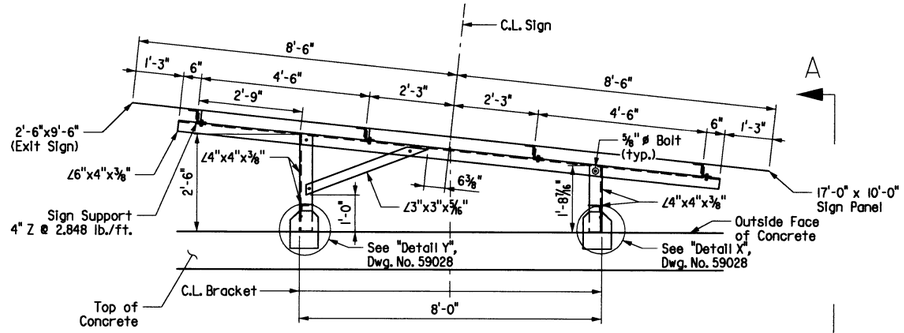
STRUCTURE NO. SEE TABLE DRAWING NO. 59026

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.		CA0605	273	434
				1 BM 067-43-04		SIGN STRUCTURE		59027

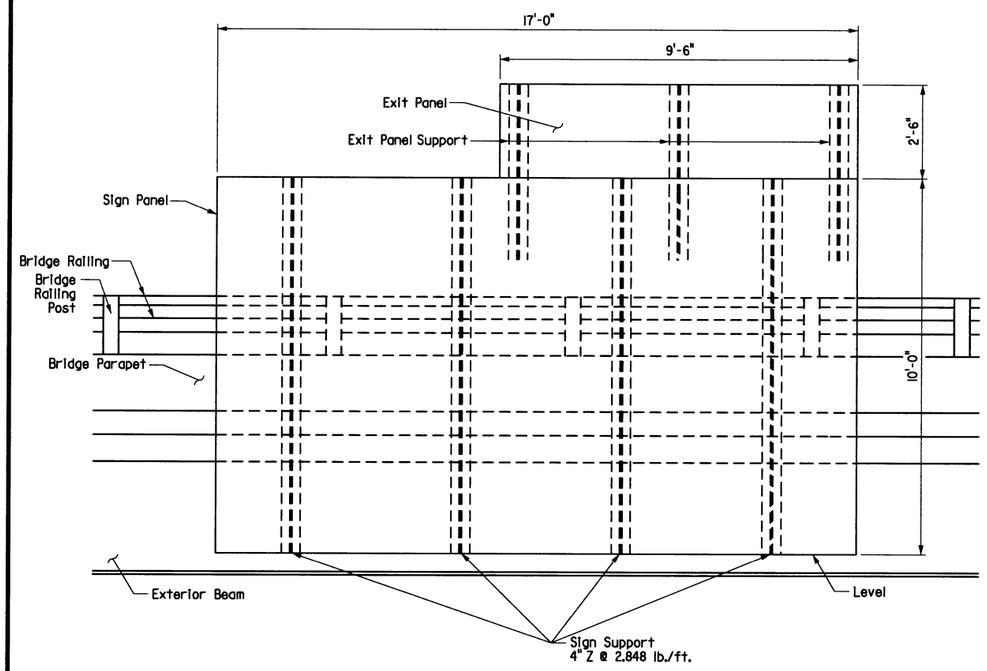
Note: Sign may be shifted 18 inches in either direction to avoid attachments at bridge stiffeners, railing posts or railing joints.



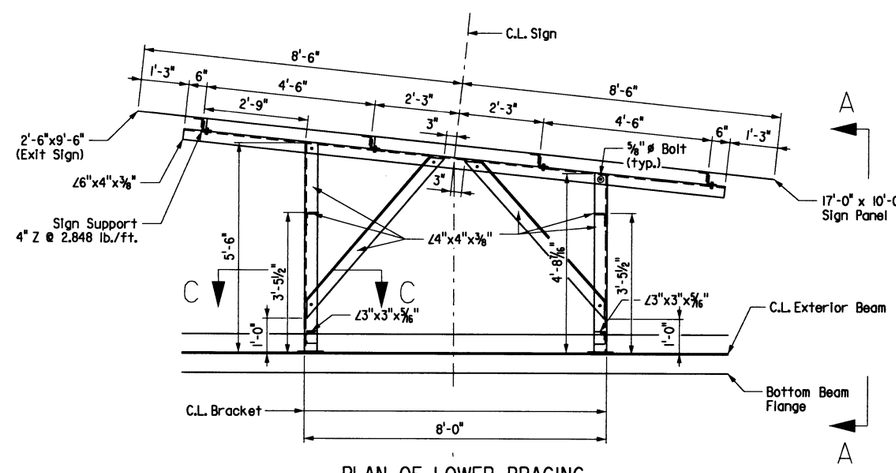
LOCATION SKETCH
1/8" = 1'-0"



PLAN OF UPPER BRACING
(SIGN STRUCTURE BM 067-43-04)
1/2" = 1'-0"

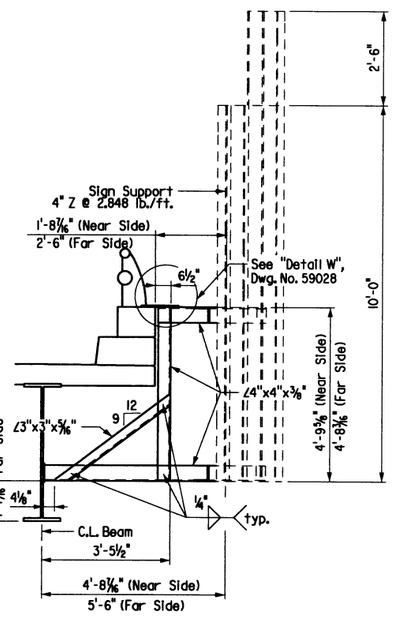


ELEVATION OF SIGN STRUCTURE BM 067-43-04
1/2" = 1'-0"



PLAN OF LOWER BRACING
(SIGN STRUCTURE BM 067-43-04)
1/2" = 1'-0"

NOTE: For "View C-C", see Dwg. No. 59028.



VIEW A-A
1/2" = 1'-0"

SHEET 1 OF 2
DETAILS OF BRIDGE
MOUNTED SIGN STRUCTURES

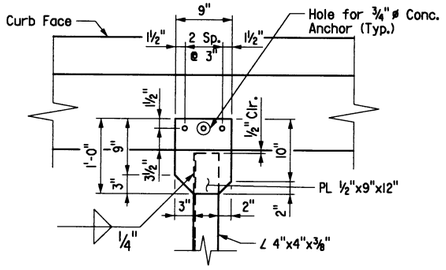
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BEARDEN 6/24/16
BRIDGE ENGINEER

ROUTE 67 SEC. 10 & 11
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: CDB DATE: 6-16
CHECKED BY: LWM DATE: 7-16
DESIGNED BY: CDB DATE: 6-16
FILENAME: sCA0605_SSI.dgn
SCALE: As Shown

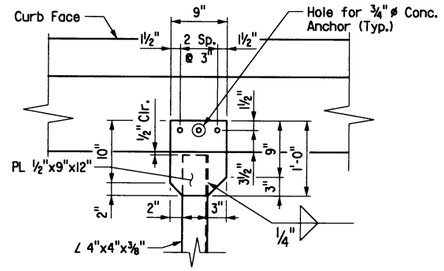
STR. NO. BM 067-43-04 DRAWING NO. 59027

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.		CA0605	274	434
				(1) BM 067-43-04		SIGN STRUCTURE		59028



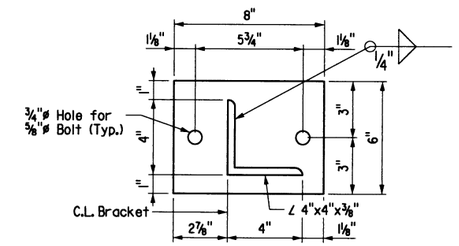
DETAIL X

1" = 1'-0"



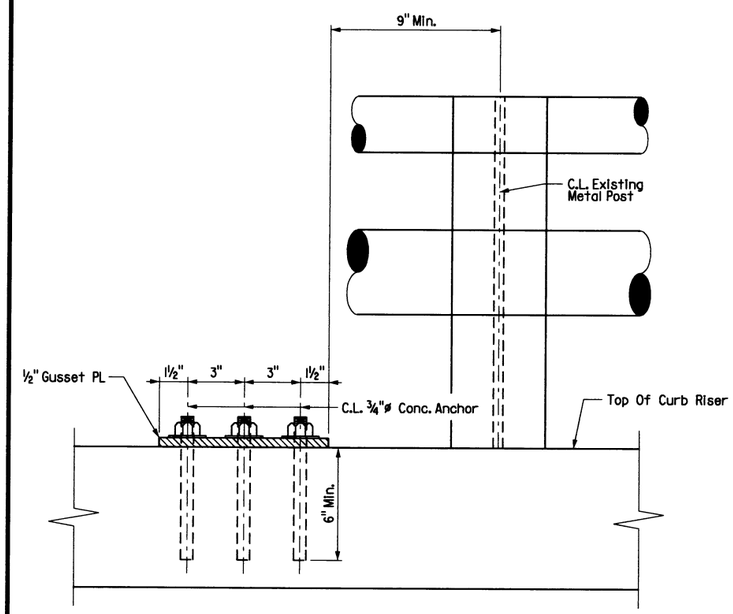
DETAIL Y

1" = 1'-0"



VIEW C-C

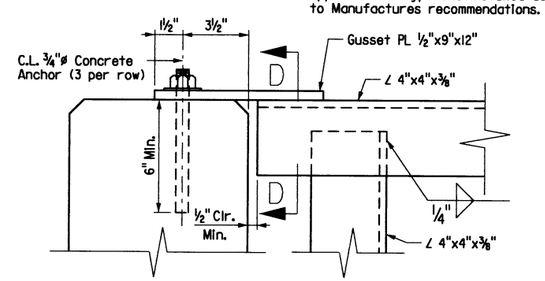
No Scale



VIEW D-D

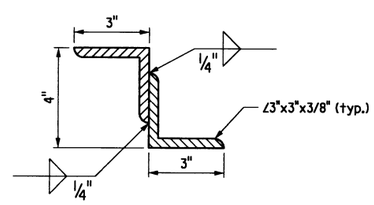
No Scale

Note: The concrete anchors shall be an approved QPL type and installed according to Manufactures recommendations.



DETAIL W

No Scale



Note: Structural Z sign Support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SIGN SUPPORT

No Scale

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS:

Arkansas State Highway and Transportation Department Standard Specifications for Highway Construction, 2014 edition, with applicable supplemental specifications and special provisions. Section and Subsection refer to the Standard Construction Specifications unless otherwise noted in the plans.

DESIGN SPECIFICATIONS:

Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, AASHTO 2009 (Sixth Edition).

Basic Wind Speed = 90 m.p.h.

Structural steel sign support members shall comply with the following specifications:

Angles:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Plate:_____AASHTO M270, Gr. 50 (Fy = 50,000 psi).
Z-Shapes:_____AASHTO M270, Gr. 36 (Fy = 36,000 psi).
Bolts:_____AASHTO M164, Type 1.
Locknuts - Approved Type:_____Meeting or exceeding AASHTO M292
Washers:_____AASHTO M293
Nuts:_____AASHTO M291 or M292, Gr. 2H or Gr. DH (Gr. 10S)

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized.

Drawings show general features of design only. Shop drawings shall be made in accordance with section 807.04, submitted, and approval secured before fabrication is begun.

Requests for substitution of structural steel shapes shown with shapes of greater size must be submitted by the Contractor to the Engineer for approval. Steels of equal or greater strengths will be accepted only when shown on the approved shop drawings. Shapes and materials shown in the plans will be the basis of payment and no additional compensation will be made for any adjustments due to substitutions.

Connections shall be bolted with high-strength bolts. Unless noted otherwise, bolts shall be ⅝" diameter and open holes shall be 11/16". Bolt spacing shall be 2¼" for ⅝" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

All welding that is to be done during fabrication of structural steel, including temporary welds, shall be detailed on the shop drawings and submitted for approval. If additional welds are required, whether temporary or permanent, a formal request with detailed drawings shall be submitted to the Engineer for approval. All welding shall conform to subsection 807.26.

All frame bolts shall comply with AASHTO M164 Type 1, galvanized according to Subsection 807.06. Nuts and washers for AASHTO M164 Type 1 bolts shall be furnished and galvanized in accordance with subsection 807.06.

All main load carrying tension members greater than ½" in thickness shall conform to requirements of the Longitudinal Charpy V-notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job CA0605 "STEEL SIGN STRUCTURES".

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with section 807.88.

The Contractor shall make check measurements in the field and make any adjustments necessary to avoid any diaphrams, splice plates, joints in curb riser, and rail posts on the bridge. This may include shifting the sign structures with approval from the Engineer.

SHEET 2 OF 2
DETAILS OF BRIDGE
MOUNTED SIGN STRUCTURES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13570 CARTER D. BENNETT 8/24/16

BRIDGE ENGINEER

ROUTE 67 SEC. 10 & 11

ARKANSAS STATE HIGHWAY COMMISSION

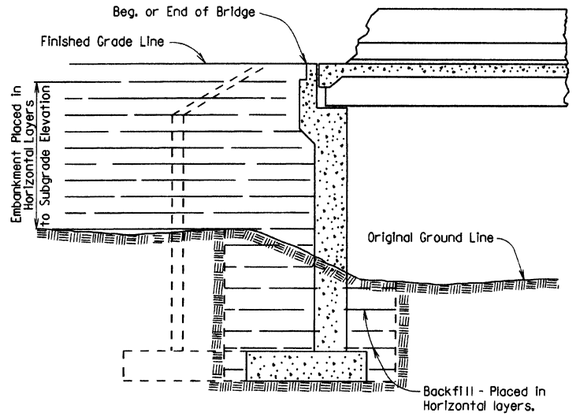
LITTLE ROCK, ARK.

DRAWN BY: CDB DATE: 6-16 FILENAME: sCA0605_SS2.dgn
CHECKED BY: LWM DATE: 7-16 SCALE: AS SHOWN
DESIGNED BY: CDB DATE: 6-16

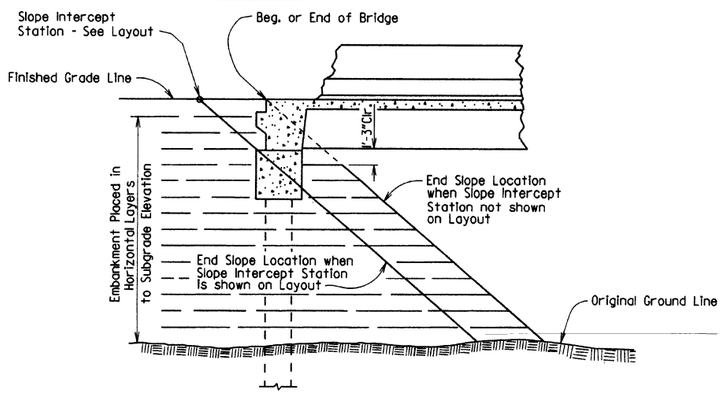
STR. NO. BM 067-43-04 DRAWING NO. 59028

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		275	
				JOB NO.				

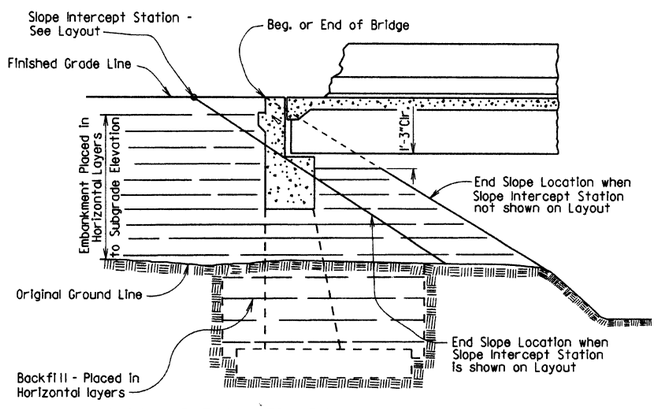
1 EMBANKMENT & BACKFILL 55000



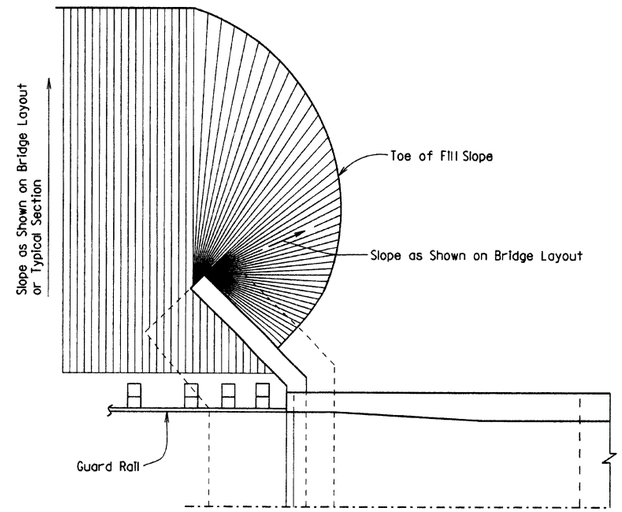
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT VERTICAL WALL ABUTMENTS



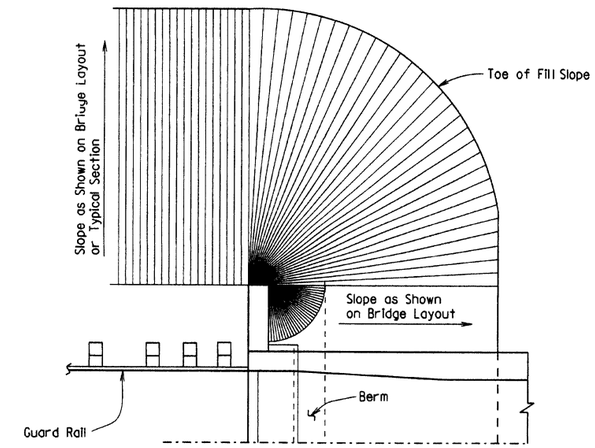
EMBANKMENT CONSTRUCTION AT SPILL-THROUGH PILE END BENTS



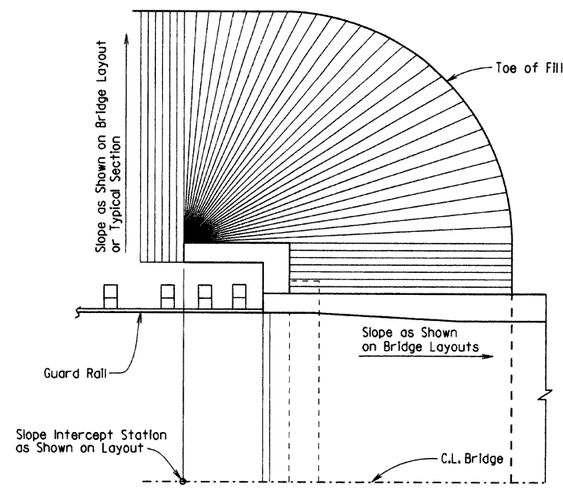
EMBANKMENT CONSTRUCTION AND FOOTING BACKFILL AT SPILL-THROUGH END BENTS



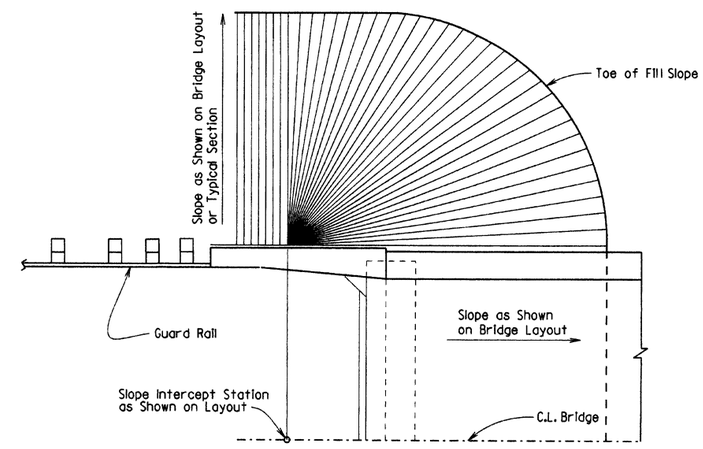
VERTICAL WALL ABUTMENTS



SPILL-THROUGH END BENTS WITH STUB WING



SPILL-THROUGH END BENTS WITH TURNBACK WING



SPILL-THROUGH END BENTS WITH TRANSITION WING

METHOD OF DETERMINING FILL SLOPE LOCATION AT BRIDGE ENDS

GENERAL NOTES

The Bridge End Embankment shall be defined as a section of embankment, not less than 20 feet long adjacent to the bridge end, together with the side slopes and slopes under the bridge end including around the end of wingwalls. Embankment adjacent to structures shall be constructed in 6 inch horizontal layers (loose measure) and compacted by the use of mechanical equipment to the satisfaction of the Engineer. Refer to Subsections 210.09, 210.10 and 801.08 for construction requirements.

STANDARD DETAILS FOR EMBANKMENT CONSTRUCTION AND BACKFILL AT BRIDGE ENDS

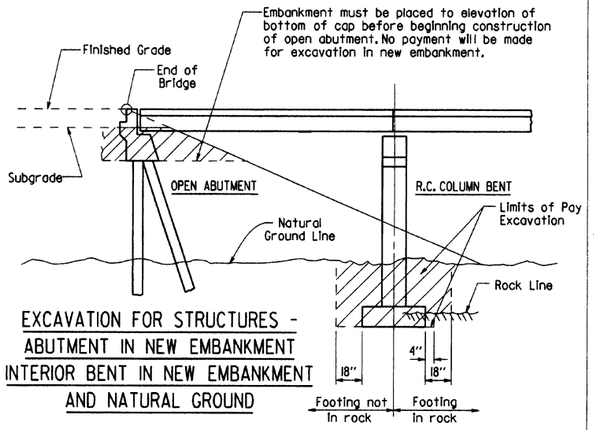
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

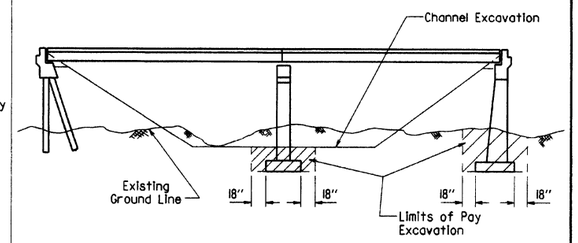
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55000.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: -

DRAWING NO. 55000

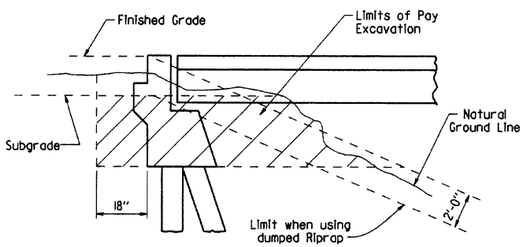
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		276	
				JOB NO.				
				1	RIPRAP & EXCAV. 55001			



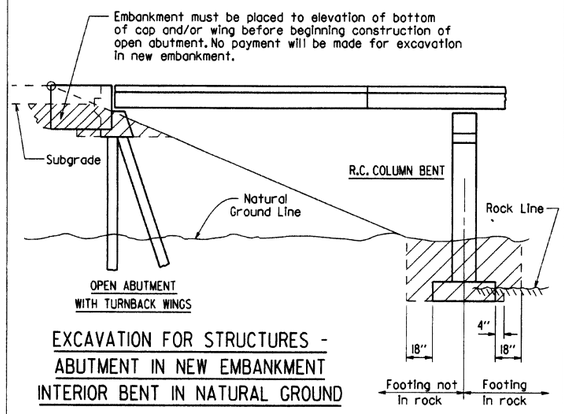
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NEW EMBANKMENT AND NATURAL GROUND



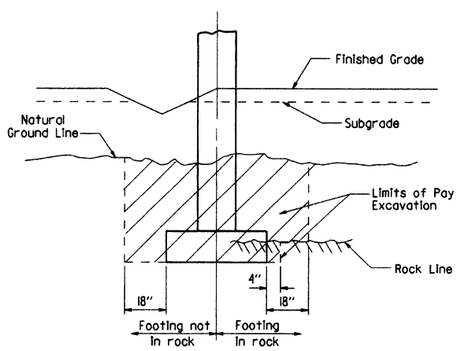
EXCAVATION FOR STRUCTURES - BRIDGE LOCATION WITH DESIGNATED CHANNEL CHANGE



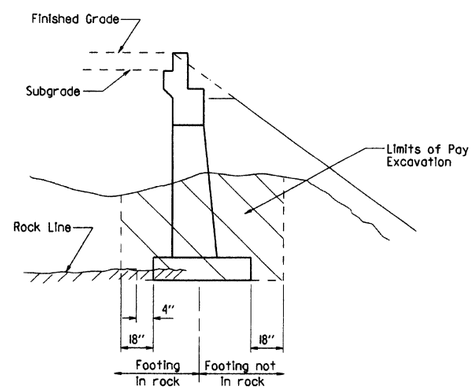
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND



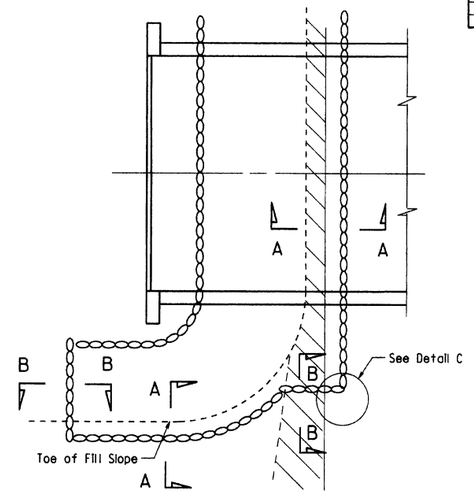
EXCAVATION FOR STRUCTURES - ABUTMENT IN NEW EMBANKMENT INTERIOR BENT IN NATURAL GROUND



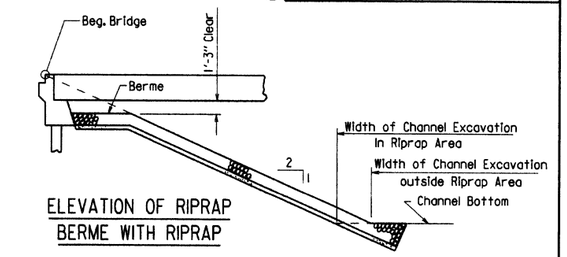
EXCAVATION FOR STRUCTURES - BENT IN ROADWAY FILL SECTION AND NATURAL GROUND



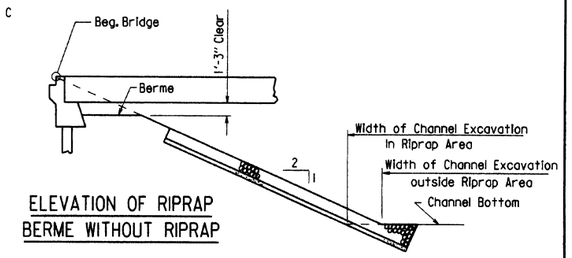
EXCAVATION FOR STRUCTURES - ABUTMENT IN NATURAL GROUND AND NEW EMBANKMENT



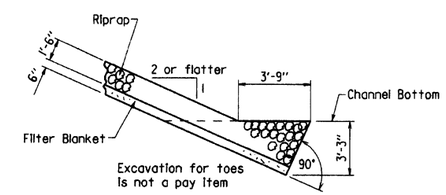
PLAN OF DUMPED RIPRAP



ELEVATION OF RIPRAP BERME WITH RIPRAP

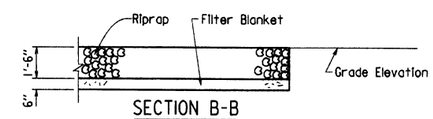


ELEVATION OF RIPRAP BERME WITHOUT RIPRAP

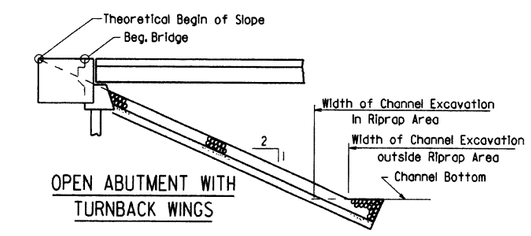


SECTION A-A

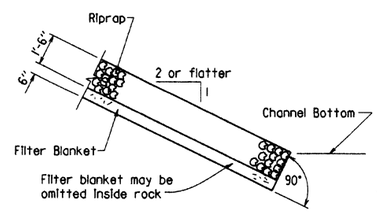
(Toe Excavation in Soil)



SECTION B-B



OPEN ABUTMENT WITH TURNBACK WINGS



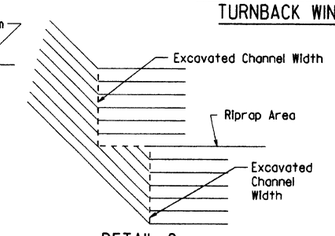
SECTION A-A

(Toe Excavation in Rock)

Note : Use this type of toe when rock is encountered which is in a stable condition.

Note : In lieu of an aggregate filter blanket, a synthetic fiber geotextile fabric complying with the requirements of Subsection 816.02(e) may be used.

Note : Details for computing excavation for structures are included for information as to how plan quantities were calculated and for use when adjusting quantities when changing footing elevation.



DETAIL C

STANDARD DETAILS FOR DUMPED RIPRAP AND FILTER BLANKET AND COMPUTING EXCAVATION FOR STRUCTURES

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

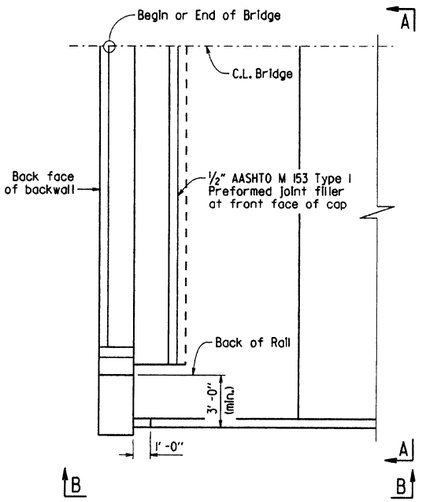
DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55001.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE:

DRAWING NO. 55001

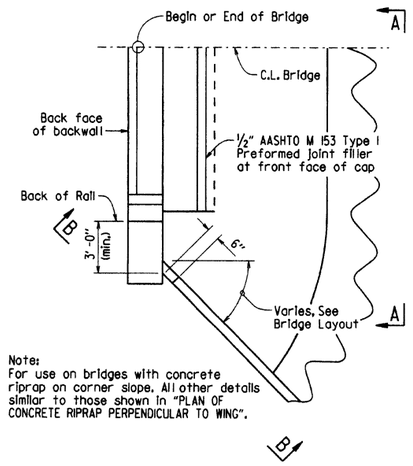
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.		274	
				JOB NO.				

① CONCRETE RIPRAP 55002

Note:
Sloped surfaces of concrete riprap to be marked off into blocks (construction joints optional) with an approved grooving tool, spacing the grooved lines about 5' apart.



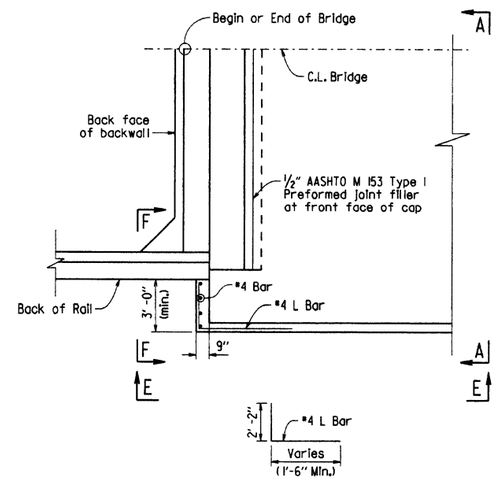
PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING
1/4" = 1'-0"



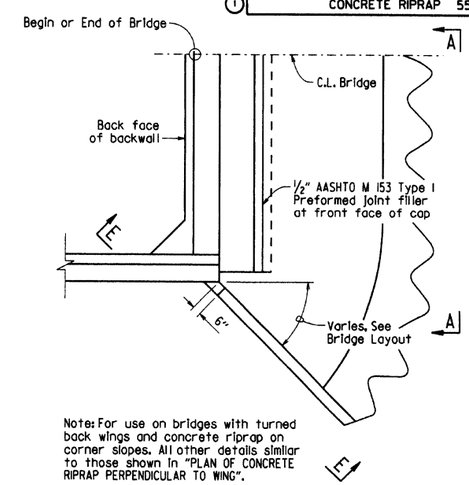
Note:
For use on bridges with concrete riprap on corner slope. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

PLAN OF CONCRETE RIPRAP AT ANGLE TO WING
1/4" = 1'-0"

Note:
For use on bridges with turned back wings. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".



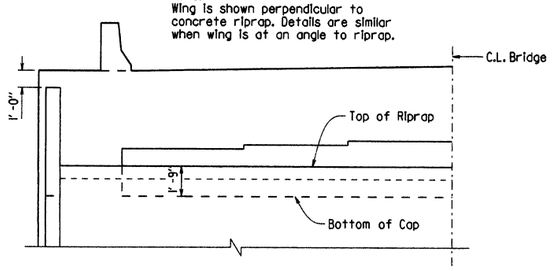
PLAN OF CONCRETE RIPRAP PERPENDICULAR TO TURNED BACK WING
1/4" = 1'-0"



Note: For use on bridges with turned back wings and concrete riprap on corner slopes. All other details similar to those shown in "PLAN OF CONCRETE RIPRAP PERPENDICULAR TO WING".

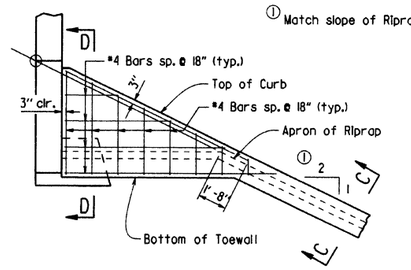
PLAN OF CONCRETE RIPRAP AT ANGLE FROM TURNED BACK WING
1/4" = 1'-0"

Note:
Wing is shown perpendicular to concrete riprap. Details are similar when wing is at an angle to riprap.

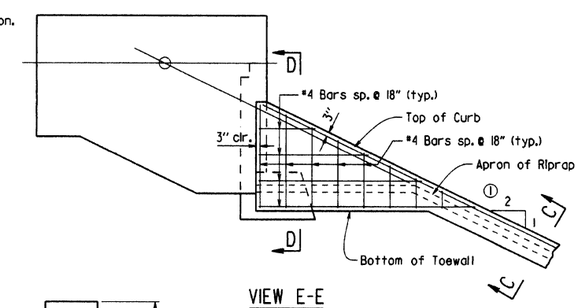


VIEW A-A
1/4" = 1'-0"

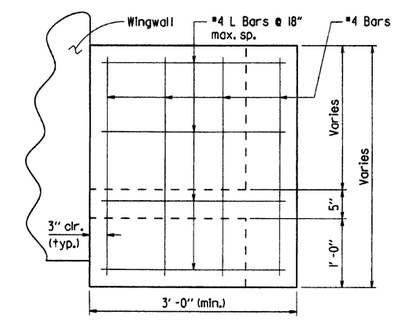
① Match slope of Riprap Apron.



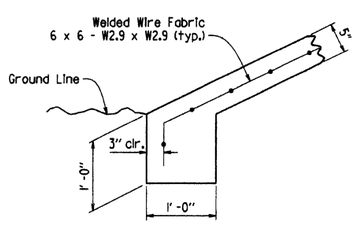
VIEW B-B
1/4" = 1'-0"



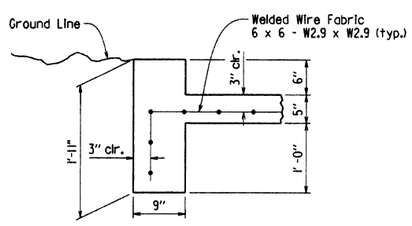
VIEW E-E
1/4" = 1'-0"



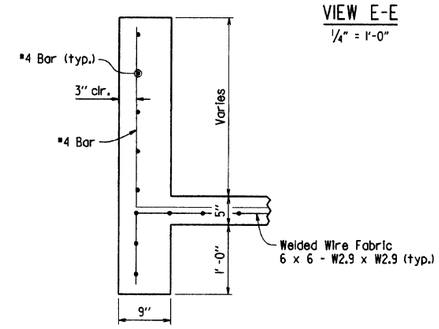
VIEW F-F
1" = 1'-0"



TOE OF CONCRETE RIPRAP
1" = 1'-0"



SECTION C-C
1" = 1'-0"



SECTION D-D
1" = 1'-0"

GENERAL NOTES

All concrete shall be Class A with a minimum compressive strength, f'c = 2,100 psi.

Welded wire fabric shall conform to AASHTO M55 or M221.

STANDARD DETAILS FOR CONCRETE RIPRAP

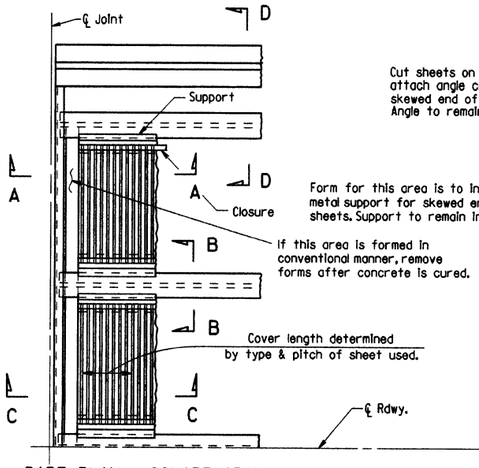
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	ACP	DATE:	2/27/2014	FILENAME:	b55002.dgn
CHECKED BY:	BEF	DATE:	2/27/2014	SCALE:	AS SHOWN
DESIGNED BY:	Std.	DATE:	---		

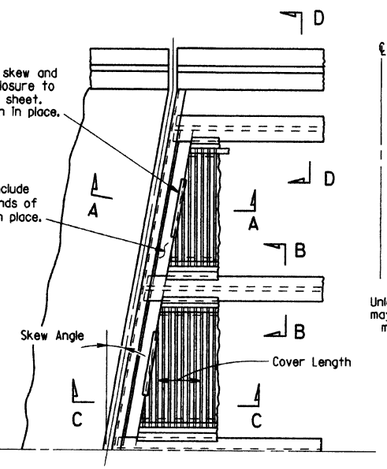
DRAWING NO. 55002

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
3/24/16				6	ARK.		278	
				JOB NO.				
				① BRIDGE DECK FORMS			55005	



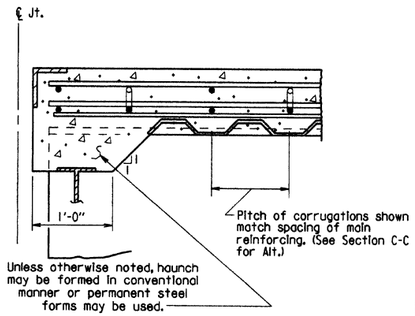
PART PLAN - SQUARE SPAN

3/8" = 1'-0"



PART PLAN - SKEWED SPAN

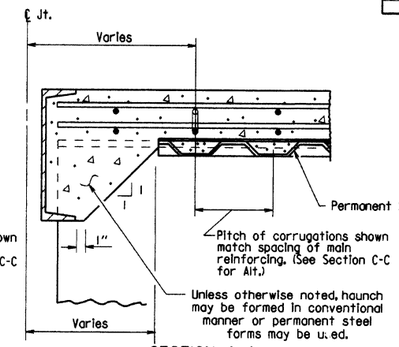
3/8" = 1'-0"



SECTION A-A

N.T.S.

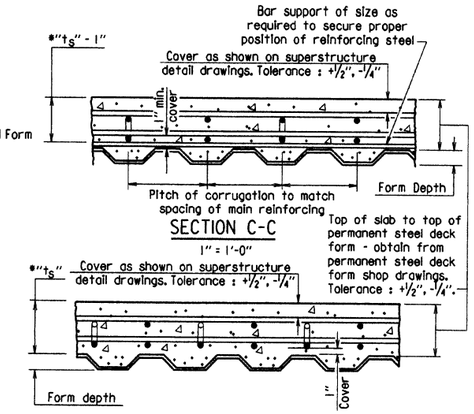
(Angle at end of span)



SECTION A-A

N.T.S.

(Channel at end of span)



SECTION C-C

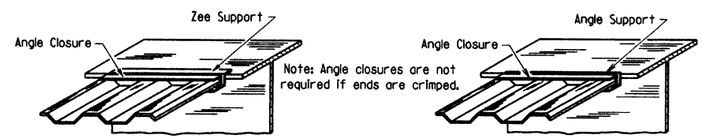
1" = 1'-0"

SECTION C-C - ALTERNATE

1" = 1'-0"

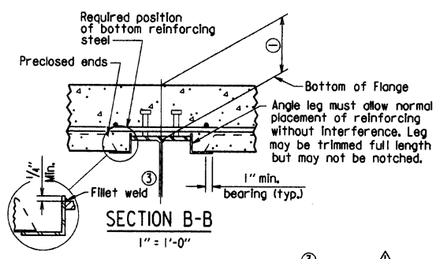
(Applicable when corrugations do not match spacing of main reinforcement)

*t_s = slab thickness as shown on superstructure detail drawings.



SKETCH OF PERMISSIBLE SUPPORTS

N.T.S.

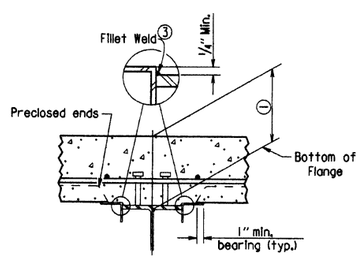


SECTION B-B

1" = 1'-0"

(Showing permissible support for tension flange where shear connectors are used, and for all compression flanges)

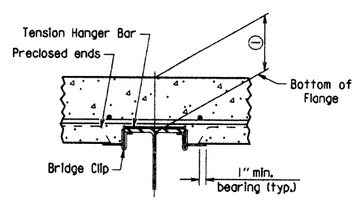
③ Minimum welds 1/8" x 1" @ 18". More weld may be required; maximum length per weld = 1 1/2" (typ.)



SECTION B-B

1" = 1'-0"

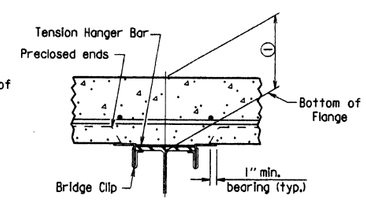
(Showing permissible support for tension flange where shear connectors are used and for all compression flanges)



SECTION B-B

1" = 1'-0"

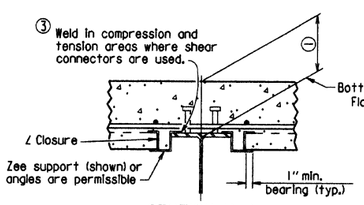
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

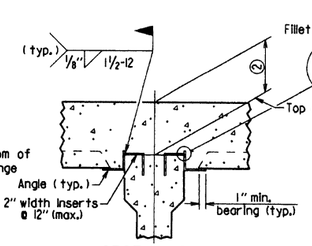
(Showing permissible support for tension flange where shear connectors are not used)



SECTION B-B

1" = 1'-0"

(Showing ∠ Closure)

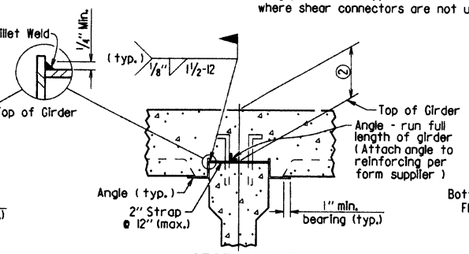


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by insert cast in girder)

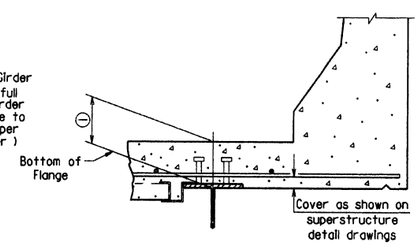


SECTION B-B

(FOR CONCRETE GIRDERS)

1" = 1'-0"

(Showing support by Strap)



SECTION D-D

1" = 1'-0"

Note: Only Bottom Reinforcing is shown.

① Distance from top of slab to bottom of top flange as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top flange or the support angle leg contacts the bottom reinforcing steel; Maximum = t_s + 1 3/4" + flange thickness. See Section C-C for slab thickness tolerance between adjacent girder flanges.

② Distance from top of slab to top of girder as measured at centerline girder and as shown on superstructure detail drawings. This dimension may vary within the following limits to maintain the grade and slab thickness tolerances : Minimum - occurs when either the top of girder or the support angle leg contacts the bottom reinforcing steel; Maximum - value shown on the superstructure detail drawings when removable forms are used. See Section C-C for slab thickness tolerance between adjacent girder flanges.

⚠ Revised weld dimension by KWY, Ck'd. by BEF, 3/24/16.

GENERAL NOTES

Permanent steel deck forms may be used at the Contractor's option and shall be at no additional cost to the Department. Such use may result in changes to the dead load deflection of the girder. Any cost for adjustments due to a change in the dead load deflection will be borne by the Contractor. Payment for deck concrete and structural steel will not be increased due to use of permanent steel deck forms.

Permanent steel deck forms shall conform to Subsection 802.14(b). Detailed plans, including detailed calculations and manufacturer's technical brochure, shall be submitted to and approved by the Engineer before work of forming the bridge deck is started.

Welding of form supports to the tension flange of steel girders will be permitted only in areas where shear connectors are used. When welding is not allowed, the method of fastening Z or ∠ supports to the flange must be approved by the Engineer.

Form sheets shall be fastened to supporting members and to each other with galvanized metal screws sufficient in size and number to provide a secure attachment. Alternate methods of attachment must be approved by the Engineer.

When the pitch of form corrugations match the reinforcing spacing, transversely align form sheets across the bridge to maintain the correct orientation of continuous reinforcing bars in the corrugations.

Bar support rods, when used, shall be sized and spaced to adequately support the bottom reinforcing mat at the required position.

High chairs shall be sized to support the top mat of reinforcing at the proper position. High chairs shall be placed at locations shown on the detail drawings.

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

STANDARD DETAILS FOR PERMANENT STEEL BRIDGE DECK FORMS FOR STEEL & CONCRETE GIRDER SPANS

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KDH	DATE: 2-27-2014	FILENAME: b55005.dgn	
CHECKED BY: BEF	DATE: 2-27-2014	SCALE: NONE	
DESIGNED BY: STD.	DATE: —		

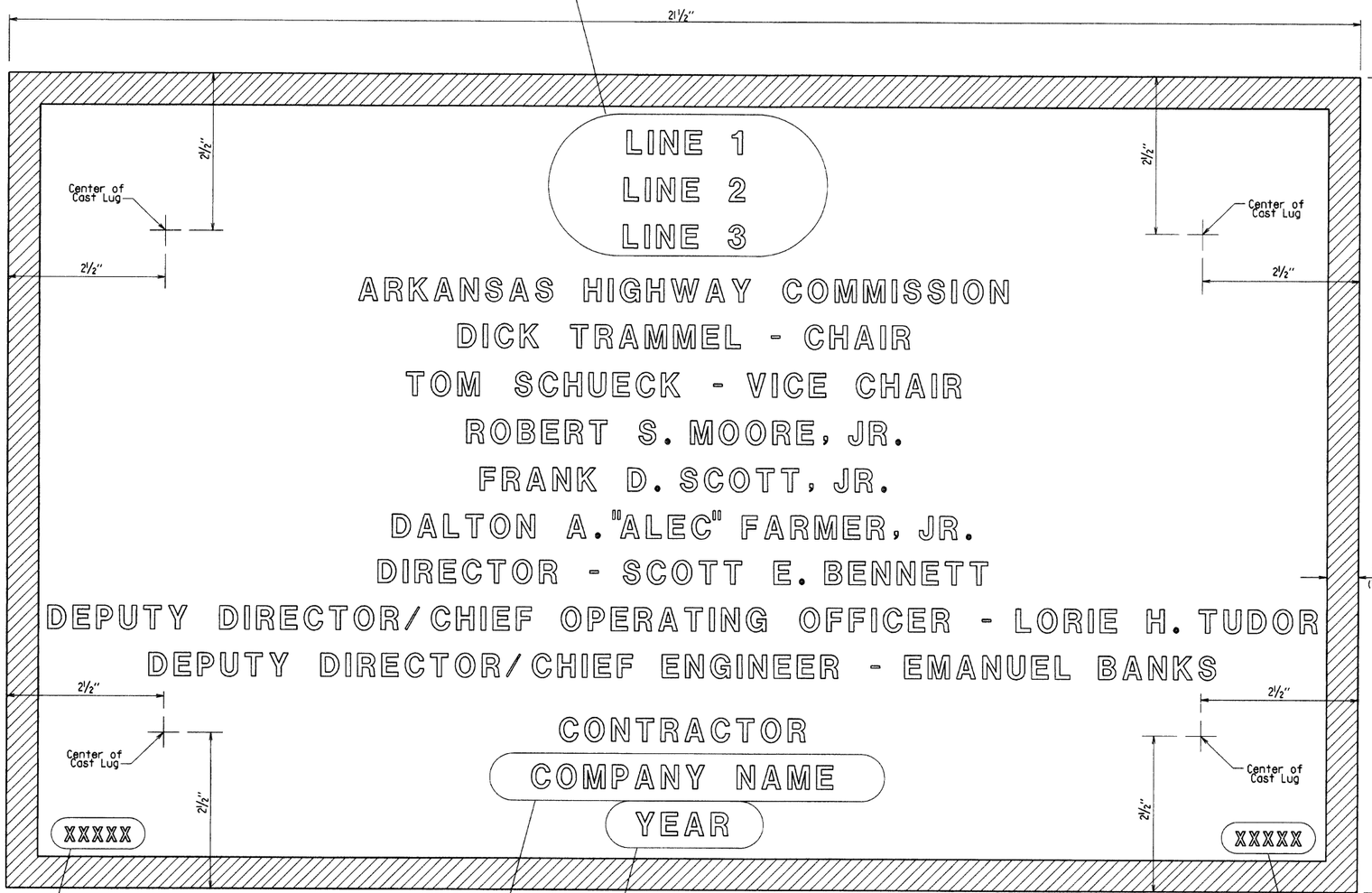
DRAWING NO. 55005

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
12-1-14				6	ARK.		279	
1-14-15				JOB NO.				

1 TYPE D NAME PLATE 55010

The name of the bridge as shown on the plans shall be placed on Lines 1 - 3 using 1/8" raised letters and numerals 3/8" high.

	Example 1	Example 2	Example 3	Example 4
Line 1	Red River	Southern	Saline	
Line 2	Relief	Railroad	River	Highway 5
Line 3		Overpass	Relief	



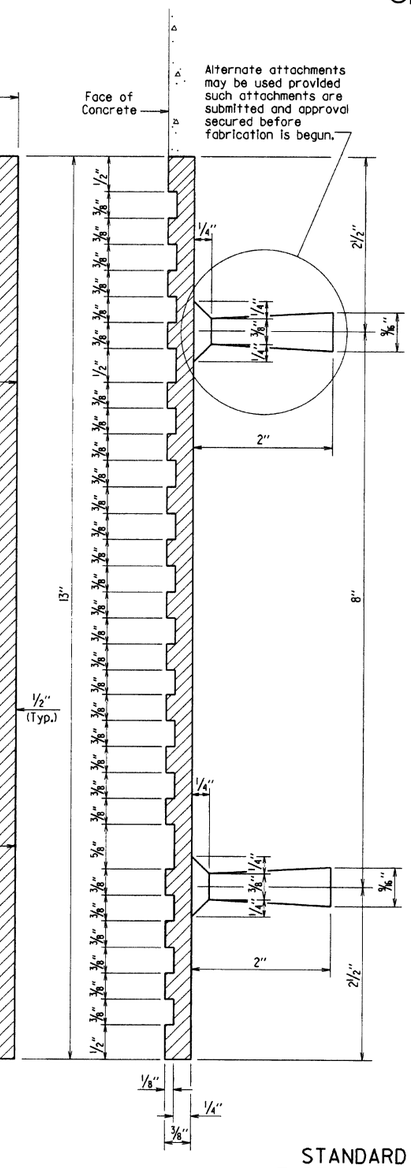
Place the design live loading here using 1/8" raised letters and numerals 1/4" high. Examples : HS 20
HL-93

Place the Year in which Contract was awarded here using 1/8" raised numerals 3/8" high. Example : 2001

Place the name of the company awarded the construction contract here using 1/8" raised letters and numerals 3/8" high. Example : ABCD CONSTRUCTION, INC.

Place the Bridge number here using 1/8" raised letters and numerals 1/4" high. Examples : A1234
05432

TYPICAL BRIDGE NAME PLATE



GENERAL NOTES

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

Name plates shall be cast bronze and shall meet the material requirements as specified in Section 812.

Body of plate shall be 1/4" thick and shall include four tapering cone lugs 3/8" to 9/16" x 2" long. The border and all lettering shall be raised 1/8" above the face of plate and shall be polished.

All lettering shall be plain gothic, square cut and not tapered.

The number of plates required and the location and name on the plate for each bridge shall be as designated on the plans.

2 Revised Chair and Vice Chair
Added New Commissioner

1-14-15 KDH Checked By: CRE

1 Revised Deputy Director/
Chief Engineer
Added Deputy Director/
Chief Operating Officer

12-1-14 KDH Checked By: CRE

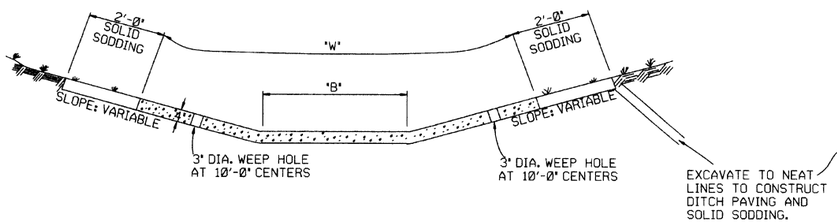
STANDARD DETAILS FOR
TYPE D BRIDGE NAME PLATE

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: KDH DATE: 2-27-2014 FILENAME: b55010.dgn
CHECKED BY: BEF DATE: 2-27-2014 SCALE: NO SCALE
DESIGNED BY: STD. DATE: —

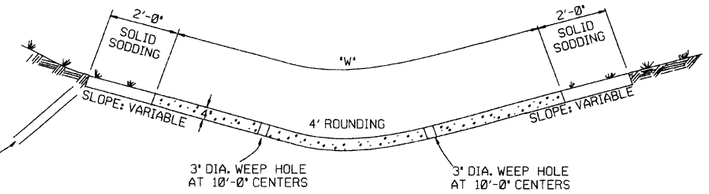
DRAWING NO. 55010

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



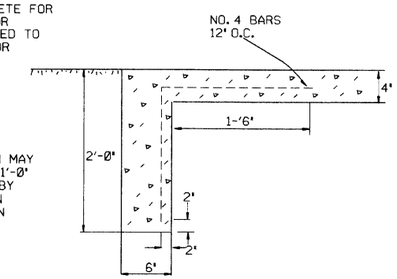
TYPE A

REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



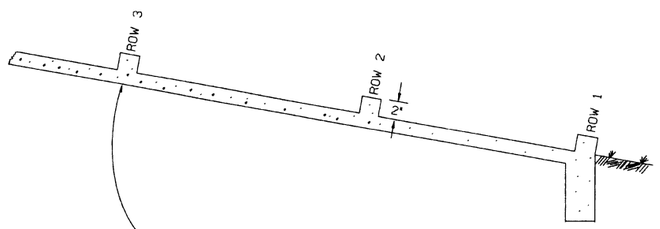
TYPE B

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.'



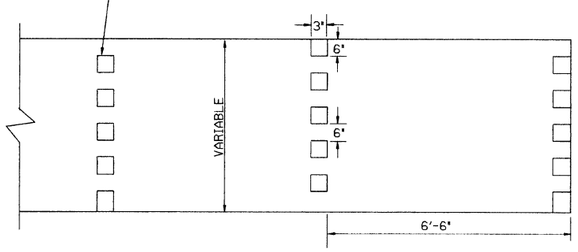
TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

TOE WALL DETAIL FOR CONCRETE DITCH PAVING



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 UNCLUDED IN THE PRICE BID FOR CONCRETE DITCH PAVING.



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

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

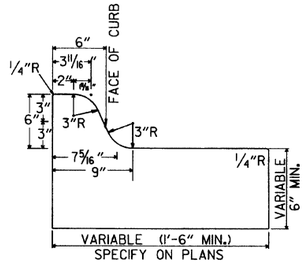
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

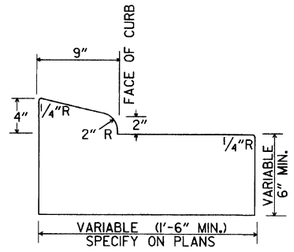
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

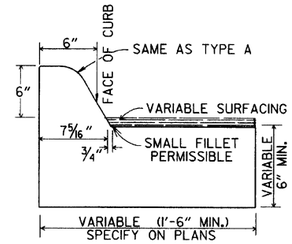
STANDARD DRAWING CDP-1



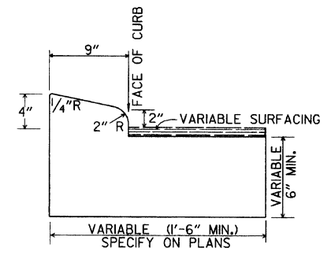
TYPE A



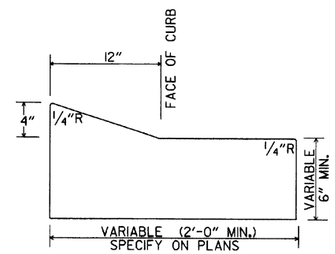
TYPE B-1



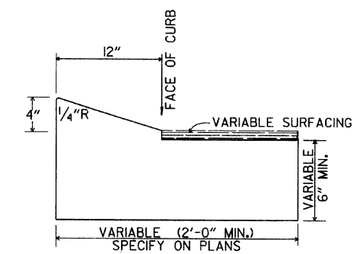
TYPE C



TYPE B-2

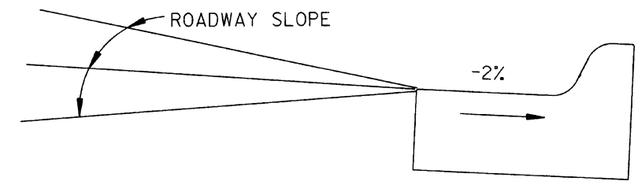


TYPE E-1



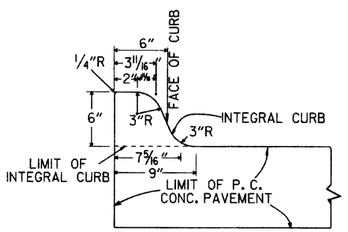
TYPE E-2

CONCRETE COMBINATION CURB AND GUTTER

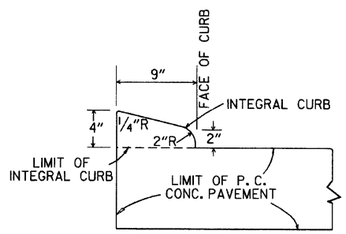


DETAIL OF GUTTER SLOPE

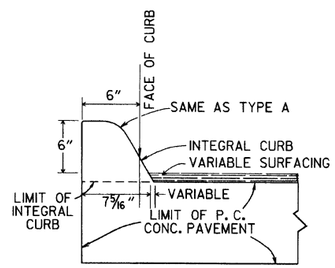
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

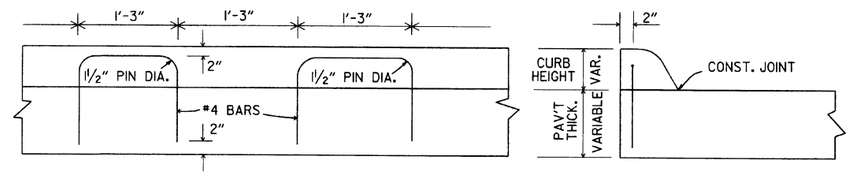


TYPE B



TYPE C

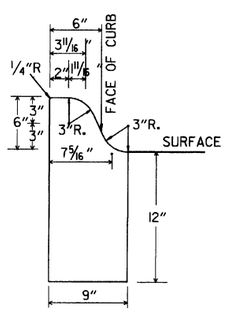
INTEGRAL CURB



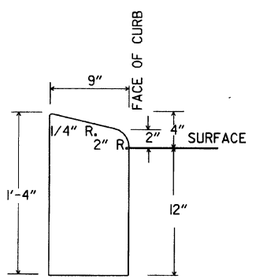
LONGITUDINAL SECTION

ELEVATION

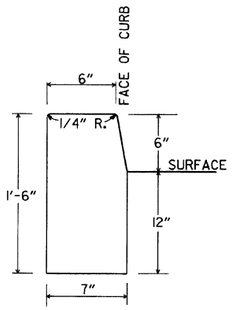
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



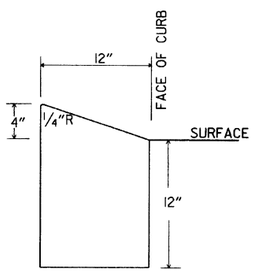
TYPE A



TYPE B

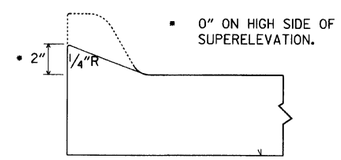


TYPE D



TYPE E

CONCRETE CURB



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

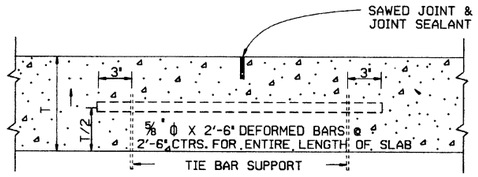
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIBLE DEPTH TYPE A & B 1	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
11-1-73	REVISED MODIFIED CURB	500-11-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

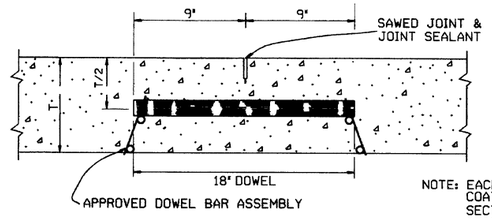
CURBING DETAILS

STANDARD DRAWING CG-1



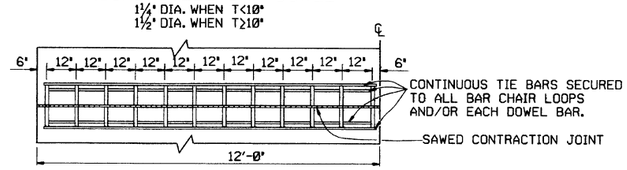
LONGITUDINAL JOINT

NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.
TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.



NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.

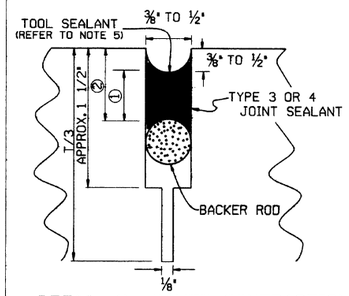
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



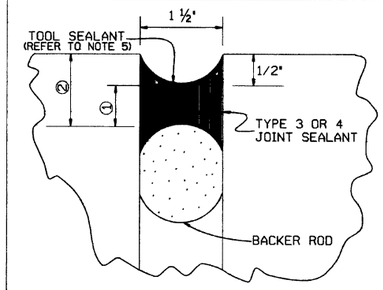
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

NOTE: FOR 20' PAVEMENT USE 20 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 15' PAVEMENT USE 15 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR 26' PAVEMENT USE 26 DOWELS @ 12" CTRS. WITH 6" SPACING FROM C.L. AND EDGE OF SLAB TO FIRST BAR.
FOR PAVEMENT WIDTHS OTHER THAN THOSE SHOWN ABOVE, USE DOWELS AT 12" CTRS. WITH 6" MAX. SPACING FROM C.L. TO FIRST BAR. DISTANCE FROM EDGE OF SLAB TO FIRST BAR SHALL BE ADJUSTED TO MAINTAIN 12" DOWEL BAR SPACING

CONTRACTION JOINT DETAILS



DETAIL OF SAWED CONTRACTION JOINT



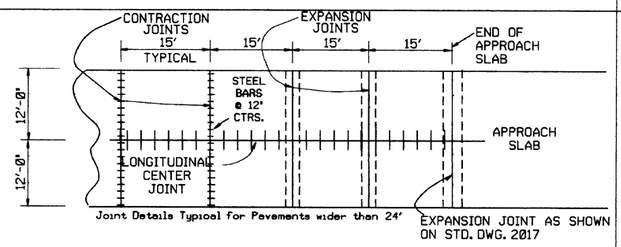
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

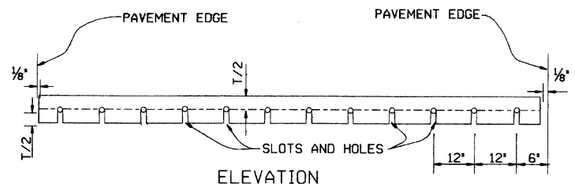
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	⅝	½
⅝	3/16	¾	9/16
¾	⅜	⅞	⅝
1 ½	¾	2	1 ¼

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

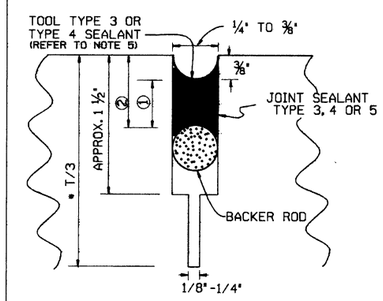


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



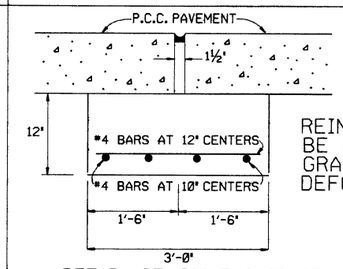
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



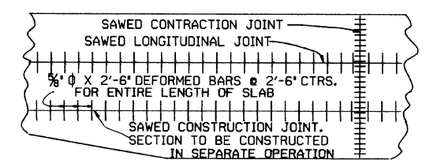
*NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

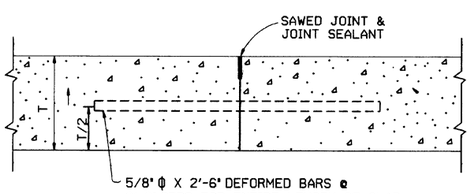
DETAIL OF SAWED LONGITUDINAL JOINT AND LONGITUDINAL CONSTRUCTION JOINT



REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

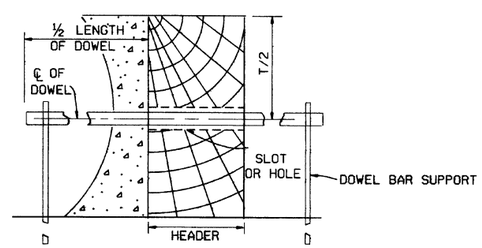
DETAIL OF JOINT SUPPORT FOR EXPANSION JOINTS





NOTE: TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT



SECTION

TRANSVERSE CONSTRUCTION JOINT

DATE	REVISION	DATE FILMED
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11- 3-94	ADDED NOTE RE: REINF. BARS	
4- 1-93	REVISED DOWEL BARS & GEN. NOTES	4- 1-93
10- 1-92	REVISED DOWEL SPACING	10- 1-92
8- 15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88

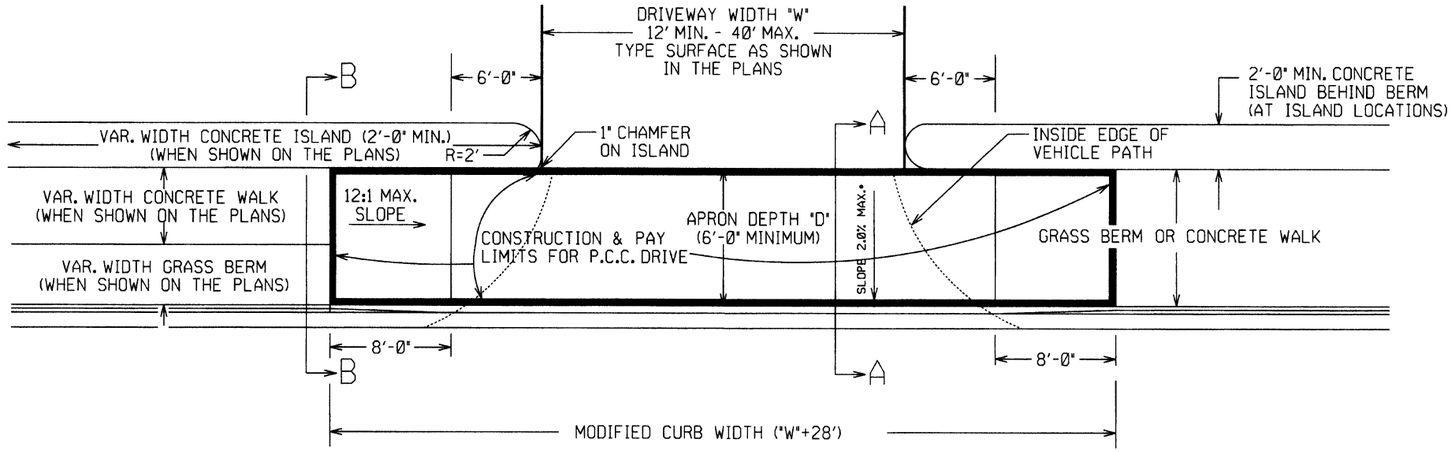
GENERAL NOTES

1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED FOR A MINIMUM DISTANCE OF 2" GREATER THAN HALF THE LENGTH OF THE BAR WITH AN APPROVED GREASE AS A BOND BREAKER JUST PRIOR TO PLACEMENT OF CONCRETE.
3. THE EXPANSION JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S" OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE SPECIFIED IN THE PLANS. PAYMENT FOR ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.
4. CONTRACTION JOINTS SHALL BE CONSTRUCTED ON 15' CENTERS.
5. TOOLING NOT REQUIRED FOR SELF-LEVELING SILICONE.
6. UNLESS OTHERWISE SPECIFIED IN THE PLANS, CONCRETE SHOULDERS SHALL BE CONSTRUCTED ACCORDING TO THE DETAILS SHOWN HEREON. CONTRACTION JOINTS SHALL MATCH CONTRACTION JOINTS IN THE LANES.
7. TIE WIRES IN DOWEL BAR ASSEMBLIES SHALL NOT BE CUT PRIOR TO PLACEMENT OF PAVING CONCRETE.

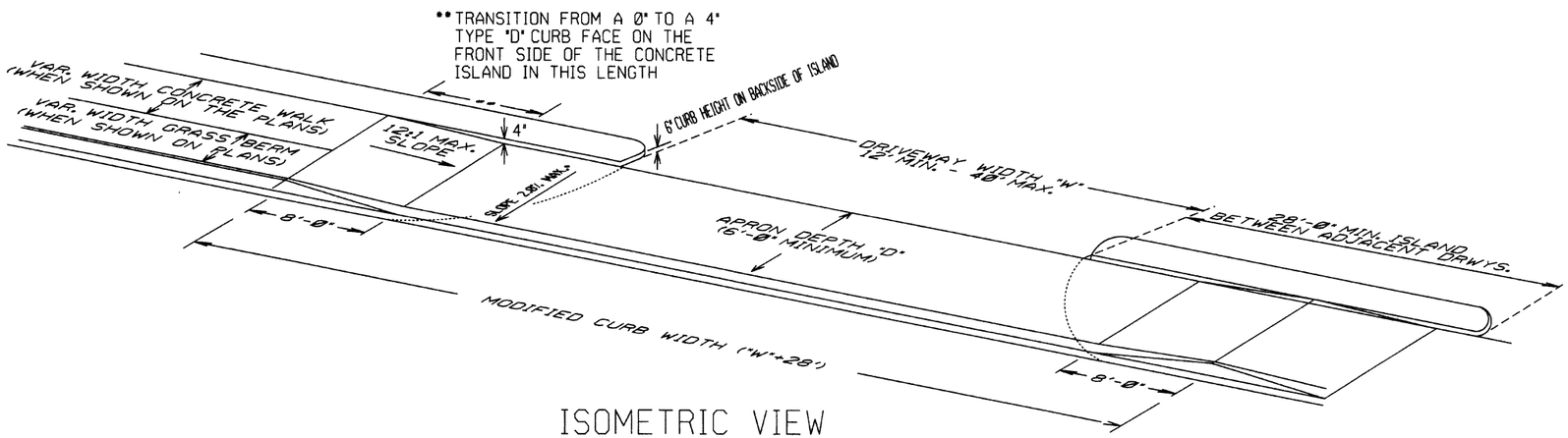
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)

STANDARD DRAWING CPTJ - 6A

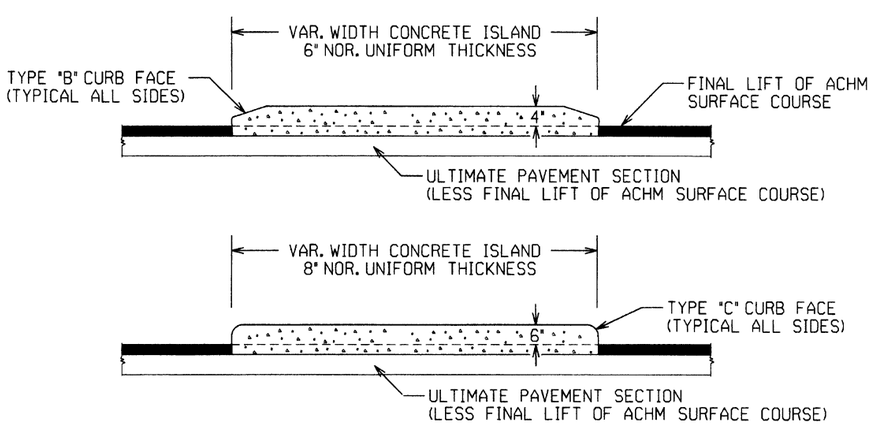


PLAN VIEW

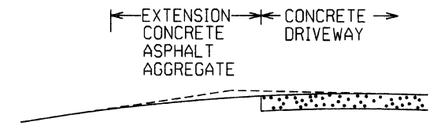


ISOMETRIC VIEW

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



CURBED ISLANDS FOR CHANNELIZATION



EXTENSION TYPICAL SECTIONS

1: CONCRETE - 6" P.C. CONCRETE DRIVEWAY

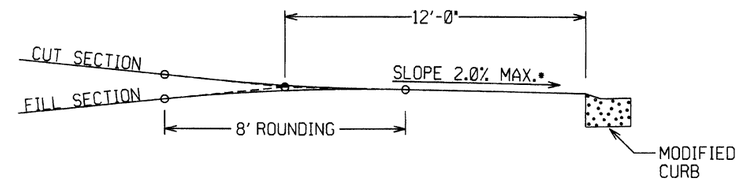
2: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
4" ACHM BINDER COURSE.(1") OR
4" ACHM BASE COURSE (1-1/2")

3: ASPHALT - 2" ACHM SURFACE COURSE (1/2")
7" AGGREGATE BASE COURSE

4: AGGREGATE - 6" AGGREGATE BASE COURSE

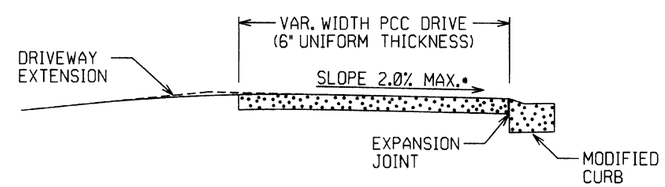
THE TYPE OF EXTENSION SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR MAY, WITH THE APPROVAL OF THE ENGINEER, SUBSTITUTE A LOWER NUMBERED TYPE OF EXTENSION IN LIEU OF THE TYPE SPECIFIED IN THE PLANS, BUT AT NO ADDITIONAL COST TO THE DEPARTMENT.

DRIVEWAY EXTENSION DETAILS

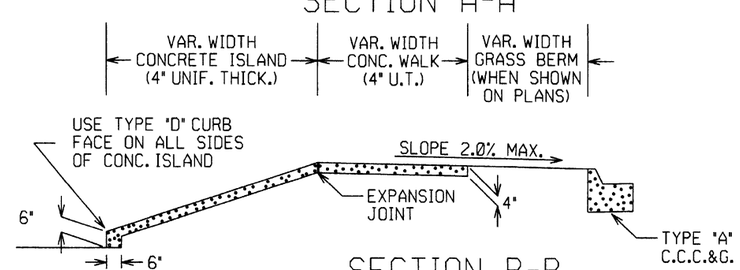


DRIVEWAY VERTICAL ALIGNMENT DETAILS

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



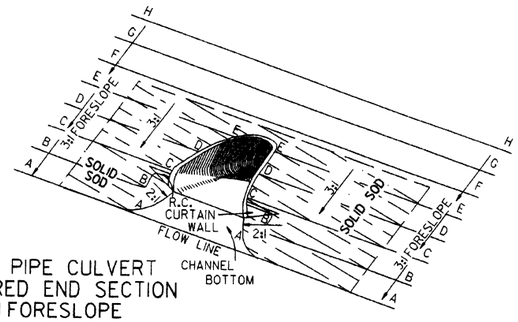
SECTION A-A



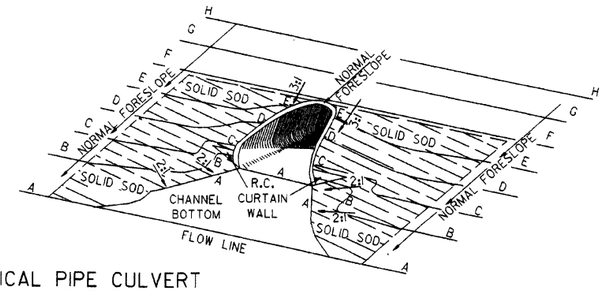
SECTION B-B
CURBED ISLAND BEHIND WALK

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

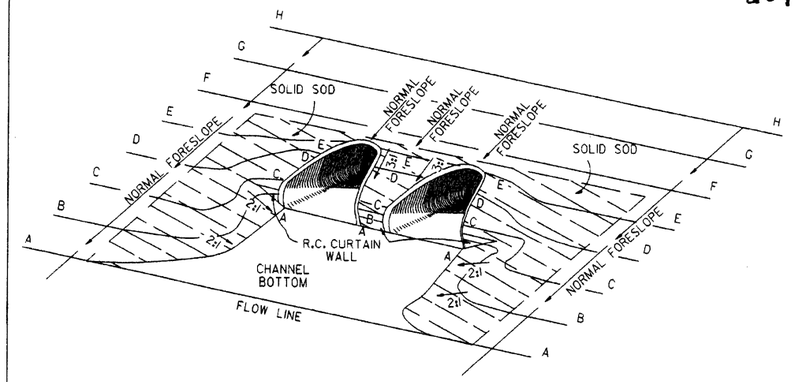
ARKANSAS STATE HIGHWAY COMMISSION
DETAILS OF DRIVEWAYS & ISLANDS
STANDARD DRAWING DR-1



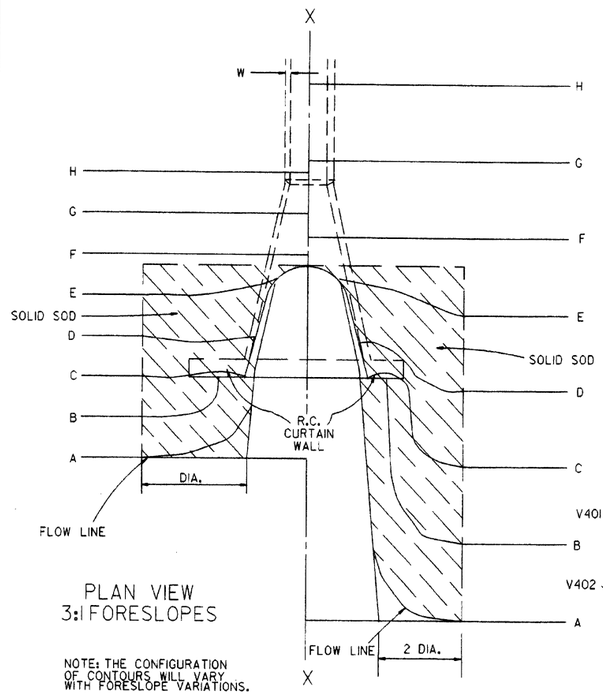
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

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

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

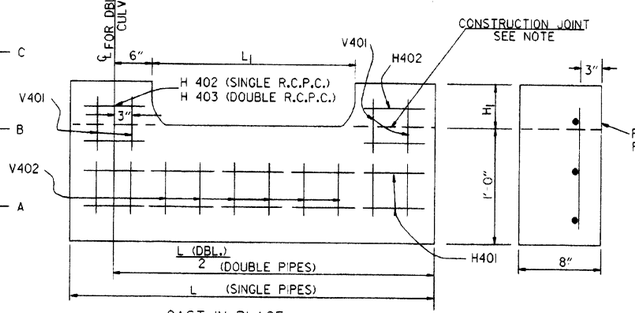
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC.	SINGLE R.C.P.C. REINF. STEEL	DOUBLE R.C.P.C. CONC.	DOUBLE R.C.P.C. REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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

REINFORCING STEEL SCHEDULE

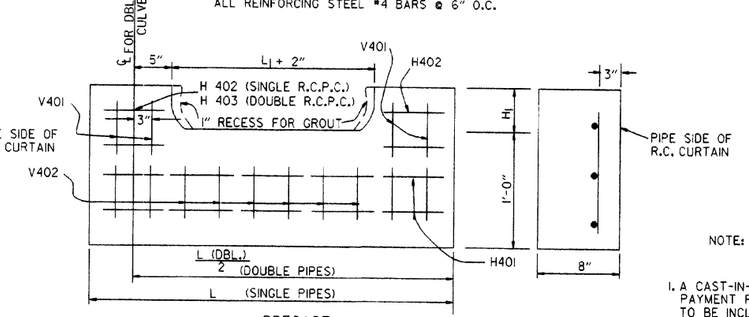
PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	V401 L	V401 NO.	V402 L	V402 NO.	DOUBLE R.C. PIPE CULVERT H401 L	H401 NO.	H402 L	H402 NO.	H403 L	H403 NO.	V401 L	V401 NO.	V402 L	V402 NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"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

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



CAST-IN-PLACE

NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



PRECAST

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

R.C. CURTAIN WALL DETAILS

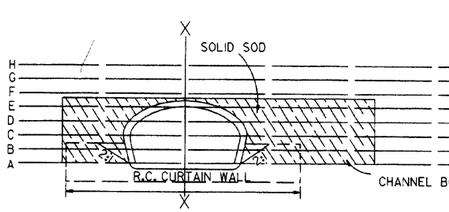
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	SINGLE R.C.P.C. 4:1	SINGLE R.C.P.C. 6:1	DOUBLE R.C.P.C. 3:1	DOUBLE R.C.P.C. 4:1	DOUBLE R.C.P.C. 6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

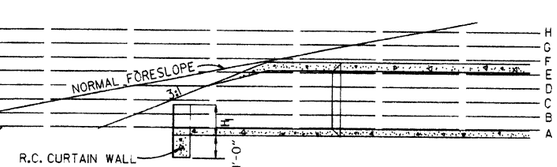
NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 × 3 W/10 × W10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW



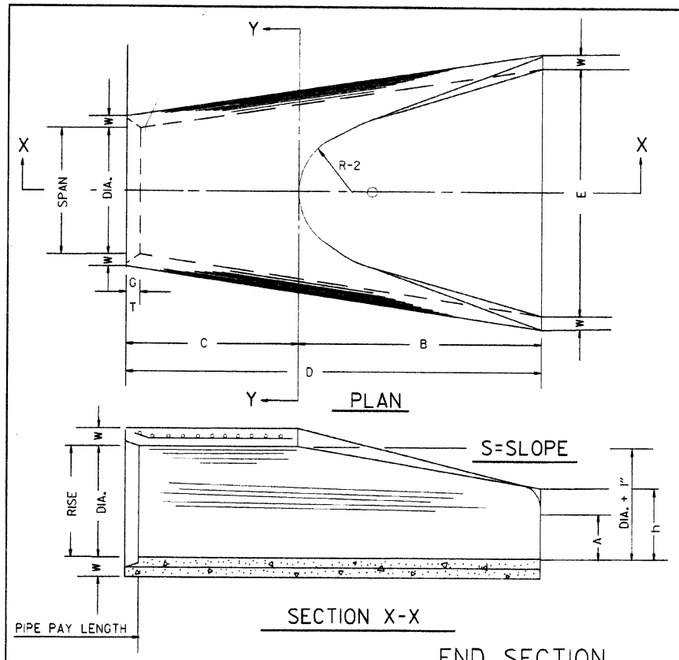
SECTIONAL VIEW "X-X"

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

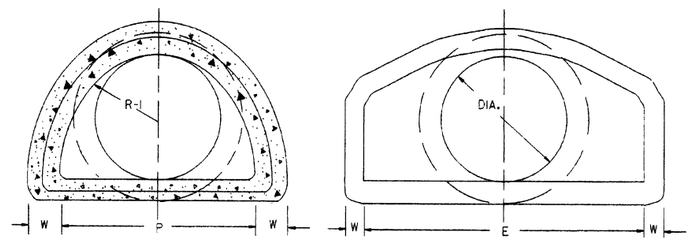
STANDARD DRAWING FES-1



END SECTION
FOR REINFORCED CONCRETE PIPE CULVERTS

TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 13/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7¾"	6'-1¾"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4⅝"
36"	4"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	6'-0"	3:1	37"	47 11/16"	24 5/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅛"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-0"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 5/16"	24"	5"	13250	4'-6"

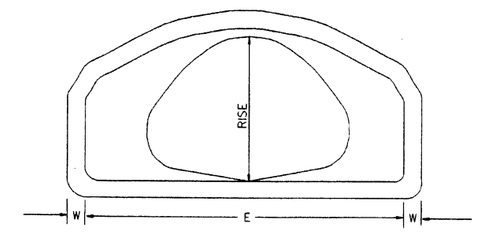


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

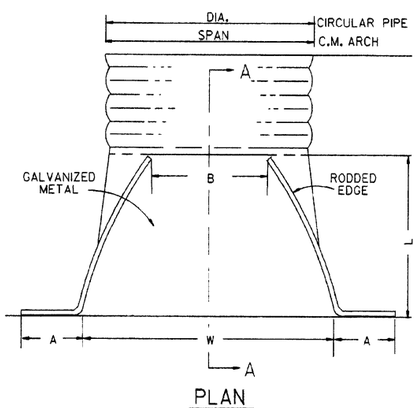
ARCH PIPE

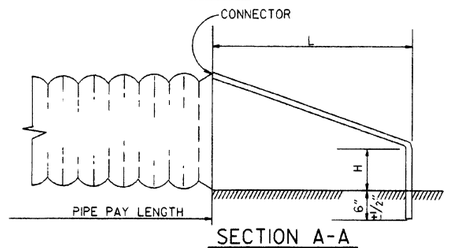
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 13/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 13/16"	20"	3"	2½:1
36	43¾	44	26⅝	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 7/16"	24"	5"	2¼:1

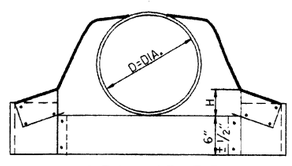
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.



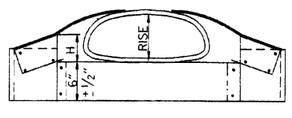
END VIEW
CONCRETE ARCH PIPE







CIRCULAR PIPE



C.M. ARCH PIPE

CIRCULAR PIPE

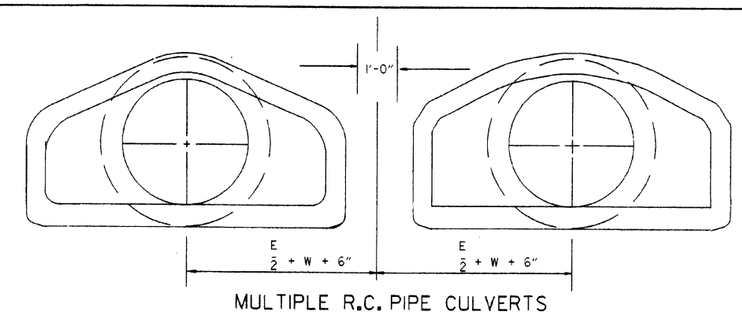
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	6	7	8	6	26	30	2½:1
18	6	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

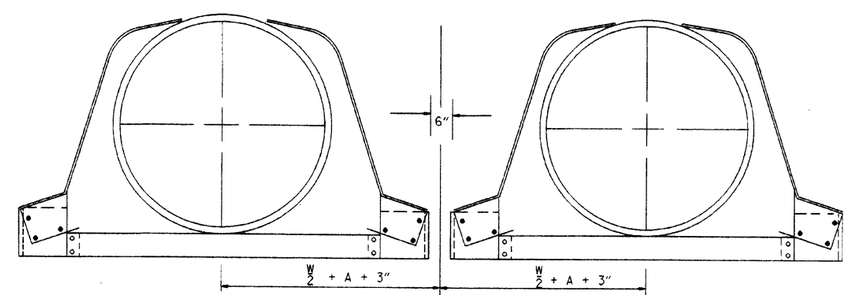
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



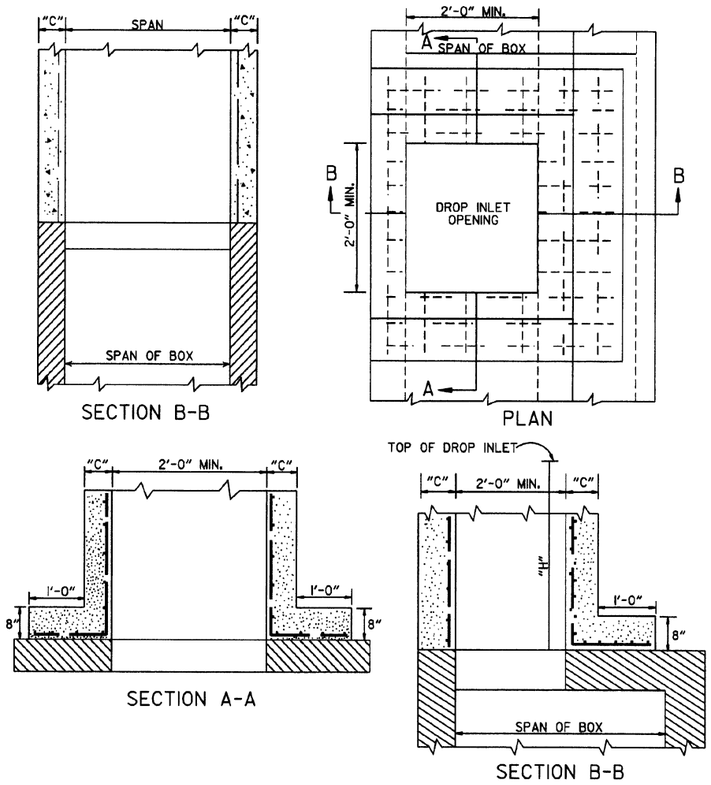
MULTIPLE C.M. PIPE CULVERTS

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

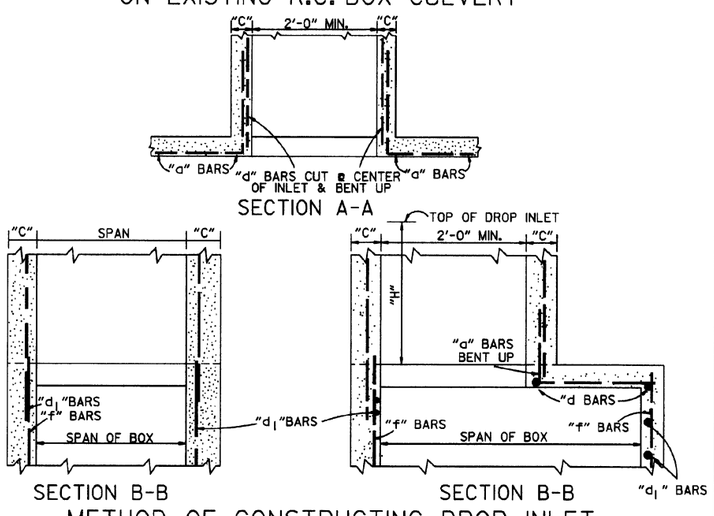
ARKANSAS STATE HIGHWAY COMMISION

FLARED END SECTION

STANDARD DRAWING FES-2

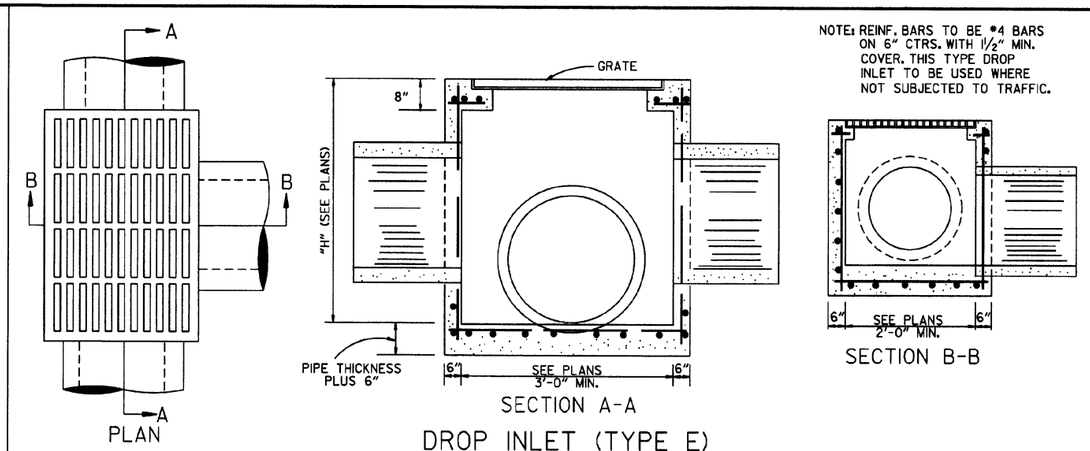


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

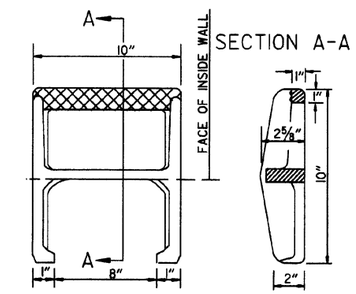


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



DROP INLET (TYPE E)

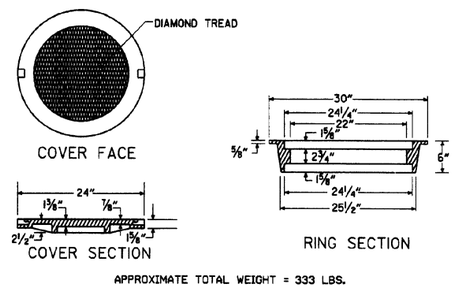


APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

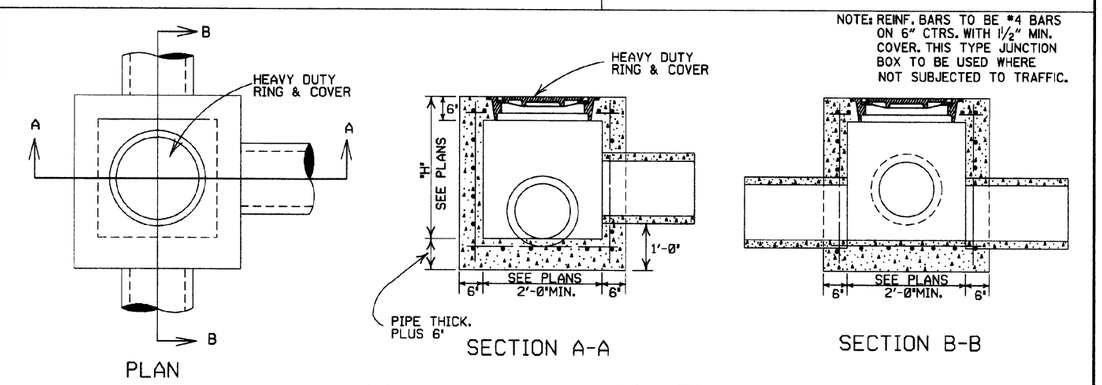
NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

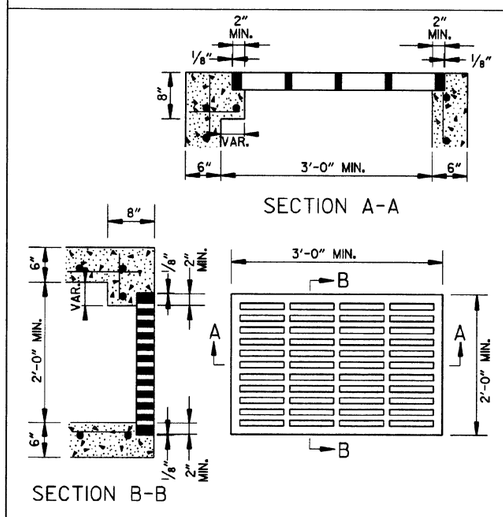


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

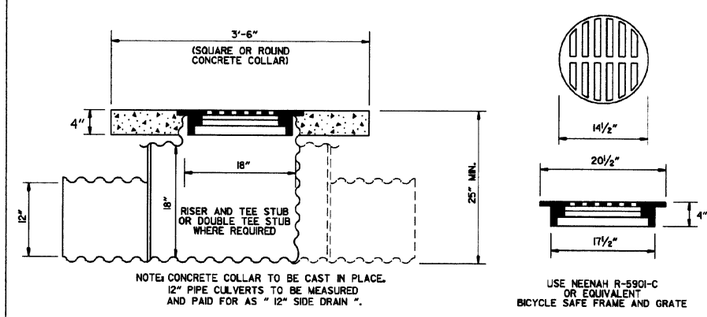


JUNCTION BOX (TYPE E)



APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

GRATE FOR TYPE E DROP INLET



DETAIL OF YARD DRAIN

GENERAL NOTES:

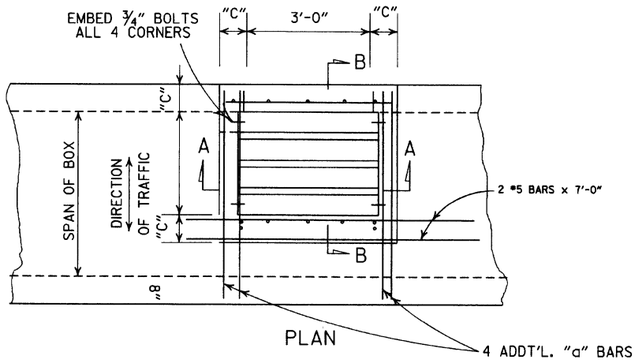
1. ALL EXPOSED CORNERS SHALL BE ¾" CHAMFERED.
2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
3. EXPANSION JOINT MATERIAL SHALL BE ¾" PREFORMED FIBER.
4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
5. GRATE AND FRAME SHALL NOT BE PAINTED.
6. GRATE SHALL BE BICYCLE SAFE.
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

DATE REV.	REVISION	DATE FILMED
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED DI(TYPE D), REPLACED RING & COVER W/HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

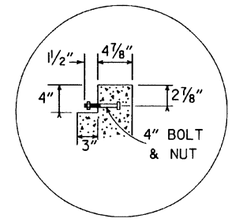
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS & JUNCTION BOXES

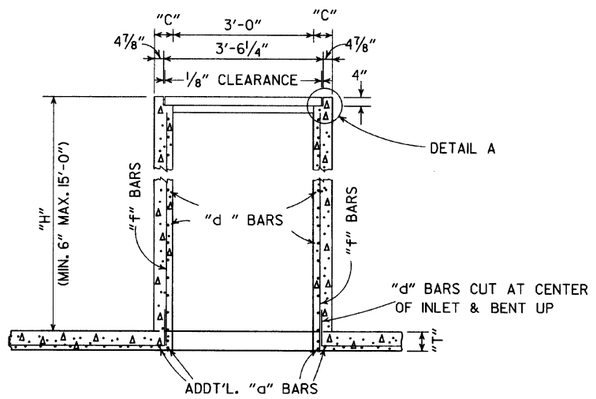
STANDARD DRAWING FPC-9



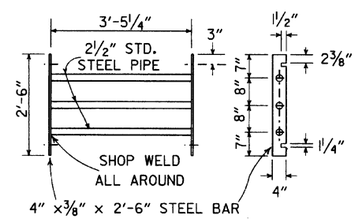
PLAN



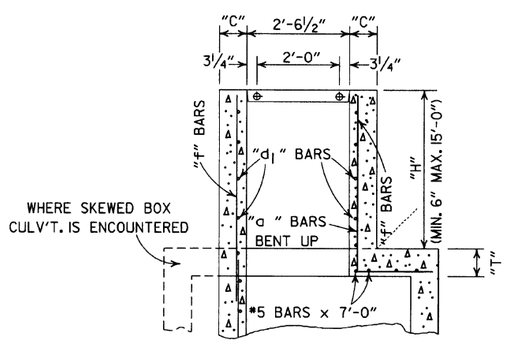
DETAIL A



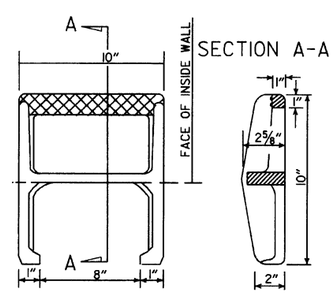
SECTION A-A



GRATE DETAIL



SECTION B-B



APPROX. WEIGHT = 11 LBS. (CAST IRON)

PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET

NOTE: ADDT'L.REINF. STEEL TO BE INCLUDED IN UNIT PRICE BID PER TYPE "TM" D.I.

DIMENSIONS & REINF. BARS FOR D.I. TO BE THE SAME AS THOSE SHOWN ON APPLICABLE STD. BARREL DRAWING FOR R.C. BOX CULVERTS.

DROP INLET TYPE "TM"
FOR REINFORCED CONC. BOX CULVERTS

GENERAL NOTES:

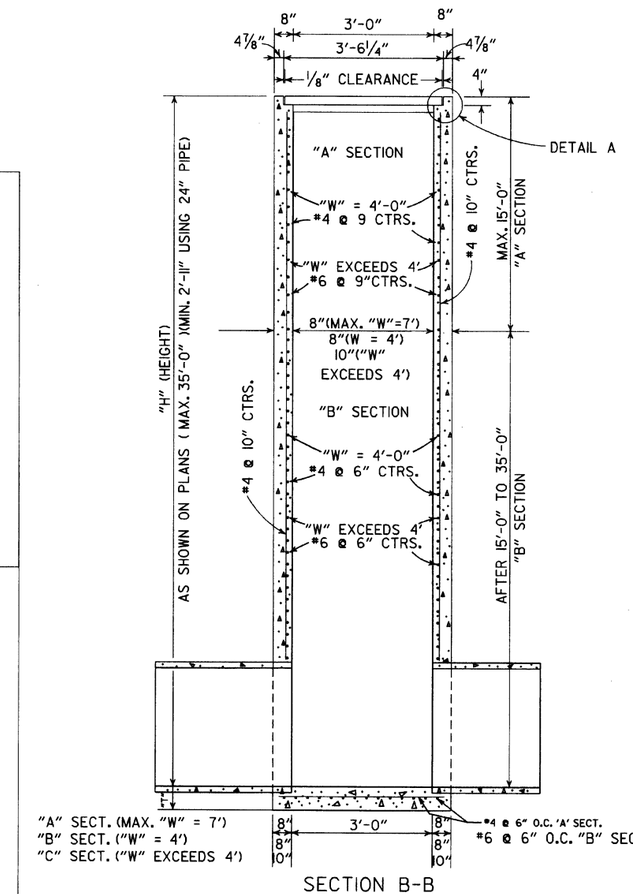
1. STEEL PIPE FOR GRATES AND BOLTS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 807. BOLTS SHALL CONFORM TO ONE OF THE FOLLOWING: ASTM A193, GRADE B8 CLASS 1 OR 2, ASTM A307 OR AASHTO M 164.
2. STEEL PIPE FOR GRATES SHALL BE "STANDARD WEIGHT" PIPE CONFORMING TO ASTM A53 NATIONAL STANDARD PIPE.
3. BOLTS, NUTS, WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232 OR AASHTO M 298, CLASS 40 OR 50.
4. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
5. ALL #4 AND #5 REINFORCING BARS TO HAVE 1½" COVER. LARGER SIZES TO HAVE 2" COVER.
6. THE COMPLETE PIPE GRATE SHALL BE PAINTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

TABLE OF "W" DIMENSIONS

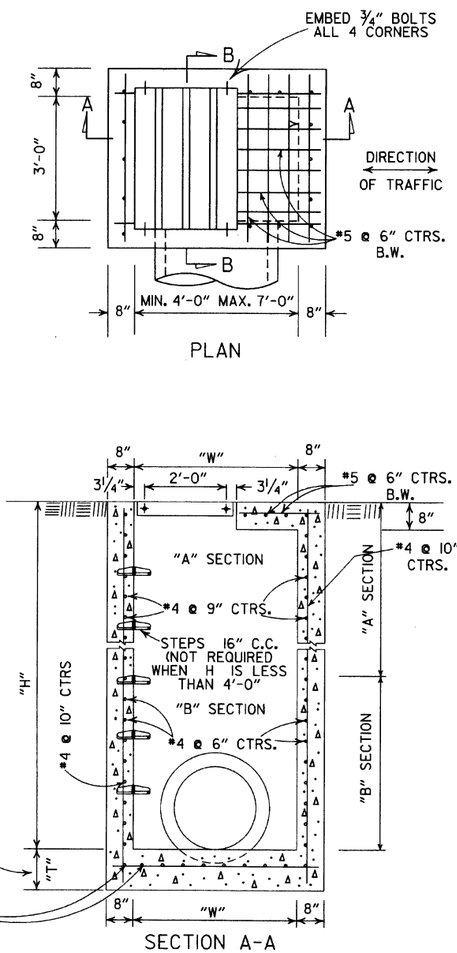
287

I.D. PIPE	SKEW OF CROSS DRAIN		
	STRAIGHT	30°	45°
	"W"	"W"	"W"
24"	4'-0"	4'-0"	4'-0"
30"	4'-0"	4'-0"	4'-5"
36"	4'-0"	4'-3"	5'-3"
42"	4'-3"	4'-11"	6'-1"
48"	4'-10"	5'-7"	6'-11"

NOTE: DIMENSIONS SHOWN ABOVE ARE FOR PIPES INTERSECTING DROP INLET ON ONE SIDE ONLY. FOR SKEWED PIPES INTERSECTING BOTH SIDES OF DROP INLET, "W" WILL NEED TO BE INCREASED OR AXIS OF INTERSECTING PIPES WILL NEED TO BE SHIFTED.



SECTION B-B



SECTION A-A

DROP INLET(TYPE RM)

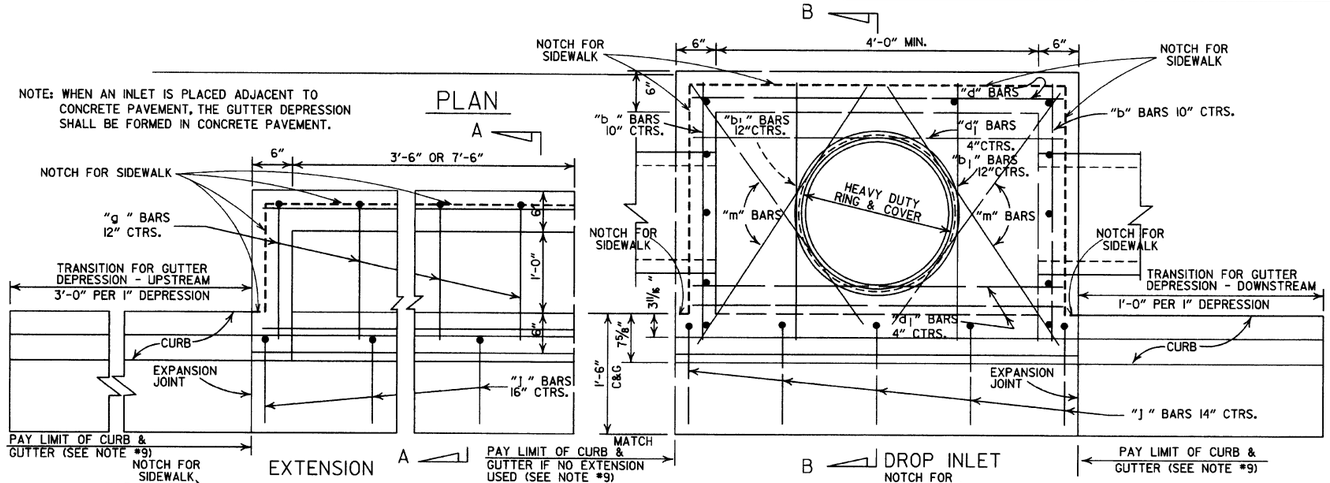
REVISED		DATE FILMED
8-22-02	ADDED & REVISED DIMENSION TO SECTION A-A	
1-12-00	CORRECTED DIMENSION ON SECTION B-B	
11-06-97	ADDED DIMENSION TO SECTION A-A	
10-18-96	REVISED ASTM REF. TO AASHTO AND ADDED NOTE TO TABLE OF "W" DIMENSIONS	
10-1-92	ADDED DIRECTION OF TRAFFIC	10-1-92
8-15-91	ADDED NOTE ABOUT PAINTING OF GRATE	8-15-91
11-30-89	ALTERED DETAIL A	11-30-89
7-15-88	REVISED STEP DETAIL,TM & RM D.I. & GRATE DETAIL	719-7-15-88
10-2-72	REVISED AND REDRAWN	542-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

STANDARD DRAWING FPC-9D

NOTE: WHEN AN INLET IS PLACED ADJACENT TO CONCRETE PAVEMENT, THE GUTTER DEPRESSION SHALL BE FORMED IN CONCRETE PAVEMENT.



4'-0" LENGTH DROP INLET

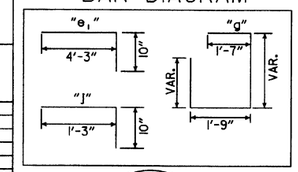
PIPE SIZE	MIN. WIDTH	HEIGHT 5'-0" CLASS A CONC. CU. YDS.	HEIGHT 5'-0" REINF. STEEL POUNDS	PLUS OR MINUS PER LIN. FT. OF HEIGHT CLASS A CONC. CU. YDS.	PLUS OR MINUS PER LIN. FT. OF HEIGHT REINF. STEEL POUNDS	4'-0" CLASS A CONC. CU. YDS.	4'-0" REINF. STEEL POUNDS	8'-0" CLASS A CONC. CU. YDS.	8'-0" REINF. STEEL POUNDS
18"	2'-6"	1.77	156	0.28	22	0.58	38	0.87	72
24"	2'-6"	1.79	156	0.28	22				
30"	3'-2"	2.39	205	0.30	26				
36"	3'-8"	2.63	236	0.32	28	DEDUCT FROM QUANTITY COMPUTED FOR EACH EXTENSION ADDED.			
42"	4'-4"	2.95	250	0.34	30				
48"	4'-10"	3.21	265	0.36	32				
						0.04	3		

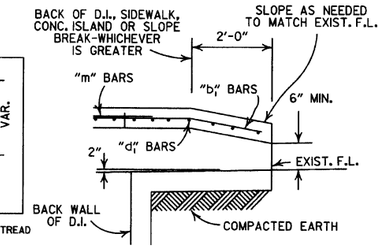
NOTE: QUANTITIES ARE APPROXIMATE AND ARE SHOWN FOR BIDDER INFORMATION ONLY.

DROP INLET EXTENSION

DEDUCT FROM QUANTITY COMPUTED FOR EACH PIPE ENTERING INLET		
INSIDE DIA. PIPE	CLASS A CONC.	REINF. STEEL
INCHES	CU. YDS.	POUNDS
18	0.05	2
24	0.09	3
30	0.13	4
42	0.24	8

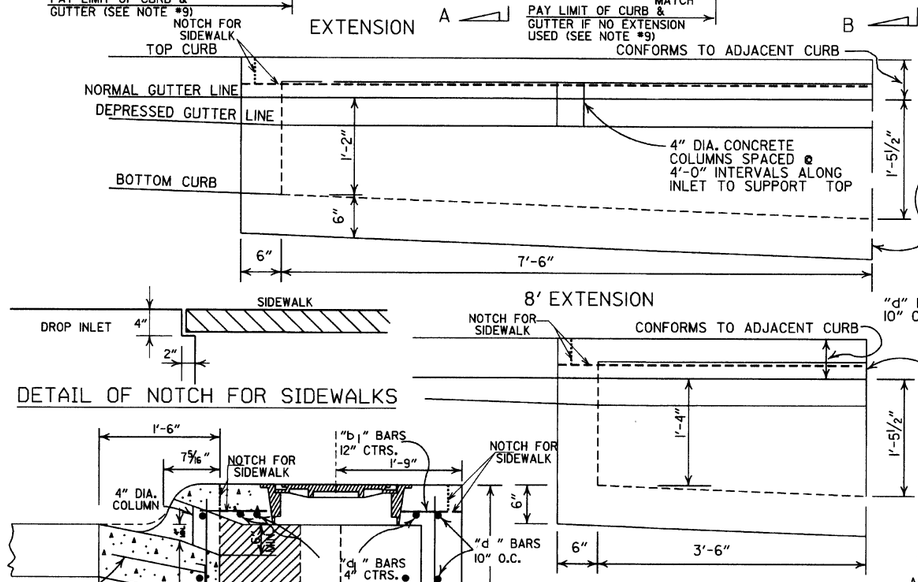
BAR DIAGRAM

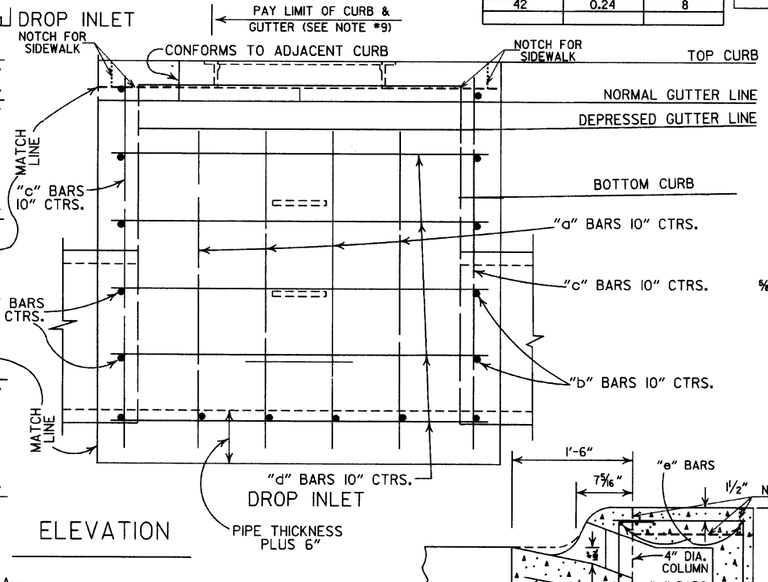




BACK OPENING

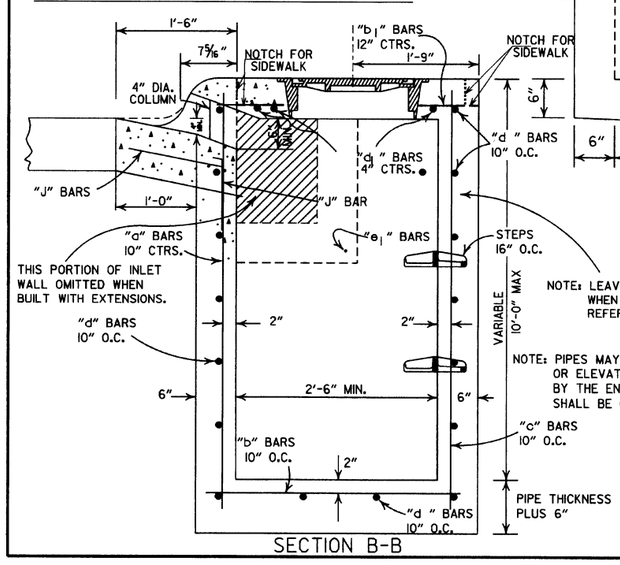
WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE C).





