DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	1	242
				② ARK. RIVER BRIDGE - I-40 (S)				

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

CONSTRUCTION PLANS FOR STATE HIGHWAY

ARK. RIVER BRIDGE - I-40 (S)

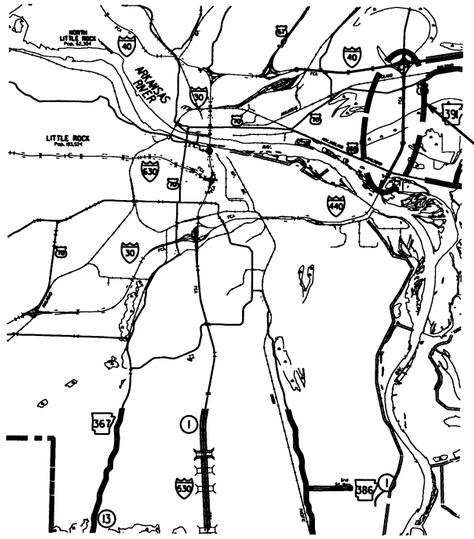
PULASKI COUNTY

JOB BB0612

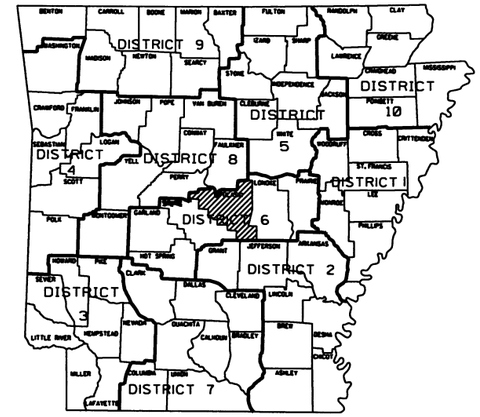
F.A.P. BIM-B440(202)

ROUTE 440 SECTION 1

NOT TO SCALE



VICINITY MAP



ARK. HWY. DIST. NO. 6

EXCEPTIONS TO JOB BB0612 (BRIDGES)

① STA. 343+64.96 BRIDGE END
336'-1⅛" BRIDGE LENGTH
COMPOSITE PLATE GIRDER; SPANS 80' - 87'
BRIDGE NO. 5706A
5°30' RT FWD SKEW
64'-0" TO 96'-8" CLEAR ROADWAY WIDTH
STA. 347+01.06 BRIDGE END
RETAIN

② STA. 343+64.96 BRIDGE END
336'-1⅛" BRIDGE LENGTH
COMPOSITE PLATE GIRDER; SPANS 80' - 87'
BRIDGE NO. 5706B
5°30' RT FWD SKEW
64'-0" CLEAR ROADWAY WIDTH
STA. 347+01.06 BRIDGE END
RETAIN

③ STA. 393+27.70 BRIDGE END
262'-5 ¼" BRIDGE LENGTH
CONTINUOUS PLATE GIRDER UNIT;
SPANS 63', 73' & 124'-3"
BRIDGE NO. 5707A
56'-0" CLEAR ROADWAY WIDTH
STA. 395+90.14 BRIDGE END
RETAIN

④ STA. 393+27.70 BRIDGE END
262'-5 ¼" BRIDGE LENGTH
CONTINUOUS PLATE GIRDER UNIT;
SPANS 63', 73' & 124'-3"
BRIDGE NO. 5707B
56'-0" CLEAR ROADWAY WIDTH
STA. 395+90.14 BRIDGE END
RETAIN

⑤ STA. 413+68.00 BRIDGE END
2240'-0" BRIDGE LENGTH
SIMPLE R.C. SLAB; SPANS 30'
CONTINUOUS PRESTRESSED CONCRETE
I-BEAM UNITS; SPANS 50'
BRIDGE NO. 5708A
56'-0" CLEAR ROADWAY WIDTH
STA. 436+08.00 BRIDGE END
RETAIN

⑥ STA. 413+68.00 BRIDGE END
2240'-0" BRIDGE LENGTH
SIMPLE R.C. SLAB; SPANS 30'
CONTINUOUS PRESTRESSED CONCRETE
I-BEAM UNITS; SPANS 50'
BRIDGE NO. 5708B
56'-0" CLEAR ROADWAY WIDTH
STA. 436+08.00 BRIDGE END
RETAIN

⑦ STA. 23+57.81 BRIDGE END
273'-4" BRIDGE LENGTH
CONTINUOUS W-BEAM UNIT;
SPANS 47', 94', 84' & 46'
BRIDGE NO. 5709
18°10' LT FWD SKEW
68'-0" CLEAR ROADWAY WIDTH
STA. 26+31.19 BRIDGE END
RETAIN

⑧ STA. 489+48.80 BRIDGE END
1154'-4" BRIDGE LENGTH;
BRIDGE NO. 5710A
56'-0" CLEAR ROADWAY WIDTH
STA. 501+03.08 BRIDGE END
RETAIN

⑨ STA. 489+48.80 BRIDGE END
1154'-4" BRIDGE LENGTH;
BRIDGE NO. 5710B
56'-0" CLEAR ROADWAY WIDTH
STA. 501+03.08 BRIDGE END
RETAIN

⑩ STA. 515+25.00 BRIDGE END
878'-8" BRIDGE LENGTH;
BRIDGE NO. 5985A
52'-0" CLEAR ROADWAY WIDTH
STA. 524+03.67 BRIDGE END
RETAIN

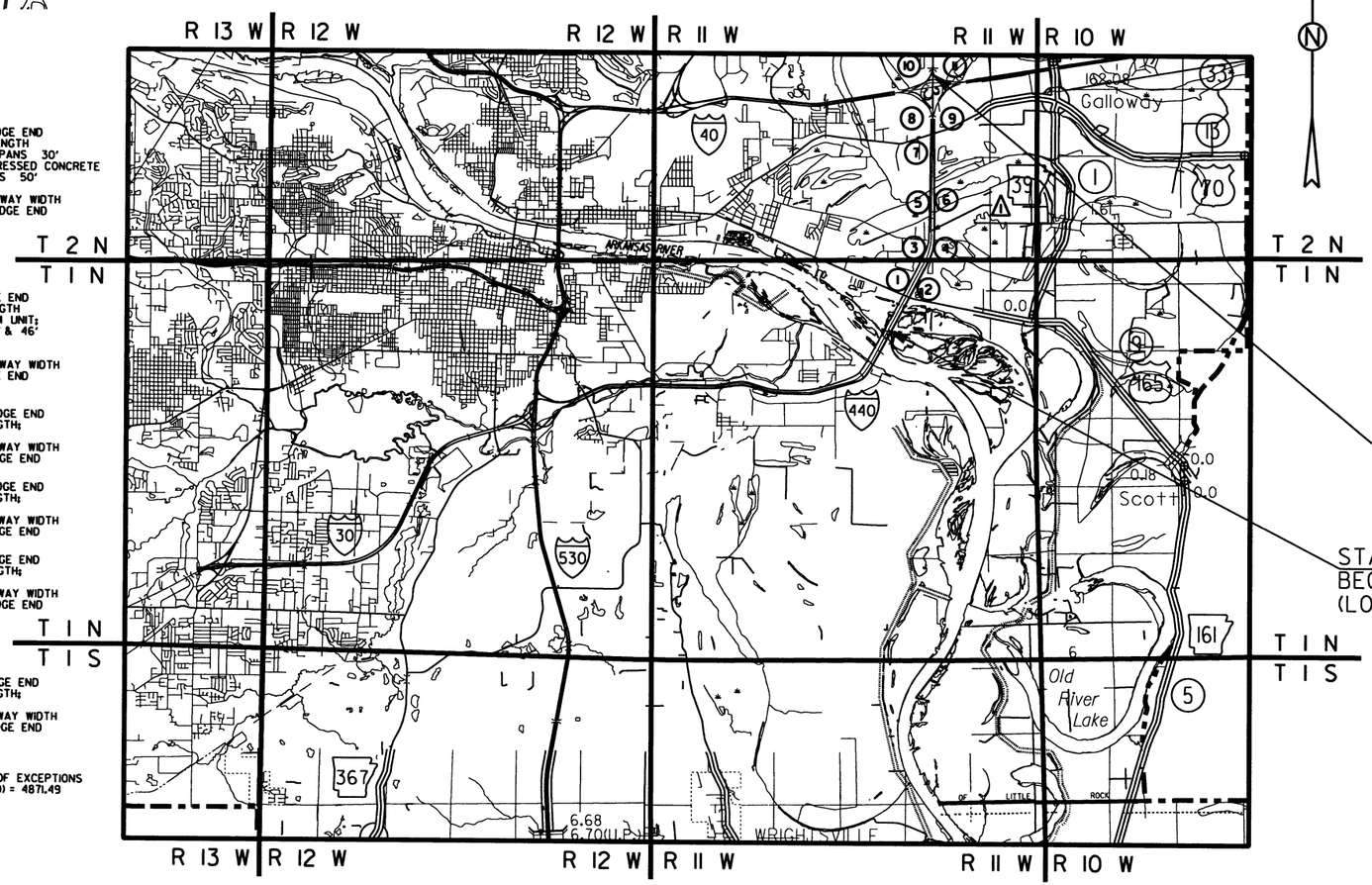
⑪ STA. 515+25.00 BRIDGE END
878'-8" BRIDGE LENGTH;
BRIDGE NO. 5985B
52'-0" CLEAR ROADWAY WIDTH
STA. 524+03.67 BRIDGE END
RETAIN

TOTAL LENGTH OF EXCEPTIONS (C.L. MEDIAN I-40) = 4871.49

BEGIN-POINT OF PROJECT
LAT. 34°43'40" N
LONG. 92°10'31" W

MID-POINT OF PROJECT
LAT. 34°45'19" N
LONG. 92°09'45" W

END-POINT OF PROJECT
LAT. 34°47'04" N
LONG. 92°09'41" W



· DESIGN TRAFFIC DATA ·

DESIGN YEAR---------- 2036
2016 ADT---------- 48,000
2036 ADT---------- 57,600
2036 DHV---------- 6,336
DIRECTIONAL DISTRIBUTION----------0.60
TRUCKS---------- 32%
DESIGN SPEED---------- 65 MPH

EQUATION (℄ MEDIAN)

⚠ STA 398+60.72 BK. =
STA 398+78.17 AHD.

LENGTH COMPUTED ALONG ℄ I-440

GROSS LENGTH OF PROJECT	21717.55	FT. OR	4.113 MI.
NET LENGTH OF ROADWAY	16846.06	FT. OR	3.190 MI.
NET LENGTH OF BRIDGES	0.00	FT. OR	0.000 MI.
NET LENGTH OF PROJECT	16846.06	FT. OR	3.190 MI.

CERTIFICATE OF AUTHORIZATION
BRIDGEFARMER & ASSOCIATES ENGINEERING
No. 945
ARKANSAS-ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
11/3/2016

P.E. JOB BB0612

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	2	242

2 INDEX OF SHEETS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
DAVID A. KHRIAR
11-3-2016

INDEX OF SHEETS

SHEET NO.	TITLE	BRIDGE NO.	DRWG.NO.	DATE
1	TITLE SHEET			
2	INDEX OF SHEETS			
3	GOVERNING SPECIFICATIONS AND GENERAL NOTES			
4 - 9	TYPICAL SECTIONS OF IMPROVEMENT			
10 - 14	SPECIAL DETAILS			
15 - 24	TEMPORARY EROSION CONTROL DETAILS			
25 - 120	MAINTENANCE OF TRAFFIC DETAILS			
121 - 131	PERMANENT PAVEMENT MARKING DETAILS			
132	SIGNING SUMMARY OF QUANTITIES AND NOTES			
133 - 134	SIGN QUANTITIES			
135 - 151	SIGN LAYOUT SHEETS			
152 - 161	SIGN PLACEMENT SHEETS			
162 - 176	QUANTITIES			
177 - 178	SUMMARY OF QUANTITIES AND REVISIONS			
179 - 188	PLAN SHEETS			
189	DETAILS OF TYPE SPECIAL 1 APPROACH GUTTER ON 440 OVER ARKANSAS RIVER	A5705	59307	
190	DETAILS OF TYPE SPECIAL 2 & 3 APPROACH GUTTER 440 BRIDGES OVER ENGLAND ROAD	A&B5706	59308	
191	DETAILS OF TYPE SPECIAL 4 & 5 APPROACH GUTTER 440 BRIDGES OVER FAULKNER LAKE ROAD	A&B5707	59309	
192	DETAILS OF TYPE SPECIAL 6 & 7 APPROACH GUTTER 440 BRIDGES OVER FAULKNER LAKE	A&B5708	59310	
193	DETAILS OF TYPE SPECIAL 8 APPROACH GUTTER 440 BRIDGES OVER C.R.I.&P. R.R.	B5710	59311	
194	DETAILS OF TYPE SPECIAL 9 & 10 APPROACH GUTTER 440 BRIDGES OVER C.R.I.&P. R.R.	D5710	59312	
195	DETAILS OF TYPE SPECIAL 11 APPROACH GUTTER ON NORTH TERMINAL INTERCHANGE RAMP SW	5710C & 5712	59313	
196	DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 1 OF 5)	OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47	59314	
197	DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 2 OF 5)	OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47	59315	
198	DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 3 OF 5)	OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47	59316	
199	DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 4 OF 5)	OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47	59317	
200	DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 5 OF 5)	OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47	59318	
201	DETAILS FOR STANDARD 55' TO 65' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 1 OF 5)	OH-440-60-49, OH-440-60-50, OH-440-60-51	59319	
202	DETAILS FOR STANDARD 55' TO 65' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 2 OF 5)	OH-440-60-49, OH-440-60-50, OH-440-60-51	59320	
203	DETAILS FOR STANDARD 55' TO 65' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 3 OF 5)	OH-440-60-49, OH-440-60-50, OH-440-60-51	59321	
204	DETAILS FOR STANDARD 55' TO 65' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 4 OF 5)	OH-440-60-49, OH-440-60-50, OH-440-60-51	59322	
205	DETAILS FOR STANDARD 55' TO 65' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION (SHEET 5 OF 5)	OH-440-60-49, OH-440-60-50, OH-440-60-51	59323	
206	DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE NORTH BELT SIGNING (SHEET 1 OF 2)	BM-040-60-49	59324	
207	DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE NORTH BELT SIGNING (SHEET 2 OF 2)	BM-040-60-49	59325	
208	DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE NORTH BELT SIGNING (SHEET 1 OF 2)	BM-440-60-48	59326	
209	DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE NORTH BELT SIGNING (SHEET 2 OF 2)	BM-440-60-48	59327	
210	CONCRETE DITCH PAVING		CDP-1	11-17-10
211	TRANSVERSE & LONGITUDINAL JOINTS FOR CONCRETE PAVEMENT (NON-REINFORCED)		CPTJ-6A	5-25-06
212	DETAILS OF DROP INLETS AND SPILLWAY OUTLET		FPC-9N	7-02-98
213	GUARD RAIL DETAILS		GR-8	7-14-10
214	GUARD RAIL DETAILS		GR-8A	7-14-10
215	GUARD RAIL DETAILS		GR-9	4-17-08
216	GUARD RAIL DETAILS		GR-9A	4-17-08
217	GUARD RAIL DETAILS		GR-10	7-14-10
218	GUARD RAIL DETAILS		GR-10A	7-14-10
219	GUARD RAIL DETAILS		GRT-1	7-14-10
220	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING		PCC-1	2-27-14
221	METAL PIPE CULVERT FILL HEIGHTS & BEDDING		PCM-1	2-27-14
222	PAVEMENT MARKING DETAILS		PM-1	5-12-16
223	PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS		PM-2	9-12-13
224	TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC		SE-1	1-09-87
225	STANDARD HIGHWAY SIGNS AND SUPPORTS ASSEMBLIES		SHS-1	9-12-13
226	U-CHANNEL POST ASSEMBLIES		SHS-2	2-27-14
227	DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS		SHS-3	9-12-13
228	DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS		SHS-4	9-12-13
229	DETAILS OF GUIDE SIGN PANELS		SHS-5	9-12-13
230	MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS		SHS-6	9-12-13
231	DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS		SHS-7	9-12-13
232	TYPICAL DELINEATOR PLACEMENT ALONG THE INTERSTATE SYSTEM		SHS-8	9-12-13
233	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-1	9-02-15
234	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-2	9-02-15
235	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION		TC-3	9-02-15
236	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER		TC-4	2-27-14
237	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER		TC-5	10-15-09
238	TEMPORARY EROSION CONTROL DEVICES		TEC-1	12-15-11
239	TEMPORARY EROSION CONTROL DEVICES		TEC-2	6-02-94
240	TEMPORARY EROSION CONTROL DEVICES		TEC-3	11-03-94
241	TEMPORARY EROSION CONTROL DEVICES		TEC-4	7-26-12
242	DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS (NON-REINFORCED)		TR-1A	8-22-02

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	3	242

2 GOVERNING SPECIFICATIONS & GENERAL NOTES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 12404
SHAHRIAR AZAD
11-3-2016

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273	SUPPLEMENT - TRAINING PROGRAM - JOB BB0612
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
620-1	MULCH COVER
JOB BB0612	AIRPORT CLEARANCE REQUIREMENTS
JOB BB0612	ASPHALT CONCRETE HOT MIX PATCHING OF EXISTING SHOULDERS
JOB BB0612	ASSESSMENT OF WORKING DAYS - MAINTENANCE OF TRAFFIC
JOB BB0612	AUTOMATED WORK ZONE INFORMATION SYSTEM
JOB BB0612	BIDDING REQUIREMENTS AND CONDITIONS
JOB BB0612	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB BB0612	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB BB0612	CARGO PREFERENCE ACT REQUIREMENTS
JOB BB0612	CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS
JOB BB0612	CULVERT CLEAN OUT
JOB BB0612	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB BB0612	EMPLOYMENT REPORTING
JOB BB0612	GEOTEXTILE FABRIC
JOB BB0612	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB BB0612	HIGH PERFORMANCE PAVEMENT MARKING
JOB BB0612	MAINTENANCE OF TRAFFIC
JOB BB0612	MANDATORY ELECTRONIC CONTRACT
JOB BB0612	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB BB0612	MOBILE SPEED NOTIFICATION SYSTEM
JOB BB0612	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB BB0612	NESTING SITES OF MIGRATORY BIRDS
JOB BB0612	PARTNERING REQUIREMENTS
JOB BB0612	PROSECUTION AND PROGRESS - CALENDAR DAY CONTRACT WITH CPM
JOB BB0612	REMOVING EXISTING PORTLAND CEMENT CONCRETE PAVEMENT
JOB BB0612	RESTRAINING CONDITION
JOB BB0612	ROADWAY CONSTRUCTION CONTROL
JOB BB0612	RUMBLE STRIP AND CORRUGATION REMOVAL IN CONCRETE PAVEMENT
JOB BB0612	SEQUENCE OF CONSTRUCTION
JOB BB0612	SHAPING DITCH
JOB BB0612	SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT
JOB BB0612	SOIL STABILIZATION
JOB BB0612	SPECIAL SAFETY REQUIREMENTS FOR OVERHEAD SIGNS
JOB BB0612	STEEL SIGN STRUCTURES
JOB BB0612	STORM WATER POLLUTION PREVENTION PLAN
JOB BB0612	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB BB0612	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB BB0612	UTILITY ADJUSTMENTS
JOB BB0612	VALUE ENGINEERING
JOB BB0612	WARM MIX ASPHALT

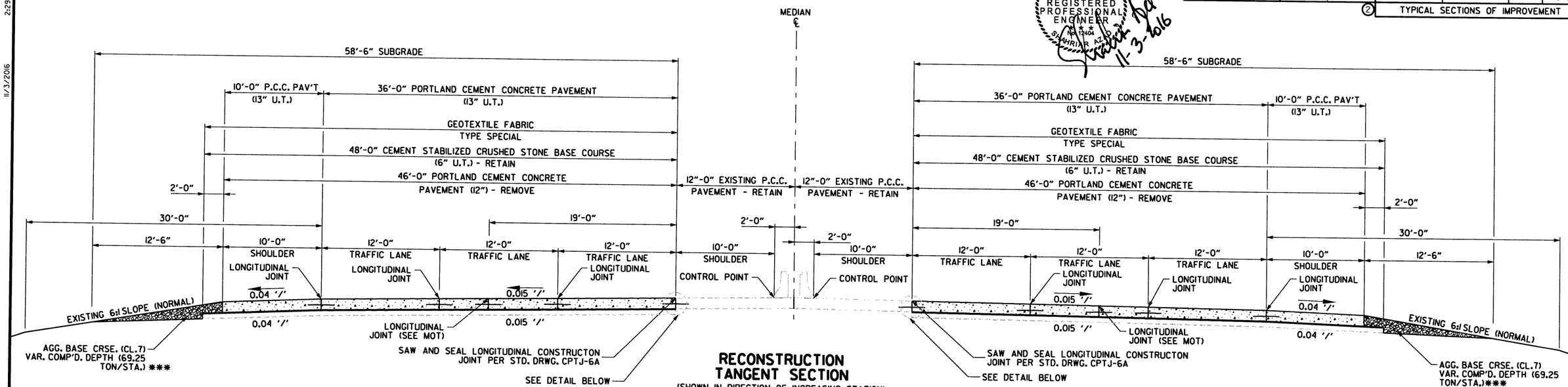
GENERAL NOTES

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. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
5. 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.
6. THE EXISTING PAVEMENT TO BE REMOVED 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 IN PLACE. ANY DAMAGE OF THE PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210-UNCLASSIFIED EXCAVATION.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	4	242

(2) TYPICAL SECTIONS OF IMPROVEMENT

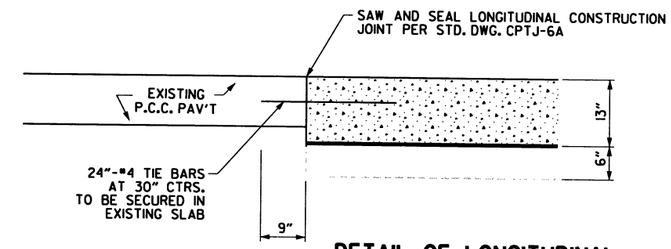
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
STEPHEN R. AZO
11-3-2016



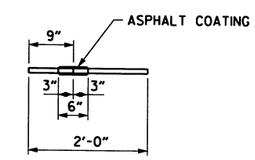
RECONSTRUCTION TANGENT SECTION

(SHOWN IN DIRECTION OF INCREASING STATION)

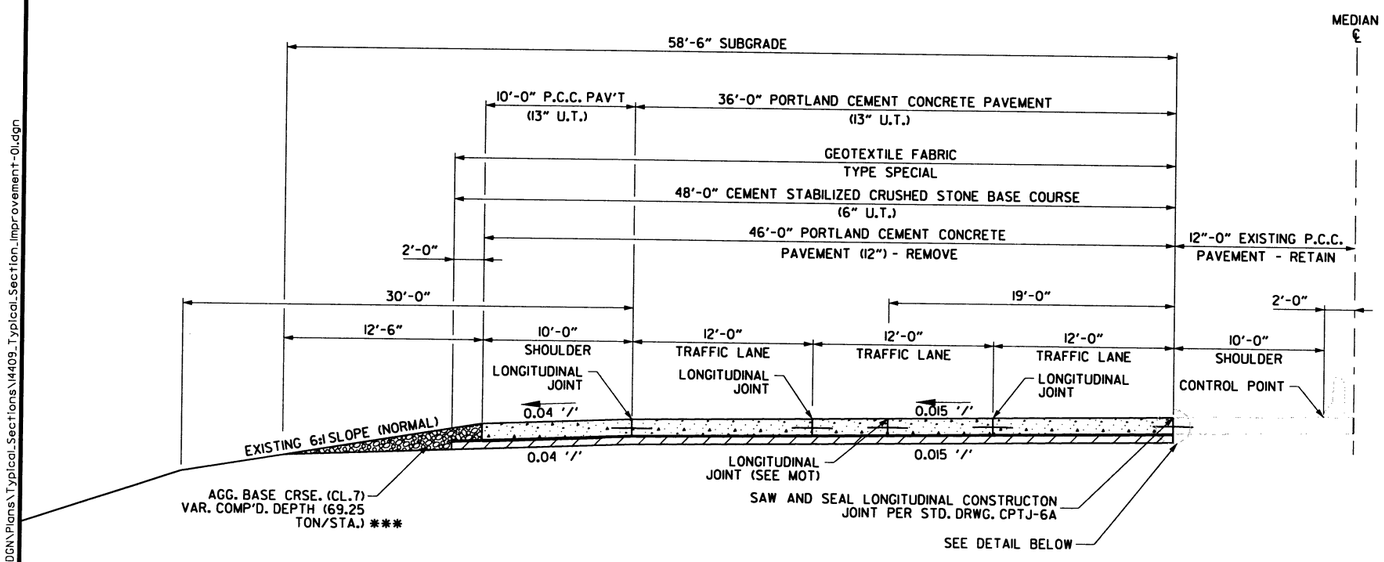
STA. 312+65.00	TO	STA. 343+27.07	(WB)
STA. 312+65.00	TO	STA. 343+32.85	(EB)
STA. 347+32.58	TO	STA. 376+34.42	(WB)
STA. 347+39.52	TO	STA. 376+34.42	(EB)
STA. 398+78.17	TO	STA. 413+33.00	(WB)
STA. 398+78.17	TO	STA. 413+33.00	(EB)
STA. 436+43.00	TO	STA. 440+00.00	(WB)
STA. 460+00.00	TO	STA. 489+13.80	(WB)
STA. 436+43.00	TO	STA. 489+13.80	(EB)



DETAIL OF LONGITUDINAL CONSTRUCTION JOINT



DETAIL OF TIE BAR COATING



FULL-DEPTH RECONSTRUCTION TANGENT SECTION

(SHOWN IN DIRECTION OF INCREASING STATION)

STA. 440+00.00 TO STA. 460+00.00 (WB)

NOTES:

(1) TRANSVERSE JOINTS IN THE PROPOSED P.C.C. PAVEMENT, i.e. CONSTRUCTION JOINTS. SHALL COINCIDE WITH THE TRANSVERSE JOINTS IN THE EXISTING CONCRETE PAVEMENT. REFER TO STD. DWG. CPTJ-6A FOR JOINT DETAILS.

(2) THE BARS SHALL BE SECURED INTO HOLES DRILLED AT MID SLAB AS SHOWN. NO TIE BARS SHALL BE PLACED CLOSER THAN 15" TO A TRANSVERSE JOINT. MATERIALS FOR SECURING TIE BARS IN EXISTING SLAB SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 507.03(a) OF THE STANDARD SPECIFICATIONS.

(3) PAYMENT FOR SAWING LONGITUDINAL CONSTRUCTION JOINT AND ALL OTHER JOINTS IN P.C.C. PAVEMENT SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD BID FOR "PORTLAND CEMENT CONCRETE PAVEMENT".

(4) SEE PLANS FOR PAVEMENT TRANSITIONS AND GORE AREA GEOMETRY.

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

(6) FOR ADDITIONAL LONGITUDINAL JOINTS SEE MOT.

*** DENSITY REQUIREMENTS WAIVED.

TYPICAL SECTIONS OF IMPROVEMENT

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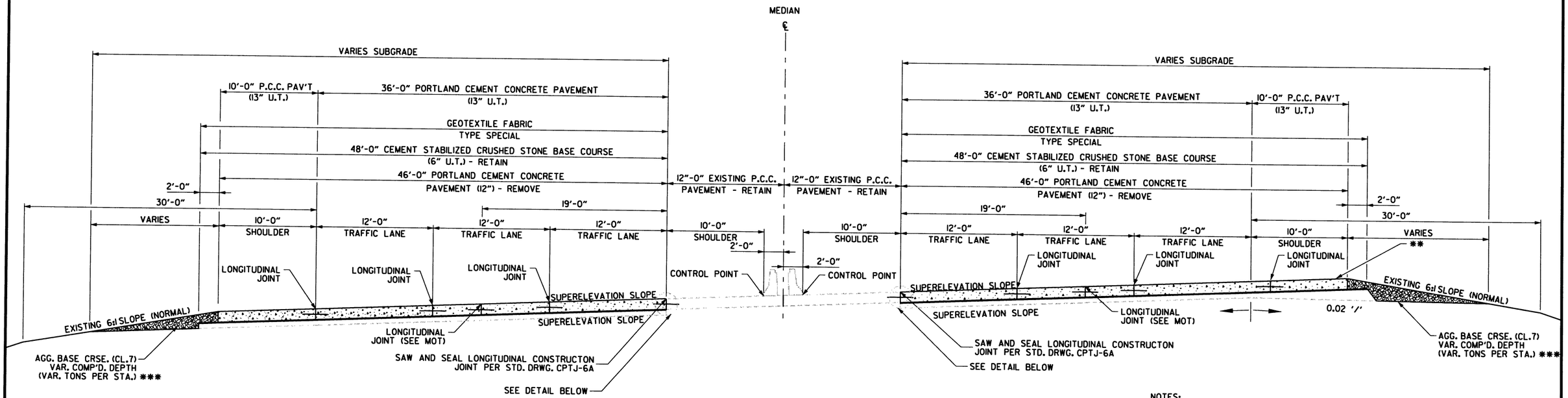
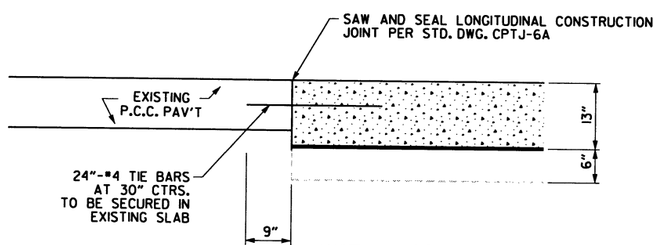
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	5	242

② TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 24404
SHAHRIAR AZAD
11-3-2016



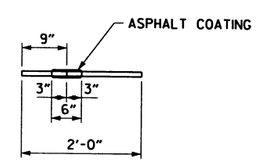


DETAIL OF LONGITUDINAL CONSTRUCTION JOINT

RECONSTRUCTION SUPERELEVATED CURVE TO LEFT

(SHOWN IN DIRECTION OF INCREASING STATION)

STA. 376+34.42 TO STA. 392+92.70 (WB)
STA. 376+34.42 TO STA. 392+92.70 (EB)
STA. 396+25.14 TO STA. 398+78.17 (WB)
STA. 396+25.14 TO STA. 398+78.17 (EB)



DETAIL OF TIE BAR COATING

NOTES:

1. TRANSVERSE JOINTS IN THE PROPOSED P.C.C. PAVEMENT, i.e. CONSTRUCTION JOINTS. SHALL COINCIDE WITH THE TRANSVERSE JOINTS IN THE EXISTING CONCRETE PAVEMENT. REFER TO STD. DWG. CPTJ-6A FOR JOINT DETAILS.
2. THE BARS SHALL BE SECURED INTO HOLES DRILLED AT MID SLAB AS SHOWN. NO TIE BARS SHALL BE PLACED CLOSER THAN 15" TO A TRANSVERSE JOINT. MATERIALS FOR SECURING TIE BARS IN EXISTING SLAB SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 507.03(a) OF THE STANDARD SPECIFICATIONS.
3. PAYMENT FOR SAWING LONGITUDINAL CONSTRUCTION JOINT AND ALL OTHER JOINTS IN P.C.C. PAVEMENT SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD BID FOR "PORTLAND CEMENT CONCRETE PAVEMENT".
4. THE EXACT BEGIN AND END STATIONS OF EXISTING SUPERELEVATION SECTION ARE UNKNOWN. THE LIMITS OF SUPERELEVATION SECTION MAY BE ADJUSTED AFTER FIELD VERIFICATION AS DIRECTED BY THE ENGINEER.
5. SEE PLANS FOR PAVEMENT TRANSITIONS AND GORE AREA GEOMETRY.
6. THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.
7. FOR ADDITIONAL LONGITUDINAL JOINTS SEE MOT.

* LEVELING TO BE USED ONLY IF AND WHERE DIRECTED BY THE ENGINEER.

** ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%

*** DENSITY REQUIREMENTS WAIVED.

TYPICAL SECTIONS OF IMPROVEMENT

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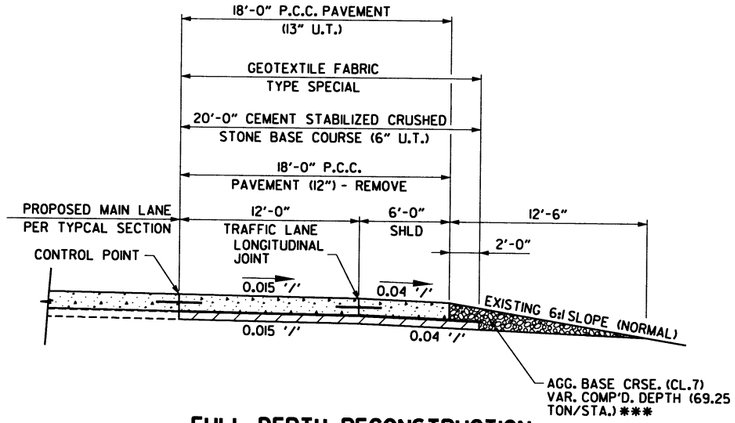
				6	ARK.			
				JOB NO.		BB0612	6	242

② TYPICAL SECTIONS OF IMPROVEMENT

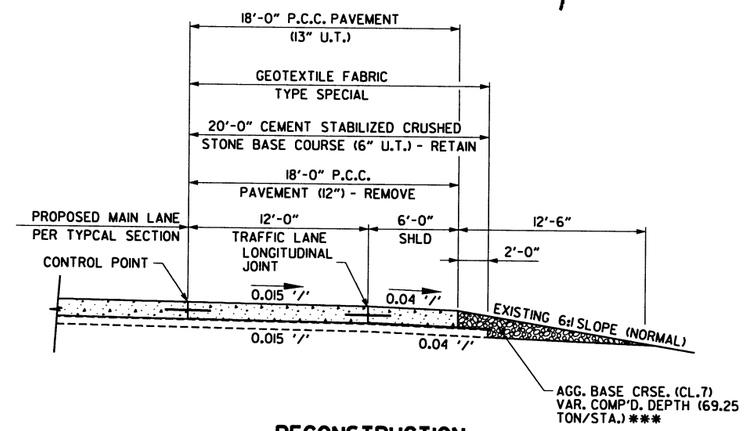
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNAR A. ALI
11-3-2016



FULL-DEPTH RECONSTRUCTION ACCELERATION AND DECELERATION LANES

(SHOWN IN DIRECTION OF INCREASING STATION)

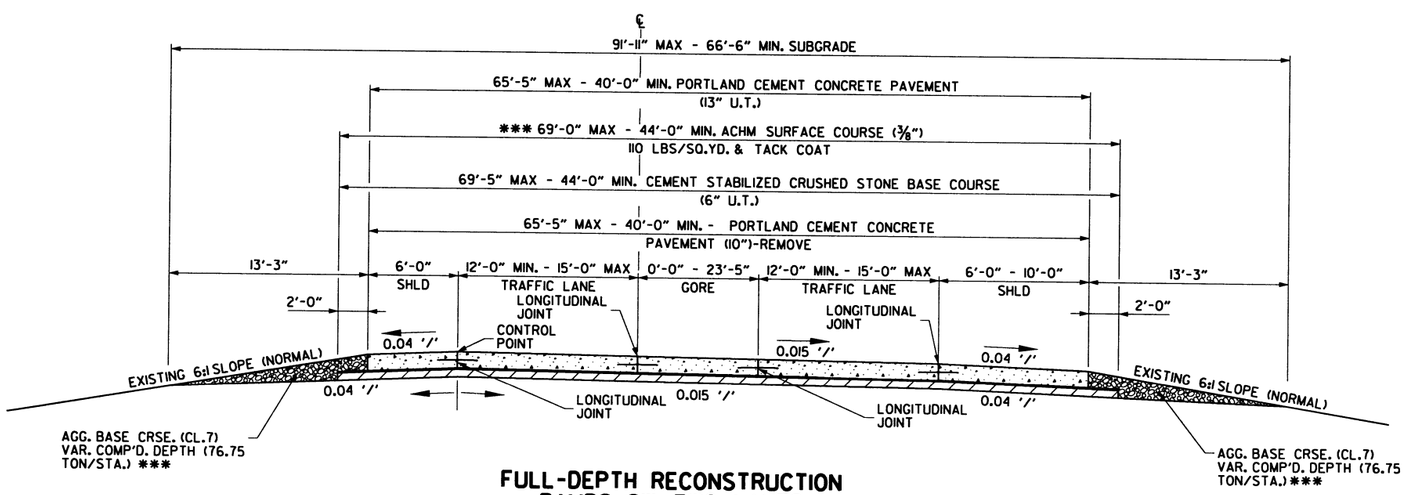
STA. 314+42.62 TO STA. 322+66.41 (WB)
STA. 348+56.76 TO STA. 356+77.92 (EB)
STA. 346+95.22 TO STA. 350+82.49 (WB)
STA. 377+27.42 TO STA. 381+49.43 (WB)
STA. 377+03.19 TO STA. 380+75.64 (EB)
STA. 410+02.15 TO STA. 413+26.51 (EB)
STA. 449+45.74 TO STA. 457+58.69 (WB)
STA. 482+67.55 TO STA. 489+06.11 (EB)



RECONSTRUCTION ACCELERATION AND DECELERATION LANES

(SHOWN IN DIRECTION OF INCREASING STATION)

STA. 322+66.41 TO STA. 327+48.63 (WB)
STA. 343+45.95 TO STA. 348+56.76 (EB)
STA. 346+95.22 TO STA. 350+82.49 (WB)
STA. 372+50.96 TO STA. 377+27.42 (WB)
STA. 380+75.64 TO STA. 382+00.10 (EB)
STA. 405+38.29 TO STA. 410+02.15 (EB)
STA. 457+58.69 TO STA. 462+51.75 (WB)
STA. 477+50.00 TO STA. 482+67.55 (EB)



FULL-DEPTH RECONSTRUCTION RAMPS SW TWO LANES

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 503+66.67 TO STA. 510+58.54 (SW)

NOTES:

① TRANSVERSE JOINTS IN THE PROPOSED P.C.C. PAVEMENT, i.e. CONSTRUCTION JOINTS. SHALL COINCIDE WITH THE TRANSVERSE JOINTS IN THE EXISTING CONCRETE PAVEMENT. REFER TO STD. DWG. CPTJ-6A FOR JOINT DETAILS.

② THE BARS SHALL BE SECURED INTO HOLES DRILLED AT MID SLAB AS SHOWN. NO TIE BARS SHALL BE PLACED CLOSER THAN 15" TO A TRANSVERSE JOINT. MATERIALS FOR SECURING TIE BARS IN EXISTING SLAB SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 507.03(a) OF THE STANDARD SPECIFICATIONS.

③ PAYMENT FOR SAWING LONGITUDINAL CONSTRUCTION JOINT AND ALL OTHER JOINTS IN P.C.C. PAVEMENT SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD BID FOR "PORTLAND CEMENT CONCRETE PAVEMENT".

④ SEE PLANS FOR PAVEMENT TRANSITIONS AND GORE AREA GEOMETRY.

⑤ THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

⑥ FOR ADDITIONAL LONGITUDINAL JOINTS SEE MOT.

*** DENSITY REQUIREMENTS WAIVED.

TYPICAL SECTIONS OF IMPROVEMENT

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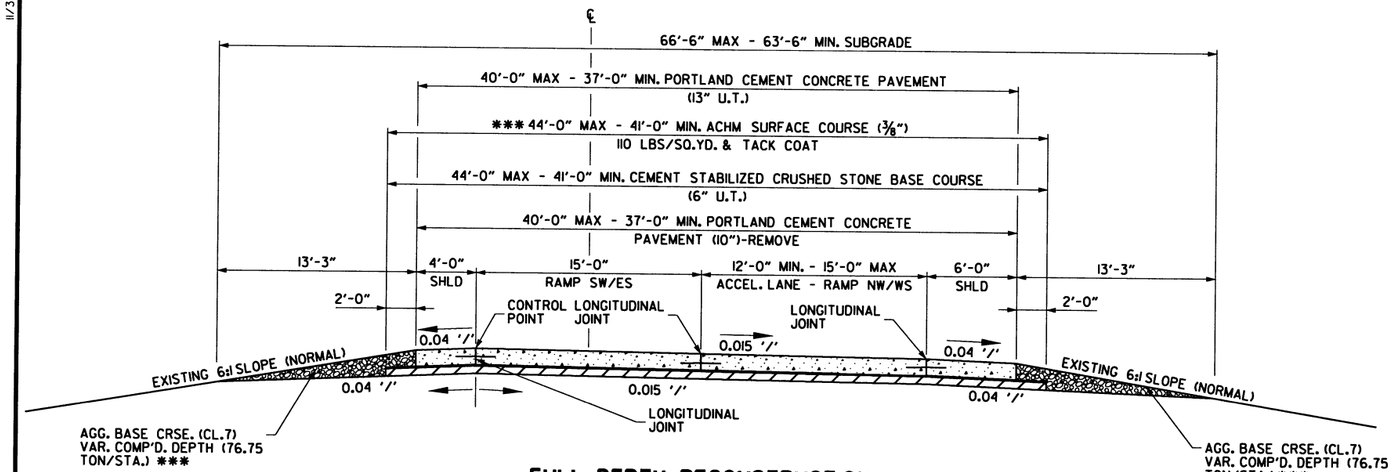
				6	ARK.			
				JOB NO.		BB0612	7	242

② TYPICAL SECTIONS OF IMPROVEMENT

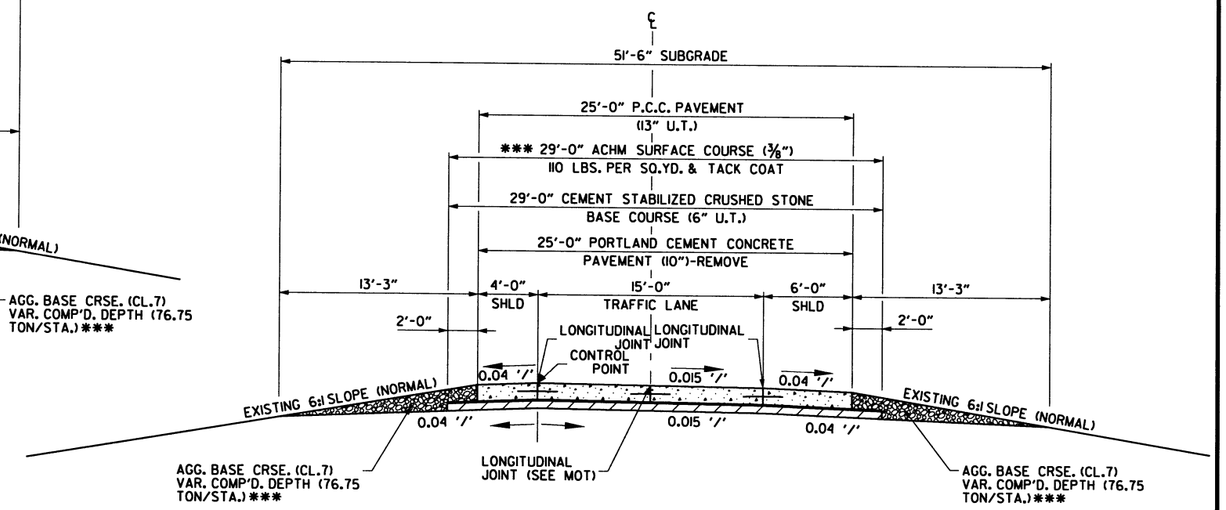
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRAM KAZAO
11-3-2016



FULL-DEPTH RECONSTRUCTION RAMPS SW TWO LANES

(SHOWN IN DIRECTION OF TRAFFIC)

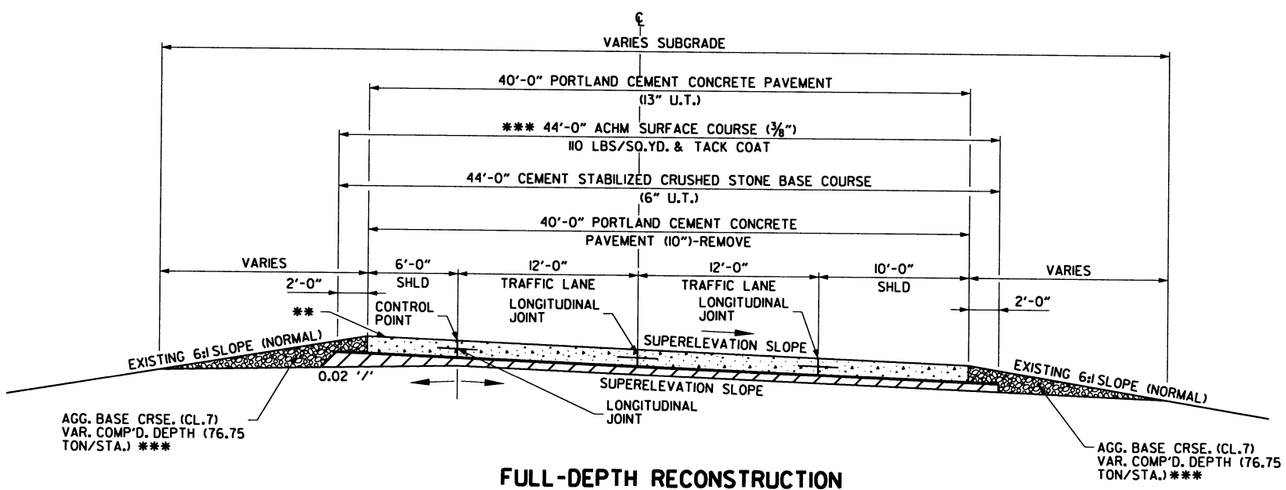
STA. 536+37.33 TO STA. 542+27.67 (SW)
STA. 507+28.93 TO STA. 502+88.35 (ES)



FULL-DEPTH RECONSTRUCTION RAMPS SW, WS, ES, & SE

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 510+58.54 TO STA. 512+55.00 (SW)
STA. 533+96.43 TO STA. 536+37.33 (SW)
STA. 508+63.13 TO STA. 507+28.93 (ES)
STA. 544+57.80 TO STA. 526+69.52 (ES)
STA. 512+57.14 TO STA. 509+30.45 (WS)
STA. 526+56.46 TO STA. 523+50.14 (WS)



FULL-DEPTH RECONSTRUCTION RAMPS SW TWO LANES

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 501+25.98 TO STA. 503+66.67 (SW)

NOTES:

① TRANSVERSE JOINTS IN THE PROPOSED P.C.C. PAVEMENT, i.e. CONSTRUCTION JOINTS. SHALL COINCIDE WITH THE TRANSVERSE JOINTS IN THE EXISTING CONCRETE PAVEMENT. REFER TO STD. DWG. CPTJ-6A FOR JOINT DETAILS.

② THE BARS SHALL BE SECURED INTO HOLES DRILLED AT MID SLAB AS SHOWN. NO TIE BARS SHALL BE PLACED CLOSER THAN 15" TO A TRANSVERSE JOINT. MATERIALS FOR SECURING TIE BARS IN EXISTING SLAB SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 507.03(a) OF THE STANDARD SPECIFICATIONS.

③ PAYMENT FOR SAWING LONGITUDINAL CONSTRUCTION JOINT AND ALL OTHER JOINTS IN P.C.C. PAVEMENT SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD BID FOR "PORTLAND CEMENT CONCRETE PAVEMENT".

④ THE EXACT BEGIN AND END STATIONS OF EXISTING SUPERELEVATION SECTION ARE UNKNOWN. THE LIMITS OF SUPERELEVATION SECTION MAY BE ADJUSTED AFTER FIELD VERIFICATION AS DIRECTED BY THE ENGINEER.

⑤ SEE PLANS FOR PAVEMENT TRANSITIONS AND GORE AREA GEOMETRY.

⑥ THE THICKNESS OF AGGREGATE BASE COURSE SHALL BE WITHIN PLUS OR MINUS ONE INCH OF THE PLAN THICKNESS SHOWN. THE CONTRACTOR WILL CORRECT ANY DEFICIENT THICKNESS THAT DOES NOT MEET THE TOLERANCE INDICATED. PAYMENT WILL NOT BE MADE FOR MATERIAL PLACED IN EXCESS OF THE TOLERANCE INDICATED.

⑦ FOR ADDITIONAL LONGITUDINAL JOINTS SEE MOT.

** ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMENT SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%

*** DENSITY REQUIREMENTS WAIVED.

TYPICAL SECTIONS OF IMPROVEMENT

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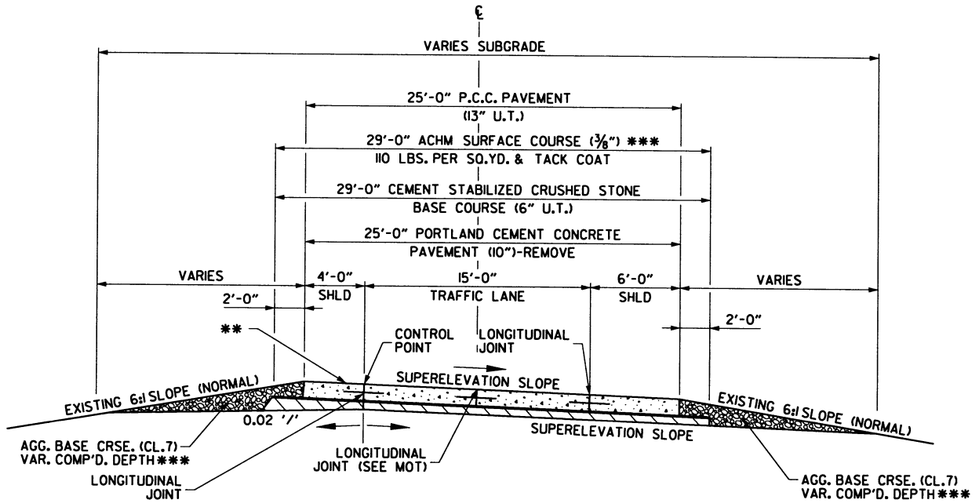
				6	ARK.			
				JOB NO.		BB0612	8	242

(2) TYPICAL SECTIONS OF IMPROVEMENT

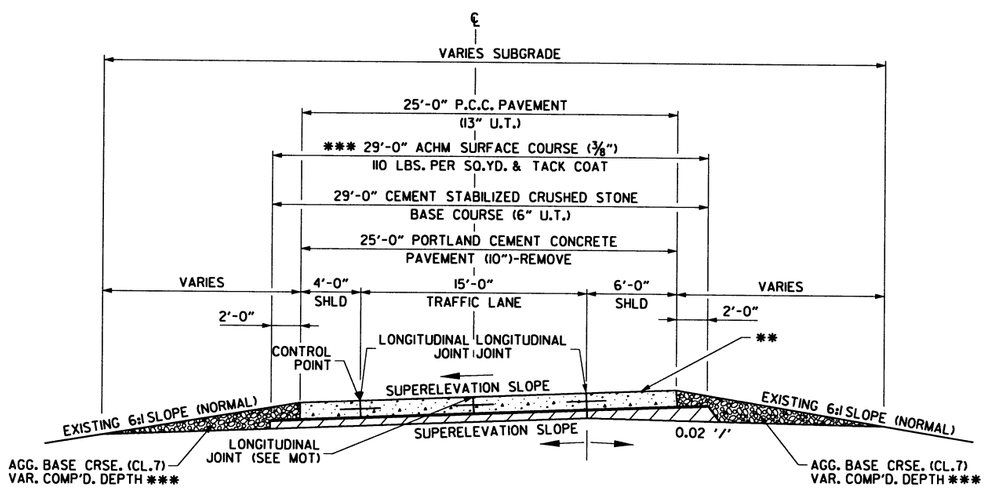
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18404
SHAHRIAR AZAD
11-3-2016



FULL-DEPTH RECONSTRUCTION RAMPS SE, SW, NW, ES & WS SUPERELEVATED CURVE TO RIGHT

(SHOWN IN DIRECTION OF TRAFFIC)

	STA. 535+52.63	TO	STA. 536+37.33	(SW)
	STA. 542+27.67	TO	STA. 547+10.44	(SW)
(SW)	STA. 510+58.54	TO	STA. 527+47.08	(SE)
(WS)	STA. 509+30.45	TO	STA. 507+28.93	(ES)
	STA. 523+50.14	TO	STA. 512+57.14	(WS)
	STA. 502+91.67	TO	STA. 502+88.35	(ES)



FULL-DEPTH RECONSTRUCTION RAMPS ES & SW SUPERELEVATED CURVE TO LEFT

(SHOWN IN DIRECTION OF TRAFFIC)

STA. 526+69.52	TO	STA. 526+46.85	(ES)
STA. 512+55.00	TO	STA. 517+44.59	(SW)
STA. 524+34.22	TO	STA. 533+96.43	(SW)

NOTES:

(1) TRANSVERSE JOINTS IN THE PROPOSED P.C.C. PAVEMENT, i.e. CONSTRUCTION JOINTS, SHALL COINCIDE WITH THE TRANSVERSE JOINTS IN THE EXISTING CONCRETE PAVEMENT. REFER TO STD. DWG. CPTJ-6A FOR JOINT DETAILS.

(2) THE BARS SHALL BE SECURED INTO HOLES DRILLED AT MID SLAB AS SHOWN. NO TIE BARS SHALL BE PLACED CLOSER THAN 15" TO A TRANSVERSE JOINT. MATERIALS FOR SECURING TIE BARS IN EXISTING SLAB SHALL MEET THE REQUIREMENTS AS SPECIFIED IN SECTION 507.03(a) OF THE STANDARD SPECIFICATIONS.

(3) PAYMENT FOR SAWING LONGITUDINAL CONSTRUCTION JOINT AND ALL OTHER JOINTS IN P.C.C. PAVEMENT SHALL BE INCLUDED IN THE PRICE PER SQUARE YARD BID FOR "PORTLAND CEMENT CONCRETE PAVEMENT".

(4) THE EXACT BEGIN AND END STATIONS OF EXISTING SUPERELEVATION SECTION ARE UNKNOWN. THE LIMITS OF SUPERELEVATION SECTION MAY BE ADJUSTED AFTER FIELD VERIFICATION AS DIRECTED BY THE ENGINEER.

(5) SEE PLANS FOR PAVEMENT TRANSITIONS AND GORE AREA GEOMETRY.

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

(7) FOR ADDITIONAL LONGITUDINAL JOINTS SEE MOT.

** ON ALL SUPERELEVATED CURVES AND THROUGH SUPERELEVATION TRANSITIONS, THE ALGEBRAIC DIFFERENCE BETWEEN PAVEMNET SLOPE AND SHOULDER SLOPE SHALL NOT EXCEED 8.0%

*** DENSITY REQUIREMENTS WAIVED.

TYPICAL SECTIONS OF IMPROVEMENT

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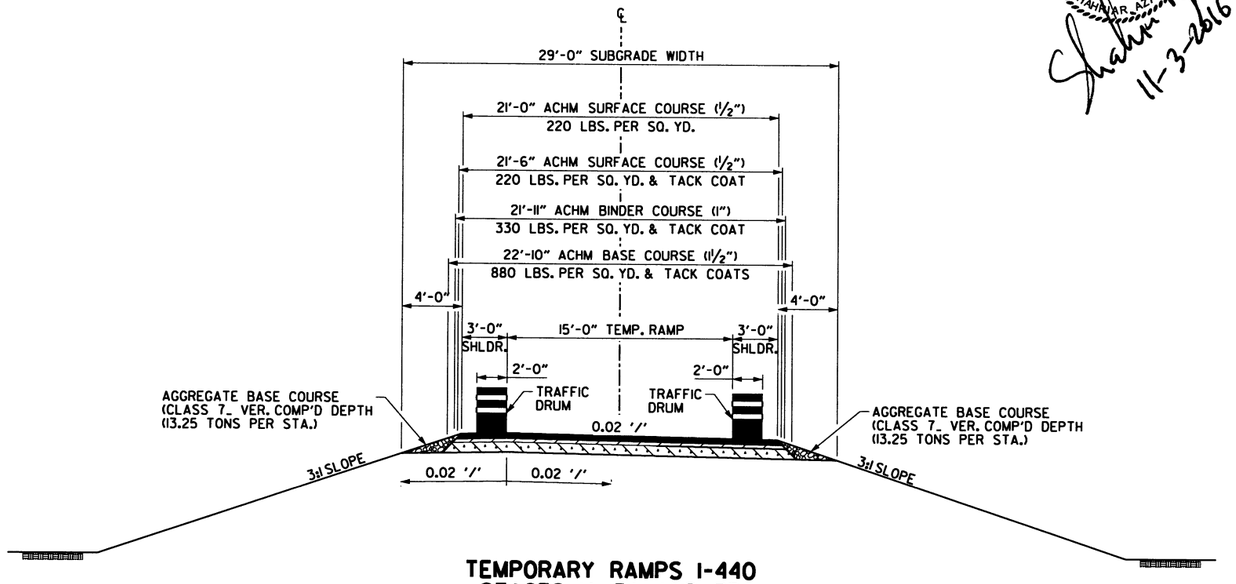
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	9	242

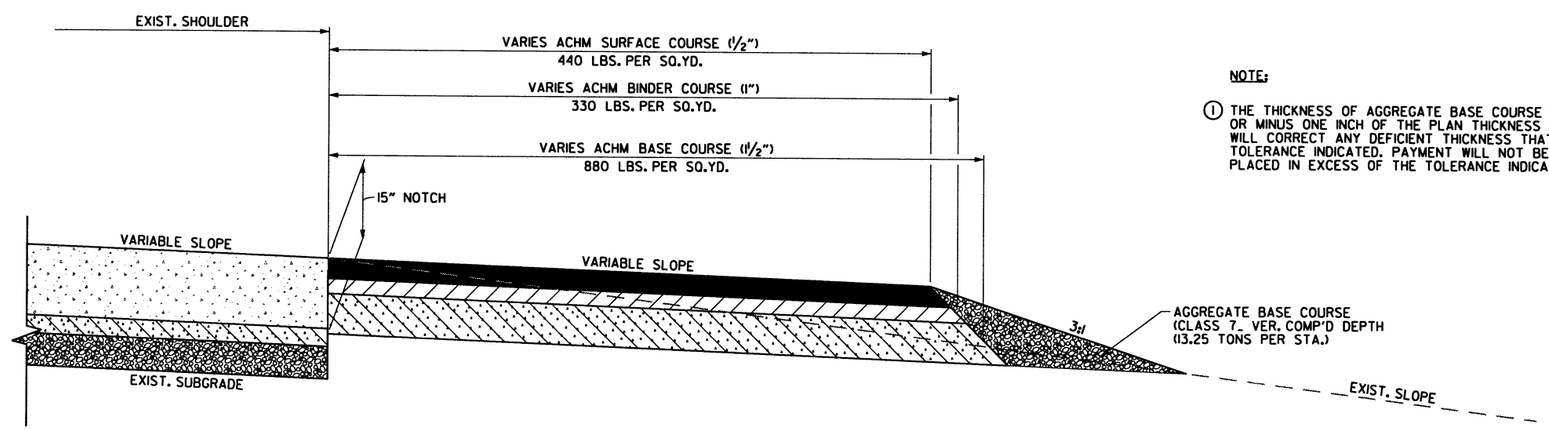
(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
12404
SHAHNAWAZ AZAD
11-3-2016



TEMPORARY RAMPS I-440 STAGES 1A, 3A, AND 3B

N.T.S.



NOTE:

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

TEMPORARY PAVEMENT WITH EXISTING MAIN LANE AND RAMP PAVEMENT SECTION

N.T.S.

TYPICAL SECTIONS OF IMPROVEMENT

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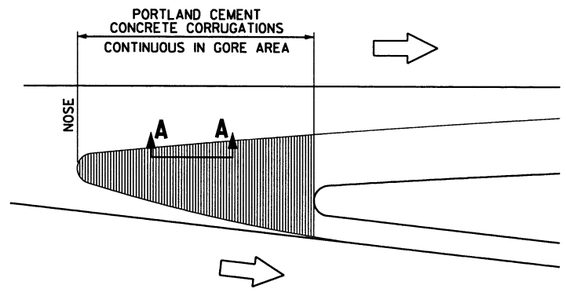
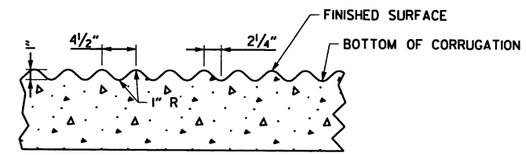
				6	ARK.			
				JOB NO.		BB0612	10	242
				②	SPECIAL DETAILS			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12485
STANDARD
10-28-2016



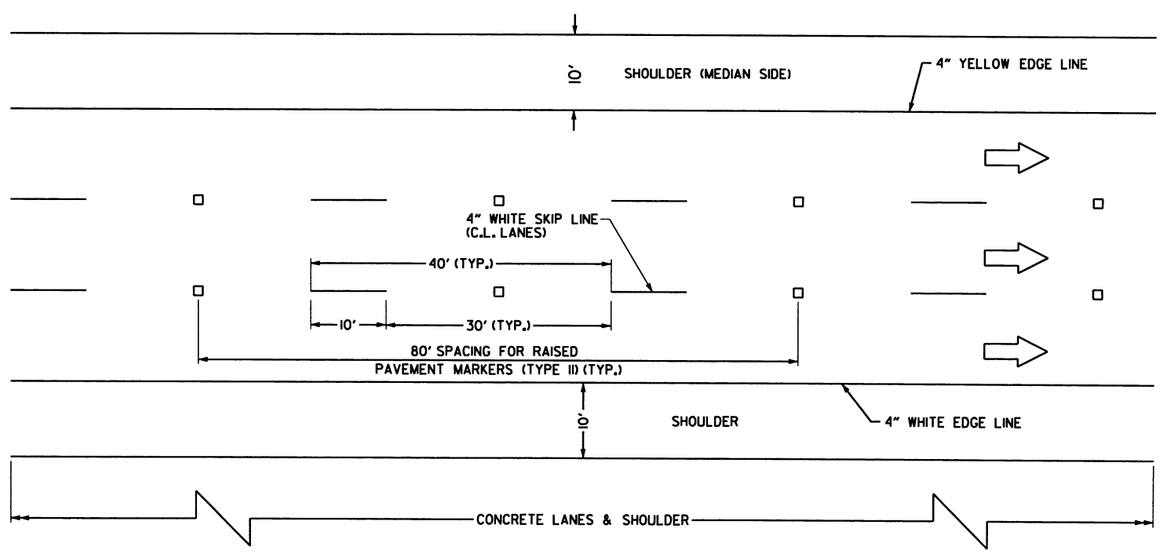
LAYOUT OF CORRUGATIONS IN EXIT GORE AREAS



SECTION A-A

CONCRETE ROADWAY

SKIP LINE - CONTRAST PROFILE THERMO OR HIGH PERFORMANCE CONTRAST MARKING TAPE
EDGE LINES - PROFILE THERMO OR HIGH PERFORMANCE MARKING TAPE
REFER TO SPECIAL PROVISION - HIGH PERFORMANCE PAVEMENT MARKING



OUTSIDE AREA OF INTERCHANGE

PERMANENT PAVEMENT MARKING DETAILS
I-440 MAIN LANES

SPECIAL DETAILS

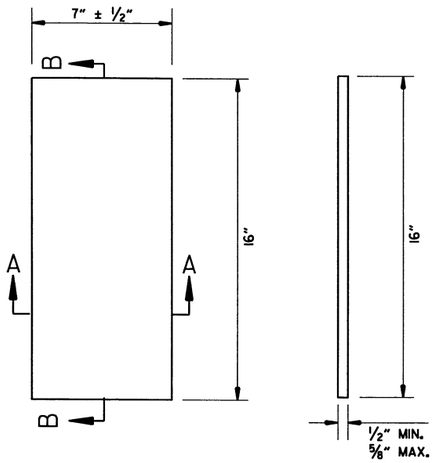
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	11	242

② SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 24404
SHAHRIAR AZAD
10-28-2016

NOTES:

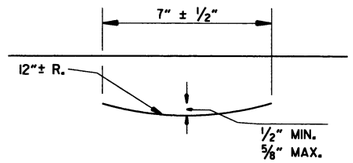
1. ALIGNMENT OF RUMBLE STRIPS SHALL GENERALLY BE STRAIGHT AND OFFSET APPROXIMATELY 4" FROM THE OUTER EDGE OF THE EDGE LINE. THIS OFFSET MAY BE ADJUSTED TO ACCOMMODATE VARIATIONS IN THE EDGE LINE AS WELL AS TO AVOID EXISTING LONGITUDINAL LINES.
2. THE ½" DEPTH SHALL GENERALLY APPLY FOR THE ENTIRE 16" LENGTH. SOME VARIATION TO SUIT SHOULDER SLOPE BREAKS MAY BE NECESSARY.
3. RUMBLE STRIPS SHALL NOT BE INSTALLED ON BRIDGE DECKS, APPROACH SLABS, OR ACCROSS TRANSVERSE JOINTS OF CONCRETE SHOULDERS.



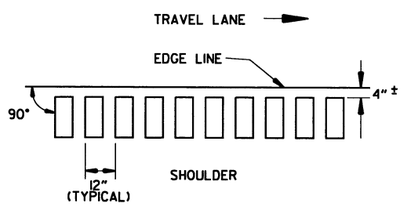
PLAN

SECTION B-B

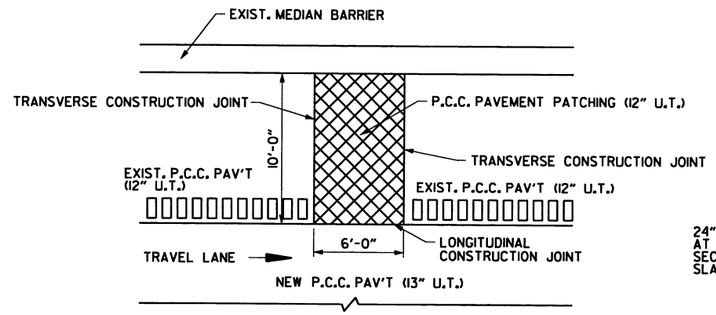
DETAILS OF RUMBLE STRIPS



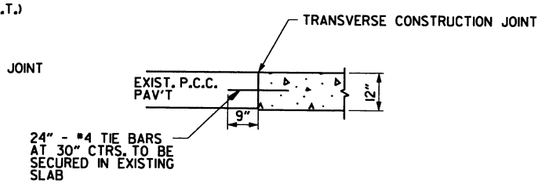
SECTION A-A



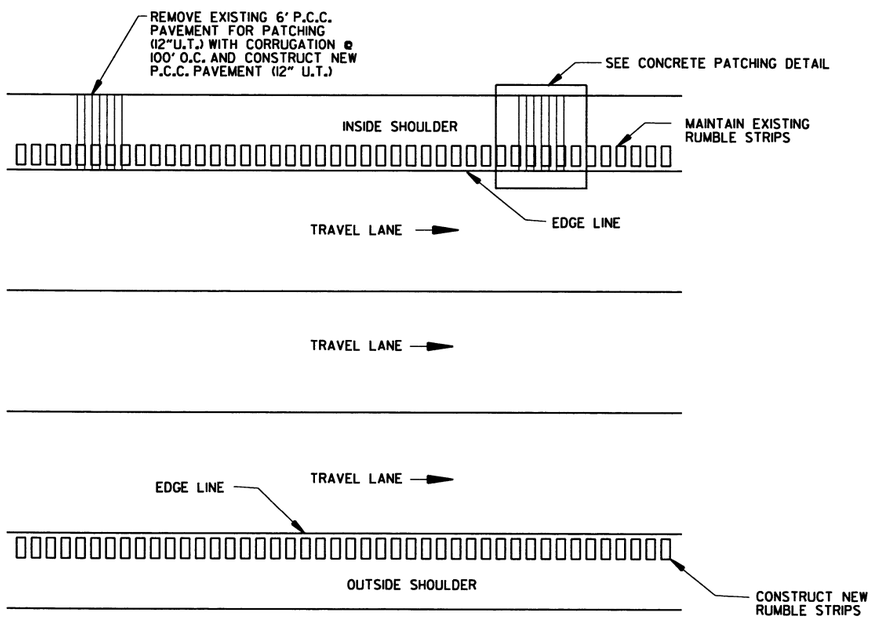
LOCATION PLAN OF RUMBLE STRIPS
RIGHT SHOULDER



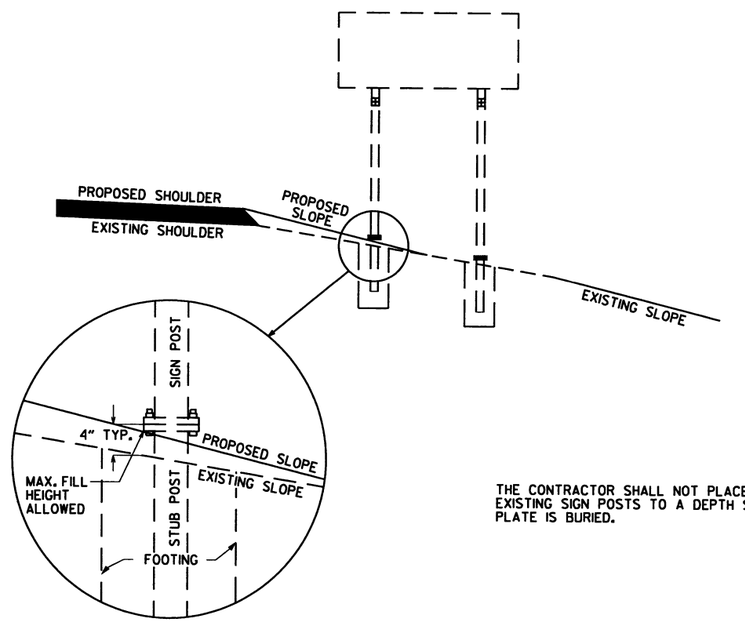
CONCRETE PATCHING
DETAIL



CONCRETE PATCHING
CONSTRUCTION JOINT DETAIL



PLAN VIEW



THE CONTRACTOR SHALL NOT PLACE EMBANKMENT AROUND THE EXISTING SIGN POSTS TO A DEPTH SUCH THAT THE STUB POST BASE PLATE IS BURIED.

DETAILS FOR MAINTENANCE OF EXISTING
BREAKAWAY SIGN STRUCTURES

SPECIAL DETAILS

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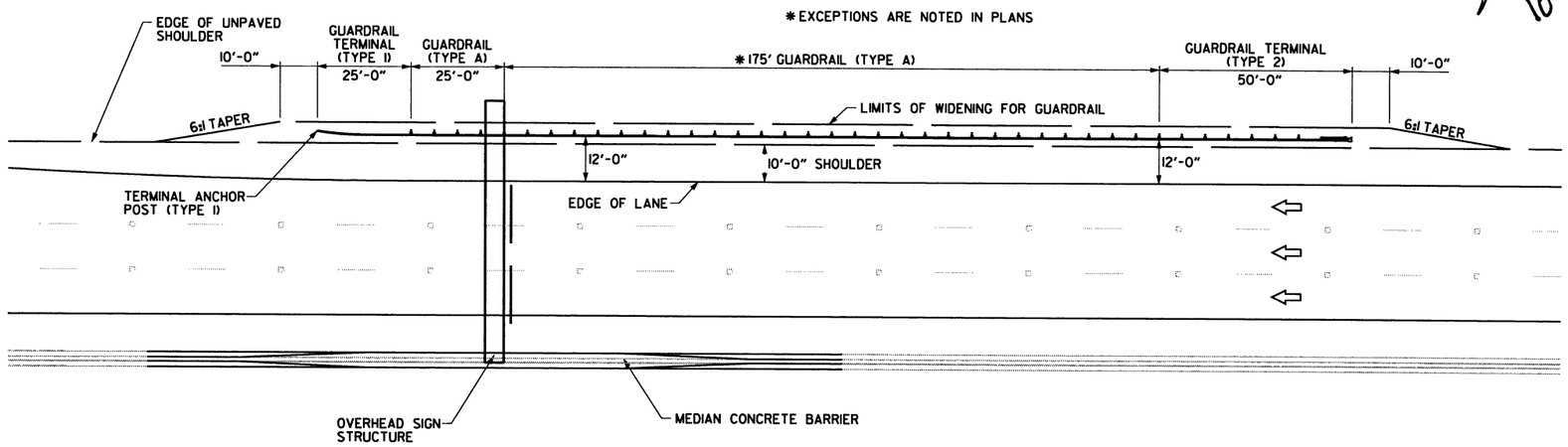
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	12	242

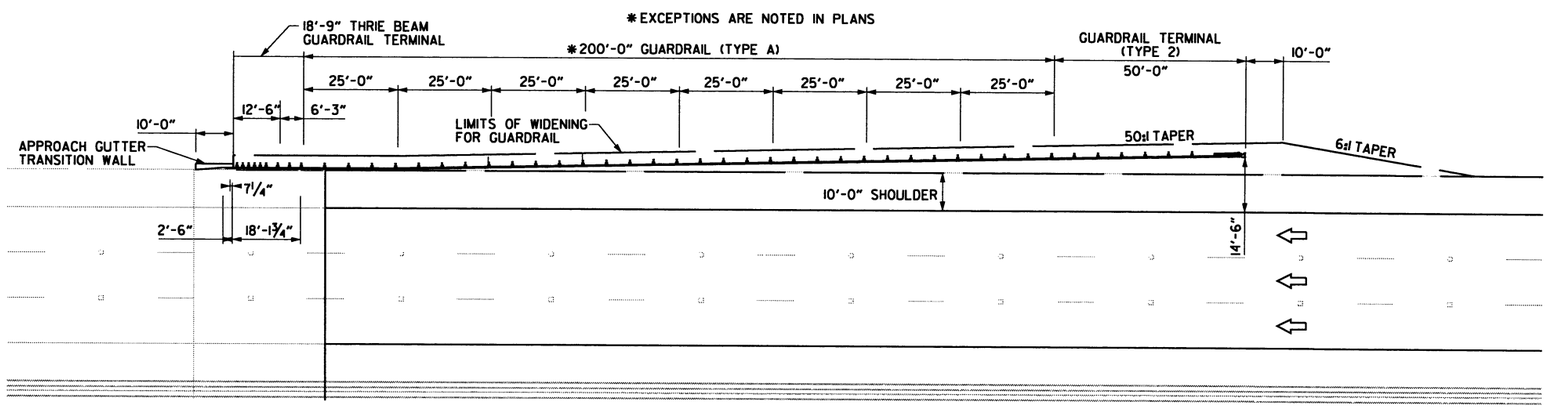
(2) SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADLI

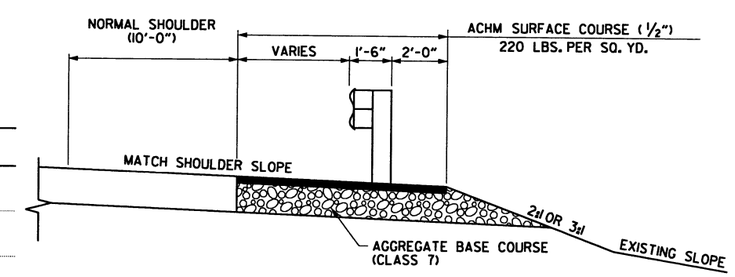
10-28-2016



TYPICAL LAYOUT OF GUARDRAIL AT OVERHEAD SIGN STRUCTURES



TYPICAL LAYOUT OF GUARDRAIL AT BRIDGE END



SECTION DETAIL OF WIDENING FOR GUARDRAIL

REFER TO STANDARD DRAWINGS GR-8, GR-8A, GR-9, GR-9A, GR-10, GR-10A, GR-11 & GRT-1 FOR ADDITIONAL INFORMATION

SPECIAL DETAILS

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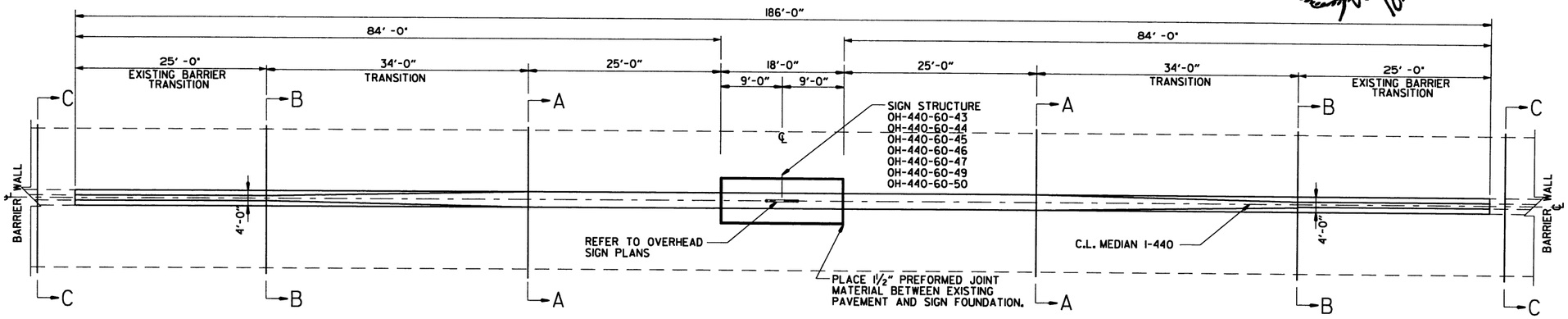
				6	ARK.			
				JOB NO.		BB0612	13	242

② SPECIAL DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12405 SHAHRIAR AZAD

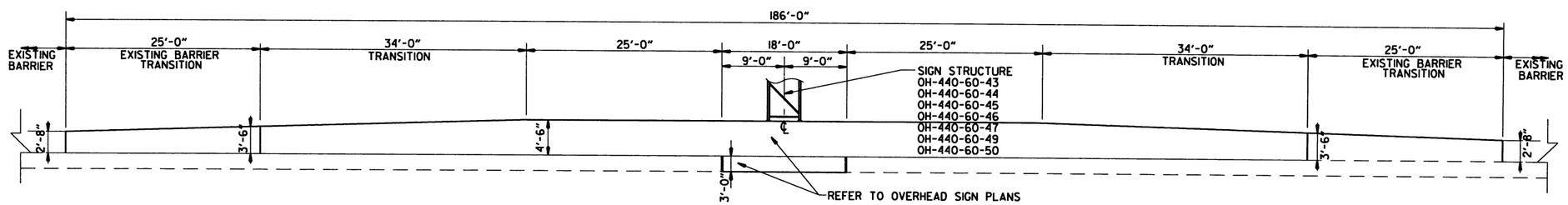
10-28-2016



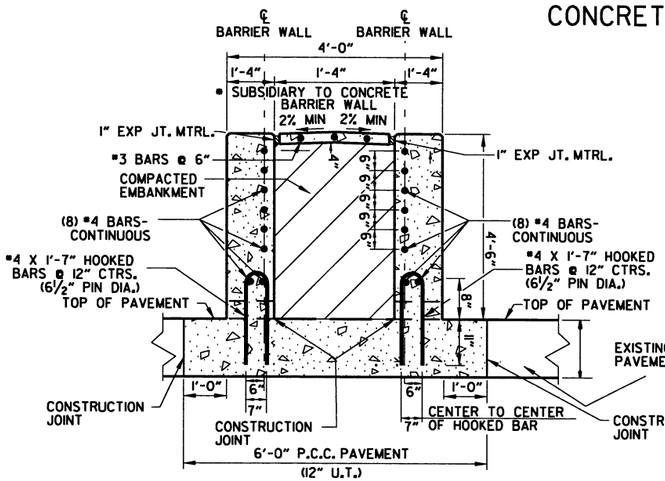
PLAN VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) TRANSITION

NOTES:

1. PREFORMED JOINT MATERIAL AND REMOVAL AND DISPOSAL OF EXISTING PAVEMENT FOR CONSTRUCTION OF THE OVERHEAD SIGN FOUNDATION SHALL BE INCLUDED IN THE PRICE BID FOR "OVERHEAD SIGN STRUCTURE".
2. THE 84'-0" TRANSITION BETWEEN THE EXISTING BARRIER AND THE OVERHEAD SIGN STRUCTURE SHALL BE PAID AS CONCRETE BARRIER WALL (MEDIAN TYPE SP-I).
3. REMOVAL OF EXISTING PAVEMENT FOR CONSTRUCTION OF CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) AND SIGN STRUCTURE SHALL BE INCLUDED IN THE PRICE BID FOR REMOVAL OF CONCRETE BARRIER WALL.
4. REMOVAL OF EXISTING MEDIAN BARRIER WALL (BOTH SIDES) INCLUDING THE 6' P.C.C. PAVEMENT (12" U.T.) IS SUBSIDIARY TO REMOVAL OF CONCRETE BARRIER WALL.
5. COST FOR CONCRETE CAP, EXP JOINT MATERIAL, JOINTS, P.C.C. PAVEMENT (12"), COMPACTED EMBANKMENT AND ALL OTHER INCIDENTALS IS SUBSIDIARY TO CONCRETE BARRIER WALL (MEDIAN TYPE SP-I).

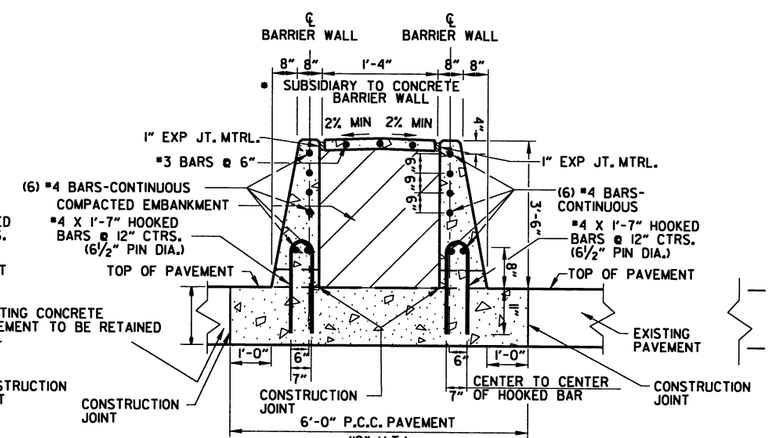


ELEVATION VIEW
CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) TRANSITION



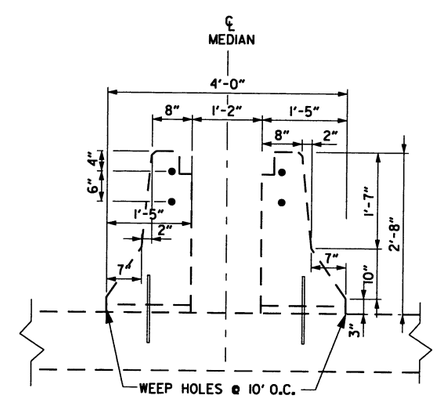
CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) (SECTION A-A)

N.T.S.



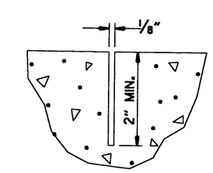
CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) (SECTION B-B)

N.T.S.



EXIST. CONC. BARRIER WALL (FOR INFORMATION ONLY) (SECTION C-C)

N.T.S.



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.

CONTRACTION JOINT DETAIL

N.T.S.

CONCRETE BARRIER WALL (MEDIAN TYPE SP-I) TRANSITION FOR OVERHEAD SIGN STRUCTURE

SPECIAL DETAILS

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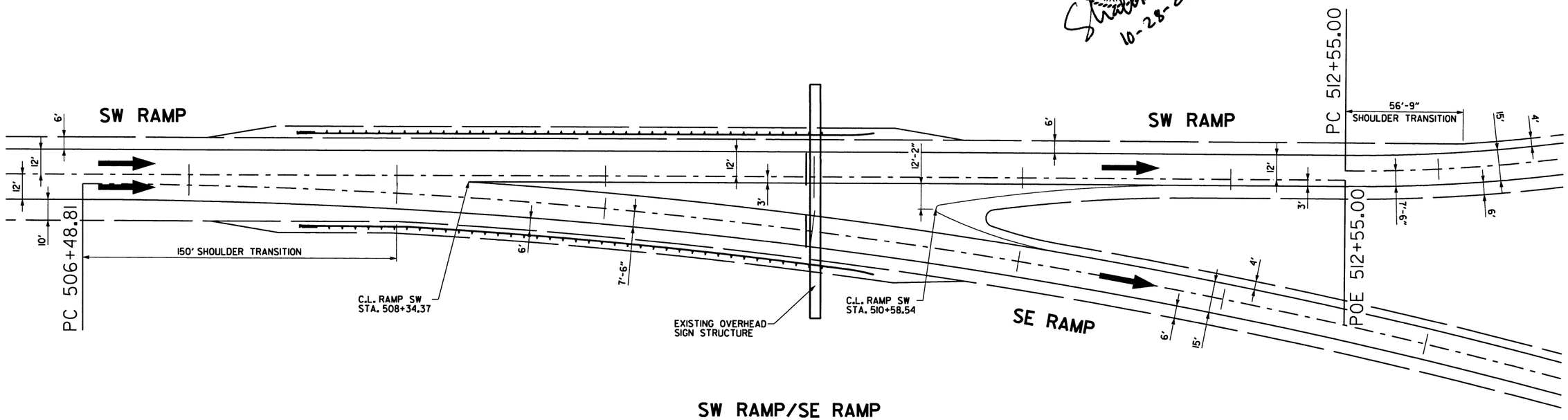
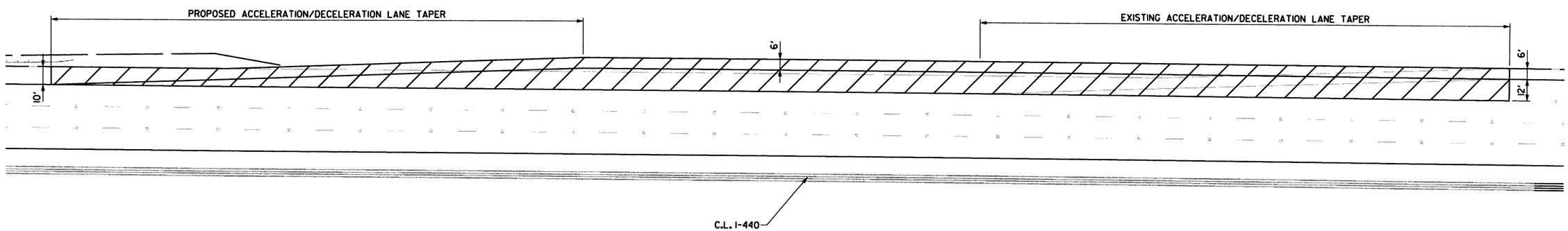
6	ARK.			
JOB NO.		BB0612	14	242

2 SPECIAL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHAHRIAR AZAD
10-28-2016



SW RAMP/SE RAMP



RAMP RECONSTRUCTION

SPECIAL DETAILS

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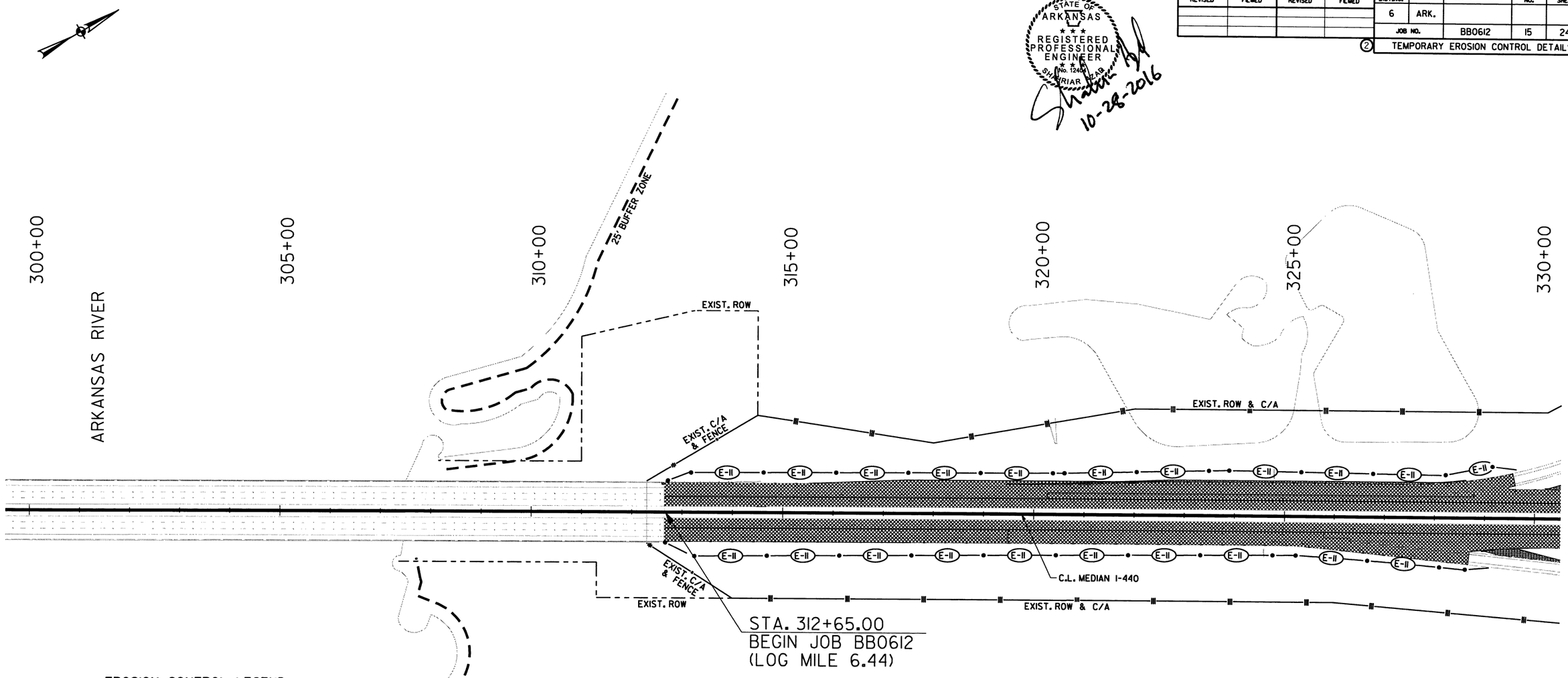
				JOB NO.		BB0612	15	242

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12406
SHAHRIAR AZAD
10-28-2016



EROSION CONTROL LEGEND

E-II	SILT FENCE
←	WATER FLOW DIRECTION

REVISIONS

DATE	DESCRIPTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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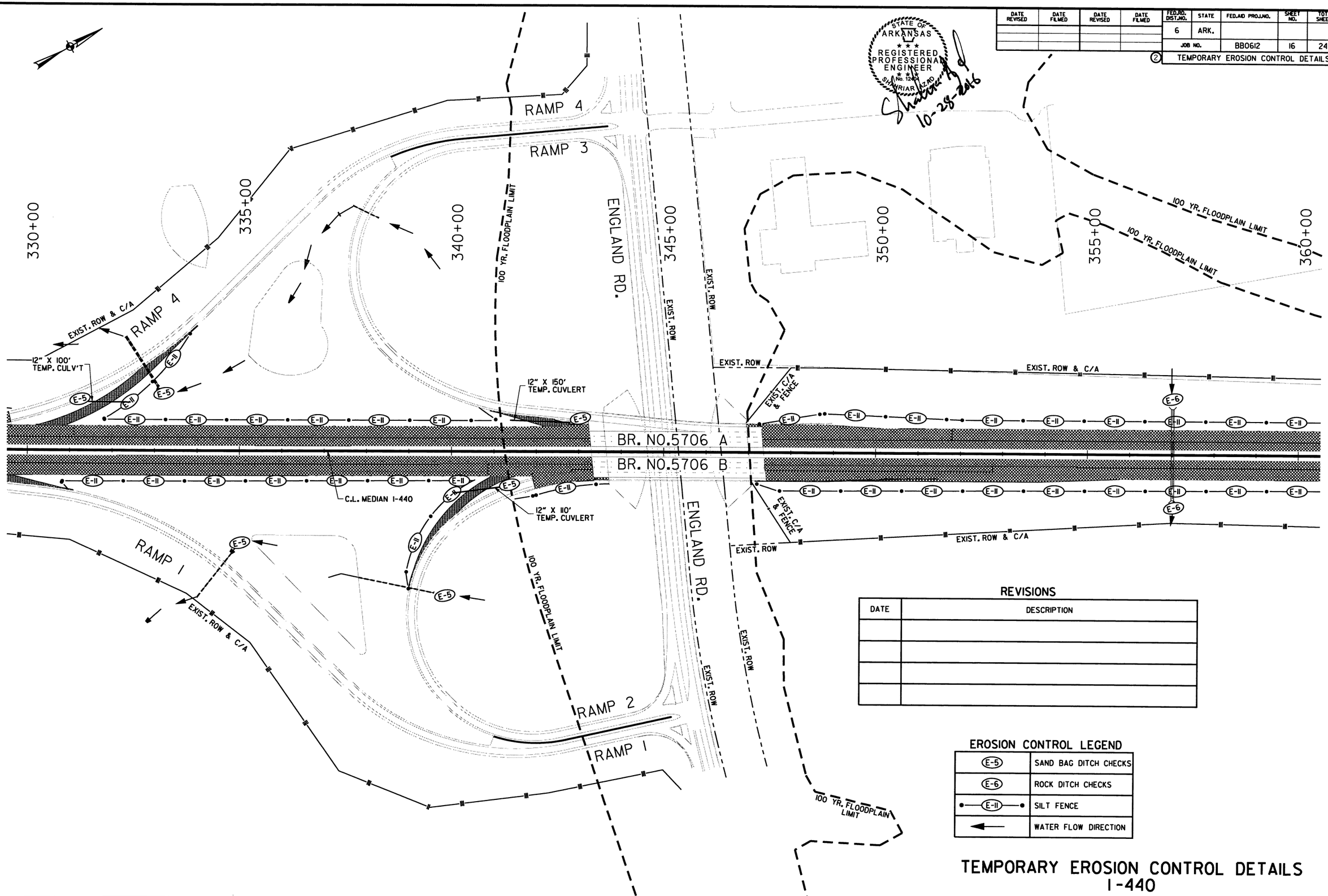
				JOB NO.		BB0612	16	242

② TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12493
SHANNON R. AZRIAR
10-28-2016



REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-11	SILT FENCE
←	WATER FLOW DIRECTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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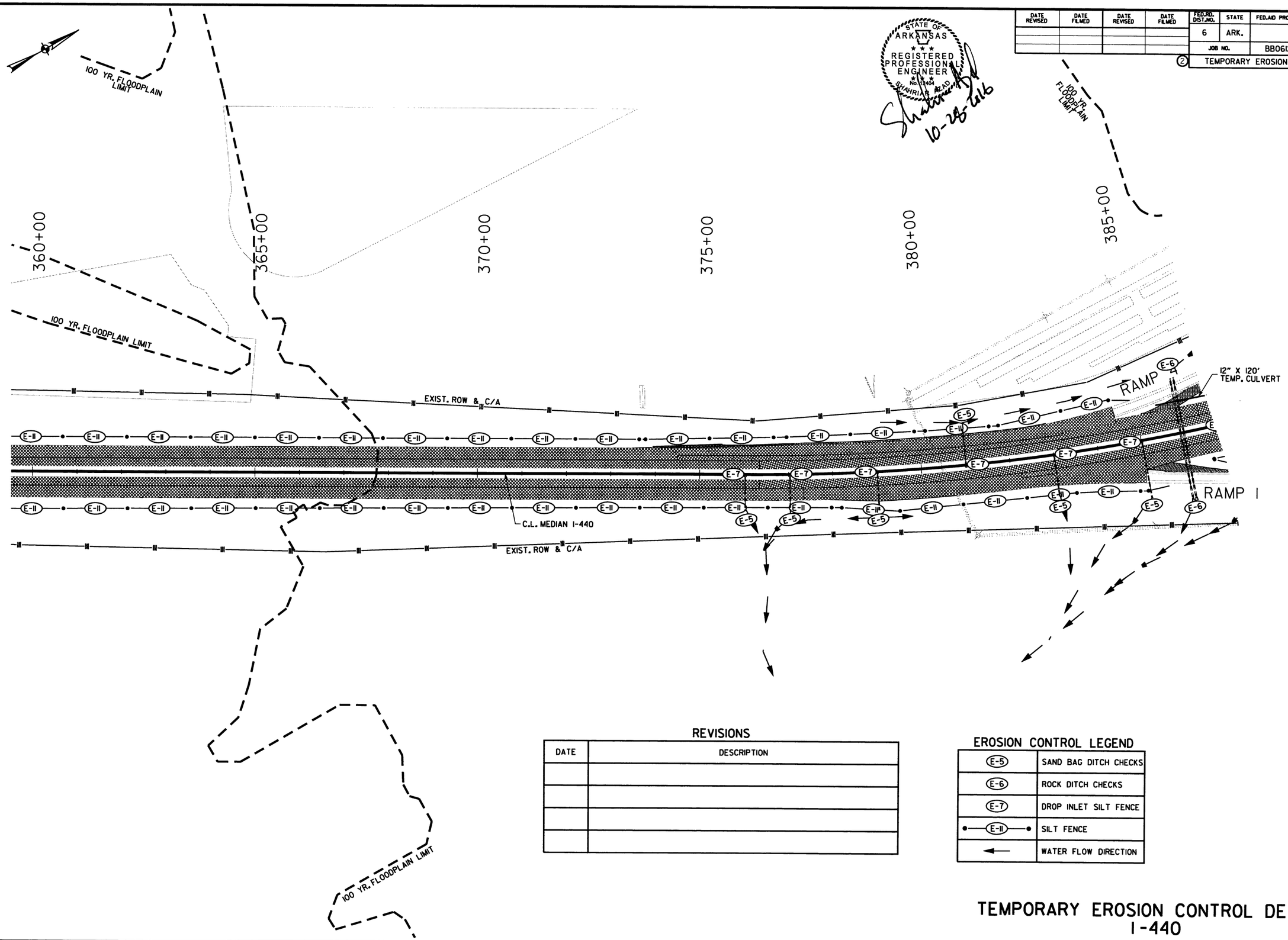
JOB NO.		BB0612	17	242

② TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ABZAD
10-28-2016



REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
←	WATER FLOW DIRECTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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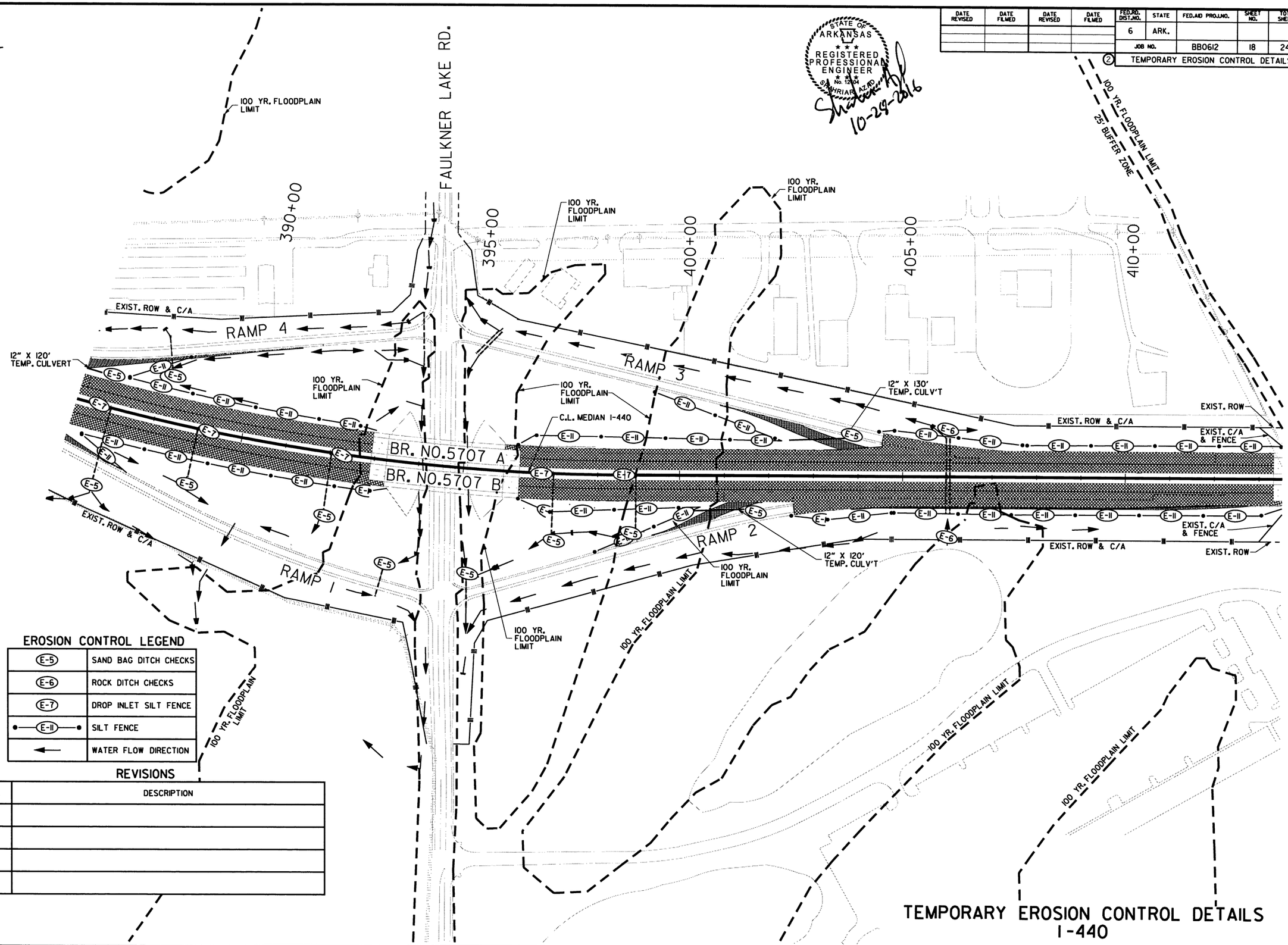
② TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12604
STEPHEN R. AZIMI
10-29-2016



EROSION CONTROL LEGEND

E-5	SAND BAG DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
←	WATER FLOW DIRECTION

REVISIONS

DATE	DESCRIPTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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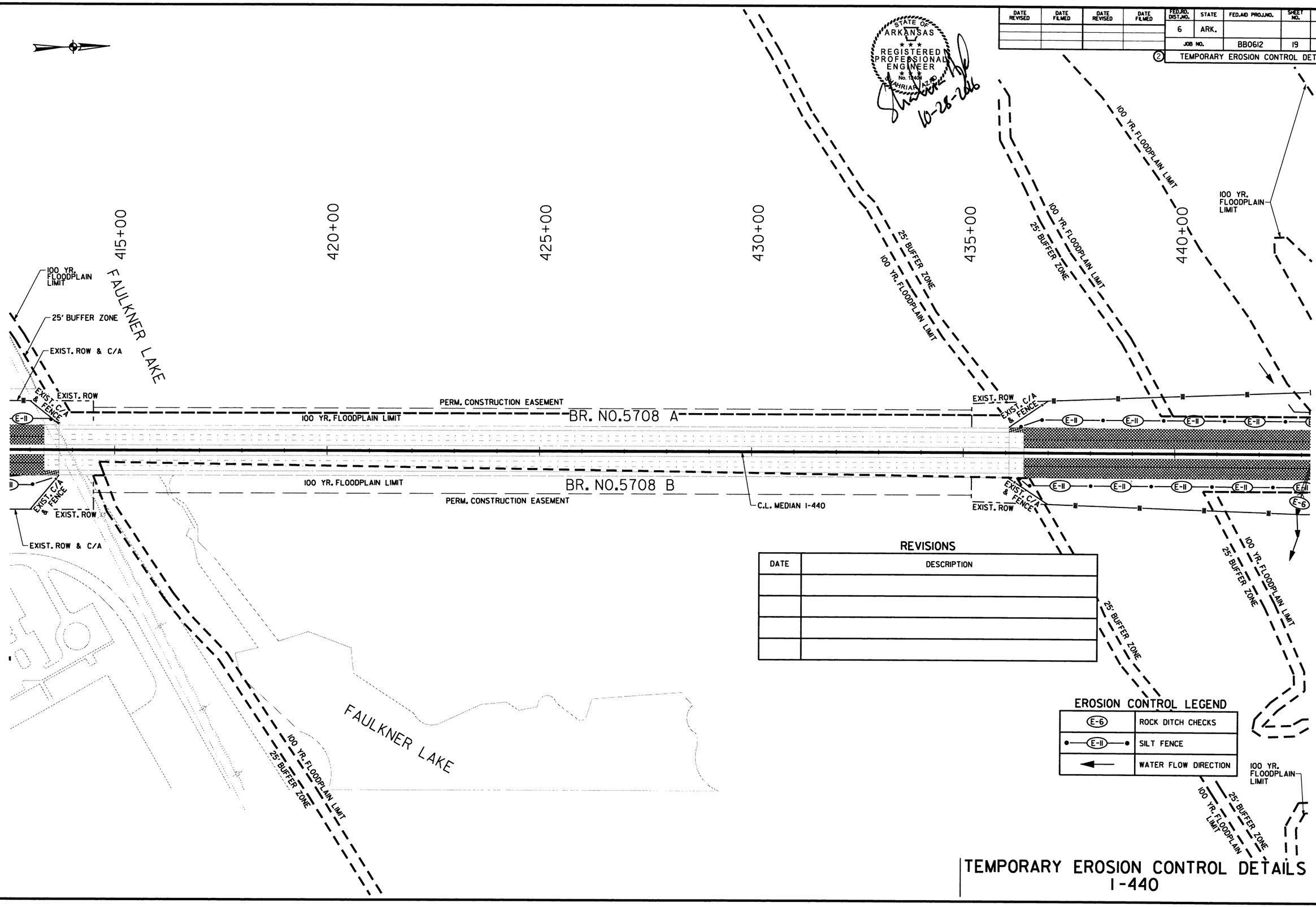
② TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11404
BAHRIAR A. ZAHIRI
10-28-2016



REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-6	ROCK DITCH CHECKS
E-11	SILT FENCE
	WATER FLOW DIRECTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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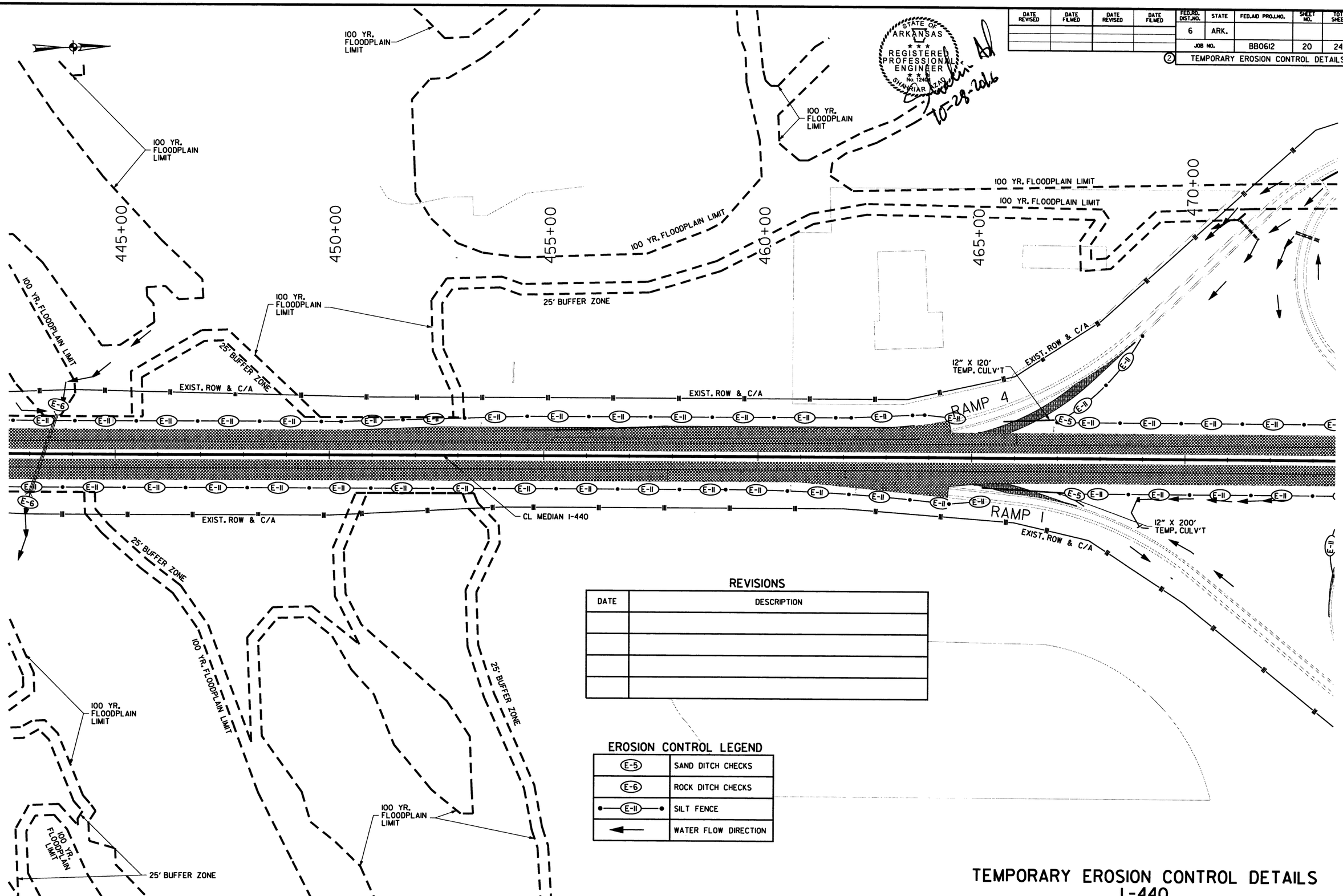
② TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12400
SHAHRIAR ZAND
10-28-2016



REVISIONS

DATE	DESCRIPTION

EROSION CONTROL LEGEND

E-5	SAND DITCH CHECKS
E-6	ROCK DITCH CHECKS
E-11	SILT FENCE
←	WATER FLOW DIRECTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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JOB NO.		BB0612	21	242

2 TEMPORARY EROSION CONTROL DETAILS

EROSION CONTROL LEGEND

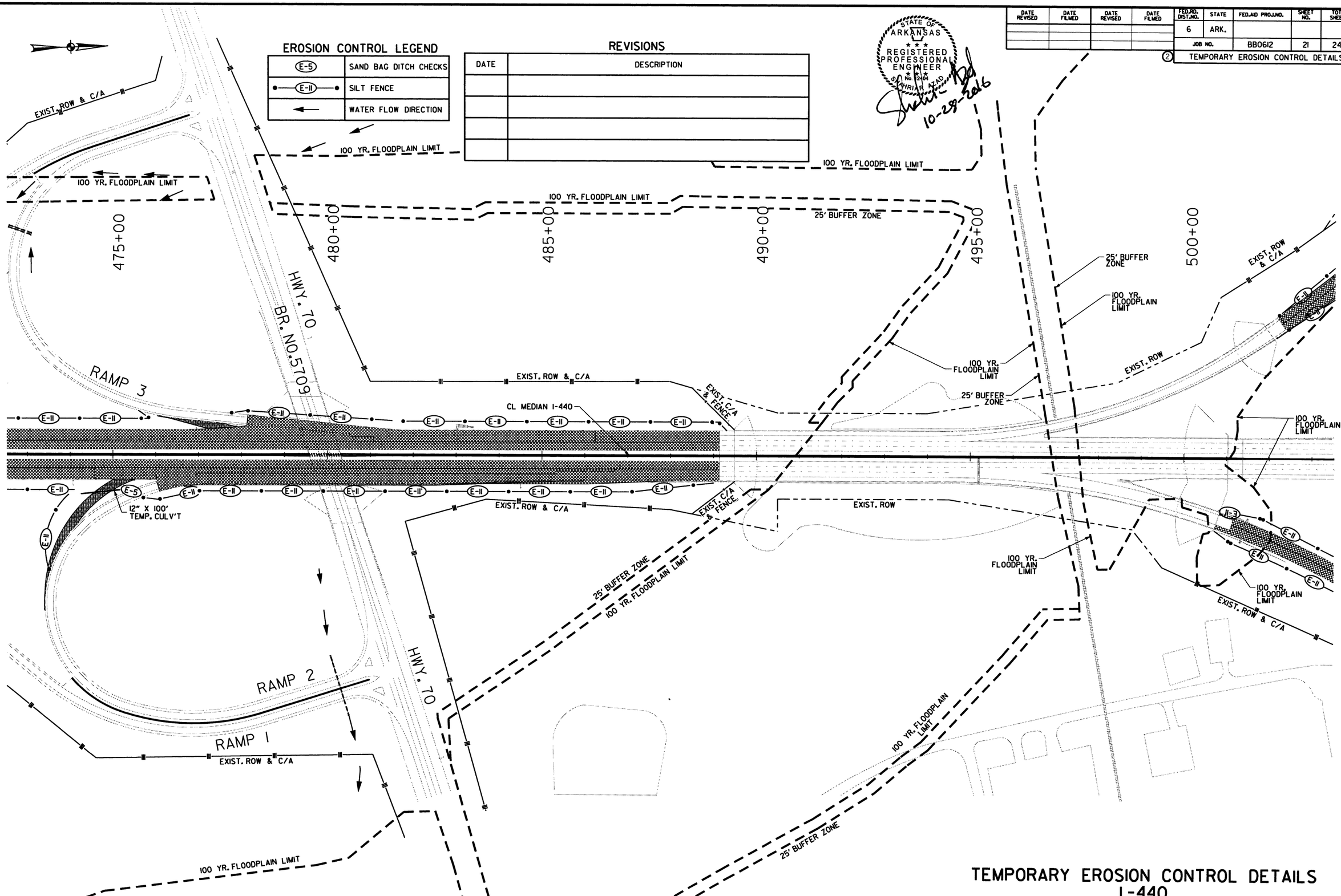
E-5	SAND BAG DITCH CHECKS
E-11	SILT FENCE
←	WATER FLOW DIRECTION

REVISIONS

DATE	DESCRIPTION

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHRIAR AZAD

10-28-2016



TEMPORARY EROSION CONTROL DETAILS
I-440

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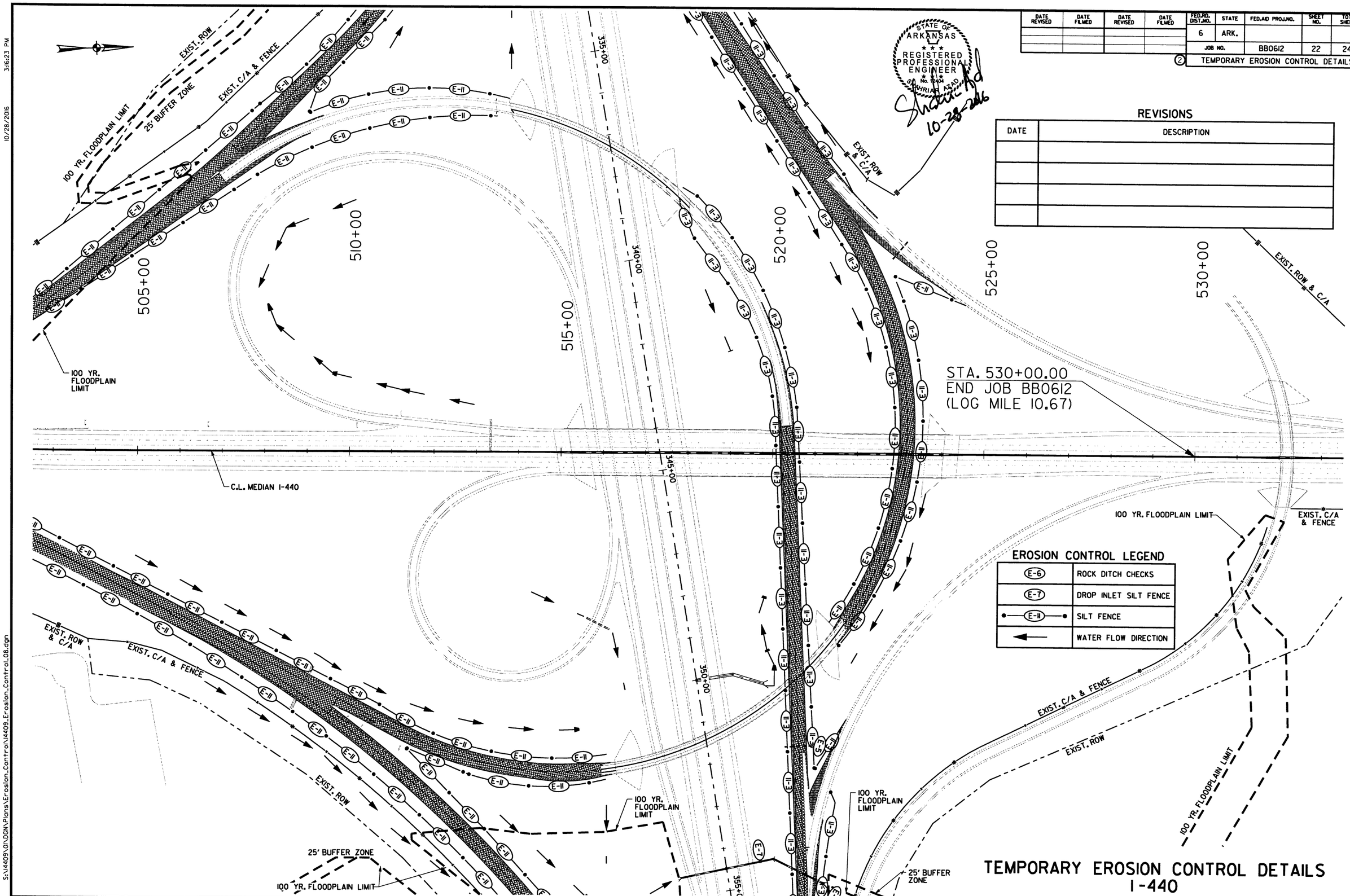
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7404
SHAHRIAR AZAD

10-28-2016

REVISIONS

DATE	DESCRIPTION



TEMPORARY EROSION CONTROL DETAILS
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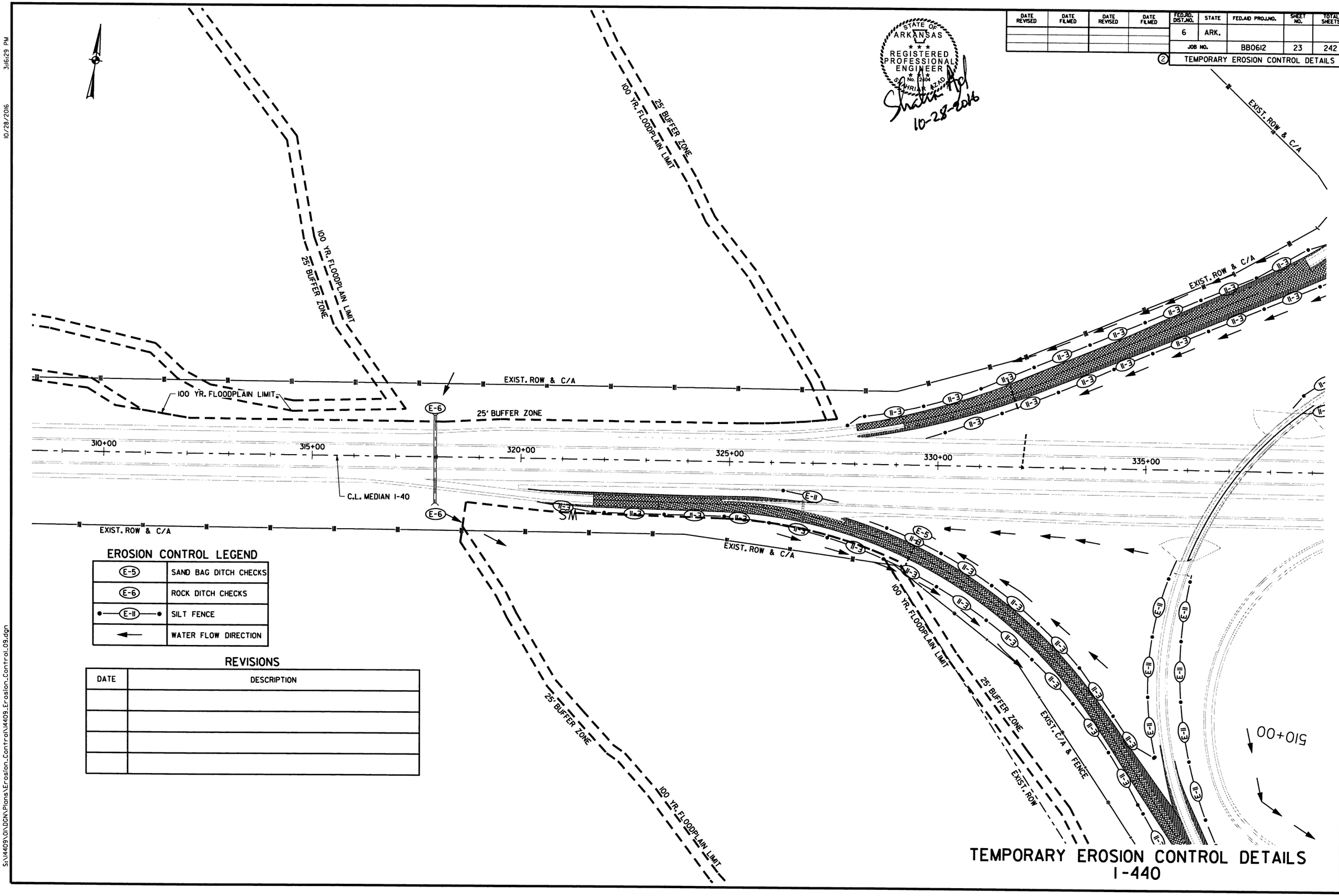
(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 21404
SHRIAR AZAD
10-28-2016



EROSION CONTROL LEGEND

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

REVISIONS

DATE	DESCRIPTION

TEMPORARY EROSION CONTROL DETAILS
I-440

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FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	24	242

2 TEMPORARY EROSION CONTROL DETAILS

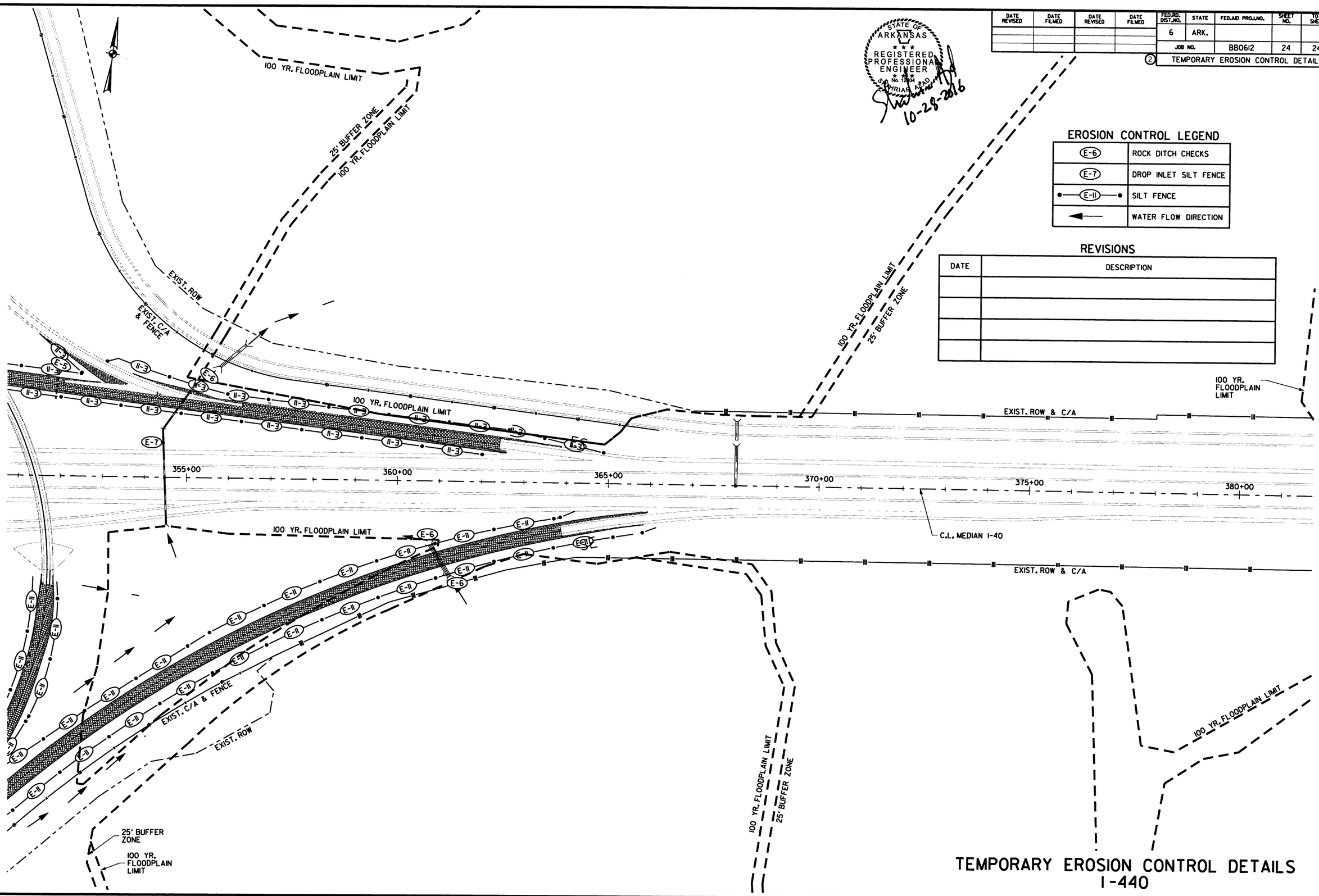
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12904
SHRIAR A. AND
10-28-2016

EROSION CONTROL LEGEND

E-6	ROCK DITCH CHECKS
E-7	DROP INLET SILT FENCE
E-11	SILT FENCE
←	WATER FLOW DIRECTION

REVISIONS

DATE	DESCRIPTION



TEMPORARY EROSION CONTROL DETAILS
I-440

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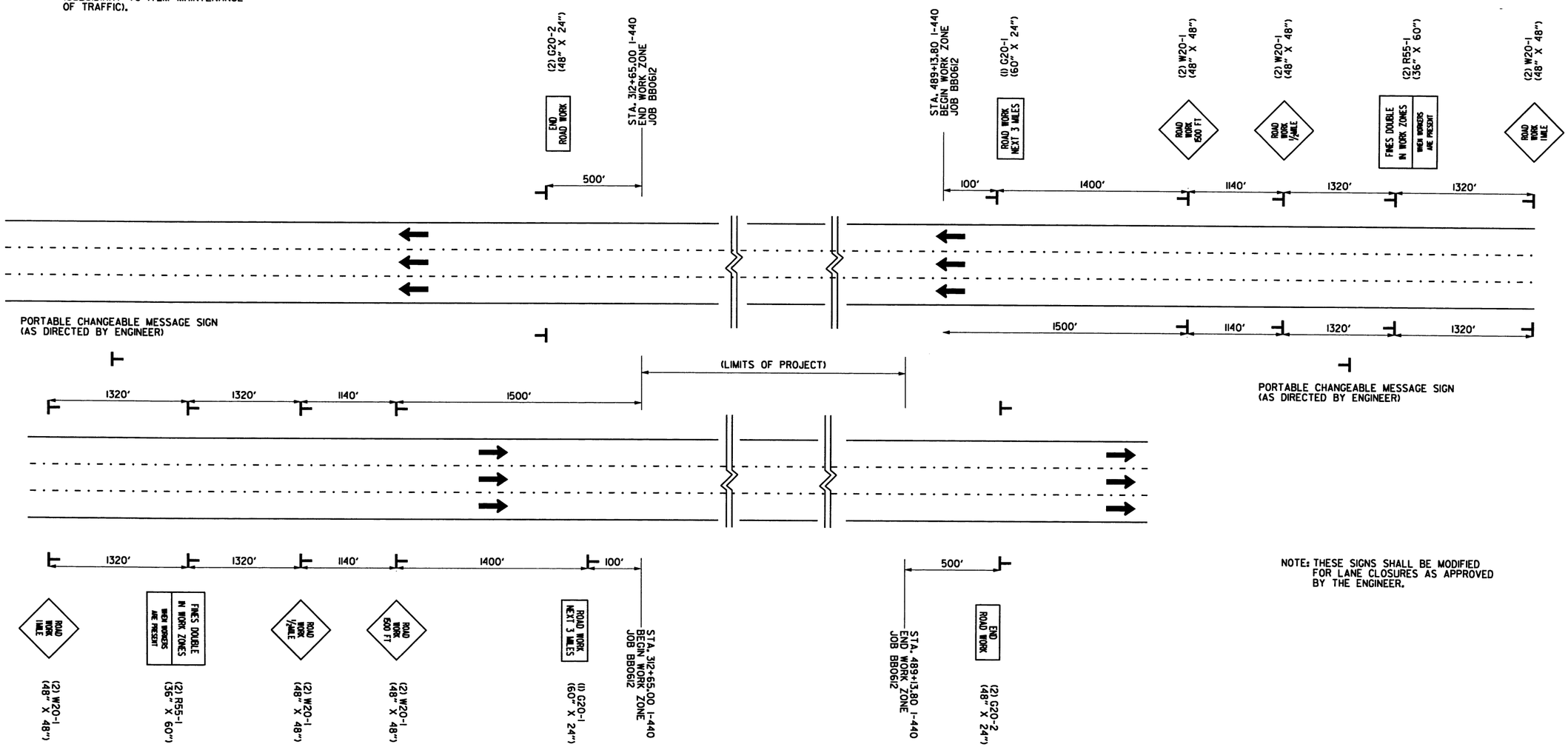
				6	ARK.			
				JOB NO.		BB0612	25	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHAHRIAR AZAD
10-28-2016

NOTE: CONTRACTOR SHALL USE DETAIL (D) FROM AHTD ROADWAY STANDARD DRAWING TC-3 FOR TWO LANE CLOSURES FOR FINAL STRIPING OPERATIONS OR OTHER OPERATIONS WITH THE APPROVAL OF ENGINEER (SUBSIDIARY TO ITEM MAINTENANCE OF TRAFFIC).



ADVANCE SIGNS AT BEGINNING AND END OF JOB BB0612
ALL STAGES

NOTE: THESE SIGNS SHALL BE MODIFIED FOR LANE CLOSURES AS APPROVED BY THE ENGINEER.

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 440

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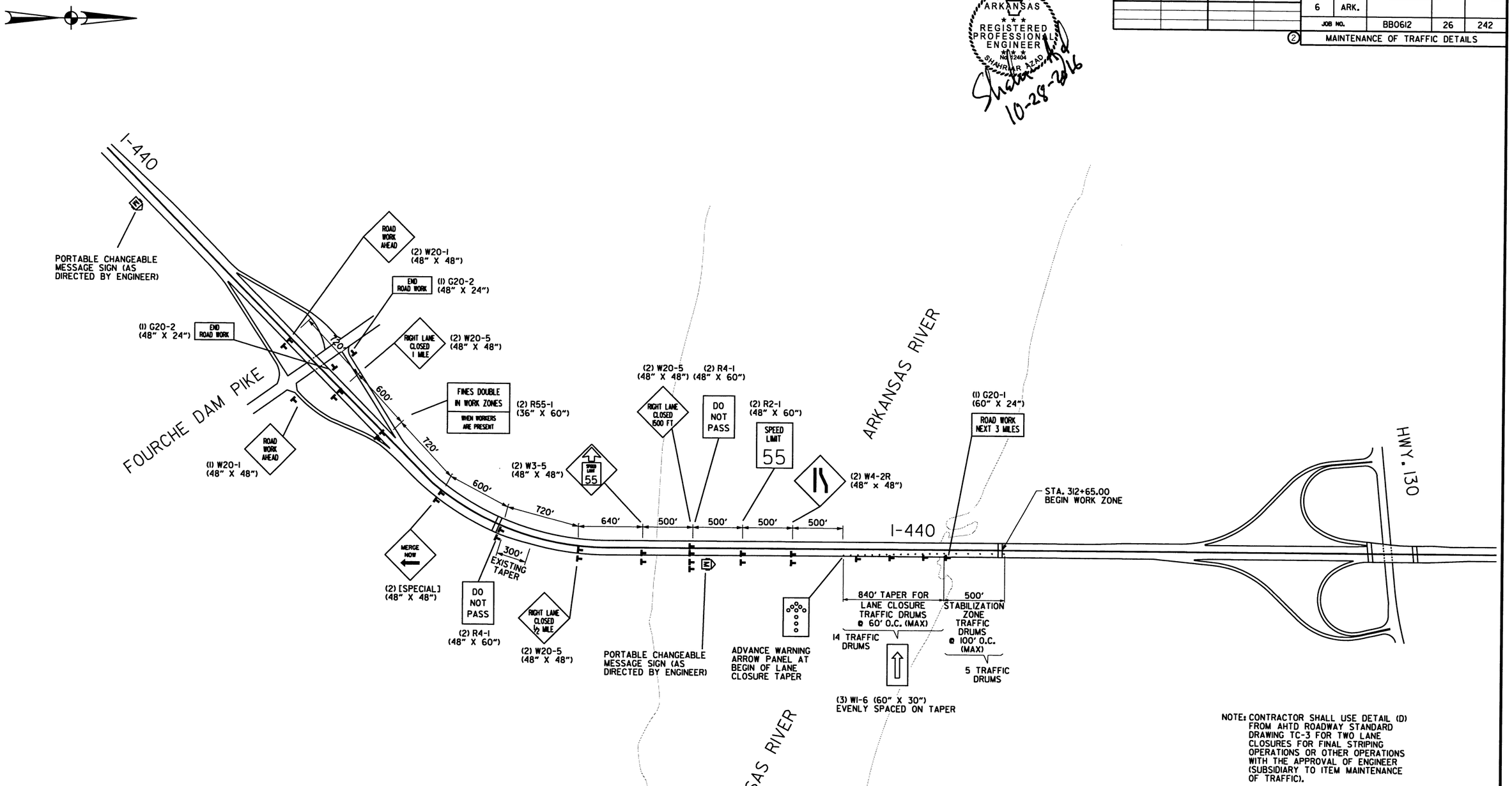
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	26	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



NOTE: CONTRACTOR SHALL USE DETAIL (D) FROM AHTD ROADWAY STANDARD DRAWING TC-3 FOR TWO LANE CLOSURES FOR FINAL STRIPING OPERATIONS OR OTHER OPERATIONS WITH THE APPROVAL OF ENGINEER (SUBSIDIARY TO ITEM MAINTENANCE OF TRAFFIC).

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 440
STAGES 1, 3 & 4

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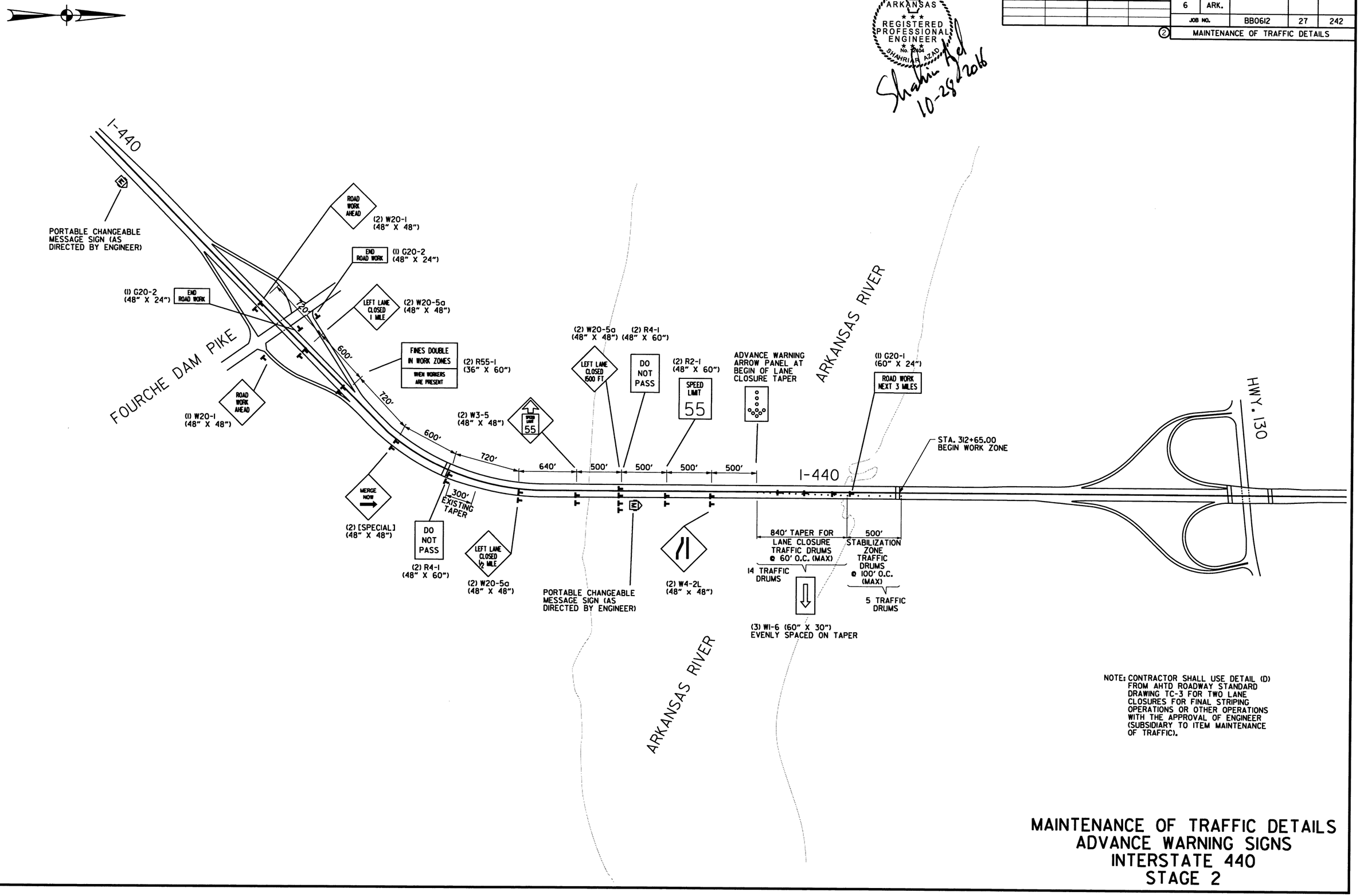
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	27	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12604
SHAHRIAR AZAD
Shahriar Azad 10-28-2016



NOTE: CONTRACTOR SHALL USE DETAIL (D) FROM AHTD ROADWAY STANDARD DRAWING TC-3 FOR TWO LANE CLOSURES FOR FINAL STRIPING OPERATIONS OR OTHER OPERATIONS WITH THE APPROVAL OF ENGINEER (SUBSIDIARY TO ITEM MAINTENANCE OF TRAFFIC).

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 440
STAGE 2

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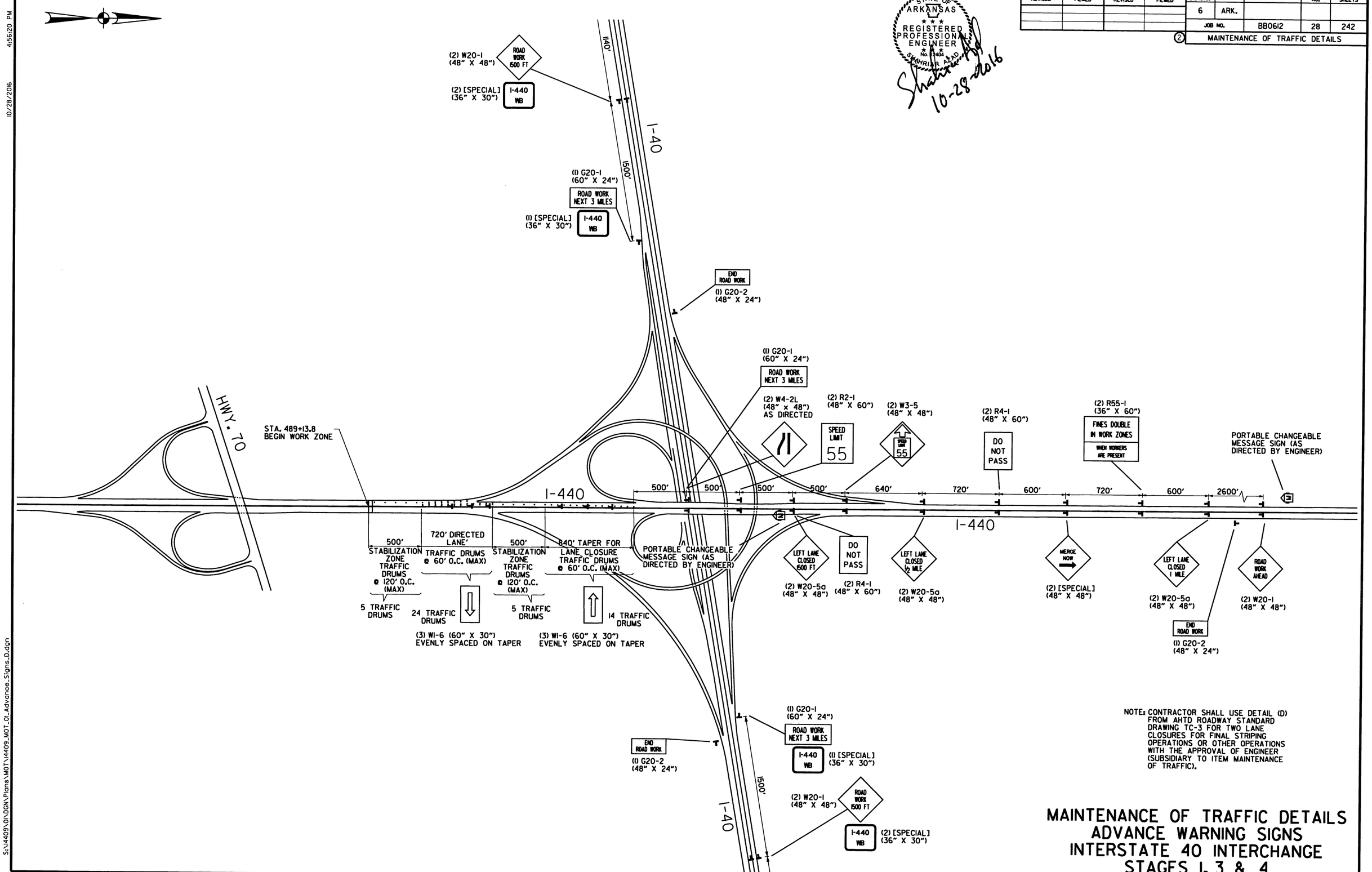
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	28	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ALI
10-28-2016



NOTE: CONTRACTOR SHALL USE DETAIL (D) FROM AHTD ROADWAY STANDARD DRAWING TC-3 FOR TWO LANE CLOSURES FOR FINAL STRIPING OPERATIONS OR OTHER OPERATIONS WITH THE APPROVAL OF ENGINEER (SUBSIDIARY TO ITEM MAINTENANCE OF TRAFFIC).

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGES 1, 3 & 4

10/28/2016 4:56:20 PM

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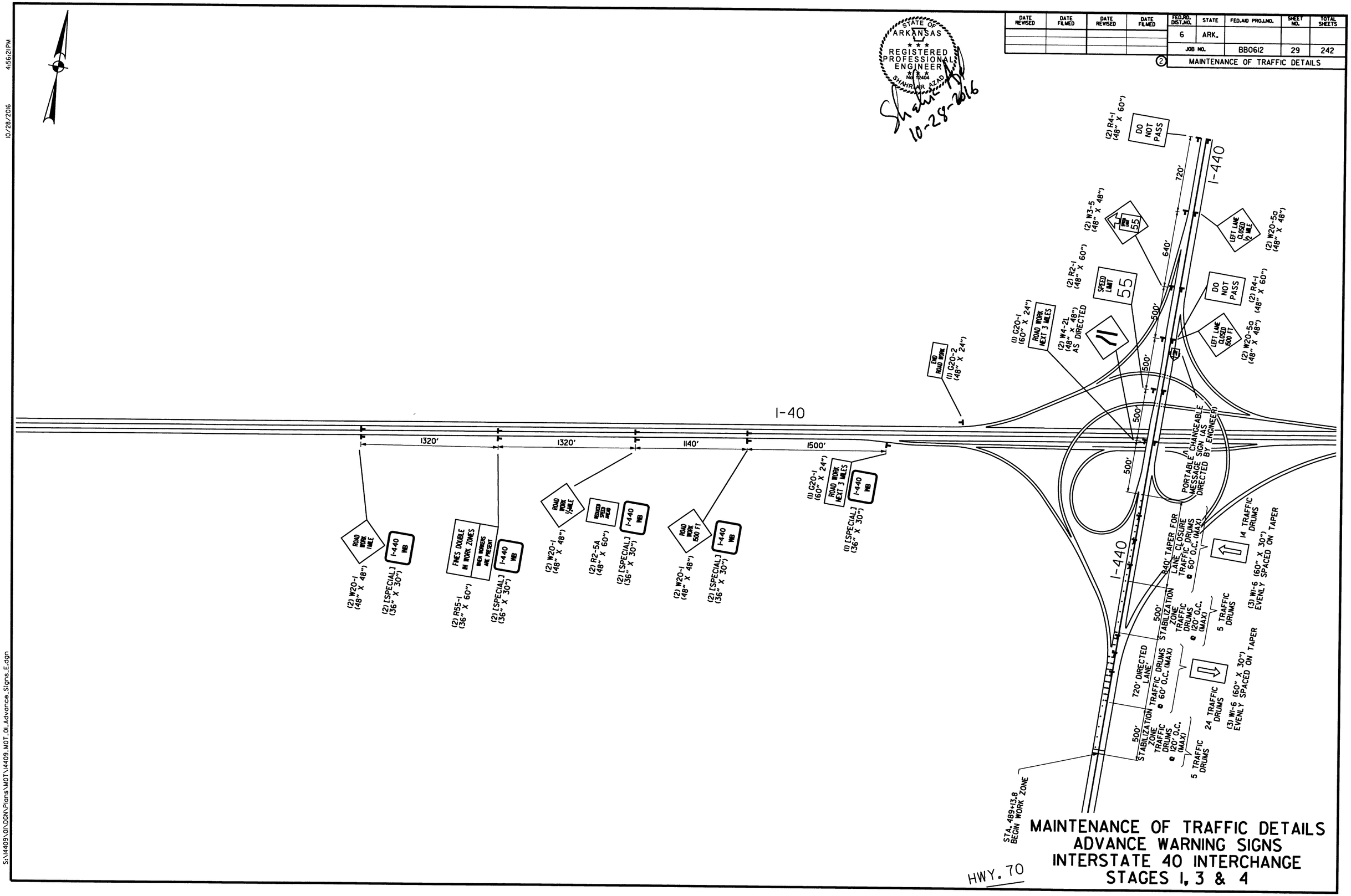
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	29	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNON AZAD

Shannon Azad
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGES 1, 3 & 4

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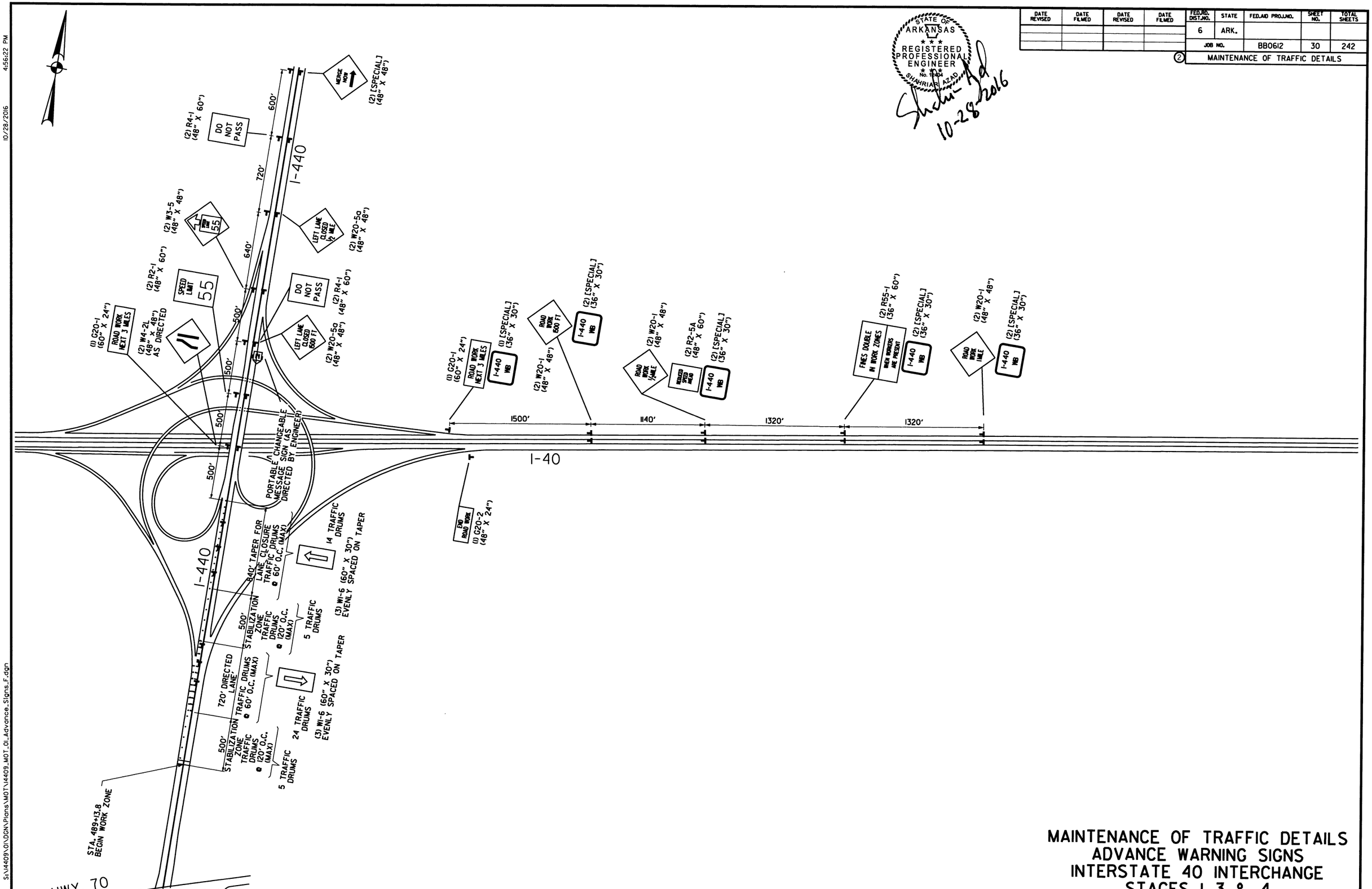
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	30	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11444
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGES 1, 3 & 4

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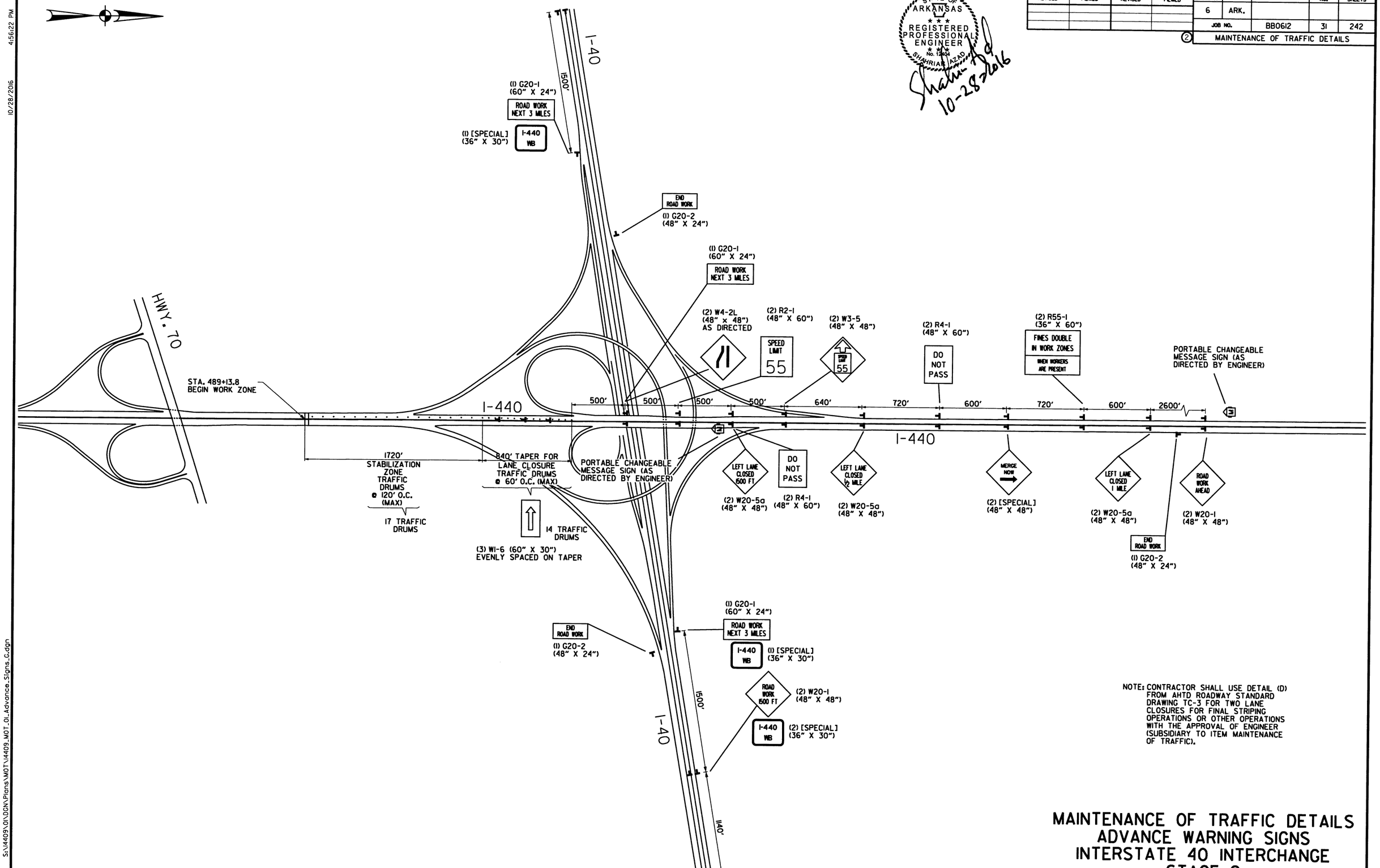
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	31	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



NOTE: CONTRACTOR SHALL USE DETAIL (D) FROM AHTD ROADWAY STANDARD DRAWING TC-3 FOR TWO LANE CLOSURES FOR FINAL STRIPING OPERATIONS OR OTHER OPERATIONS WITH THE APPROVAL OF ENGINEER (SUBSIDIARY TO ITEM MAINTENANCE OF TRAFFIC).

MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGE 2

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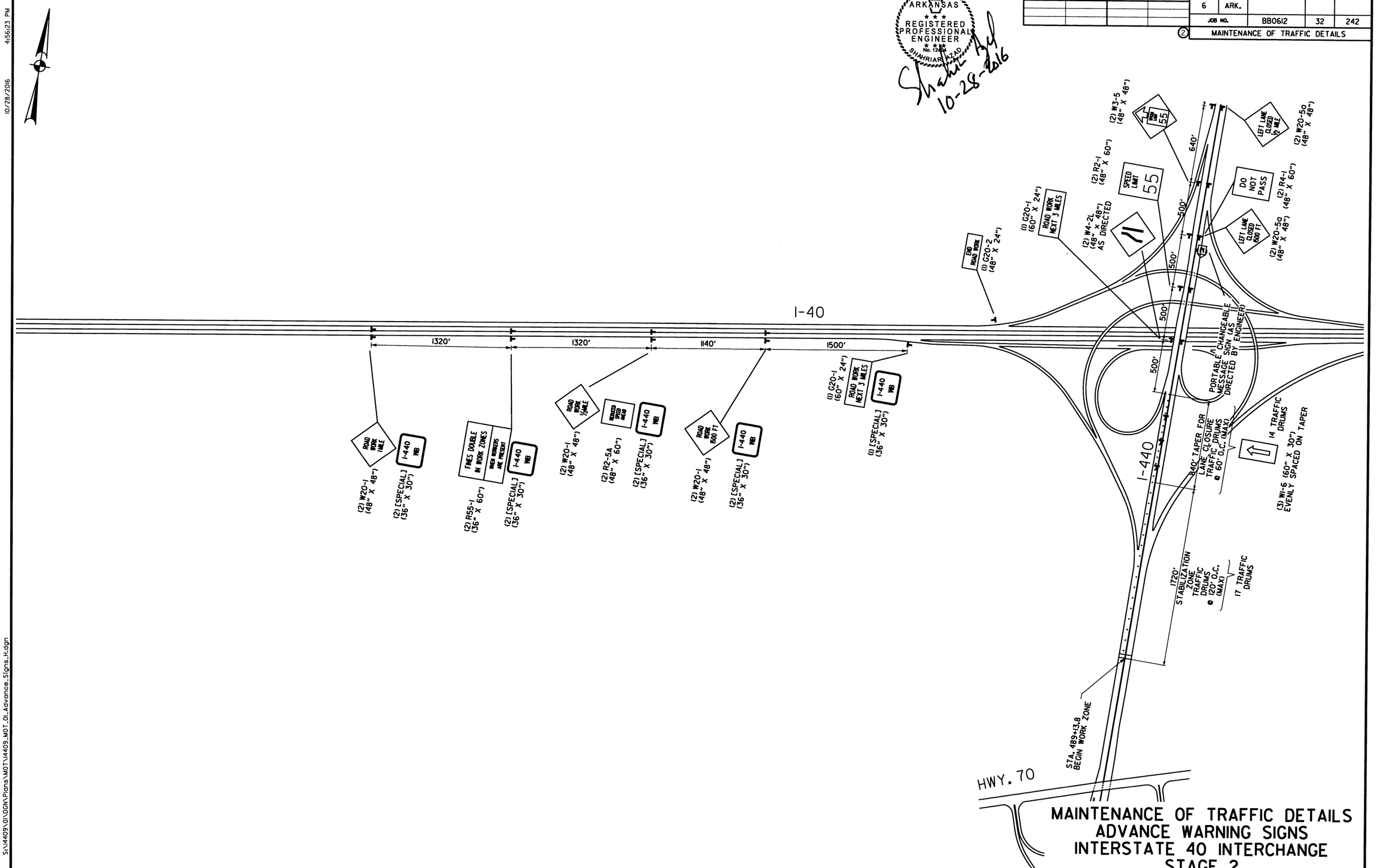
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	32	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12484
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGE 2

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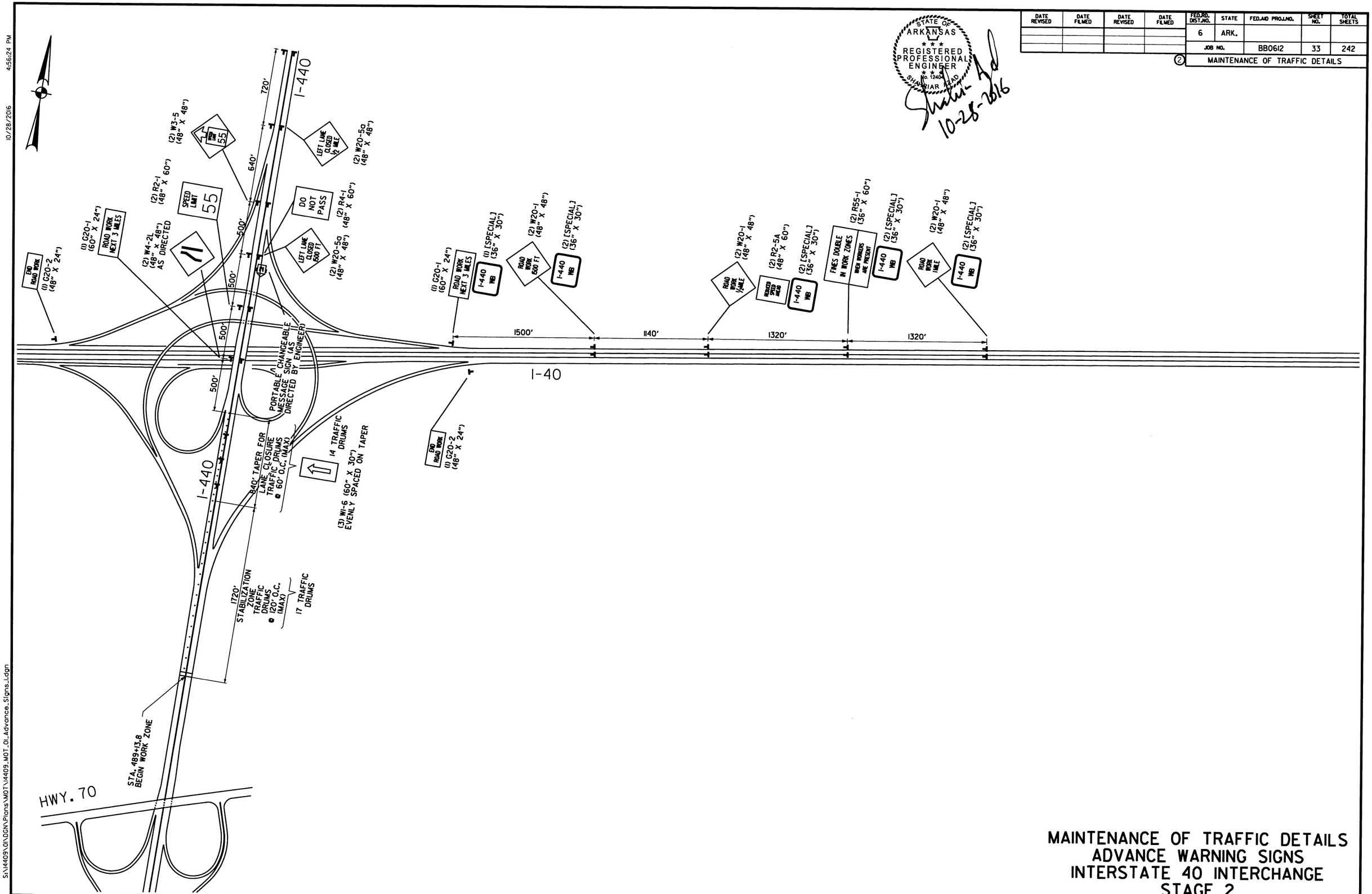
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	33	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANE RIAR ALLEAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
ADVANCE WARNING SIGNS
INTERSTATE 40 INTERCHANGE
STAGE 2

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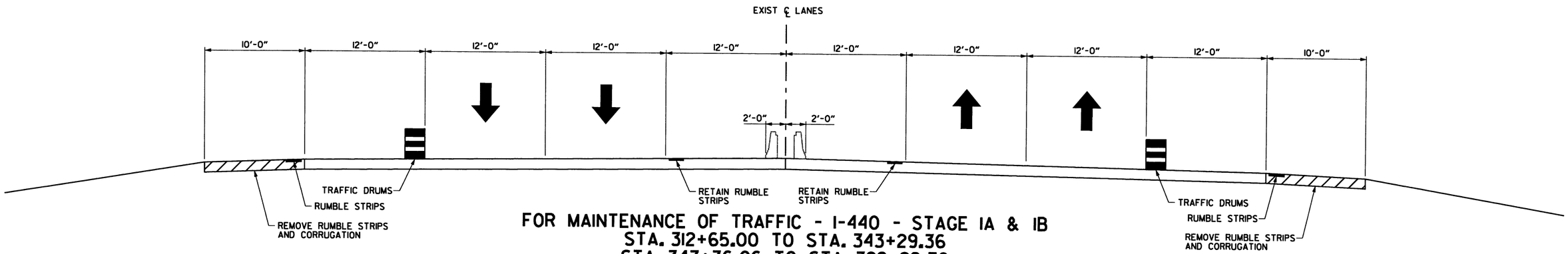
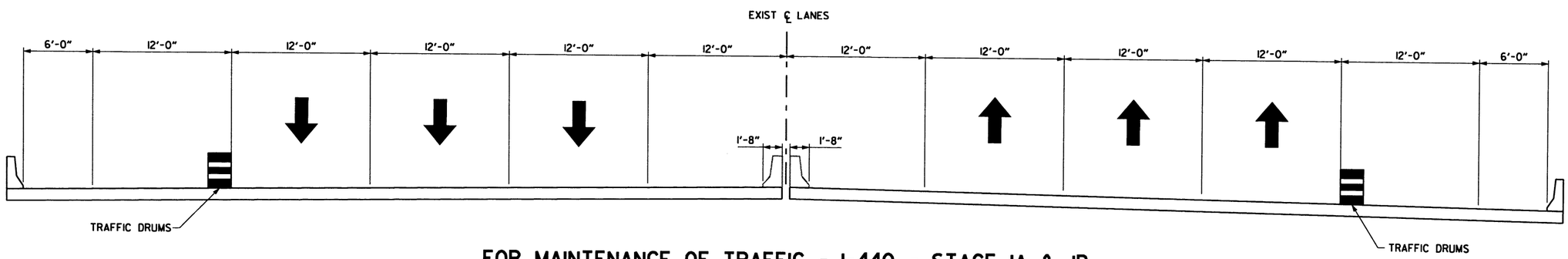
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	34	242

2 MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE IA & IB
STA. 312+65.00 TO STA. 343+29.36
STA. 347+36.06 TO STA. 392+92.70
STA. 396+25.14 TO STA. 413+35.00
STA. 436+45.00 TO STA. 489+13.80



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE IA & IB
BRIDGE NO. 5706 A & B
STA. 343+29.36 TO STA. 347+36.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NATHAN A. MARIAR
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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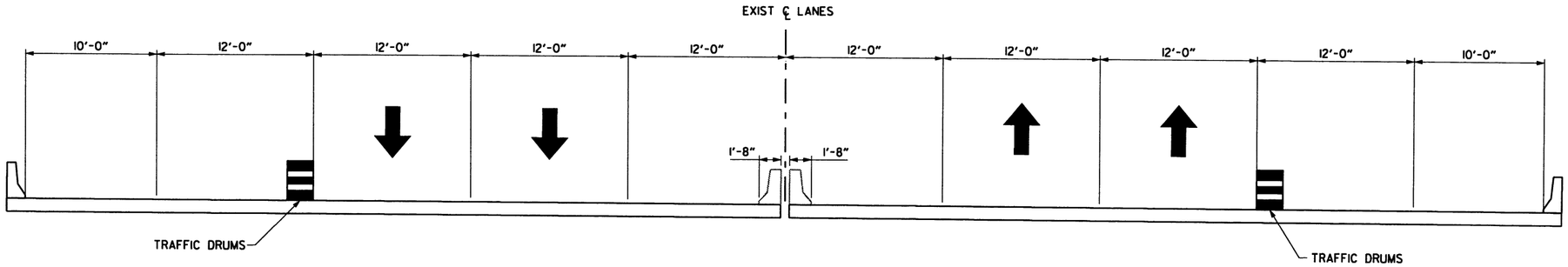
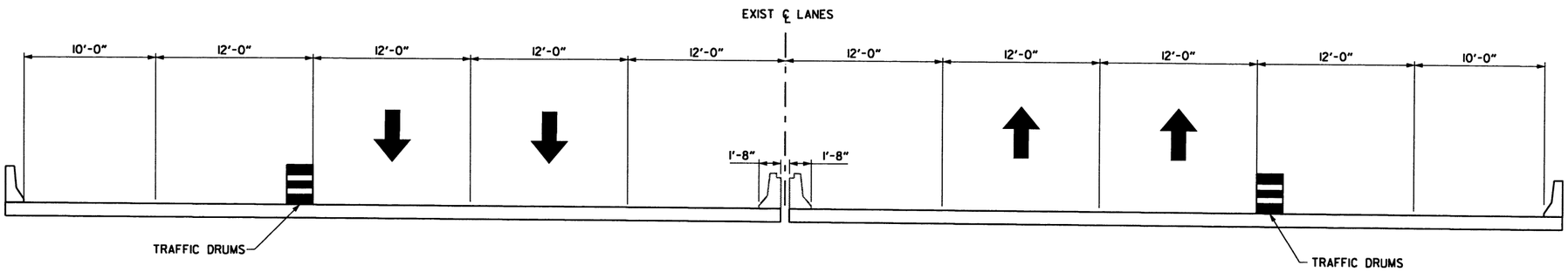
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	35	242

2 MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE IA & IB
BRIDGE NO. 5707 A & B
STA. 392+92.70 TO STA. 396+25.14



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE IA & IB
BRIDGE NO. 5708 A & B
STA. 413+35.00 TO STA. 436+45.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 9404
SHANTRIAL ZAID
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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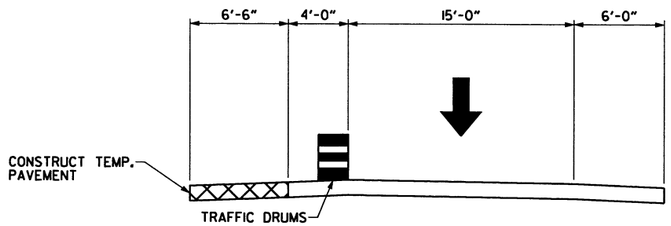
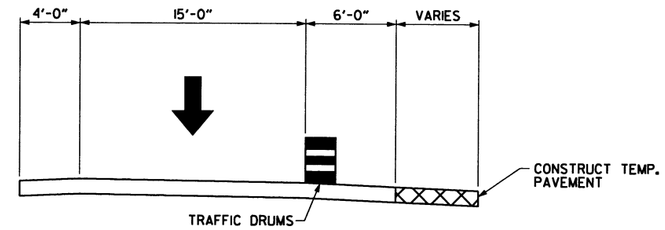
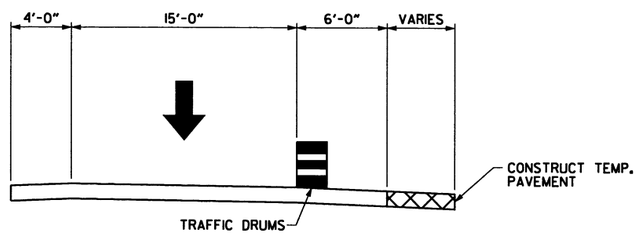
2 MAINTENANCE OF TRAFFIC DETAILS



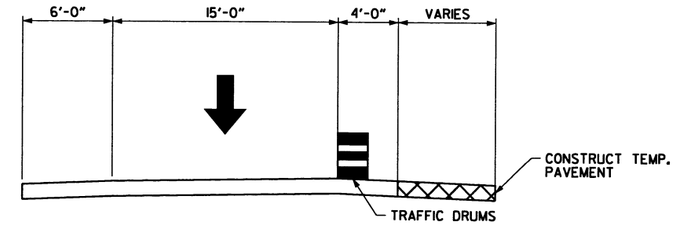
SE RAMP - I-440 - STAGE IA



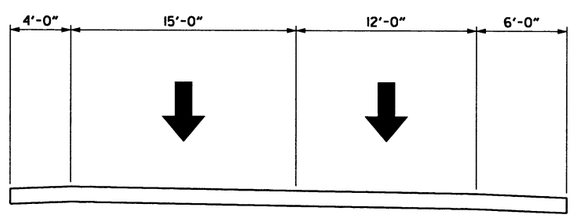
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE IA



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE IA



WS RAMP - I-440 ONE LANE - STAGE IA



WS TWO LANE RAMP - STAGE IA

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
STEPHEN A. WAHRIAN
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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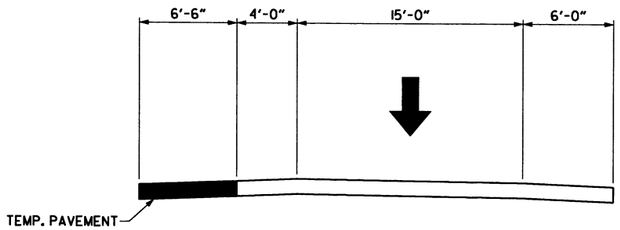
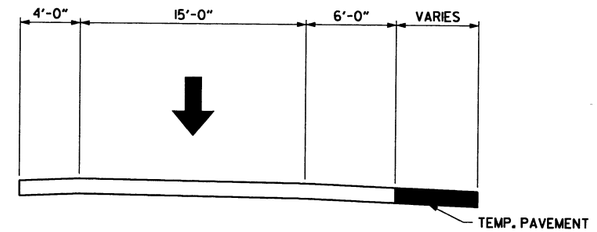
				JOB NO.		BB0612	37	242

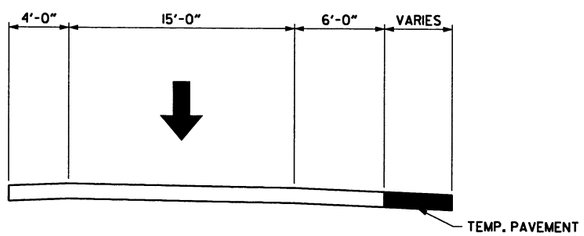
2 MAINTENANCE OF TRAFFIC DETAILS



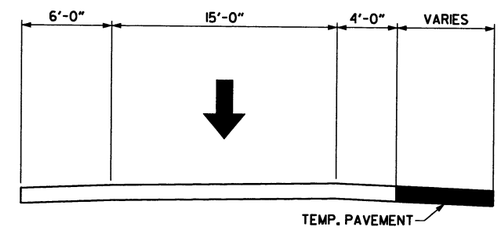
SE RAMP - I-440 - STAGE IB



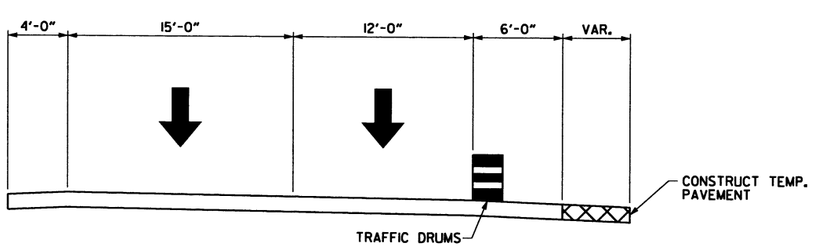
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE IB



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE IB



WS RAMP - I-440 ONE LANE - STAGE IB



WS TWO LANE RAMP - STAGE IB

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 12404
SHAHRIAR AZAD

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE I

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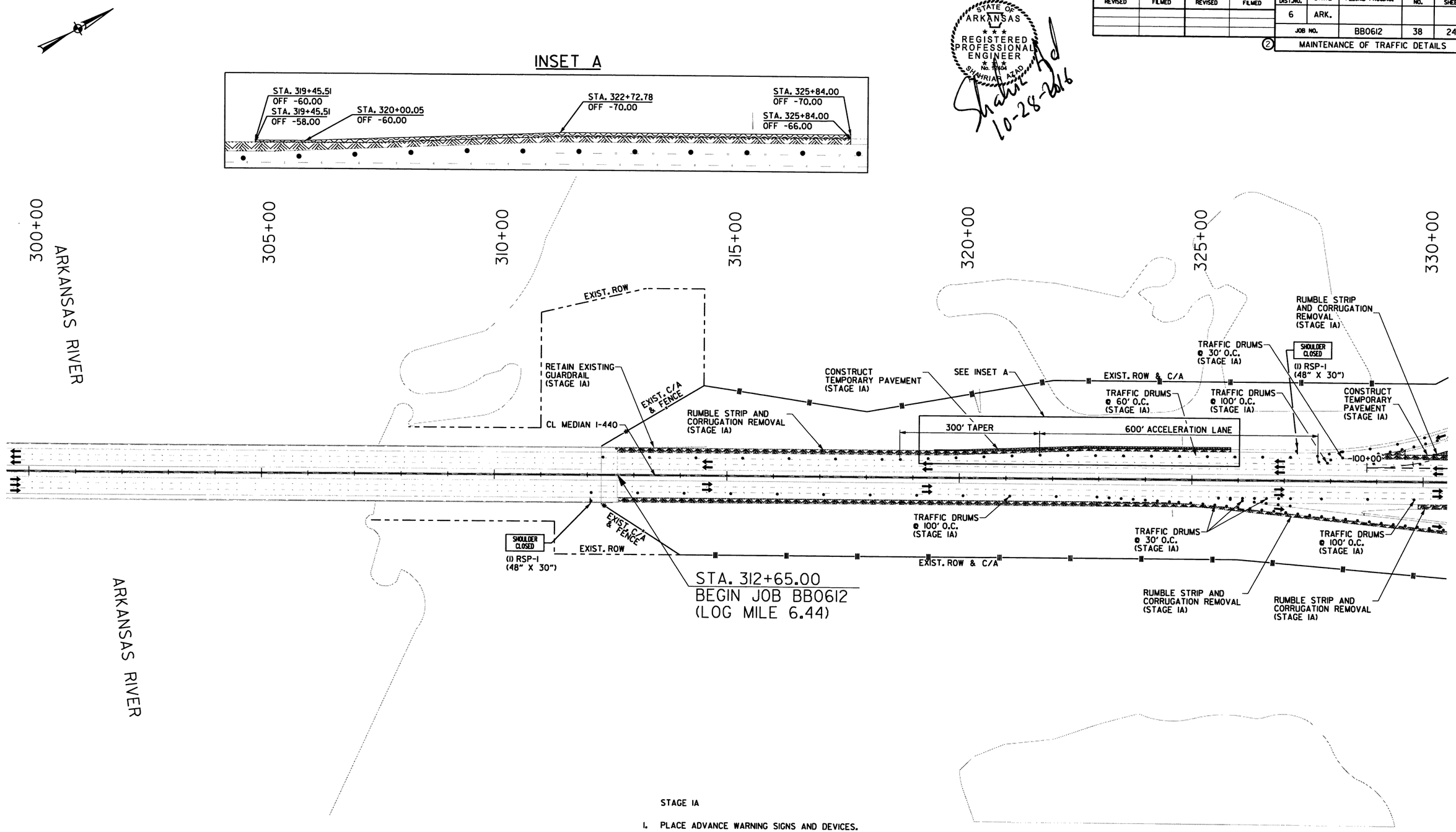
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	38	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 19604
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

STAGE IA

1. PLACE ADVANCE WARNING SIGNS AND DEVICES.
2. PLACE LANE CLOSURE SIGNS AND DEVICES TO CLOSE OUTSIDE LANE IN NB AND SB DIRECTIONS ALONG I-440 TO PROTECT WORKERS CONSTRUCTING TEMPORARY RAMPS AND REMOVING RUMBLE STRIPS.
3. CONSTRUCT TEMPORARY RAMPS AND TEMPORARY PAVEMENT AS SHOWN IN THE MOT DETAILS FOR STAGE IA.
4. REMOVE RUMBLE STRIPS AND CORRUGATION ON OUTSIDE LANES AS SHOWN IN THE MOT DETAILS FOR STAGE IA.

MAINTENANCE OF TRAFFIC DETAILS STAGE IA

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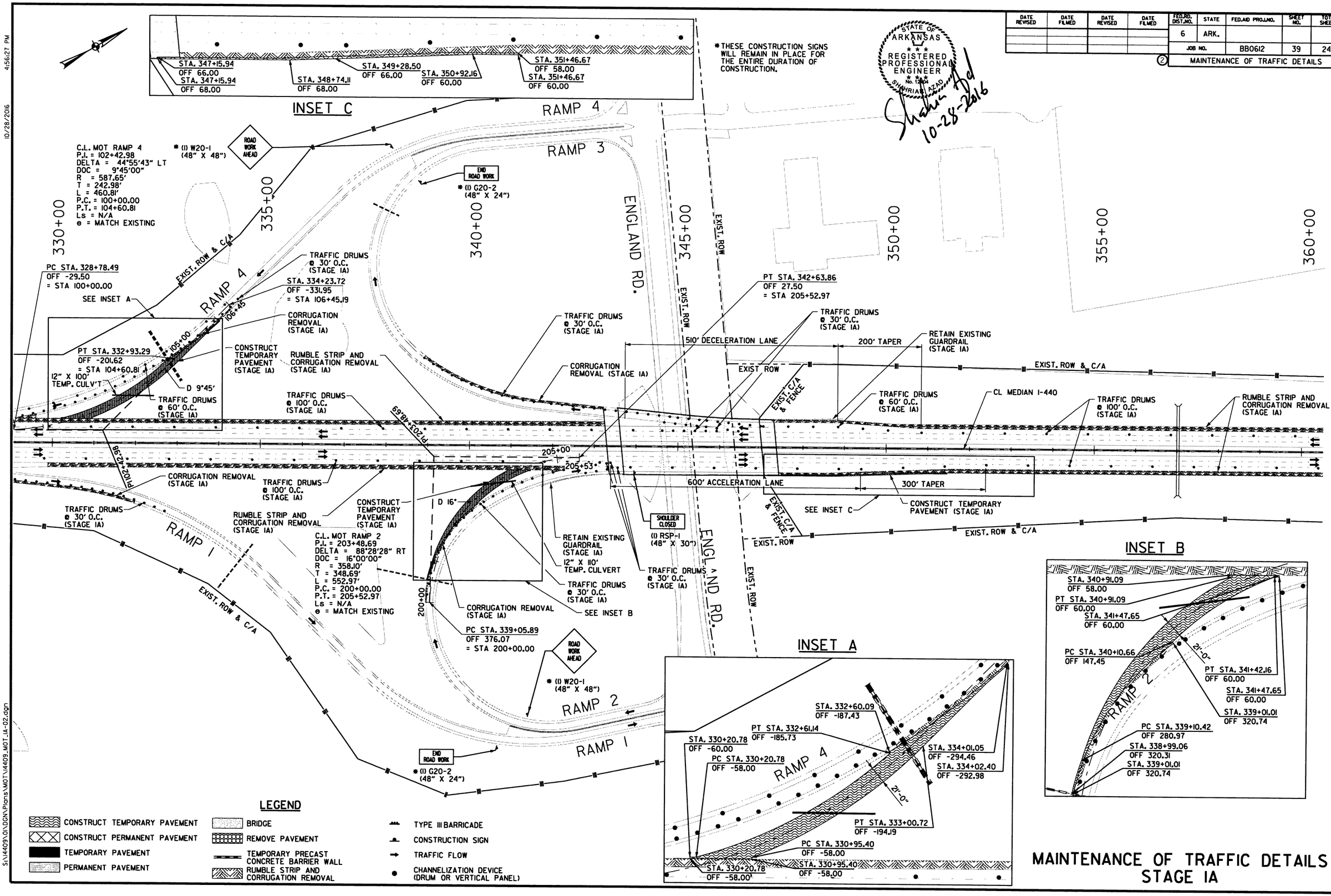
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	39	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12004
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE IA

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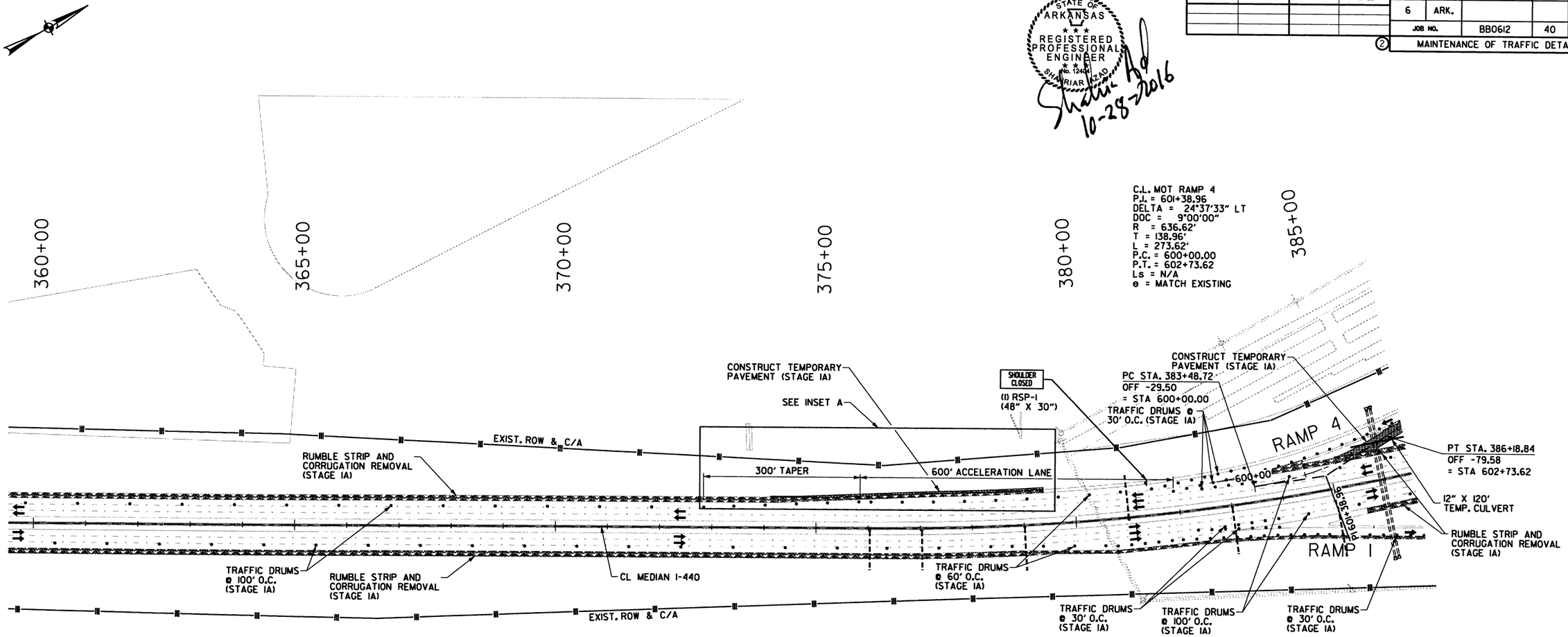
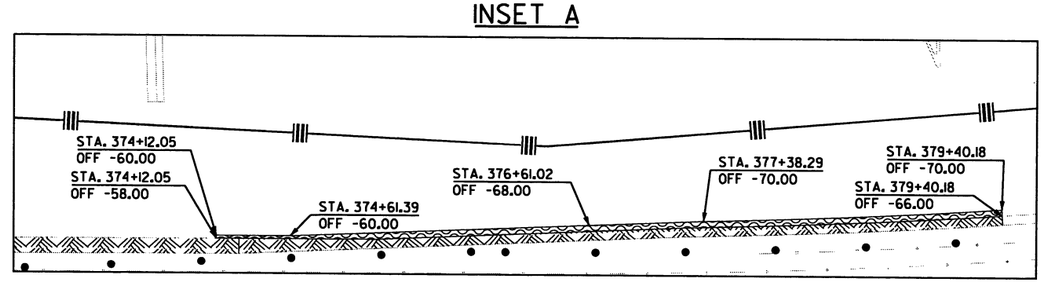
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	40	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNON R. FRIAR
10-28-2016



INSET A



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE IA

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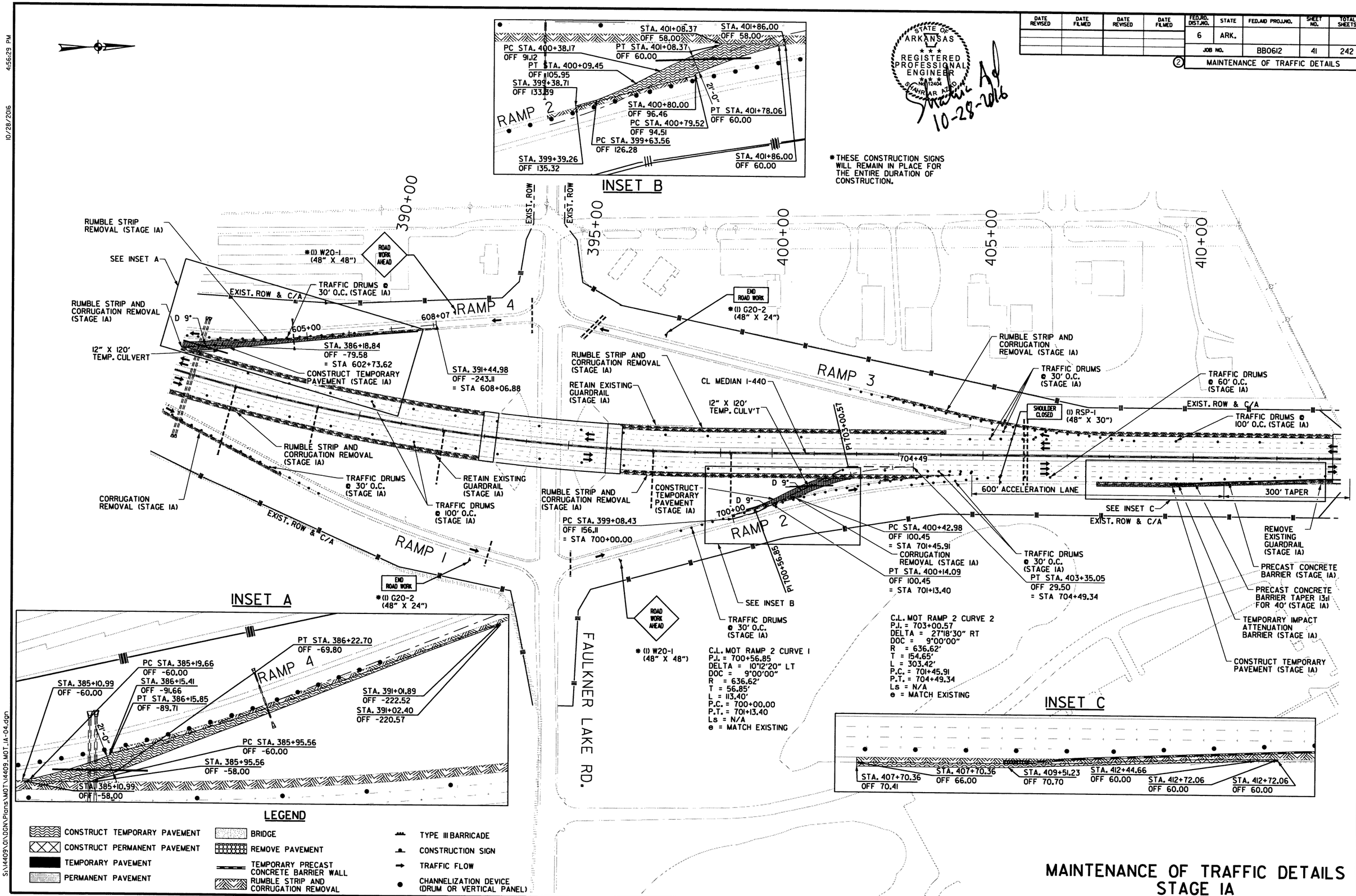
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	41	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE IA

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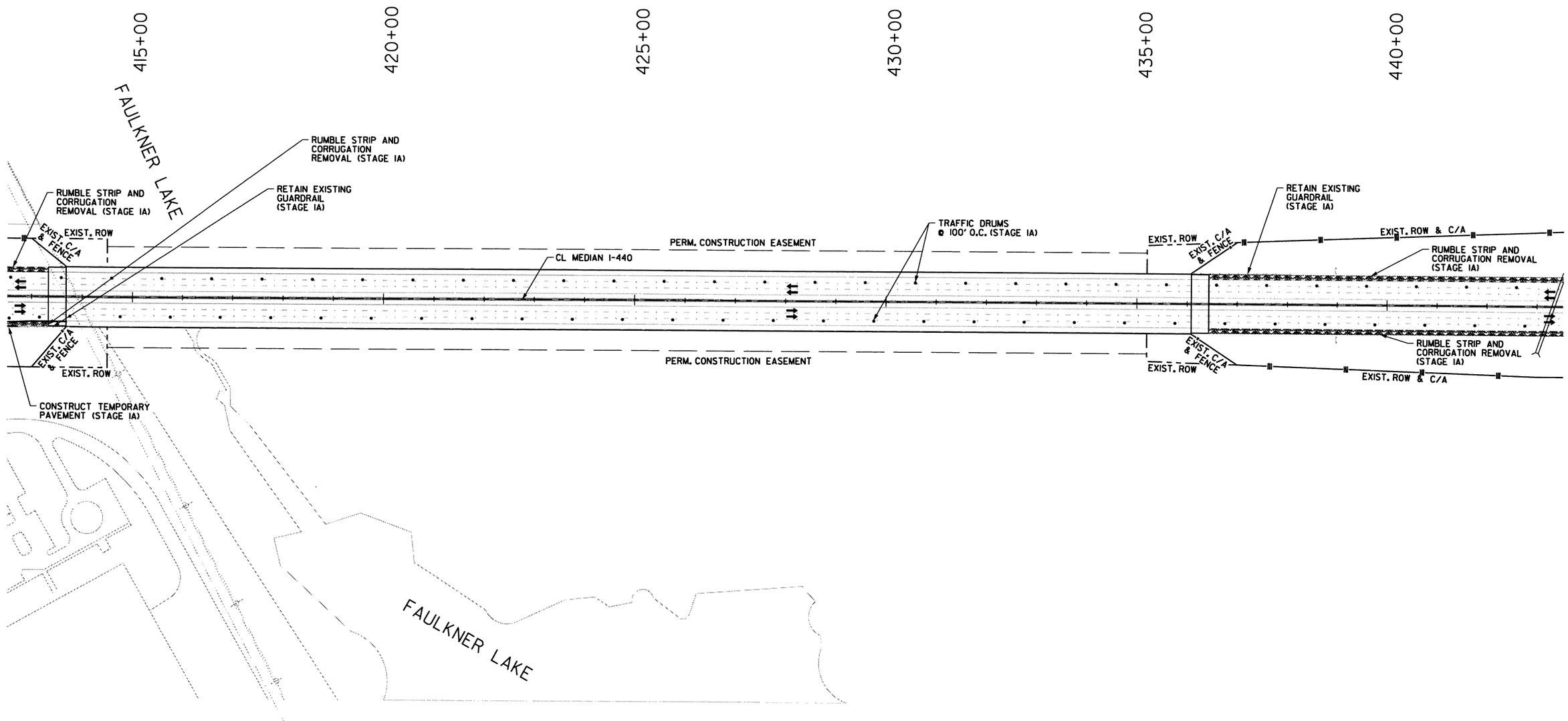
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	42	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHANNON A. TRIAR
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IA

10/28/2016 4:56:30 PM

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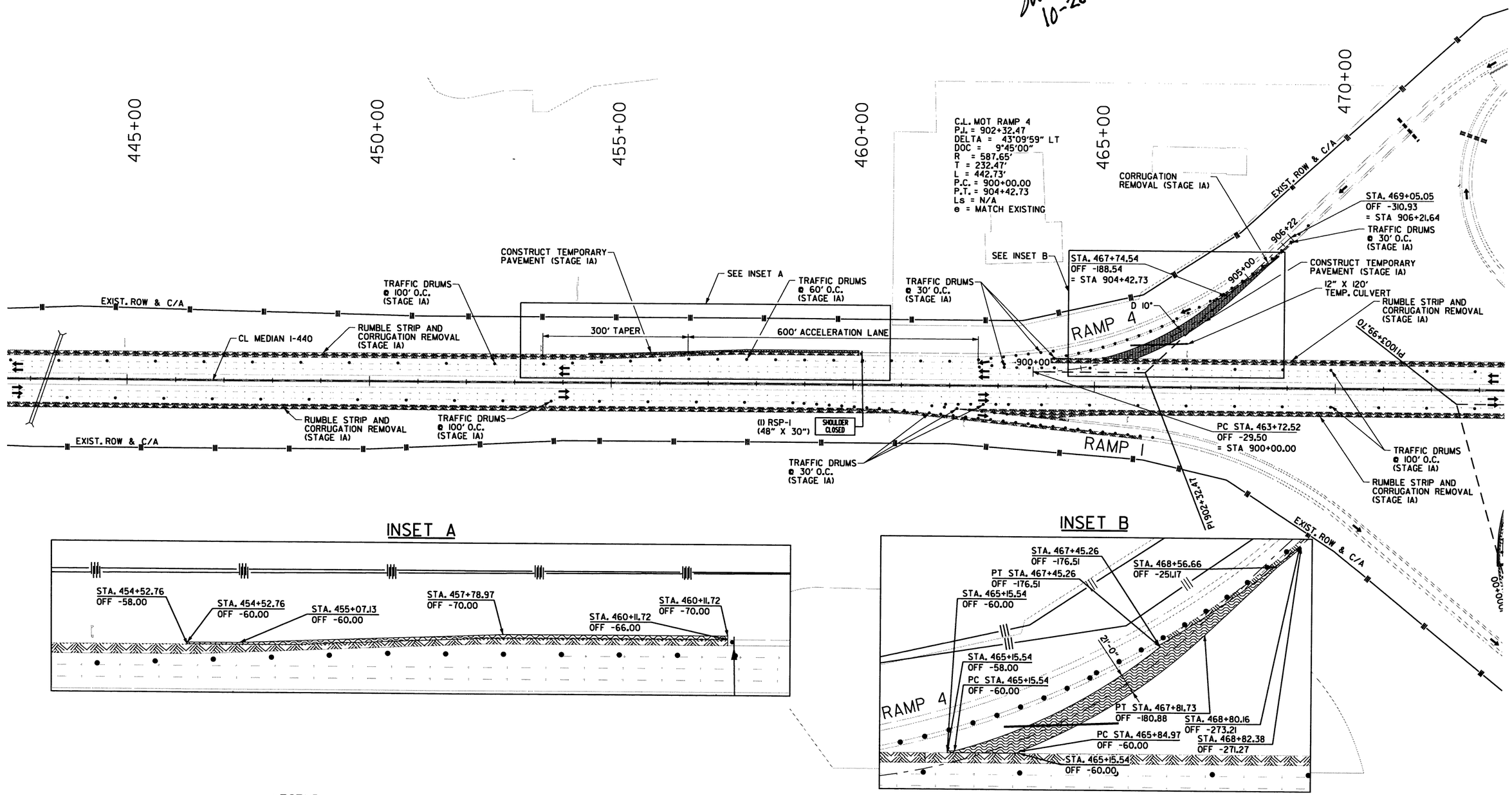
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	43	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADLI
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE IA