ELEVATION

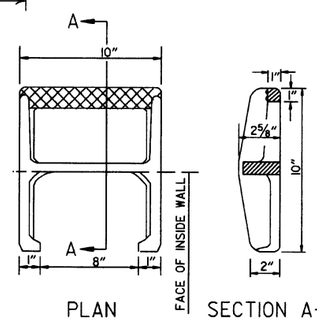
DETAIL OF NOTCH FOR SIDEWALKS



SECTION B-B

NOTE: LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

NOTE: PIPES MAY ENTER BOX FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER. REINFORCING BARS SHALL BE CUT TO CLEAR PIPE BY 1½".

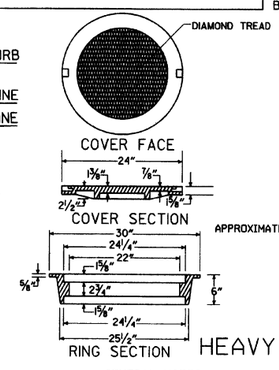


PLAN SECTION A-A

DETAIL OF STEP FOR DROP INLET

APPROX. WEIGHT = 11 LBS. (CAST IRON)

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

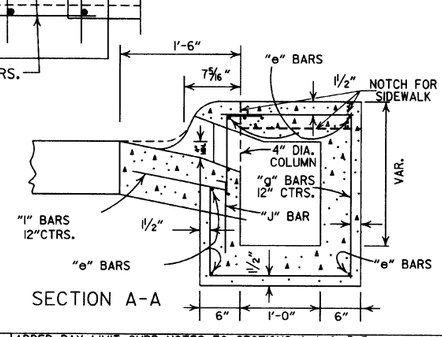


APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE ¾" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OF AS APPROVED BY THE ENGINEER.
3. ALL REINF. BARS SHALL BE #4 AND HAVE 1½" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. THIS DROP INLET MAY BE CONSTRUCTED ON NEW OR EXISTING R.C. BOX CULVERT AS SHOWN ON F.P.C.-9.
6. WHEN PLANS CALL FOR DROP INLET OVER 10'-0" HIGH, FLOOR AND WALLS SHALL BE CONSTRUCTED AS SHOWN FOR TYPE "RM" DROP INLET (F.P.C.-9D).
7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
8. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
9. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
10. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
11. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A

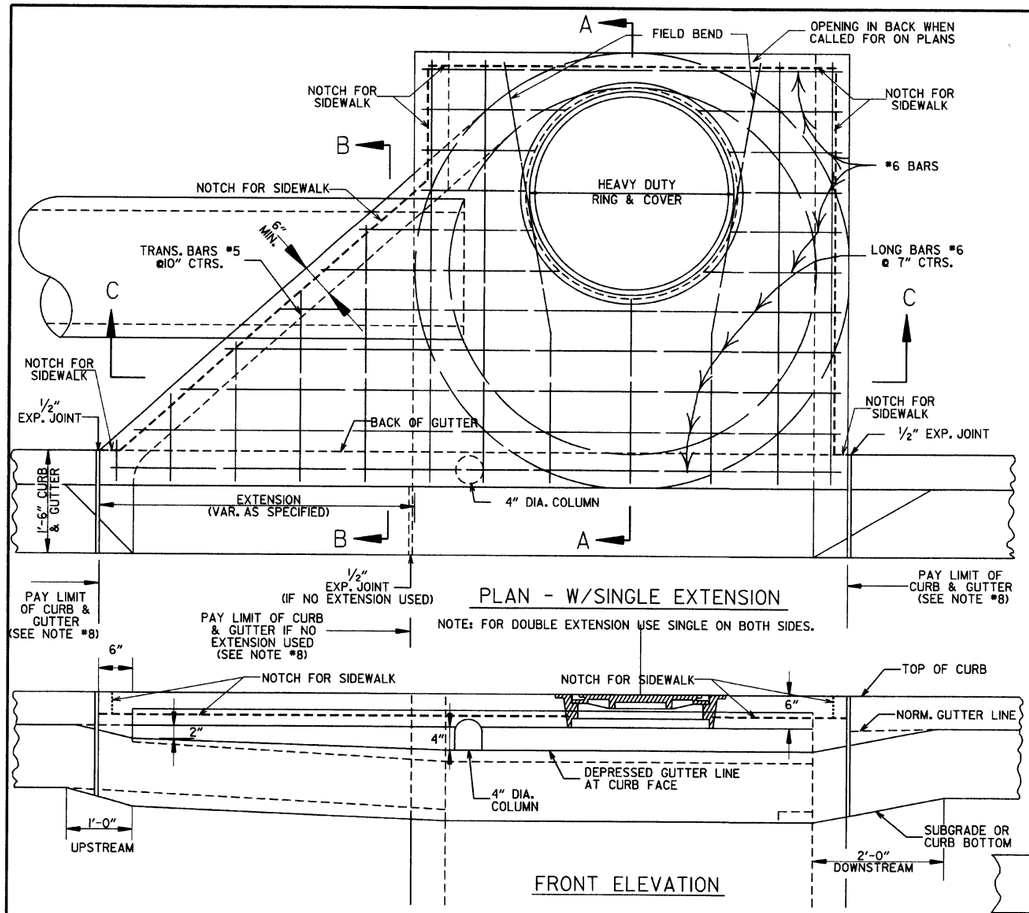
DATE REV.	REVISION	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13; REVISED SECTION B-B	
1-12-00	CORRECTED DIMENSION ON SECTION B-B & REVISED RING & COVER	
5-13-99	ADDED DETAIL OF NOTCH FOR SIDEWALKS	
7-02-98	REPLACED RING & COVER W/HEAVY DUTY RING & COVER ADDED NOTES 9,10,&11	
10-18-96	CORRECTED SPELLING	
4-26-96	ADDED NOTE 8 & REVISED (4')(8') EXTENSION TITLES	10-18-96
4-1-93	REVISED BACK OPENING & NOTE	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS

(TYPE C)

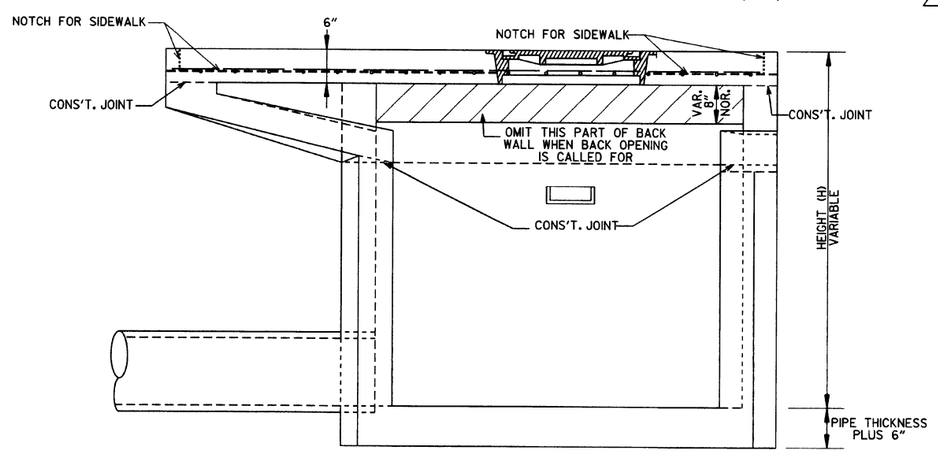
STANDARD DRAWING FPC-9E



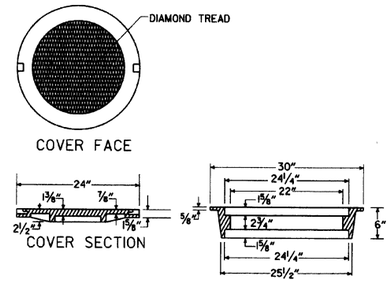
PLAN - W/SINGLE EXTENSION

NOTE: FOR DOUBLE EXTENSION USE SINGLE ON BOTH SIDES.

FRONT ELEVATION



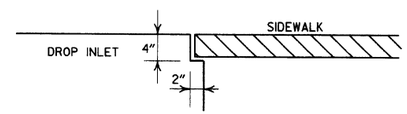
SECTION C-C



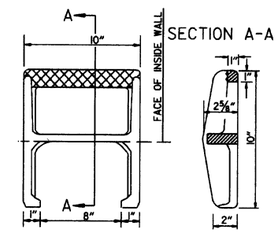
APPROXIMATE TOTAL WEIGHT = 333 LBS.

HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF NOTCH FOR SIDEWALKS

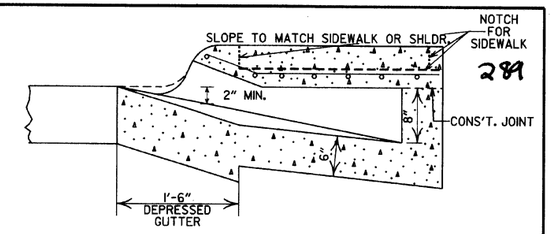


APPROX. WEIGHT = 11 LBS. (CAST IRON)

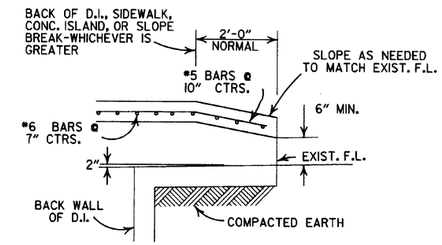
PLAN

NOTE: THIS DETAIL IS TYPICAL. OTHERS MAY BE USED WITH PRIOR APPROVAL OF THE ENGINEER.

DETAIL OF STEP FOR DROP INLET



SECTION B-B

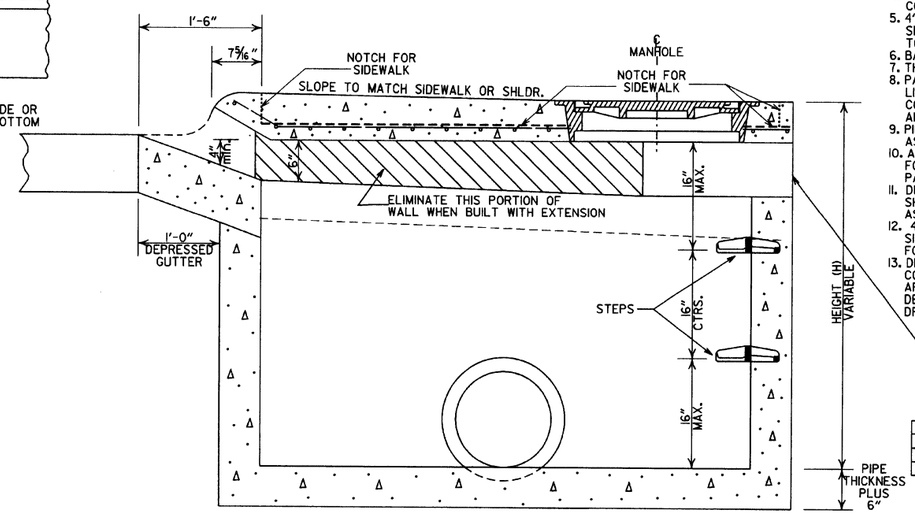


BACK OPENING

WHEN OPENING IN BACK IS CALLED FOR ON PLANS EXTEND OPENING AS SHOWN IN DETAIL. PAYMENT TO BE INCLUDED IN PRICE BID FOR DROP INLET (TYPE MO).

GENERAL NOTES:

1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER.
2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. 1 1/2" COVER.
4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION A-A

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

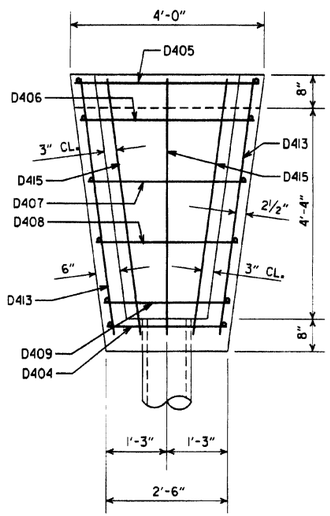
DIA. OF D.I.	DIA. OF OUTLET PIPE	MINIMUM WALL THICKNESS CAST IN PLACE	MINIMUM WALL THICKNESS PRECAST
4' I.D.	12" THRU 27"	6"	5"
5' I.D.	30" THRU 42"	8"	6"
6' I.D.	48" THRU 54"	8"	7"

DATE	REVISIONS	DATE FILMED
8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REM. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-95	ADDED NOTE 11 ADD. DRAWING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
2-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-16-91	REVISED NOTES 11,12 & ADDED BK.OPEN DETAIL	8-16-91
11-10-89	ADDED NOTE NO. 12	11-20-89
3-23-89	ADDED NOTE & MINIMUM WALL THICKNESS	5C3-3-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	639-7-15-88
1-14-87	MODIFIED WALL THICKNESS	785-12-2-87
6-12-87	ISSUED	4-6-12-87

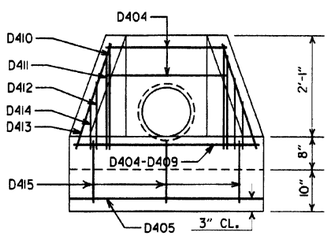
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

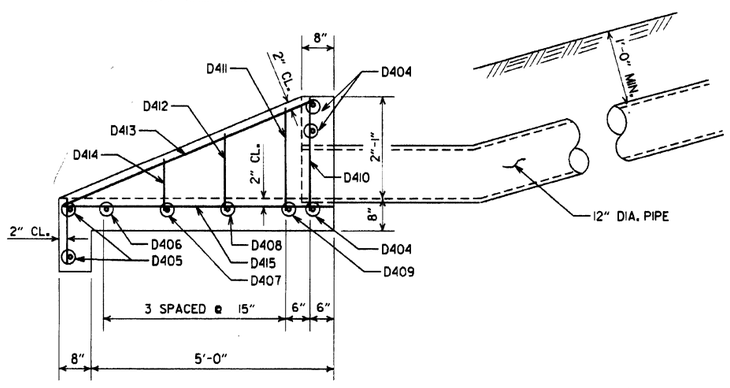
STANDARD DRAWING FPC-9M



PLAN



FRONT ELEVATION

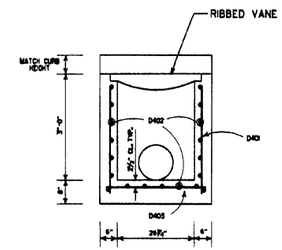


SIDE ELEVATION
CONCRETE SPILLWAY

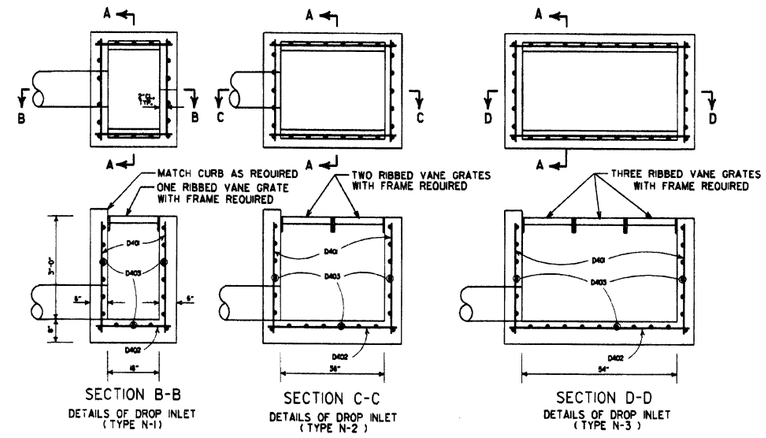
BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	5'-4"
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	1'-2" 2" P.D.
D409	1	2'-5"	
D410	2	2'-5"	D415
D411	2	2'-2"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	

DETAILS OF CONCRETE SPILLWAY (TYPE A)



SECTION A-A



SECTION B-B
DETAILS OF DROP INLET
(TYPE N-1)

SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

BAR LIST (DROP INLET)

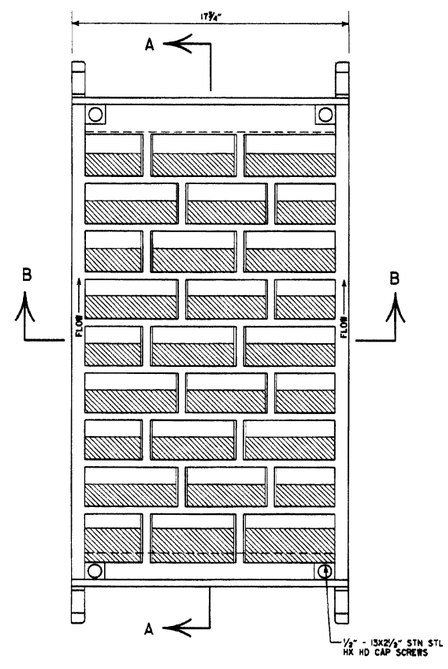
MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

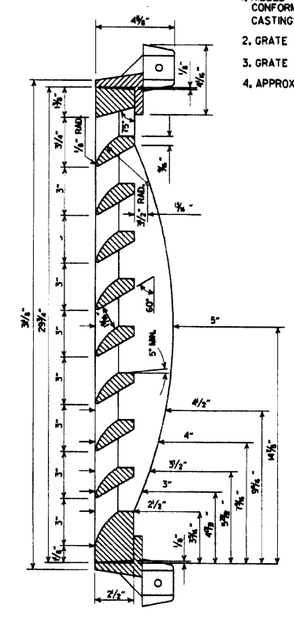
ALL BARS #4 @ 6" SPACING

DETAILS OF DROP INLET

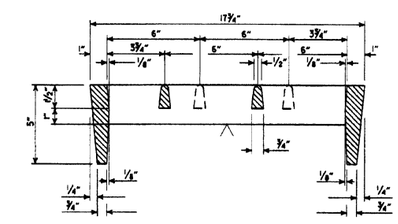
GENERAL NOTES (GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

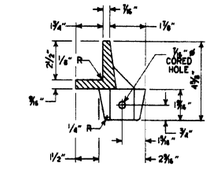




SECTION A-A



SECTION B-B



SECTION THRU FRAME

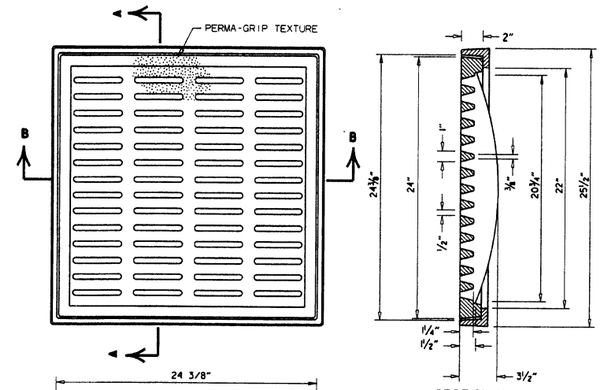
DETAILS OF RIBBED VANE GRATE AND FRAME

DATE REVISED	DATE FILMED	DESCRIPTION
7-02-98	7-2-98	REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
8-15-91		ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS AND SPILLWAY OUTLET

STANDARD DRAWING FPC-9N



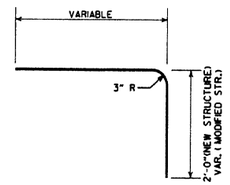
SECTION B-B

SECTION A-A

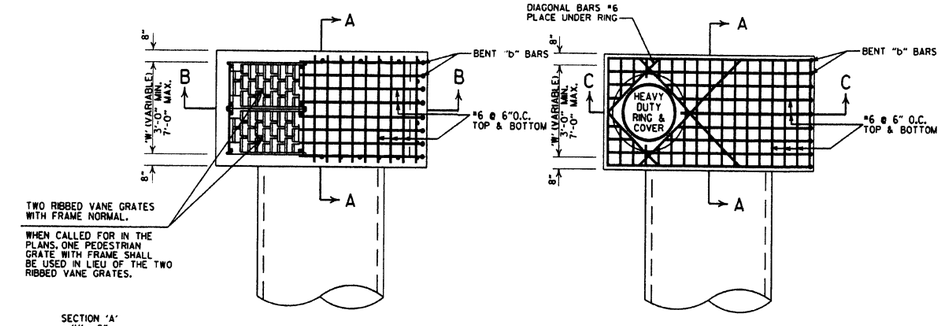
GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE 1½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B. & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 211 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

DETAILS OF PEDESTRIAN GRATE AND FRAME



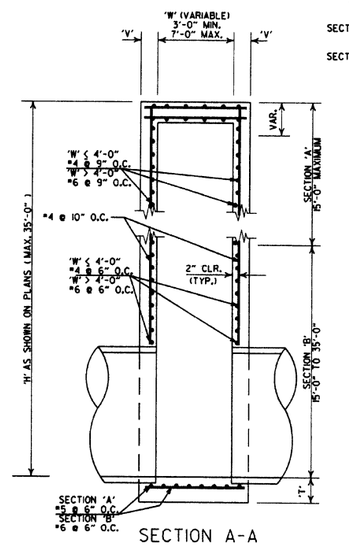
DETAIL OF BENT "b" BAR



SECTION 'A'
'V' = 8"

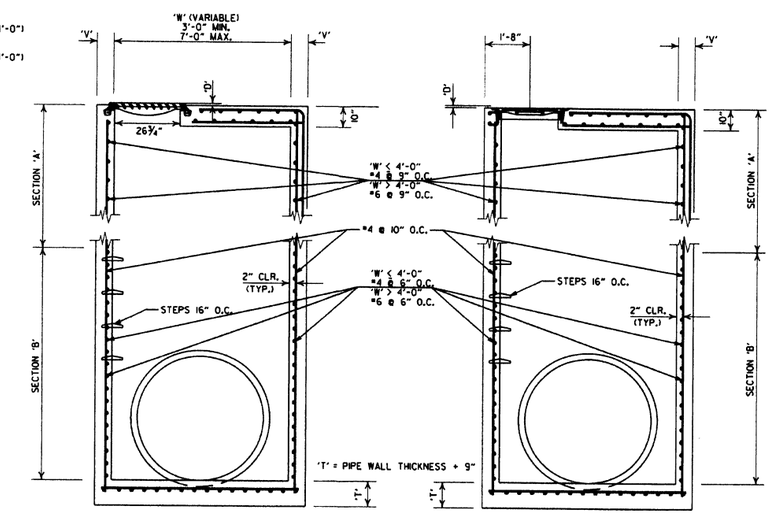
SECTION 'B' (W<4'-0")
'V' = 8"

SECTION 'B' (W>4'-0")
'V' = 10"



SECTION A-A

DETAILS OF DROP INLET
(TYPE ST)



SECTION B-B

SECTION C-C

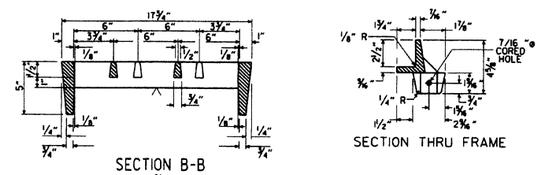
DETAILS OF JUNCTION BOX
(TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.

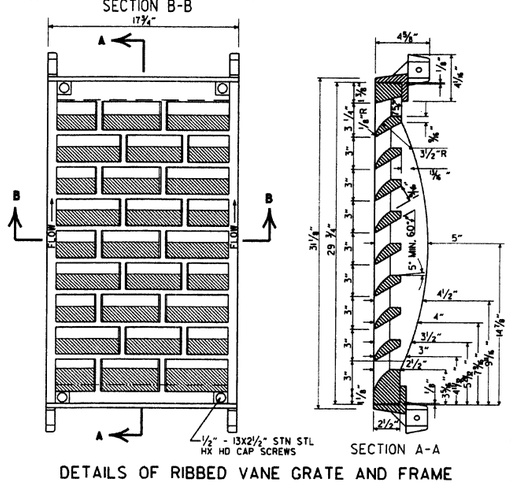
GENERAL NOTES (HEAVY DUTY RING & COVER):

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B. & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



SECTION B-B

SECTION THRU FRAME

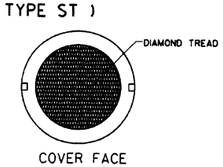


SECTION A-A

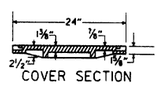
DETAILS OF RIBBED VANE GRATE AND FRAME

GENERAL NOTES (RIBBED VANE GRATE & FRAME)

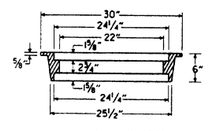
1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B. & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



COVER FACE



COVER SECTION



RING SECTION

HEAVY DUTY
RING & COVER

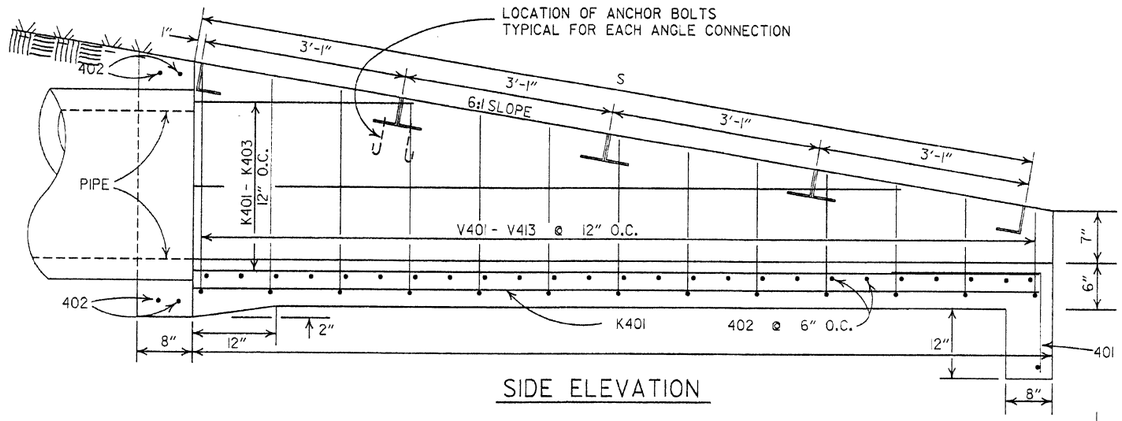
APPROXIMATE TOTAL WEIGHT = 333 LBS.

DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

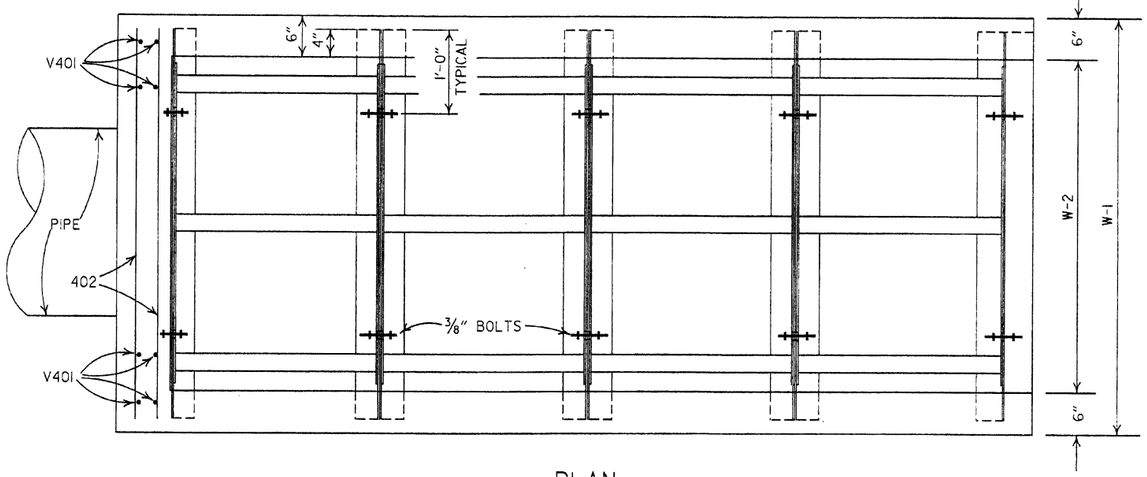
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

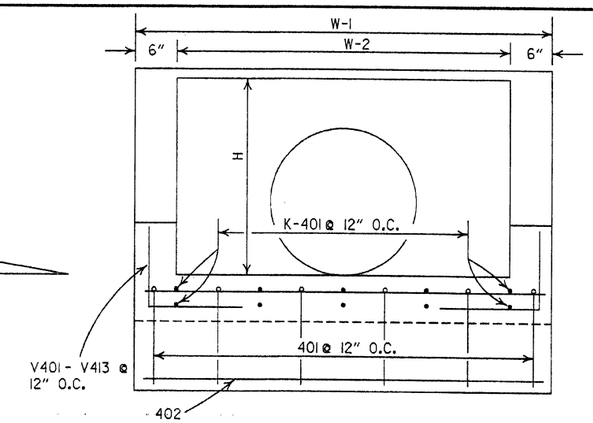
STANDARD DRAWING FPC-9S



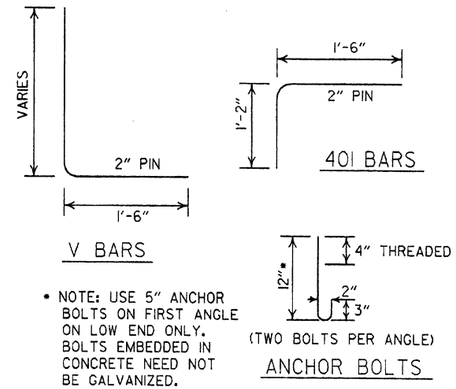
SIDE ELEVATION



PLAN



END ELEVATION



• NOTE: USE 5" ANCHOR BOLTS ON FIRST ANGLE ON LOW END ONLY. BOLTS EMBEDDED IN CONCRETE NEED NOT BE GALVANIZED.

BENDING DIAGRAM

(DIMENSIONS ARE OUTSIDE TO OUTSIDE)

QUANTITIES & DIMENSIONS - ONE GRATE COMPLETE

PIPE DIA.	W - 1	W - 2	L	S	H	PANEL SIZE	NUMBER OF PANELS	ANGLE DIMEN. D	APPROX. CONC. QUANT. CU. YDS.
24"	5'-0"	4'-0"	12'-6"	12'-8"	2'-8"	2'-11½"x 3'-10"	4	4" x 3½" x⅜"	2.35
30"	5'-0"	4'-0"	15'-6"	15'-8½"	3'-2"	2'-11½"x 3'-10"	5	4" x 3½" x⅜"	3.09
18"	5'-0"	4'-0"	9'-6"	9'-7½"	2'-2"	2'-11½"x 3'-10"	3	4" x 3½" x⅜"	1.77

BAR LISTS - ONE HEADWALL

24" PIPE

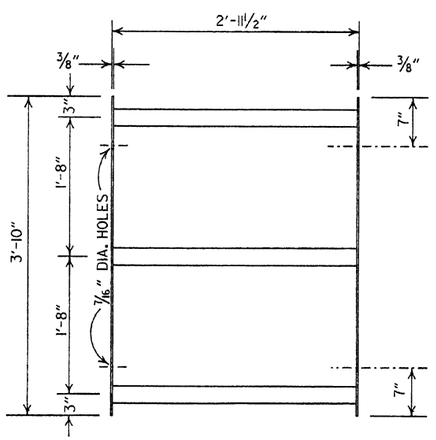
MRK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	30
K401	12'-2"	10
K402	10'-3"	2
K403	4'-3"	2
V401	4'-5"	10
V402	4'-1"	2
V403	3'-11"	2
V404	3'-9"	2
V405	3'-7"	2
V406	3'-5"	2
V407	3'-3"	2
V408	3'-1"	2
V409	2'-11"	2
V410	2'-9"	2
V411	2'-7"	2
V412	2'-5"	2
V413	2'-3"	2

30" PIPE

MRK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	36
K401	15'-2"	10
K402	13'-3"	2
K403	7'-3"	2
K404	1'-3"	2
V401	4'-11"	10
V402	4'-7"	2
V403	4'-5"	2
V404	4'-3"	2
V405	4'-1"	2
V406	3'-11"	2
V407	3'-9"	2
V408	3'-7"	2
V409	3'-5"	2
V410	3'-3"	2
V411	3'-1"	
V412	2'-11"	
V413	2'-9"	
V414	2'-7"	
V415	2'-5"	
V416	2'-3"	

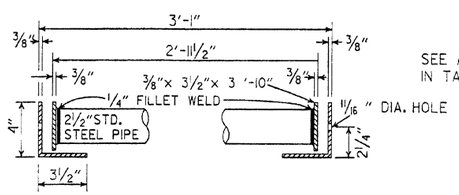
18" PIPE

MARK	LENGTH	NO.
401	2'-8"	6
402	4'-8"	24
K401	9'-2"	10
K402	7'-3"	2
K403	1'-3"	2
V401	3'-11"	10
V402	3'-7"	2
V403	3'-5"	2
V404	3'-3"	2
V405	3'-1"	2
V406	2'-11"	2
V407	2'-9"	2
V408	2'-7"	2
V409	2'-5"	2
V410	2'-3"	2



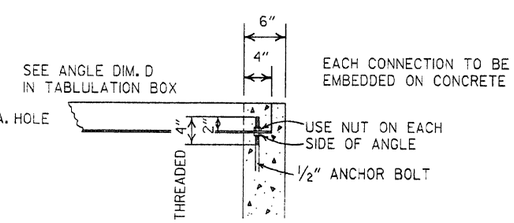
STANDARD GRATE PANEL

NOTE: 2½" STANDARD STEEL PIPE TO BE VENTED FOR GALVANIZING.



TYPICAL SECTION

FURNISH WASHERS WITH BOLTS



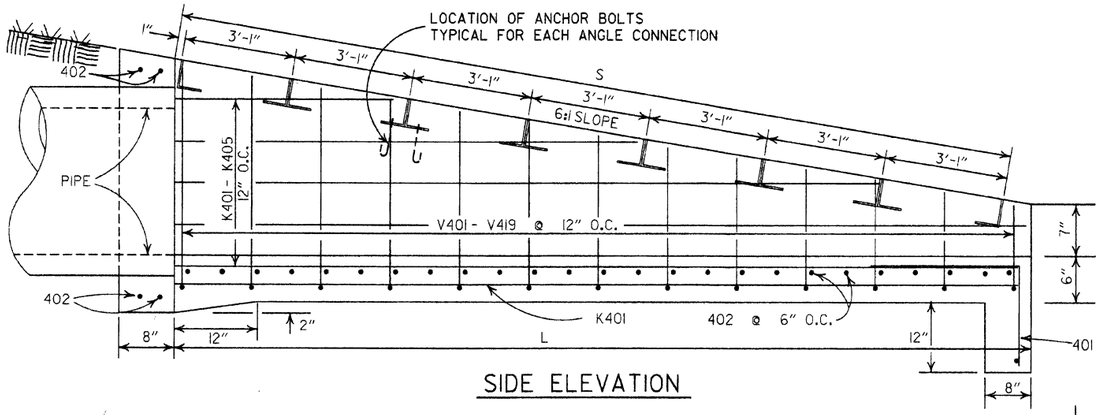
DETAIL OF ANGLE CONNECTION

DATE	REVISION	DATE FILMED
8-15-91	REVISED GRATE PANEL	8-15-91
2-16-89	ADDED (TYPE I) TO TITLE	581-2-16-89
7-15-88	CHANGED TITLE	641-7-15-88
2-18-75	ADDED QTYS. & DIMENSIONS FOR 18" PIPE	985-2-18-75
10-2-72	REVISED & REDRAWN	761-10-2-72

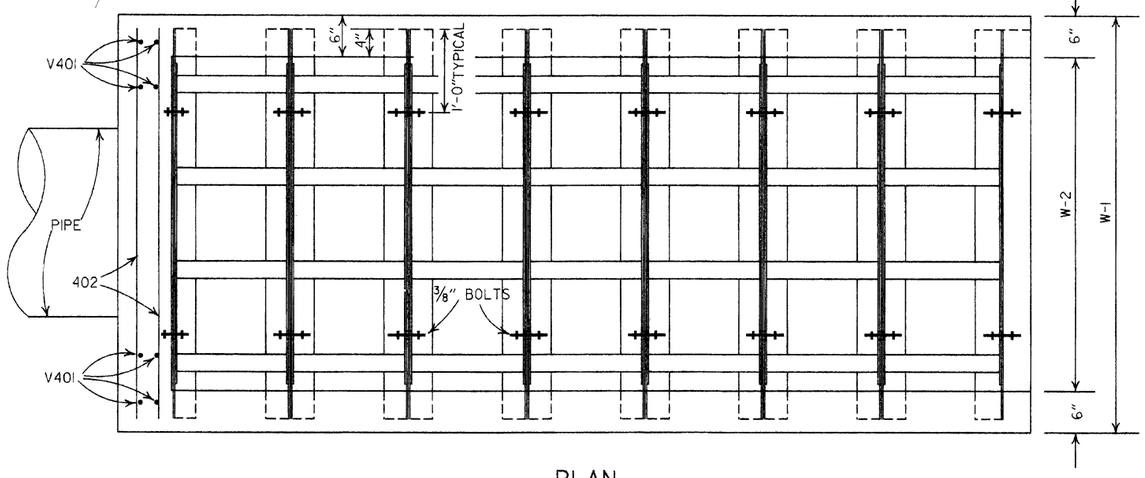
ARKANSAS STATE HIGHWAY COMMISSION

STEEL GRATE ASSEMBLY
(TYPE I)

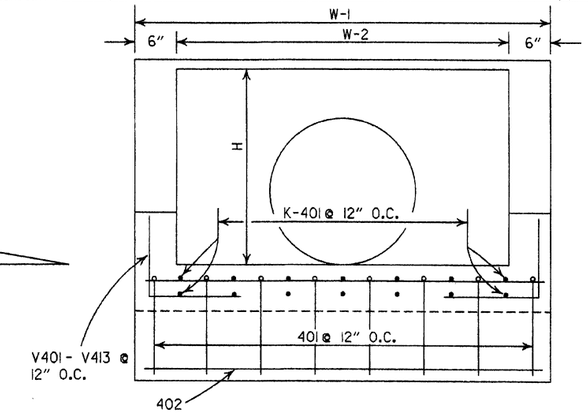
STANDARD DRAWING G-1



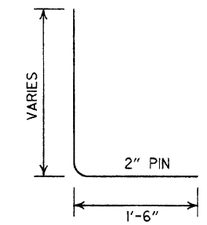
SIDE ELEVATION



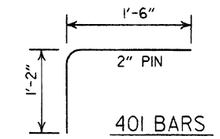
PLAN



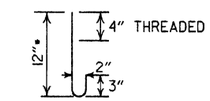
END ELEVATION



V BARS



401 BARS



(TWO BOLTS PER ANGLE)

ANCHOR BOLTS

• NOTE: USE 5" ANCHOR BOLTS ON FIRST ANGLE ON LOW END ONLY. BOLTS EMBEDDED IN CONCRETE NEED NOT BE GALVANIZED.

BENDING DIAGRAM

(DIMENSIONS ARE OUTSIDE TO OUTSIDE)

QUANTITIES & DIMENSIONS - ONE GRATE COMPLETE

PIPE DIA.	W - 1	W - 2	L	S	H	PANEL SIZE	NUMBER OF PANELS	ANGLE DIMEN. D	APPROX. CONC. QUANT. CU. YDS.
36"	7'-0"	6'-0"	18'-6"	18'-9"	3'-8"	2'-11½" x 5'-10"	6	4" x 4" x 3/16"	4.55
42"	7'-0"	6'-0"	21'-7"	21'-10½"	4'-2"	2'-11½" x 5'-10"	7	4" x 4" x 3/16"	5.37
48"	7'-0"	6'-0"	24'-8"	25'-0"	4'-8"	2'-11½" x 5'-10"	8	4" x 4" x 3/16"	6.23

BAR LISTS - ONE HEADWALL

36" PIPE

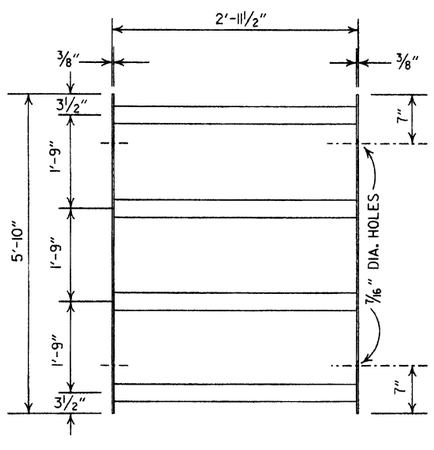
MARK	LENGTH	NO.
401	2'-8"	8
402	6'-8"	42
K401	18'-2"	14
K402	10'-3"	2
K403	16'-3"	2
K404	4'-3"	2
V401	5'-5"	10
V402	5'-1"	2
V403	4'-11"	2
V404	4'-9"	2
V405	4'-7"	2
V406	4'-5"	2
V407	4'-3"	2
V408	4'-1"	2
V409	3'-11"	2
V410	3'-9"	2
V411	3'-7"	2
V412	3'-5"	2
V413	3'-3"	2
V414	3'-1"	2
V415	2'-11"	2
V416	2'-9"	2
V417	2'-7"	2
V418	2'-5"	2
V419	2'-3"	2

42" PIPE

MARK	LENGTH	NO.
401	2'-8"	8
402	6'-8"	48
K401	21'-3"	14
K402	19'-3"	2
K403	13'-3"	2
K404	7'-3"	2
K405	1'-3"	2
V401	5'-11"	10
V402	5'-7"	2
V403	5'-5"	2
V404	5'-3"	2
V405	5'-1"	2
V406	4'-11"	2
V407	4'-9"	2
V408	4'-7"	2
V409	4'-5"	2
V410	4'-3"	2
V411	4'-1"	2
V412	3'-11"	2
V413	3'-9"	2
V414	3'-7"	2
V415	3'-5"	2
V416	3'-3"	2
V417	3'-1"	2
V418	2'-11"	2
V419	2'-9"	2
V420	2'-7"	2
V421	2'-5"	2
V422	2'-3"	2

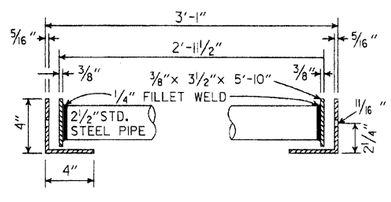
48" PIPE

MARK	LENGTH	NO.
401	2'-8"	8
402	6'-8"	54
K401	24'-4"	14
K402	22'-3"	2
K403	16'-3"	2
K404	10'-3"	2
K405	4'-3"	2
V401	6'-5"	10
V402	6'-1"	2
V403	5'-11"	2
V404	5'-9"	2
V405	5'-7"	2
V406	5'-5"	2
V407	5'-3"	2
V408	5'-1"	2
V409	4'-11"	2
V410	4'-9"	2
V411	4'-7"	2
V412	4'-5"	2
V413	4'-3"	2
V414	4'-1"	2
V415	3'-11"	2
V416	3'-9"	2
V417	3'-7"	2
V418	3'-5"	2
V419	3'-3"	2
V420	3'-1"	2
V421	2'-11"	2
V422	2'-9"	2
V423	2'-7"	2
V424	2'-5"	2
V425	2'-3"	2



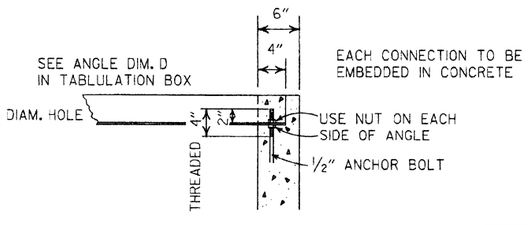
STANDARD GRATE PANEL

NOTE: 2½" STANDARD STEEL PIPE TO BE VENTED FOR GALVANIZING.



TYPICAL SECTION

FURNISH WASHERS WITH BOLTS



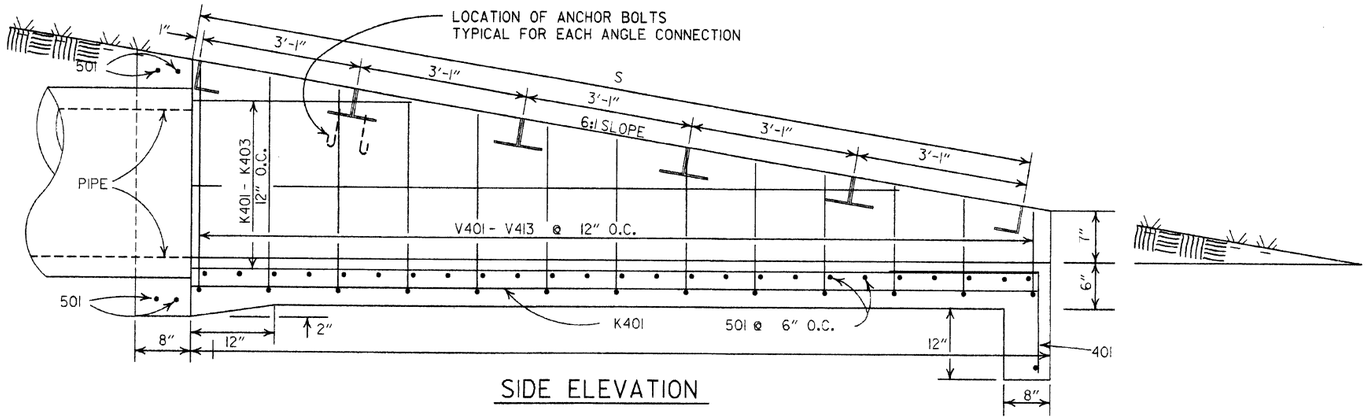
DETAIL OF ANGLE CONNECTION

DATE	REVISION	DATE FILMED
8-15-91	REVISED GRATE PANEL	8-15-91
2-16-89	ADDED (TYPE I) TO TITLE	582-2-16-89
7-15-88	CHANGED TITLE	642-7-15-88
5-22-74	W-1 & W-2 CORRECTED ON PLAN VIEW	568-5-22-74
11-1-73	ADDED NOTE RE: WASHER AT TYP. SECT.	504-11-1-73
10-2-72	REVISED & REDRAWN	761-10-2-72

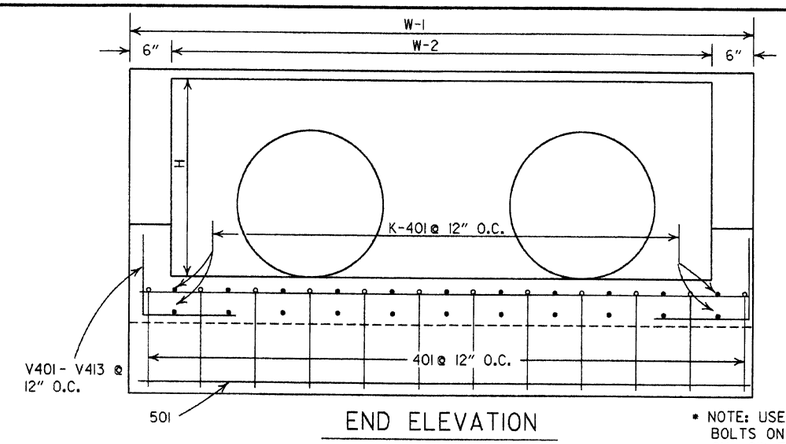
ARKANSAS STATE HIGHWAY COMMISSION

STEEL GRATE ASSEMBLY
(TYPE I)

STANDARD DRAWING G-2

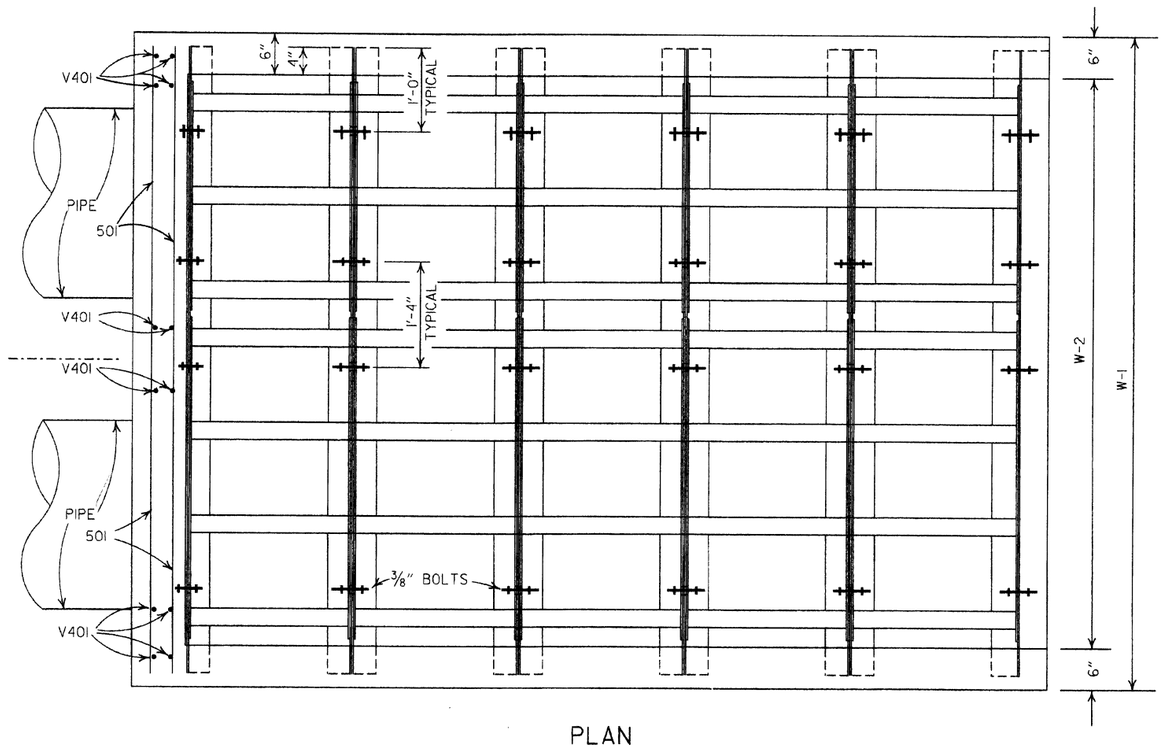


SIDE ELEVATION

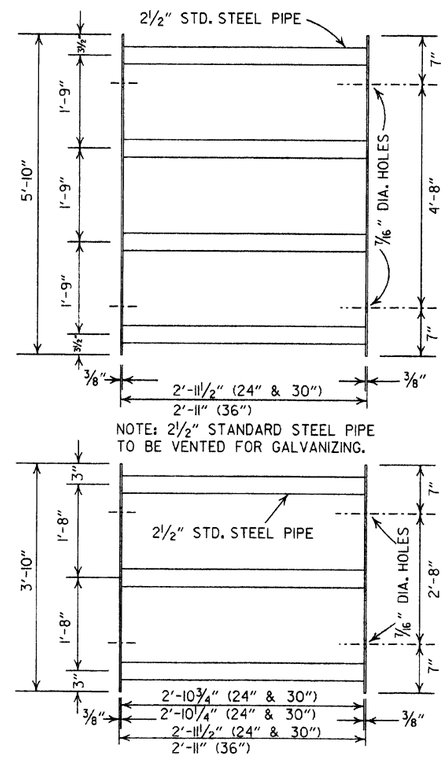


END ELEVATION

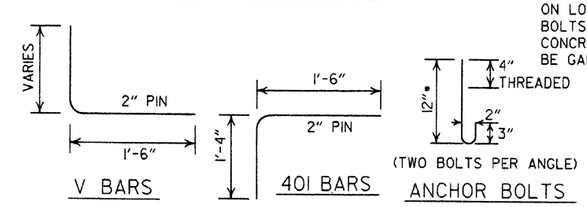
* NOTE: USE 5" ANCHOR BOLTS ON FIRST ANGLE ON LOW END ONLY. BOLTS EMBEDDED IN CONCRETE NEED NOT BE GALVANIZED.



PLAN



STANDARD GRATE PANEL



BENDING DIAGRAM

(DIMENSIONS ARE OUTSIDE TO OUTSIDE)

QUANTITIES & DIMENSIONS - ONE GRATE COMPLETE

PIPE DIA.	W - 1	W - 2	L	S	H	PANEL SIZE	NUMBER OF PANELS	ANGLE DIMEN. D	APPROX. CONC. QUANT. CU. YDS.
DBL. 24"	9'-0"	8'-0"	12'-6"	12'-8"	2'-8"	2'-11½"x 3'-10"	8	4" x 4" x⅜"	4.30
DBL. 30"	11'-0"	10'-0"	15'-6"	15'-8½"	3'-2"	2'-11½"x 3'-10"	5	4" x 4" x⅜"	6.29
						2'-11½"x 5'-10"	5		
DBL. 36"	13'-0"	12'-0"	18'-6"	18'-9 "	3'-8"	2'-11½"x 5'-10"	12	4" x 4" x⅜"	8.70

BAR LISTS - ONE HEADWALL

DBL. 24" PIPE

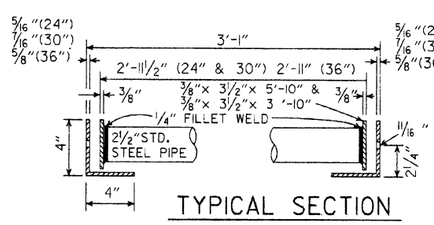
MARK	LENGTH	NO.
401	2'-10"	10
501	8'-8"	30
K401	12'-2"	16
K402	10'-3"	2
K403	4'-3"	2
V401	5'-1"	14
V402	4'-9"	2
V403	4'-7"	2
V404	4'-5"	2
V405	4'-3"	2
V406	4'-1"	2
V407	3'-11"	2
V408	3'-9"	2
V409	3'-7"	2
V410	3'-5"	2
V411	3'-3"	2
V412	3'-1"	2
V413	2'-11"	2

DBL. 30" PIPE

MARK	LENGTH	NO.
401	2'-10"	12
501	10'-8"	36
K401	15'-2"	22
K402	13'-3"	2
K403	7'-3"	2
K404	1'-3"	2
V401	5'-7"	14
V402	5'-3"	2
V403	5'-1"	2
V404	4'-11"	2
V405	4'-9"	2
V406	4'-7"	2
V407	4'-5"	2
V408	4'-3"	2
V409	4'-1"	2
V410	3'-11"	2
V411	3'-9"	2
V412	3'-7"	2
V413	3'-5"	2
V414	3'-3"	2
V415	3'-1"	2
V416	2'-11"	2

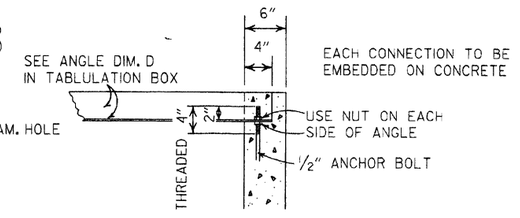
DBL. 36" PIPE

MARK	LENGTH	NO.
401	2'-10"	12
601	12'-8"	42
K401	18'-3"	26
K402	16'-3"	2
K403	10'-3"	2
K404	4'-3"	2
V401	6'-1"	14
V402	5'-9"	2
V403	5'-7"	2
V404	5'-5"	2
V405	5'-3"	2
V406	5'-1"	2
V407	4'-11"	2
V408	4'-9"	2
V409	4'-7"	2
V410	4'-5"	2
V411	4'-3"	2
V412	4'-1"	2
V413	3'-11"	2
V414	3'-9"	2
V415	3'-7"	2
V416	3'-5"	2
V417	3'-3"	2
V418	3'-1"	2
V419	2'-11"	2



TYPICAL SECTION

FURNISH WASHERS WITH BOLTS



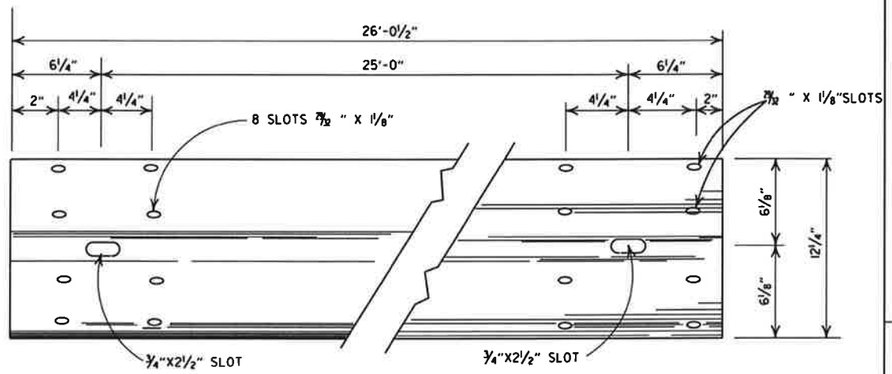
DETAIL OF ANGLE CONNECTION

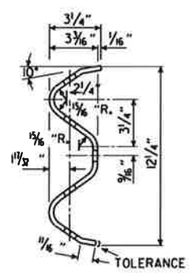
DATE	REVISION	DATE FILMED
8-15-91	REVISED GRATE PANEL	8-15-91
2-16-89	ADDED (TYPE I) TO TITLE	583-2-16-89
7-15-88	CHANGED TITLE	643-7-15-88
10-2-72	REVISED & REDRAWN	761-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

STEEL GRATE ASSEMBLY
(TYPE I)

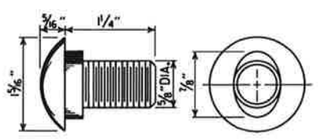
STANDARD DRAWING G-3



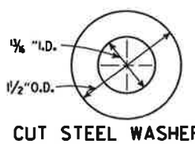


DETAILS OF W-BEAM GUARD RAIL

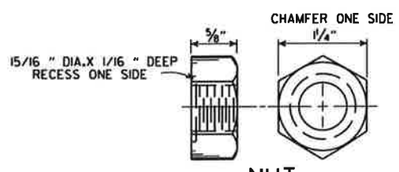
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



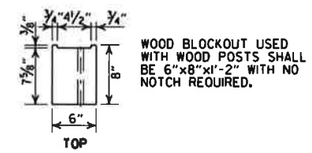
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



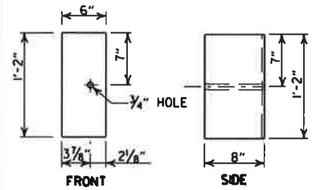
CUT STEEL WASHER



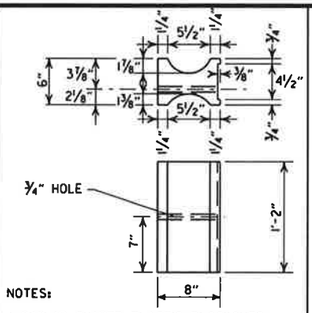
NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.



WOOD BLOCKOUT (W-BEAM)

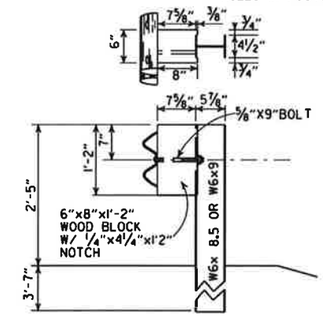


NOTES:

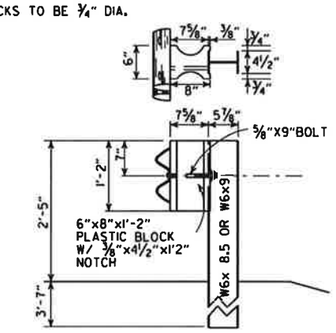
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.

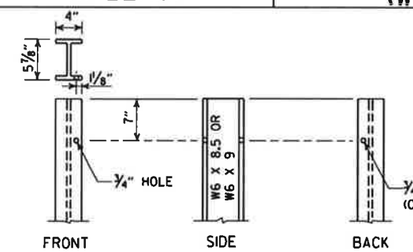


WOOD BLOCKOUT CONNECTIONS

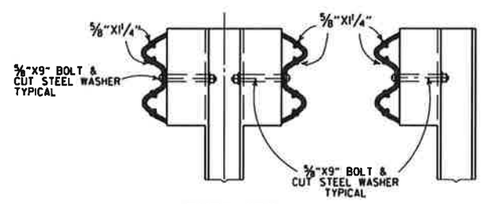


PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)



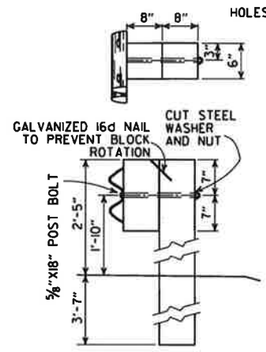
STEEL POST



TYPE "B" TYPE "A"

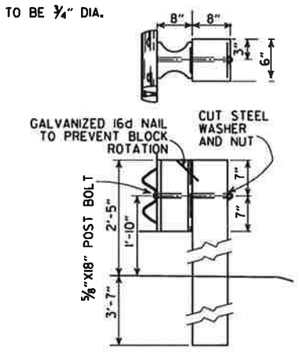
DETAILS OF STEEL LINE POST CONNECTIONS (W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE ¾" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - ¼".

WOOD BLOCKOUT CONNECTIONS



PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARD RAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARD RAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARD RAIL, W-BEAM GUARD RAIL COMPONENTS OF THE SAME TYPE AS THOSE EXISTING SHALL BE USED.

ANY BACKFILLING UNDER OR AROUND POST SHALL BE DAMP SAND THOROUGHLY TAMPED IN PLACE.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

CONTRACTOR SHALL HAVE THE OPTION OF USING WOOD BLOCKOUTS FOR W-BEAM GUARD RAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARD RAIL.

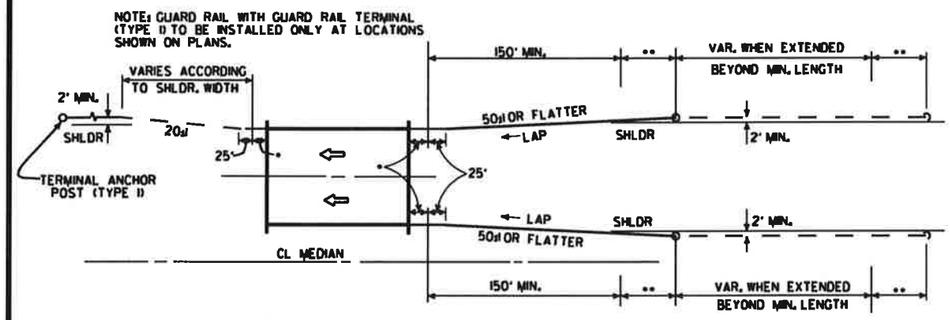
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE. REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

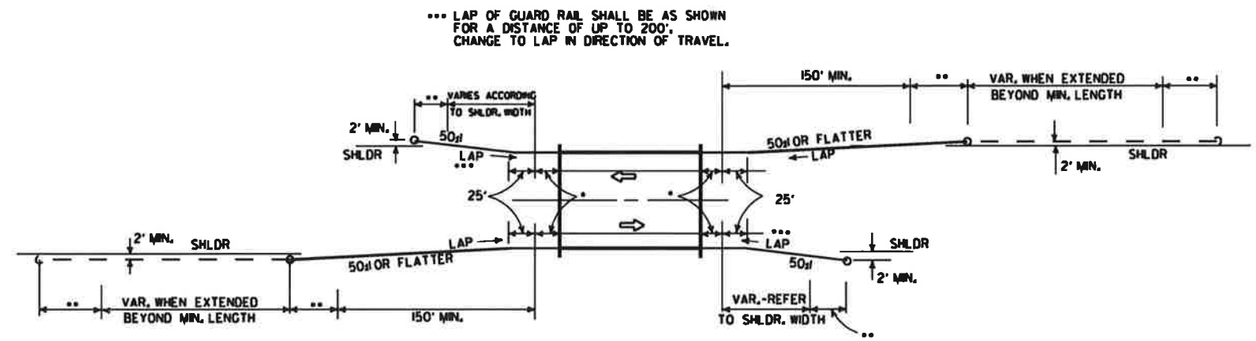
GUARD RAIL DETAILS

STANDARD DRAWING GR-8

294B



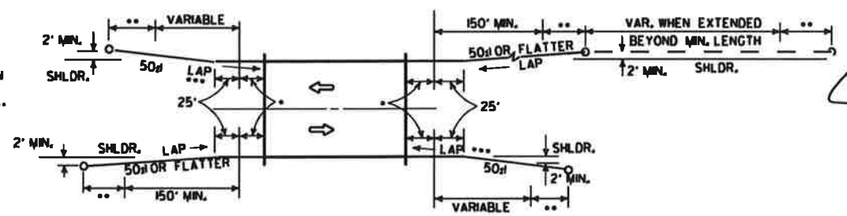
ONE-WAY TRAFFIC



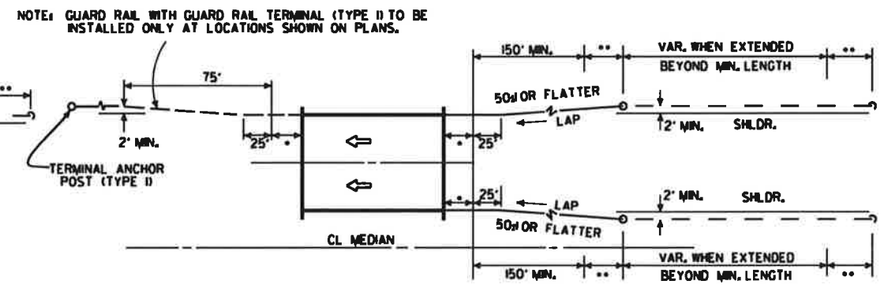
TWO-WAY TRAFFIC

METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



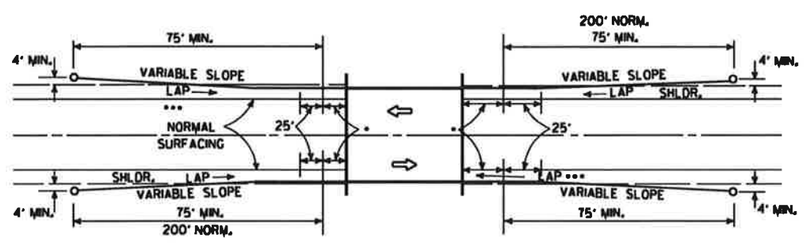
TWO-WAY TRAFFIC



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARD RAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)

••• LAP OF GUARD RAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



LEGEND

- • THRIE BEAM GUARD RAIL TERMINAL
- •• GUARD RAIL TERMINAL (TYPE 2)

METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

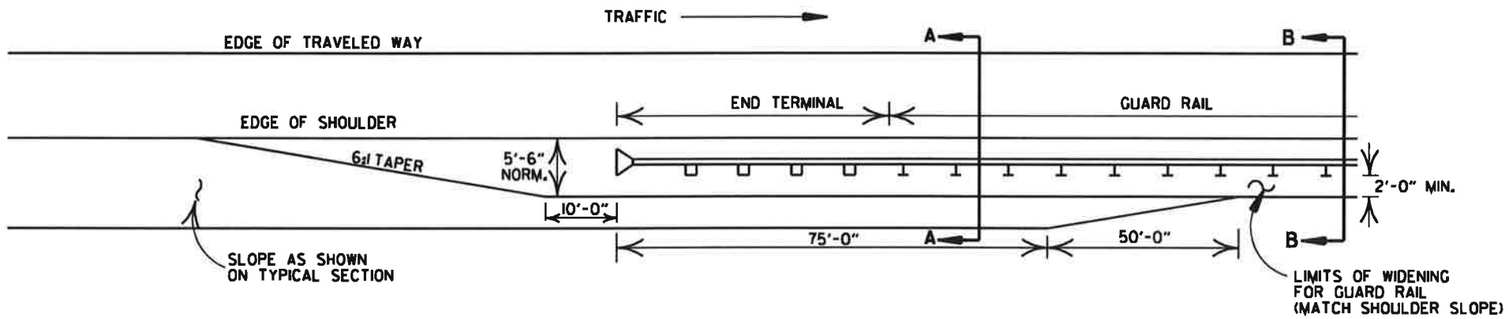
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

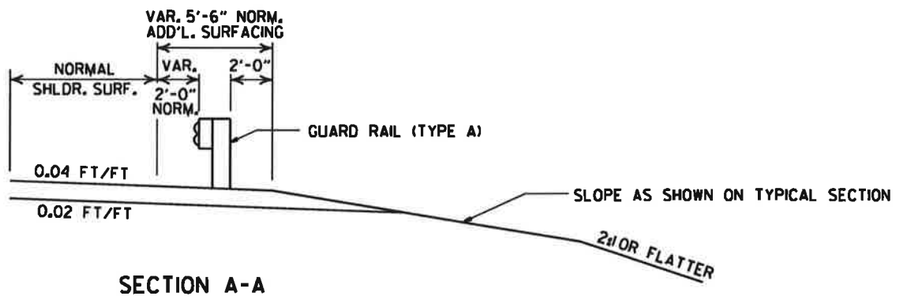
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

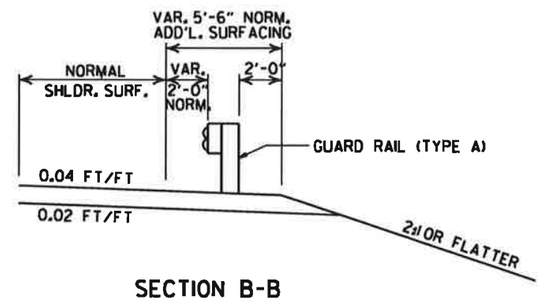
STANDARD DRAWING GR-9

294C





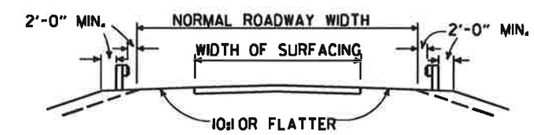
SECTION A-A



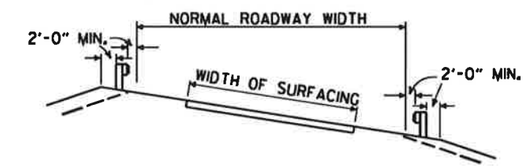
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

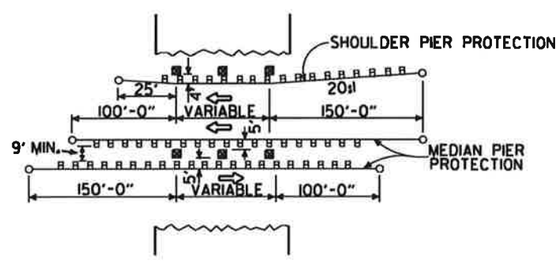


SECTION ON TANGENT



SECTION ON CURVE

DETAILS SHOWING POSITION OF GUARD RAIL ON HIGHWAY



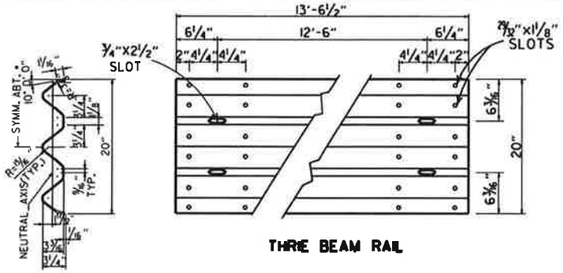
METHOD OF INSTALLATION OF GUARD RAIL AT FIXED OBSTACLE

DATE	REVISION	DATE FILM
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

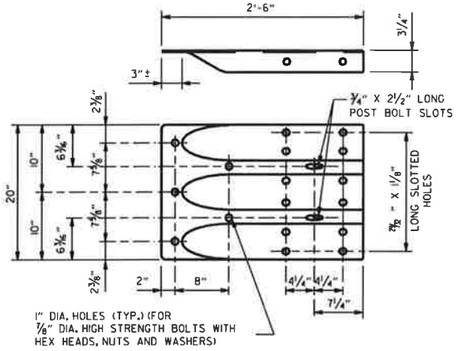
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

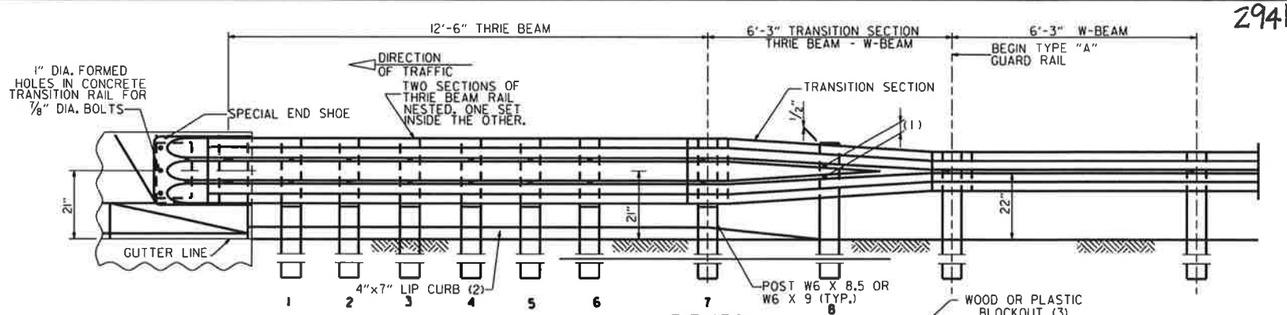
STANDARD DRAWING GR-9A



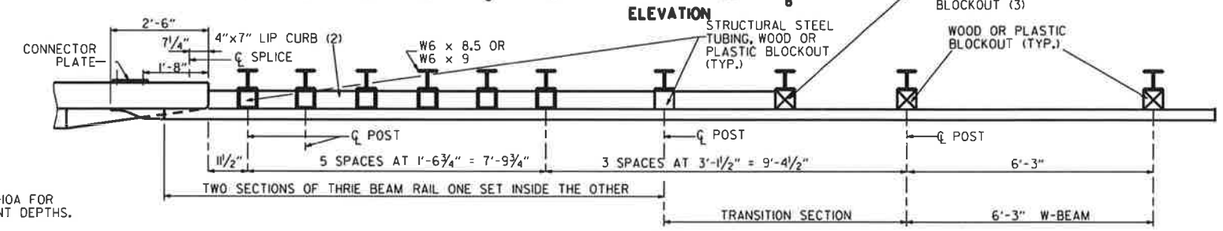
SECTION THRU THRIE BEAM RAIL



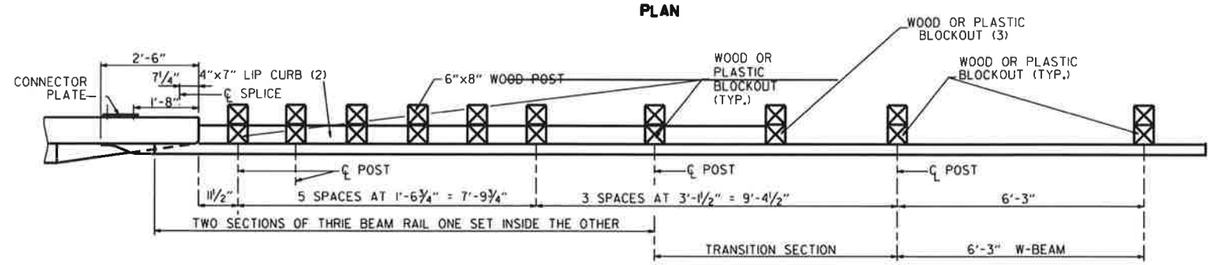
SPECIAL END SHOE



ELEVATION



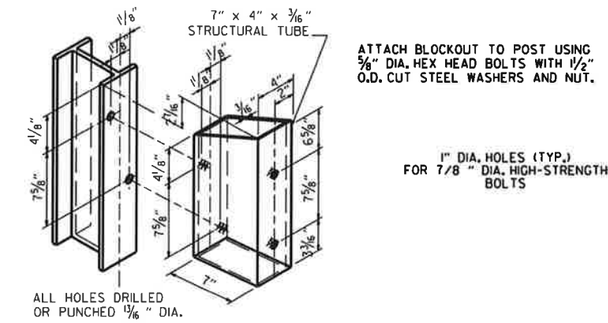
PLAN



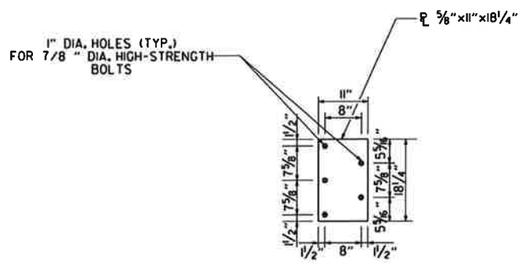
PLAN

(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS



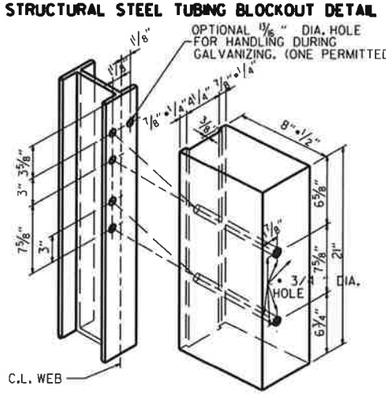
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

CONNECTOR PLATE

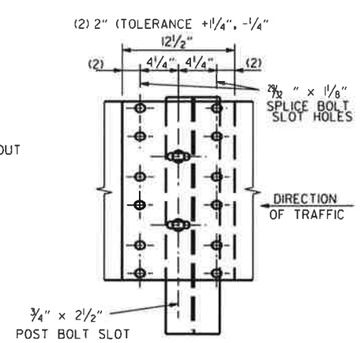
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



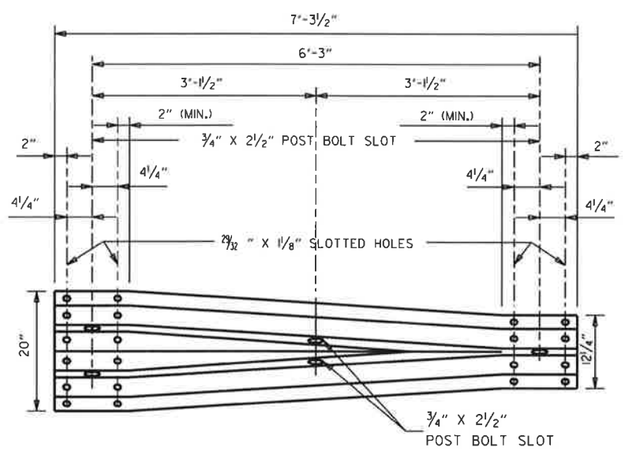
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

REFER TO STD. DRWG. GR-10A FOR POST DETAILS.

USE THRIE BEAM GUARD RAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

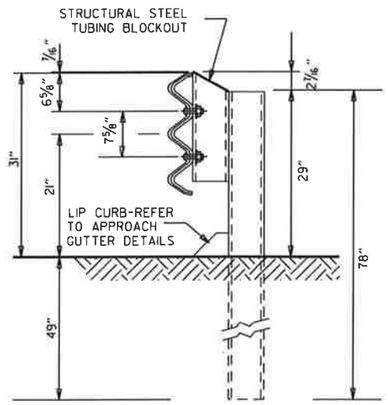
DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF W-BEAM 1"	
11-29-07	ADDED PLASTIC BLOCKOUTS	
11-10-05	ADDED NOTE FOR ATTACHING STEEL BLOCKOUT	
11-18-04	REVISED GENERAL NOTES	
10-9-03	REVISED GENERAL NOTES	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED NOTE (2)	
6-29-00	MOVED DIMENSION LINES	
5-18-00	ADDED NOTE	
3-30-00	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

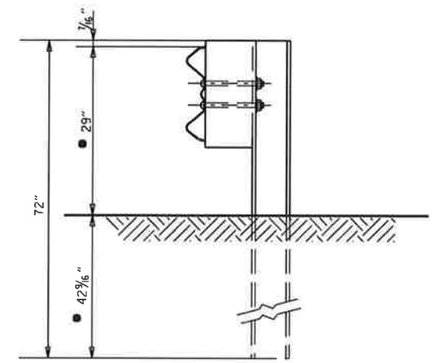
GUARD RAIL DETAILS

STANDARD DRAWING GR-10

294E

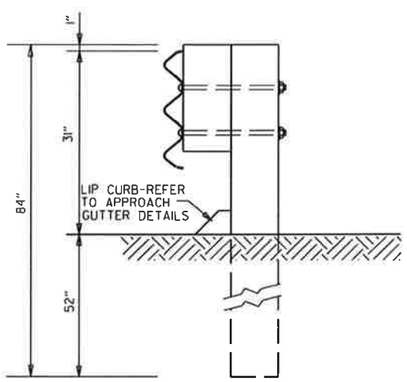


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

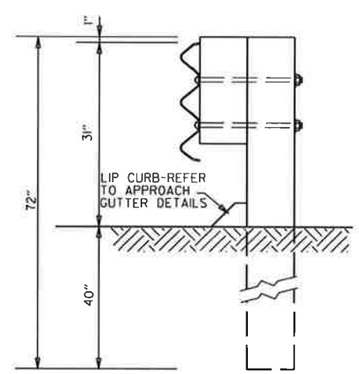


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

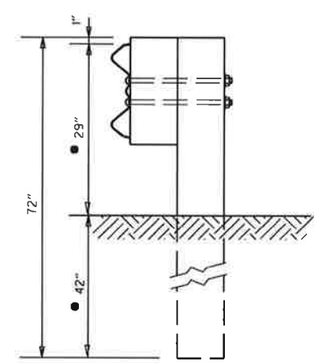
● NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

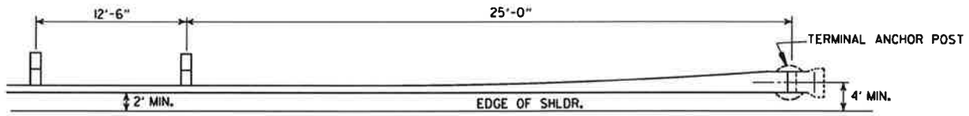
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	DATE FILM
7-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
8-22-02	REVISED LIP CURB NOTE	
3-30-00	DRAWN & ISSUED	

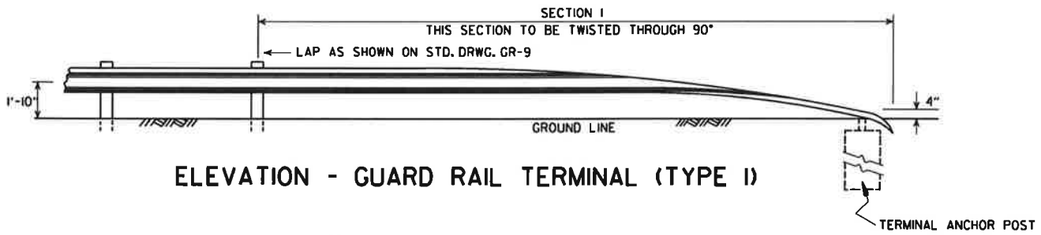
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

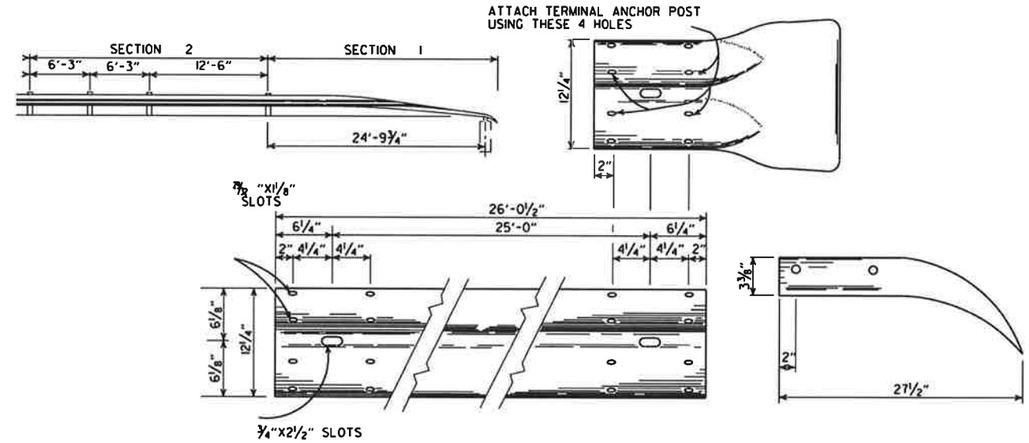


PLAN - GUARD RAIL TERMINAL (TYPE I)



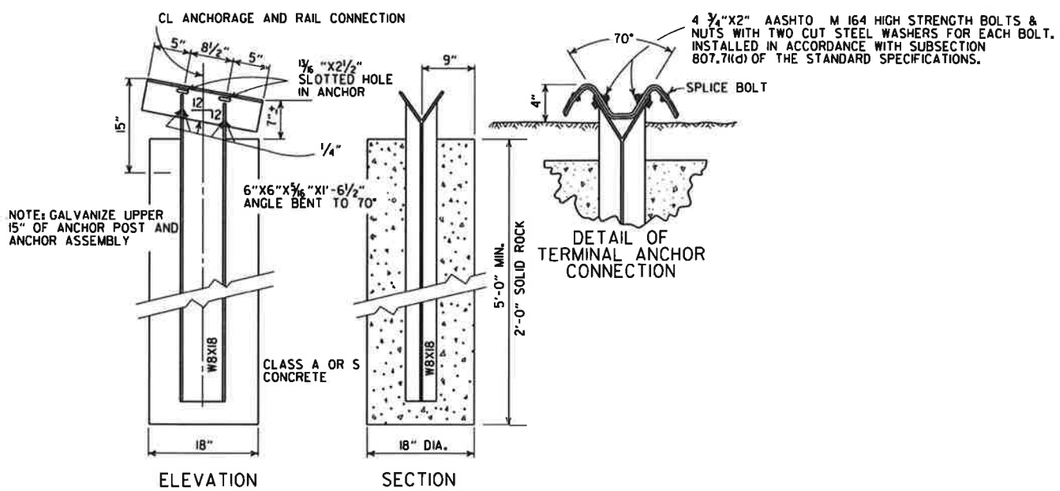
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

NOTE:
SECTIONS 1 AND 2 OF GUARD RAIL TERMINAL
SHALL BE PAID FOR AT THE PRICE BID PER
LINEAR FOOT OF THE TYPE OF GUARD RAIL SPECIFIED.



SECTION 1

TERMINAL SECTION



ELEVATION

SECTION

NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

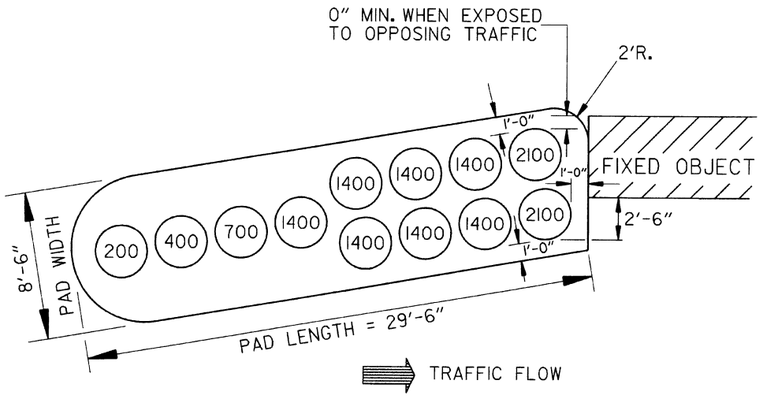
DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
6-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-3-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-1-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

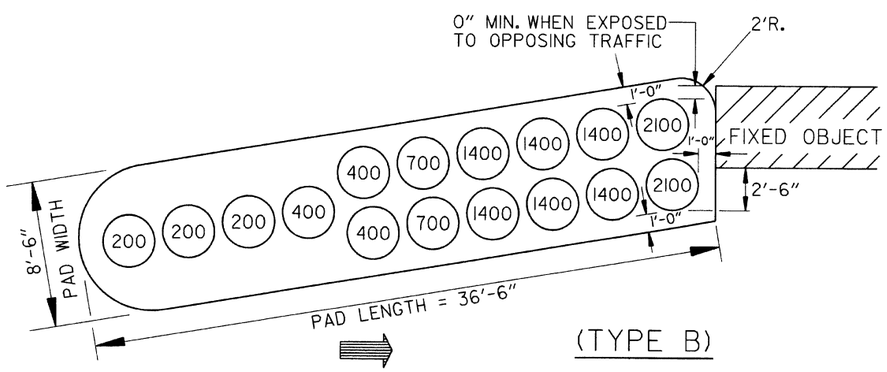
GUARD RAIL DETAILS

STANDARD DRAWING GRT-1



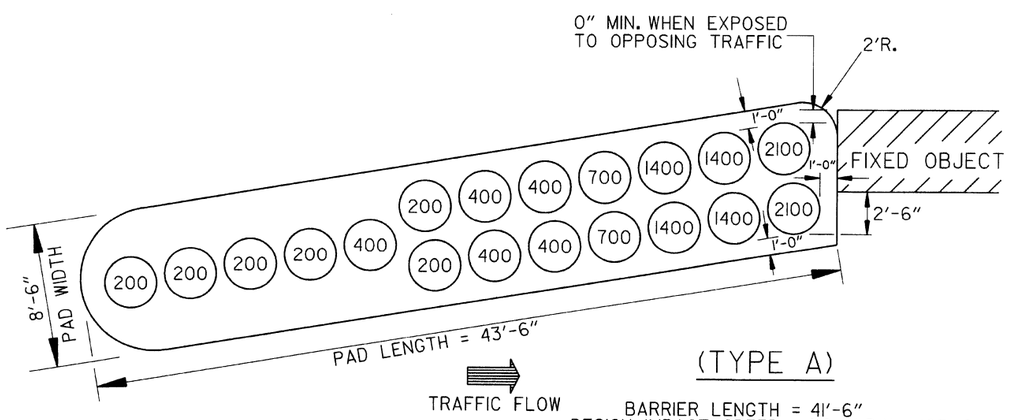
(TYPE C)

BARRIER LENGTH = 27'-6"
DESIGN IMPACT SPEED = 50 M.P.H.= 73.3 fps



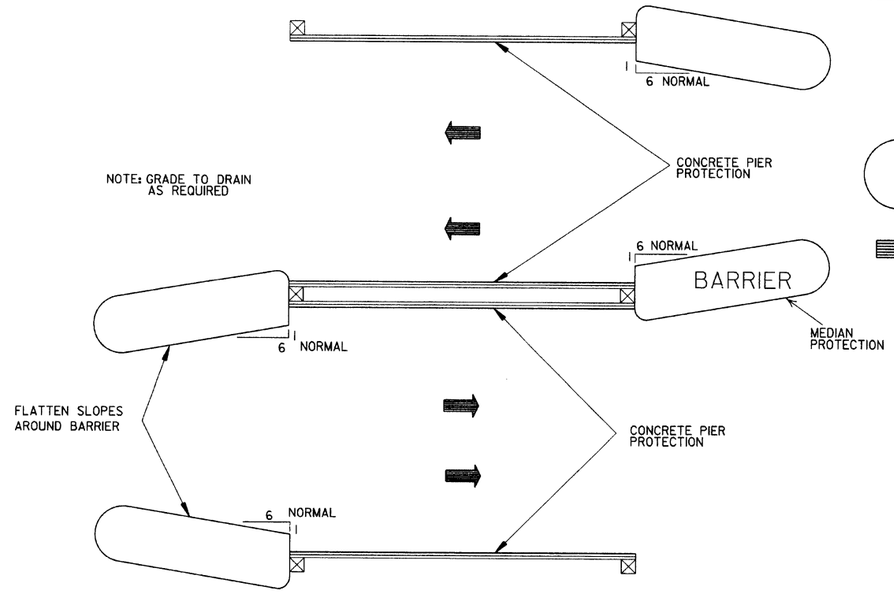
(TYPE B)

BARRIER LENGTH = 34'-6"
DESIGN IMPACT SPEED = 60 M.P.H.= 88 fps

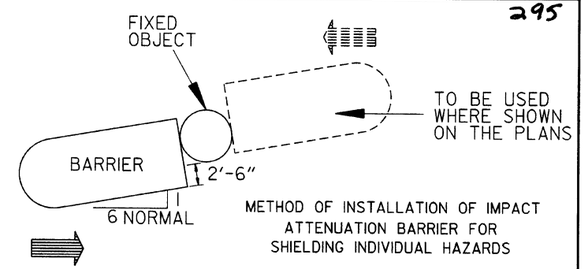


(TYPE A)

BARRIER LENGTH = 41'-6"
DESIGN IMPACT SPEED = 70 M.P.H.= 103 fps



METHOD OF INSTALLATION OF IMPACT ATTENUATION BARRIER FOR PIER PROTECTION



METHOD OF INSTALLATION OF IMPACT ATTENUATION BARRIER FOR SHIELDING INDIVIDUAL HAZARDS

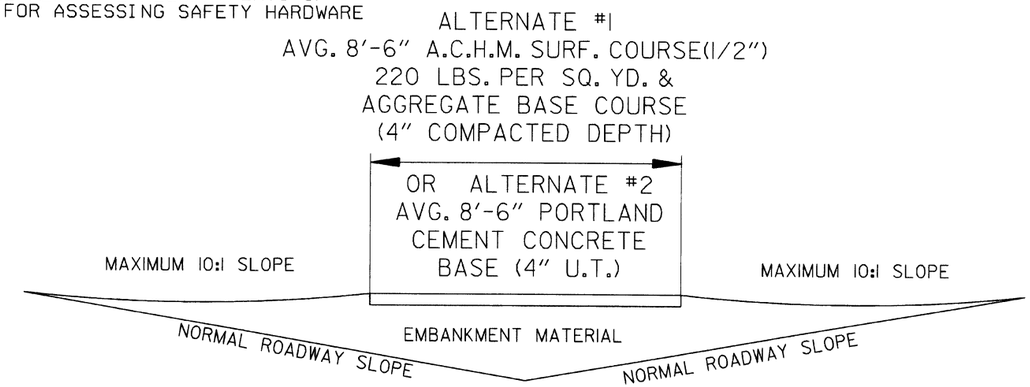
APPROXIMATE QUANTITIES PER PAD

TYPE	ALTERNATE #1		ALTERNATE #2
	AGGR. BASE COURSE	A.C.H.M. SURFACE COURSE	P.C.CONC. BASE (4"U.T.)
	TONS	TONS	SQ.YDS.
A	9.7	4.6	41.6
B	8.1	3.8	34.9
C	6.6	3.1	28.3

NOTE: APPROXIMATE QUANTITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. PAYMENT TO BE INCLUDED IN UNIT PRICE BID FOR IMPACT ATTENUATION BARRIER.

GENERAL NOTES

1. DIMENSIONS SHOWN ARE TO TOP OF PLASTIC MODULES.
2. SPACING BETWEEN PLASTIC MODULES SHALL NOT EXCEED 6" AT THE TOP.
3. PLASTIC MODULES SHALL MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



DETAIL OF BARRIER PAD

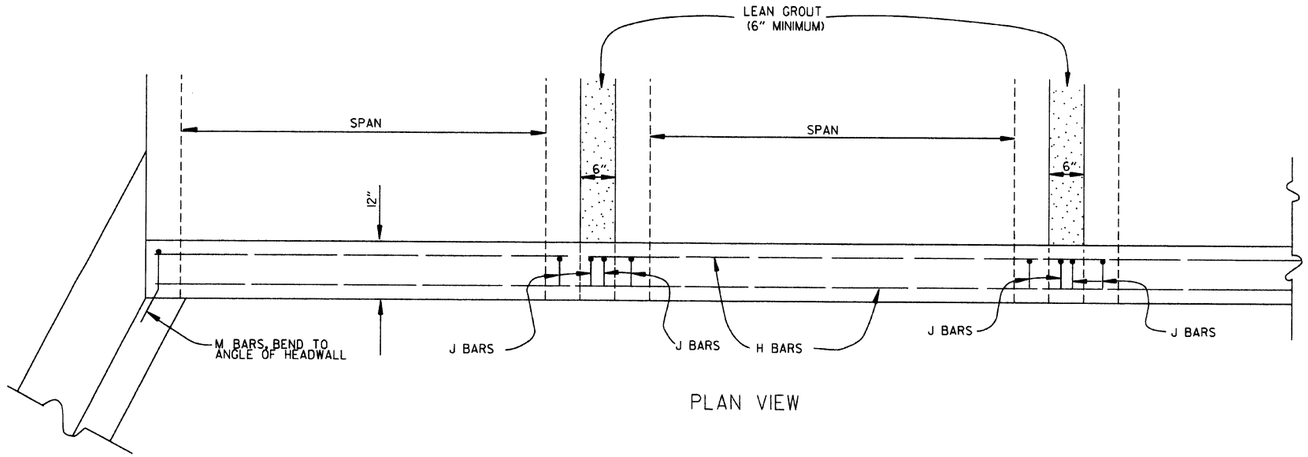
NOTE: BARRIER PAD TO BE SKEWED TOWARD ONCOMING TRAFFIC A MAXIMUM OF 6:1 WITH 6:1 BEING NORMAL

DATE	REVISION	DATE FILMED
10-15-09	ADDED REFERENCE TO MASH	
11-29-07	REVISED TY. A & TY. C ARRAYS	
11-19-98	REVISED FIXED OBJECT	
11-18-98	REV. NOTES & TYPE A MOD. WTS.	
10-18-96	REDRAWN	
7-15-88	CONFORMED TO 1988 SPECS	
7-29-87	REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

IMPACT ATTENUATION BARRIER

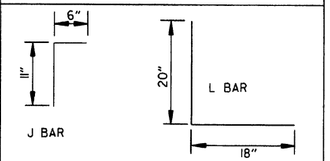
STANDARD DRAWING IB-1



PLAN VIEW

BAR LIST

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



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

GENERAL NOTES

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

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

ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFERS.

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

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

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

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

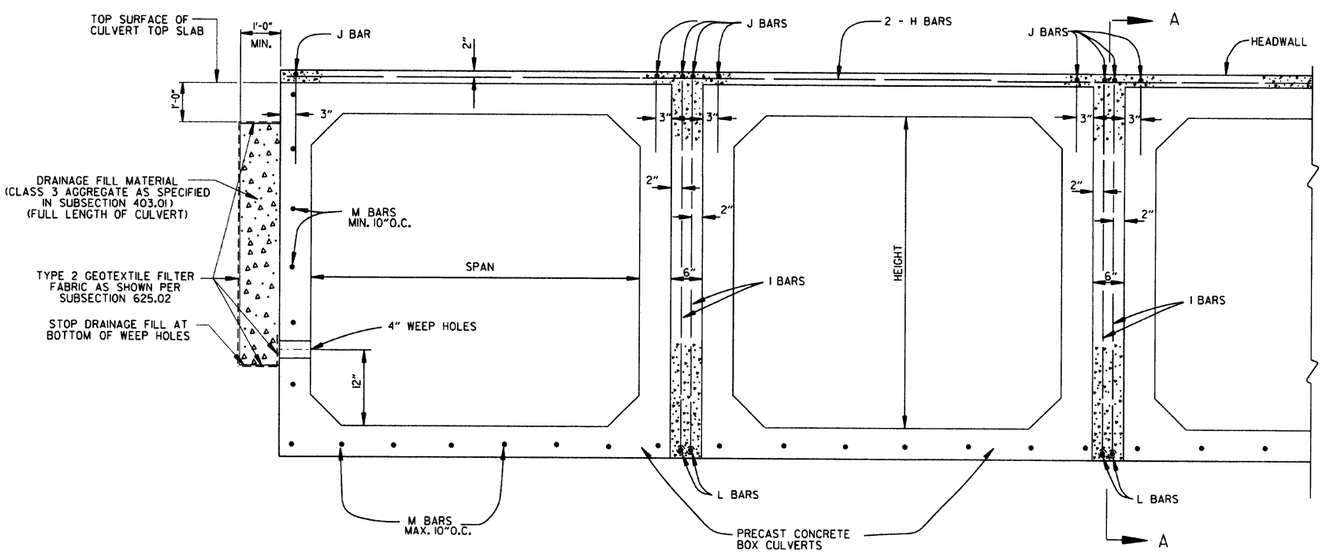
THE MEMBRANE WATERPROOFING WILL BE REQUIRED ON THE TOP EXTERNAL JOINT AND SHALL EXTEND 1 FOOT DOWN THE SIDES OF THE CULVERT.

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

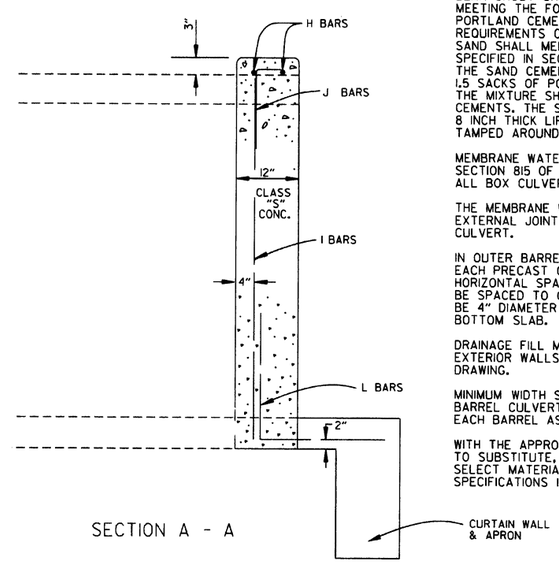
DRAINAGE FILL MATERIAL WITH GEOTEXTILE FABRIC IS REQUIRED AT THE EXTERIOR WALLS OF THE ASSEMBLED CULVERT, SEE DETAILS ON THIS DRAWING.

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

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



END VIEW



SECTION A - A

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

ARKANSAS STATE HIGHWAY COMMISSION

PRECAST CONCRETE BOX CULVERTS

STANDARD DRAWING PBC-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	AHTD NOMINAL	AASHTO M 206	AHTD NOMINAL
INCHES	INCHES			
15	18	18	11	11
18	22	22	13½	14
21	26	26	15½	16
24	28½	29	18	18
30	36¼	36	22½	23
36	43⅜	44	26⅝	27
42	51⅛	51	31 5/16	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

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

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

CONSTRUCTION SEQUENCE

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

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

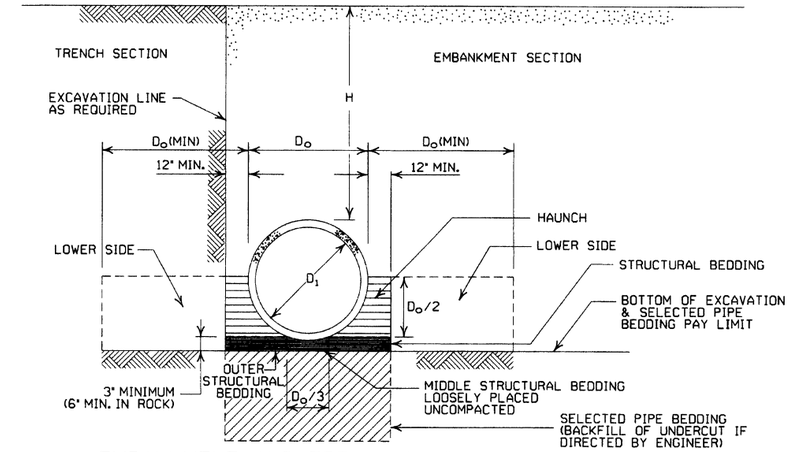
- LEGEND -

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

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL: MIN. THICKNESS REQUIRED INCHES	STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MIN. THICKNESS REQUIRED INCHES	ALUMINUM: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	ALUMINUM: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM			2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM		
15	17x13	3	0.064	2	15	0.060	2	15
18	21x15	3	0.064	2	15	0.060	2	15
21	24x18	3	0.064	2.25	15	0.060	2.25	15
24	28x20	3	0.064	2.5	15	0.075	2.5	15
30	35x24	3	0.079	3	12	0.075	3	12
36	42x29	3½	0.079	3	12	0.105	3	12
42	49x33	4	0.079	3	12	0.105	3	12
48	57x38	5	0.109	3	13	0.135	3	13
54	64x43	6	0.109	3	14	0.135	3	14
60	71x47	7	0.138	3	15	0.164	3	15
66	77x52	8	0.168	3	15			
72	83x57	9	0.168	3	15			

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL: MIN. THICKNESS REQUIRED INCHES	STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 2	STEEL: ① MIN. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1	STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 2	STEEL: MAX. HEIGHT OF FILL, "H" (FT.) INSTALLATION TYPE 1
			② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM				
36	40x31	5	0.079	3	2	12	15
42	46x36	6	0.079	3	2	13	15
48	53x41	7	0.079	3	2	13	15
54	60x46	8	0.079	3	2	13	15
60	66x51	9	0.079	3	2	13	15
66	73x55	12	0.079	3	2	15	15
72	81x59	14	0.079	3	2	15	15
78	87x63	14	0.079	3	2	15	15
84	95x67	16	0.109	3	2	15	15
90	103x71	16	0.109	3	2	15	15
96	112x75	18	0.109	3	2	15	15
102	117x79	18	0.109	3	2	15	15
108	128x83	18	0.138	3	2	15	15

CONSTRUCTION SEQUENCE

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

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

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

③ SM-3 WILL NOT BE ALLOWED.

EQUIVALENT METAL THICKNESSES AND GAUGES

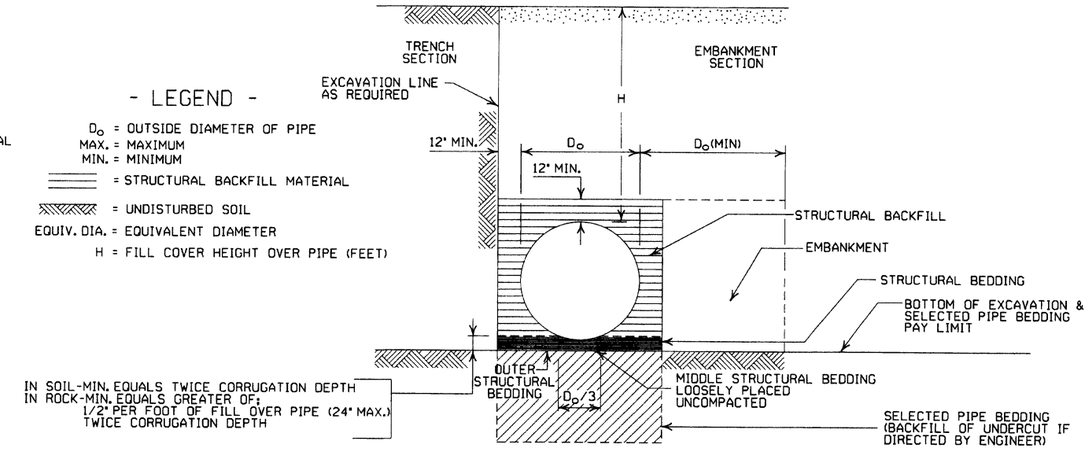
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

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

② WHERE THE STANDARD 2 2/3"x ½" CORRUGATION AND GAUGE IS SPECIFIED FOR A GIVEN DIAMETER, A PIPE OF THE SAME DIAMETER WITH A 3" x 1" OR 5" x 1" CORRUGATION MAY BE SUBSTITUTED, PROVIDING IT IS GAUGED FOR A FILL HEIGHT CONDITION EQUAL TO OR GREATER THAN THE MAXIMUM FILL HEIGHT CONDITION FOR THE SPECIFIED GAUGE AND CORRUGATION.

- LEGEND -

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



EMBANKMENT AND TRENCH INSTALLATIONS

1. STRUCTURAL BACKFILL, EMBANKMENT, AND OUTER STRUCTURAL BEDDING MATERIAL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY ACCORDING TO THE TYPE OR CLASS OF MATERIAL USED.
2. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE (ROUND).
3. INSTALALTION TYPE 1 SHALL BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 2⅔" X ½" CORRUGATION.
4. INSTALLATION TYPE 1 OR 2 MAY BE USED FOR CORRUGATED STEEL OR ALUMINUM PIPE ARCHES WITH 3" X 1" OR 5" X 1" CORRUGATION.

GENERAL NOTES

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

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

ARKANSAS STATE HIGHWAY COMMISSION

METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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

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

SM3 WILL NOT BE ALLOWED.

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

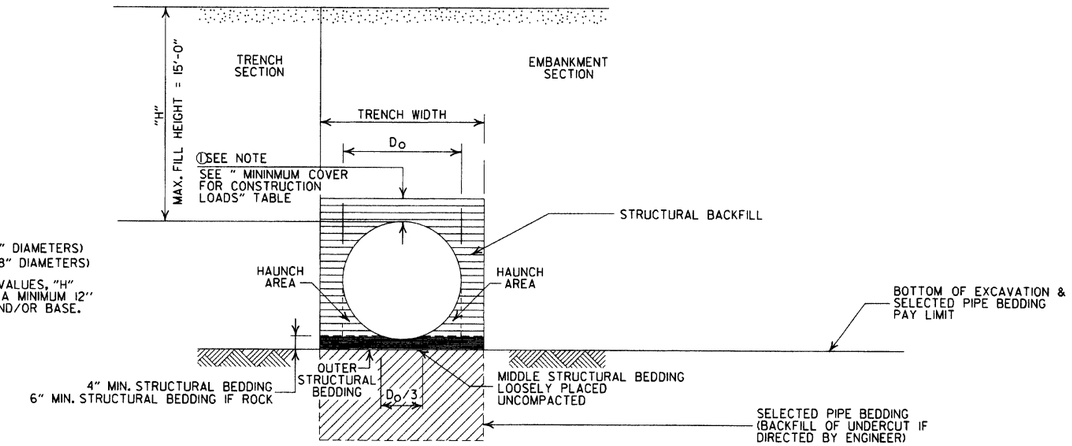
STRUCTURAL BACKFILL AND STRUCTURAL BEDDING MATERIAL WILL NOT BE PAID FOR SEPARATELY, BUT COMPENSATION WILL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID PER LINEAR FOOT OF HDPE PIPE.

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

①NOTE:
18" MIN. (18" - 30" DIAMETERS)
24" MIN. (36" - 48" DIAMETERS)

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

MULTIPLE INSTALLATION OF HIGH DENSITY POLYETHYLENE PIPES

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

MINIMUM COVER FOR CONSTRUCTION LOADS

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

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

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

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

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

ARKANSAS STATE HIGHWAY COMMISSION

PLASTIC PIPE CULVERT (HIGH DENSITY POLYETHYLENE)

STANDARD DRAWING PCP-1

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

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

SM3 WILL NOT BE ALLOWED.