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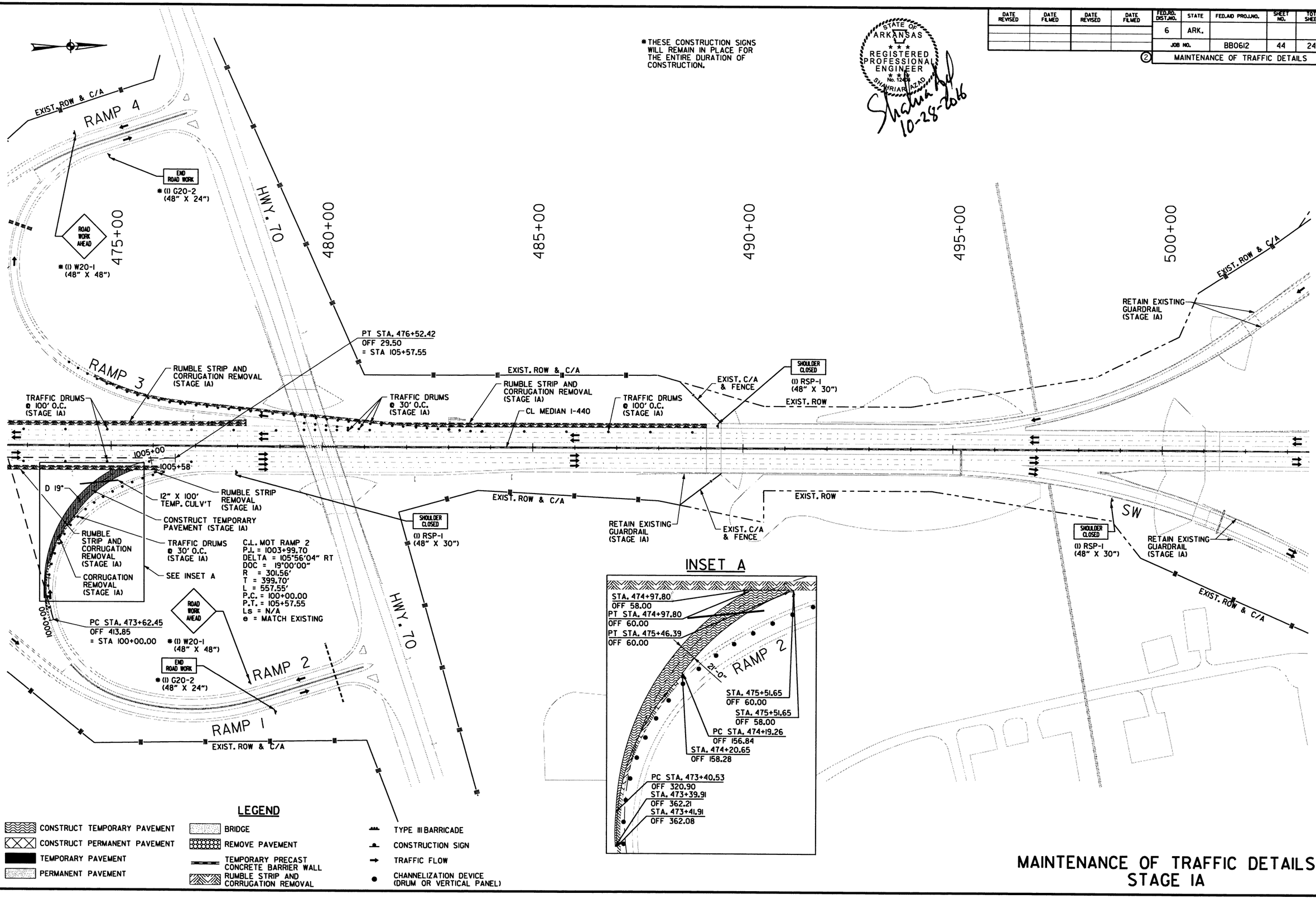
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	44	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12406
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE IA

10/28/2016 4:56:32 PM

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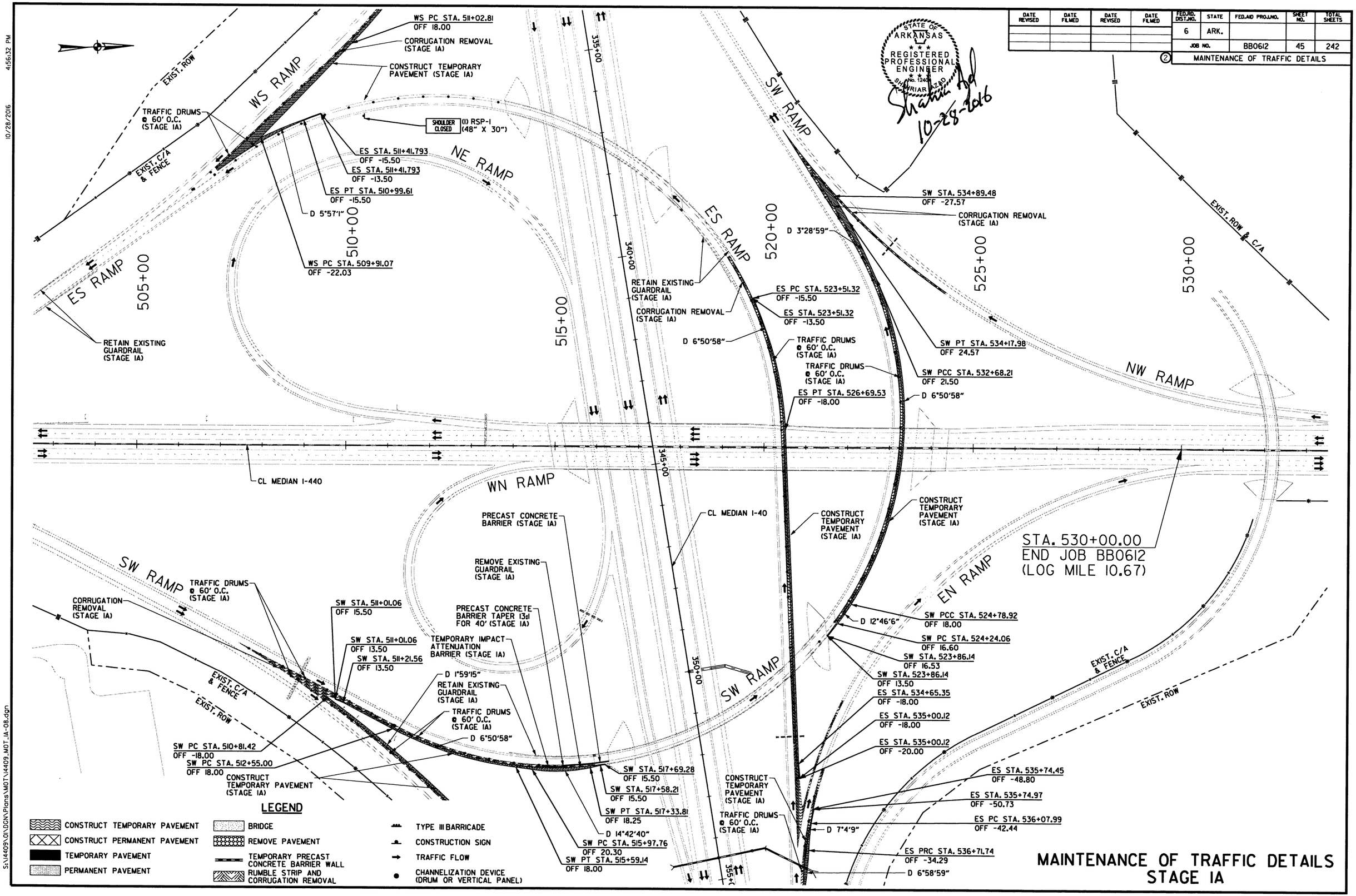
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	45	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12400 SHANNON RIARIAD

Shannon Ad 10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE IA

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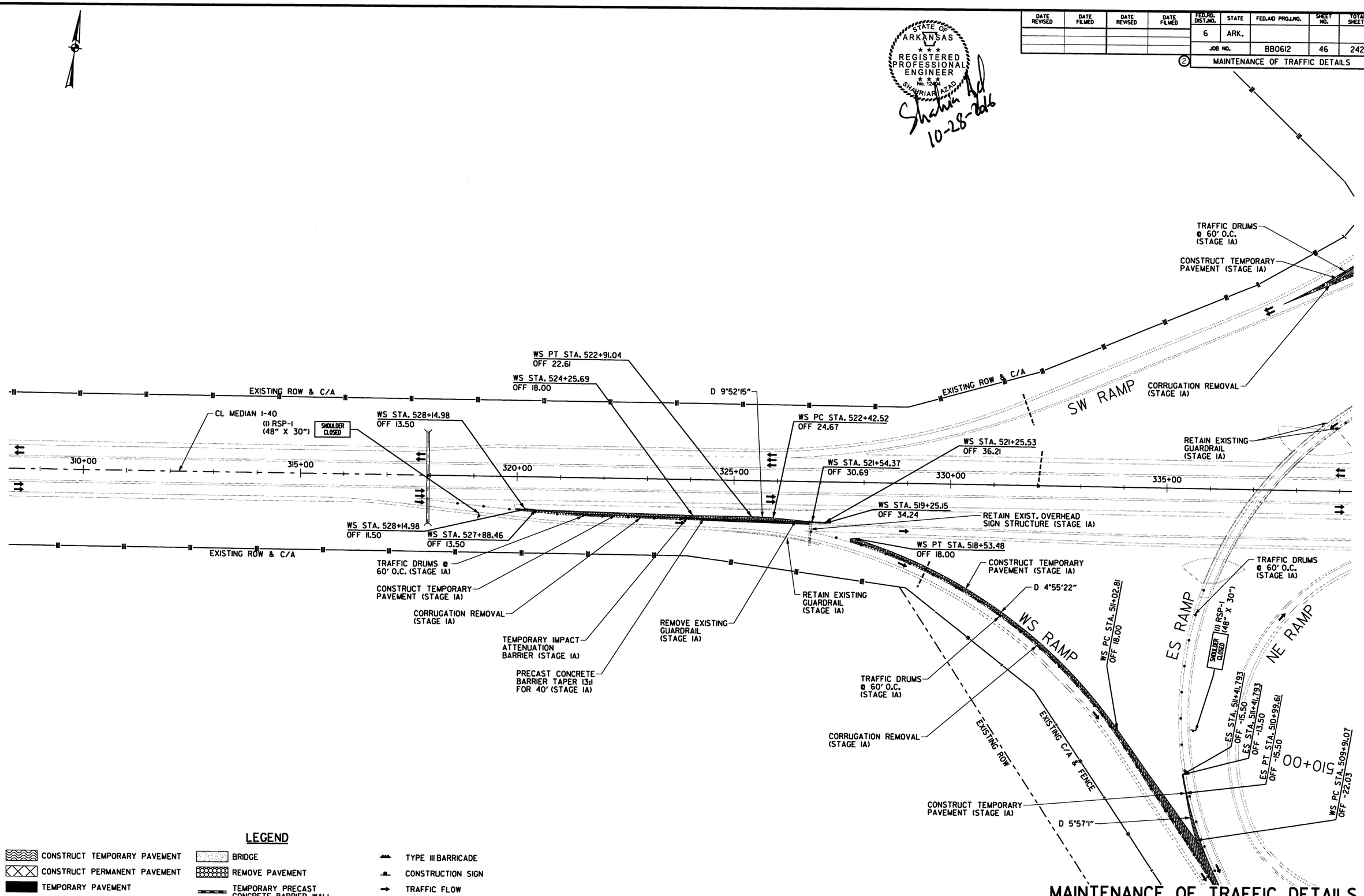
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	46	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12094
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE IA

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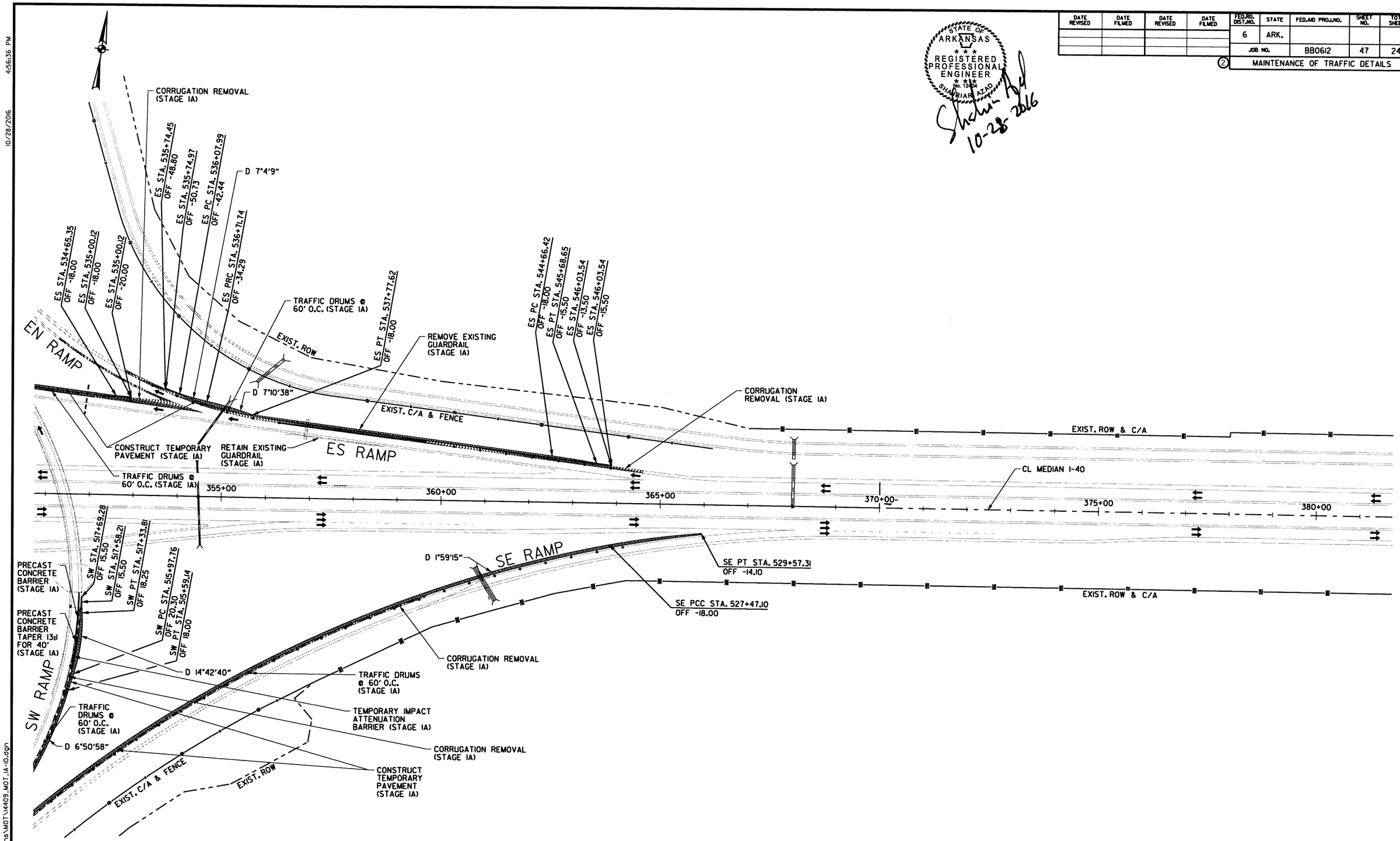
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	47	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE IA

10/28/2016 4:56:36 PM

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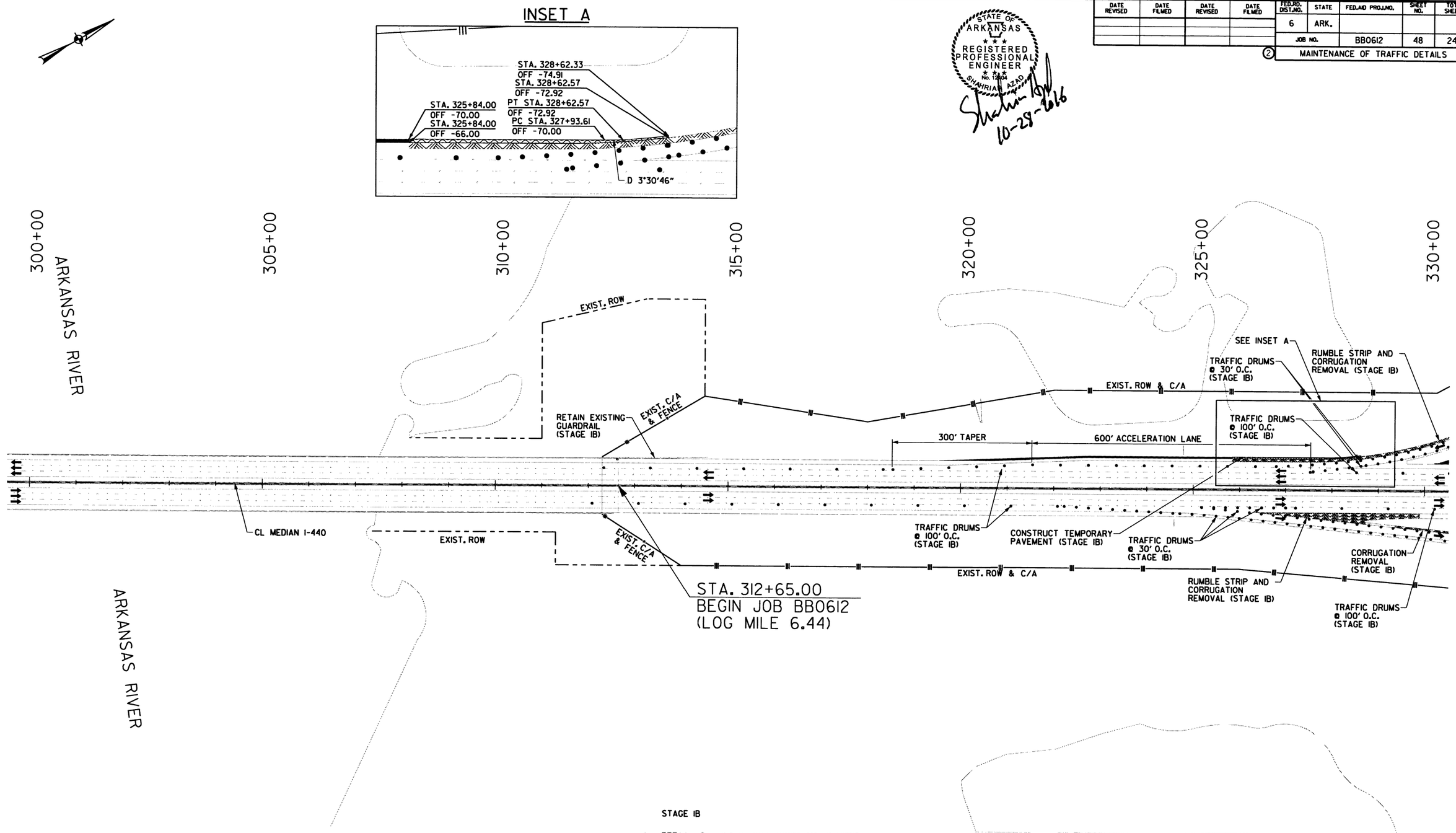
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	48	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12204
SHAHRIAR AZAD
10-28-2016



STAGE IB

1. RETAIN ADVANCE WARNING SIGNS AND DEVICES.
2. RETAIN LANE CLOSURE SIGNS AND DEVICES TO CLOSE OUTSIDE LANE IN NB AND SB DIRECTIONS TO PROTECT WORKERS CONSTRUCTING TEMPORARY RAMPS AND REMOVING RUMBLE STRIPS.
3. CONSTRUCT REMAINING TEMPORARY RAMPS AND TEMPORARY PAVEMENT AS SHOWN IN THE MOT DETAILS FOR STAGE IB.
4. REMOVE REMAINING RUMBLE STRIPS AND CORRUGATION AS SHOWN IN THE DETAILS FOR STAGE IB.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE IB

10/28/2016 4:56:38 PM

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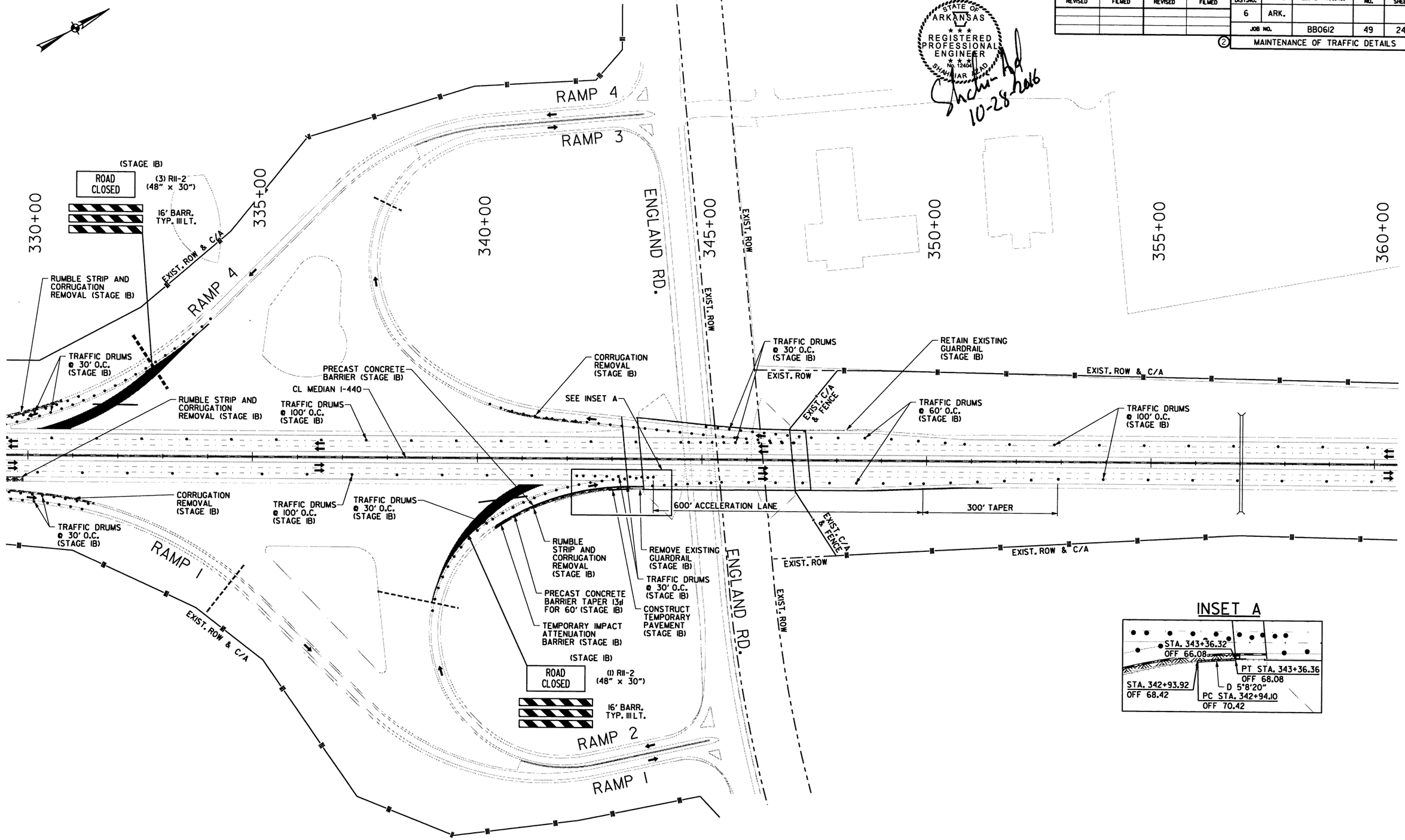
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	49	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAH NAR AHMAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

10/28/2016 4:56:39 PM

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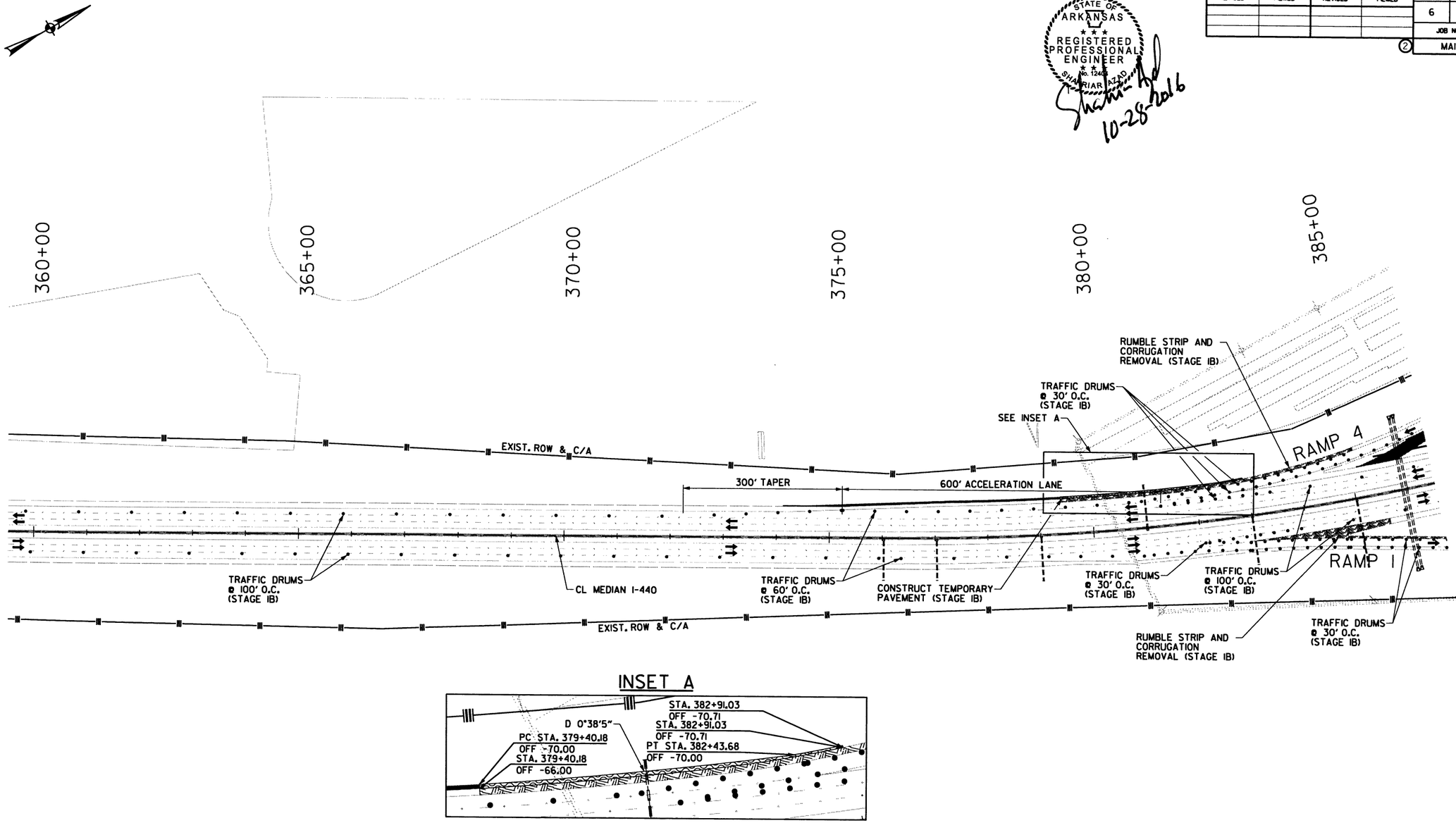
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	50	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12405
SHAHRIAR AZAD
10-28-2016



INSET A

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

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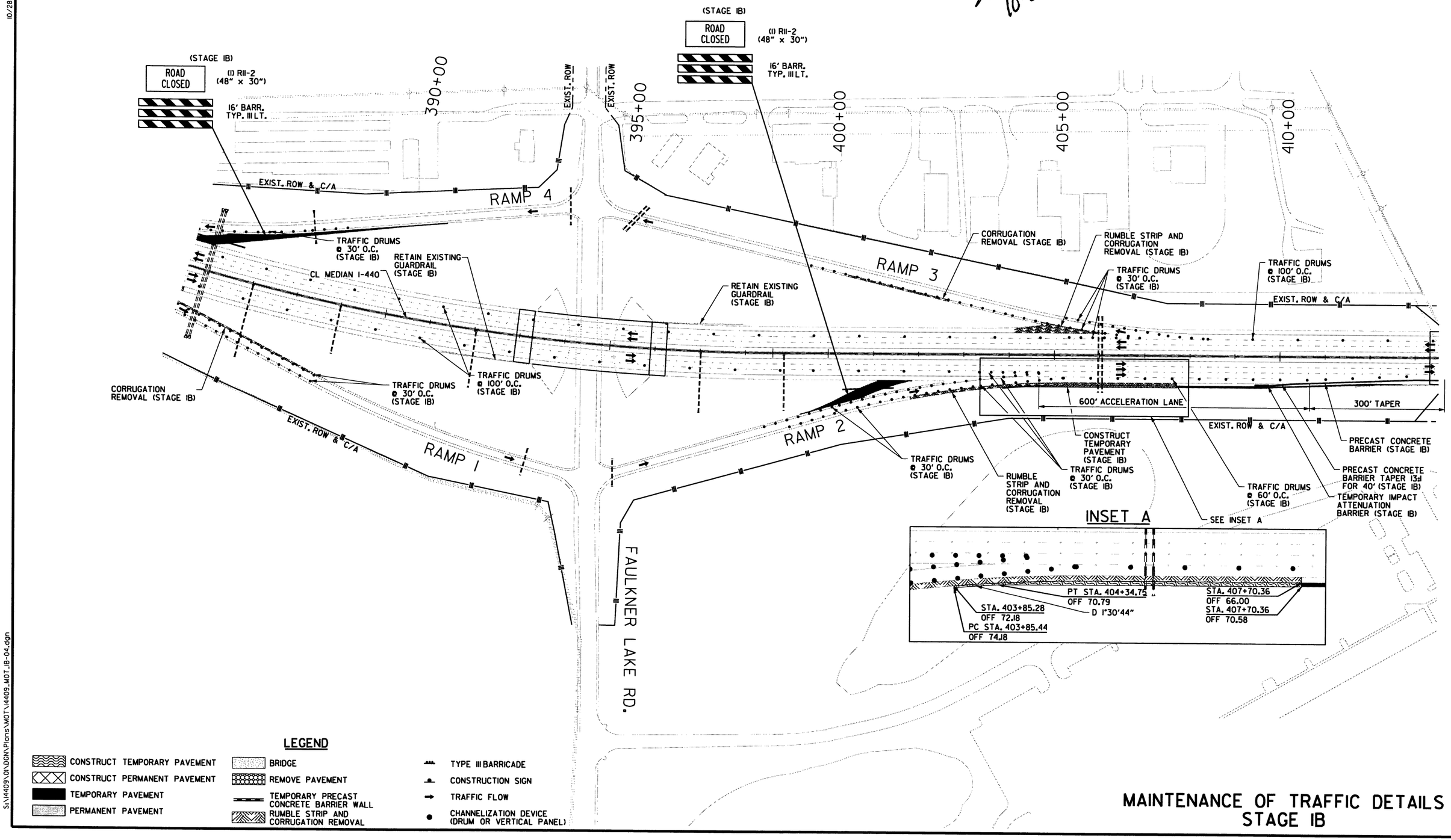
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	51	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12496
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

10/28/2016 4:56:40 PM

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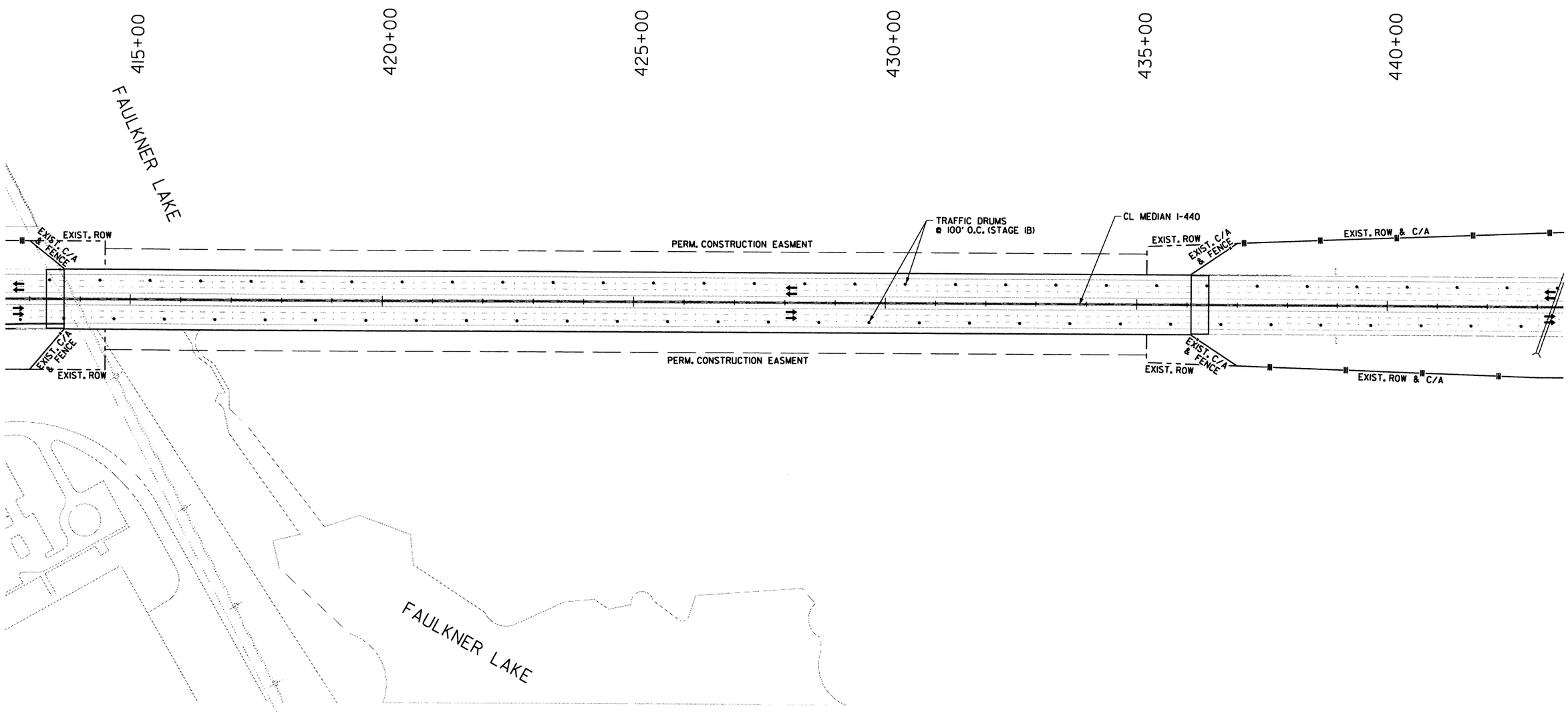
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	52	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ZIAD

10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

10/28/2016 4:56:41 PM

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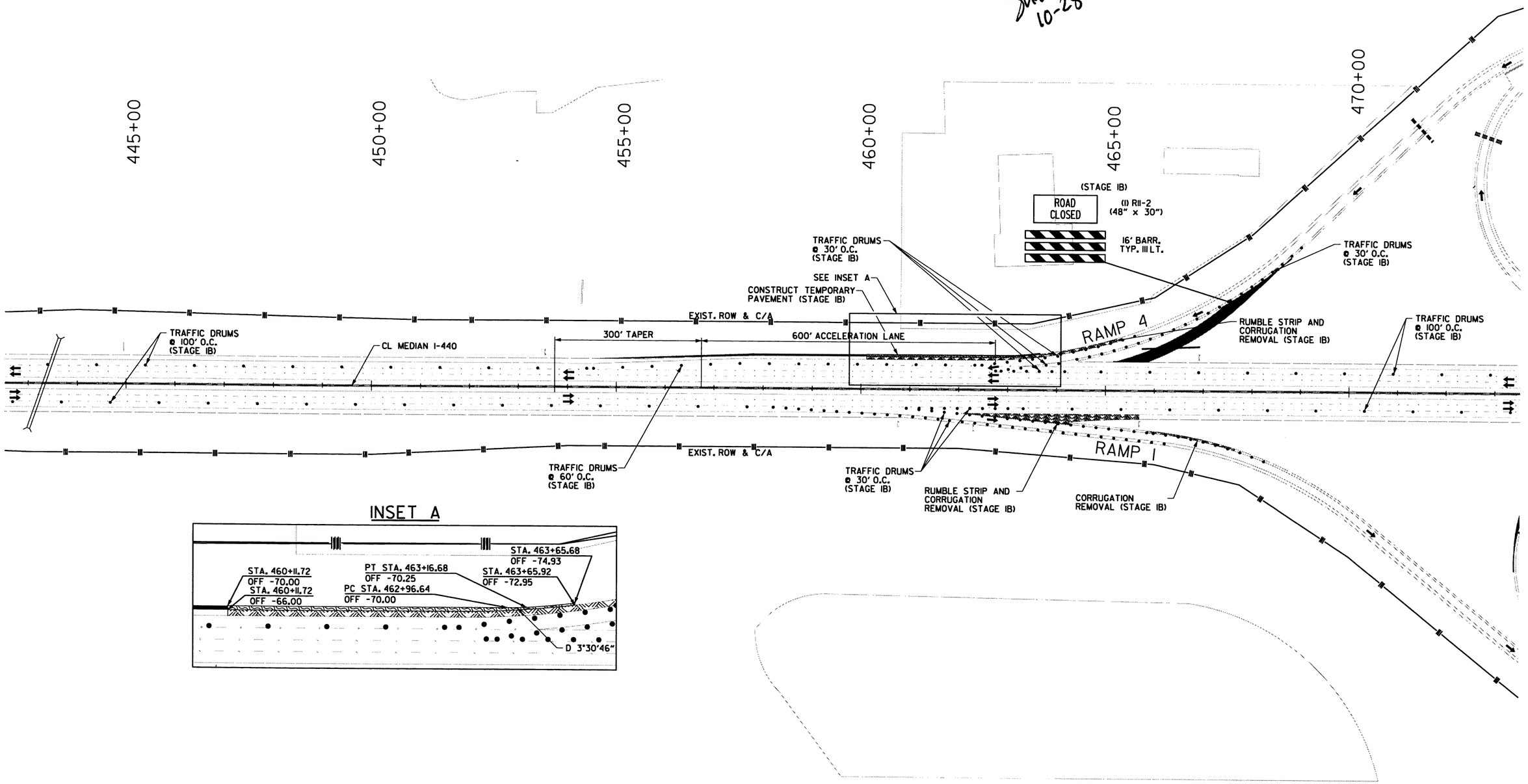
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	53	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

10/28/2016 4:56:41 PM

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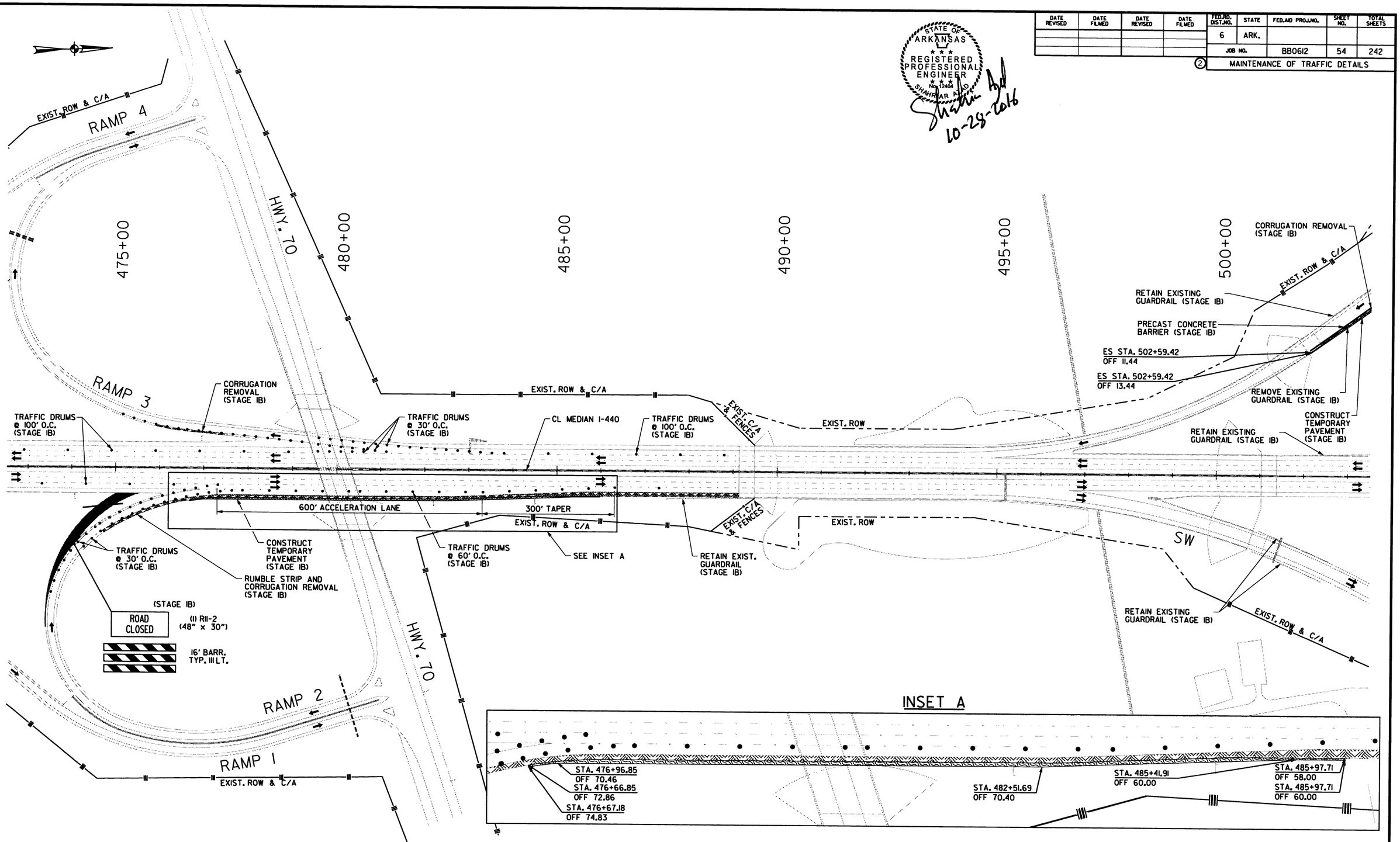
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	54	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE IB

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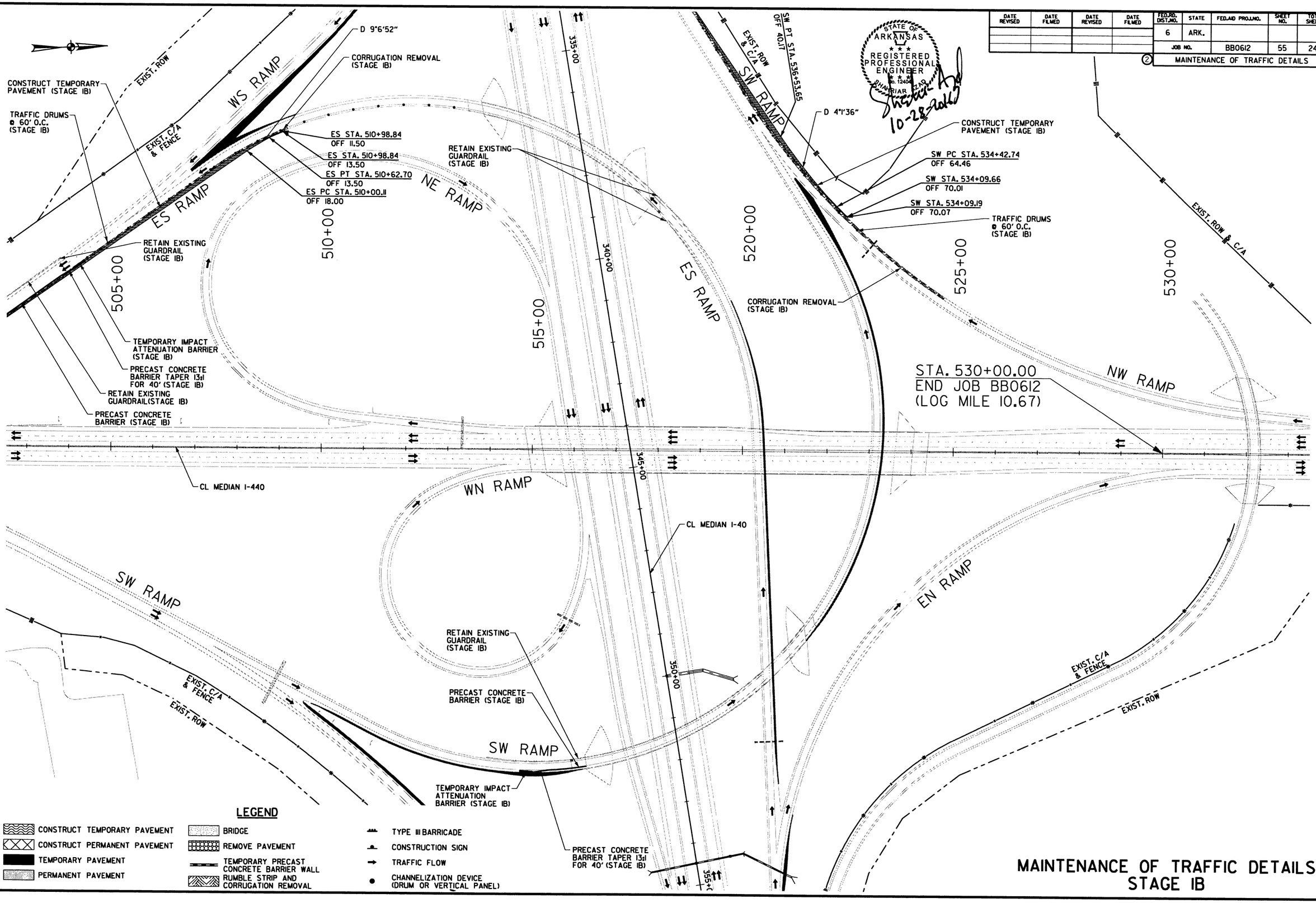
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	55	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12407
SHANE A. FRIAR
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

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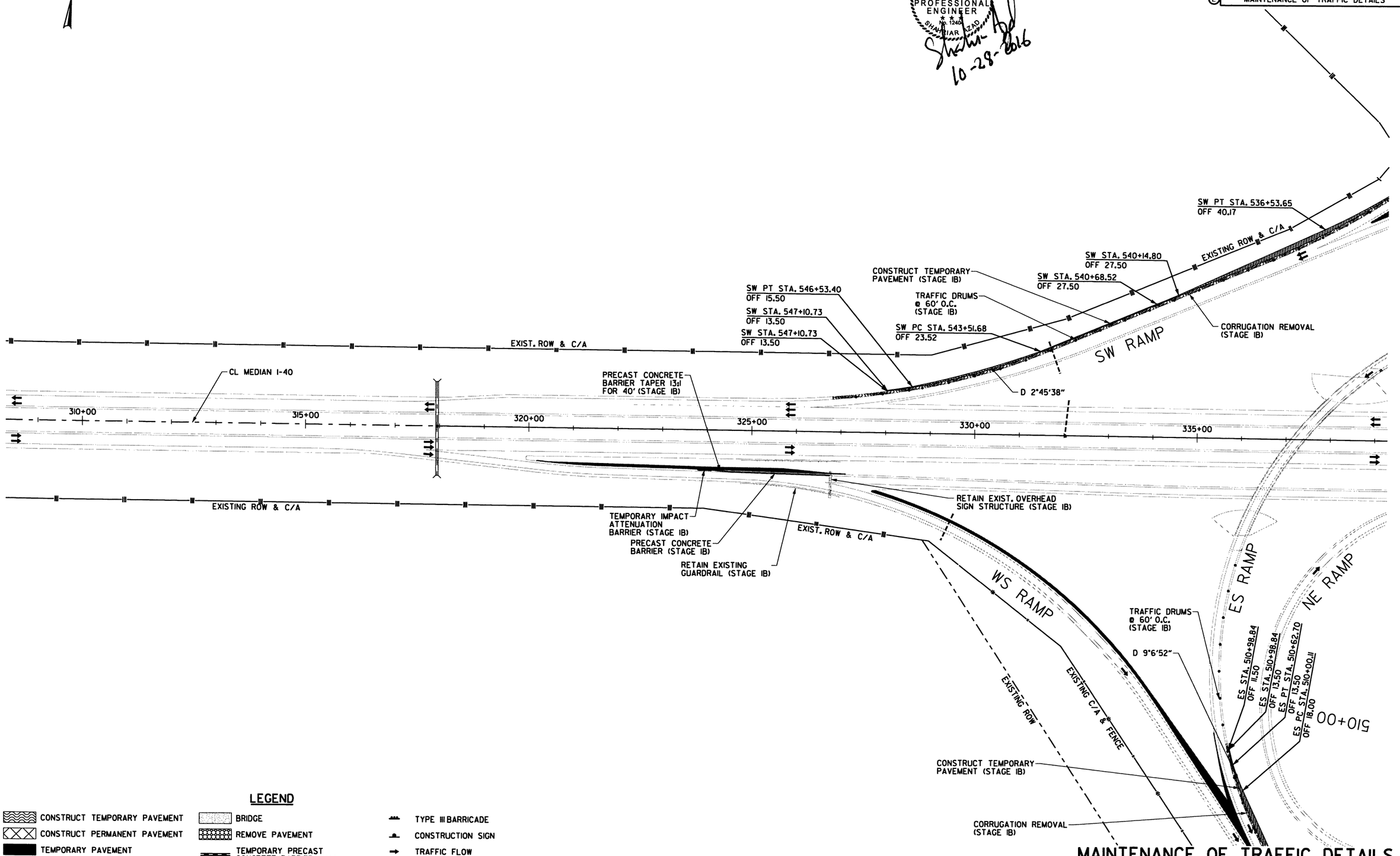
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	56	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12401
SHAWN MIAR
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE IB

10/28/2016 4:56:44 PM

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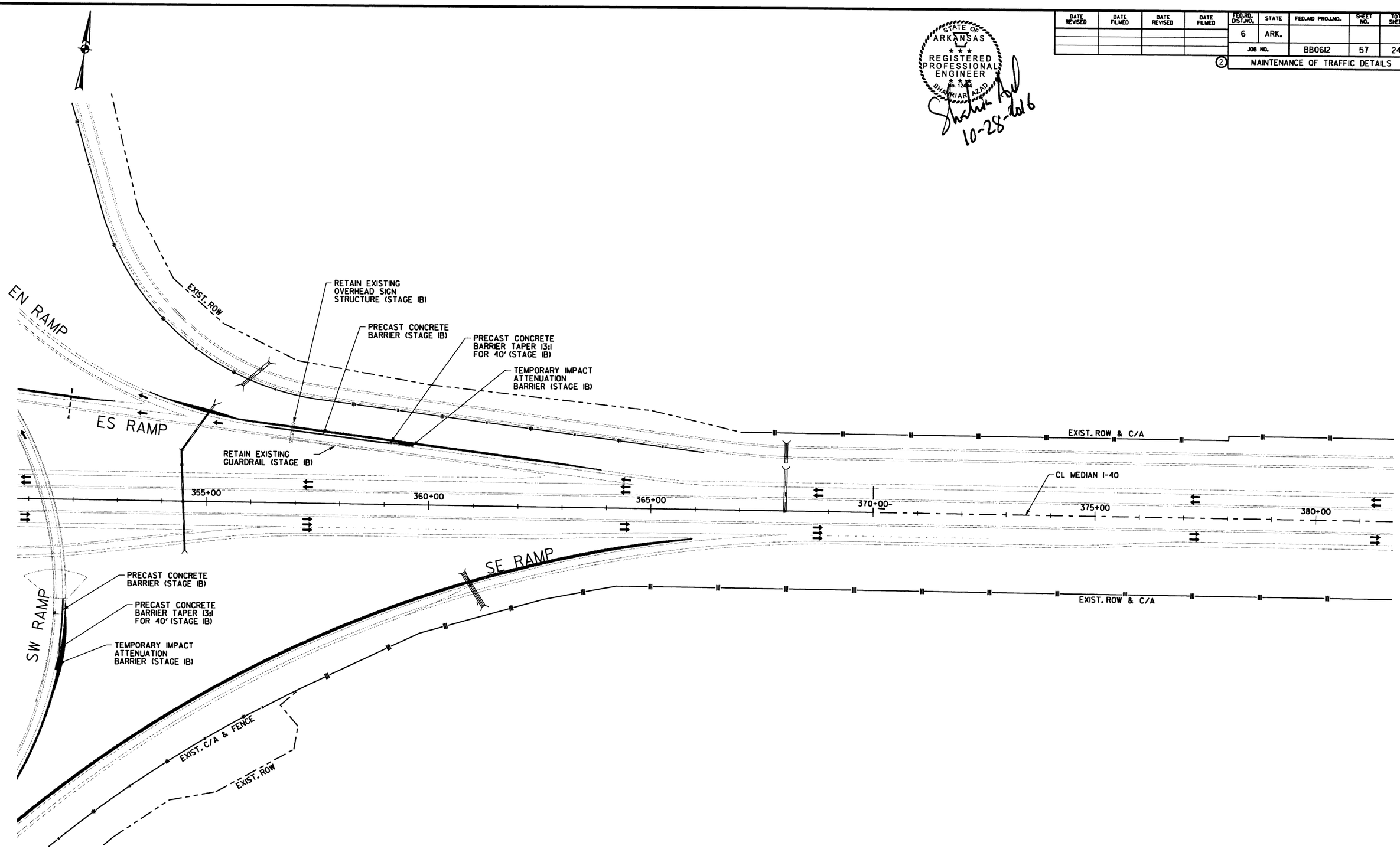
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	57	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHANNON A. ARIAS
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE IB

10/28/2016 4:56:45 PM

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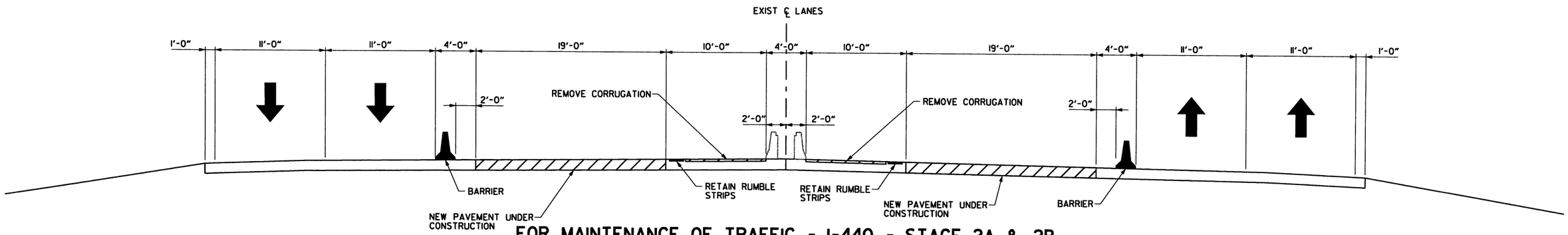
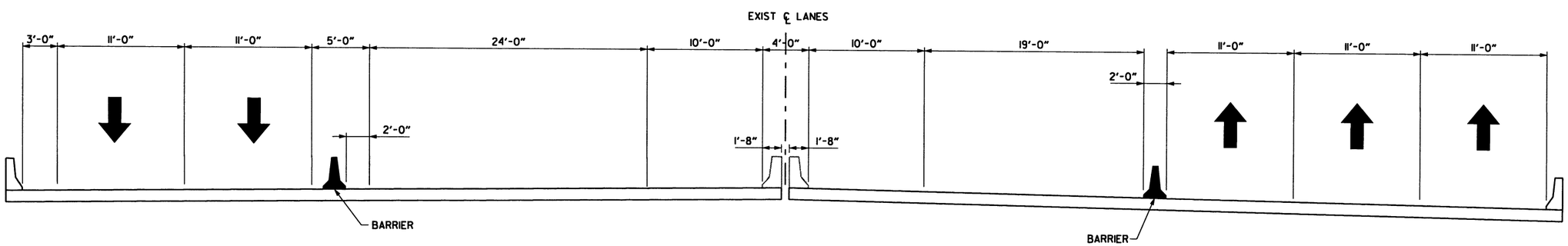
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	58	242

2 MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 2A & 2B
STA. 312+65.00 TO STA. 343+29.36
STA. 347+36.06 TO STA. 392+92.70
STA. 396+25.14 TO STA. 413+35.00
STA. 436+45.00 TO STA. 489+13.80



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 2A & 2B
BRIDGE NO. 5706 A & B
STA. 343+29.36 TO STA. 347+36.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

10/28/2016 4:56:46 PM

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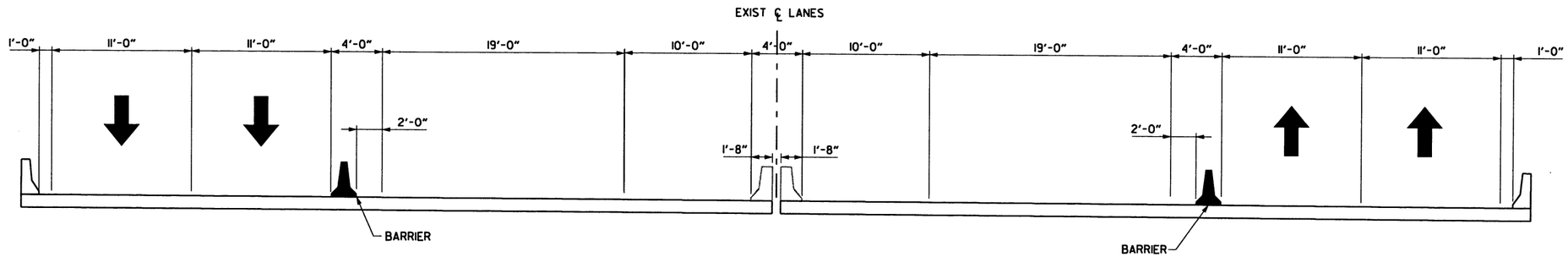
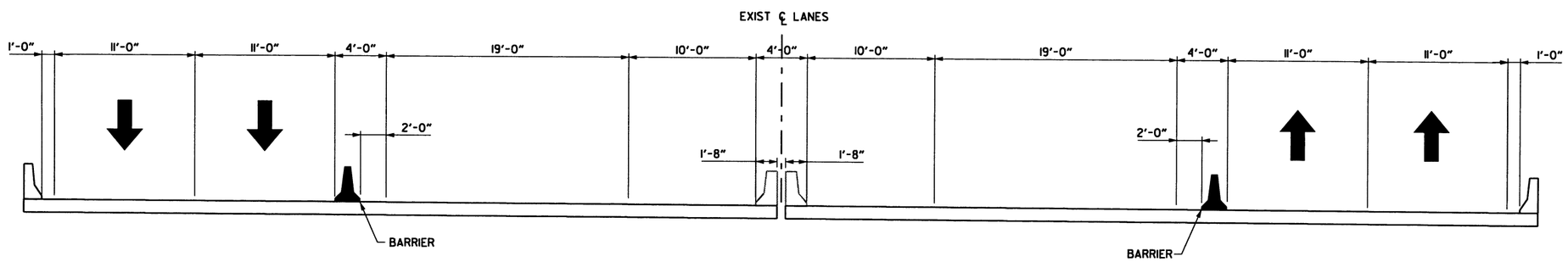
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	59	242

② MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 2A & 2B
BRIDGE NO. 5707 A & B
STA. 392+92.70 TO STA. 396+25.14



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 2A & 2B
BRIDGE NO. 5708 A & B
STA. 413+35.00 TO STA. 436+45.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 12404
GRAHAM R. AZLIN
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

10/28/2016 4:56:46 PM

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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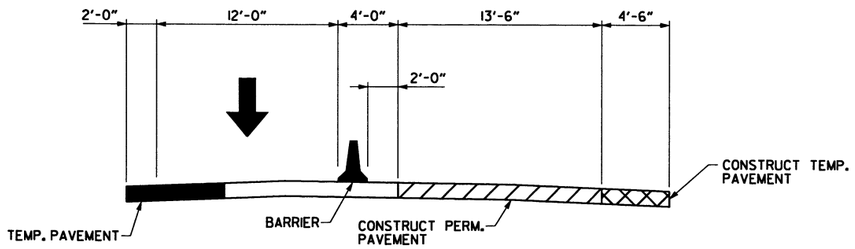
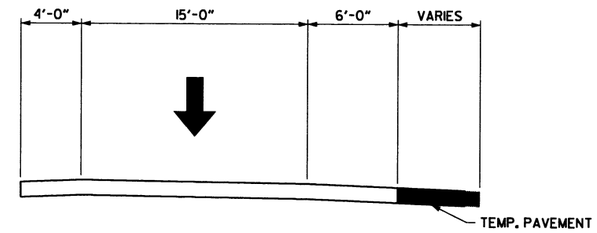
				JOB NO.		BB0612	60	242

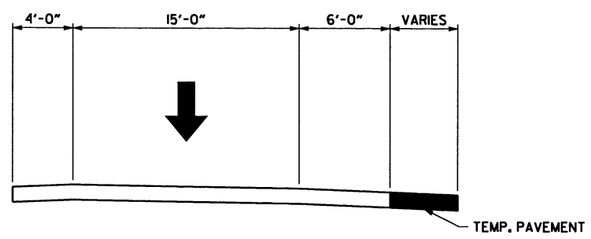
2 MAINTENANCE OF TRAFFIC DETAILS



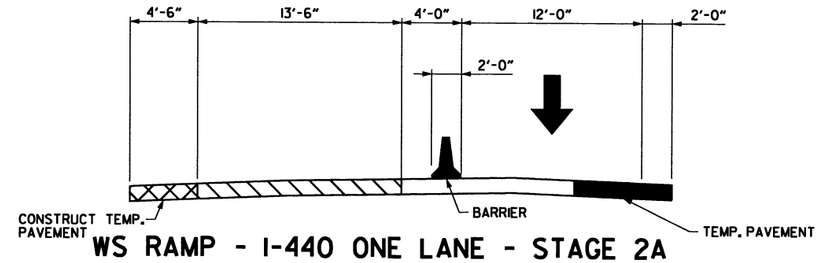
SE RAMP - I-440 - STAGE 2A



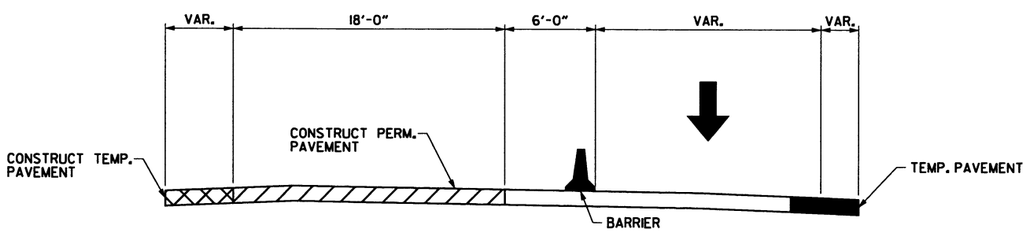
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 2A



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 2A



WS RAMP - I-440 ONE LANE - STAGE 2A



WS TWO LANE RAMP - STAGE 2A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12401
SHANE RIAR
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

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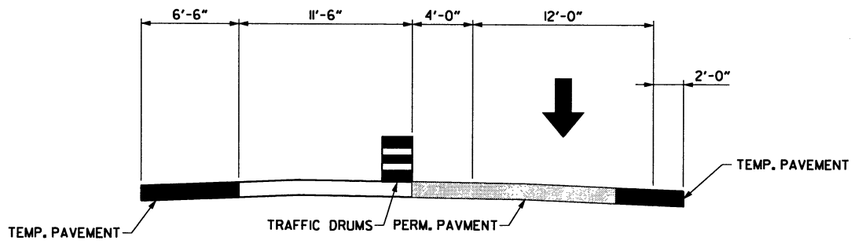
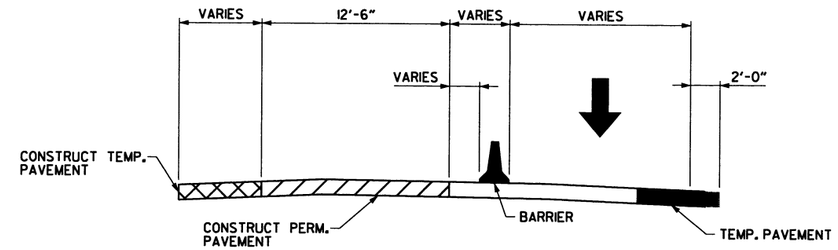
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	61	242

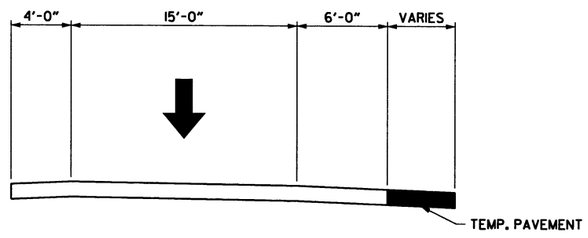
2 MAINTENANCE OF TRAFFIC DETAILS



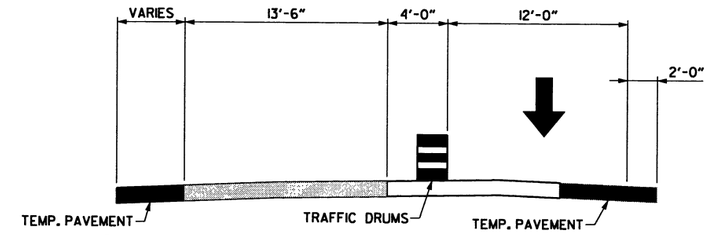
SE RAMP - I-440 - STAGE 2B



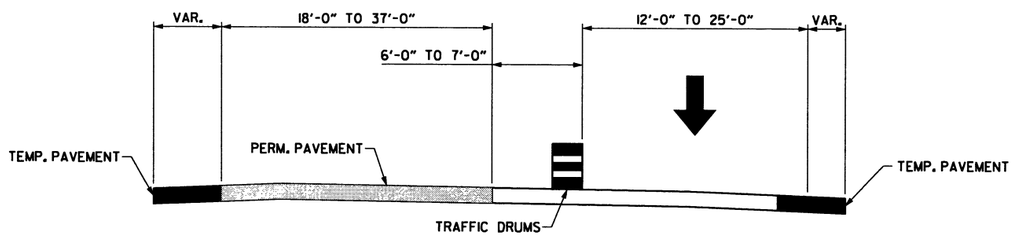
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 2B



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 2B



WS RAMP - I-440 ONE LANE - STAGE 2B



WS TWO LANE RAMP - STAGE 2B

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADAD

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2

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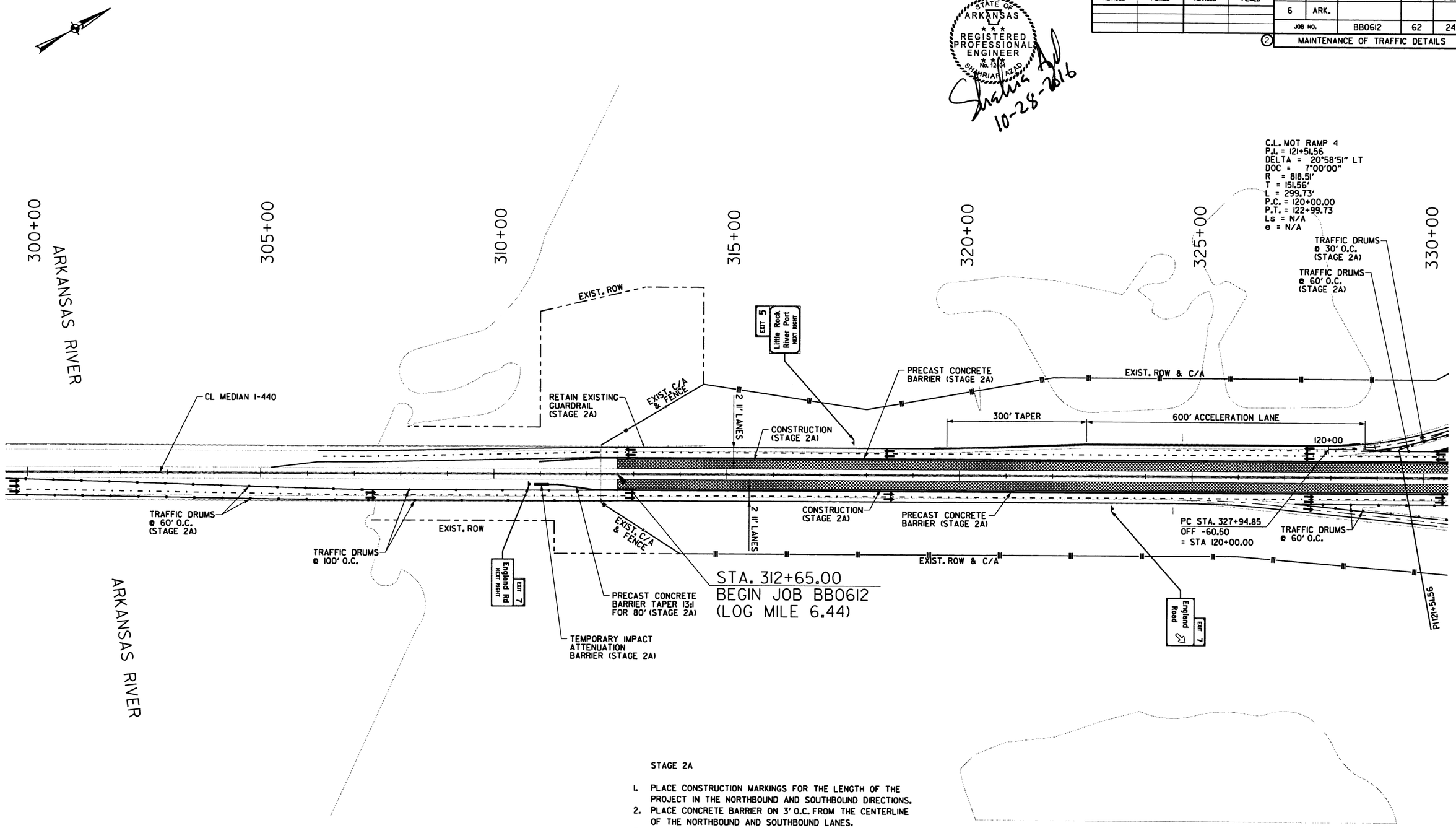
				6	ARK.			
				JOB NO.		BB0612	62	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



STAGE 2A

1. PLACE CONSTRUCTION MARKINGS FOR THE LENGTH OF THE PROJECT IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS.
2. PLACE CONCRETE BARRIER ON 3' O.C. FROM THE CENTERLINE OF THE NORTHBOUND AND SOUTHBOUND LANES.
3. PLACE ADVANCE WARNING SIGNS AND DEVICES AT THE BEGINNING OF THE NORTHBOUND AND SOUTHBOUND LANE CLOSURES TO PLACE TRAFFIC OUTSIDE.
4. MOVE THE MAIN LANE TRAFFIC TO OUTSIDE LANES.
5. CONSTRUCT INSIDE 19' OF PAVEMENT UP TO INSIDE SHOULDER.
6. CONSTRUCT THE FOUNDATION OF THE OVERHEAD SIGN STRUCTURES ALONG THE MEDIAN BARRIER.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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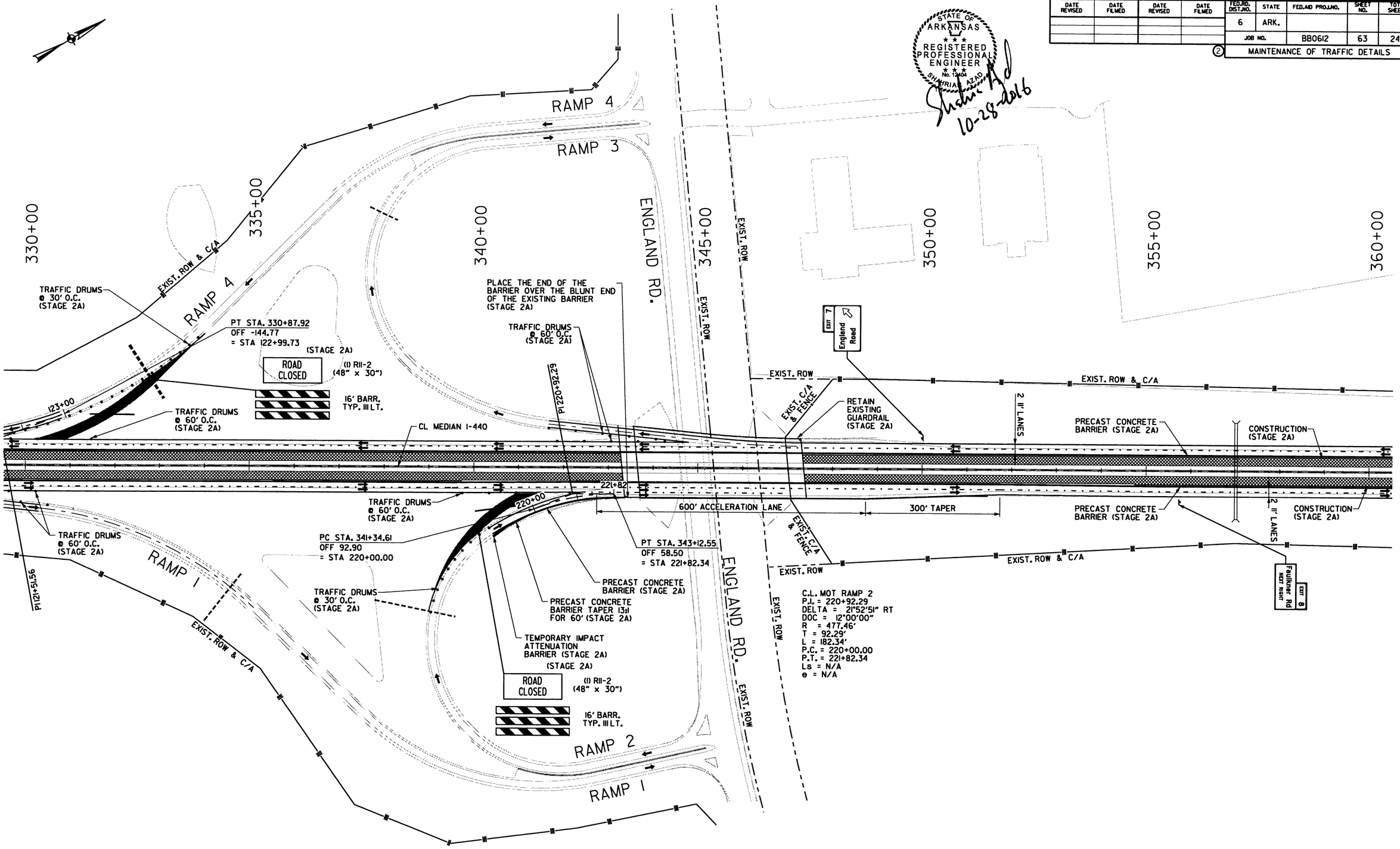
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	63	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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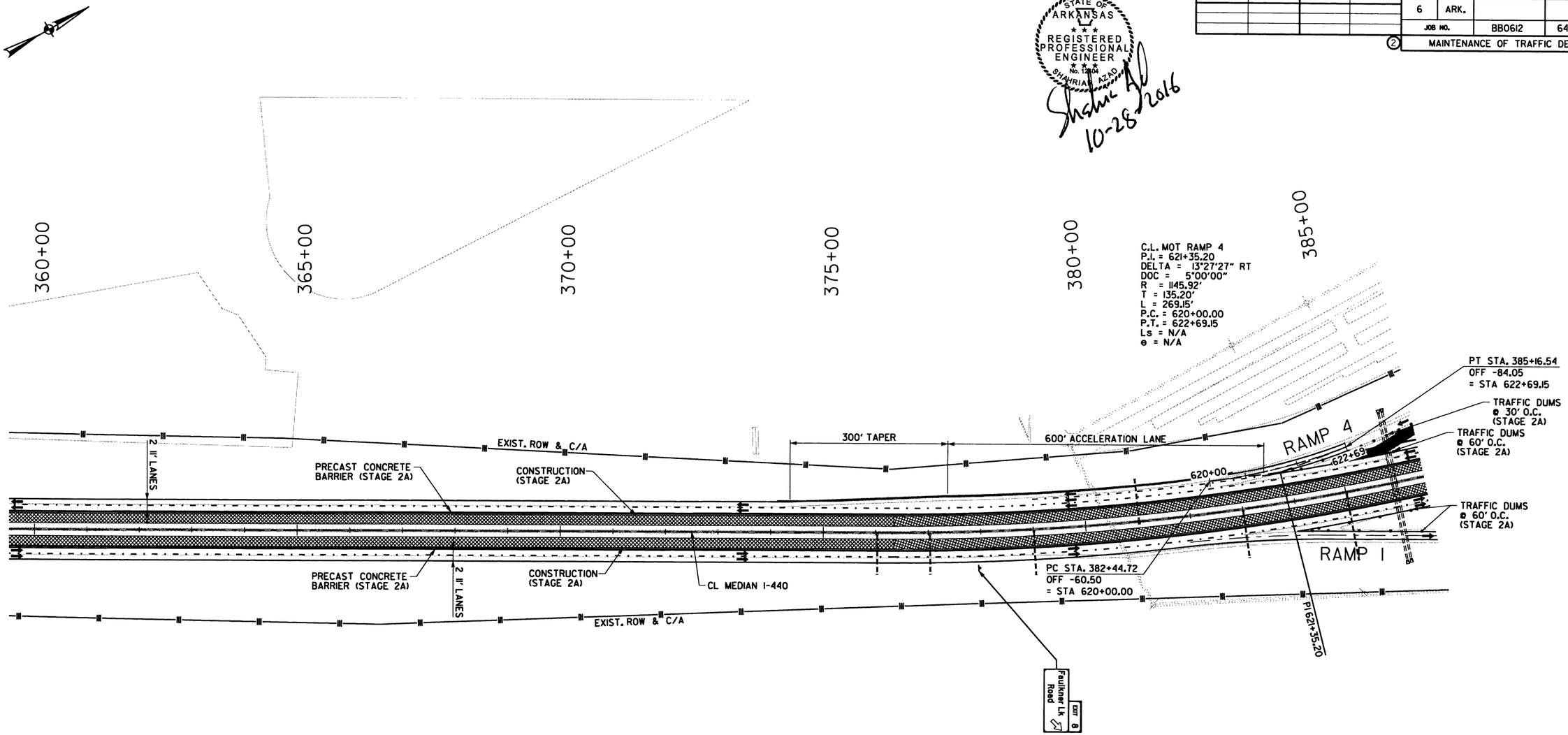
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12804
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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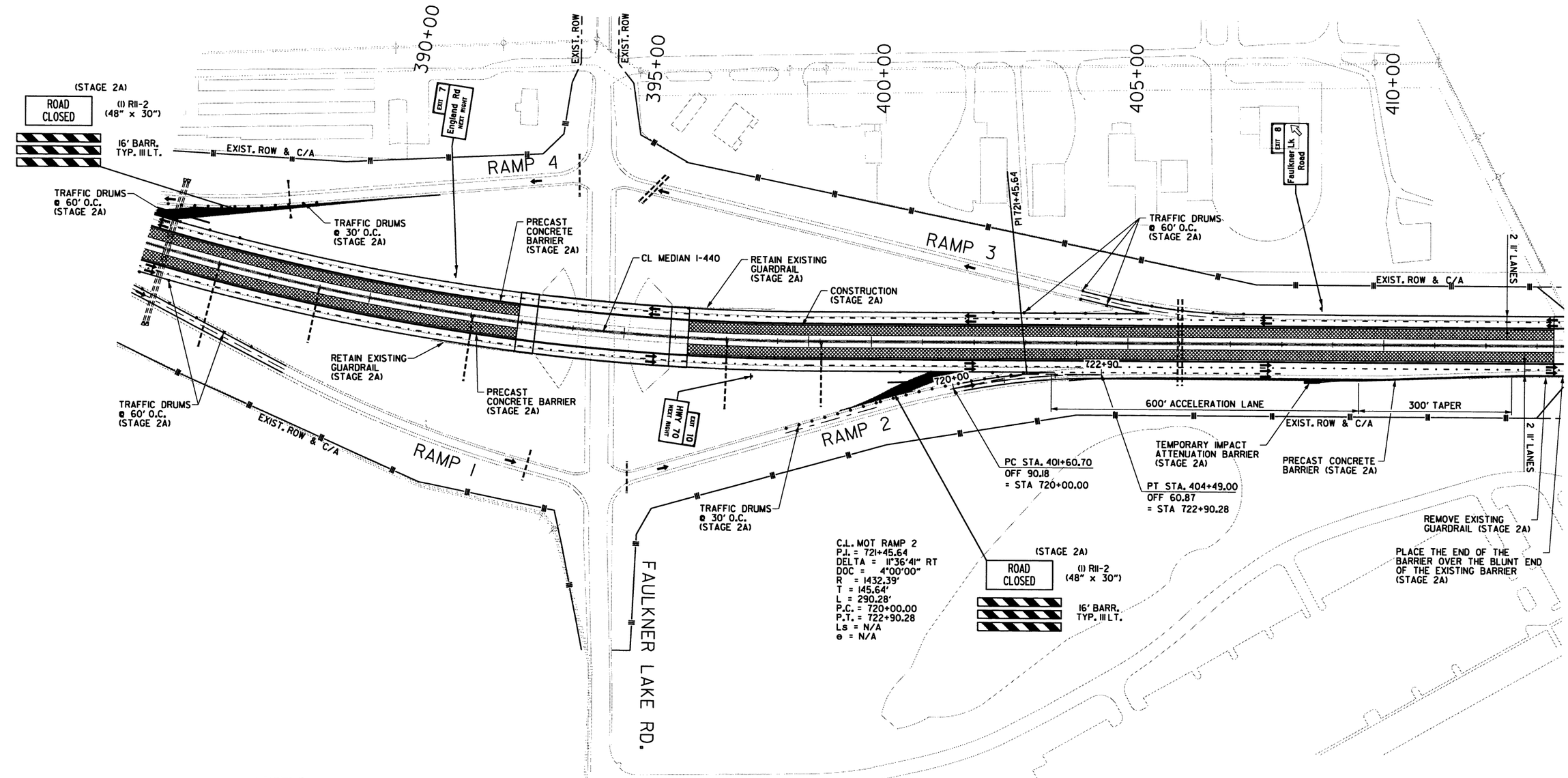
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	65	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL

Shahriar Adl
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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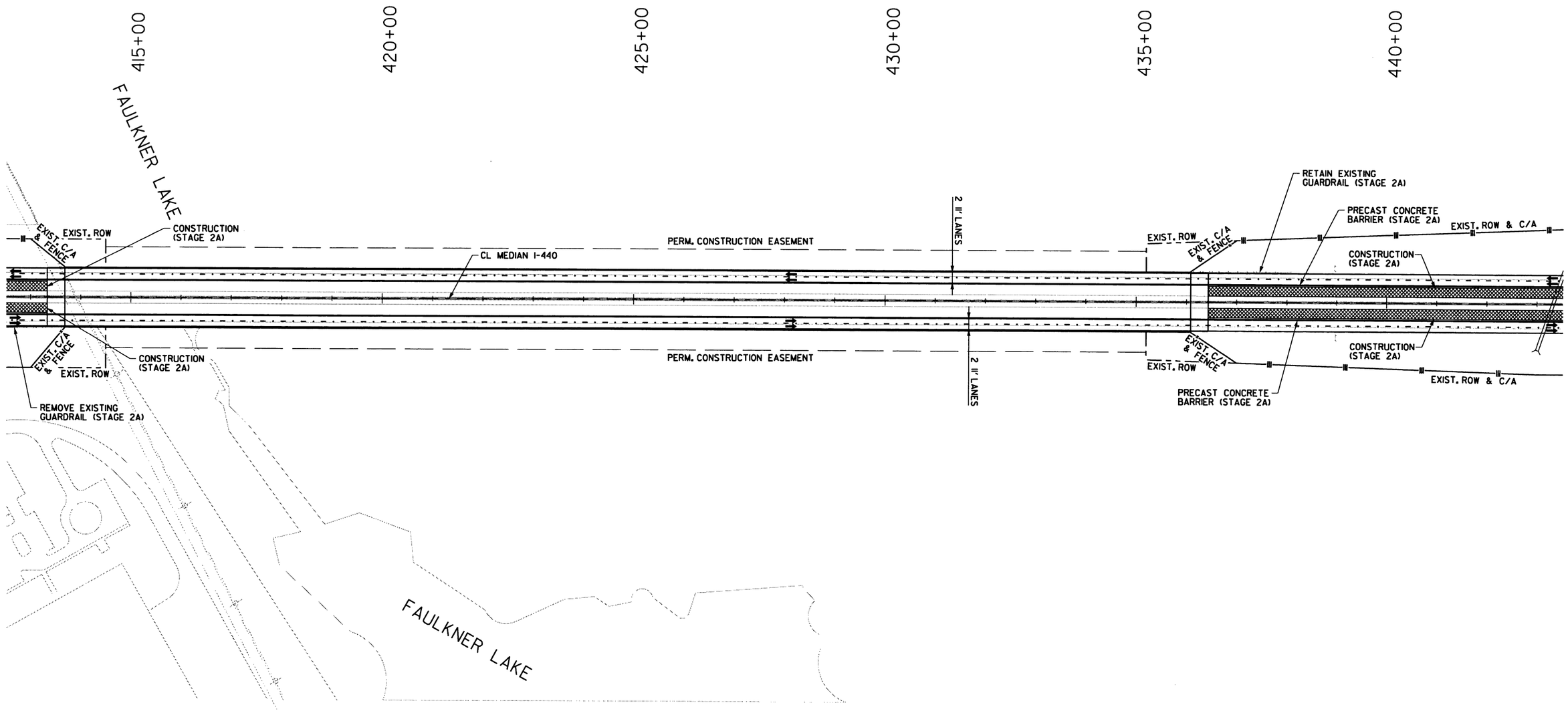
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	66	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12406
SHANE RIAR
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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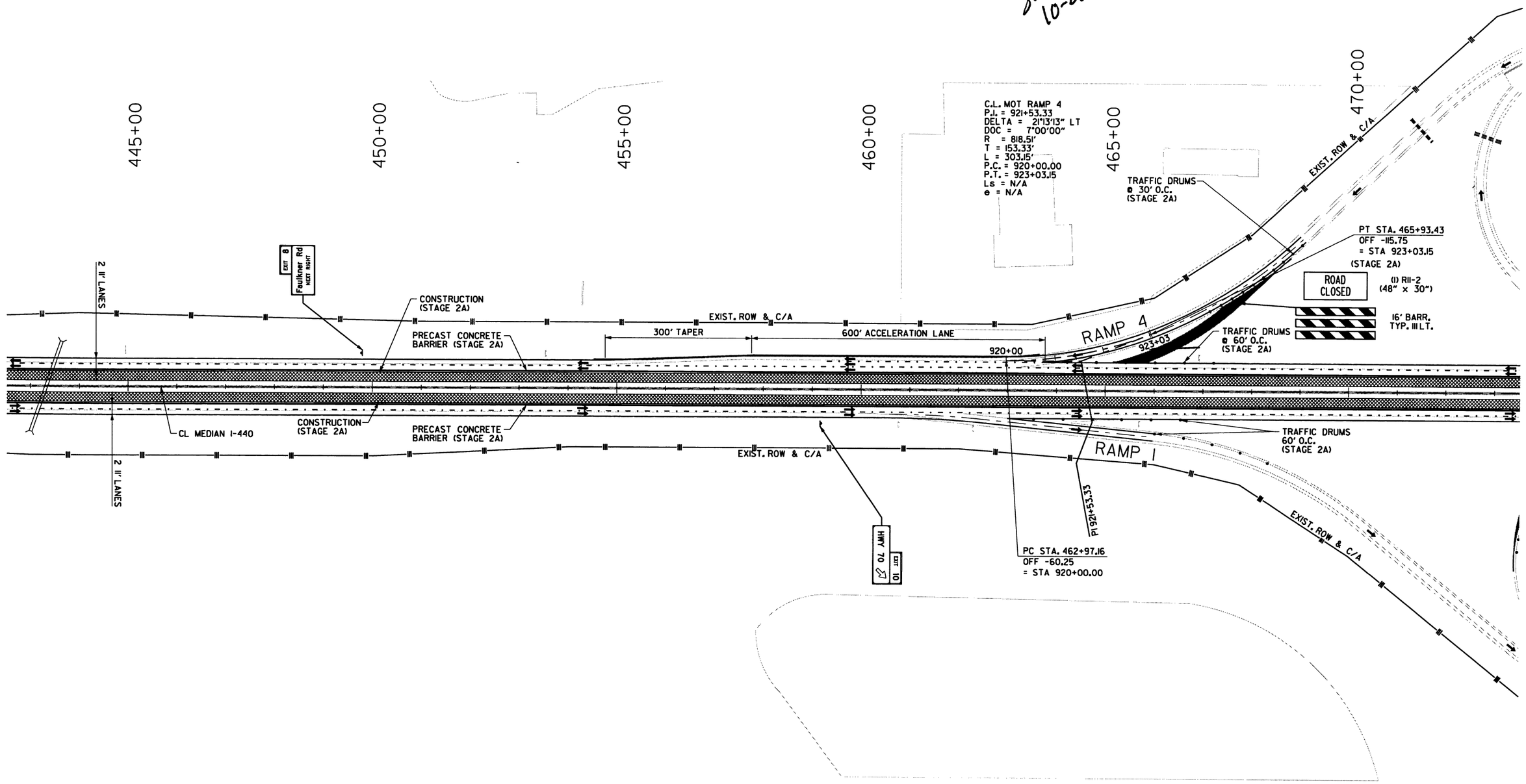
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12204
SHARIAR ABAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 2A

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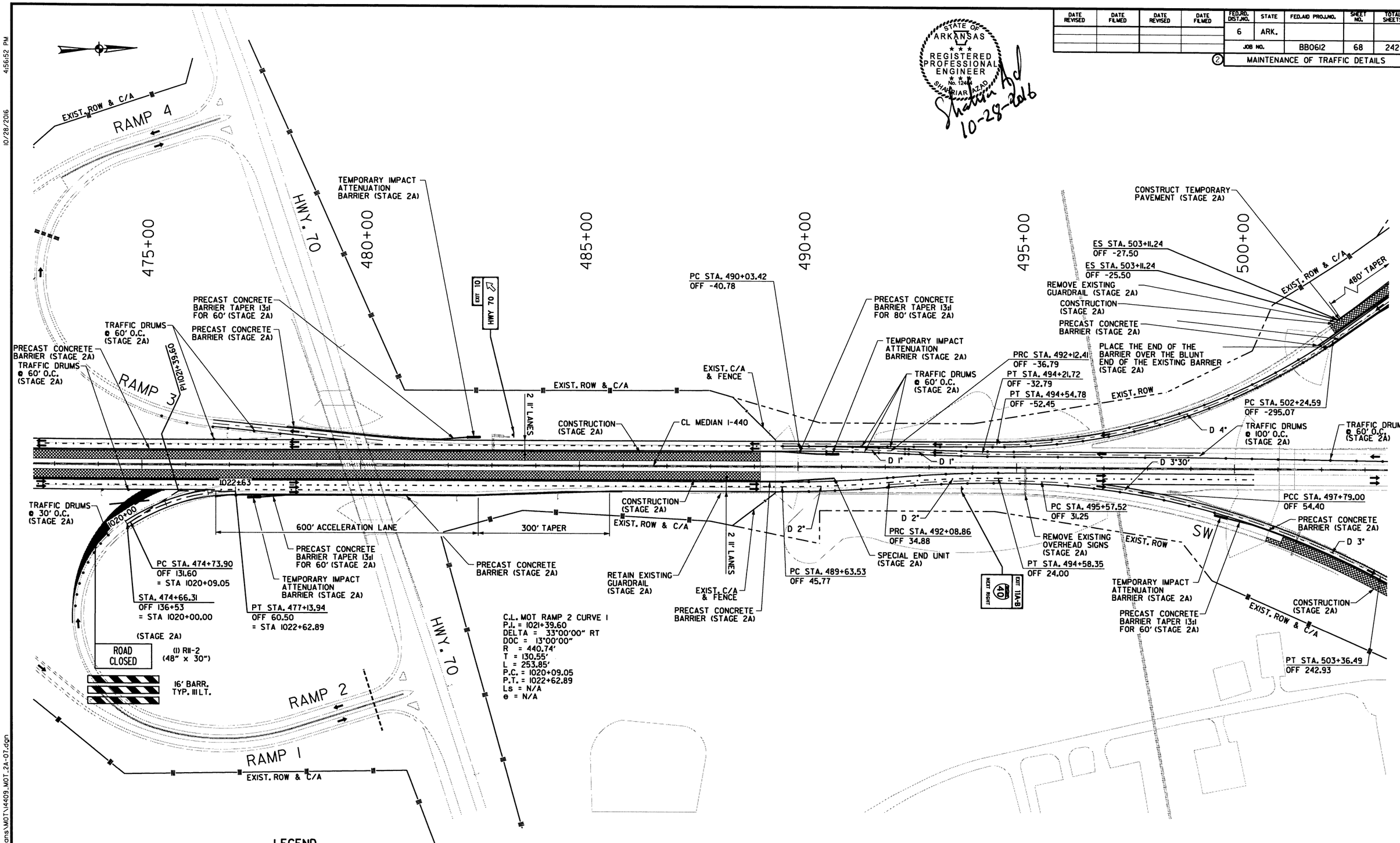
				JOB NO.		BB0612	68	242
				② MAINTENANCE OF TRAFFIC DETAILS				

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHAHRIAR AZAD

Shahriar Azad 10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE 2A

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				6	ARK.			
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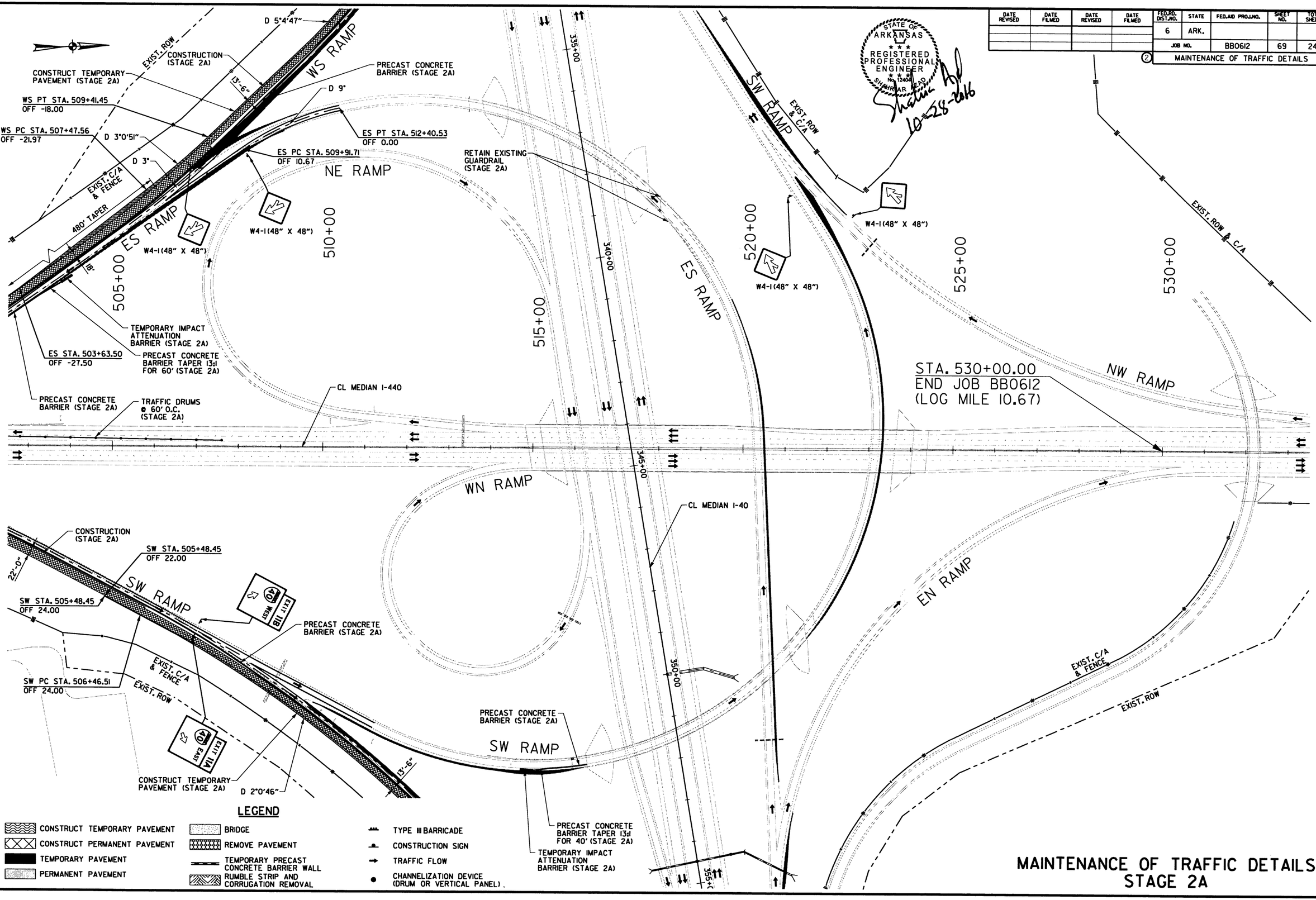
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12400
SHAHRIAR ADLI
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

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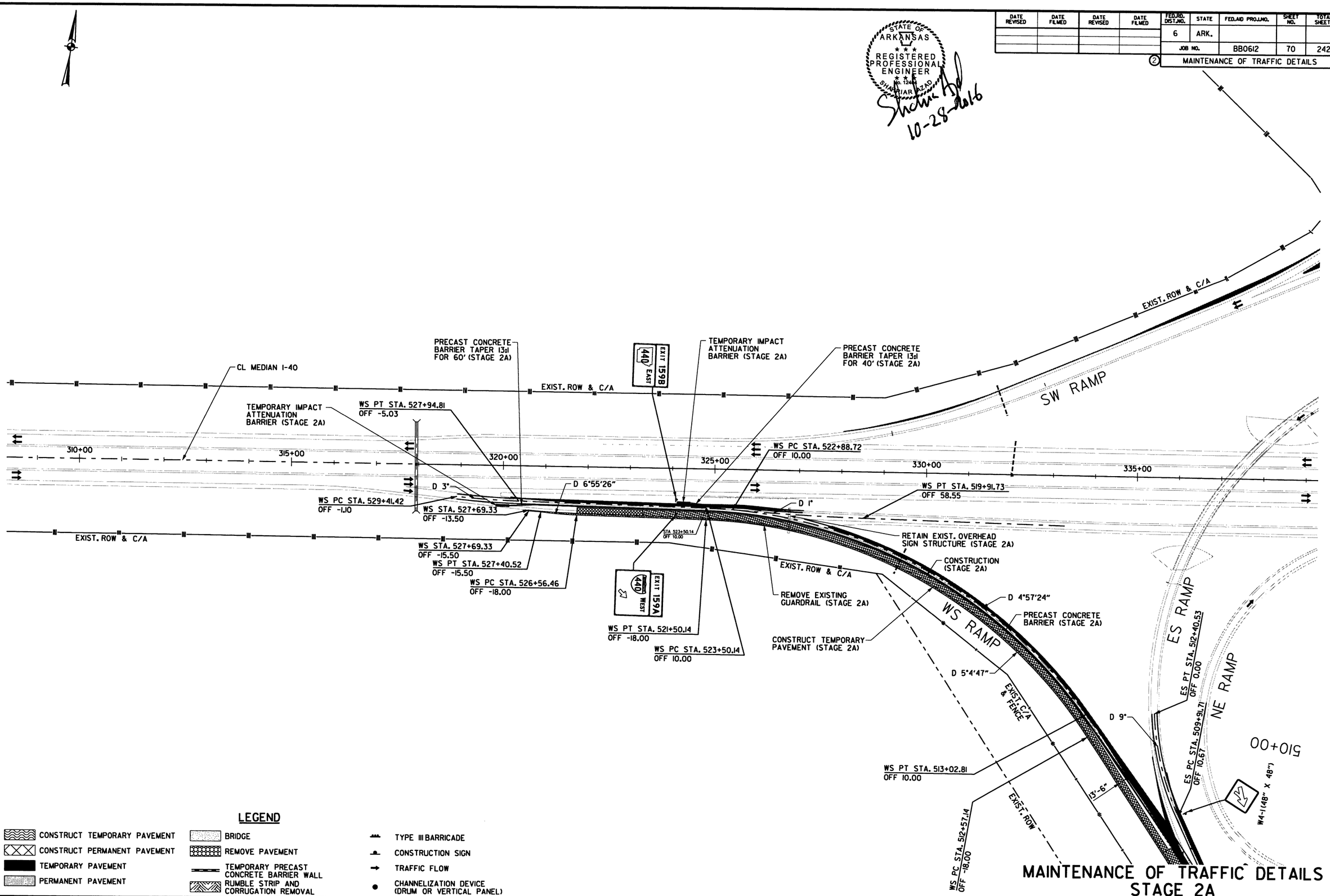
				6	ARK.			
				JOB NO.		BB0612	70	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12465
SHAHRIAR SHAHIDI
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE 2A

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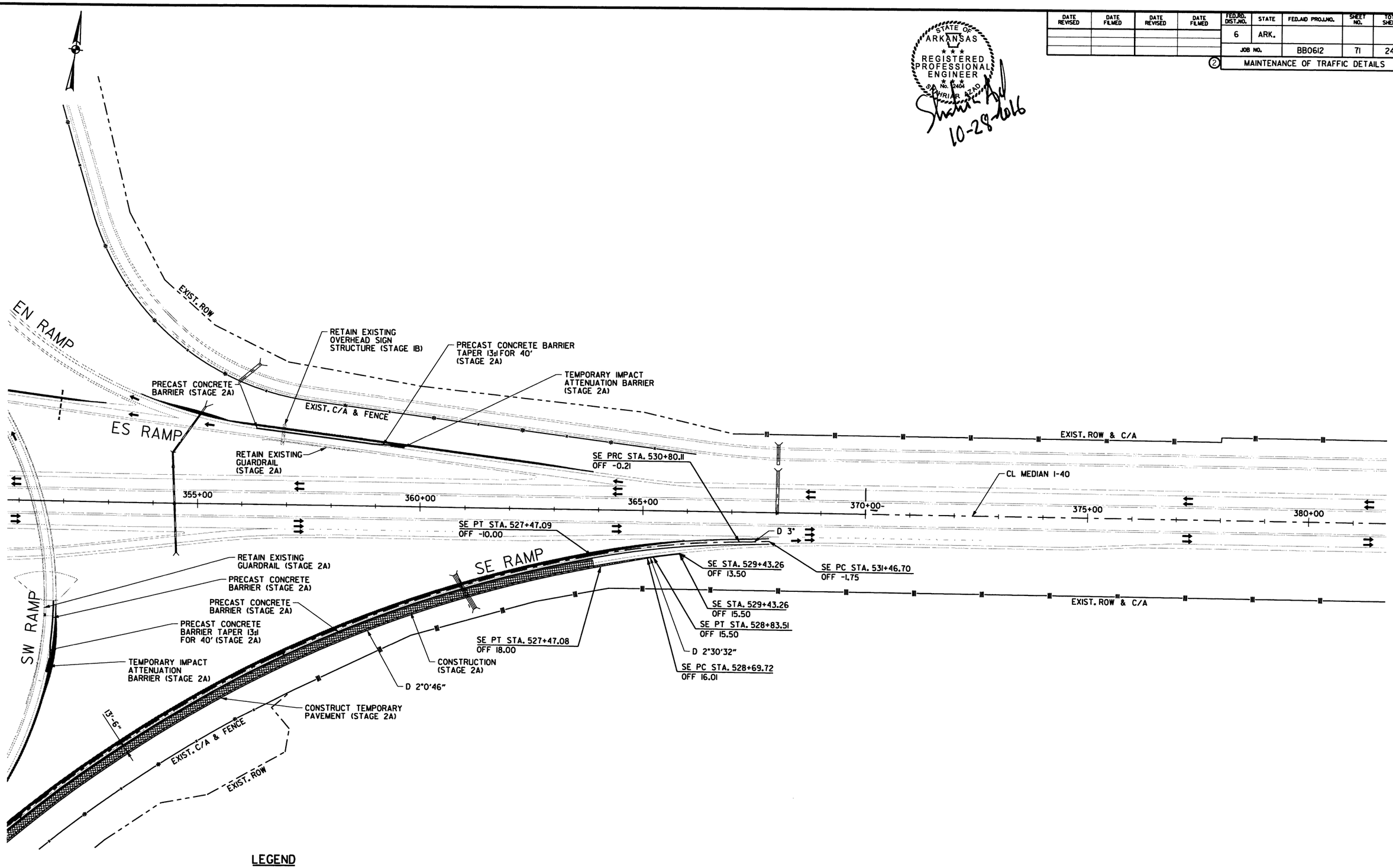
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
JOHN R. ARNOLD

10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2A

10/28/2016 4:56:55 PM

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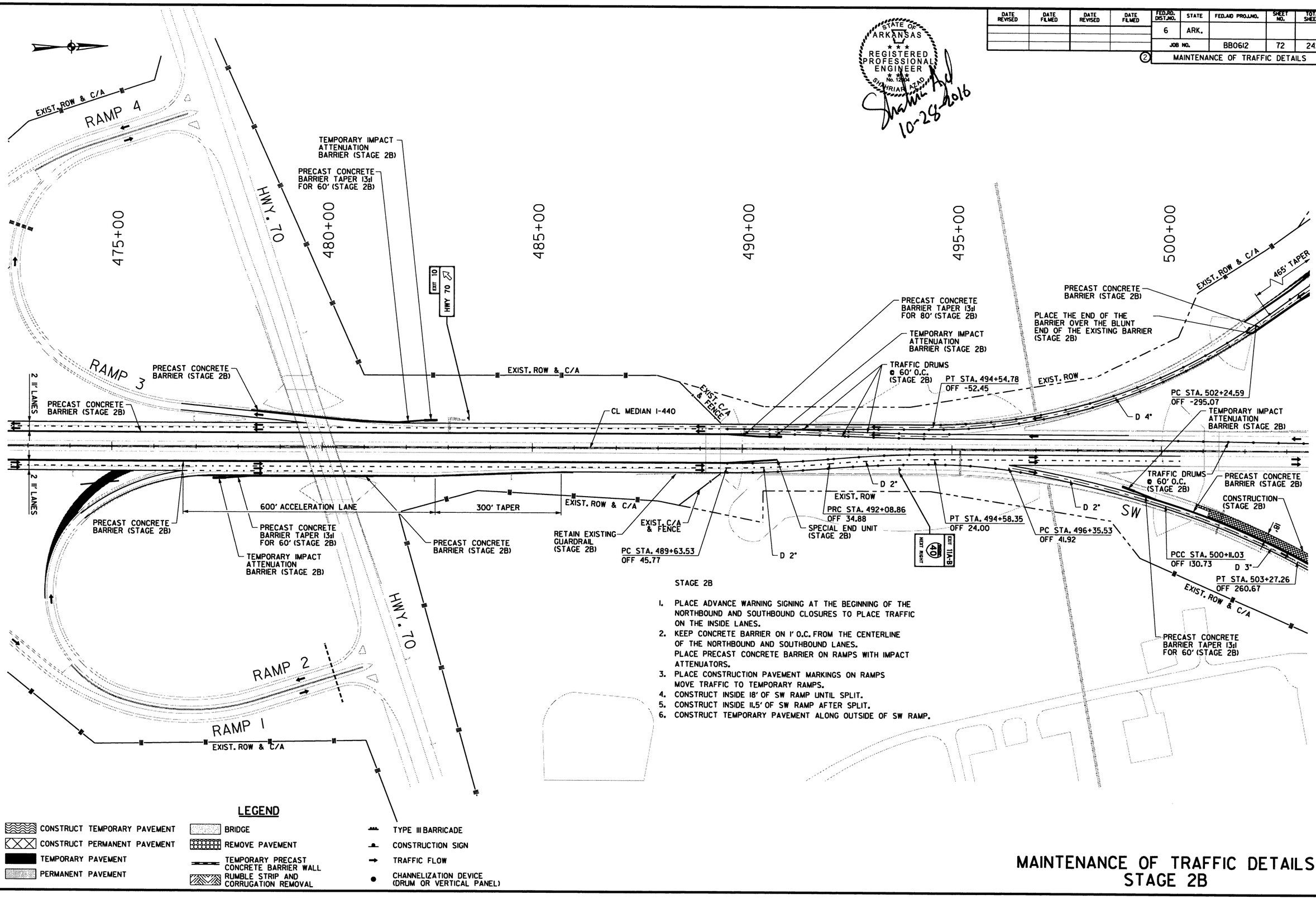
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12204
SHAHRIAR AZAD
10-28-2016



STAGE 2B

1. PLACE ADVANCE WARNING SIGNING AT THE BEGINNING OF THE NORTHBOUND AND SOUTHBOUND CLOSURES TO PLACE TRAFFIC ON THE INSIDE LANES.
2. KEEP CONCRETE BARRIER ON 1' O.C. FROM THE CENTERLINE OF THE NORTHBOUND AND SOUTHBOUND LANES. PLACE PRECAST CONCRETE BARRIER ON RAMPS WITH IMPACT ATTENUATORS.
3. PLACE CONSTRUCTION PAVEMENT MARKINGS ON RAMPS MOVE TRAFFIC TO TEMPORARY RAMPS.
4. CONSTRUCT INSIDE 18' OF SW RAMP UNTIL SPLIT.
5. CONSTRUCT INSIDE 11.5' OF SW RAMP AFTER SPLIT.
6. CONSTRUCT TEMPORARY PAVEMENT ALONG OUTSIDE OF SW RAMP.