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

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

MINIMUM TRENCH WIDTH BASED ON FILL HEIGHT "H"

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

MULTIPLE INSTALLATION OF PVC PIPES

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

MAXIMUM FILL HEIGHT BASED ON STRUCTURAL BACKFILL

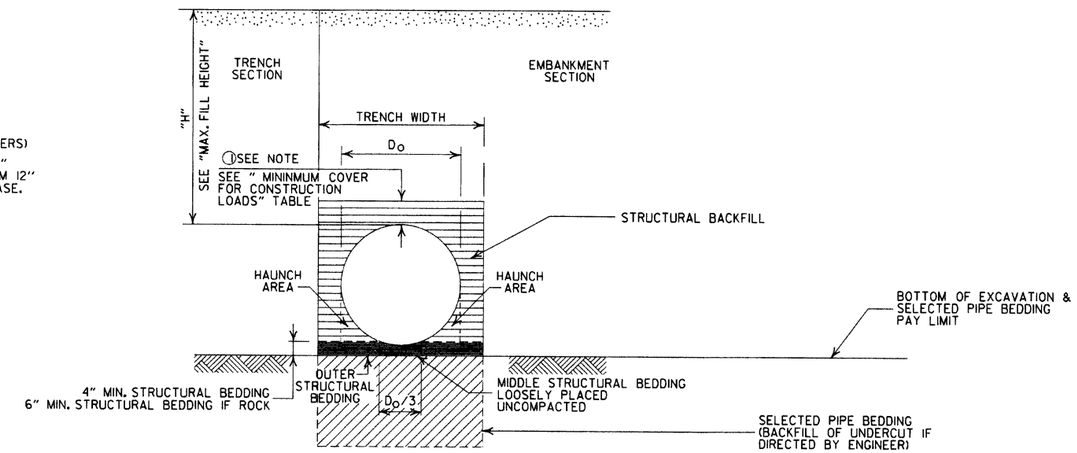
PIPE DIAMETER	"H"
18"	45'-0"
24"	45'-0"
30"	40'-0"
36"	40'-0"

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

MINIMUM COVER FOR CONSTRUCTION LOADS

PIPE DIAMETER	② MIN. COVER (FEET) FOR INDICATED CONSTRUCTION LOADS 18.0-50.0 (KIPS)	50.0-75.0 (KIPS)	75.0-110.0 (KIPS)	110.0-175.0 (KIPS)
18" THRU 36"	2'-0"	2'-6"	3'-0"	3'-0"

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



TYPE 2 EMBANKMENT AND TRENCH INSTALLATIONS

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

CONSTRUCTION SEQUENCE

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

GENERAL NOTES

1. PIPE SHALL CONFORM TO ASTM F949, CELL CLASS 12454. INSTALLATION SHALL CONFROM TO JOB SPECIAL PROVISION "PLASTIC PIPE" AND SECTION 606 OF THE STANDARD SPECIFICIATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION).
2. PLASTIC PIPE CULVERT DESIGN SHALL CONFORM TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, FIFTH EDITION (2010) WITH 2010 INTERIMS.
3. THE MAXIMUM ALLOWABLE TRENCH WIDTH SHALL BE THE MINIMUM WIDTH PLUS A SUFFICIENT WIDTH TO ENSURE WORKING ROOM TO PROPERLY AND SAFELY PLACE AND COMPACT HAUNCHING AND OTHER BACKFILL MATERIAL.
4. IMPERVIOUS MATERIAL SHOULD BE PLACED AS DIRECTED BY THE ENGINEER AT THE ENDS OF THE CULVERT TO PREVENT LOSS OF STRUCTURAL BEDDING WHEN PERVIOUS MATERIAL IS USED FOR STRUCTURAL BEDDING AND/OR BACKFILL.
5. WHEN DIRECTED BY THE ENGINEER, UNSUITABLE MATERIAL THAT IS ENCOUNTERED AT THE BOTTOM OF THE EXCAVATED TRENCH (BELOW THE AREA IDENTIFIED AS "STRUCTURAL BEDDING" ABOVE) WILL BE EXCAVATED AND REPLACED WITH SELECTED PIPE BEDDING. THE QUANTITY OF MATERIAL REQUIRED TO BACKFILL THE UNDERCUT AREA UP TO THE SELECTED PIPE BEDDING PAY LIMIT DESIGNATED ABOVE WILL BE MEASURED AND PAID FOR AS "SELECTED PIPE BEDDING."
6. WHEN THE EXISTING MATERIAL EXCAVATED FOR THE PIPE TRENCH IS DETERMINED BY THE ENGINEER TO BE UNSUITABLE FOR BACKFILLING THE PIPE (ABOVE THE AREA IDENTIFIED ABOVE AS STRUCTURAL BACKFILL), BORROW MATERIAL OR MATERIAL FROM THE ROADWAY EXCAVATION WILL BE USED TO BACKFILL THE PIPE. IF SUITABLE MATERIAL IS NOT AVAILABLE, THE ENGINEER MAY AUTHORIZE THE USE OF "SELECTED PIPE BACKFILL."
7. FOR PIPE TYPES THAT ARE NOT SMOOTH ON THE OUTSIDE (CORRUGATED OR PROFILE WALLS), BACKFILL GRADATIONS SHOULD BE SELECTED THAT WILL PERMIT THE FILLING OF THE CORRUGATION OR PROFILE VALLEY.
8. PVC PIPES OF DIAMETERS OTHER THAN SHOWN WILL NOT BE ALLOWED.
9. JOINTS FOR PVC PIPE SHALL MEET THE REQUIREMENTS FOR SOIL TIGHTNESS AS SPECIFIED IN AASHTO SECTION 26.4.2.4 AND 30.4.2 "AASHTO LRFD BRIDGE CONSTRUCTION SPECIFICATIONS." JOINTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

- LEGEND -

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

= STRUCTURAL BACKFILL MATERIAL

= UNDISTURBED SOIL

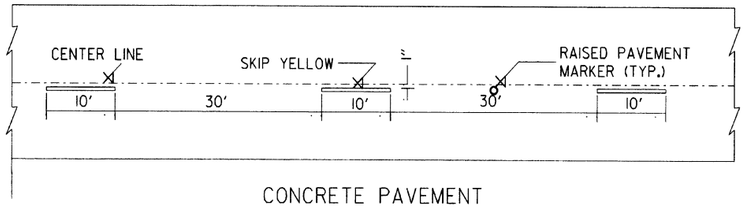
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REV GENERAL NOTES & MINIMUM COVER NOTE; DELETED SM3 MATERIAL	
11-17-10	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

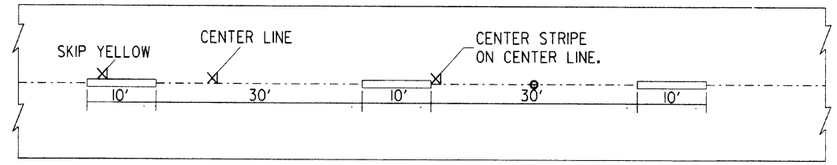
PLASTIC PIPE CULVERT (PVC F949)

STANDARD DRAWING PCP-2

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

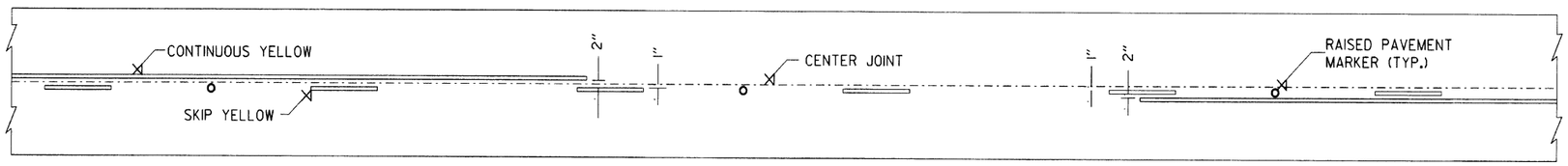


CONCRETE PAVEMENT

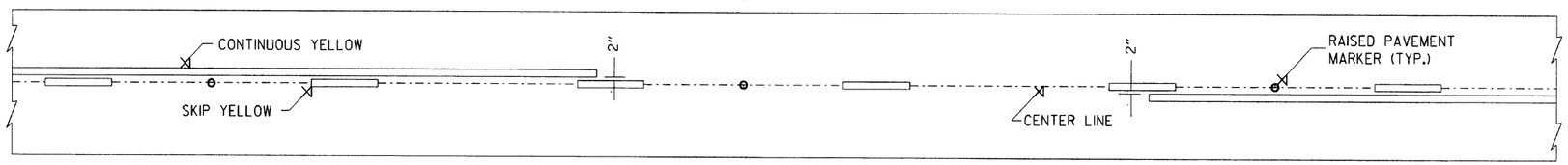


ASPHALT PAVEMENT

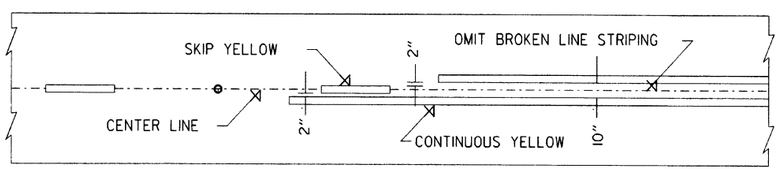
BROKEN LINE STRIPING



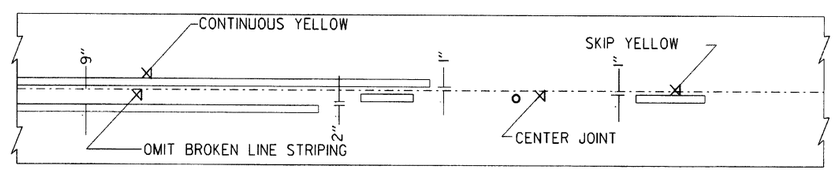
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

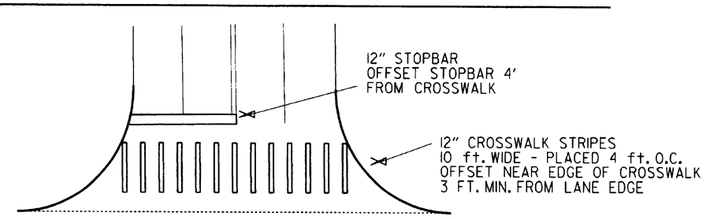


ASPHALT PAVEMENT



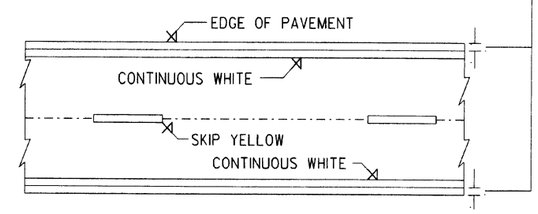
CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

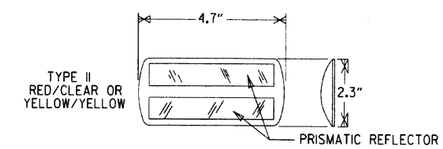


CROSSWALK AND STOPBAR DETAILS

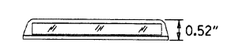
2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT



PAVEMENT EDGE LINE MARKING



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



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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

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

ARKANSAS STATE HIGHWAY COMMISSION

PAVEMENT MARKING DETAILS

STANDARD DRAWING PM-1

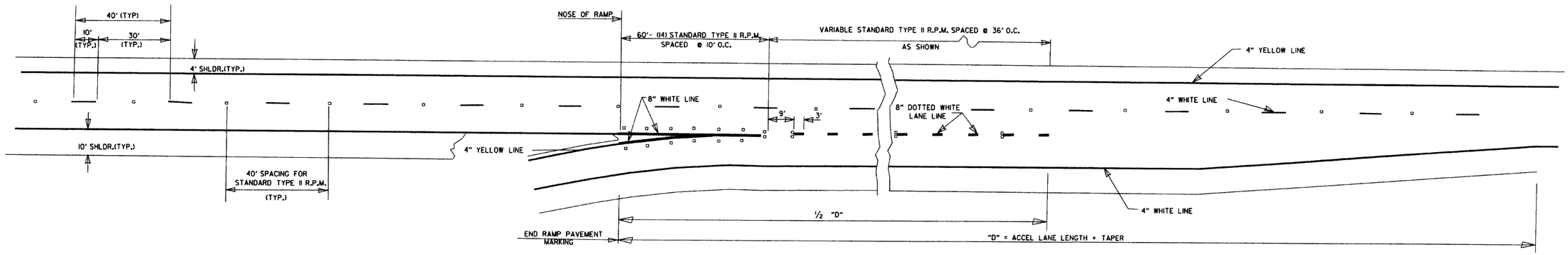
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

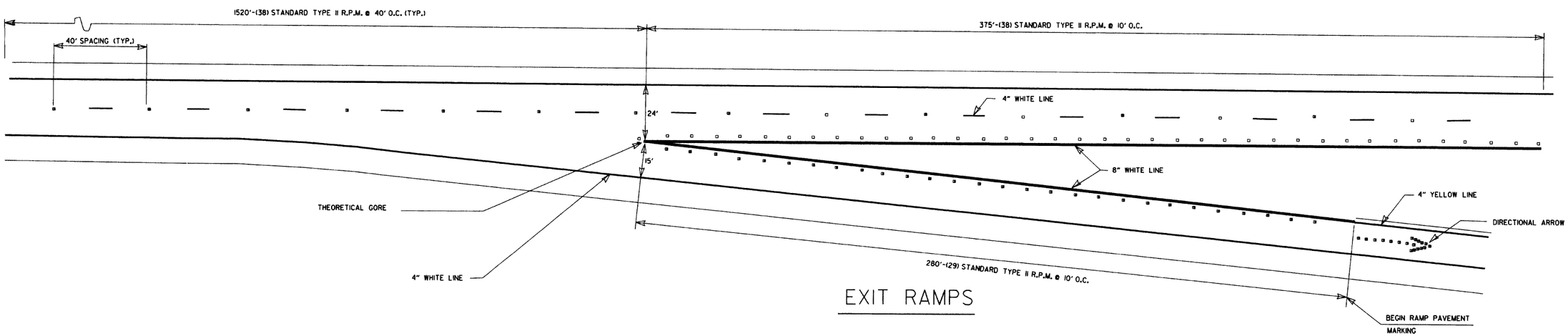
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

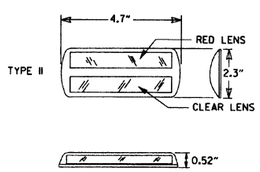
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

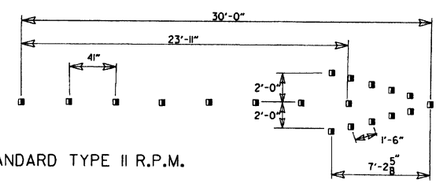


EXIT RAMPS



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

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



(19) STANDARD TYPE II R.P.M.

DIRECTIONAL ARROWS

GENERAL NOTES:

THIS DRAWING SHOULD BE CONSIDERED AS TYPICAL ONLY AND THE FINAL LOCATION OF THE STRIPING AND PAVEMENT MARKERS SHALL BE DETERMINED BY THE ENGINEER.

THIS DRAWING SHOULD BE USED IN CONJUNCTION WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST REVISION.

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

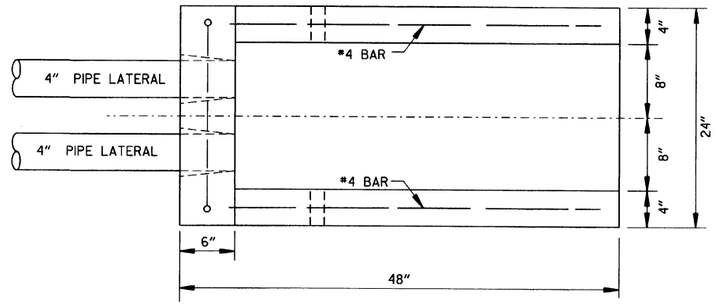
DATE	REVISION	FILMED
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
7-26-12	REVISED RPM NOTATION	
12-15-11	REVISED RPMs ACCORDING TO LATEST POLICY	
11-17-10	REMOVED PLOWABLE PAVEMENT MARKERS	
6-3-10	REVISED PER 2009 MUTCD	
11-18-04	REVISED NOTES	
8-22-02	ADDED & REVISED NOTES; REV. ENTRANCE & EXIT RAMPS	
5-18-00	REMOVED HASHMARKS	
7-02-98	CHANGED TYPES TO ROMAN NUMERALS	
4-26-96	ADDED DIMENSIONS & QUANTITIES; REVISED LANE WIDTH ON EXIT RAMP	
2-2-95	PLACED IN USE	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

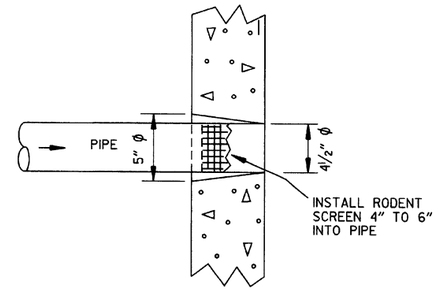
PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS

STANDARD DRAWING PM-2

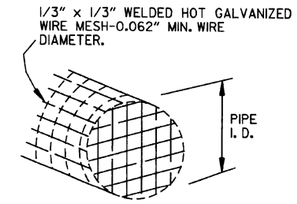
NOTE:
1. GRANULAR BACKFILL TO BE SUBSIDIARY TO PIPE UNDERDRAIN.
2. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.
3. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF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



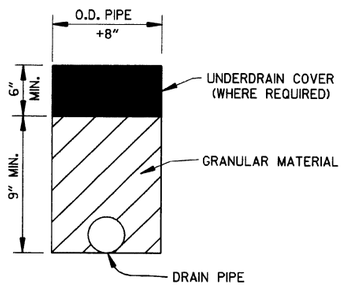
PLAN VIEW

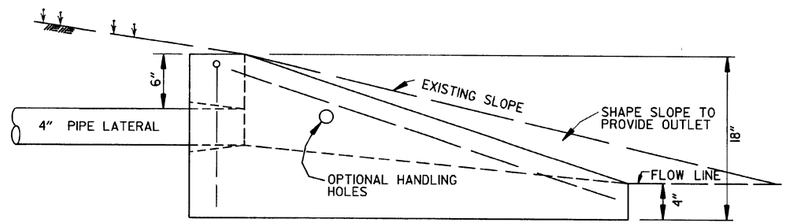


DETAIL OF HOLE FOR 4" PIPE

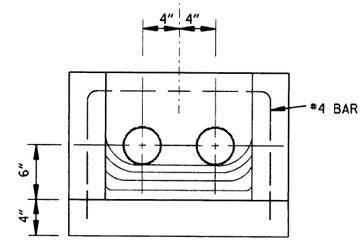


DETAIL OF RODENT SCREEN

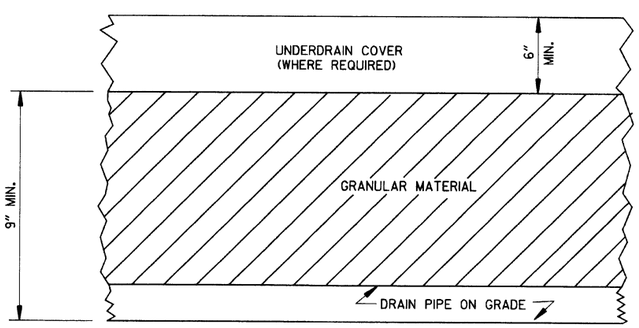




SIDE VIEW

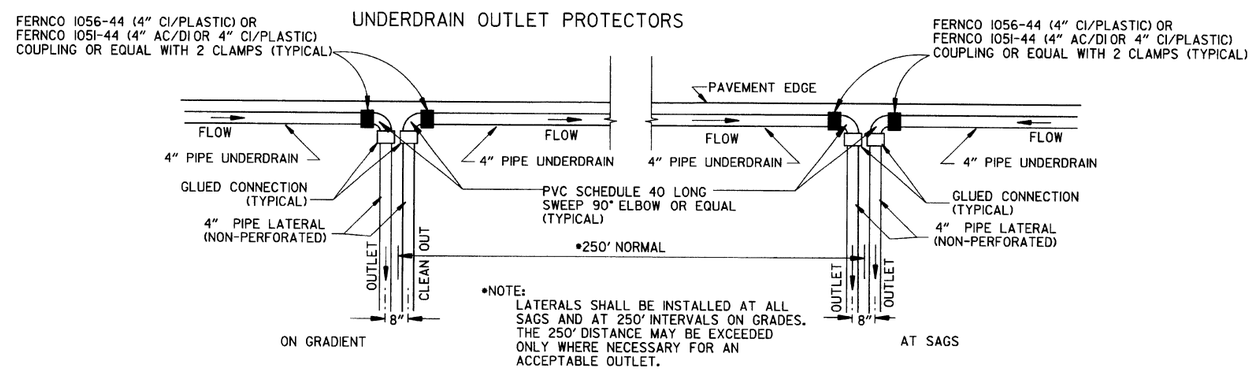


FRONT VIEW



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS WHEN PLACED ALONG PAVEMENT EDGE

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

DATE	REVISION	DATE FILMED
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF PIPE UNDERDRAIN

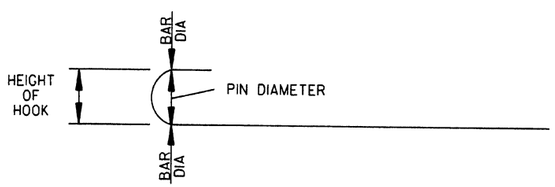
STANDARD DRAWING PU-1

7-20-95 INSTD.PUI

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

BAR SIZE	PIN DIAMETER	HOOK EXTENSION "K"
3	2¼"	4"
4	3 "	4½"
5	3¾"	5"
6	4½"	6"
7	5¼"	7"
8	6"	8"

IF THE OVERALL HEIGHT OF THE HOOK (SEE DIAGRAM BELOW) FOR A "b", "bl", "b2" or "b3" BENT BAR IS GREATER THAN THE CORRESPONDING TOP OR BOTTOM SLAB THICKNESS, LESS 2¾ INCHES, EACH BENT BAR SHALL BE REPLACED WITH ONE HOOKED BAR AND ONE STRAIGHT BAR, USING LENGTHS AS SHOWN IN THE TABLE BELOW. THE TWO BARS SHALL BE THE SAME DIAMETER AS, AND PLACED AT THE SAME SPACING AS, THE "b", "bl", "b2" OR "b3" BENT BARS THEY REPLACE.



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

OVERALL HEIGHT OF HOOKED BAR DIAGRAM

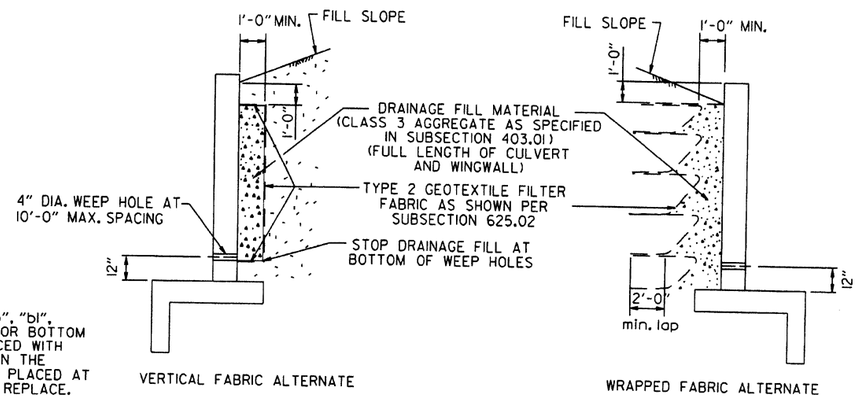
THE HOOKED BARS SHALL BE PLACED IN THE BOTTOM OF THE TOP SLAB AND THE TOP OF THE BOTTOM SLAB. THE STRAIGHT BARS SHALL BE PLACED IN THE TOP OF THE TOP SLAB AND THE BOTTOM OF THE BOTTOM SLAB. SEE TABLE BELOW FOR LENGTHS OF REPLACEMENT HOOKED AND STRAIGHT BARS.

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

REPLACEMENT BAR LENGTHS TABLE

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

L = "OW" - 3 INCHES



WINGWALL & CULVERT DRAINAGE DETAIL

REINFORCED CONCRETE BOX CULVERT GENERAL NOTES

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

REINFORCING STEEL SHALL BE AASHTO M 31 OR M 53, GRADE 60.

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

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

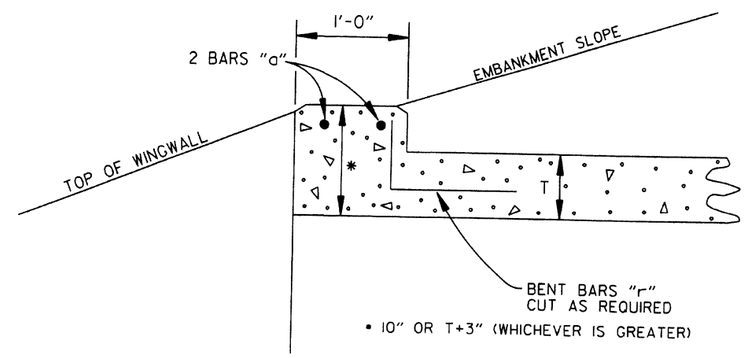
MEMBRANE WATERPROOFING SHALL BE APPLIED TO ALL CONSTRUCTION JOINTS IN THE TOP SLAB AND THE SIDEWALLS OF R.C. BOX CULVERTS AS DIRECTED BY THE ENGINEER. NO PAYMENT SHALL BE MADE FOR THIS ITEM, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS BID FOR THE R.C. BOX CULVERT.

REINFORCING STEEL TOLERANCES: THE TOLERANCES FOR REINFORCING STEEL SHALL MEET THOSE LISTED IN "MANUAL OF STANDARD PRACTICE" PUBLISHED BY CONCRETE REINFORCING STEEL INSTITUTE (CRSI) EXCEPT THAT THE TOLERANCE FOR TRUSS BARS SUCH AS FIGURE 3 ON PAGE 7-4 OF THE CRSI MANUAL SHALL BE MINUS ZERO TO PLUS ½ INCH.

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

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

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



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

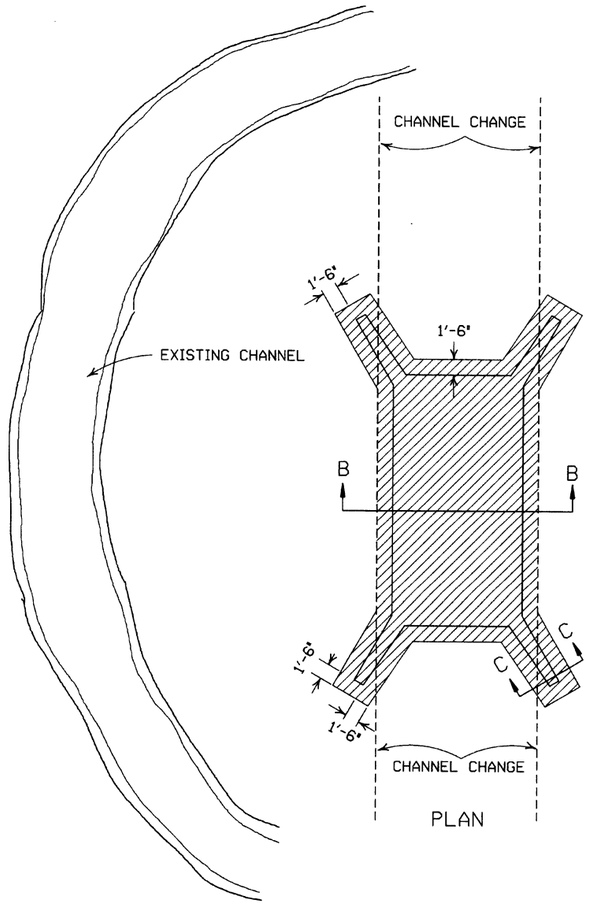
R.C. BOX CULVERT HEADWALL MODIFICATIONS

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

ARKANSAS STATE HIGHWAY COMMISSION

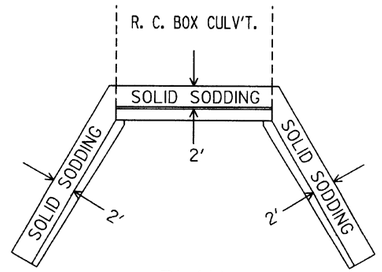
REINFORCED CONCRETE BOX CULVERT DETAILS

STANDARD DRAWING RCB-1



PLAN

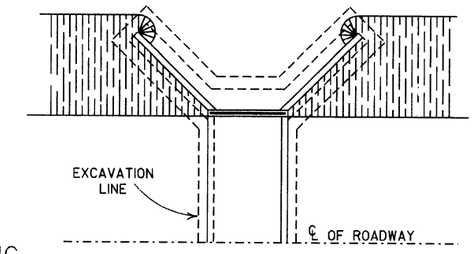
SOLID SODDING



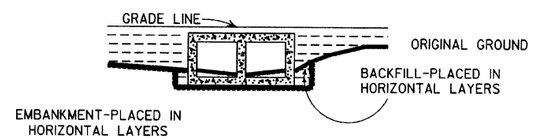
PLAN

PARTIAL SECTION SHOWING SOLID SODDING AT HEADWALLS AND WING WALLS

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

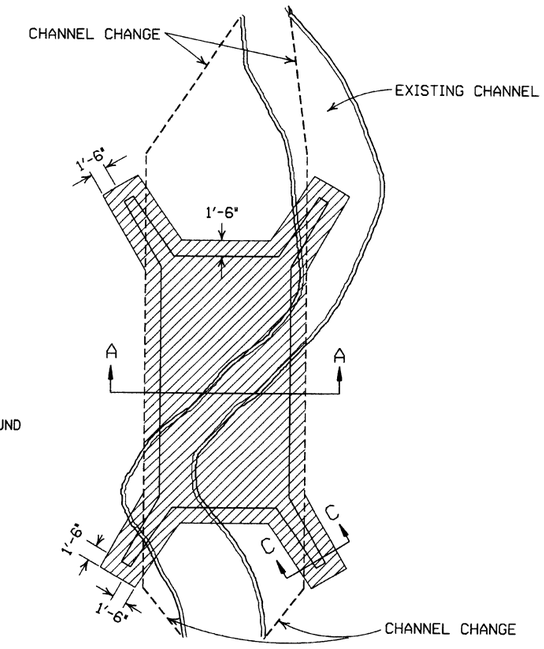


PLAN

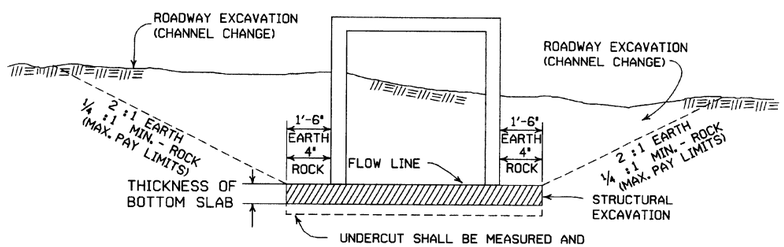


LONGITUDINAL SECTION

BACKFILL DETAILS FOR BOX CULVERT



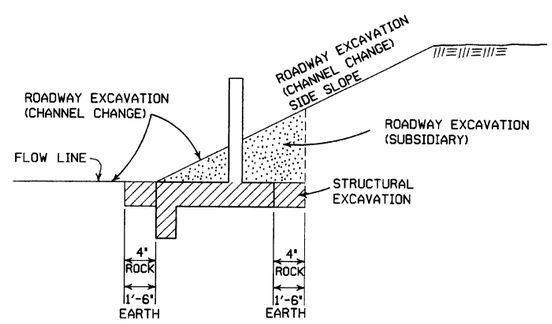
PLAN



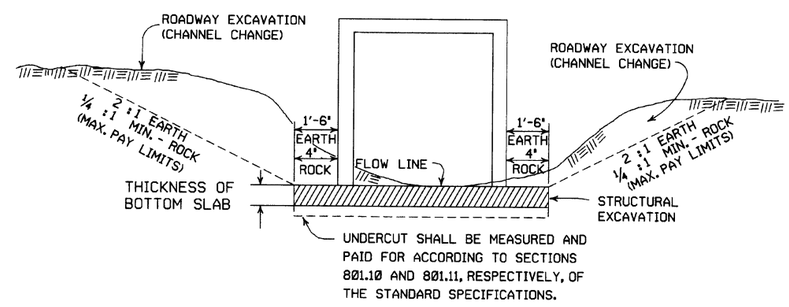
UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

SECTION B-B

DETAILS FOR NEW CHANNELS



SECTION C-C



UNDERCUT SHALL BE MEASURED AND PAID FOR ACCORDING TO SECTIONS 801.10 AND 801.11, RESPECTIVELY, OF THE STANDARD SPECIFICATIONS.

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.

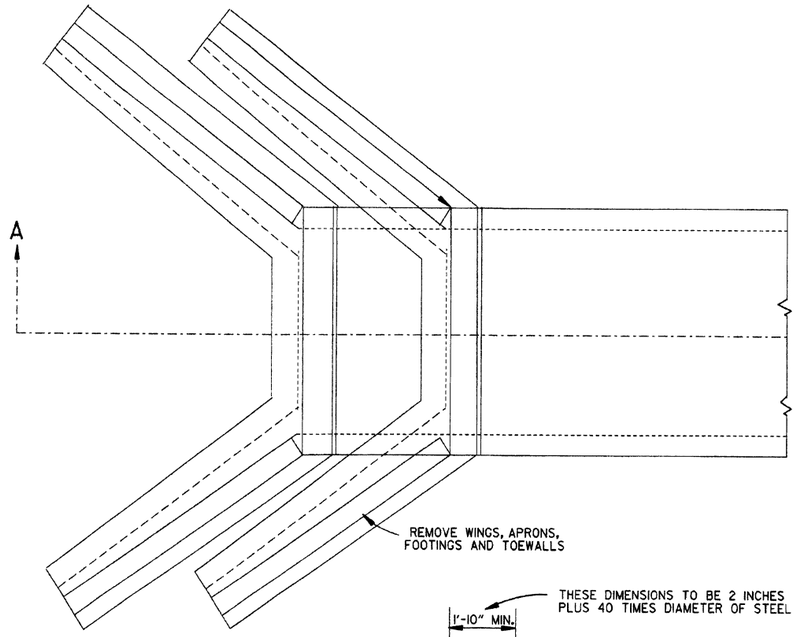
ROADWAY EXCAVATION SHOWN IN SECTION C-C ABOVE AS SUBSIDIARY WILL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT PAYMENT WILL BE CONSIDERED TO BE INCLUDED IN THE VARIOUS ITEMS OF EXCAVATION.

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

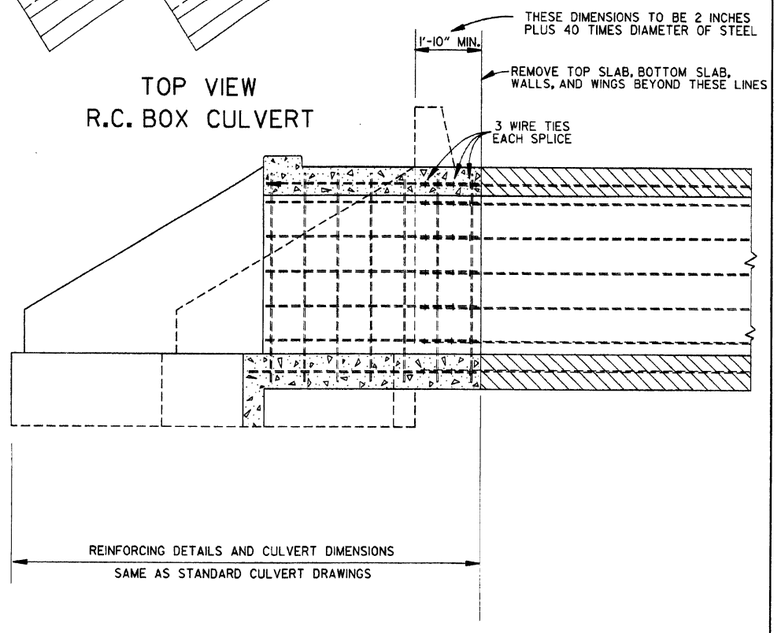
ARKANSAS STATE HIGHWAY COMMISSION

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

STANDARD DRAWING RCB-2

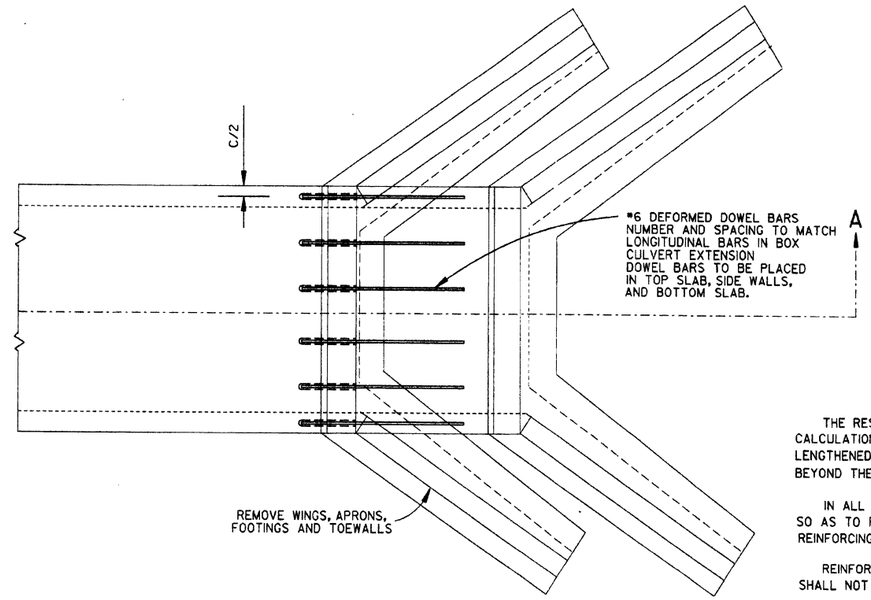


TOP VIEW
R.C. BOX CULVERT

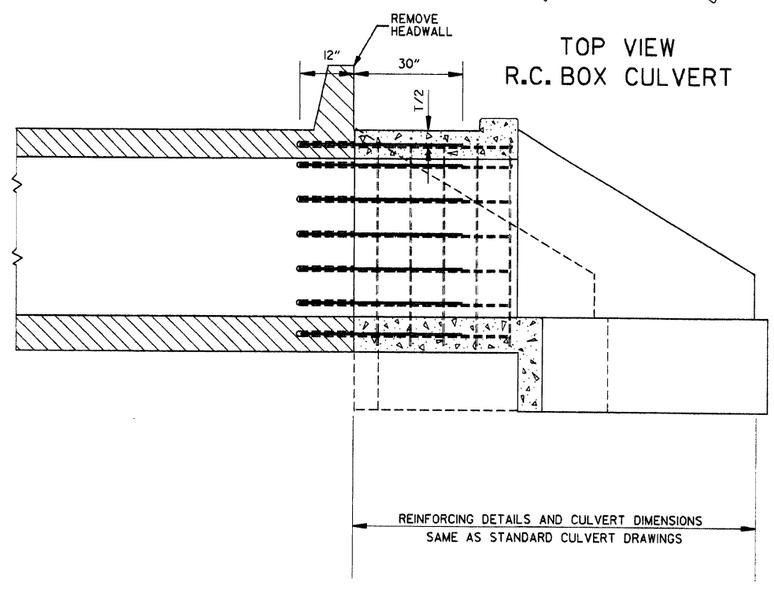


SECTION A-A

METHOD 1



TOP VIEW
R.C. BOX CULVERT



SECTION A-A

METHOD 2

GENERAL NOTES	USE FOR METHOD
THE RESIDENT ENGINEER WILL MAKE INDIVIDUAL CALCULATIONS OF QUANTITIES FOR EACH STRUCTURE LENGTHENED, MAKING NO ALLOWANCE FOR OVERBREAKAGE BEYOND THE LINES INDICATED.	1
IN ALL INSTANCES CONCRETE SHALL BE REMOVED SO AS TO PERMIT FULL 40 DIAMETER SPLICE OF REINFORCING STEEL.	1
REINFORCING STEEL REMOVED FROM EXISTING STRUCTURE SHALL NOT BE REUSED IN CONSTRUCTING EXTENSION.	1&2
ON R.C. BOX CULVERTS THAT HAVE AN EXISTING CONCRETE APRON; THE CONCRETE APRON SHALL BE REMOVED WITH THE WINGS. THE COST OF REMOVING ALL OLD CONCRETE WILL BE INCLUDED IN THE PRICE BID PER CUBIC YARD FOR NEW CONCRETE OF THE CLASS SPECIFIED AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.	1&2
MATERIALS FOR SECURING DOWEL BARS SHALL MEET THE REQUIREMENTS OF SECTION 507.02 OF THE STANDARD SPECIFICATIONS.	2
DOWEL BARS SHALL BE INSTALLED AS FOLLOWS: THE DRILLING PROCEDURE SHALL BE APPROVED BY THE ENGINEER, THE FILLING SYSTEM SHALL BE APPROVED BY THE ENGINEER, AND SHALL BE AN INJECTION-TYPE SYSTEM WHICH WILL INSURE THAT SUFFICIENT MATERIAL IS INJECTED SO IT COMPLETELY SURROUNDS THE BARS AND FILLS THE HOLES.	2
THE CONTRACTOR SHALL HAVE THE OPTION OF USING EITHER METHOD 1 OR METHOD 2. REGARDLESS OF WHICH METHOD IS USED, PAY QUANTITIES WILL BE CALCULATED BASED ON METHOD 1.	1&2

NOTE:
NO PART OF THIS STANDARD IS TO BE USED FOR ANY DETAILS RELATIVE TO NEW CONSTRUCTION.

SEE STANDARD DRAWING LISTED IN TABULATION OF STRUCTURES FOR ALL NEW CONSTRUCTION DETAILS.

DATE	REVISION	DATE FILM
10-12-95	CHANGED DRAWING # FROM 144-A	
4-1-93	ADDED GENERAL NOTE	
10-1-92	ADDED ALT. METHOD OF EXTENSION	
11-30-89	REDRAWN	
1-4-83	ELIMINATED CONCRETE CLASS	
12-20-56	RETRACED	

ARKANSAS STATE HIGHWAY COMMISSION

METHOD OF EXTENDING EXISTING R.C. BOX CULVERTS

STANDARD DRAWING RCB-3

LOOP DETECTOR INSTALLATION AND TESTING

NOTES:

1. LOOPS WITH A PERIMETER GREATER THAN 40' SHALL HAVE TWO TURNS. LOOPS WITH A PERIMETER LESS THAN OR EQUAL TO 40' SHALL HAVE THREE TURNS, UNLESS OTHERWISE NOTED ON THE PLANS. QUADRUPOLE LOOPS SHALL BE TWO TURNS (2-4-2 CONFIGURATION) UNLESS OTHERWISE NOTED.
2. LOOP AND FEEDER WIRE SHALL BE CONTINUOUS WITHOUT SPLICES EXCEPT AT THE LOOP/FEEDER WIRE SPLICE AS SHOWN. SPLICE SHALL BE ROSIN SOLDERED AND WATERPROOFED WITH AN ACCEPTED SPLICE KIT. DRAIN WIRE SHALL BE GROUNDED IN CABINET AND INSULATED AT LOOP TO FEEDER SPLICE.
3. THE LOOP TO FEEDER SPLICE, FEEDER JACKET AND JACKET OF LOOP WIRE IN DUCT SHALL BE COMPLETELY SEALED AND WATERPROOFED.
4. CONTRACTOR MAY MAKE CONNECTIONS TO SIGNAL CABLE AND LOOP TO FEEDER CONNECTION AT TERMINAL STRIPS MOUNTED TO POLE INSIDE HAND HOLD COVER AS SHOWN IN DETAIL. TERMINALS MUST BE EASILY ACCESSIBLE, BUT PROTECTED AGAINST ACCIDENTAL CONTACT. CONNECTION OF POWER CARRYING CIRCUITS MUST BE SEPARATED FROM LOOP OR LOGIC CIRCUITS. ALL CONNECTIONS TO TERMINAL STRIPS SHALL UTILIZE SPADE LUGS OR AS APPROVED BY THE ENGINEER.
5. EACH LOOP SHALL HAVE A SEPARATE "FEEDER WIRE" UNLESS OTHERWISE NOTED. ALL FEEDER WIRES SHALL BE LABELED AS TO LOOP NUMBER AS DESIGNATED ON THE PLANS.
6. ALL LOOP WIRE ENTERING PULL BOXES SHALL BE ENCLOSED IN CONDUIT. EACH LOOP WIRE SHALL ENTER PULL BOX OR POLE BASE THROUGH A SEPARATE PIECE OF ONE INCH (1"Ø) CONDUIT.
7. LOOP WIRE FROM LOOP TO CONDUIT IS NOT TWISTED. LOOP WIRE IN THE CONDUIT MUST BE TWISTED TWO TO FIVE TURNS PER FOOT.
8. WARRANTY PERIOD FOR LOOPS SHALL NOT COMMENCE UNTIL TESTED BY THE CONTRACTOR AND ACCEPTED BY THE ENGINEER. CONTRACTOR SHALL PERFORM TEST AND PROVIDE A RECORD TO THE ENGINEER AS LISTED IN THE DETECTOR LOOP TESTING PROCEDURE.
9. UNLESS OTHERWISE APPROVED BY THE ENGINEER, BACKER ROD SHALL BE INSTALLED IN SHORT SECTIONS SPACED NOT MORE THAN 18" APART AND WEDGED INTO SLOT TO HOLD CABLE IN PLACE. CABLE SHALL BE TOTALLY ENCAPSULATED IN SEALER.
10. "HOT POUR" SEALER SHALL NOT BE ALLOWED WITH 705-LOOP WIRING IN DUCT.
11. WHERE UNDERGROUND SPLICES OF SIGNAL CABLE ARE REQUIRED, CONNECTIONS SHALL BE SOLDERED AND COMPLETELY WATERPROOFED TO THE SATISFACTION OF THE ENGINEER. WATERPROOFING SHALL EXTEND A MINIMUM OF TWO INCHES PAST THE SIGNAL CABLE JACKET AND SHALL COMPLETELY COVER ALL INDIVIDUAL CONDUCTORS OF THE SIGNAL CABLE. WATERPROOFING DOES NOT APPLY TO CONNECTIONS MADE IN POLE BASES.
12. CONTRACTOR SHALL CONNECT A SEPARATE NEUTRAL FOR EACH LOAD SWITCH REPRESENTED ON EACH SIGNAL POLE. ONLY ONE NEUTRAL IS REQUIRED FOR PEDESTRIAN SIGNALS. A SEPARATE 5C (TYPICAL) IS PROVIDED FOR PEDESTRIAN PUSH BUTTONS.
13. TRAFFIC CONTROLLER CABINET AND LAYOUT SHALL BE SUCH THAT IT IS NOT NECESSARY TO SHUT DOWN POWER OR REMOVE LOAD SWITCHES IN ORDER TO EASILY TEST OR MODIFY DETECTOR INPUTS TO CONTROLLER. CONTROLLER CABINET SHALL BE WIRED SUCH POWER TO LOAD SWITCHES CANNOT BACKFEED TO LOAD SWITCH POWER BUSS DURING FLASH OPERATION.

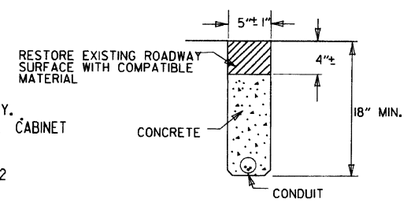
TYPICAL PROCEDURE FOR DETECTOR LOOP TESTING

1. DISCONNECT AND TEST CONTINUITY (< 10 OHMS) IF CONTINUITY IS BAD, GO TO TEST 3
2. TEST INSULATION (@ 500 VOLT TEST > 10 MEG-OHM)
   IF TESTS 1 & 2 ARE GOOD, NO FURTHER TESTING IS NECESSARY. RECORDED RESULTS CONSIST OF TESTS 1 & 2 FROM CONTROL CABINET WITH FEEDER WIRE CONNECTED TO LOOP.
3. OPEN SPLICE (DO NOT BREAK CONNECTION) REPEAT TEST 1 & 2 IF TEST 3 IS BAD, GO TO TEST 4
4. BREAK SPLICE, INSTALL JUMPER IN CABINET, REPEAT TESTS 1 & 2 SEPARATELY FOR FEEDER AND FOR LOOP

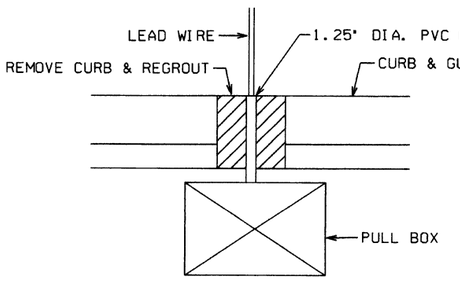
FAILURES TYPICALLY RESULT FROM BROKEN WIRE IN PAVEMENT, FAULTY INSULATION OF LOOP OR FEEDER WIRE, OR POORLY INSULATED SPLICE CONNECTION.

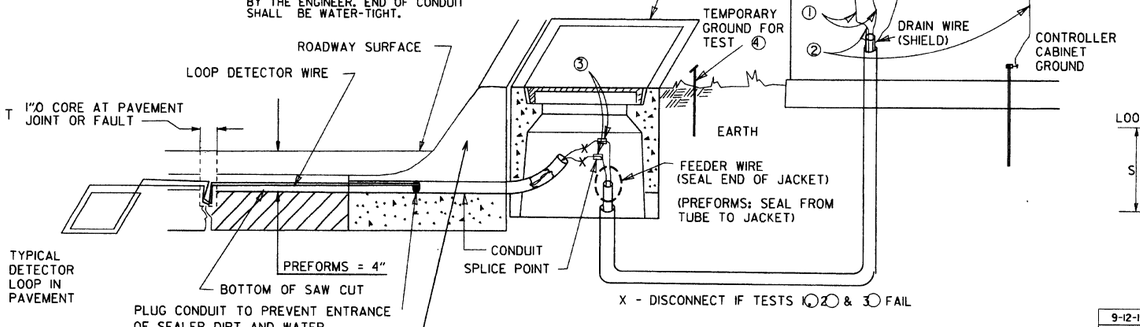
TRENCHING DETAIL

(FOR SAW CUT TRENCH IN ROADWAY)



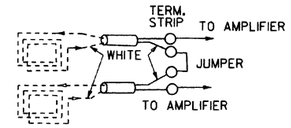
NOTE: CONDUIT SHALL BE INSTALLED IN CURB AS SHOWN OR AS DIRECTED BY THE ENGINEER. END OF CONDUIT SHALL BE WATER-TIGHT.





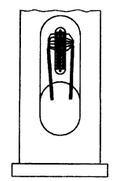
SECTION A-A
1'-6" CONCRETE COMBINATION CURB AND GUTTER

SERIES CONNECTED LOOPS

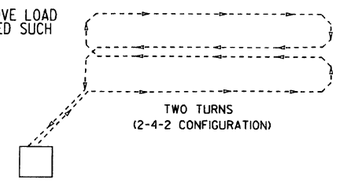


WIND LOOPS COUNTERCLOCKWISE; TAG WIRE EXITING SLOT AND TIE TO WHITE LEAD OF FEEDER WIRE; WHEN LOOPS ARE TIED TO SAME VEHICLE DETECTOR, SERIES CONNECT IN CABINET AS SHOWN.

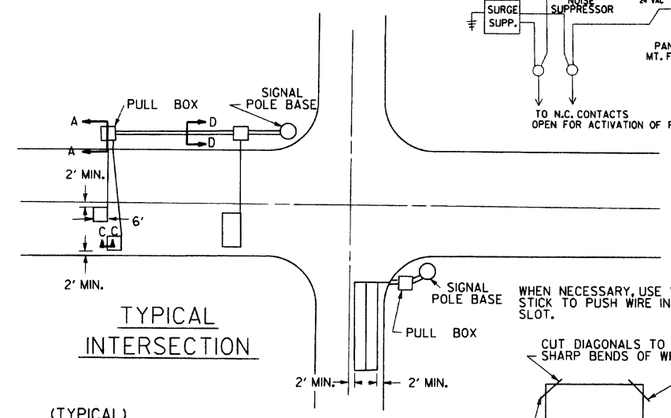
HANDHOLE TERMINAL



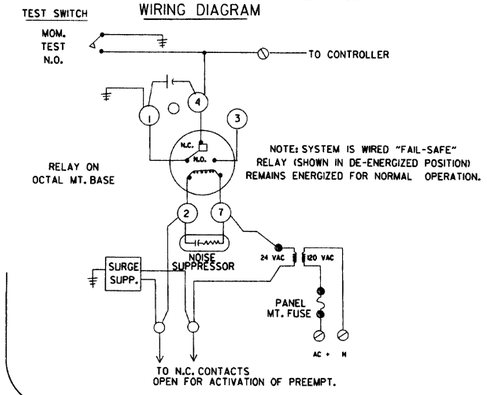
QUADRUPOLE LOOP



TYPICAL INTERSECTION



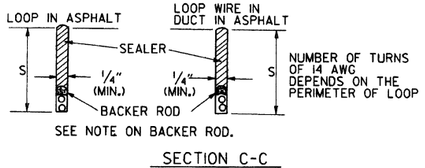
TRAFFIC SIGNAL PRE-EMPTION INTERFACE WIRING DIAGRAM



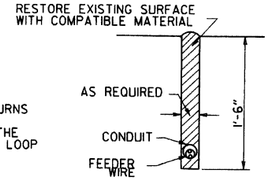
(TYPICAL)

SPECIAL NOTE
IF FEEDER WIRE JACKET IS LEFT UNSEALED AND WATER IS ALLOWED TO ENTER JACKET, CONTRACTOR WILL BE REQUIRED TO REPLACE FEEDER AT NO COST TO THE DEPARTMENT.

TYPICAL SECTIONS FOR PULSE AND PRESENCE LOOP DETECTORS



SECTION C-C
S=2 1/2" IN ASPHALT
S=1 1/2" IN CONCRETE



SECTION D-D

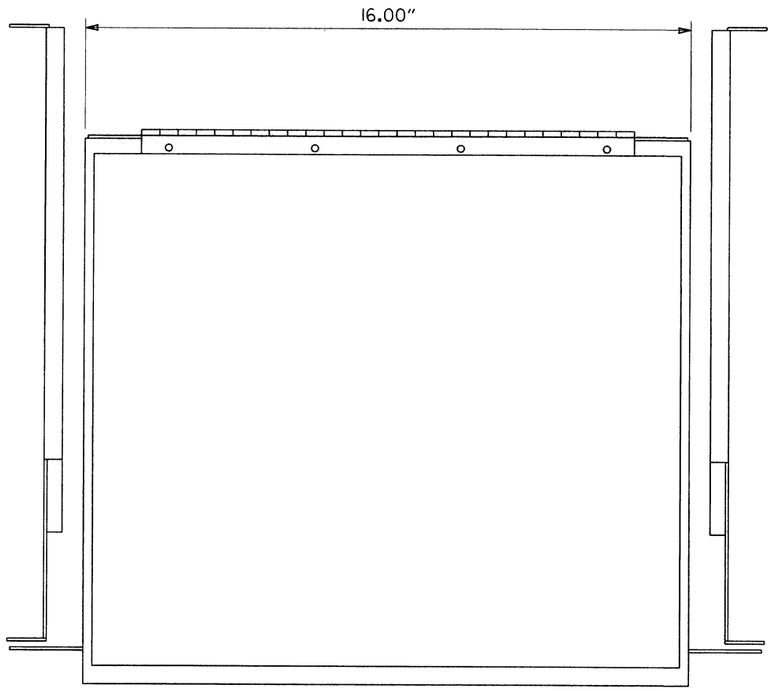
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
5-17-01	REVISED	
4-11-01	REVISED	
2-4-00	REVISED PRE-EMPTION TEST SWITCH	
11-18-98	REVISED NOTES	
11-21-95	ISSUED	

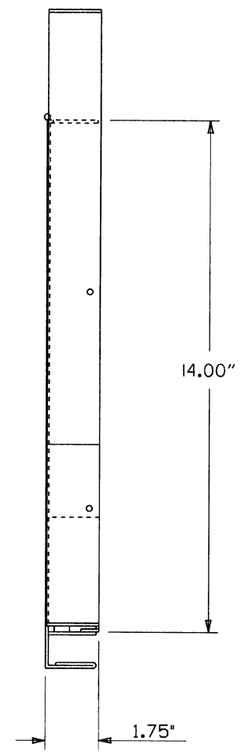
ARKANSAS STATE HIGHWAY COMMISSION

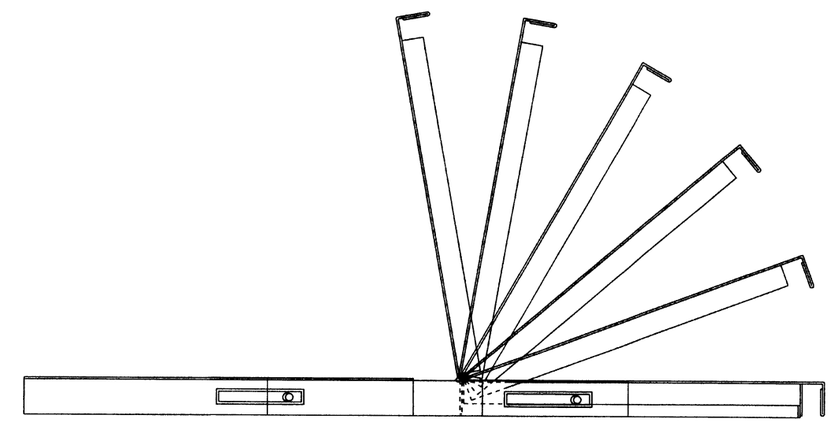
LOOP DETECTOR INSTALLATION

STANDARD DRAWING SD-4

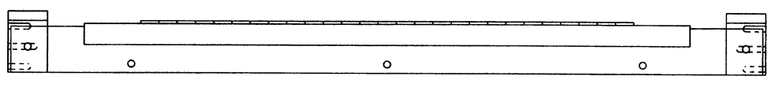
DRAWER PLAN VIEW



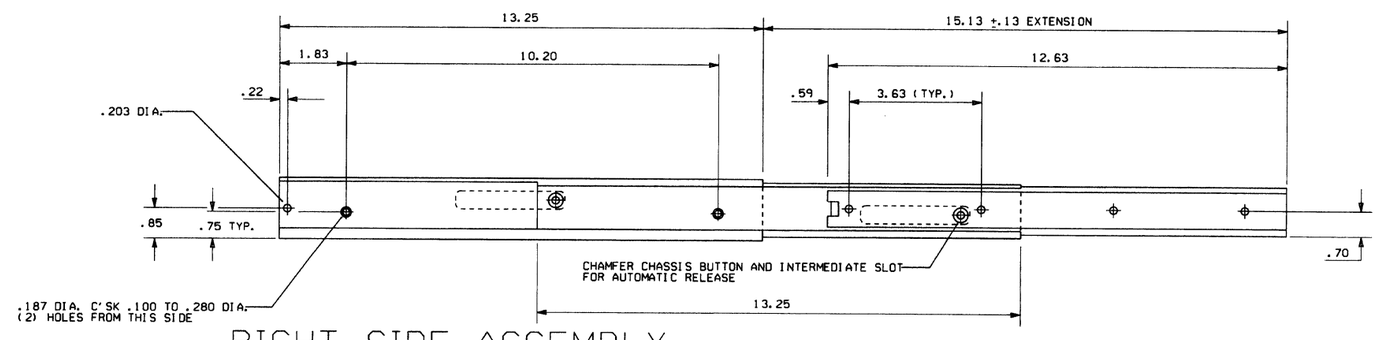




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

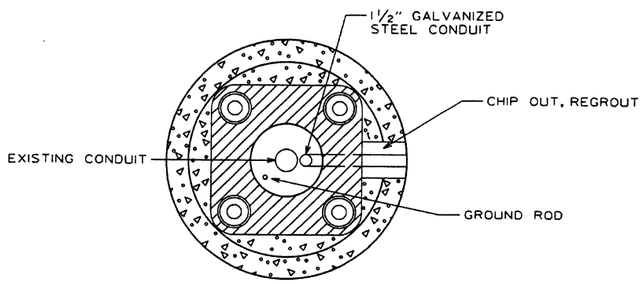
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

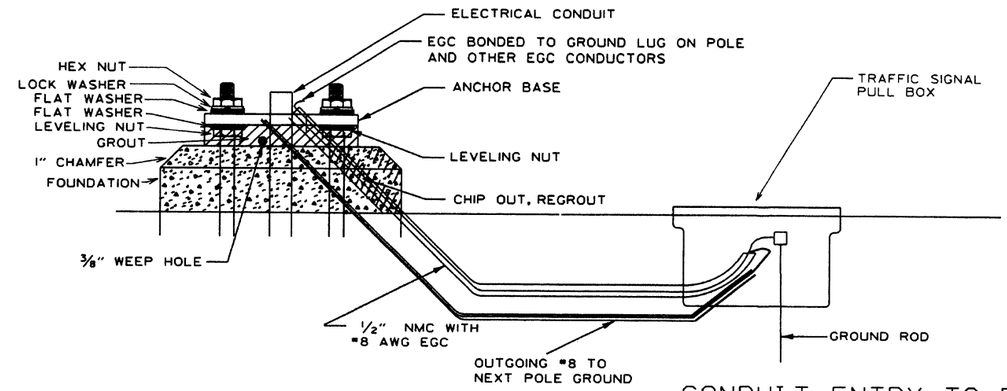
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

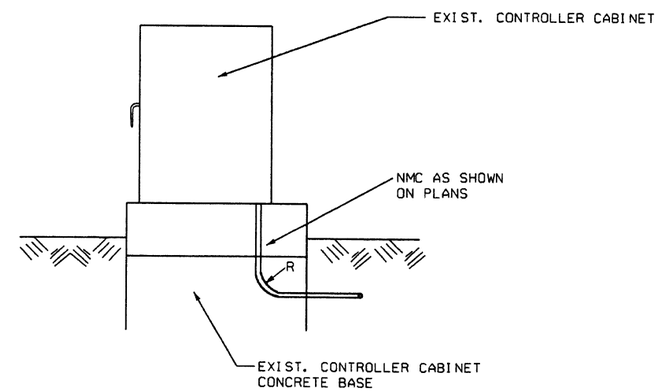
CONDUIT ENTRY TO EXISTING POLE BASE



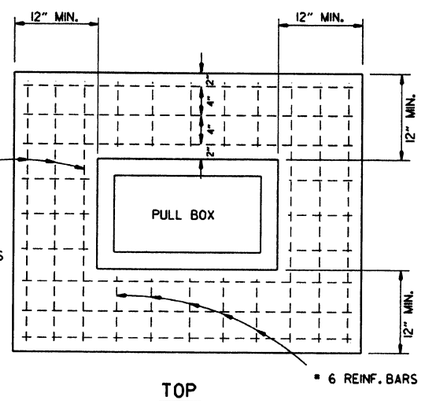
ANCHOR BASE



CONDUIT ENTRY TO EXISTING CONTROLLER CABINET

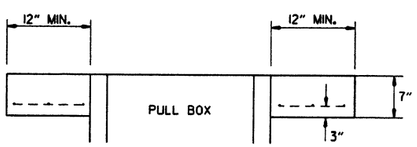


NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



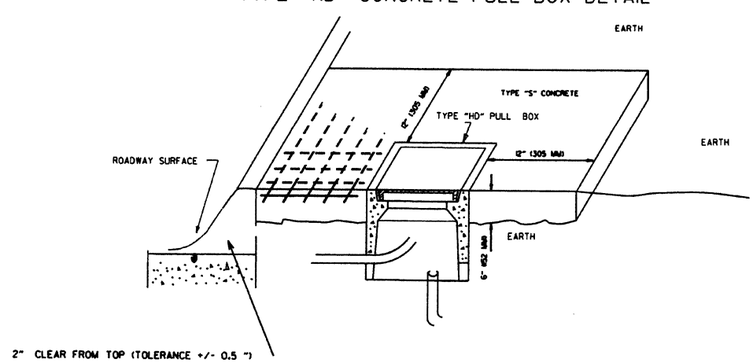
NOTE:
ALL REINFORCING BARS TO BE GRADE 60

TOP



ELEVATION

TYPE "HD" CONCRETE PULL BOX DETAIL



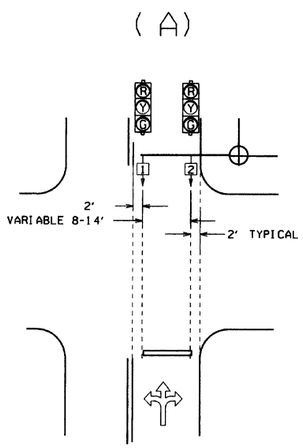
NOTE: ALL TYPE 1 AND TYPE 2 HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 7" (178 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX IS REQUIRED IN CONCRETE.

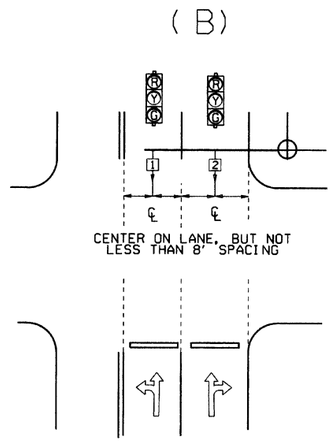
DATE	REVISION	DATE FILM
9-2-15	REVISED PULL BOX DEPTH	
9-12-13	ISSUED AS STANDARD DRAWING	
5-21-09	REVISED GROUNDING	
7-31-08	ADDED & REVISED CONDUIT ENTRY	
6-23-04	REVISED CLEARANCE AT CURB ENTRY	
1-4-02	ADDED REINFORCING TO BOX APRON	
7-2-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

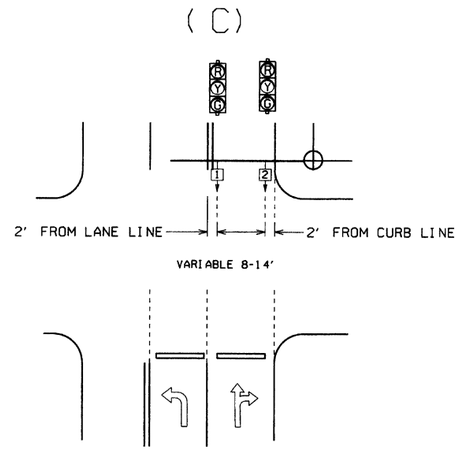
ARKANSAS STATE HIGHWAY COMMISSION

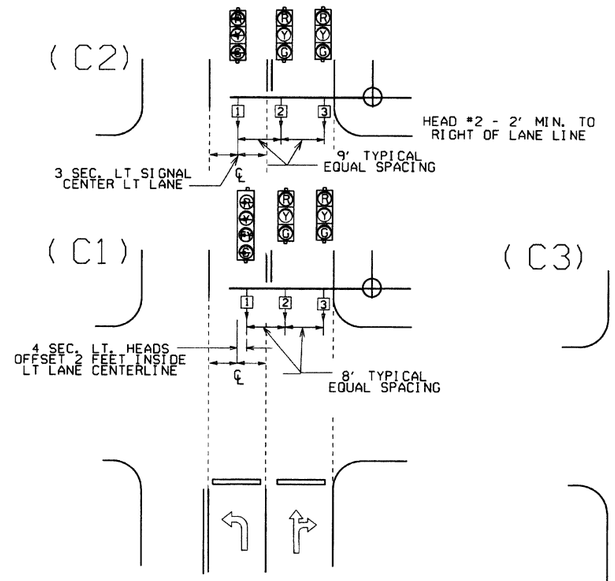
HEAVY DUTY PULL BOX

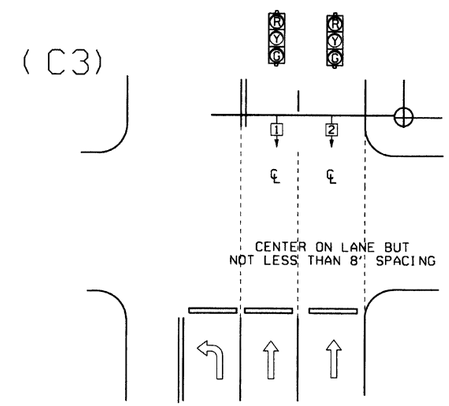
STANDARD DRAWING SD-6

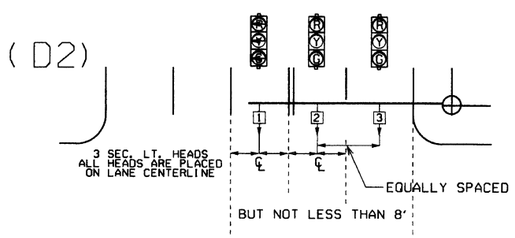


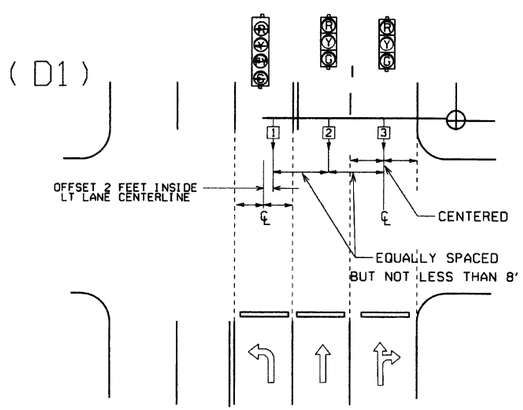




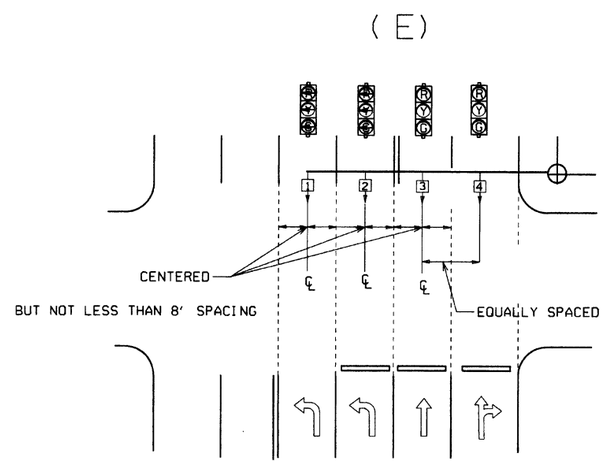








NOTE: WHERE LEFT TURN HEAD (HEAD 1 ON D1 AND D2) IS NOT CALLED FOR ON PLANS, MAST ARM LENGTH MAY STILL BE ALLOWED FOR FUTURE INSTALLATION. HEADS FOR THROUGH MOVEMENTS SHALL STILL BE ALIGNED WITH THROUGH LANES AS SHOWN ON DETAILS.



℄ = CENTER OF LANE FROM APPROACH SIDE

GENERAL NOTES:

1. FOUR SECTION "PROTECTED/PERMISSIVE" LEFT TURN HEADS SHOULD BE PLACED A MINIMUM OF TWO (2') FEET TO THE RIGHT OF THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

2. THREE SECTION "PROTECTED" LEFT TURN HEADS SHOULD BE PLACED ON THE CENTERLINE OF THE APPROACHING LEFT TURN LANE.

3. WHEN IT IS NECESSARY TO PLACE POLES OTHER THAN AS SHOWN ON PLAN SHEET(S) RESULTING IN MAST ARM EXTENDING MORE THAN TWO FEET PAST (TO THE LEFT OF) THE CENTERLINE OF THE APPROACHING LEFT TURN LANE, MAST ARM SHALL BE CUT TO APPROPRIATE LENGTH AS DETERMINED BY THE ENGINEER, AND A NEW END CAP PROVIDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THIS PRIOR TO INSTALLING THE MAST ARM IF ADDITIONAL COMPENSATION IS REQUIRED.

4. SIGNAL HEAD SPACING SHALL, IN NO CASE, BE LESS THAN EIGHT (8') FEET BETWEEN HEADS ON CENTER, MEASURED HORIZONTALLY PERPENDICULAR TO THE APPROACH.

5. ALL SIGNAL HEADS SHOWN ON THIS DETAIL SHEET SHALL BE LOCATED ACCORDING TO THE DIMENSIONS SHOWN IN RELATION TO THE APPROACH SIDE OF THE INTERSECTION.

6. MAXIMUM MOUNTING HEIGHT OF SIGNAL FACES LOCATED BETWEEN 40 FEET AND 53 FEET FROM STOP BAR SHALL BE IN ACCORDANCE WITH FIGURE 4D-1 OF 2009 MUTCD.

DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
3-11-10	2009 MUTCD	
12-9-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

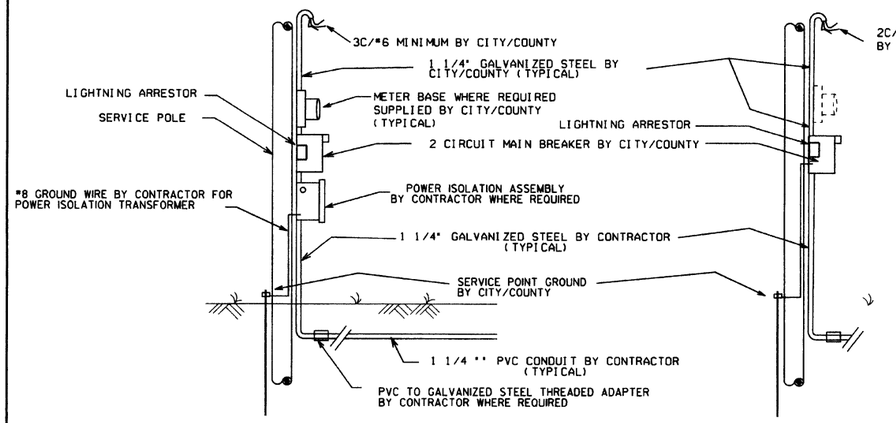
SIGNAL HEAD PLACEMENT

STANDARD DRAWING SD-8

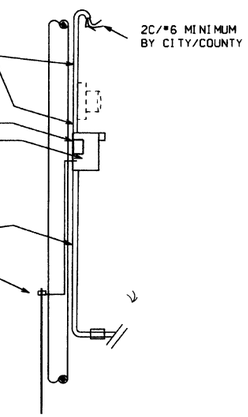
MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

GROUND ROD-A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 701. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

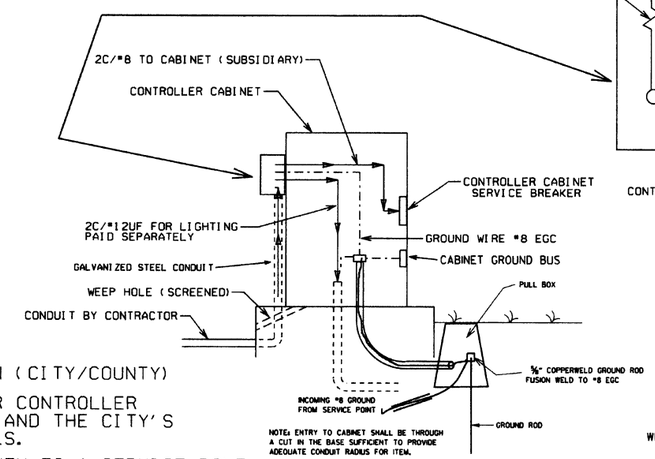
WITH POWER ISOLATION ASSEMBLY

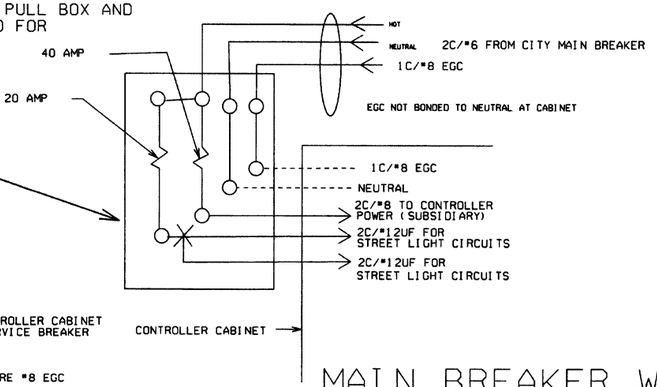


WITHOUT POWER ISOLATION ASSEMBLY



SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)





MAIN BREAKER WIRING (TYPICAL)

NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY)

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES: MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S OR COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

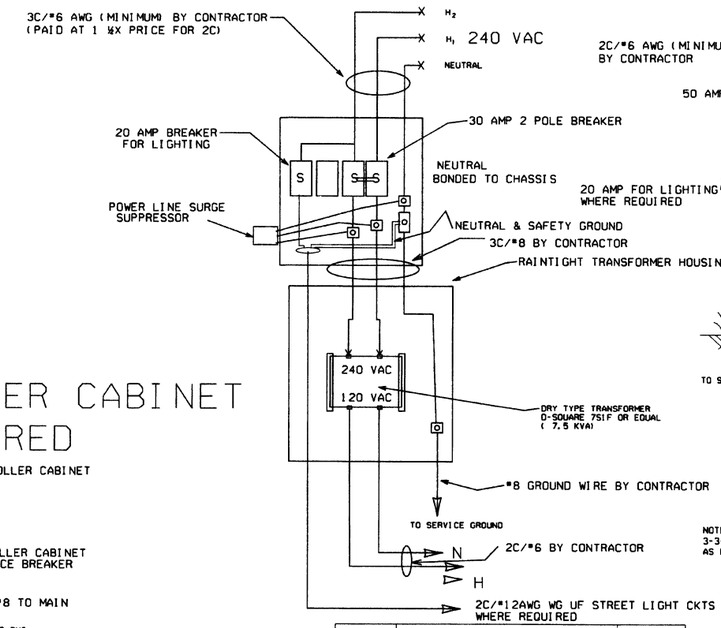
1. ALL SITUATIONS: ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION, STREET LIGHTING CIRCUIT (2C/#12 AWG UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

2. MAIN BREAKER NOT NEAR CONTROLLER CABINET: THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT, WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

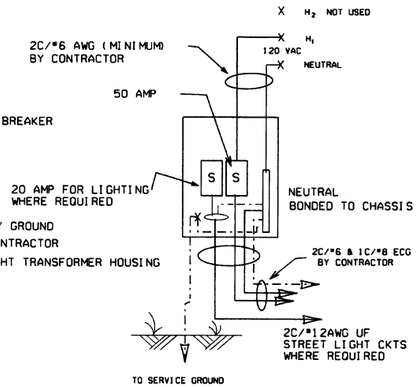
3. MAIN BREAKER NEAR CONTROLLER CABINET: ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

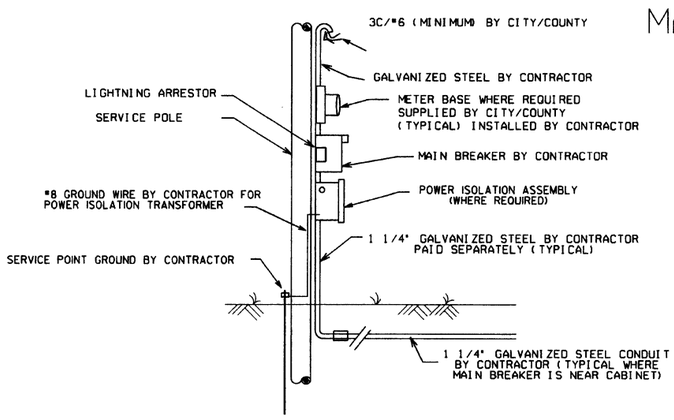


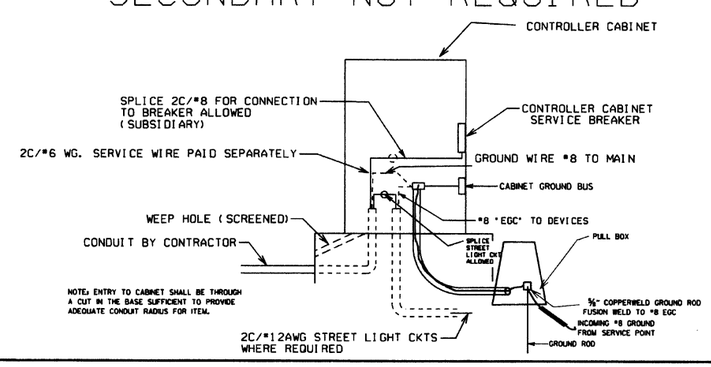
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (ECG) ADDED 3-3-2003, CONSISTING OF A 1C/#8AWG CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
4-18-13	ADDED LIGHTNING ARRESTOR	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
3-3-03	ADDED EGC NOTE	
9-26-01	REVISED	
12-27-99	REVISED	
7-28-99	REVISED	
2-5-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES, PED AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12' TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12' TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGN FACES SHALL BE CONSTRUCTED OF HIGH INTENSITY SHEETING (TYPE III) WITH SILKSCREEN LEGEND AND BORDER.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:

1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF 4 FT. BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY II FOR STRUCTURES ON ROUTES WITH A SPEED LIMIT LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH ARMS LESS THAN 60' AND ROUTES WITH SPEED LIMITS OF 45 MPH AND LESS WITH AN ARM 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE SPEED LIMIT IS 45 MPH AND LESS AND ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS: ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN 1/2" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, 12 INCH, AND HAVE 5 IN. BACK PLATES:

HEADS AT END OF ARM - ONE 4 SEC., 85 LB., 16.0 SQ. FT. ONE SIGN MOUNTED 3 FT. FROM SIGNAL = 2' X 0" X 2' = 6", 20 LB. REMAINING HEADS SPACED A 8 FT. = 3 SEC., 56 LB., TWO 5 SEC):
14.4 SQ. FT. DESIGN TO ACCOMMODATE (INCLUDING
2 HEADS FOR ARMS 10 TO 16 FT.
2 HEADS FOR ARMS 10 TO 16 FT.; INCLUDING LB.
3 HEADS FOR 18 TO 24 FT. ARMS;
4 HEADS FOR OVER 26 FT. ARMS.

STREET NAME SIGN -- 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAN 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) = VARIABLE ARM LENGTH (MAX.), 3.3 SQ. FT., 75 LB. PED SIGNALS -- TWO 2 SEC. 12 INCH MOUNTED 8 FT. FROM BASE OF POLE.
POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

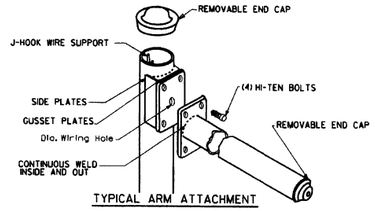
4. POLE/MAST ARM CAP -- POLE AND MAST ARMS CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE -- HAND HOLES SHALL BE 4 X 6 INCHES FOR STANDARD, AND 3 X 5 INCHES FOR PED POLES, MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACUUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21 FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDE A HAND HOLD WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

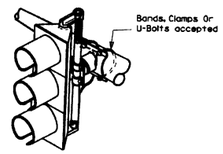
6. POLE/MAST ARM TAPER AND SLOPE - AVERAGE TAPER OF SIGNAL ARMS AND POLE SHALL BE 0.125 TO 0.15 INCHES PER FT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE ARM SHALL MAINTAIN A POSITIVE AFTER IT IS PLACED UNDER LOAD.

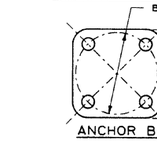
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



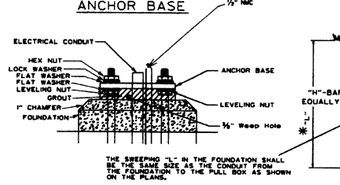
TYPICAL ARM ATTACHMENT

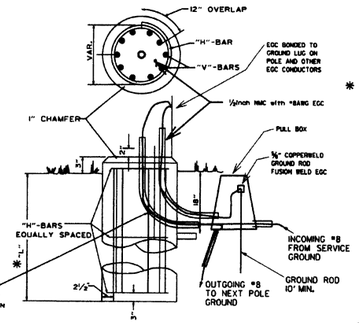


NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.



ANCHOR BASE



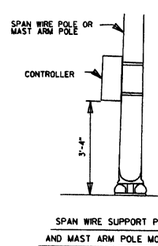


THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

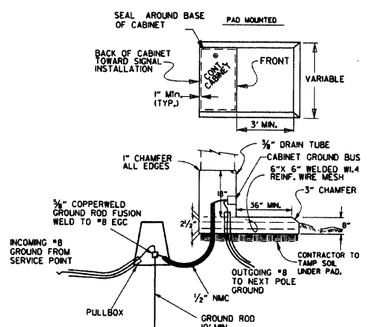
TYPICAL FOUNDATION DETAILS

POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FDN. DIAMETER	DEPTH "L" *	STEEL VERT.	STEEL HORZ.	STEEL O/C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' to 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
over 12' to 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
over 20' to 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
over 35' to 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
over 50' to 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
Twins to 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
Twins over 20' to 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
Twins over 44' to 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
Twins over 50' to 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED



CONTROLLER CABINET MOUNTING DETAILS

UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX. NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A 1/4" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PED PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM PEDESTRIAN SIGNAL HEAD.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

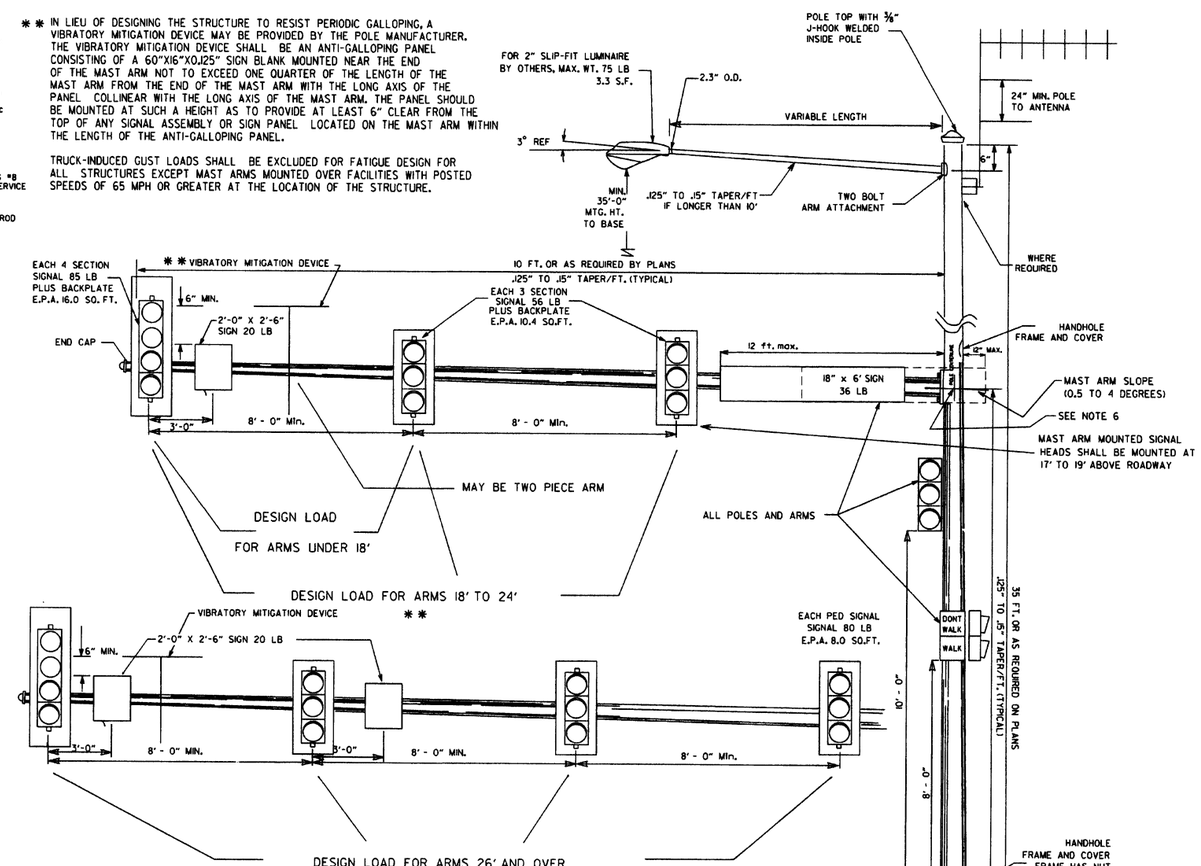
THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATIONS IN FLASH SEQUENCE.

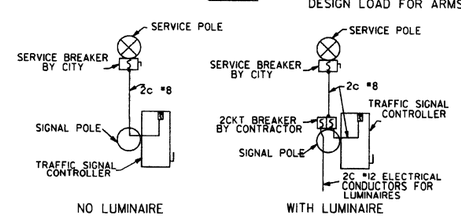
SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60"X16"X0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH A HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OR SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

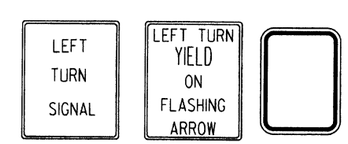
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.



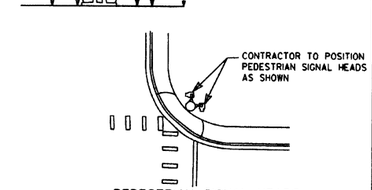


NO LUMINAIRE — WITH LUMINAIRE

SERVICE DISCONNECT



R10-10 — SPECIAL — R10-3e



PEDESTRIAN SIGNAL HEADS

DATE	REVISION	DATE FILM
2-27-14	REVISED NOTES.	
9-12-13	ISSUED AS STANDARD DRAWING	
7-21-11	REVISED VMD, SIGNAL HEADS	
5-21-09	REVISED GROUNDING	
7-31-08	REVISED GROUNDING	
4-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
4-18-08	REVISED AASHTO NOTES	
4-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
6-23-04	REVISED	
5-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
6-11-01	REV. NOTES & POLE MAST ARM SLOPE	
4-11-01	REVISED POLE TAPERS	
4-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

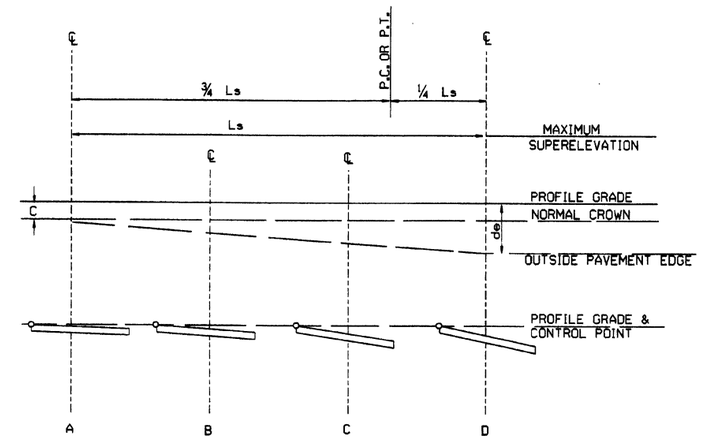
STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15'	N.C.*	150	250	N.C.*	175	250	N.C.*	200	300	N.C.*	225	350	N.C.*	250	350	N.C.*	250	350	N.C.*	275	350
0° 30'	N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*			N.C.*		
0° 45'	N.C.*			N.C.*			R.C.*			0.022			0.023			0.025			0.028		
1° 00'	N.C.*			N.C.*			0.021			0.025			0.030			0.033			0.037		
1° 15'	N.C.*			R.C.*			0.026			0.032			0.037			0.041			0.046		
1° 30'	N.C.*			0.021			0.031			0.037			0.043			0.048			0.054		
1° 45'	N.C.*			0.025			0.036			0.043			0.049			0.055			0.062		
2° 00'	R.C.*			0.028			0.040			0.048			0.055			0.062			0.070		
2° 15'	R.C.*			0.031			0.045			0.053			0.061			0.069	265		0.078	300	
2° 30'	0.021			0.034			0.049			0.058			0.067			0.075	280		0.085	315	400
2° 45'	0.023			0.037			0.053			0.063			0.072			0.081	300		0.091	335	
3° 00'	0.025			0.040			0.057			0.067	230		0.077	260		0.087	315		0.096	350	
3° 15'	0.027			0.043			0.061			0.072	245		0.082	275		0.090	325	400	0.098	360	450
3° 30'	0.029			0.046			0.065	205		0.076	255		0.086	285		0.095	340		0.100	360	
3° 45'	0.031			0.049			0.069	215		0.080	265		0.090	295		0.097	345				
4° 00'	0.033			0.051			0.072	225		0.083	270		0.093	305	400	0.099	350				
4° 30'	0.037			0.056			0.078	240		0.087	280		0.096	315							
5° 00'	0.040			0.061			0.083	250		0.091	295		0.098	320							
5° 30'	0.043			0.066	185		0.088	260		0.094	300	400									
6° 00'	0.046			0.070	190		0.092	270		0.096	305										
6° 30'	0.050			0.074	200		0.095	280	350	0.100	315										
7° 00'	0.053			0.078	210		0.098	285													
7° 30'	0.056			0.081	215		0.099	290													
8° 00'	0.058			0.084	220	300	0.100	290													
8° 30'	0.061			0.087	225																
9° 00'	0.063			0.089	230																
10° 00'	0.068	160		0.094	235																
11° 00'	0.072	170		0.097	240																
12° 00'	0.076	175		0.099	250																
13° 00'	0.080	180		0.100	250																
14° 00'	0.083	190																			
15° 00'	0.086	195																			
16° 00'	0.089	200	300																		
17° 00'	0.091	200																			
18° 00'	0.093	205																			
19° 00'	0.095	210																			
20° 00'	0.097	215																			
21° 00'	0.098	215																			
22° 00'	0.099	215																			
23° 00'	0.099	215																			
24° 00'	0.100	220																			

D MAX = 24° 45' D MAX = 13° 15' D MAX = 8° 15' D MAX = 6° 30' D MAX = 5° 15' D MAX = 4° 15' D MAX = 3° 30'



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{Ls} - C$

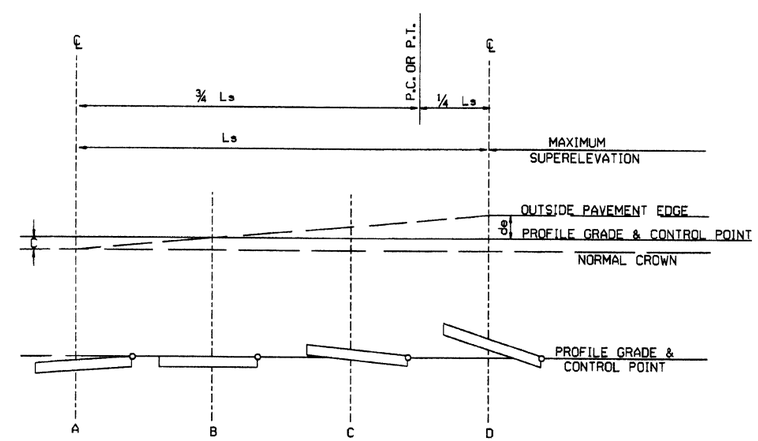
ABBREVIATIONS

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

GENERAL NOTES

1. ON PAVEMENT WITH ONE-WAY TRAFFIC, THE SUPERELEVATION SHALL BE REVOLVED ON THE PROFILE GRADE POINT.
2. SUPERELEVATION VALUES SHOWN ON THE CROSS SECTIONS ARE VALUES (+) OR (-) TO BE ADDED OR SUBTRACTED FROM THE POINT OF CONTROL.
3. LENGTHS FOR Ls MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM Ls VALUES MAY BE USED FOR RAMPS; DESIRABLE VALUES SHALL APPLY TO MAIN LANES.
5. DIVIDED PAVEMENTS WIDER THAN 4 LANES SHALL HAVE ADDITIONAL TRANSITION LENGTHS AS FOLOWS:

6 LANE DIVIDED---------+20%
8 LANE DIVIDED---------+50%



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{Ls} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

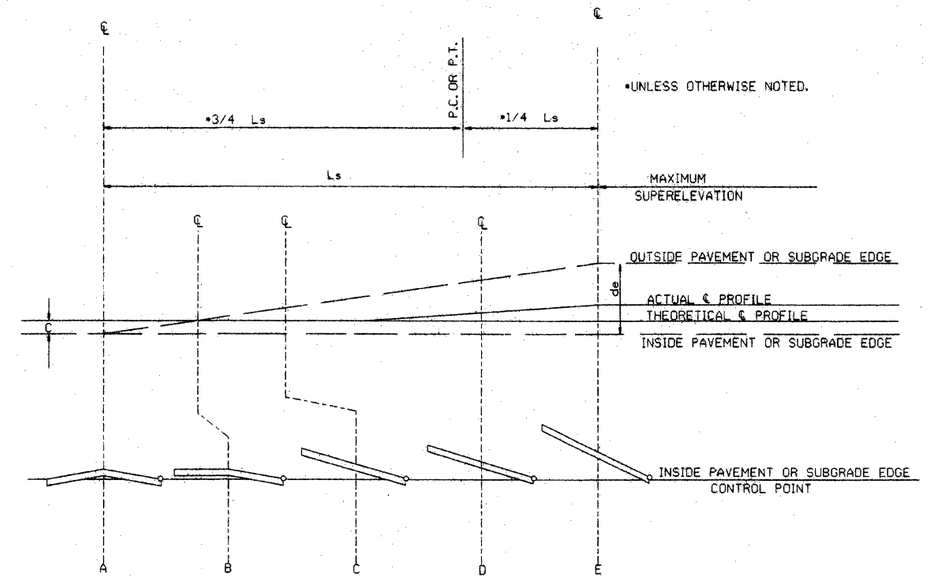
STANDARD DRAWING SE-1

SUPERELEVATION TABLE FOR TWO - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30′	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45′	N.C.			N.C.			R.C.			0.022			0.023			0.028		
1° 00′	N.C.			N.C.			0.021			0.026			0.030			0.037	275	300
1° 15′	N.C.			R.C.			0.026			0.032			0.037			0.046		
1° 30′	N.C.			0.021			0.031	200		0.037	225		0.043	250		0.054		
1° 45′	N.C.			0.025	175		0.036			0.043		300	0.049		300	0.062		
2° 00′	R.C.			0.028			0.040			0.048			0.055			0.070		
2° 15′	R.C.			0.031			0.045		250	0.053			0.061			0.078	300	
2° 30′	0.021			0.034			0.049			0.058			0.067			0.085	315	350
2° 45′	0.023			0.037		200	0.053			0.063			0.072			0.091	335	
3° 00′	0.025	150		0.040			0.057			0.067	230		0.077	260		0.096	350	
3° 15′	0.027			0.043			0.061			0.072	245		0.082	275		0.098	360	400
3° 30′	0.029			0.046			0.065	205		0.076	255		0.086	285		0.100	360	
3° 45′	0.031		200	0.049			0.069	215		0.080	265		0.090	295	350			
4° 00′	0.033			0.051			0.072	225		0.083	270		0.093	305				
4° 30′	0.037			0.056			0.078	240		0.087	280		0.096	315				
5° 00′	0.040			0.061			0.083	250		0.091	295		0.098	320				
5° 30′	0.043			0.066	185		0.088	260		0.094	300	350						
6° 00′	0.046			0.070	190		0.092	270		0.096	305							
6° 30′	0.050			0.074	200		0.095	280	300	0.100	315							
7° 00′	0.053			0.078	210		0.098	285										
7° 30′	0.056			0.081	215		0.099	290										
8° 00′	0.058			0.084	220	250	0.100	290										
8° 30′	0.061			0.087	225													
9° 00′	0.063			0.089	230													
10° 00′	0.068	160		0.094	235													
11° 00′	0.072	170		0.097	250													
12° 00′	0.076	175		0.099	260													
13° 00′	0.080	180		0.100	250													
14° 00′	0.083	190																
15° 00′	0.086	195																
16° 00′	0.089	200																
17° 00′	0.091	200																
18° 00′	0.093	205																
19° 00′	0.095	210																
20° 00′	0.097	215	250															
21° 00′	0.098	215																
22° 00′	0.099	215																
23° 00′	0.099	215																
24° 00′	0.100	220																
D MAX = 24° 45′				D MAX = 13° 15′			D MAX = 8° 15′			D MAX = 6° 30′			D MAX = 5° 15′			D MAX = 3° 30′		

ABBREVIATIONS

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



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

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

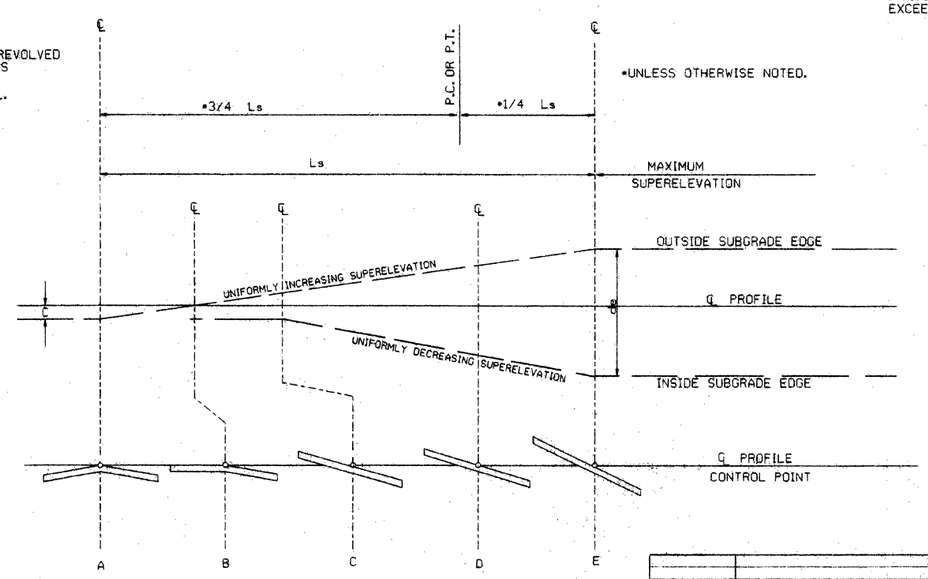
GENERAL NOTES

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

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

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

RATE OF SUPERELEVATION SHALL BE COMPUTED ON STRAIGHT LINE METHOD USING APPLICABLE Ls.



STANDARD METHOD WHEN SUPERELEVATION REVOLVES AROUND CENTER LINE

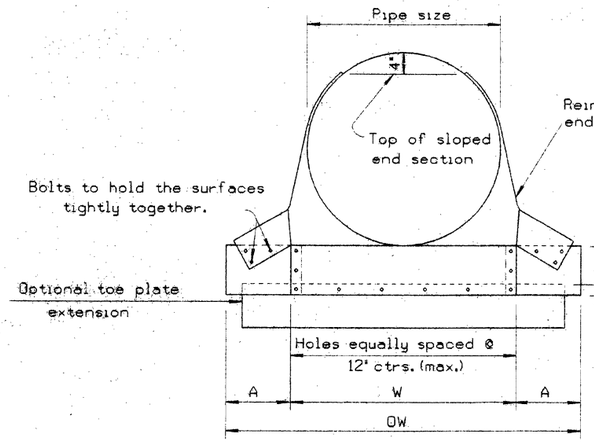
SUPERELEVATION FORMULA $= \frac{Lde}{Ls}$

DATE	REVISION	DATE FILMED
10-18-96	ADDED FORMULA	10-18-96
01-09-87	ISSUED	534-1-9-87

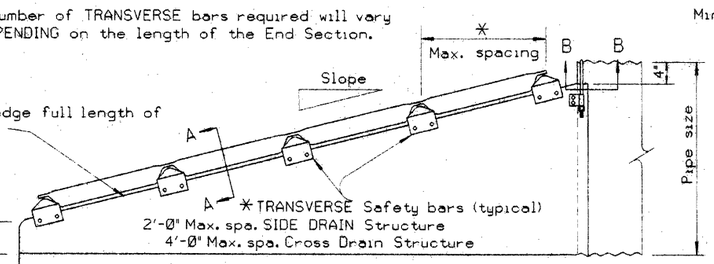
ARKANSAS STATE HIGHWAY COMMISSION

TABLES AND METHOD OF SUPERELEVATION FOR TWO-WAY TRAFFIC

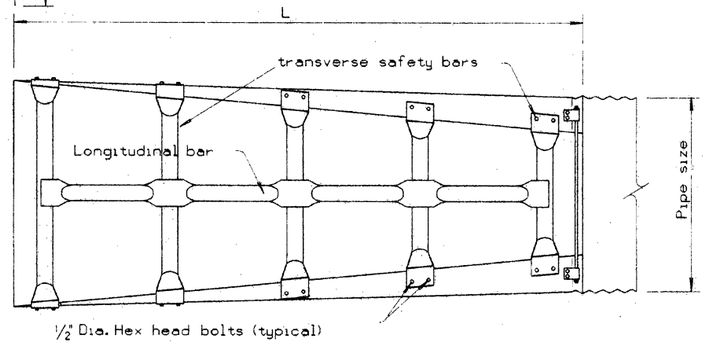
STANDARD DRAWING SE-2



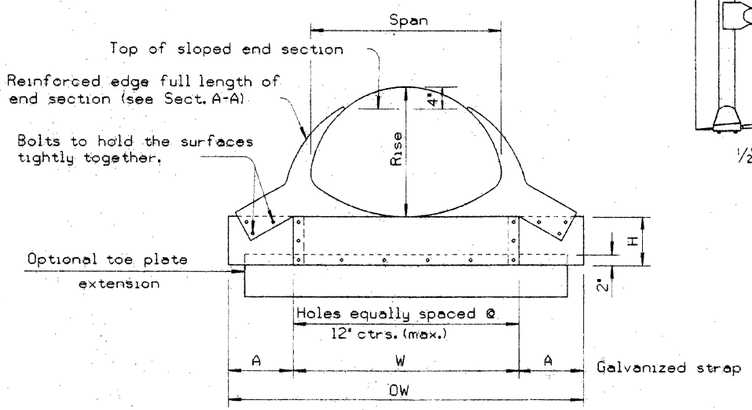
FRONT VIEW CIRCULAR PIPE



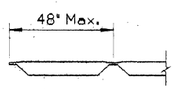
SIDE ELEVATION CIRCULAR OR ARCH SECTION



TOP VIEW CIRCULAR OR ARCH SECTION

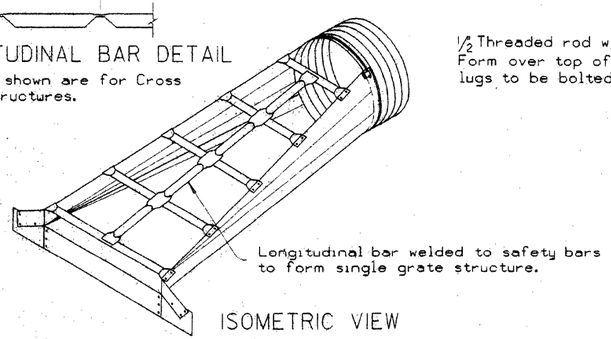


FRONT VIEW ARCH PIPE

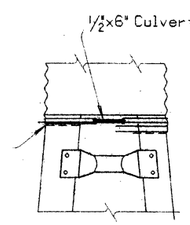


LONGITUDINAL BAR DETAIL

Note: Bars shown are for Cross Drain Structures.

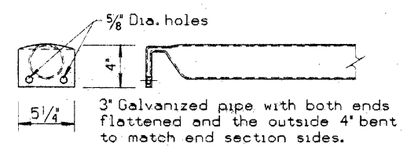


ISOMETRIC VIEW



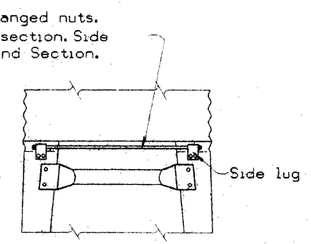
TYPE #1 CONNECTOR DETAIL

For 15" thru 24" pipe



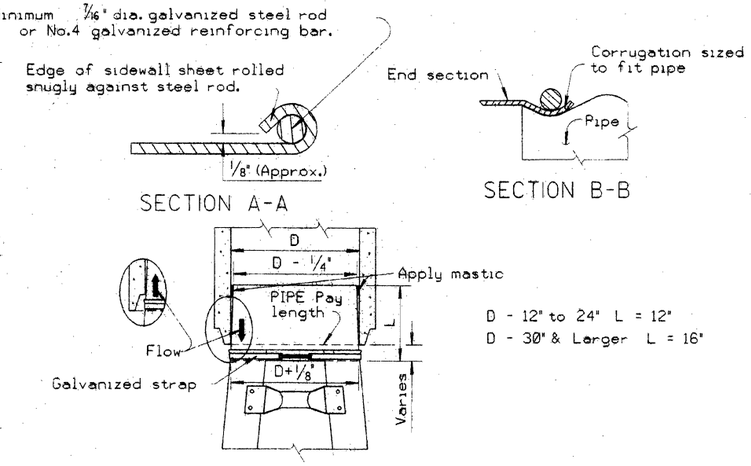
3" Galvanized pipe with both ends flattened and the outside 4" bent to match end section sides.

DETAIL OF TRANSVERSE SAFETY BAR



TYPE #2 CONNECTOR DETAIL

For 30" and larger round pipes & 21"x15" thru 64"x43" arch pipes



Note: Metal end section to be firmly wedged INTO PIPE END BEFORE BACKFILLING PIPE.

(Tapered sleeve to be 12 Ga. smooth galvanized steel in accordance with AASHTO M 218.)

STEEL END SECTION FOR CONCRETE PIPE
(Alternate for Concrete End Section)

GENERAL NOTES

End sections shall be fabricated from galvanzied steel meeting the requirements of SUBSECTION 606.02(c)(1) OF THE STANDARD SPECIFICATIONS.
When specified optional toe plate extension shall be punched and bolted to end section apron lip with 3/8" diameter galvanized bolts.
Steel for toe plate extension shall be same gauge as end section.
Dimensions shall be overall width less 6" by 8" high.
Attachment to circular pipes 15" through 24" diameter shall be made with Type #1 straps. All other sizes shall be attached with Type #2 rods and lugs.
Safety bars shall be fabricated from steel pipe meeting the requirements of ASTM A-53 Schedule 40 Specifications. Safety bars shall be hot dipped galvanized after fabrication.
All work and materials required for construction and installation of safety end section shall be included in the PRICE BID EACH FOR SAFETY END SECTIONS FOR PIPE CULVERTS.
Longitudinal and transverse bars will be required for cross drain structures when span is greater than 30". no safety bars will be REQUIRED FOR 30" SPAN OR LESS WHEN USED ON CROSS DRAIN STRUCTURES.
Transverse bars will be required for all sizes of side drain structures.
Class I safety end sections shall be end sections with a 4:1 slope.
Class 2 safety end sections shall be end sections with a 6:1 slope.

SAFETY END SECTIONS FOR ARCH PIPES

Equv. Dia.	Nom. W.W. Area Sq Ft	Pipe Arch Span (In.)	Pipe Arch Rise (In.)	Min. Gauge End Sect.	Dimensions in Inches A	H	W	OW	Slope	L (In)	Slope	L (In)
18"	1.6	21	15	16	8	6	27	43	4:1	20	6:1	30
21"	2.2	24	18	16	8	6	30	46	4:1	32	6:1	48
24"	2.9	28	20	16	8	6	34	50	4:1	40	6:1	60
30"	4.5	35	24	14	12	9	41	65	4:1	56	6:1	84
36"	6.5	42	29	12	12	9	48	72	4:1	76	6:1	114
42"	8.9	49	33	12	16	12	55	87	4:1	92	6:1	138
48"	11.6	57	38	12	16	12	63	95	4:1	112	6:1	168
54"	14.7	64	43	12	16	12	70	102	4:1	132	6:1	198
60"	18.1	71	47	12	16	12	77	109	4:1	148	6:1	222
72"	26.0	83	57	12	16	12	89	121	4:1	188	6:1	282

SAFETY END SECTIONS FOR CIRCULAR PIPES

Pipe Dia.	Min. Gauge Ends	Dimensions in Inches A 1"Tol	H 1"Tol	W 2"Tol	OW	L Dimensions in Inches Slope	L	Slope	L
15"	16	8	6	21	37	4:1	20	6:1	30
18"	16	8	6	24	40	4:1	32	6:1	48
21"	16	8	6	27	43	4:1	44	6:1	66
24"	16	8	6	30	46	4:1	56	6:1	84
30"	12	12	9	36	60	4:1	80	6:1	120
36"	12	12	9	42	66	4:1	104	6:1	156
42"	12	16	12	48	80	4:1	128	6:1	192
48"	12	16	12	54	86	4:1	152	6:1	228
54"	12	16	12	60	92	4:1	176	6:1	264
60"	12	16	12	66	98	4:1	200	6:1	300

DATE	REVISION	DATE FILMED
10-18-96	REVISED ASTM REF. TO AASHTO	10-18-96
8-15-91	DRAWN & ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SAFETY END SECTION FOR CIRCULAR AND ARCH PIPES

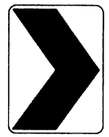
STANDARD DRAWING SES-1

FILE stdsesi.dgn

316

R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)

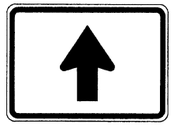


W1-8
18"X24"

W2-5
30"X30"

W3-1
36"X36"

W5-1
36"X36"



M6-3
21"X15"

R1-2
36"X36"X36"

W1-4
30"X30"
(LT. or RT.)

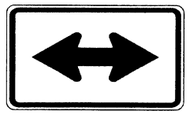
W2-1
30"X30"

S1-1
36"X36"

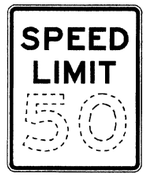
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.

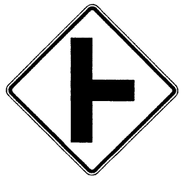


M6-4
21"X15"



R2-1
24"X30"

W1-5
30"X30"
(LT. or RT.)

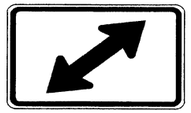


W2-2
30"X30"

W5-2
36"X36"

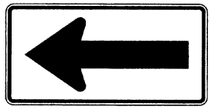
W8-3
36"X36"

R1-3P
18"X6"

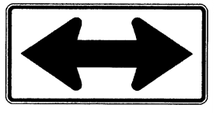


M6-5
21"X15"

W1-1
30"X30"
(LT. or RT.)



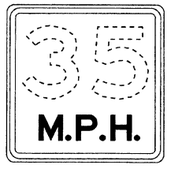
W1-6
48"X24"



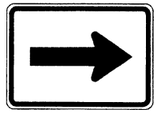
W1-7
48"X24"

W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

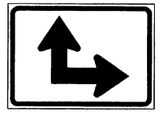


W13-1P
18"X18"



M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.

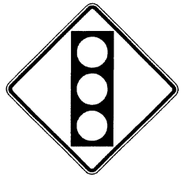


M6-6
21"X15"

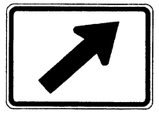
W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

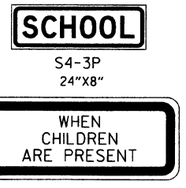
W10-1
36" DIAMETER



W3-3
36"X36"

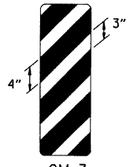


M6-2
21"X15"



S4-3P
24"X8"

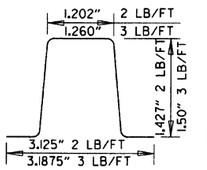
S4-2P
24"X10"



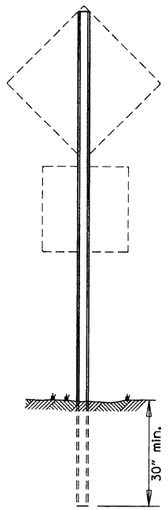
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

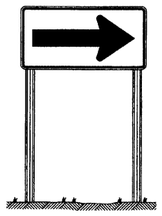


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

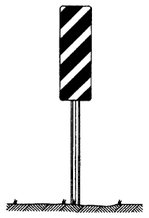


TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.



TYPE B



TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

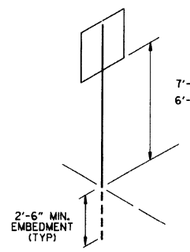
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED R1-3 TO R1-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2"-3"; ADDED S4-2 & S4-3	504-5-3-76
8-12-74	REV. HT. TYPE "C" ASSEMBLY	500-8-21-74
12-21-72	ADDED M6-2,3,4,5,6	500-12-21-72
12-1-72	ISSUED	562-12-1-72

SUPPORT ASSEMBLIES

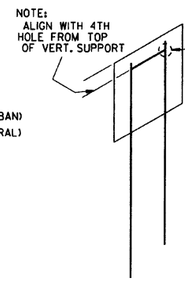
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

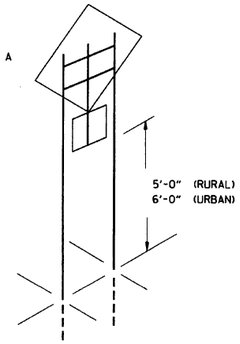
STANDARD DRAWING SHS-1



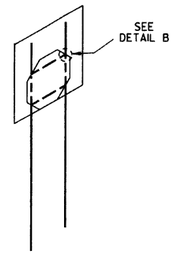
U-1



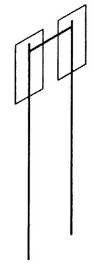
U-2



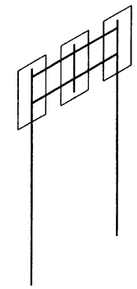
U-2 (A)



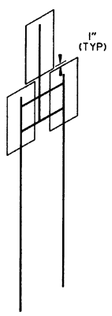
U-2 (B)



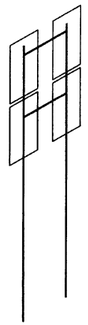
U-2 (1)



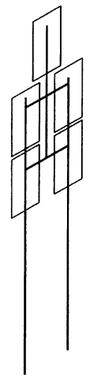
U-2 (2)



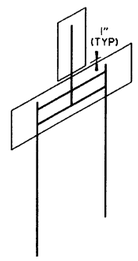
U-2 (3)



U-2 (4)



U-2 (5)



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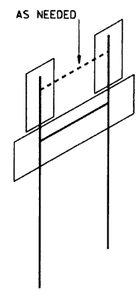

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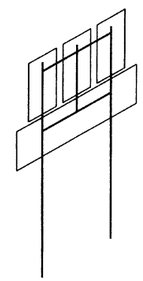

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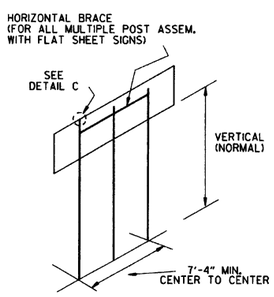
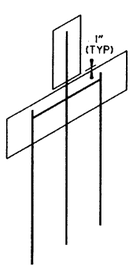


U-3



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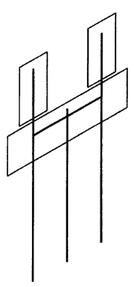

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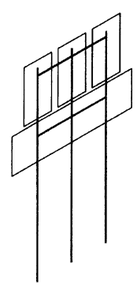

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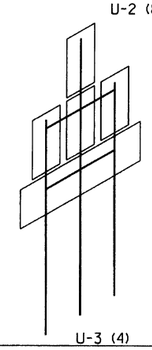

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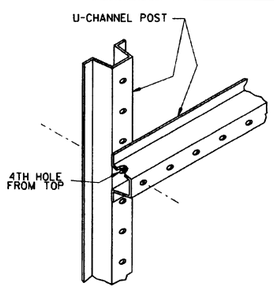
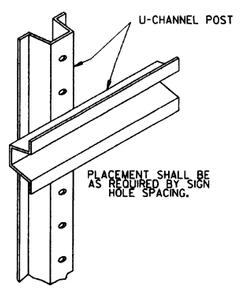


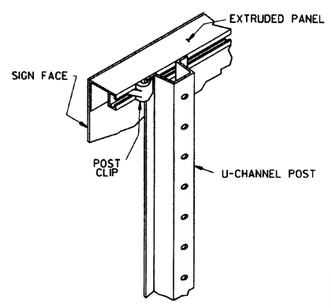
DETAIL A

SHOWING HORIZONTAL BRACE



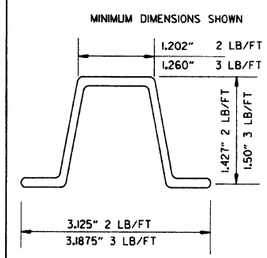
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION

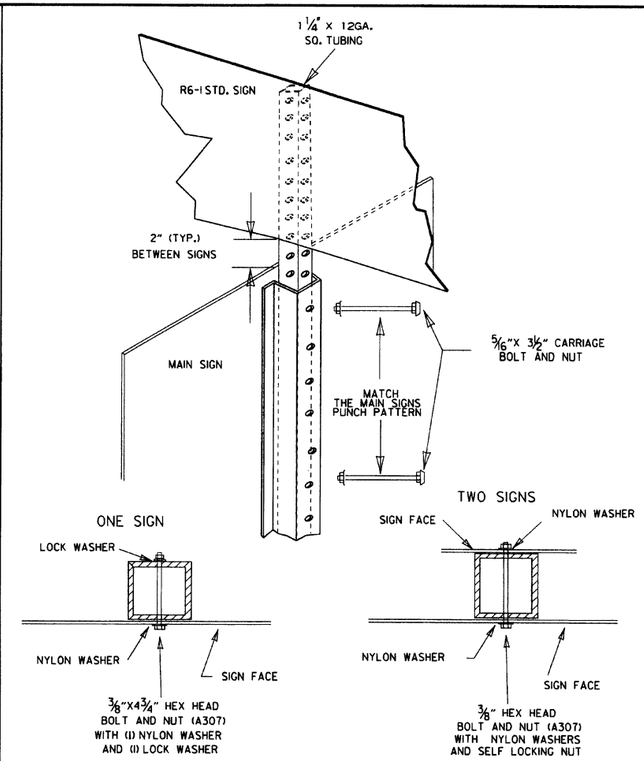


DETAIL C

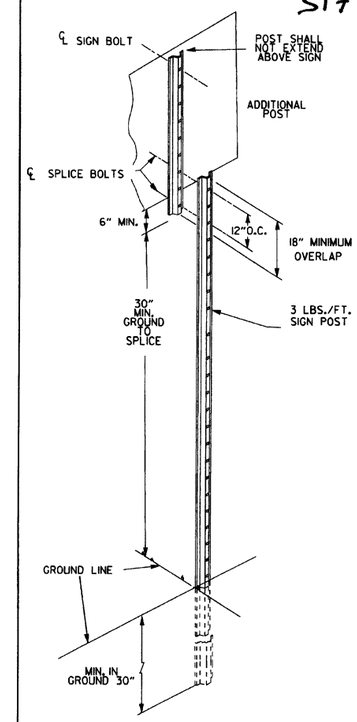
SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



DETAIL C
U-CHANNEL POST



DETAIL E
R6-1 EXTENSION
FOR U-CHANNEL POST



DETAIL F
DETAIL OF SPLICES

NOTES:

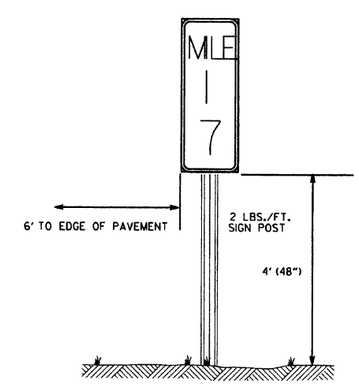
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

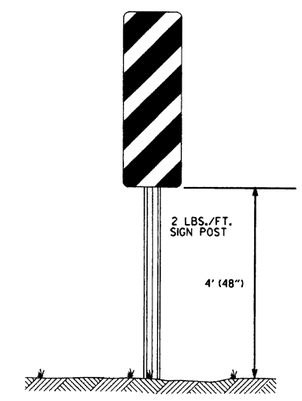
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

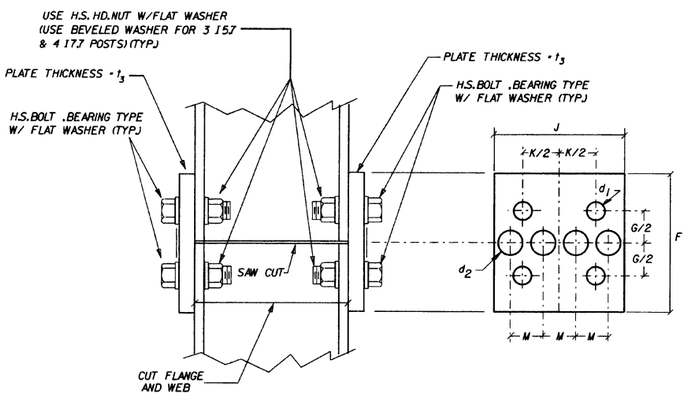
DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

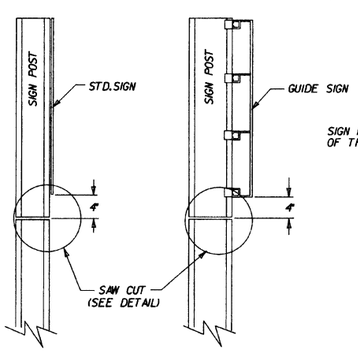
STANDARD DRAWING SHS-2

POST SIZE	BASE CONNECTION DATA											FUSE PLATE DATA									
	BOLT SIZE	BOLT TORQUE (INCH/LBS)	A	B	C	D	E	t_1	t_2	W	R	F	G		J	K	M	d_1	d_2	t_3	BOLT SIZE	WT. OF EACH FUSE PLATE LBS.
W 6X9																						
W 6X12	5/8" x 2 3/4"	450"-680"	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	4 1/4"	2"		4"	2 1/4"	1"	9/16"	3/4"	1/4"	1/2" x 1 1/2"	1.01
W 6X15												5"	2 1/2"		6"	3 1/2"	1 1/2"	11/16"	1 1/4"	3/8"	5/8" x 2 1/4"	2.51
W 8X18												5"	2 1/2"		5 1/4"	2 3/4"	1 1/4"	13/16"	1 1/16"	3/8"	3/4" x 2 1/4"	2.26
W 8X21												5 1/2"	2 1/2"		5 1/4"	2 3/4"	1 1/4"	13/16"	r	1/2"	3/4" x 2 1/4"	3.35
W 10X22	3/4" x 3 1/2"	750"-1050"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	r	3/4"	5/16"	11/32"	6"	3"		5 3/4"	2 3/4"	1 3/8"	13/16"	1 1/8"	1/2"	3/4" x 2 1/4"	4.03
W 10X26																						
W 12X26												6"	3"		6 1/2"	3 1/2"	1 5/8"	13/16"	1 5/16"	1/2"	3/4" x 2 1/4"	4.47



NOTE: USE H.S.HEX HEAD BOLTS, HEX HEAD NUTS AND BEVEL OR FLAT WASHERS (WHERE REQ.) UNDER NUTS. ALL HOLES SHALL BE DRILLED. ALL PLATE CUTS SHALL PREFERABLY BE SAW CUTS, HOWEVER FLAME CUTTING WILL BE PERMITTED PROVIDED ALL EDGES ARE GROUND. METAL PROJECTING BEYOND THE PLANE OF THE PLATE FACE WILL NOT BE PERMITTED. STEEL FUSE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM-A36, ASTM-A441, ASTM-572 GRADE 50, OR ASTM-A588 MAY BE SUBSTITUTED FOR A36 AT THE OPTION OF THE FABRICATOR. STEEL USED SHALL HAVE AN ULTIMATE TENSILE STRENGTH NOT TO EXCEED 80 KSI.

NOTE: BOLT HOLES, USED IN THE MOUNTING OF STANDARD SIGNS SHALL BE LOCATED IN THE FLANGE ADJACENT TO THE NEAR EDGE OF PAVEMENT FOR SINGLE POST ASSEMBLIES AND IN THE OUTSIDE FLANGES FOR MULTIPLE POST ASSEMBLIES.

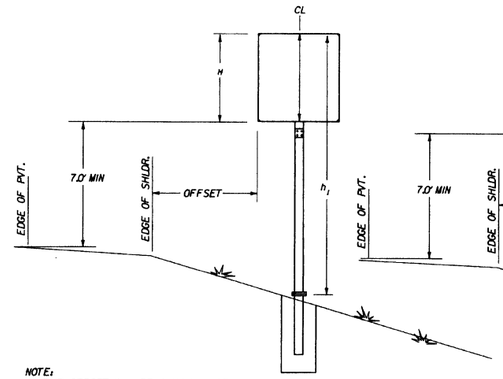


NOTE: POST SHALL BE SAW CUT AFTER GALVANIZING AND THE CUT SURFACE TREATED, AFTER PLATE IS INSTALLED AND ALL BOLTS FULLY TIGHTENED, WITH AN APPROVED ZINC SOLDER MEETING THE FEDERAL SPEC. O-G-93 (STICK ONLY).

STANDARD SIGNS

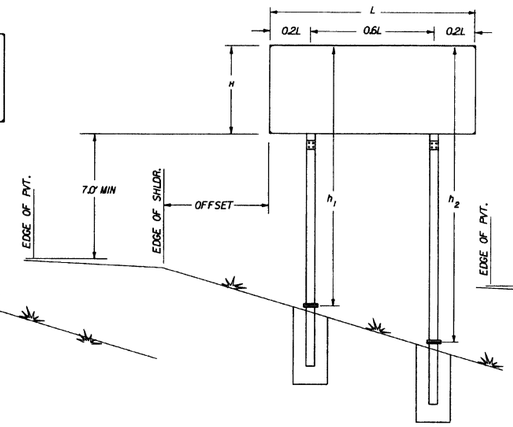
GUIDE SIGNS

FUSE PLATE DETAILS

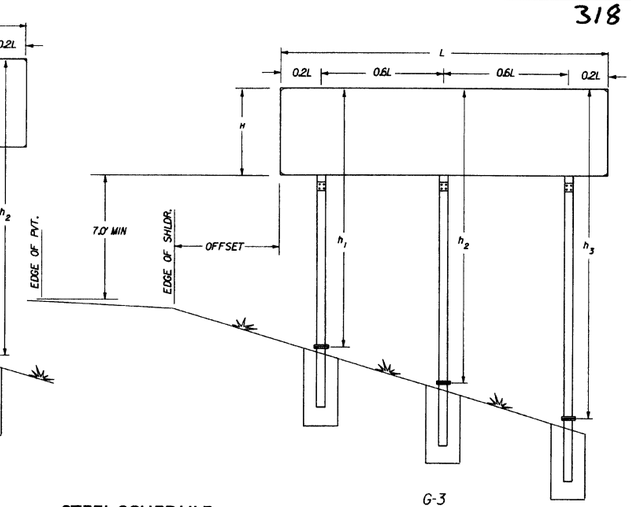


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

G-1



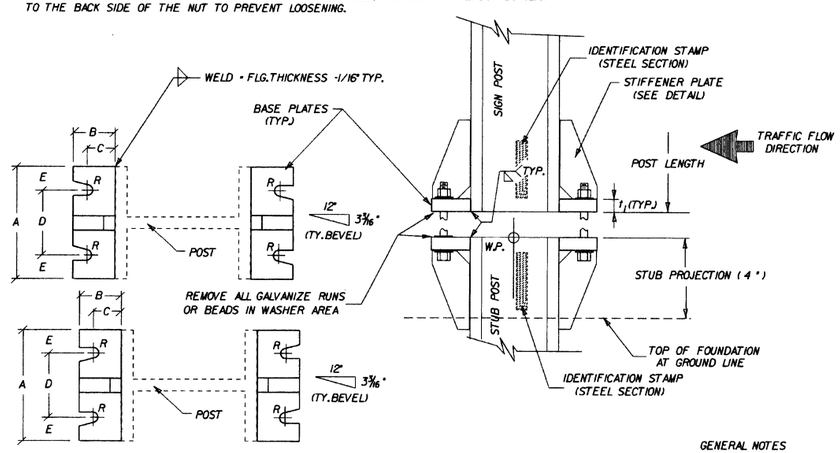
G-2



G-3

NOTE: SECTIONS SHOWN ARE FOR INSTALLATION ON THE RIGHT SHOULDER AND IN THE GORE. BOLT HOLES IN BASE PLATE ARE SLOTTED AND BEVELED AS SHOWN. USE H.S.BOLTS WITH HEX HD., HEX NUT AND THREE FLAT WASHERS FOR EACH BOLT. SEE TABLE FOR BOLT DIA. AND TORQUE.

NOTE: ASSEMBLE SIGN POST TO STUB POST USING THE BOLTS SPEC. IN THE TABLE AND AS SHOWN IN THE ELEVATION DETAILS. THERE SHALL BE THREE FLAT WASHERS ON EACH BOLT LOCATED AS SHOWN IN THE ELEVATIONS. USE A SHIM TO PLUMB THE SIGN POST. THEN TIGHTEN THE BOLTS USING A 12" TO 15" WRENCH UNTIL THE WASHERS AND SHIMS ARE SEATED AND THE BOLT THREADS ARE CLEAR. THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE (SEE TABLE). THE BURR THREADS ADJACENT TO THE BACK SIDE OF THE NUT TO PREVENT LOOSENING.



GENERAL NOTES

TIGHTEN THE HIGH STRENGTH BOLTS IN THE BASE CONNECTION ONLY TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE PLATES AND STIFFENER PLATES SHALL BE OF THE SAME MATERIAL AS THE PRIMARY SUPPORT POSTS WHICH THEY ARE WELDED.

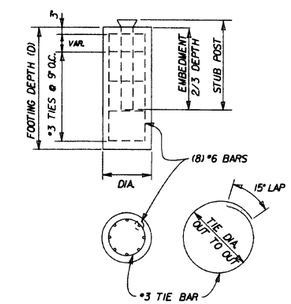
REFER TO THE PLANS FOR FOOTING DIMENSIONS.

EACH STUB POST AND SIGN POST SHALL HAVE A PERMANENT IDENTIFYING STAMP WHICH SPECIFIES THE STEEL SECTION USED. IF THE CONTRACTOR ELECTS TO SHIP THE STUB POST SEPARATE FROM THE SIGN POST A MATCH MARK SYSTEM WILL BE REQUIRED.

STEEL SCHEDULE

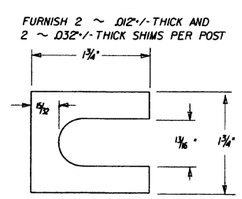
FOOTING DIAMETER	#3 TIE BARS DIAMETER	BAR LENGTH	POUNDS
INCHES	INCHES	FEET	
18	12	4.39	1.65
24	18	5.96	2.24
30	24	7.53	2.83
36	30	9.1	3.42

FOOTING DEPTH	#6 STRAIGHT BARS BAR LENGTH	NUMBER REQ'D.	POUNDS
FEET	FEET		
2.50	2.00	8	24.03
3.00	2.50	8	30.04
3.50	3.00	8	36.05
4.00	3.50	8	42.06
4.50	4.00	8	48.06
5.00	4.50	8	54.07
5.50	5.00	8	60.08
6.00	5.50	8	66.09
6.50	6.00	8	72.10
7.00	6.50	8	78.10
7.50	7.00	8	84.11
8.00	7.50	8	90.12

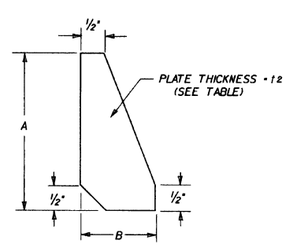


FOOTING QUANTITIES

FOOTING DEPTH	NUMBER TIE BARS REQ'D	18" DIAMETER CLASS S CONCRETE	18" DIAMETER REINF STEEL	24" DIAMETER CLASS S CONCRETE	24" DIAMETER REINF STEEL	30" DIAMETER CLASS S CONCRETE	30" DIAMETER REINF STEEL	36" DIAMETER CLASS S CONCRETE	36" DIAMETER REINF STEEL
FEET		CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)
2.50	4	0.16	31						
3.00	4	0.20	37						
3.50	5	0.23	44						
4.00	6	0.26	52	0.47	56				
4.50	6	0.29	58	0.52	62				
5.00	7	0.33	66	0.58	70	0.91	74		
5.50	8			0.64	78	1.00	83		
6.00	8			0.70	84	1.09	89	1.57	93
6.50	9					1.18	98	1.70	103
7.00	10					1.27	106	1.83	112
7.50	10							1.96	118
8.00	11							2.09	128



SHIM DETAIL



STIFFENER PLATE DETAIL

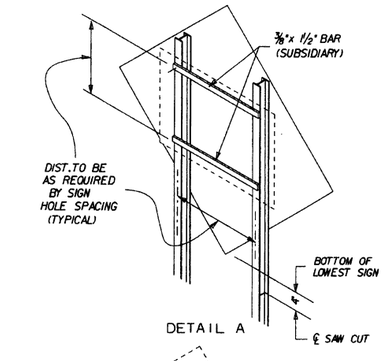
SIGN POST AND STUB POST

DATE	REVISION	FILMED
9-12-13	ISSUED	

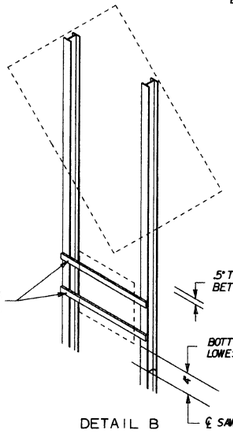
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS

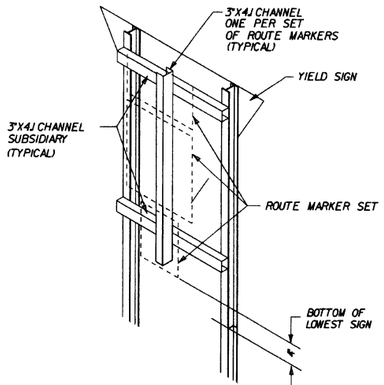
STANDARD DRAWING SHS-3



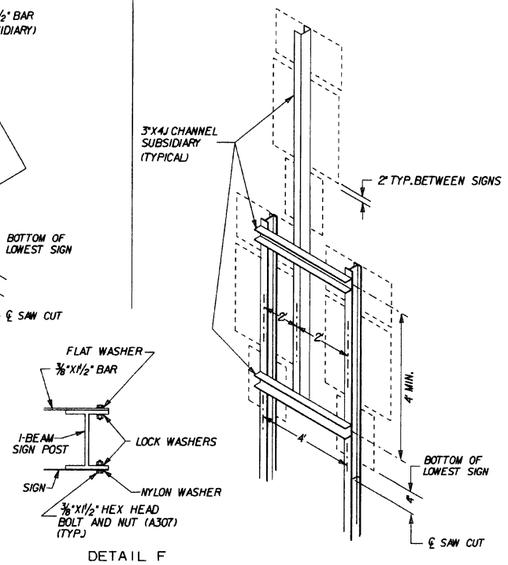
DETAIL A



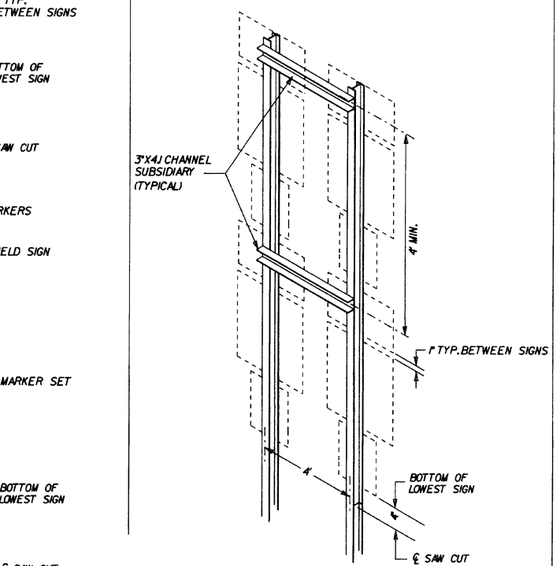
DETAIL B



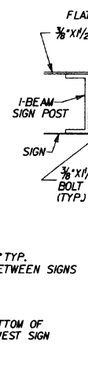
DETAIL C



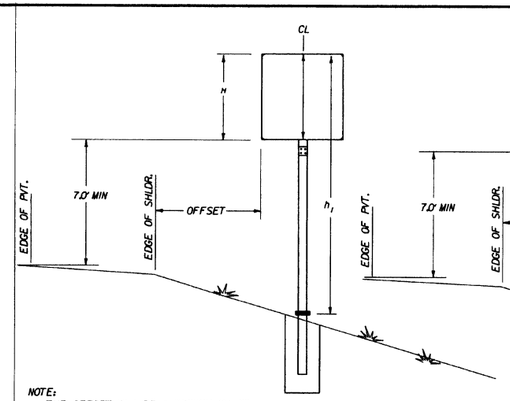
DETAIL D



DETAIL E



DETAIL F



NOTE:
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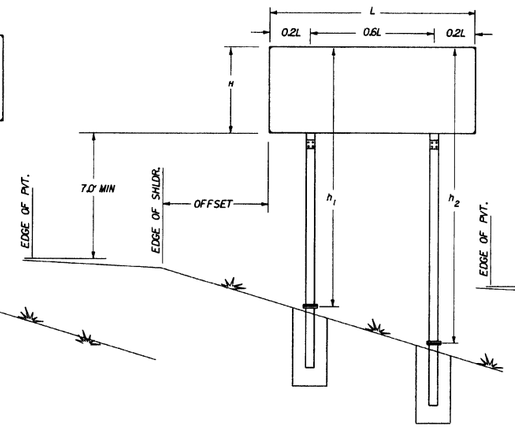
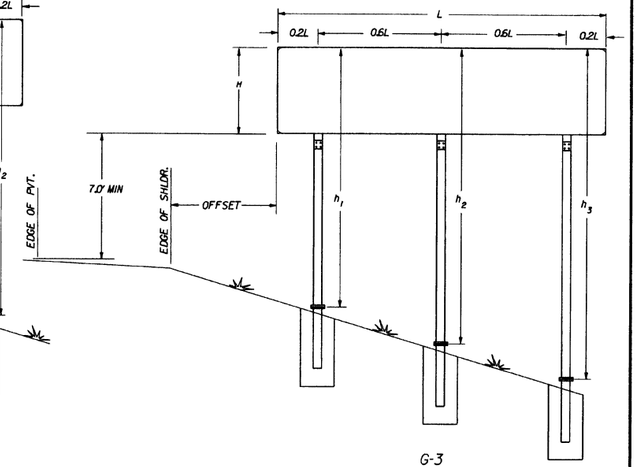
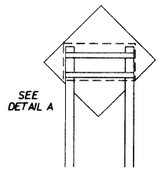
G-1



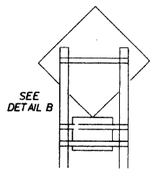
G-2



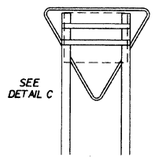
G-3



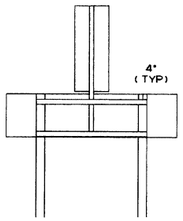
G2-1



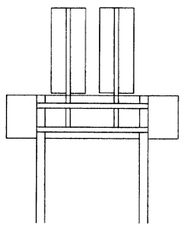
G2-2



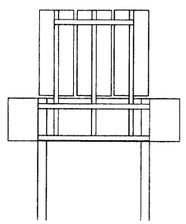
G2-3



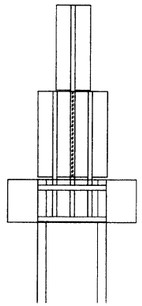
G2-4



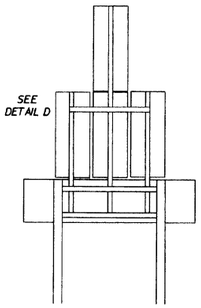
G2-5



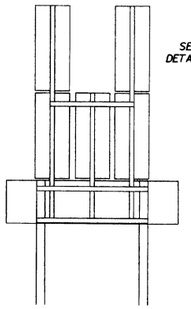
G2-6



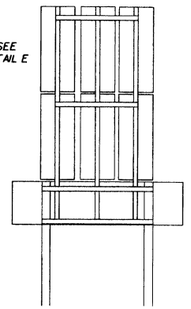
G2-7



G2-8



G2-9



G2-10

NOTE

ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHANNELS AND BAR STRAPS REQUIRED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. PAYMENT WILL BE CONSIDERED SUBSIDIARY TO THE MAIN SUPPORT.

THE GALVANIZED STEEL CHANNEL AND BAR SUPPORTS MAY BE ASTM A-36.

REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE 1/8" DIA. UNLESS OTHERWISE SHOWN.

DATE	REVISION	FILMED
9-12-13	ISSUED	

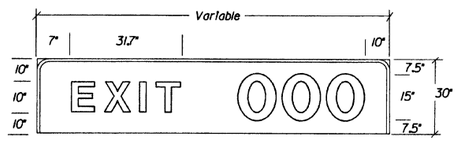
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS

STANDARD DRAWING SHS-4

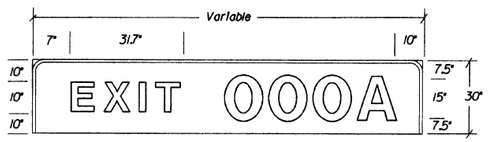
TYPICAL DETAIL

TYPE A



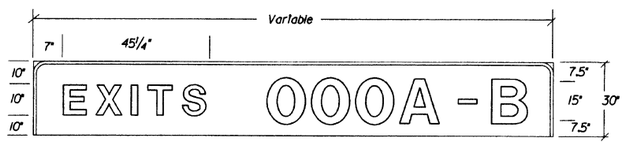
EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B



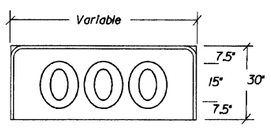
EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C



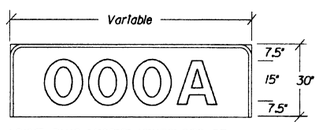
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30"=5.0 SF
2 DIGITS 42"X30"=8.75 SF
3 DIGITS 60"X30"=12.50 SF

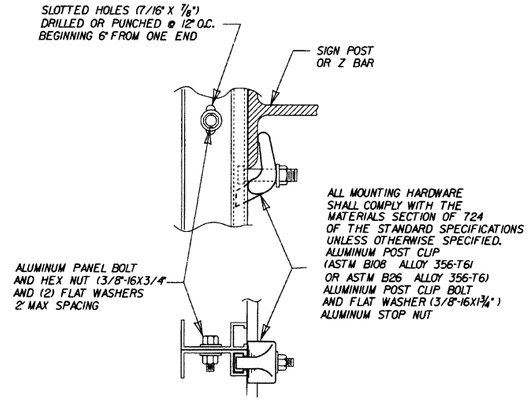
TYPE E

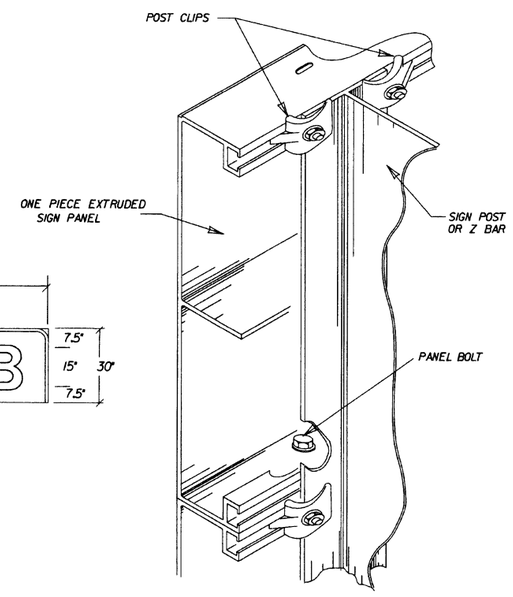


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

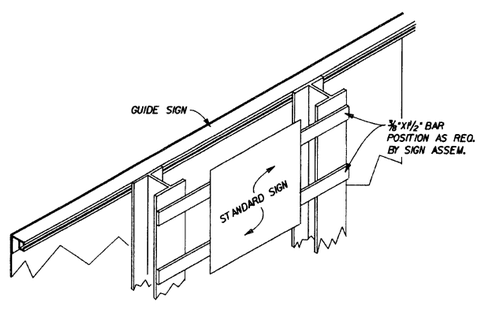
EXIT PANEL DETAILS

NOTE: EXIT NUMBER PANELS SHALL HAVE WHITE LEGENDS AND BORDERS. THE BACK GROUND COLOR WILL BE AS USE SPECIFIES. SHEETING TYPE WILL BE THE SAME AS THE GUIDE SIGN WHICH THE EXIT PANEL IS ATTACHED OR AS SPECIFIED IN THE PLANS. PAYMENT FOR ALL POST CLIPS, BOLTS, AND ANGLES SHALL BE SUBSIDIARY TO THE ITEM "EXIT NUMBER PANEL".

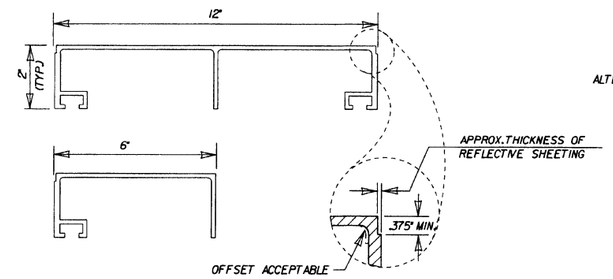




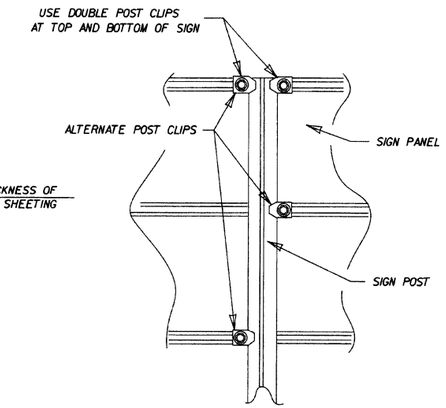
MOUNTING HARDWARE



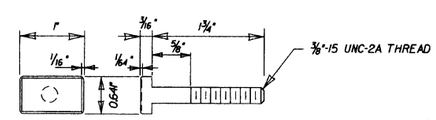
SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN



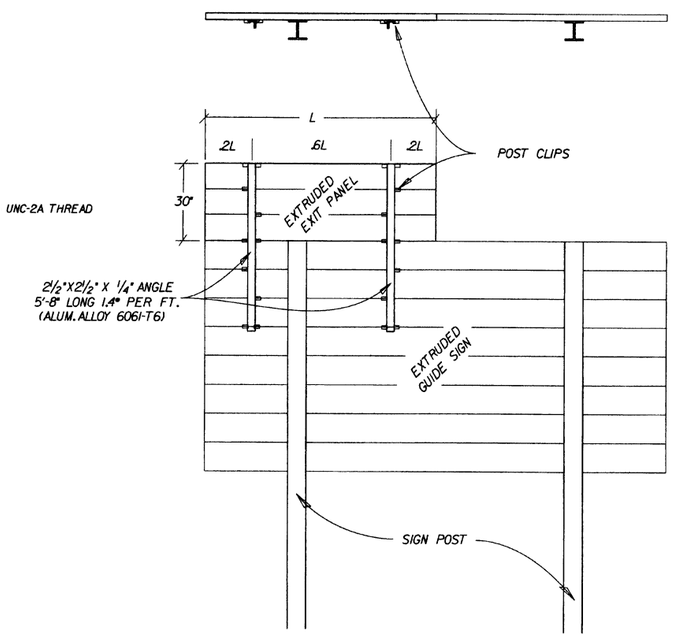
ONE PIECE EXTRUDED SIGN PANELS



POST CLIP PLACEMENT



POST CLIP BOLT



DATE	REVISION	FILMED
9-12-13	ISSUED	

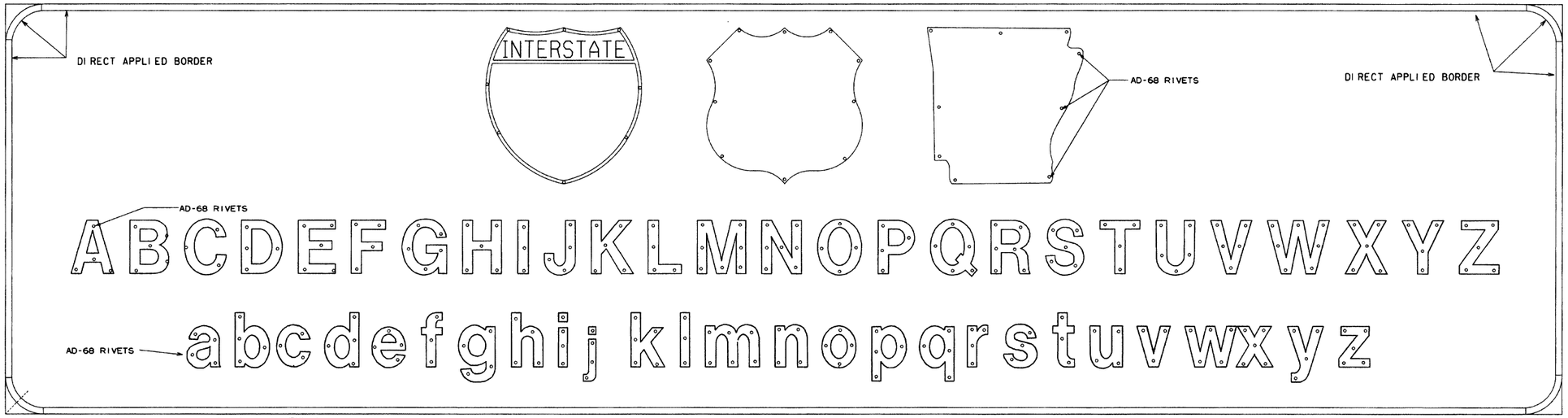
ARKANSAS STATE HIGHWAY COMMISSION

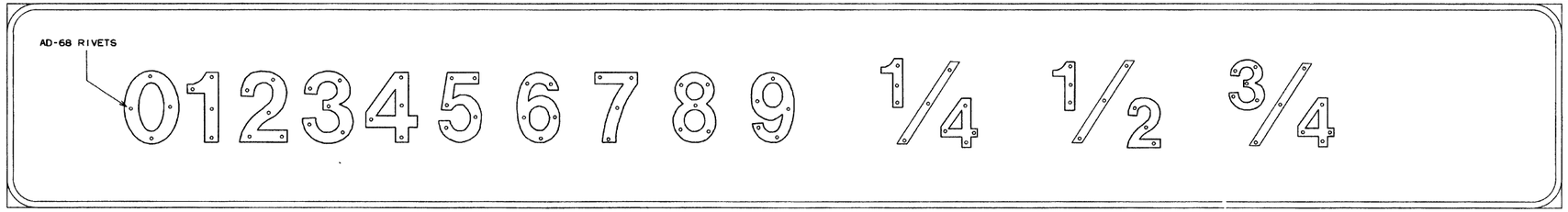
DETAILS OF GUIDE SIGN PANELS

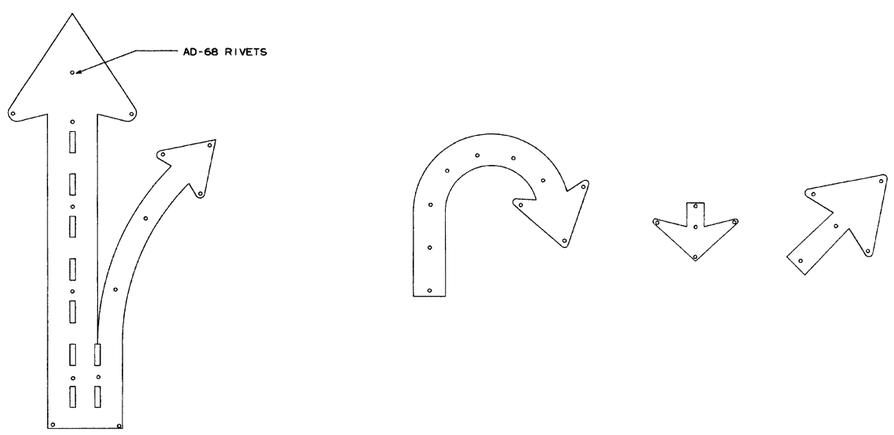
STANDARD DRAWING SHS-5

THE CONTRACTOR SHALL DRILL AND POP-RIVET LEGEND, SHIELDS, ARROWS, OR OTHER COPY AS SHOWN.

MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS







NOTES:

LEGEND ON GUIDE SIGNS ON THE MAIN LANES SHALL BE DEMOUNTABLE LEGEND. LEGEND ON GUIDE SIGNS ON CROSS ROADS AND RAMPS SHALL BE DIRECT APPLIED. THE DEMOUNTABLE AND DIRECT APPLIED LEGENDS SHALL BE TYPE IX SHEETING.

THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

DATE	REVISION	FILMED
9-12-13	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

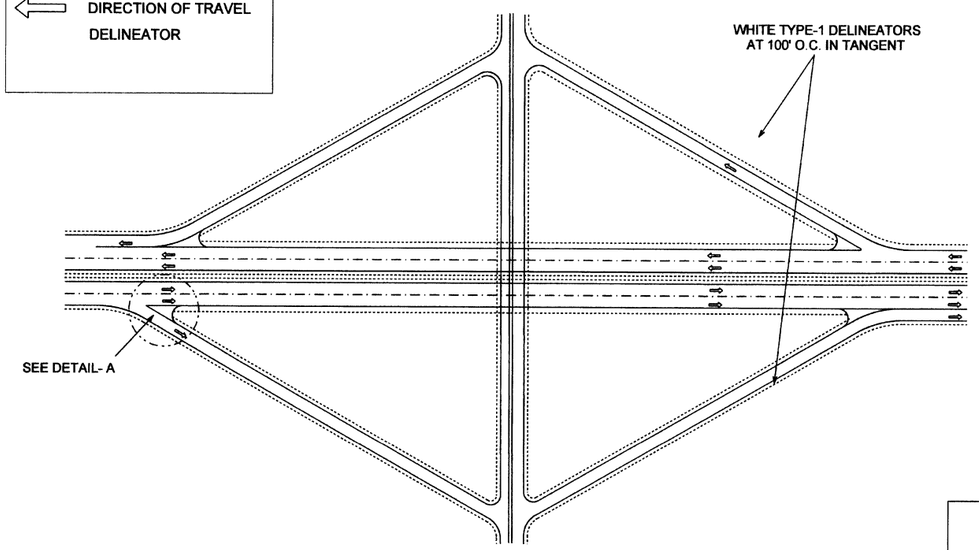
MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS

STANDARD DRAWING SHS-6

LEGEND

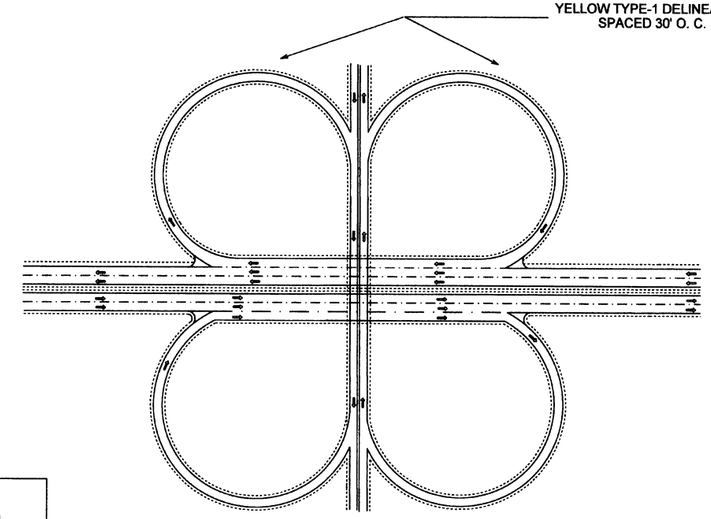
DIRECTION OF TRAVEL

DELINEATOR

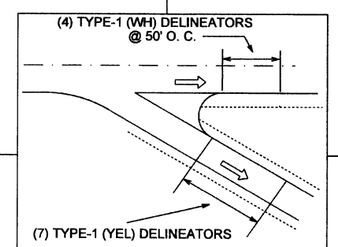


TYPICAL DIAMOND INTERCHANGE
(ALL RAMPS)

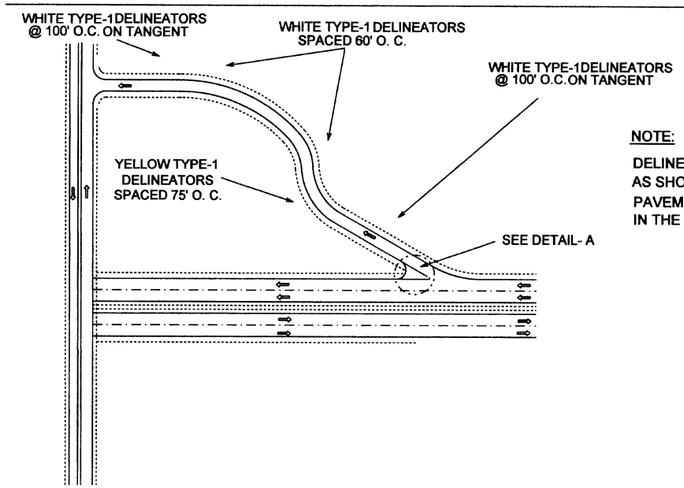
DELINEATORS PLACEMENT DETAIL



TYPICAL CLOVERLEAF INTERCHANGE
(ALL RAMPS)



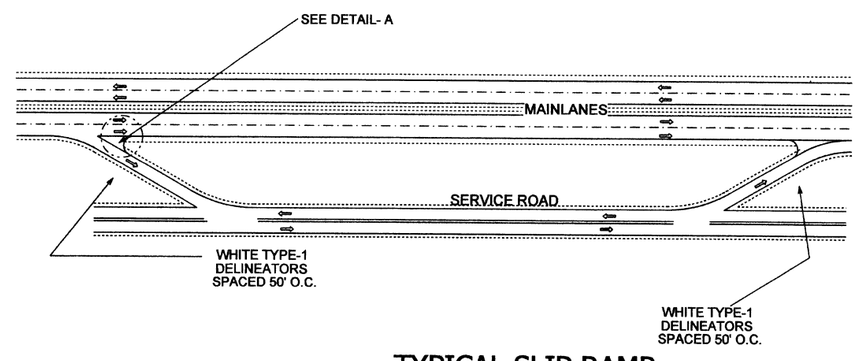
DETAIL - A



MODIFIED DIAMOND INTERCHANGE

NOTE:

DELINEATORS SHALL ONLY BE INSTALLED AS SHOWN IN DETAIL-A IF RAISED PAVEMENT MARKERS ARE NOT PRESENT IN THE GORE OF THE OFF RAMPS.



TYPICAL SLIP RAMP

GUIDANCE:

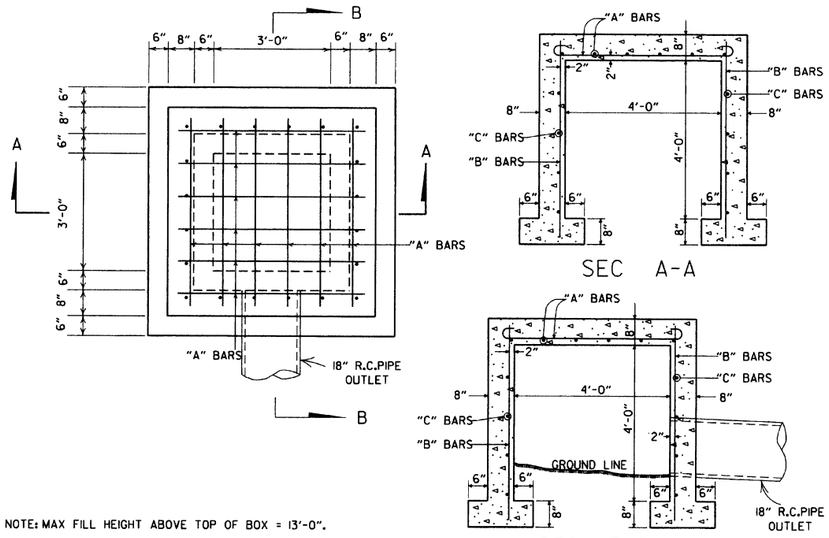
DELINEATORS SHOULD BE MOUNTED ON SUITABLE SUPPORTS SO THAT THE TOP OF THE HIGHEST RETROREFLECTOR IS 1.2 M (4 FT) ABOVE THE NEAR ROADWAY EDGE. THEY SHOULD BE PLACED 0.6 TO 2.4 M (2 TO 8 FT) OUTSIDE THE OUTER EDGE OF THE SHOULDER, OR IF APPROPRIATE, IN LINE WITH THE ROADSIDE BARRIER THAT IS 2.4 M (8 FT) OR LESS OUTSIDE THE OUTER EDGE OF THE SHOULDER.

DATE	REVISION	FILMED
9-12-13	ISSUED	

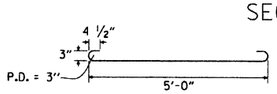
ARKANSAS STATE HIGHWAY COMMISSION

TYPICAL DELINEATOR PLACEMENT ALONG THE INTERSTATE SYSTEM

STANDARD DRAWING SHS-8



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



STEEL SCHEDULE

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

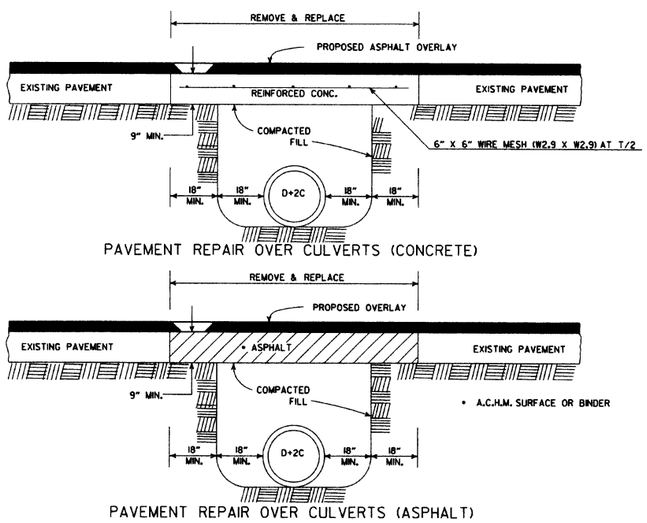
ALL STEEL TO BE #4 BARS

QUANTITIES

CONCRETE 3.31 CU. YDS.
REINFORCING STEEL 168 LB.

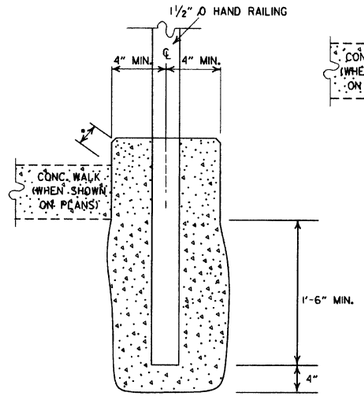
GENERAL NOTE:
THE PAY ITEMS FOR REINFORCED CONCRETE SPRING BOXES SHALL BE FOR THE QUANTITIES OF CONCRETE OF THE CLASS SPECIFIED, REINFORCING STEEL, EXCAVATION FOR STRUCTURES AND 18" R.C. PIPE CULVERT.

REINFORCED CONCRETE SPRING BOX

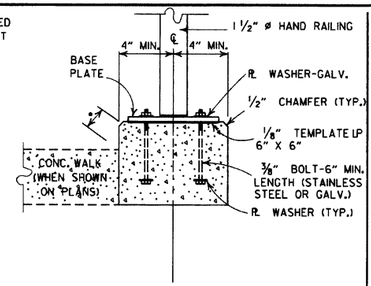


DETAIL SHOWING REPAIR OF EXISTING PAVEMENT AT CULVERT INSTALLATIONS

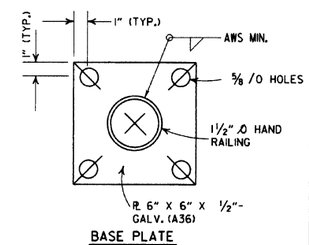
* A 2" MIN. HIGH CURB IS REQUIRED WHEN CONCRETE WALK IS ADJACENT TO THE HAND RAILING. PAYMENT FOR CURB SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR CONCRETE WALKS.



DETAIL OF HAND RAILING SET IN CONCRETE

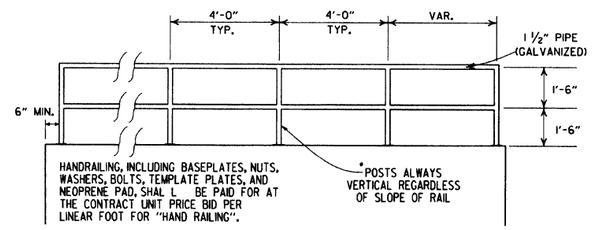


POST CONNECTION TO WALL

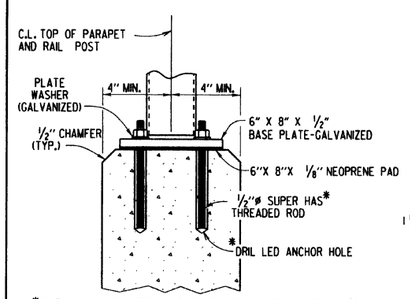


BASE PLATE

POST CONNECTION DETAILS



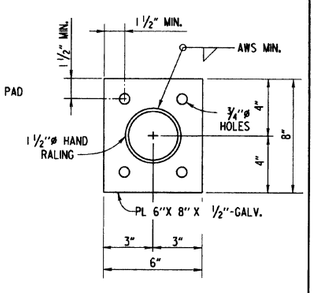
HAND RAILING SHAL L CONFORM TO SECTION 633.



*HILTI HIT RE 500 EPOXY ADHESIVE ANCHOR SYSTEM WITH 4 1/2" EMBEDMENT OR APPROVED EQUAL.

THE ADHESIVE ANCHOR SYSTEM SHAL L BE INSTAL LED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

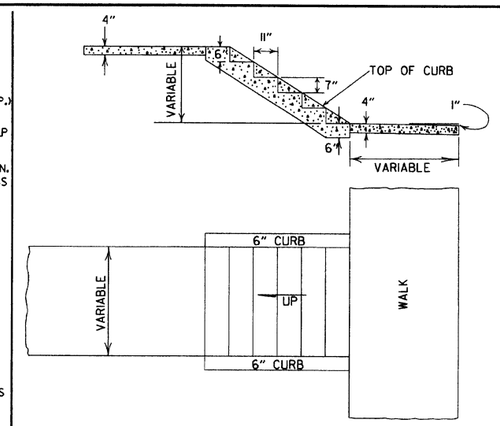
POST CONNECTION TO WALL



BASE PLATE

DETAILS OF ALTERNATE POST ANCHOR SYSTEM
(EPOXY ADHESIVE ANCHORS)

HAND RAILING DETAILS



GENERAL NOTES

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

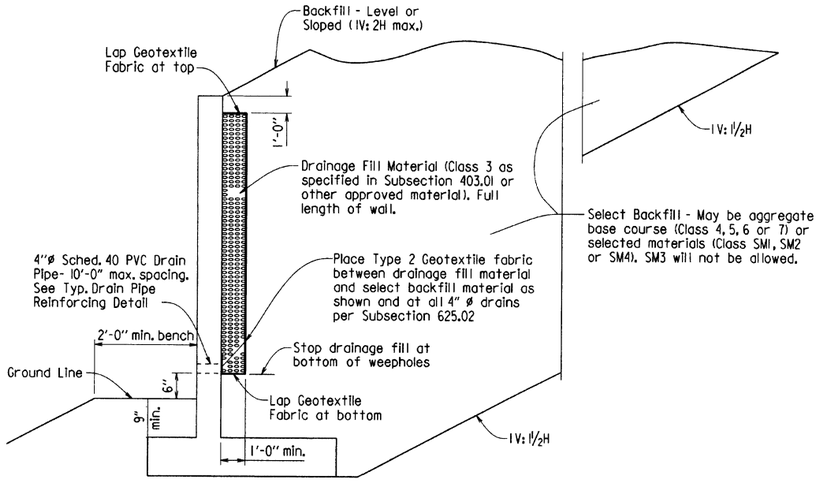
DETAILS OF CONCRETE STEPS & WALKS

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

ARKANSAS STATE HIGHWAY COMMISSION

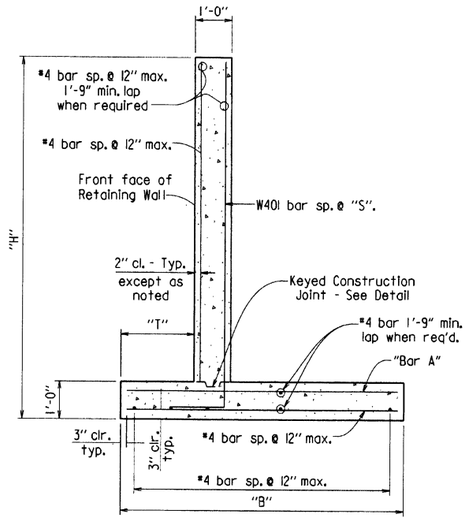
DETAILS OF SPECIAL ITEMS

STANDARD DRAWING SI-1



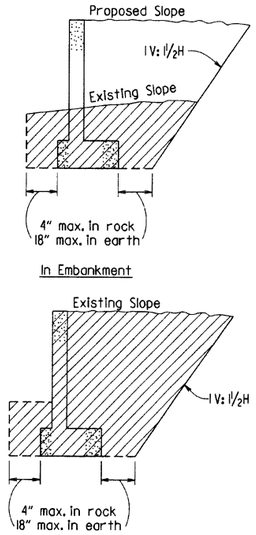
TYPICAL DRAINAGE & BACKFILL DETAILS

N.T.S



TYPICAL SECTION

N.T.S



NOTE: Hatched area denotes maximum limits of pay excavation.

DETAILS OF EXCAVATION

N.T.S

GENERAL NOTES

CONSTRUCTION SPECIFICATIONS: Arkansas state Highway and Transportation Department Standard Specifications for Highway Construction (Current Edition) with applicable supplemental specifications and special provisions. Unless otherwise noted in the plans, Section and Subsection refer to the Standard Construction Specifications.

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

LIVE LOAD: Live Load Surcharge is not included in the design of these walls. Vehicular Live Load shall not be allowed within a distance equal to one-half the height of the wall.

CONCRETE: Concrete shall be poured in the dry and all exposed corners to be chamfered ½". All concrete shall be Class S with a minimum 28 day compressive strength f'c = 3,500 psi. A Class 2 Surface finish shall be used on all surfaces of the concrete unless otherwise noted.

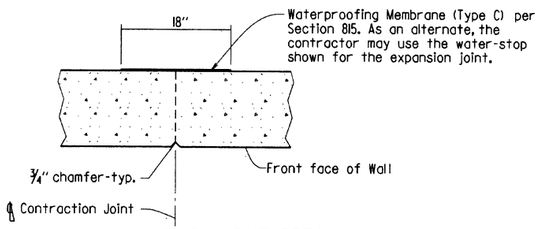
REINFORCING STEEL: All reinforcing steel shall conform to AASHTO M31 orM53, Grade 60.

Foundations for footings shall be prepared in accordance with subsection 801.04. Backfill for retaining walls shall be in accordance with subsection 801.08.

Waterproof Membrane (Type C), waterstops, preformed joints, weep holes & geotextile fabric shall not be paid for directly, but shall be considered subsidiary to Class S Concrete.

Drainage fill material (Class 3) and select backfill shall be measured and paid for as Compacted Embankment.

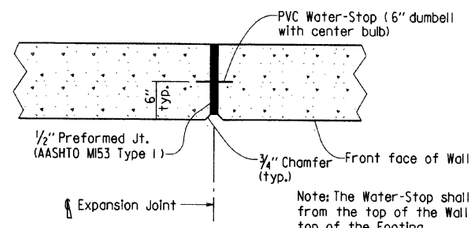
These details are not intended for use along streams or ditches without consideration for scour.



TYPICAL CONTRACTION JOINT DETAIL

N.T.S.

Note: 20'-0" Max. Spacing between Contraction Joints. Horizontal reinforcement shall be continuous through Contraction joints.

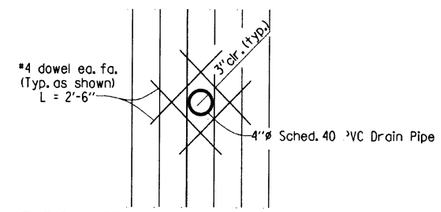


Note: The Water-Stop shall extend from the top of the Wall to the top of the Footing.

TYPICAL EXPANSION JOINT DETAIL

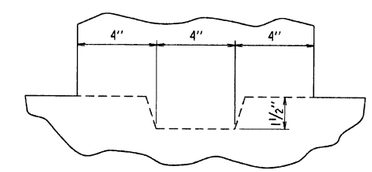
N.T.S.

Note: 60'-0" Max. Spacing between Expansion Joints. Horizontal reinforcing shall stop 2" from ℄ Expansion Joint.



TYPICAL DRAIN PIPE REINFORCING DETAIL

N.T.S



KEYED CONSTRUCTION JOINT DETAIL

N.T.S

SEISMIC ZONE: These walls have been designed for the following site adjusted peak ground accelerations (A_S):
Level Backfill - $A_S \leq .40g$
Sloped Backfill (1V: 2H max.) - $A_S \leq .30g$

TABLE OF RETAINING WALL VARIABLES

(LEVEL BACKFILL)

"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-0"	12"	#4 @ 12"
6'-0"	9"	4'-6"	12"	#4 @ 12"
7'-0"	9"	5'-6"	12"	#4 @ 10"
8'-0"	9"	6'-0"	12"	#5 @ 10"
9'-0"	1'-0"	7'-0"	12"	#5 @ 6½"

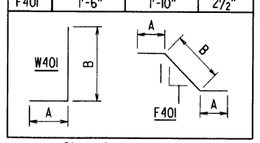
TABLE OF RETAINING WALL VARIABLES

(SLOPED BACKFILL) (1V: 2H MAX.)

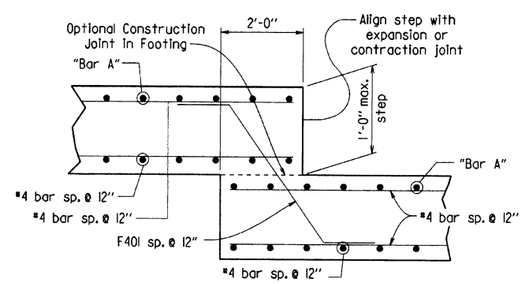
"H"	"T"	"B"	"S"	"Bar A" Size @ Spacing
3'-0"	9"	2'-6"	12"	#4 @ 12"
4'-0"	9"	3'-6"	12"	#4 @ 12"
5'-0"	9"	4'-6"	12"	#4 @ 12"
6'-0"	9"	5'-6"	12"	#4 @ 6"
7'-0"	9"	6'-6"	12"	#5 @ 6½"
8'-0"	1'-6"	8'-0"	7½"	#6 @ 6"
9'-0"	1'-11"	9'-6"	5"	#8 @ 6"

BENDING DIAGRAMS

MARK			P.D.
W401	8"	"H" - 6"	3"
F401	1'-6"	1'-10"	2½"



Dimensions are out to out of bars.



FOOTING STEP DETAIL

N.T.S.

DATE	REVISION	DATE FILMED
5-12-16	REVISED SLOPES FOR SELECT BACKFILL	
2-27-14	REVISED GENERAL NOTES	
7-26-12	DRAWING ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

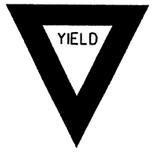
REINFORCED CONCRETE RETAINING WALL (WITHOUT LIVE LOAD SURCHARGE)

STANDARD DRAWING SI - 2

R1-1

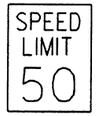
STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1



STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

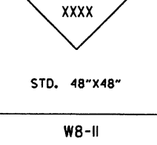
R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

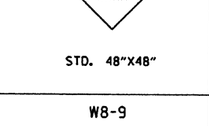
STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R5-1



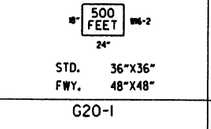
STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2



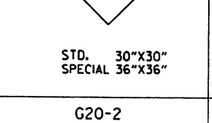
48"X30"

R11-3A



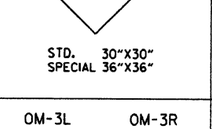
60"X30"

R11-4



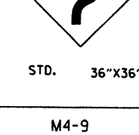
60"X30"

RSP-1



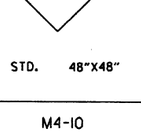
48"X30"

W1-1



STD. 36"X36"
FWY. 48"X48"

W1-2

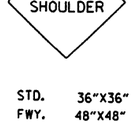


STD. 36"X36"
FWY. 48"X48"

W1-3

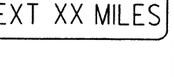
STD. 48"X48"

W1-4



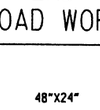
STD. 48"X48"

W1-6



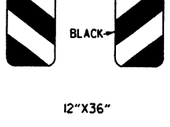
STD. 48"X24"
SPECIAL 60"X30"

W1-8



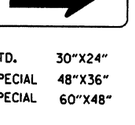
STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

W3-1



STD. 36"X36"
SPECIAL 48"X48"

W3-2



STD. 36"X36"
SPECIAL 48"X48"

W4-2

STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

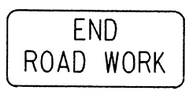
W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2



48"X24"

OM-3L OM-3R

12"X36"

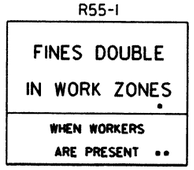
M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1



36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

W20-3

STD. 48"X48"

ADVANCE DISTANCES
(XXXX)

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

GENERAL NOTES:

1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION.

2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER.

3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED.

• 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE.

• 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3.

6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE.

7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS.

8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS.

9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT.

10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN.

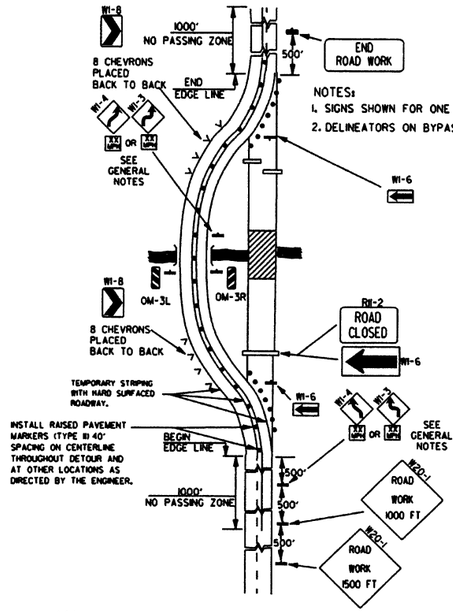
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.

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

ARKANSAS STATE HIGHWAY COMMISSION

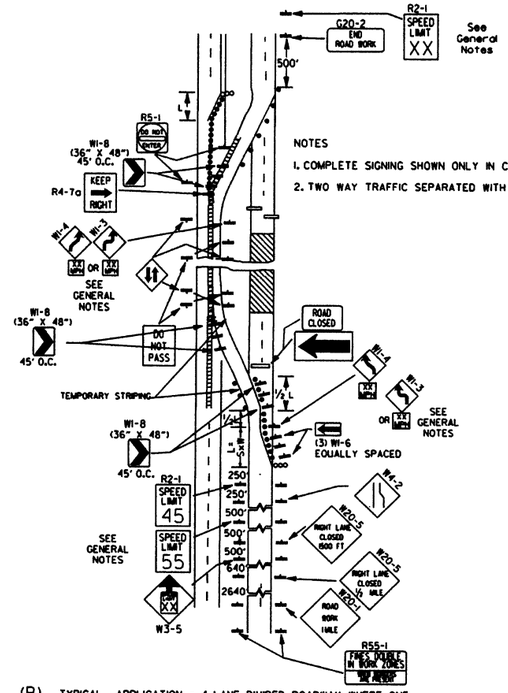
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



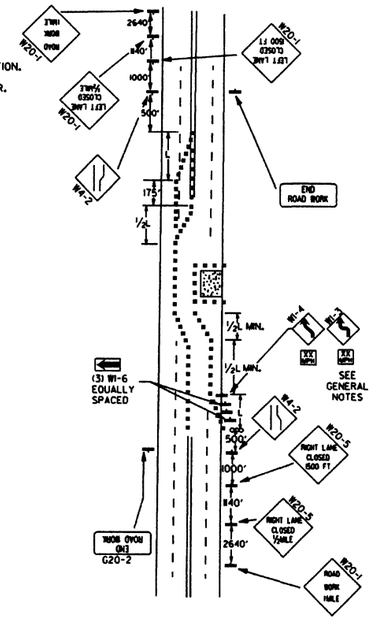
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

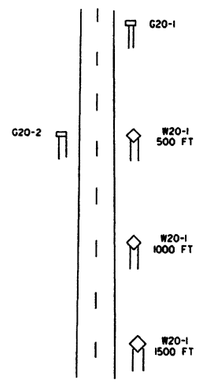


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

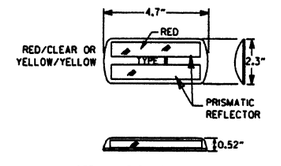


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



TYPICAL ADVANCE WARNING SIGN PLACEMENT

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



DETAIL OF RAISED PAVEMENT MARKERS

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

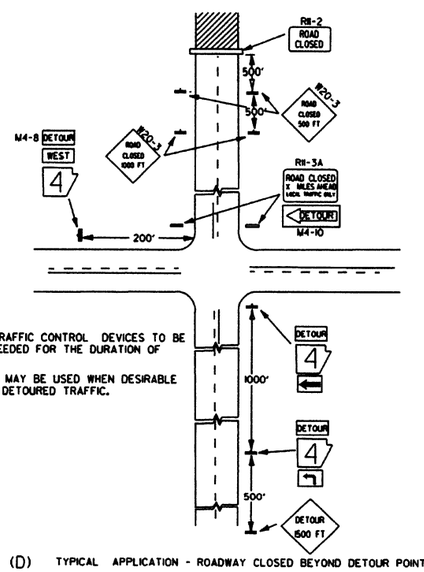
L= MINIMUM LENGTH OF TAPER.

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

W= WIDTH OF OFFSET.

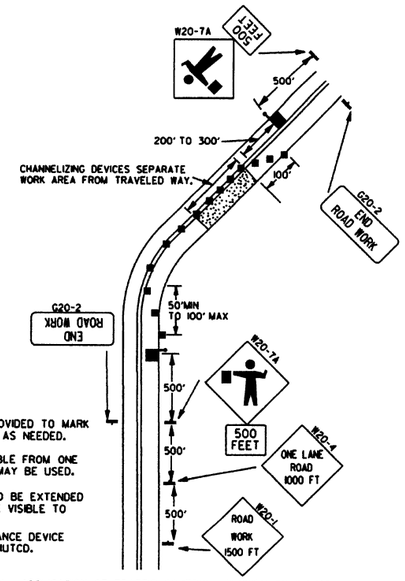
GENERAL NOTES:

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



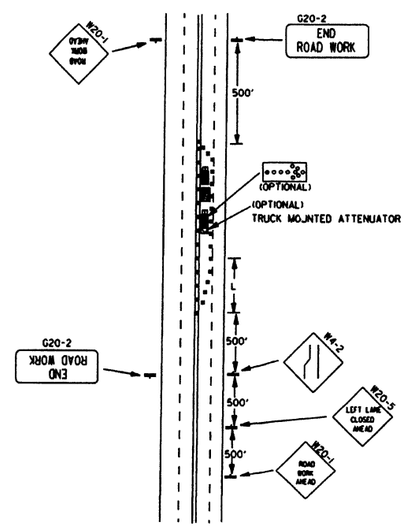
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

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



NOTES:
1. FLOOD LIGHTS SHOULD BE PROVIDED TO MARK FLAGGER STATIONS AT NIGHT AS NEEDED.
2. IF ENTIRE WORK AREA IS VISIBLE FROM ONE STATION, A SINGLE FLAGGER MAY BE USED.
3. CHANNELIZING DEVICES ARE TO BE EXTENDED TO A POINT WHERE THEY ARE VISIBLE TO APPROACHING TRAFFIC.
4. AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) OPTIONAL. REFER TO MUTCD.

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



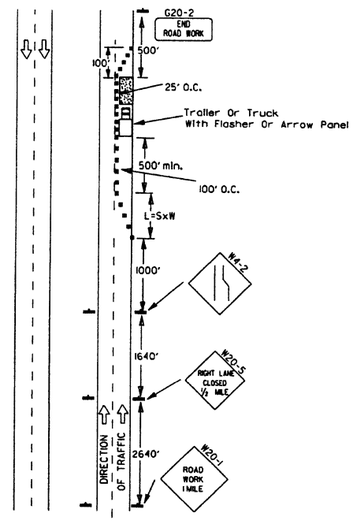
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

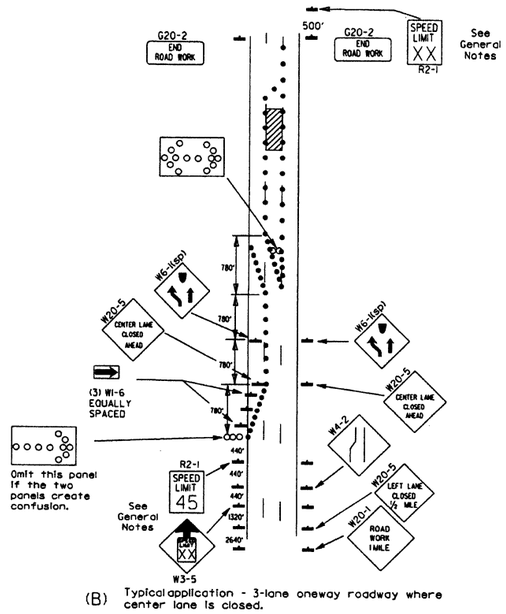
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

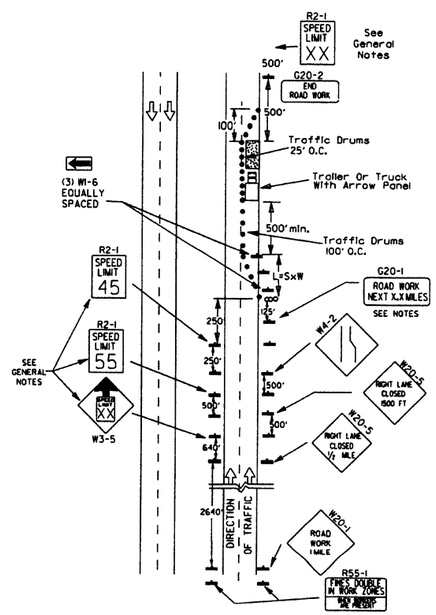
STANDARD DRAWING TC-2



(A) Typical application - daytime maintenance operations of short duration on a 4-lane divided roadway where half of the roadway is closed.



(B) Typical application - 3-lane oneway roadway where center lane is closed.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

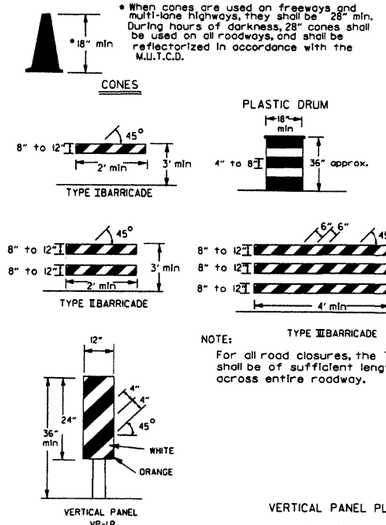
KEY:

- ooo Arrow Panel (if Required)
- ■ Channelizing Device
- ● Traffic drum

GENERAL NOTES:

1. A speed limit reduction may be implemented ONLY when designated in the plan or when recommended by the Roadway Design Division.
2. When the existing speed limit is 55mph and the plans require a speed limit of 45mph, the R2-1(55) shall be omitted and the W3-5 shall be installed at that location. Additional R2-1 45mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
3. When the existing speed limit is 65mph and the plans require a speed limit of 55mph, the R2-1(45) shall be omitted. Additional R2-1 55mph speed limit signs shall be installed at a maximum of 1 mile intervals. At the end of the work area a R2-1(XX) shall be installed to match original speed limit.
4. The maximum spacing between channelizing devices in a taper should be approximately equal in feet to the speed limit. Beyond the taper, maximum spacing shall be two times the speed limit or as directed by the Engineer.
5. Warning lights and/or flags may be mounted to signs or channelizing devices at night as needed.
6. Pavement markings no longer applicable which might create confusion in the minds of vehicle operators shall be removed or obliterated as soon as practicable.
7. The G20-1 sign will be required on jobs of over two miles in length. When the lane closure is not at the beginning of the project, the G20-1 sign shall be erected 125' in advance of the job limit. Additional W20-1 (1 MILE) signs are not required in advance of lane closures that begin inside the project limits.
8. Flaggers shall use STOP/SLOW paddles for controlling traffic through work zones. Flags may be used only for emergency situations.
9. All plastic drums and cones shall meet the requirements of NCHRP-350 or Manual For Assessing Safety Hardware (MASH).
10. Trailer mounted devices such as arrow panels and portable changeable message signs shall be delineated by affixing conspicuity material in a continuous line on the face of the trailer. When placed on or adjacent to the shoulder and not behind a positive barrier, these devices shall be delineated by placing five (5) traffic drums, equally spaced along the traffic side of the device.

Channelizing devices



NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

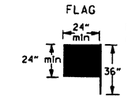
TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

* When shown on the plans concrete barrier will be used.

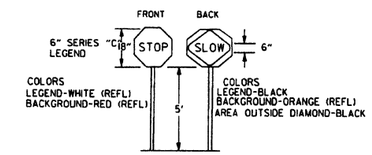
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.

FLAG

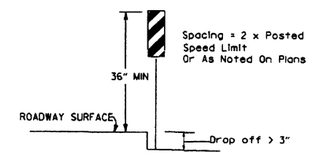


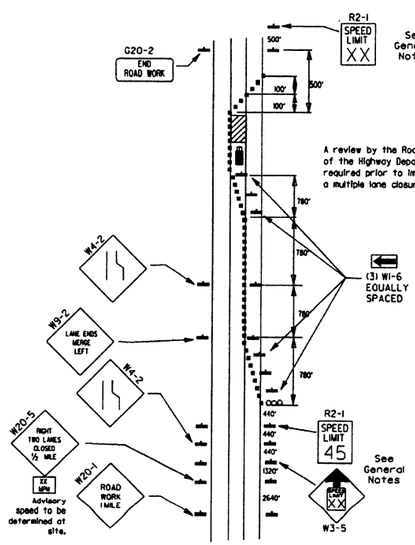
Flag shall be of good grade red material

STOP SLOW PADDLE



VERTICAL PANEL PLACEMENT





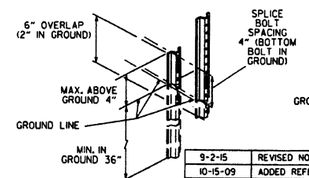
A review by the Roadway Design Division of the Highway Department will be required prior to implementing a multiple lane closure.

(D) Typical application - closing multiple lanes of a multilane highway.

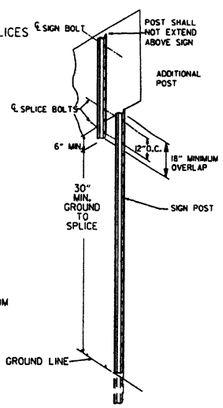
NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



DETAIL OF SPLICES



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

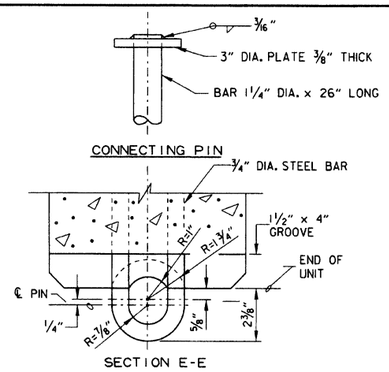
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

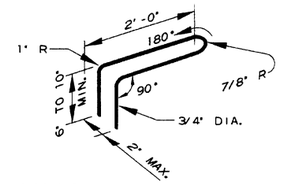
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

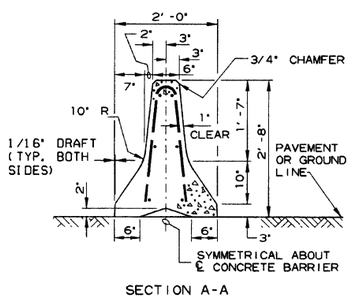
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2, TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9"; 2 3/16" R, 12°, 1/2", ±9", 2'-1 3/8", 4 3/8"



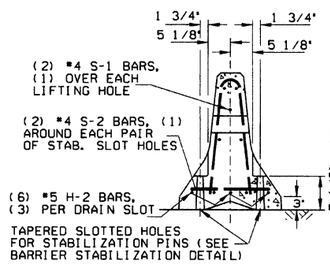
CONNECTION DETAILS



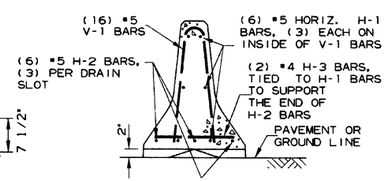
CONNECTION LOOP



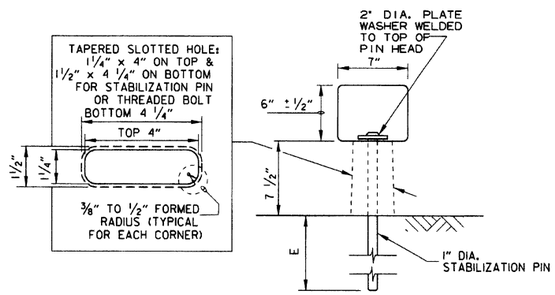
SECTION A-A



SECTION B-B



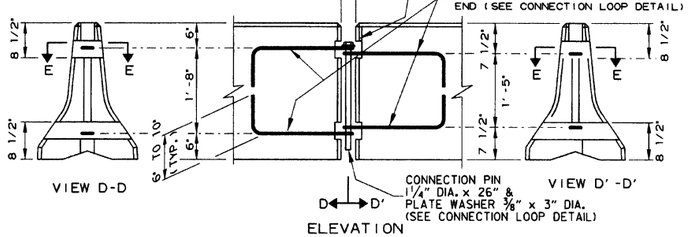
SECTION C-C

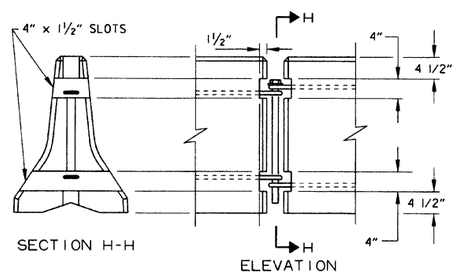


BARRIER STABILIZATION DETAIL

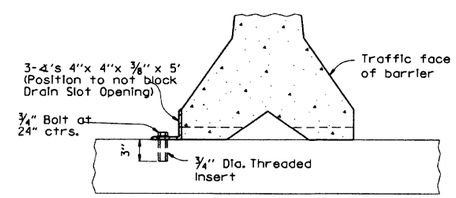
ROADWAY SECTION

(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas





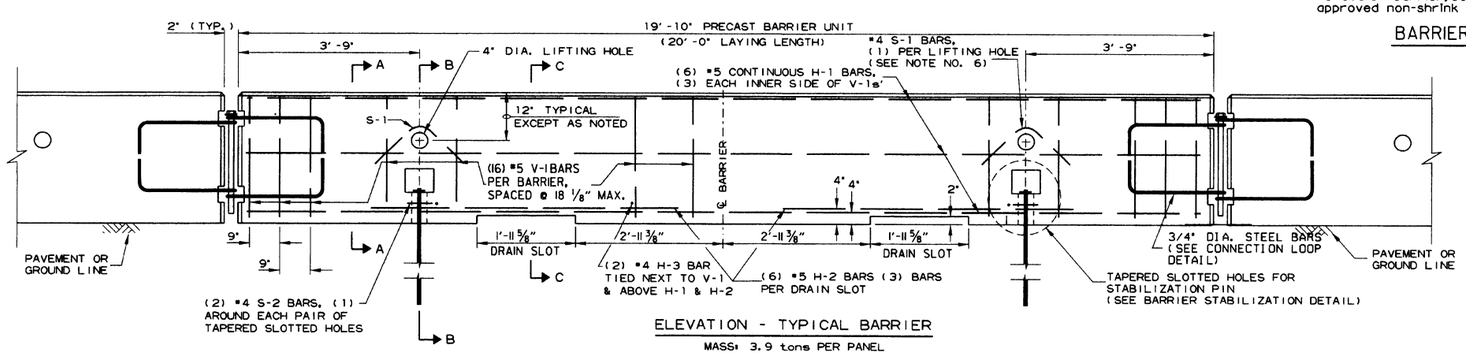
BARRIER REMOVAL SLOT DETAILS



NOTE: 3/4" Threaded Inserts shall be cast in place for all new bridge decks and drilled and grouted for existing bridge decks. Inserts shall have a minimum ultimate load capacity of 8000 lbs. in tension. After removal of barrier, bolts, and angles, the inserts shall be filled with approved non-shrink epoxy.

BARRIER STABILIZATION DETAIL

BRIDGE DECKS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

General Notes

1. The contractor shall furnish the Precast Concrete Barrier Units and shall be responsible for the manufacture, shipment, storage, placement and removal. At the completion of the project, the precast units will remain the property of the contractor.

2. Materials shall meet the following minimum requirements:
   Concrete: 2500 psi compressive strength at 28 days.
   Reinforcing Steel: AASHTO M 31 or M 53, Grade 60
   Structural Steel: AASHTO-M270 Grade 36 shall be used for the Connection Pin, Connection Loops, and Stabilization Pins. A One Piece Pin with a 3" rounded top may be used in place of the detailed Connection Pin.
   Delineators: Delineators shall be mounted at 10' spacing on top of precast barrier.

   In applications where barrier walls within 6 feet of a traffic lane, additional delineators shall be placed on the barrier at 10' spacing approximately one (1) foot from the top of the barrier. Delineators shall be on the AHTD Qualified Products List for Construction Concrete Barrier Markers.
   Delineator color shall be in accordance with the Manual on Uniform Traffic Control Devices.
   Payment for delineators shall be considered included in the price bid per Lin. Ft. for "Furnishing and Installing Precast Concrete Barrier". The contractor shall certify to the Engineer that the material and the design used in the precast barrier units meets the requirements as shown on this standard drawing.

3. Other Precast Concrete Barriers that have been crash tested and approved by the Federal Highway Administration to meet the requirements of NCHRP-350 test level 3 or Manual For Assessing Safety Hardware (MASH) will be accepted in lieu of the barrier shown. Drain slots shall be provided as needed or as directed by the Engineer. The Contractor shall furnish a certification of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) compliance for any other types of precast barrier to be used. The certification shall state that the precast concrete barrier meets the requirements of NCHRP Report 350 or Manual For Assessing Safety Hardware (MASH) and include a copy of the Federal Highway Administration's (FHWA) approval letter with all attachments. Precast concrete barrier units shall be fabricated and installed in accordance with crash testing and documentation provided in the FHWA approval letter. Mixing of shapes will not be allowed in a continuous line of units.

4. Dowel holes in pavement or bridge slabs that are to remain in place shall be filled. Holes in concrete pavement and bridge slabs shall be filled with an approved non-shrink epoxy grout. Holes in asphalt pavement shall be filled with an approved asphalt joint filler. Payment for drilling and filling holes to be included in the price for various barrier items.

5. Attach Units To Roadway Surface with Stabilization Pins and to Deck Slabs using bolts when required.

6. A 4" White PVC Sleeve may be used to form the Lifting Hole and if used the Sleeve is to be left in place.

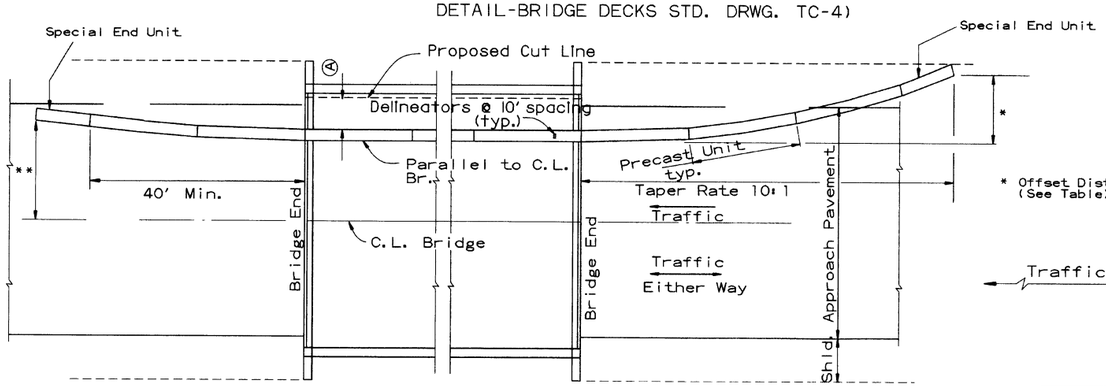
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

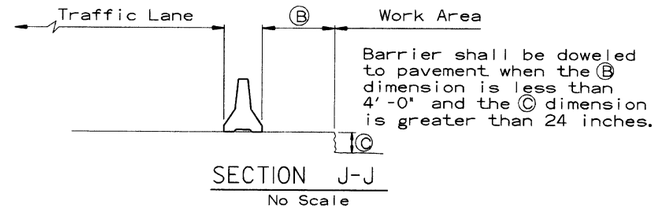
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

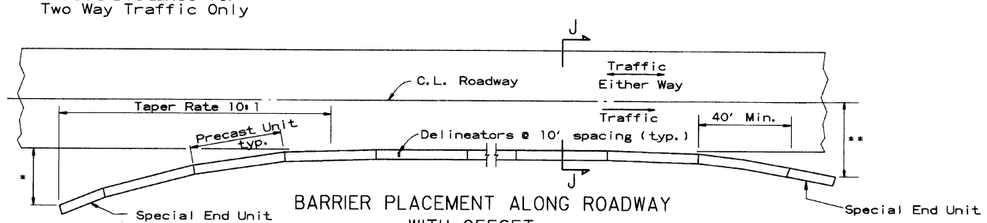


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

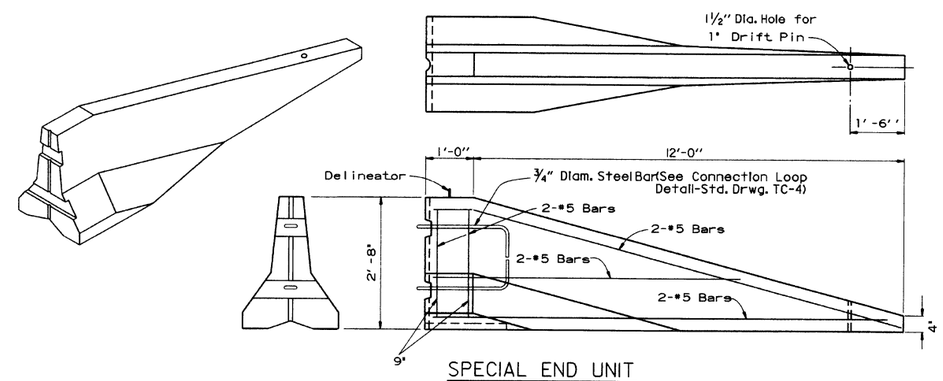
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

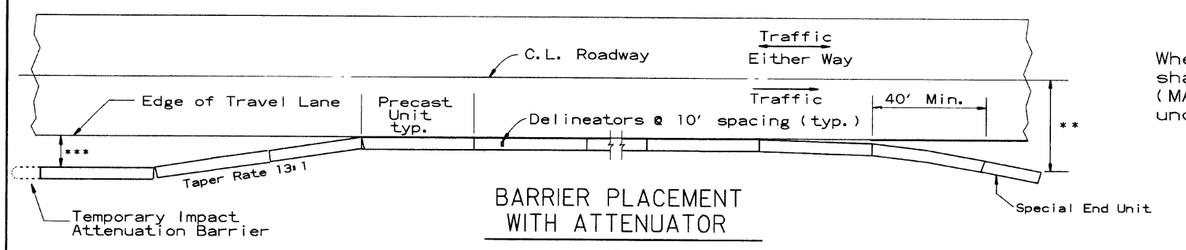
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

***Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator

** Offset Distance For Two Way Traffic Only

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with an NCHRP-350 or Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

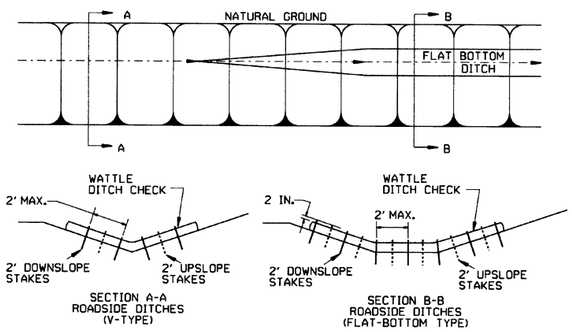
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

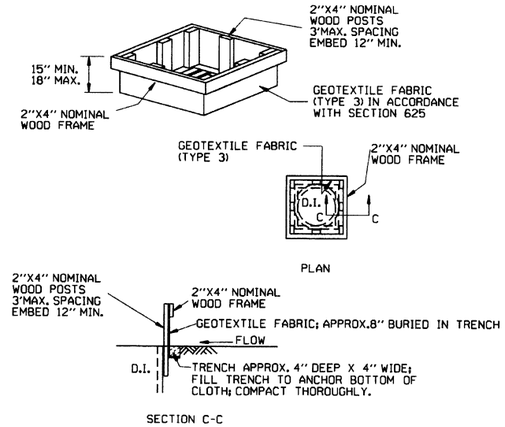
STANDARD DRAWING TC-5

GENERAL NOTES

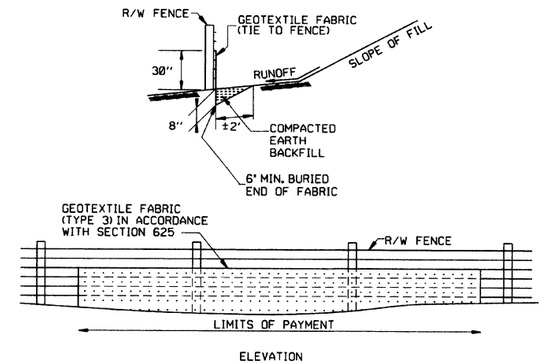
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



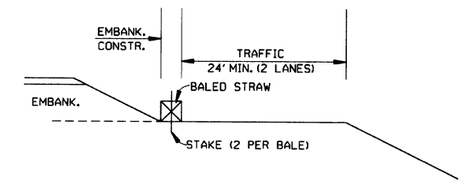
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

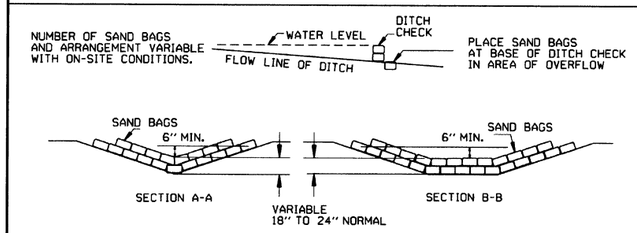
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

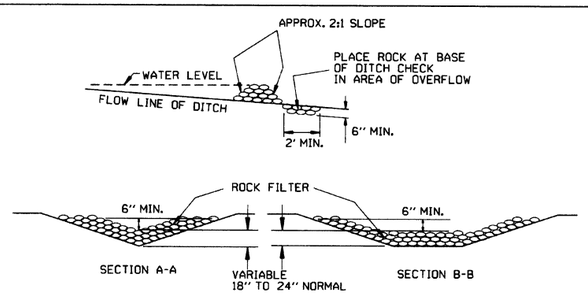
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED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



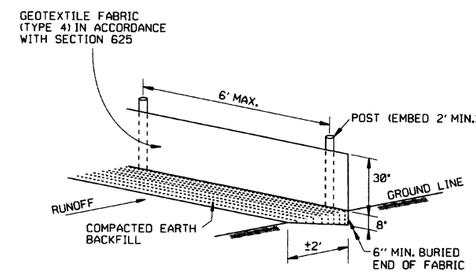
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

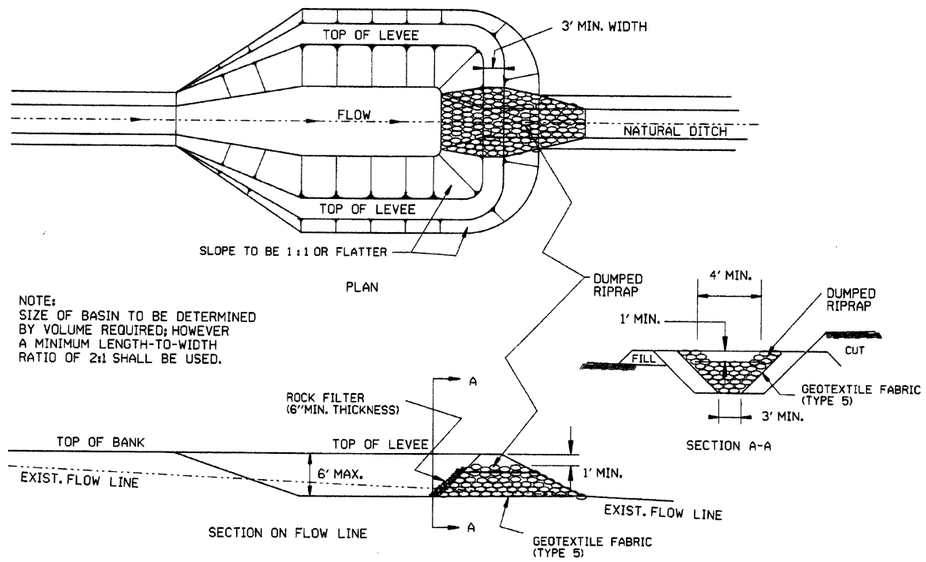
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

DATE	REVISION	FILMED
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
7-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
7-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
7-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
6-2-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
4-1-93	REDRAWN	
10-1-92	REDRAWN	
8-2-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

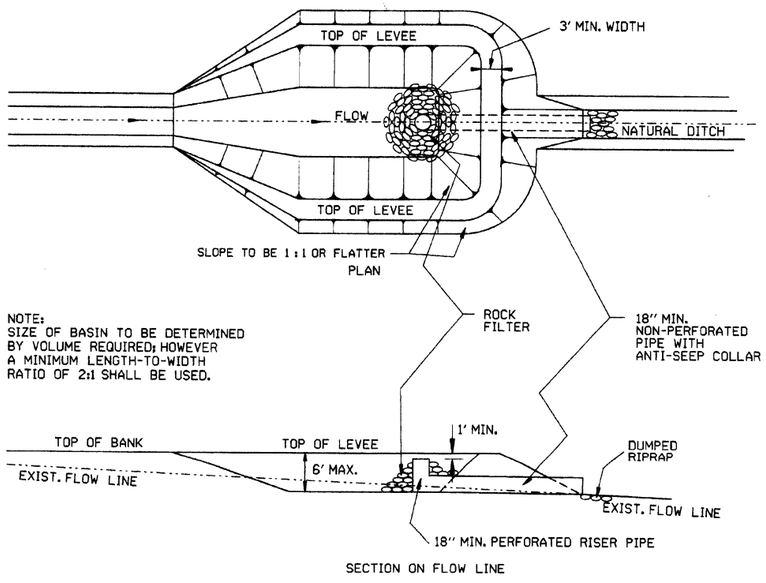
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



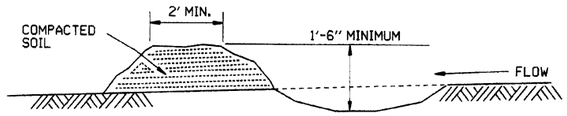
NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)

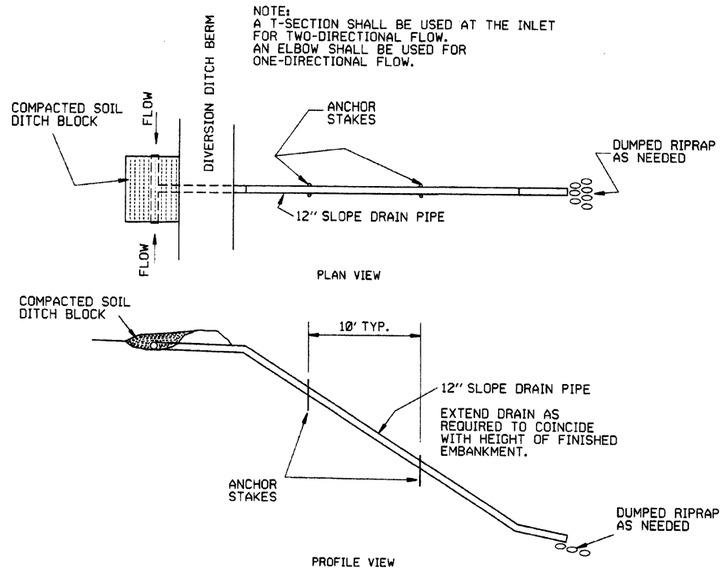


NOTE:
SIZE OF BASIN TO BE DETERMINED BY VOLUME REQUIRED; HOWEVER A MINIMUM LENGTH-TO-WIDTH RATIO OF 2:1 SHALL BE USED.

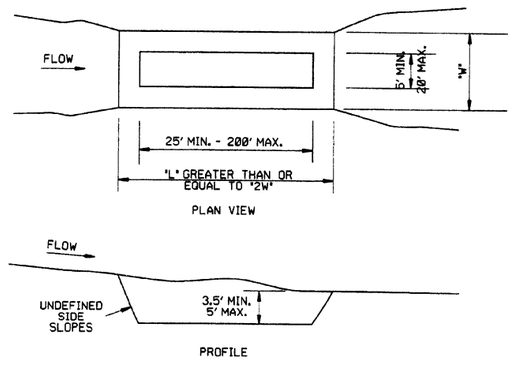
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

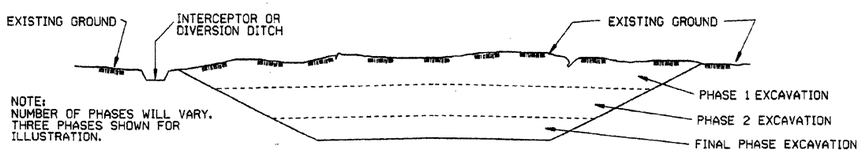
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



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

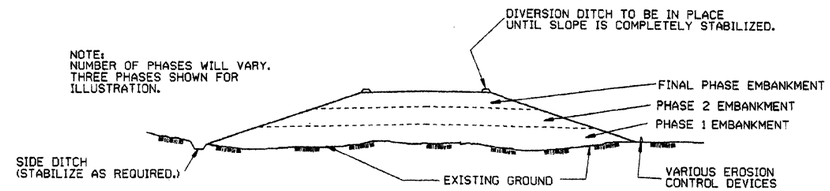
GENERAL NOTE

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

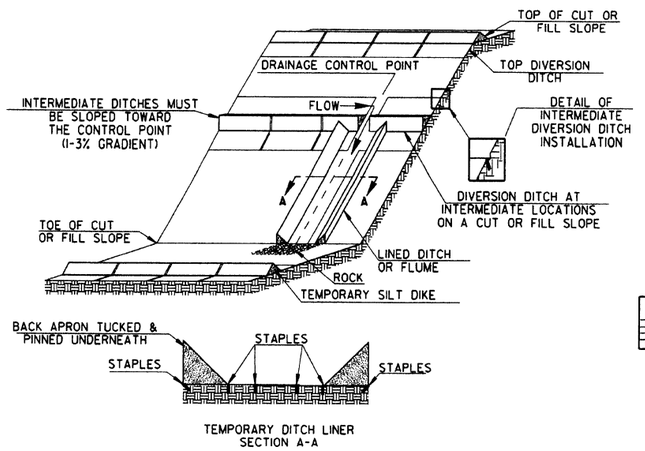
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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.

DATE	REVISION	FILMED
11-03-94	CORRECTED SPELLING	
6-2-94	Drawn & Issued	6-2-94

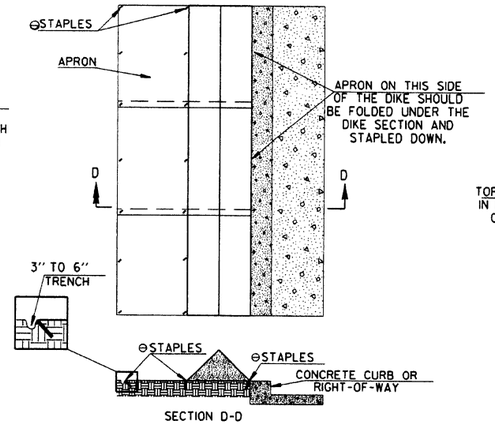
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

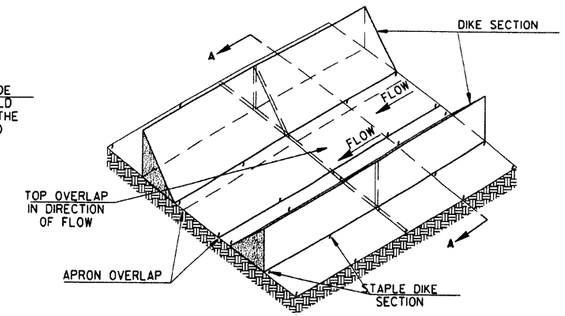
STANDARD DRAWING TEC-3



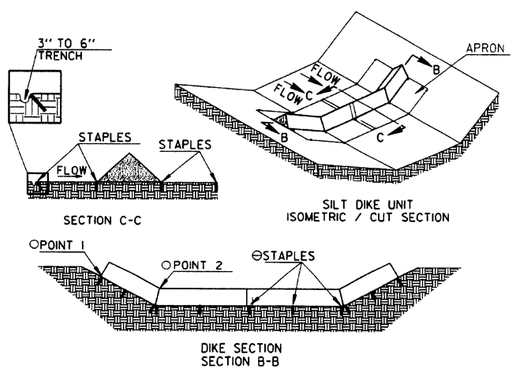
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



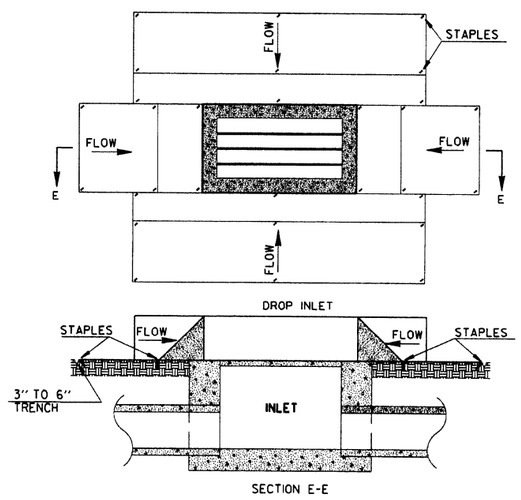
TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER



TRIANGULAR SILT DIKE INSTALLATION
FOR
ROADWAY DITCH OR DRAINAGE DITCH

○ POINT "1" MUST BE HIGHER THAN POINT "2" TO ENSURE THAT WATER FLOWS OVER THE DIKE AND NOT AROUND THE ENDS.

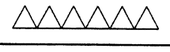
⊖ STAPLES SHALL BE PLACED WHERE THE UNITS OVERLAP AND IN THE CENTER OF THE UNIT AS SHOWN ON THE DIAGRAM.



TRIANGULAR SILT DIKE INSTALLATION
FOR
DROP INLETS

SYMBOLOGY

SYMBOL TO BE USED TO DENOTE DEVICE ON PLANS



NOTE: SILT DIKE SHOULD ONLY BE USED FOR DROP INLETS IN SUMP LOCATIONS.

GENERAL NOTES

1. THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING, AND MAINTAINING THE TRIANGULAR SILT DIKE. THE DIKES SHALL BE USED AS A CONTINUOUS LINE BARRIER AT THE TOE OF SLOPE OR ACROSS THE ROADWAY DITCH TO CONTAIN SEDIMENT AND MINIMIZE EROSION, OR AS DIRECTED BY THE ENGINEER. THESE DIKES SHALL BE INSTALLED AND LOCATED AS SOON AS CONSTRUCTION WILL ALLOW OR AS DIRECTED BY THE ENGINEER.

2. TRIANGULAR SILT DIKE SHALL BE TRIANGULAR SHAPED HAVING A HEIGHT OF AT LEAST 8" TO 10" IN THE CENTER WITH EQUAL SIDES AND A 16" TO 20" BASE. THE TRIANGULAR SHAPED INNER MATERIAL SHALL BE URETHANE FOAM. THE OUTER COVER SHALL BE A WOVEN GEOTEXTILE FABRIC PLACED AROUND THE INNER MATERIAL & ALLOWED TO EXTEND BEYOND BOTH SIDES OF THE TRIANGLE 24" TO 36". THIS FABRIC SHOULD BE MILDEW RESISTANT, ROT-PROOF AND RESISTANT TO HEAT AND ULTRAVIOLET RADIATION MEETING REQUIREMENTS FOR SEDIMENT CONTROL IN AASHTO M288. THE DIKES SHALL BE ATTACHED TO THE GROUND WITH WIRE STAPLES. THE STAPLES SHALL BE NO. 11 GAUGE WIRE AND BE AT LEAST 6" TO 8" LONG. STAPLES SHALL BE PLACED AS SHOWN ON THESE DETAILS.

   THE CONTRACTOR SHALL INSPECT ALL DIKES AFTER EACH RAINFALL EVENT OF AT LEAST 0.5" OR GREATER. ANY DEFICIENCIES OR DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR. ACCUMULATED SILT OR DEBRIS SHALL BE REMOVED AND RELOCATED AS DIRECTED BY THE ENGINEER. IF THE DIKES ARE DAMAGED OR INADVERTENTLY MOVED DURING THE SILT REMOVAL PROCESS, THE CONTRACTOR SHALL IMMEDIATELY REPLACE AFTER DAMAGE OCCURS.

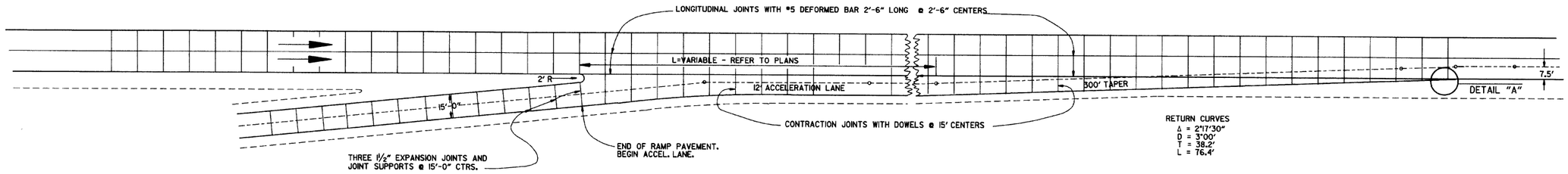
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

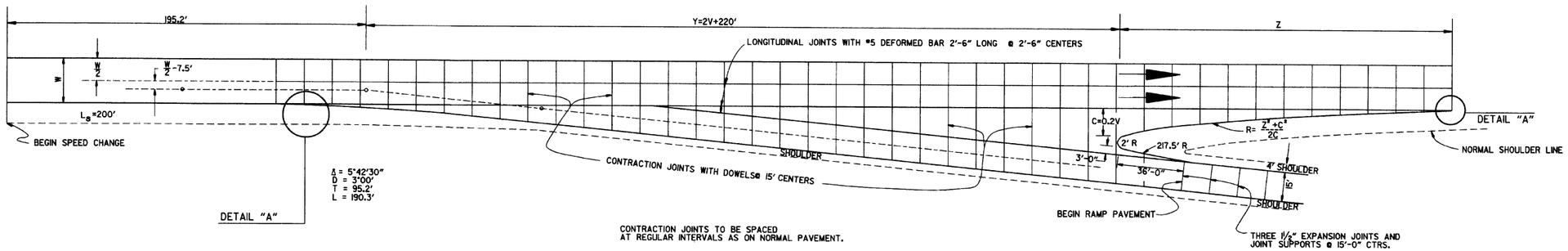
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



ENTRANCE RAMP

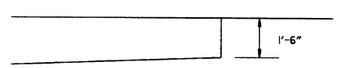
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



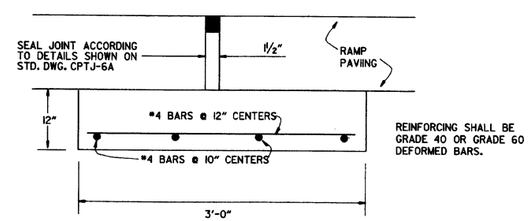
EXIT RAMP

EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADDITIONAL SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27



DETAIL "A"



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS). WHEN RAMP PAVING IS ASPHALT, EXPANSION JOINT IS NOT REQUIRED.
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE INCLUDED IN THE PRICE BID FOR THE ABOVE ITEMS.