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

10/28/2016 4:56:57 PM

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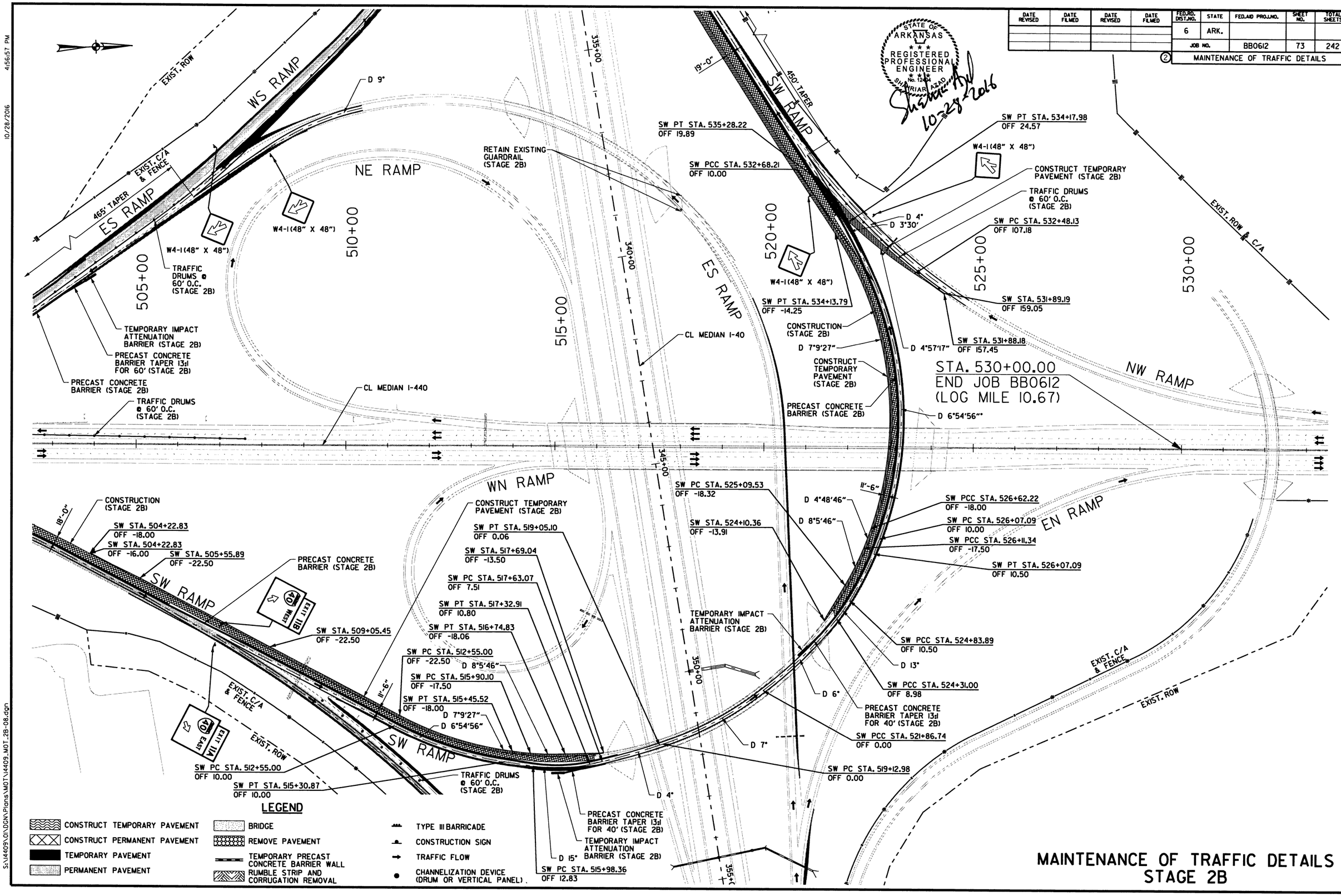
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	73	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12444 SHAHRIAR AZAD

10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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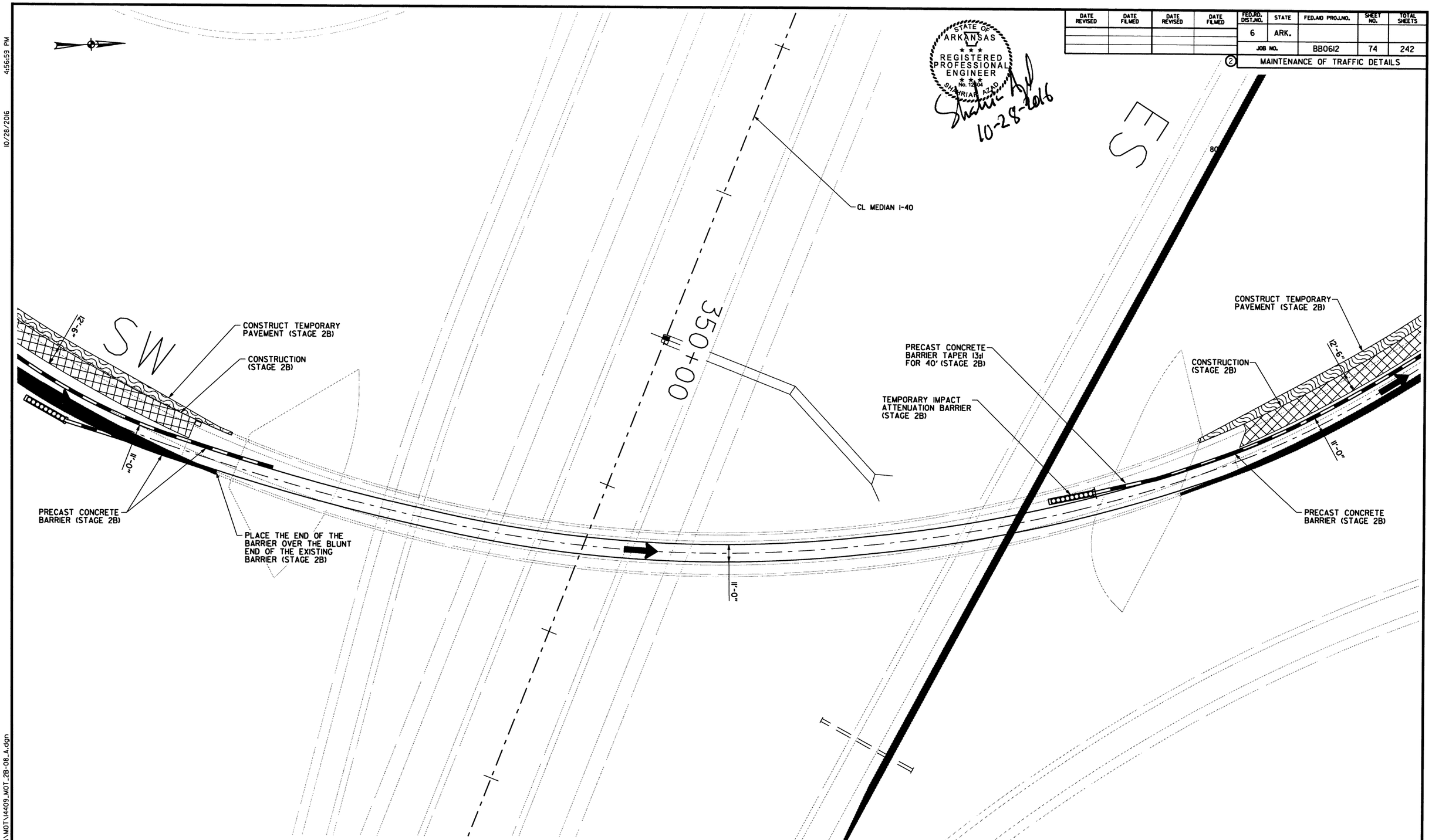
				JOB NO.		BB0612	74	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12804
SHAHRIAR ASLAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

10/28/2016 4:56:59 PM

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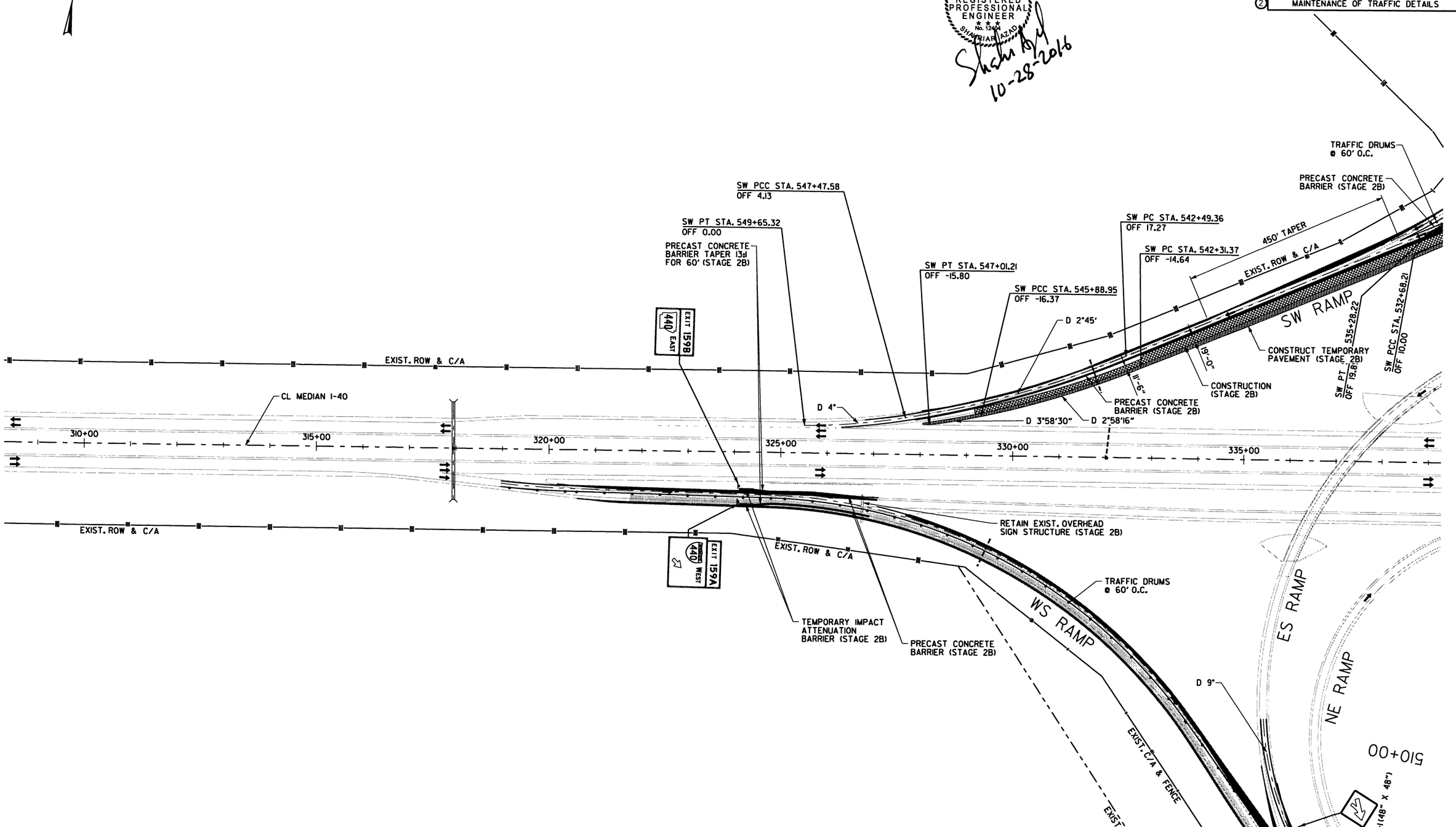
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 2B

10/28/2016 4:56:59 PM

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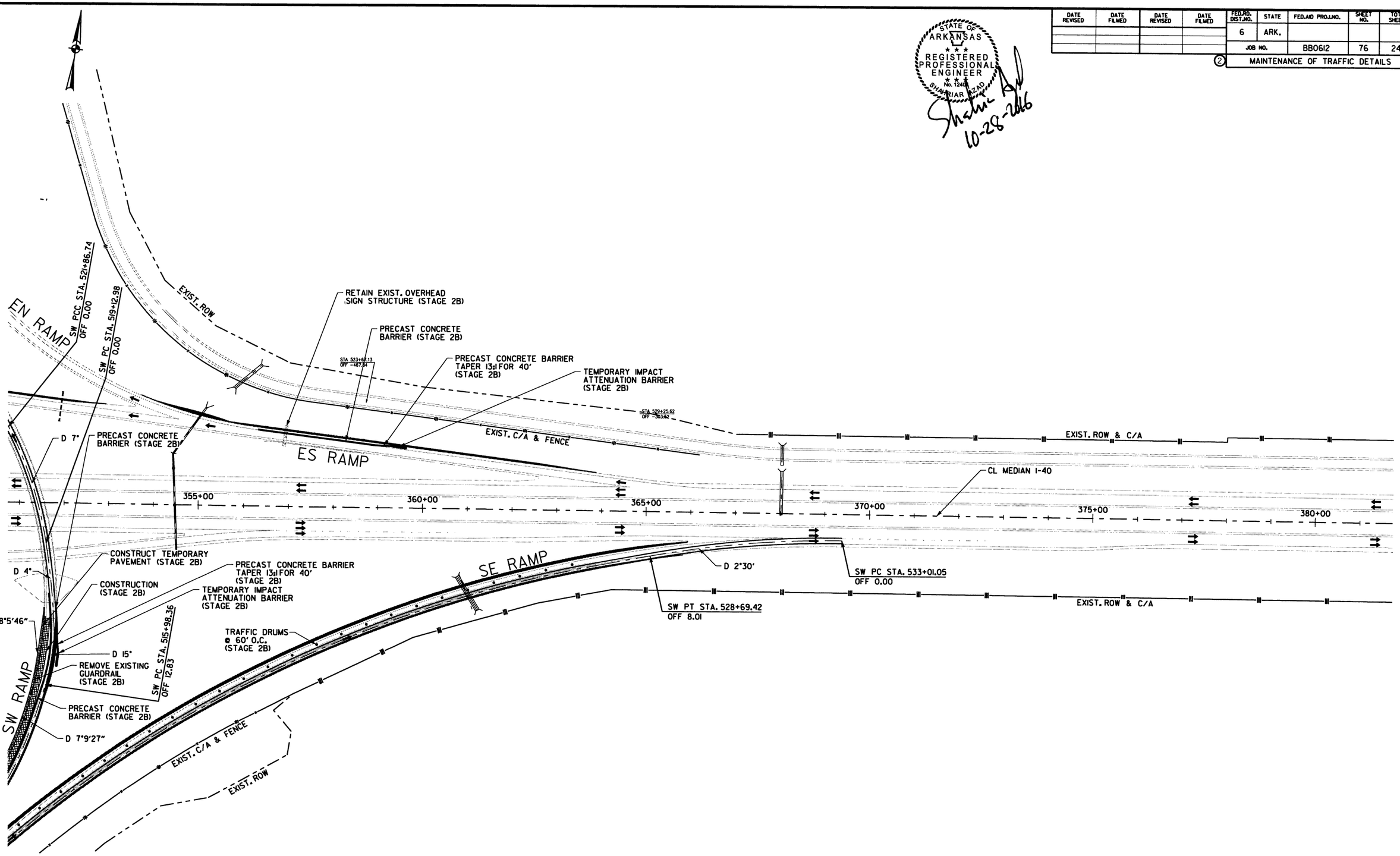
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	76	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12408
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 2B

10/28/2016 4:57:00 PM

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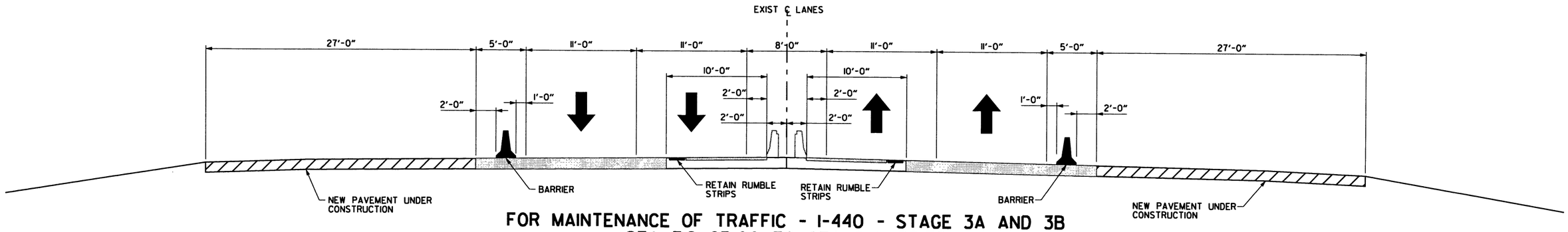
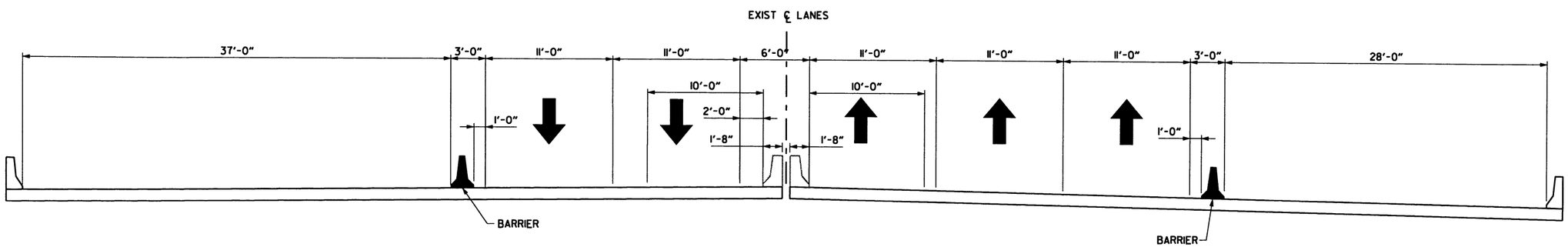
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	77	242

2 MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 3A AND 3B
STA. 312+65.00 TO STA. 343+29.36
STA. 347+36.06 TO STA. 392+92.70
STA. 396+25.14 TO STA. 413+35.00
STA. 436+45.00 TO STA. 489+13.80



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 3A
BRIDGE NO. 5706 A & B
STA. 343+29.36 TO STA. 347+36.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SAMIR AZER

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/28/2016 4:57:01 PM

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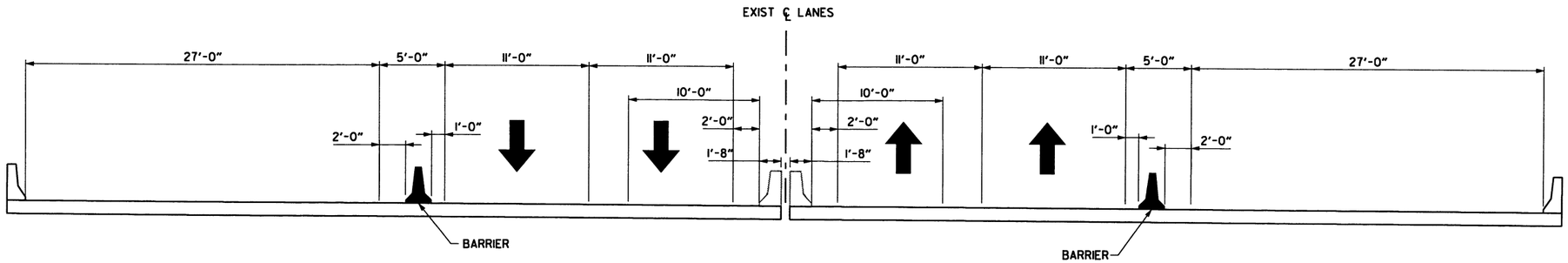
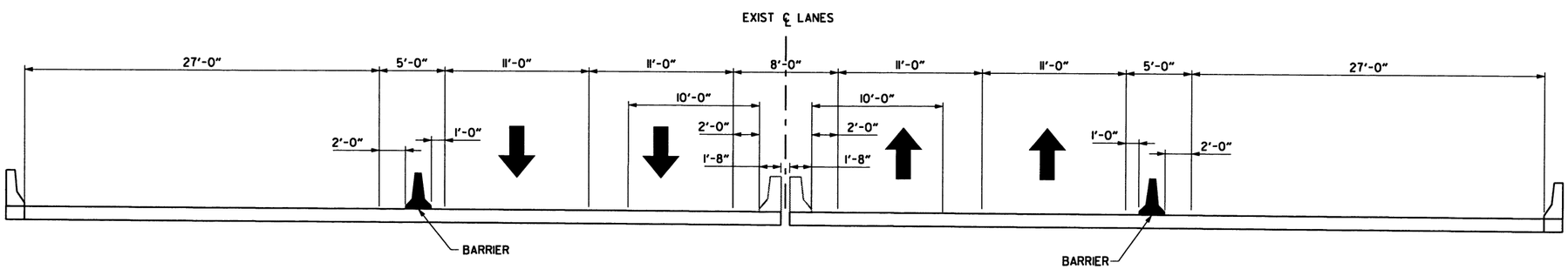
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	78	242

② MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 3A AND 3B
BRIDGE NO. 5707 A & B
STA. 392+92.70 TO STA. 396+25.14



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 3A AND 3B
BRIDGE NO. 5708 A & B
STA. 413+35.00 TO STA. 436+45.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHARRIAR AZAD

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/28/2016 4:57:01 PM

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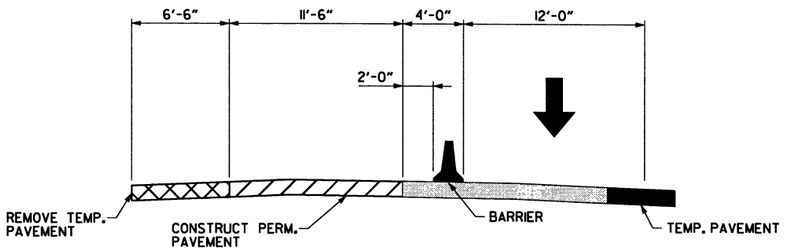
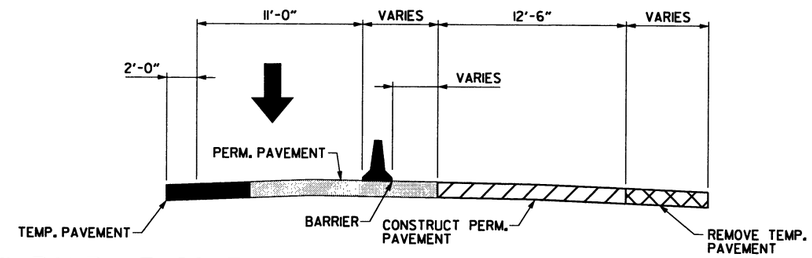
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	79	242

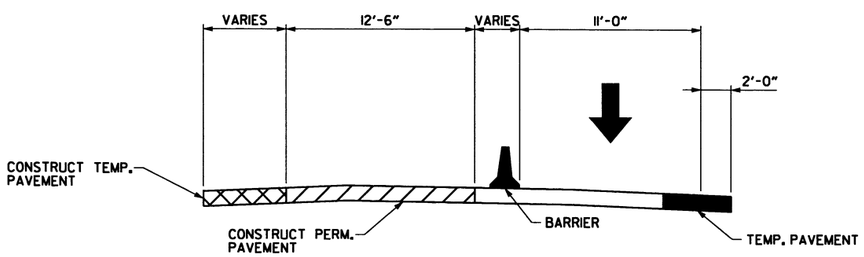
② MAINTENANCE OF TRAFFIC DETAILS



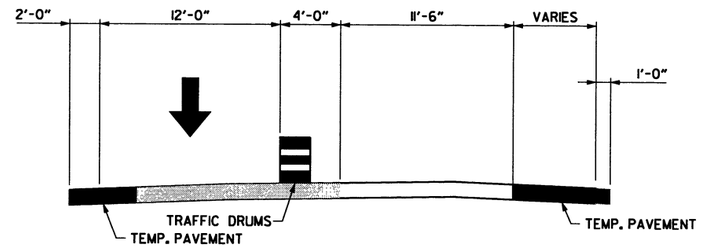
SE RAMP - I-440 - STAGE 3A



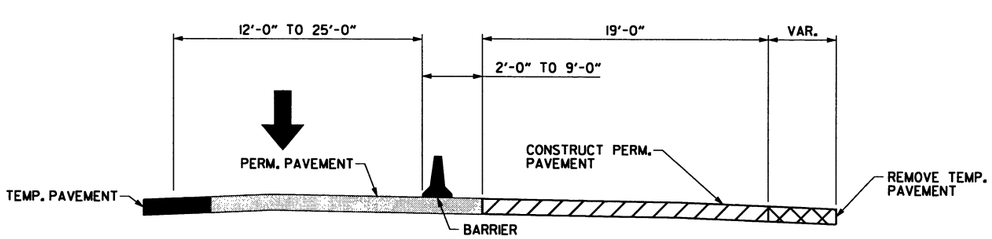
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 3A



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 3A



WS RAMP - I-440 ONE LANE - STAGE 3A



WS TWO LANE RAMP - STAGE 3A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

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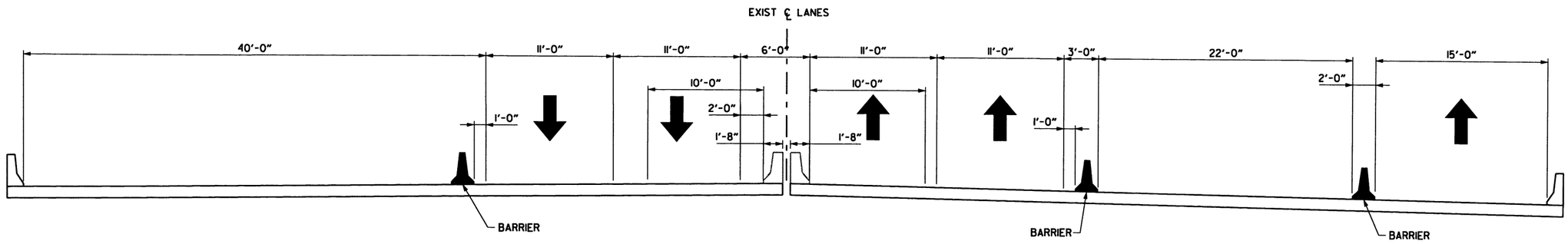
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	80	242

(2) MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 3B
BRIDGE NO. 5706 A & B
STA. 343+29.36 TO STA. 347+36.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18404
SHAHRIAR AZAD

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

10/28/2016 4:57:02 PM

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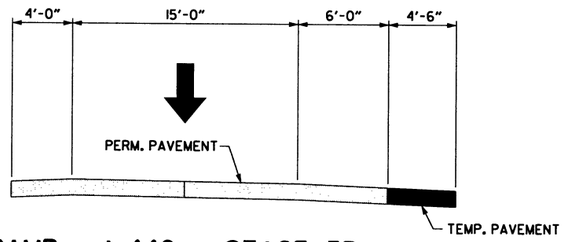
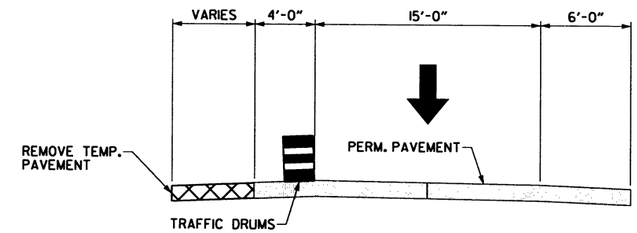
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	81	242

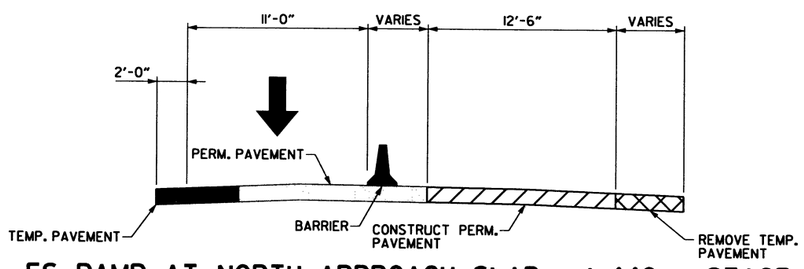
(2) MAINTENANCE OF TRAFFIC DETAILS



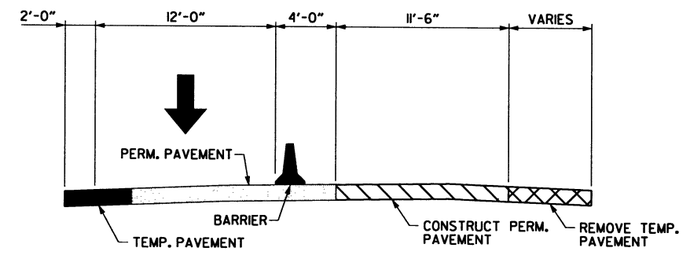
SE RAMP - I-440 - STAGE 3B



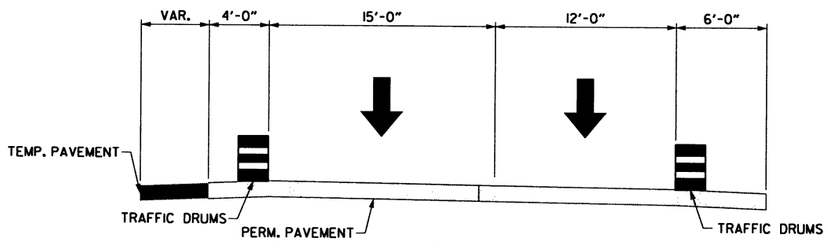
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 3B



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 3B



WS RAMP - I-440 ONE LANE - STAGE 3B



WS TWO LANE RAMP - STAGE 3B

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3

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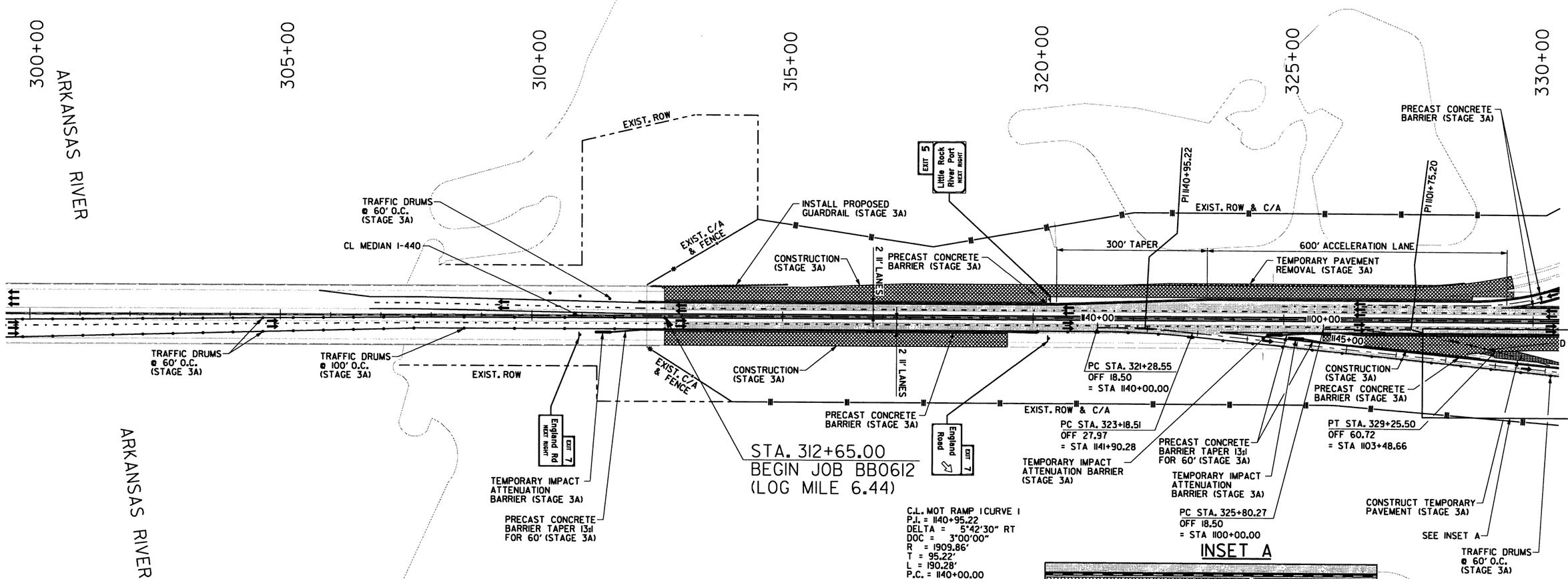
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	82	242

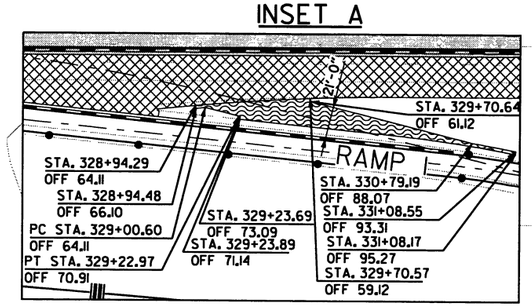
2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13404
SHAHRIAR AZAD
10-28-2016



C.L. MOT RAMP I CURVE 1
P.I. = 1140+95.22
DELTA = 5°42'30" RT
DOC = 3°00'00"
R = 1909.86'
T = 95.22'
L = 190.28'
P.C. = 1140+00.00
P.T. = 1141+90.28
Ls = N/A
e = N/A

INSET A



C.L. MOT RAMP I CURVE 3
P.I. = 1101+75.20
DELTA = 13°56'47" RT
DOC = 4°00'00"
R = 1432.39'
T = 175.20'
L = 348.66'
P.C. = 1100+00.00
P.T. = 1103+48.66
Ls = N/A
e = MATCH EXISTING

STAGE 3A

1. PLACE ADVANCE WARNING SIGNING AT THE BEGINNING OF THE NORTHBOUND AND SOUTHBOUND CLOSURES TO PLACE TRAFFIC ON THE INSIDE LANES.
2. PLACE CONCRETE BARRIER ON 1' O.C. FROM THE CENTERLINE OF THE NORTHBOUND AND SOUTHBOUND LANES. PLACE PRECAST CONCRETE BARRIER ON RAMPS WITH IMPACT ATTENUATORS.
3. PLACE CONSTRUCTION PAVEMENT MARKINGS ON RAMPS MOVE TRAFFIC TO TEMPORARY RAMPS.
4. CONSTRUCT OUTSIDE 27' OF PAVEMENT FOR THE NORTHBOUND AND SOUTHBOUND LANES.
5. CONSTRUCT THE FOUNDATIONS OF THE OVERHEAD SIGN STRUCTURES ALONG THE OUTSIDE EDGES OF PAVEMENT.
6. CONSTRUCT TEMPORARY RAMPS.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

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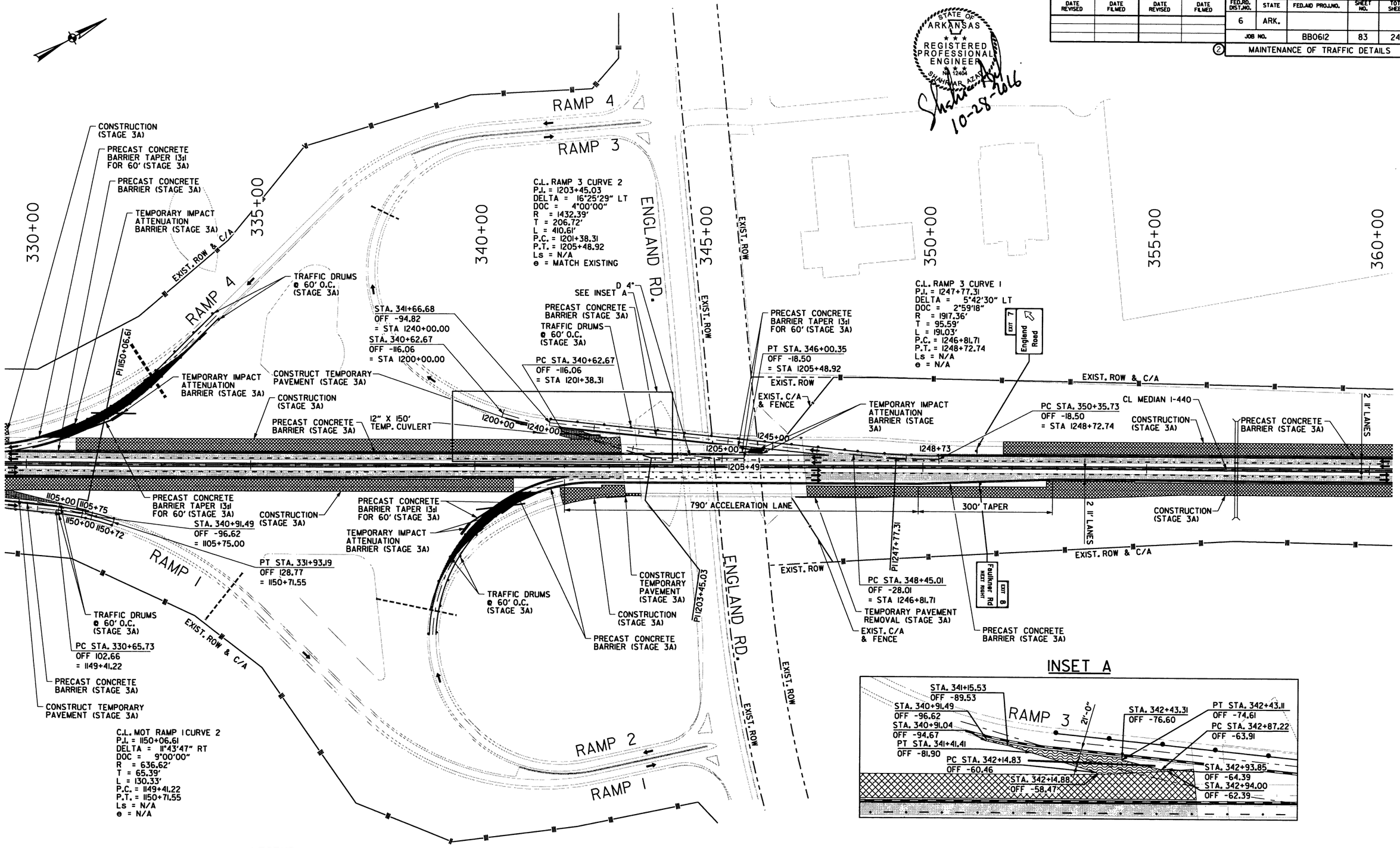
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	83	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHNAWAR AZAM
10-28-2016



INSET A

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

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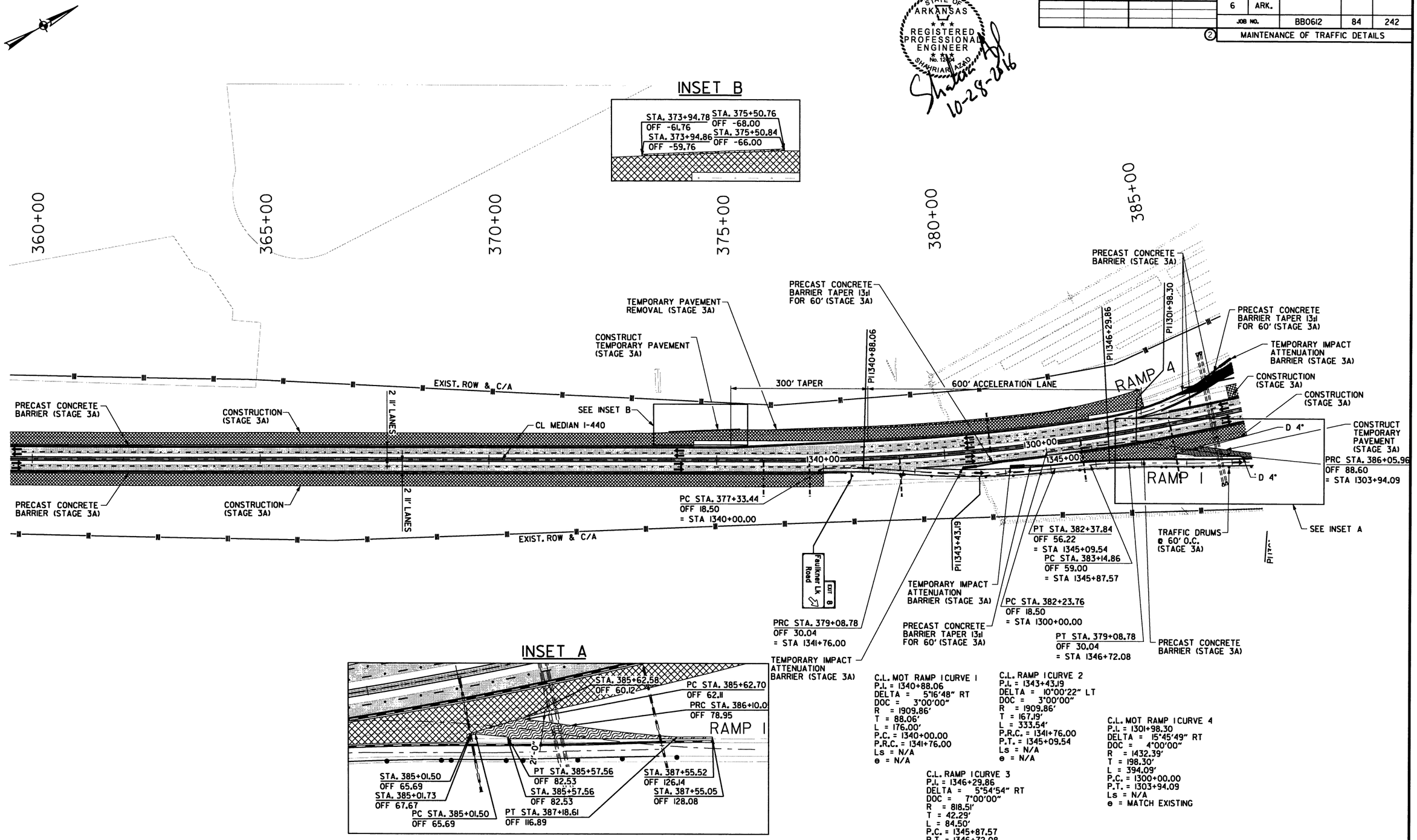
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	84	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12894
SHAHRIAR AZAD
10-28-2016



C.L. MOT RAMP 1 CURVE 1
P.I. = 1340+88.06
DELTA = 5°16'48" RT
DOC = 3°00'00"
R = 1909.86'
T = 88.06'
L = 176.00'
P.C. = 1340+00.00
P.R.C. = 1341+76.00
Ls = N/A
e = N/A

C.L. RAMP 1 CURVE 2
P.I. = 1343+43.19
DELTA = 10°00'22" LT
DOC = 3°00'00"
R = 1909.86'
T = 167.19'
L = 333.54'
P.R.C. = 1341+76.00
P.T. = 1345+09.54
Ls = N/A
e = N/A

C.L. MOT RAMP 1 CURVE 4
P.I. = 1301+98.30
DELTA = 15°45'49" RT
DOC = 4°00'00"
R = 1432.39'
T = 198.30'
L = 394.09'
P.C. = 1300+00.00
P.T. = 1303+94.09
Ls = N/A
e = MATCH EXISTING

C.L. RAMP 1 CURVE 3
P.I. = 1346+29.86
DELTA = 5°54'54" RT
DOC = 7°00'00"
R = 818.51'
T = 42.29'
L = 84.50'
P.C. = 1345+87.57
P.T. = 1346+72.08
Ls = N/A
e = N/A

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

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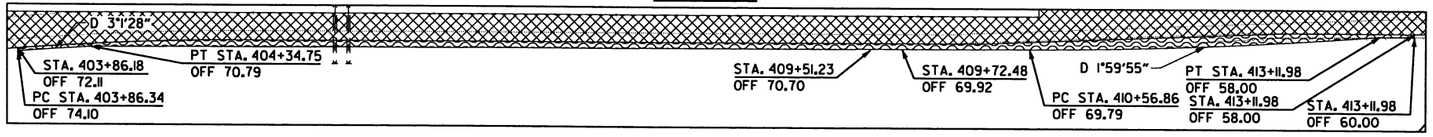
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	85	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHAHRIAR ADL 10-28-2016

INSET B

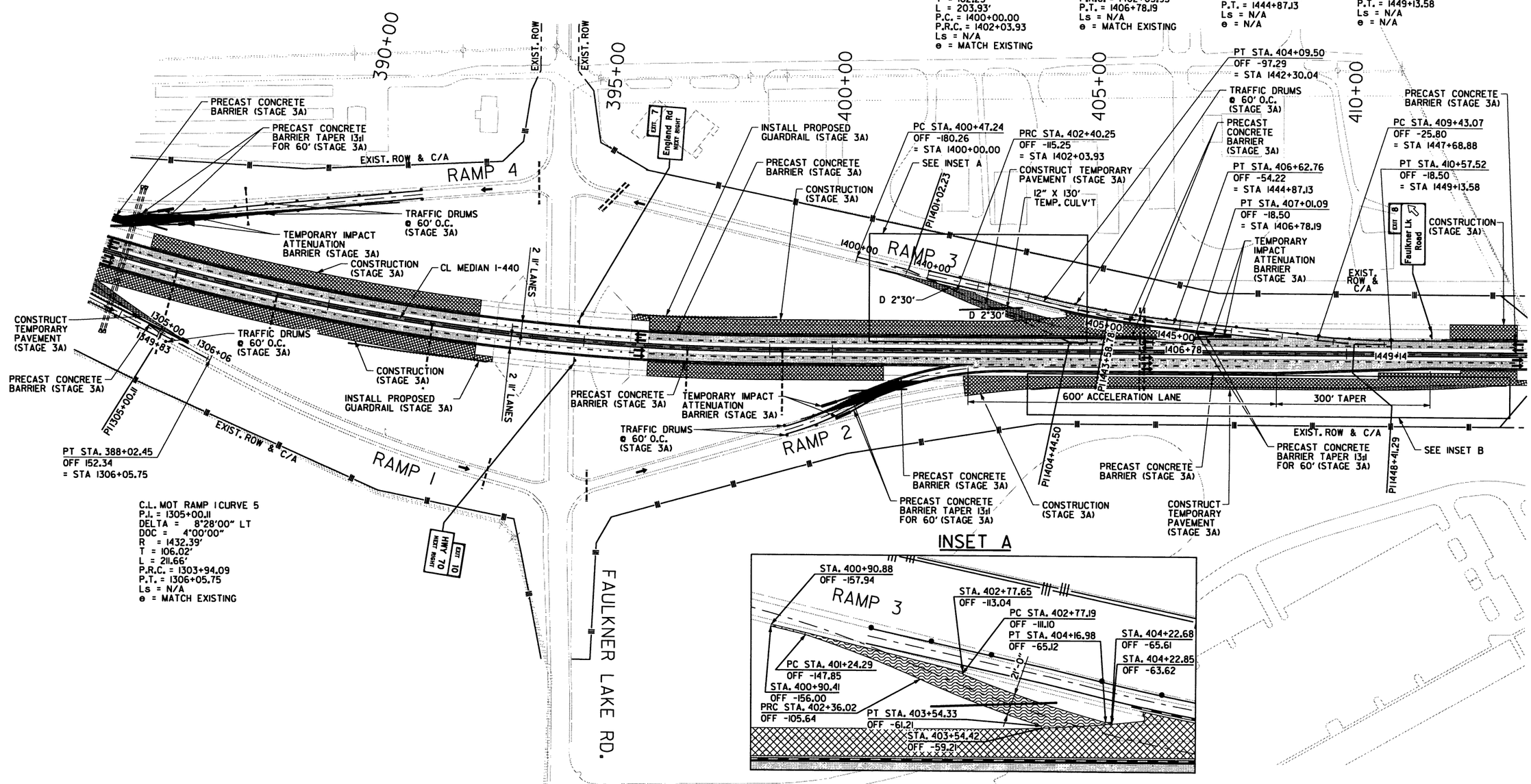


C.L. MOT RAMP 3 CURVE 3
P.I. = 1401+02.23
DELTA = 10°11'47" RT
DOC = 5°00'00"
R = 1145.92'
T = 102.23'
L = 203.93'
P.C. = 1400+00.00
P.R.C. = 1402+03.93
Ls = N/A
e = MATCH EXISTING

C.L. MOT RAMP 3 CURVE 4
P.I. = 1404+44.50
DELTA = 23°42'47" LT
DOC = 5°00'00"
R = 1145.92'
T = 240.58'
L = 474.26'
P.R.C. = 1402+03.93
P.T. = 1406+78.19
Ls = N/A
e = MATCH EXISTING

C.L. MOT RAMP 3 CURVE 1
P.I. = 1443+58.78
DELTA = 7°43'44" LT
DOC = 3°00'23"
R = 1905.86'
T = 128.74'
L = 257.09'
P.C. = 1442+30.04
P.T. = 1444+87.13
Ls = N/A
e = N/A

C.L. MOT RAMP 3 CURVE 2
P.I. = 1448+41.29
DELTA = 5°47'17" LT
DOC = 4°00'00"
R = 1432.39'
T = 72.41'
L = 144.70'
P.C. = 1447+68.88
P.T. = 1449+13.58
Ls = N/A
e = N/A



C.L. MOT RAMP 1 CURVE 5
P.I. = 1305+00.11
DELTA = 8°28'00" LT
DOC = 4°00'00"
R = 1432.39'
T = 106.02'
L = 211.66'
P.R.C. = 1303+94.09
P.T. = 1306+05.75
Ls = N/A
e = MATCH EXISTING

INSET A

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

10/28/2016 4:57:05 PM

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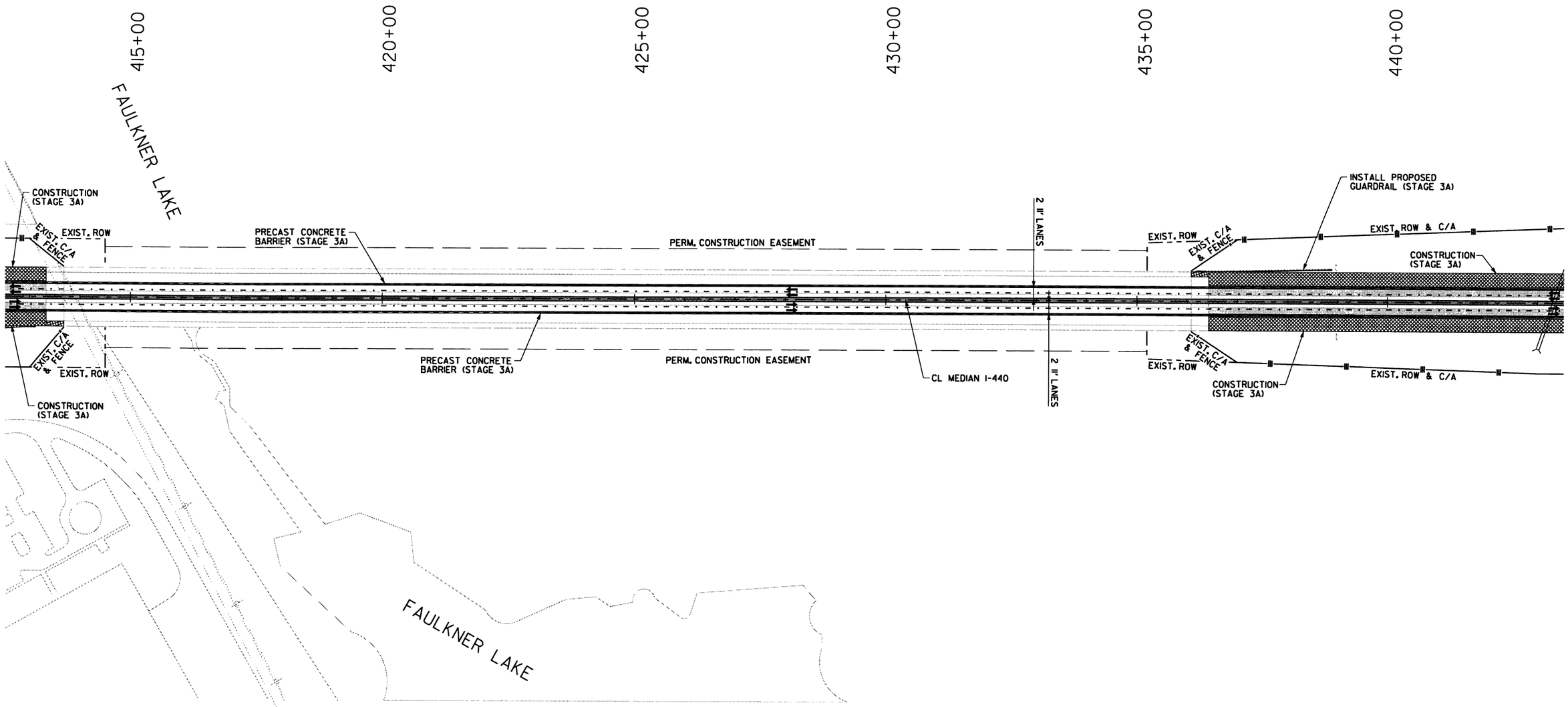
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	86	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12446
SHANE R. ARNOLD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

10/28/2016 4:57:07 PM
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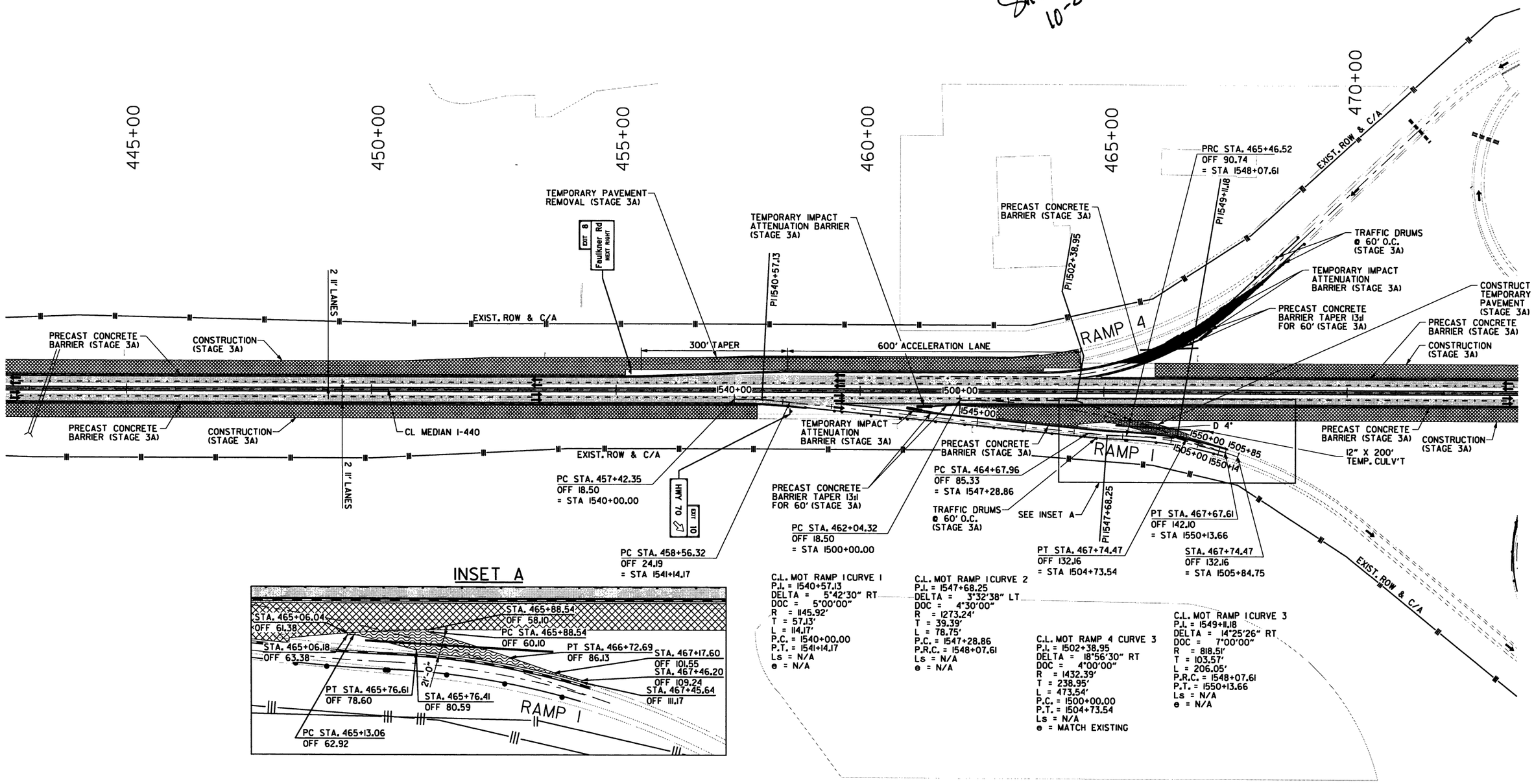
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	87	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

10/28/2016 4:57:07 PM

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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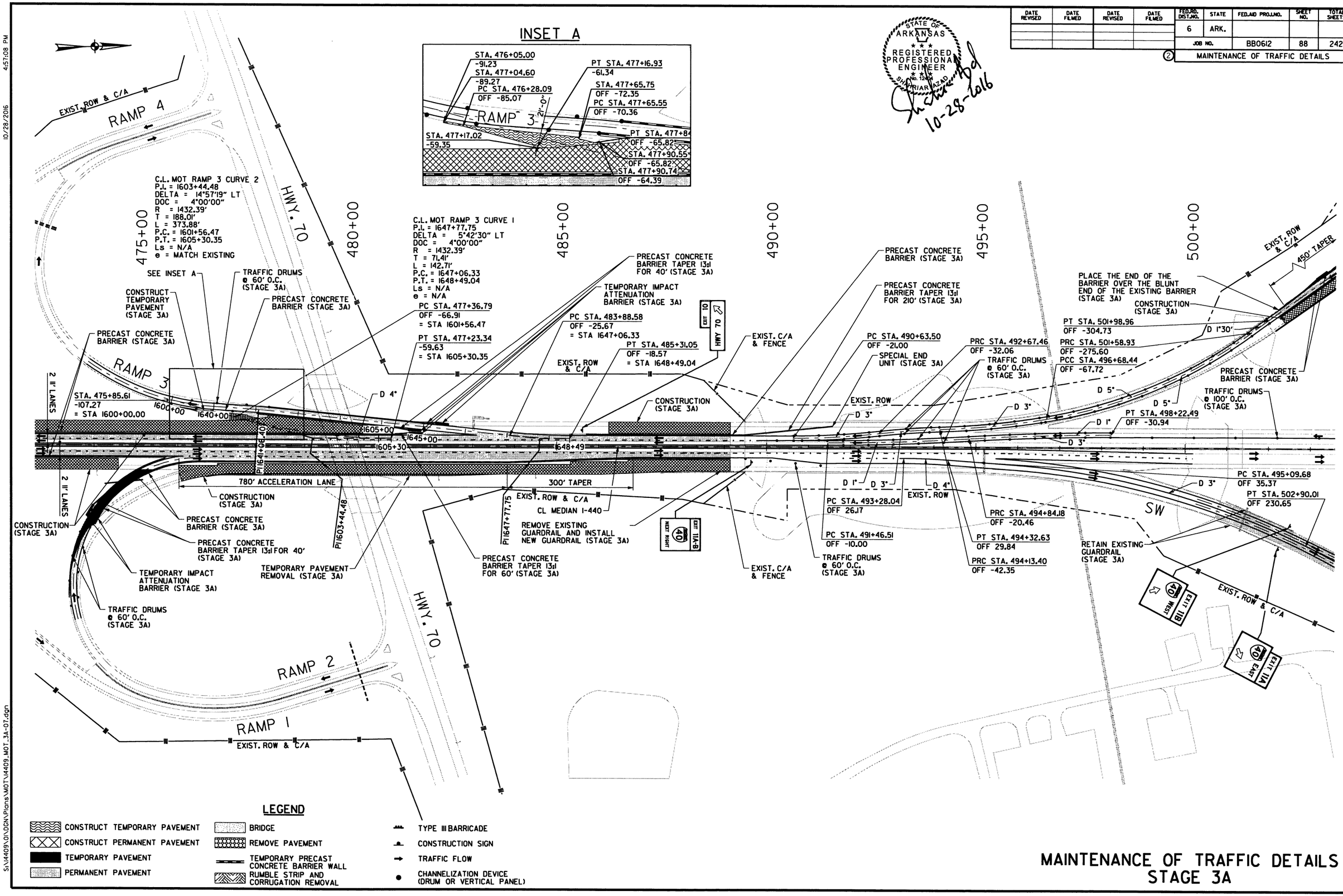
				JOB NO.		BB0612	88	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12400 SHAHRIAR AZAD

10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

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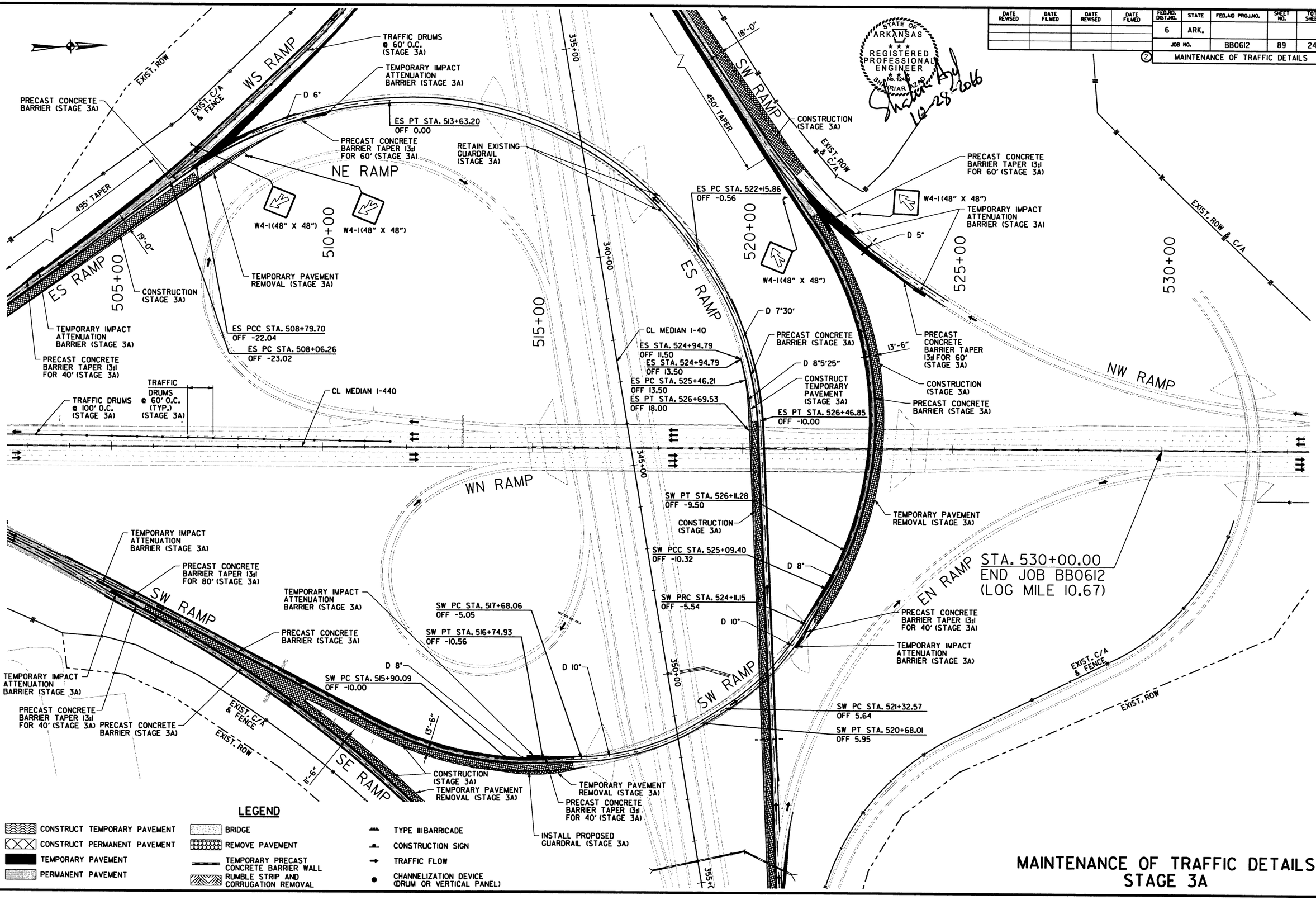
				6	ARK.			
				JOB NO.		BB0612	89	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12469 SHANNON RIAR HAZAD

10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

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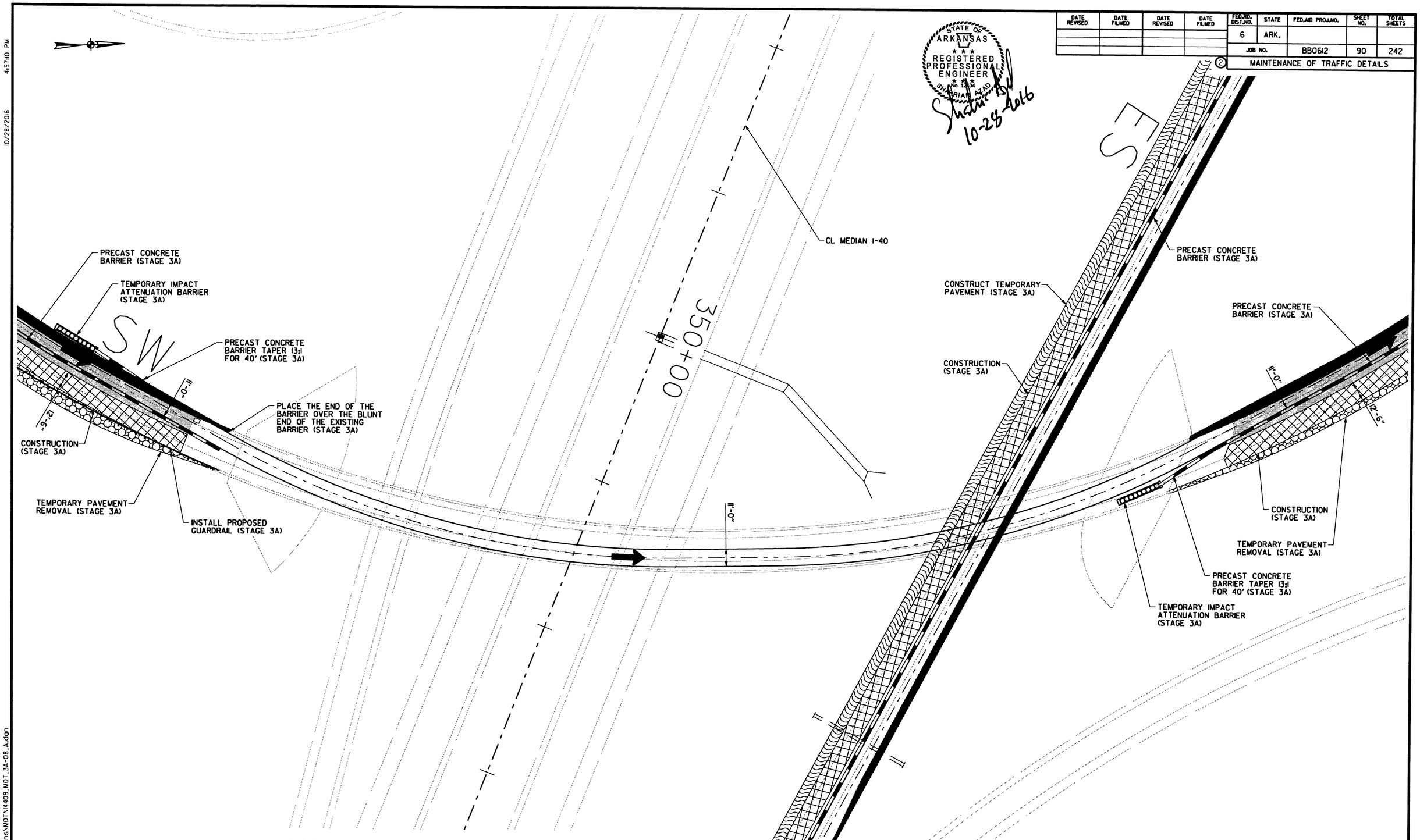
				6	ARK.			
				JOB NO.		BB0612	90	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12204
SHANTRIAL RAO
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
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- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

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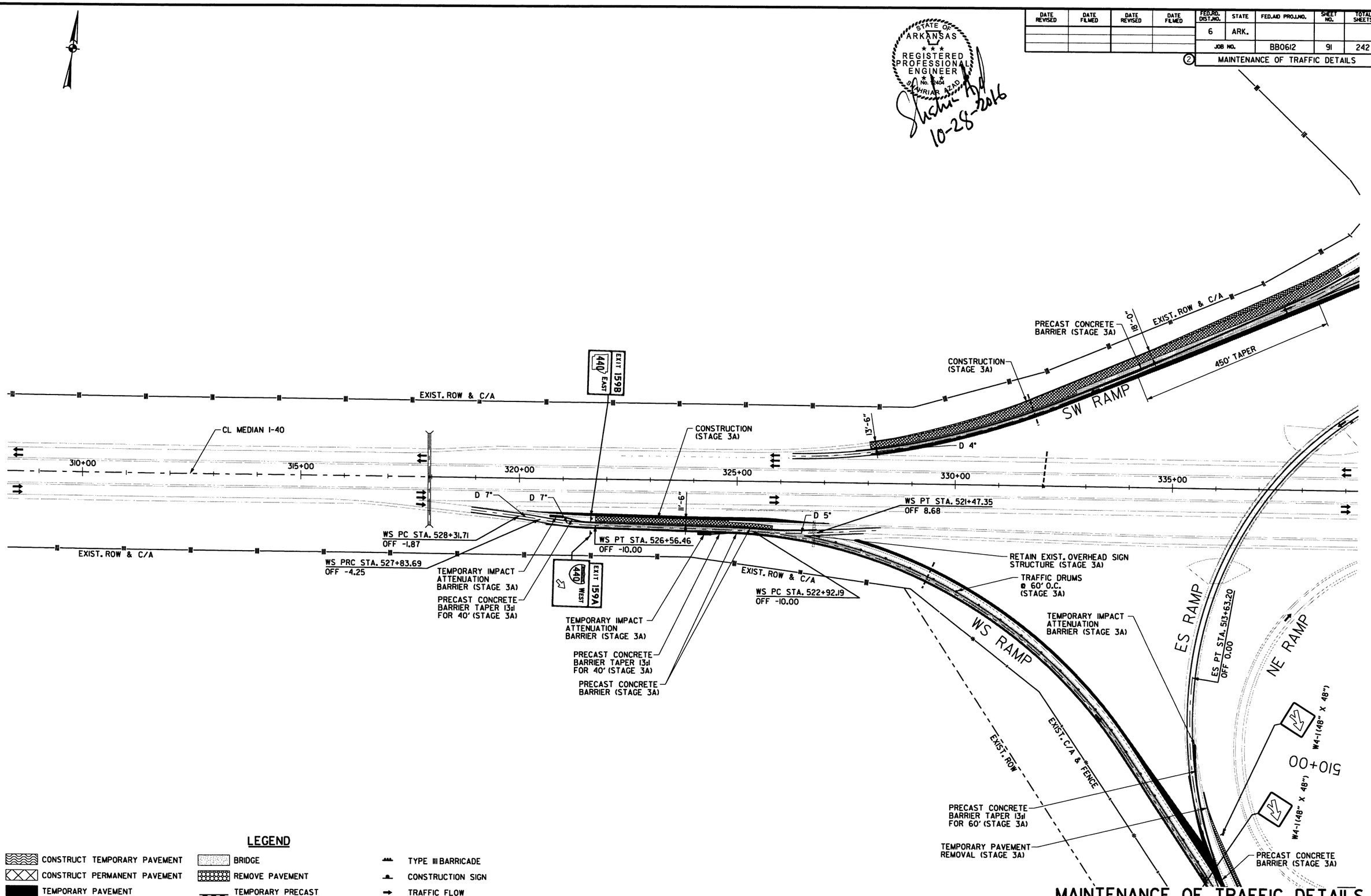
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	91	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
CHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3A

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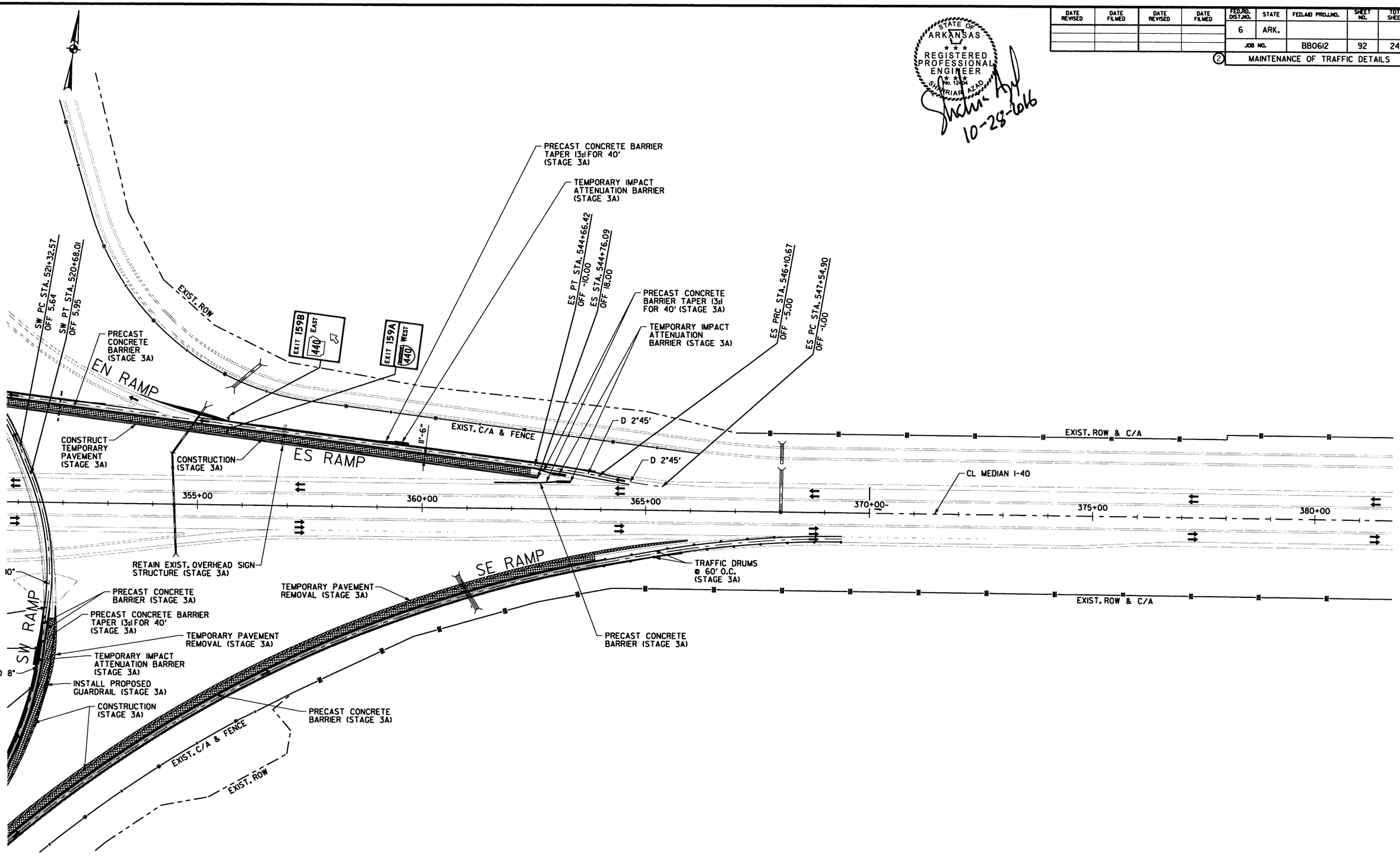
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	92	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
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- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
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- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3A

10/28/2016 4:57:12 PM

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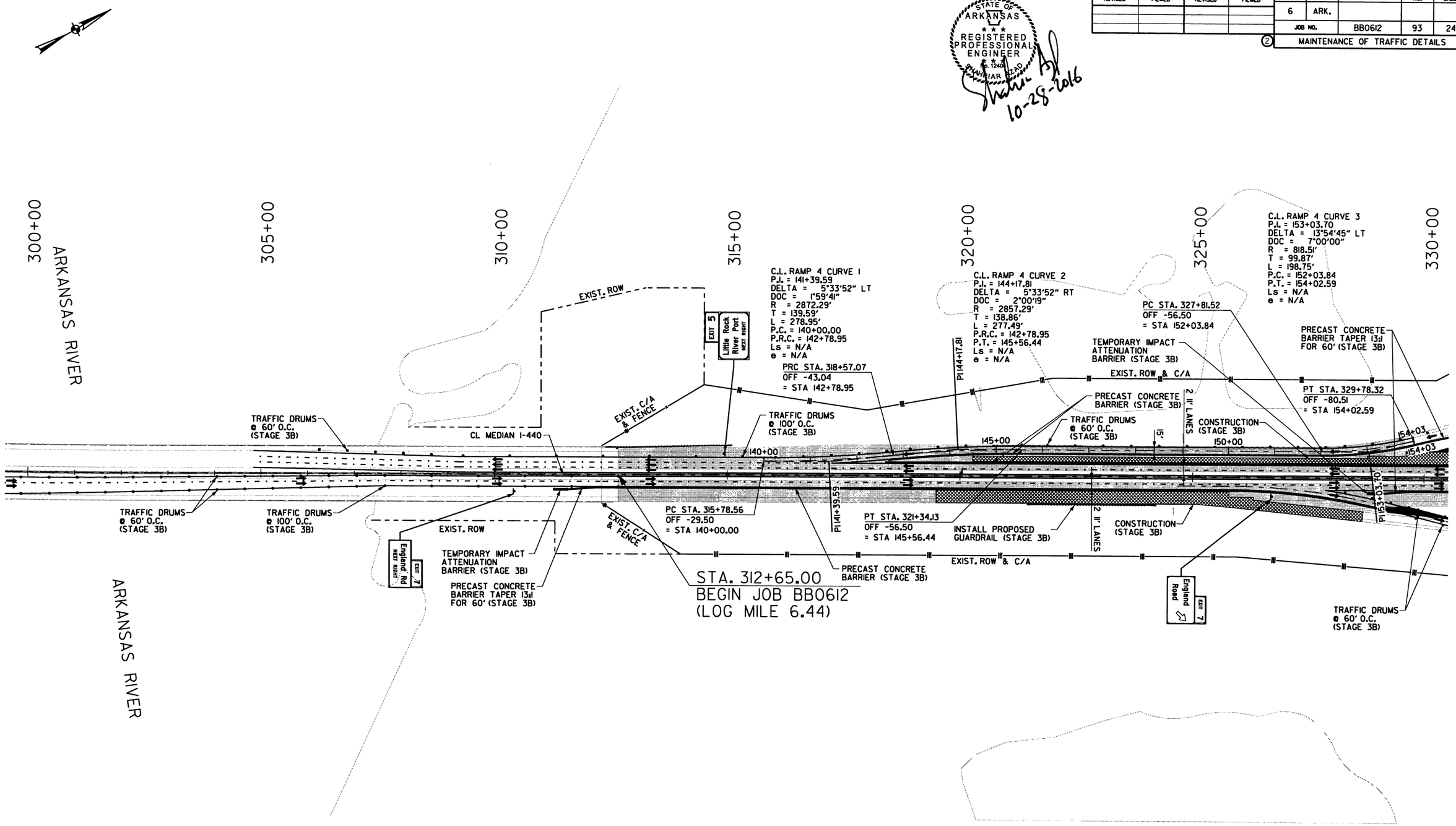
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	93	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12406 SHANNIAR BZAD

10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
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- TEMPORARY PAVEMENT
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STAGE 3B

1. ADJUST RAMP ALIGNMENTS AND RELOCATE PRECAST CONCRETE BARRIER WITH IMPACT ATTENUATERS.
2. PLACE PRECAST CONCRETE BARRIER ON TEMPORARY RAMPS.
3. PLACE CONSTRUCTION PAVEMENT MARKINGS ON RAMPS.
4. MOVE RAMP TRAFFIC TO TEMPORARY RAMPS.
5. CONSTRUCT REMAINING OUTSIDE 27' OF PAVEMENT FOR THE NORTHBOUND AND SOUTHBOUND LANES.