DATE	REVISION	DATE FILM'D
8-22-02	DELETED NOTE	
11-16-01	CORRECTED SPELLING ON ENTRANCE RAMP NOTE	
5-13-99	ADDED, EDITED AND DELETED NOTES	
11-03-94	ADDED NOTE RE: REINF. BARS	
10-1-92	ADDED DETAIL A & OTHER MINOR CHANGES	10-1-92
1-25-90	REVISED EXPANSION JOINT	1-25-90
7-15-88	CONFORM'D TO 1988 SPECIFICATIONS	65C-7-15-88
3-2-81	ISSUED	511-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

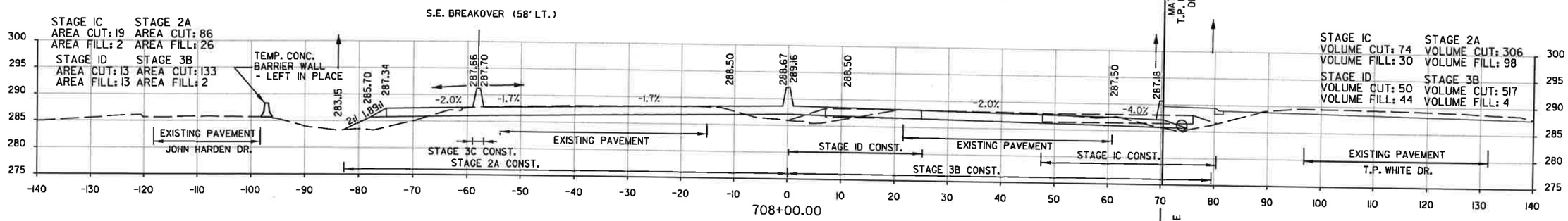
DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)

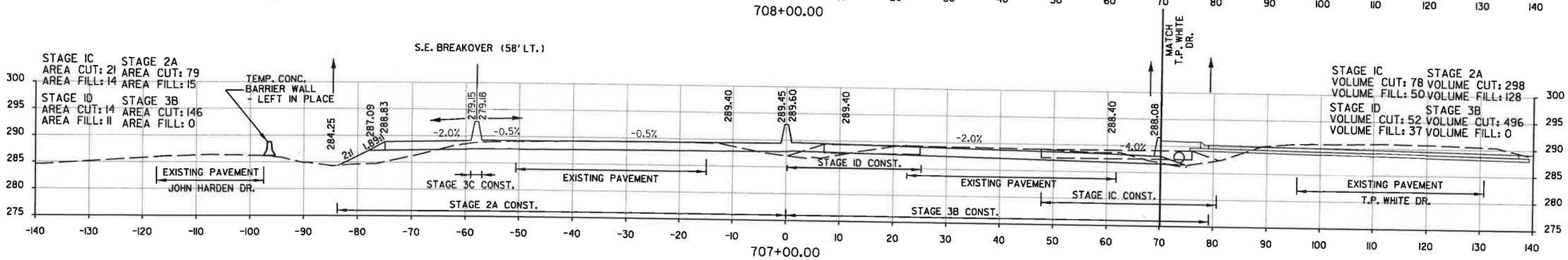
STANDARD DRAWING TR-1A

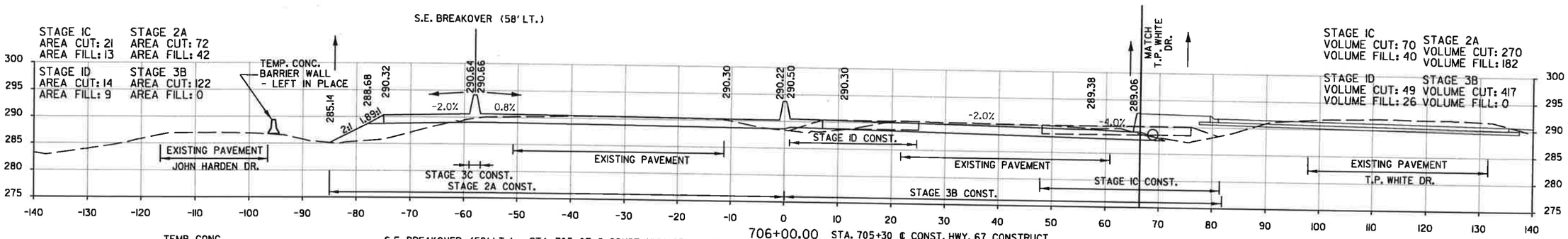
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	335	434

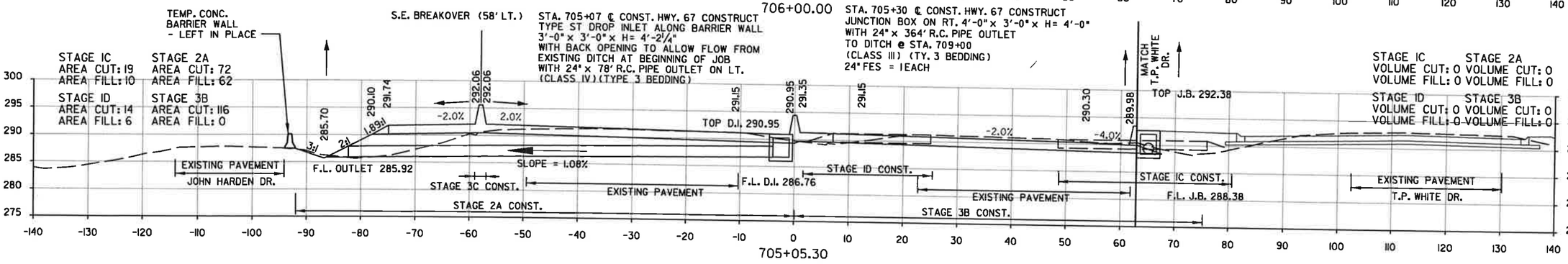
2 CROSS SECTIONS

STA. 708+20.30 END SUPERELEVATION (0.020 FT/FT)









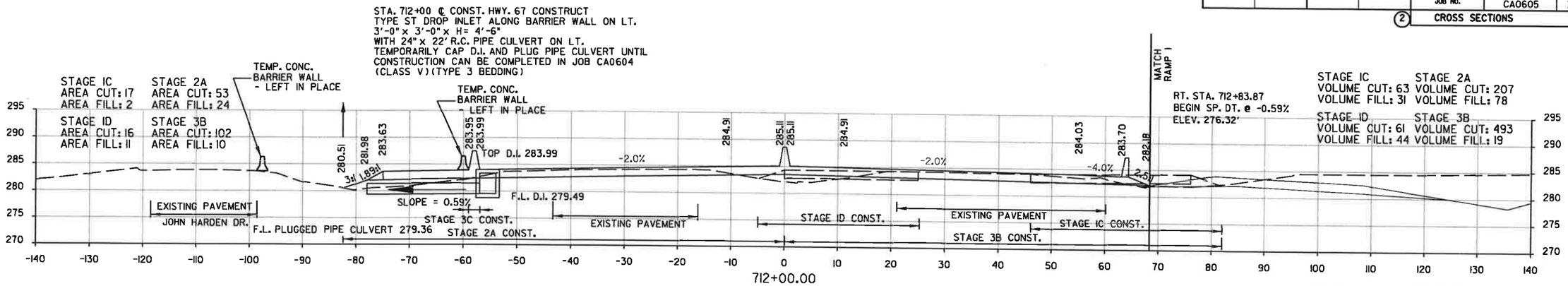
STA. 705+05.30 ℄ CONST. HWY. 67 BEGIN JOB CA0605

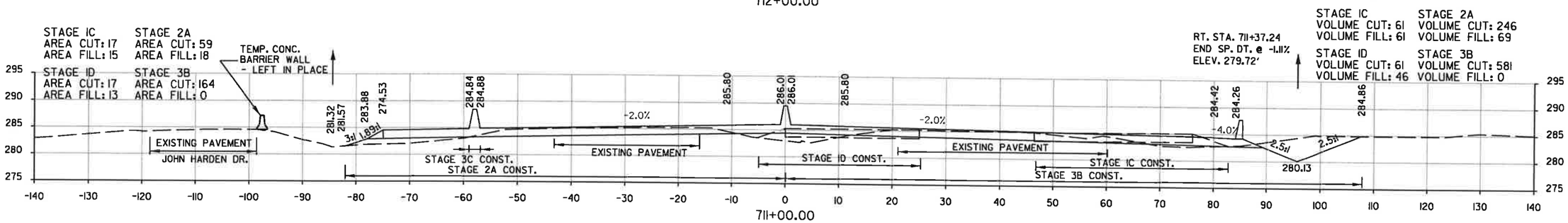
STA. 704+00.30 MAX. SUPERELEVATION (0.033 FT/FT)

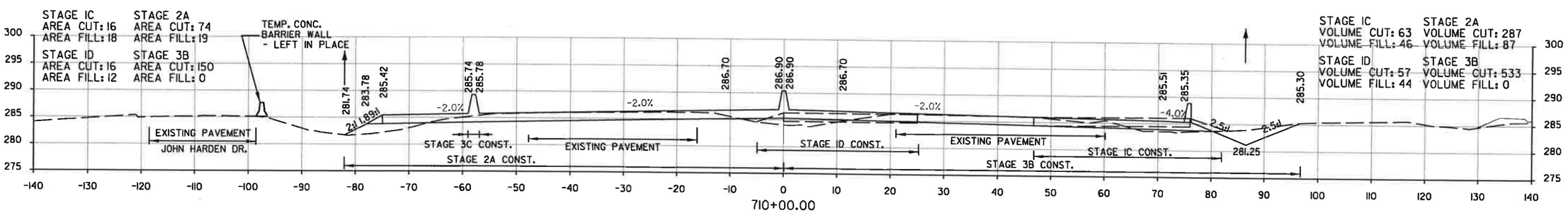
STA. 705+05.30 TO STA. 708+00.00
HWY. 67

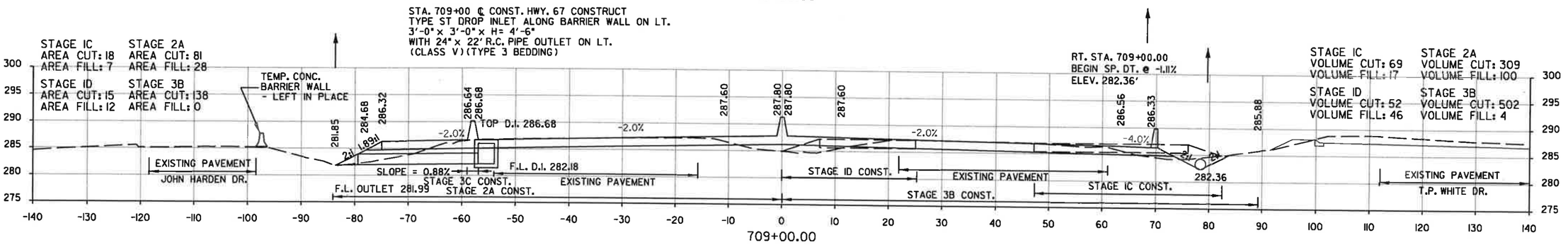
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	336	434

2 CROSS SECTIONS





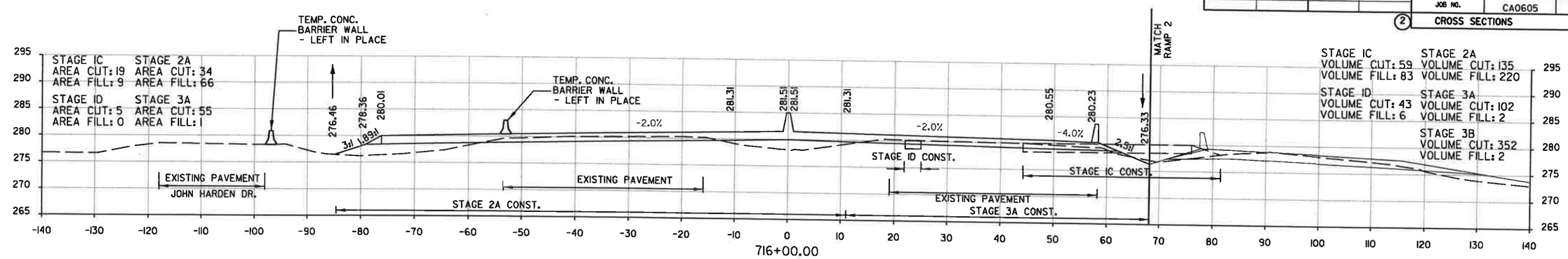


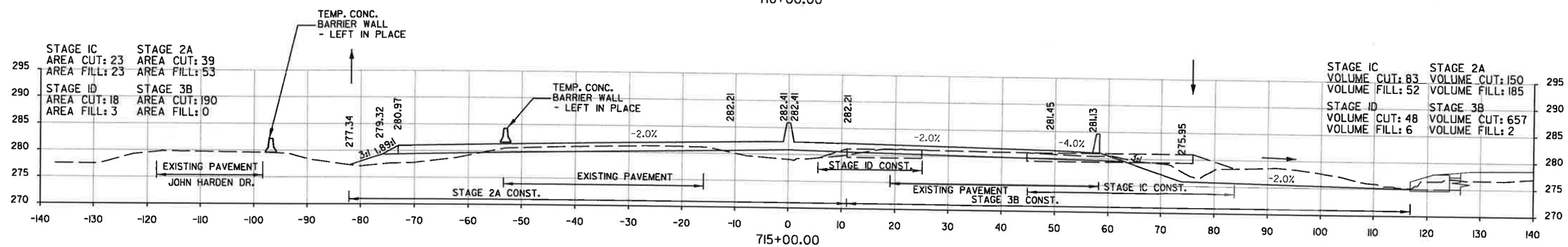


STA. 709+00.00 TO STA. 712+00.00
HWY. 67

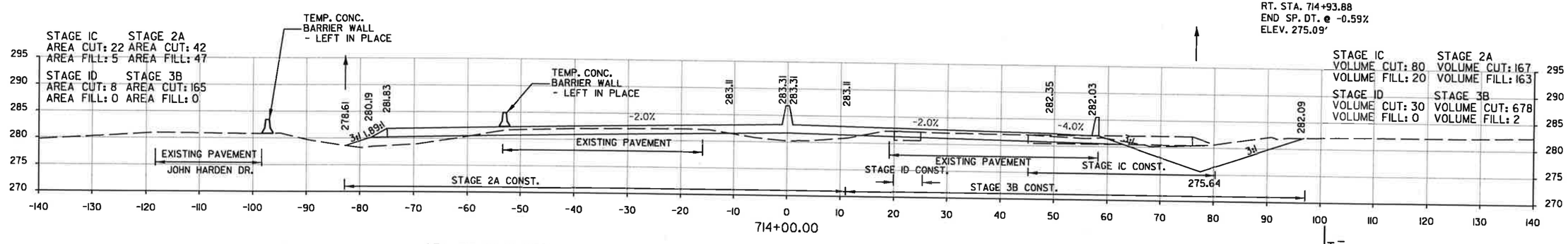
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	337	434

(2) CROSS SECTIONS

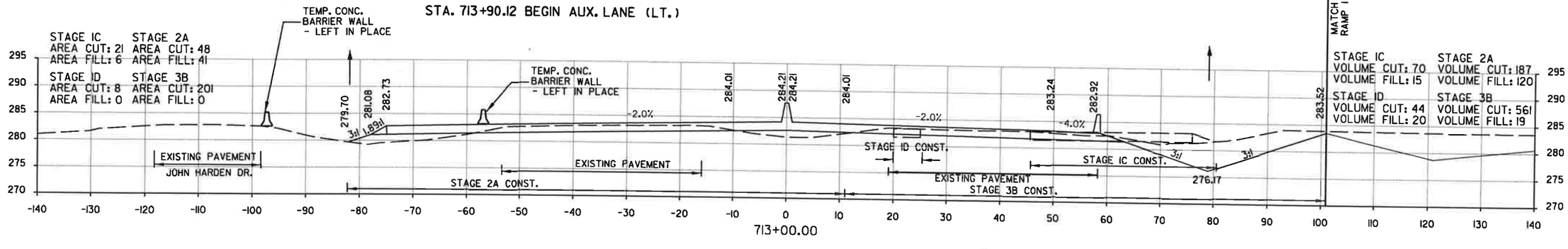




RT. STA. 714+93.88
END SP. DT. @ -0.59%
ELEV. 275.09'



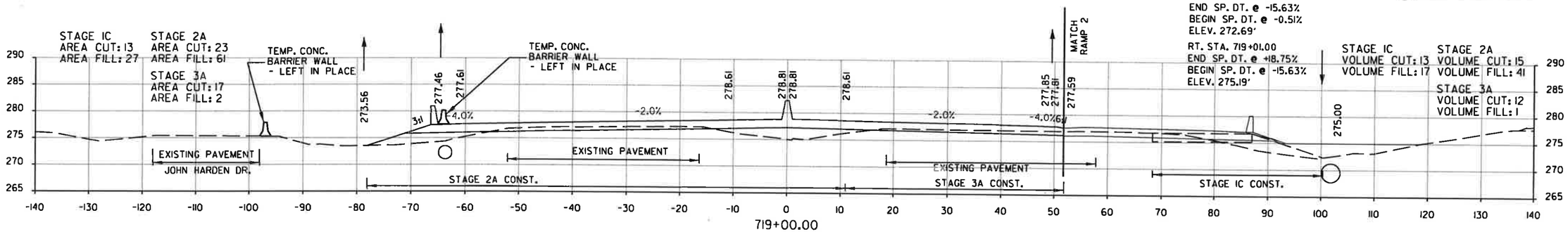
STA. 713+90.12 BEGIN AUX. LANE (LT.)

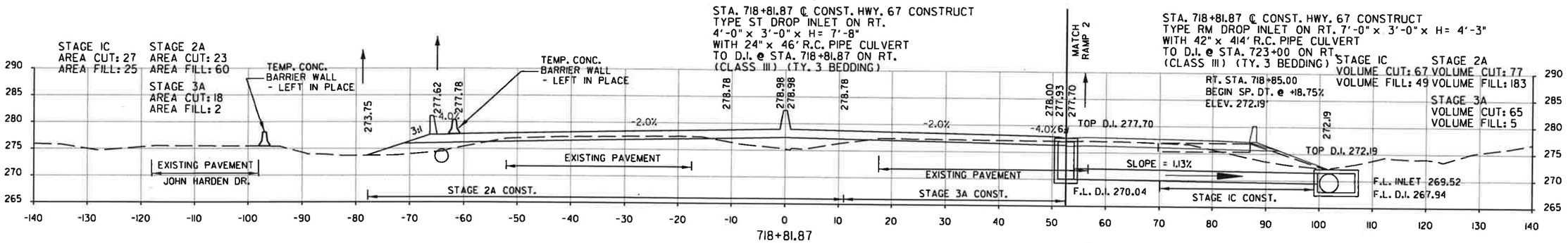


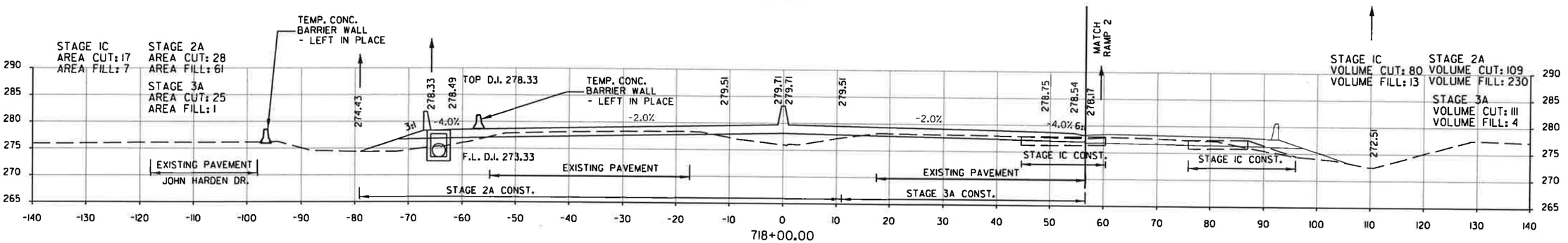
STA. 713+00.00 TO STA. 716+00.00
HWY. 67

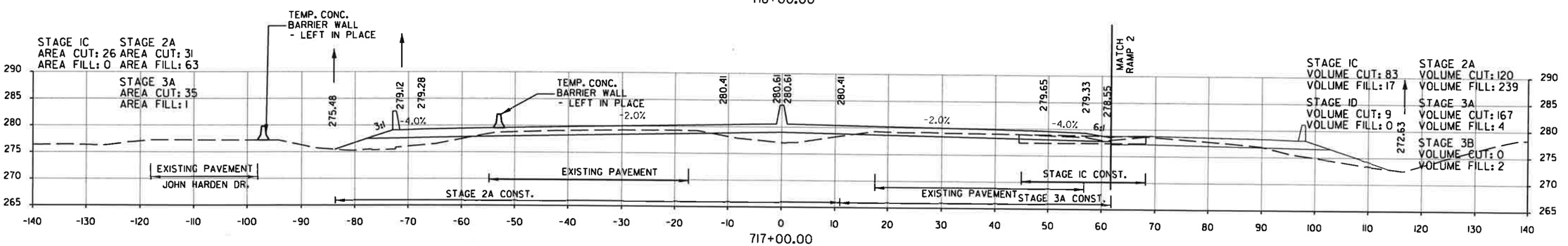
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
11/30/2016				JOB NO.		CA0605	338	434

(2) CROSS SECTIONS







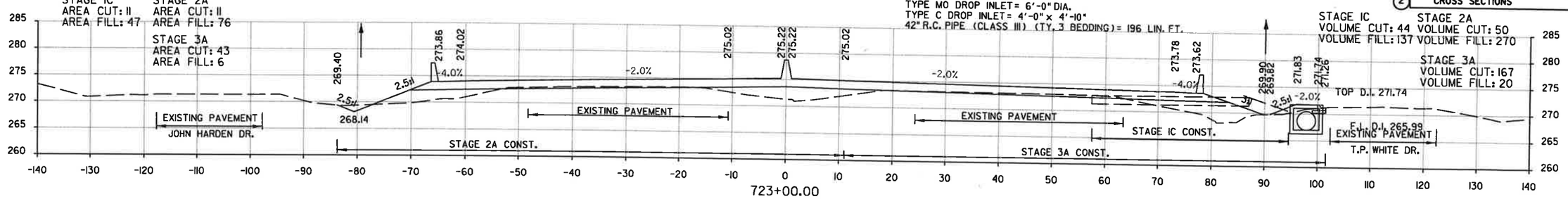


STA. 717+00.00 TO STA. 719+00.00
HWY. 67

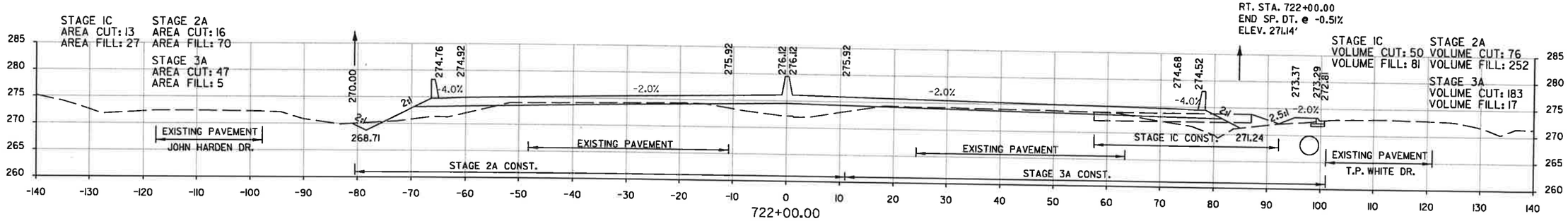
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	339	434

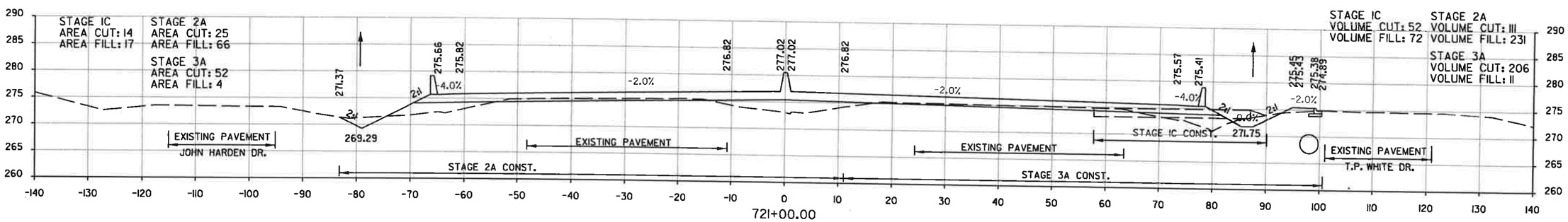
(2) CROSS SECTIONS

STA. 723+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. H= 5'-9"
WITH 8' EXTENSION AND 42" X 196' PIPE CULVERT
TO D.I. @ STA. 725+00 ON RT.
TYPE MO DROP INLET= 6'-0" DIA.
TYPE C DROP INLET= 4'-0" x 4'-10"
42" R.C. PIPE (CLASS III) (TY. 3 BEDDING)= 196 LIN. FT.



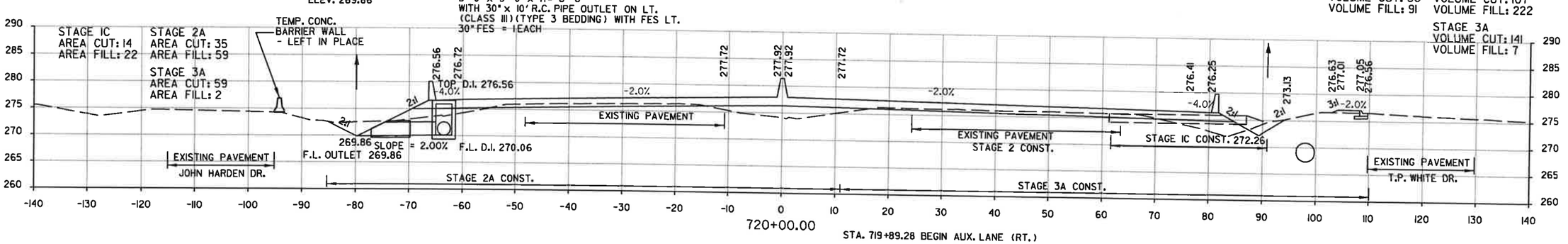
RT. STA. 722+00.00
END SP. DT. @ -0.51%
ELEV. 271.14'





LT. STA. 720+00.00
BEGIN SP. DT. @ -0.57%
ELEV. 269.86'

STA. 720+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL ON LT.
3'-0" x 3'-0" x H= 6'-6"
WITH 30" x 10' R.C. PIPE OUTLET ON LT.
(CLASS III)(TYPE 3 BEDDING) WITH FES LT.
30" FES = 1 EACH



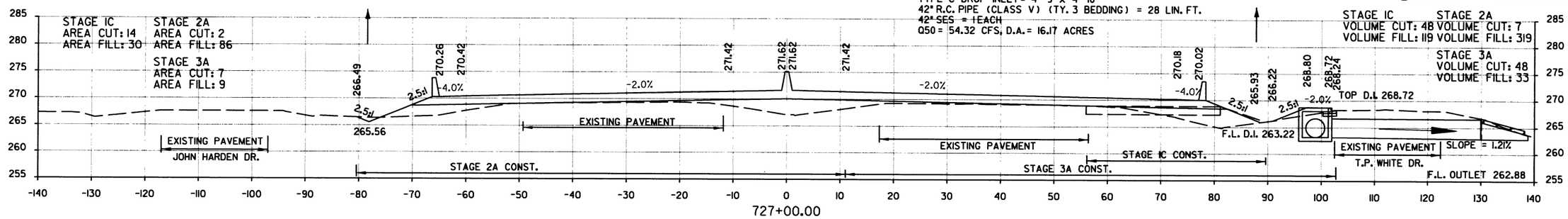
STA. 719+89.28 BEGIN AUX. LANE (RT.)

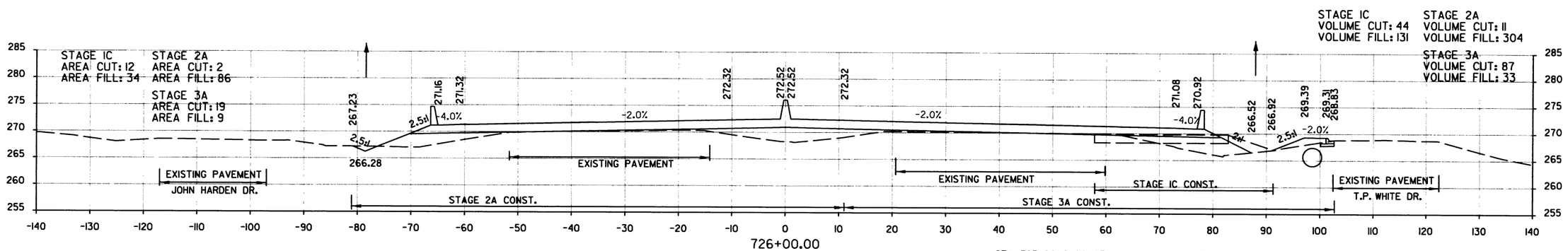
STA. 720+00.00 TO STA. 723+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	340	434

2 CROSS SECTIONS

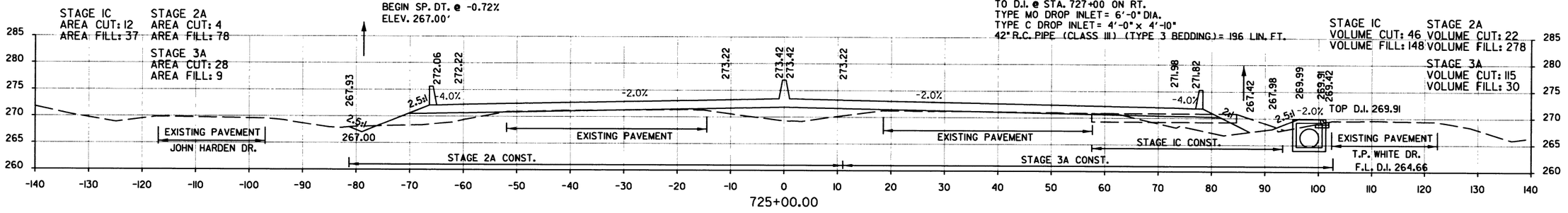
STA. 727+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. H= 5'-5" WITH 8' EXTENSION
AND 42" x 28' R.C. PIPE OUTLET WITH SES RT.
TYPE MO DROP INLET= 6'-0" DIA.
TYPE C DROP INLET= 4'-9" x 4'-10"
42" R.C. PIPE (CLASS V) (TY. 3 BEDDING) = 28 LIN. FT.
42" SES = 1 EACH
Q50 = 54.32 CFS, D.A.= 16.17 ACRES

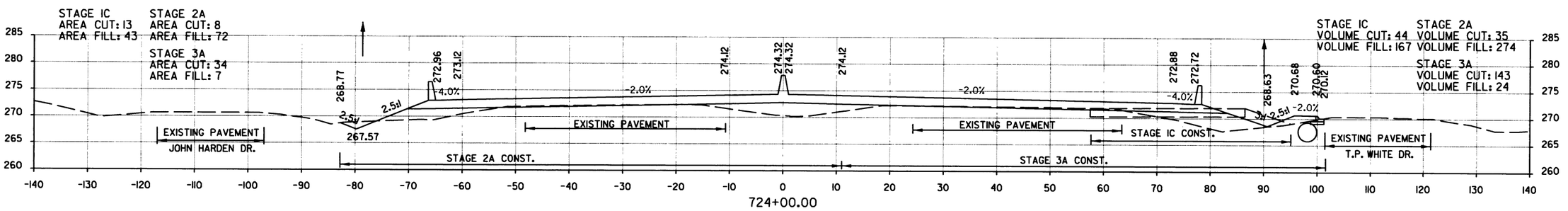




LT. STA. 725+00.00
END SP. DT. @ -0.57%
BEGIN SP. DT. @ -0.72%
ELEV. 267.00'

STA. 725+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. H= 5'-3"
WITH 8' EXTENSION AND 42" x 196' PIPE CULVERT
TO D.I. @ STA. 727+00 ON RT.
TYPE MO DROP INLET= 6'-0" DIA.
TYPE C DROP INLET= 4'-0" x 4'-10"
42" R.C. PIPE (CLASS III) (TYPE 3 BEDDING)= 196 LIN. FT.





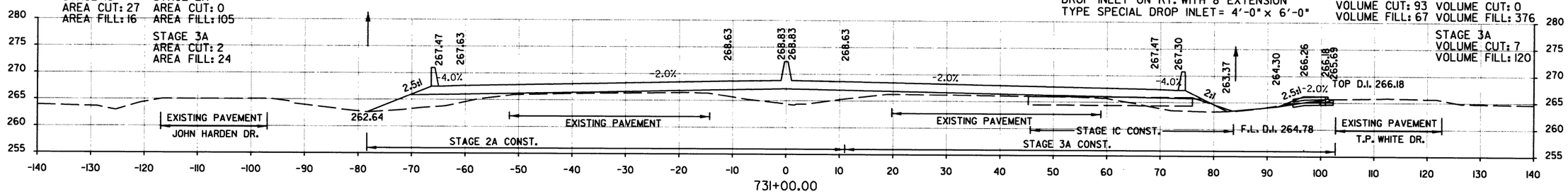
STA. 724+00.00 TO STA. 727+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	341	434

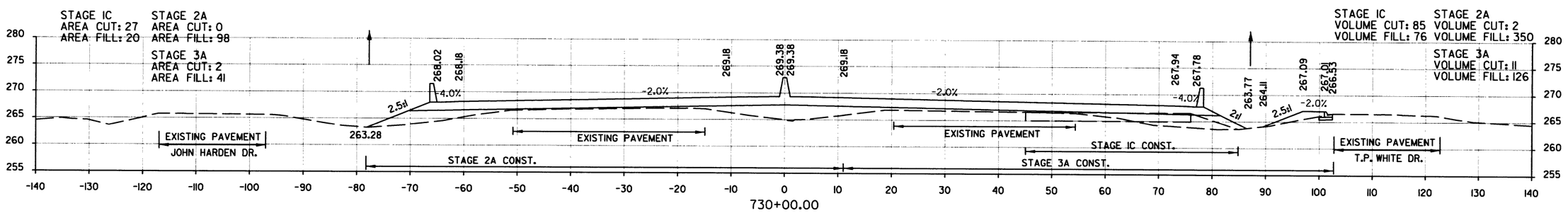
(2) CROSS SECTIONS

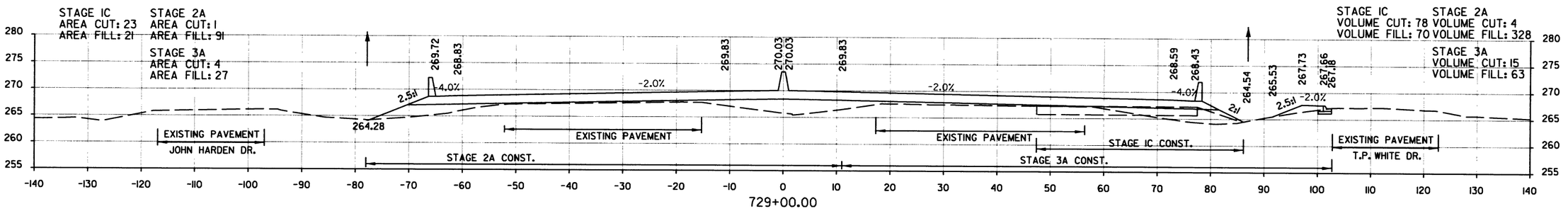
STA. 731+65.49 BEG. SUPERELEVATION (0.020 FT/FT)

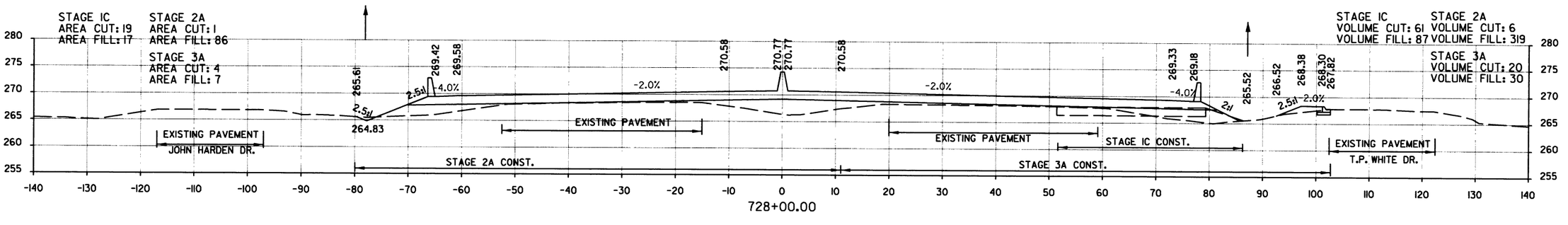
STA. 731+00 ℄ CONST. HWY. 67 CONSTRUCT DROP INLET ON RT. WITH 8' EXTENSION TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"



STA. 729+89.28 BEGIN 300' TAPER (RT.)







STA. 728+00.00 TO STA. 731+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	342	434

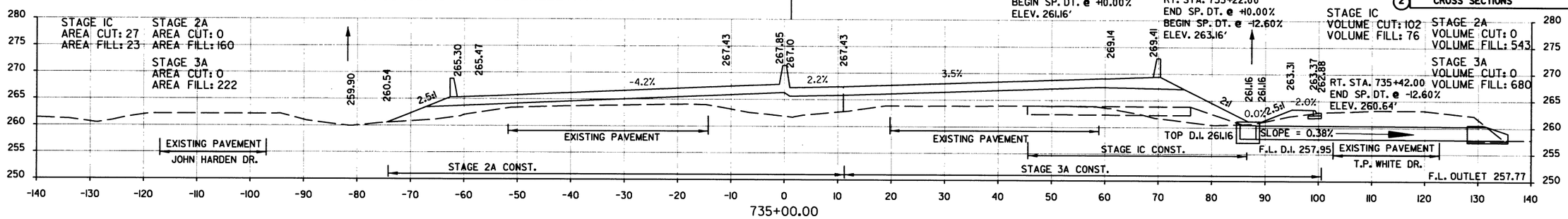
2 CROSS SECTIONS

STA. 735+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-2½"
WITH 30" x 48' R.C. PIPE OUTLET WITH FES TO DITCH ON RT.
(CLASS IV) (TY. 3 BEDDING)
30" FES = 1 EACH

STA. 735+85.49 MAX. SUPERELEVATION (0.048 FT/FT)

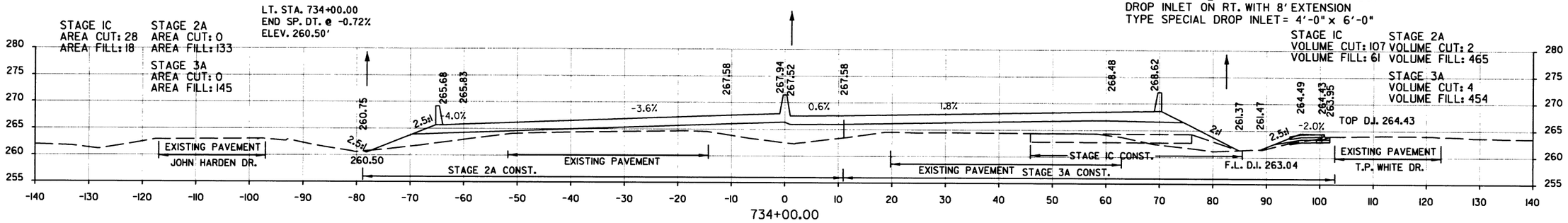
RT. STA. 735+02.00
BEGIN SP. DT. @ +0.00%
ELEV. 261.16'

RT. STA. 735+22.00
END SP. DT. @ +0.00%
BEGIN SP. DT. @ -12.60%
ELEV. 263.16'

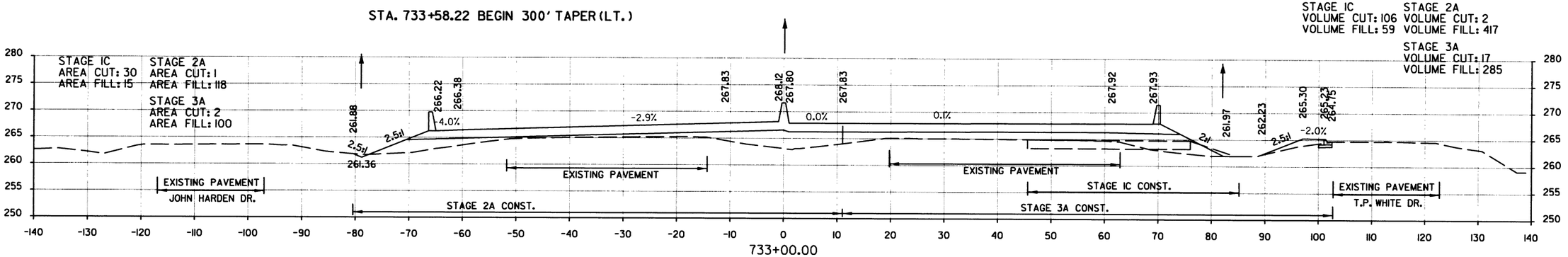


STA. 734+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

LT. STA. 734+00.00
END SP. DT. @ -0.72%
ELEV. 260.50'

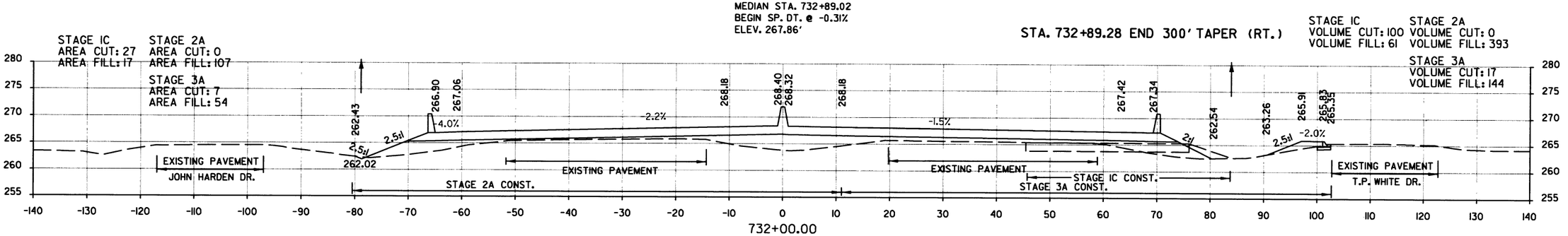


STA. 733+58.22 BEGIN 300' TAPER (LT.)



MEDIAN STA. 732+89.02
BEGIN SP. DT. @ -0.31%
ELEV. 267.86'

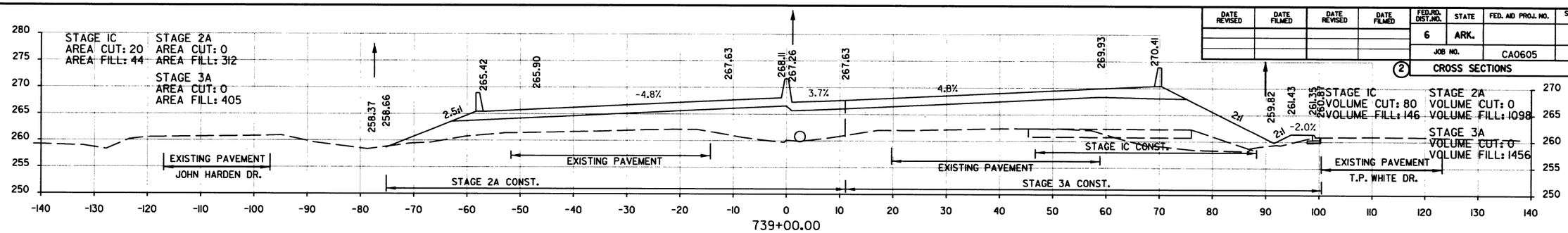
STA. 732+89.28 END 300' TAPER (RT.)

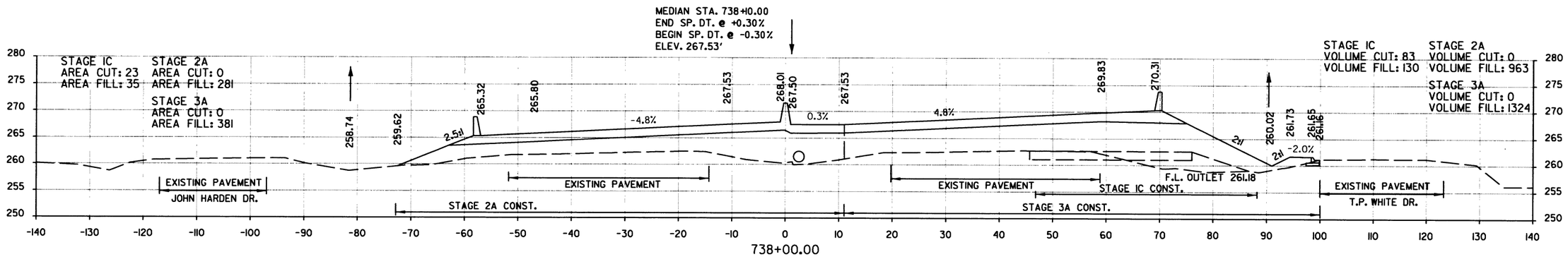


STA. 732+00.00 TO STA. 735+00.00
HWY. 67

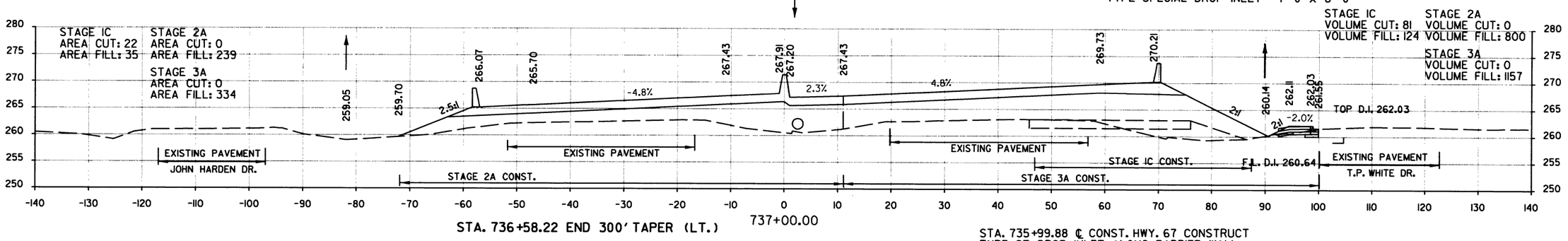
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	343	434

2 CROSS SECTIONS



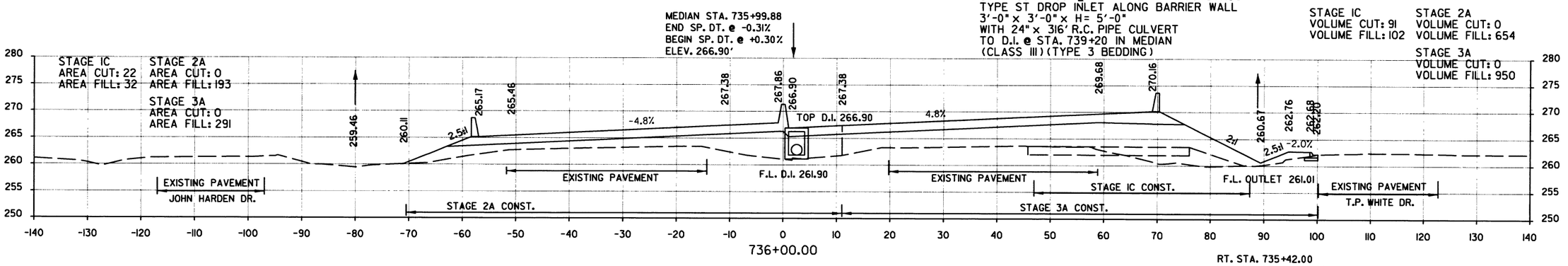


STA. 737+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"



STA. 736+58.22 END 300' TAPER (LT.)

STA. 735+99.88 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 316' R.C. PIPE CULVERT
TO D.I. @ STA. 739+20 IN MEDIAN
(CLASS III)(TYPE 3 BEDDING)

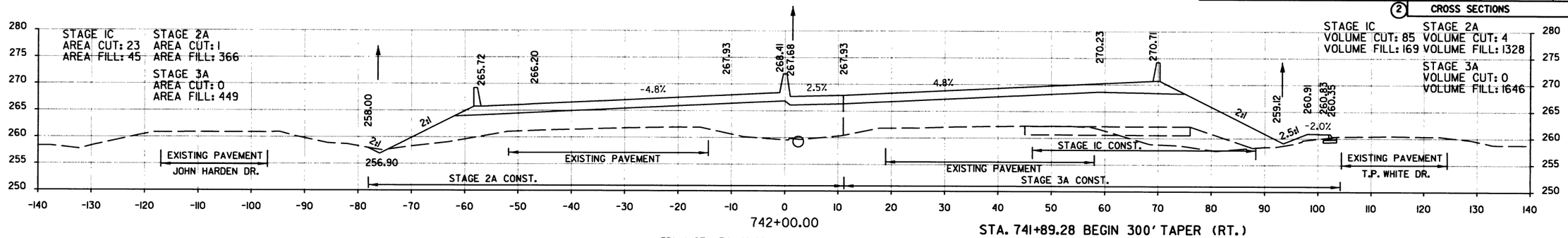


RT. STA. 735+42.00
END SP. DT. @ -12.60%
ELEV. 260.64'

STA. 736+00.00 TO STA. 739+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	344	434

2 CROSS SECTIONS

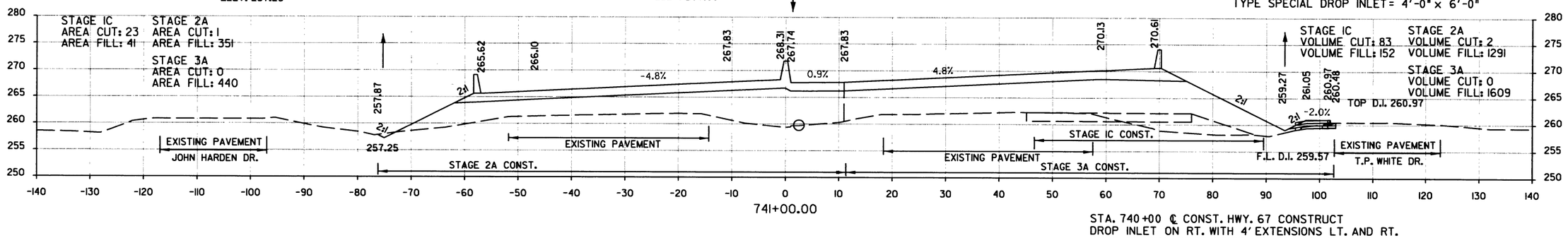


STA. 741+89.28 BEGIN 300' TAPER (RT.)

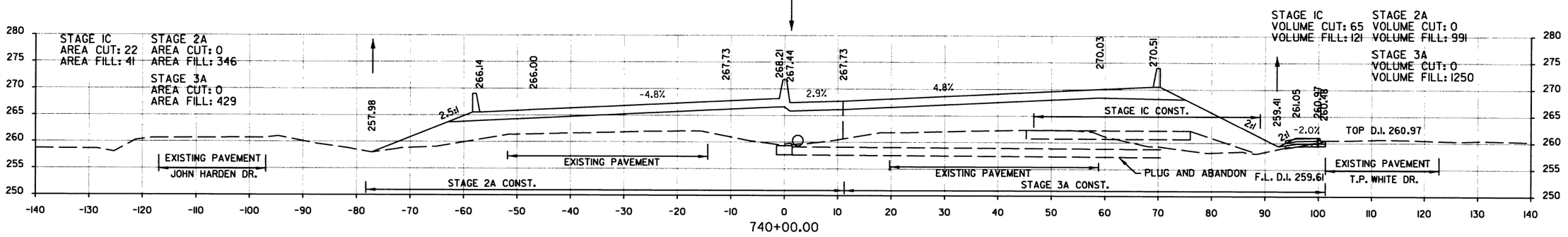
LT. STA. 741+00.00
BEGIN SP. DT. @ -0.35%
ELEV. 257.25'

MEDIAN STA. 741+40.00
END SP. DT. @ +0.30%
BEGIN SP. DT. @ -0.30%
ELEV. 267.86'

STA. 741+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 8' EXTENSION
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"

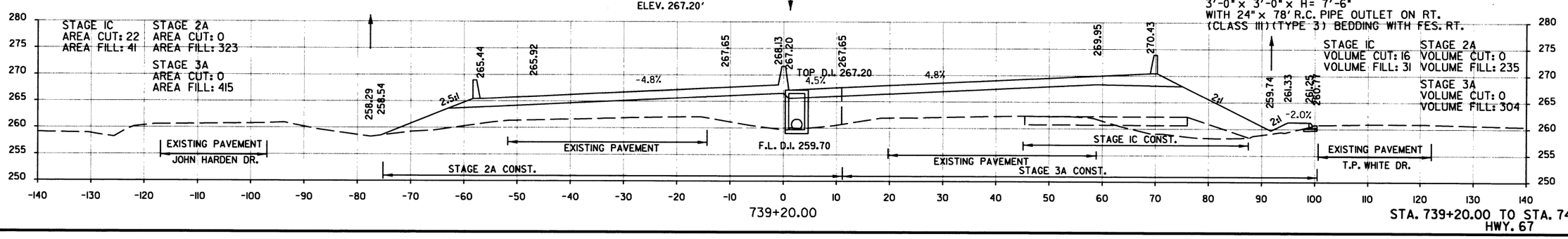


STA. 740+00 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 4' EXTENSIONS LT. AND RT.
TYPE SPECIAL DROP INLET = 4'-0" x 6'-0"



MEDIAN STA. 739+20.00
END SP. DT. @ -0.30%
BEGIN SP. DT. @ +0.30%
ELEV. 267.20'

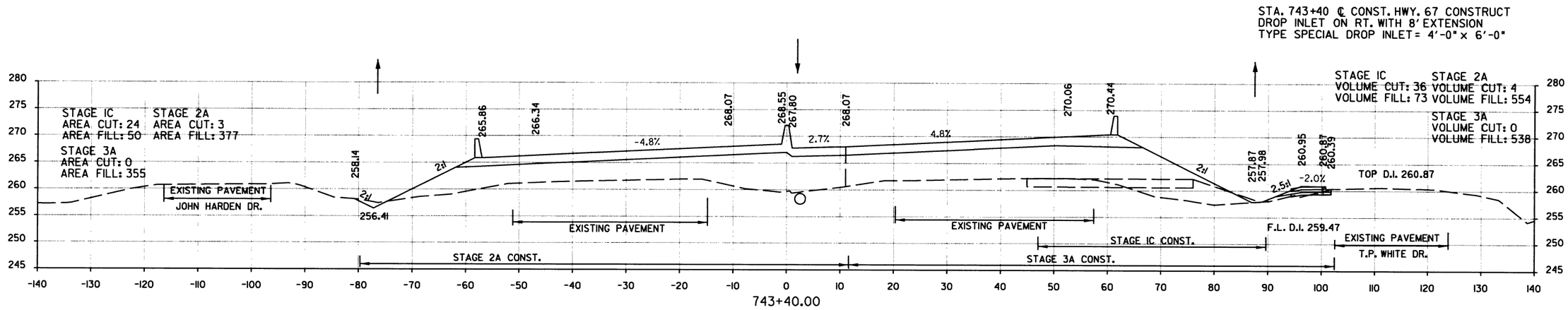
STA. 739+20 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-6"
WITH 24" x 78' R.C. PIPE OUTLET ON RT.
(CLASS III)(TYPE 3) BEDDING WITH FES. RT.

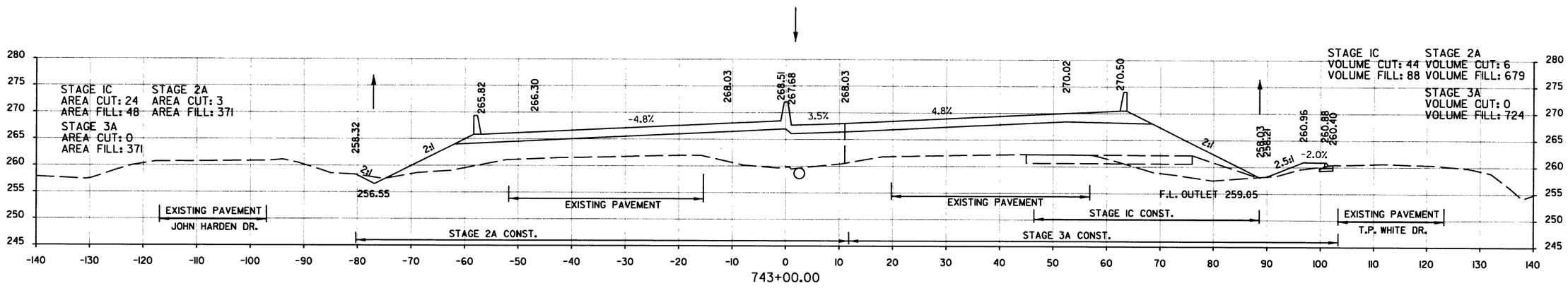


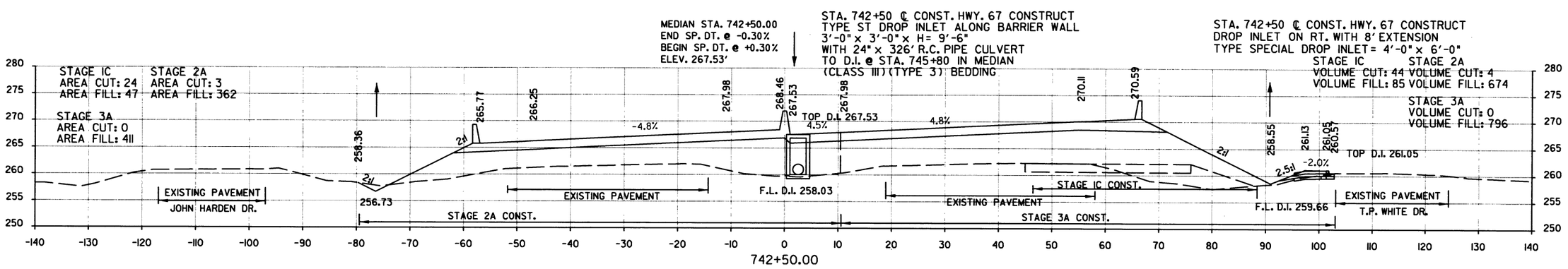
STA. 739+20.00 TO STA. 742+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	345	434

(2) CROSS SECTIONS



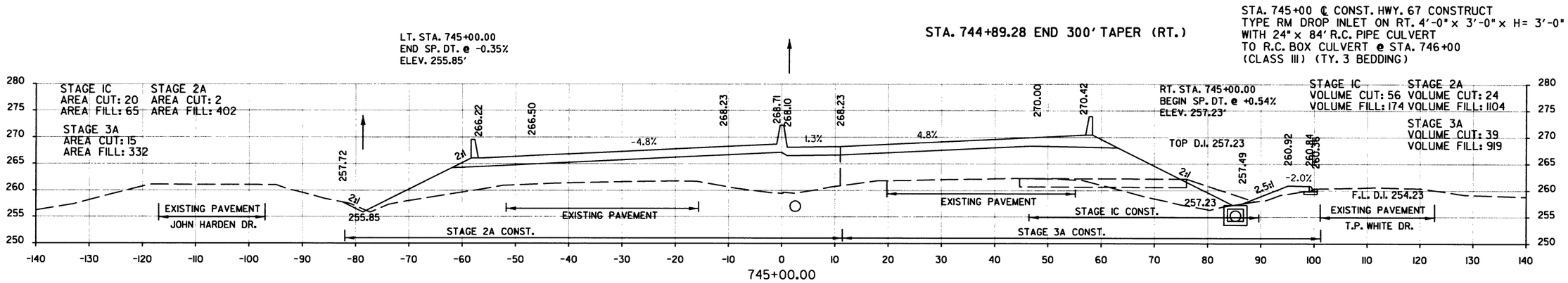


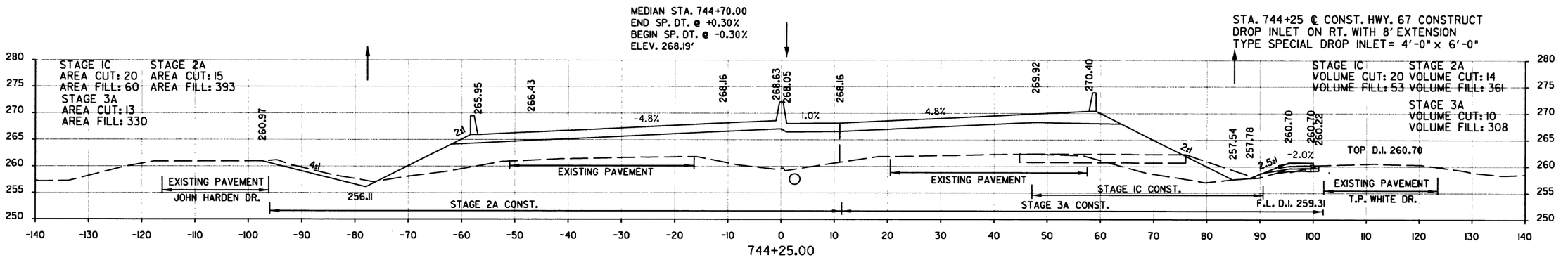


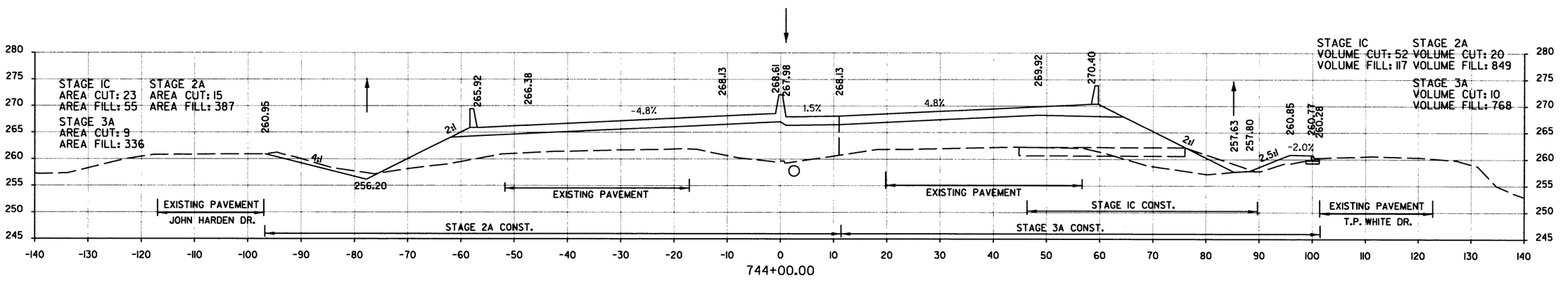
STA. 742+50.00 TO STA. 743+40.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	346	434

(2) CROSS SECTIONS



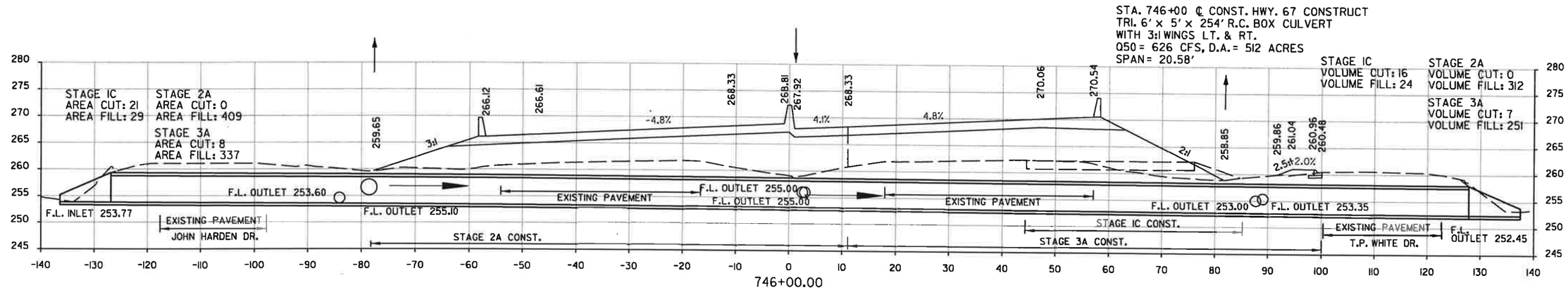


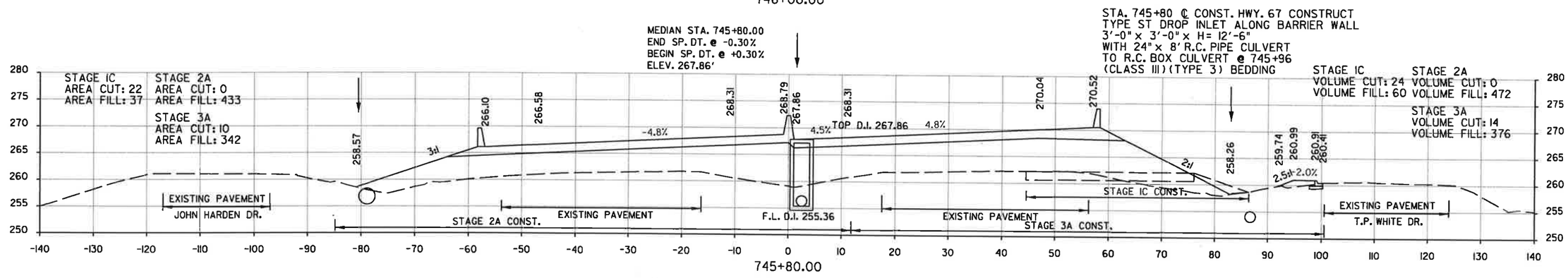


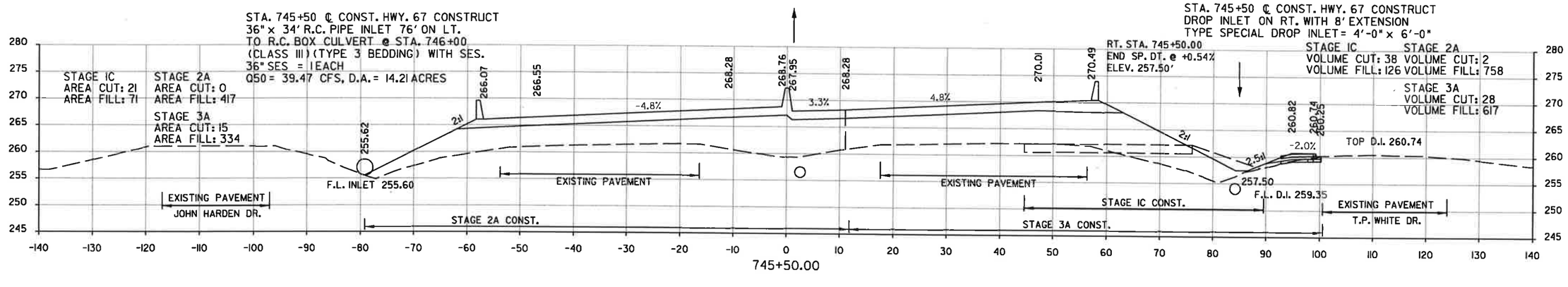
STA. 744+00.00 TO STA. 745+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10/7/2016				6	ARK.			
				JOB NO.		CA0605	347	434

(2) CROSS SECTIONS



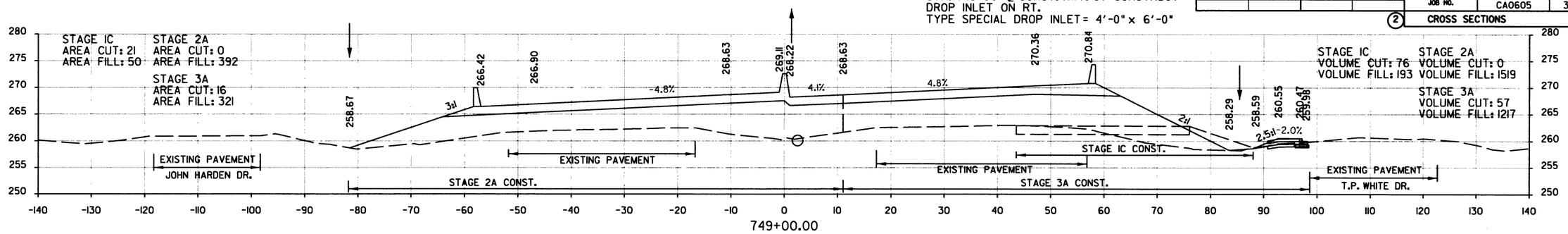


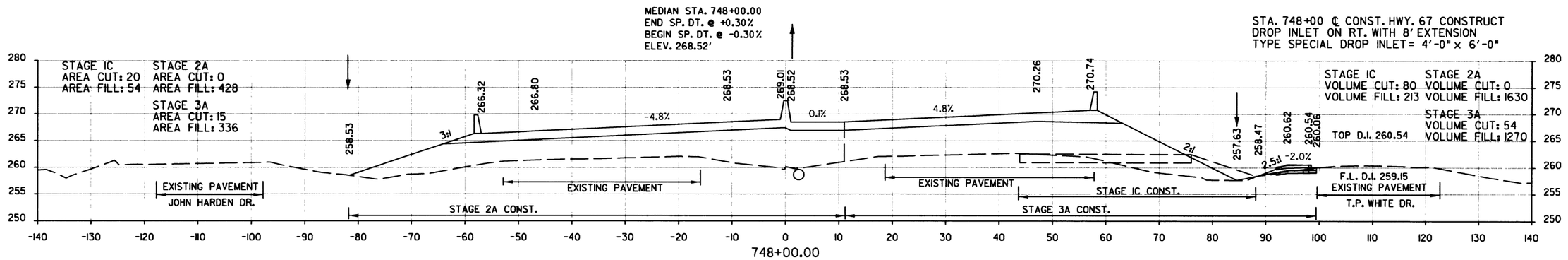


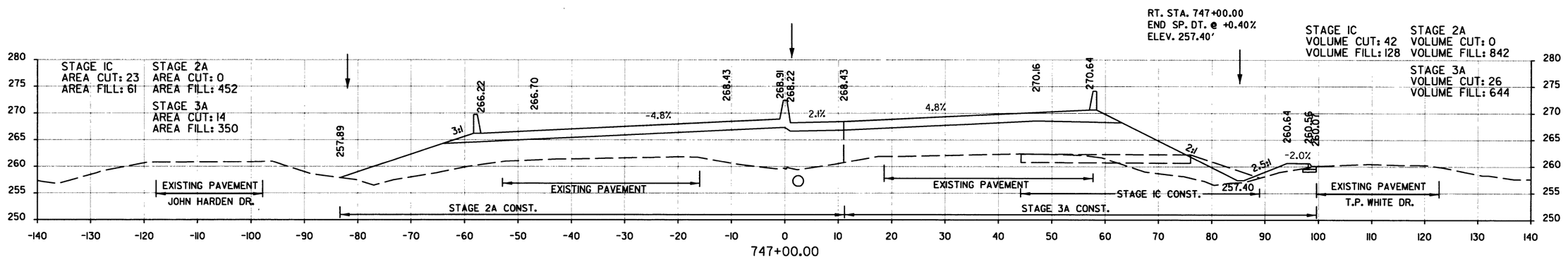
STA. 745+50.00 TO STA. 746+00.00
HWY. 67

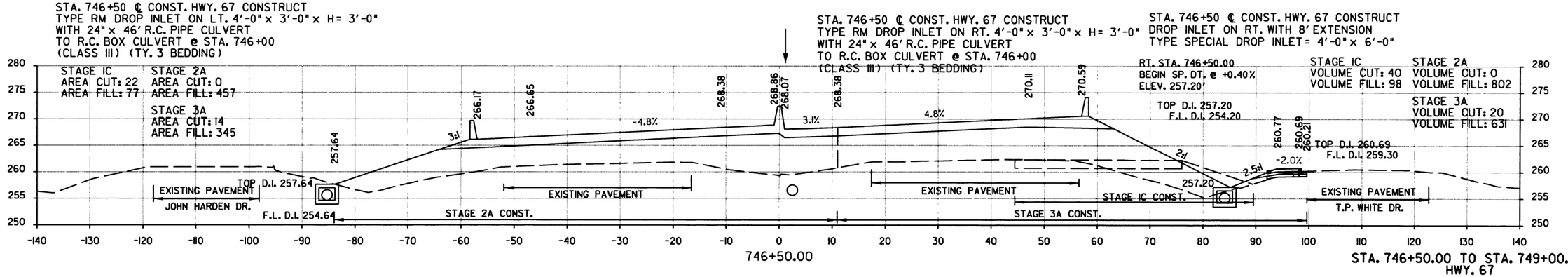
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	348	434

(2) CROSS SECTIONS





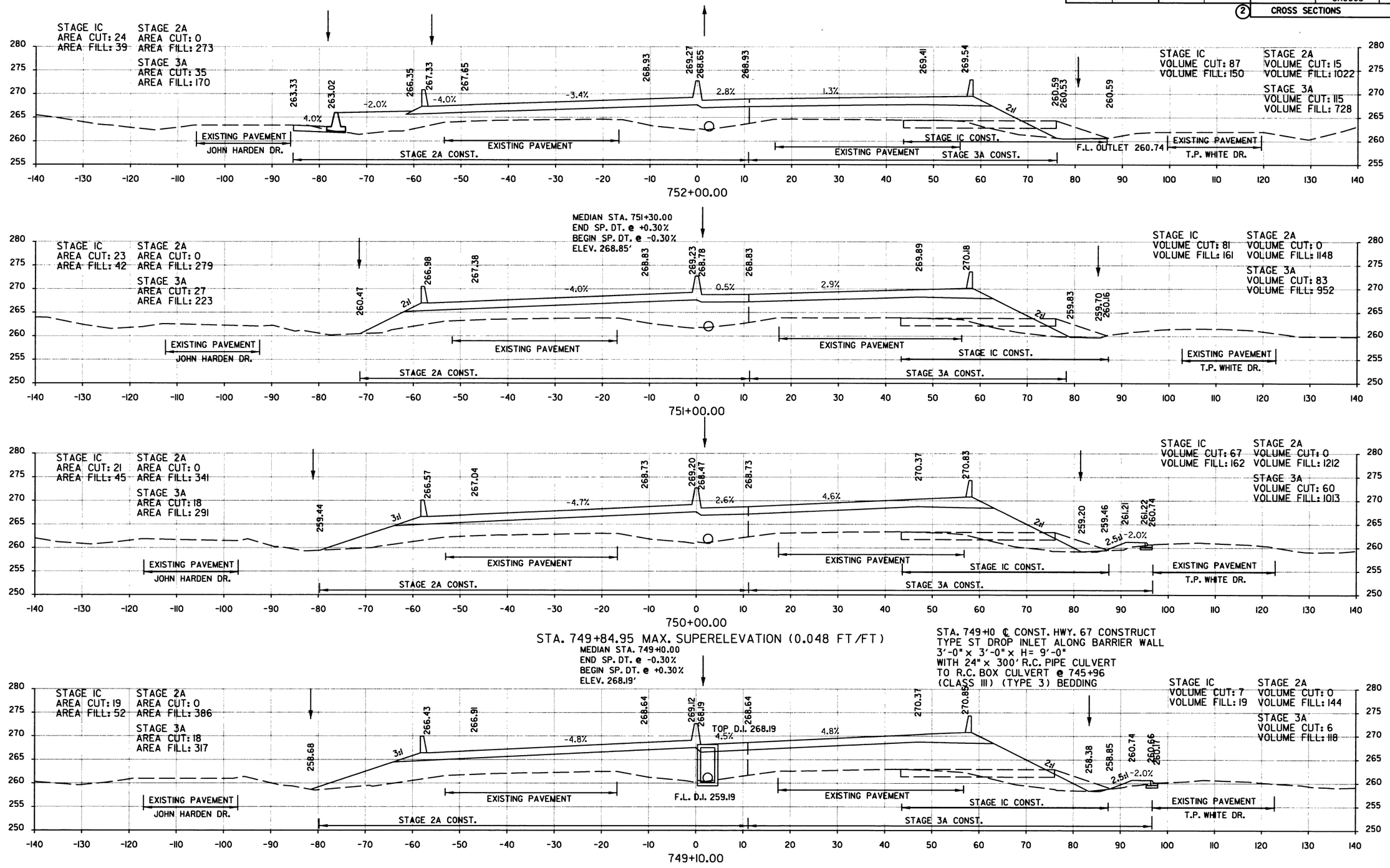




STA. 746+50.00 TO STA. 749+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	349	434

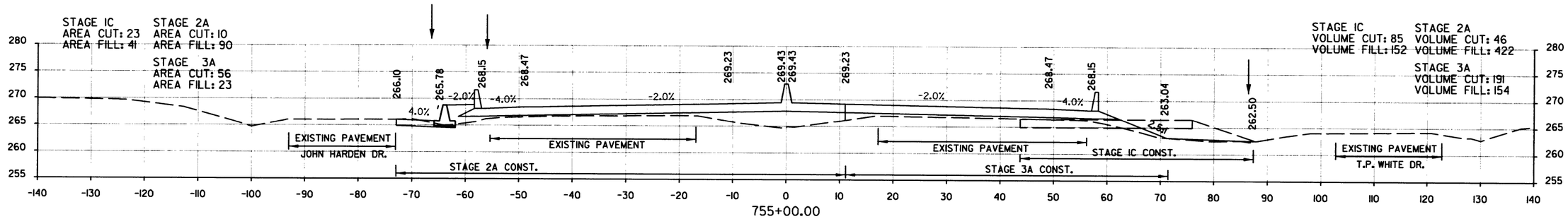
(2) CROSS SECTIONS



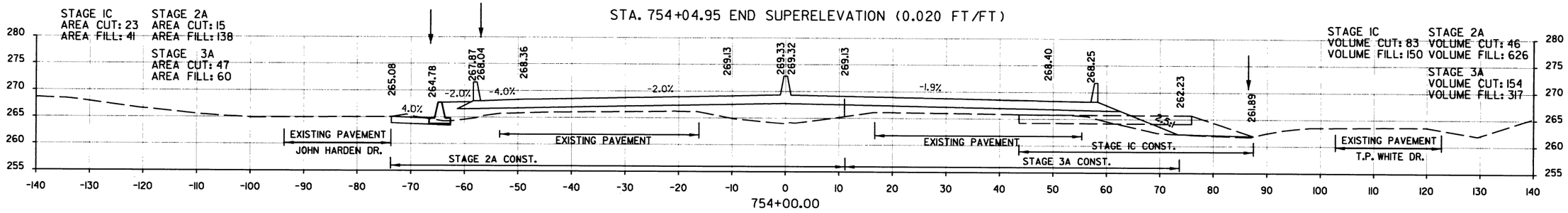
STA. 749+10.00 TO STA. 752+00.00
HWY. 67

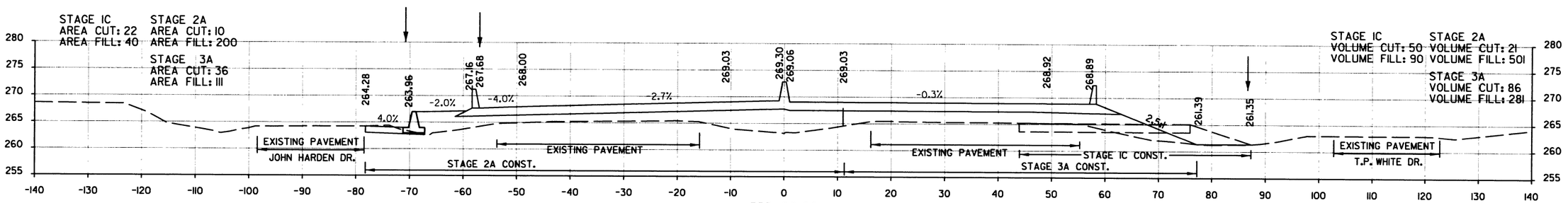
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	350	434

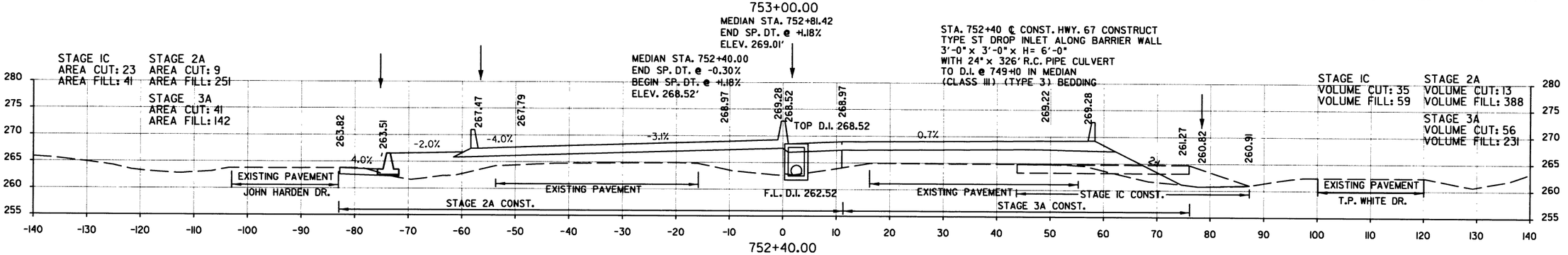
(2) CROSS SECTIONS



STA. 754+04.95 END SUPERELEVATION (0.020 FT/FT)





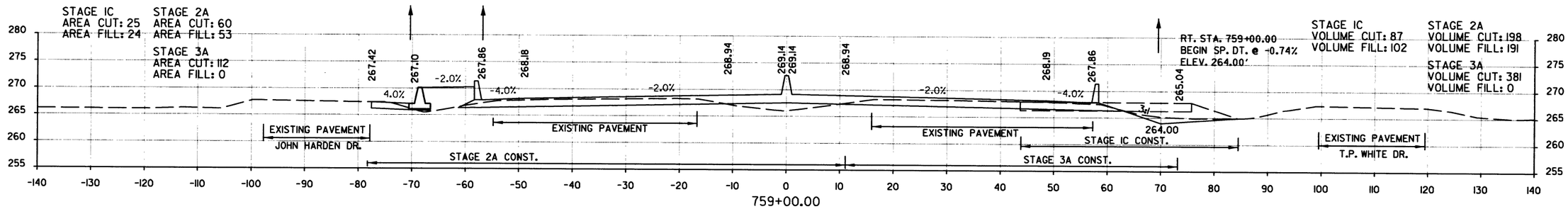


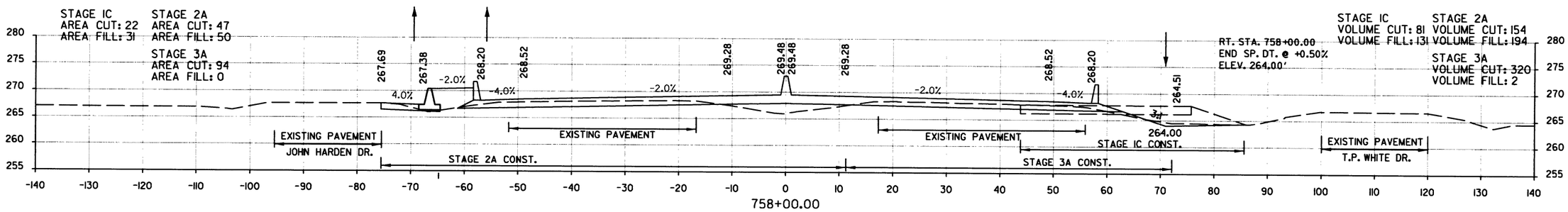
STA. 752+40.00 TO STA. 755+00.00
HWY. 67

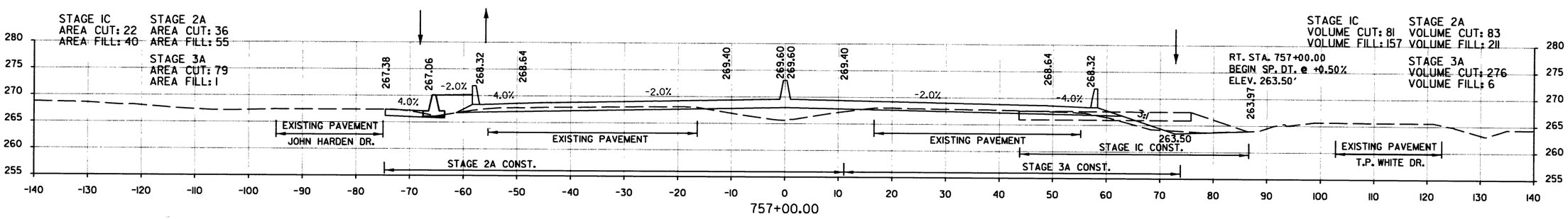
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

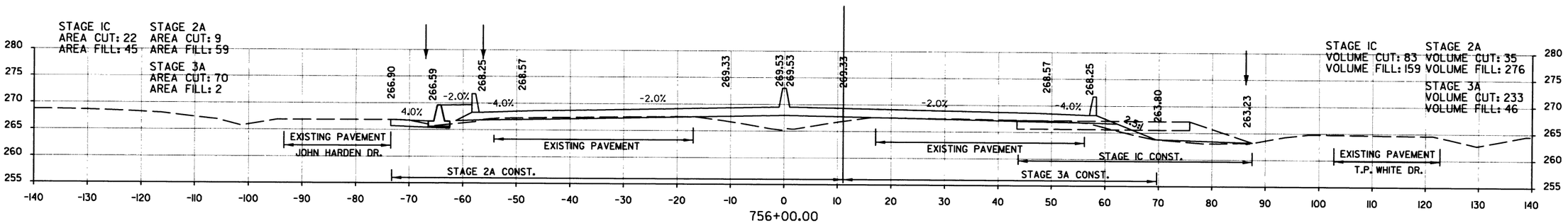
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	351	434

2 CROSS SECTIONS





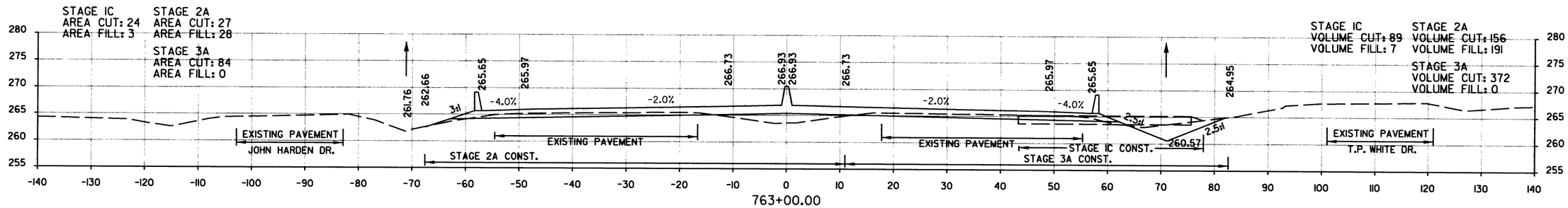


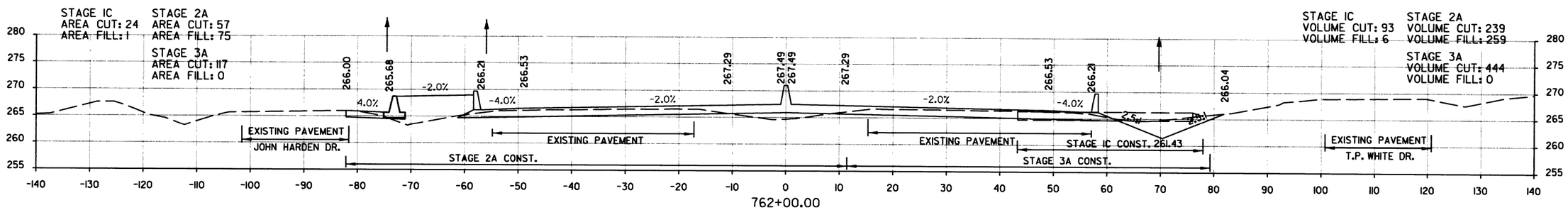


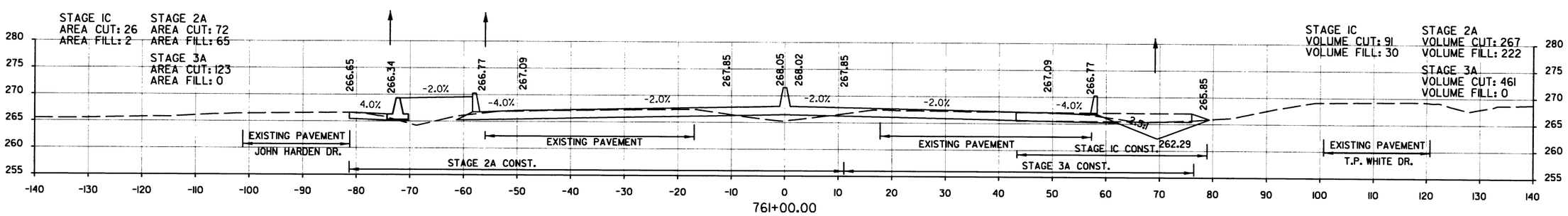
STA. 756+00.00 TO STA. 759+00.00
HWY. 67

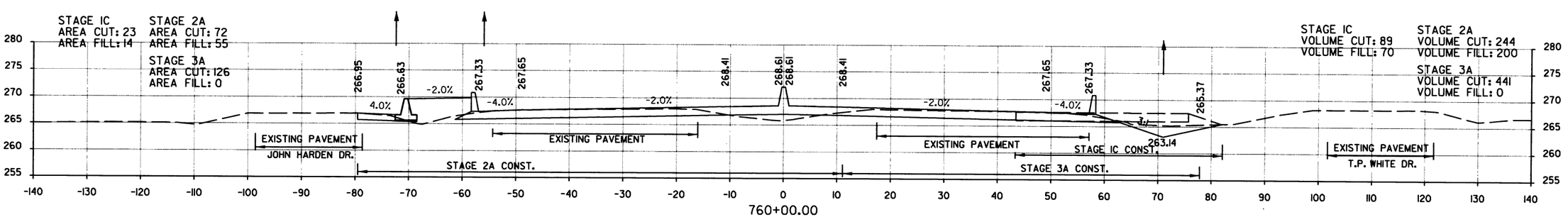
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	352	434

(2) CROSS SECTIONS





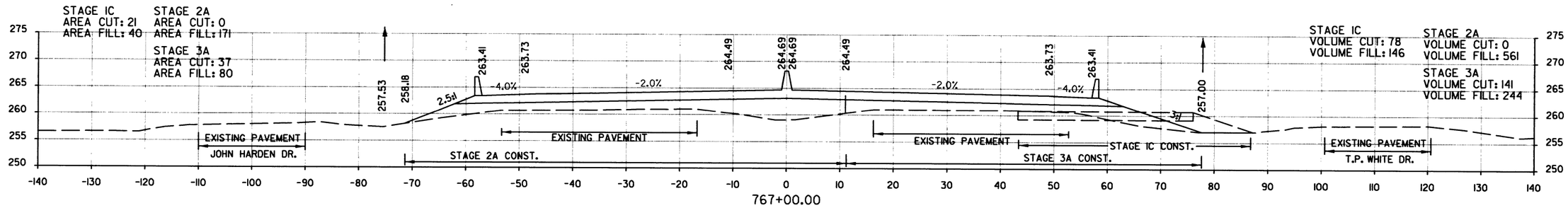


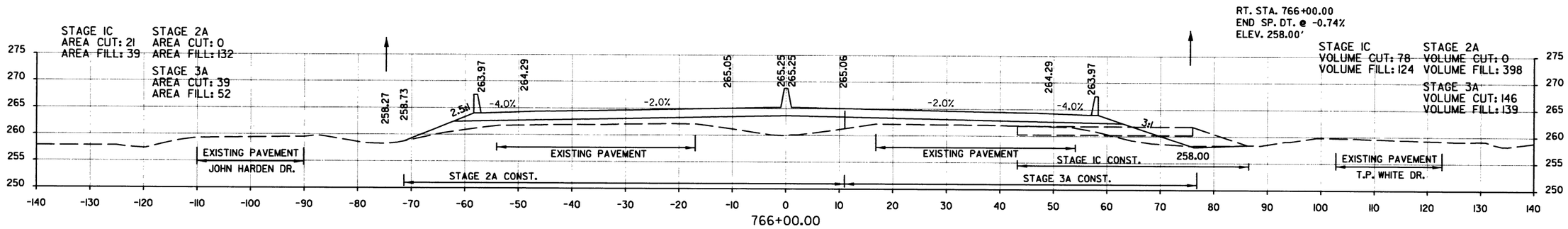


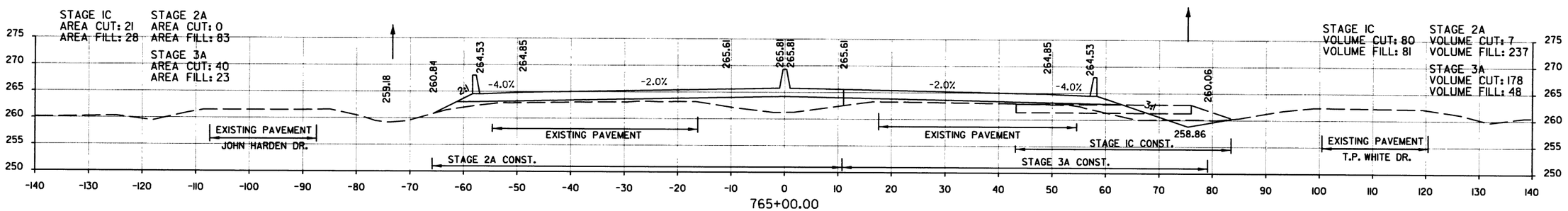
STA. 760+00.00 TO STA. 763+00.00
HWY. 67

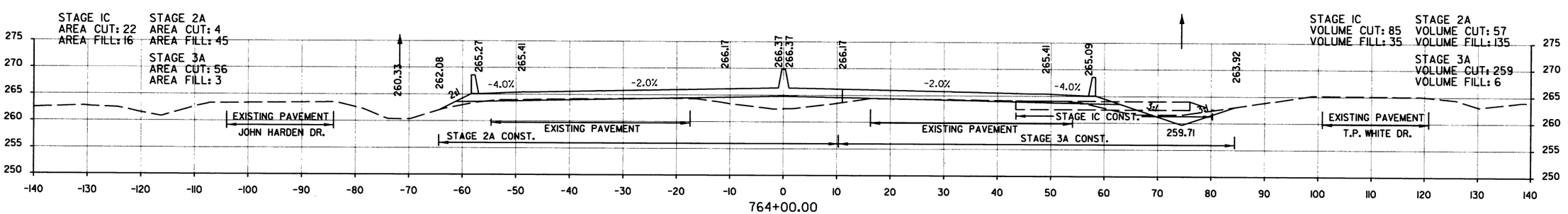
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	353	434

2 CROSS SECTIONS





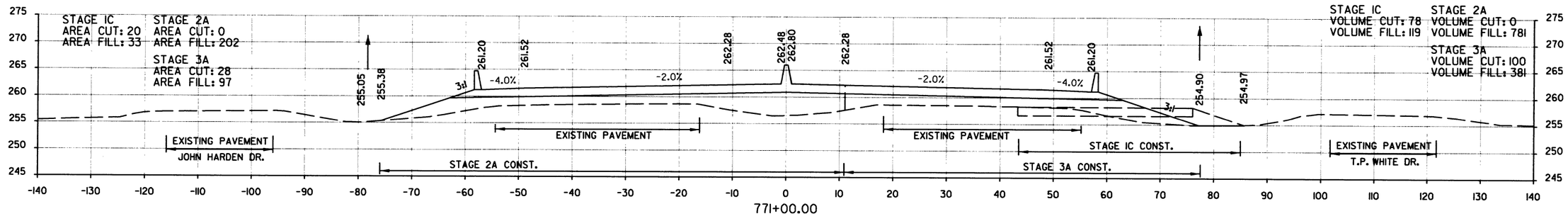


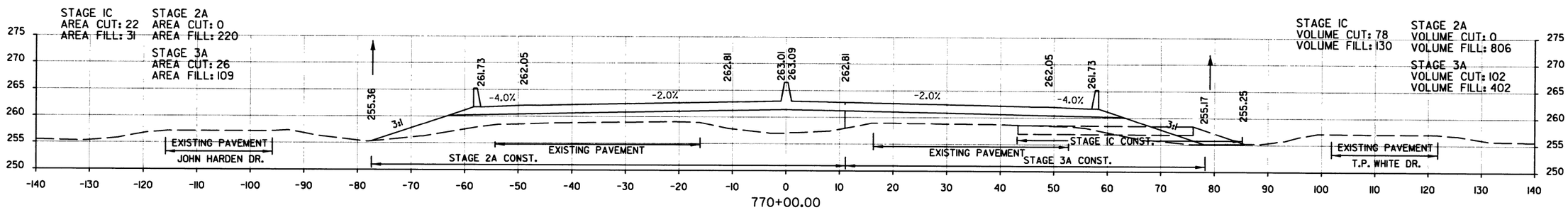


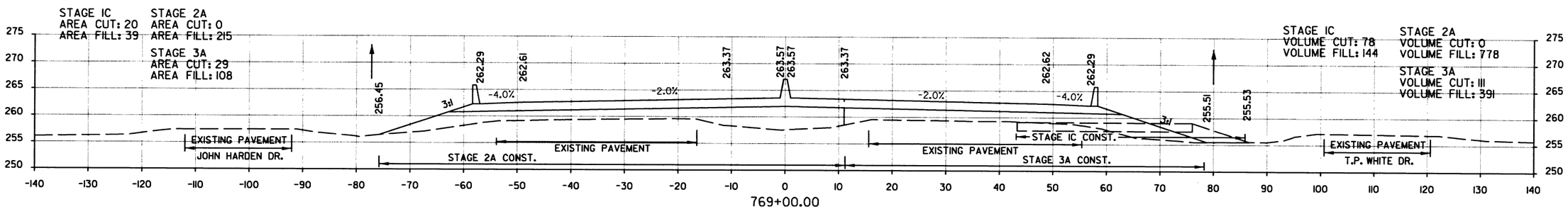
STA. 764+00.00 TO STA. 767+00.00
HWY. 67

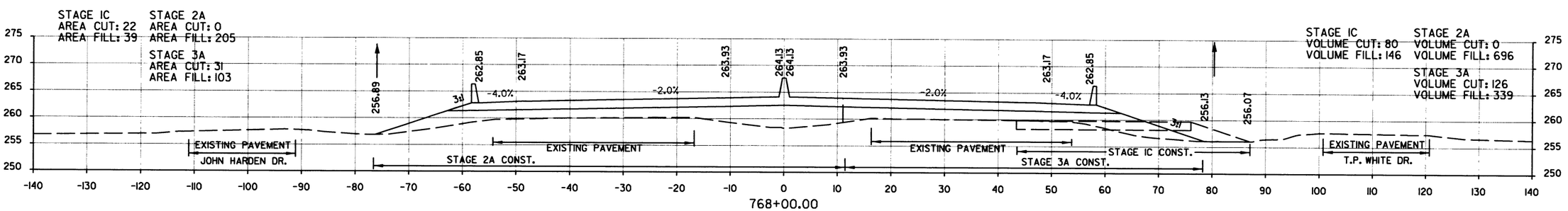
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	354	434

2 CROSS SECTIONS





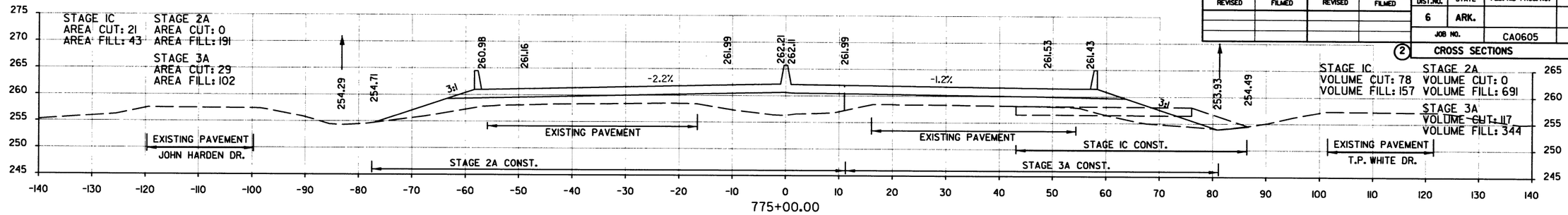




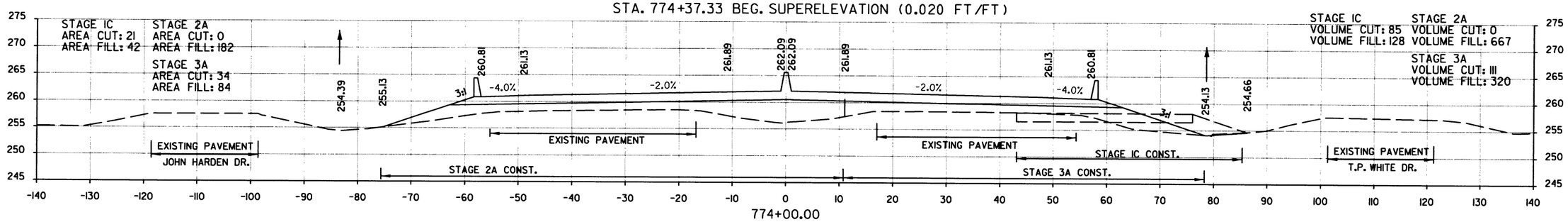
STA. 768+00.00 TO STA. 771+00.00
HWY. 67

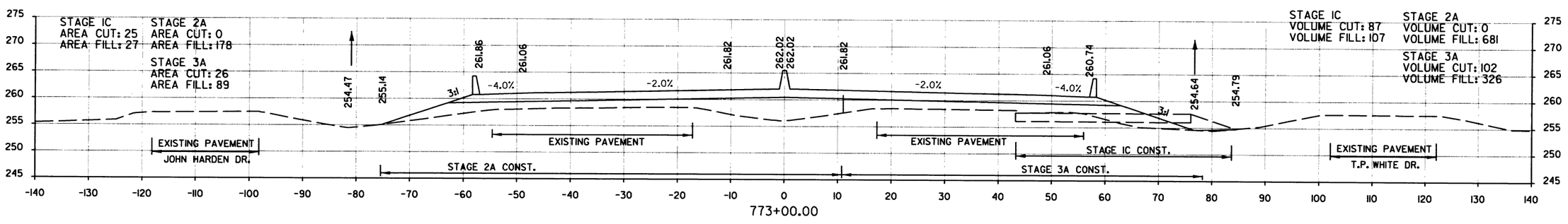
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	355	434

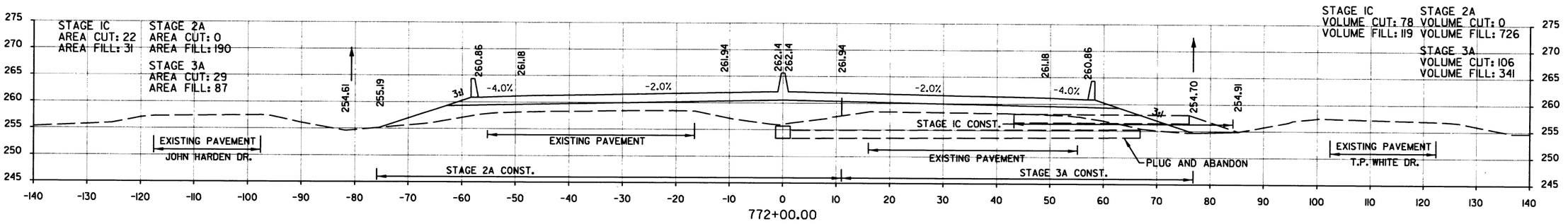
2 CROSS SECTIONS



STA. 774+37.33 BEG. SUPERELEVATION (0.020 FT/FT)





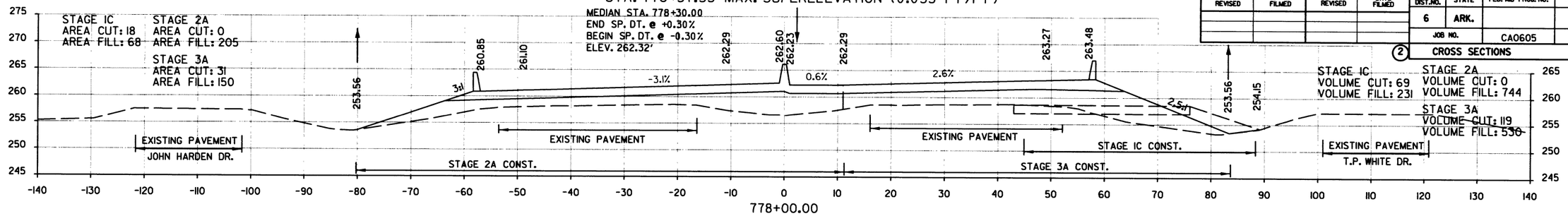


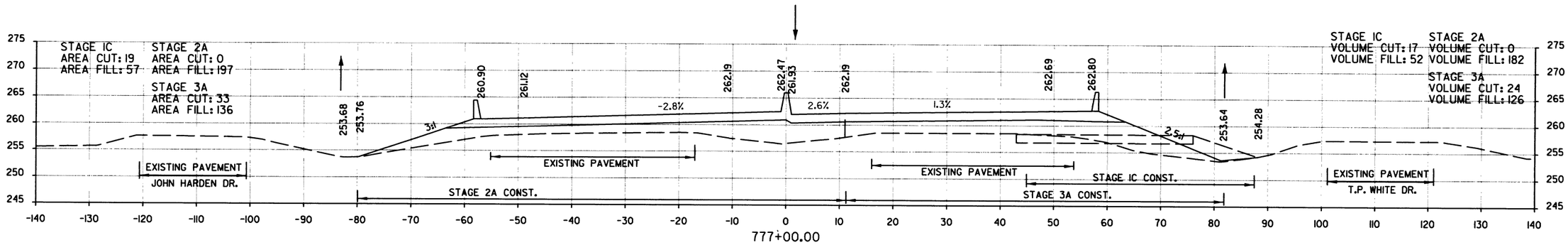
STA. 772+00.00 TO STA. 775+00.00
HWY. 67

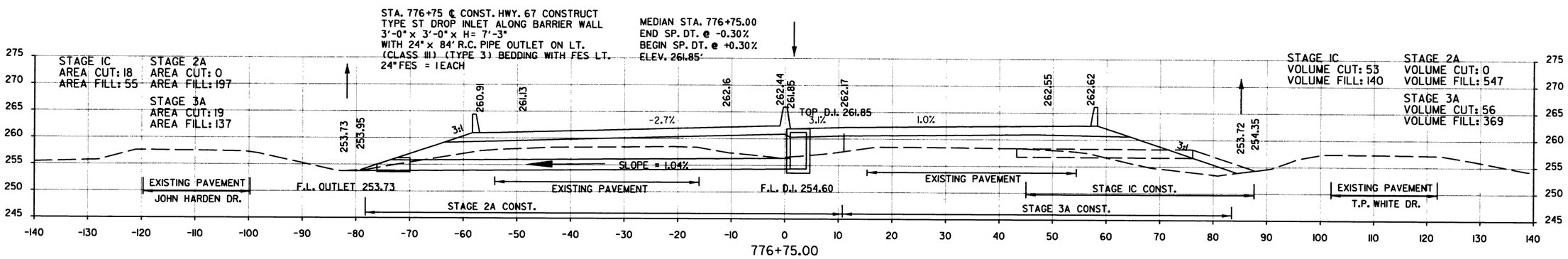
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	356	434

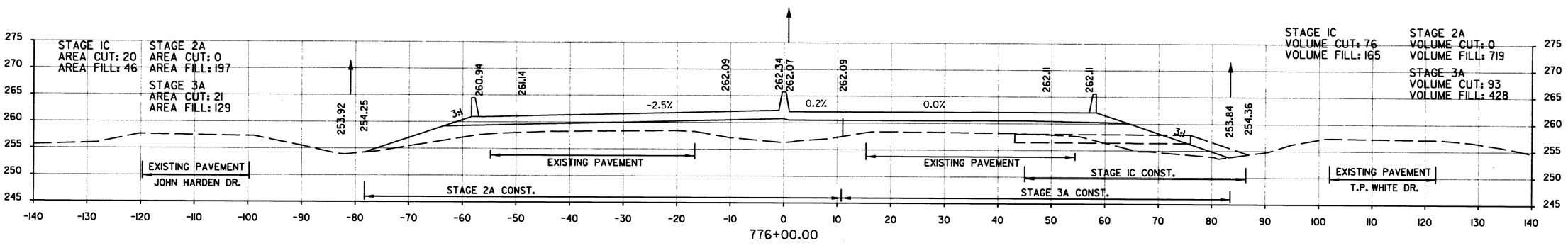
2 CROSS SECTIONS

STA. 778+57.33 MAX. SUPERELEVATION (0.033 FT/FT)







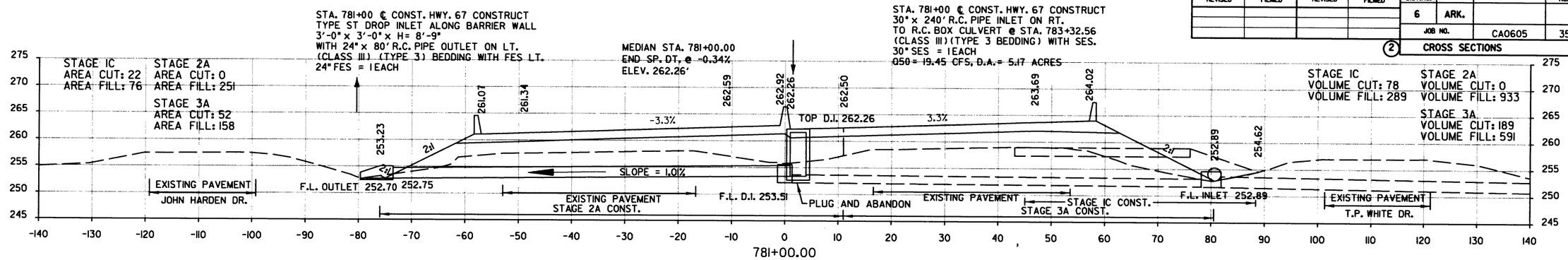


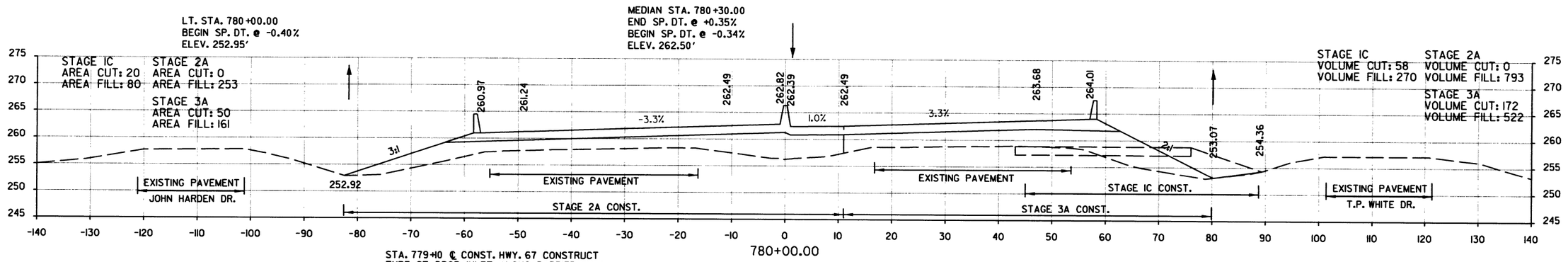
MEDIAN STA. 775+95.82
BEGIN SP. DT. @ -0.30%
ELEV. 262.09'

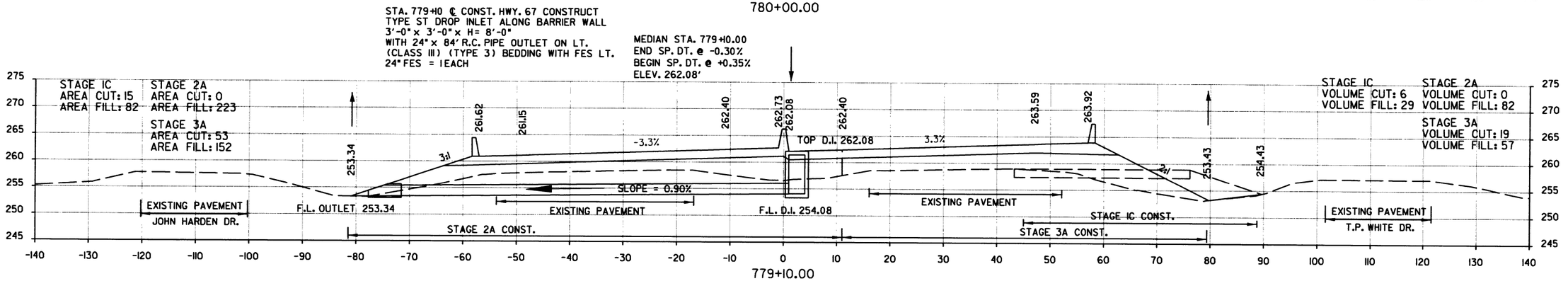
STA. 776+00.00 TO STA. 778+00.00
HWY. 67

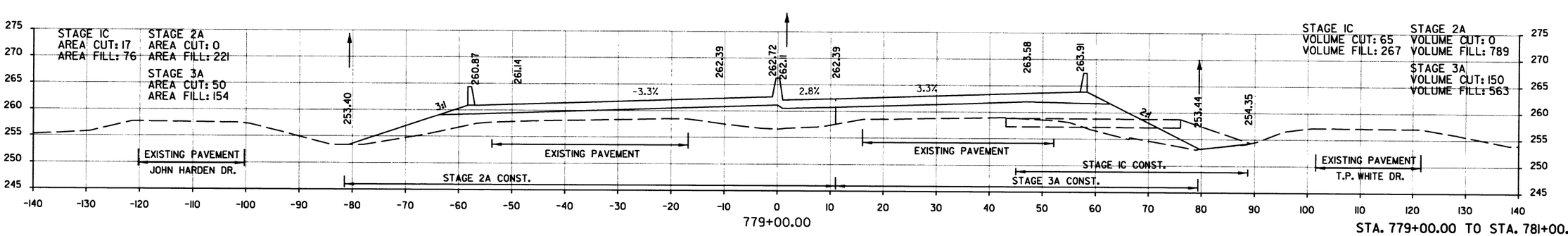
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	357	434

2 CROSS SECTIONS





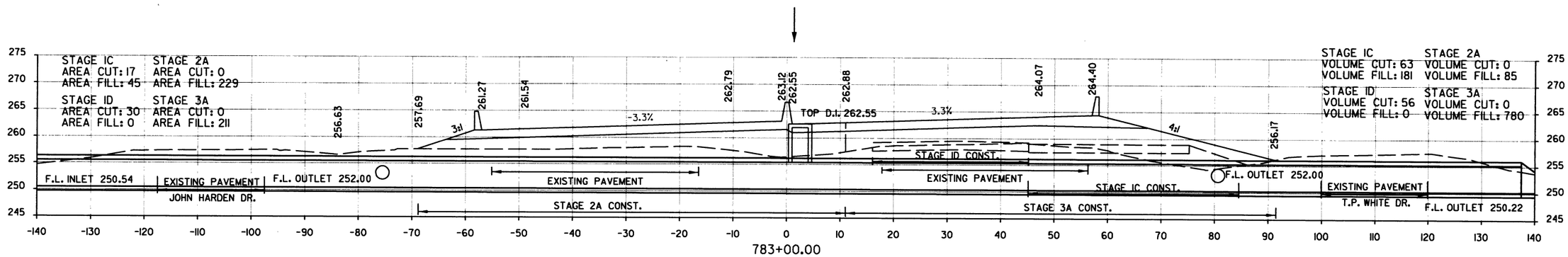


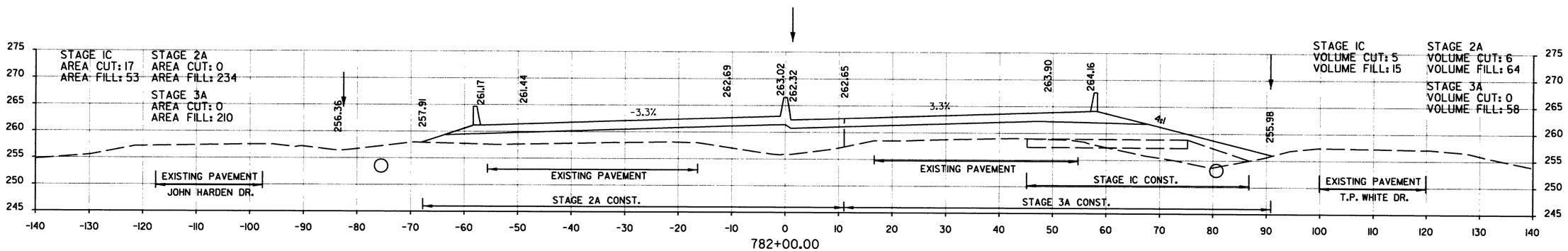


STA. 779+00.00 TO STA. 781+00.00
HWY. 67

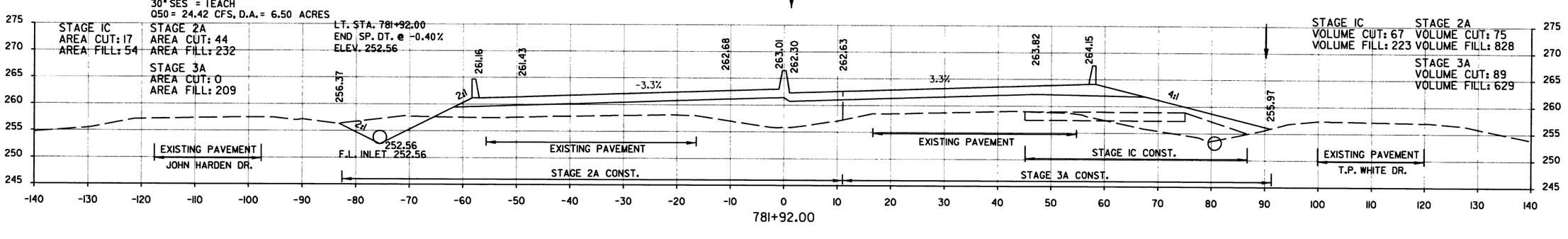
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	358	434

(2) CROSS SECTIONS





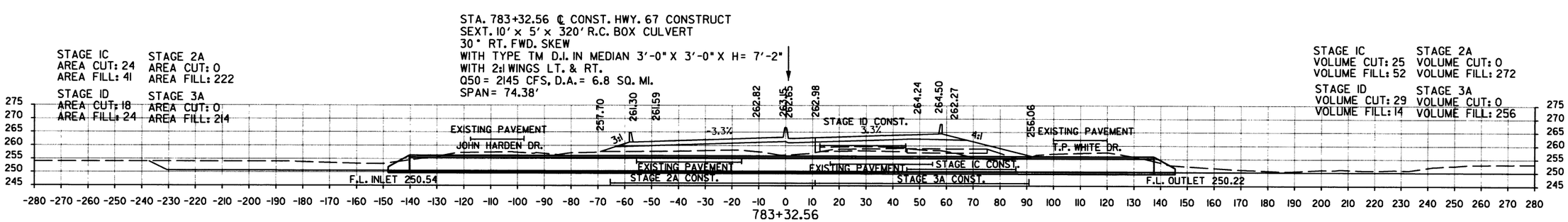
STA. 781+92 ℄ CONST. HWY. 67 CONSTRUCT
30" x 52' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 783+32.56
(CLASS III)(TYPE 3 BEDDING) WITH SES.
30" SES = 1 EACH
Q50 = 24.42 CFS, D.A. = 6.50 ACRES



STA. 781+92.00 TO STA. 783+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	359	434

(2) CROSS SECTIONS



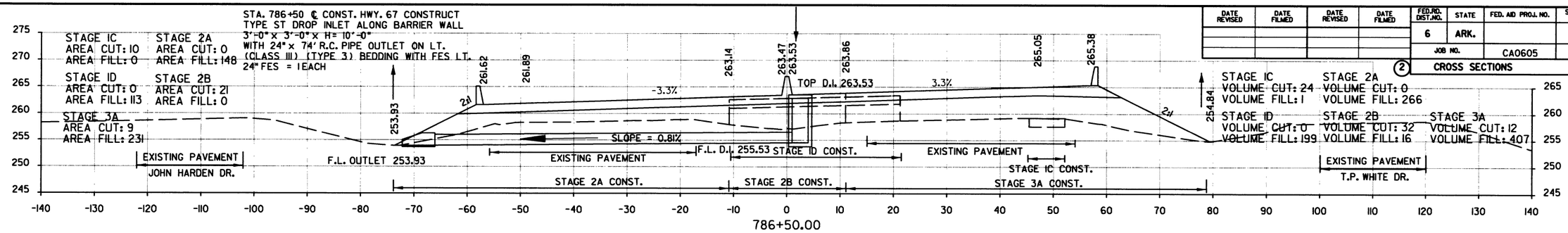
STA. 783+32.56 TO STA. 783+32.56
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

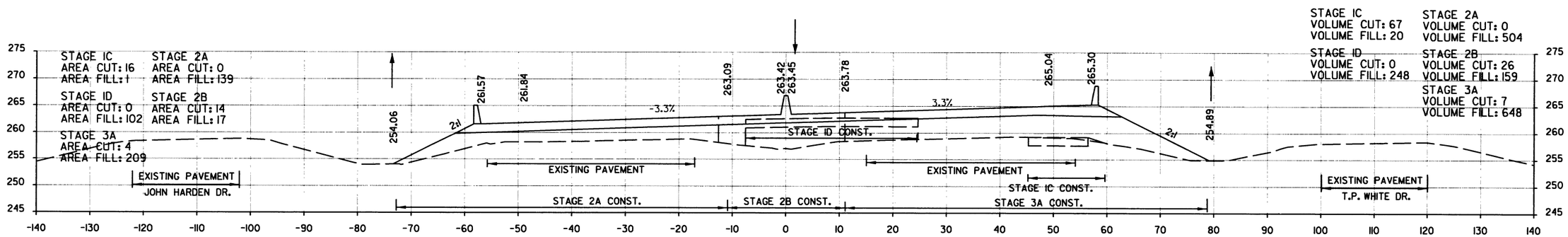
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	360	434

2 CROSS SECTIONS

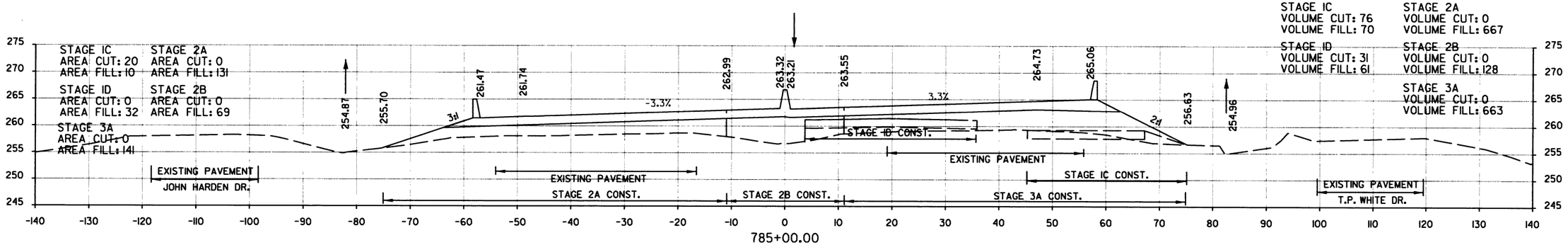
STA. 786+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 10'-0"
WITH 24" x 74' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1EACH