MAINTENANCE OF TRAFFIC DETAILS STAGE 3B

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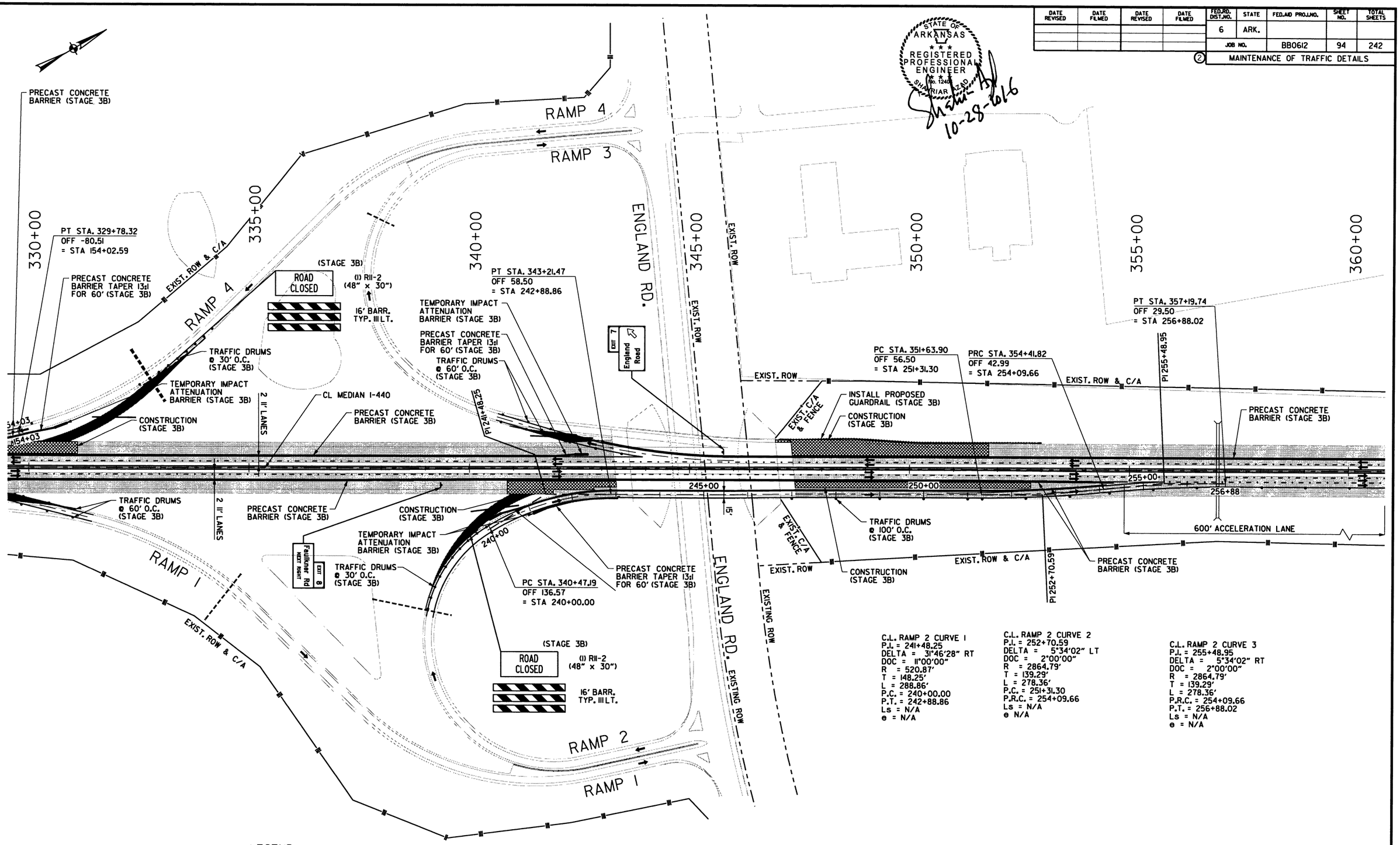
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	94	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12401
SHAHRIAR SHAHZAD
10-28-2016



C.L. RAMP 2 CURVE 1
P.I. = 241+48.25
DELTA = 31°46'28" RT
DOC = 11°00'00"
R = 520.87'
T = 148.25'
L = 288.86'
P.C. = 240+00.00
P.T. = 242+88.86
Ls = N/A
e = N/A

C.L. RAMP 2 CURVE 2
P.I. = 252+70.59
DELTA = 5°34'02" LT
DOC = 2°00'00"
R = 2864.79'
T = 139.29'
L = 278.36'
P.C. = 251+31.30
P.R.C. = 254+09.66
Ls = N/A
e N/A

C.L. RAMP 2 CURVE 3
P.I. = 255+48.95
DELTA = 5°34'02" RT
DOC = 2°00'00"
R = 2864.79'
T = 139.29'
L = 278.36'
P.R.C. = 254+09.66
P.T. = 256+88.02
Ls = N/A
e = N/A

MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

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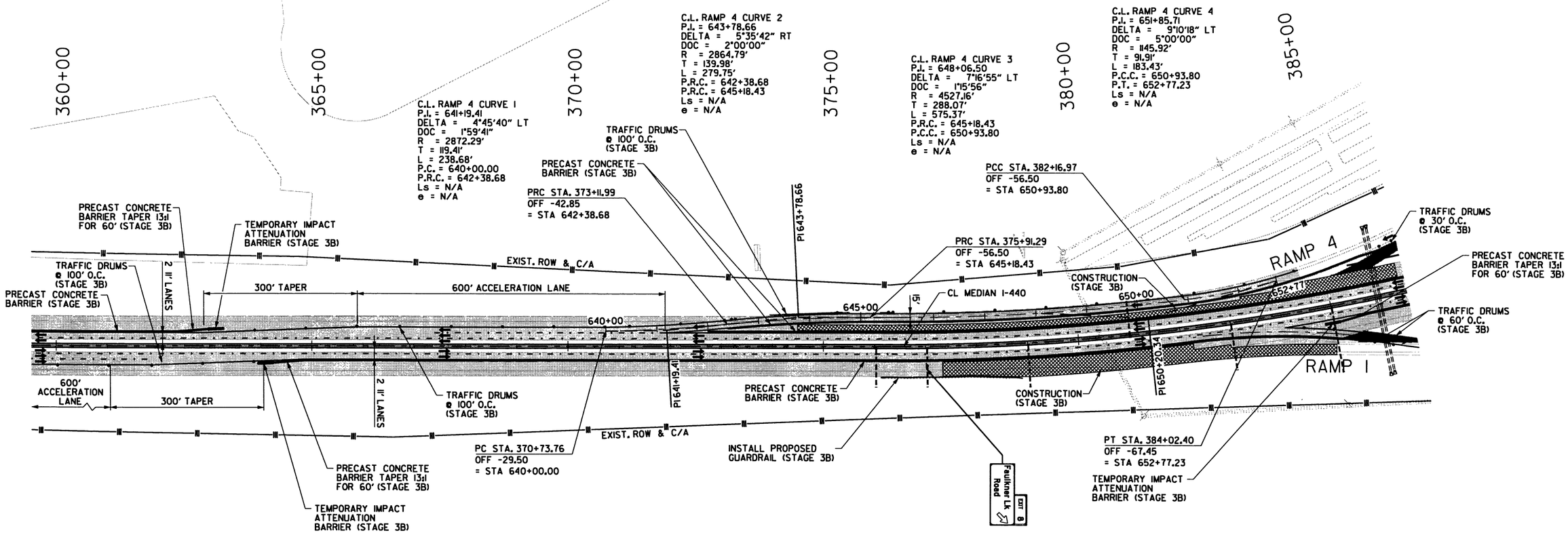
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	95	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
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- TEMPORARY PAVEMENT
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- TRAFFIC FLOW
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MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

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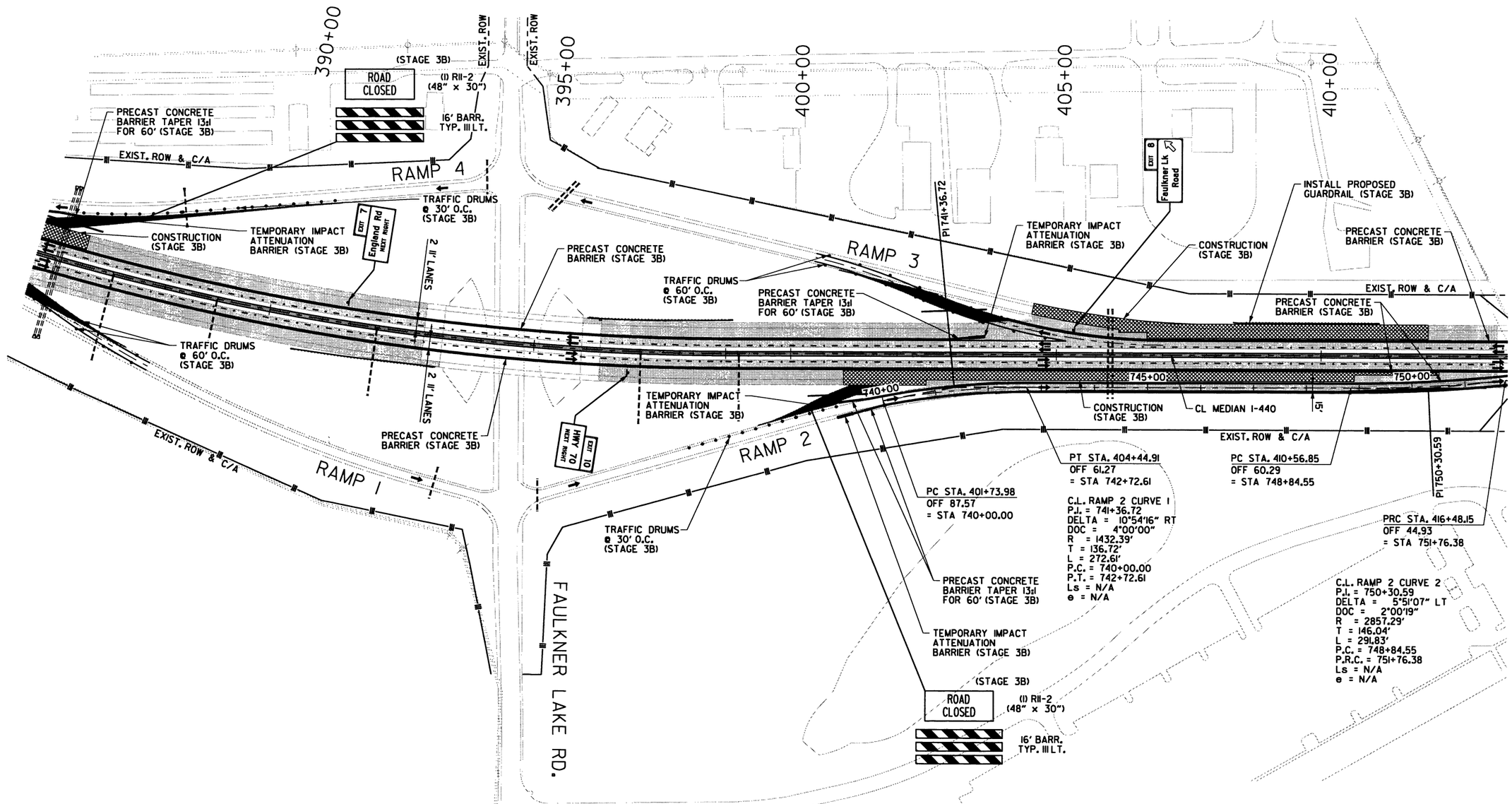
				6	ARK.			
				JOB NO.		BB0612	96	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12464
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
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- TEMPORARY PAVEMENT
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- TEMPORARY PRECAST CONCRETE BARRIER WALL
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- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3B

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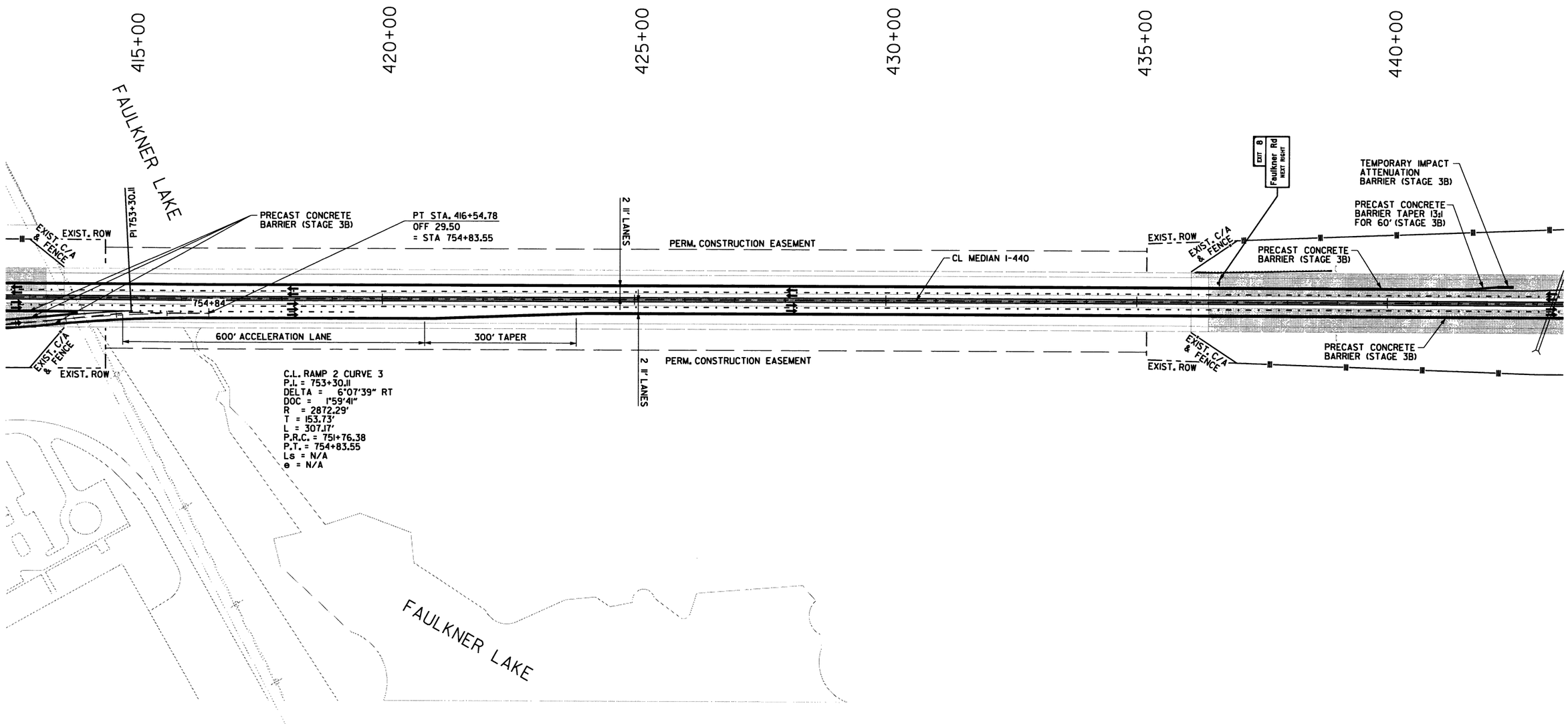
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	97	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 12401
BRANDON R. ZAID
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
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MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

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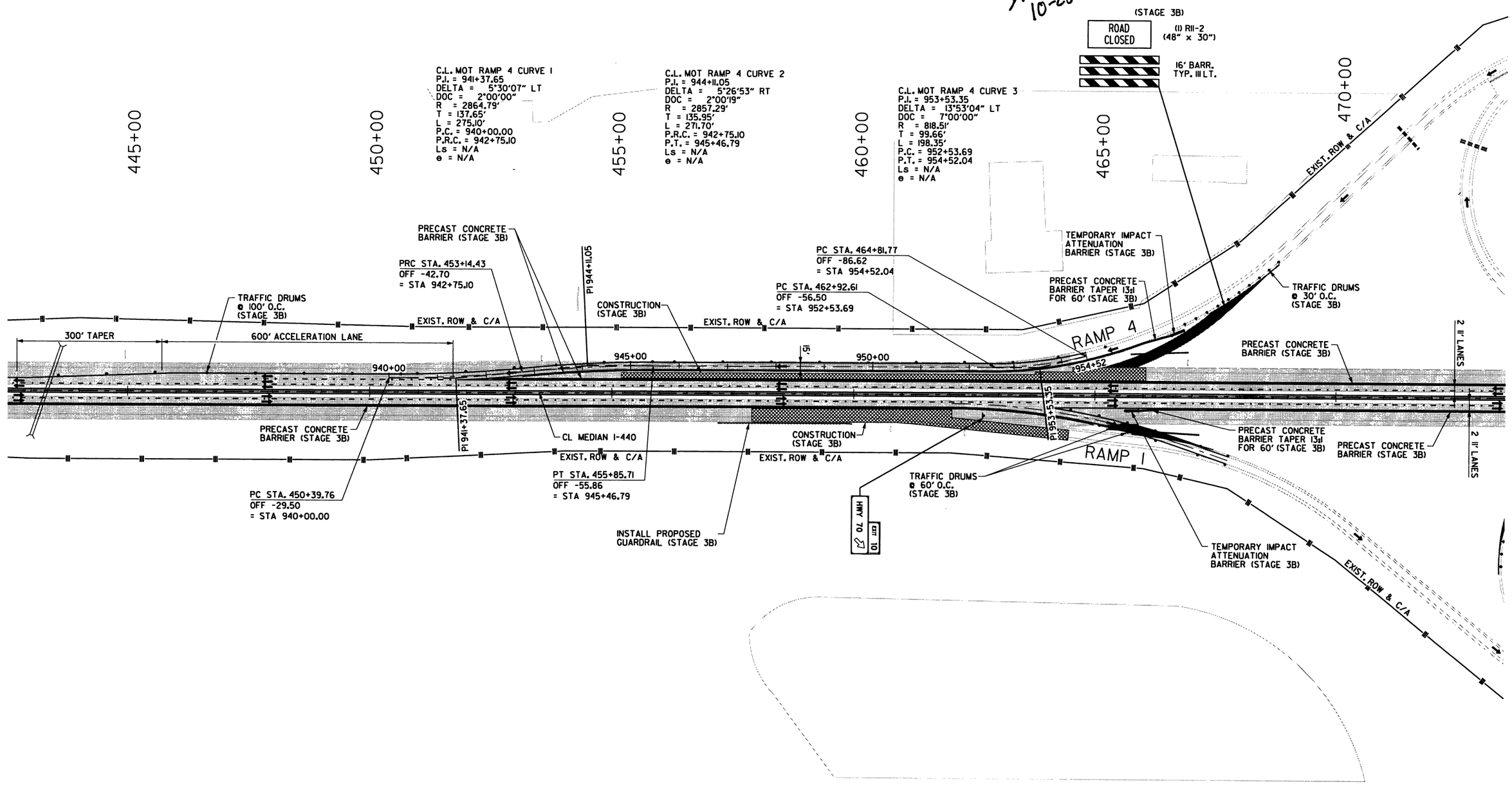
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12604
SHAHRIAR ADLI
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
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- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 3B

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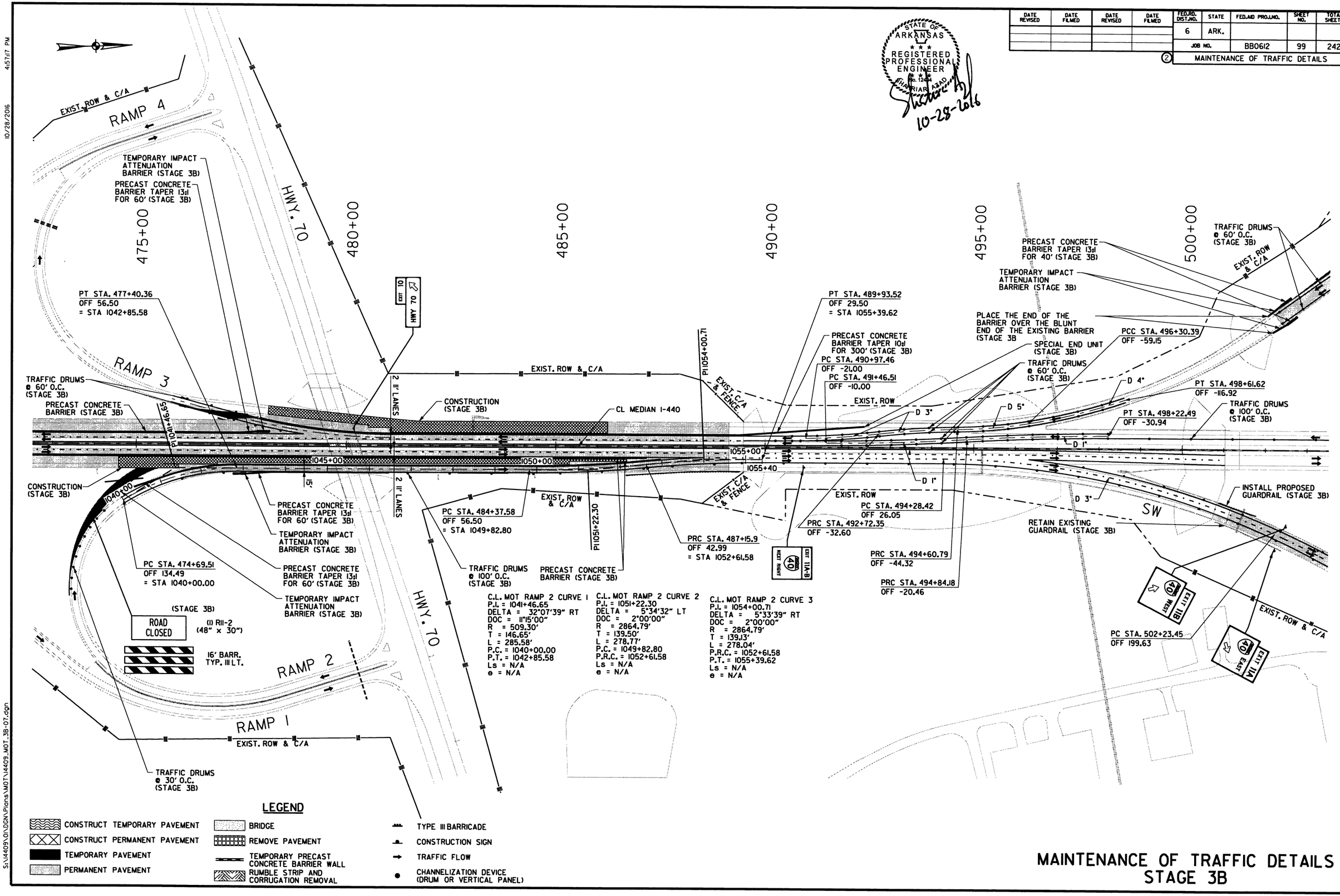
				JOB NO.		BB0612	99	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ASAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

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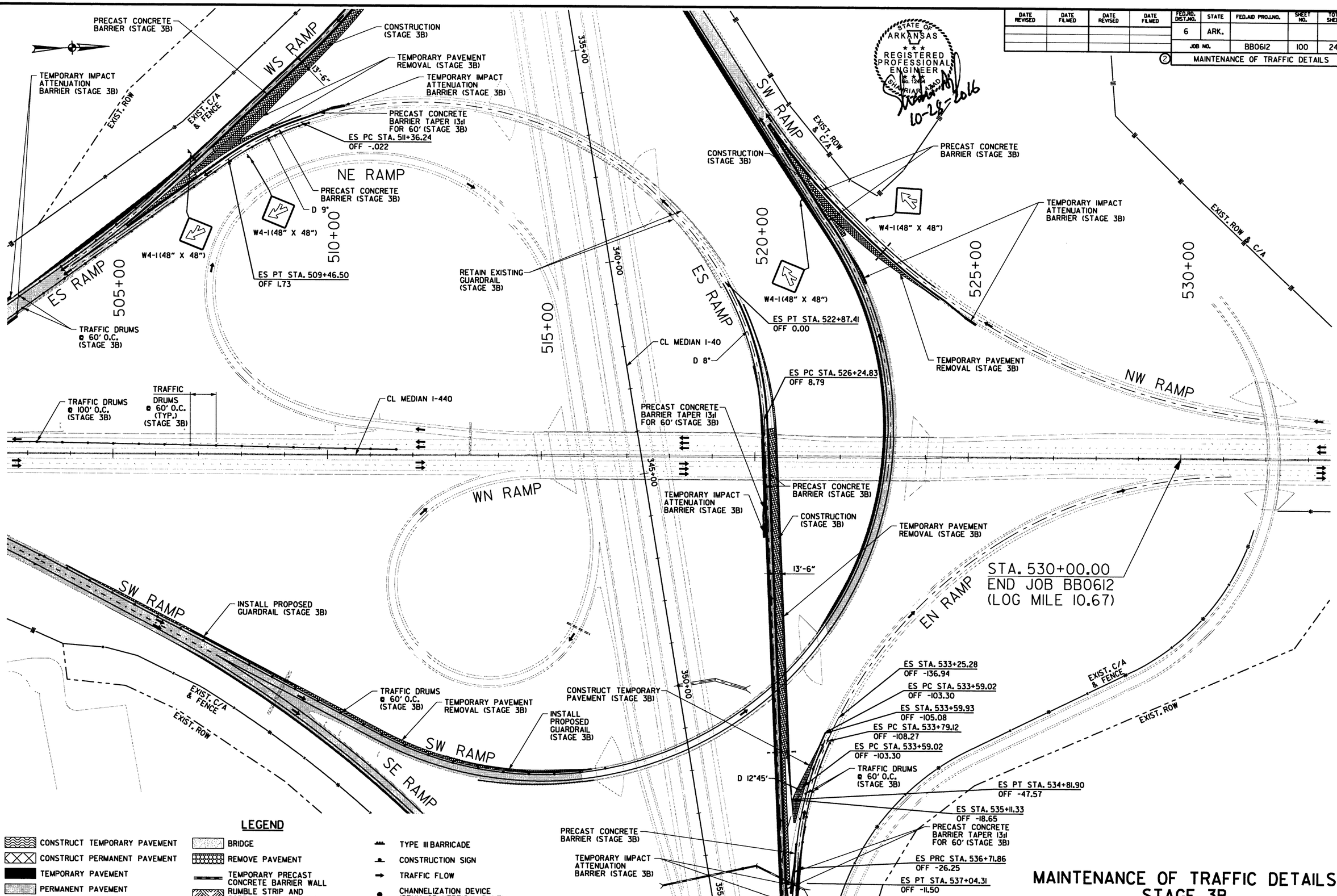
				6	ARK.			
				JOB NO.		BB0612	100	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHAHRIAR SHAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 3B

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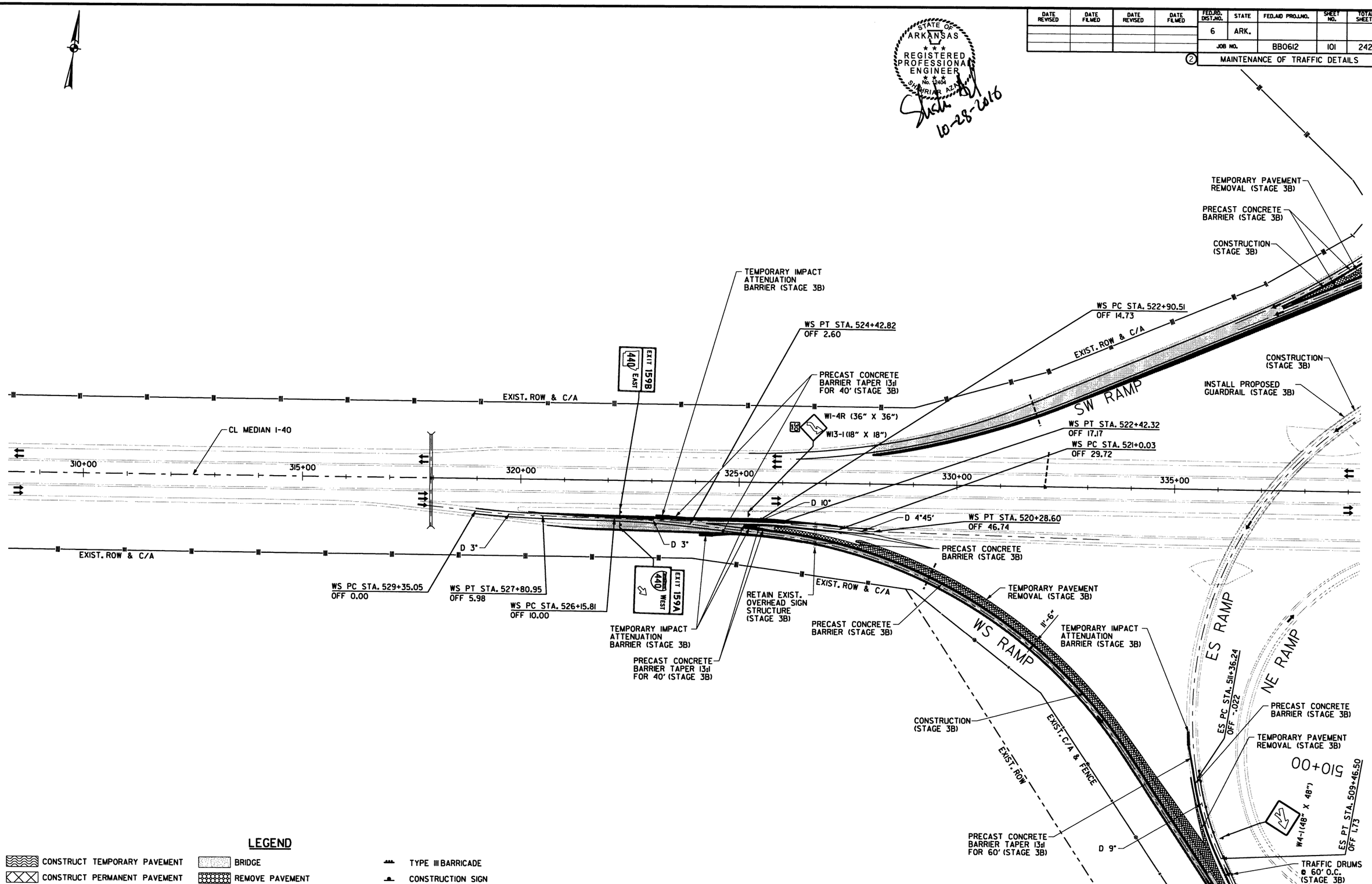
				JOB NO.		BB0612	101	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHERIAR AZIZI
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
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MAINTENANCE OF TRAFFIC DETAILS STAGE 3B

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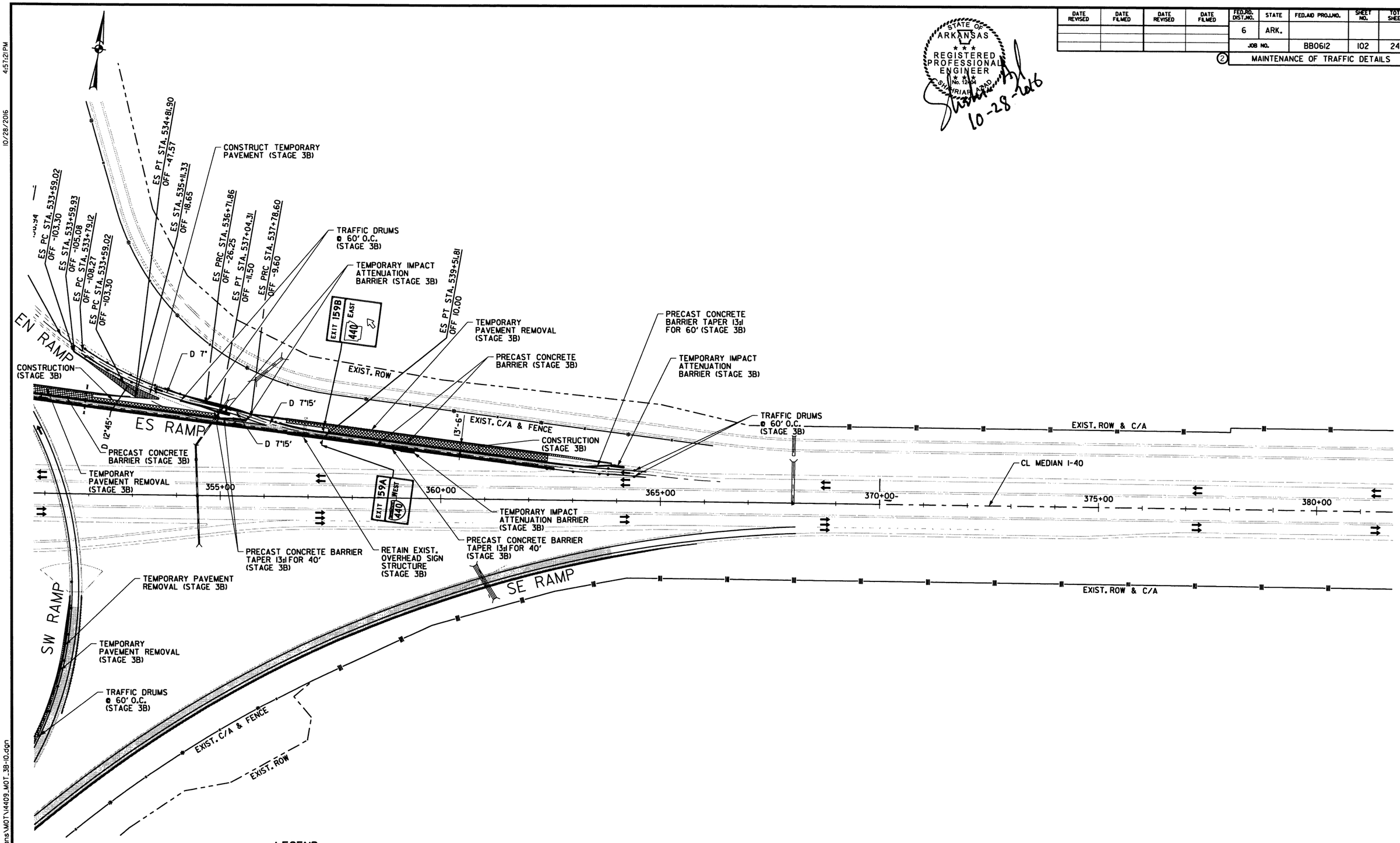
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	102	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12464
CHAD VRIAR
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
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- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
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MAINTENANCE OF TRAFFIC DETAILS STAGE 3B

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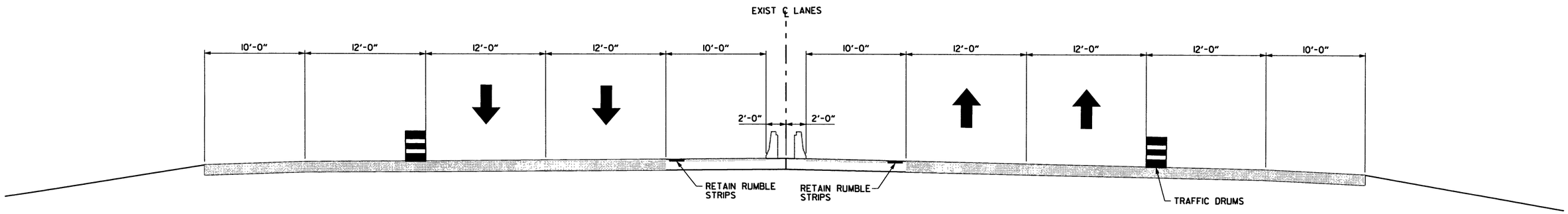
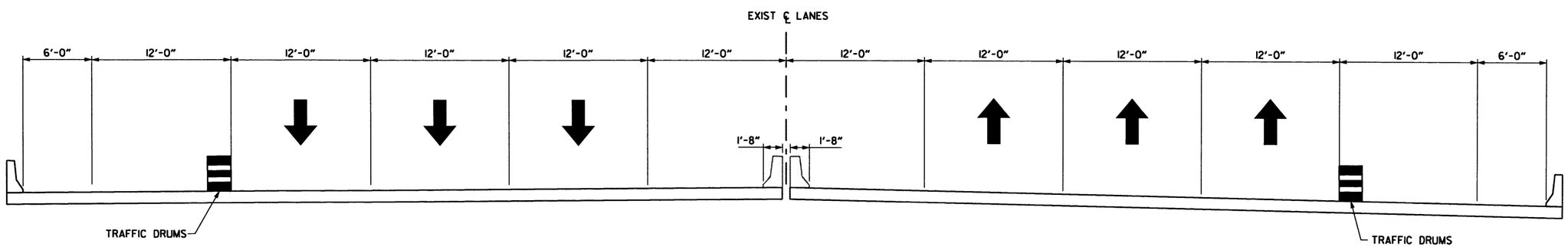
(2) MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 4A & 4B
STA. 312+65.00 TO STA. 343+29.36
STA. 347+36.06 TO STA. 392+92.70
STA. 396+25.14 TO STA. 413+35.00
STA. 436+45.00 TO STA. 489+13.80



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 4A & 4B
BRIDGE NO. 5706 A & B
STA. 343+29.36 TO STA. 347+36.06

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR SHAHIDI

10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

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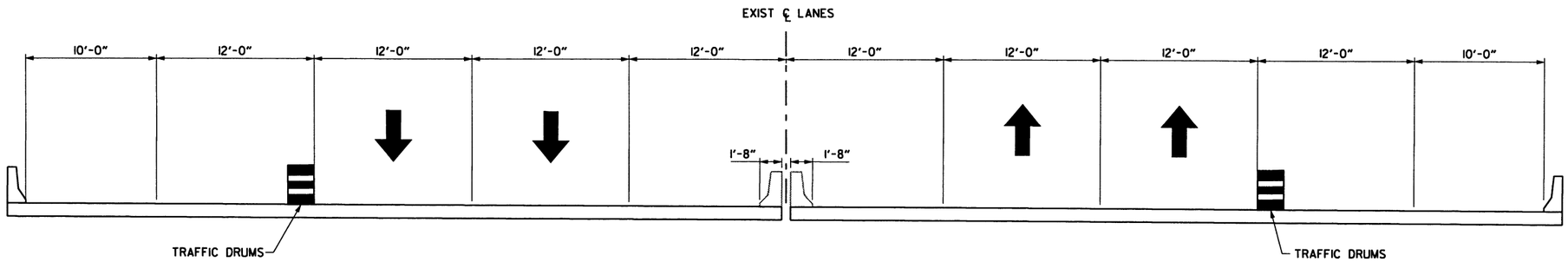
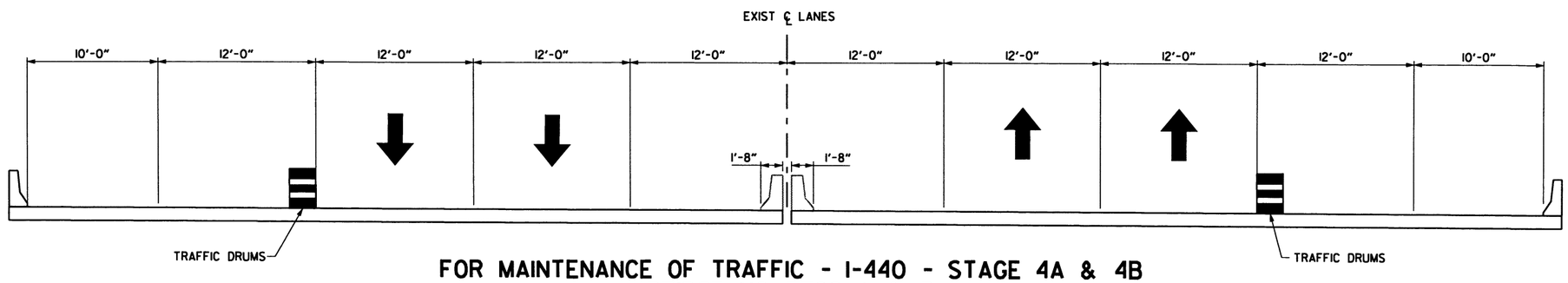
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	104	242

(2) MAINTENANCE OF TRAFFIC DETAILS



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 4A & 4B
BRIDGE NO. 5707 A & B
STA. 392+92.70 TO STA. 396+25.14



FOR MAINTENANCE OF TRAFFIC - I-440 - STAGE 4A & 4B
BRIDGE NO. 5708 A & B
STA. 413+35.00 TO STA. 436+45.00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12444
SHAHRIAR AZAD
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

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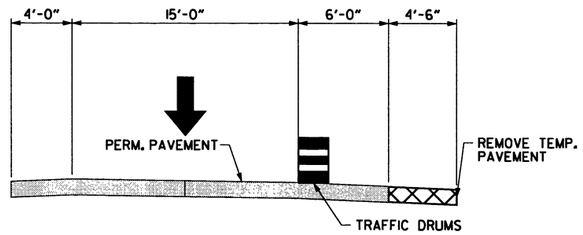
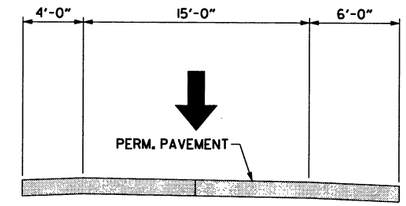
				JOB NO.		BB0612	105	242

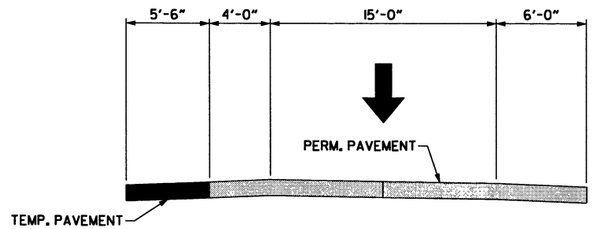
(2) MAINTENANCE OF TRAFFIC DETAILS



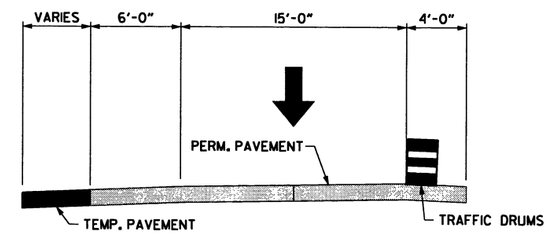
SE RAMP - I-440 - STAGE 4A



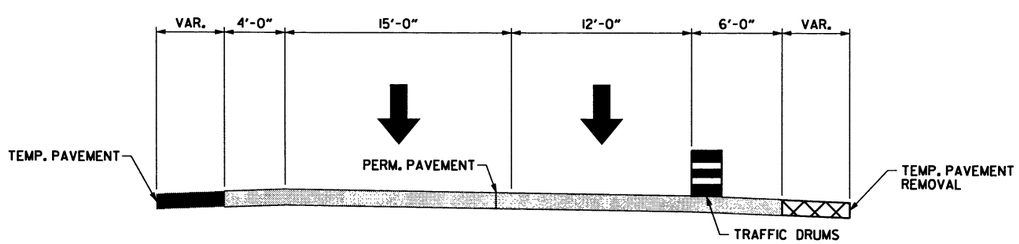
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 4A



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 4A



WS RAMP - I-440 ONE LANE - STAGE 4A



WS TWO LANE RAMP - STAGE 4A

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR NAZIAD
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

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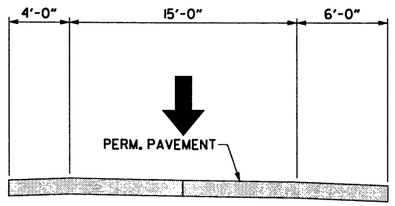
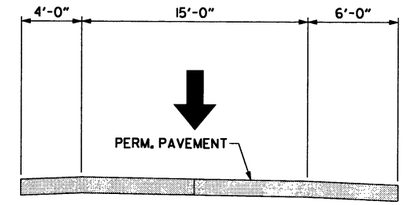
				6	ARK.			
				JOB NO.		BB0612	106	242

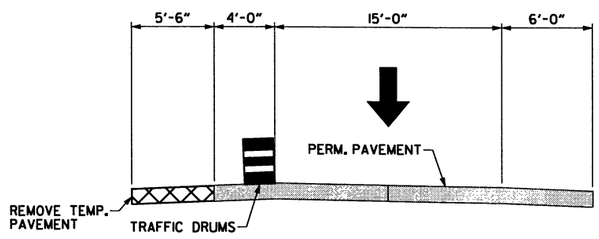
2 MAINTENANCE OF TRAFFIC DETAILS



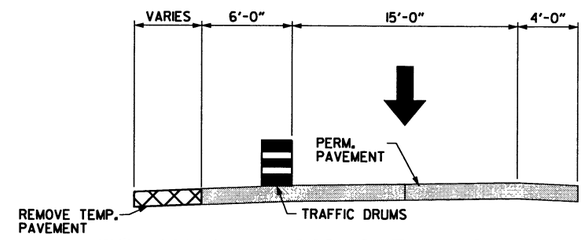
SE RAMP - I-440 - STAGE 4B



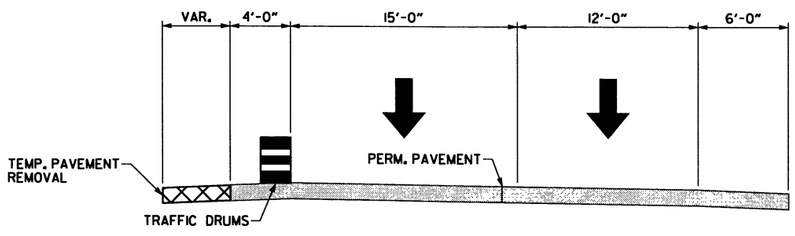
SW RAMP AT SOUTH APPROACH SLAB - I-440 - STAGE 4B



ES RAMP AT NORTH APPROACH SLAB - I-440 - STAGE 4B



WS RAMP - I-440 ONE LANE - STAGE 4B



WS TWO LANE RAMP - STAGE 4B

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 10404
10-28-2016

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4

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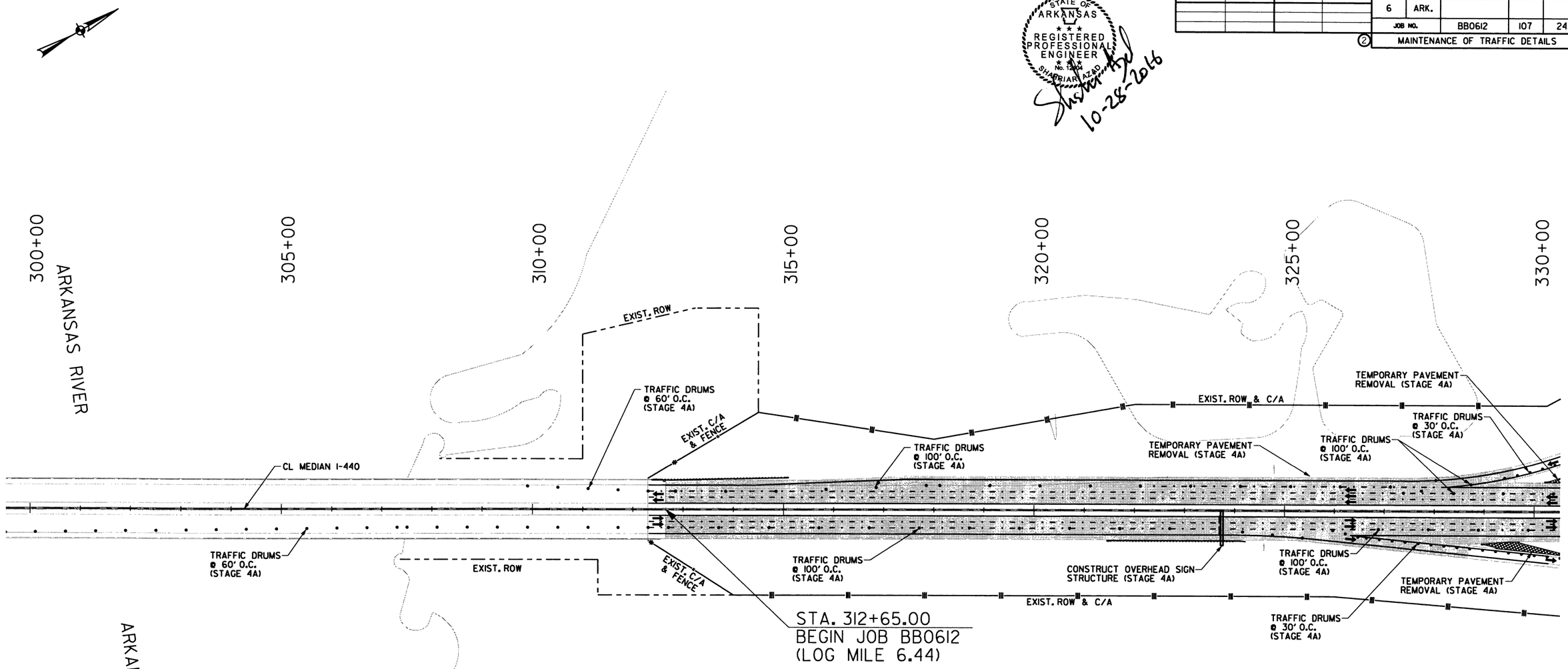
				6	ARK.			
				JOB NO.		BB0612	107	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



STAGE 4A

1. PLACE ADVANCE WARNING SIGNS AND DEVICES AT THE BEGINNING OF THE NORTHBOUND AND SOUTHBOUND LANE CLOSURES.
2. PLACE TRAFFIC DRUMS ALONG INSIDE OF OUTSIDE LANES ALONG THE LENGTH OF THE PROJECT IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS.
3. PLACE CONSTRUCTION PAVEMENT MARKINGS ON RAMPS AT I-40/I-440 INTERCHANGE.
4. MOVE RAMP TRAFFIC TO TEMPORARY RAMPS. AT I-40/I-440 INTERCHANGE.
5. REMOVE TEMPORARY PAVEMENT.
6. INSTALL PROPOSED GUARDRAILS.
7. INSTALL NEW OVERHEAD SIGNS.
8. INSTALL RUMBLE STRIPS.
9. INSTALL PERMANENT PAVEMENT MARKINGS.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4A

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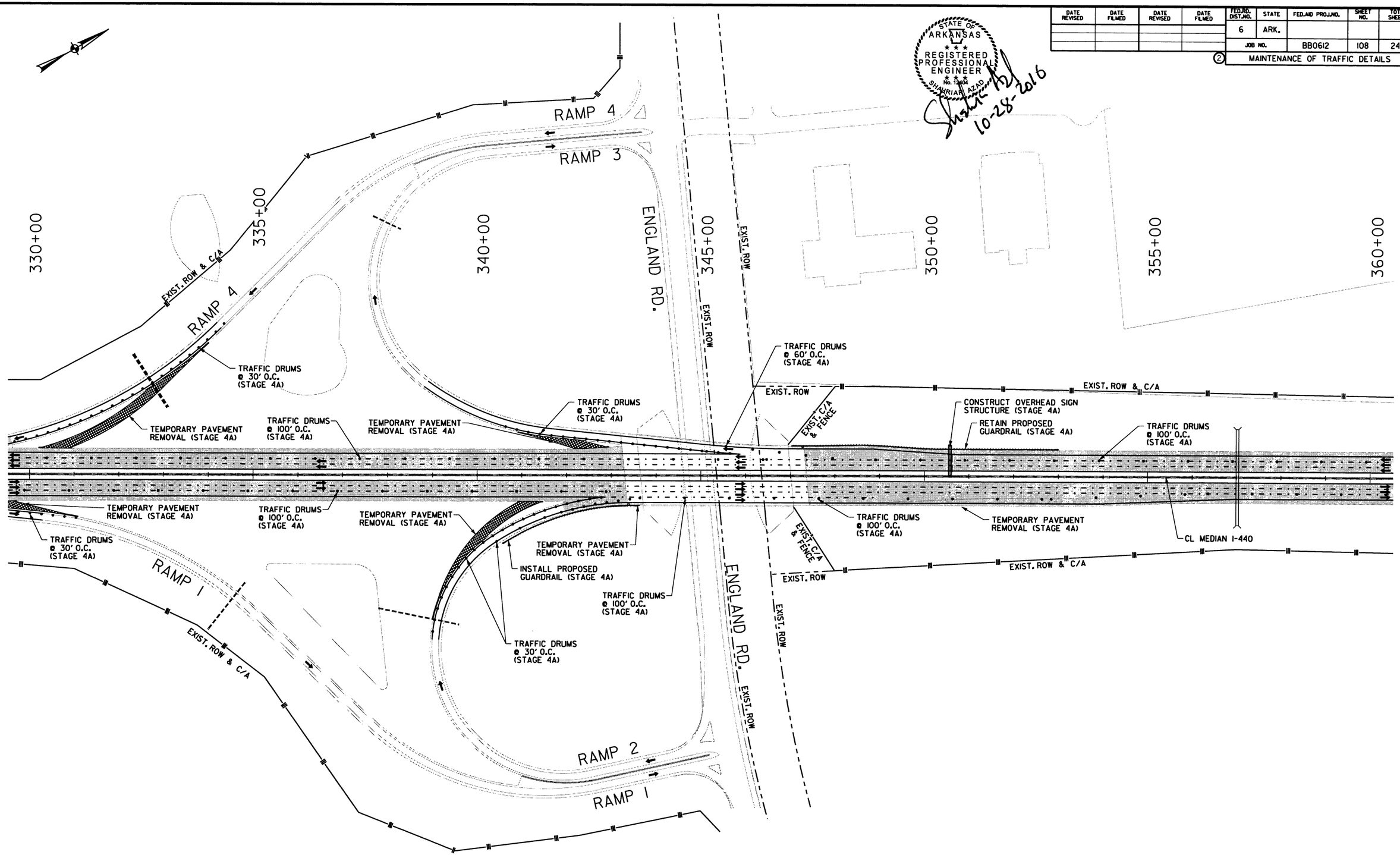
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	108	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4A

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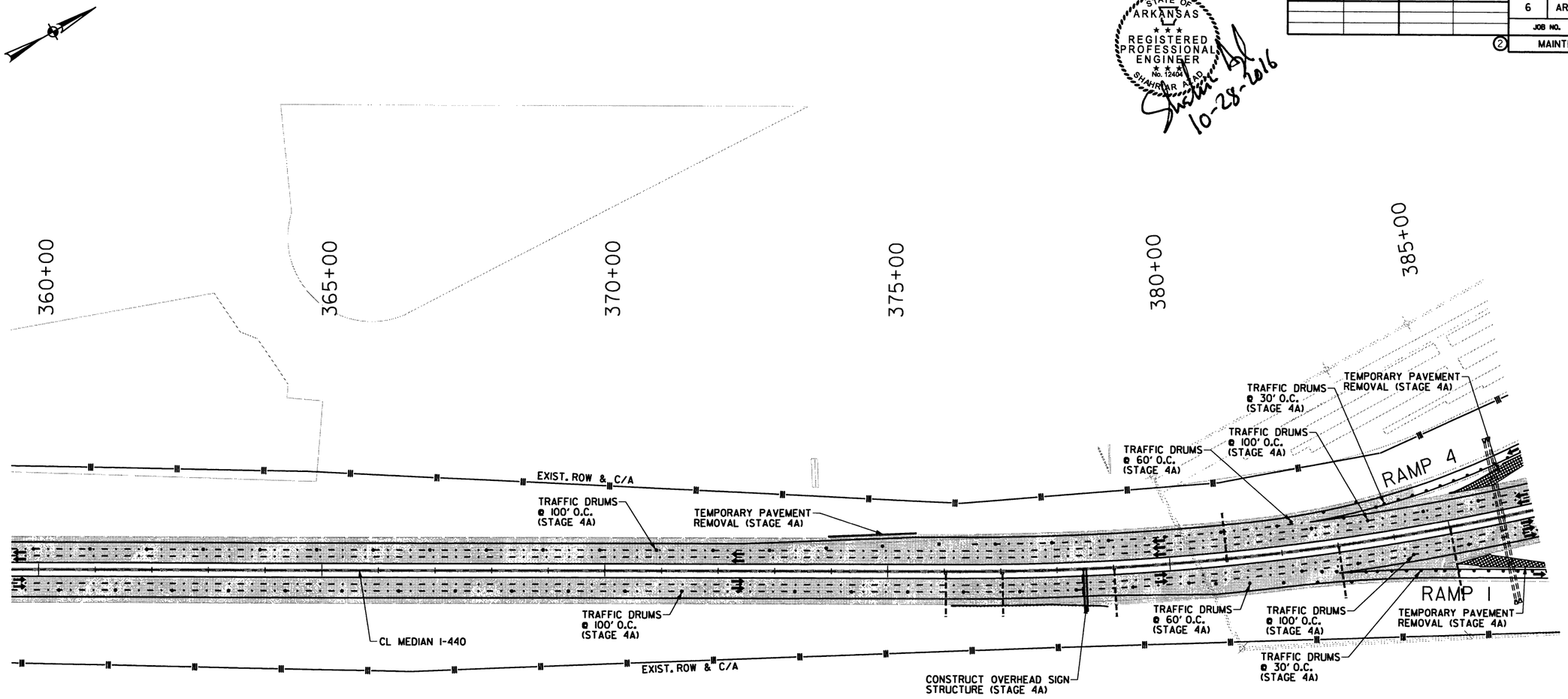
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ALAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4A

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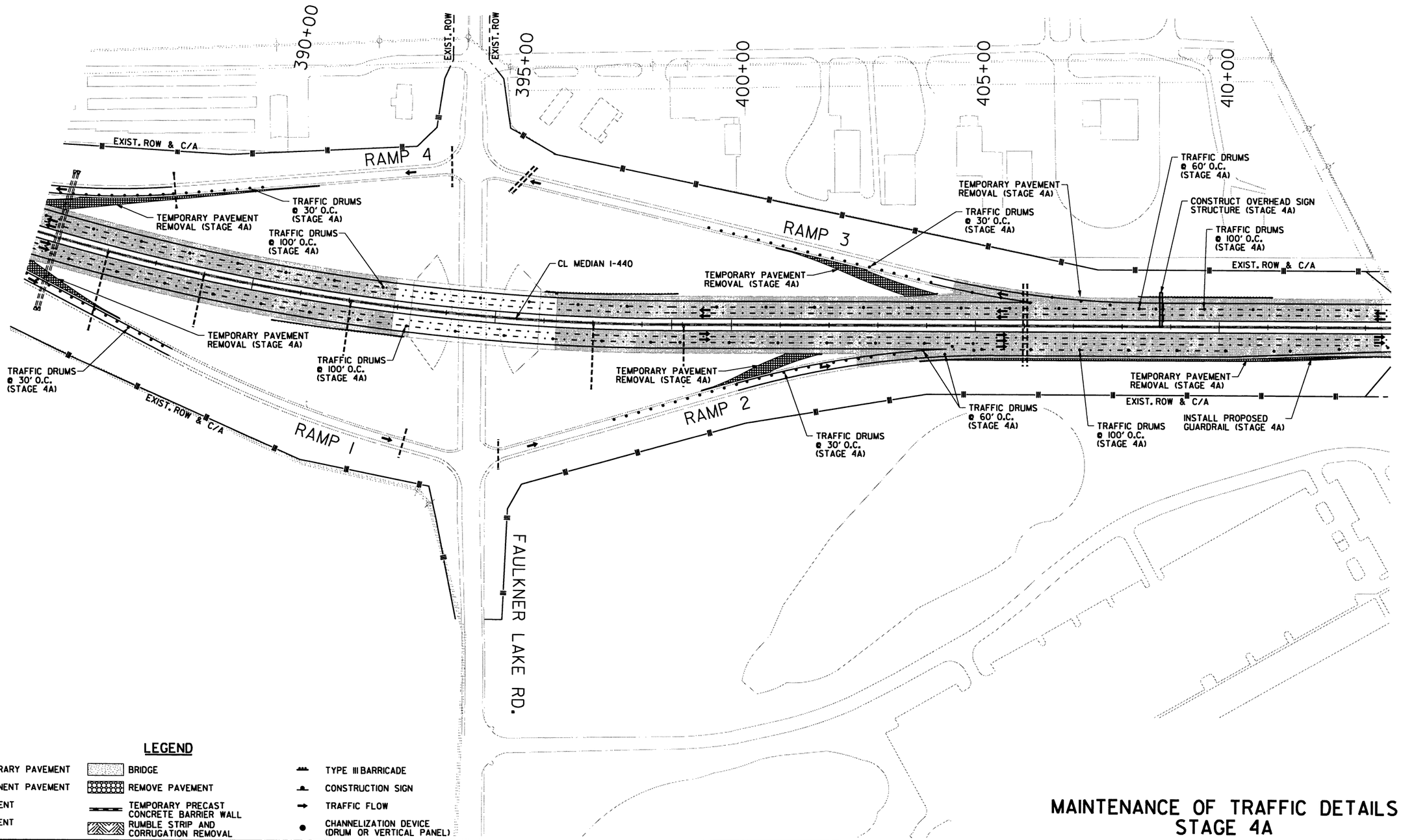
② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12464
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS STAGE 4A

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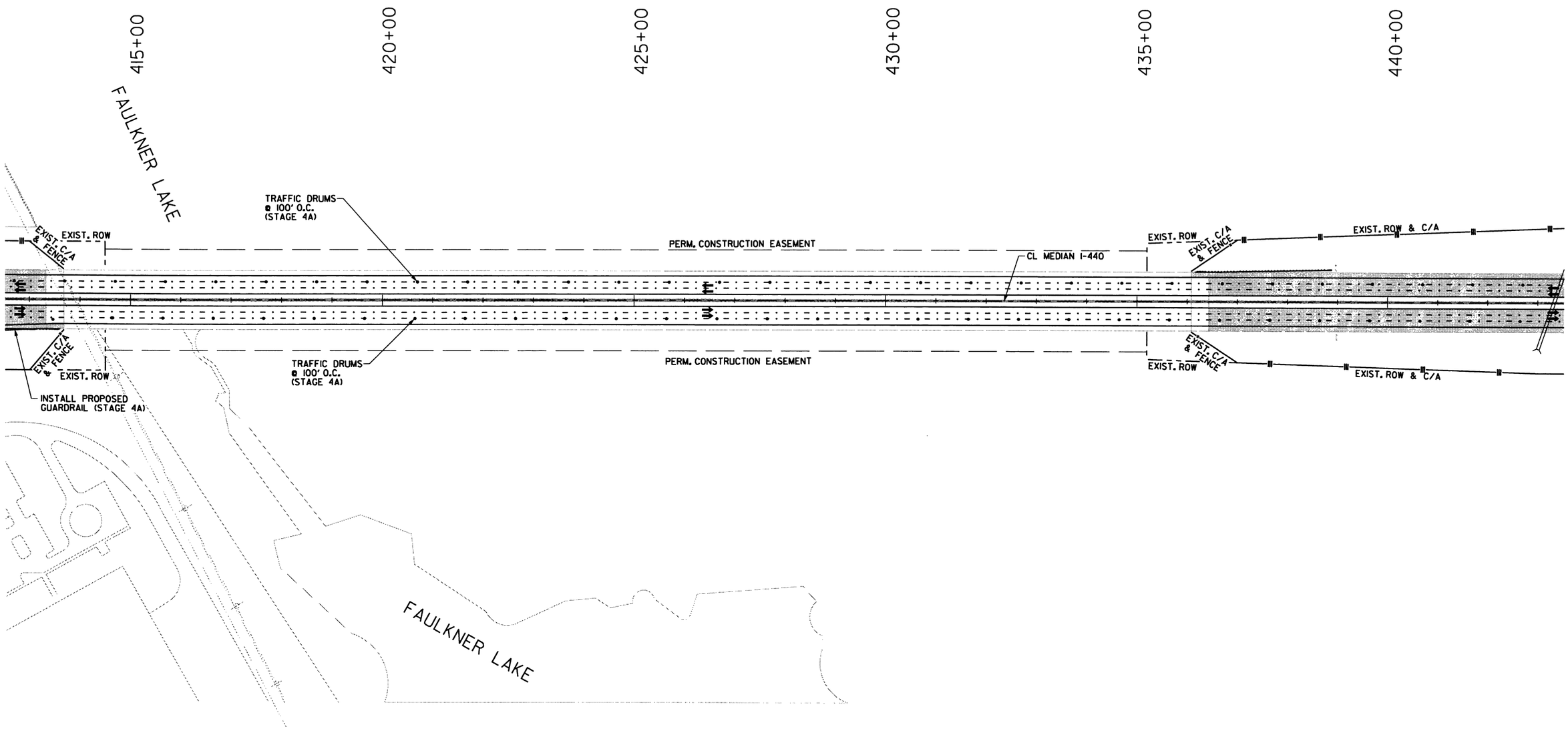
				JOB NO.		BB0612	III	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4A

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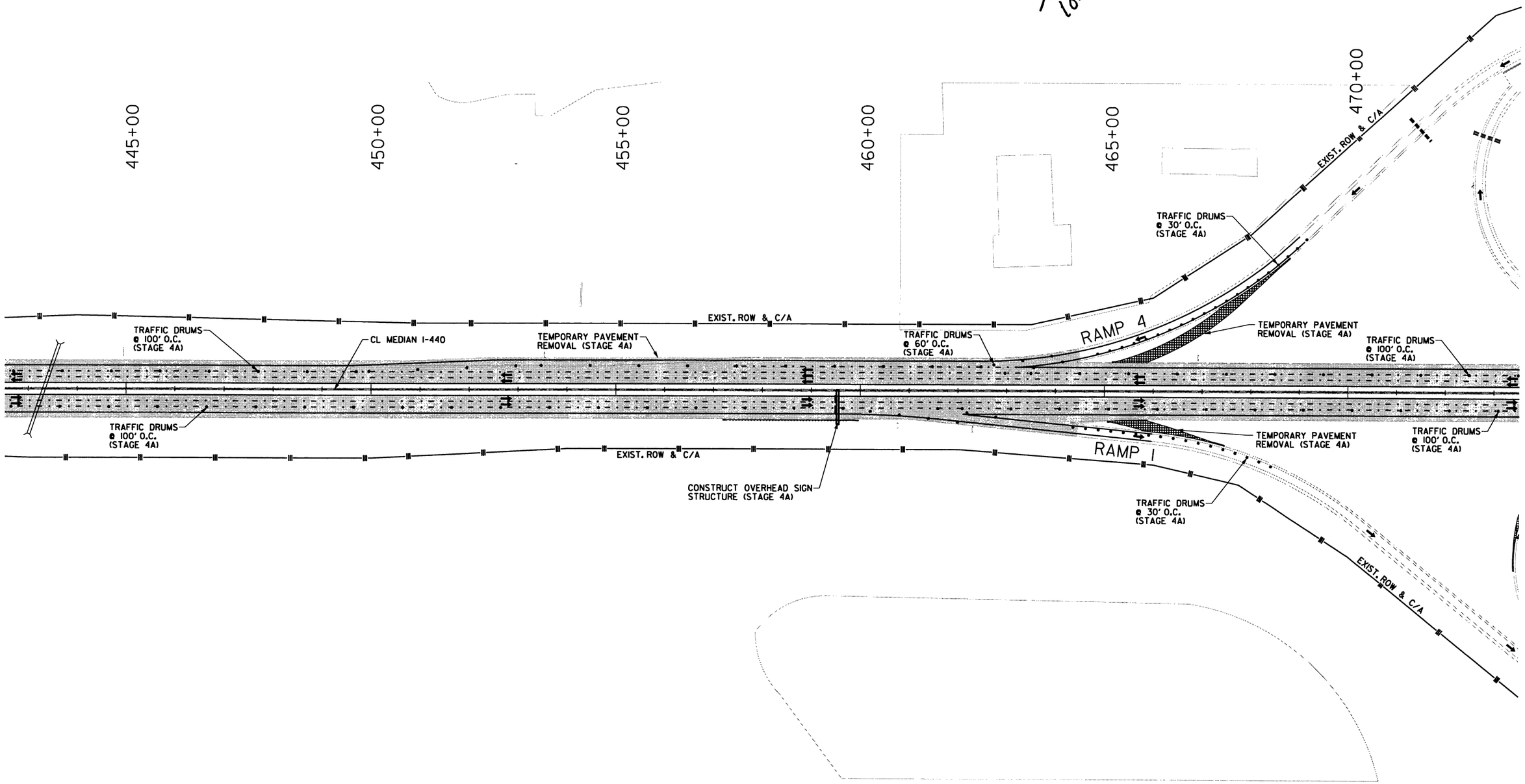
(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4A

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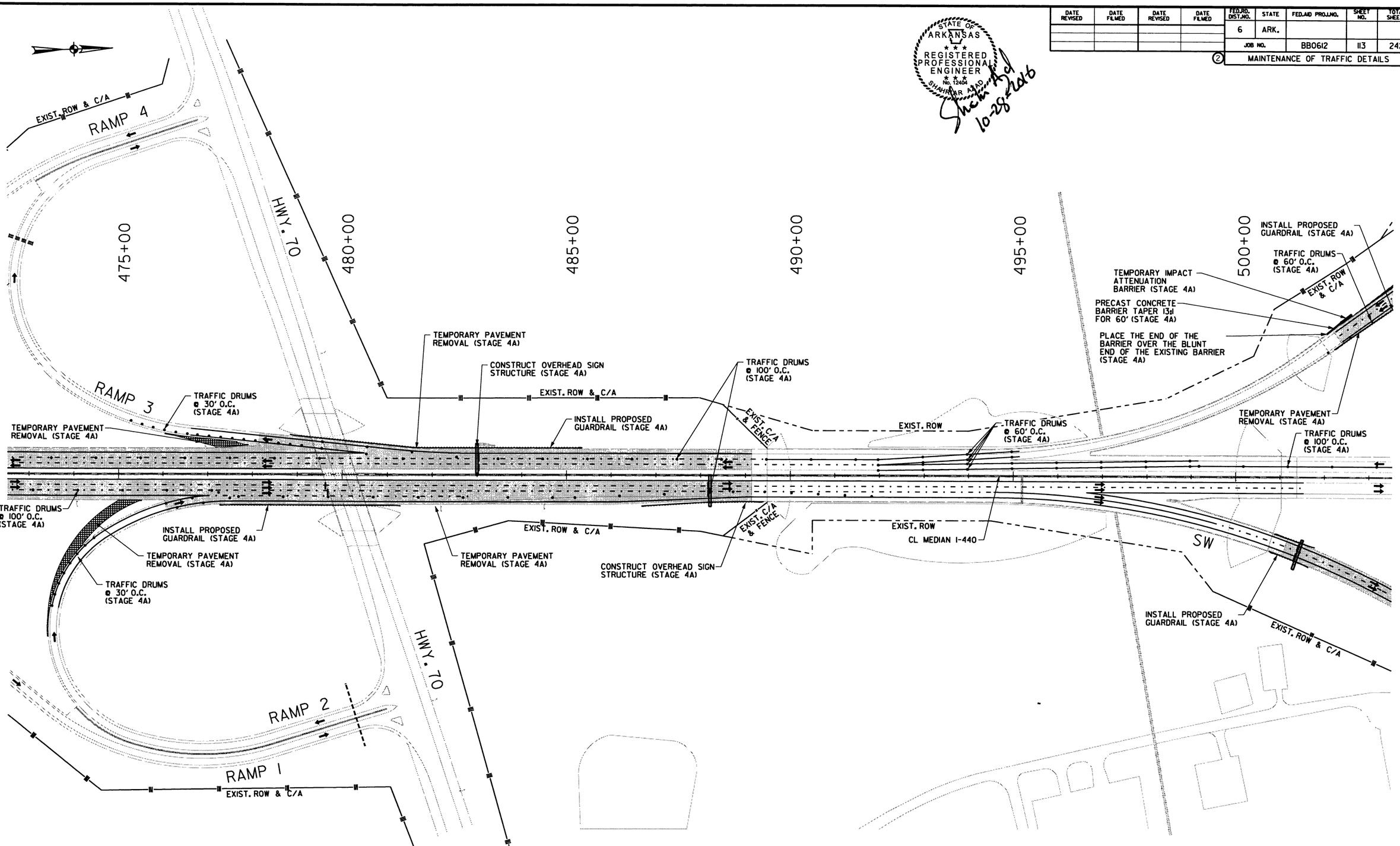
				JOB NO.		BB0612	113	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12464
SHAHRIAR AJAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 4A

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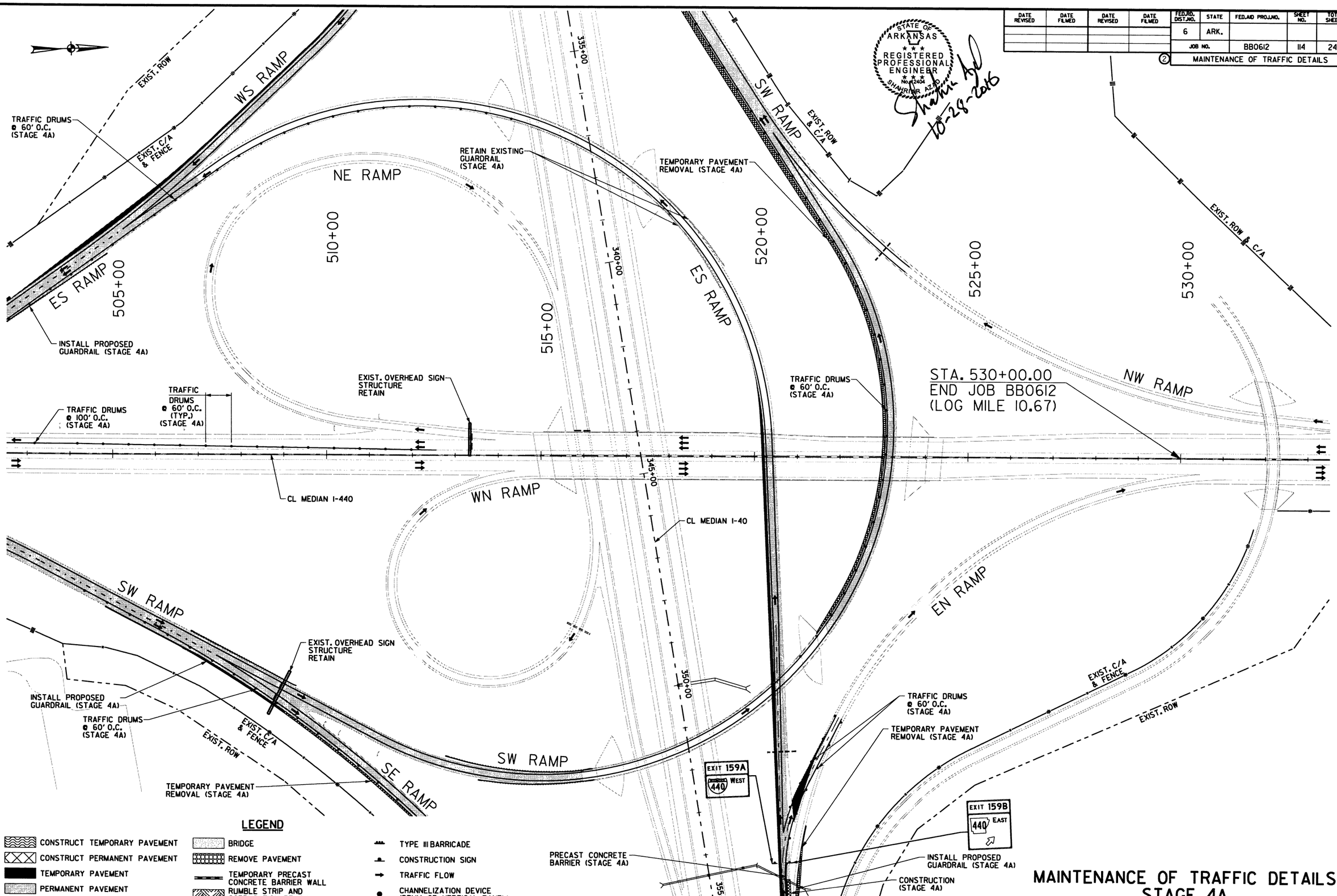
				JOB NO.		BB0612	114	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



MAINTENANCE OF TRAFFIC DETAILS
STAGE 4A

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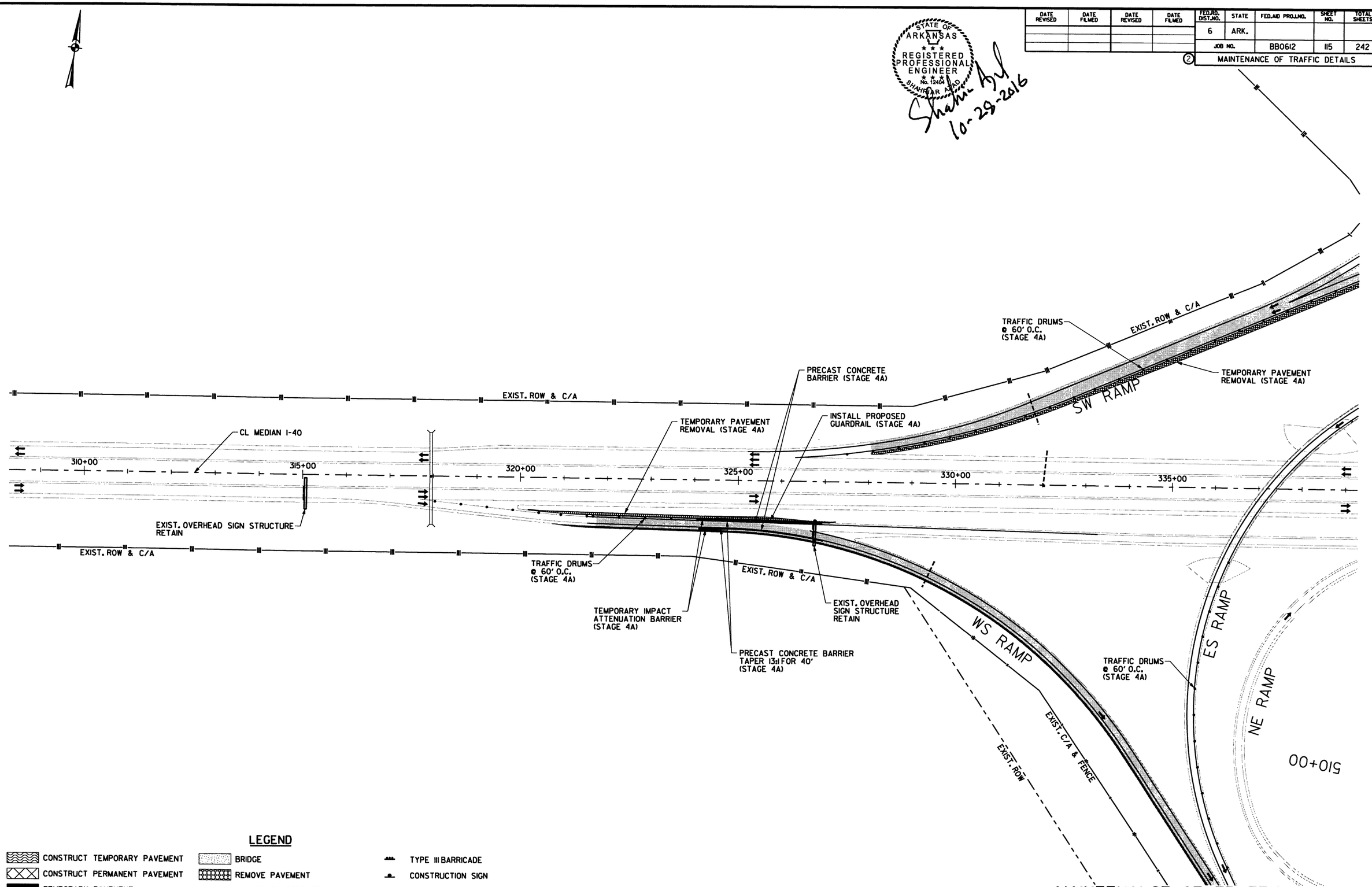
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	115	242

2 MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHID R. AHMAD

Shahid Ahmad
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4A

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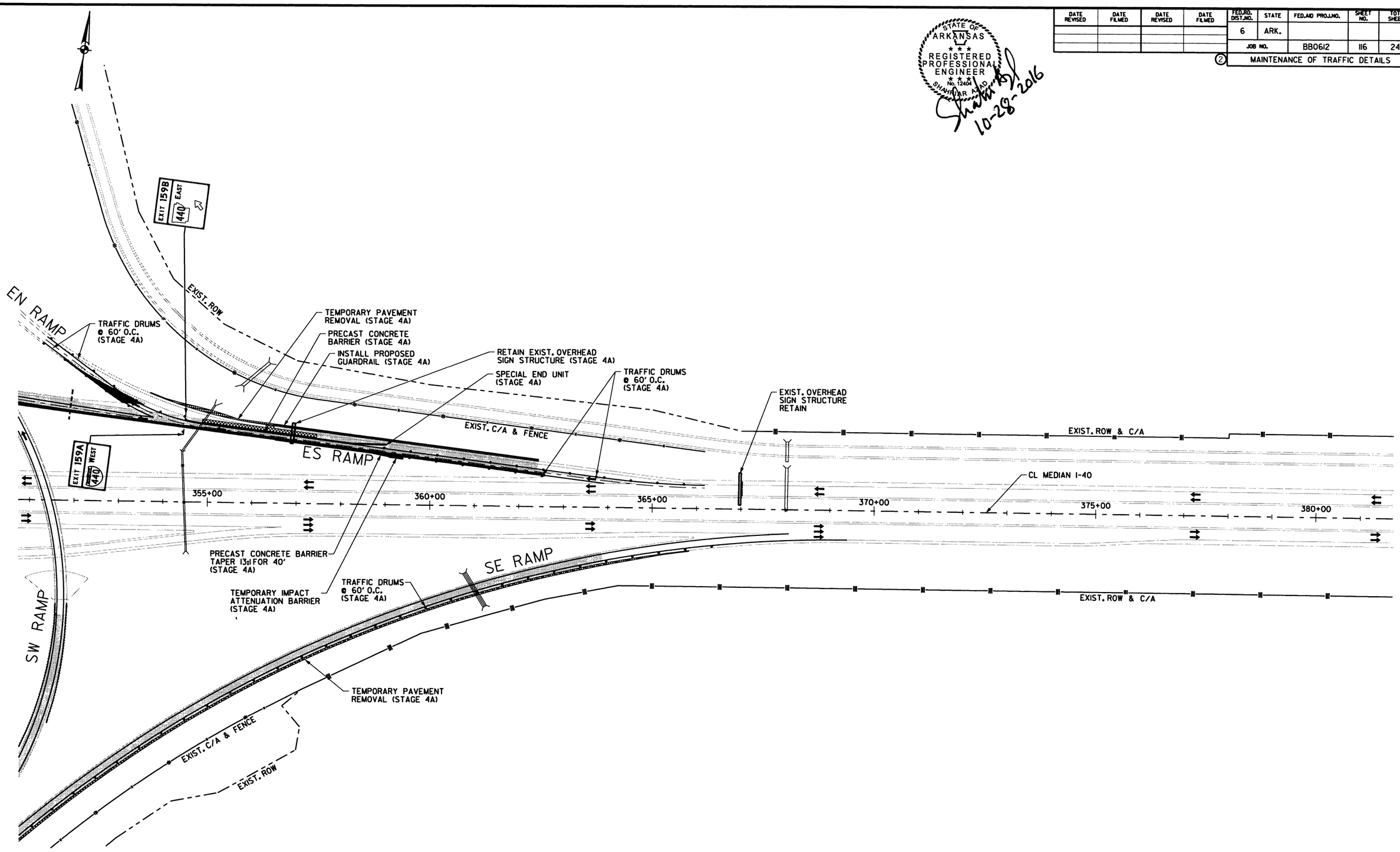
				JOB NO.		BB0612	116	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHNAWAR AHMAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
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- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS
STAGE 4A

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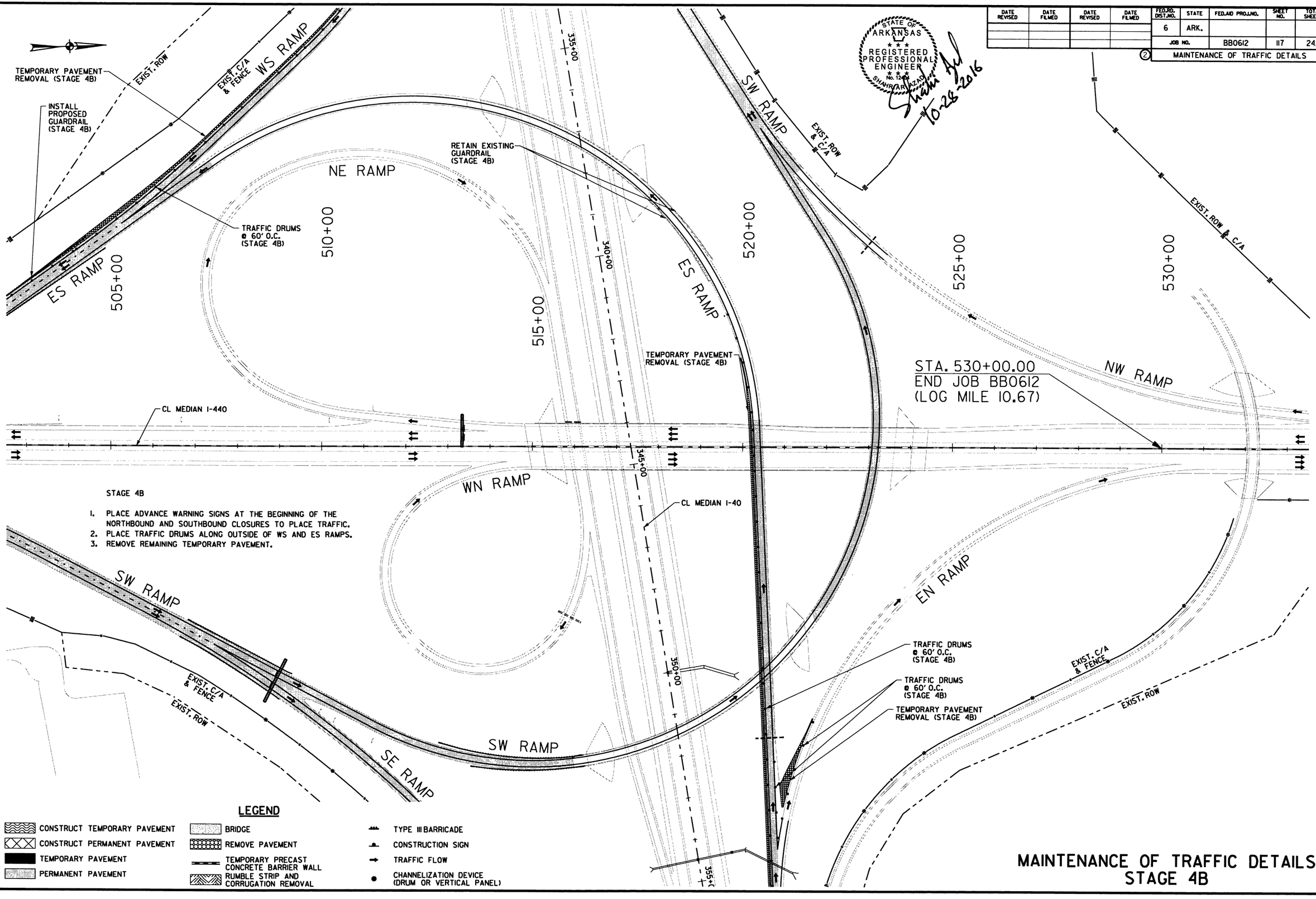
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	117	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



STAGE 4B

1. PLACE ADVANCE WARNING SIGNS AT THE BEGINNING OF THE NORTHBOUND AND SOUTHBOUND CLOSURES TO PLACE TRAFFIC.
2. PLACE TRAFFIC DRUMS ALONG OUTSIDE OF WS AND ES RAMPS.
3. REMOVE REMAINING TEMPORARY PAVEMENT.

LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4B

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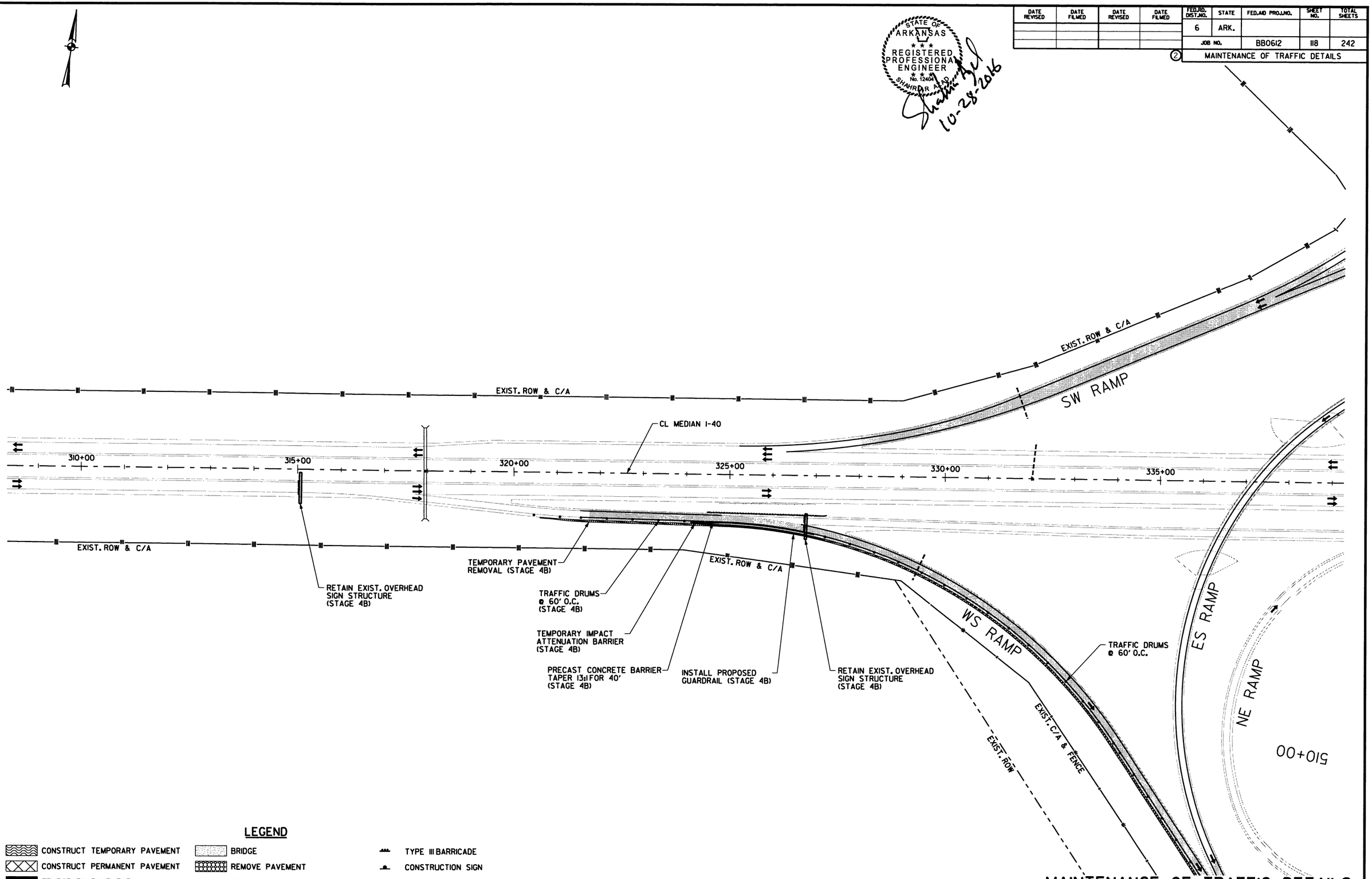
				6	ARK.			
				JOB NO.		BB0612	118	242

② MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ATAD
10-28-2016



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4B

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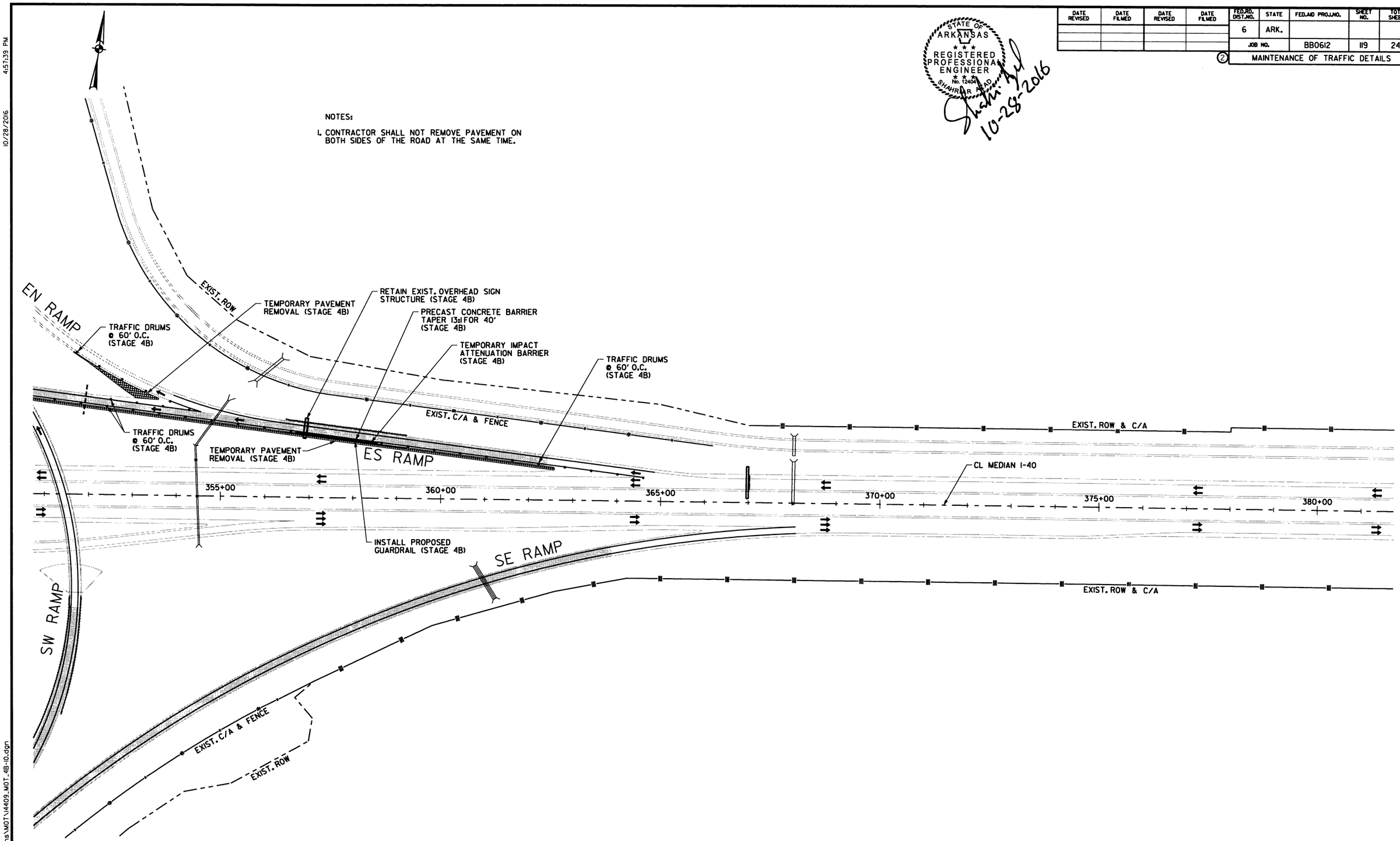
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	119	242

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL
10-28-2016

NOTES:

1. CONTRACTOR SHALL NOT REMOVE PAVEMENT ON BOTH SIDES OF THE ROAD AT THE SAME TIME.



LEGEND

- CONSTRUCT TEMPORARY PAVEMENT
- CONSTRUCT PERMANENT PAVEMENT
- TEMPORARY PAVEMENT
- PERMANENT PAVEMENT
- BRIDGE
- REMOVE PAVEMENT
- TEMPORARY PRECAST CONCRETE BARRIER WALL
- RUMBLE STRIP AND CORRUGATION REMOVAL
- TYPE III BARRICADE
- CONSTRUCTION SIGN
- TRAFFIC FLOW
- CHANNELIZATION DEVICE (DRUM OR VERTICAL PANEL)

MAINTENANCE OF TRAFFIC DETAILS STAGE 4B

10/28/2016 4:57:39 PM

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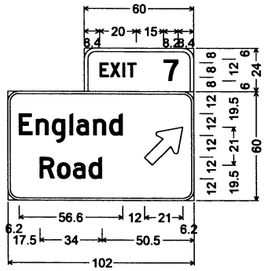
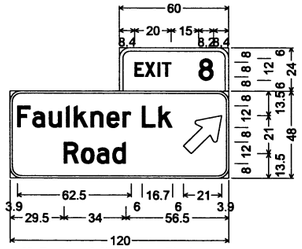
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	120	242

② MAINTENANCE OF TRAFFIC DETAILS

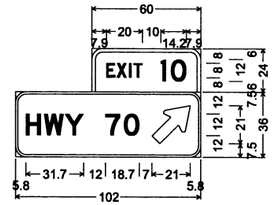
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHARMIN R. KHAN 10-28-2016



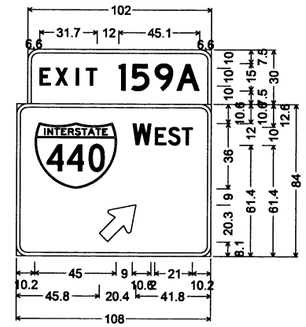
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [7] D 2K;
6.0" Radius, 1.3" Border, Black on Orange;
[England] D 2K;
[Road] D 2K;
Standard Arrow Custom 26.8" X 16.1" 45°;



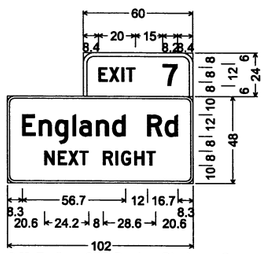
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [8] D 2K;
6.0" Radius, 1.3" Border, Black on Orange;
[Faulkner] D 2K; [Lk] D 2K;
[Road] D 2K;
Standard Arrow Custom 26.8" X 16.1" 45°;



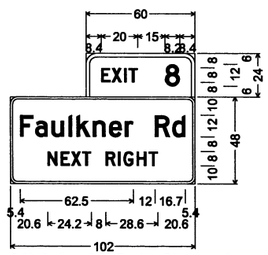
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [10] D 2K;
6.0" Radius, 1.3" Border, Black on Orange;
[HWY 70] D 2K;
Standard Arrow Custom 26.8" X 16.1" 45°;



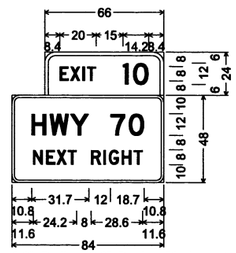
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[159A] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[W] D 2K; [EST] D 2K;
Standard Arrow Custom 25.5" X 17.1" 45°;



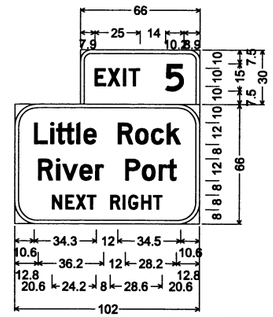
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [7] D 2K;
4.0" Radius, 1.3" Border, Black on Orange;
[England Rd] D 2K;
[NEXT RIGHT] D 2K;



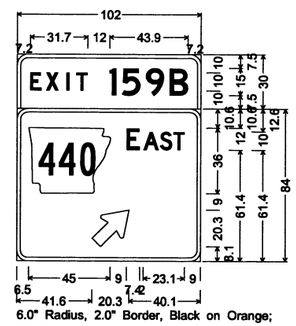
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [8] D 2K;
4.0" Radius, 1.3" Border, Black on Orange;
[Faulkner Rd] D 2K;
[NEXT RIGHT] D 2K;



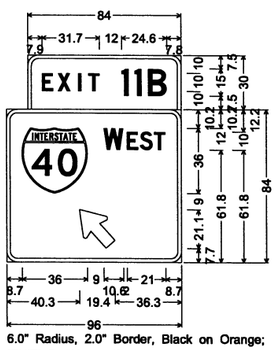
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K;
[10] D 2K;
4.0" Radius, 1.3" Border, Black on Orange;
[HWY 70] D 2K;
[NEXT RIGHT] D 2K;



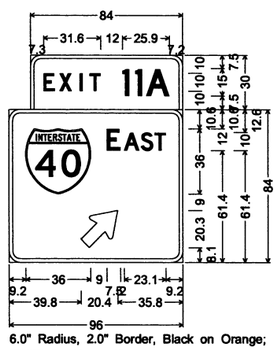
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K; [5] D 2K;
12.0" Radius, 2.0" Border, Black on Orange;
[Little Rock] D 2K;
[River Port] D 2K;
[NEXT RIGHT] D 2K;



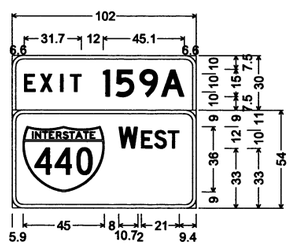
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[159B] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[E] D 2K; [AST] D 2K;
Standard Arrow Custom 25.5" X 17.1" 45°;



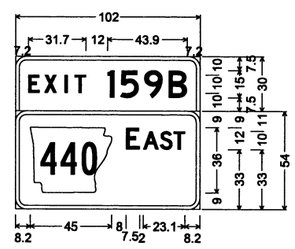
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[11B] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[W] D 2K; [EST] D 2K;
Standard Arrow Custom 25.5" X 17.1" 132°;



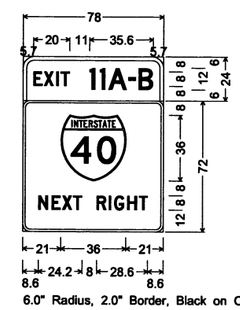
6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[11A] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[E] D 2K; [AST] D 2K;
Standard Arrow Custom 25.5" X 17.1" 45°;



6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[159A] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[W] D 2K; [EST] D 2K;



6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K specified length;
[159B] D 2K;
6.0" Radius, 2.0" Border, Black on Orange;
[E] D 2K; [AST] D 2K;



6.0" Radius, 2.0" Border, Black on Orange;
[EXIT] D 2K;
[11A-B] D 2K;
4.0" Radius, 1.3" Border, Black on Orange;
[NEXT RIGHT] D 2K;

MAINTENANCE OF TRAFFIC DETAILS
SIGN DETAILS

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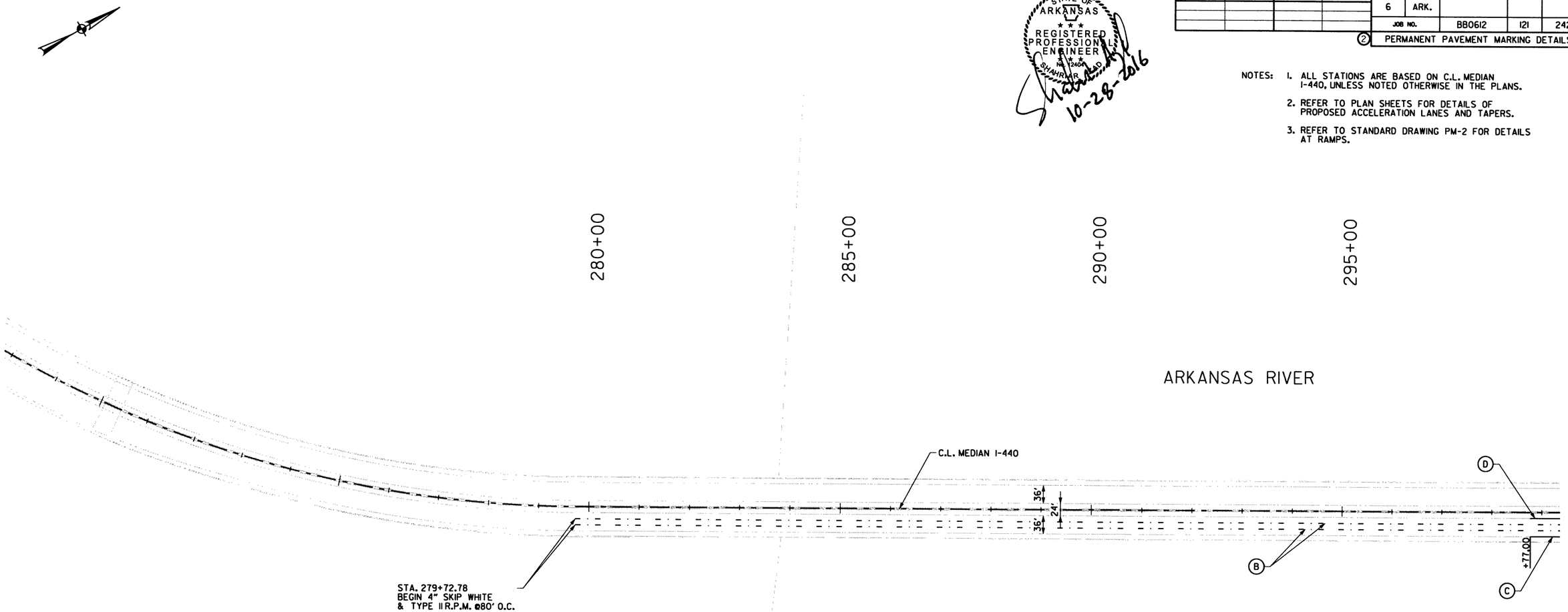
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	121	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR SHAHID
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