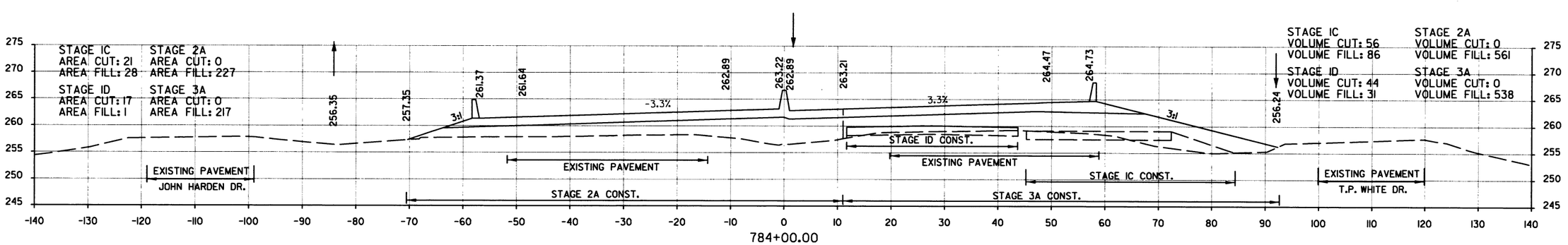
786+50.00



786+00.00



785+00.00



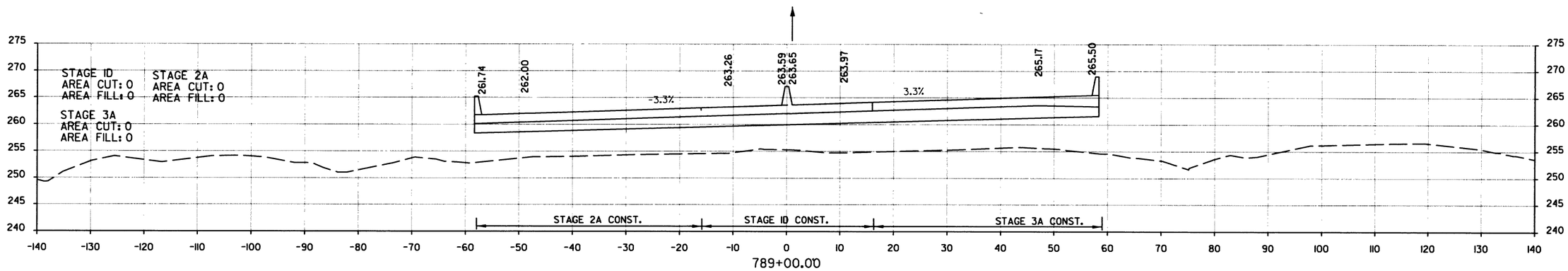
784+00.00

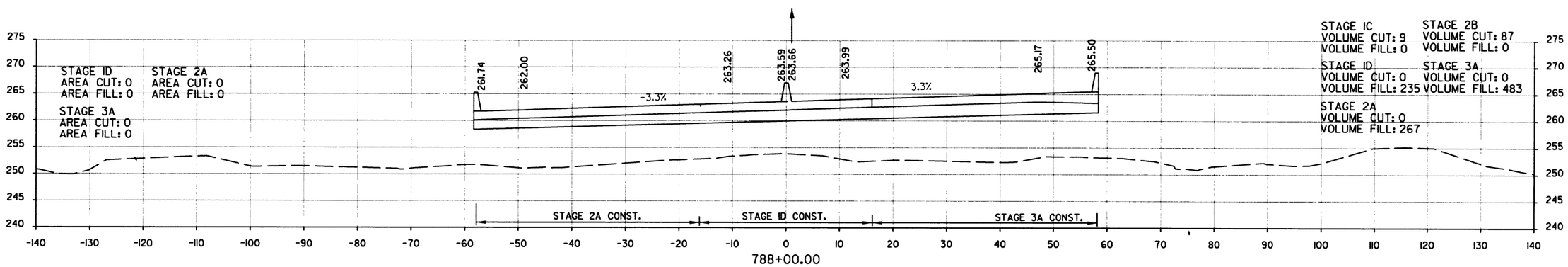
STA. 784+00.00 TO STA. 786+50.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	361	434

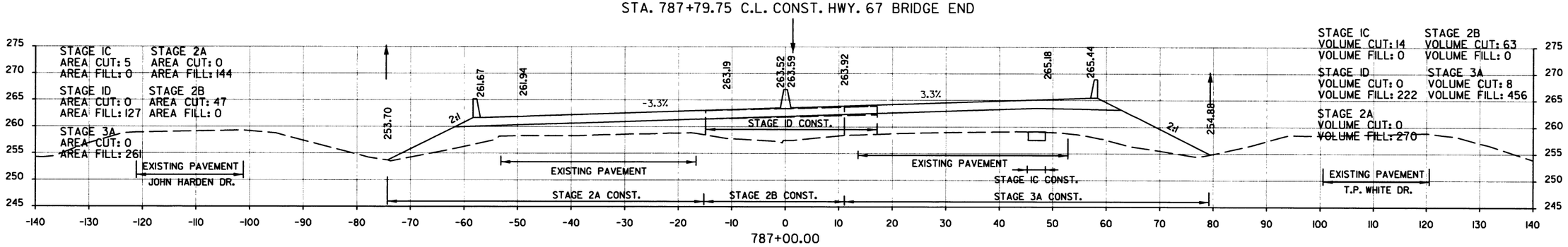
(2) CROSS SECTIONS

STA. 789+14.25 C.L. CONST. HWY. 67 BRIDGE END





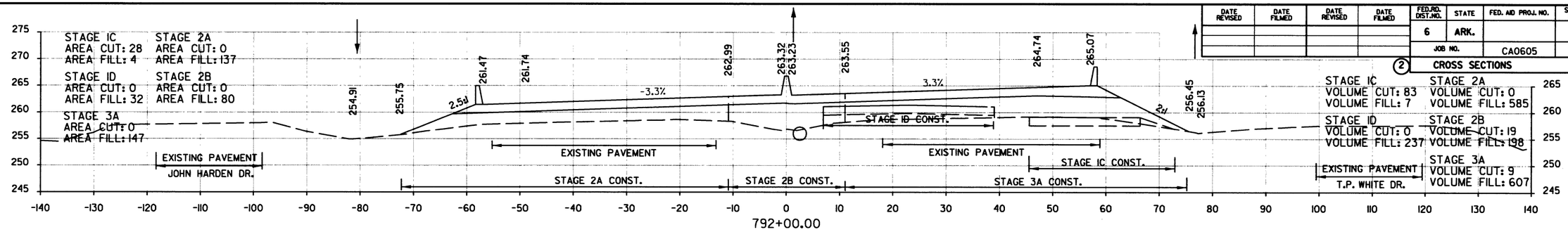
STA. 787+79.75 C.L. CONST. HWY. 67 BRIDGE END

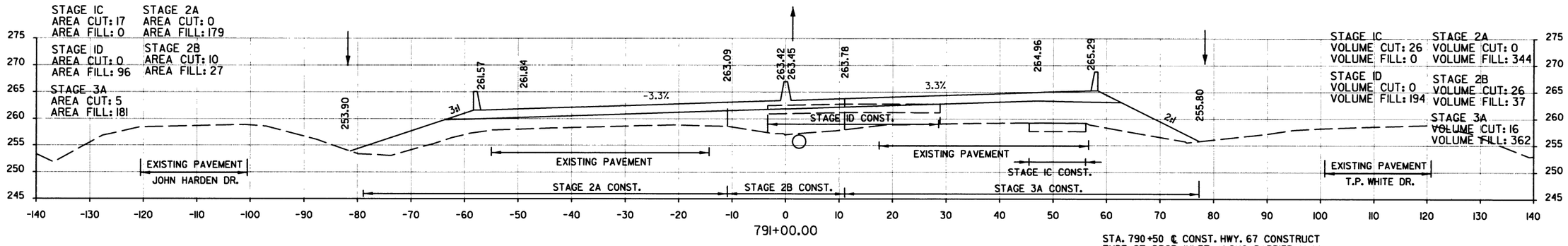


STA. 787+00.00 TO STA. 789+00.00
HWY. 67

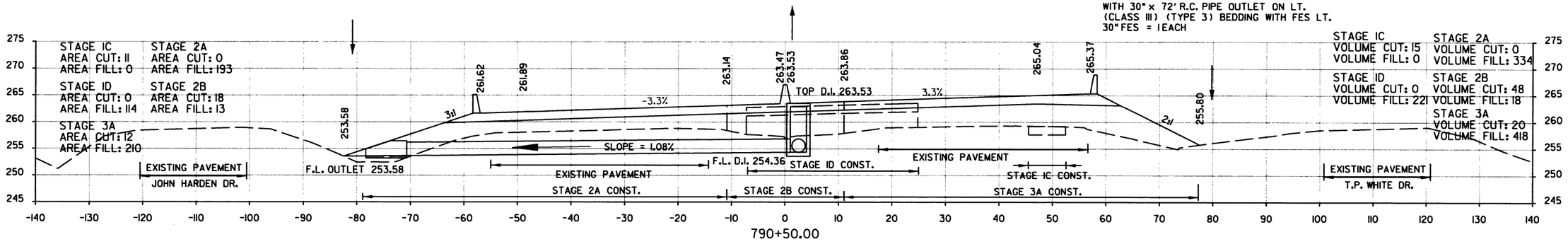
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	362	434

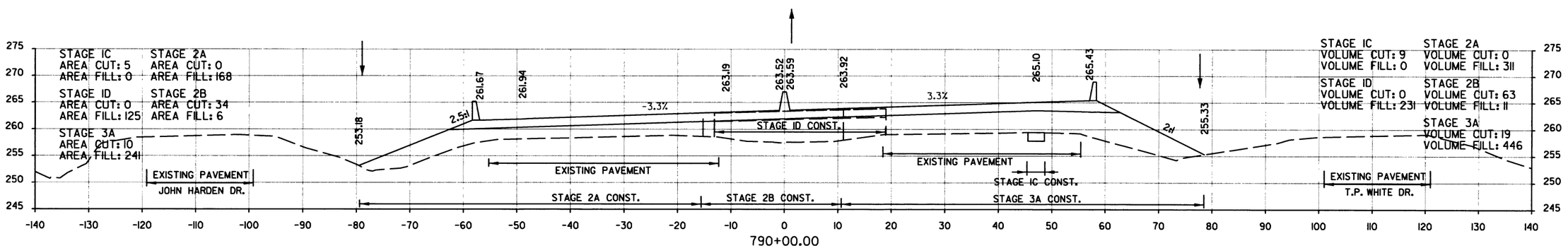
2 CROSS SECTIONS





STA. 790+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 9'-2"
WITH 30" x 72' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
30" FES = 1 EACH

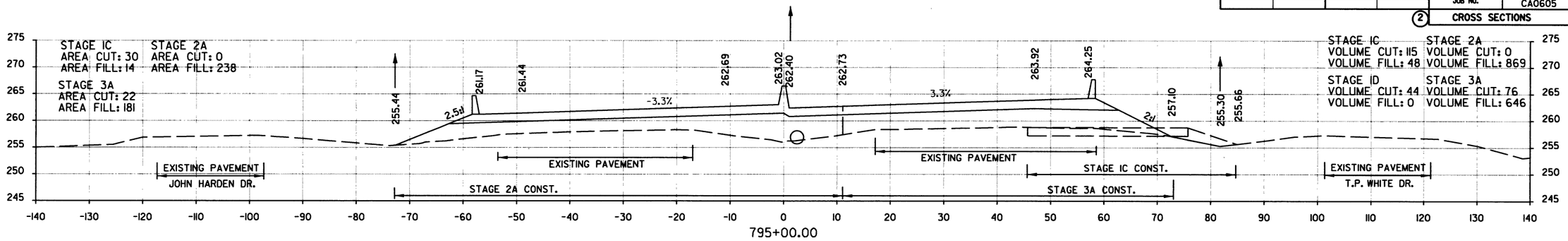




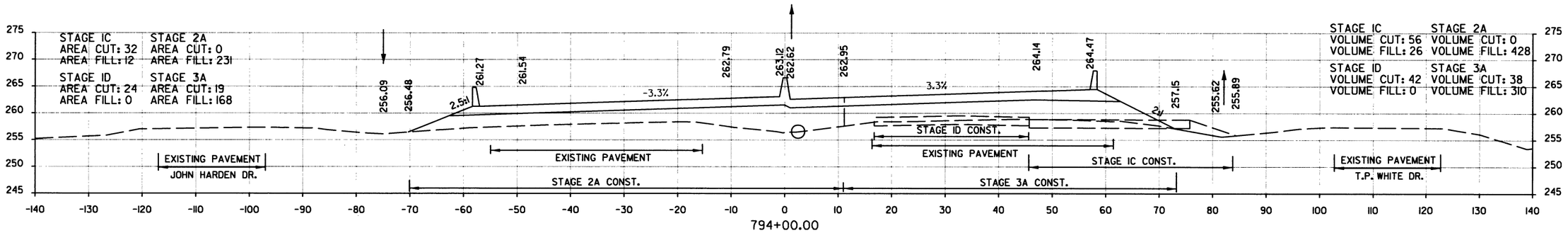
STA. 790+00.00 TO STA. 792+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	363	434

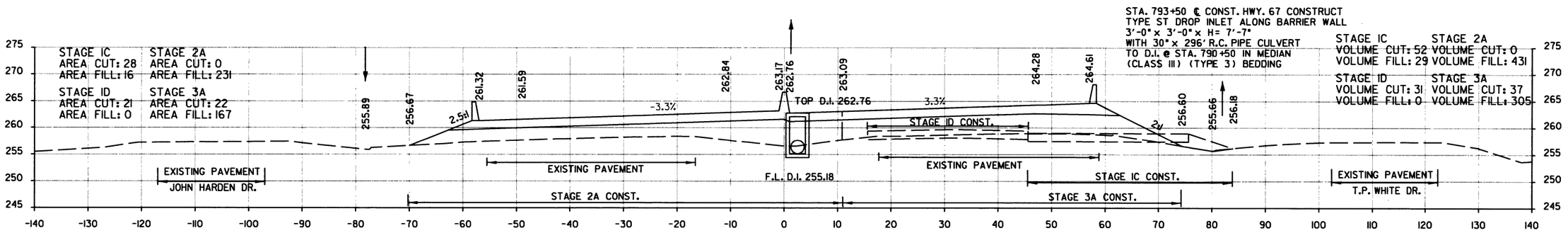
(2) CROSS SECTIONS



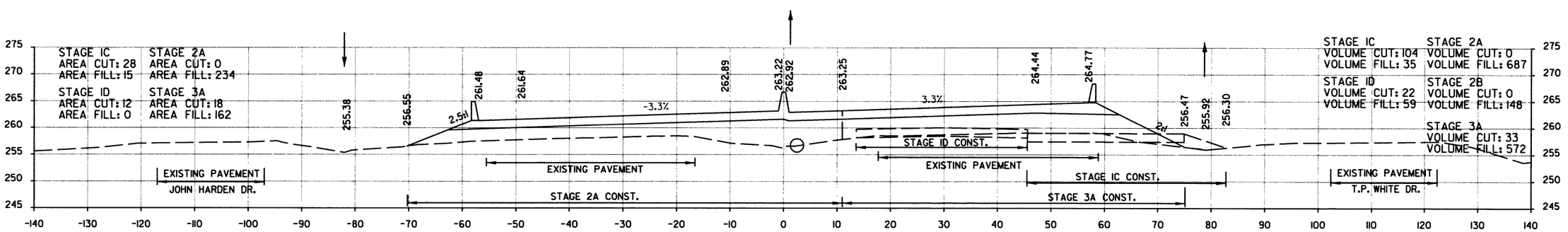
795+00.00



794+00.00



793+50.00

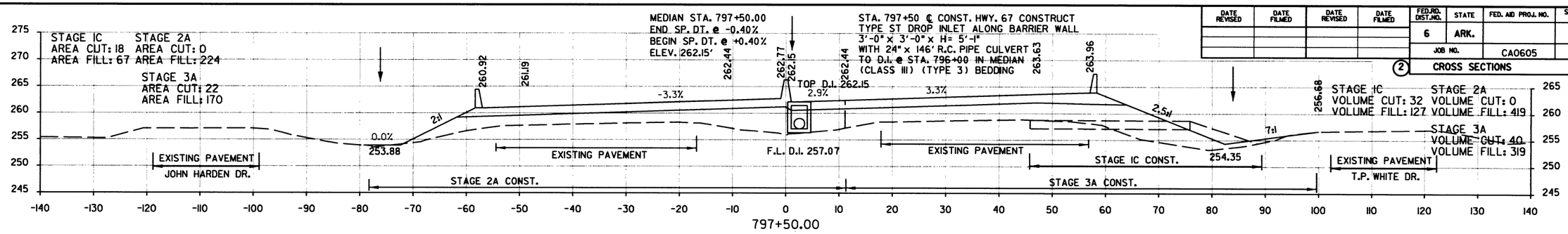


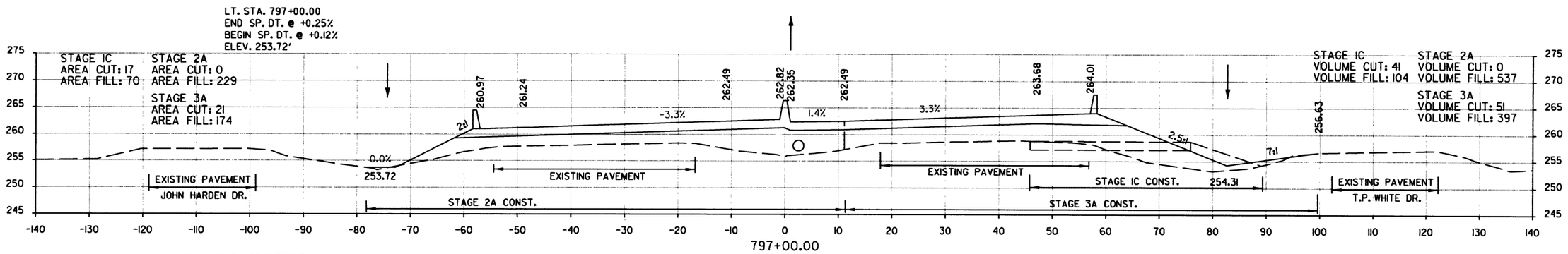
793+00.00

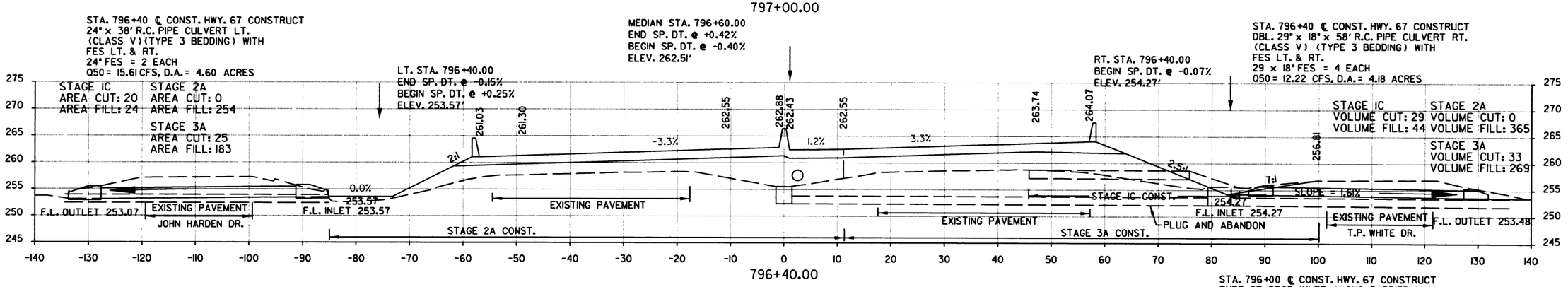
STA. 793+00.00 TO STA. 795+00.00
HWY. 67

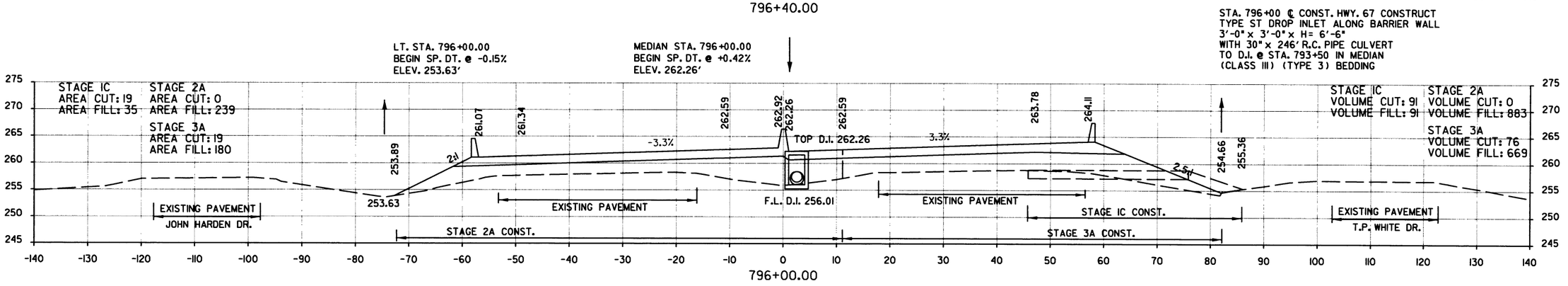
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	364	434

2 CROSS SECTIONS







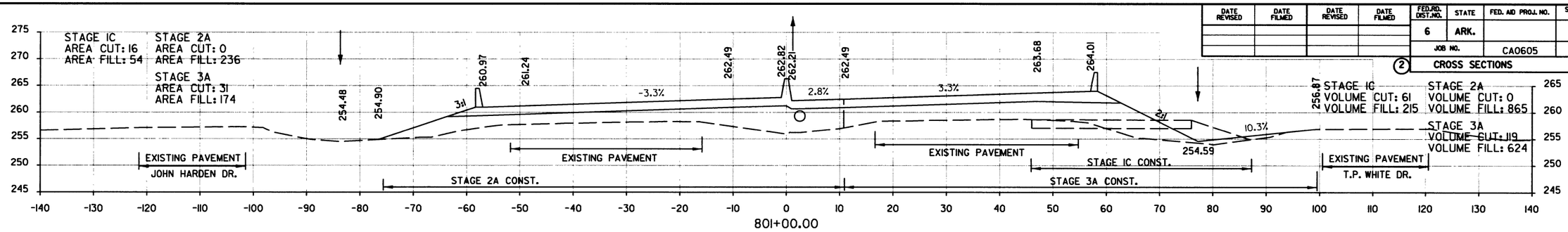


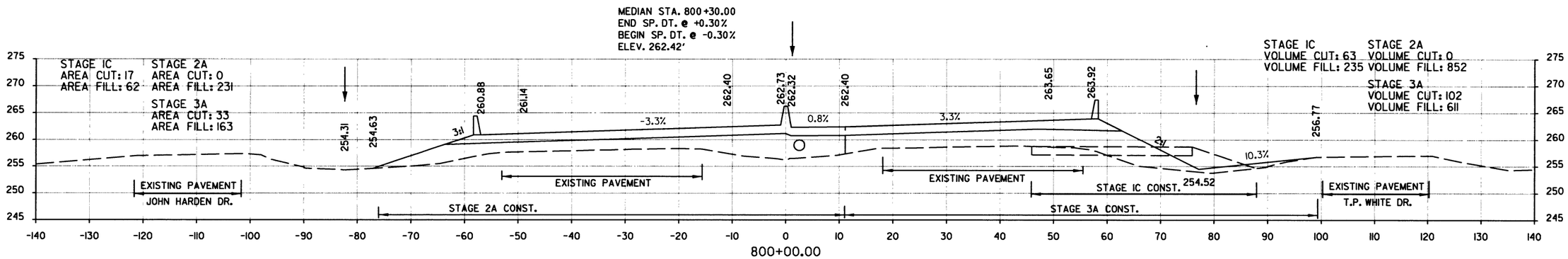
STA. 796+00.00 TO STA. 797+50.00
HWY. 67

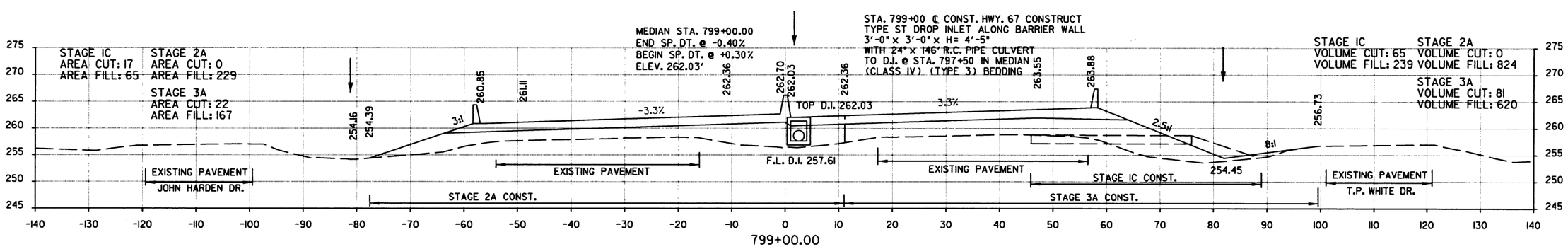
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

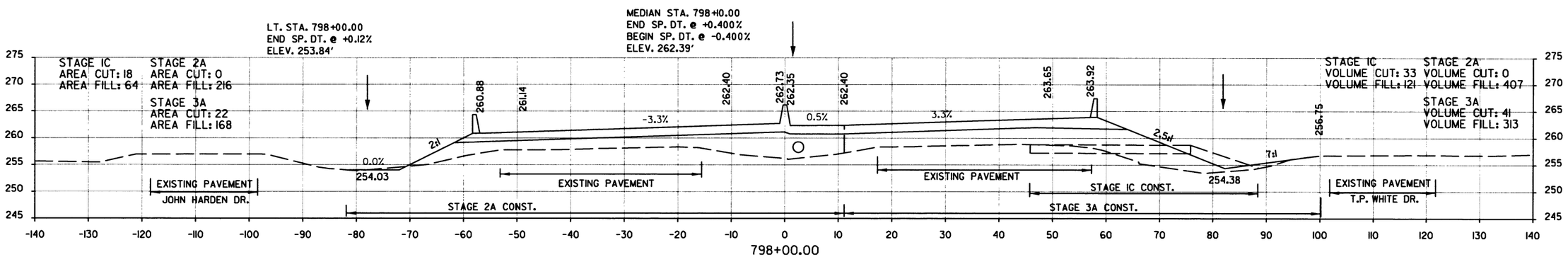
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	365	434

2 CROSS SECTIONS





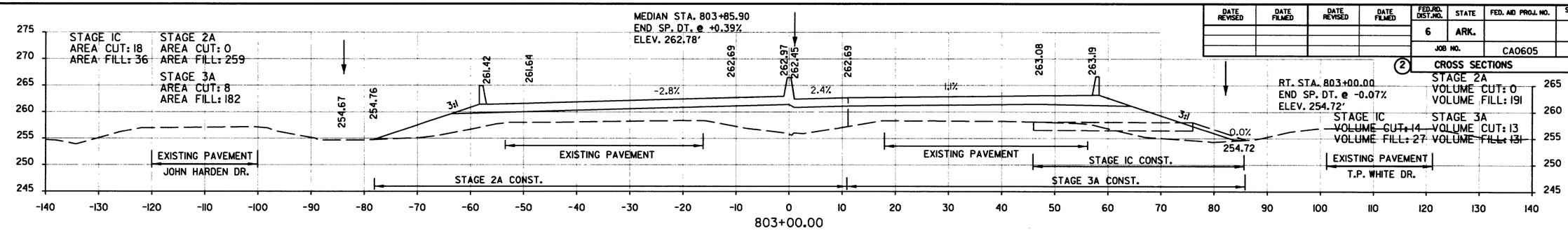


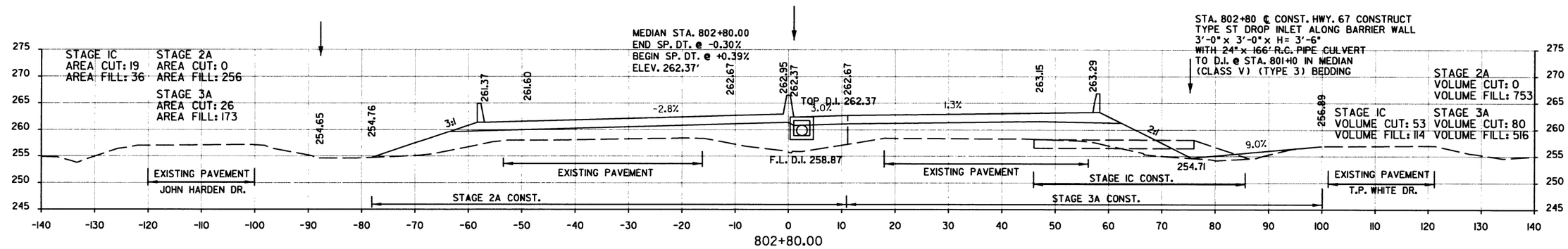


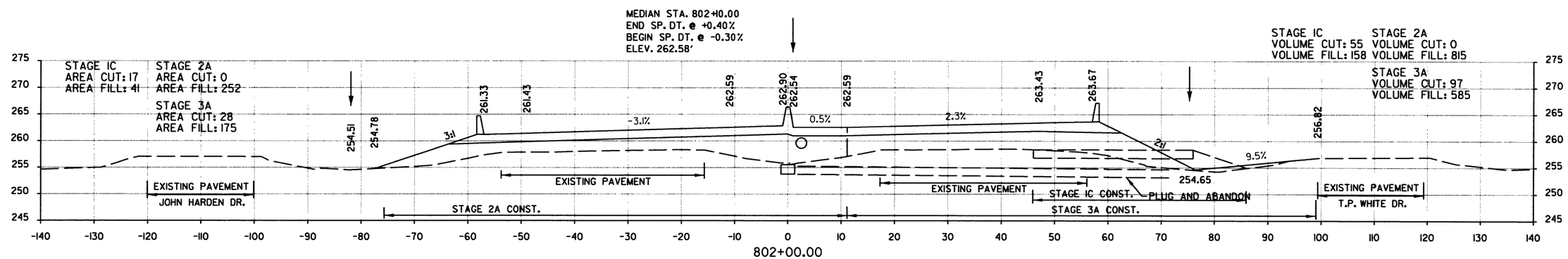
STA. 798+00.00 TO STA. 801+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	366	434

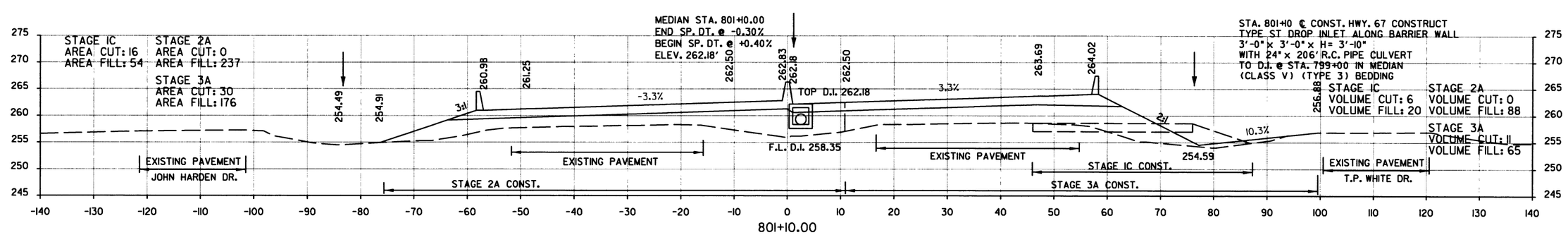
2 CROSS SECTIONS







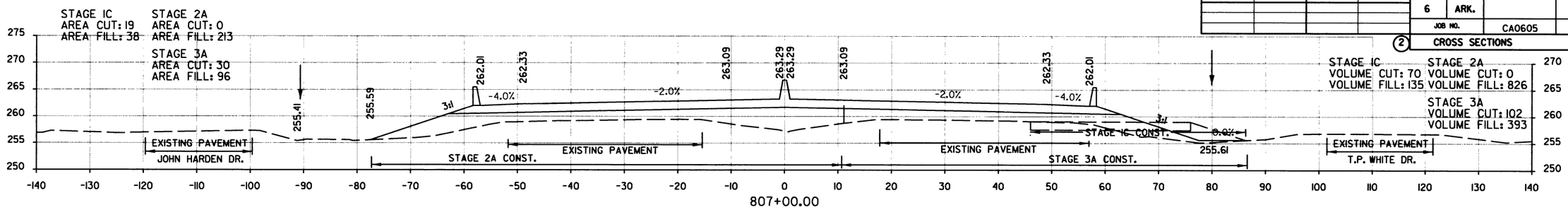
STA. 801+24.39 MAX. SUPERELEVATION (0.033 FT/FT)

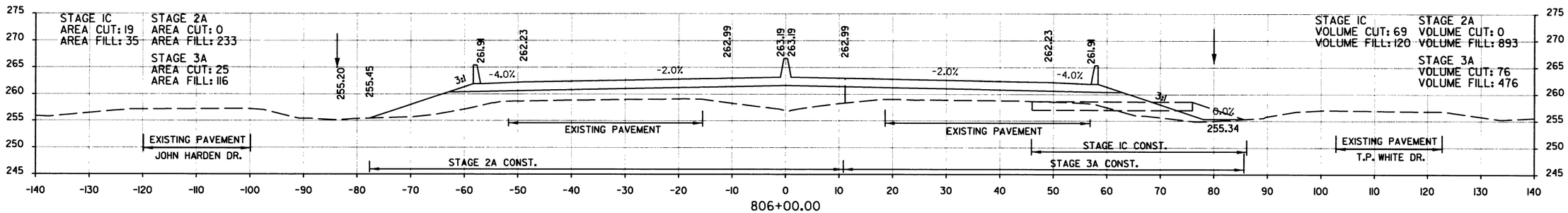


STA. 801+10.00 TO STA. 803+00.00
HWY. 67

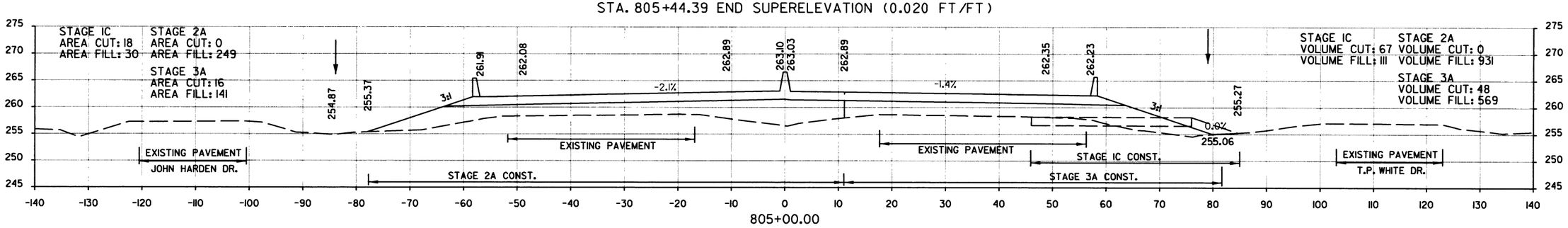
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	367	434

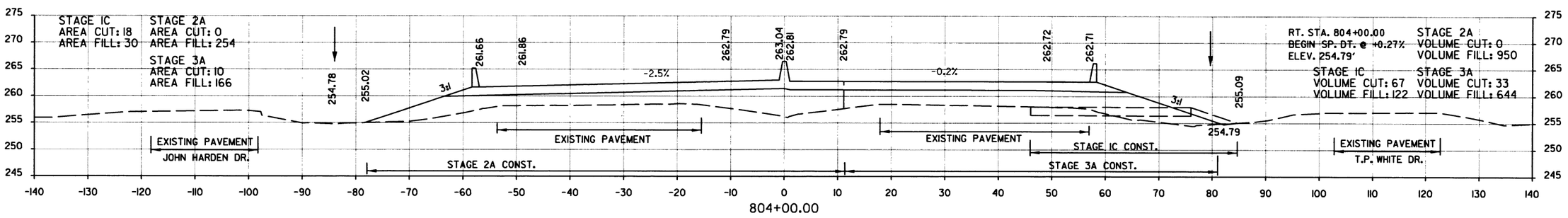
2 CROSS SECTIONS





STA. 805+44.39 END SUPERELEVATION (0.020 FT/FT)

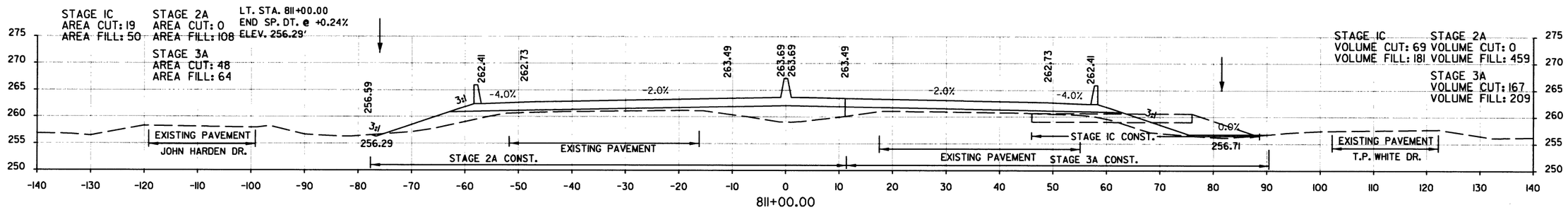


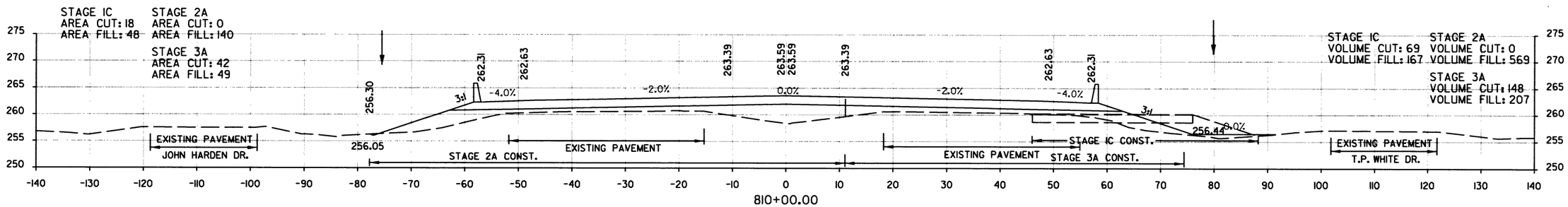


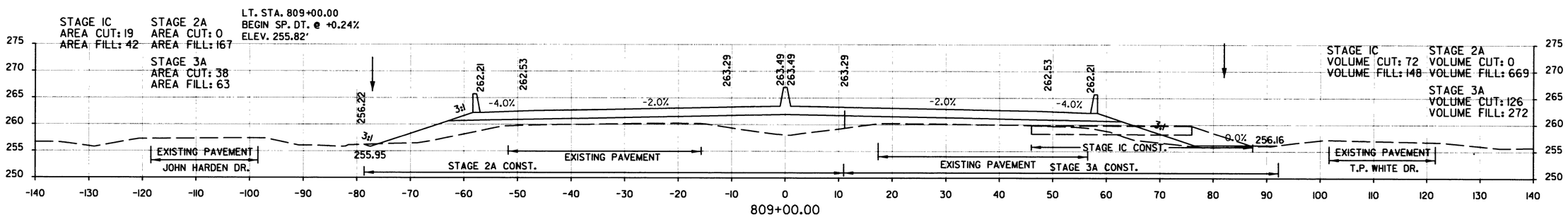
STA. 804+00.00 TO STA. 807+00.00
HWY. 67

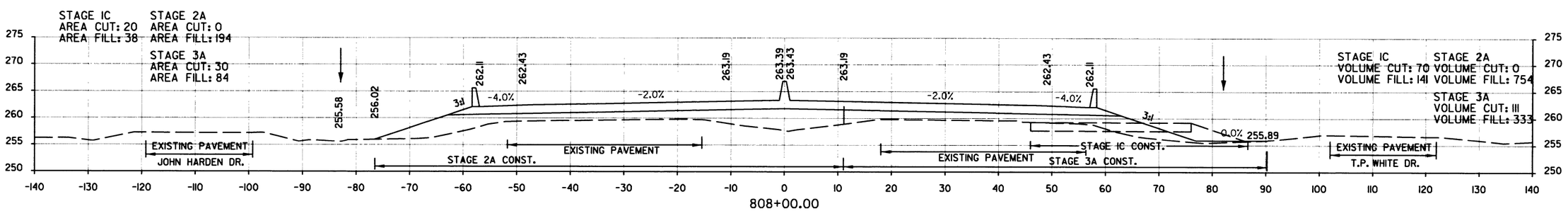
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	368	434

(2) CROSS SECTIONS









STA. 808+00.00 TO STA. 811+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	369	434

2 CROSS SECTIONS

STA. 814+14 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN WITH
30" X 74' R.C. PIPE CULVERT
TO JUNCTION BOX @ STA. 814+11
AND 30" X 76' R.C. PIPE CULVERT
TO D.I. @ STA. 814+14
REMOVE

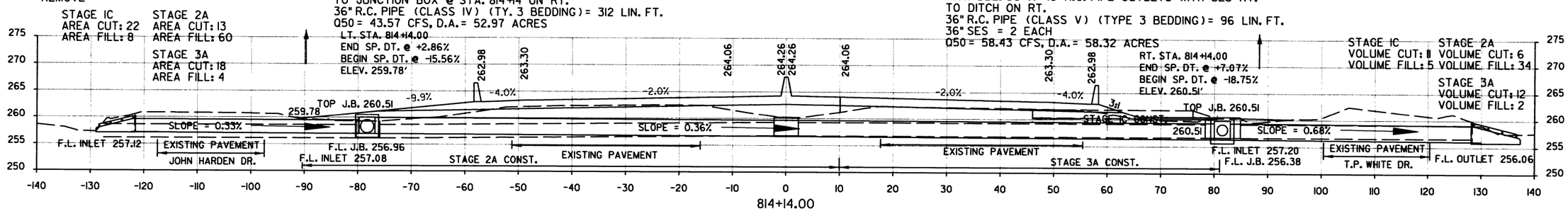
STA. 814+11 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 78' LT. WITH
30" X 49' R.C. PIPE INLET WITH HDWL LT.
REMOVE

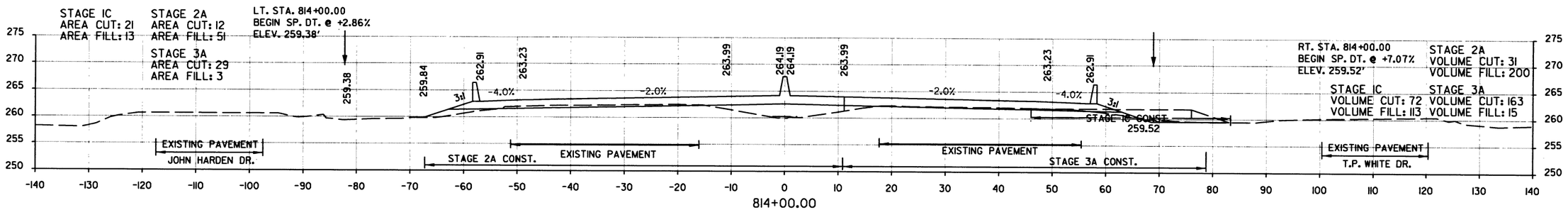
STA. 814+4 ℄ CONST. HWY. 67 CONSTRUCT
TYPE E JUNCTION BOX ON LT. 12'-0" x 3'-0" x H= 3'-5½"
WITH DBL. 36" x 156' R.C. PIPE CULVERTS
TO JUNCTION BOX @ STA. 814+14 ON RT.
36" R.C. PIPE (CLASS IV) (TY. 3 BEDDING)= 312 LIN. FT.
Q50= 43.57 CFS, D.A.= 52.97 ACRES

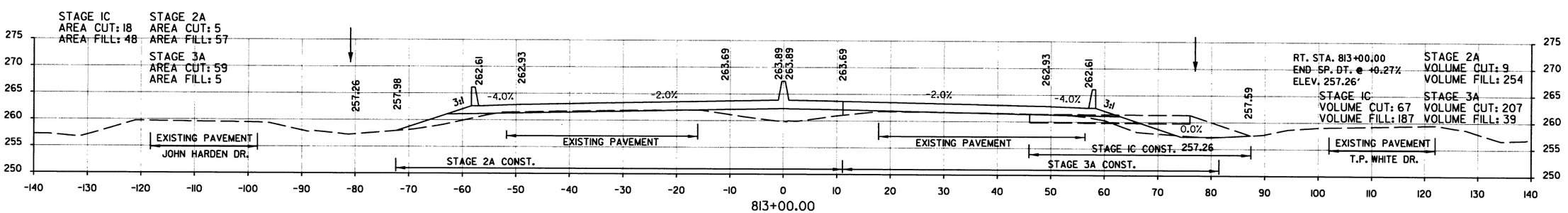
STA. 814+11 ℄ CONST. HWY. 67 CONSTRUCT
DBL. 30" x 50' R.C. PIPE INLET ON LT.
TO JUNCTION BOX @ STA. 814+14
(CLASS V)(TYPE 3 BEDDING)
WITH SES LT.
30" SES = 2 EACH
Q50= 26.93 CFS, D.A.= 47.35 ACRES

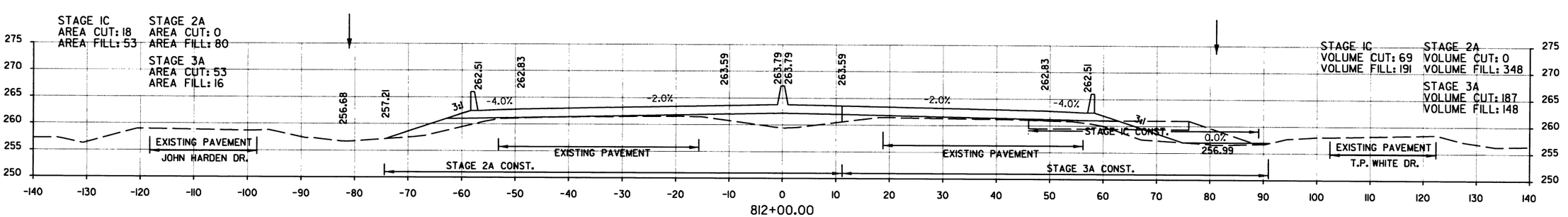
STA. 814+17 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 82' RT. WITH
30" X 44' R.C. PIPE OUTLET WITH HDWL RT.
REMOVE

STA. 814+14 ℄ CONST. HWY. 67 CONSTRUCT
TYPE E JUNCTION BOX ON RT. 12'-0" x 3'-0" x H= 4'-1½"
WITH DBL. 36" x 48' R.C. PIPE OUTLETS WITH SES RT.
TO DITCH ON RT.
36" R.C. PIPE (CLASS V) (TYPE 3 BEDDING)= 96 LIN. FT.
36" SES = 2 EACH
Q50= 58.43 CFS, D.A.= 58.32 ACRES





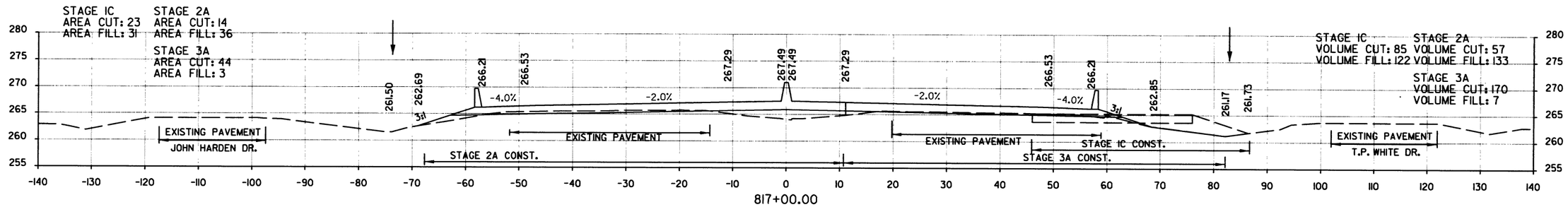


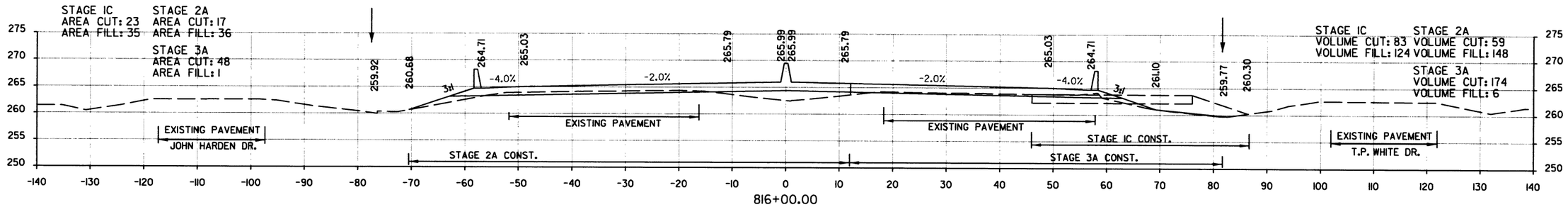


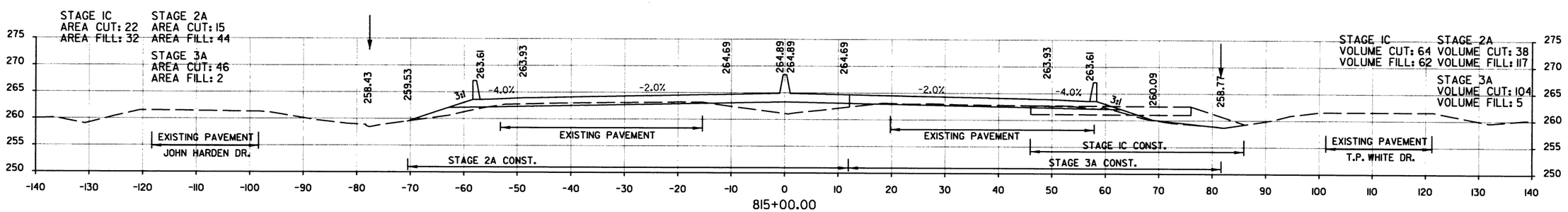
STA. 812+00.00 TO STA. 814+14.00
HWY. 67

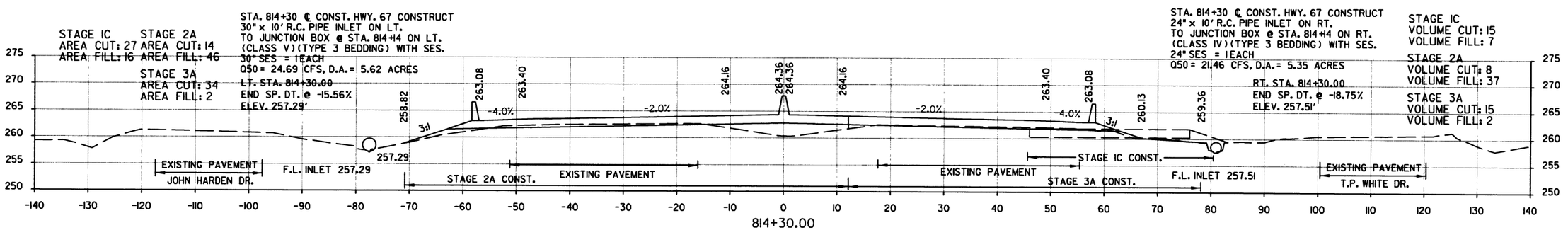
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	370	434

(2) CROSS SECTIONS





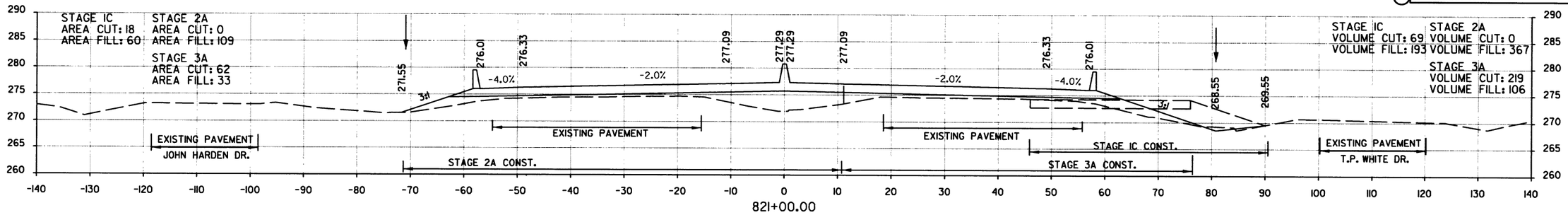


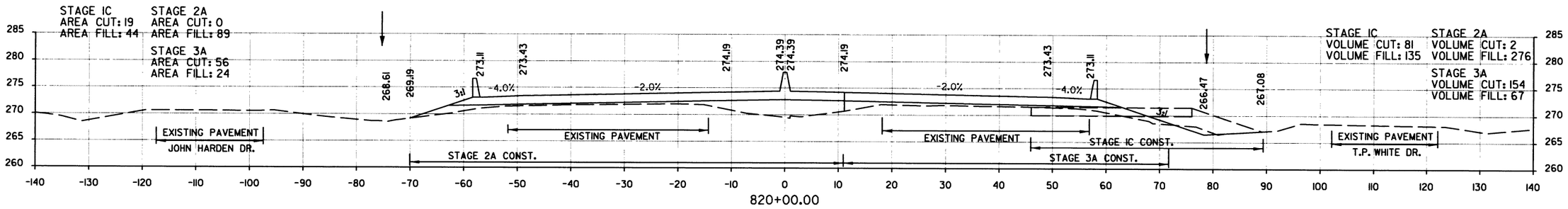


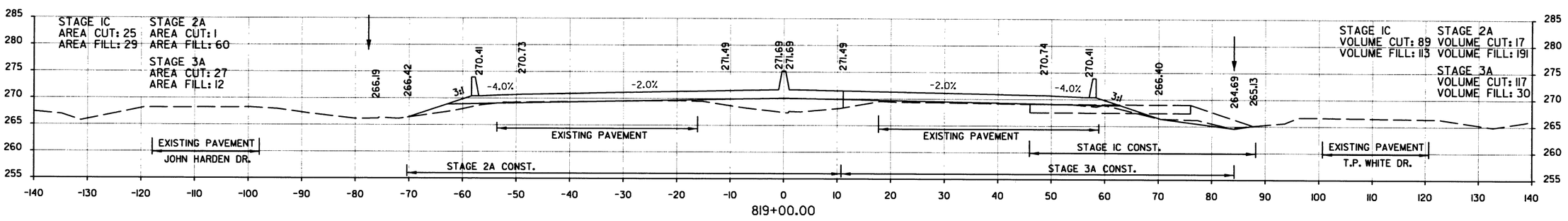
STA. 814+30.00 TO STA. 817+00.00
HWY. 67

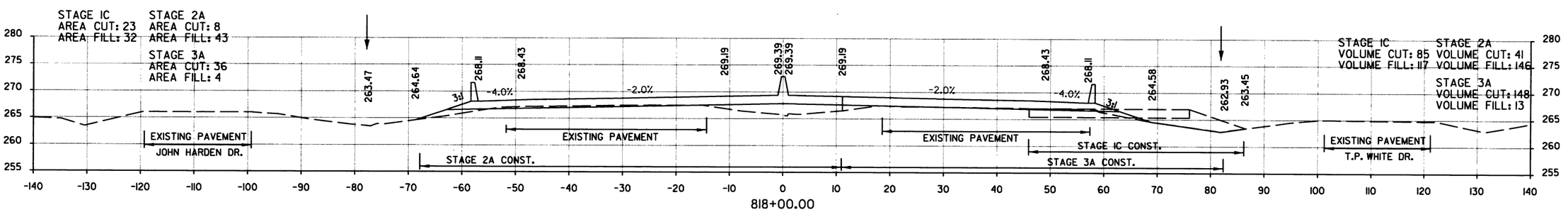
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	371	434

2 CROSS SECTIONS





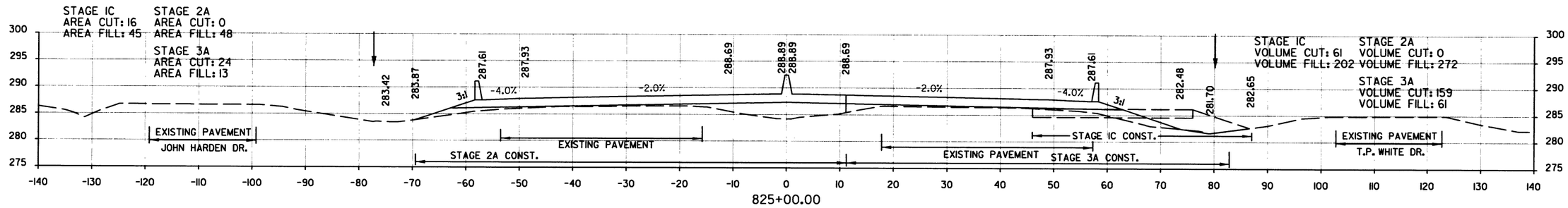


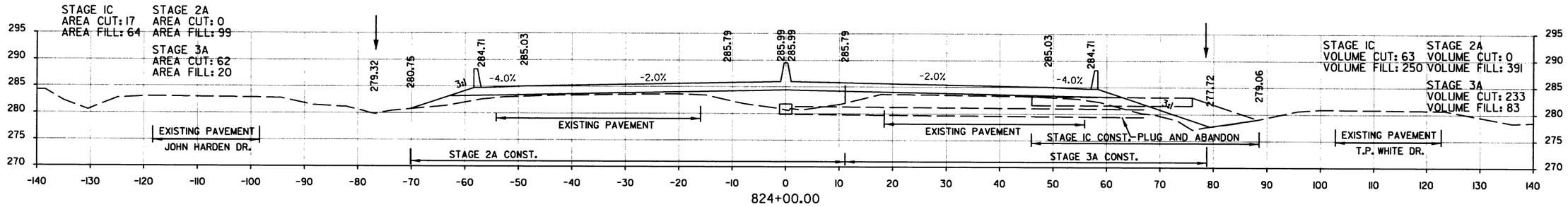


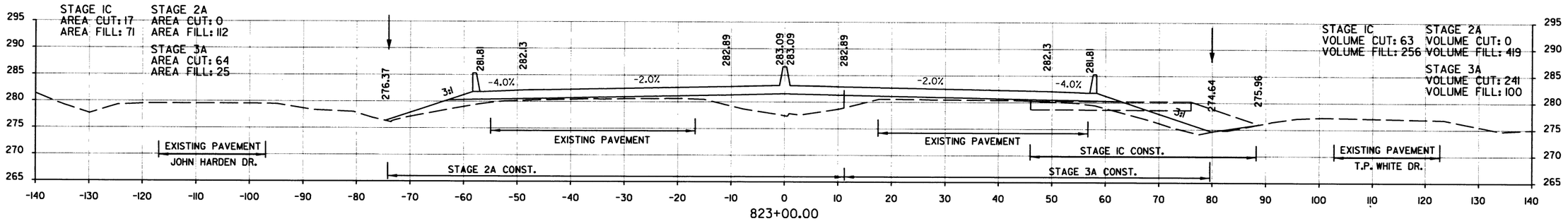
STA. 818+00.00 TO STA. 821+00.00
HWY. 67

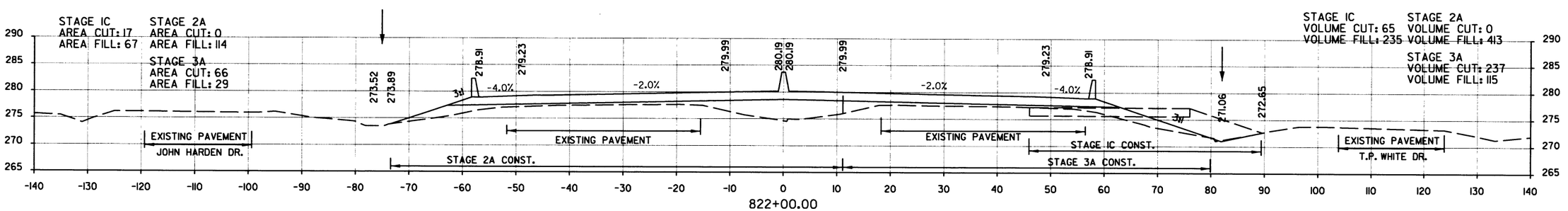
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	372	434

2 CROSS SECTIONS





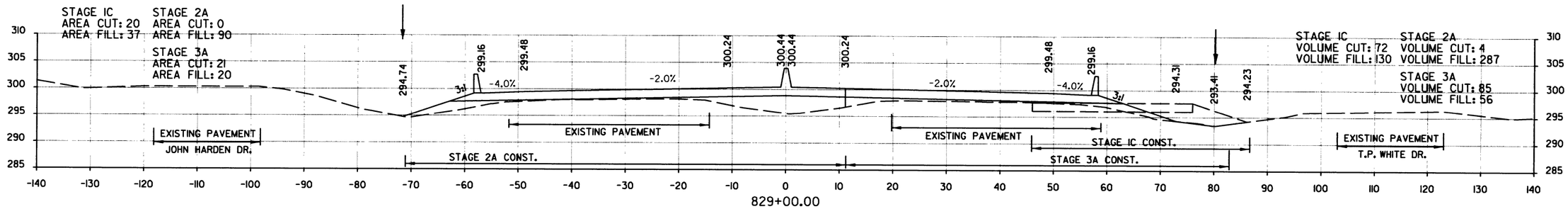


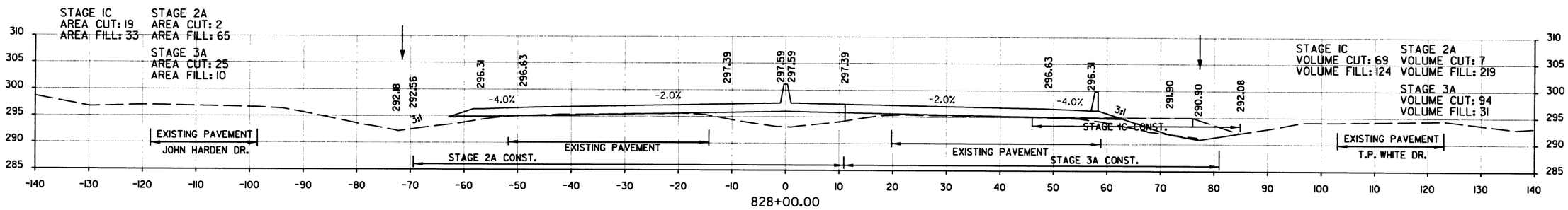


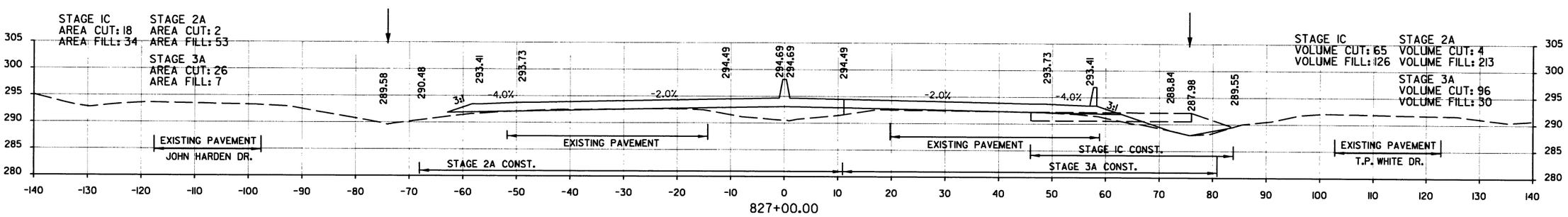
STA. 822+00.00 TO STA. 825+00.00
HWY. 67

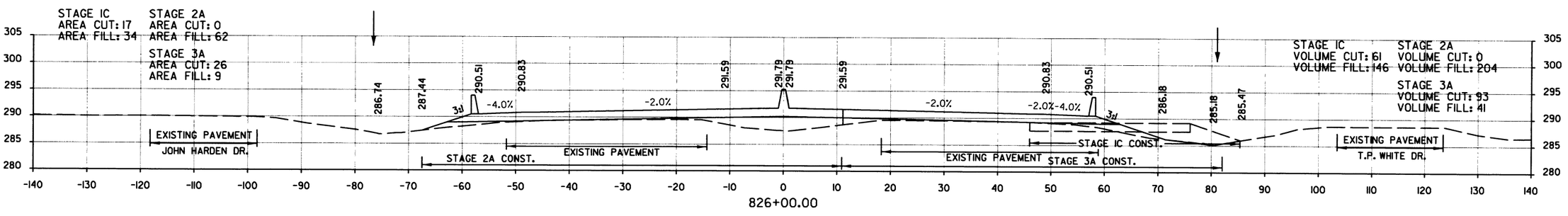
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	373	434

2 CROSS SECTIONS





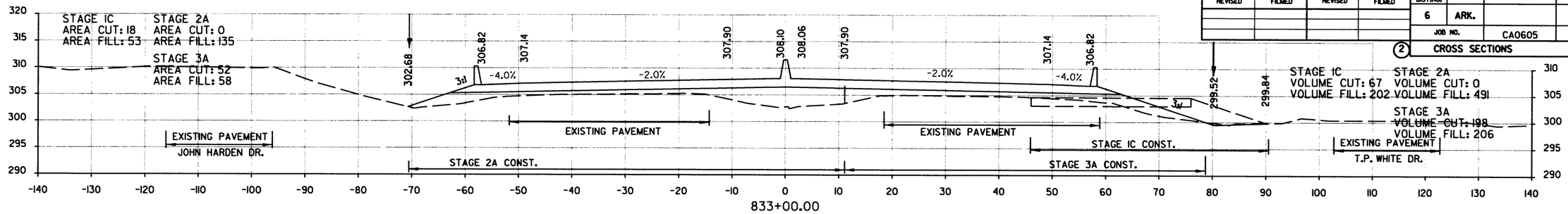


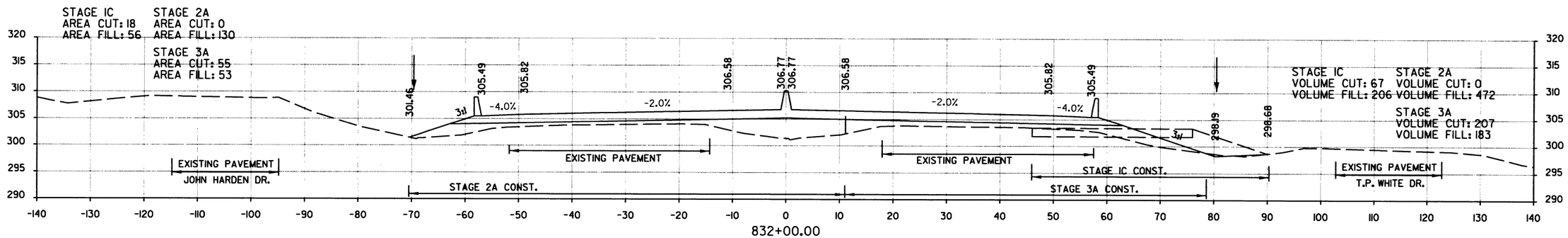


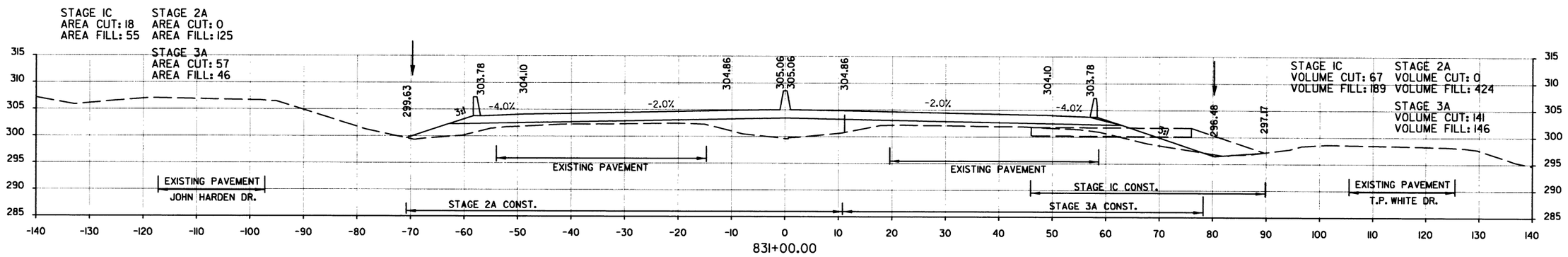
STA. 826+00.00 TO STA. 829+00.00
HWY. 67

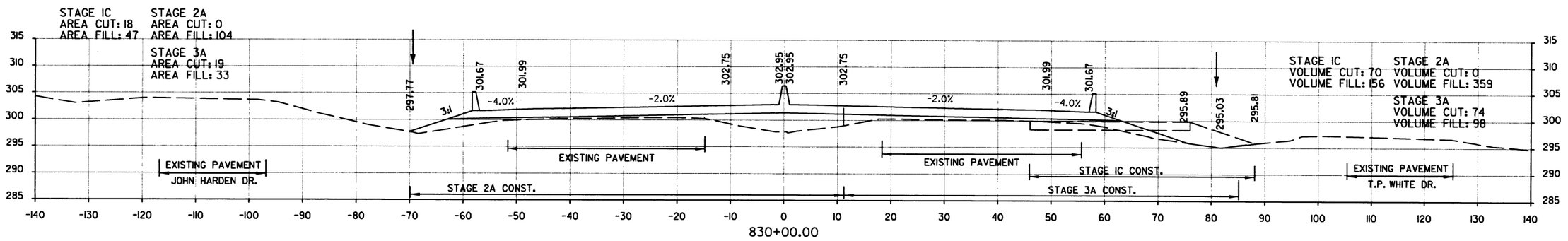
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	374	434

2 CROSS SECTIONS





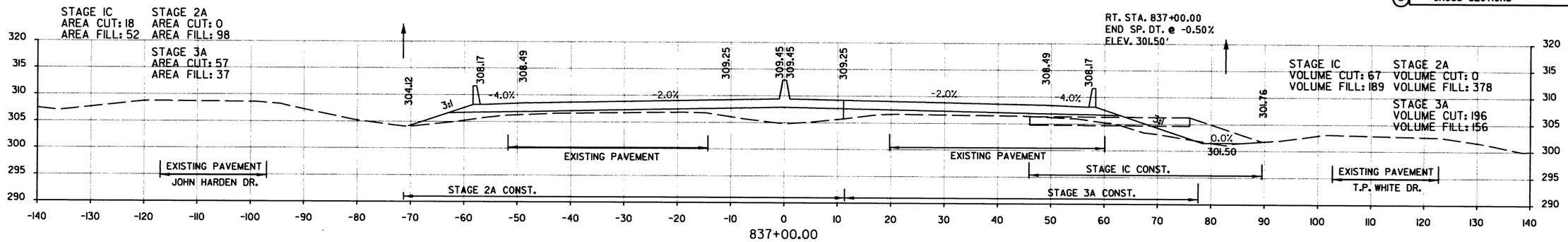


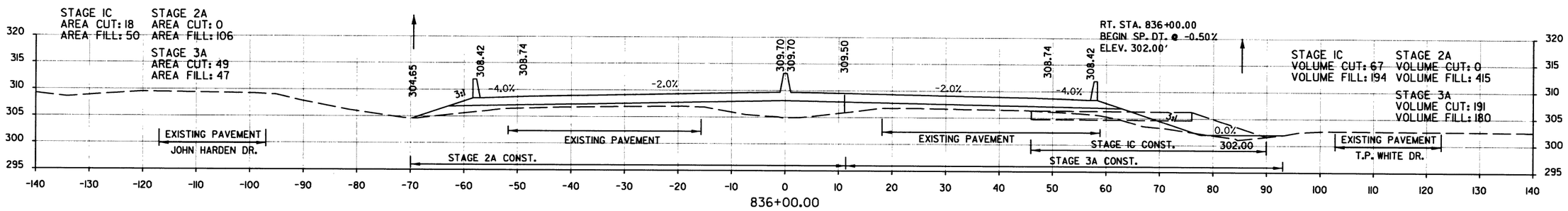


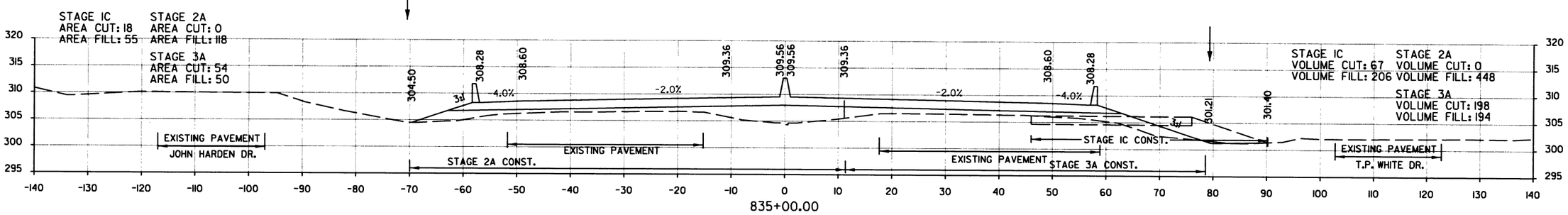
STA. 830+00.00 TO STA. 833+00.00
HWY. 67

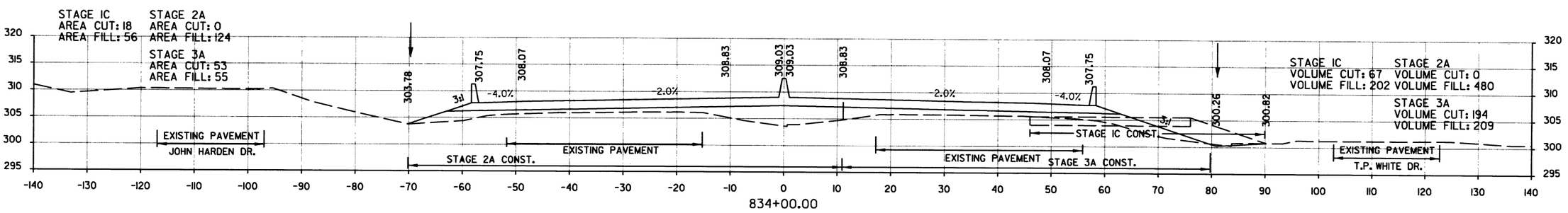
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	375	434

2 CROSS SECTIONS





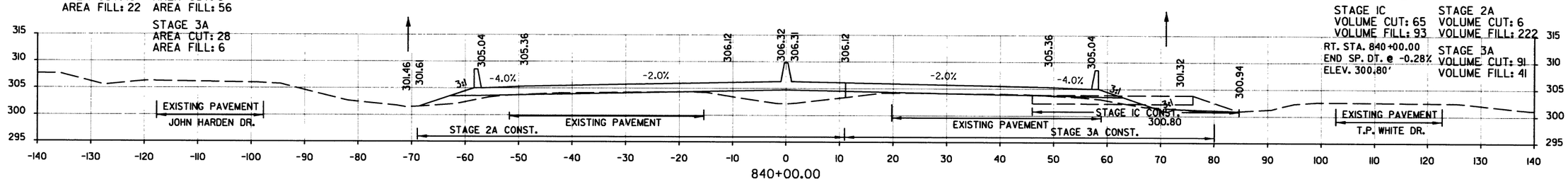


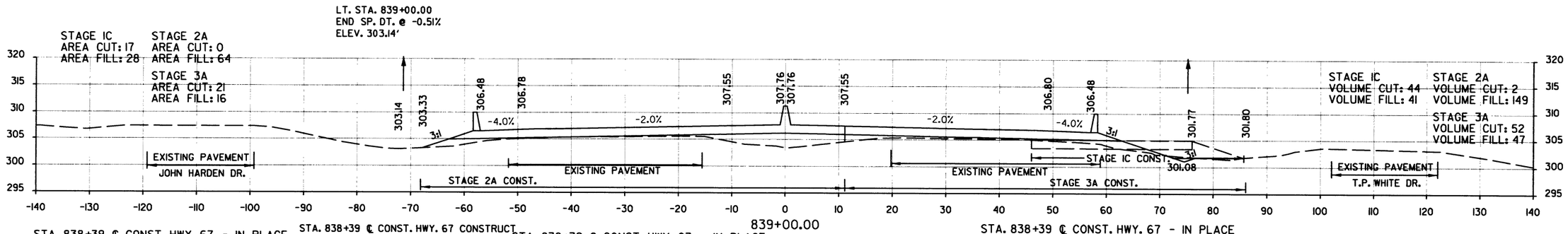


STA. 834+00.00 TO STA. 837+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	376	434

2 CROSS SECTIONS





STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
18" x 5' R.C. PIPE INLET ON LT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

STA. 838+39 ℄ CONST. HWY. 67 CONSTRUCT
24" x 46' R.C. PIPE CULVERT ON LT.
(CLASS V)(TYPE 3 BEDDING) WITH
SES LT. & FES RT.
24" FES = 1 EACH
24" SES = 1 EACH
Q50 = 8.56 CFS, D.A. = 4.19 ACRES

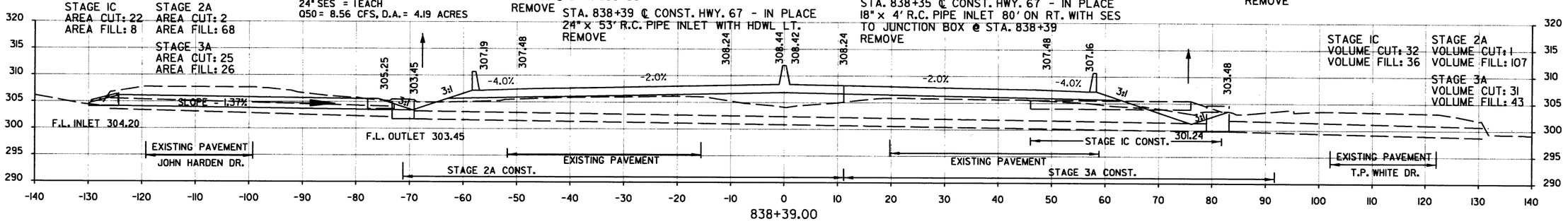
STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 71' ON LT. WITH
24" x 149' R.C. PIPE CULVERT
TO D.I. @ STA. 838+39
REMOVE

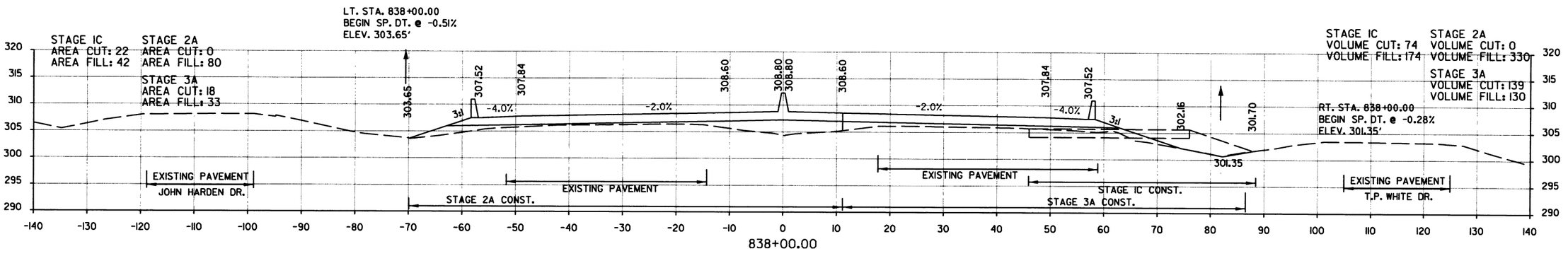
STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
24" x 53' R.C. PIPE INLET WITH HDWL LT.
REMOVE

STA. 838+39 ℄ CONST. HWY. 67 - IN PLACE
JUNCTION BOX 81' ON RT. WITH
24" x 48' R.C. PIPE OUTLET WITH HDWL RT.
REMOVE

STA. 838+35 ℄ CONST. HWY. 67 - IN PLACE
18" x 4' R.C. PIPE INLET 80' ON RT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

STA. 838+44 ℄ CONST. HWY. 67 - IN PLACE
18" x 5' R.C. PIPE INLET ON RT. WITH SES
TO JUNCTION BOX @ STA. 838+39
REMOVE

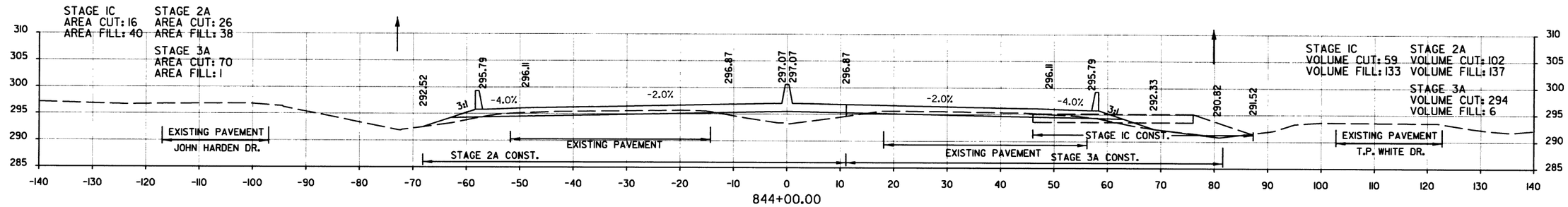


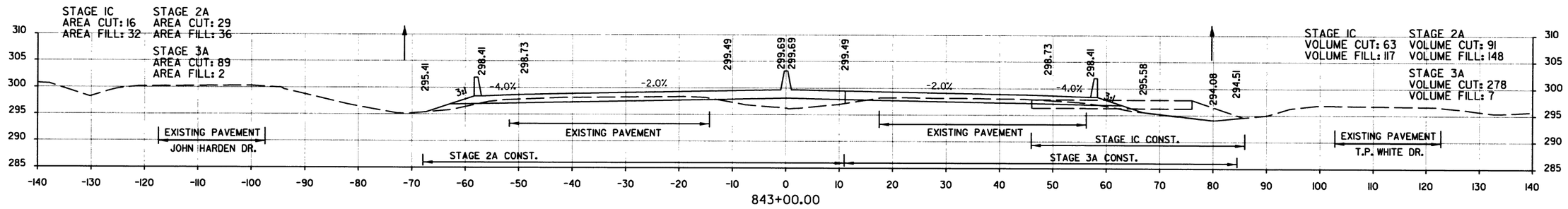


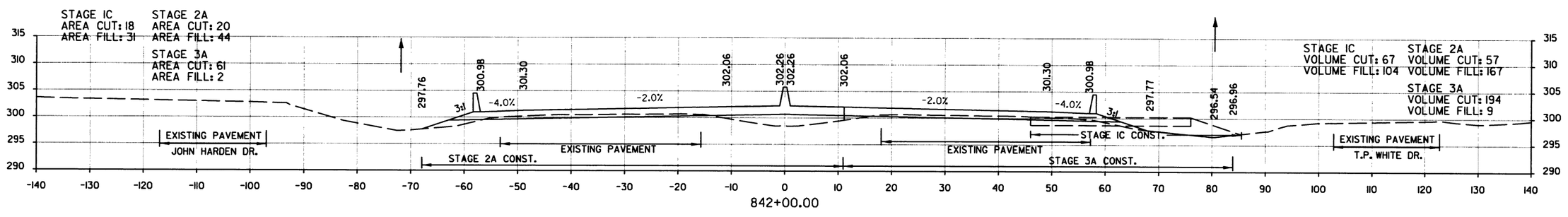
STA. 838+00.00 TO STA. 840+00.00
HWY. 67

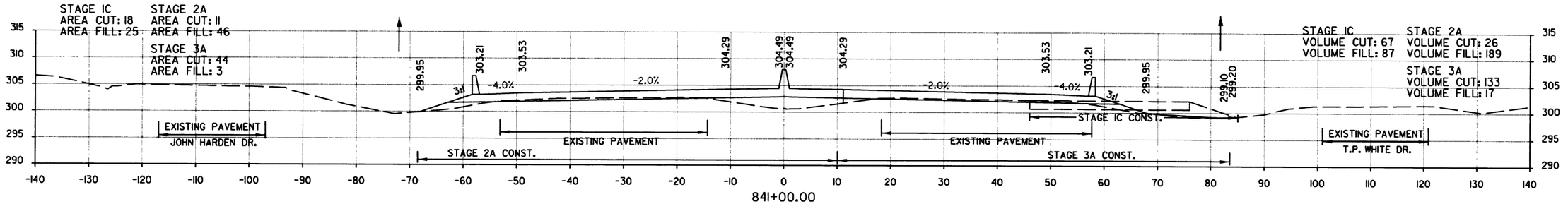
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	377	434

(2) CROSS SECTIONS





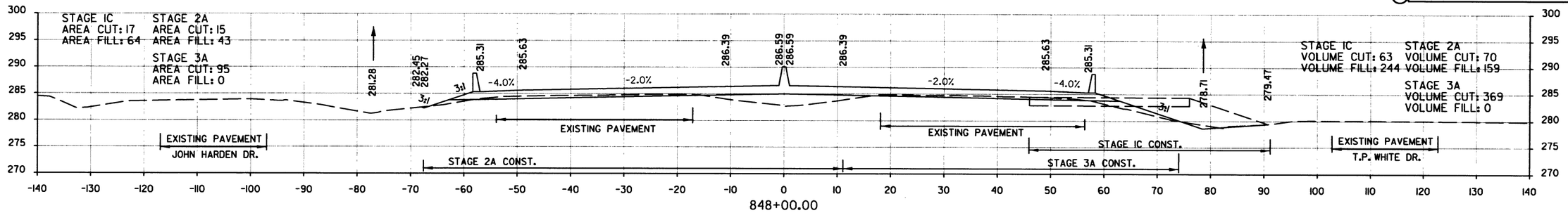


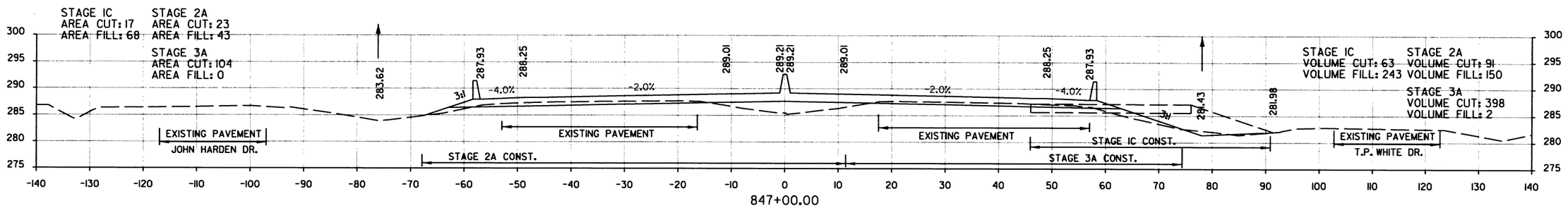


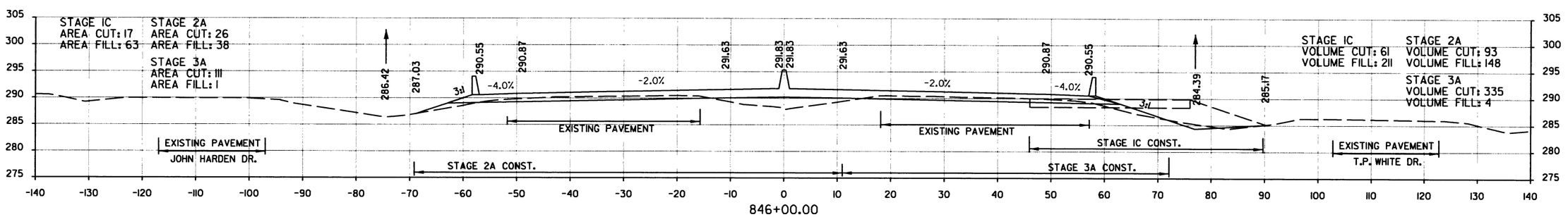
STA. 841+00.00 TO STA. 844+00.00
HWY. 67

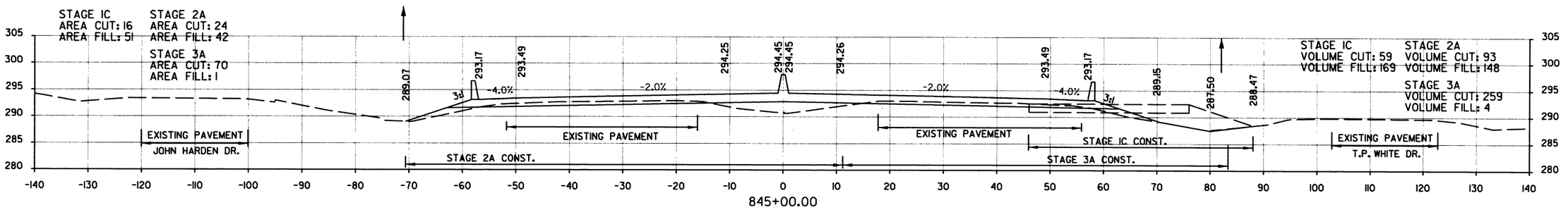
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	378	434

2 CROSS SECTIONS







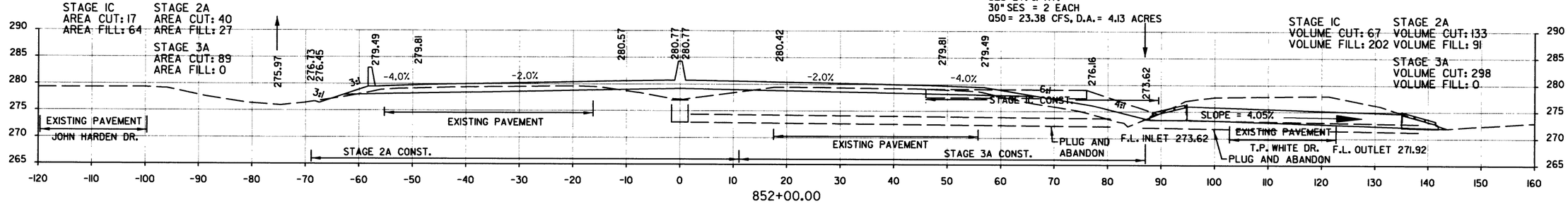


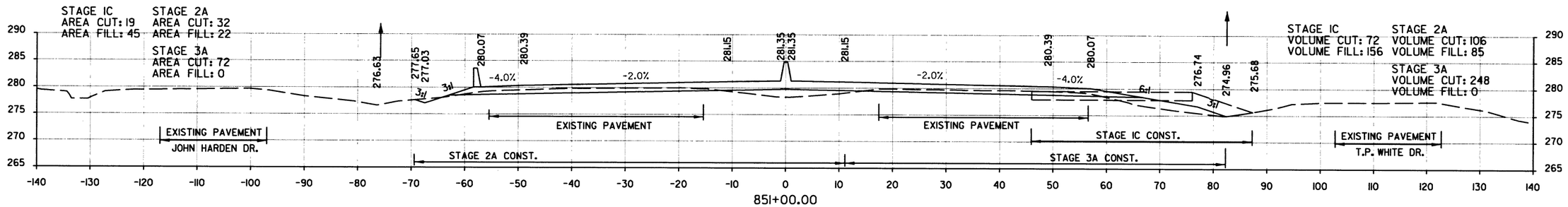
STA. 845+00.00 TO STA. 848+00.00
HWY. 67

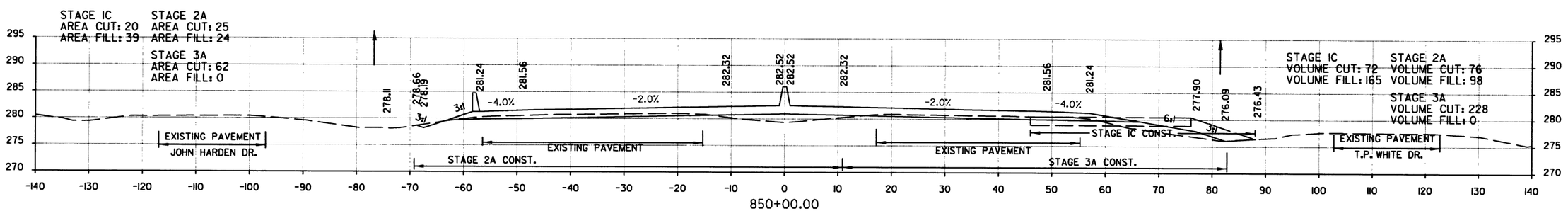
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	379	434

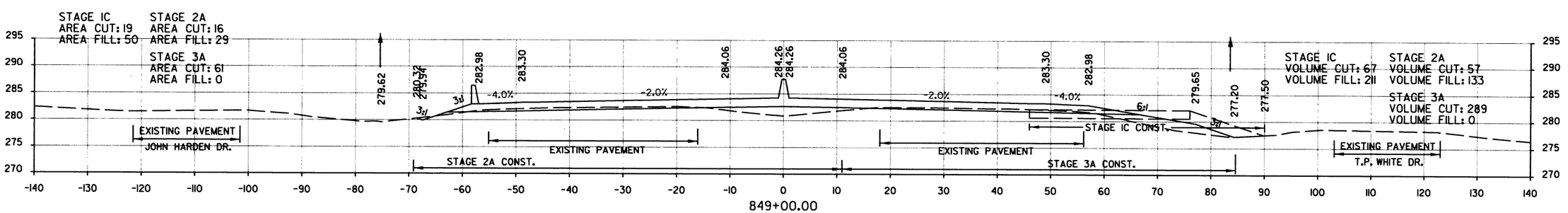
2 CROSS SECTIONS

STA. 852+00 ℄ CONST. HWY. 67 CONSTRUCT
30" x 42' R.C. PIPE CULVERT ON RT.
(CLASS V)(TYPE 3 BEDDING) WITH
SES LT. & RT.
30" SES = 2 EACH
Q50 = 23.38 CFS, D.A. = 4.13 ACRES





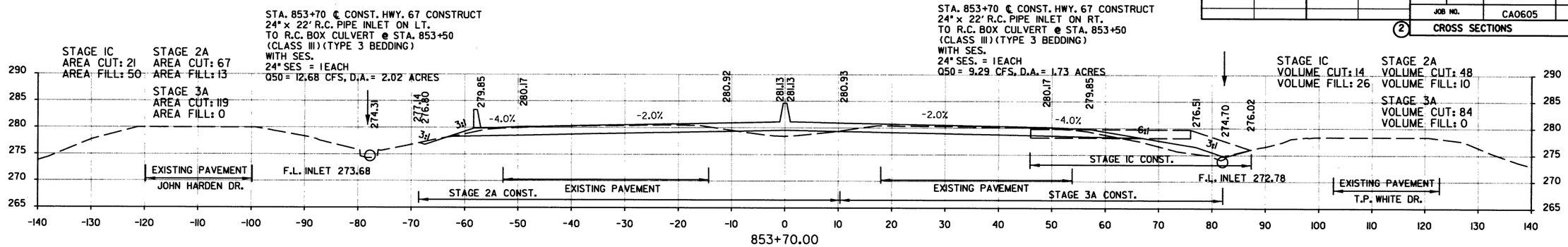


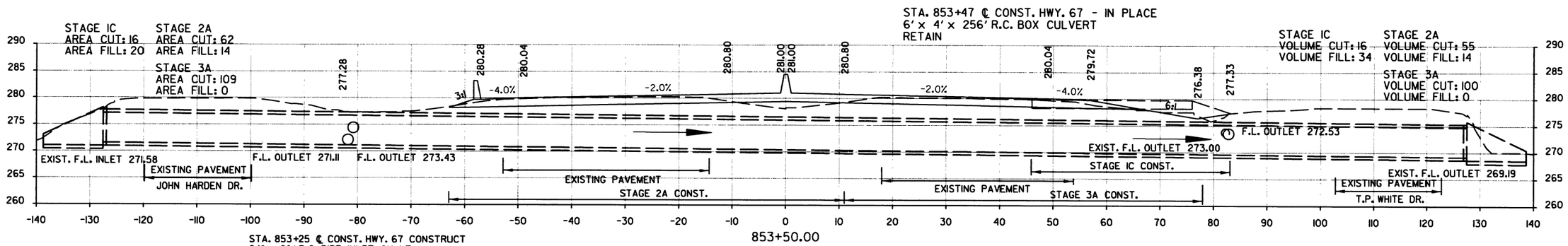


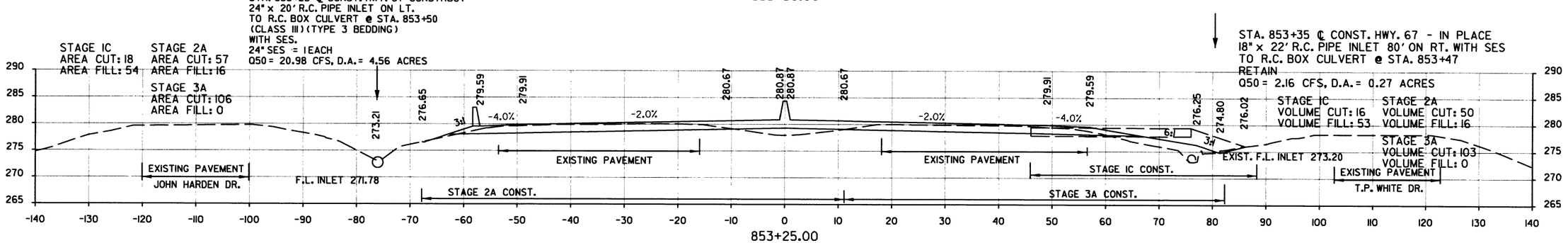
STA. 849+00.00 TO STA. 852+00.00
HWY. 67

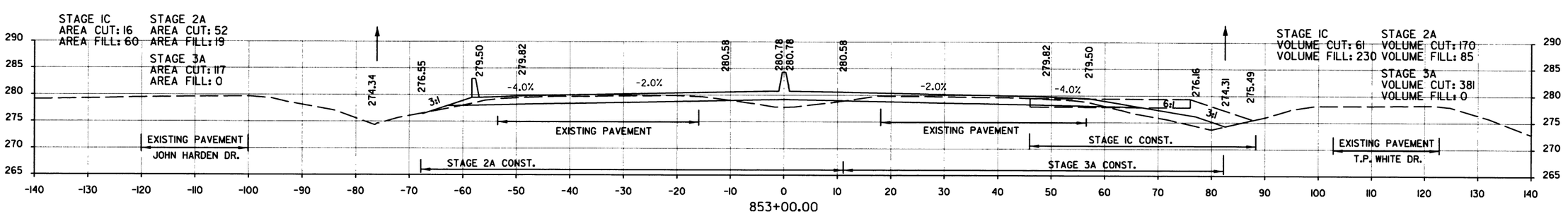
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	380	434

2 CROSS SECTIONS





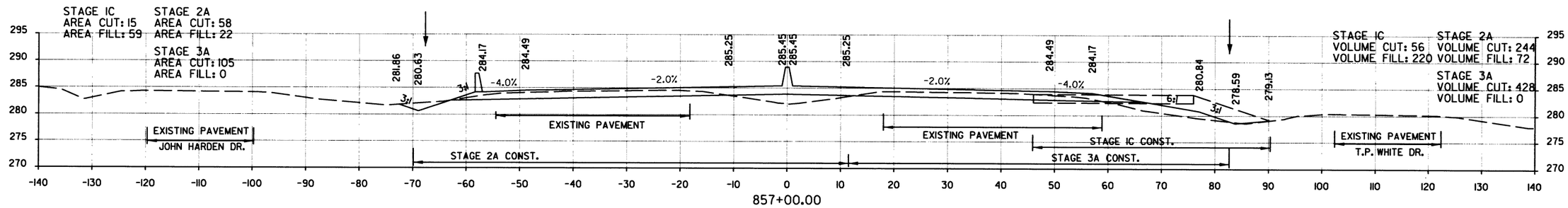


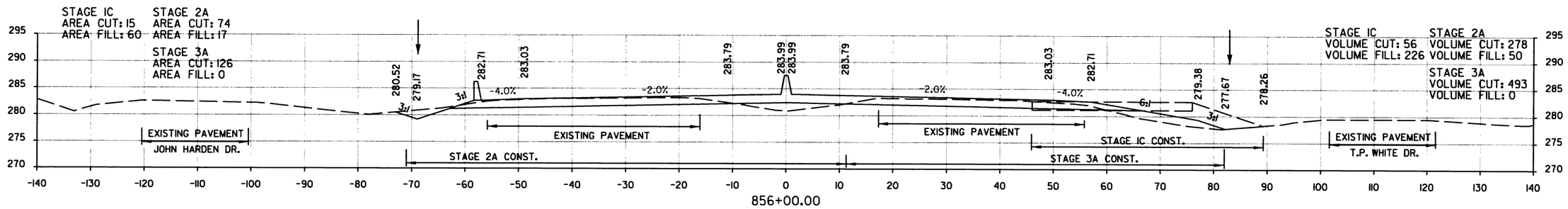


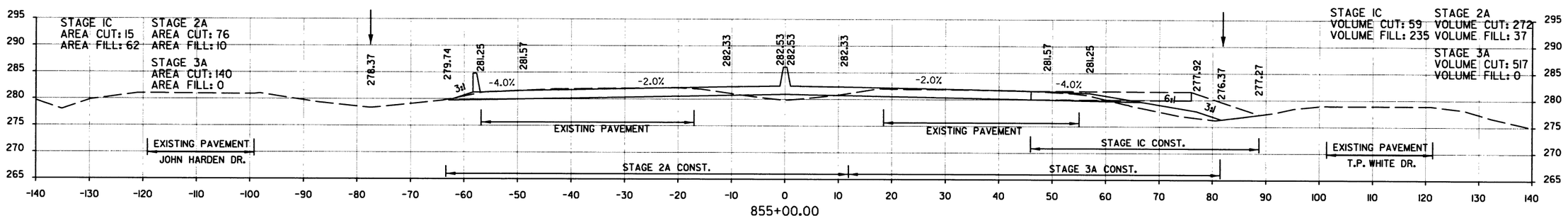
STA. 853+00.00 TO STA. 853+70.00
HWY. 67

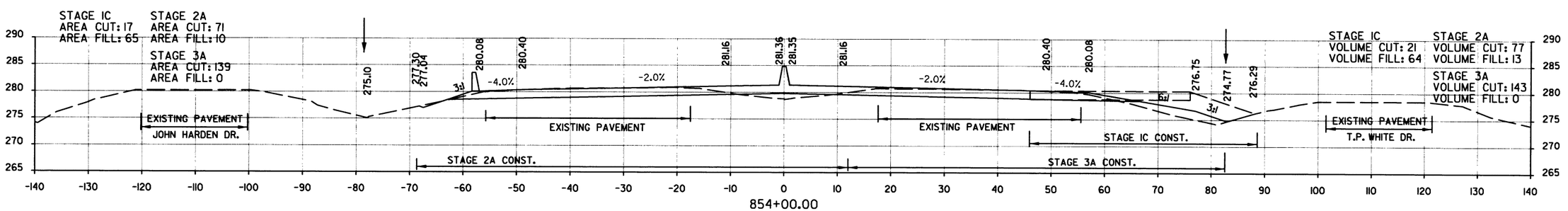
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	381	434

2 CROSS SECTIONS





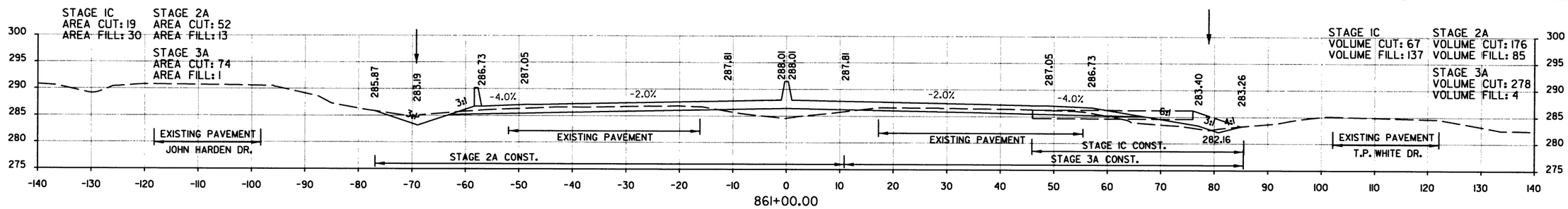


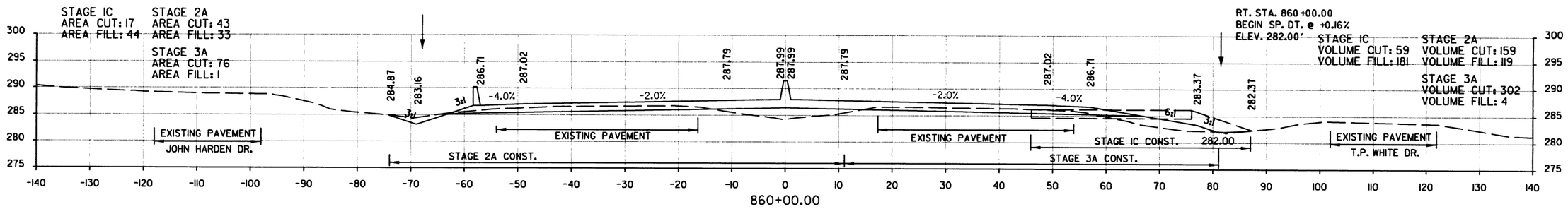


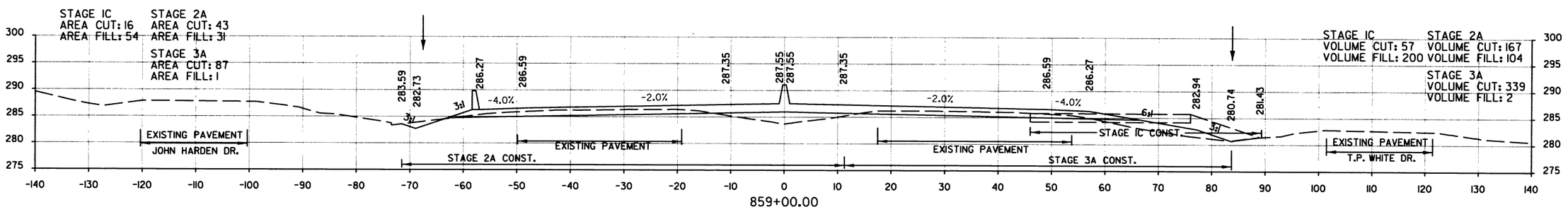
STA. 854+00.00 TO STA. 857+00.00
HWY. 67

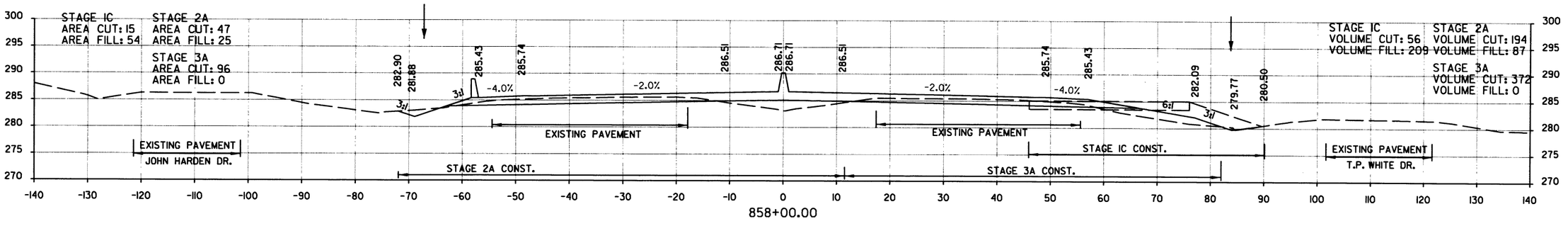
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	382	434

2 CROSS SECTIONS





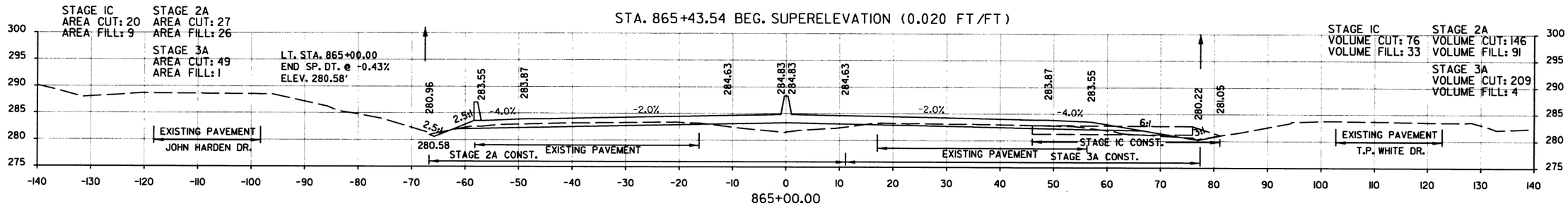


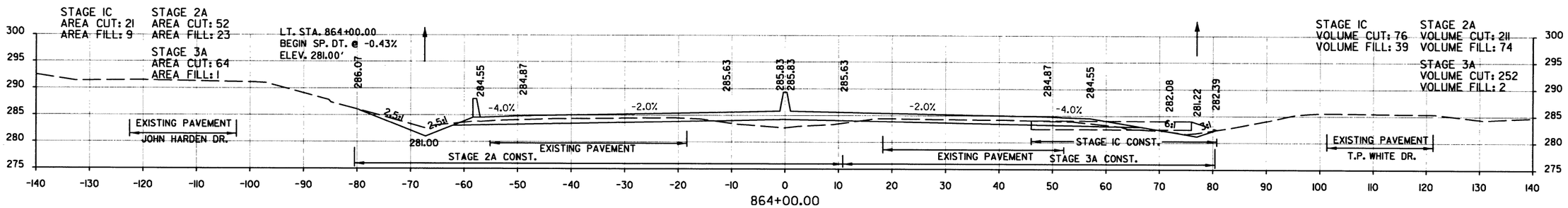


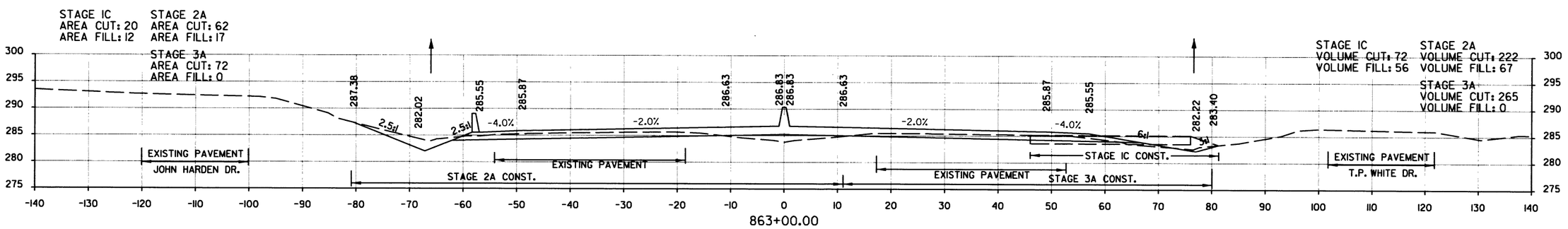
STA. 858+00.00 TO STA. 861+00.00
HWY. 67

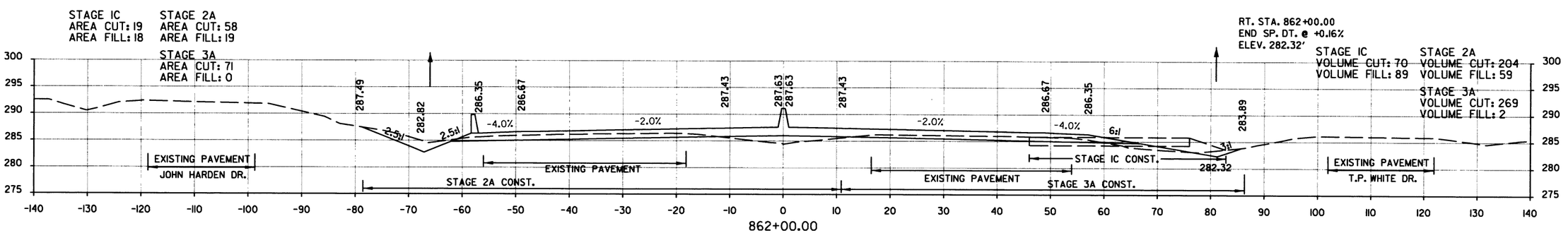
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	383	434

(2) CROSS SECTIONS





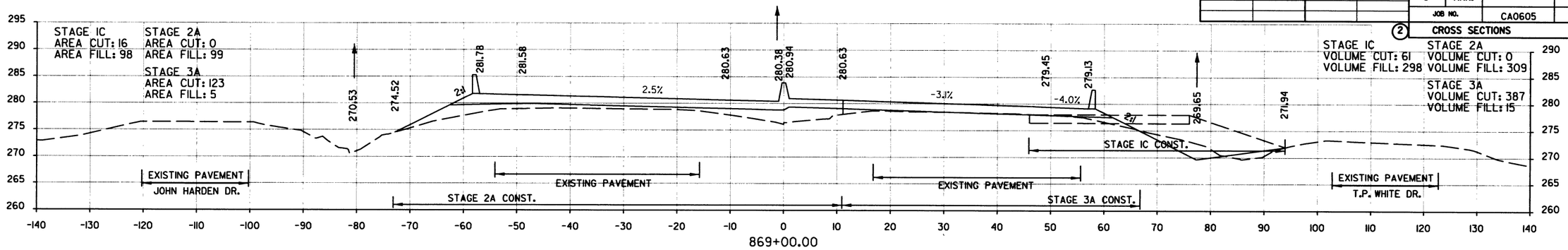


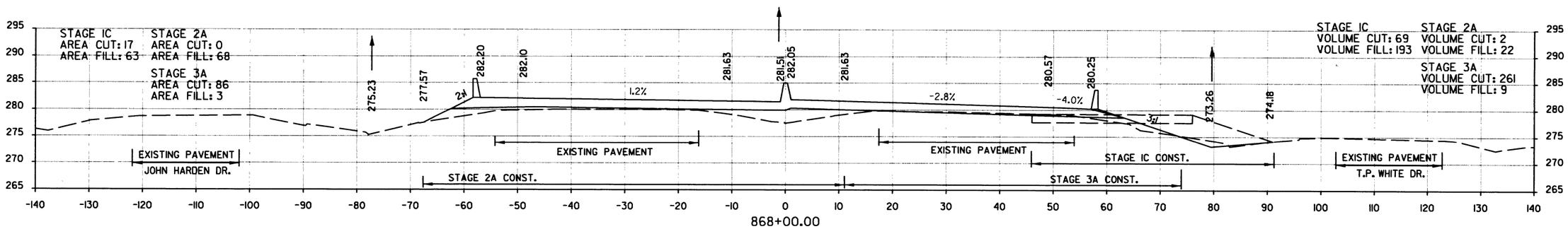


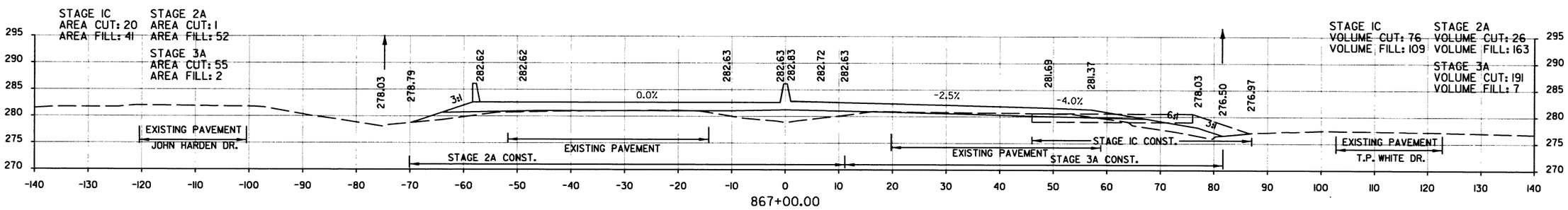
STA. 862+00.00 TO STA. 865+00.00
HWY. 67

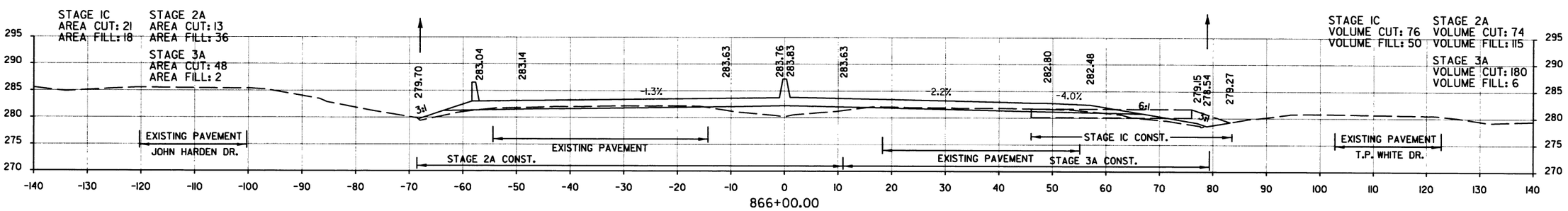
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	384	434

2 CROSS SECTIONS





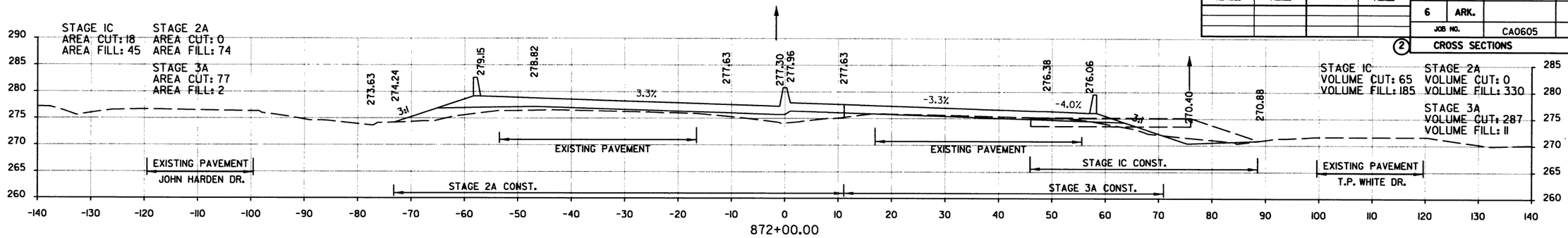


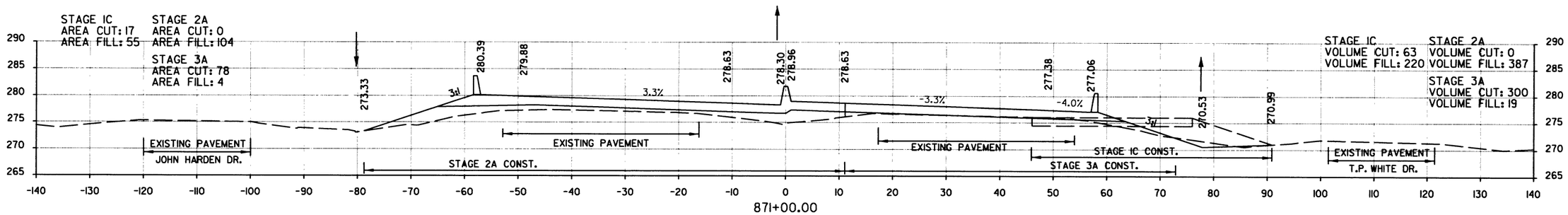


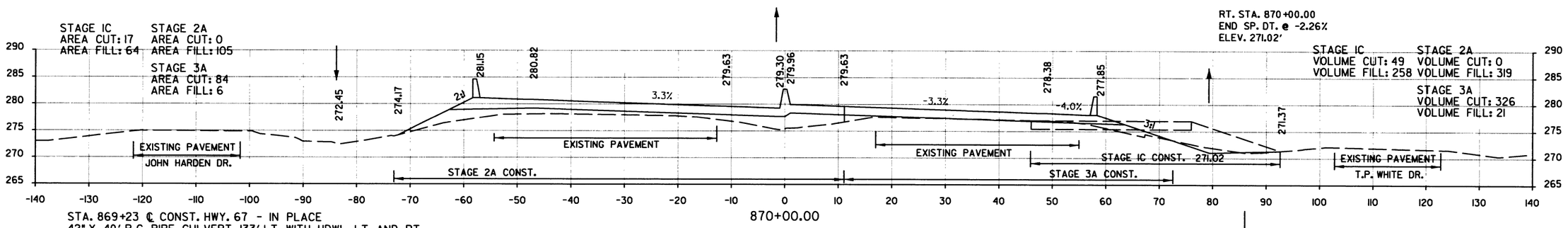
STA. 866+00.00 TO STA. 869+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	385	434

2 CROSS SECTIONS





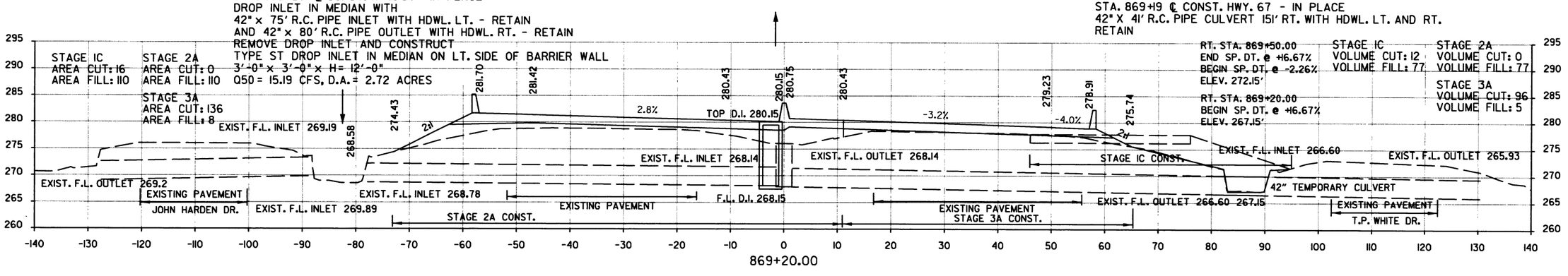


STA. 869+23 ℄ CONST. HWY. 67 - IN PLACE
42" X 40' R.C. PIPE CULVERT 133' LT. WITH HDWL. LT. AND RT.
RETAIN

STA. 869+63.54 MAX. SUPERELEVATION (0.033 FT/FT)

STA. 869+20 ℄ CONST. HWY. 67- IN PLACE
DROP INLET IN MEDIAN WITH
42" x 75' R.C. PIPE INLET WITH HDWL. LT. - RETAIN
AND 42" x 80' R.C. PIPE OUTLET WITH HDWL. RT. - RETAIN
REMOVE DROP INLET AND CONSTRUCT
TYPE ST DROP INLET IN MEDIAN ON LT. SIDE OF BARRIER WALL
3'-0" x 3'-0" x H= 12'-0"
Q50 = 15.19 CFS, D.A.= 2.72 ACRES

STA. 869+19 ℄ CONST. HWY. 67 - IN PLACE
42" X 41' R.C. PIPE CULVERT 151' RT. WITH HDWL. LT. AND RT.
RETAIN

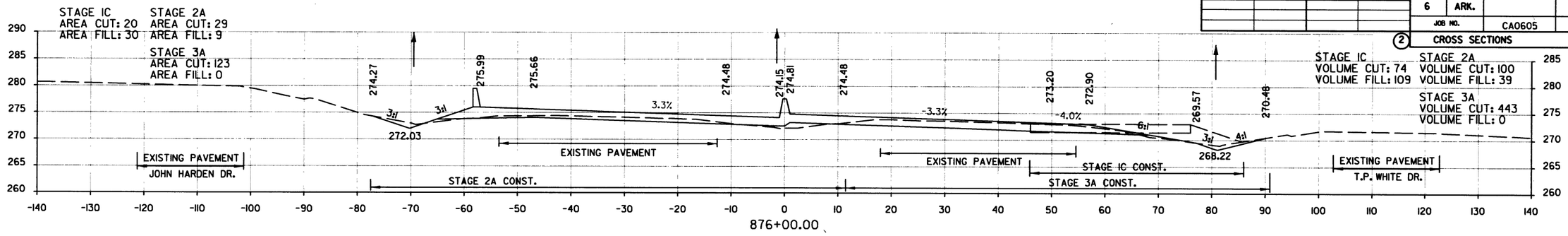


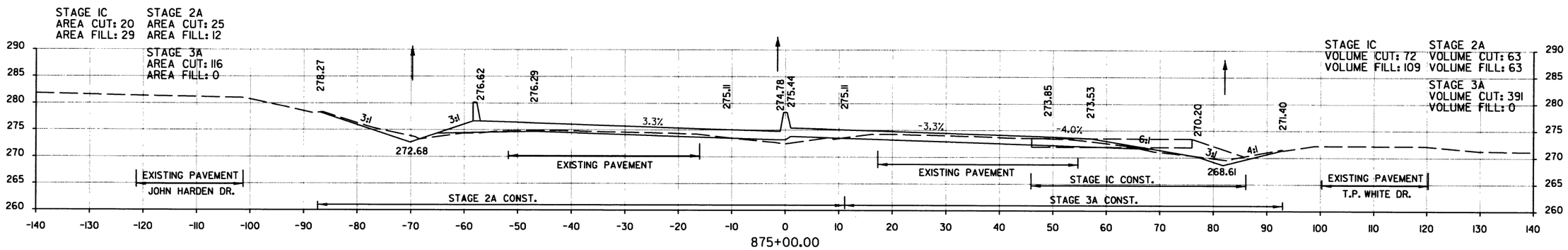
STA. 869+20.00 TO STA. 872+00.00
HWY. 67

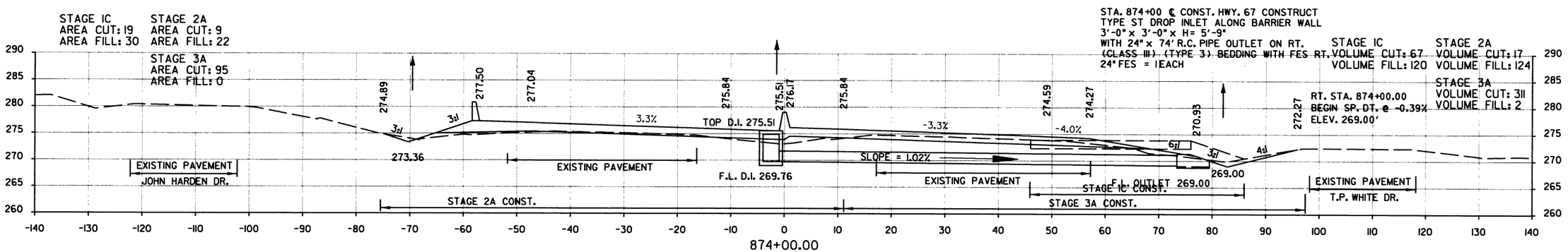
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

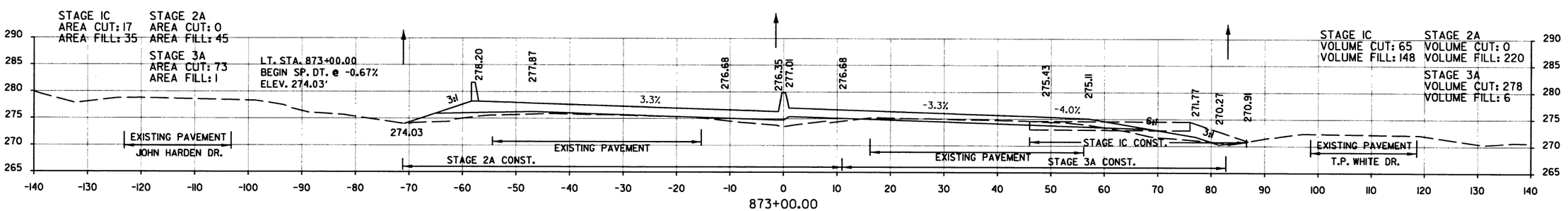
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	386	434

(2) CROSS SECTIONS







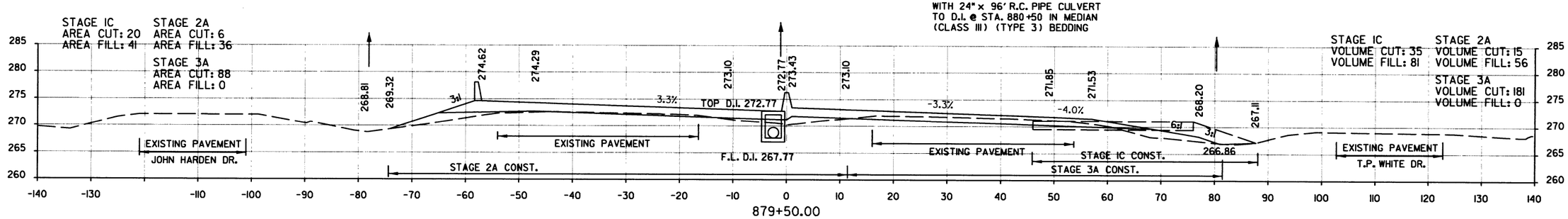


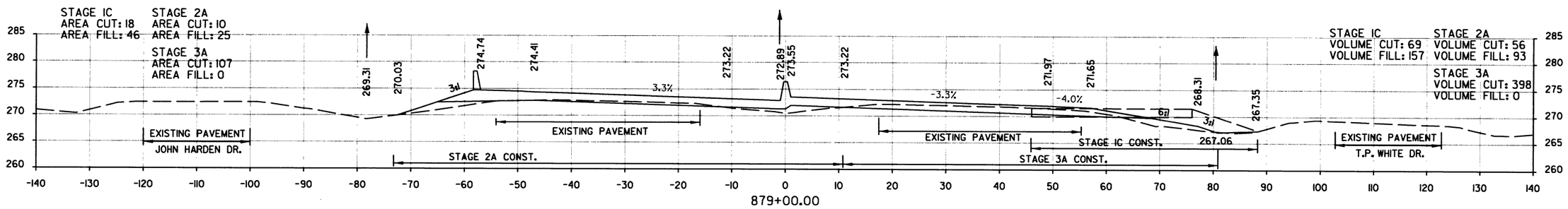
STA. 873+00.00 TO STA. 876+00.00
HWY. 67

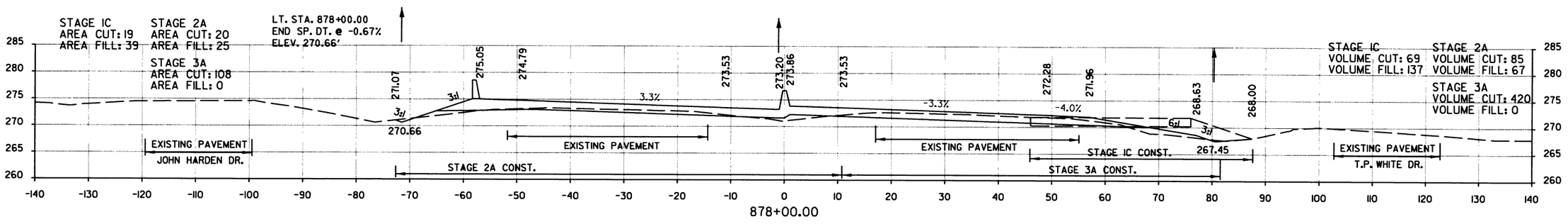
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	387	434

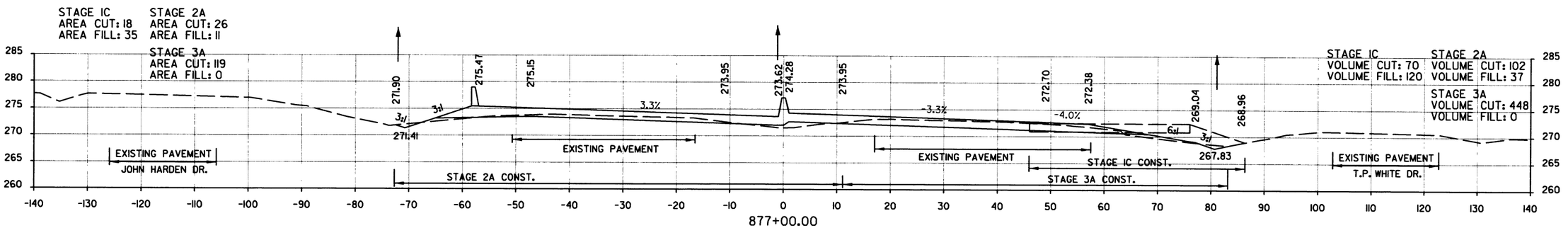
2 CROSS SECTIONS

STA. 879+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 96' R.C. PIPE CULVERT
TO D.I. @ STA. 880+50 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING







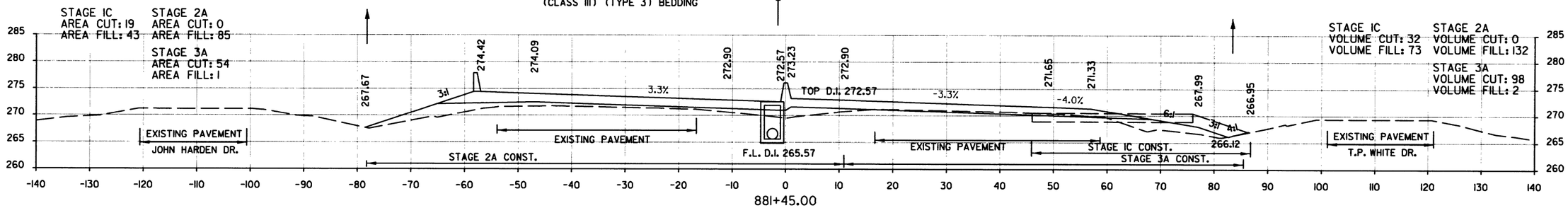


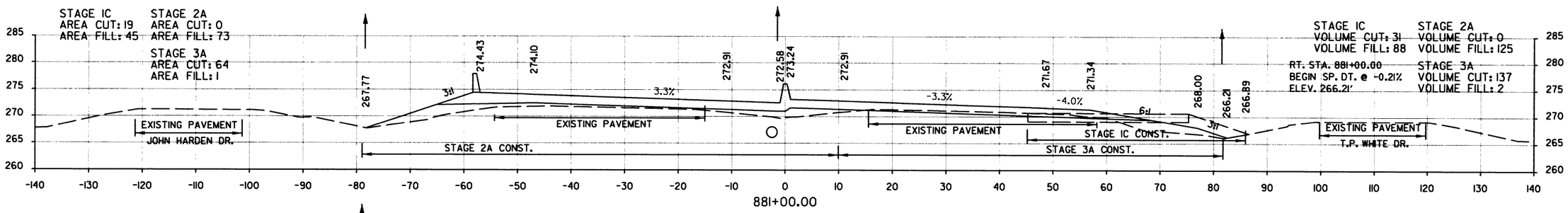
STA. 877+00.00 TO STA. 879+50.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	388	434

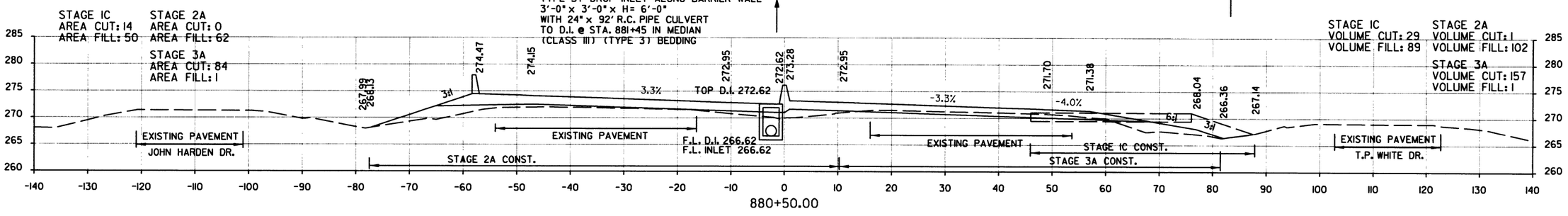
2 CROSS SECTIONS

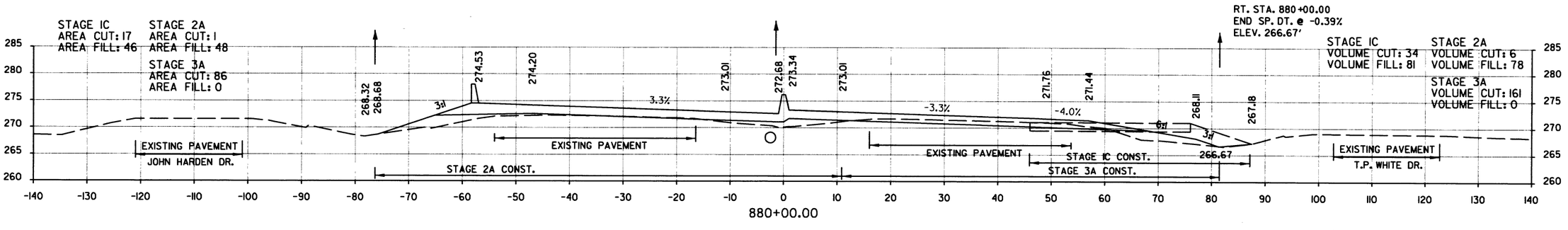
STA. 881+45 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-0"
WITH 24" x 76' R.C. PIPE CULVERT
TO D.I. @ STA. 882+25 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING





STA. 880+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-0"
WITH 24" x 92' R.C. PIPE CULVERT
TO D.I. @ STA. 881+45 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING



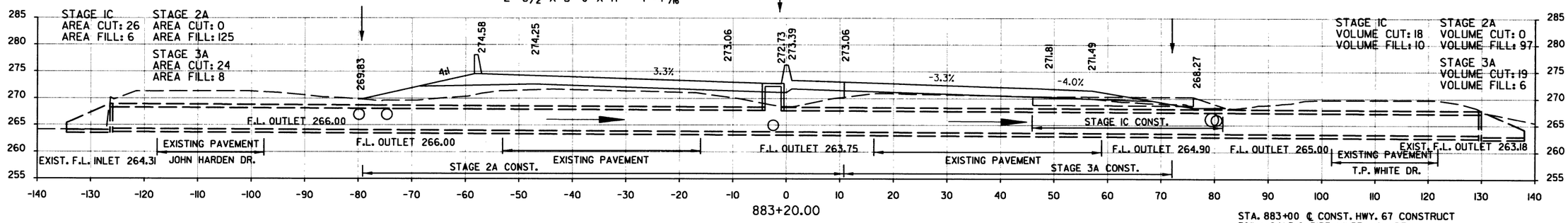


STA. 880+00.00 TO STA. 881+45.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	389	434

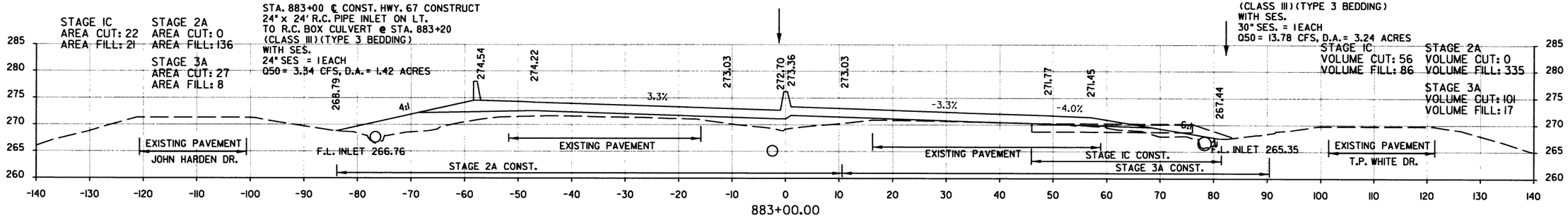
(2) CROSS SECTIONS

STA. 883+20 ℄ CONST. HWY. 67 - IN PLACE
6' x 4' x 263' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT. - RETAIN
AND DROP INLET IN MEDIAN - REMOVE
AND CONSTRUCT TYPE TM DROP INLET
IN MEDIAN ON LT. SIDE OF BARRIER WALL
2'-6½" X 3'-0" X H = 4'-4 15/16"



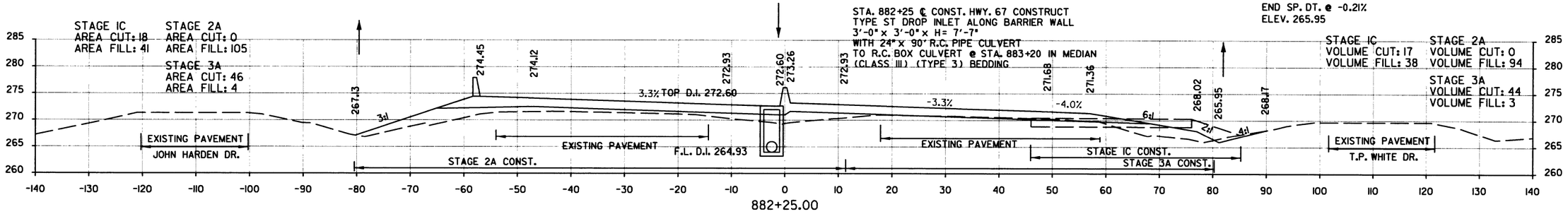
STA. 883+00 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 3.34 CFS, D.A. = 1.42 ACRES

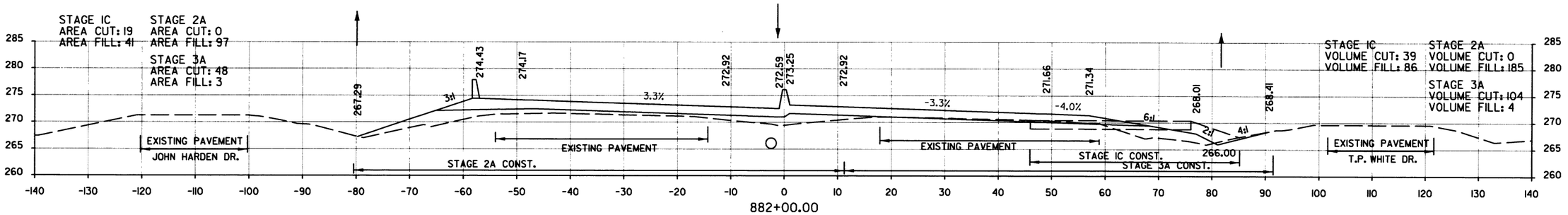
STA. 883+00 ℄ CONST. HWY. 67 CONSTRUCT
30" x 24' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
30" SES. = 1 EACH
Q50 = 13.78 CFS, D.A. = 3.24 ACRES



RT. STA. 882+25.00
END SP. DT. @ -0.21%
ELEV. 265.95

STA. 882+25 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-7"
WITH 24" x 90' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 883+20 IN MEDIAN
(CLASS III) (TYPE 3) BEDDING



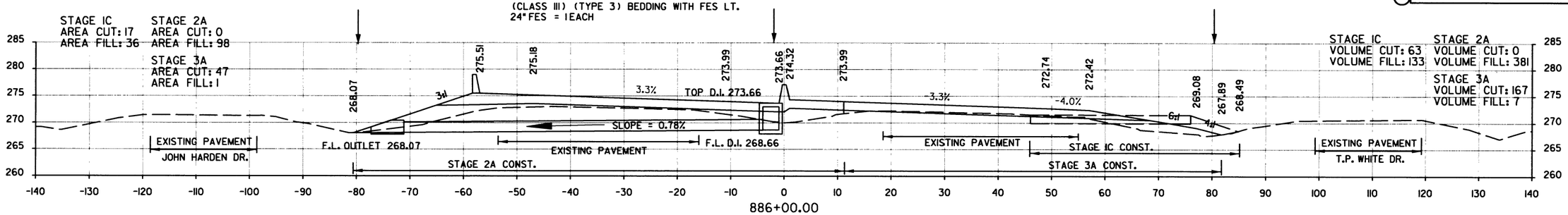


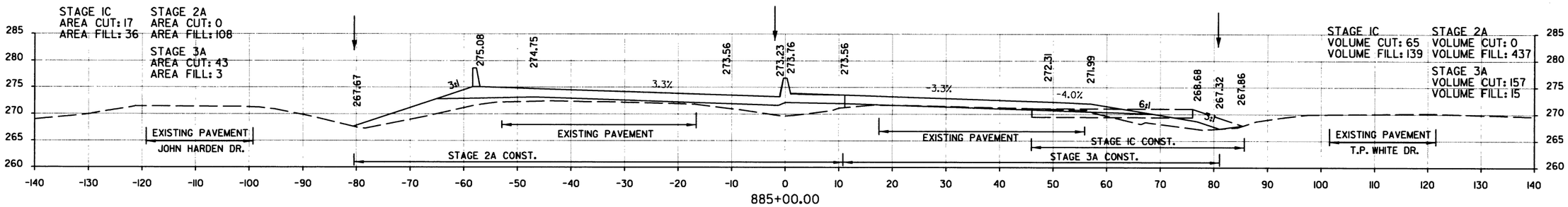
STA. 882+00.00 TO STA. 883+20.00
HWY. 67

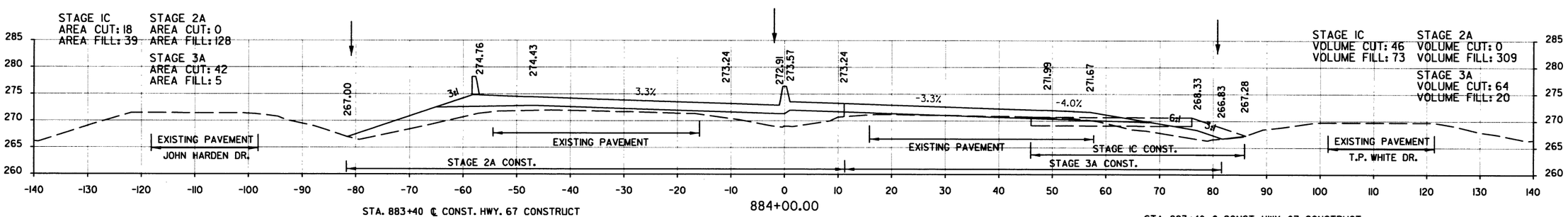
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	390	434

2 CROSS SECTIONS

STA. 886+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 5'-0"
WITH 24" x 76' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH

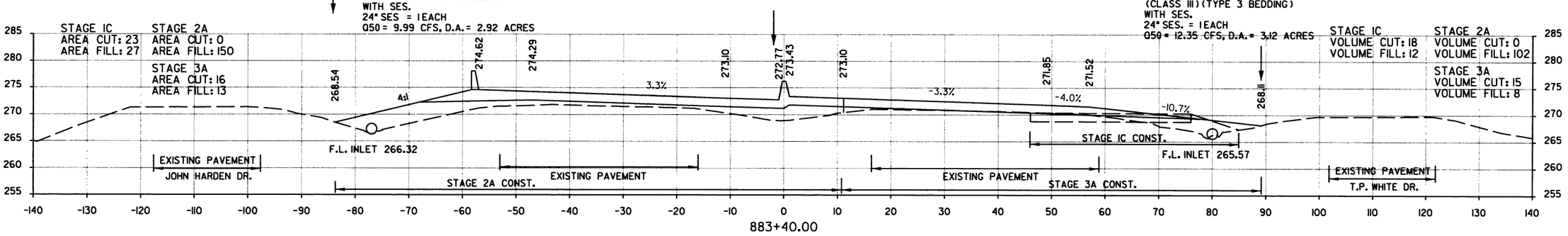






STA. 883+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 883+20
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES = 1 EACH
Q50 = 9.99 CFS, D.A. = 2.92 ACRES

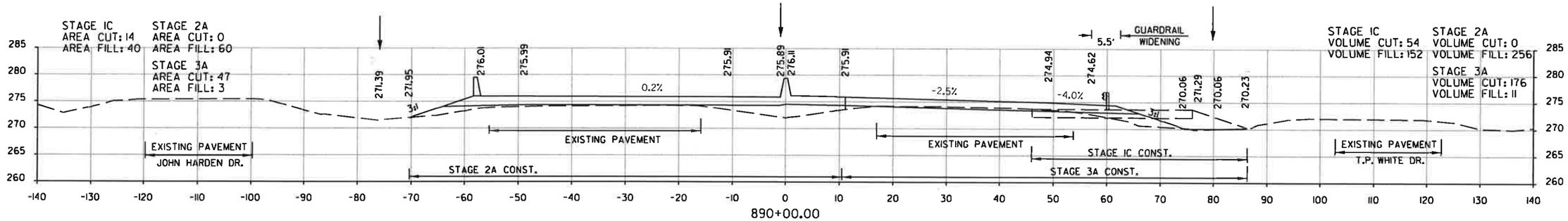
STA. 883+40 ℄ CONST. HWY. 67 CONSTRUCT
24" x 24' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 882+30
(CLASS III)(TYPE 3 BEDDING)
WITH SES.
24" SES. = 1 EACH
Q50 = 12.35 CFS, D.A. = 3.12 ACRES

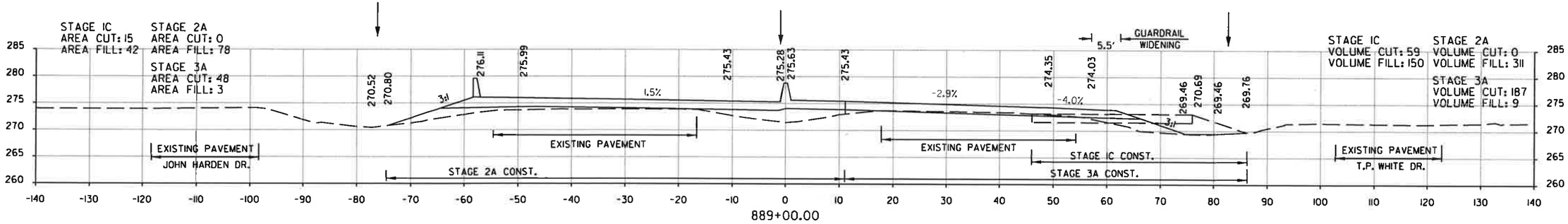


STA. 883+40.00 TO STA. 886+00.00
HWY. 67

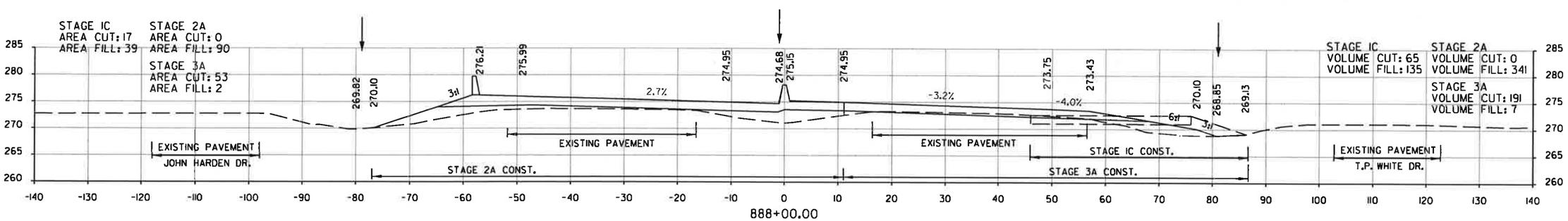
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	391	434

(2) CROSS SECTIONS

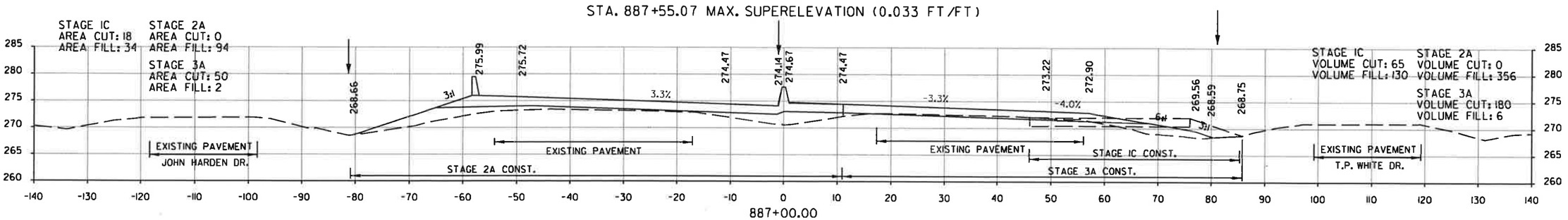




BEGIN GUARD RAIL WIDENING RT. STA. 888+63.25



STA. 887+55.07 MAX. SUPERELEVATION (0.033 FT/FT)

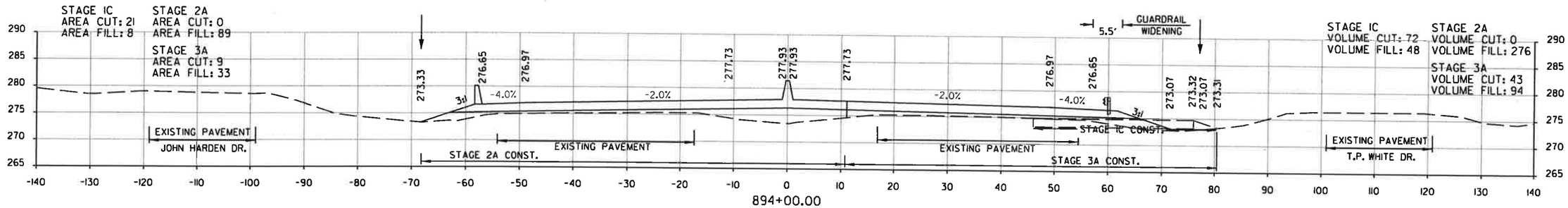


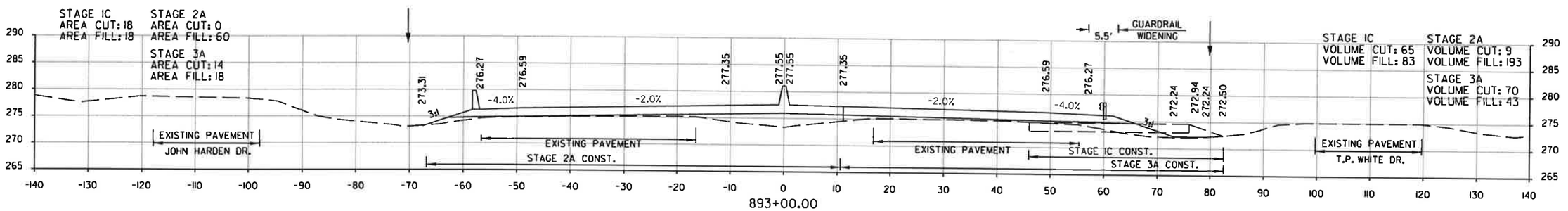
STA. 887+00.00 TO STA. 890+00.00
HWY. 67

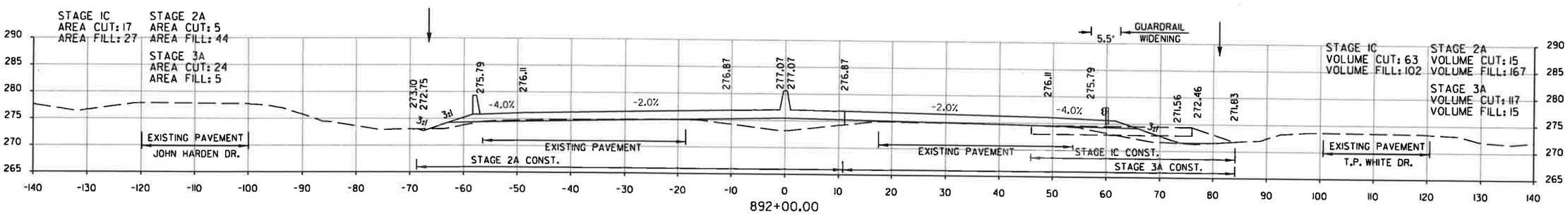
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
11/30/2016				6	ARK.			
				JOB NO.		CA0605	392	434

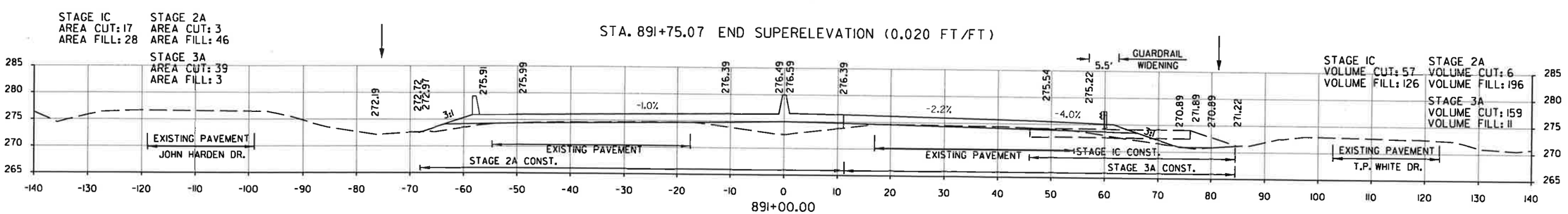
(2) CROSS SECTIONS

END GUARD RAIL WIDENING RT. STA. 894+01.00







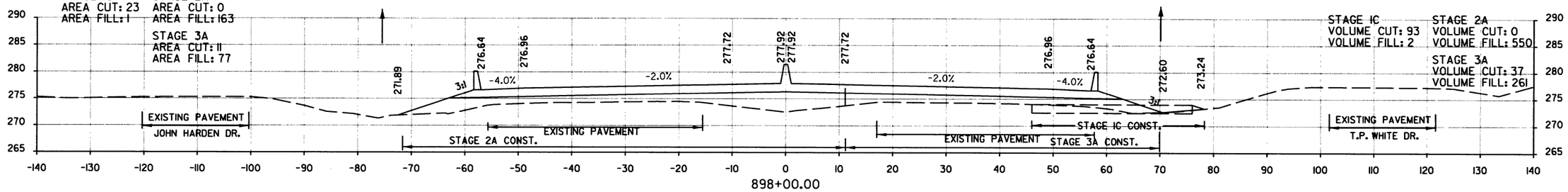


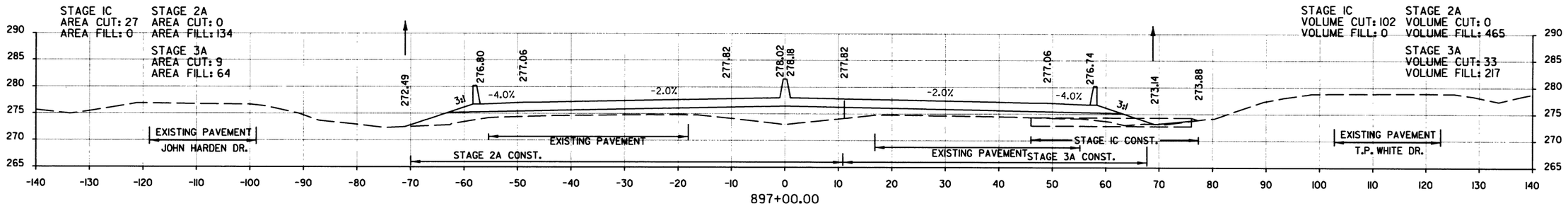
STA. 891+00.00 TO STA. 894+00.00
HWY. 67

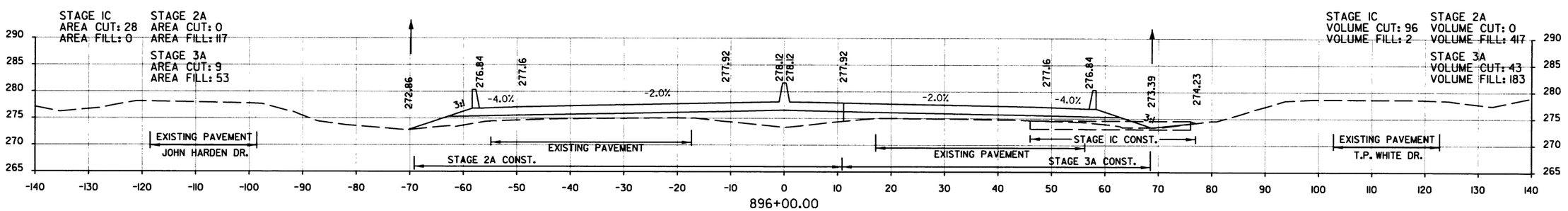
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	393	434

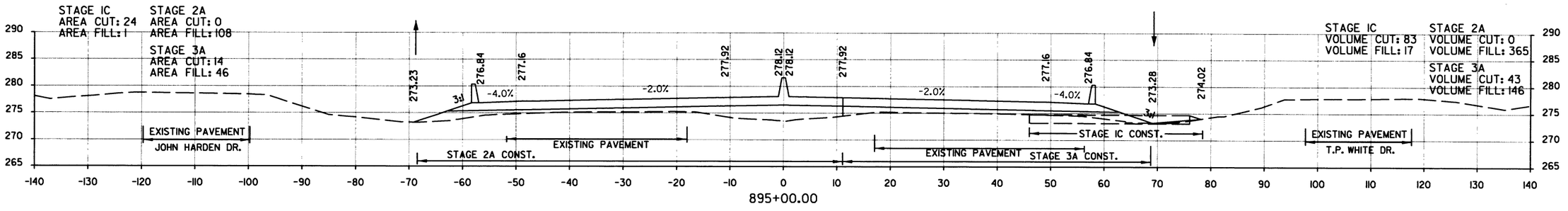
2 CROSS SECTIONS

STA. 898+39.69 BEG. SUPERELEVATION (0.020 FT/FT)





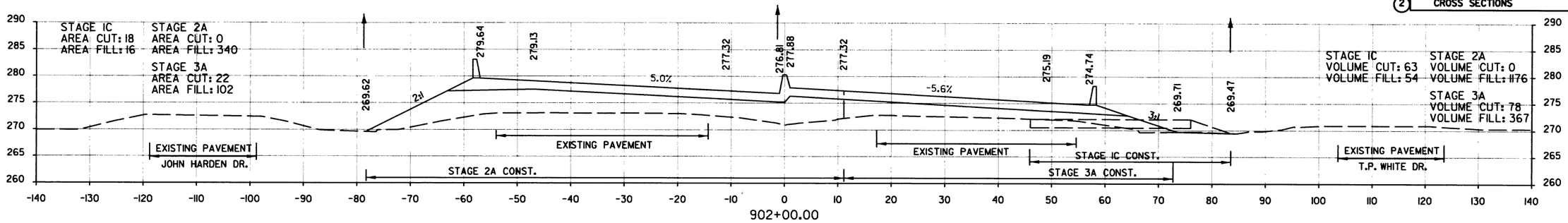


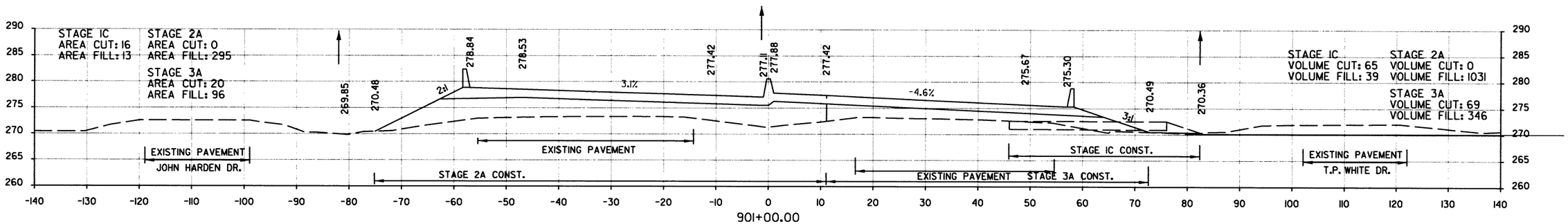


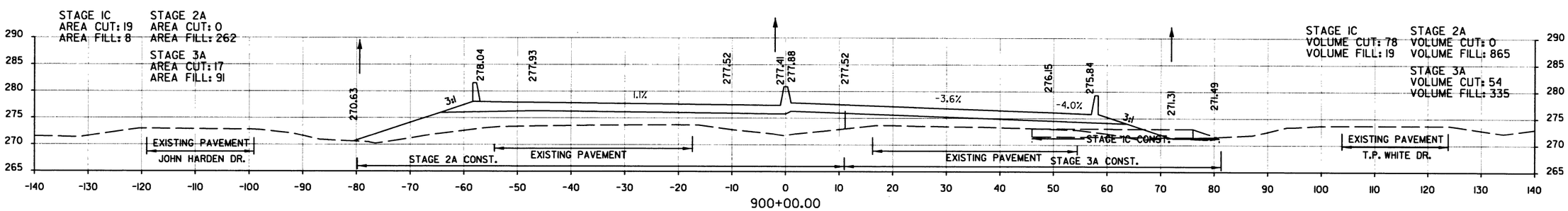
STA. 895+00.00 TO STA. 898+00.00
HWY. 67

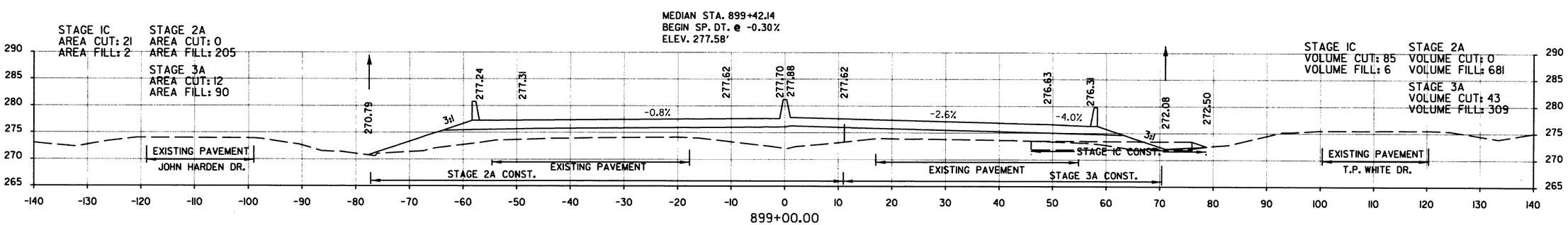
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	394	434

2 CROSS SECTIONS







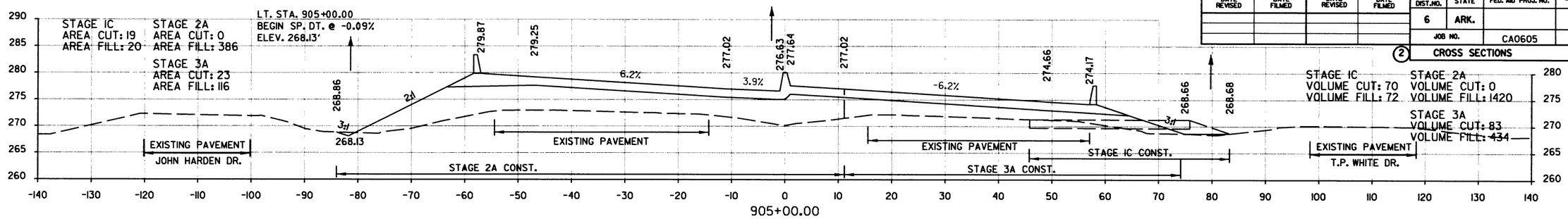


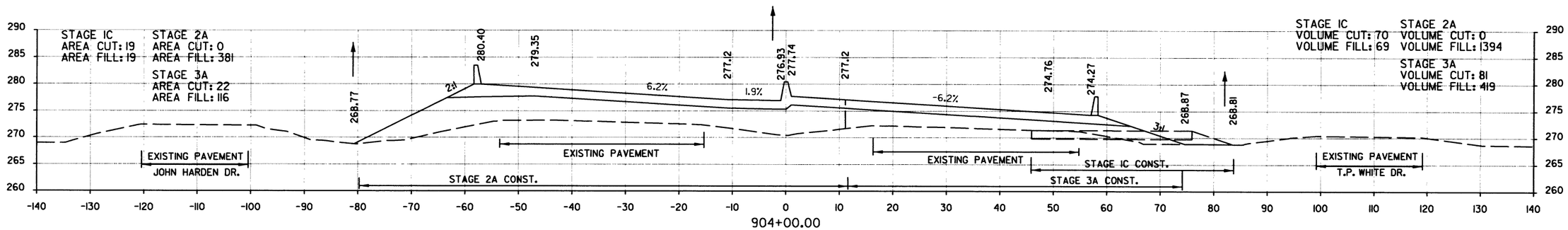
STA. 899+00.00 TO STA. 902+00.00
HWY. 67

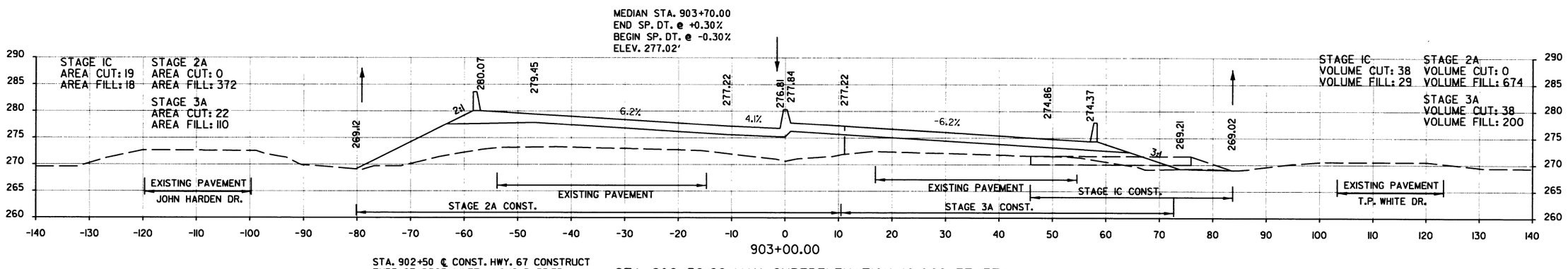
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	395	434

(2) CROSS SECTIONS

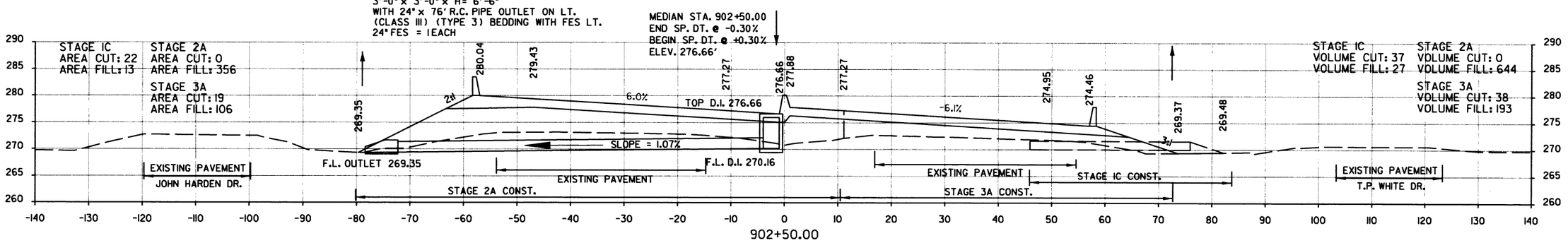






STA. 902+50 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 6'-6"
WITH 24" x 76' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1EACH

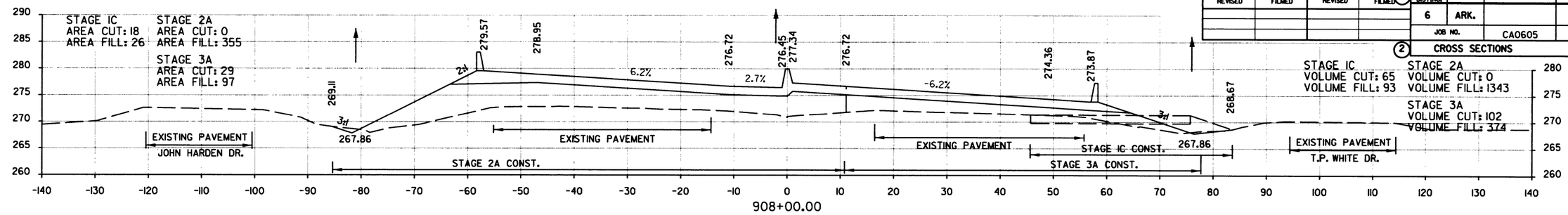
STA. 902+59.69 MAX. SUPERELEVATION (0.062 FT/FT)

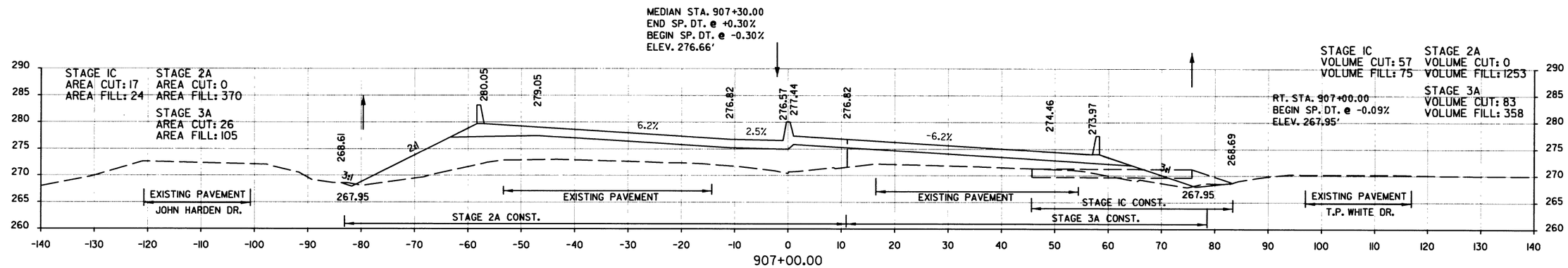


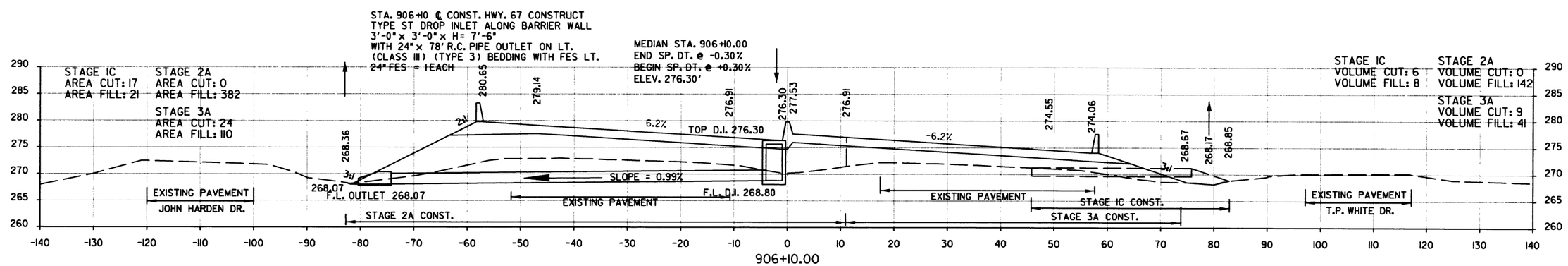
STA. 902+50.00 TO STA. 905+00.00
HWY. 67

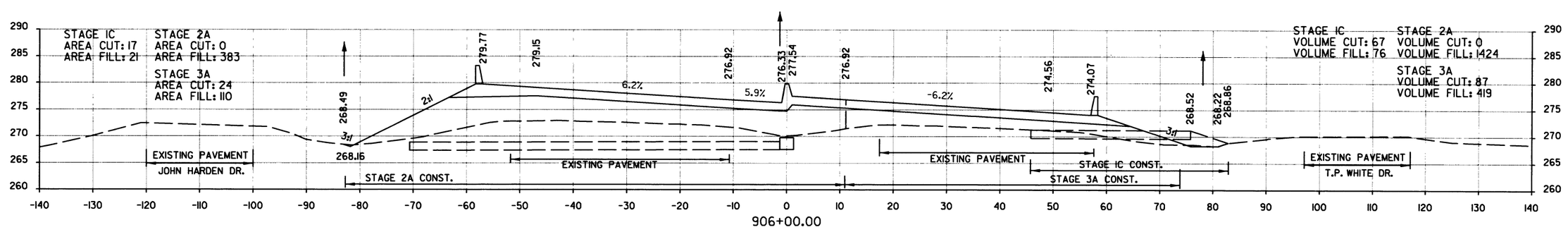
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	396	434

CROSS SECTIONS





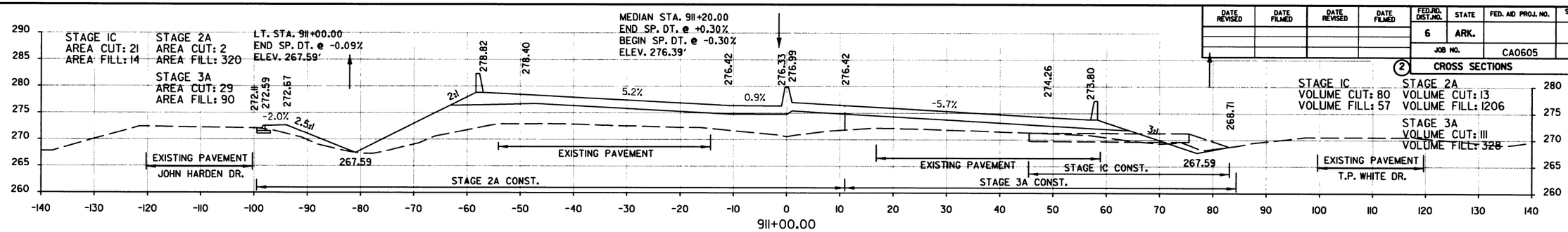




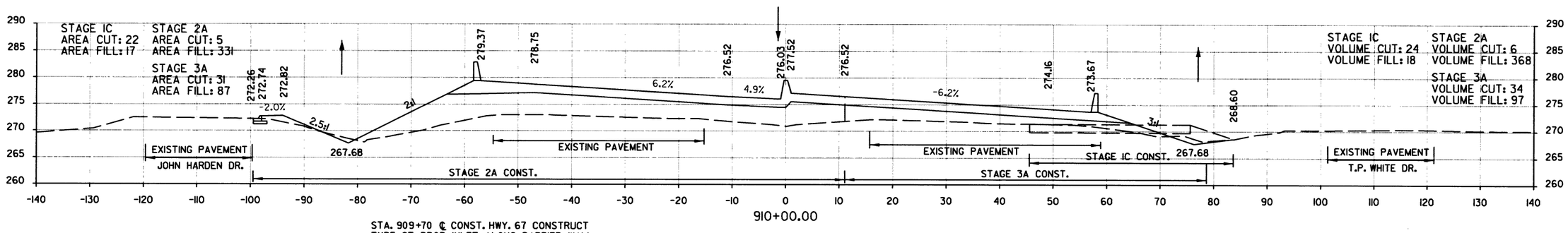
STA. 906+00.00 TO STA. 908+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	397	434

(2) CROSS SECTIONS

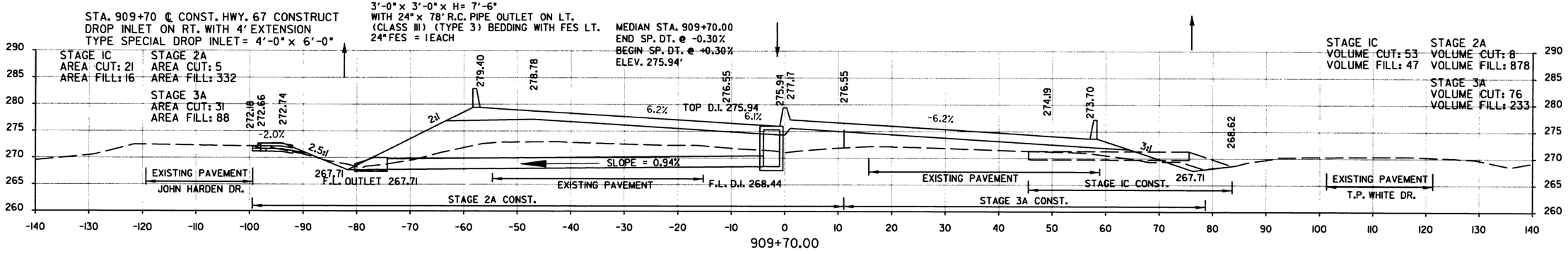


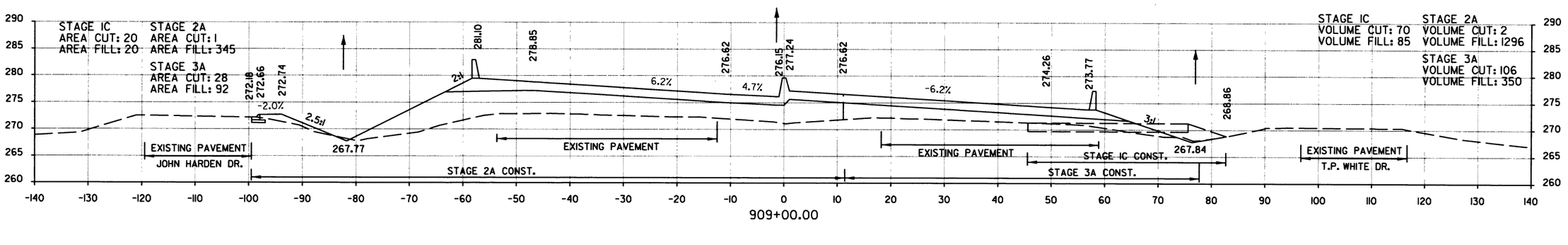
STA. 910+49.76 MAX. SUPERELEVATION (0.062 FT/FT)



STA. 909+70 ℄ CONST. HWY. 67 CONSTRUCT
DROP INLET ON RT. WITH 4' EXTENSION
TYPE SPECIAL DROP INLET= 4'-0" x 6'-0"

STA. 909+70 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 7'-6"
WITH 24" x 78' R.C. PIPE OUTLET ON LT.
(CLASS III) (TYPE 3) BEDDING WITH FES LT.
24" FES = 1 EACH





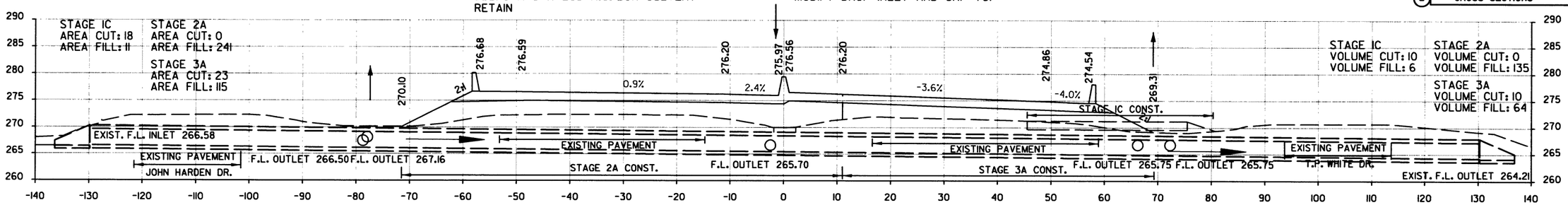
STA. 909+00.00 TO STA. 911+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	398	434

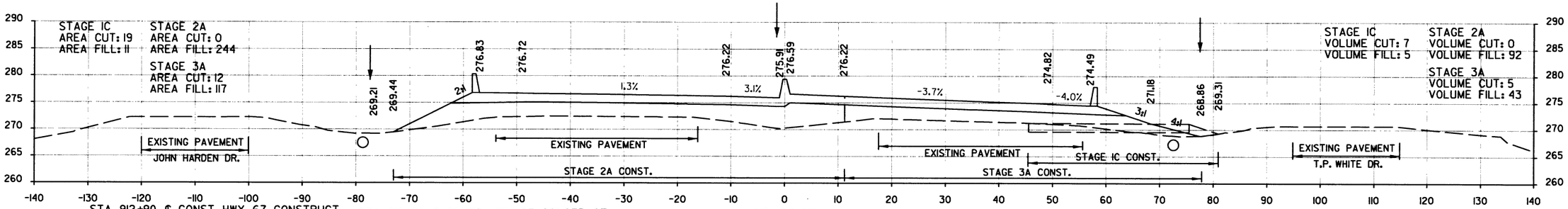
(2) CROSS SECTIONS

STA. 913+13 ℄ CONST. HWY. 67 - IN PLACE
DBL. 5' x 3' x 263' R.C. BOX CULVERT
RETAIN

STA. 913+12 ℄ CONST. HWY. 67 - IN PLACE
DROP INLET IN MEDIAN
TO R.C. BOX CULVERT @ STA. 913+13
MODIFY DROP INLET AND CAP TOP



913+15.00

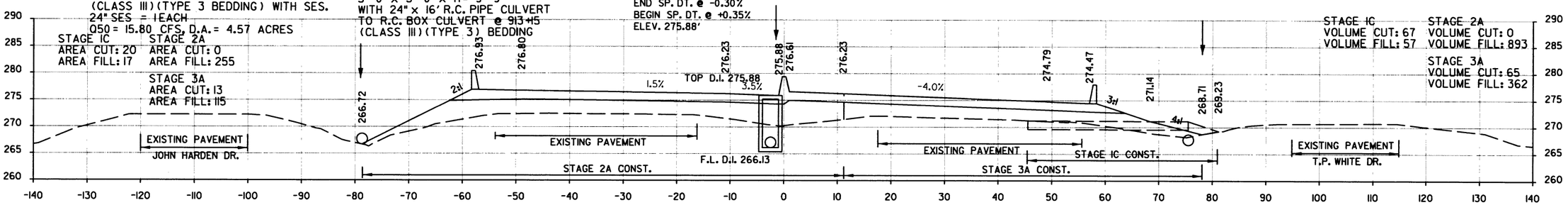


913+00.00

STA. 912+90 ℄ CONST. HWY. 67 CONSTRUCT
24" x 22' R.C. PIPE INLET ON LT.
TO R.C. BOX CULVERT @ STA. 913+15
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1EACH
Q50 = 15.80 CFS, D.A. = 4.57 ACRES

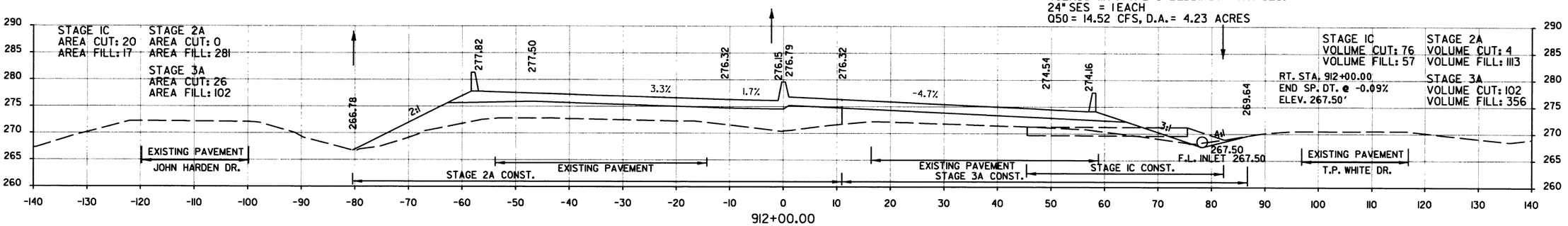
STA. 912+90 ℄ CONST. HWY. 67 CONSTRUCT
TYPE ST DROP INLET ALONG BARRIER WALL
3'-0" x 3'-0" x H= 9'-9"
WITH 24" x 16' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ 913+15
(CLASS III)(TYPE 3) BEDDING

MEDIAN STA. 912+90.00
END SP. DT. @ -0.30%
BEGIN SP. DT. @ +0.35%
ELEV. 275.88'



912+90.00

STA. 912+00 ℄ CONST. HWY. 67 CONSTRUCT
24" x 100' R.C. PIPE INLET ON RT.
TO R.C. BOX CULVERT @ STA. 913+15
(CLASS III)(TYPE 3 BEDDING) WITH SES.
24" SES = 1EACH
Q50 = 14.52 CFS, D.A. = 4.23 ACRES

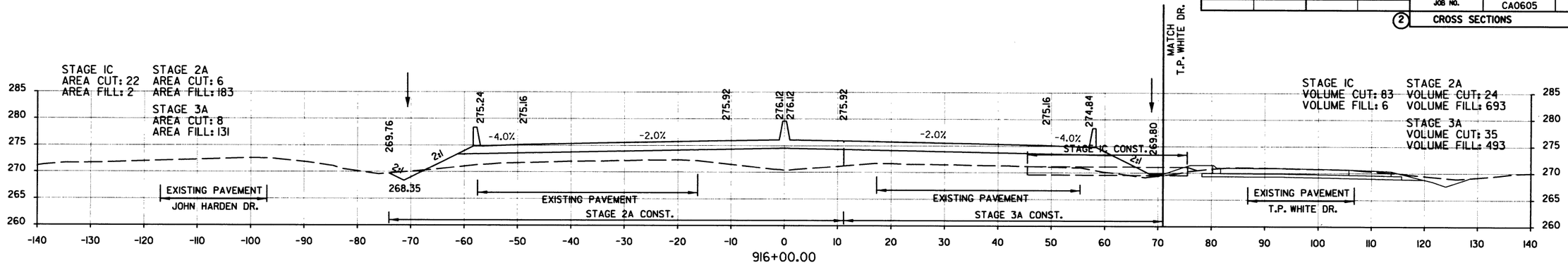


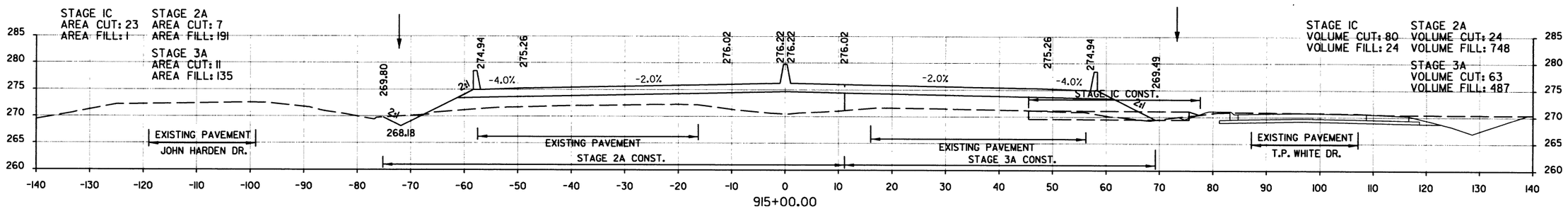
912+00.00

STA. 912+00.00 TO STA. 913+15.00
HWY. 67

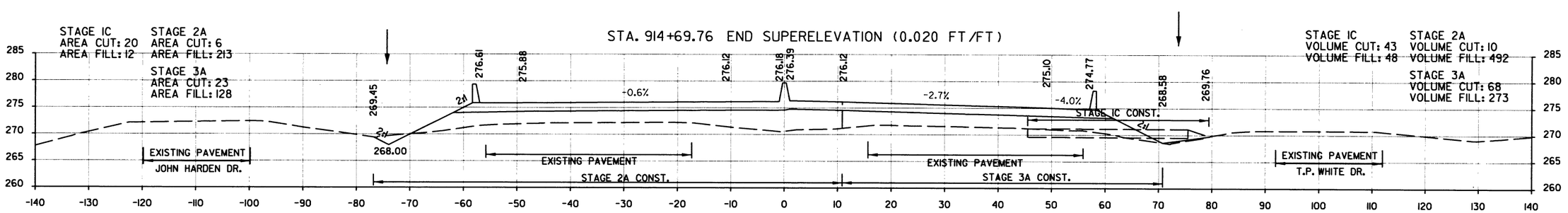
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	399	434

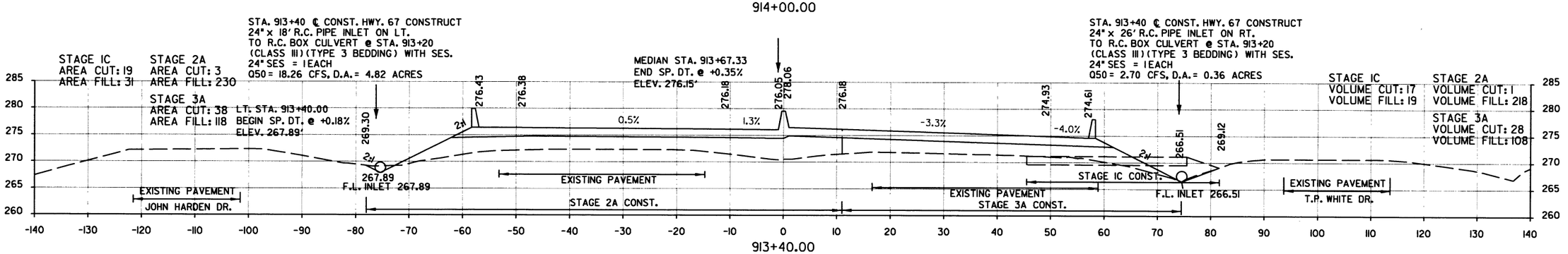
(2) CROSS SECTIONS





STA. 914+69.76 END SUPERELEVATION (0.020 FT/FT)



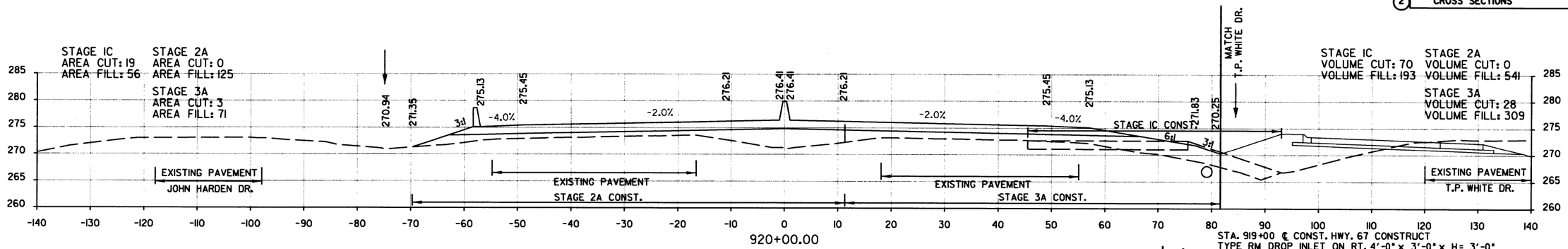


STA. 913+40.00 TO STA. 916+00.00
HWY. 67

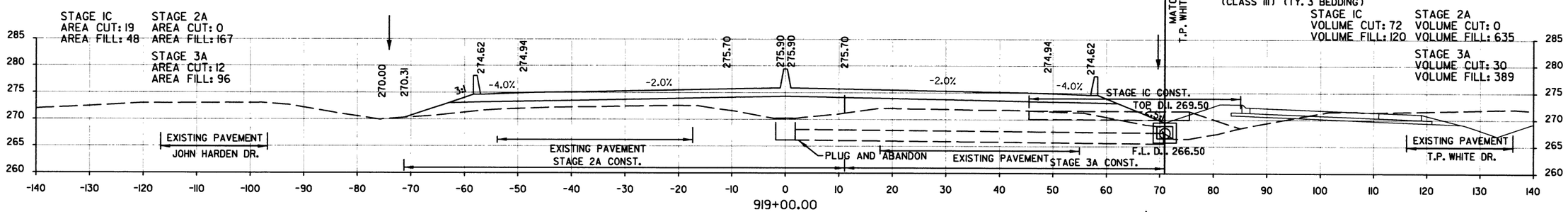
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

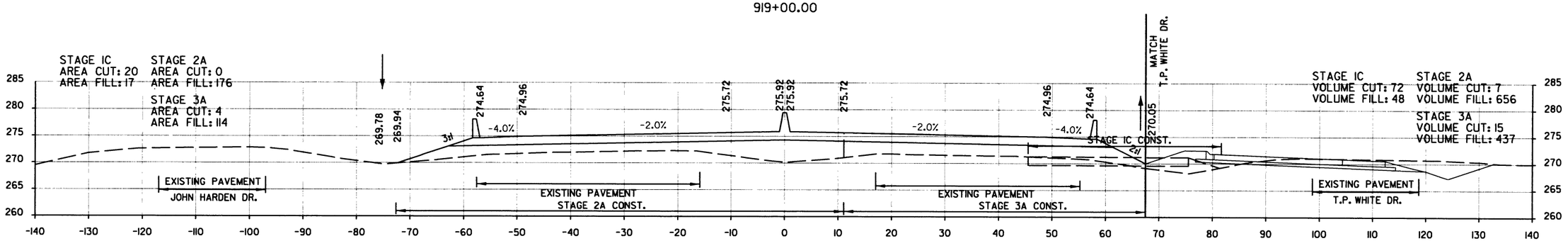
FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	400	434

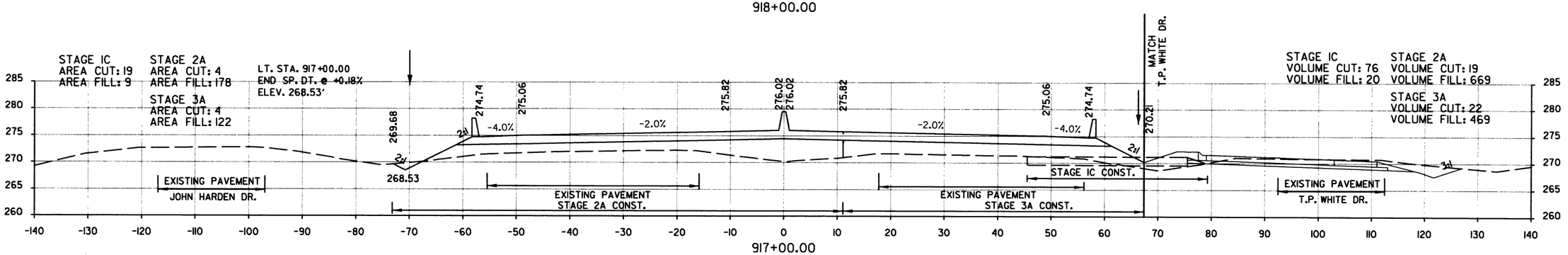
2 CROSS SECTIONS



STA. 919+00 ℄ CONST. HWY. 67 CONSTRUCT
TYPE RM DROP INLET ON RT. 4'-0" x 3'-0" x H= 3'-0"
WITH 24" x 130' R.C. PIPE CULVERT
TO R.C. BOX CULVERT @ STA. 920+55
(CLASS III) (TY. 3 BEDDING)





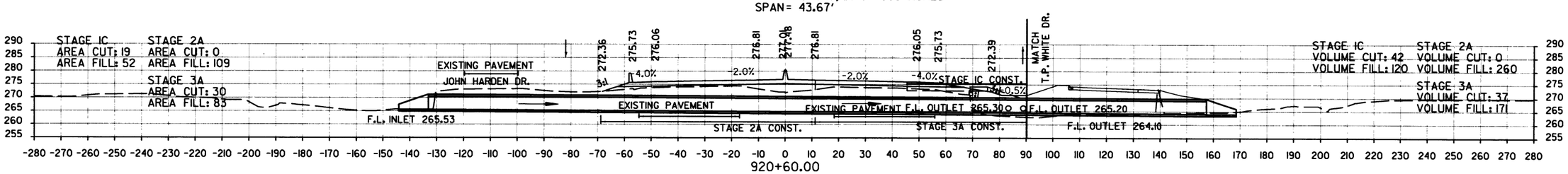


STA. 917+00.00 TO STA. 920+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	401	434

(2) CROSS SECTIONS

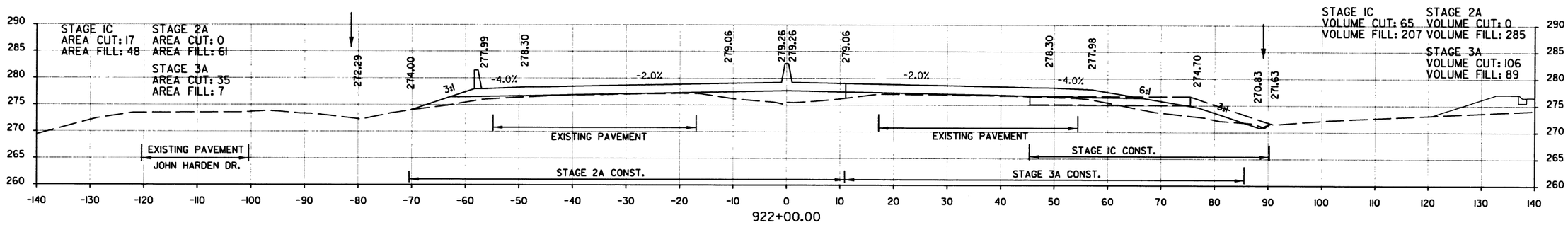
STA. 920+60 ℄ CONST. HWY. 67 CONSTRUCT
QUINT. 8' x 5' x 286' R.C. BOX CULVERT
WITH 3:1 WINGS LT. & RT.
Q50 = 719 CFS, D.A. = 698 ACRES
SPAN = 43.67'

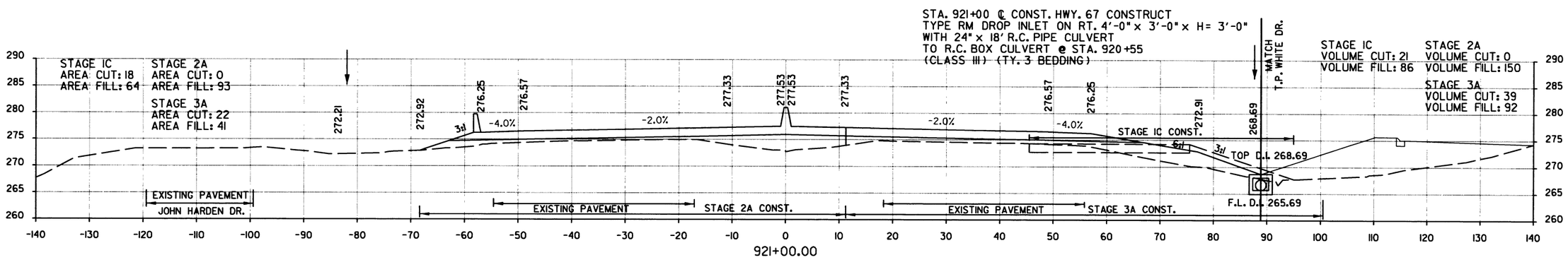


STA. 920+60.00 TO STA. 920+60.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	402	434

(2) CROSS SECTIONS

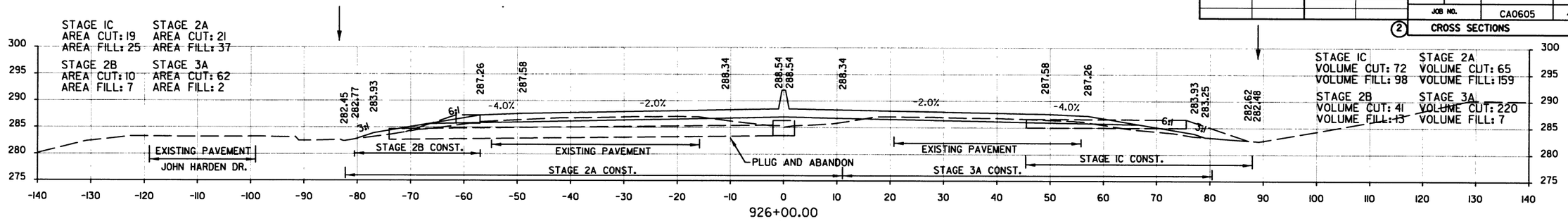


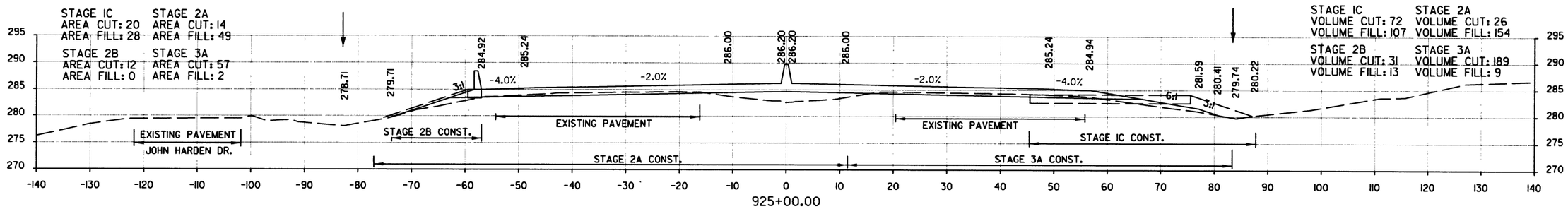


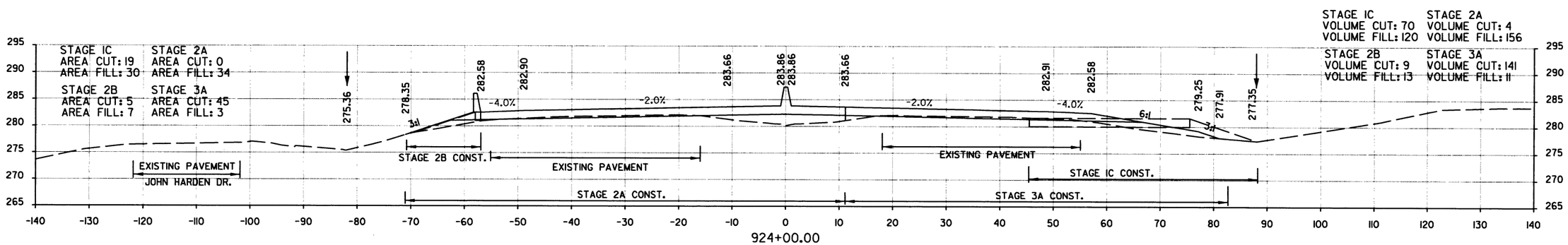
STA. 920+55.00 TO STA. 922+00.00
HWY. 67

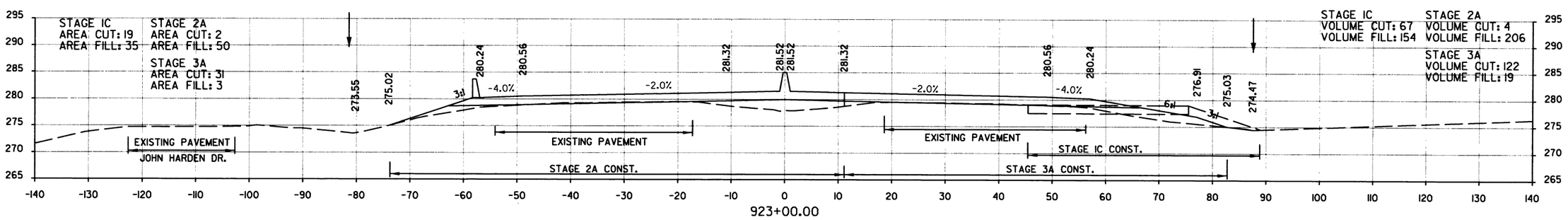
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	403	434

2 CROSS SECTIONS





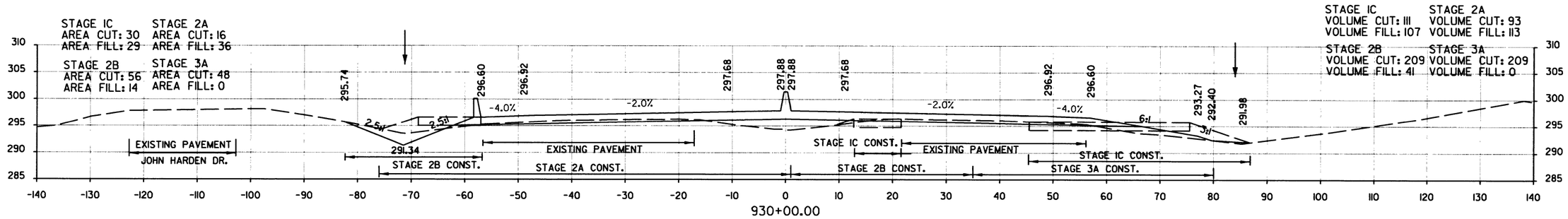


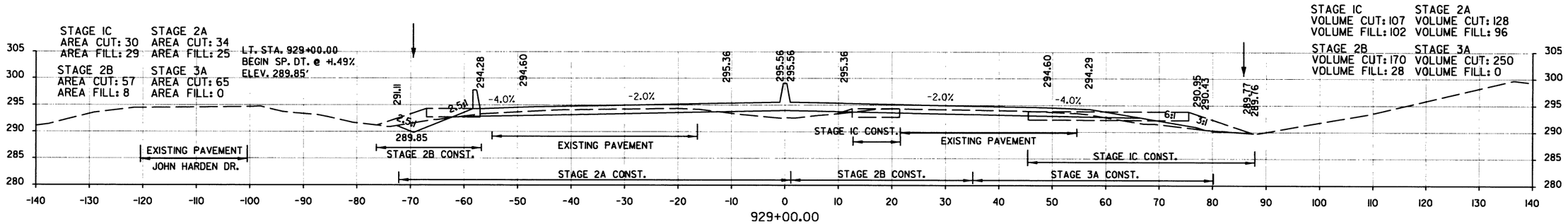


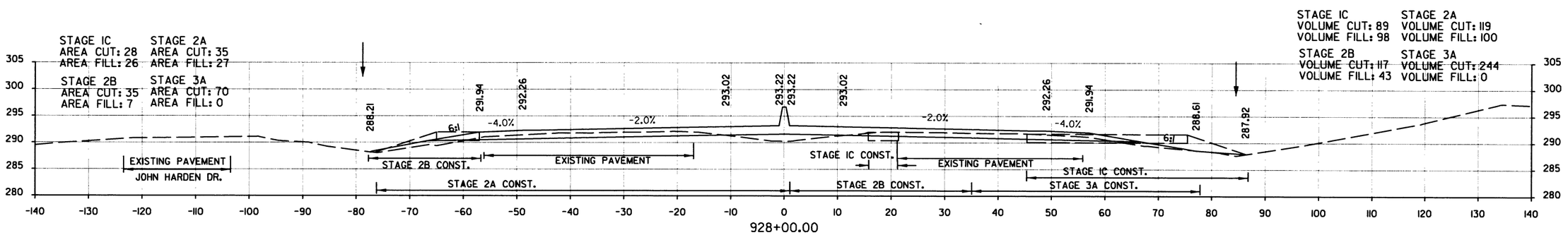
STA. 923+00.00 TO STA. 926+00.00
HWY. 67

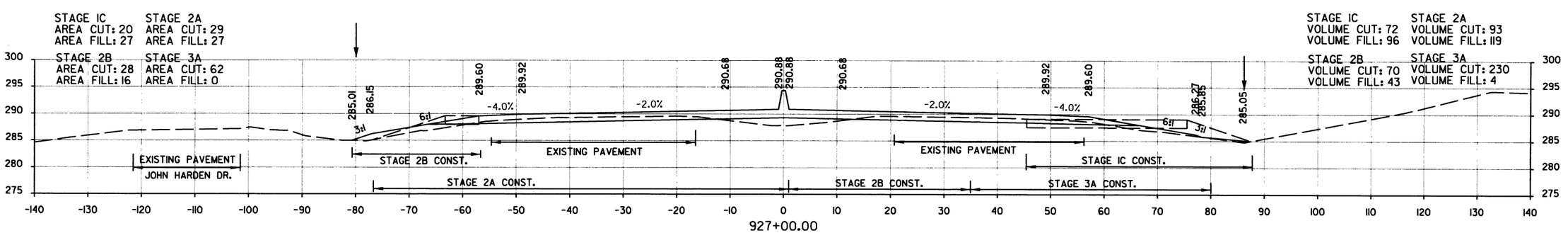
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	404	434

(2) CROSS SECTIONS









STA. 927+00.00 TO STA. 930+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	405	434

(2) CROSS SECTIONS

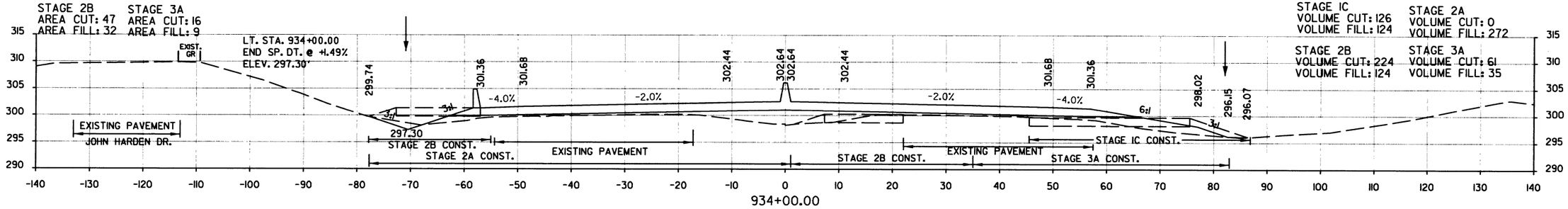
STA. 934+73.75 BEGIN 650' TRANS (RT.)

STAGE IC
AREA CUT: 34
AREA FILL: 30

STAGE 2A
AREA CUT: 0
AREA FILL: 72

STAGE 2B
AREA CUT: 47
AREA FILL: 32

STAGE 3A
AREA CUT: 16
AREA FILL: 9



STAGE IC
VOLUME CUT: 126
VOLUME FILL: 124

STAGE 2A
VOLUME CUT: 0
VOLUME FILL: 272

STAGE 2B
VOLUME CUT: 224
VOLUME FILL: 124

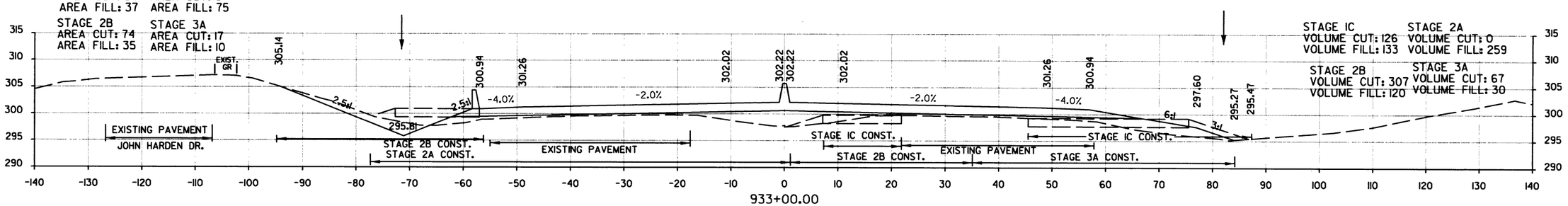
STAGE 3A
VOLUME CUT: 61
VOLUME FILL: 35

STAGE IC
AREA CUT: 34
AREA FILL: 37

STAGE 2A
AREA CUT: 0
AREA FILL: 75

STAGE 2B
AREA CUT: 74
AREA FILL: 35

STAGE 3A
AREA CUT: 17
AREA FILL: 10



STAGE IC
VOLUME CUT: 126
VOLUME FILL: 133

STAGE 2A
VOLUME CUT: 0
VOLUME FILL: 259

STAGE 2B
VOLUME CUT: 307
VOLUME FILL: 120

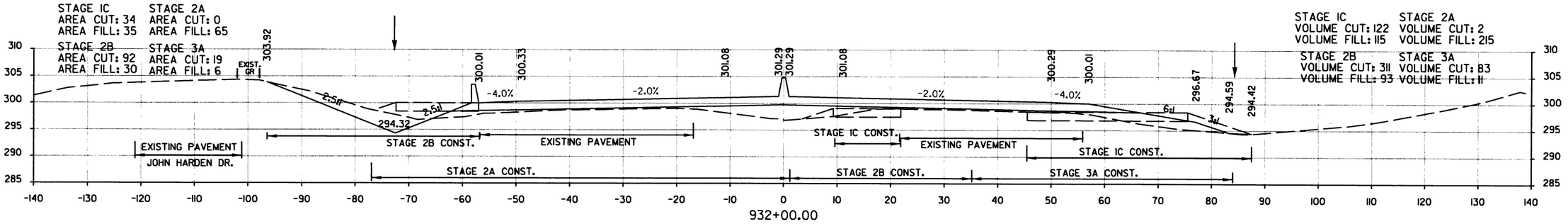
STAGE 3A
VOLUME CUT: 67
VOLUME FILL: 30

STAGE IC
AREA CUT: 34
AREA FILL: 35

STAGE 2A
AREA CUT: 0
AREA FILL: 65

STAGE 2B
AREA CUT: 92
AREA FILL: 30

STAGE 3A
AREA CUT: 19
AREA FILL: 6



STAGE IC
VOLUME CUT: 122
VOLUME FILL: 115

STAGE 2A
VOLUME CUT: 2
VOLUME FILL: 215

STAGE 2B
VOLUME CUT: 311
VOLUME FILL: 93

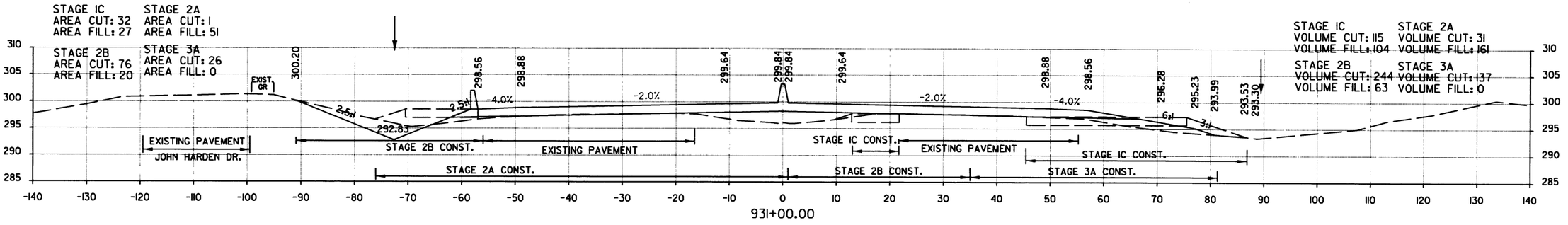
STAGE 3A
VOLUME CUT: 83
VOLUME FILL: 11

STAGE IC
AREA CUT: 32
AREA FILL: 27

STAGE 2A
AREA CUT: 1
AREA FILL: 51

STAGE 2B
AREA CUT: 76
AREA FILL: 20

STAGE 3A
AREA CUT: 26
AREA FILL: 0



STAGE IC
VOLUME CUT: 115
VOLUME FILL: 104

STAGE 2A
VOLUME CUT: 31
VOLUME FILL: 161

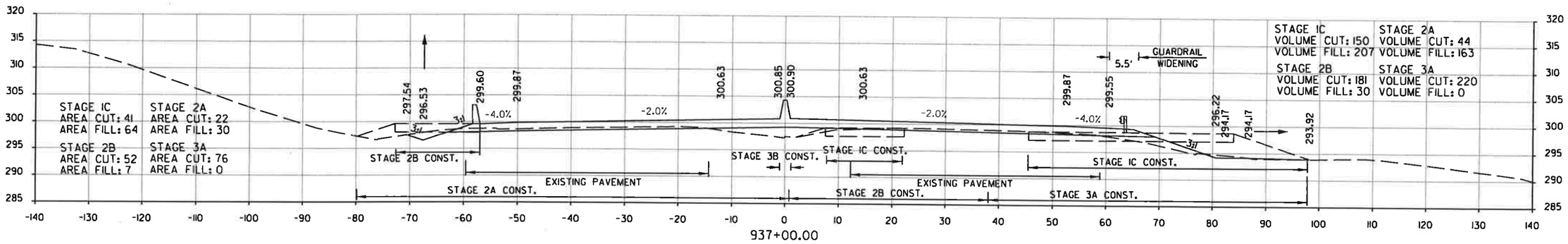
STAGE 2B
VOLUME CUT: 244
VOLUME FILL: 63

STAGE 3A
VOLUME CUT: 137
VOLUME FILL: 0

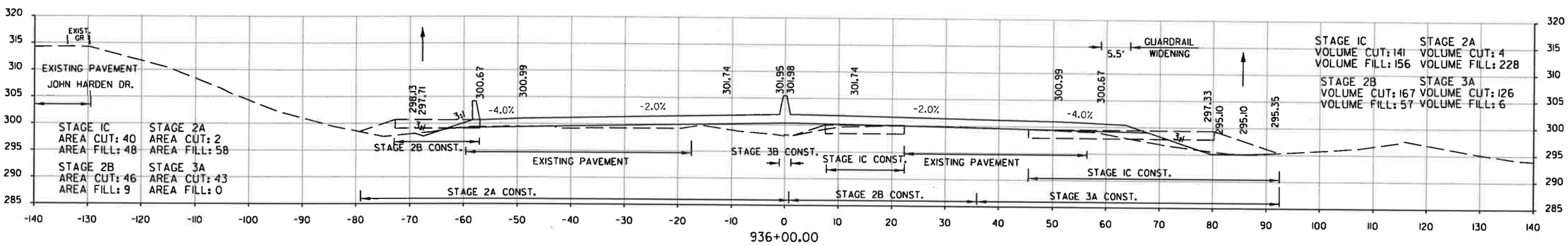
STA. 931+00.00 TO STA. 934+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
8/30/2016				6	ARK.			
				JOB NO.		CA0605	406	434

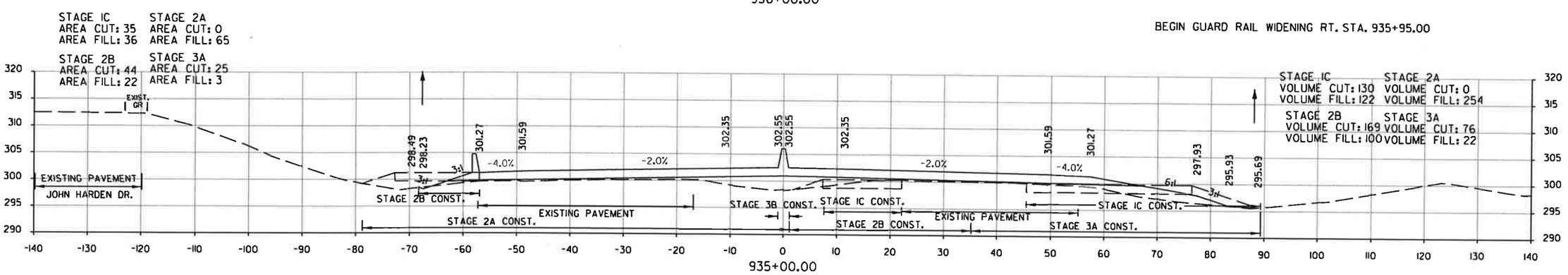
2 CROSS SECTIONS



STA. 936+25.00 BEGIN 650' TRANS (LT.)



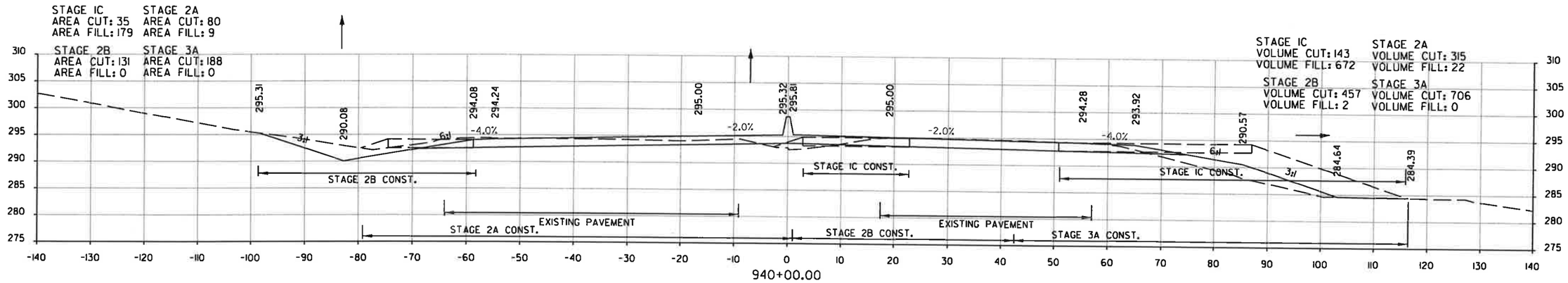
BEGIN GUARD RAIL WIDENING RT. STA. 935+95.00



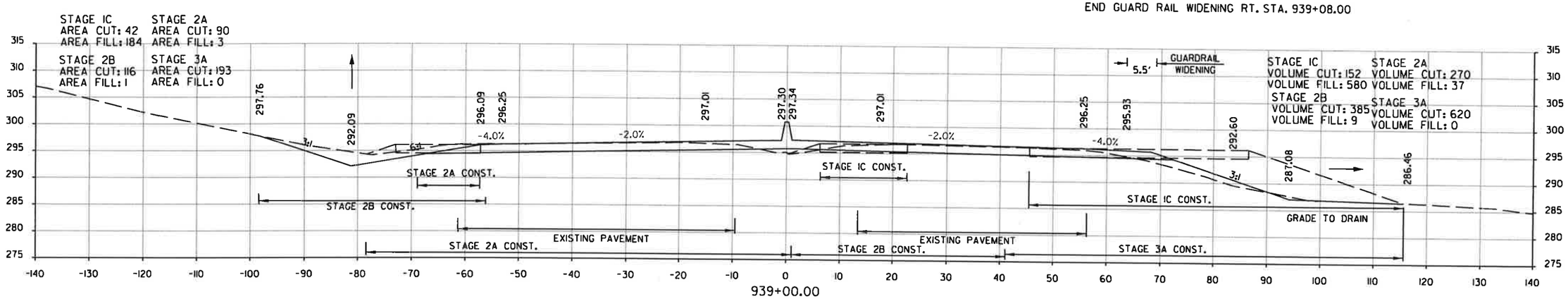
STA. 935+00.00 TO STA. 937+00.00
HWY. 67

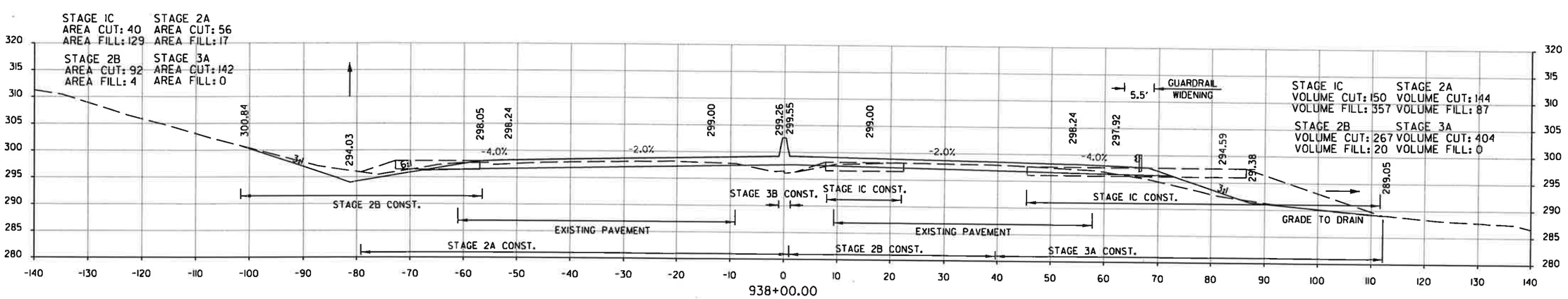
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	407	434

(2) CROSS SECTIONS



END GUARD RAIL WIDENING RT. STA. 939+08.00



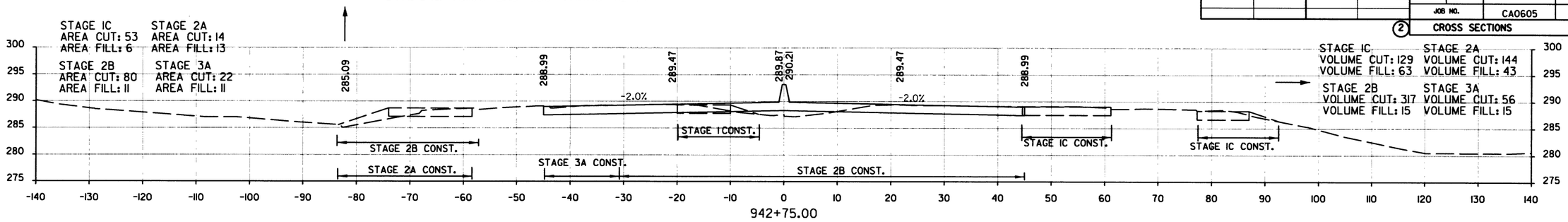


STA. 938+00.00 TO STA. 940+00.00
HWY. 67

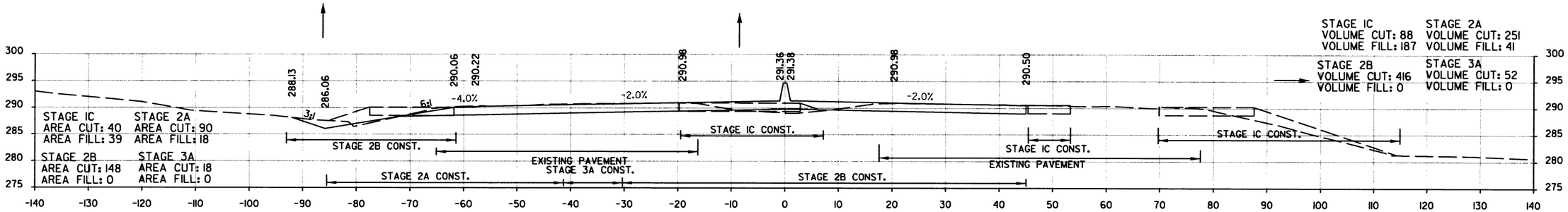
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	408	434

2 CROSS SECTIONS

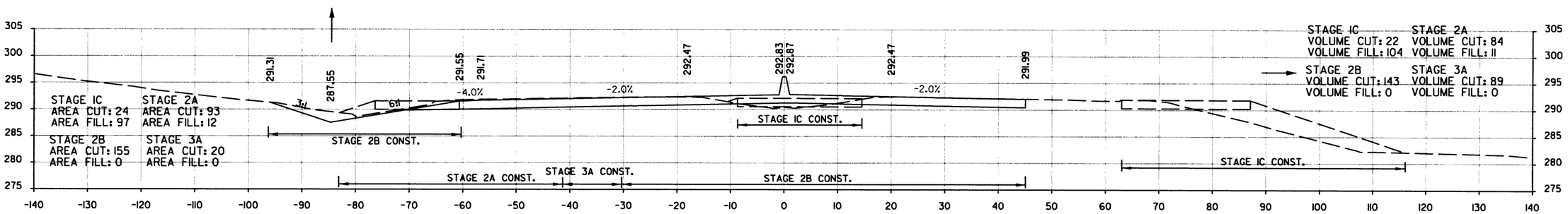
STA. 942+75.00 END 650' TRANS (LT.)



942+75.00

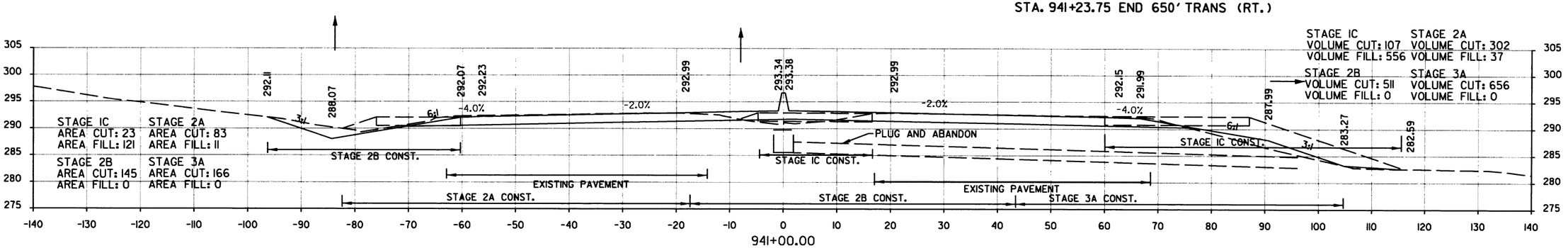


942+00.00



941+25.80

STA. 941+23.75 END 650' TRANS (RT.)