I-440 EB

LANES 4" SKIP WHITE FROM STA. 279+72.78 TO STA. 311+12.47 = 2 X 785 = 1570 LF
LT 4" SOLID YELLOW FROM STA. 298+77.00 TO STA. 501+53.05 = 20276 LF
RT 4" SOLID WHITE FROM STA. 298+77.00 TO STA. 323+86.82 = 2510 LF
TYPE II R.P.M. @ 80' O.C. FROM STA. 279+72.78 TO STA. 311+12.47 = 2 X 52 = 104 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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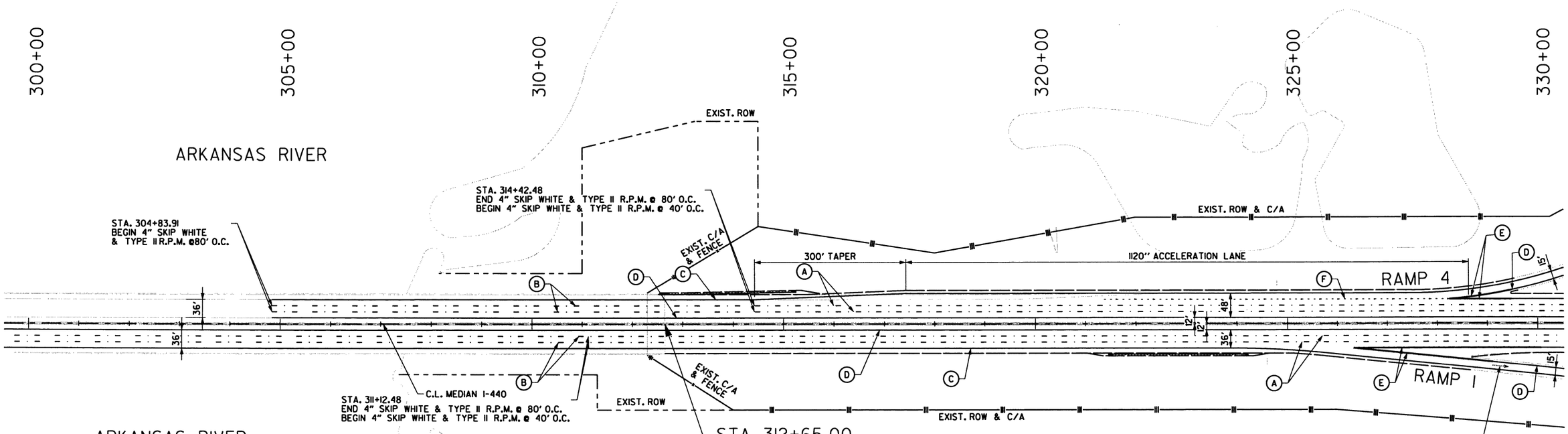
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	122	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ZIAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



RAMP 4 (WB ENTRANCE FROM ENGLAND ROAD)
LT 8" SOLID WHITE FROM STA. 328+24.68 TO STA. 329+49.68 = 125 LF
LT 4" SOLID YELLOW FROM STA. 329+48.06 TO STA. 334+30.57 = 557 LF
RT 4" SOLID WHITE FROM STA. 314+42.48 TO STA. 334+19.96 = 2052 LF
LT 8" DOTTED WHITE FROM STA. 321+33.68 TO STA. 328+24.68 = 173 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 321+33.68 TO STA. 328+24.68 = 38 EACH
TYPE II R.P.M. 26 EACH

RAMP 1 (EB EXIT TO ENGLAND ROAD)
LT 4" SOLID YELLOW FROM STA. 329+11.08 TO STA. 331+95.43 = 289 LF
LT 8" SOLID WHITE FROM STA. 326+32.47 TO STA. 329+11.08 = 280 LF
RT 4" SOLID WHITE FROM STA. 323+86.82 TO STA. 331+90.94 = 810 LF
TYPE II R.P.M. 86 EACH

I-440 WB

LT 4" SOLID YELLOW FROM STA. 304+83.91 TO STA. 512+55.92 = 20772 LF
RT 4" SOLID WHITE FROM STA. 304+83.91 TO STA. 314+42.48 = 959 LF
RT 8" SOLID WHITE FROM STA. 328+24.68 TO STA. 329+48.90 = 124 LF
LANES 4" SKIP WHITE FROM STA. 304+83.91 TO STA. 314+42.48 = 2 X 240 = 480 LF
LANES 4" SKIP WHITE FROM STA. 314+42.48 TO STA. 361+21.17 = 2 X 1170 = 2340 LF
TYPE II R.P.M. @ 80' O.C. FROM STA. 304+83.91 TO STA. 314+42.48 = 2 X 12 = 24 EACH
TYPE II R.P.M. @ 40' O.C. FROM STA. 314+42.48 TO STA. 361+21.17 = 2 X 117 = 234 EACH

I-440 EB

RT 8" SOLID WHITE FROM STA. 326+32.47 TO STA. 330+07.47 = 375 LF
RT 4" SOLID WHITE FROM STA. 330+07.47 TO STA. 341+90.95 = 1183 LF
LANES 4" SKIP WHITE FROM STA. 311+12.47 TO STA. 356+91.55 = 2 X 1145 = 2290 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 311+12.47 TO STA. 356+91.55 = 2 X 114 = 228 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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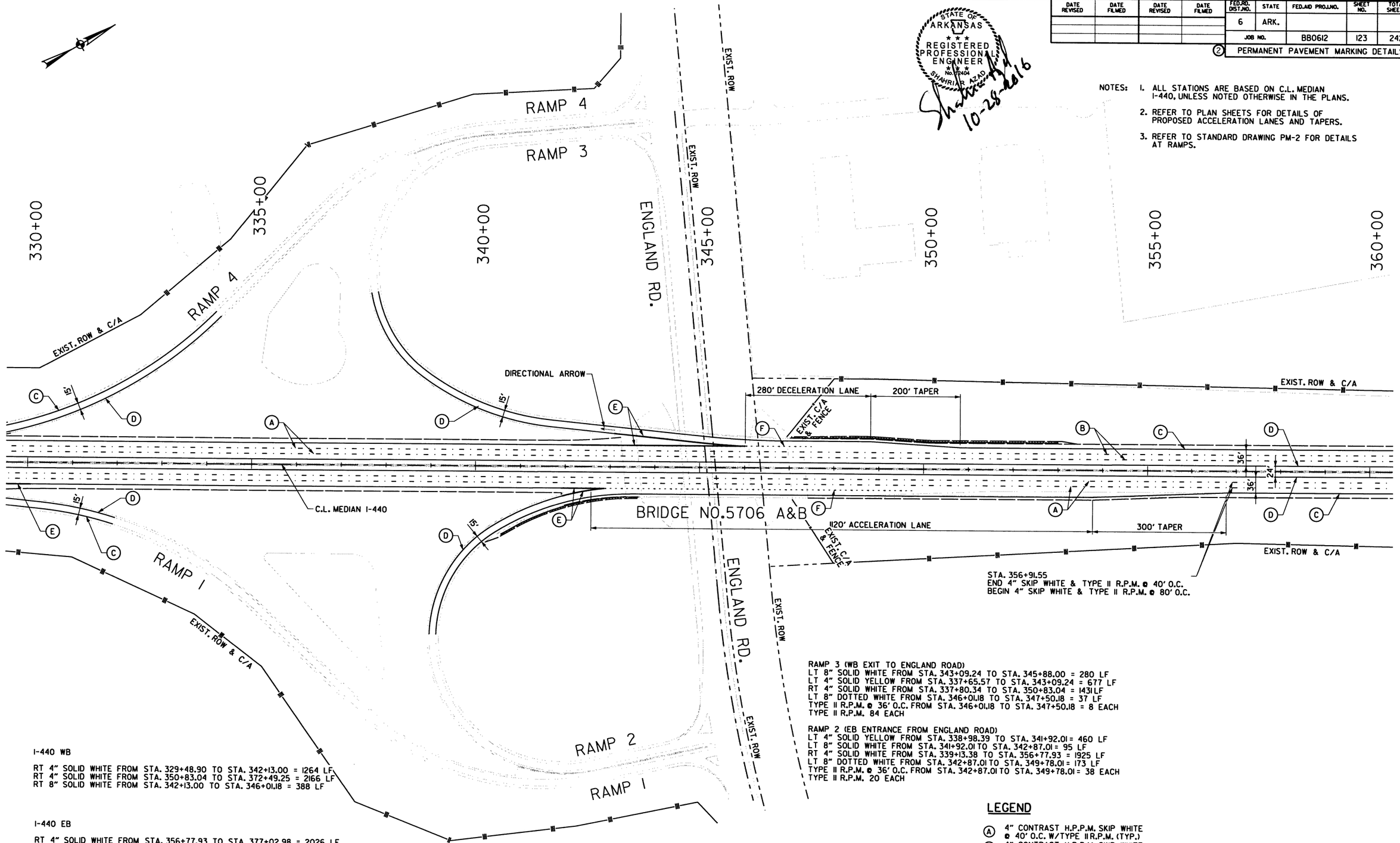
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	123	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



RAMP 3 (WB EXIT TO ENGLAND ROAD)
LT 8" SOLID WHITE FROM STA. 343+09.24 TO STA. 345+88.00 = 280 LF
LT 4" SOLID YELLOW FROM STA. 337+65.57 TO STA. 343+09.24 = 677 LF
RT 4" SOLID WHITE FROM STA. 337+80.34 TO STA. 350+83.04 = 1431 LF
LT 8" DOTTED WHITE FROM STA. 346+01.18 TO STA. 347+50.18 = 37 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 346+01.18 TO STA. 347+50.18 = 8 EACH
TYPE II R.P.M. 84 EACH

RAMP 2 (EB ENTRANCE FROM ENGLAND ROAD)
LT 4" SOLID YELLOW FROM STA. 338+98.39 TO STA. 341+92.01 = 460 LF
LT 8" SOLID WHITE FROM STA. 341+92.01 TO STA. 342+87.01 = 95 LF
RT 4" SOLID WHITE FROM STA. 339+13.38 TO STA. 356+77.93 = 1925 LF
LT 8" DOTTED WHITE FROM STA. 342+87.01 TO STA. 349+78.01 = 173 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 342+87.01 TO STA. 349+78.01 = 38 EACH
TYPE II R.P.M. 20 EACH

I-440 WB

RT 4" SOLID WHITE FROM STA. 329+48.90 TO STA. 342+13.00 = 1264 LF
RT 4" SOLID WHITE FROM STA. 350+83.04 TO STA. 372+49.25 = 2166 LF
RT 8" SOLID WHITE FROM STA. 342+13.00 TO STA. 346+01.18 = 388 LF

I-440 EB

RT 4" SOLID WHITE FROM STA. 356+77.93 TO STA. 377+02.98 = 2026 LF
RT 8" SOLID WHITE FROM STA. 341+90.95 TO STA. 342+87.01 = 96 LF
LANES 4" SKIP WHITE FROM STA. 356+91.55 TO STA. 367+72.93 = 2 X 270 = 540 LF
TYPE II R.P.M. @ 80' O.C. FROM STA. 356+91.55 TO STA. 367+72.93 = 2 X 14 = 28 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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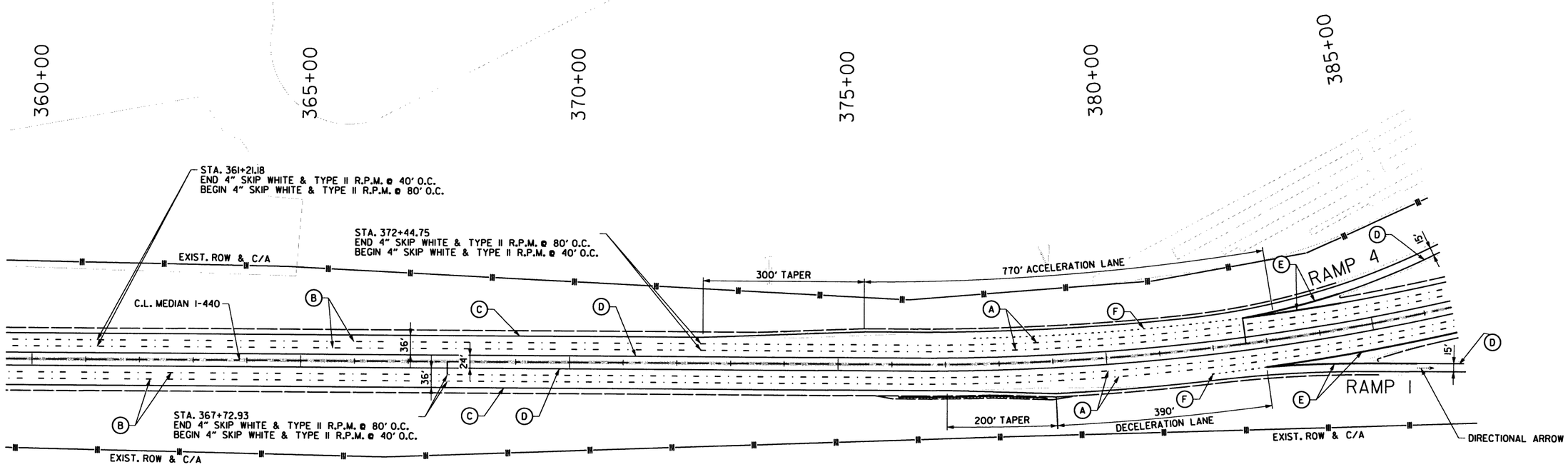
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	124	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHNAWAR AZAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



I-440 WB

RT 4" SOLID WHITE FROM STA. 384+48.61 TO STA. 402+42.66 = 1762 LF
RT 8" SOLID WHITE FROM STA. 382+61.18 TO STA. 384+48.61 = 188 LF
LANES 4" SKIP WHITE FROM STA. 372+44.75 TO STA. 421+37.65 = 2 X 1223 = 2446 LF
LANES 4" SKIP WHITE FROM STA. 361+21.18 TO STA. 372+44.75 = 2 X 281 = 562 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 372+44.75 TO STA. 421+37.65 = 2 X 122 = 244 EACH
TYPE II R.P.M. @ 80' O.C. FROM STA. 361+21.18 TO STA. 372+44.75 = 2 X 14 = 28 EACH

I-440 EB

RT 8" SOLID WHITE FROM STA. 382+92.93 TO STA. 386+64.19 = 375 LF
LANES 4" SKIP WHITE FROM STA. 367+72.93 TO STA. 413+26.93 = 2 X 1139 = 2278 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 367+72.93 TO STA. 413+26.93 = 2 X 114 = 228 EACH

RAMP 4 (WB ENTRANCE FROM FAULKNER LAKE RD.)
LT 8" SOLID WHITE FROM STA. 382+63.02 TO STA. 384+49.23 = 185 LF
LT 4" SOLID YELLOW FROM STA. 384+49.23 TO STA. 391+46.98 = 697 LF
RT 4" SOLID WHITE FROM STA. 372+49.25 TO STA. 391+40.91 = 1881 LF
LT 8" DOTTED WHITE FROM STA. 377+52.94 TO STA. 382+61.17 = 126 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 377+52.94 TO STA. 382+61.17 = 28 EACH
TYPE II R.P.M. 38 EACH

RAMP 1 (EB EXIT TO FAULKNER LAKE RD.)
LT 4" SOLID YELLOW FROM STA. 385+67.97 TO STA. 388+69.12 = 318 LF
LT 8" SOLID WHITE FROM STA. 382+95.08 TO STA. 385+67.97 = 280 LF
RT 4" SOLID WHITE FROM STA. 377+02.93 TO STA. 388+65.29 = 1196 LF
LT 8" DOTTED WHITE FROM STA. 381+92.16 TO STA. 382+92.93 = 25 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 381+92.16 TO STA. 382+92.93 = 6 EACH
TYPE II R.P.M. 85 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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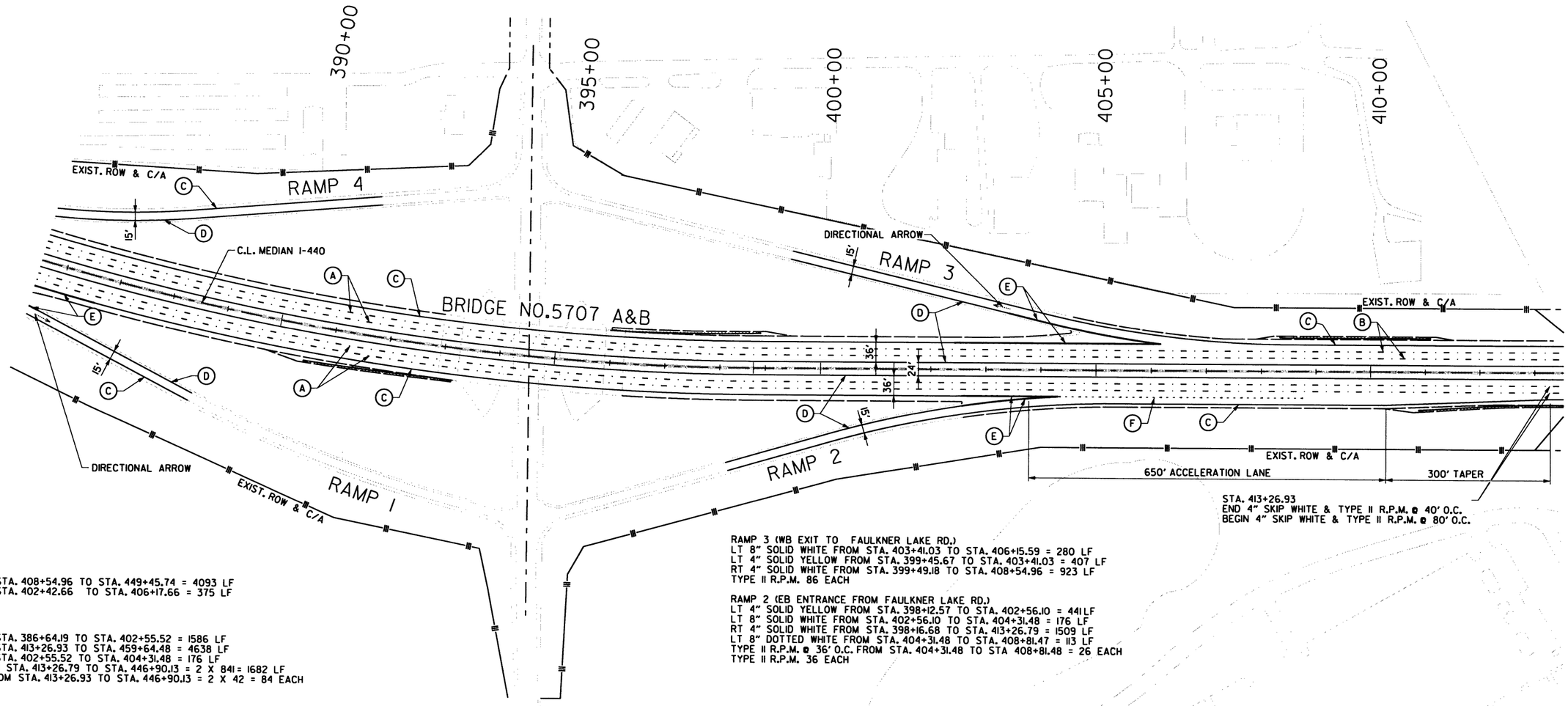
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	125	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



STA. 413+26.93
END 4" SKIP WHITE & TYPE II R.P.M. @ 40' O.C.
BEGIN 4" SKIP WHITE & TYPE II R.P.M. @ 80' O.C.

I-440 WB

RT 4" SOLID WHITE FROM STA. 408+54.96 TO STA. 449+45.74 = 4093 LF
RT 8" SOLID WHITE FROM STA. 402+42.66 TO STA. 406+17.66 = 375 LF

I-440 EB

RT 4" SOLID WHITE FROM STA. 386+64.19 TO STA. 402+55.52 = 1586 LF
RT 4" SOLID WHITE FROM STA. 413+26.93 TO STA. 459+64.48 = 4638 LF
RT 8" SOLID WHITE FROM STA. 402+55.52 TO STA. 404+31.48 = 176 LF
LANES 4" SKIP WHITE FROM STA. 413+26.79 TO STA. 446+90.13 = 2 X 841 = 1682 LF
TYPE II R.P.M. @ 80' O.C. FROM STA. 413+26.93 TO STA. 446+90.13 = 2 X 42 = 84 EACH

RAMP 3 (WB EXIT TO FAULKNER LAKE RD.)
LT 8" SOLID WHITE FROM STA. 403+41.03 TO STA. 406+15.59 = 280 LF
LT 4" SOLID YELLOW FROM STA. 399+45.67 TO STA. 403+41.03 = 407 LF
RT 4" SOLID WHITE FROM STA. 399+49.18 TO STA. 408+54.96 = 923 LF
TYPE II R.P.M. 86 EACH

RAMP 2 (EB ENTRANCE FROM FAULKNER LAKE RD.)
LT 4" SOLID YELLOW FROM STA. 398+12.57 TO STA. 402+56.10 = 441 LF
LT 8" SOLID WHITE FROM STA. 402+56.10 TO STA. 404+31.48 = 176 LF
RT 4" SOLID WHITE FROM STA. 398+16.68 TO STA. 413+26.79 = 1509 LF
LT 8" DOTTED WHITE FROM STA. 404+31.48 TO STA. 408+81.47 = 113 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 404+31.48 TO STA 408+81.48 = 26 EACH
TYPE II R.P.M. 36 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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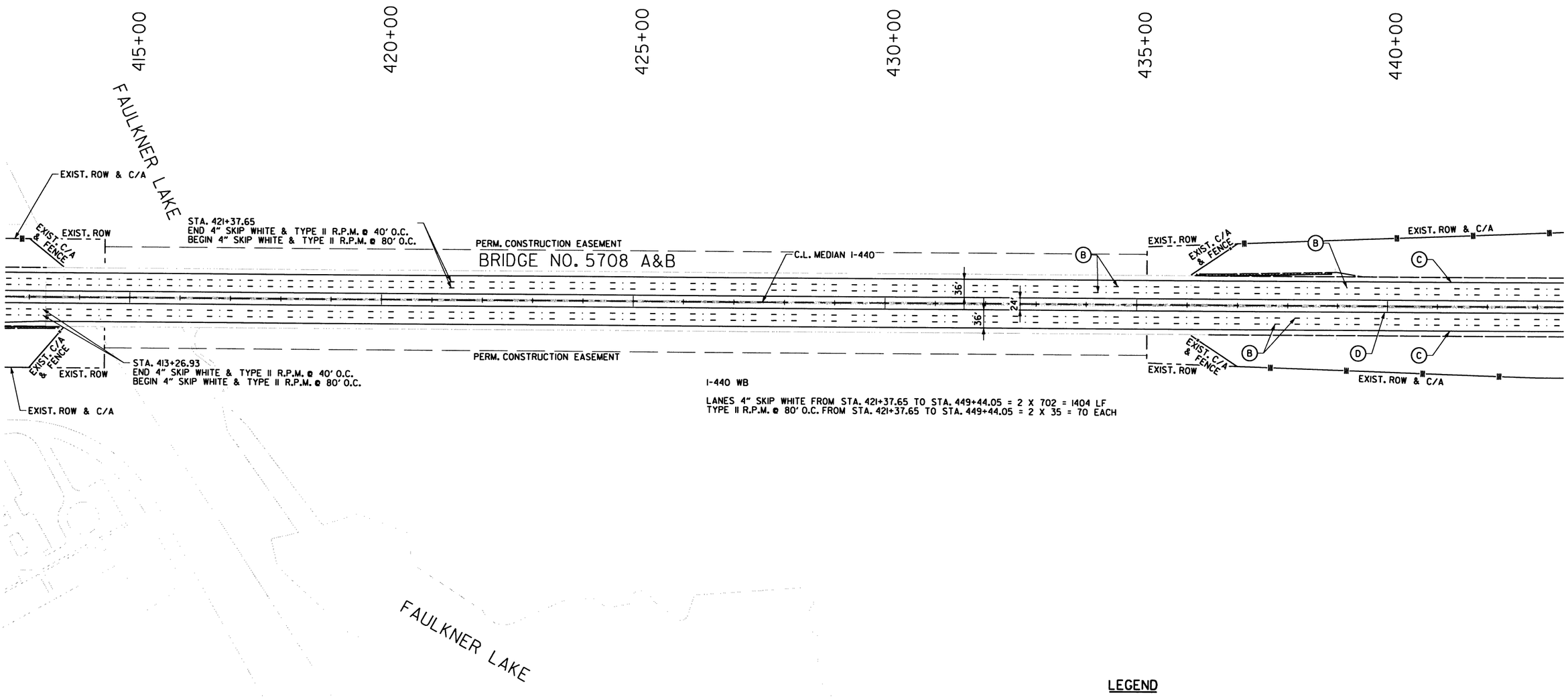
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	126	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13404
SHAHRIAR AHMAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



LEGEND

- (A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
- (B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
- (C) 4" H.P.P.M. WHITE
- (D) 4" H.P.P.M. YELLOW
- (E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
- (F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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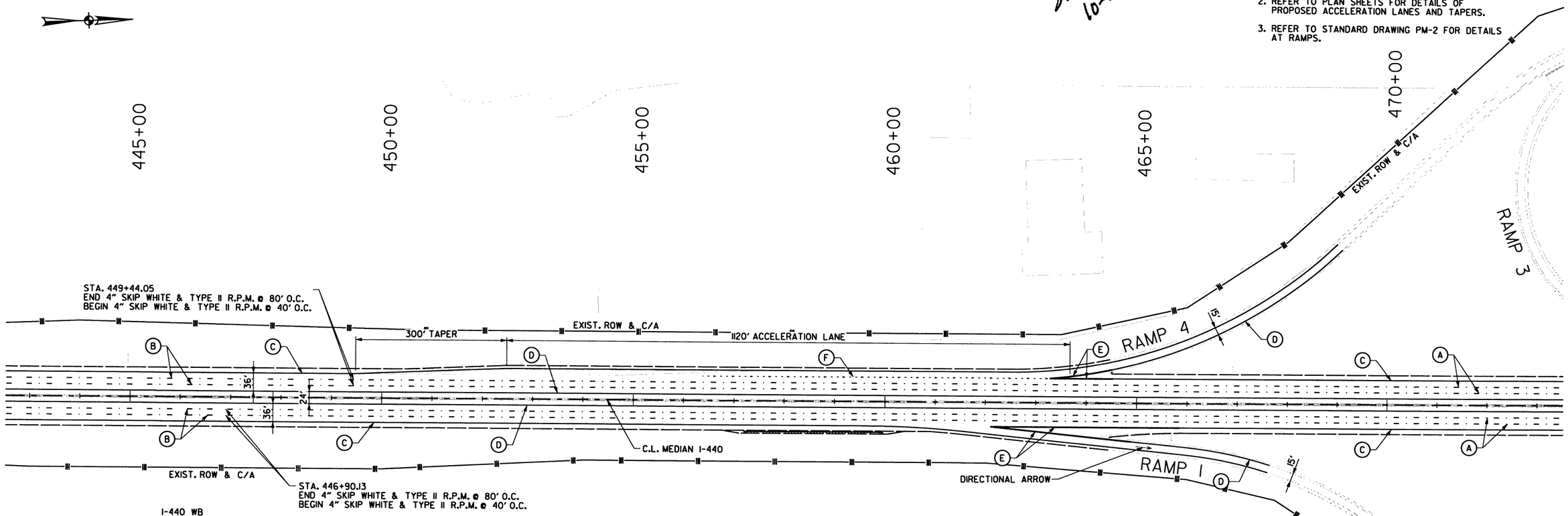
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	127	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHARIAR AZAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



I-440 WB

RT 4" SOLID WHITE FROM STA. 464+53.09 TO STA. 476+76.09 = 1223 LF
RT 8" SOLID WHITE FROM STA. 463+27.68 TO STA. 464+53.09 = 125 LF
LANES 4" SKIP WHITE FROM STA. 449+44.05 TO STA. 494+92.93 = 2 X 1137 = 2274 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 449+44.05 TO STA. 494+92.93 = 2 X 114 = 228 EACH

I-440 EB

RT 4" SOLID WHITE FROM STA. 465+85.13 TO STA. 475+98.20 = 1013 LF
RT 8" SOLID WHITE FROM STA. 462+10.13 TO STA. 465+85.13 = 375 LF
LANES 4" SKIP WHITE FROM STA. 446+90.13 TO STA. 494+49.99 = 2 X 1190 = 2380 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 446+90.13 TO STA. 494+50.00 = 2 X 119 = 238 EACH

RAMP 4 (WB ENTRANCE FROM HWY 70.)
LT 4" SOLID YELLOW FROM STA. 464+51.09 TO STA. 469+10.17 = 524 LF
LT 8" SOLID WHITE FROM STA. 463+27.68 TO STA. 464+51.09 = 125 LF
RT 4" SOLID WHITE FROM STA. 449+45.74 TO STA. 468+99.91 = 2018 LF
LT 8" DOTTED WHITE FROM STA. 456+37.70 TO STA. 463+27.68 = 173 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 476+37.70 TO STA. 463+27.68 = 38 EACH
TYPE II R.P.M. 26 EACH

RAMP 1 (EB EXIT TO HWY 70.)
LT 4" SOLID YELLOW FROM STA. 464+88.74 TO STA. 467+64.25 = 280 LF
LT 8" SOLID WHITE FROM STA. 462+10.13 TO STA. 464+88.74 = 280 LF
RT 4" SOLID WHITE FROM STA. 459+64.48 TO STA. 467+59.74 = 801 LF
TYPE II R.P.M. 85 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	128	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD

Shahriar Azad 10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
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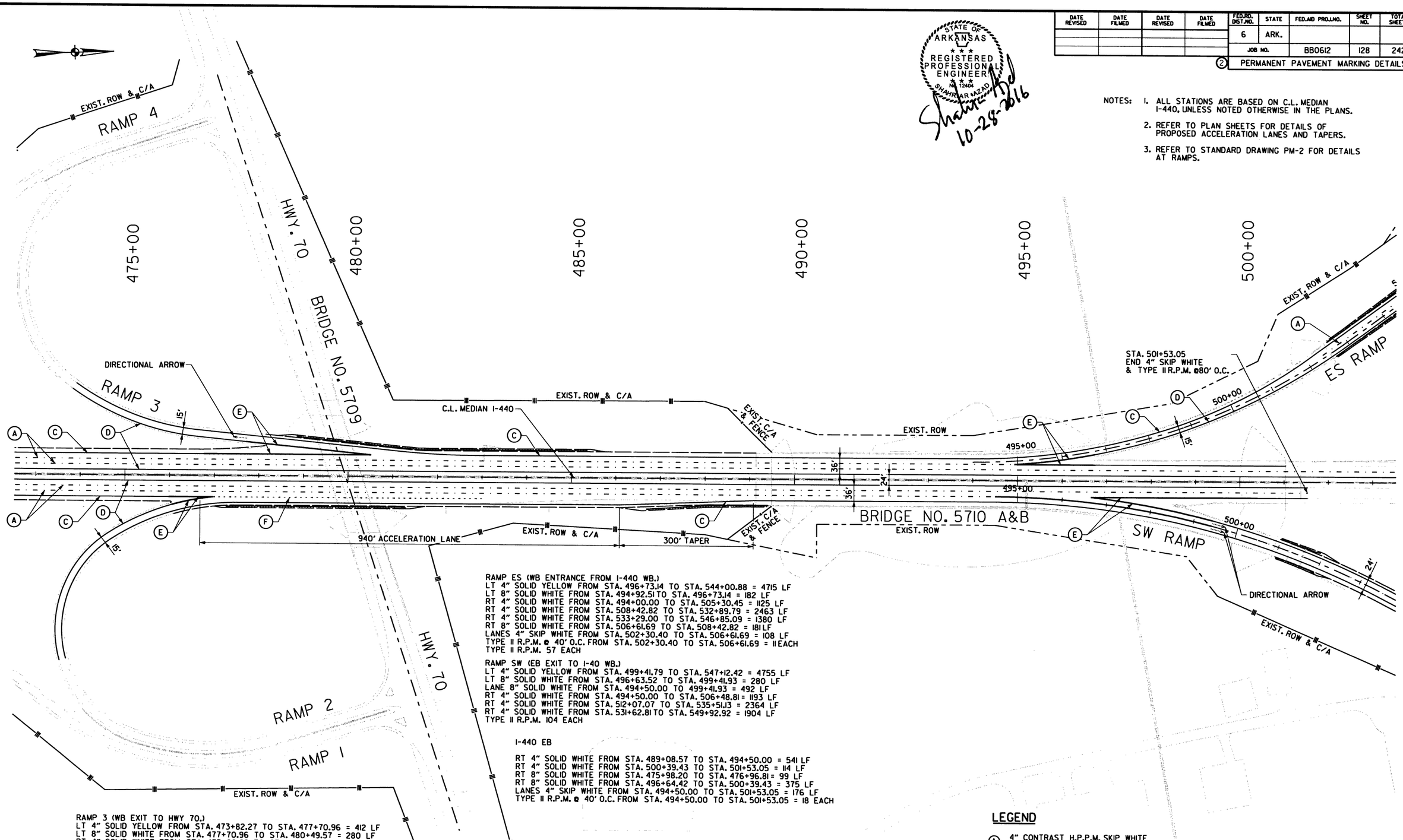
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



RAMP ES (WB ENTRANCE FROM I-440 WB.)
LT 4" SOLID YELLOW FROM STA. 496+73.14 TO STA. 544+00.88 = 4715 LF
LT 8" SOLID WHITE FROM STA. 494+92.51 TO STA. 496+73.14 = 182 LF
RT 4" SOLID WHITE FROM STA. 494+00.00 TO STA. 505+30.45 = 1125 LF
RT 4" SOLID WHITE FROM STA. 508+42.82 TO STA. 532+89.79 = 2463 LF
RT 4" SOLID WHITE FROM STA. 533+29.00 TO STA. 546+85.09 = 1380 LF
RT 8" SOLID WHITE FROM STA. 506+61.69 TO STA. 508+42.82 = 181 LF
LANES 4" SKIP WHITE FROM STA. 502+30.40 TO STA. 506+61.69 = 108 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 502+30.40 TO STA. 506+61.69 = 11 EACH
TYPE II R.P.M. 57 EACH

RAMP SW (EB EXIT TO I-40 WB.)
LT 4" SOLID YELLOW FROM STA. 499+41.79 TO STA. 547+12.42 = 4755 LF
LT 8" SOLID WHITE FROM STA. 496+63.52 TO STA. 499+41.93 = 280 LF
LANE 8" SOLID WHITE FROM STA. 494+50.00 TO 499+41.93 = 492 LF
RT 4" SOLID WHITE FROM STA. 494+50.00 TO STA. 506+48.81 = 1193 LF
RT 4" SOLID WHITE FROM STA. 512+07.07 TO STA. 535+51.13 = 2364 LF
RT 4" SOLID WHITE FROM STA. 531+62.81 TO STA. 549+92.92 = 1904 LF
TYPE II R.P.M. 104 EACH

I-440 EB

RT 4" SOLID WHITE FROM STA. 489+08.57 TO STA. 494+50.00 = 541 LF
RT 4" SOLID WHITE FROM STA. 500+39.43 TO STA. 501+53.05 = 114 LF
RT 8" SOLID WHITE FROM STA. 475+98.20 TO STA. 476+96.81 = 99 LF
RT 8" SOLID WHITE FROM STA. 496+64.42 TO STA. 500+39.43 = 375 LF
LANES 4" SKIP WHITE FROM STA. 494+50.00 TO STA. 501+53.05 = 176 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 494+50.00 TO STA. 501+53.05 = 18 EACH

RAMP 3 (WB EXIT TO HWY 70.)
LT 4" SOLID YELLOW FROM STA. 473+82.27 TO STA. 477+70.96 = 412 LF
LT 8" SOLID WHITE FROM STA. 477+70.96 TO STA. 480+49.57 = 280 LF
RT 4" SOLID WHITE FROM STA. 473+90.98 TO STA. 482+95.22 = 929 LF
TYPE II R.P.M. 85 EACH

RAMP 2 (EB ENTRANCE FROM HWY 70.)
LT 4" SOLID YELLOW FROM STA. 473+55.24 TO STA. 476+05.12 = 484 LF
LT 8" SOLID WHITE FROM STA. 476+05.12 TO STA. 476+93.83 = 90 LF
RT 4" SOLID WHITE FROM STA. 473+69.66 TO STA. 489+08.57 = 1762 LF
LT 8" DOTTED WHITE FROM STA. 476+96.81 TO STA. 483+02.81 = 152 LF
TYPE II R.P.M. @ 36' O.C. FROM STA. 476+96.81 TO STA. 483+02.81 = 34 EACH
TYPE II R.P.M. 20 EACH

I-440 WB

RT 4" SOLID WHITE FROM STA. 482+95.22 TO STA. 494+00.00 = 1105 LF
RT 4" SOLID WHITE FROM STA. 496+72.64 TO STA. 501+03.08 = 431 LF
RT 8" SOLID WHITE FROM STA. 476+76.07 TO STA. 480+51.07 = 375 LF
RT 8" SOLID WHITE FROM STA. 494+92.93 TO STA. 496+72.64 = 180 LF
LANES 4" SKIP WHITE FROM STA. 494+92.93 TO STA. 512+55.92 = 441 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 494+92.93 TO STA. 512+55.92 = 44 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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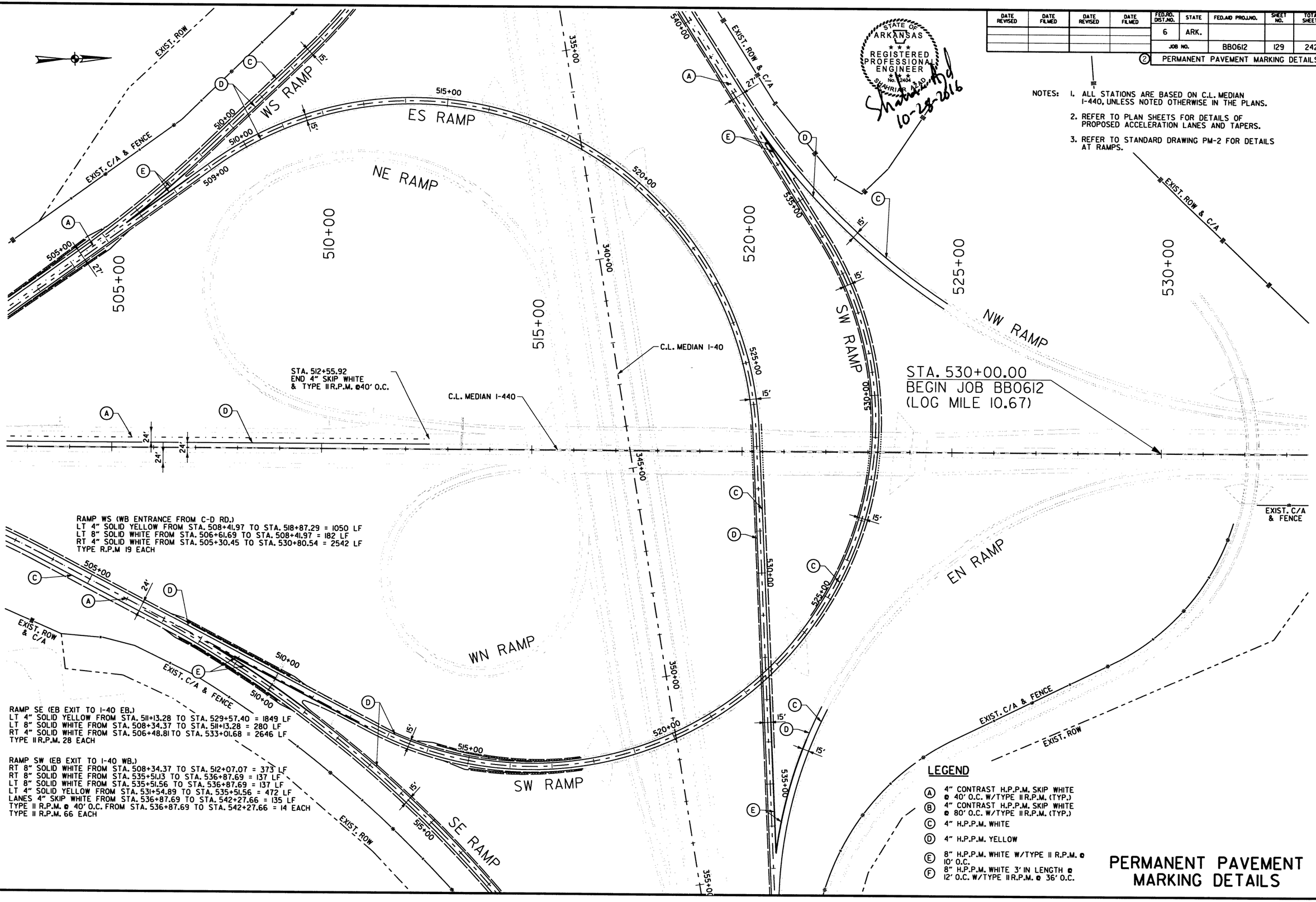
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	129	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADL

Shahriar Adl
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



RAMP WS (WB ENTRANCE FROM C-D RD.)
LT 4" SOLID YELLOW FROM STA. 508+41.97 TO STA. 518+87.29 = 1050 LF
LT 8" SOLID WHITE FROM STA. 506+61.69 TO STA. 508+41.97 = 182 LF
RT 4" SOLID WHITE FROM STA. 505+30.45 TO STA. 530+80.54 = 2542 LF
TYPE R.P.M 19 EACH

RAMP SE (EB EXIT TO I-40 EB.)
LT 4" SOLID YELLOW FROM STA. 511+13.28 TO STA. 529+57.40 = 1849 LF
LT 8" SOLID WHITE FROM STA. 508+34.37 TO STA. 511+13.28 = 280 LF
RT 4" SOLID WHITE FROM STA. 506+48.81 TO STA. 533+01.68 = 2646 LF
TYPE II R.P.M. 28 EACH

RAMP SW (EB EXIT TO I-40 WB.)
RT 8" SOLID WHITE FROM STA. 508+34.37 TO STA. 512+07.07 = 373 LF
RT 8" SOLID WHITE FROM STA. 535+51.13 TO STA. 536+87.69 = 137 LF
LT 8" SOLID WHITE FROM STA. 535+51.56 TO STA. 536+87.69 = 137 LF
LT 4" SOLID YELLOW FROM STA. 531+54.89 TO STA. 535+51.56 = 472 LF
LANES 4" SKIP WHITE FROM STA. 536+87.69 TO STA. 542+27.66 = 135 LF
TYPE II R.P.M. @ 40' O.C. FROM STA. 536+87.69 TO STA. 542+27.66 = 14 EACH
TYPE II R.P.M. 66 EACH

LEGEND

- (A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
- (B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
- (C) 4" H.P.P.M. WHITE
- (D) 4" H.P.P.M. YELLOW
- (E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
- (F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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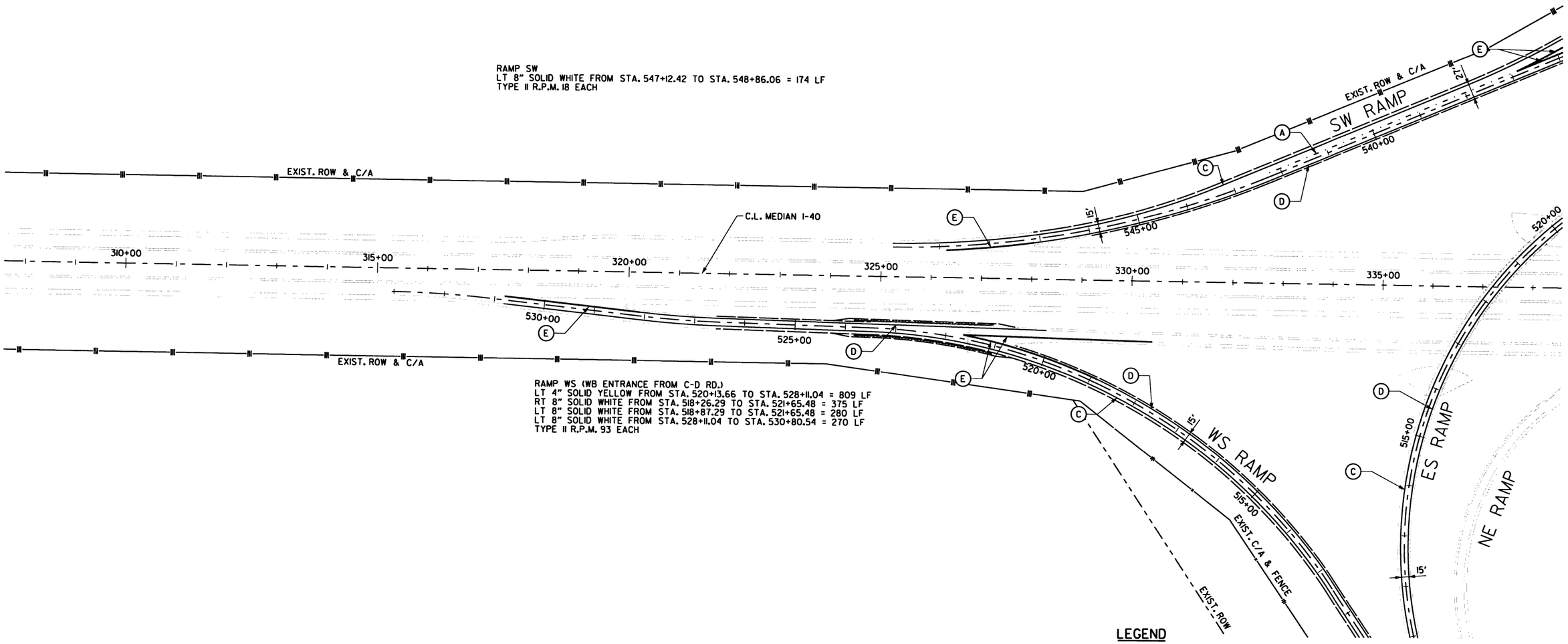
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	130	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

NOTES:
1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.

RAMP SW
LT 8" SOLID WHITE FROM STA. 547+12.42 TO STA. 548+86.06 = 174 LF
TYPE II R.P.M. 18 EACH



RAMP WS (WB ENTRANCE FROM C-D RD.)
LT 4" SOLID YELLOW FROM STA. 520+13.66 TO STA. 528+11.04 = 809 LF
RT 8" SOLID WHITE FROM STA. 518+26.29 TO STA. 521+65.48 = 375 LF
LT 8" SOLID WHITE FROM STA. 518+87.29 TO STA. 521+65.48 = 280 LF
LT 8" SOLID WHITE FROM STA. 528+11.04 TO STA. 530+80.54 = 270 LF
TYPE II R.P.M. 93 EACH

LEGEND

(A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
(B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
(C) 4" H.P.P.M. WHITE
(D) 4" H.P.P.M. YELLOW
(E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
(F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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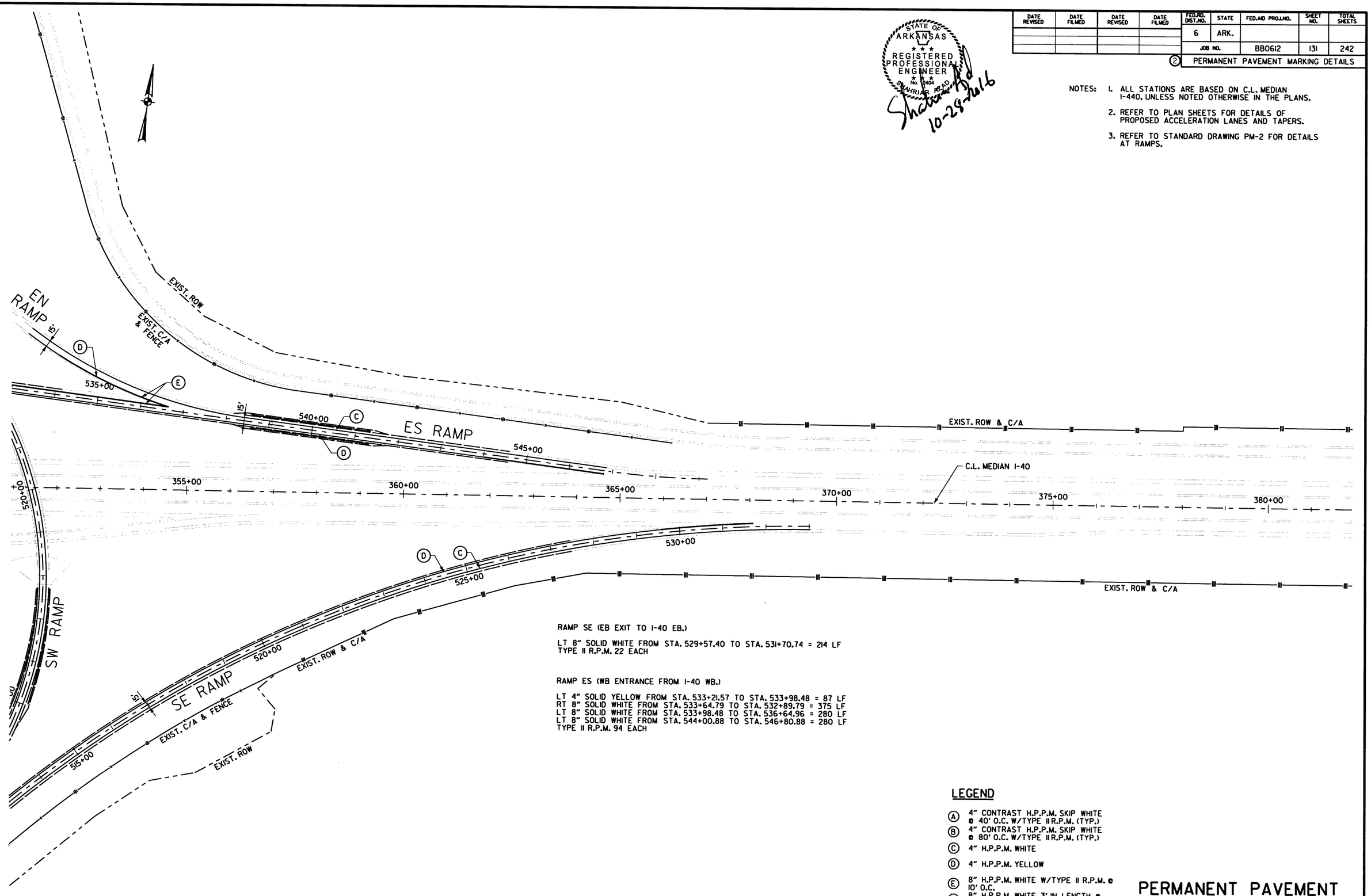
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	131	242

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
NO. 9404
SHAHRIAR MIRZAD
10-28-2016

NOTES:

1. ALL STATIONS ARE BASED ON C.L. MEDIAN I-440, UNLESS NOTED OTHERWISE IN THE PLANS.
2. REFER TO PLAN SHEETS FOR DETAILS OF PROPOSED ACCELERATION LANES AND TAPERS.
3. REFER TO STANDARD DRAWING PM-2 FOR DETAILS AT RAMPS.



RAMP SE (EB EXIT TO I-40 EB.)

LT 8" SOLID WHITE FROM STA. 529+57.40 TO STA. 531+70.74 = 214 LF
TYPE II R.P.M. 22 EACH

RAMP ES (WB ENTRANCE FROM I-40 WB.)

LT 4" SOLID YELLOW FROM STA. 533+21.57 TO STA. 533+98.48 = 87 LF
RT 8" SOLID WHITE FROM STA. 533+64.79 TO STA. 532+89.79 = 375 LF
LT 8" SOLID WHITE FROM STA. 533+98.48 TO STA. 536+64.96 = 280 LF
LT 8" SOLID WHITE FROM STA. 544+00.88 TO STA. 546+80.88 = 280 LF
TYPE II R.P.M. 94 EACH

LEGEND

- (A) 4" CONTRAST H.P.P.M. SKIP WHITE @ 40' O.C. W/TYPE II R.P.M. (TYP.)
- (B) 4" CONTRAST H.P.P.M. SKIP WHITE @ 80' O.C. W/TYPE II R.P.M. (TYP.)
- (C) 4" H.P.P.M. WHITE
- (D) 4" H.P.P.M. YELLOW
- (E) 8" H.P.P.M. WHITE W/TYPE II R.P.M. @ 10' O.C.
- (F) 8" H.P.P.M. WHITE 3' IN LENGTH @ 12' O.C. W/TYPE II R.P.M. @ 36' O.C.

PERMANENT PAVEMENT MARKING DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	132	242

② SIGNING SUMMARY OF QUANTITIES & NOTES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHAHRIAR SHAHRIARI

10-28-2016

SIGN NO./ LOCATION	STANDARD SIGNS FLAT SHEET OMNI-DIRECTIONAL SIGN SUPPORTS TYPE G-1 EA.	G-2 EA.	G2-1 EA.	G2-2 EA.	G2-3 EA.	G2-4 EA.	G2-5 EA.	G2-6 EA.	G2-7 EA.	G2-8 EA.	G2-9 EA.	G2-10 EA.	STANDARD SIGN SQ. FT.
SS-440-60-STA319+74WB		1											16.00
SS-440-60-STA337+44EB		1											16.00
SS-440-60-STA356+29WB		1											16.00
SS-440-60-STA385+96EB		1											16.00
SS-440-60-STA403+46WB		1											16.00
SS-440-60-STA401+85EB		1											16.00
SS440-60-STA442+99WB		1											16.00
SS-440-60-STA482+19EB		1											16.00
SS-ES-60-STA524+00WB		1											16.00
SS-SW-60-STA512+71EB		1											16.00
SS-SW-60-STA506+67WB		1											16.00
SS-440-60-STA511+54EB		1											16.00
SS-440-60-STA528+53WB		1											16.00
SS-440-60-STA331+97WB		1											16.00
SS-440-60-STA340+12EB		1											16.00
SS-440-60-STA386+85WB		1											16.00
SS-440-60-STA397+94EB		1											16.00
SS-440-60-STA465+87WB		1											16.00
SS-440-60-STA474+09EB		1											16.00
SS-WS-60-STA510+91WB		1											16.00
SS-ES-60-STA511+12WB		1											16.00
SS-440-60-STA512+33EB		1											16.00
SS-SW-60-STA533+35WB		1											16.00
SS-SW-60-STA533+42WB		1											16.00
SS-440-60-STA350+55WB		OH											20.00
SS-440-60-STA378+47EB		OH											20.00
SS-440-60-STA408+80WB		OH											20.00
SS-440-60-STA408+80EB		OH											20.00
SS-440-60-STA453+52WB		1											20.00
SS-440-60-STA483+00WB		OH											20.00
SS-440-60-STA483+00EB		OH											20.00
SS-440-60-STA371+00WB		1											20.00
SS-440-60-STA369+95EB		1											20.00
SS-440-60-STA438+96WB		1											20.00
SS-440-60-STA438+00EB		1											20.00
SS-WS-60-STA512+48WB		1											20.00
SS-ES-60-STA512+44WB		1											20.00
SS-440-60-STA500+87WB		1											16.00
SS-440-60-STA499+00WB		1											16.00
SS-440-60-STA528+08EB		1											16.00
SS-440-60-STA363+00EB		1											24.50
SS-440-60-STA412+18EB		1											24.50
SS-440-60-STA374+42WB		1											24.50
SS-440-60-STA450+00WB		1											24.50
SS-ES-60-STA532+92WB		1											20.00
SS-ES-60-STA532+92WB		1											20.00
SS-SW-60-STA511+92EB		1											20.00
SS-440-60-STA348+13WB		1											20.00
SS-440-60-STA483+00WB		OH											20.00
SS-440-60-STA459+54EB		OH											20.00
SS-440-60-STA323+75EB		OH											20.00
SS-SW-60-STA511+30EB		1											16.38
TOTALS:		43											946.38

SIGN NO./ LOCATION	STANDARD SIGNS FLAT SHEET CHANNEL POST SIGN SUPPORTS TYPE U-1 EA.	U-2 EA.	U2-1 EA.	U2-2 EA.	U2-3 EA.	U2-4 EA.	U2-5 EA.	U2-6 EA.	U2-7 EA.	U2-8 EA.	U2-9 EA.	U2-10 EA.	STANDARD SIGN SQ. FT.
SS-ES-60-STA506+01WB	1												5.00
SS-ES-60-STA514+18WB	1												5.00
SS-ES-60-STA533+74WB	1												5.00
SS-ES-60-STA535+98WB	1												5.00
SS-SW-60-STA513+54EB	1												5.00
SS-WS-60-STA520+45EB	1												5.00
SS-SW-60-STA542+00WB	1												5.00
SS-SE-60-STA521+00EB	1												5.00
SS-SW-60-STA532+70WB	1												5.00
SS-440-60-STA335+76WB•	1												2.00
SS-440-60-STA335+78EB•	1												2.00
SS-440-60-STA388+45WB•	1												2.00
SS-440-60-STA388+70EB•	1												2.00
SS-440-60-STA440+35EB•	1												2.00
SS-440-60-STA440+36WB•	1												2.00
SS-440-60-STA507+36WB-SS-440-60-STA514+06EB	7												21.00
SS-440-60-STA511+51EB-SS-440-60-STA515+88EB	5												15.00
SS-ES-60-STA510+28WB-SS-ES-60-STA525+28WB	4												12.00
SS-SW-60-STA514+76WB-SS-SW-60-STA532+75WB	5												15.00
TOTALS:	36												120.00

•MILE MARKER SIGNS WILL BE INSTALLED AS DIRECTED BY THE ENGINEER

SIGNING SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	TOTAL	UNIT
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-43)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-44)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-45)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-46)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-47)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-49)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-50)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-51)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-440-60-48)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-040-60-49)	1	EACH
725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	1595	SQ. FT.
725	GUIDE SIGN - OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	5497	SQ. FT.
726	STANDARD SIGN	1066	SQ. FT.
727	EXIT NUMBER PANEL (TYPE A)	240	SQ. FT.
727	EXIT NUMBER PANEL (TYPE B)	197	SQ. FT.
727	EXIT NUMBER PANEL (TYPE C)	125	SQ. FT.
729	CHANNEL POST SIGN SUPPORTS (TYPE U-1)	36	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	15762	POUND
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	43	EACH

NOTES:

ALL EXISTING GUIDE SIGNS SHALL BE MAINTAINED IN SUCH A MANNER THAT THE SIGNS ARE FULLY VISIBLE, INTACT, AND ERECT FOR THE DURATION OF THE PROJECT, AND SHALL BE REMOVED WHEN THEIR USE IS NO LONGER REQUIRED. REMOVAL AND DISPOSAL OF SIGNS, SUPPORTS, AND FOUNDATIONS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

THE EXISTING SIGNS AND SUPPORTS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE EXISTING FOOTINGS SHALL BE REMOVED AND THE HOLES FILLED WITH A SUITABLE MATERIAL AND COMPACTED.

EXISTING LOGOS WILL BE RELOCATED TO THE NEW LOGO SIGN BY THE CONTRACTOR. THE LOGO INSTALLATION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

NOTE:

BREAKAWAY SIGN SUPPORT TOTAL IS CALCULATED BY TAKING THE LENGTH OF H1, H2, H3, AND THE STUB POST AND MULTIPLYING BY THE BEAM WEIGHT (LBS).

SIGNING SUMMARY OF QUANTITIES & NOTES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	133	242

2 SIGN QUANTITIES

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

OVERHEAD SIGNING QUANTITIES

SIGN NO./ LOCATION	STRUCTURE TYPE: INSTALL SIGN STRUCTURE (EA) ST	OC	OH	BM	MAINTAIN EXISTING SIGN STRUCTURE (EA) ST	OC	OH	BM	GUIDE SIGN LENGTH (LIN. FT.)	HEIGHT (LIN. FT.)	SQ. FT.	LEGEND	EXIT NUMBER PANEL TYPE A	B	C (SQ. FT.)	GUARDRAIL TYPE A (LIN. FT.)	TERM. ANCHOR POSTS TYPE 1 (EACH)	GUARDRAIL TERM TYPE 2 (EACH)	AGG. BASE CR (CL. 7) (TON)	ACHM SURF. CR. 220 LBS/SY (TON)
OH-440-60-43			1														SEE ROADWAY SHEETS			
OH-440-60-323+75EB-A									17.5	11.5	201.25	8	17.5							
OH-440-60-323+75EB-B									10.5	13	136.5	7	17.5							
OH-440-60-44			1														SEE ROADWAY SHEETS			
OH-440-60-350+57WB-A									21.5	13.5	290.25	5	17.5							
OH-440-60-350+57WB-B									10.5	14.5	152.25	7	17.5							
OH-440-60-45			1														SEE ROADWAY SHEETS			
OH-440-60-378+50EB-A									13.5	13	175.5	IIA-B			31.25					
OH-440-60-378+50EB-B									9	8	72	10	20							
OH-440-60-378+50EB-C									17.5	12.5	218.75	8	17.5							
OH-440-60-46			1														SEE ROADWAY SHEETS			
OH-440-60-408+80WB-A									10.5	12	126	7	17.5							
OH-440-60-408+80WB-B									17.5	12.5	218.75	8	17.5							
OH-440-60-47			1														SEE ROADWAY SHEETS			
OH-440-60-459+54EB-A									13.5	13	175.5	IIA-B			31.25					
OH-440-60-459+54EB-B									15.5	10.5	162.75									
OH-440-60-459+54EB-C									8	8	64	10	20							
• BM-440-60-48				1																
BM-440-60-479+69EB-A									15.5	13.5	209.25									
BM-440-60-479+69EB-B									19	13.5	256.5	IIA-B			31.25					
• OH-440-60-49			1														SEE ROADWAY SHEETS			
OH-440-60-483+00WB-A									17.5	11.5	201.25	8	17.5							
OH-440-60-483+00WB-B									8	8	64	10	20							
• OH-440-60-50			1														SEE ROADWAY SHEETS			
OH-440-60-489+00EB-A									15.5	13.5	209.25									
OH-440-60-489+00EB-B									19	13.5	256.5	IIA-B			31.25					
• OH-440-60-51			1														SEE ROADWAY SHEETS			
OH-440-60-501+41EB-A									9.5	4.5	42.75									
OH-440-60-501+41EB-B									13.5	11	148.5									
OH-440-60-501+41EB-C									11.5	11	126.5	IIB		23.57						
OH-440-60-11							1										SEE ROADWAY SHEETS			
OH-440-60-509+98EB-A									9.5	4.5	42.75									
OH-440-60-509+98EB-B									13.5	11.5	155.25									
OH-440-60-509+98EB-C									11.5	11.5	132.25	IIB		23.57						
OH-440-60-26							1										SEE ROADWAY SHEETS			
OH-440-60-513+34WB-A									13	8	104									
OH-440-60-513+34WB-B									8	7	56	10	20							
OH-440-60-513+34WB-C									11.5	19.5	224.25	IIB		23.57						
OH-440-60-27							1										SEE ROADWAY SHEETS			
OH-440-60-536+39WB-A									11.5	13.5	155.25	IIB		23.57						
OH-440-60-536+39WB-B									13.5	11.5	155.25	IIA		23.57						
OH-040-60-29							1										SEE ROADWAY SHEETS			
OH-40-60-326+76EB-A									10.5	4.5	47.25									
OH-40-60-326+76EB-B									14.5	10.5	152.25									
OH-40-60-326+76EB-C									12.5	11.5	143.75	159A		26.25						
• BM-040-60-49				1																
BM-40-60-343+80EB-A									11.5	8.5	97.75									
BM-40-60-343+80EB-B									15	11.5	172.5	159B		26.25						
OH-040-60-31							1										SEE ROADWAY SHEETS			
OH-40-60-356+93WB-A									10.5	4.5	47.25									
OH-40-60-356+93WB-B									12.5	8	100									
OH-40-60-356+93WB-C									14.5	14	203	159B		26.25						
TOTALS:			8	2			5				5496.75		220.00	196.60	125.00					

• NOTE: REMOVAL OF EXISTING SIGN, STRUCTURE, AND FOUNDATION IS SUBSIDIARY TO ITEM FOR NEW SIGN STRUCTURE.

ROADSIDE MOUNTED SIGNING QUANTITIES

SIGN NO./ LOCATION	I-BEAM STRUCTURE TYPE G1	G2	G3	GUIDE SIGN DEMOUNTABLE LEGEND LENGTH (LIN. FT.)	HEIGHT (LIN. FT.)	SQ. FT.	I-BEAM BREAKAWAY SIGN SUPPORT: STEEL SECT. A-572 BEAM	LBS	SIGN POST LENGTH H-1 (LIN FT)	H-2	H-3	STUB POST H-1 (LIN FT)	H-2	H-3	FOOTINGS DIA. (LIN FT)	DEPTH	EMBED.	SIGN POST AND STUB (POUND)	LEGEND	EXIT NUMBER PANEL TYPE A	B (SQ. FT.)	C
EX-440-60-STA342+11WB		1		6.00	7.00	42.00	W6	15.00	15.93	16.53		4.33	4.33		2.50	6.00	4.00	617.00				
EX-WS-60-STA525+33EB		1		5.00	7.50	37.50	W6	15.00	16.40	16.90		4.33	4.33		2.50	6.00	4.00	629.50				
EX-ES-60-STA544+93WB		1		5.00	7.50	37.50	W6	15.00	16.40	16.90		4.33	4.33		2.50	6.00	4.00	629.50				
EX-WS-60-STA518+10EB		1		6.50	7.50	48.75	W6	15.00	16.45	17.10		4.33	4.33		2.50	6.00	4.00	633.25				
EX-ES-60-STA535+04EB		1		6.50	7.50	48.75	W6	15.00	16.45	17.10		4.33	4.33		2.50	6.00	4.00	633.25				
EX-440-60-STA330+00EB		1		6.00	5.00	30.00	W6	15.00	13.93	14.53		3.67	3.67		2.50	5.00	3.33	537.00				
EX-440-60-STA385+49EB		1		6.00	5.00	30.00	W6	15.00	13.93	14.53		3.67	3.67		2.50	5.00	3.33	537.00				
EX-440-60-STA404+08WB		1		6.00	5.00	30.00	W6	15.00	13.93	14.53		3.67	3.67		2.50	5.00	3.33	537.00				
EX-440-60-STA465+66EB		1		6.50	5.00	32.50	W6	15.00	13.95	14.60		3.67	3.67		2.50	5.00	3.33	538.25				
EX-440-60-STA476+95WB		1		6.50	7.00	45.50	W6	15.00	15.95	16.60		4.33	4.33		2.50	6.00	4.00	618.25				
EX-440-60-STA532+77WB		1		7.00	5.00	35.00	W6	15.00	13.97	14.67		3.67	3.67		2.50	5.00	3.33	539.50				
EX-440-60-STA516+36EB		1		6.50	9.50	61.75	W6	15.00	18.45	19.10		4.67	4.67		2.50	6.50	4.33	703.25				
EX-440-60-STA510+22WB		1		7.00	7.00	49.00	W6	15.00	15.97	16.67		4.33	4.33		2.50	6.00	4.00	619.50				
GM-440-60-STA332+95WB		1		5.50	4.50	24.75	W6	15.00	13.42	13.97		3.67	3.67		2.50	5.00	3.33	520.75				
GM-440-60-STA390+50WB		1		5.50	4.50	24.75	W6	15.00	13.42	13.97		3.67	3.67		2.50	5.00	3.33	520.75				
GM-440-60-STA489+34WB		1		13.00	7.50	97.50	W8	18.00	16.67	17.97		4.33	4.33		2.50	6.00	4.00	779.40				
GM-ES-60-STA503+01WB		1		8.00	8.50	68.00	W8	18.00	17.56	18.36		4.67	4.67		2.50	6.50	4.33	814.42	10	20.00		
GM-440-60-STA361+95WB		1		15.50	11.50	178.25	W10	22.00	20.75	22.30		5.33	5.33		3.00	7.50	5.00	1181.77				
GM-440-60-STA317+21EB		1		22.50	10.50	236.25	W12	26.00	19.98	22.23		5.33	5.33		3.00	7.50	5.00	1374.96				
GM-440-60-STA365+92WB		1		22.50	10.50	236.25	W12	26.00	19.98	22.23		5.33	5.33		3.00	7.50	5.00	1374.96				
GM-440-60-STA315+71WB		1		17.50	11.50	201.25	W12	26.00	20.82	22.57		5.67	5.67		3.00	8.00	5.33	1422.64				
TOTALS:		21				1595.25												15761.90		20.00		

SIGN QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	134	242

② SIGN QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12004 SHAHRIAR AZAD
10-28-2016

REMOVAL AND DISPOSAL OF SIGNS & FOUNDATIONS (FOR CONTRACTOR INFORMATION ONLY) (BOX 1 OF 2)

STATION	LOCATION	SIGN FOUNDATIONS	SIGNS
		EACH	EACH
312+56	I-440 ON LEFT (OBJECT MARKER)	1	1
313+43	I-440 IN CENTER (TRUCKS USE RIGHT 2 LANES)	1	1
316+71	I-440 ON LEFT (EXIT 5, L.R. RIVER PORT, FOURCHE DAM PIKE, 1 MILE)	2	1
317+23	I-440 ON RIGHT (EXIT 7, PLANTATION...MUSEUM, WILLOW...PARK, NEXT RIGHT)	3	1
319+77	I-440 ON LEFT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
320+49	I-440 ON RIGHT (TOLTEC MOUNDS ARCHAEOLOGICAL STATE PARK, EXIT 7)	2	1
321+93	I-440 ON LEFT (INTERSTATE MARKER)	1	1
324+59	I-440 ON RIGHT (EXIT 7, I65, SCOTT, ENGLAND)	2	1
324+79	I-440 ON LEFT (FOOD - EXIT 5, LODGING - EXIT 5)	2	1
327+57	I-440 ON RIGHT (EXIT SAFE SPEED)	2	1
328+20	I-440 ON RIGHT (NO PARKING)	1	1
330+03	I-440 ON RIGHT (EXIT)	2	1
331+99	I-440 ON LEFT (RAMP MERGE ARROW)	2	1
334+72	I-440 ON RIGHT (ADOPT A HIGHWAY)	2	1
335+76	I-440 ON LEFT (MILE MARKER)	1	1
335+78	I-440 ON RIGHT (MILE MARKER)	1	1
336+92	I-440 ON RIGHT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
340+14	I-440 ON RIGHT (RAMP MERGE ARROW)	2	1
342+13	I-440 ON LEFT (EXIT 7, 30 MPH)	2	1
343+65	I-440 ON RIGHT (OBJECT MARKER)	1	1
345+09	I-440 ON LEFT (EXIT SAFE SPEED)	1	1
347+07	I-440 ON LEFT (OBJECT MARKER)	1	1
350+40	I-440 ON LEFT (EXIT 7, I65, SCOTT, ENGLAND)	2	1
356+31	I-440 ON LEFT (TRUCKS USE RIGHT 2 LANES)	2	1
358+05	I-440 ON RIGHT (EXIT 8, FAULKNER LAKE ROAD, 1/2 MILE)	2	1
359+96	I-440 ON LEFT (SPEED LIMIT)	2	1
361+97	I-440 ON LEFT (TOLTEC MOUNDS ARCHAEOLOGICAL STATE PARK, EXIT 7)	2	1
363+80	I-440 ON RIGHT (TRUCKS USE RIGHT 2 LANES)	2	1
365+94	I-440 ON LEFT (EXIT 7, PLANTATION...MUSEUM, WILLOW...PARK, NEXT RIGHT)	3	1
369+95	I-440 ON LEFT (EXIT 7, I65, SCOTT, ENGLAND, 1/2 MILE)	2	1
369+97	I-440 ON RIGHT (SPEED LIMIT)	2	1
374+44	I-440 ON LEFT (INTERSTATE MARKER)	1	1
379+14	I-440 ON RIGHT (EXIT 8, FAULKNER LAKE ROAD)	1	1
384+54	I-440 ON RIGHT (NO PARKING)	1	1
385+51	I-440 ON RIGHT (EXIT 8)	2	1
385+95	I-440 ON RIGHT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
386+87	I-440 ON LEFT (RAMP MERGE ARROW)	2	1
388+04	I-440 ON LEFT (ADOPT A HIGHWAY)	2	1
388+45	I-440 ON LEFT (MILE MARKER)	1	1
388+70	I-440 ON RIGHT (MILE MARKER)	1	1
393+32	I-440 ON RIGHT (OBJECT MARKER)	1	1
395+93	I-440 ON LEFT (OBJECT MARKER)	1	1
400+12	I-440 ON RIGHT (RAMP MERGE ARROW)	2	1
403+46	I-440 ON LEFT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
404+08	I-440 ON LEFT (EXIT 8)	2	1
406+66	I-440 ON RIGHT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
408+38	I-440 ON LEFT (EXIT 8, FAULKNER LAKE ROAD)	3	1
409+27	I-440 ON RIGHT (TRUCKS USE RIGHT 2 LANES)	2	1
412+18	I-440 ON RIGHT (INTERSTATE MARKER)	1	1
413+66	I-440 ON RIGHT (OBJECT MARKER)	1	1
436+13	I-440 ON LEFT (OBJECT MARKER)	1	1
438+97	I-440 ON LEFT (SPEED LIMIT)	2	1
438+98	I-440 ON RIGHT (EXIT 10, 70, 1/2 MILE)	2	1
440+35	I-440 ON RIGHT (MILE MARKER)	1	1
440+36	I-440 ON LEFT (MILE MARKER)	1	1
442+99	I-440 ON LEFT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
444+95	I-440 ON LEFT (EXIT 9, FAULKNER LAKE ROAD, 3/4 MILE)	2	1
453+52	I-440 ON LEFT (TRUCKS USE RIGHT 2 LANES)	2	1
460+76	I-440 ON RIGHT (EXIT 10, 70)	2	1
462+29	I-440 ON RIGHT (NO PARKING)	2	1
464+45	I-440 ON RIGHT (EXIT SAFE SPEED)	1	1
465+66	I-440 ON RIGHT (EXIT 10)	2	1
466+89	I-440 ON LEFT (RAMP MERGE ARROW)	2	1
474+09	I-440 ON RIGHT (RAMP MERGE ARROW)	2	1
476+95	I-440 ON LEFT (EXIT 10)	2	1
479+57	I-440 IN CENTER (END TRUCK LANE RESTRICTION)	BRIDGE COLUMN	1
480+31	I-440 IN CENTER (TRUCKS USE RIGHT 2 LANES)	BRIDGE COLUMN	1
482+19	I-440 ON RIGHT (BRIDGE MAY ICE IN COLD WEATHER)	2	1
484+50	I-440 ON RIGHT (END TRUCK LANE RESTRICTION)	2	1
485+77	I-440 ON RIGHT (INTERSTATE MARKER)	1	1
489+34	I-440 ON LEFT (NORTH LITTLE ROCK NEXT 3 EXITS)	2	1
489+45	I-440 ON RIGHT (OBJECT MARKER)	1	1
SUBTOTALS:		119	72

REMOVAL AND DISPOSAL OF SIGNS & FOUNDATIONS (FOR CONTRACTOR INFORMATION ONLY) (BOX 2 OF 2)

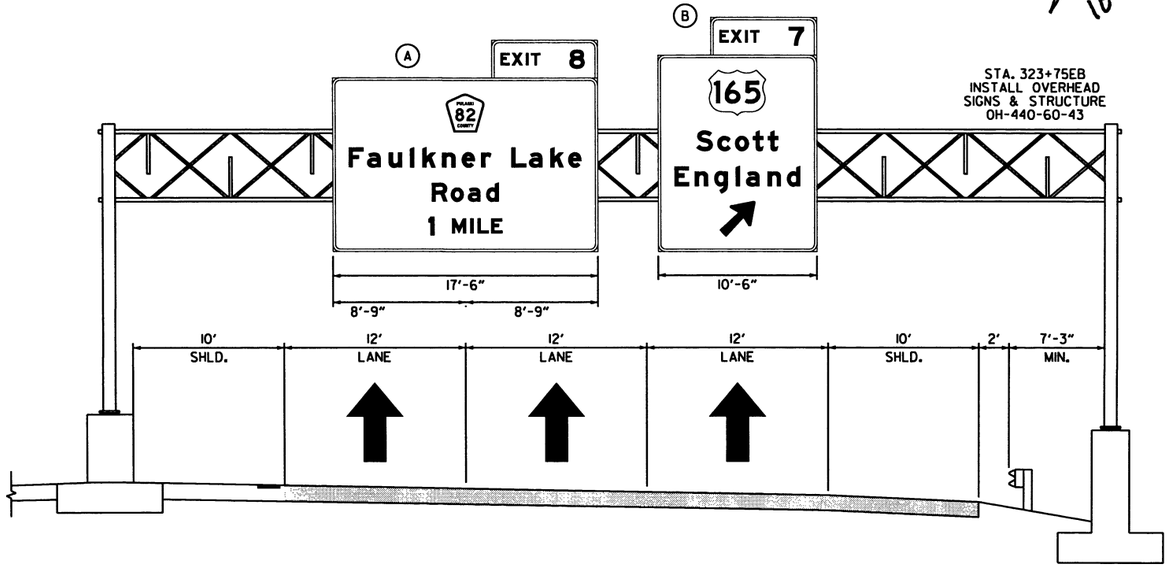
STATION	LOCATION	SIGN FOUNDATIONS	SIGNS
		EACH	EACH
528+08	I-440 ON RIGHT (RAMP LANE CONTINUES)	2	1
532+77	I-440 ON LEFT (EXIT 11A)	2	1
499+00	I-440 ON LEFT (RAMP ES) (RAMP LANE CONTINUES)	BRIDGE	1
502+99	I-440 ON LEFT (RAMP ES) (NORTH LITTLE ROCK NEXT 3 EXITS)	2	1
504+67	I-440 ON LEFT (RAMP ES) (NO PARKING)	1	1
509+10	I-440 ON LEFT (RAMP ES) (RAMP MERGE ARROW)	2	1
510+35	I-440 ON LEFT (RAMP ES) (SPEED LIMIT)	2	1
512+13	I-440 ON LEFT (RAMP ES) (NO PARKING)	1	1
518+46	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
518+92	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
519+68	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
519+98	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
520+22	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
520+41	I-440 ON LEFT (RAMP ES) (CHEVRON)	1	1
520+54	I-440 ON LEFT (RAMP ES) (BRIDGE MAY ICE IN COLD WEATHER)	2	1
507+88	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
508+30	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
508+76	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
509+22	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
509+73	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
510+22	I-440 ON LEFT (RAMP NE) (EXIT 11B)	2	1
510+23	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
511+22	I-440 ON LEFT (RAMP NE) (EXIT SAFE SPEED)	2	1
511+28	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
512+32	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
514+10	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
514+88	I-440 ON LEFT (RAMP NE) (CHEVRON)	1	1
509+94	I-440 ON RIGHT (RAMP SW) (EXIT)	2	2
510+29	I-440 ON RIGHT (RAMP SW) (CURVE ARROW, SAFE SPEED)	2	2
511+19	I-440 ON RIGHT (RAMP SW) (BRIDGE MAY ICE IN COLD WEATHER)	2	1
511+63	I-440 ON RIGHT (RAMP SW) (NO PARKING)	1	1
522+47	I-440 ON LEFT (RAMP SW) (RAMP MERGE ARROW)	2	1
511+32	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
511+33	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
511+75	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
511+79	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
512+54	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
512+64	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
513+58	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
514+85	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
515+56	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
516+01	I-440 ON RIGHT (RAMP WN) (EXIT SAFE SPEED)	2	1
516+15	I-440 ON RIGHT (RAMP WN) (CHEVRON)	1	1
516+35	I-440 ON RIGHT (RAMP WN) (EXIT)	2	1
507+39	I-440 ON LEFT (RAMP WS) (BRIDGE MAY ICE IN COLD WEATHER)	2	1
508+61	I-440 ON LEFT (RAMP WS) (RAMP MERGE ARROW)	2	1
509+41	I-440 ON LEFT (RAMP WS) (SPEED LIMIT)	2	1
320+99	I-40 ON RIGHT (EXIT 169)	2	1
353+94	I-40 ON LEFT (RAMP EN) (NO PARKING)	1	1
361+75	I-40 ON LEFT (EXIT 159)	2	1
350+88	I-40 ON LEFT (RAMP ES) (SAFE SPEED)	2	2
350+88	I-40 ON LEFT (RAMP ES) (SAFE SPEED)	2	2
352+68	I-40 ON LEFT (RAMP ES) (NO PARKING)	1	1
352+99	I-40 ON LEFT (RAMP ES) (EXIT)	2	1
332+25	I-40 ON LEFT (RAMP SW) (NO PARKING)	1	1
328+10	I-40 ON RIGHT (RAMP WS) (NO PARKING)	1	1
328+45	I-40 ON RIGHT (RAMP WS) (EXIT)	2	1
SUBTOTALS:		83	65
TOTALS:		202	137

SIGN QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	135	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRAM
10-28-2016



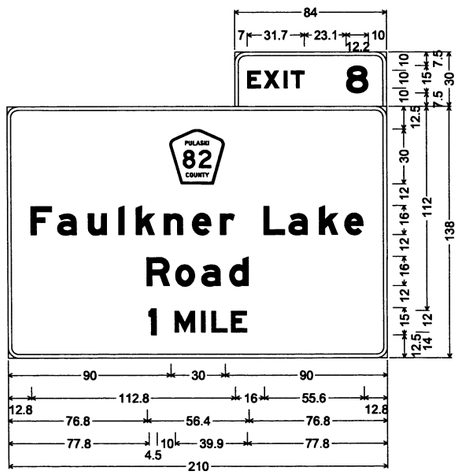
STA. 323+75EB
INSTALL OVERHEAD
SIGNS & STRUCTURE
OH-440-60-43

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

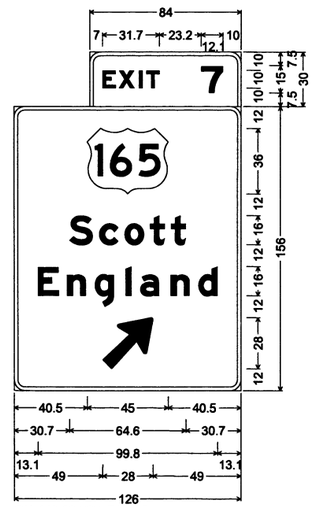
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



OH-440-60-323+75EB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length; [8] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Faulkner Lake] E Mod 2K; [Road] E Mod 2K;
[1] E Mod 2K; [MILE] E Mod 2K;

Ⓑ



OH-440-60-323+75EB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[7] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Scott] E Mod 2K;
[England] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-43

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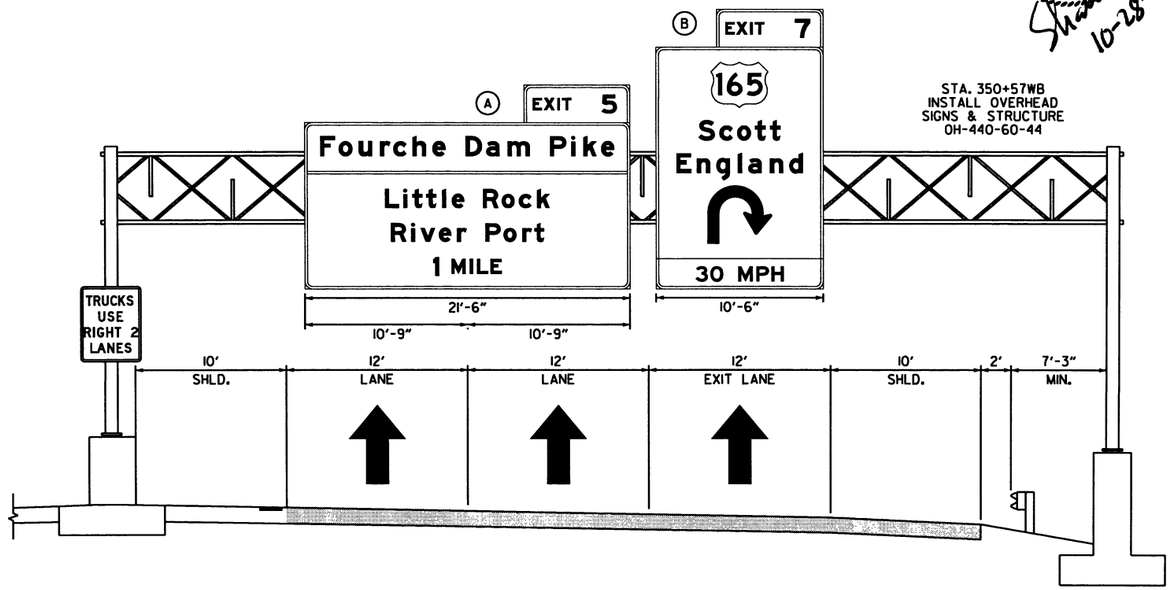
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	136	242

② SIGN LAYOUT

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12434 SHANNON D. MCFARLAND 10-28-2016



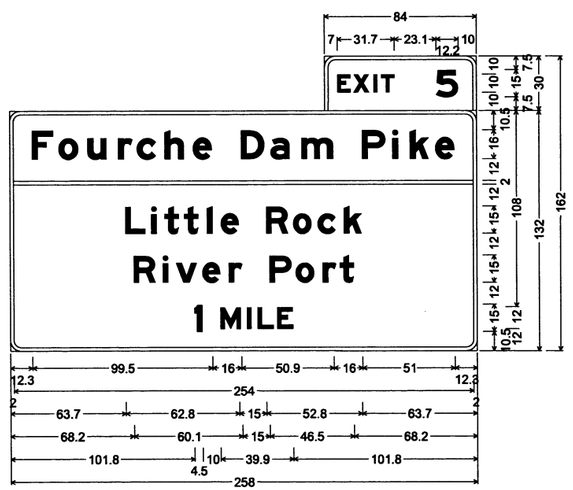
STA. 350+57WB
INSTALL OVERHEAD
SIGNS & STRUCTURE
OH-440-60-44

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



OH-440-60-350+57WB-A
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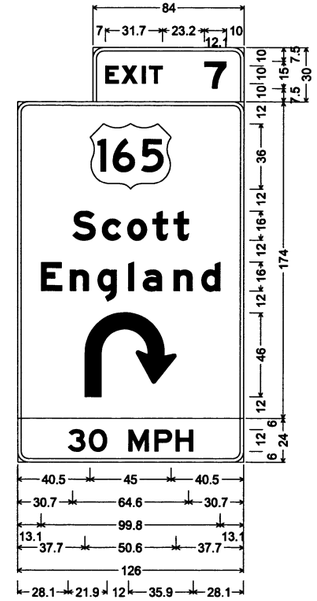
[EXIT] E Mod 2K specified length; [5] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Fourche Dam Pike] E Mod 2K; [Little Rock] E Mod 2K;
[River Port] E Mod 2K; [1] E Mod 2K; [MILE] E Mod 2K;

Ⓑ



OH-440-60-350+57WB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[7] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Scott] E Mod 2K;
[England] E Mod 2K;
Turn Arrow Custom;
6.0" Radius, 2.0" Border, Black on Yellow;
[30 MPH] E 2K;

SIGN LAYOUT
OH-440-60-44

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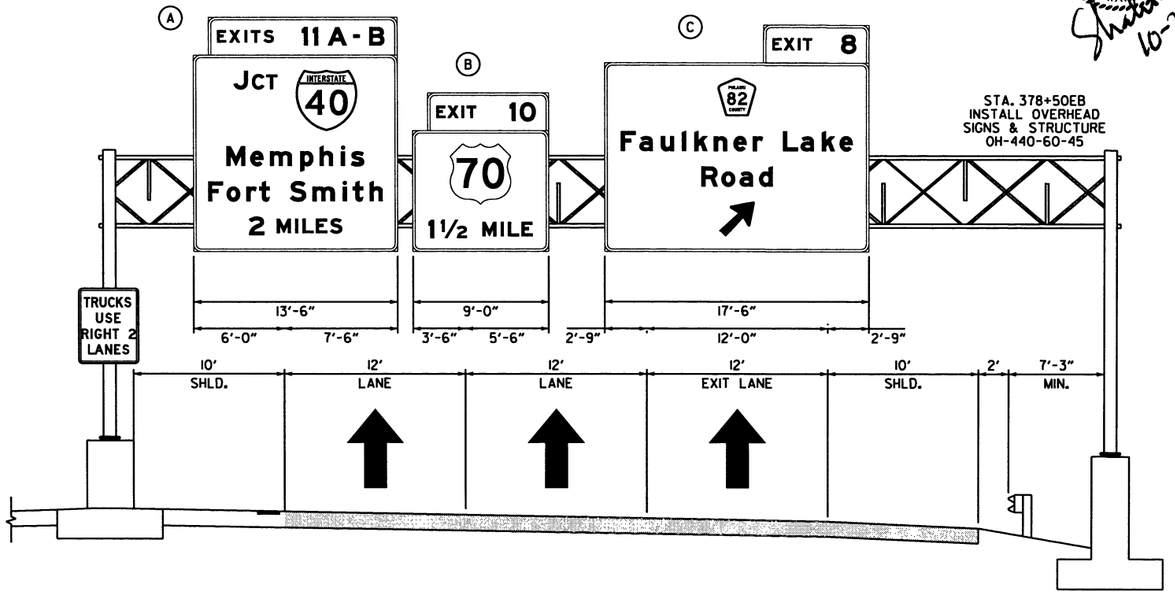
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	137	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11404
SHRIAR A. A. O.
10-28-2016



NOTE:

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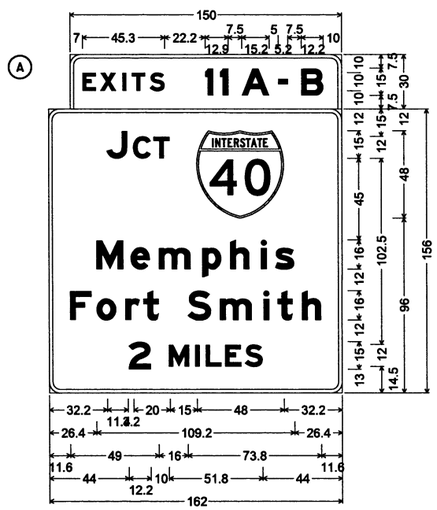
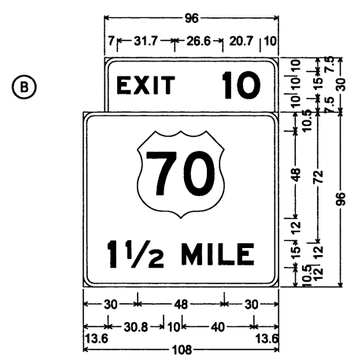
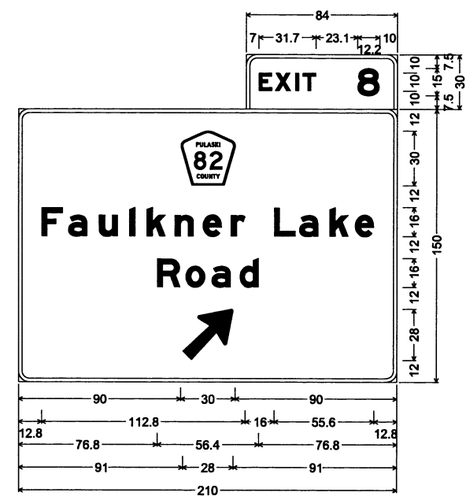
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-440-60-378+50EB-A
6.0" Radius, 2.0" Border, White on Green;
[EXITS] E Mod 2K specified length;
[11] E Mod 2K; [A] E Mod 2K; [-] E Mod 2K;
[B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[JCT] E Mod 2K; [Memphis] E Mod 2K;
[Fort Smith] E Mod 2K; [2] E Mod 2K;
[MILES] E Mod 2K;



OH-440-60-378+50EB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[10] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[1½] E Mod 2K;
[MILE] E Mod 2K;



OH-440-60-378+50EB-C
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length; [8] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Faulkner Lake] E Mod 2K; [Road] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-45

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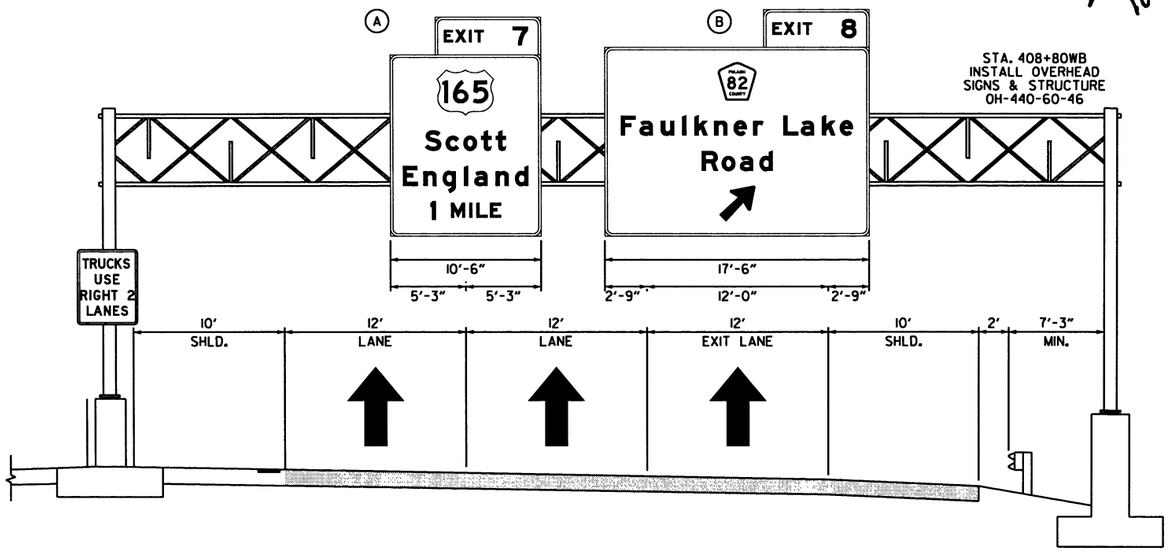
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	138	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHRIAR A. ALI
10-28-2016



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17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

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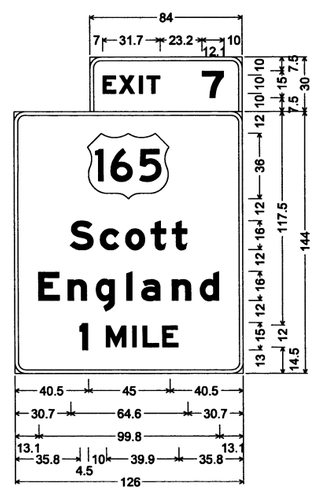
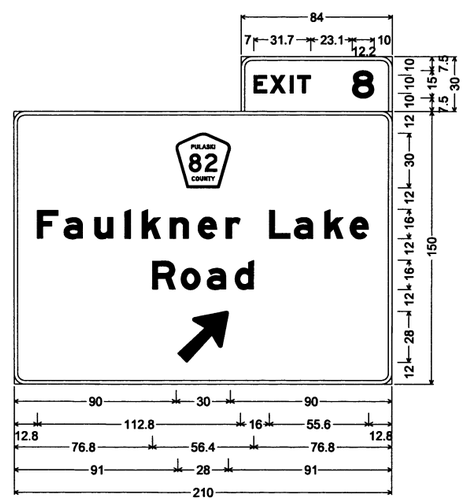


OH-440-60-408+80WB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[7] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Scott] E Mod 2K;
[England] E Mod 2K;
[1] E Mod 2K; [MILE] E Mod 2K;

Ⓑ



OH-440-60-408+80WB-B
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[EXIT] E Mod 2K specified length; [8] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Faulkner Lake] E Mod 2K; [Road] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-46

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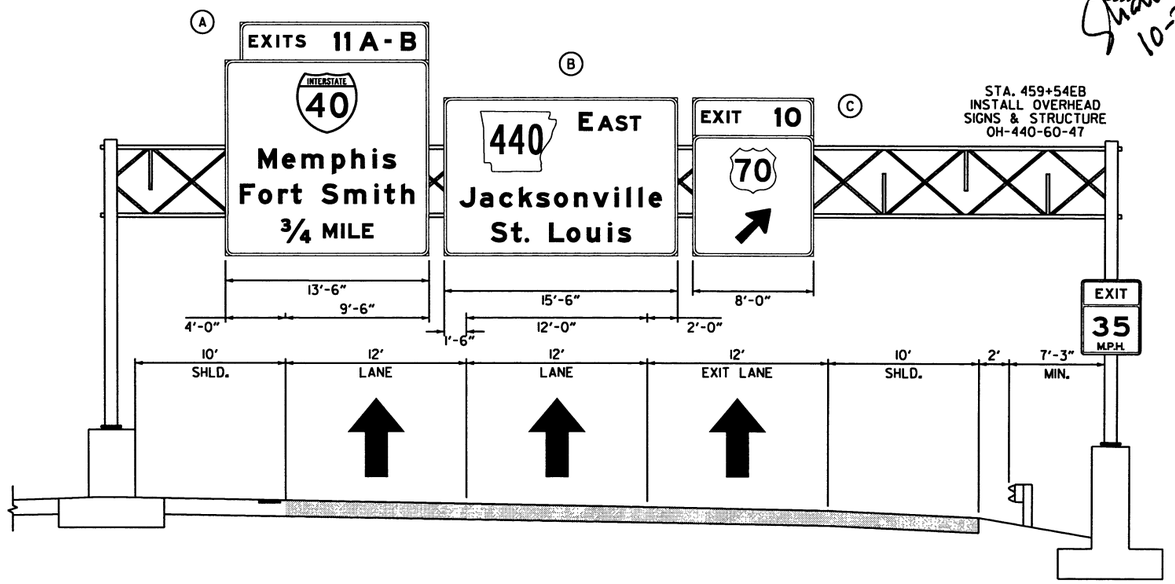
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	139	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHANNIAR AZAD
10-28-2016



NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

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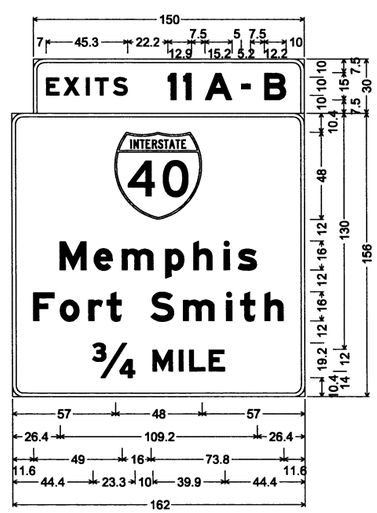

OH-440-60-459+54EB-A
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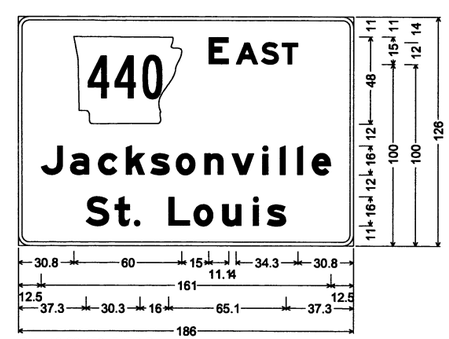
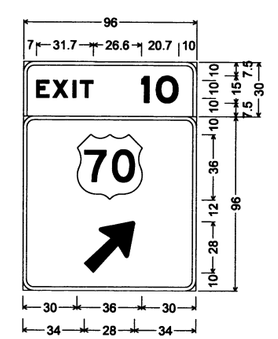
[EXITS] E Mod 2K specified length;
[11] E Mod 2K; [A] E Mod 2K; [-] E Mod 2K;
[B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Memphis] E Mod 2K; [Fort Smith] E Mod 2K;
"3/4" E Mod; [MILE] E Mod 2K;

Ⓑ



OH-440-60-459+54EB-B
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K; [St. Louis] E Mod 2K;

Ⓒ



OH-440-60-459+54EB-C
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[10] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-47