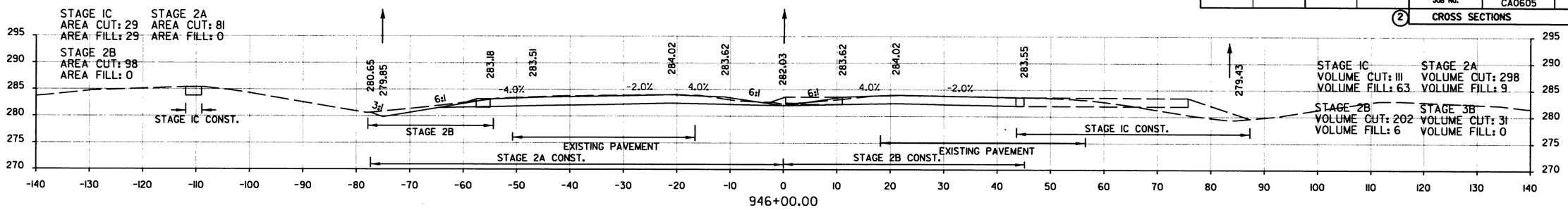


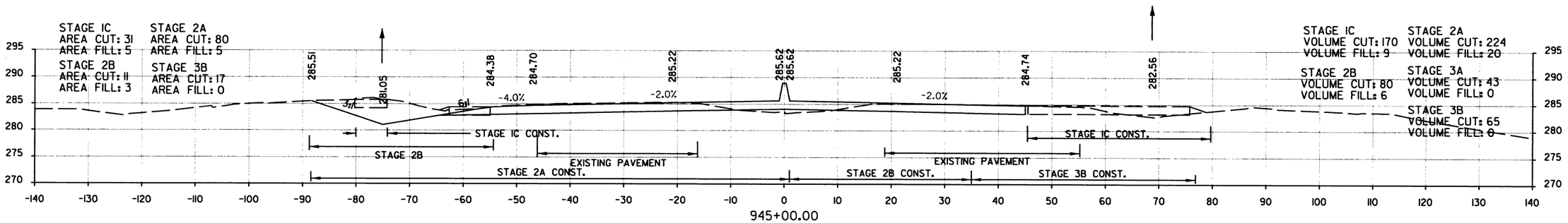
941+00.00

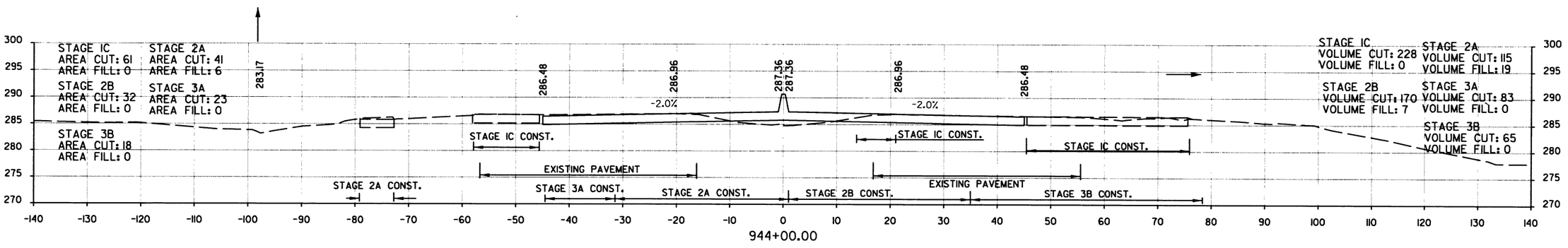
STA. 941+00.00 TO STA. 942+75.00
HWY. 67

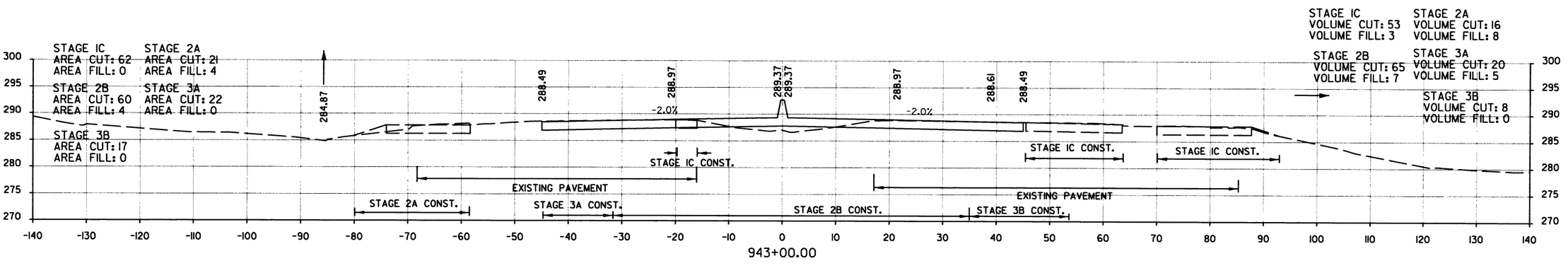
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	409	434

2 CROSS SECTIONS







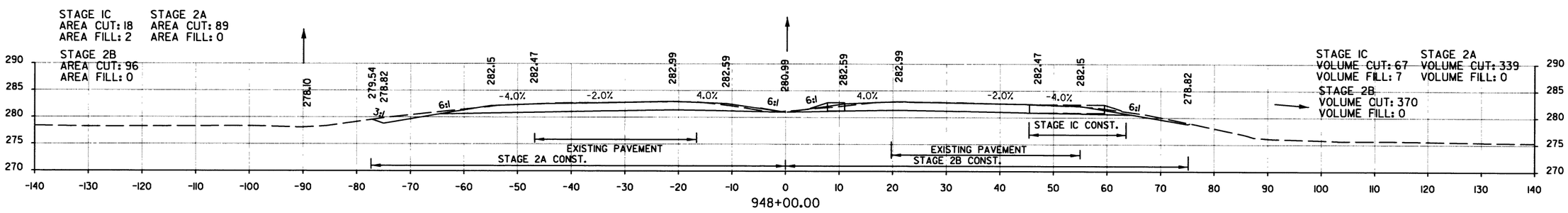


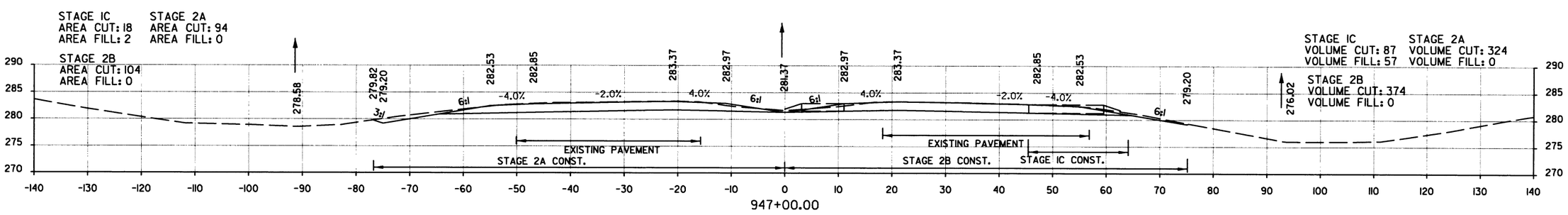
STA. 943+00.00 TO STA. 946+00.00
HWY. 67

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	410	434

(2) CROSS SECTIONS

STA. 948+00.00 ℄ CONST. HWY. 67 END JOB CA0605

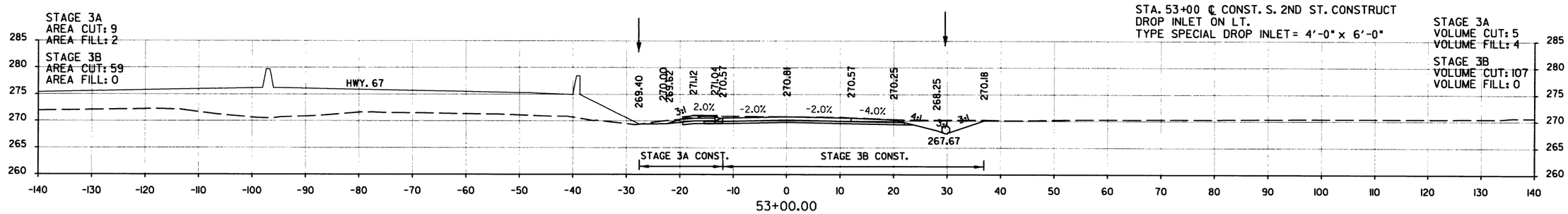


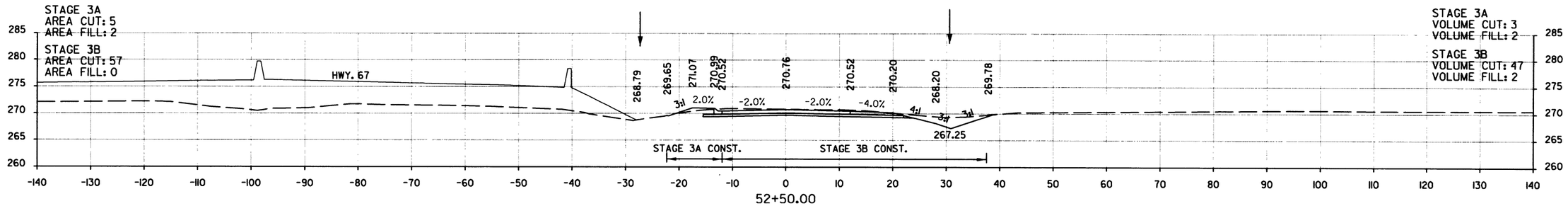


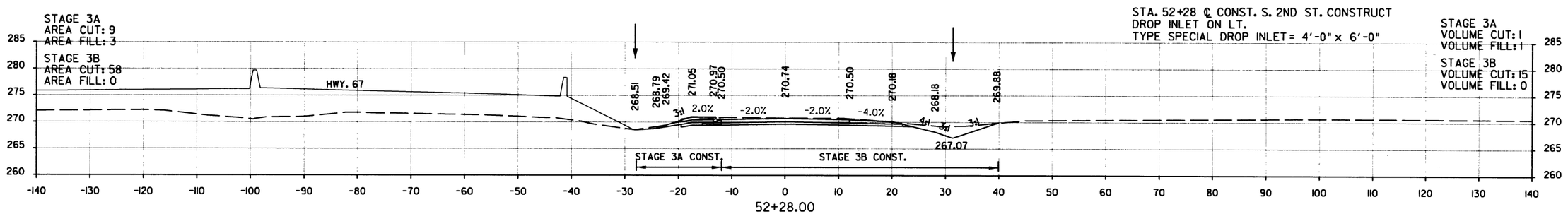
STA. 947+00.00 TO STA. 948+00.00
HWY. 67

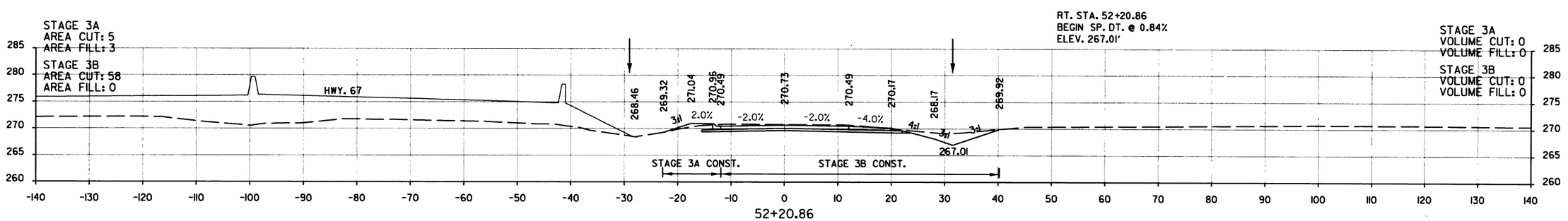
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	411	434

(2) CROSS SECTIONS







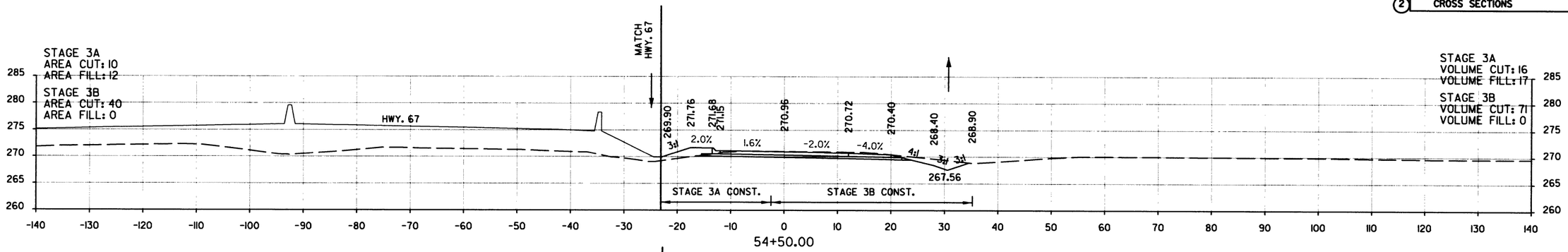


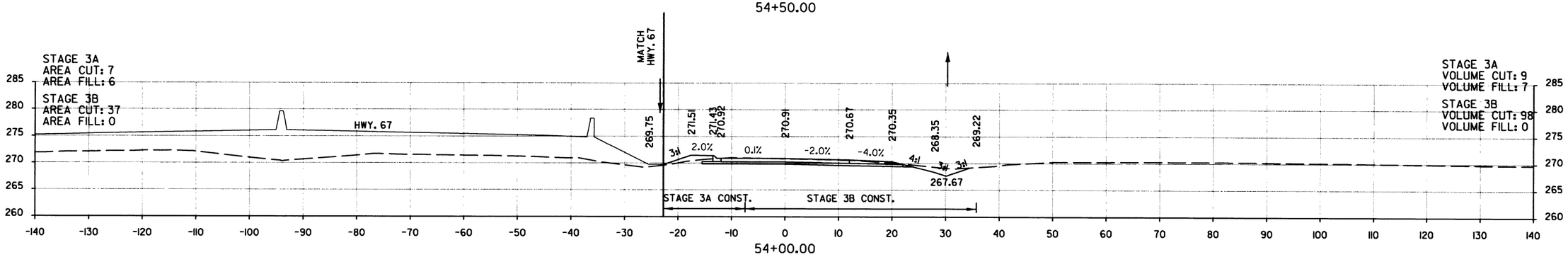
STA. 52+20.86 ℄ CONST. S. 2ND ST. BEGIN CONST.

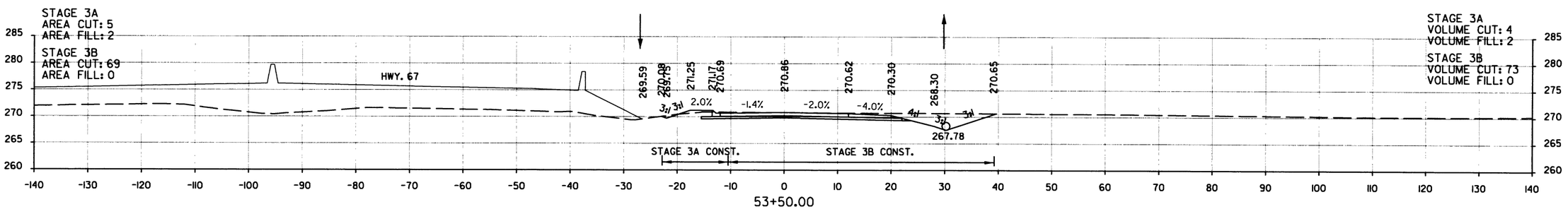
STA. 52+20.86 TO STA. 53+00.00
S. 2ND. ST.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	412	434

2 CROSS SECTIONS



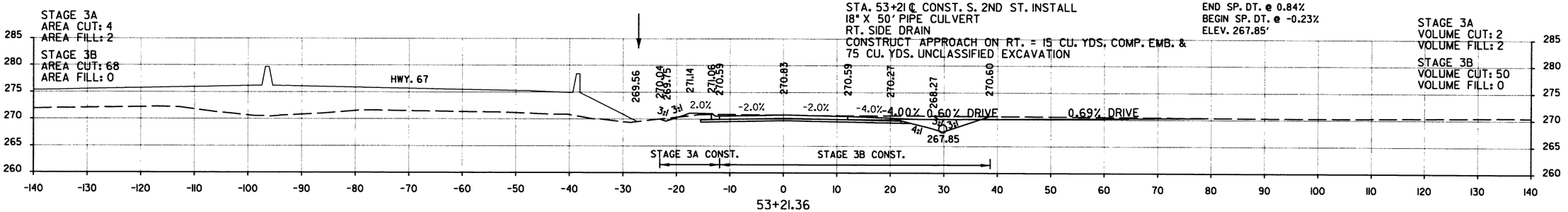




STA. 53+28.55 BEG. SUPERELEVATION (0.020 FT/FT)

STA. 53+21 ℄ CONST. S. 2ND ST. INSTALL
18" X 50' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 15 CU. YDS. COMP. EMB. &
75 CU. YDS. UNCLASSIFIED EXCAVATION

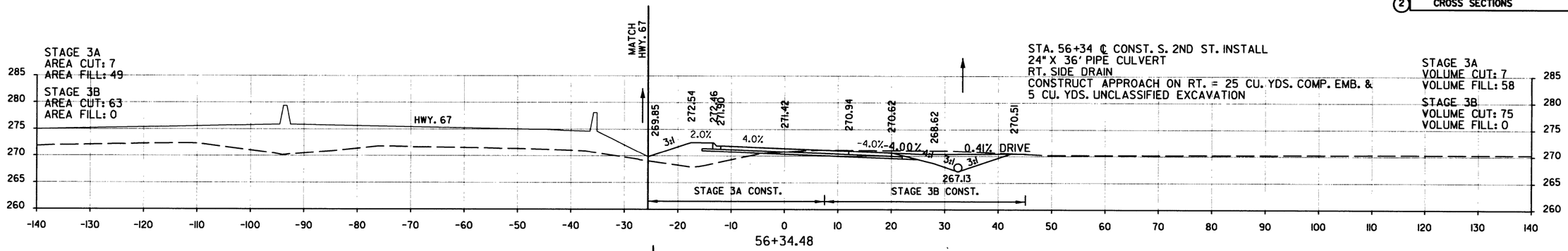
RT. STA. 53+21.36
END SP. DT. @ 0.84%
BEGIN SP. DT. @ -0.23%
ELEV. 267.85'

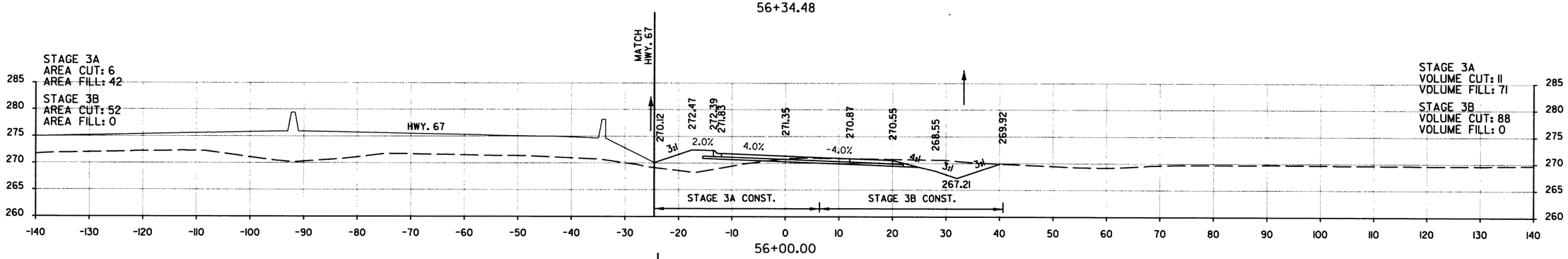


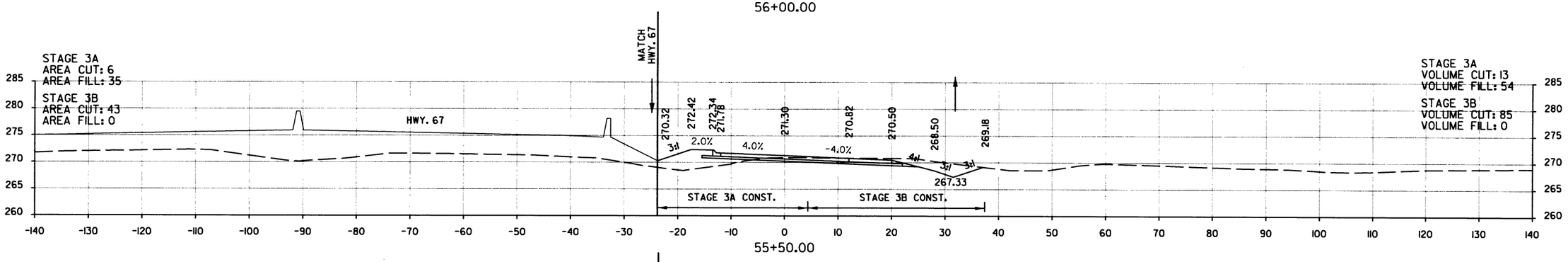
STA. 53+21.36 TO STA. 54+50.00
S. 2ND. ST.

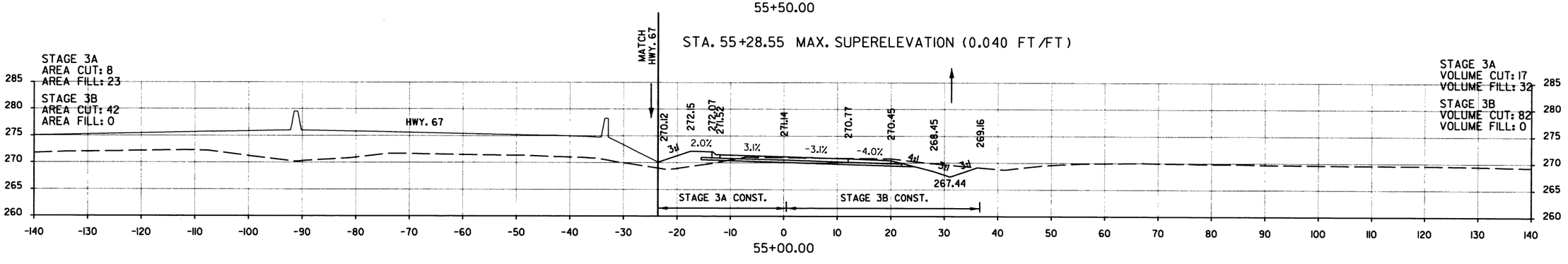
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	413	434

(2) CROSS SECTIONS





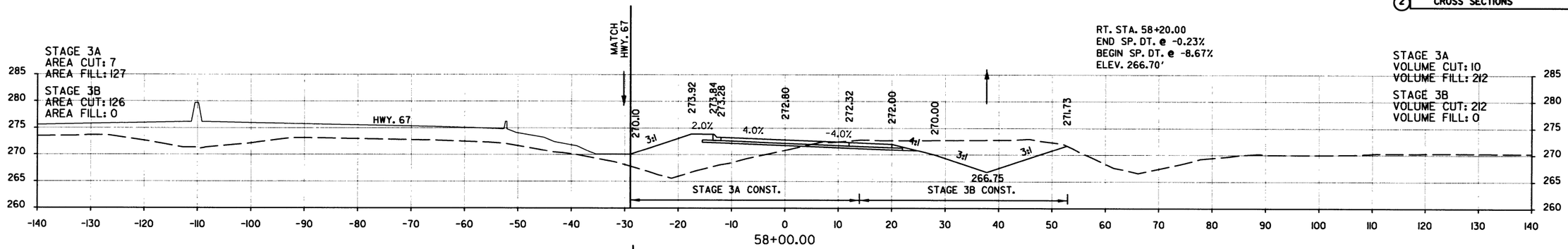


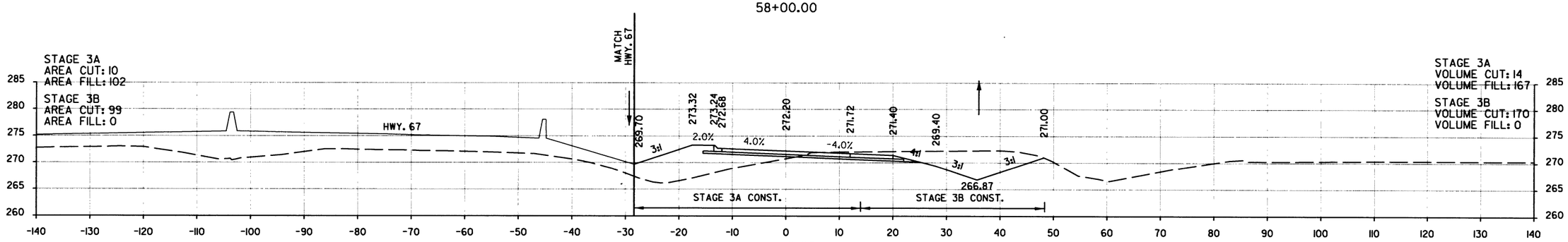


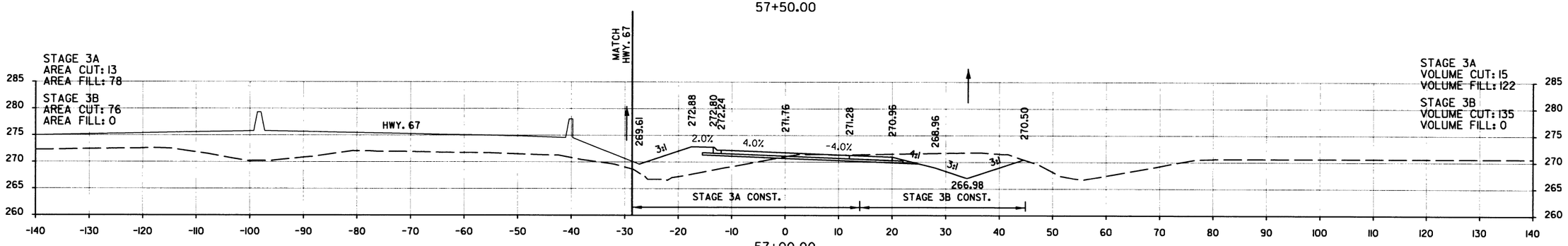
STA. 55+00.00 TO STA. 56+34.48
S. 2ND. ST.

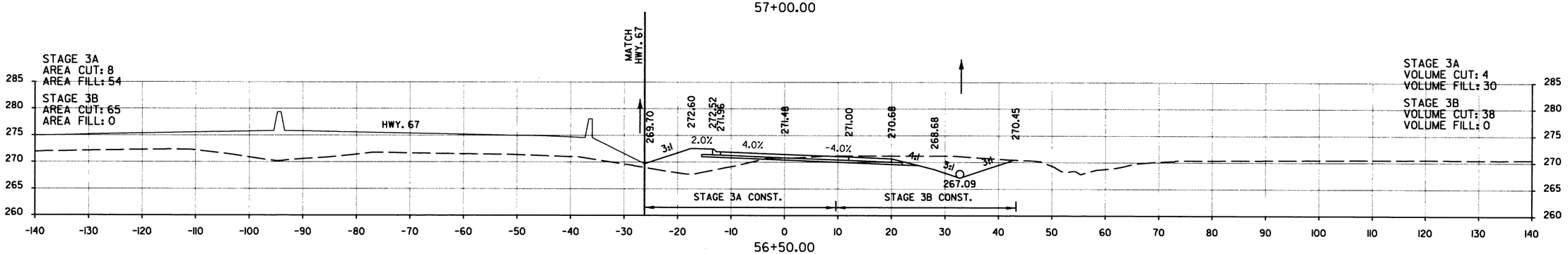
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	414	434

(2) CROSS SECTIONS





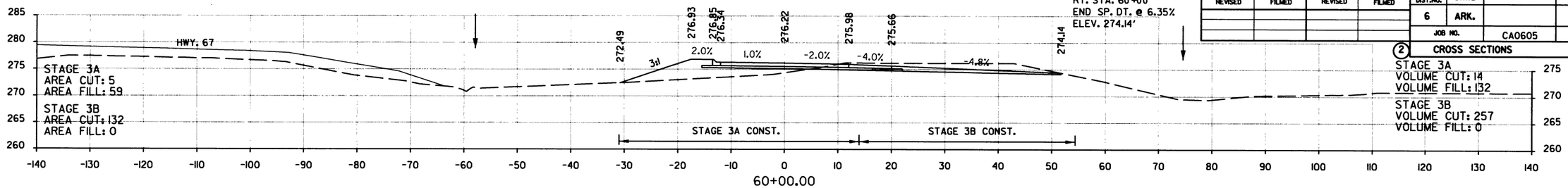




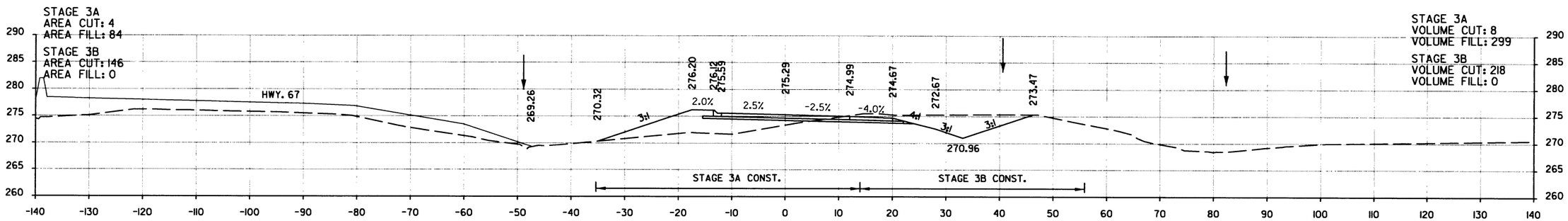
STA. 56+50.00 TO STA. 58+00.00
S. 2ND. ST.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	415	434

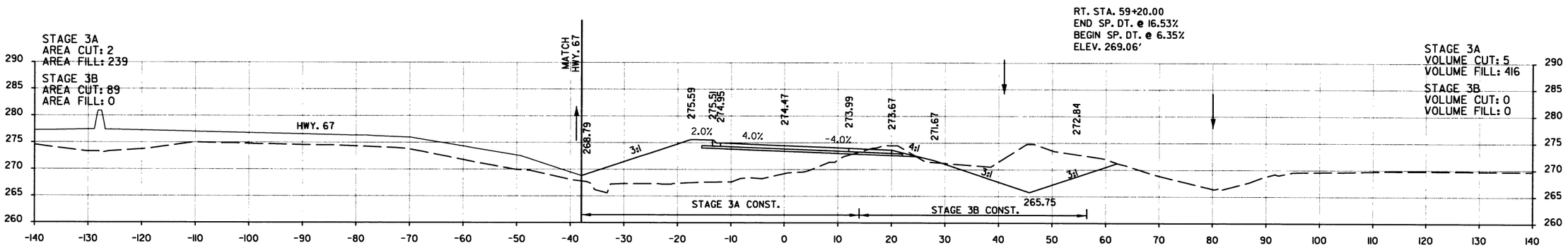
2 CROSS SECTIONS



60+00.00

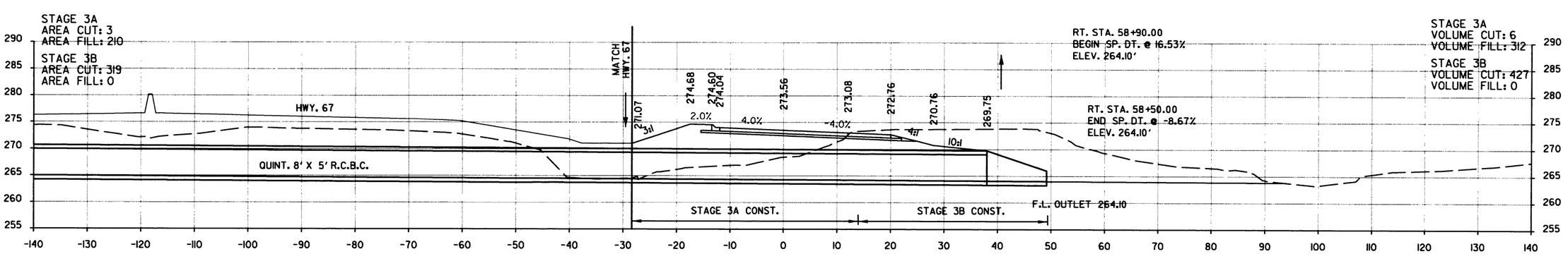


59+50.00



59+00.00

STA. 59+00.00 MAX. SUPERELEVATION (0.040 FT/FT)

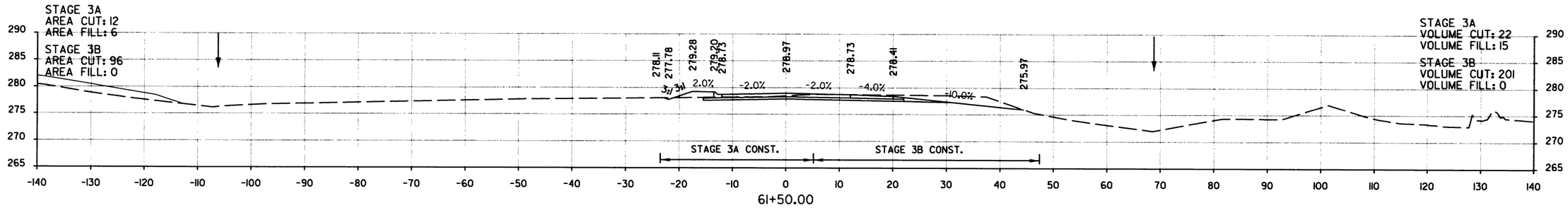


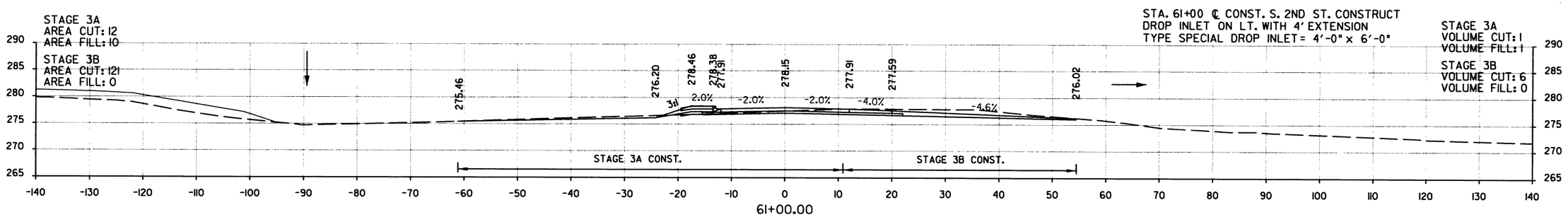
58+50.00

STA. 58+50.00 TO STA. 60+00.00
S. 2ND. ST.

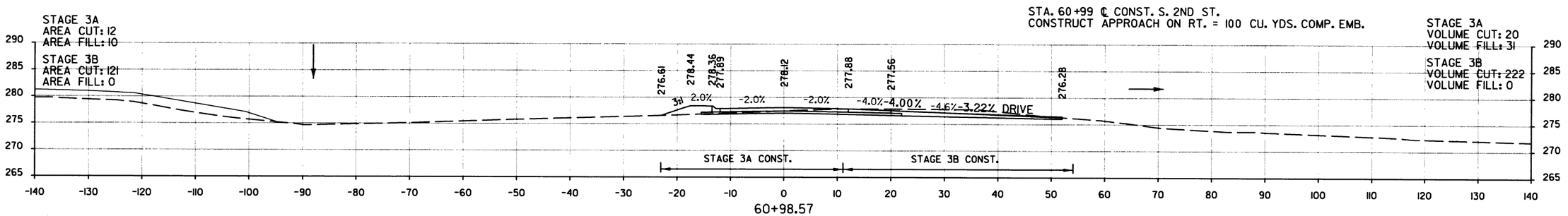
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	416	434

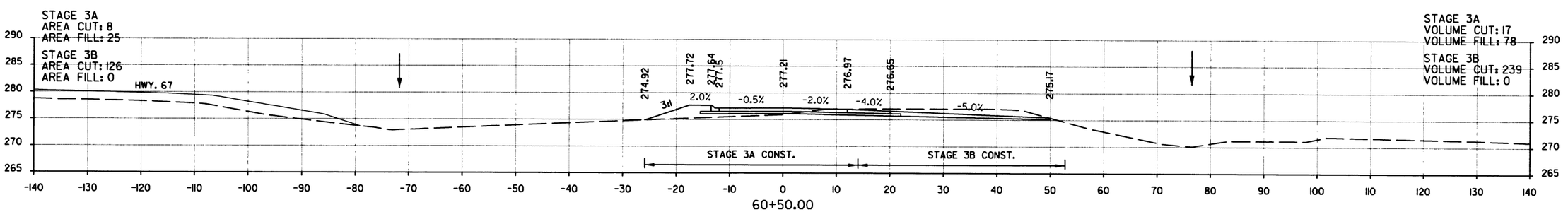
(2) CROSS SECTIONS





STA. 61+00.00 END SUPERELEVATION (0.020 FT/FT)

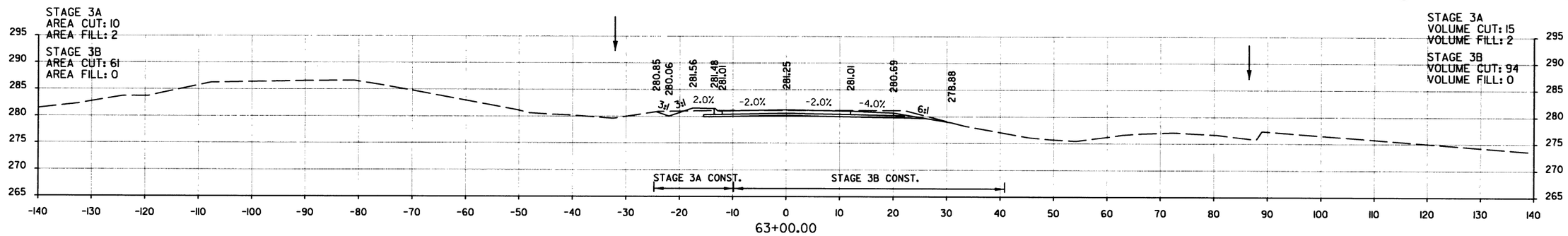


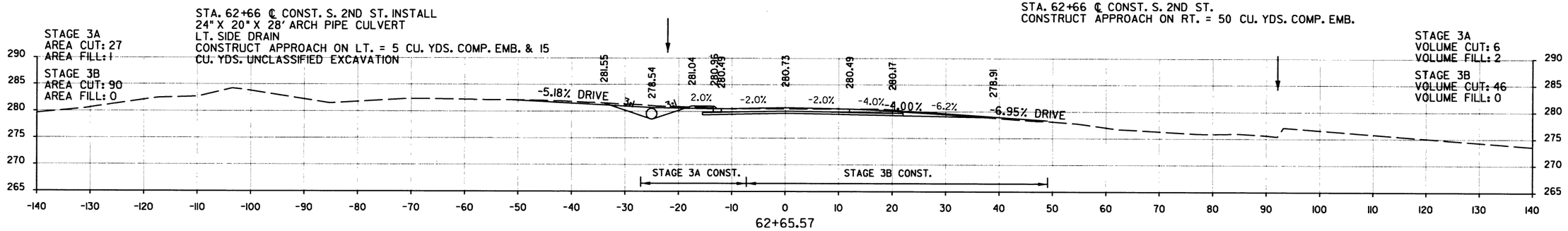


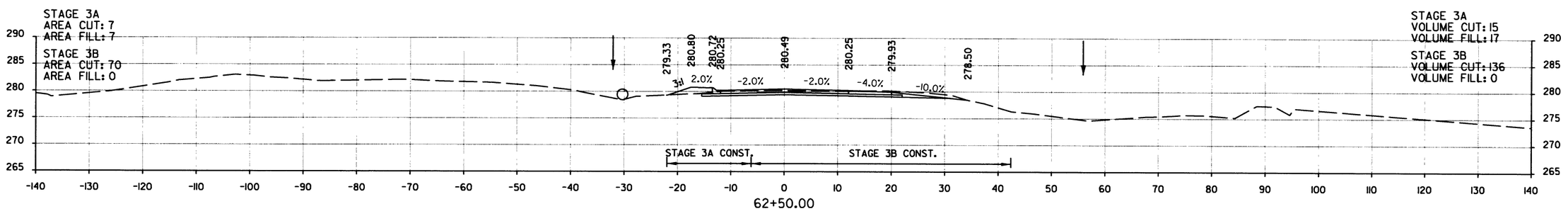
STA. 60+50.00 TO STA. 61+50.00
S. 2ND. ST.

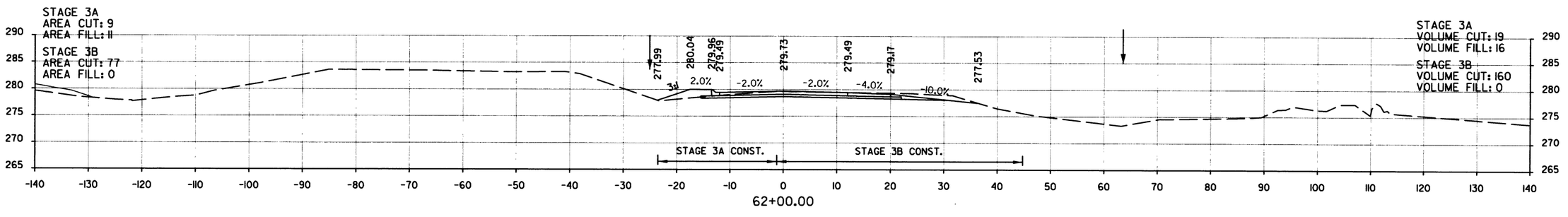
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	417	434

(2) CROSS SECTIONS







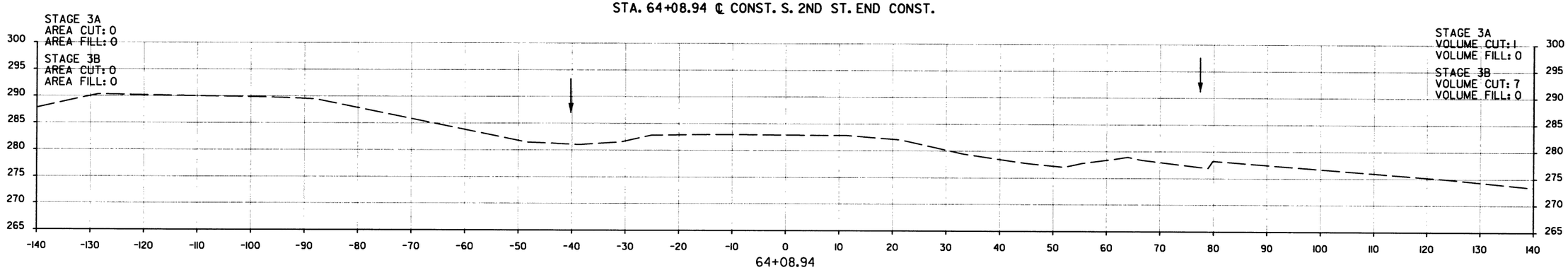


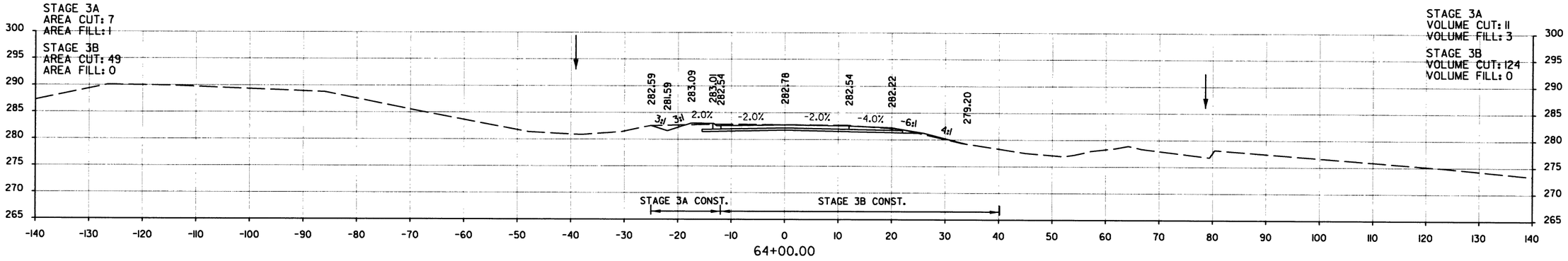
STA. 62+00.00 TO STA. 63+00.00
S. 2ND. ST.

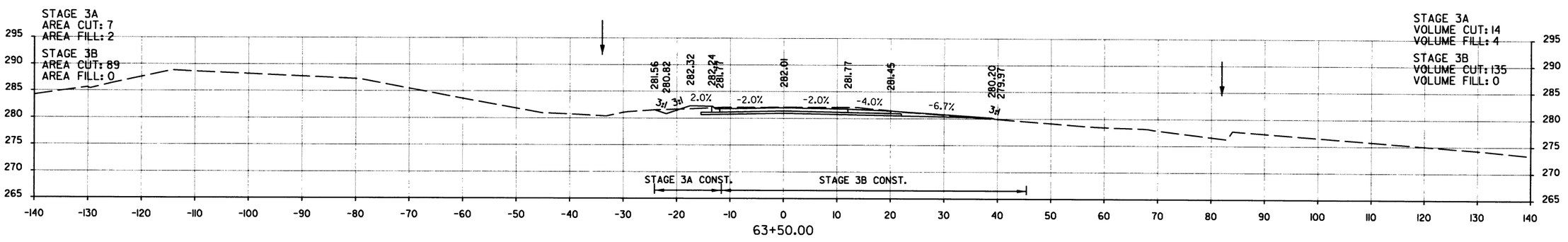
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	418	434

(2) CROSS SECTIONS

STA. 64+08.94 ℄ CONST. S. 2ND ST. END CONST.



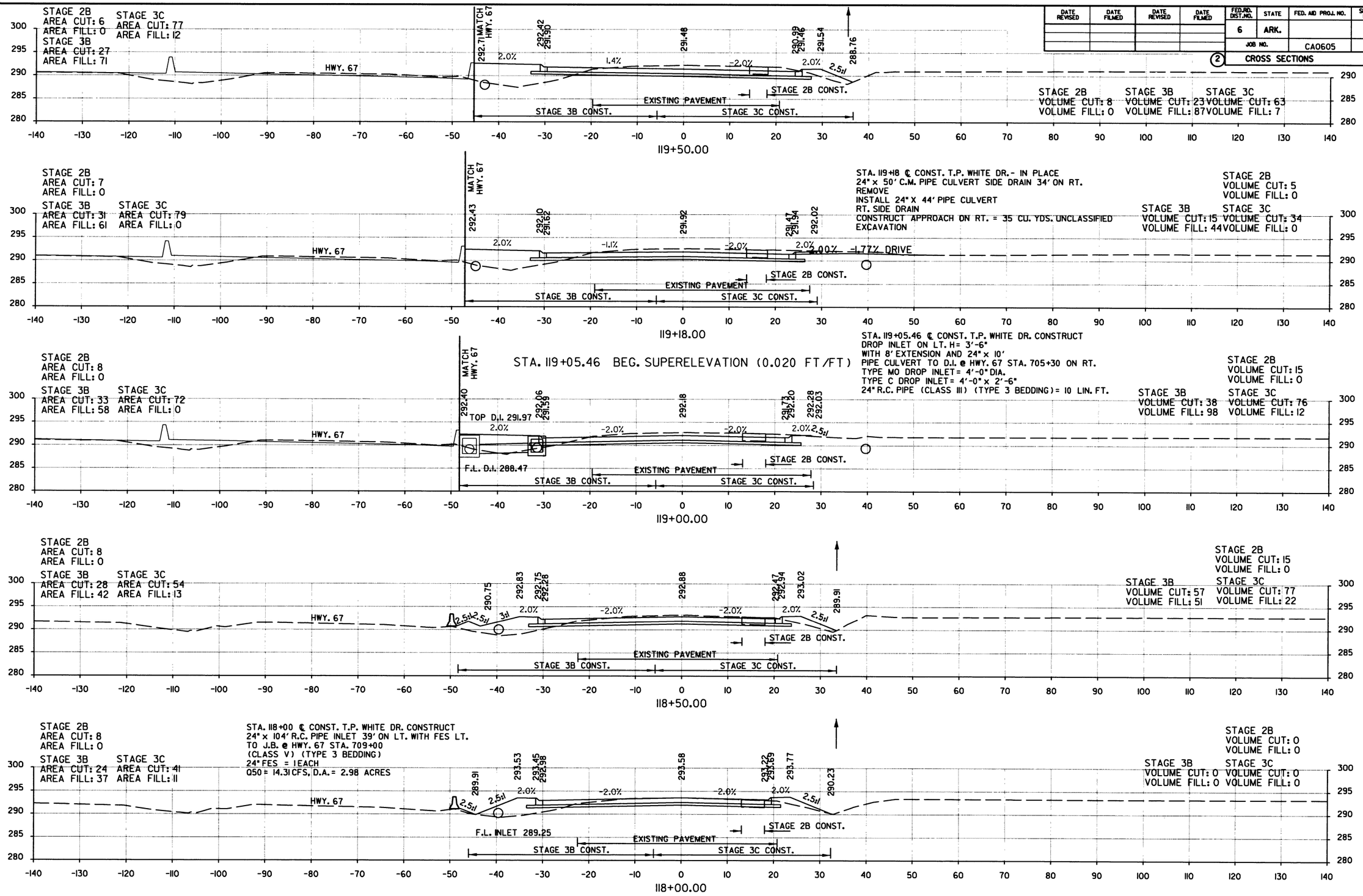




STA. 63+50.00 TO STA. 64+08.94
S. 2ND. ST.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	419	434

2 CROSS SECTIONS



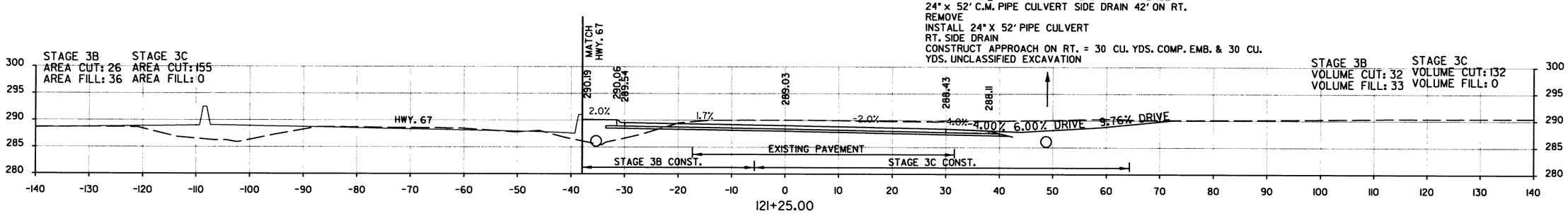
STA. 118+00.00 ℄ CONST. T.P. WHITE DR. BEGIN CONST.

STA. 118+00.00 TO STA. 119+50.00
T.P. WHITE DR.

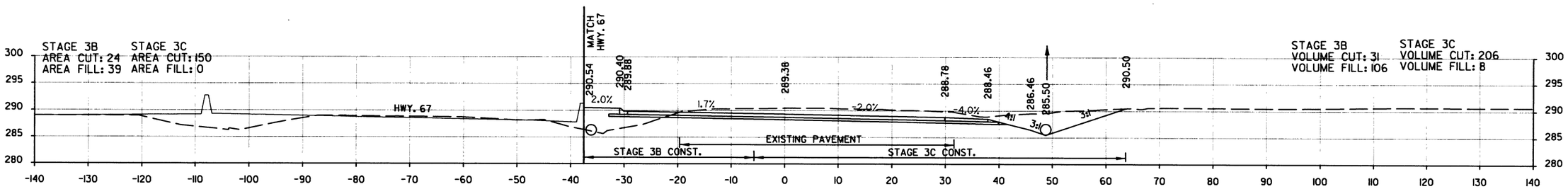
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	420	434

(2) CROSS SECTIONS

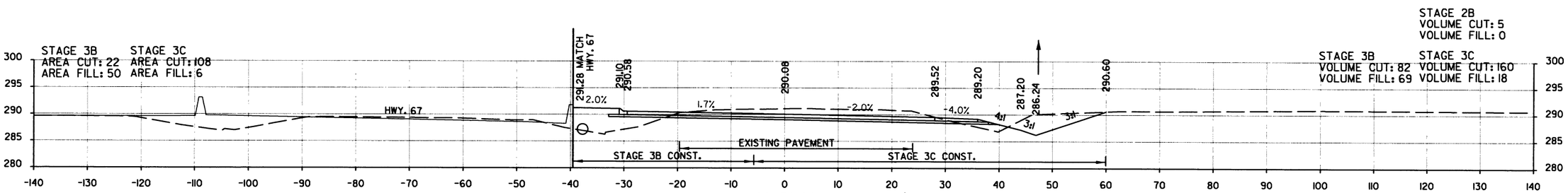
STA. 121+25 ℄ CONST. T.P. WHITE DR. - IN PLACE
24" x 52' C.M. PIPE CULVERT SIDE DRAIN 42' ON RT.
REMOVE
INSTALL 24" X 52' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 30 CU. YDS. COMP. EMB. & 30 CU. YDS. UNCLASSIFIED EXCAVATION



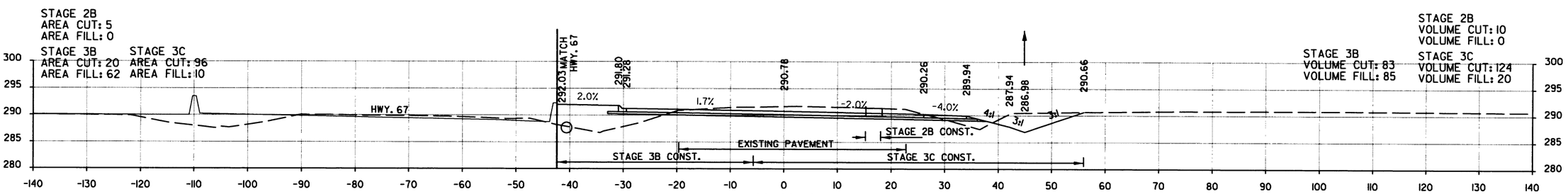
121+25.00



121+00.00



120+50.00



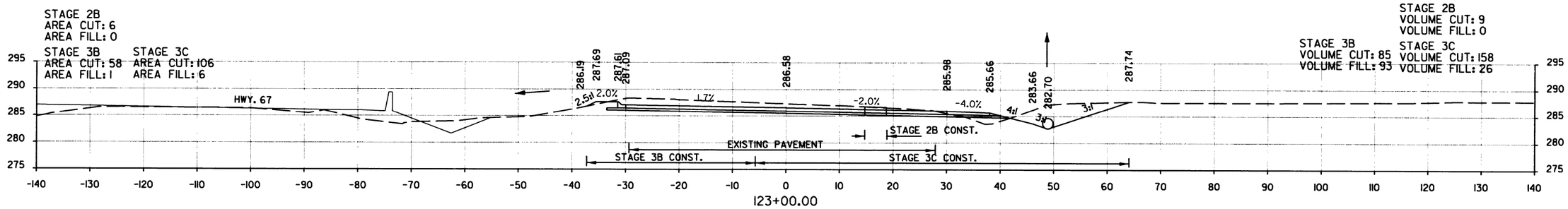
120+00.00

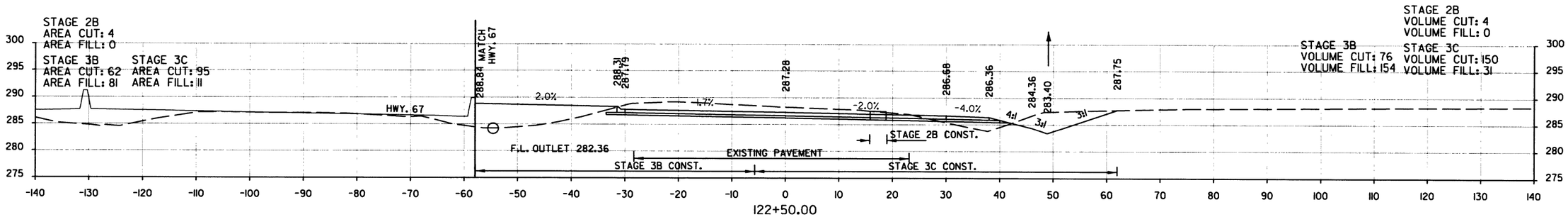
STA. 119+53.33 MAX. SUPERELEVATION (0.017 FT/FT)

STA. 120+00.00 TO STA. 121+25.00
T.P. WHITE DR.

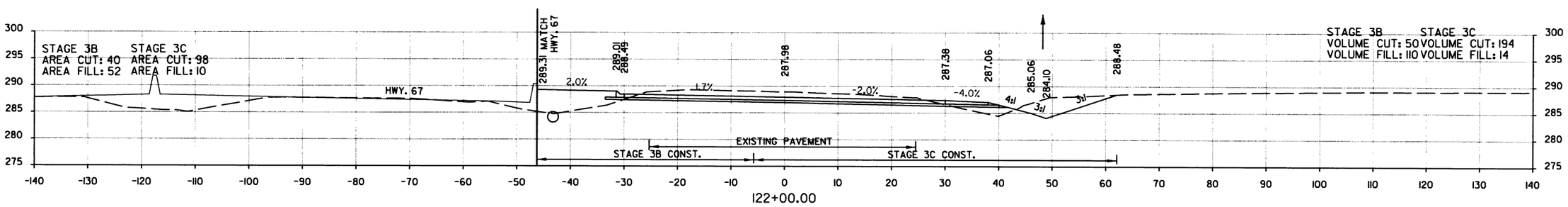
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	421	434

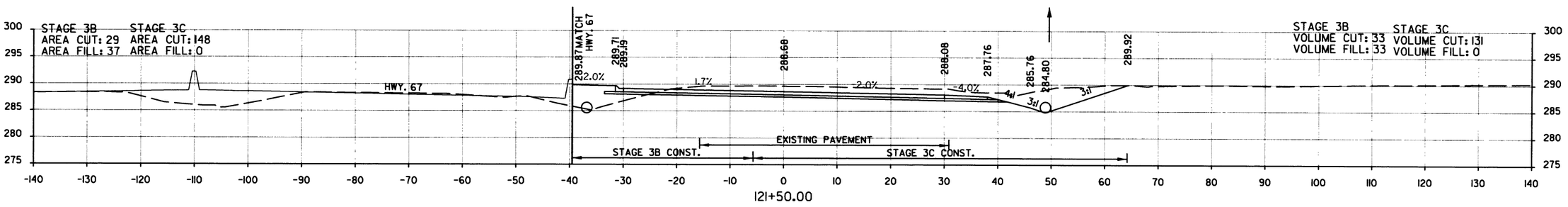
(2) CROSS SECTIONS





STA. 123+48.92 MAX. SUPERELEVATION (0.017 FT/FT)

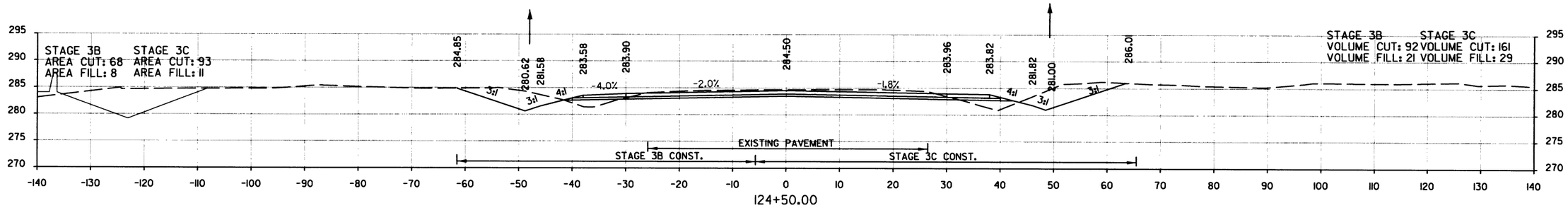




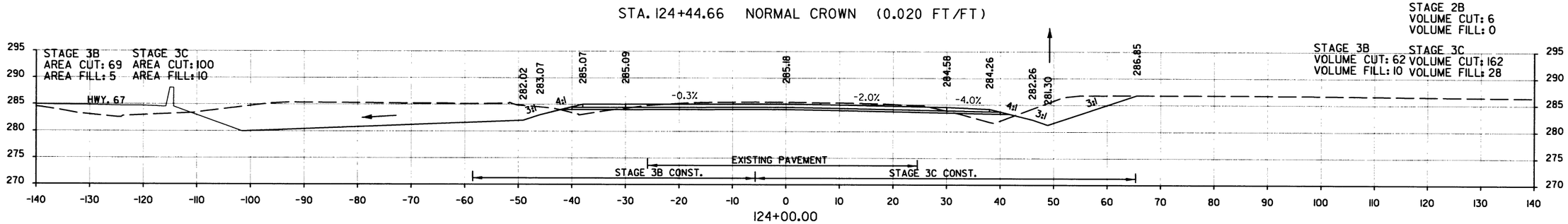
STA. 121+50.00 TO STA. 123+00.00
T.P. WHITE DR.

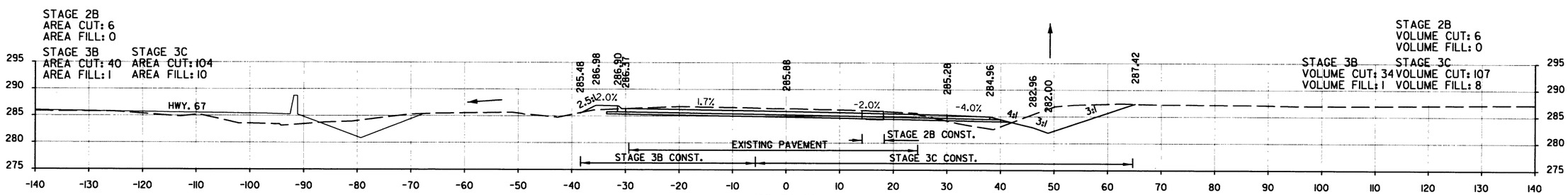
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	422	434

(2) CROSS SECTIONS

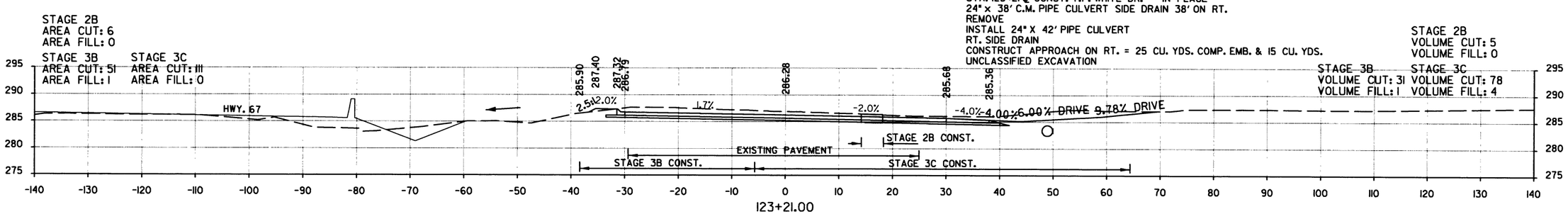


STA. 124+44.66 NORMAL CROWN (0.020 FT/FT)





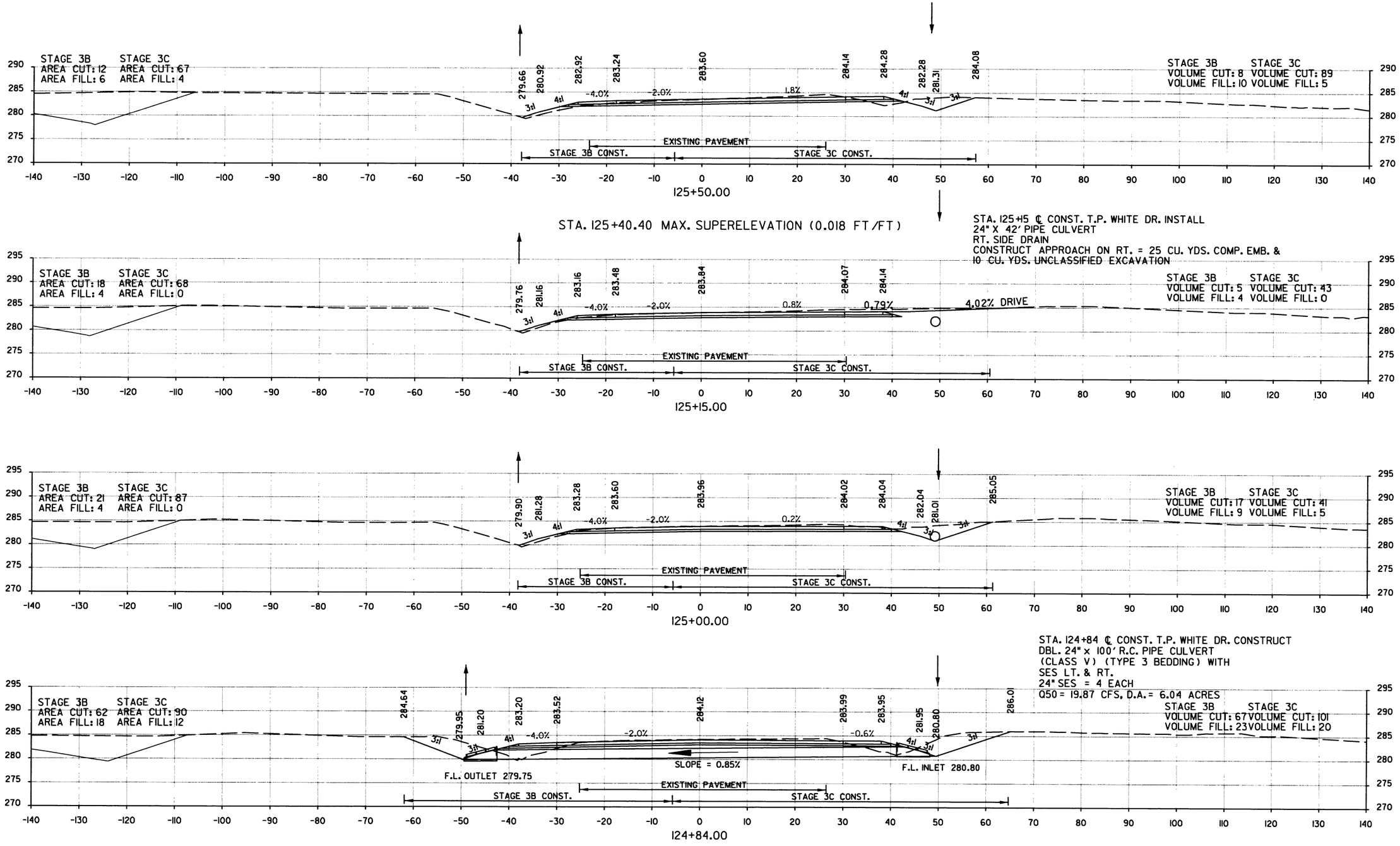
STA. 123+21 ℄ CONST. T.P. WHITE DR. - IN PLACE
24" x 38' C.M. PIPE CULVERT SIDE DRAIN 38' ON RT.
REMOVE
INSTALL 24" X 42' PIPE CULVERT
RT. SIDE DRAIN
CONSTRUCT APPROACH ON RT. = 25 CU. YDS. COMP. EMB. & 15 CU. YDS.
UNCLASSIFIED EXCAVATION



STA. 123+21.00 TO STA. 124+50.00
T.P. WHITE DR.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	423	434

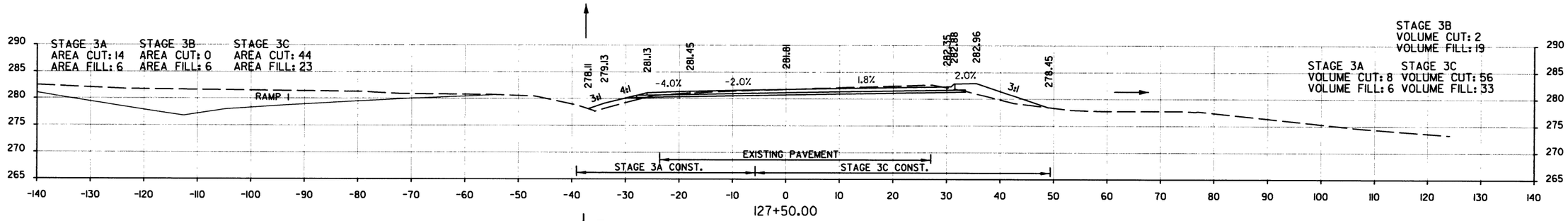
(2) CROSS SECTIONS

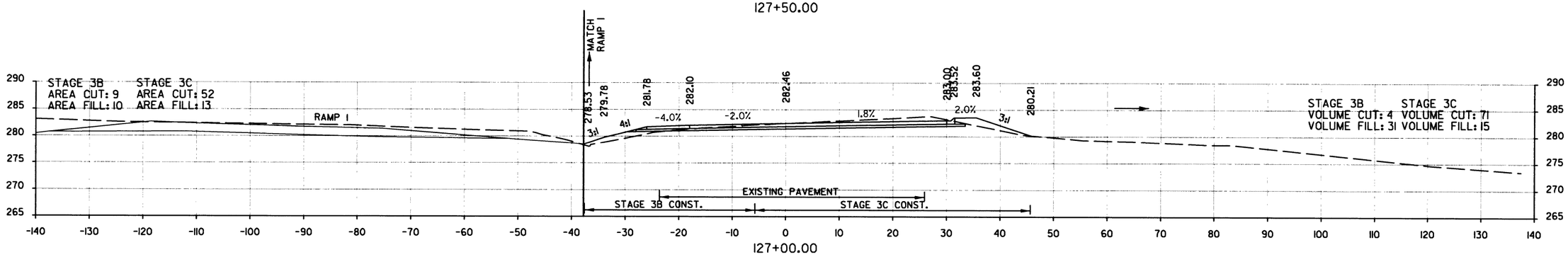


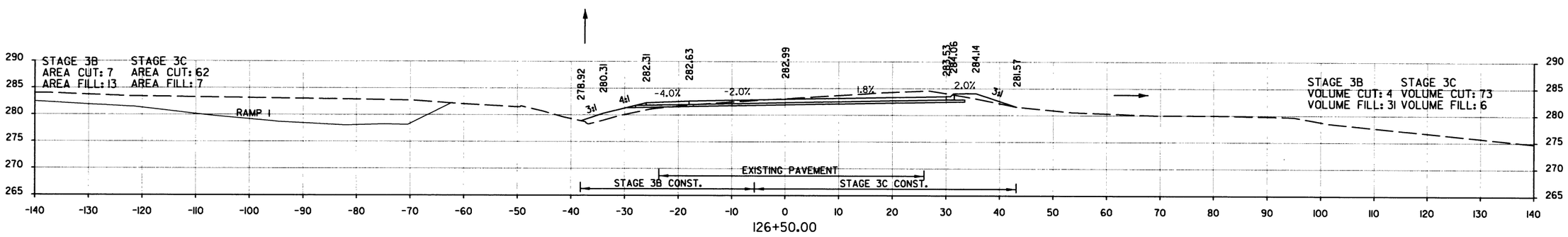
STA. 124+84.00 TO STA. 125+50.00
T.P. WHITE DR.

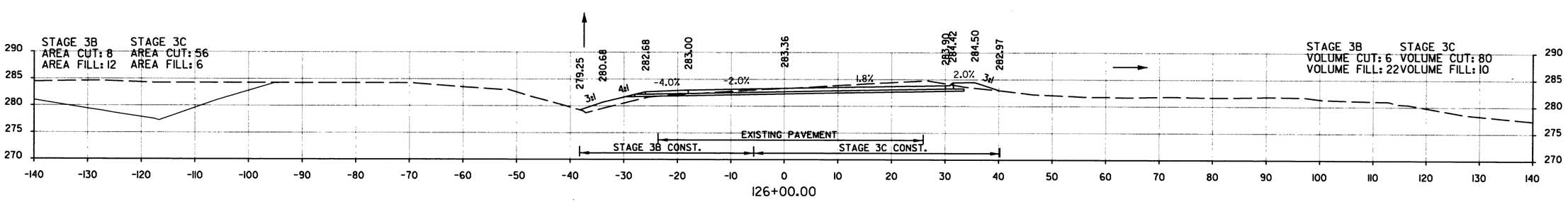
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	424	434

2 CROSS SECTIONS





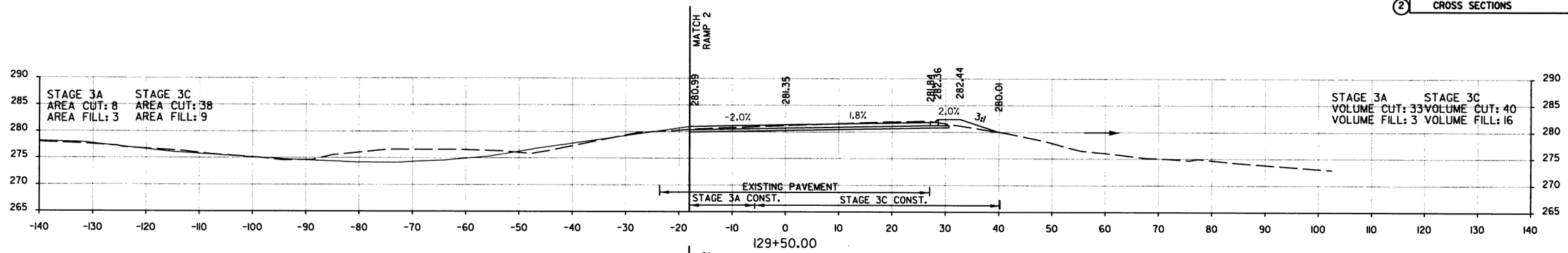




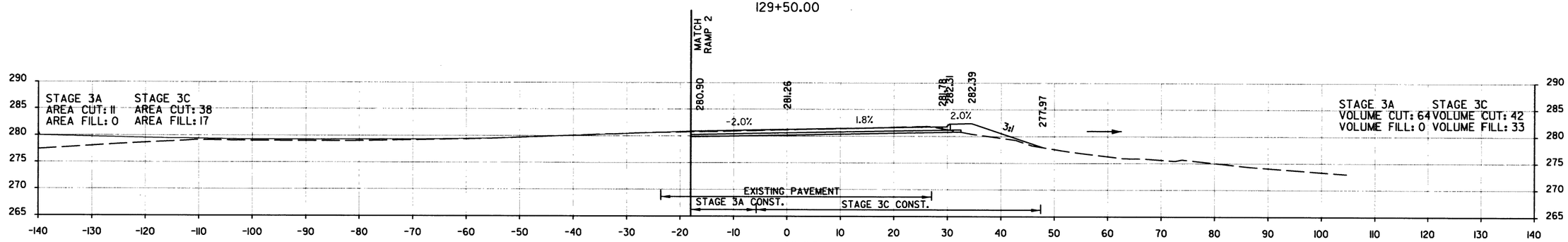
STA. 126+00.00 TO STA. 127+50.00
T.P. WHITE DR.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	425	434

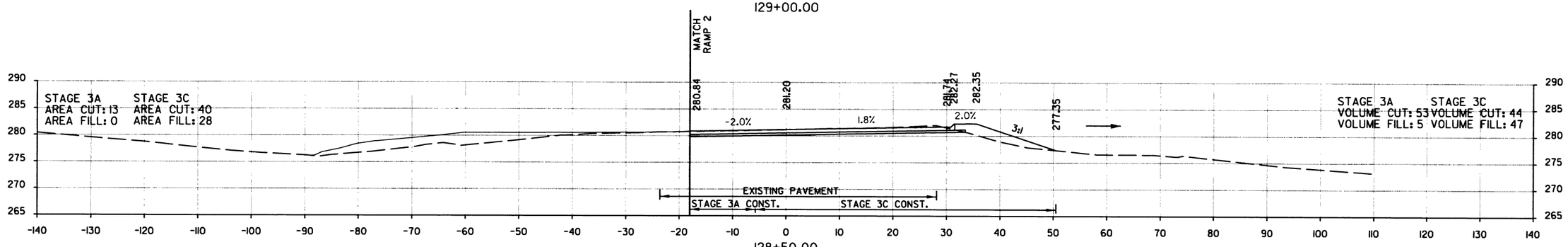
(2) CROSS SECTIONS



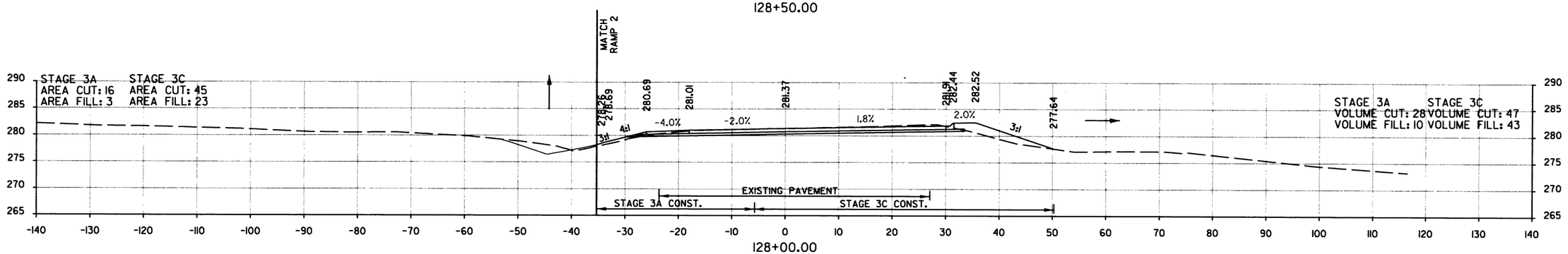
129+50.00



129+00.00



128+50.00



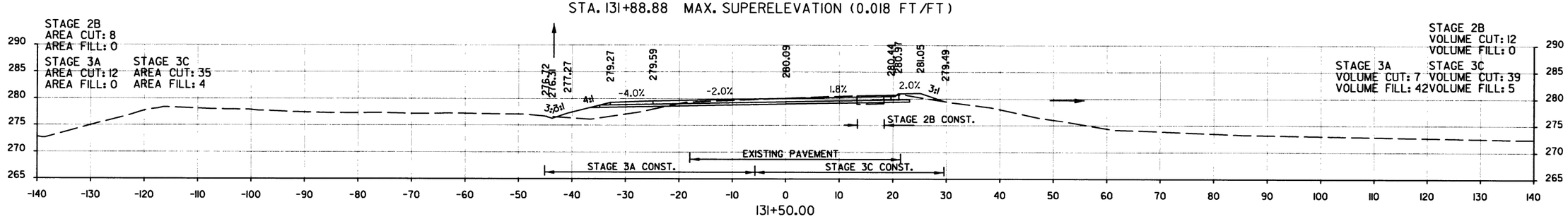
128+00.00

STA. 128+00.00 TO STA. 129+50.00
T.P. WHITE DR.

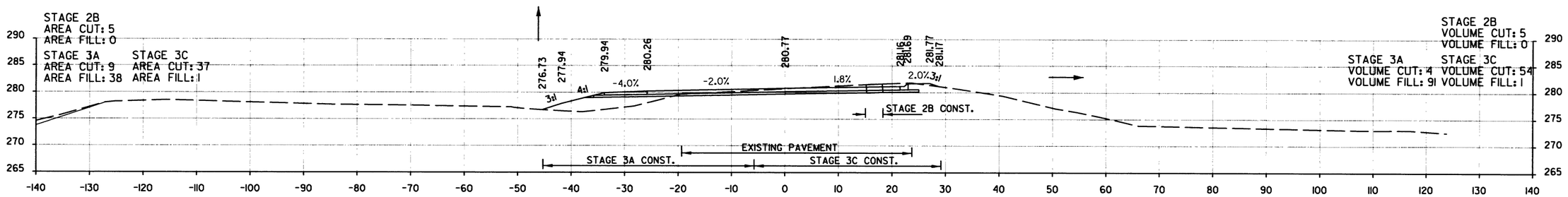
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	426	434

(2) CROSS SECTIONS

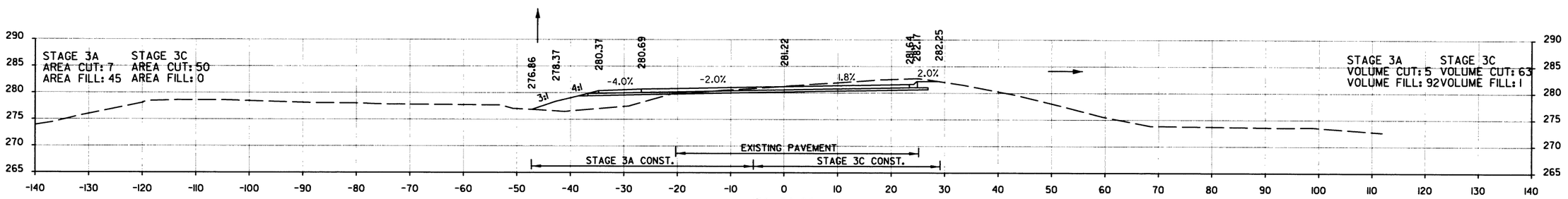
STA. 131+88.88 MAX. SUPERELEVATION (0.018 FT/FT)



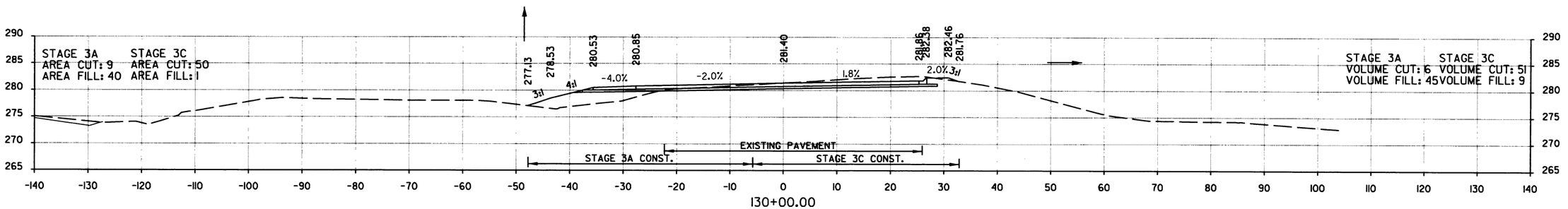
131+50.00



131+00.00



130+50.00

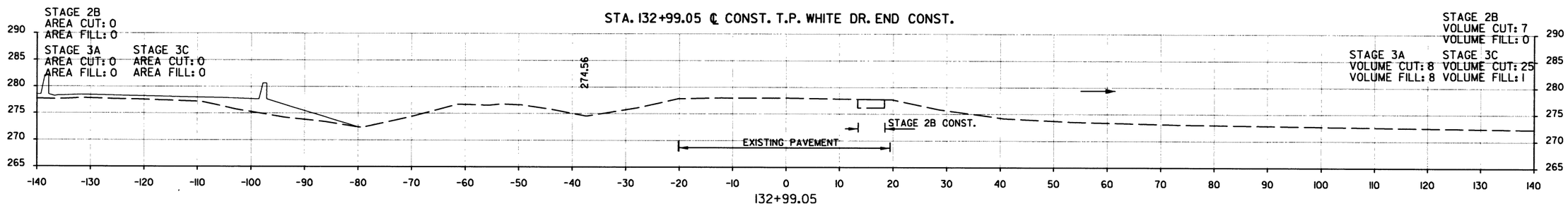


130+00.00

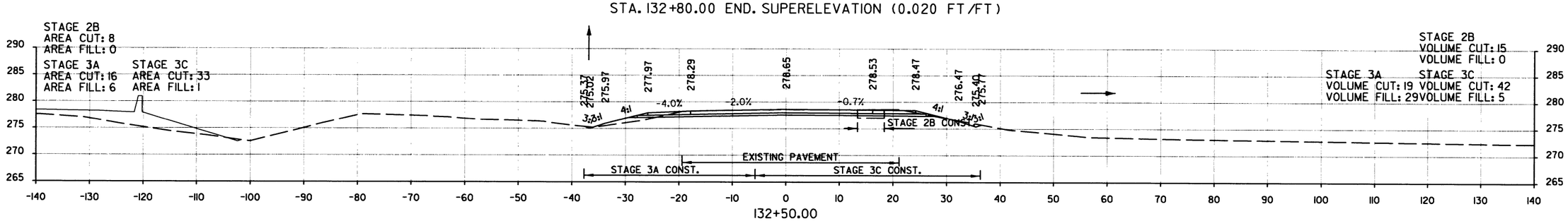
STA. 130+00.00 TO STA. 131+50.00
T.P. WHITE DR.

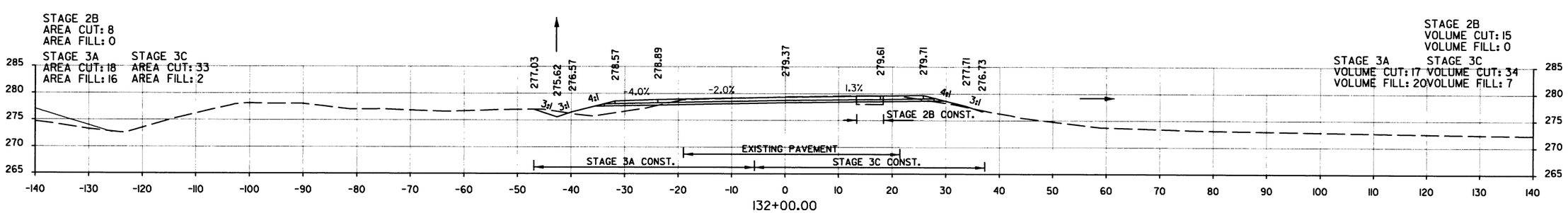
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	427	434

(2) CROSS SECTIONS



STA. 132+80.00 END. SUPERELEVATION (0.020 FT/FT)

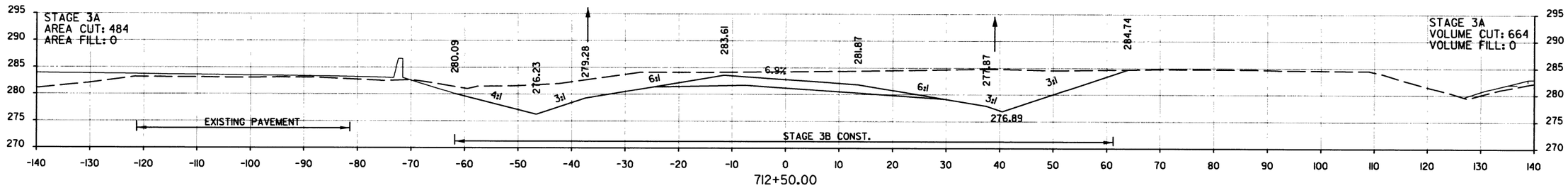




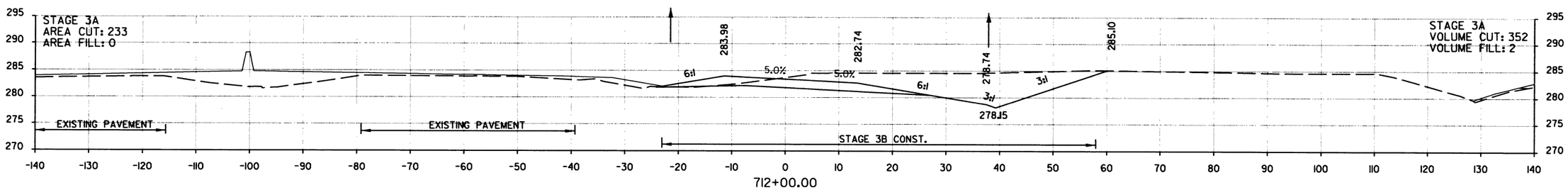
STA. 132+00.00 TO STA. 132+99.05
T.P. WHITE DR.

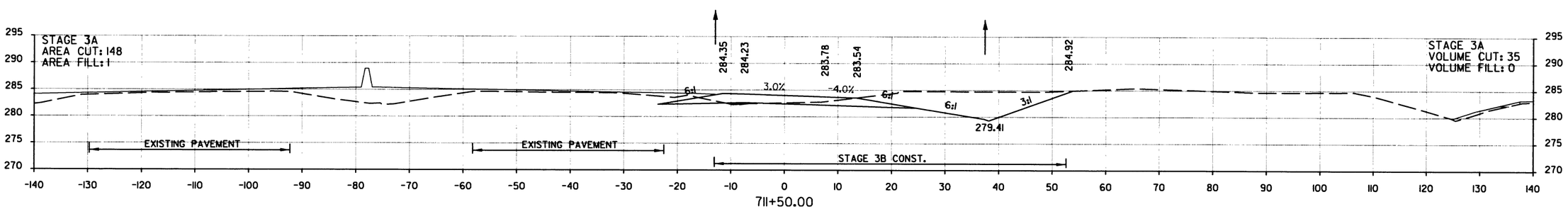
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	428	434

(2) CROSS SECTIONS

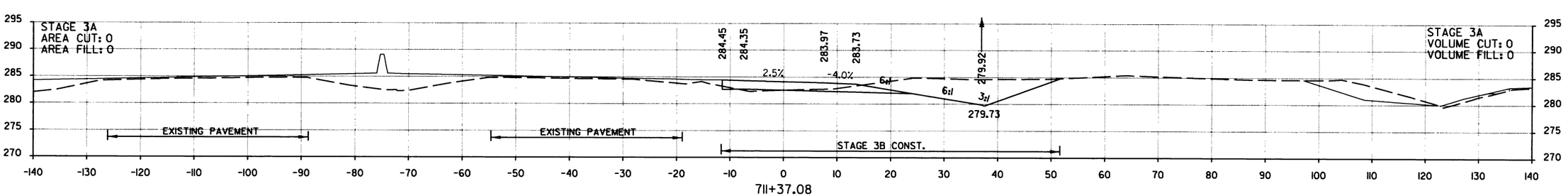


LT. STA. 712+36.87
BEGIN SP. DT. @ +0.48%
ELEV. 276.17'





RT. STA. 711+37.08
BEGIN SP. DT. @ -2.51%
ELEV. 279.92'

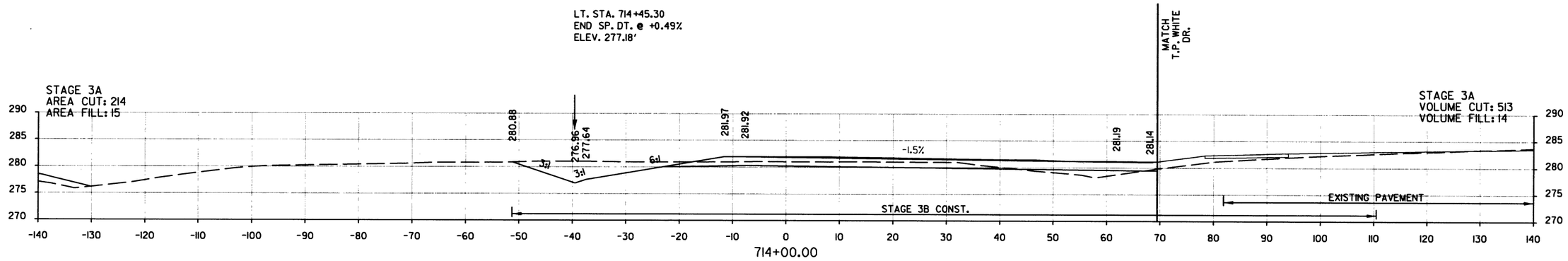


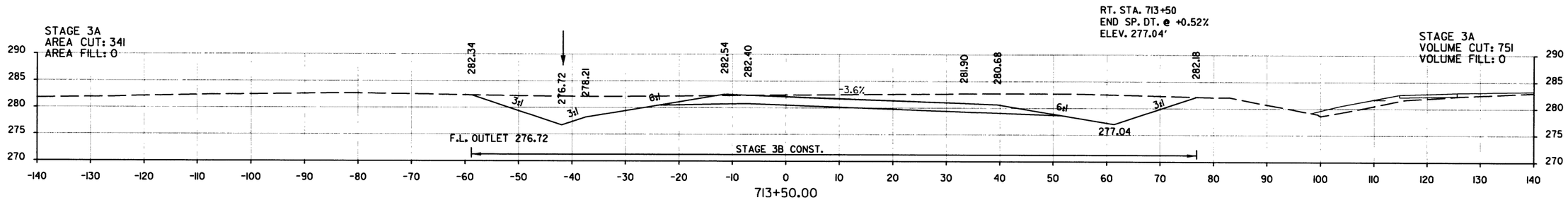
STA. 711+37.08 ℄ CONST. RAMP 1 BEGIN CONST.

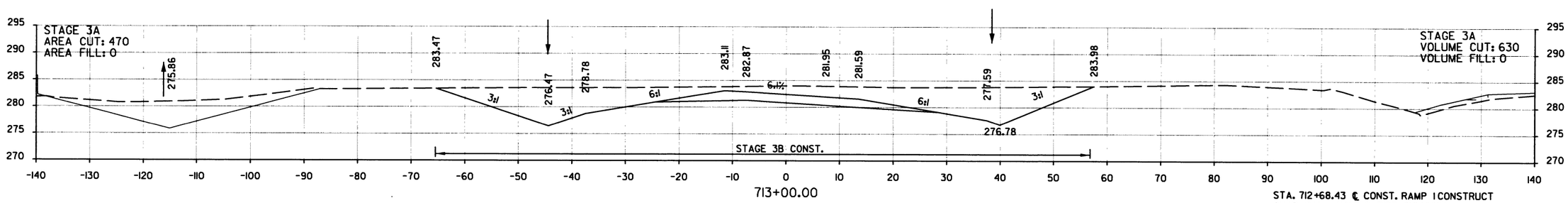
STA. 711+37.08 TO STA. 712+50.00
RAMP 1

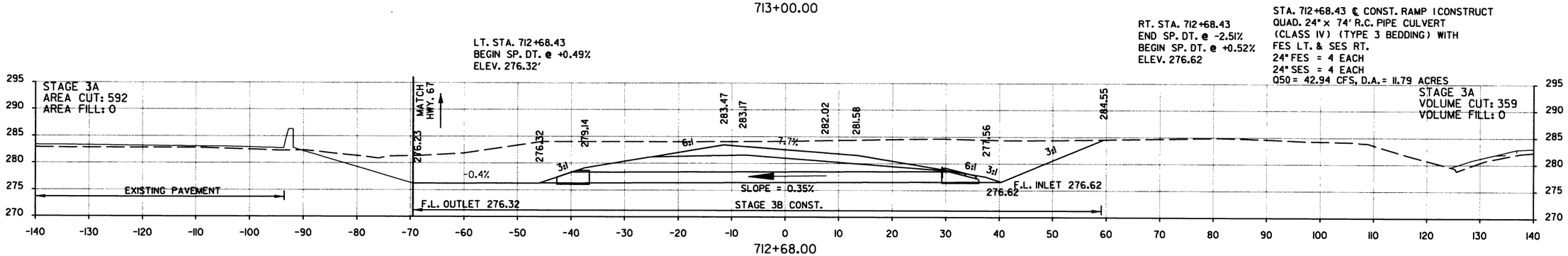
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	429	434

(2) CROSS SECTIONS





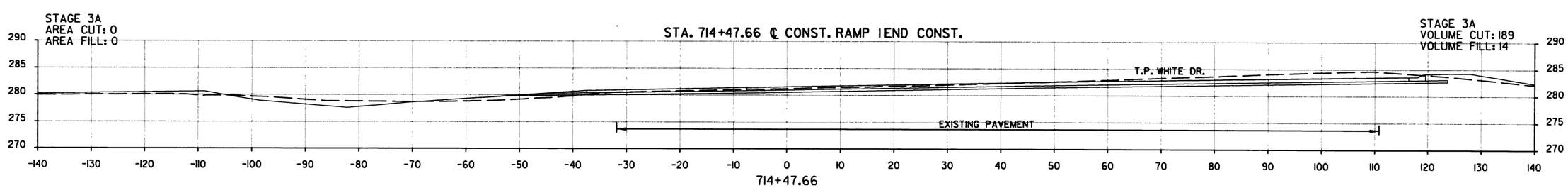




STA. 712+68.00 TO STA. 714+00.00
RAMP I

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	430	434

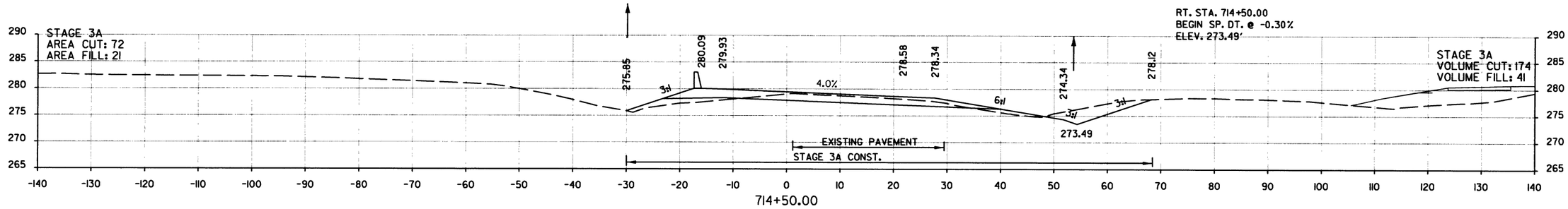
2 CROSS SECTIONS

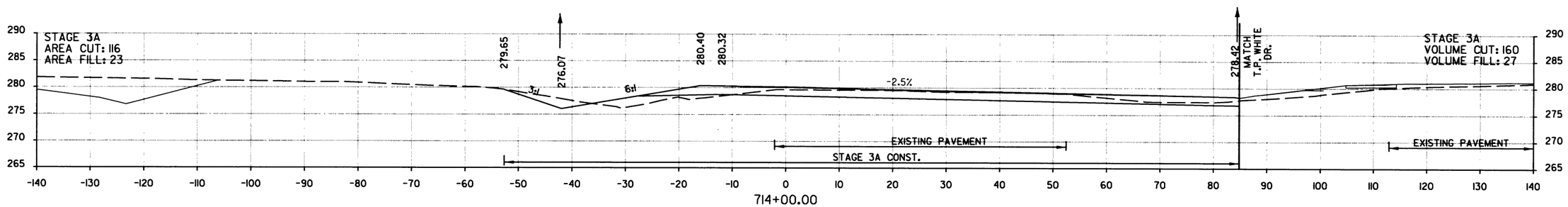


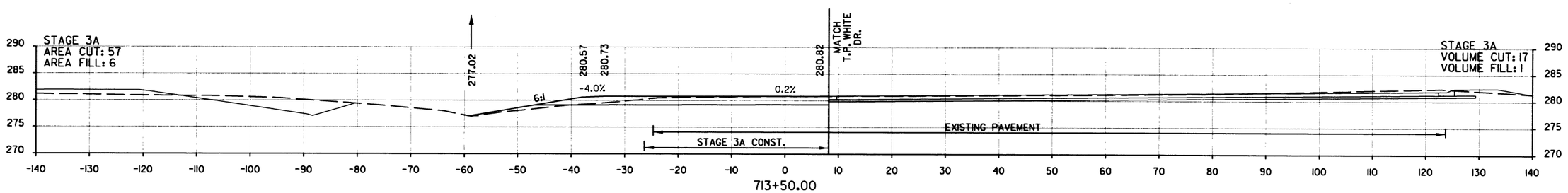
STA. 714+47.66 TO STA. 714+47.66
RAMP 1

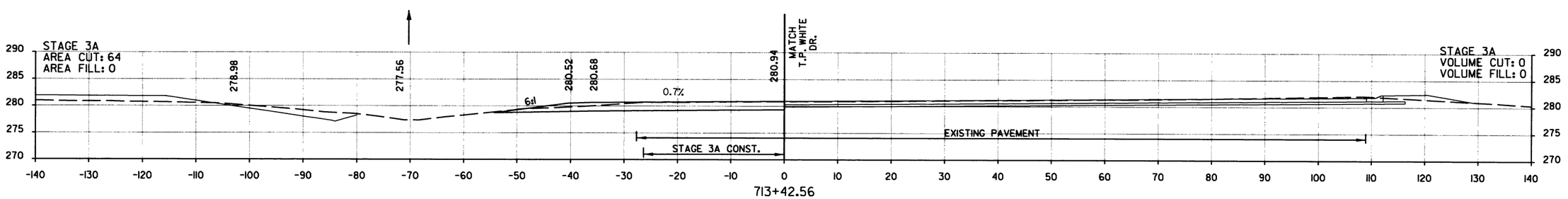
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	431	434

(2) CROSS SECTIONS









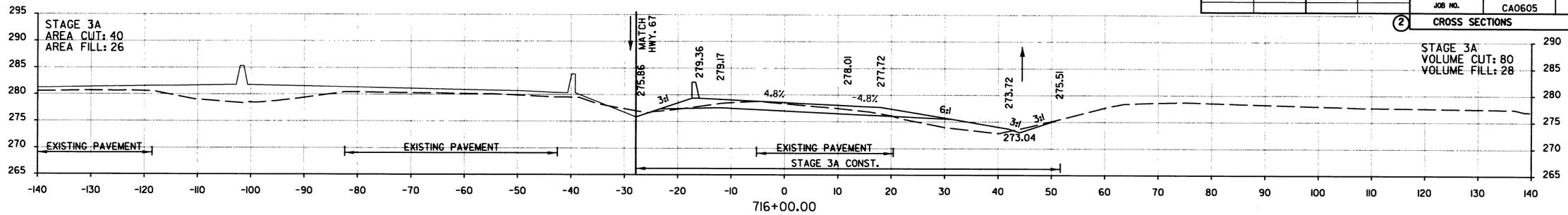
STA. 713+42.56 ℄ CONST. RAMP 2 BEGIN CONST.

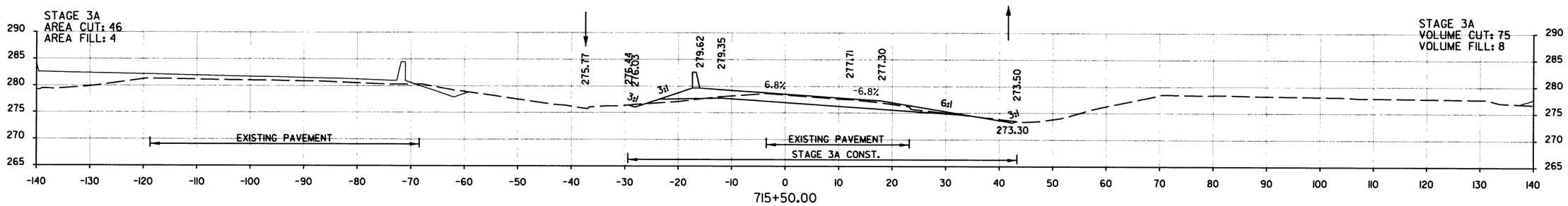
STA. 713+42.56 TO STA. 714+50.00
RAMP 2

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		CA0605	432	434

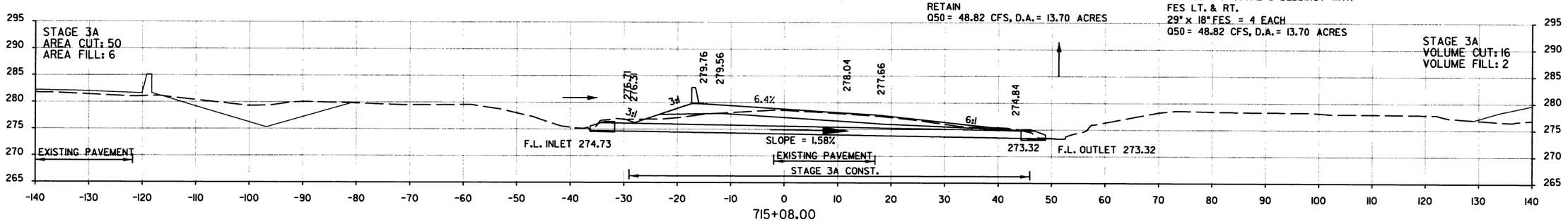
2 CROSS SECTIONS

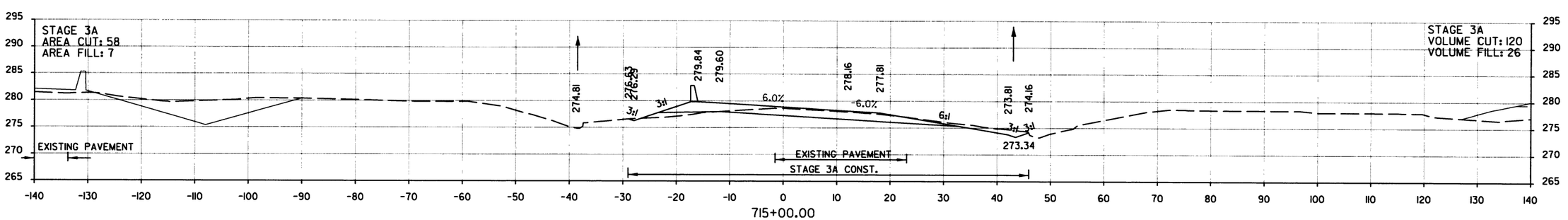




STA. 715+06 ℄ CONST. RAMP 2 - IN PLACE
DBL. 29" x 18" x 86' R.C. ARCH PIPE CULVERT
WITH FES LT. & RT.
RETAIN
Q50 = 48.82 CFS, D.A. = 13.70 ACRES

STA. 715+06 ℄ CONST. RAMP 2 CONSTRUCT
DBL. 29" x 18" x 86' R.C. ARCH PIPE CULVERT
(CLASS IV) (TYPE 3 BEDDING) WITH
FES LT. & RT.
29" x 18" FES = 4 EACH
Q50 = 48.82 CFS, D.A. = 13.70 ACRES

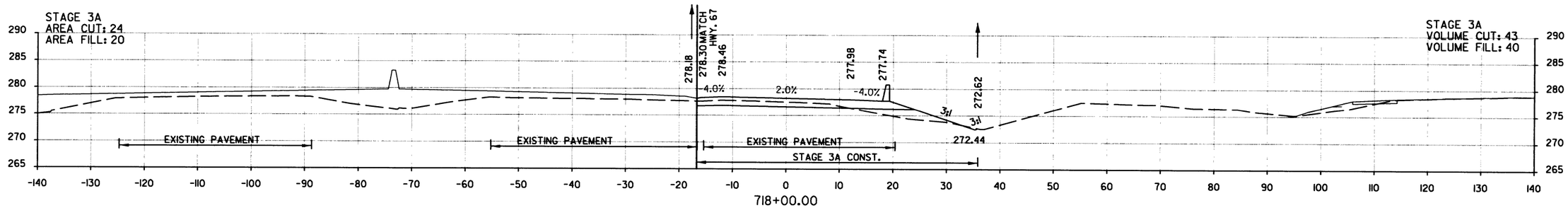


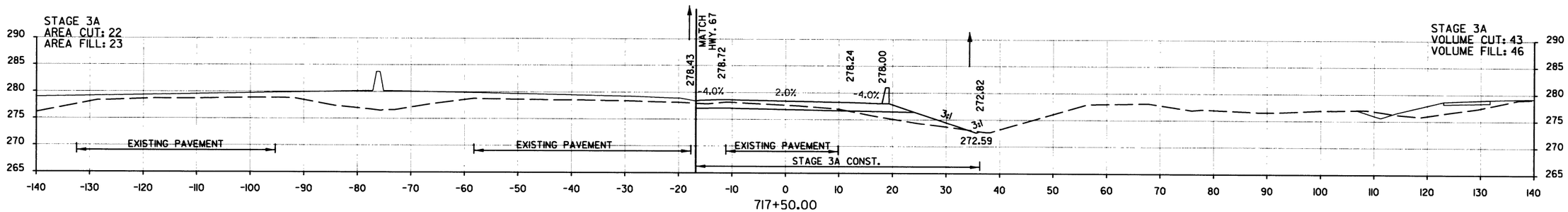


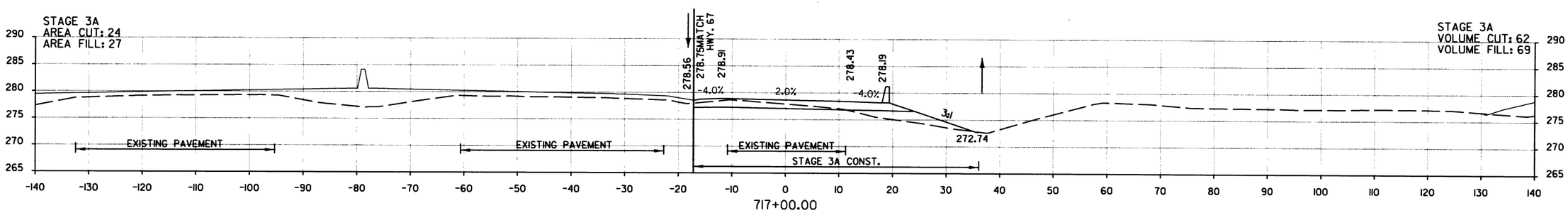
STA. 715+00.00 TO STA. 716+00.00
RAMP 2

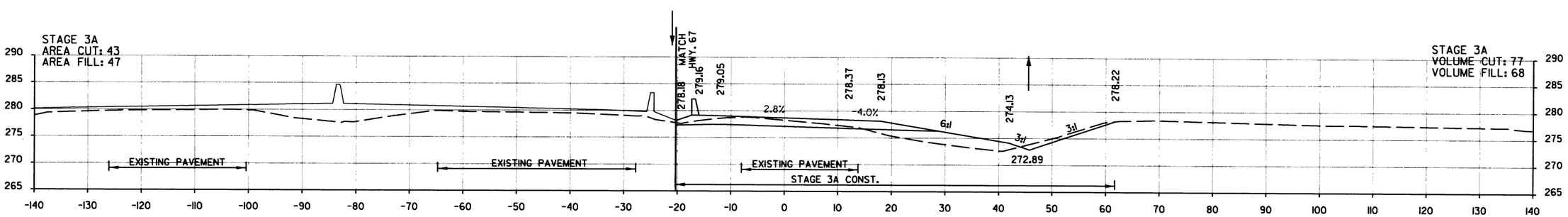
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	433	434

(2) CROSS SECTIONS







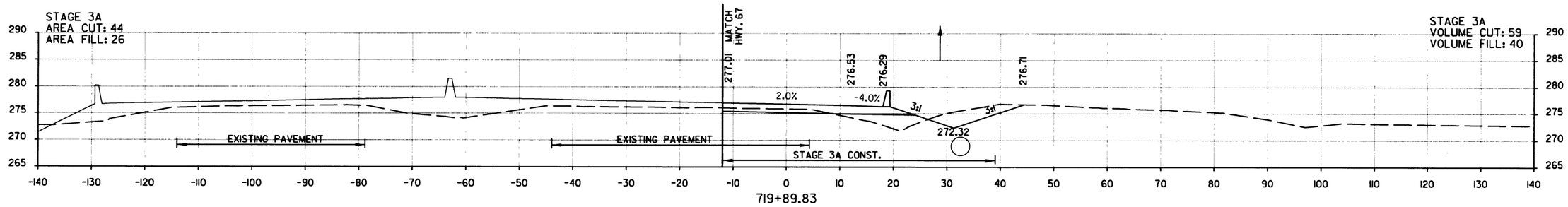


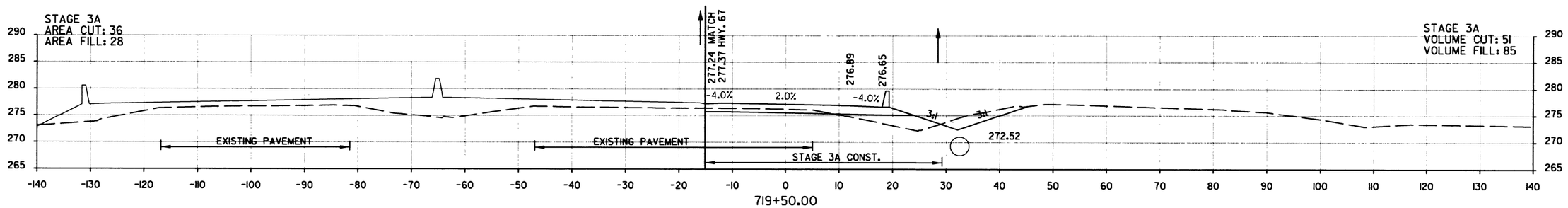
STA. 716+50.00 TO STA. 718+00.00
RAMP 2

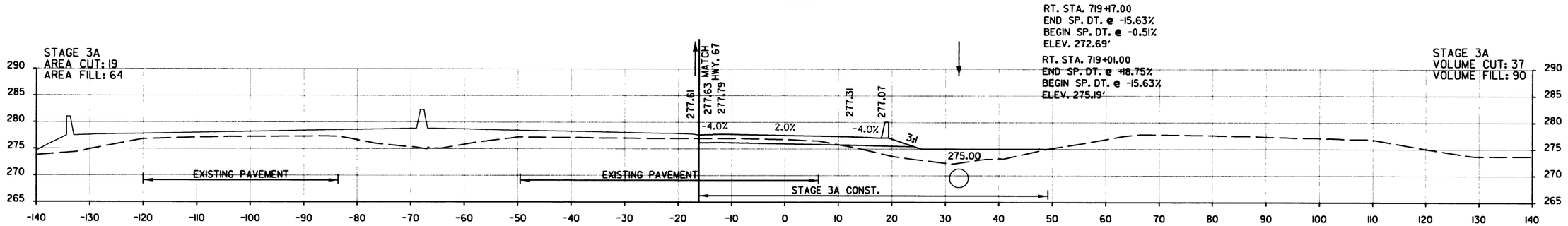
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		CA0605	434	434

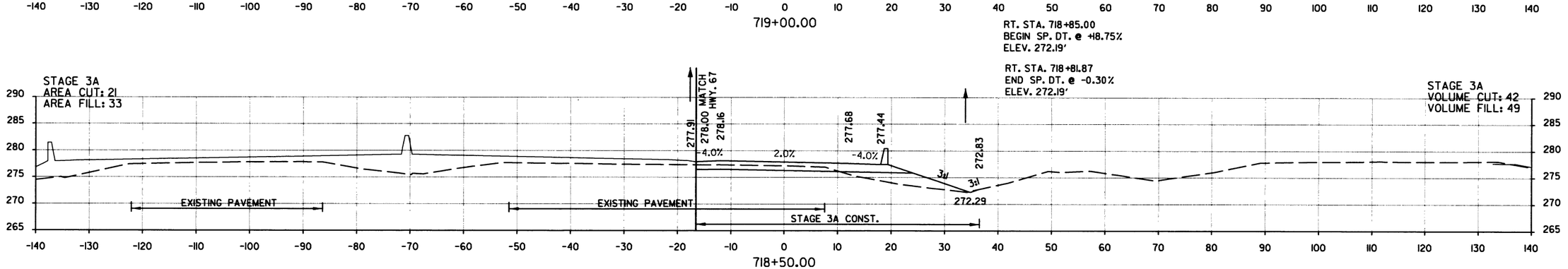
2 CROSS SECTIONS

STA. 719+89.83 ℄ CONST. RAMP 2 END CONST.









STA. 718+50.00 TO STA. 719+89.83
RAMP 2