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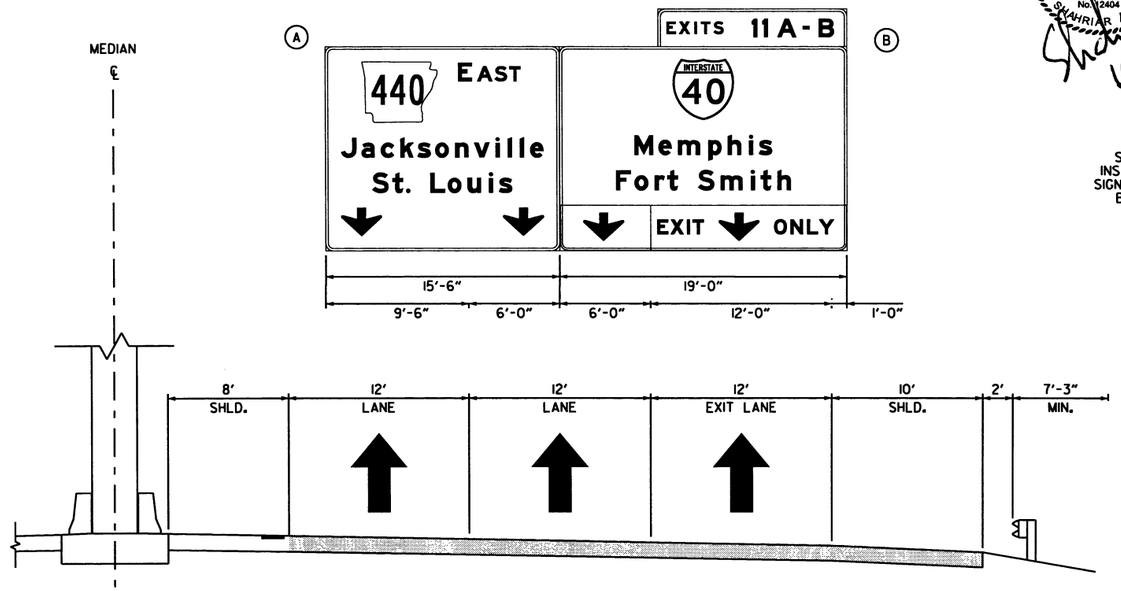
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	140	242

(2) SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

STA. 479+69EB
INSTALL OVERHEAD
SIGNS & STRUCTURE
BM-440-60-48



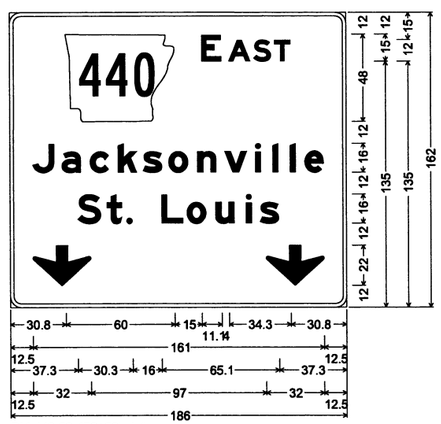
INTERSTATE 440
EASTBOUND

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

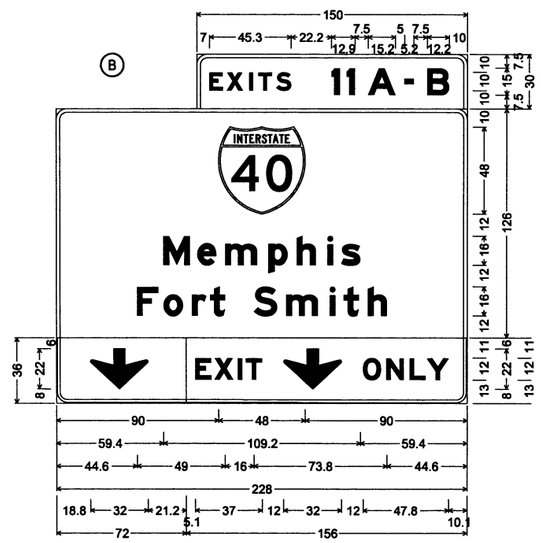
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

(A)



BM-440-60-479+69EB-A
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K; [St. Louis] E Mod 2K;
Down Arrow 22.0" 270°; Down Arrow 22.0" 270°;

(B)



BM-440-60-479+69EB-B
6.0" Radius, 2.0" Border, White on Green;
[EXITS] E Mod 2K specified length; [11] E Mod 2K;
[A] E Mod 2K; [-] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Memphis] E Mod 2K; [Fort Smith] E Mod 2K;
6.0" Radius, 1.5" Border, 0.5" Indent, White on Green;
Down Arrow 22.0" 270°;
6.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;
[EXIT] E Mod 2K; Down Arrow 22.0" 270°; [ONLY] E Mod 2K;

SIGN LAYOUT
BM-440-60-48

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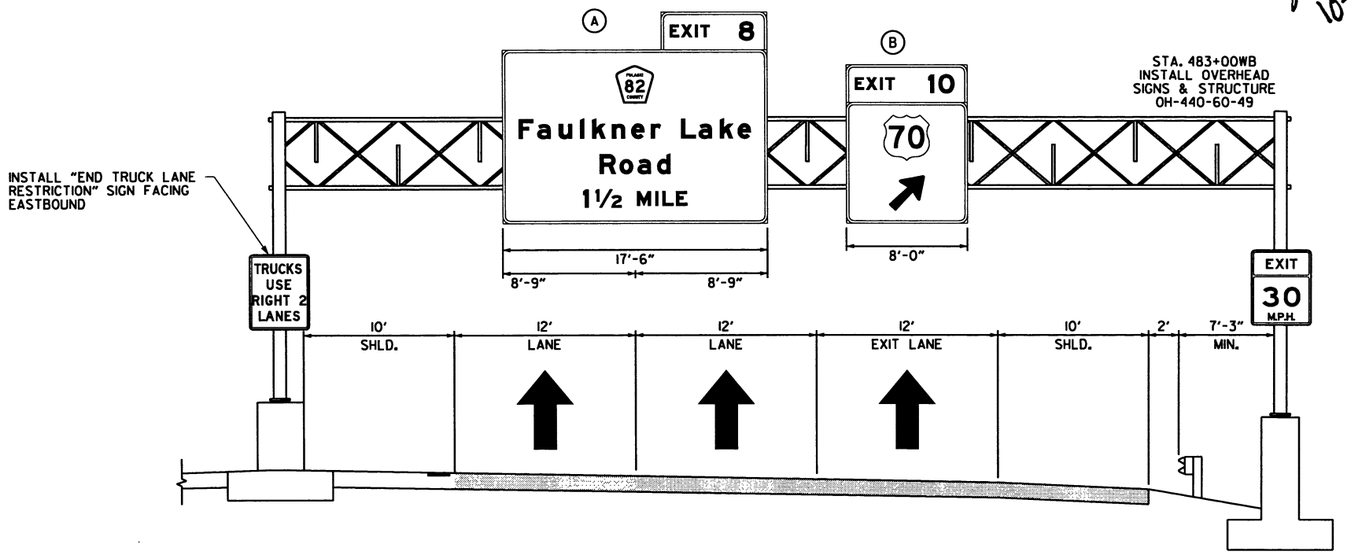
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	141	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADDI
10-28-2016



NOTE:

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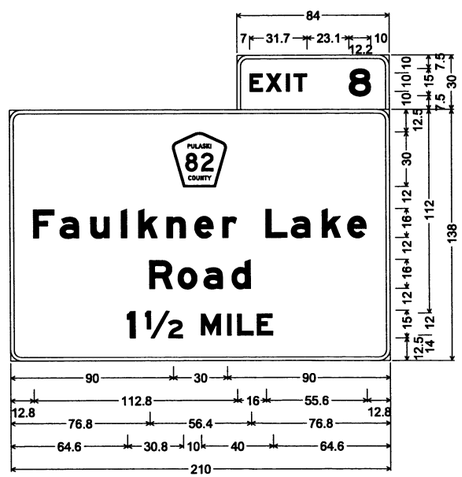
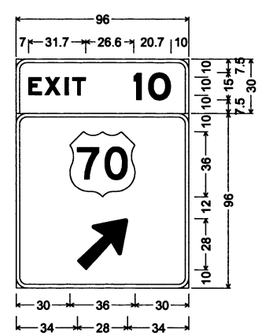
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



OH-440-60-483+00WB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length; [8] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Faulkner Lake] E Mod 2K; [Road] E Mod 2K;
[1½] E Mod 2K; [MILE] E Mod 2K;

Ⓑ



OH-440-60-483+00WB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[10] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-49

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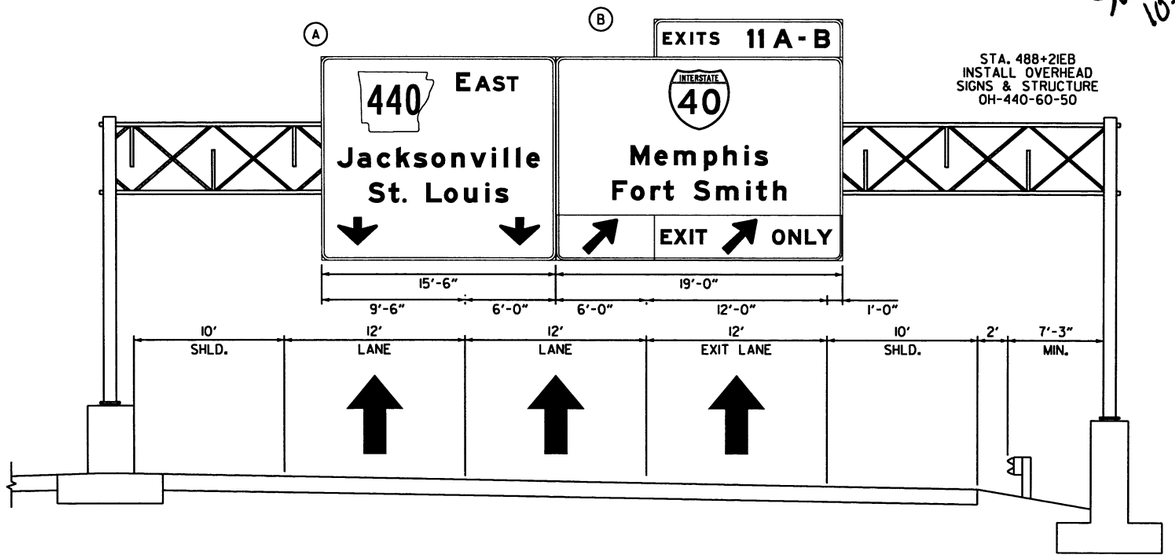
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	142	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12004
SHANNIAR A.Z. MD
10-28-2016



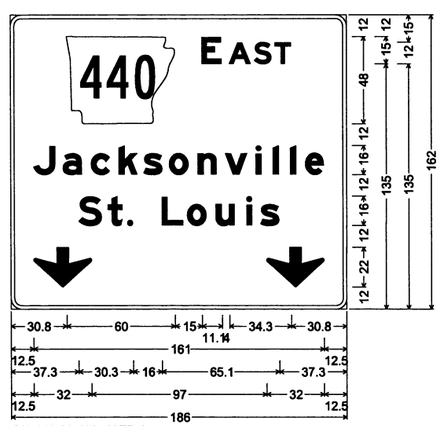
STA. 488+21EB
INSTALL OVERHEAD
SIGNS & STRUCTURE
OH-440-60-50

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

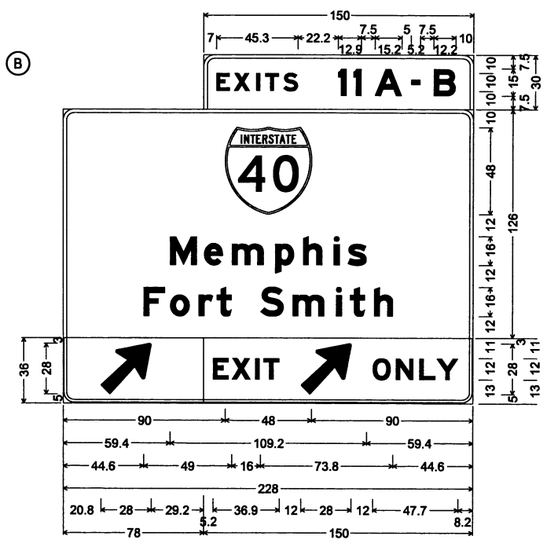
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



OH-440-60-489+00EB-A
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K; [St. Louis] E Mod 2K;
Down Arrow 22.0" 270°; Down Arrow 22.0" 270°;

Ⓑ



OH-440-60-489+00EB-B
6.0" Radius, 2.0" Border, White on Green;
[EXITS] E Mod 2K specified length; [11] E Mod 2K;
[A] E Mod 2K; [-] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[Memphis] E Mod 2K; [Fort Smith] E Mod 2K;
6.0" Radius, 1.5" Border, 0.5" Indent, White on Green;
Arrow Custom - 35.6" 45°;
6.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;
[EXIT] E Mod 2K; Arrow Custom - 35.6" 45°; [ONLY] E Mod 2K;

SIGN LAYOUT
OH-440-60-50

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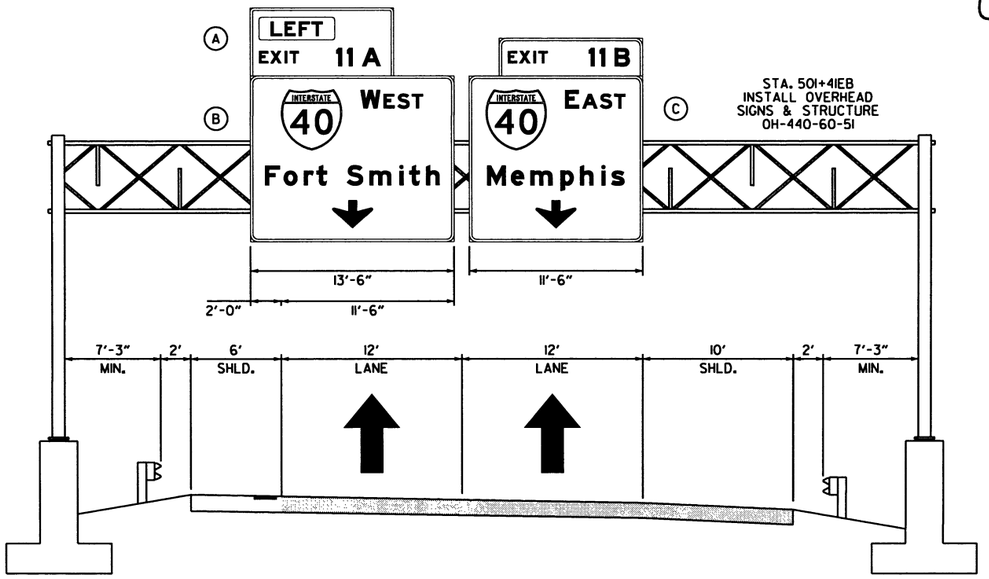
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	143	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12400
SHAHRIAR SHAHZAD
10-28-2016



NOTE:

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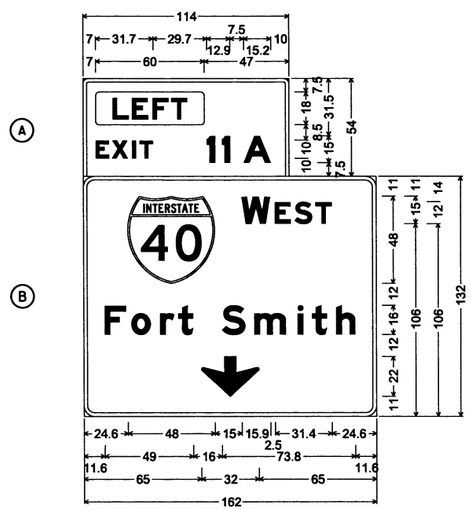
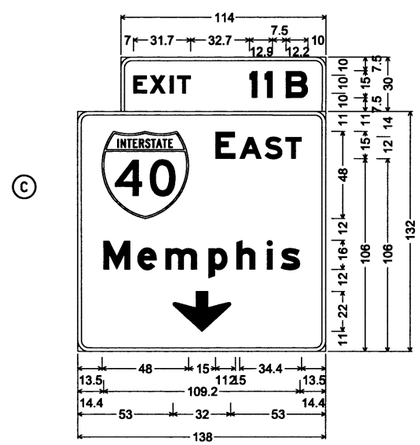
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-440-60-501+41EB-A
3.0" Radius, 2.0" Border, White on Green;
Rounded Rectangle 1.9" Radius Yellow;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [A] E Mod 2K;
OH-440-60-501+41EB-B
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Fort Smith] E Mod 2K;
Down Arrow 22.0" 270°;



OH-440-60-501+41EB-C
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Memphis] E Mod 2K;
Down Arrow 22.0" 270°;

SIGN LAYOUT
OH-440-60-51

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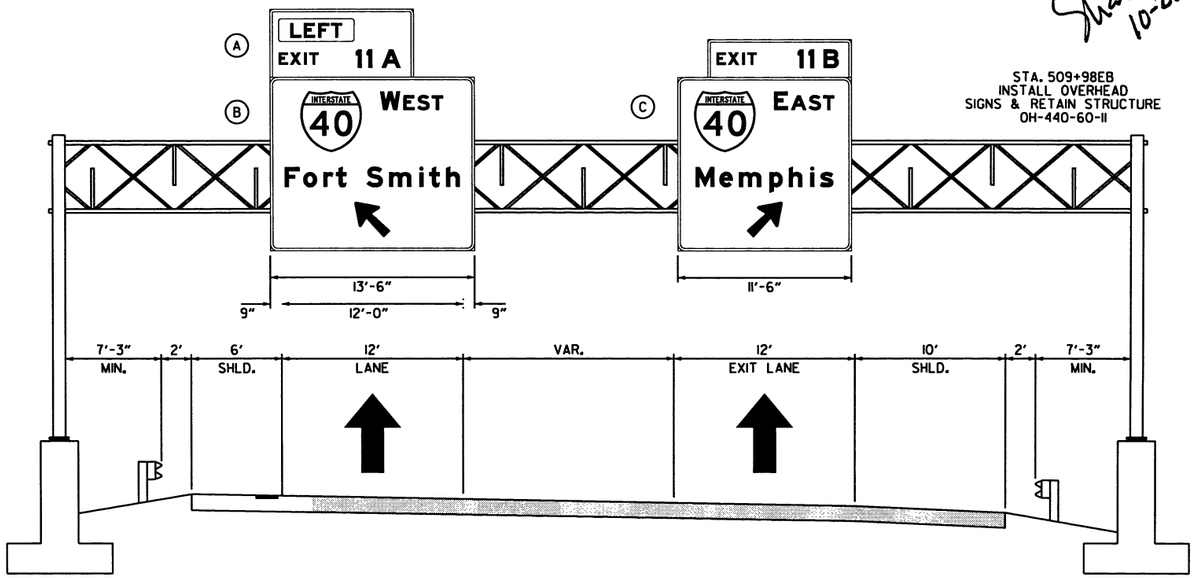
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	144	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12400
SHANNIAR RIZAD
10-28-2016

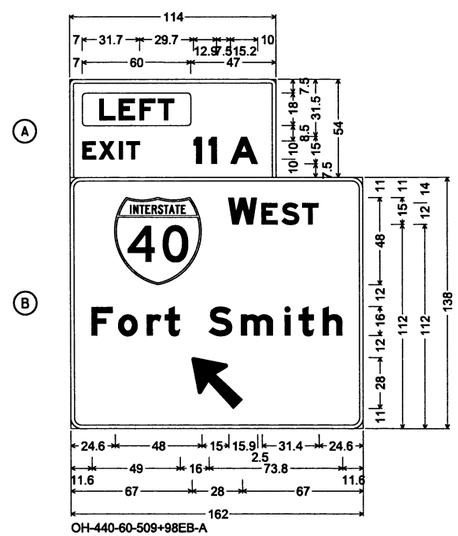


STA. 509+98EB
INSTALL OVERHEAD
SIGNS & RETAIN STRUCTURE
OH-440-60-II

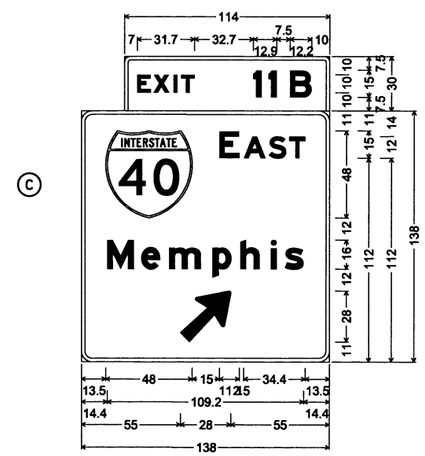
NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-440-60-509+98EB-A
3.0" Radius, 2.0" Border, White on Green;
Rounded Rectangle 1.9" Radius Yellow;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [A] E Mod 2K;
OH-440-60-509+98EB-B
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Fort Smith] E Mod 2K;
Arrow Custom - 35.6" 135°;



OH-440-60-509+98EB-C
3.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Memphis] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-440-60-II

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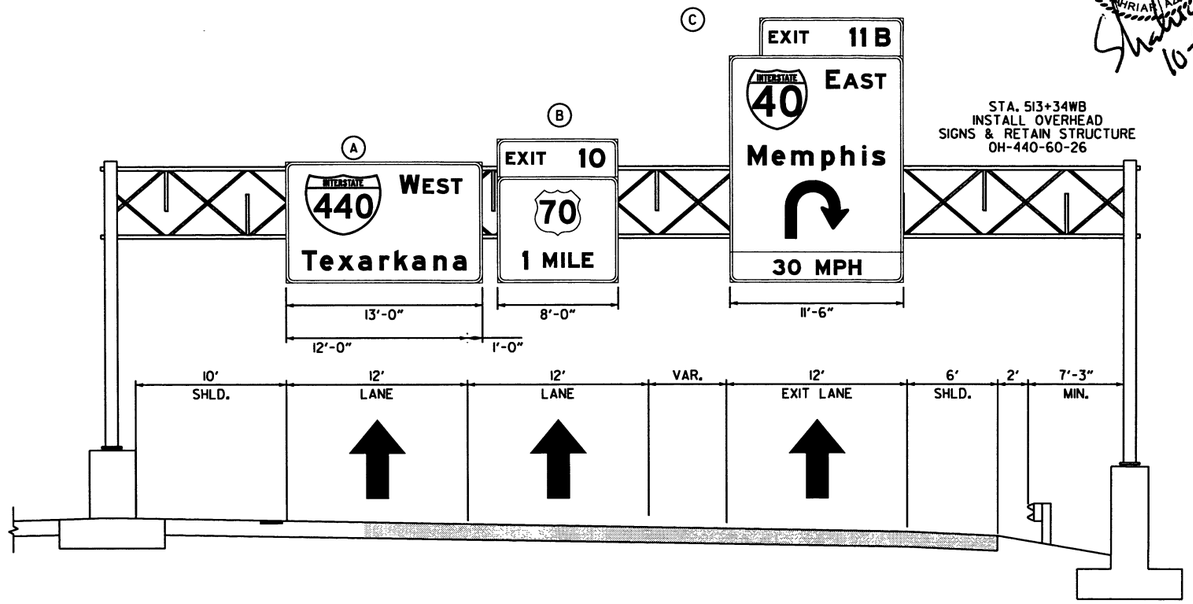
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	145	242
				②	SIGN LAYOUT			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12904
SHAHRIAR AZMID
10-28-2016



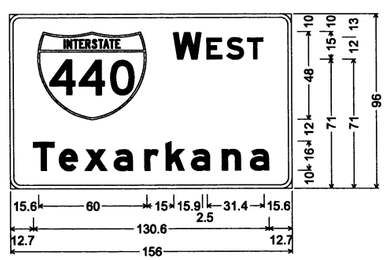
STA. 513+34WB
INSTALL OVERHEAD
SIGNS & RETAIN STRUCTURE
OH-440-60-26

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

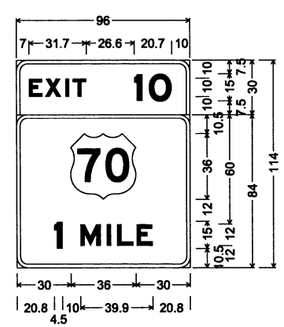
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



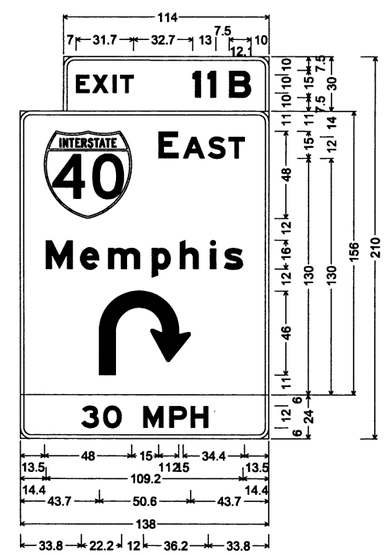
OH-440-60-513+34WB-A
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Texarkana] E Mod 2K;

Ⓑ



OH-440-60-513+34WB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[10] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[1] E Mod 2K;
[MILE] E Mod 2K;

Ⓒ



OH-440-60-513+34WB-C
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Memphis] E Mod 2K;
Turn Arrow Custom;
6.0" Radius, 2.0" Border, Black on Yellow;
[30 MPH] E Mod 2K;

SIGN LAYOUT
OH-440-60-26

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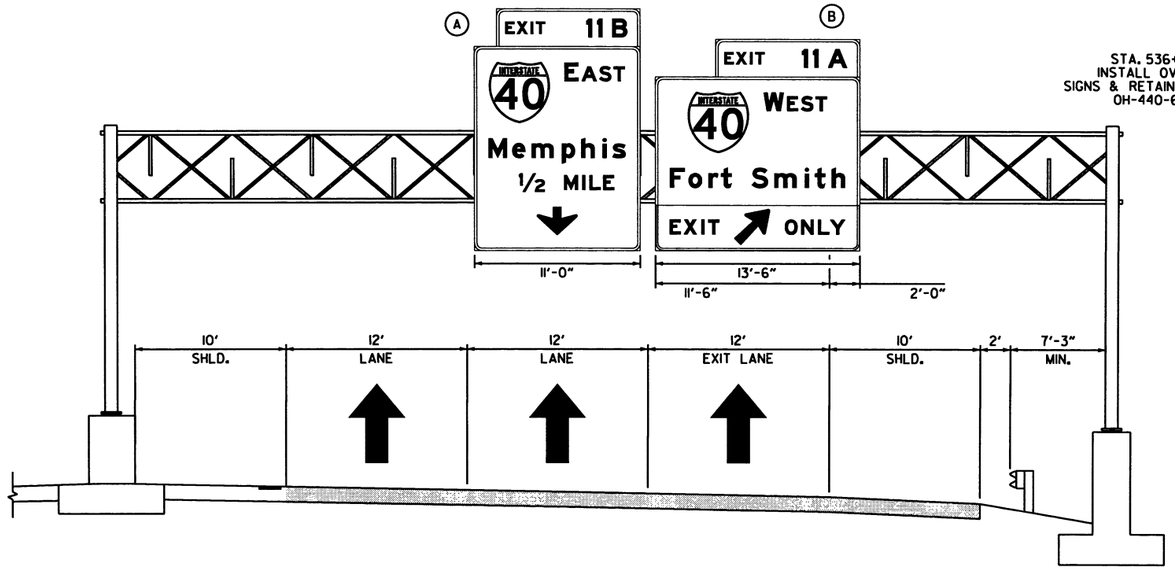
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	146	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016

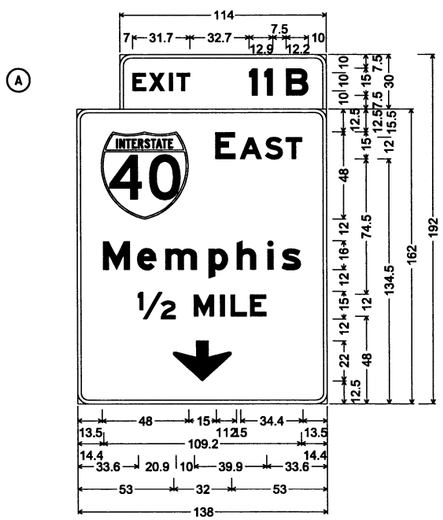
STA. 536+39WB
INSTALL OVERHEAD
SIGNS & RETAIN STRUCTURE
OH-440-60-27



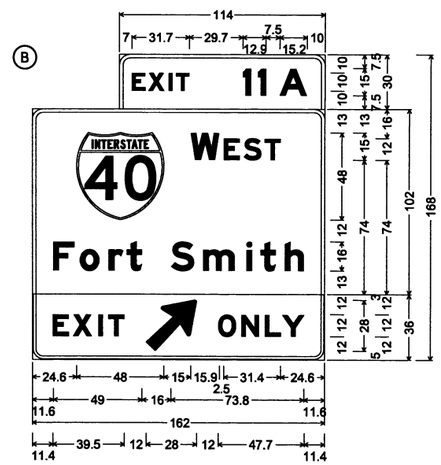
NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.
SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-440-60-536+39WB-A
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Memphis] E Mod 2K; [½] E Mod 2K;
[MILE] E Mod 2K;
Down Arrow 22.0" 270°;



OH-440-60-536+39WB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[11] E Mod 2K; [A] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Fort Smith] E Mod 2K;
6.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;
[EXIT] E Mod 2K 140% spacing;
Arrow Custom - 35.6" 45°; [ONLY] E Mod 2K;

SIGN LAYOUT
OH-440-60-27

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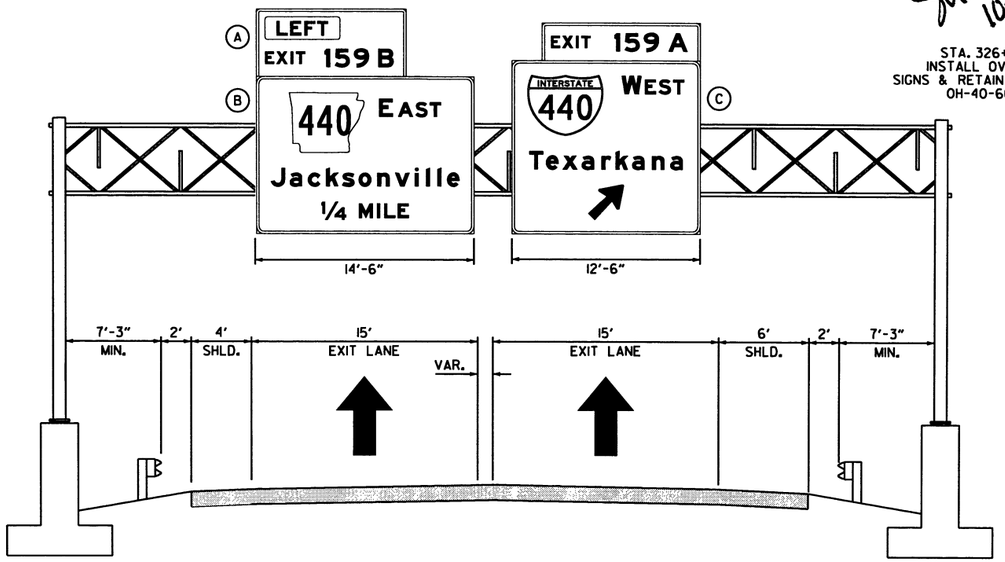
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	147	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 14404
SHAHRIAR AZAD
10-28-2016

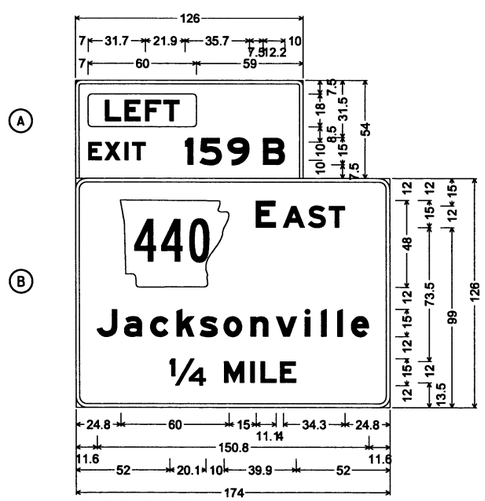
STA. 326+76EB
INSTALL OVERHEAD
SIGNS & RETAIN STRUCTURE
OH-40-60-29



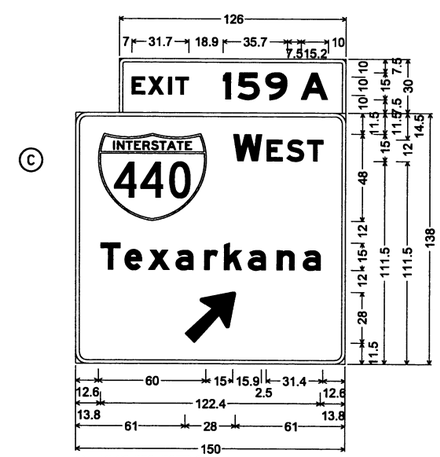
NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-40-60-326+76EB-A
3.0" Radius, 2.0" Border, White on Green;
Rounded Rectangle 1.9" Radius Yellow;
[EXIT] E Mod 2K specified length;
[159] E Mod 2K; [B] E Mod 2K;
OH-40-60-326+76EB-B
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K; [1/4] E Mod 2K;
[MILE] E Mod 2K;



OH-40-60-326+76EB-C
3.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[159] E Mod 2K; [A] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Texarkana] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-040-60-29

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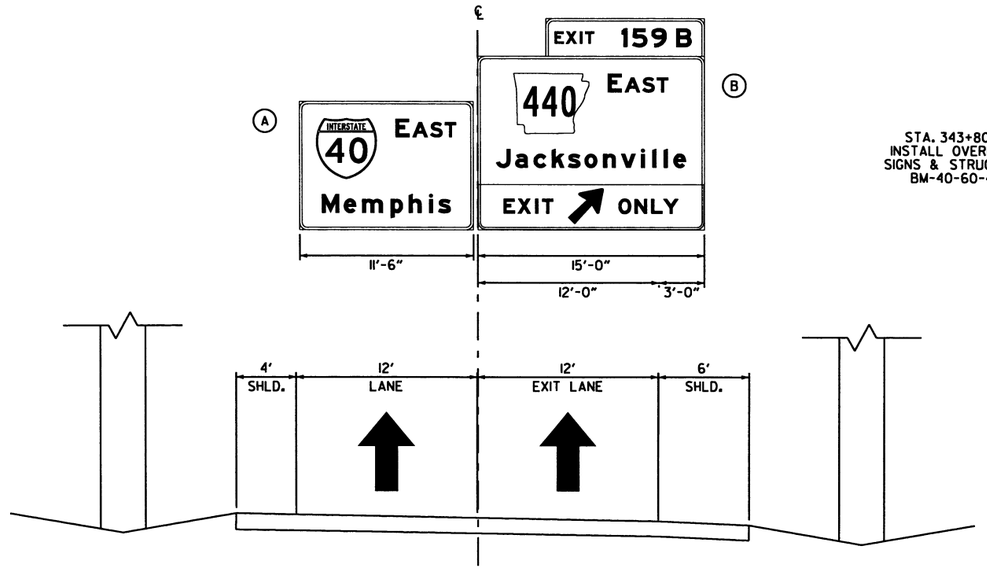
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	148	242

② SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



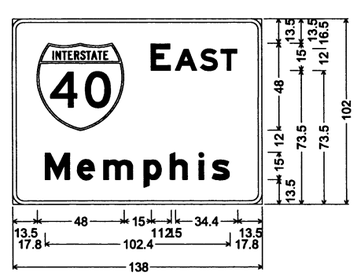
STA. 343+80EB
INSTALL OVERHEAD
SIGNS & STRUCTURE
BM-40-60-49

NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

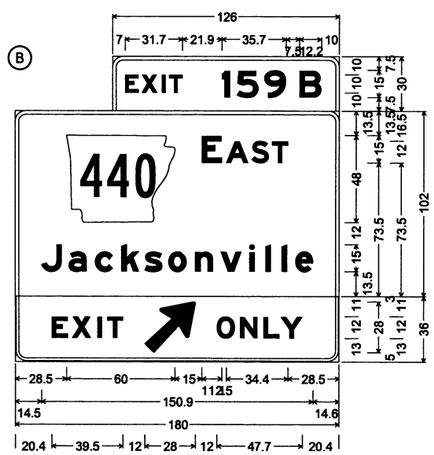
17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD

Ⓐ



BM-40-60-343+80EB-A
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Memphis] E Mod 2K;

Ⓑ



BM-40-60-343+80EB-B
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length; [159] E Mod 2K;
[B] E Mod 2K;
BM440-11AB-2WB L.M. 10.295;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K;
6.0" Radius, 1.5" Border, 0.5" Indent, Black on Yellow;
[EXIT] E Mod 2K 140% spacing;
Arrow Custom - 35.6" 45°; [ONLY] E Mod 2K;

SIGN LAYOUT
BM-040-60-49

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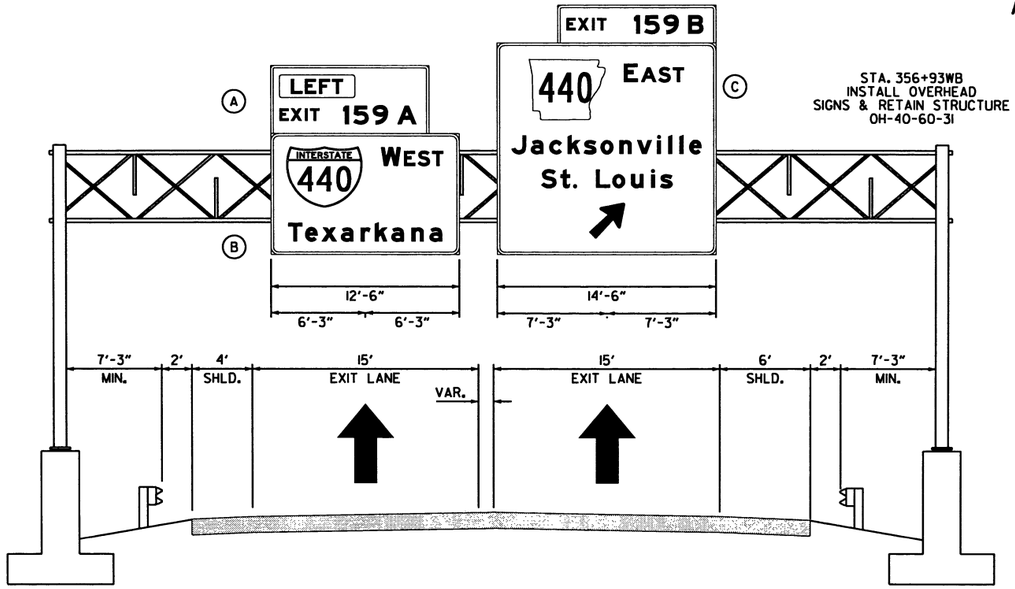
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	149	242

(2) SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ABAD
10-28-2016

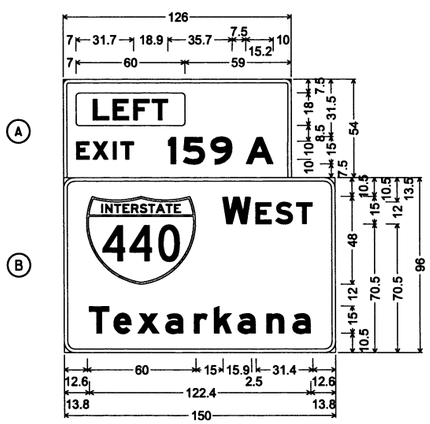
STA. 356+93WB
INSTALL OVERHEAD
SIGNS & RETAIN STRUCTURE
OH-40-60-31



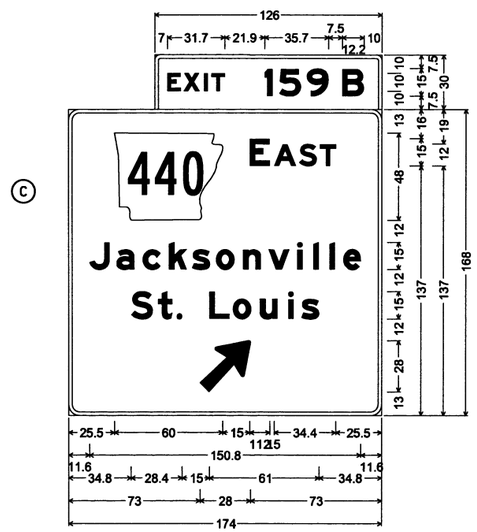
NOTE:

THE CONTRACTOR WILL VERIFY SIGN PLACEMENT AND MAKE ANY AJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES. SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

17.5 FT. MIN VERTICAL CLEARANCE OVER THE HGHEST POINT ON ROAD



OH-40-60-356+93WB-A
3.0" Radius, 2.0" Border, White on Green;
Rounded Rectangle 1.9" Radius Yellow;
[EXIT] E Mod 2K specified length;
[159] E Mod 2K; [A] E Mod 2K;
OH-40-60-356+93WB-B
6.0" Radius, 2.0" Border, White on Green;
[W] E Mod 2K; [EST] E Mod 2K;
[Texarkana] E Mod 2K;



OH-40-60-356+93WB-C
3.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K specified length;
[159] E Mod 2K; [B] E Mod 2K;
6.0" Radius, 2.0" Border, White on Green;
[E] E Mod 2K; [AST] E Mod 2K;
[Jacksonville] E Mod 2K; [St. Louis] E Mod 2K;
Arrow Custom - 35.6" 45°;

SIGN LAYOUT
OH-040-60-31

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	150	242

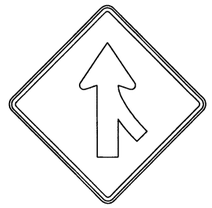
2 SIGN LAYOUT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12284
SHAHRIAR AZAD
10-28-2016

W8-13 (48" X 48")

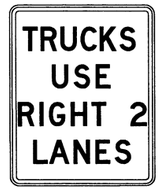
SS-440-60-STA319+74WB
SS-440-60-STA337+44EB
SS-440-60-STA356+29WB
SS-440-60-STA385+96EB
SS-440-60-STA403+46WB
SS-440-60-STA401+85EB
SS-440-60-STA442+99WB
SS-440-60-STA482+19EB
SS-ES-60-STA524+00WB
SS-SW-60-STA512+71EB
SS-SW-60-STA506+67WB
SS-440-60-STA511+54EB
SS-440-60-STA528+53WB

W4-1 (48" X 48")



SS-440-60-STA331+97WB
SS-440-60-STA340+12EB
SS-440-60-STA386+85WB
SS-440-60-STA397+94EB
SS-440-60-STA465+87WB
SS-440-60-STA474+09EB
SS-WS-60-STA510+91WB
SS-ES-60-STA511+12WB
SS-440-60-STA512+33EB
SS-SW-60-STA533+35WB
SS-SW-60-STA533+42WB

R4-5 (48" X 60")



SS-440-60-STA350+55WB
SS-440-60-STA378+47EB
SS-440-60-STA408+80WB
SS-440-60-STA408+80EB
SS-440-60-STA453+52WB
SS-440-60-STA483+00WB

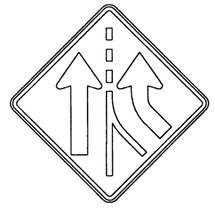
(48" X 60")

SS-440-60-STA483+00EB

R2-1 (48" X 60")

SS-440-60-STA371+00WB
SS-440-60-STA369+95EB
SS-440-60-STA438+96WB
SS-440-60-STA438+00EB
SS-WS-60-STA512+48WB
SS-ES-60-STA512+44WB

W4-3 (48" X 48")



SS-440-60-STA500+87WB
SS-440-60-STA499+00WB
SS-440-60-STA528+08EB

M3-2i (36" X 18")
M1-1 (440) (60" X 48")

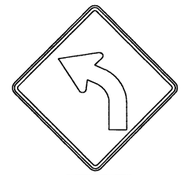
SS-440-60-STA363+00EB
SS-440-60-STA412+18EB

M3-4i (36" X 18")
M1-1 (440) (60" X 48")

SS-440-60-STA374+42WB
SS-440-60-STA450+00WB

(24" X 30")

SS-ES-60-STA506+01WB
SS-ES-60-STA514+18WB
SS-ES-60-STA533+74WB
SS-ES-60-STA535+98WB
SS-SW-60-STA513+54EB
SS-WS-60-STA520+45EB
SS-SW-60-STA542+00WB
SS-SE-60-STA521+00EB
SS-SW-60-STA532+70WB



W1-2 (48" X 48")

W13-1P (24" X 24")

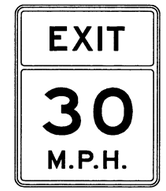
SS-ES-60-STA532+92WB
SS-ES-60-STA532+92WB

W1-2 (48" X 48")

W13-1P (24" X 24")

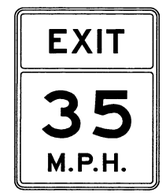
SS-SW-60-STA511+92EB

W13-2 (48" X 60")



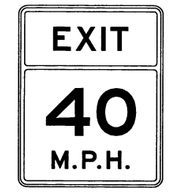
SS-440-60-STA348+13WB
SS-440-60-STA483+00WB

W13-2 (48" X 60")

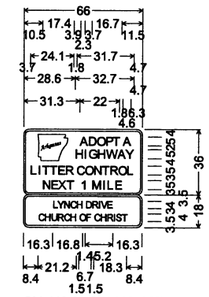


SS-440-60-STA459+54EB

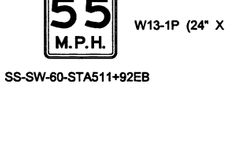
W13-2 (48" X 60")



SS-440-60-STA323+75EB

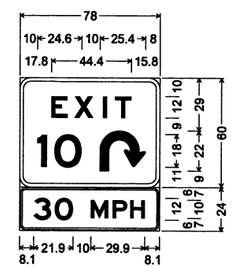


GM-440-60-STA332+95EB
GM-440-60-STA390+50WB
3.0" Radius, 1.0" Border, White on Blue;
[ADOPT A] Times New Roman;
[HIGHWAY] Times New Roman;
[LITTER CONTROL] Times New Roman;
[NEXT 1 MILE] Times New Roman;
3.0" Radius, 1.0" Border, White on Blue;
[LYNCH DRIVE] Arial 50% spacing;
[CHURCH OF CHRIST] Arial 50% spacing;

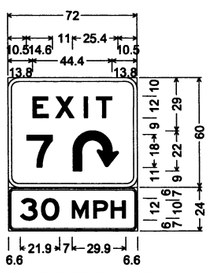


EX-WS-60-STA518+10EB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K 150% spacing;
[159A] E Mod 2K;
Arrow Custom - 29.3" 45°;

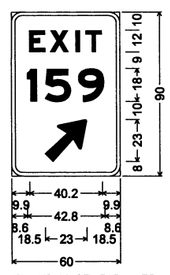
EX-ES-60-STA535+04WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K 150% spacing;
[159B] E Mod 2K;
Arrow Custom - 29.3" 45°;



EX-440-60-STA476+95WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K 225% spacing;
[10] E 2K;
Turn Arrow Custom;
3.0" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
[30] E 2K;
[MPH] E 2K;



EX-440-60-STA342+11WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K 225% spacing;
[7] E 2K;
Turn Arrow Custom;
3.0" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
[30] E 2K;
[MPH] E 2K;



EX-WS-60-STA525+33EB
EX-ES-60-STA544+93WB
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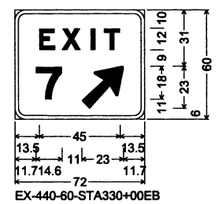
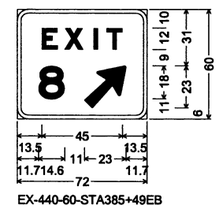
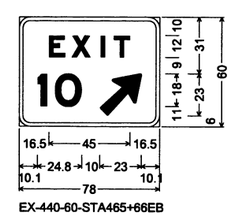
[EXIT] E Mod 2K 150% spacing;
[159] E Mod 2K;
Arrow Custom - 29.3" 45°;



EX-440-60-STA330+00EB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K 225% spacing;
[7] E Mod 2K;
Arrow Custom - 29.3" 45°;



EX-440-60-STA385+49EB
EX-440-60-STA404+08WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K 225% spacing;
[8] E Mod 2K;
Arrow Custom - 29.3" 45°;



EX-440-60-STA465+66EB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K 225% spacing;
[10] E Mod 2K;
Arrow Custom - 29.3" 45°;

SIGN LAYOUT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	151	242

2 SIGN LAYOUT

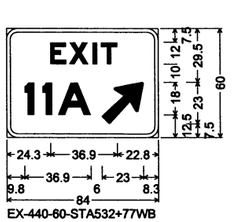
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADLI
10-28-2016

M3-2i (24" X 12")
M1-1 (24" X 24")
M6-2 (21" X 15")

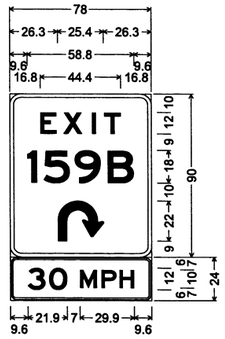
SS-SW-60-STA511+30EB

M3-4i (24" X 12")
M1-1 (48" X 48")
M6-2 (21" X 15")

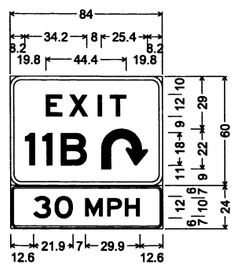
SS-SW-60-STA511+30EB



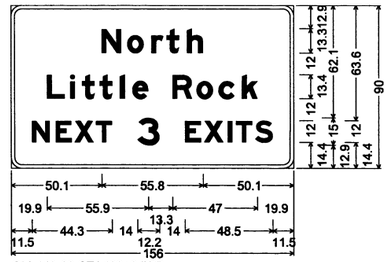
EX-440-60-STA532+77WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E Mod 2K;
[11A] E Mod 2K;
Arrow Custom - 29.3" 45°;



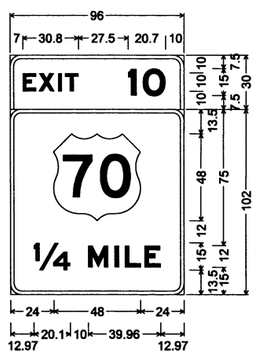
EX-440-60-STA516+36EB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K 225% spacing;
[159B] E 2K;
Turn Arrow Custom;
3.0" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
[30] E 2K;
[MPH] E 2K;



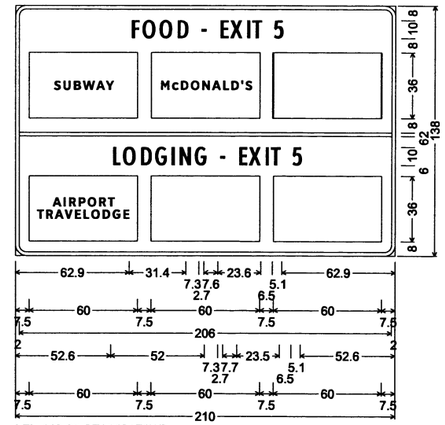
EX-440-60-STA510+22WB
6.0" Radius, 2.0" Border, White on Green;
[EXIT] E 2K 225% spacing;
[11B] E 2K;
Turn Arrow Custom;
3.0" Radius, 0.9" Border, 0.6" Indent, Black on Yellow;
[30] E 2K;
[MPH] E 2K;



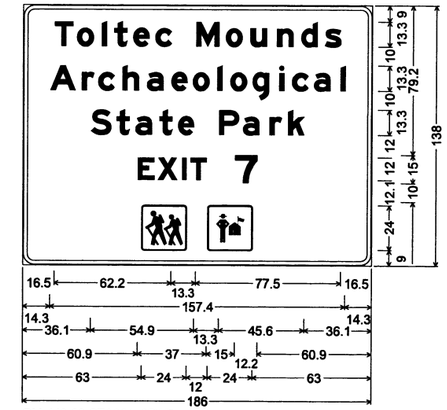
GM-440-60-STA489+34WB
6.0" Radius, 2.0" Border, White on Green;
[North] E Mod 2K; [Little Rock] E Mod 2K;
[NEXT] E Mod 2K; [3] E Mod 2K;
[EXITS] E Mod 2K;



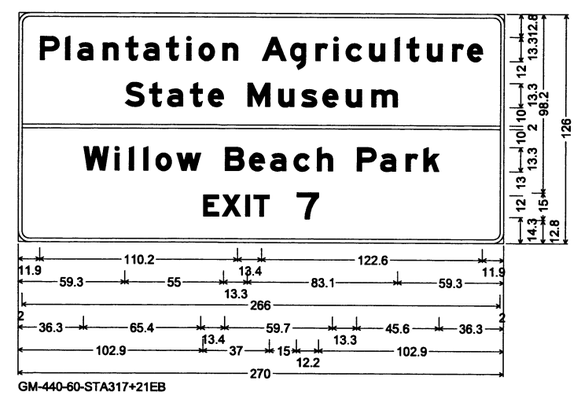
GM-ES-60-STA503+01WB
6.00" Radius, 2.00" Border, White on Green;
[EXIT] E Mod 2K;
[10] E Mod 2K;
6.00" Radius, 2.00" Border, White on Green;
[1/4] E Mod 2K;
[MILE] E Mod 2K;



LFL-440-60-STA315+71WB
6.0" Radius, 2.0" Border, White on Blue;
[FOOD - EXIT 5] ClearviewHwy-2-W;
[LODGING - EXIT 5] ClearviewHwy-2-W;



GM-440-60-STA361+95WB
6.0" Radius, 2.0" Border, 0.4" Indent, White on Brown;
[Toltec Mounds] E Mod 2K;
[Archaeological] E Mod 2K; [State Park] E Mod 2K;
[EXIT] E Mod 2K; [7] E Mod 2K;



GM-440-60-STA317+21EB
GM-440-60-STA365+92WB
6.0" Radius, 2.0" Border, White on Brown;
[Plantation Agriculture] E Mod 2K; [State Museum] E Mod 2K;
[Willow Beach Park] E Mod 2K; [EXIT] E Mod 2K; [7] E 2K;

SIGN LAYOUT

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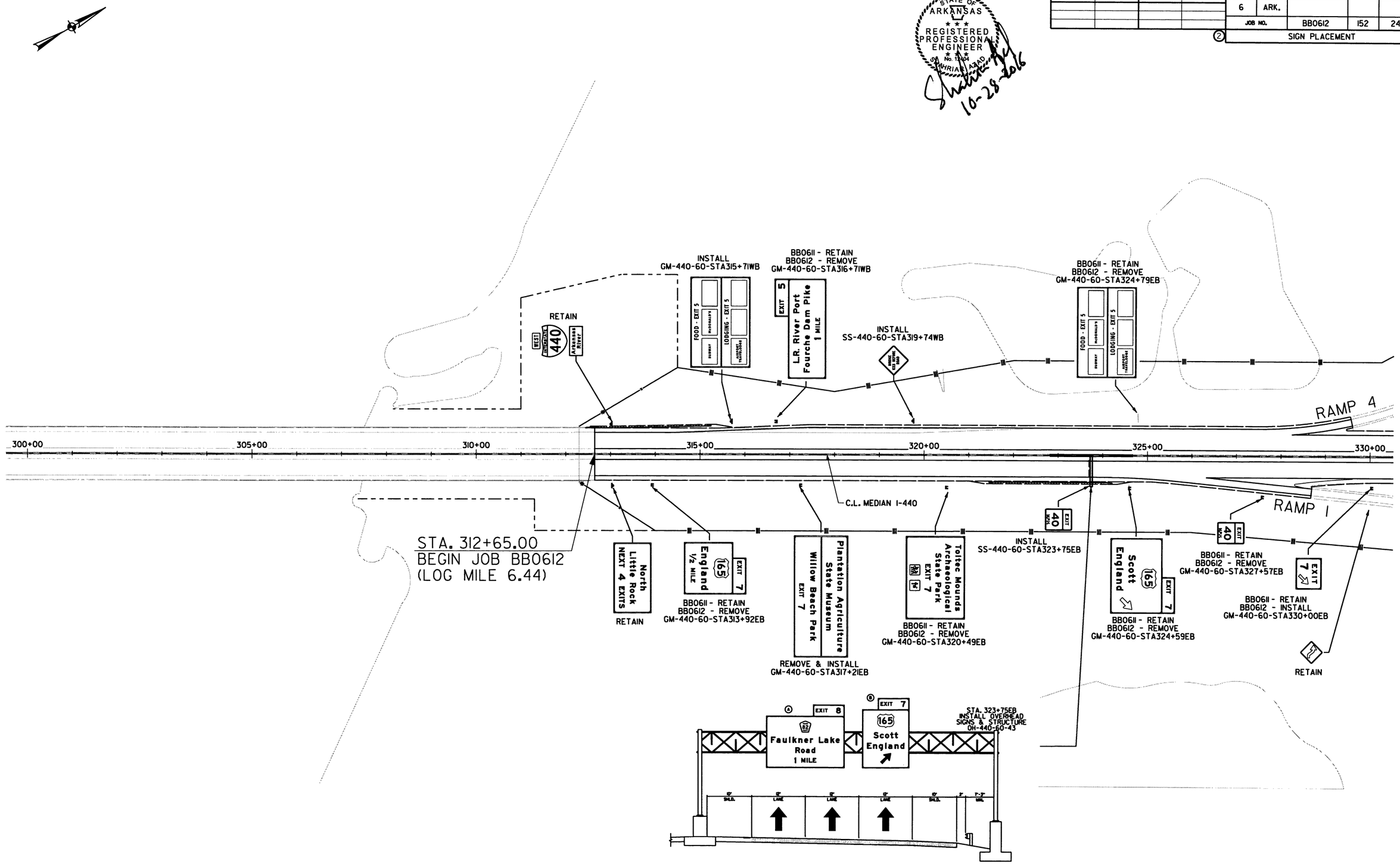
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	152	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 11404
SHARIAR A. AZAD
10-28-2016



SIGN PLACEMENT
STA. 300+00 TO STA. 330+00

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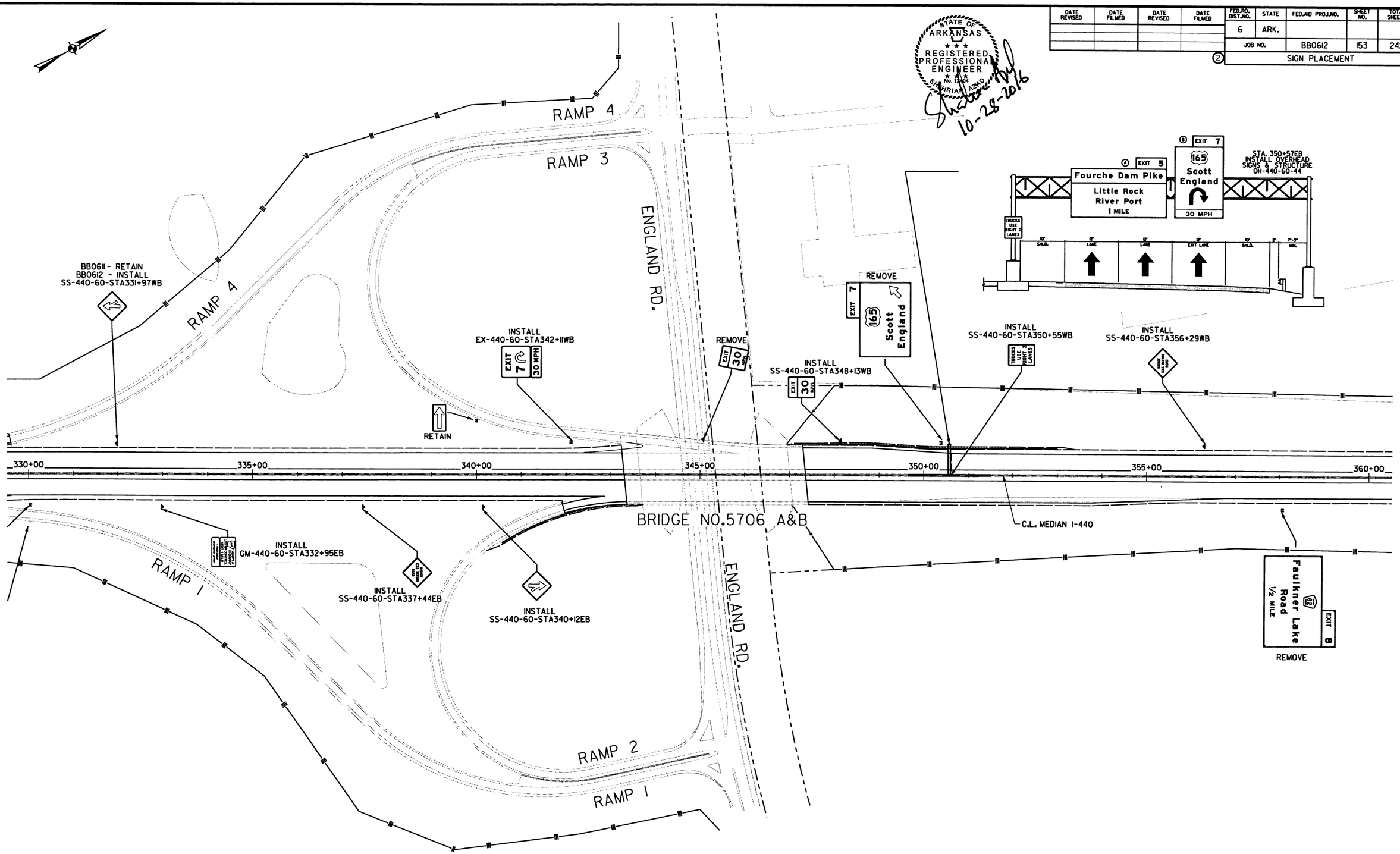
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	153	242

② SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



SIGN PLACEMENT
STA. 330+00 TO STA. 360+00

10/28/2016 3:16:58 PM

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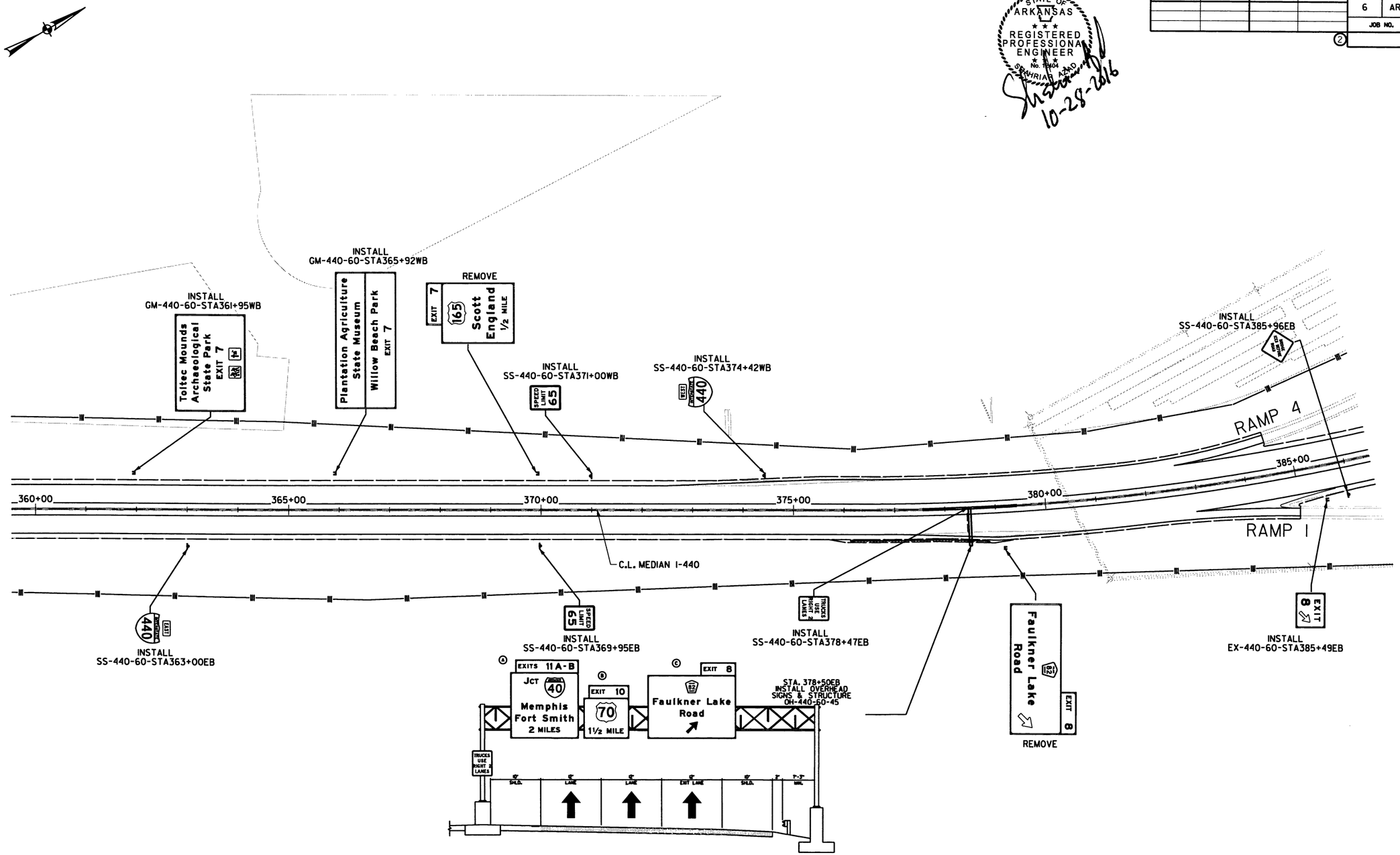
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	154	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18904
SHAHRIAR AZAD
10-28-2016



SIGN PLACEMENT
STA. 360+00 TO STA. 386+00

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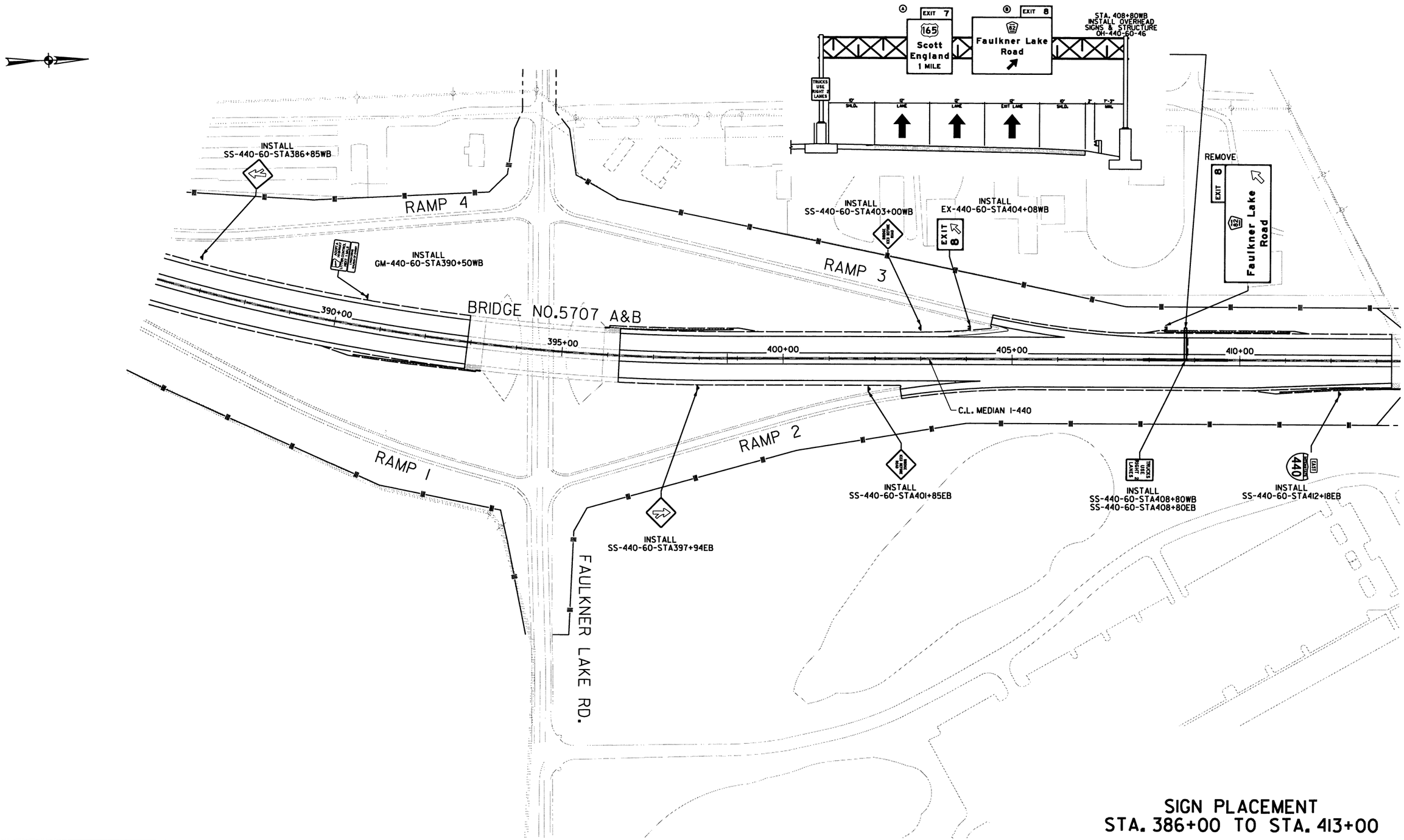
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	155	242

② SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12403
SHANNIAR HADI
10-28-2016



SIGN PLACEMENT
STA. 386+00 TO STA. 413+00

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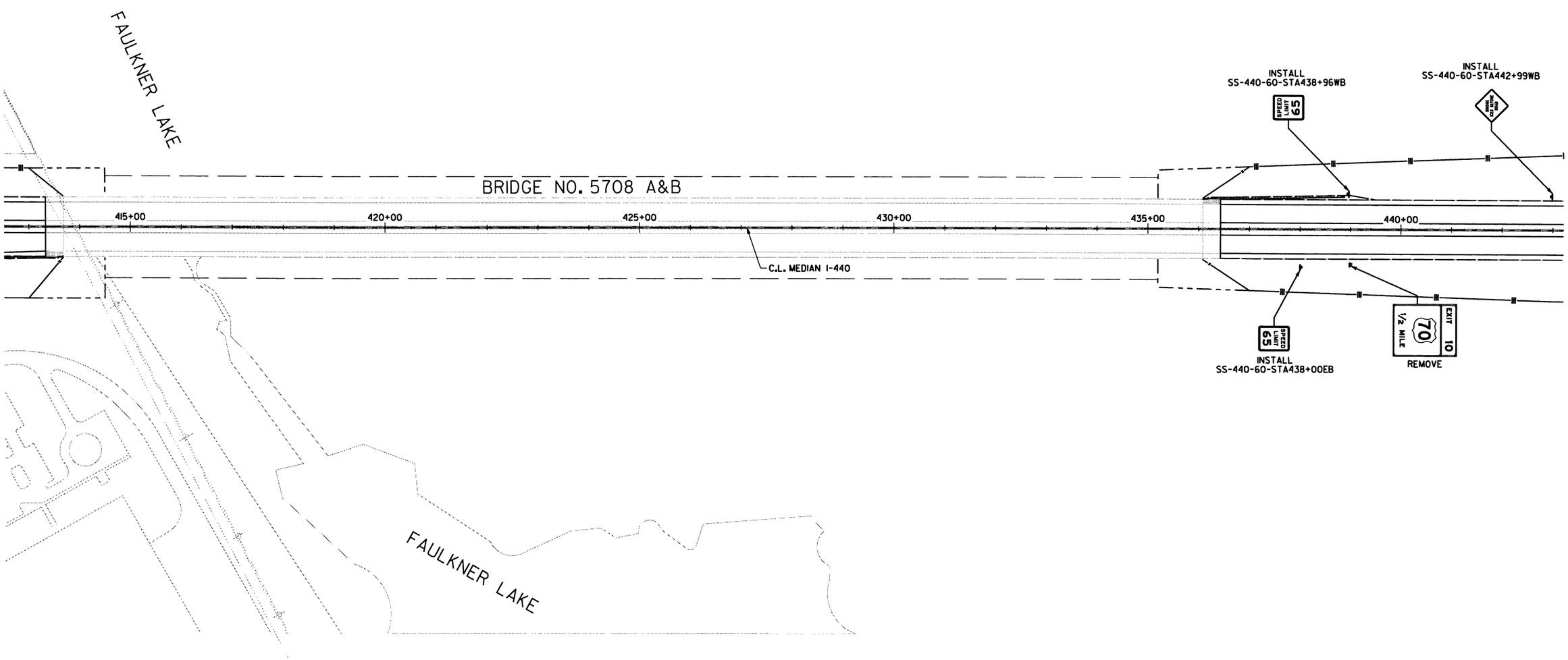
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	156	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 8404
SHAHRIAR AZAD
10-28-2016



SIGN PLACEMENT
STA. 413+00 TO STA. 443+00

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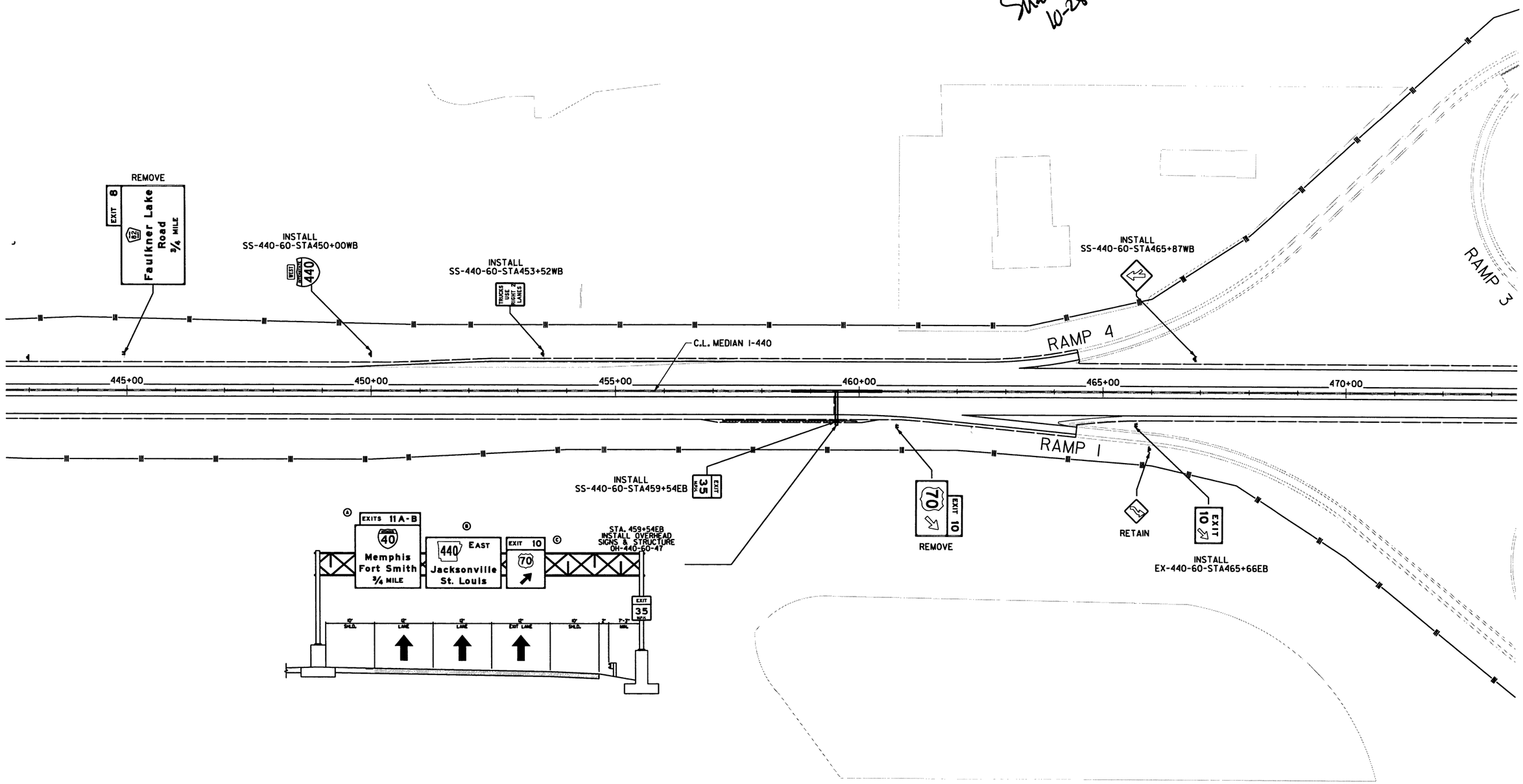
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	157	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



SIGN PLACEMENT
STA. 443+00 TO STA. 473+00

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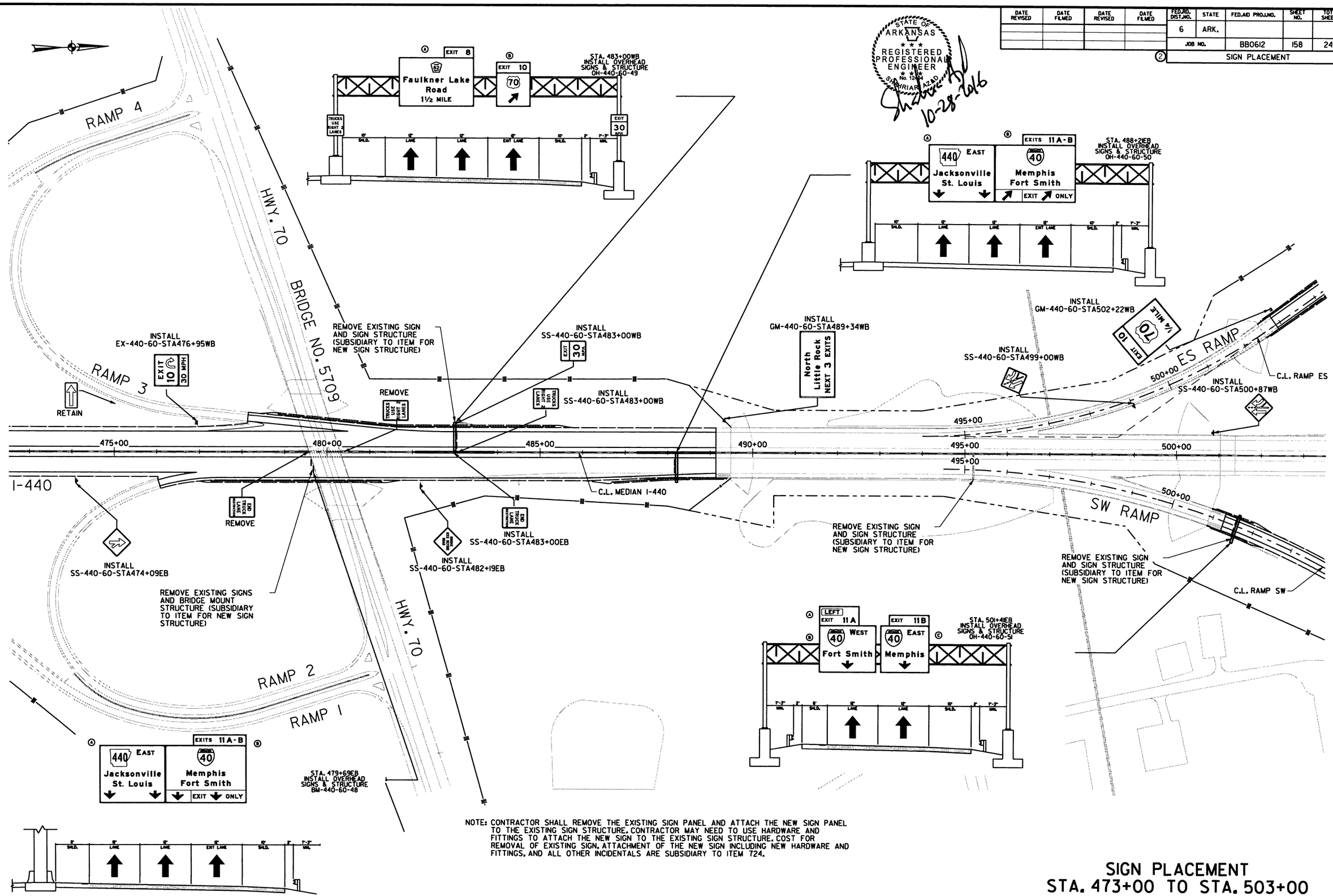
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	158	242

② SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHAHRIAR AZAD
10-28-2016



NOTE: CONTRACTOR SHALL REMOVE THE EXISTING SIGN PANEL AND ATTACH THE NEW SIGN PANEL TO THE EXISTING SIGN STRUCTURE. CONTRACTOR MAY NEED TO USE HARDWARE AND FITTINGS TO ATTACH THE NEW SIGN TO THE EXISTING SIGN STRUCTURE. COST FOR REMOVAL OF EXISTING SIGN, ATTACHMENT OF THE NEW SIGN INCLUDING NEW HARDWARE AND FITTINGS, AND ALL OTHER INCIDENTALS ARE SUBSIDIARY TO ITEM 724.

SIGN PLACEMENT
STA. 473+00 TO STA. 503+00

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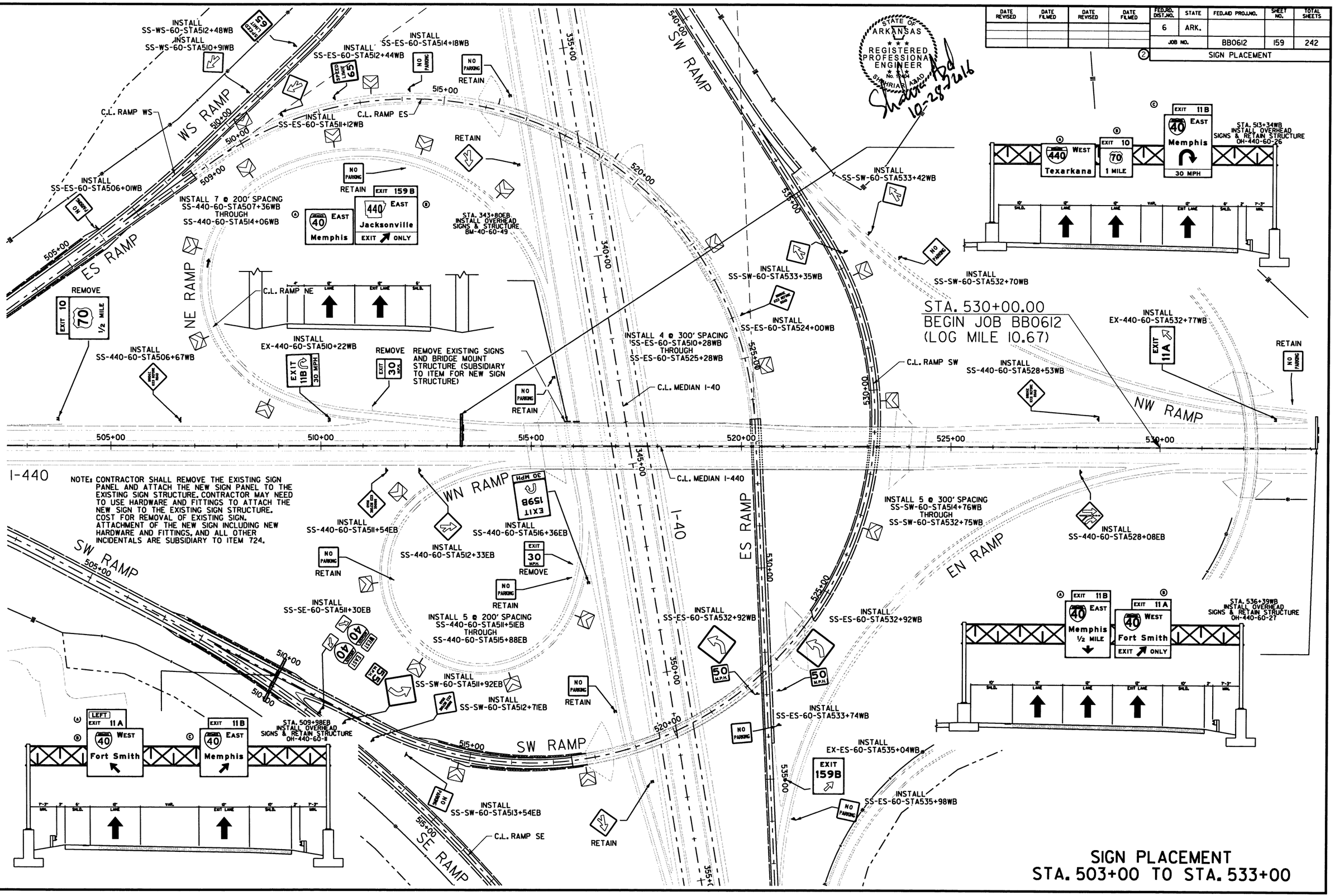
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	159	242

② SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
10-28-2016



SIGN PLACEMENT
STA. 503+00 TO STA. 533+00

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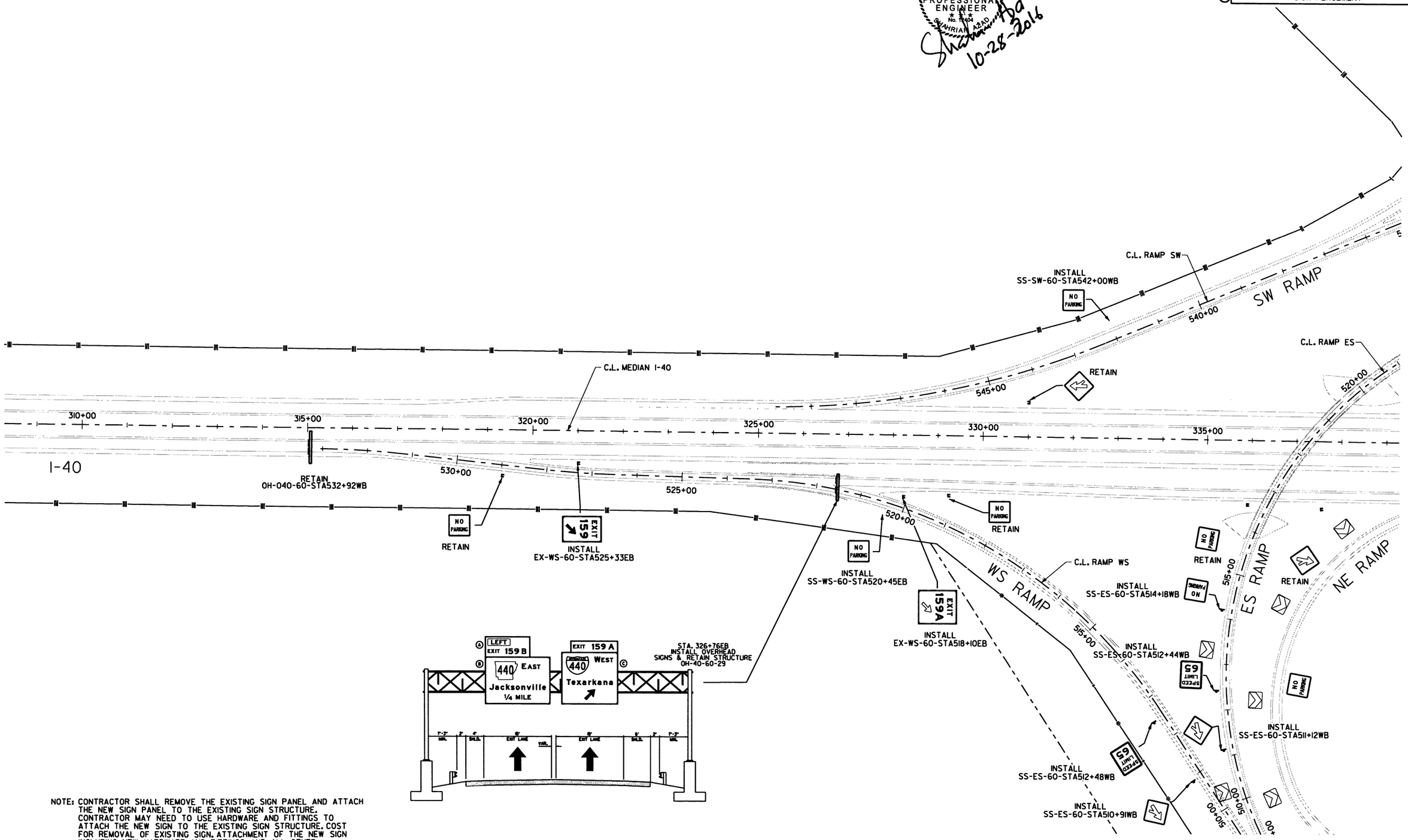
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	160	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 17404
SHAHRIAR AZAD
10-28-2016



NOTE: CONTRACTOR SHALL REMOVE THE EXISTING SIGN PANEL AND ATTACH THE NEW SIGN PANEL TO THE EXISTING SIGN STRUCTURE. CONTRACTOR MAY NEED TO USE HARDWARE AND FITTINGS TO ATTACH THE NEW SIGN TO THE EXISTING SIGN STRUCTURE. COST FOR REMOVAL OF EXISTING SIGN, ATTACHMENT OF THE NEW SIGN INCLUDING NEW HARDWARE AND FITTINGS, AND ALL OTHER INCIDENTALS ARE SUBSIDIARY TO ITEM 724.

SIGN PLACEMENT
STA. 503+00 TO STA. 533+00

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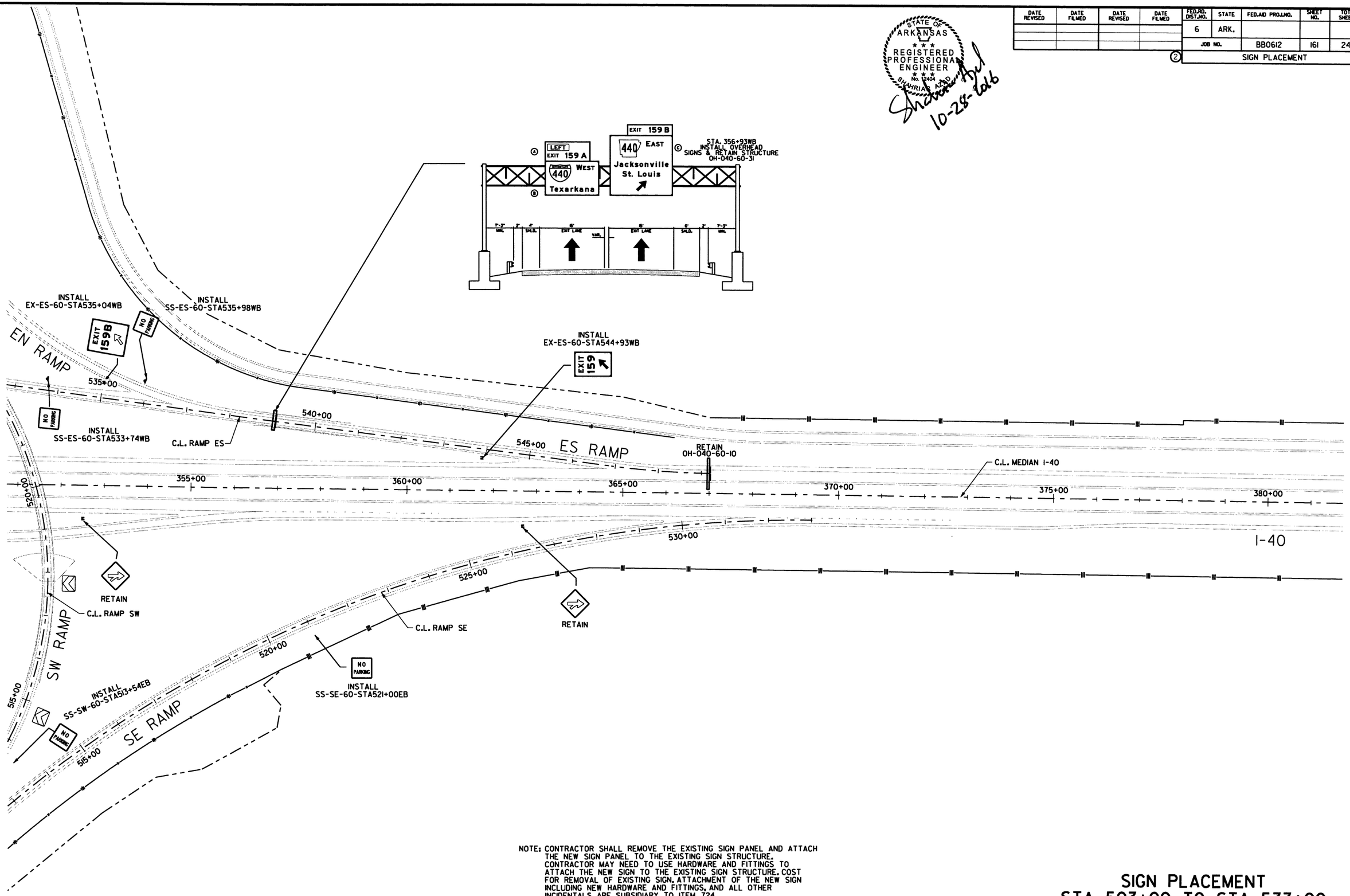
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	161	242

2 SIGN PLACEMENT

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ALI AZAD
10-28-2016



NOTE: CONTRACTOR SHALL REMOVE THE EXISTING SIGN PANEL AND ATTACH THE NEW SIGN PANEL TO THE EXISTING SIGN STRUCTURE. CONTRACTOR MAY NEED TO USE HARDWARE AND FITTINGS TO ATTACH THE NEW SIGN TO THE EXISTING SIGN STRUCTURE. COST FOR REMOVAL OF EXISTING SIGN, ATTACHMENT OF THE NEW SIGN INCLUDING NEW HARDWARE AND FITTINGS, AND ALL OTHER INCIDENTALS ARE SUBSIDIARY TO ITEM 724.

SIGN PLACEMENT
STA. 503+00 TO STA. 533+00

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NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

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

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

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 STANLEY RIAD

11-04-2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	162	242
						QUANTITIES		

ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1A	STAGE 1B	STAGE 2A	STAGE 2B	STAGE 3A	STAGE 3B	STAGE 4A	STAGE 4B	END OF JOB	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED NO.	TOTAL SIGNS REQUIRED SQ. FT.	TRAFFIC DRUMS	BARRICADES (TYPE III) LEFT	FURNISHING & INSTALLING PRECAST CONC. BARRIER	RELOCATING PRECAST CONCRETE BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (RELOCATION)	TEMP. IMPACT ATTEN.BARR. (REPAIR)	ADVANCE WARNING ARROW PANEL	PORTABLE CHANGEABLE MESSAGE SIGN
			LIN. FT. - EACH												EACH		LIN. FT.		EACH			DAY	WEEK
G20-1	ROAD WORK NEXT 3 MILES	(60" X 24")	4	4	4	4	4	4	4	4		4	4	40.0									
G20-2	END ROAD WORK	(48" X 24")	12	12	14	14	12	12	12	12		14	14	112.0									
* OM-3L	OBJECT MARKER LEFT	(12" X 36")	20	20	20	20	20	20	20	20		20	20	60.0									
* OM-3R	OBJECT MARKER RIGHT	(12" X 36")	20	20	20	20	20	20	20	20		20	20	60.0									
R2-1	SPEED LIMIT (60MPH)	(48" X 60")	4	4	4	4	4	4	4	4		4	4	80.0									
R4-1	DO NOT PASS	(48" X 60")	8	8	8	8	8	8	8	8		8	8	160.0									
R11-2	ROAD CLOSED	(48" X 30")		6	6	6		6				6	6	60.0									
RSP-1	SHOULDER CLOSED	(48" X 30")	8	8	11	11	8	8	8	8		11	11	110.0									
W4-1	MERGE	(48" X 48")			4	4	4	4				4	4	64.0									
W4-2R	LANE ENDS (RIGHT)	(48" X 48")	2	2			2	2	2	2		2	2	32.0									
W4-2L	LANE ENDS (LEFT)	(48" X 48")	2	2	4	4	2	2	2	2		4	4	64.0									
R55-1	FINES DOUBLE	(36" X 60")	8	8	8	8	8	8	8	8		8	8	120.0									
W1-4R	CURVE RIGHT	(48" X 48")						1				1	1	16.0									
W1-6	ARROW	(60" X 30")	9	9	3	3	9	9	9	9		9	9	112.5									
W3-5	SPEED LIMIT AHEAD (60MPH)	(48" X 48")	4	4	4	4	4	4	4	4		4	4	64.0									
* W8-1	BUMP	(36" X 36")	10	10	10	10	10	10	10	10		10	10	90.0									
W13-1	M.P.H.	(24" X 24")						1				1	1	4.0									
W20-1	ROAD WORK (1 MILE)	(48" X 48")	4	4	4	4	4	4	4	4		4	4	64.0									
W20-1	ROAD WORK (1/2 MILE)	(48" X 48")	8	8	8	8	8	8	8	8		8	8	128.0									
W20-1	ROAD WORK (1500 FT)	(48" X 48")	8	8	8	8	8	8	8	4		8	8	128.0									
W20-1	ROAD WORK (AHEAD)	(48" X 48")	11	11	11	11	11	11	11	11		11	11	176.0									
W20-5	RIGHT LANE CLOSED (1 MILE)	(48" X 48")	2	2			2	2	2	2		2	2	32.0									
W20-5	RIGHT LANE CLOSED (1/2 MILE)	(48" X 48")	2	2			2	2	2	2		2	2	32.0									
W20-5	RIGHT LANE CLOSED (1500 FT)	(48" X 48")	2	2			2	2	2	2		2	2	32.0									
W20-5A	LEFT LANE CLOSED (1 MILE)	(48" X 48")	2	2	4	4	2	2	2	2		4	4	64.0									
W20-5A	LEFT LANE CLOSED (1/2 MILE)	(48" X 48")	2	2	4	4	2	2	2	2		4	4	64.0									
W20-5A	LEFT LANE CLOSED (1500 FT)	(48" X 48")	2	2	4	4	2	2	2	2		4	4	64.0									
SPECIAL	MERGE NOW	(48" X 48")	4	4	4	4	4	4	4	4		4	4	64.0									
SPECIAL	EXIT 5	(66" X 30")			1	1	1	1				1	1	13.8									
SPECIAL	EXIT 7	(60" X 24")			4	4	4	4				4	4	40.0									
SPECIAL	EXIT 8	(60" X 24")			4	4	4	4				4	4	40.0									
SPECIAL	EXIT 10	(66" X 24")			2	2	2	2				2	2	22.0									
SPECIAL	EXIT 11A	(84" X 30")			1	1	1	1				1	1	17.5									
SPECIAL	EXIT 11B	(84" X 30")			1	1	1	1				1	1	17.5									
SPECIAL	EXIT 11A-B	(78" X 24")			1	1	1	1				1	1	13.0									
SPECIAL	EXIT 159A	(102" X 30')			2	2	2	2				2	2	42.5									
SPECIAL	EXIT 159B	(102" X 30")			2	2	2	2				2	2	42.5									
SPECIAL	ENGLAND RD NEXT RIGHT	(102" X 48")			2	2	2	2				2	2	68.0									
SPECIAL	ENGLAND RD (RIGHT)	(102" X 60")			2	2	2	2				2	2	85.0									
SPECIAL	FAULKNER RD NEXT RIGHT	(102" X 48")			2	2	2	2				2	2	68.0									
SPECIAL	FAULKNER LK ROAD (RIGHT)	(120" X 48")			2	2	2	2				2	2	80.0									
SPECIAL	LITTLE ROCK RIVER PORT NEXT RIGHT	(102" X 66)			1	1	1	1				1	1	46.8									
SPECIAL	HWY 70 NEXT RIGHT	(84" X 48")			1	1	1	1				1	1	28.0									
SPECIAL	HWY 70 (RIGHT)	(102" X 36")			2	2	2	2				2	2	51.0									
SPECIAL	I-440 (WEST)	(102" X 54")			1	1	1	1	1			1	1	38.3									
SPECIAL	440 (EAST)	(102" X 54")			1	1	1	1				1	1	38.3									
SPECIAL	I-40 NEXT RIGHT	(78" X 72")			1	1	1	1				1	1	39.0									
SPECIAL	I-40 (WEST) (LEFT)	(96" X 84")			1	1	1	1				1	1	56.0									
SPECIAL	I-40 (EAST) (RIGHT)	(96" X 84")			1	1	1	1				1	1	56.0									
SPECIAL	I-440 (WEST) (RIGHT)	(108" X 84")			1	1	1	1				1	1	63.0									
SPECIAL	440 (EAST) (RIGHT)	(102" X 84")			1	1	1	1	1			1	1	59.5									
SPECIAL	I-440 WB	(36" X 30")	18	18	18	18	18	18	18	18		18	18	135.0									
	TRAFFIC DRUMS		1010	1047	326	697	335	466	907	93		1047			1047								
	TYPE III BARRICADE-LT. (16')			6	6	6		6				6				96							
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		1100	580	42140		5620					49440					49440						
	RELOCATING PRECAST CONCRETE BARRIER				1240	6100	43820	48200	840	420		100620						100620					
	TEMPORARY IMPACT ATTENUATION BARRIER		4	2	6		18	3				33							33				
	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)				2	6	12	28	1	1		50								50			
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		4	6	12	11	30	33	4	2		102									102		
	ADVANCE WARNING ARROW PANEL		2	2	2	2	2	2	2	2		2										600	
	PORTABLE CHANGEABLE MESSAGE SIGN		4	4	4	4	4	4	4	4		4											172
TOTALS:														3257.2	1047	96	49440	100620	33	50	102	600	172

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-29-16				6	ARK.			
				JOB NO.		BB0612	163	242
				②	QUANTITIES			

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHANNON L. ADAMS

11-29-2016

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 2A	STAGE 2B	STAGE 3A	STAGE 3B	STAGE 4A	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	HIGH PERFORMANCE CONTRAST PAVEMENT MARKING	HIGH PERFORMANCE PAVEMENT MARKING		
										TYPE II	4"	4"		8"
										(WHITE/RED)	WHITE (SKIP LINE)	WHITE	YELLOW	WHITE
	LIN. FT. - EACH						LIN. FT.			EACH	LIN. FT.	LIN. FT.		
REMOVAL OF PERMANENT PAVEMENT MARKINGS	76584	5898	15426				97908							
CONSTRUCTION PAVEMENT MARKINGS	8473							8473						
REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	111446	17889	156063	67164	4625				357187					
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)						3217				3217				
HIGH PERFORMANCE CONTRAST PAVEMENT MARKING (SKIP LINE) WHITE (4")						21314					21314			
HIGH PERFORMANCE PAVEMENT MARKING WHITE (4")						59605						59605		
HIGH PERFORMANCE PAVEMENT MARKING YELLOW (4")						60297							60297	
HIGH PERFORMANCE PAVEMENT MARKING WHITE (8")						11622								11622
TOTALS:							97908	8473	357187	3217	21314	59605	60297	11622

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 2014 EDITION.

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.

SOIL LOG

STATION	LOCATION	DEPTH	LIQUID LIMIT	PLASTICITY INDEX	AASHTO CLASSIFICATION
		FEET			
313+00	75' RT SB	5.5	-	-	A-2-4
328+00	105' RT SB	3.5	NP	NP	A-4
341+20	75' RT SB	3.5	NP	NP	A-4
358+00	75' RT SB	7.5	23	5	A-4
373+00	65' RT SB	3.5	25	4	A-4
388+00	75' RT SB	3.5	NP	NP	A-4
401+20	75' RT SB	7.5	26	11	A-6
454+00	75' RT SB	3.5	25	5	A-4
469+00	75' RT SB	5.5	36	16	A-6
484+00	85' RT SB	5.5	36	18	A-6
320+50	70' LT NB	5.5	-	-	A-2-4
335+50	70' LT NB	1.5	NP	NP	A-4
350+50	80' LT NB	1.5	NP	NP	A-4
365+50	70' LT NB	3.5	21	4	A-4
380+50	80' LT NB	3.5	NP	NP	A-4
399+80	80' LT NB	5.5	-	-	A-4
411+00	60' LT NB	3.5	NP	NP	A-4
446+00	85' LT NB	3.5	27	6	A-4
461+00	80' LT NB	3.5	25	3	A-4
476+30	65' LT NB	5.5	36	18	A-6
329+70	75' RT SB	1.5	NP	NP	A-2-4
436+60	90' RT SB	1.5	NP	NP	A-4
482+30	75' LT NB	1.5	17	8	A-4
402+70	70' LT NB	1.5	17	6	A-4
413+75	62' LT NB	14.5	27	4	A-4
413+75	62' RT SB	7.5	36	21	A-6
462+25	62' LT NB	15	24	5	A-4
462+25	62' RT SB	7.5	45	28	A-7-6
471+35	62' LT NB	5.5	68	46	A-7-6
471+35	62' RT SB	5.5	30	9	A-4

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

Z- AUGER REFUSAL

NP - NON-PLASTIC

ND - NOT DETERMINABLE

CLEARING AND GRUBBING

STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
320+15	321+65	LEFT MAIN LANES	2	2
332+17	334+00	RIGHT OF ENGLAND RD. RAMP 4	2	2
332+61	336+00	LEFT OF ENGLAND RD. RAMP 4	4	4
338+93	339+95	LEFT OF ENGLAND RD. RAMP 2	2	2
352+50	354+56	RIGHT MAIN LANES	3	3
387+89	390+40	LEFT OF FAULKNER LAKE RD. RAMP 4	3	3
404+69	405+35	RIGHT MAIN LANES	1	1
454+69	457+13	LEFT MAIN LANES	3	3
467+59	469+41	LEFT OF HIGHWAY 70 RAMP 4	2	2
471+85	474+13	LEFT OF HIGHWAY 70 RAMP 2	3	3
482+48	486+67	RIGHT MAIN LANES	5	5
506+90	513+27	RIGHT OF SE RAMP	7	7
521+51	529+16	RIGHT OF SE RAMP	8	8
512+24	513+72	LEFT OF SW RAMP	2	2
529+77	540+41	LEFT OF SW RAMP	11	11
531+37	532+84	RIGHT OF SW RAMP	2	2
533+29	547+10	RIGHT OF SW RAMP	14	14
535+81	538+13	RIGHT OF ES RAMP	3	3
531+83	532+14	LEFT OF ES RAMP	1	1
528+42	530+30	LEFT OF ES RAMP	2	2
504+21	519+36	RIGHT OF WS RAMP	16	16
TOTALS:			96	96

REMOVAL AND DISPOSAL OF CULVERTS AND DROP INLETS

STATION	STATION	LOCATION	DESCRIPTION	PIPE CULVERTS	DROP INLETS
				EACH	EACH
343+39		I-440 ON RIGHT	12" PIPE CULVERT	1	
		I-440 ON RIGHT	DROP INLET		1
347+27		I-440 ON LEFT	12" PIPE CULVERT	1	
		I-440 ON LEFT	DROP INLET		1
396+23		I-440 ON LEFT	12" PIPE CULVERT	1	
		I-440 ON LEFT	DROP INLET		1
TOTALS:				3	3

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

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	164	242
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
11-3-2016

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CONCRETE DITCH PAVING	RUMBLE STRIPS IN CONCRETE PAVEMENT	CONCRETE CORRUGATIONS
			SQ. YD.	SQ. YD.	SQ. YD.
331+48.05	332+59.60	I-440 LEFT MAIN LANES	446.20		
339+84.50	340+71.34	I-440 RIGHT MAIN LANES	347.36		
386+88.83	387+63.74	I-440 LEFT MAIN LANES	299.64		
510+44.82	511+48.17	RIGHT WS RAMP	413.40		
312+65.00	323+86.82	I-440 RIGHT MAIN LANES		249.29	73.33
323+86.82	328+70.60	ENGLAND RD. INTERCHANGE - RAMP 1		107.51	128.62
328+66.83	342+04.93	I-440 RIGHT MAIN LANES		297.36	86.67
341+92.16	343+32.85	ENGLAND RD. INTERCHANGE - RAMP 2		31.26	66.66
347+39.81	351+58.11	ENGLAND RD. INTERCHANGE - RAMP 2		92.96	18.67
351+58.11	378+78.84	I-440 RIGHT MAIN LANES		604.61	180.00
378+78.84	384+80.10	FAULKNER LAKE RD. INTERCHANGE - RAMP 1		133.61	92.17
384+77.17	392+92.70	I-440 RIGHT MAIN LANES		181.23	46.67
396+25.14	398+60.72	I-440 RIGHT MAIN LANES		52.35	13.33
398+78.17	402+65.97	I-440 RIGHT MAIN LANES		86.18	26.67
402+55.81	413+02.03	FAULKNER LAKE RD. INTERCHANGE - RAMP 2		232.49	171.39
413+02.03	413+33.00	I-440 RIGHT MAIN LANES		6.88	6.67
436+43.00	459+64.48	I-440 RIGHT MAIN LANES		515.88	146.67
459+64.48	464+35.15	HIGHWAY 70 INTERCHANGE - RAMP 1		104.59	91.89
464+32.89	475+96.96	I-440 RIGHT MAIN LANES		258.68	80.00
476+03.49	485+66.33	HIGHWAY 70 INTERCHANGE - RAMP 2		213.96	114.93
485+66.33	489+13.80	I-440 RIGHT MAIN LANES		77.22	26.67
312+65.00	319+66.53	I-440 LEFT MAIN LANES		155.90	46.67
319+66.53	329+60.65	ENGLAND RD. INTERCHANGE - RAMP 4		220.92	158.16
329+61.45	343+27.07	I-440 LEFT MAIN LANES		303.47	93.33
347+32.29	350+83.29	ENGLAND RD. INTERCHANGE - RAMP 3		78.00	20.89
350+83.29	374+27.10	I-440 LEFT MAIN LANES		520.85	153.33
374+27.10	384+45.27	FAULKNER LAKE RD. INTERCHANGE - RAMP 4		226.26	205.34
384+48.07	392+92.70	I-440 LEFT MAIN LANES		187.70	53.33
396+25.14	398+60.72	I-440 LEFT MAIN LANES		52.35	13.33
398+78.17	404+98.28	I-440 LEFT MAIN LANES		137.80	40.00
404+68.80	408+54.96	FAULKNER LAKE RD. INTERCHANGE - RAMP 3		85.81	158.17
408+54.96	413+33.00	I-440 LEFT MAIN LANES		106.23	33.33
436+43.00	454+59.61	I-440 LEFT MAIN LANES		403.69	120.00
454+59.61	464+42.84	HIGHWAY 70 INTERCHANGE - RAMP 4		218.50	145.06
464+43.86	478+19.26	I-440 LEFT MAIN LANES		305.64	93.33
478+12.30	482+95.22	HIGHWAY 70 INTERCHANGE - RAMP 3		107.32	88.68
482+95.22	489+13.80	I-440 LEFT MAIN LANES		137.46	46.67
501+25.98	506+48.81	SW RAMP			52.00
506+48.81	535+50.70	SW RAMP			141.33
535+50.70	547+10.44	SW RAMP/NW RAMP			34.67
		NW RAMP			46.22
506+48.81	527+46.50	SE RAMP			72.41
502+88.35	508+60.28	ES RAMP/WS RAMP			24.89
526+46.85	534+15.06	ES RAMP			50.67
534+15.06	538+41.57	ES RAMP/EN RAMP			68.91
538+41.57	544+57.80	ES RAMP			8.00
508+60.28	520+59.69	WS RAMP			46.22
520+59.69	528+11.04	WS RAMP/C-D ROAD			45.33
TOTALS:			1506.60	6493.96	3431.28

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	CURB	APPROACH GUTTERS	GUARDRAIL	CONCRETE MEDIAN BARRIER	IMPACT ATTENUATION BARRIER
			LIN. FT.	EACH	LIN. FT.	LIN. FT.	EACH
343+39.00		I-440 RIGHT MAIN LANES		1			
347+27.00		I-440 LEFT MAIN LANES		1			
393+27.00		I-440 RIGHT MAIN LANES		1			
395+91.00		I-440 LEFT MAIN LANES		1			
413+33.00		I-440 RIGHT MAIN LANES		1			
436+05.00		I-440 LEFT MAIN LANES		1			
489+14.00		I-440 RIGHT MAIN LANES		1			
501+00.00		I-440 RIGHT SW RAMP		1			
501+00.00		I-440 LEFT SW RAMP		1			
322+82	324+68	I-440 MEDIAN				186	
349+64	351+50	I-440 MEDIAN				186	
377+56	379+42	I-440 MEDIAN				186	
407+87	409+73	I-440 MEDIAN				186	
458+61	460+47	I-440 MEDIAN				186	
482+07	483+93	I-440 MEDIAN				186	
487+28	489+14	I-440 MEDIAN				186	
483+00		I-440 LEFT MAIN LANES					1
312+55	314+56	I-440 ON LEFT			201		
341+85	343+71	I-440 ON RIGHT			190		
346+98	348+98	I-440 ON LEFT			200		
391+30	393+32	I-440 ON RIGHT			202		
395+88	397+94	I-440 ON LEFT			206		
411+68	413+66	I-440 ON RIGHT			198		
436+06	438+06	I-440 ON LEFT			200		
487+49	489+49	I-440 ON RIGHT			200		
501+00	502+78	SW RAMP ON RIGHT			178		
501+04	502+77	SW RAMP ON LEFT			173		
515+39	517+69	SW RAMP ON LEFT			230		
515+47	517+69	SW RAMP ON RIGHT			222		
517+44	517+69	SW RAMP ON LEFT	25				
517+45	517+69	SW RAMP ON RIGHT	24				
521+36	523+56	WS RAMP ON RIGHT			220		
521+28	523+56	WS RAMP ON LEFT			228		
502+72	504+86	ES RAMP ON RIGHT			214		
502+72	504+87	ES RAMP ON LEFT			215		
520+32	522+55	ES RAMP ON LEFT			223		
520+64	522+94	ES RAMP ON RIGHT			230		
538+58	540+83	ES RAMP ON RIGHT			225		
538+55	540+80	ES RAMP ON LEFT			225		
502+63	502+88	ES RAMP ON LEFT	25				
502+64	502+88	ES RAMP ON RIGHT	24				
TOTALS:			98	9	4180	1302	1

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.

QUANTITIES

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12484 SHANNON ARNAZ

11-3-2016

REMOVAL OF EXISTING P.C.C. PAVEMENT (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	AVG. WIDTH	CONCRETE PAVEMENT
			LIN. FT.	LIN. FT.	SQ. YD.
312+65.00	323+86.82	R.M.L & OUTSIDE SHLD.	1121.82	46	5733.75
323+86.82	330+04.26	R.M.L	617.44	36	2469.76
323+86.82	330+04.26	R.M.L TURNOUT	617.44	VAR.	1458.02
330+04.26	341+98.14	R.M.L & OUTSIDE SHLD.	1193.88	46	6102.05
341+98.14	343+32.85	R.M.L	134.71	36	538.84
341+98.14	343+32.85	R.M.L TURNOUT	134.71	VAR.	393.78
347+39.81	348+56.76	R.M.L & ACCEL. LANE & OUTSIDE SHLD.	116.95	54	701.70
348+56.76	351+58.11	R.M.L	301.35	36	1205.40
348+56.76	351+58.11	R.M.L & ACCEL. LANE TAPER & OUTSIDE SHLD.	301.35	VAR.	424.16
351+58.11	378+78.84	R.M.L & OUTSIDE SHLD.	2720.73	46	13905.95
378+78.84	380+75.64	R.M.L	196.80	36	787.20
378+78.84	380+75.64	DECEL. LANE TAPER & OUTSIDE SHLD.	196.80	VAR.	269.44
380+75.64	382+00.10	R.M.L & DECEL. LANE & OUTSIDE SHLD.	124.46	54	746.76
382+00.10	385+88.11	R.M.L	388.01	36	1552.04
382+00.10	385+88.11	R.M.L TURNOUT	388.01	VAR.	1039.59
385+88.11	392+92.70	R.M.L & OUTSIDE SHLD.	704.59	46	3601.24
396+25.14	398+60.72	R.M.L & OUTSIDE SHLD.	235.58	46	1204.08
398+78.17	402+54.85	R.M.L & OUTSIDE SHLD.	376.68	46	1925.25
402+54.85	405+38.29	R.M.L	283.44	36	1133.76
402+54.85	405+38.29	R.M.L TURNOUT	283.44	VAR.	783.31
405+38.29	410+02.15	R.M.L & ACCEL. LANE & OUTSIDE SHLD.	463.86	54	2783.16
410+02.15	413+02.03	R.M.L	299.88	36	1199.52
410+02.15	413+02.03	ACCEL. LANE TAPER & OUTSIDE SHLD.	299.88	VAR.	422.09
413+02.03	413+33.00	R.M.L & OUTSIDE SHLD.	30.97	46	158.29
436+43.00	459+64.48	R.M.L & OUTSIDE SHLD.	2321.48	46	11865.34
459+64.48	465+69.50	R.M.L	605.02	36	2420.08
459+64.48	465+69.50	R.M.L TURNOUT	605.02	VAR.	1415.38
465+69.50	476+01.67	R.M.L & OUTSIDE SHLD.	1032.17	46	5275.54
476+01.67	477+50.00	R.M.L	148.33	36	593.32
476+01.67	477+50.00	R.M.L TURNOUT	148.33	VAR.	405.01
477+50.00	482+67.55	R.M.L & ACCEL. LANE & OUTSIDE SHLD.	517.55	54	3105.30
482+67.55	485+66.33	R.M.L	298.78	36	1195.12
482+67.55	485+66.33	ACCEL. LANE TAPER & OUTSIDE SHLD.	298.78	VAR.	420.55
485+66.33	489+13.80	R.M.L & OUTSIDE SHLD.	347.47	46	1775.96
312+65.00	319+66.53	L.M.L & OUTSIDE SHLD.	701.53	46	3585.60
319+66.53	322+66.41	L.M.L	299.88	36	1199.52
319+66.53	322+66.41	ACCEL. LANE TAPER & OUTSIDE SHLD.	299.88	VAR.	422.09
322+66.41	327+48.63	L.M.L & ACCEL. LANE & OUTSIDE SHLD.	482.22	54	2893.32
327+48.63	329+61.45	L.M.L	212.82	36	851.28
327+48.63	329+61.45	L.M.L TURNOUT	212.82	VAR.	608.87
329+61.45	341+76.16	L.M.L & OUTSIDE SHLD.	1214.71	46	6208.52
341+76.16	343+27.07	L.M.L	150.91	36	603.64
341+76.16	343+27.07	L.M.L TURNOUT	150.91	VAR.	203.13
347+32.29	348+83.53	L.M.L & DECEL. LANE & OUTSIDE SHLD.	151.24	54	907.44
348+83.53	350+83.29	L.M.L	199.76	36	799.04
348+83.53	350+83.29	DECEL. LANE TAPER & OUTSIDE SHLD.	199.76	VAR.	281.20
350+83.29	374+27.10	L.M.L & OUTSIDE SHLD.	2343.81	46	11979.47
374+27.10	377+27.42	L.M.L	300.32	36	1201.28
374+27.10	377+27.42	ACCEL. LANE TAPER & OUTSIDE SHLD.	300.32	VAR.	431.91
377+27.42	381+49.43	L.M.L & ACCEL. LANE & OUTSIDE SHLD.	422.01	54	2532.06
381+49.43	384+50.08	L.M.L	300.65	36	1202.60
381+49.43	384+50.08	L.M.L TURNOUT	300.65	VAR.	820.36
384+50.08	392+92.70	L.M.L & OUTSIDE SHLD.	842.62	46	4306.72
396+25.14	398+60.72	L.M.L & OUTSIDE SHLD.	235.58	46	1204.08
398+78.17	403+48.02	L.M.L & OUTSIDE SHLD.	469.85	46	2401.46
403+48.02	408+54.96	L.M.L	506.94	36	2027.76
403+48.02	408+54.96	L.M.L TURNOUT	506.94	VAR.	1067.47
408+54.96	413+33.00	L.M.L & OUTSIDE SHLD.	478.04	46	2443.32
436+43.00	454+59.61	L.M.L & OUTSIDE SHLD.	1816.61	46	9284.90
454+59.61	457+58.69	L.M.L	299.08	36	1196.32
454+59.61	457+58.69	ACCEL. LANE TAPER & OUTSIDE SHLD.	299.08	VAR.	420.96
457+58.69	462+51.75	L.M.L & ACCEL. LANE & OUTSIDE SHLD.	493.06	54	2958.36
462+51.75	464+43.86	L.M.L	192.11	36	768.44
462+51.75	464+43.86	L.M.L TURNOUT	192.11	VAR.	540.08
464+43.86	476+85.94	L.M.L & OUTSIDE SHLD.	1242.08	46	6348.41
476+85.94	482+95.22	L.M.L	609.28	36	2437.12
476+85.94	482+95.22	L.M.L TURNOUT	609.28	VAR.	1432.22
482+95.22	489+13.80	L.M.L & OUTSIDE SHLD.	618.58	46	3161.63
SUBTOTAL:					157741.32

REMOVAL OF EXISTING P.C.C. PAVEMENT (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	AVG. WIDTH	CONCRETE PAVEMENT
			LIN. FT.	LIN. FT.	SQ. YD.
501+25.98	506+48.81	SW RAMP 2 LANE & SHOULDERS	522.83	40	2323.69
506+48.81	508+32.07	SW RAMP LEFT LANE & SHLD.	183.26	27	549.78
508+32.07	510+32.07	SW RAMP LEFT LANE & INSIDE SHLD.	200.00	21	466.67
508+32.07	510+32.07	SW RAMP LEFT SHLD. TAPER	200.00	VAR.	111.11
510+32.07	512+55.00	SW RAMP & SHOULDERS	222.93	25	619.25
512+55.00	517+44.59	SW RAMP & SHOULDERS	489.59	25	1359.97
524+34.22	524+41.55	SW RAMP & ODD APPROACH SLAB PIECE	7.33	VAR.	21.98
524+41.55	535+50.70	SW RAMP & SHOULDERS	1109.15	25	3080.97
535+50.70	537+86.99	SW RAMP & 4' SHLD.	236.29	19	498.83
535+50.70	537+86.99	SW RAMP TURNOUT	236.29	VAR.	616.99
537+86.99	540+53.45	SW RAMP 2 LANE & SHOULDERS	266.46	37	1095.45
502+88.35	505+30.45	ES RAMP 2 LANE & SHOULDERS	242.10	37	995.30
505+30.45	508+63.13	ES RAMP LANE & INSIDE SHLD.	332.68	19	702.32
526+46.85	534+15.06	ES RAMP & SHOULDERS	768.21	25	2133.92
534+15.06	538+41.57	ES RAMP & SHLD.	426.51	19	900.41
538+41.57	539+41.32	ES RAMP & SHOULDERS	99.75	25	277.08
505+30.45	508+63.13	WS RAMP TURNOUT	332.68	VAR.	900.94
508+63.13	520+59.69	WS RAMP & SHOULDERS	1196.56	25	3323.78
520+59.69	523+50.14	WS RAMP & SHLD.	290.45	21	677.72
523+50.14	523+54.75	WS RAMP & SHOULDERS	4.61	25	12.81
506+48.81	512+25.19	SE RAMP & TURNOUT	576.38	VAR.	1555.07
512+25.19	523+12.72	SE RAMP & SHOULDERS	1087.53	25	1555.18
SUBTOTAL:					23779.22
TOTAL:					181520.54

NOTE: REMOVAL AND DISPOSAL OF PLOWABLE PAVEMENT MARKERS ARE SUBSIDIARY TO REMOVAL OF EXISTING P.C.C PAVEMENT.

CULVERT CLEAN OUT

STATION	LOCATION	EACH
357+02	R.C. BOX CULVERT	1
376+00	R.C. PIPE OUTLET	1
377+00	R.C. PIPE OUTLET	1
379+00	R.C. PIPE OUTLET	1
381+00	R.C. PIPE OUTLET	1
383+00	R.C. PIPE OUTLET	1
385+00	R.C. PIPE OUTLET	1
385+94	R.C. PIPE OUTLET	2
387+00	R.C. PIPE OUTLET	1
389+00	R.C. PIPE OUTLET	1
392+00	R.C. PIPE OUTLET	1
397+00	R.C. PIPE OUTLET	1
399+00	R.C. PIPE OUTLET	1
406+00	R.C. PIPE OUTLET	2
443+30	R.C. BOX CULVERT	1
SE 524+50	R.C. BOX CULVERT	1
ES 537+00	R.C. BOX CULVERT	1
ES 534+00	R.C. PIPE OUTLET	1
SW 543+30	R.C. PIPE OUTLET	1
WS 518+75	R.C. PIPE OUTLET	1
TOTAL:		22

P.C.C. PAVEMENT PATCHING

LOCATION	R&D OF CONCRETE PAVEMENT FOR PATCHING	P.C.C. PAVEMENT PATCHING (12" U.T.)
	SQ. YD.	
I-440: STA. 312+65 TO STA. 489+14 @ 100' O.C.	1900	1900
TOTALS:	1900	1900

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
11-29-16				6	ARK.			
				JOB NO.		BB0612	166	242
				②	QUANTITIES			

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHAHRIAR AZIZ

11-29-2016

EARTHWORK

STATION	STATION	LOCATION / DESCRIPTION	• UNCLASSIFIED EXCAVATION	• COMPACTED EMBANKMENT	SOIL STABILIZATION
			CU. YD.		TON
ENTIRE	PROJECT	STAGE 1A-ENTIRE PROJECT	1935	4346	
		STAGE 1B-ENTIRE PROJECT	857	156	
ENTIRE	PROJECT	STAGE 2A-ENTIRE PROJECT	6407	182	
		STAGE 2B-ENTIRE PROJECT	6182	482	
ENTIRE	PROJECT	STAGE 3A-ENTIRE PROJECT	22706	3696	
		STAGE 3B-ENTIRE PROJECT	7273	604	
ENTIRE	PROJECT	STAGE 4A-ENTIRE PROJECT	8489	1350	
		STAGE 4B-ENTIRE PROJECT	1449		
ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			1000
TOTALS:			55298	10816	1000

QUANTITIES ESTIMATED.

SEE SECTION 104.03 OF THE STD. SPECS.

CONCRETE DITCH PAVING

STATION	STATION	LOCATION	LENGTH	"W"	CONC. DITCH PAVING (TYPE B)	SOLID SODDING	WATER
			LIN. FT.	FEET	SQ. YD.	SQ. YD.	M. GAL.
331+48.05	332+59.60	I-440 LEFT MAIN LANES	111.55	4.00	49.58	49.58	0.62
339+84.50	340+71.34	I-440 RIGHT MAIN LANES	86.84	4.00	38.60	38.60	0.49
386+88.83	387+63.74	I-440 LEFT MAIN LANES	74.91	4.00	33.29	33.29	0.42
510+44.82	511+48.17	RIGHT WS RAMP	103.35	4.00	45.93	45.93	0.58
TOTALS:					167.40	167.40	2.11

BASIS OF ESTIMATE:

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

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	TERMINAL ANCHOR POSTS (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)
			LIN. FT.	EACH		
312+54.39	315+23.14	LT. SIDE OF LT. MAIN LANES	200	1		1
321+47.08	324+22.08	RT. SIDE OF RT. MAIN LANES	225		1	1
340+58.65	343+61.40	RT. SIDE OF RT. MAIN LANES	250	1		1
347+04.60	352+98.35	LT. SIDE OF LT. MAIN LANES	525	1		1
376+14.33	378+89.33	RT. SIDE OF RT. MAIN LANES	225		1	1
390+49.18	393+17.93	RT. SIDE OF RT. MAIN LANES	200	1		1
396+00.16	398+86.36	LT. SIDE OF LT. MAIN LANES	200	1		1
408+32.84	411+07.84	LT. SIDE OF LT. MAIN LANES	225		1	1
410+89.35	413+58.10	RT. SIDE OF RT. MAIN LANES	200	1		1
436+17.90	438+86.65	LT. SIDE OF LT. MAIN LANES	200	1		1
457+21.26	459+96.26	RT. SIDE OF RT. MAIN LANES	225		1	1
477+28.66	481+28.66	RT. SIDE OF RT. MAIN LANES	350		1	1
478+83.12	485+33.12	LT. SIDE OF LT. MAIN LANES	600		1	1
486+70.15	489+38.90	RT. SIDE OF RT. MAIN LANES	200	1		1
501+00.41	501+94.16	LT. SIDE OF LT. SW RAMP	75	1	1	
501+01.49	501+95.24	RT. SIDE OF RT. SW RAMP	75	1	1	
502+62.79	505+56.54	LT. SIDE OF LT. ES RAMP	225	1		1
502+63.45	505+82.20	RT. SIDE OF RT. ES RAMP	250	1		1
507+53.66	510+28.66	LT. SIDE OF LT. SW RAMP	225		1	1
507+53.66	510+28.66	RT. SIDE OF RT. SW RAMP	225		1	1
514+25.79	517+69.54	LT. SIDE OF LT. SW RAMP	275	1		1
515+01.11	517+69.86	RT. SIDE OF RT. SW RAMP	200	1		1
521+05.66	523+80.66	LT. SIDE OF LT. WS RAMP	225		1	1
521+12.84	523+81.31	RT. SIDE OF RT. WS RAMP	225		1	1
538+56.85	541+31.85	LT. SIDE OF LT. ES RAMP	225		1	1
538+56.85	541+31.85	RT. SIDE OF RT. ES RAMP	225		1	1
TOTALS:			6275	14	14	24

RUMBLE STRIPS IN CONCRETE SHOULDERS

STATION	STATION	LOCATION	RUMBLE STRIPS IN P.C.C. SHOULDERS
			LIN.FT.
312+65	328+69	RIGHT MAIN LANES	1604
328+69	341+90	RIGHT MAIN LANES	1321
341+90	343+36	RIGHT MAIN LANES	146
347+42	384+99	RIGHT MAIN LANES	3757
384+99	392+93	RIGHT MAIN LANES	794
396+25	398+61	RIGHT MAIN LANES	236
398+78	402+55	RIGHT MAIN LANES	377
402+55	413+33	RIGHT MAIN LANES	1078
436+43	464+47	RIGHT MAIN LANES	2804
464+47	476+02	RIGHT MAIN LANES	1155
476+02	489+14	RIGHT MAIN LANES	1312
312+65	329+49	LEFT MAIN LANES	1684
329+49	343+24	LEFT MAIN LANES	1375
347+30	384+50	LEFT MAIN LANES	3720
384+50	392+93	LEFT MAIN LANES	843
396+25	398+61	LEFT MAIN LANES	236
398+78	404+53	LEFT MAIN LANES	575
404+53	413+33	LEFT MAIN LANES	880
436+43	464+52	LEFT MAIN LANES	2809
464+52	478+13	LEFT MAIN LANES	1361
478+13	489+14	LEFT MAIN LANES	1101
TOTAL:			29168

CONCRETE BARRIER WALL

STATION	STATION	LOCATION	MEDIAN TYPE SP-1
			LIN. FT.
322+82	323+66	I-440 MEDIAN	84
323+84	324+68	I-440 MEDIAN	84
349+64	350+48	I-440 MEDIAN	84
350+66	351+50	I-440 MEDIAN	84
377+57	378+41	I-440 MEDIAN	84
378+59	379+43	I-440 MEDIAN	84
407+87	408+71	I-440 MEDIAN	84
408+89	409+73	I-440 MEDIAN	84
458+61	459+45	I-440 MEDIAN	84
459+63	460+47	I-440 MEDIAN	84
482+07	482+91	I-440 MEDIAN	84
483+09	483+93	I-440 MEDIAN	84
487+28	488+12	I-440 MEDIAN	84
488+30	489+14	I-440 MEDIAN	84
TOTAL:			1176

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	167	242
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12403
RICHARD

11/3/2016

APPROACH GUTTERS

STATION	STATION	LOCATION / DISCRIPTION	APPROACH GUTTERS	REINFORCING STEEL-RDWY. (GR. 60)
			CU.YD.	POUND
312+30.00	312+65.00	NW CORNER (5705A) - TYPE SPECIAL 1	1.14	216
343+36.06	343+71.06	SE CORNER (5706B) - TYPE SPECIAL 2	12.69	1255
346+94.98	347+29.98	NW CORNER (5706A) - TYPE SPECIAL 3	12.64	1292
392+92.70	393+27.70	SE CORNER (5707B) - TYPE SPECIAL 4	19.10	1681
395+90.14	396+25.14	NW CORNER (5707A) - TYPE SPECIAL 5	18.69	1663
413+33.00	413+68.00	SE CORNER (5708B) - TYPE SPECIAL 6	18.89	1644
436+05.00	436+40.00	NW CORNER (5708A) - TYPE SPECIAL 7	18.89	1670
489+13.80	489+48.80	SE CORNER (5710B) - TYPE SPECIAL 8	18.89	1655
502+53.35	502+88.35	NW & NE CORNERS (5710C) - TYPE SPECIAL 11	0.22	52
500+87.13	501+22.13	NW CORNER (5710D) - TYPE SPECIAL 9	12.72	1194
500+87.13	501+22.13	NE CORNER (5710D) - TYPE SPECIAL 10	18.90	1696
517+44.59	517+79.59	NW & NE CORNERS (5712) - TYPE SPECIAL 11	0.22	52
TOTALS:			152.99	14070

STRUCTURES

STATION	DESCRIPTION	ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	CONCRETE SPILLWAY (TYPE A)	TEMPORARY CULVERT	DROP INLETS	STD. DWG. NOS.
		12"		12"	TYPE NI	
		LIN. FT.	EACH	LIN. FT.	EACH	
343+39	CONCRETE SPILLWAY (TYPE A)	100	1		1	FPC-9N
347+27	CONCRETE SPILLWAY (TYPE A)	100	1		1	FPC-9N
396+23	CONCRETE SPILLWAY (TYPE A)	100	1		1	FPC-9N
331+94	TEMPORARY RAMP 4 - ENGLAND RD.			100		PCC-1, PCM-1
340+57	TEMPORARY RAMP 2 - ENGLAND RD.			110		PCC-1, PCM-1
342+09	TEMPORARY RAMP 3 - ENGLAND RD.			150		PCC-1, PCM-1
386+04	TEMPORARY RAMP 4 - FAULKNER LAKE RD.			120		PCC-1, PCM-1
400+89	TEMPORARY RAMP 2 - FAULKNER LAKE RD.			120		PCC-1, PCM-1
403+08	TEMPORARY RAMP 3 - FAULKNER LAKE RD.			130		PCC-1, PCM-1
466+20	TEMPORARY RAMP 1 - HIGHWAY 70			200		PCC-1, PCM-1
466+34	TEMPORARY RAMP 4 - HIGHWAY 70			120		PCC-1, PCM-1
474+71	TEMPORARY RAMP 2 - HIGHWAY 70			100		PCC-1, PCM-1
TOTALS:		300	3	1150	3	

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL									
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	WATTLE (20") DITCH CHECKS (E-1)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	•SEDIMENT REMOVAL & DISPOSAL	TRIANGULAR SILT DIKE
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU. YD.	LIN. FT.
ENTIRE	PROJECT	AS SHOWN ON PLANS											616	39	384	50975	1943	
ENTIRE	PROJECT	•ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.	5.00	10.00	5.00	573.0	5.00	5000	5.00	5.00	102.0	225					25	100
TOTALS:			5.00	10.00	5.00	573.0	5.00	5000	5.00	5.00	102.0	225	616	39	384	50975	1968	100

BASIS OF ESTIMATE:

LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
WATTLE DITCH CHECKS.....9 LIN. FT. / LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS•.....3 CU.YD./LOCATION

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

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

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	168	242

2 QUANTITIES

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 STEPHEN R. AZLIN

11-3-2016

SHAPING DITCH

LOCATION	STATION
ENTIRE PROJECT IF & WHERE DIRECTED BY ENGINEER	10.00
TOTAL:	10.00

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

MOBILE SPEED NOTIFICATION SYSTEM

STATION	STATION	LOCATION/DESCRIPTION	MOBILE SPEED NOTIFICATION SYSTEM
			EACH
ENTIRE PROJECT IF & WHERE DIRECTED BY ENGINEER			2
TOTAL:			2

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

AUTOMATED WORK ZONE INFORMATION SYSTEM

LOCATION/DESCRIPTION	AWIS MOBILIZATION	AWIS OPERATION	DEVICE RELOCATION	FURNISH AND INSTALL			
				CLOSED CIRCUIT TELEVISION SYSTEM	PUBLIC NOTIFICATION SYSTEM	VARIABLE MESSAGE SIGN	VEHICLE DETECTION SYSTEM
	LUMP SUM	MONTH	EACH	EACH			
ENTIRE PROJECT	1.00	8	16	4	1	4	16
TOTALS:	1.00	8	16	4	1	4	16

NOTE: QUANTITIES ESTIMATED. SEE SECTION 104.03 OF THE STD. SPECIFICATIONS.
REFER TO "AUTOMATED WORK ZONE INFORMATION SYSTEM" SPECIAL PROVISION.

ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

LOCATION	TON	TACK COAT
		GALLON
ENTIRE PROJECT - TO BE USED IF AND WHERE	103	206
DIRECTED BY THE ENGINEER		
TOTALS:	103	206

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

ACHM PATCHING OF EXISTING ROADWAY

DESCRIPTION	TON
ENTIRE PROJECT - TO BE USED IF AND WHERE	100
DIRECTED BY THE ENGINEER	
TOTAL:	100

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

ACHM PATCHING OF EXISTING SHOULDERS

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

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

BASE AND SURFACING - GUARDRAIL WIDENING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM SURFACE COURSE (1/2")				
				TON / STATION	TON	AVG. WID.	SQ. FT.	SQ. YD.	POUND / SQ. YD.	PG 64-22
			FEET			FT				TON
312+55.00	315+76.83	LT. SIDE OF LT. MAIN LANES	321.83	VAR.	169.02	VAR.	1761.55	195.73	220	21.53
321+02.31	324+65.11	RT. SIDE OF RT. MAIN LANES	362.80	VAR.	179.91	VAR.	1815.40	201.71	220	22.19
339+91.70	343+60.81	RT. SIDE OF RT. MAIN LANES	369.11	VAR.	173.85	VAR.	2100.73	233.41	220	25.68
347+05.20	353+42.79	LT. SIDE OF LT. MAIN LANES	637.59	VAR.	189.28	VAR.	3295.45	366.16	220	40.28
375+70.06	379+42.60	RT. SIDE OF RT. MAIN LANES	372.54	VAR.	179.91	VAR.	1840.43	204.49	220	22.49
389+80.49	393+17.34	RT. SIDE OF RT. MAIN LANES	336.85	VAR.	252.03	VAR.	2067.62	229.74	220	25.27
396+00.78	399+47.22	LT. SIDE OF LT. MAIN LANES	346.44	VAR.	252.03	VAR.	2015.60	223.96	220	24.64
407+89.09	411+51.89	LT. SIDE OF LT. MAIN LANES	362.80	VAR.	179.91	VAR.	1814.68	201.63	220	22.18
410+24.97	413+57.50	RT. SIDE OF RT. MAIN LANES	332.53	VAR.	252.03	VAR.	1889.80	209.98	220	23.10
436+18.50	439+49.60	LT. SIDE OF LT. MAIN LANES	331.10	VAR.	252.03	VAR.	1847.30	205.26	220	22.58
456+74.66	460+40.94	RT. SIDE OF RT. MAIN LANES	366.28	VAR.	179.91	VAR.	1921.40	213.49	220	23.48
476+98.79	481+72.03	RT. SIDE OF RT. MAIN LANES	473.24	VAR.	204.84	VAR.	2480.17	275.57	220	30.31
478+41.51	485+75.98	LT. SIDE OF LT. MAIN LANES	734.47	VAR.	254.71	VAR.	3832.60	425.84	220	46.84
486+07.56	489+38.30	RT. SIDE OF RT. MAIN LANES	330.74	VAR.	169.02	VAR.	1873.39	208.15	220	22.90
501+00.99	502+44.72	LT. SIDE OF SW RAMP	143.73	VAR.	76.32	VAR.	611.52	67.95	220	7.47
501+02.07	502+34.46	RT. SIDE OF SW RAMP	132.39	VAR.	76.32	VAR.	485.69	53.97	220	5.94
502+63.34	506+19.88	RT. SIDE OF ES RAMP	356.54	VAR.	173.85	VAR.	2019.80	224.42	220	24.69
502+63.97	506+57.55	LT. SIDE OF ES RAMP	393.58	VAR.	185.01	VAR.	2313.72	257.08	220	28.28
507+08.92	510+71.69	LT. SIDE OF SW RAMP	362.77	VAR.	179.91	VAR.	1813.73	201.53	220	22.17
507+10.39	510+76.14	RT. SIDE OF SE RAMP	365.75	VAR.	179.91	VAR.	1876.26	208.47	220	22.93
513+62.24	517+68.98	LT. SIDE OF SW RAMP	406.74	VAR.	220.78	VAR.	2531.70	281.30	220	30.94
514+40.98	517+69.23	RT. SIDE OF SW RAMP	328.25	VAR.	220.78	VAR.	1790.40	198.93	220	21.88
520+61.24	524+25.41	LT. SIDE OF WS RAMP	364.17	VAR.	179.91	VAR.	1808.17	200.91	220	22.10
520+71.74	524+25.90	RT. SIDE OF WS RAMP	354.16	VAR.	179.91	VAR.	1813.46	201.50	220	22.17
538+13.87	541+76.60	LT. SIDE OF ES RAMP	362.73	VAR.	179.91	VAR.	1810.42	201.16	220	22.13
538+15.81	541+76.60	RT. SIDE OF ES RAMP	360.79	VAR.	179.91	VAR.	1813.51	201.50	220	22.17
TOTALS:					4921.00			5693.84		626.34

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	169	242
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12403
SHAHRIAR ZIAD
10-28-2016

BASE AND SURFACING (BOX 1 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																										
328+97.22	329+61.21	MOT RAMP 1 ENGLAND ROAD - TAPER	65.86	13.25	8.73	55.33	404.89	0.05	20.24	11.42	83.57	880.00	36.77	10.96	80.20	330.00	13.23	10.75	78.67	220.00	8.65	10.58	77.42	220.00	8.52	17.17
329+61.21	331+05.54	MOT RAMP 1 ENGLAND ROAD - TAPER	148.72	13.25	19.71	42.58	703.61	0.05	35.18	8.87	146.57	880.00	64.49	8.41	138.97	330.00	22.93	8.20	135.50	220.00	14.91	8.03	132.69	220.00	14.60	29.51
339+11.36	340+11.86	MOT RAMP 2 ENGLAND ROAD - TAPER	219.55	13.25	29.09	50.28	1226.55	0.05	61.33	10.41	253.95	880.00	111.74	9.95	242.72	330.00	40.05	9.74	237.60	220.00	26.14	9.57	233.45	220.00	25.68	51.82
340+11.86	340+96.01	MOT RAMP 2 ENGLAND ROAD	104.83	26.50	27.78	110.67	1289.06	0.05	64.45	22.83	265.92	880.00	117.00	21.92	255.32	330.00	42.13	21.50	250.43	220.00	27.55	21.17	246.58	220.00	27.12	54.67
340+96.01	341+19.24	MOT RAMP 2 ENGLAND ROAD - TAPER	51.94	13.25	6.88	57.18	329.99	0.05	16.50	11.79	68.04	880.00	29.94	11.33	65.39	330.00	10.79	11.12	64.17	220.00	7.06	10.95	63.19	220.00	6.95	14.01
340+94.57	342+28.15	MOT RAMP 3 ENGLAND ROAD - TAPER	139.15	13.25	18.44	49.58	766.56	0.05	38.33	10.27	158.79	880.00	69.87	9.81	151.67	330.00	25.03	9.60	148.43	220.00	16.33	9.43	145.80	220.00	16.04	32.37
342+28.15	342+91.17	MOT RAMP 3 ENGLAND ROAD - TAPER	64.88	13.25	8.60	53.78	387.69	0.05	19.38	11.11	80.09	880.00	35.24	10.65	76.77	330.00	12.67	10.44	75.26	220.00	8.28	10.27	74.04	220.00	8.14	16.42
330+23.87	330+91.58	MOT RAMP 4 ENGLAND ROAD - TAPER	71.19	13.25	9.43	56.88	449.92	0.05	22.50	11.73	92.78	880.00	40.82	11.27	89.15	330.00	14.71	11.06	87.48	220.00	9.62	10.89	86.14	220.00	9.48	19.10
330+91.58	332+68.12	MOT RAMP 4 ENGLAND ROAD	208.09	26.50	55.14	110.67	2558.81	0.05	127.94	22.83	527.85	880.00	232.25	21.92	506.81	330.00	83.62	21.50	497.10	220.00	54.68	21.17	489.47	220.00	53.84	108.52
332+68.12	333+93.57	MOT RAMP 4 ENGLAND ROAD - TAPER	176.36	13.25	23.37	50.13	982.33	0.05	49.12	10.38	203.40	880.00	89.50	9.92	194.39	330.00	32.07	9.71	190.27	220.00	20.93	9.54	186.94	220.00	20.56	41.49
385+04.88	385+61.02	MOT RAMP 1 FAULKNER LAKE ROAD - TAPER	59.38	13.25	7.87	64.48	425.42	0.05	21.27	13.25	87.42	880.00	38.46	12.79	84.39	330.00	13.92	12.58	83.00	220.00	9.13	12.41	81.88	220.00	9.01	18.14
385+61.02	387+52.15	MOT RAMP 1 FAULKNER LAKE ROAD - TAPER	206.31	13.25	27.34	47.28	1083.82	0.05	54.19	9.81	224.88	880.00	98.95	9.35	214.33	330.00	35.36	9.14	209.52	220.00	23.05	8.97	205.62	220.00	22.62	45.67
399+42.83	400+75.24	MOT RAMP 2 FAULKNER LAKE ROAD - TAPE	145.62	13.25	19.29	51.53	833.76	0.05	41.69	10.66	172.48	880.00	75.89	10.20	165.04	330.00	27.23	9.99	161.64	220.00	17.78	9.82	158.89	220.00	17.48	35.26
400+75.24	401+12.05	MOT RAMP 2 FAULKNER LAKE ROAD	39.79	26.50	10.54	110.67	489.28	0.05	24.46	22.83	100.93	880.00	44.41	21.92	96.91	330.00	15.99	21.50	95.05	220.00	10.46	21.17	93.59	220.00	10.29	20.75
401+12.05	401+83.03	MOT RAMP 2 FAULKNER LAKE ROAD - TAPE	74.33	13.25	9.85	56.88	469.77	0.05	23.49	11.73	96.88	880.00	42.63	11.27	93.08	330.00	15.36	11.06	91.34	220.00	10.05	10.89	89.94	220.00	9.89	19.94
400+93.84	402+73.27	MOT RAMP 3 FAULKNER LAKE ROAD - TAPE	191.57	13.25	25.38	50.23	1069.17	0.05	53.46	10.40	221.37	880.00	97.40	9.94	211.58	330.00	34.91	9.73	207.11	220.00	22.78	9.56	203.49	220.00	22.38	45.16
402+73.27	403+57.48	MOT RAMP 3 FAULKNER LAKE ROAD	89.47	26.50	23.71	110.67	1100.18	0.05	55.01	22.83	226.96	880.00	99.86	21.92	217.91	330.00	35.96	21.50	213.73	220.00	23.51	21.17	210.45	220.00	23.15	46.66
403+57.48	404+19.64	MOT RAMP 3 FAULKNER LAKE ROAD - TAPE	64.61	13.25	8.56	60.98	437.77	0.05	21.89	12.55	90.10	880.00	39.64	12.09	86.79	330.00	14.32	11.88	85.29	220.00	9.38	11.71	84.06	220.00	9.25	18.63
385+13.77	385+92.09	MOT RAMP 4 FAULKNER LAKE ROAD - TAPE	80.45	13.25	10.66	56.83	508.00	0.05	25.40	11.72	104.76	880.00	46.09	11.26	100.65	330.00	16.61	11.05	98.77	220.00	10.86	10.88	97.26	220.00	10.70	21.56
385+92.09	386+19.73	MOT RAMP 4 FAULKNER LAKE ROAD	28.97	26.50	7.68	110.67	356.23	0.05	17.81	22.83	73.49	880.00	32.34	21.92	70.56	330.00	11.64	21.50	69.21	220.00	7.61	21.17	68.14	220.00	7.50	15.11
386+19.73	390+98.95	MOT RAMP 4 FAULKNER LAKE ROAD - TAPE	487.15	13.25	64.55	38.58	2088.25	0.05	104.41	8.07	436.81	880.00	192.20	7.61	411.91	330.00	67.97	7.40	400.55	220.00	44.06	7.23	391.34	220.00	43.05	87.11
465+08.82	465+90.88	MOT RAMP 1 HIGHWAY 70 - TAPER	84.57	13.25	11.21	64.78	608.72	0.05	30.44	13.31	125.07	880.00	55.03	12.85	120.75	330.00	19.92	12.64	118.77	220.00	13.06	12.47	117.18	220.00	12.89	25.95
465+90.88	467+42.14	MOT RAMP 1 HIGHWAY 70 - TAPER	159.16	13.25	21.09	47.53	840.54	0.05	42.03	9.86	174.37	880.00	76.72	9.40	166.23	330.00	27.43	9.19	162.52	220.00	17.88	9.02	159.51	220.00	17.55	35.43
473+52.35	474+10.85	MOT RAMP 2 HIGHWAY 70 - TAPER	223.47	13.25	29.61	50.78	1260.87	0.05	63.04	10.51	260.96	880.00	114.82	10.05	249.54	330.00	41.17	9.84	244.33	220.00	26.88	9.67	240.11	220.00	26.41	53.29
474+10.85	475+03.00	MOT RAMP 2 HIGHWAY 70	123.85	26.50	32.82	110.67	1522.94	0.05	76.15	22.83	314.17	880.00	138.23	21.92	301.64	330.00	49.77	21.50	295.86	220.00	32.54	21.17	291.32	220.00	32.05	64.59
475+03.00	475+47.34	MOT RAMP 2 HIGHWAY 70 - TAPER	49.00	13.25	6.49	56.83	309.41	0.05	15.47	11.72	63.81	880.00	28.08	11.26	61.30	330.00	10.11	11.05	60.16	220.00	6.62	10.88	59.24	220.00	6.52	13.14
476+07.83	477+19.64	MOT RAMP 3 HIGHWAY 70 - TAPER	115.73	13.25	15.33	39.28	505.10	0.05	25.26	8.21	105.57	880.00	46.45	7.75	99.66	330.00	16.44	7.54	96.96	220.00	10.67	7.37	94.77	220.00	10.42	21.09
477+19.64	477+87.79	MOT RAMP 3 HIGHWAY 70 - TAPER	70.30	13.25	9.31	57.13	446.25	0.05	22.31	11.78	92.01	880.00	40.48	11.32	88.42	330.00	14.59	11.11	86.78	220.00	9.55	10.94	85.45	220.00	9.40	18.95
465+18.63	465+86.34	MOT RAMP 4 HIGHWAY 70 - TAPER	71.19	13.25	9.43	56.88	449.92	0.05	22.50	11.73	92.78	880.00	40.82	11.27	89.15	330.00	14.71	11.06	87.48	220.00	9.62	10.89	86.14	220.00	9.48	19.10
465+86.34	467+42.30	MOT RAMP 4 HIGHWAY 70	181.11	26.50	47.99	110.67	2227.05	0.05	111.35	22.83	459.42	880.00	202.14	21.92	441.10	330.00	72.78	21.50	432.65	220.00	47.59	21.17	426.01	220.00	46.86	94.45
467+42.30	468+72.91	MOT RAMP 4 HIGHWAY 70 - TAPER	177.65	13.25	23.54	51.03	1007.28	0.05	50.36	10.56	208.44	880.00	91.71	10.10	199.36	330.00	32.89	9.89	195.22	220.00	21.47	9.72	191.86	220.00	21.10	42.57
533+65.21	535+15.63	MOT RAMP ES TO EN - TAPER	172.32	13.25	22.83	45.93	879.41	0.05	43.97	9.54	182.66	880.00	80.37	9.08	173.85	330.00	28.69	8.87	169.83	220.00	18.68	8.70	166.58	220.00	18.32	37.00
535+15.63	535+60.79	MOT RAMP ES TO EN - TAPER	48.65	VAR.		63.30	342.17	0.05	17.11	12.66	68.43	880.00	30.11	12.66	68.43	330.00	11.29	12.66	68.43	220.00	7.53	12.66	68.43	220.00	7.53	15.06
531+94.75	534+20.65	MOT RAMP NW TO SW - TAPER	284.33	13.25	37.67	49.63	1567.92	0.05	78.40	10.28	324.77	880.00	142.90	9.82	310.24	330.00	51.19	9.61	303.60	220.00	33.40	9.44	298.23	220.00	32.81	66.21
534+20.65	534+54.05	MOT RAMP NW TO SW - TAPER	34.40	VAR.		81.05	309.79	0.05	15.49	16.21	61.96	880.00	27.26	16.21	61.96	330.00	10.22	16.21	61.96	220.00	6.82	16.21	61.96	220.00	6.82	13.64
SUBTOTALS:					689.92		30238.43		1511.93		6251.46		2750.61		5986.17		987.70		5864.67		645.13		5767.17		634.41	1279.54

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER

ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER

ACHM BASE COURSE (1 1/2").....96.2% MIN. AGGR.....3.8% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

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

10/28/2016 5:39:20 PM
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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	170	242
				2	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNON RIAZ
10-28-2016

BASE AND SURFACING (BOX 2 OF 2)

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT				ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")								
				TON / STATION	TON	AVG. WID.	SQ.YD.	GALLONS / SQ.YD.	GALLON	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	AVG. WID.	SQ.YD.	POUND / SQ.YD.	PG 76-22	TOTAL PG 76-22
			FEET			FEET				FEET			TON	FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																										
319+46	325+84	MOT WIDENING - L.M.L.	638.49	13.25	84.60	21.73	1541.60	0.05	77.08	4.70	333.43	880.00	146.71	4.24	300.80	330.00	49.63	4.03	285.90	220.00	31.45	3.86	273.84	220.00	30.12	61.57
325+84	328+62	MOT WIDENING - L.M.L.	278.33	13.25	36.88	20.23	625.62	0.05	31.28	4.40	136.07	880.00	59.87	3.94	121.85	330.00	20.11	3.73	115.35	220.00	12.69	3.56	110.09	220.00	12.11	24.80
342+94	343+36	MOT WIDENING - R.M.L.	42.26	13.25	5.60	12.88	60.48	0.05	3.02	2.93	13.76	880.00	6.05	2.47	11.60	330.00	1.91	2.26	10.61	220.00	1.17	2.09	9.81	220.00	1.08	2.25
347+16	351+47	MOT WIDENING - R.M.L.	430.62	13.25	57.06	15.23	728.70	0.05	36.44	3.40	162.68	880.00	71.58	2.94	140.67	330.00	23.21	2.73	130.62	220.00	14.37	2.56	122.49	220.00	13.47	27.84
37394.78	37550.76	MOT WIDENING - L.M.L.	155.98	13.25	20.67	12.83	222.36	0.05	11.12	2.92	50.61	880.00	22.27	2.46	42.63	330.00	7.03	2.25	39.00	220.00	4.29	2.08	36.05	220.00	3.97	8.26
37412.05	37940.18	MOT WIDENING - L.M.L.	528.13	13.25	69.98	21.43	1257.54	0.05	62.88	4.64	272.28	880.00	119.80	4.18	245.29	330.00	40.47	3.97	232.96	220.00	25.63	3.80	222.99	220.00	24.53	50.16
37940.18	38290.9	MOT WIDENING - L.M.L.	350.72	13.25	46.47	20.28	790.29	0.05	39.51	4.41	171.85	880.00	75.61	3.95	153.93	330.00	25.40	3.74	145.74	220.00	16.03	3.57	139.12	220.00	15.30	31.33
40385.44	40770.36	MOT WIDENING - R.M.L.	384.92	13.25	51.00	22.83	976.41	0.05	48.82	4.92	210.42	880.00	92.58	4.46	190.75	330.00	31.47	4.25	181.77	220.00	19.99	4.08	174.50	220.00	19.20	39.19
40770.36	41272.06	MOT WIDENING - R.M.L.	501.70	13.25	66.48	21.18	1180.67	0.05	59.03	4.59	255.87	880.00	112.58	4.13	230.22	330.00	37.99	3.92	218.52	220.00	24.04	3.75	209.04	220.00	22.99	47.03
40386.34	41311.98	MOT WIDENING - R.M.L.	925.64	13.25	122.65	25.08	2579.45	0.05	128.97	5.37	552.30	880.00	243.01	4.91	504.99	330.00	83.32	4.70	483.39	220.00	53.17	4.53	465.91	220.00	51.25	104.42
45452.76	46011.72	MOT WIDENING - L.M.L.	558.96	13.25	74.06	20.58	1278.16	0.05	63.91	4.47	277.62	880.00	122.15	4.01	249.05	330.00	41.09	3.80	236.01	220.00	25.96	3.63	225.45	220.00	24.80	50.76
46011.72	46365.68	MOT WIDENING - L.M.L.	353.96	13.25	46.90	20.78	817.25	0.05	40.86	4.51	177.37	880.00	78.04	4.05	159.28	330.00	26.28	3.84	151.02	220.00	16.61	3.67	144.34	220.00	15.88	32.49
47667.18	48597.71	MOT WIDENING - R.M.L.	930.53	13.25	123.30	22.98	2375.95	0.05	118.80	4.95	511.79	880.00	225.19	4.49	464.23	330.00	76.60	4.28	442.52	220.00	48.68	4.11	424.94	220.00	46.74	95.42
50548.45	52914.73	MOT WIDENING - RAMP SE RT.	2366.28	13.25	313.53	23.43	6160.22	0.05	308.01	5.04	1325.12	880.00	583.05	4.58	1204.17	330.00	198.69	4.37	1148.96	220.00	126.39	4.20	1104.26	220.00	121.47	247.86
51082.22	52957.38	MOT WIDENING - RAMP SE LT.	1875.16	13.25	248.46	34.63	7215.20	0.05	360.76	7.28	1516.80	880.00	667.39	6.82	1420.95	330.00	234.46	6.61	1377.20	220.00	151.49	6.44	1341.78	220.00	147.60	299.09
										0.92																
50422.84	51768.95	MOT WIDENING - RAMP SW LT.	1346.11	13.25	178.36	29.68	4439.17	0.05	221.96	6.29	940.78	880.00	413.94	5.83	871.98	330.00	143.88	5.62	840.57	220.00	92.46	5.45	815.14	220.00	89.67	182.13
51101.28	51769.28	MOT WIDENING - RAMP SW RT.	668.00	13.25	88.51	28.43	2110.14	0.05	105.51	6.04	448.30	880.00	197.25	5.58	414.16	330.00	68.34	5.37	398.57	220.00	43.84	5.20	385.96	220.00	42.46	86.30
52386.63	53552.7	MOT WIDENING - RAMP SW RT.	1166.07	13.25	154.50	30.43	3942.61	0.05	197.13	6.44	834.39	880.00	367.13	5.98	774.79	330.00	127.84	5.77	747.58	220.00	82.23	5.60	725.55	220.00	79.81	162.04
52410.36	54712.42	MOT WIDENING - RAMP SW LT.	2302.06	13.25	305.02	41.03	10494.84	0.05	524.74	8.56	2189.51	880.00	963.38	8.10	2071.85	330.00	341.86	7.89	2018.14	220.00	222.00	7.72	1974.66	220.00	217.21	439.21
53409.66	54710.73	MOT WIDENING - RAMP SW RT.	1301.07	13.25	172.39	24.83	3589.51	0.05	179.48	5.32	769.08	880.00	338.40	4.86	702.58	330.00	115.93	4.65	672.22	220.00	73.94	4.48	647.64	220.00	71.24	145.18
50311.24	52769.33	MOT WIDENING - RAMP WS RT.	2458.09	13.25	325.70	11.43	3121.77	0.05	156.09	2.64	721.04	880.00	317.26	2.18	595.40	330.00	98.24	1.97	538.05	220.00	59.19	1.80	491.62	220.00	54.08	113.27
50862.54	52061.52	MOT WIDENING - RAMP WS LT.	1198.98	13.25	158.86	47.38	6311.96	0.05	315.60	9.83	1309.55	880.00	576.20	9.37	1248.27	330.00	205.96	9.16	1220.30	220.00	134.23	8.99	1197.65	220.00	131.74	265.97
52125.15	52814.98	MOT WIDENING - RAMP WS LT.	689.83	13.25	91.40	33.43	2562.34	0.05	128.12	7.04	539.60	880.00	237.42	6.58	504.34	330.00	83.22	6.37	488.25	220.00	53.71	6.20	475.22	220.00	52.27	105.98
50259.42	51098.84	MOT WIDENING - RAMP ES LT.	839.42	13.25	111.22	32.13	2996.73	0.05	149.84	6.78	632.36	880.00	278.24	6.32	589.46	330.00	97.26	6.11	569.87	220.00	62.69	5.94	554.02	220.00	60.94	123.63
50955.2	51141.73	MOT WIDENING - RAMP ES RT.	186.53	13.25	24.72	24.78	513.58	0.05	25.68	5.31	110.05	880.00	48.42	4.85	100.52	330.00	16.59	4.64	96.17	220.00	10.58	4.47	92.64	220.00	10.19	20.77
52351.32	53500.12	MOT WIDENING - RAMP ES LT.	1148.80	13.25	152.22	23.18	2958.80	0.05	147.94	4.99	636.95	880.00	280.26	4.53	578.23	330.00	95.41	4.32	551.42	220.00	60.66	4.15	529.72	220.00	58.27	118.93
53574.97	54603.54	MOT WIDENING - RAMP ES RT.	1028.57	13.25	136.29	24.98	2854.85	0.05	142.74	5.35	611.43	880.00	269.03	4.89	558.86	330.00	92.21	4.68	534.86	220.00	58.83	4.51	515.43	220.00	56.70	115.53
SUBTOTALS:					3266.83		73706.20		3685.32		15711.01		6912.81		14450.85		2384.40		13875.57		1526.32		13409.86		1475.09	3001.41
TOTALS:					3956.75		103944.63		5197.25		21962.47		9663.42		20437.02		3372.10		19740.24		2171.45		19177.03		2109.50	4280.95

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER

ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER

ACHM BASE COURSE (1 1/2").....96.2% MIN. AGGR.....3.8% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22

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

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	171	242
				2	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12494
SHERRIAR HAZID
11-3-2016

CONCRETE PAVEMENT - I-440 RIGHT MAIN LANES

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				GEOTEXTILE FABRIC (TYPE SPECIAL)		PORTLAND CEMENT CONCRETE PAVEMENT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	AVG. WID.	13" U.T.
			FEET	FEET	SQ. YD.	TON	TON	FEET		FEET	SQ. YD.
312+65.00	323+86.82	RIGHT MAIN LANES	1121.82					36.00	4487.28	36.00	4487.28
323+86.82	330+27.66	RIGHT MAIN LANES	640.84					36.00	2563.36	36.00	2563.36
323+86.82	330+27.66	R.M.L ENGLAND RD. RAMP 1 TURNOUT	640.84					VAR.	882.18	VAR.	882.18
330+27.66	341+90.42	RIGHT MAIN LANES	1162.76					36.00	4651.04	36.00	4651.04
341+90.42	343+32.85	RIGHT MAIN LANES	142.43					36.00	569.72	36.00	569.72
341+90.42	343+35.45	R.M.L ENGLAND RD. RAMP 2 TURNOUT	145.03					VAR.	310.22	VAR.	310.22
347+39.52	348+56.76	R.M.L & ACCELERATION LANE	117.24					48.00	625.28	48.00	625.28
348+56.76	353+77.92	RIGHT MAIN LANES	521.16					36.00	2084.64	36.00	2084.64
348+56.76	353+77.92	R.M.L. ACCELERATION LANE (FULL DEPTH)	521.16	12.00	694.88	14.59	228.62	12.00	694.88	12.00	694.88
353+77.92	356+77.92	RIGHT MAIN LANES	300.00					36.00	1200.00	36.00	1200.00
353+77.92	356+77.92	R.M.L. ACCELERATION LANE TAPER (FULL DEPTH)	300.00	6.00	200.00	4.20	65.80	6.00	200.00	6.00	200.00
356+77.92	377+03.19	RIGHT MAIN LANES	2025.27					36.00	8101.08	36.00	8101.08
377+03.19	379+03.19	RIGHT MAIN LANES	200.00					36.00	800.00	36.00	800.00
377+87.77	379+03.19	R.M.L DECELERATION LANE TAPER (FULL DEPTH)	115.42	6.00	76.95	1.62	25.32	6.00	76.95	6.00	76.95
379+03.19	380+75.64	RIGHT MAIN LANES	172.45					36.00	689.80	36.00	689.80
379+03.19	380+75.64	R.M.L. DECELERATION LANE (FULL DEPTH)	172.45	12.00	229.93	4.83	75.65	12.00	229.93	12.00	229.93
380+75.64	382+00.10	RIGHT MAIN LANES	124.46					36.00	497.84	36.00	497.84
382+00.10	386+30.24	RIGHT MAIN LANES	430.14					36.00	1720.56	36.00	1720.56
382+00.10	386+30.24	R.M.L FAULKNER LAKE RD. RAMP 1 TURNOUT	430.14					VAR.	777.46	VAR.	777.46
386+30.24	392+92.70	RIGHT MAIN LANES	662.46					36.00	2649.84	36.00	2649.84
396+25.14	398+60.72	RIGHT MAIN LANES	235.58					36.00	942.32	36.00	942.32
398+78.17	402+54.85	RIGHT MAIN LANES	376.68					36.00	1506.72	36.00	1506.72
402+54.85	405+38.29	RIGHT MAIN LANES	283.44					36.00	1133.76	36.00	1133.76
402+54.85	405+38.29	R.M.L FAULKNER LAKE RD. RAMP 2 TURNOUT	283.44					VAR.	596.03	VAR.	596.03
405+38.29	410+02.15	R.M.L & ACCELERATION LANE	463.86					48.00	2473.92	48.00	2473.92
410+02.15	410+26.51	RIGHT MAIN LANES	24.36					36.00	97.44	36.00	97.44
410+02.15	410+26.51	R.M.L. ACCELERATION LANE (FULL DEPTH)	24.36	12.00	32.48	0.68	10.69	12.00	32.48	12.00	32.48
410+26.51	413+26.51	RIGHT MAIN LANES	300.00					36.00	1200.00	36.00	1200.00
410+26.51	413+26.51	R.M.L. ACCELERATION LANE TAPER (FULL DEPTH)	300.00	6.00	200.00	4.20	65.80	6.00	200.00	6.00	200.00
413+26.51	413+33.00	RIGHT MAIN LANES	6.49					36.00	25.96	36.00	25.96
436+43.00	459+64.48	RIGHT MAIN LANES	2321.48					36.00	9285.92	36.00	9285.92
459+64.48	466+05.32	RIGHT MAIN LANES	640.84					36.00	2563.36	36.00	2563.36
459+64.48	466+05.32	R.M.L HWY 70 RAMP 1 TURNOUT	640.84					VAR.	880.36	VAR.	880.36
466+05.32	476+01.67	RIGHT MAIN LANES	996.35					36.00	3985.40	36.00	3985.40
476+01.67	477+50.00	RIGHT MAIN LANES	148.33					36.00	593.32	36.00	593.32
476+01.67	477+50.00	R.M.L HWY 70 RAMP 2 TURNOUT	148.33					VAR.	309.30	VAR.	309.30
477+50.00	482+67.43	R.M.L & ACCELERATION LANE	517.43					48.00	2759.63	48.00	2759.63
482+67.43	486+06.11	RIGHT MAIN LANES	338.68					36.00	1354.72	36.00	1354.72
482+67.43	486+06.11	R.M.L. ACCELERATION LANE (FULL DEPTH)	338.68	12.00	451.57	9.48	148.57	12.00	451.57	12.00	451.57
486+06.11	489+06.11	RIGHT MAIN LANES	300.00					36.00	1200.00	36.00	1200.00
486+06.11	489+06.11	R.M.L. ACCELERATION LANE TAPER (FULL DEPTH)	300.00	6.00	200.00	4.20	65.80	6.00	200.00	6.00	200.00
489+06.11	489+13.80	RIGHT MAIN LANES	7.69	36.00	30.76	0.65	10.12	36.00	30.76	36.00	30.76
TOTALS:					2116.57	44.45	696.37		65635.03		65635.03

BASIS OF ESTIMATE:

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	172	242
				②	QUANTITIES			

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER SHAHRIAR AZAD

Approved 11-3-2016

CONCRETE PAVEMENT - I-440 RIGHT MAIN LANE SHOULDERS

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				GEOTEXTILE FABRIC (TYPE SPECIAL)		PORTLAND CEMENT CONCRETE PAVEMENT	
						AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	AVG. WID.	13" U.T.
			FEET	TONS PER STATION	TON	FEET	SQ. YD.	TON	TON	FEET		FEET	SQ. YD.
312+65.00	323+86.82	RIGHT MAIN LANE SHOULDER	1121.82	69.25	776.86					12.00	1495.76	10.00	1246.47
323+86.82	325+09.93	RIGHT MAIN LANE SHOULDER - TRANSITION	123.11	69.25	85.25					12.00	164.15	10.00	136.79
325+10.89	328+70.60	RAMP 1 - ENGLAND RD. SHOULDER•	359.71	69.25	249.10					8.00	319.74	6.00	239.81
328+69.11	330+27.66	RIGHT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	158.55	VAR.	300.19					12.00	211.40	10.00	176.17
330+27.66	341+24.11	RIGHT MAIN LANE SHOULDER	1096.45	69.25	759.29					12.00	1461.93	10.00	1218.28
341+24.11	341+90.42	RIGHT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	66.31	VAR.	127.08					12.00	88.41	10.00	73.68
341+92.16	343+36.09	RAMP 2 - ENGLAND RD. SHLD. - SUPER TRANSITION•	143.93	81.95	117.95					8.00	127.94	6.00	95.95
347+41.83	348+56.76	RIGHT MAIN LANE SHOULDER	114.93	69.25	79.59					8.00	102.16	6.00	76.62
348+56.76	353+77.92	RIGHT MAIN LANE SHOULDER (FULL DEPTH)	521.16	69.25	360.90	8.00	463.25	9.73	152.41	8.00	463.25	6.00	347.44
353+77.92	355+78.03	RIGHT MAIN LANE SHOULDER (FULL DEPTH)	200.11	69.25	138.58	8.00	177.88	3.74	58.52	8.00	177.88	6.00	133.41
355+78.03	356+77.92	RIGHT MAIN LANE SHOULDER - TRANSITION (FULL DEPTH)	99.89	69.25	69.17	10.00	110.99	2.33	36.52	10.00	110.99	8.00	88.79
356+77.92	376+34.42	RIGHT MAIN LANE SHOULDER	1956.50	69.25	1354.88					12.00	2608.67	10.00	2173.89
376+34.42	377+03.19	RIGHT MAIN LANE SHOULDER - SUPERELEVATION	68.77	44.28	30.45					12.00	91.69	10.00	76.41
377+03.19	377+87.77	RIGHT MAIN LANE SHOULDER - SUPER TRANSITION (FULL DEPTH)	84.58	44.28	37.45	10.25	96.33	2.02	31.69	10.00	93.98	8.00	75.18
377+87.77	379+03.19	RIGHT MAIN LANE SHOULDER - SUPERELEVATION (FULL DEPTH)	115.42	44.28	51.11	8.25	105.80	2.22	34.81	8.00	102.60	6.00	76.95
379+03.19	380+75.64	RIGHT MAIN LANE SHOULDER - SUPERELEVATION (FULL DEPTH)	172.45	44.28	76.36	8.25	158.08	3.32	52.01	8.00	153.29	6.00	114.97
380+75.64	382+00.10	RIGHT MAIN LANE SHOULDER - SUPERELEVATION	124.46	44.28	55.11					8.00	110.63	6.00	82.97
382+00.10	385+03.08	RAMP 1 - FAULKNER LAKE RD. SHOULDER - SUPER TRANSITION•	302.98	69.25	209.81					8.00	269.32	6.00	201.99
384+99.37	385+75.01	RIGHT MAIN LANE SHLD. - SUPER TRANSITION (GORE AREA BETWEEN MAIN LANE & RAMP)	75.64	VAR.	219.57					12.00	100.85	10.00	84.04
385+75.01	392+92.70	RIGHT MAIN LANE SHOULDER - SUPERELEVATION	717.69	44.28	317.79					12.00	956.92	10.00	797.43
396+25.14	398+60.72	RIGHT MAIN LANE SHOULDER - SUPERELEVATION	235.58	44.28	104.31					12.00	314.11	10.00	261.76
398+78.17	401+33.92	RIGHT MAIN LANE SHOULDER	255.75	69.25	177.11					12.00	341.00	10.00	284.17
401+33.92	402+54.85	RIGHT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	120.93	VAR.	225.99					12.00	161.24	10.00	134.37
402+55.81	405+38.29	RAMP 2 - FAULKNER LAKE RD. SHLD. - SUPER TRANSITION•	282.48	69.25	195.62					8.00	251.09	6.00	188.32
405+38.29	410+02.15	RIGHT MAIN LANE SHOULDER	463.86	69.25	321.22					8.00	412.32	6.00	309.24
410+02.15	410+26.51	RIGHT MAIN LANE SHOULDER (FULL DEPTH)	24.36	69.25	16.87	8.00	21.65	0.45	7.12	8.00	21.65	6.00	16.24
410+26.51	412+26.63	RIGHT MAIN LANE SHOULDER (FULL DEPTH)	200.12	69.25	138.58	8.00	177.88	3.74	58.52	8.00	177.88	6.00	133.41
412+26.63	413+26.51	RIGHT MAIN LANE SHOULDER - TRANSITION (FULL DEPTH)	99.88	69.25	69.17	10.00	110.98	2.33	36.51	10.00	110.98	8.00	88.78
412+26.51	413+33.00	RIGHT MAIN LANE SHOULDER	106.49	69.25	73.74					12.00	141.99	10.00	118.32
436+43.00	459+64.48	RIGHT MAIN LANE SHOULDER	2321.48	69.25	1607.62					12.00	3095.31	10.00	2579.42
459+64.48	460+87.59	RIGHT MAIN LANE SHOULDER - TRANSITION	123.11	69.25	85.25					12.00	164.15	10.00	136.79
460+88.55	464+47.40	RAMP 1 - HIGHWAY 70 SHOULDER•	358.85	69.25	248.50					8.00	318.98	6.00	239.23
464+46.77	466+05.32	RIGHT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	158.55	VAR.	301.21					12.00	211.40	10.00	176.17
466+05.32	475+38.44	RIGHT MAIN LANE SHOULDER	933.12	69.25	646.19					12.00	1244.16	10.00	1036.80
475+38.44	476+01.67	RIGHT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	63.23	VAR.	121.54					12.00	84.31	10.00	70.26
476+03.49	477+50.00	RAMP 2 - HIGHWAY 70 SHLD. - SUPER TRANSITION•	146.51	84.31	123.52					8.00	130.23	6.00	97.67
477+50.00	486+06.11	RIGHT MAIN LANE SHOULDER	856.11	69.25	592.86					8.00	760.99	6.00	570.74
486+06.11	488+06.11	RIGHT MAIN LANE SHOULDER	200.00	69.25	138.50					8.00	177.78	6.00	133.33
488+06.11	489+13.80	RIGHT MAIN LANE SHOULDER - TRANSITION	107.69	69.25	74.58					12.00	143.59	10.00	119.66
ADDITIONAL FOR SUPERELEVATION													
376+34.42	377+03.19	RIGHT MAIN LANE SHOULDER SUPERELEVATION	68.77	57.87	39.80								
377+03.19	377+87.77	RIGHT MAIN LANE SHOULDER SUPERELEVATION (FULL DEPTH)	84.58	57.87	48.95	10.88	102.25	1.47	22.99				
377+87.77	380+75.64	RIGHT MAIN LANE SHOULDER SUPERELEVATION (FULL DEPTH)	287.87	49.10	141.34	8.83	282.43	4.05	63.49				
380+75.64	382+00.10	RIGHT MAIN LANE SHOULDER SUPERELEVATION	124.46	40.37	50.24								
384+99.37	385+75.01	RIGHT MAIN LANE SHLD. - SUPERELEVATION (GORE AREA BETWEEN MAIN LANE & RAMP)	75.64										
385+75.01	392+92.70	RIGHT MAIN LANE SHOULDER SUPERELEVATION	717.69	57.87	415.33								
396+25.14	398+60.72	RIGHT MAIN LANE SHOULDER SUPERELEVATION	235.58	57.87	136.33								
TOTALS:					11510.86		1807.52	35.40	554.59		17474.72		14211.92

BASIS OF ESTIMATE:

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

• STATIONING IS ALONG RAMP

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	173	242
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR AZAD
11-3-2016

CONCRETE PAVEMENT - I-440 LEFT MAIN LANES

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				GEOTEXTILE FABRIC (TYPE SPECIAL)		PORTLAND CEMENT CONCRETE PAVEMENT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	AVG. WID.	13" U.T.
			FEET	FEET	SQ. YD.	TON	TON	FEET		FEET	SQ. YD.
312+65.00	314+42.62	LEFT MAIN LANES	177.62					36.00	710.48	36.00	710.48
314+42.62	317+42.62	LEFT MAIN LANES	300.00					36.00	1200.00	36.00	1200.00
314+42.62	317+42.62	L.M.L ACCELERATION LANE TAPER (FULL DEPTH)	300.00	6.00	200.00	4.20	65.80	6.00	200.00	6.00	200.00
317+42.62	322+66.41	LEFT MAIN LANES	523.79					36.00	2095.16	36.00	2095.16
317+42.62	322+66.41	L.M.L. ACCELERATION LANE (FULL DEPTH)	523.79	12.00	698.39	14.67	229.77	12.00	698.39	12.00	698.39
322+66.41	327+48.63	L.M.L & ACCELERATION LANE	482.22					48.00	2571.84	48.00	2571.84
327+48.63	329+61.45	LEFT MAIN LANES	212.82					36.00	851.28	36.00	851.28
327+48.63	329+61.45	L.M.L ENGLAND RD. RAMP 4 TURNOUT	212.82					VAR.	461.08	VAR.	461.08
329+61.45	341+76.16	LEFT MAIN LANES	1214.71					36.00	4858.84	36.00	4858.84
341+76.16	343+27.07	LEFT MAIN LANES	150.91					36.00	603.64	36.00	603.64
341+76.16	343+27.07	L.M.L ENGLAND RD. RAMP 3 TURNOUT	150.91					VAR.	38.41	VAR.	38.41
347+32.58	348+82.49	L.M.L & ACCELERATION LANE	149.91					48.00	799.52	48.00	799.52
348+82.49	350+16.00	L.M.L & ACCELERATION LANE TAPER	133.51					44.00	652.72	44.00	652.72
350+16.00	372+50.96	LEFT MAIN LANES	2234.96					36.00	8939.84	36.00	8939.84
372+50.96	375+50.96	LEFT MAIN LANES	300.00					36.00	1200.00	36.00	1200.00
372+50.96	375+50.96	L.M.L. ACCELERATION LANE TAPER (FULL DEPTH)	300.00	6.00	200.00	4.20	65.80	6.00	200.00	6.00	200.00
375+50.96	377+27.42	LEFT MAIN LANES	176.46					36.00	705.84	36.00	705.84
375+50.96	377+27.42	L.M.L. ACCELERATION LANE (FULL DEPTH)	176.46	12.00	235.28	4.94	77.41	12.00	235.28	12.00	235.28
377+27.42	381+49.43	L.M.L & ACCELERATION LANE	422.01					48.00	2250.72	48.00	2250.72
381+49.43	384+50.08	LEFT MAIN LANES	300.65					36.00	1202.60	36.00	1202.60
381+49.43	384+50.08	L.M.L FAULKNER LAKE RD. RAMP 4 TURNOUT	300.65					VAR.	624.58	VAR.	624.58
384+50.08	392+92.70	LEFT MAIN LANES	842.62					36.00	3370.48	36.00	3370.48
396+25.14	398+60.72	LEFT MAIN LANES	235.58					36.00	942.32	36.00	942.32
398+78.17	402+94.94	LEFT MAIN LANES	416.77					36.00	1667.08	36.00	1667.08
402+94.94	408+54.96	LEFT MAIN LANES	560.02					36.00	2240.08	36.00	2240.08
402+94.94	408+54.96	L.M.L FAULKNER LAKE RD. RAMP 3 TURNOUT	560.02					VAR.	663.09	VAR.	663.09
408+54.96	413+33.00	LEFT MAIN LANES	478.04					36.00	1912.16	36.00	1912.16
436+43.00	440+00.00	LEFT MAIN LANES	357.00					36.00	1428.00	36.00	1428.00
440+00.00	450+45.74	LEFT MAIN LANES	1045.74	36.00	4182.96	87.84	1376.19	36.00	4182.96	36.00	4182.96
450+45.74	452+45.74	L.M.L & ACCELERATION LANE TAPER	200.00	44.00	977.78	20.53	321.69	44.00	977.78	44.00	977.78
452+45.74	460+00.00	L.M.L & ACCELERATION LANE	754.26	48.00	4022.72	84.48	1323.47	48.00	4022.72	48.00	4022.72
460+00.00	462+51.75	L.M.L & ACCELERATION LANE	251.75					48.00	1342.67	48.00	1342.67
462+51.75	464+52.33	LEFT MAIN LANES	200.58					36.00	802.32	36.00	802.32
462+51.75	464+52.33	L.M.L HWY 70 RAMP 4 TURNOUT	200.58					VAR.	420.42	VAR.	420.42
464+52.33	476+54.38	LEFT MAIN LANES	1202.05					36.00	4808.20	36.00	4808.20
476+54.38	482+95.22	LEFT MAIN LANES	640.84					36.00	2563.36	36.00	2563.36
476+54.38	482+95.22	L.M.L HWY 70 RAMP 3 TURNOUT	640.84					VAR.	880.36	VAR.	880.36
482+95.22	489+13.80	LEFT MAIN LANES	618.58					36.00	2474.32	36.00	2474.32
TOTALS:					10517.13	220.86	3460.13		65798.54		65798.54

BASIS OF ESTIMATE:

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	174	242
				②	QUANTITIES			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12294
SHAHRIAR SEZAD
11-3-2016

CONCRETE PAVEMENT - I-440 LEFT MAIN LANE SHOULDERS

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				GEOTEXTILE FABRIC (TYPE SPECIAL)		PORTLAND CEMENT CONCRETE PAVEMENT	
				TONS PER STATION	TON	AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	AVG. WID.	13" U.T.
			FEET			FEET	SQ. YD.	TON	TON	FEET		FEET	SQ. YD.
312+65.00	314+42.62	LEFT MAIN LANE SHOULDER	177.62	69.25	123.00					12.00	236.83	10.00	197.36
314+42.62	315+42.50	LEFT MAIN LANE SHOULDER - TRANSITION	99.88	69.25	69.17	10.00	110.98	2.33	36.51	10.00	110.98	8.00	88.78
315+42.50	317+42.62	LEFT MAIN LANE SHOULDER	200.12	69.25	138.58	8.00	177.88	3.74	58.52	8.00	177.88	6.00	133.41
317+42.62	322+66.41	LEFT MAIN LANE SHOULDER	523.79	69.25	362.72	8.00	465.59	9.78	153.18	8.00	465.59	6.00	349.19
322+66.41	327+48.63	LEFT MAIN LANE SHOULDER	482.22	69.25	333.94					8.00	428.64	6.00	321.48
327+48.63	329+60.65	RAMP 4 - ENGLAND RD. SHOULDER - SUPER TRANSITION•	212.02	72.35	153.40					8.00	188.46	6.00	141.35
329+61.45	330+34.76	LEFT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	73.31	VAR.	161.85					12.00	97.75	10.00	81.46
330+34.76	341+76.16	LEFT MAIN LANE SHOULDER	1141.40	69.25	790.42					12.00	1521.87	10.00	1268.22
341+76.16	343+23.64	LEFT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	147.48	VAR.	299.01					12.00	196.64	10.00	163.87
347+29.98	348+82.49	LEFT MAIN LANE SHOULDER	152.51	69.25	105.61					8.00	135.56	6.00	101.67
348+82.49	350+16.00	LEFT MAIN LANE SHOULDER	133.51	69.25	92.46					8.00	118.68	6.00	89.01
350+16.00	350+82.49	LEFT MAIN LANE SHOULDER - TRANSITION	66.49	69.25	46.04					12.00	88.65	10.00	73.88
350+82.49	372+50.96	LEFT MAIN LANE SHOULDER	2168.47	69.25	1501.67					12.00	2891.29	10.00	2409.41
372+50.96	373+50.84	LEFT MAIN LANE SHOULDER - TRANSITION	99.88	69.25	69.17	10.00	110.98	2.33	36.51	10.00	110.98	8.00	88.78
373+50.84	375+50.96	LEFT MAIN LANE SHOULDER	200.12	69.25	138.58	8.00	177.88	3.74	58.52	8.00	177.88	6.00	133.41
375+50.96	377+27.42	LEFT MAIN LANE SHOULDER - SUPERELEVATION	176.46	70.55	124.49	8.00	156.85	3.29	51.60	8.00	156.85	6.00	117.64
377+27.42	381+49.43	LEFT MAIN LANE SHOULDER - SUPERELEVATION	422.01	70.55	297.73					8.00	375.12	6.00	281.34
381+49.43	384+45.27	RAMP 4 - FAULKNER LAKE RD. SHLD. - SUPERELEVATION•	295.84	70.55	208.72					8.00	262.97	6.00	197.23
384+50.08	385+78.95	LEFT MAIN LANE SHLD. - SUPERELEVATION ((GORE AREA BETWEEN MAIN LANE & RAMP)	128.87	VAR.	237.35					12.00	171.83	10.00	143.19
385+78.95	392+92.70	LEFT MAIN LANE SHOULDER - SUPERELEVATION	713.75	70.55	503.55					12.00	951.67	10.00	793.06
396+25.14	398+60.72	LEFT MAIN LANE SHOULDER - SUPERELEVATION	235.58	70.55	166.20					12.00	314.11	10.00	261.76
398+78.17	403+86.07	LEFT MAIN LANE SHOULDER	507.90	69.25	351.72					12.00	677.20	10.00	564.33
403+86.07	404+52.83	LEFT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	66.76	VAR.	136.50					12.00	89.01	10.00	74.18
404+52.52	407+30.89	RAMP 3 - FAULKNER LAKE RD. SHLD. - SUPER TRANSITION•	278.37	69.25	192.77					8.00	247.44	6.00	185.58
407+31.85	408+54.96	LEFT MAIN LANE SHOULDER - TRANSITION	123.11	69.25	85.25					12.00	164.15	10.00	136.79
408+54.96	413+33.00	LEFT MAIN LANE SHOULDER	478.04	69.25	331.04					12.00	637.39	10.00	531.16
436+43.00	440+00.00	LEFT MAIN LANE SHOULDER	357.00	69.25	247.22					12.00	476.00	10.00	396.67
440+00.00	449+45.74	LEFT MAIN LANE SHOULDER	945.74	69.25	654.92	12.00	1260.99	26.48	414.87	12.00	1260.99	10.00	1050.82
449+45.74	450+45.74	LEFT MAIN LANE SHOULDER - TRANSITION	100.00	69.25	69.25	12.00	133.33	2.80	43.87	12.00	133.33	10.00	111.11
450+45.74	452+45.74	LEFT MAIN LANE SHOULDER	200.00	69.25	138.50	8.00	177.78	3.73	58.49	8.00	177.78	6.00	133.33
452+45.74	460+00.00	LEFT MAIN LANE SHOULDER	754.26	69.25	522.33	8.00	670.45	14.08	220.58	8.00	670.45	6.00	502.84
460+00.00	462+51.75	LEFT MAIN LANE SHOULDER	251.75	69.25	174.34					8.00	223.78	6.00	167.83
462+51.75	464+50.98	RAMP 4 - HIGHWAY 70 SHLD. - SUPER TRANSITION•	199.23	72.35	144.14					8.00	177.09	6.00	132.82
464+52.33	465+37.88	LEFT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	85.55	VAR.	161.41					12.00	114.07	10.00	95.06
465+37.88	476+54.38	LEFT MAIN LANE SHOULDER	1116.50	69.25	773.18					12.00	1488.67	10.00	1240.56
476+54.38	478+12.93	LEFT MAIN LANE SHOULDER (GORE AREA BETWEEN MAIN LANE & RAMP)	158.55	VAR.	300.21					12.00	211.40	10.00	176.17
478+12.30	481+71.15	RAMP 3 - HIGHWAY 70 SHOULDER•	358.85	69.25	248.50					8.00	318.98	6.00	239.23
481+72.11	482+95.22	LEFT MAIN LANE SHOULDER - TRANSITION	123.11	69.25	85.25					12.00	164.15	10.00	136.79
482+95.22	489+13.80	LEFT MAIN LANE SHOULDER	618.58	69.25	428.37					12.00	824.77	10.00	687.31
TOTALS:					10968.56		3442.71	72.30	1132.65		17236.88		13998.08

BASIS OF ESTIMATE:

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

• STATIONING IS ALONG RAMP

QUANTITIES

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	175	242
				②	QUANTITIES			

STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 18404 SHAHRIAR R. ALAVI

11-3-2016

CONCRETE PAVEMENT - I-440/I-40 INTERCHANGE RAMPS SHOULDERS

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.			TACK COAT 0.05 GAL. PER SQ. YD.			PORTLAND CEMENT CONCRETE PAVEMENT	
						AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	GAL.	AVG. WID.	13" U.T.
			FEET	TONS PER STATION	TON	FEET	SQ. YD.	TON	TON	FEET		TON	FEET			FEET	SQ. YD.
501+25.98	503+66.67	LEFT SW RAMP SHOULDER	240.69	38.93	93.70	8.25	220.63	4.63	72.59	8.00	213.95	11.77	8.00	213.95	10.70	6.00	160.46
501+25.98	503+66.67	RIGHT SW RAMP SHOULDER	240.69	92.19	221.89	12.00	320.92	6.74	105.58	12.00	320.92	17.65	12.00	320.92	16.05	10.00	267.43
503+66.67	512+55.00	LEFT SW RAMP SHOULDER	888.33	76.75	681.79	8.00	789.63	16.58	259.79	8.00	789.63	43.43	8.00	789.63	39.48	6.00	592.22
503+66.67	506+48.81	RIGHT SW RAMP SHOULDER	282.14	76.75	216.54	12.00	376.19	7.90	123.77	12.00	376.19	20.69	12.00	376.19	18.81	10.00	313.49
512+55.00	513+12.64	LEFT SW RAMP SHOULDER	57.64	76.75	44.24	7.27	46.56	0.98	15.32	7.27	46.56	2.56	7.27	46.56	2.33	5.27	33.75
513+12.64	517+44.59	LEFT SW RAMP SHOULDER	431.95	123.19	532.12	6.00	287.97	6.05	94.74	6.00	287.97	15.84	6.00	287.97	14.40	4.00	191.98
524+41.55	533+96.43	LEFT SW RAMP SHOULDER	954.88	123.19	1176.32	6.00	636.59	13.37	209.44	6.00	636.59	35.01	6.00	636.59	31.83	4.00	424.39
533+96.43	542+27.67	LEFT SW RAMP SHOULDER	831.24	76.75	637.98	6.00	554.16	11.64	182.32	6.00	554.16	30.48	6.00	554.16	27.71	4.00	369.44
542+27.67	545+97.21	LEFT SW RAMP SHOULDER	369.54	41.14	152.03	6.25	256.63	5.39	84.43	6.00	246.36	13.55	6.00	246.36	12.32	4.00	164.24
510+85.93	512+55.00	RIGHT SW RAMP SHOULDER	169.07	76.75	129.76	8.00	150.28	3.16	49.44	8.00	150.28	8.27	8.00	150.28	7.51	6.00	112.71
512+55.00	517+44.59	RIGHT SW RAMP SHOULDER	489.59	32.59	159.56	8.25	448.79	9.42	147.65	8.00	435.19	23.94	8.00	435.19	21.76	6.00	326.39
524+27.08	533+96.43	RIGHT SW RAMP SHOULDER	969.35	32.59	315.91	8.25	888.57	18.66	292.34	8.00	861.64	47.39	8.00	861.64	43.08	6.00	646.23
533+96.43	534+30.29	RIGHT SW RAMP SHOULDER	33.86	76.75	25.99	8.00	30.10	0.63	9.90	8.00	30.10	1.66	8.00	30.10	1.51	6.00	22.57
534+30.29	535+50.70	RIGHT SW RAMP SHOULDER (GORE AREA BETWEEN SW RAMP & NW RAMP)	120.41	VAR.	223.55	8.00	107.03	2.25	35.21	8.00	107.03	5.89	8.00	107.03	5.35	6.00	80.27
535+52.63	542+27.67	RIGHT SW RAMP SHOULDER	675.04	76.75	518.09	8.00	600.04	12.60	197.41	8.00	600.04	33.00	8.00	600.04	30.00	6.00	450.03
542+27.67	547+10.44	RIGHT SW RAMP SHOULDER	482.77	78.27	377.86	8.00	429.13	9.01	141.18	8.00	429.13	23.60	8.00	429.13	21.46	6.00	321.85
506+48.81	508+00.57	RIGHT SE RAMP SHOULDER	151.76	76.75	116.48	10.63	179.25	3.76	58.97	10.63	179.25	9.86	10.63	179.25	8.96	8.63	145.52
508+00.57	527+47.08	RIGHT SE RAMP SHOULDER	1946.51	78.27	1523.53	8.00	1730.23	36.33	569.25	8.00	1730.23	95.16	8.00	1730.23	86.51	6.00	1297.67
510+84.64	527+47.08	LEFT SE RAMP SHOULDER	1662.44	79.96	1329.29	6.00	1108.29	23.27	364.63	6.00	1108.29	60.96	6.00	1108.29	55.41	4.00	738.86
502+88.35	508+63.13	RIGHT ES RAMP SHOULDER	574.78	76.75	441.14	6.00	383.19	8.05	126.07	6.00	383.19	21.08	6.00	383.19	19.16	4.00	255.46
526+46.85	526+69.52	RIGHT ES RAMP SHOULDER	22.67	123.19	27.93	6.00	15.11	0.32	4.97	6.00	15.11	0.83	6.00	15.11	0.76	4.00	10.08
526+69.52	544+57.80	RIGHT ES RAMP SHOULDER	1788.28	76.75	1372.50	6.00	1192.19	25.04	392.23	6.00	1192.19	65.57	6.00	1192.19	59.61	4.00	794.79
502+88.35	505+30.45	LEFT ES RAMP SHOULDER	242.10	76.75	185.81	8.00	215.20	4.52	70.80	8.00	215.20	11.84	8.00	215.20	10.76	6.00	161.40
526+46.85	526+69.52	LEFT ES RAMP SHOULDER	22.67	32.59	7.39	8.25	20.78	0.44	6.84	8.00	20.15	1.11	8.00	20.15	1.01	6.00	15.11
526+69.52	534+15.06	LEFT ES RAMP SHOULDER	745.54	76.75	572.20	8.00	662.70	13.92	218.03	8.00	662.70	36.45	8.00	662.70	33.14	6.00	497.03
538+41.57	544+57.80	LEFT ES RAMP SHOULDER	616.23	76.75	472.96	8.00	547.76	11.50	180.21	8.00	547.76	30.13	8.00	547.76	27.39	6.00	410.82
505+30.45	509+30.45	LEFT WS RAMP SHOULDER	400.00	78.27	313.08	8.00	355.56	7.47	116.98	8.00	355.56	19.56	8.00	355.56	17.78	6.00	266.67
509+30.45	512+57.14	LEFT WS RAMP SHOULDER	326.69	76.75	250.73	8.00	290.39	6.10	95.54	8.00	290.39	15.97	8.00	290.39	14.52	6.00	217.79
512+57.14	523+50.14	LEFT WS RAMP SHOULDER	1093.00	96.14	1050.81	8.00	971.56	20.40	319.64	8.00	971.56	53.44	8.00	971.56	48.58	6.00	728.67
523+50.14	526+56.46	LEFT WS RAMP SHOULDER	306.32	76.75	235.10	8.00	272.28	5.72	89.58	8.00	272.28	14.98	8.00	272.28	13.61	6.00	204.21
508+41.97	509+82.04	RIGHT WS RAMP SHLD. TRANSITION (GORE AREA BETWEEN WS RAMP & ES RAMP)	140.07	VAR.	330.33	6.00	93.38	1.96	30.72	6.00	93.38	5.14	6.00	93.38	4.67	4.00	62.25
509+82.04	512+57.14	RIGHT WS RAMP SHOULDER	275.10	76.75	211.14	6.00	183.40	3.85	60.34	6.00	183.40	10.09	6.00	183.40	9.17	4.00	122.27
512+57.14	520+04.43	RIGHT WS RAMP SHOULDER SUPERELEVATION	747.29	41.14	307.44	6.25	518.95	10.90	170.73	6.00	498.19	27.40	6.00	498.19	24.91	4.00	332.13
520+04.43	520+59.69	RIGHT WS RAMP SHLD. TRANSITION (GORE AREA BETWEEN WS RAMP & C-D ROAD)	55.26	VAR.	109.39	6.25	38.38	0.81	12.63	6.00	36.84	2.03	6.00	36.84	1.84	4.00	24.56
523+50.14	526+56.46	RIGHT WS RAMP SHOULDER	306.32	76.75	235.10	6.00	204.21	4.29	67.19	6.00	204.21	11.23	6.00	204.21	10.21	4.00	136.14
ADDITIONAL FOR SUPERELEVATION																	
501+25.98	503+66.67	LEFT SW RAMP SHOULDER	240.69	61.13	147.13	8.92	238.55	3.59	56.25								
512+55.00	517+44.59	RIGHT SW RAMP SHOULDER	489.59	78.71	385.36	9.25	503.19	10.04	157.27								
524+27.08	533+96.43	RIGHT SW RAMP SHOULDER	969.35	78.71	762.98	9.25	996.28	19.88	311.39								
542+27.67	545+97.21	LEFT SW RAMP SHOULDER	369.54	38.81	143.42	6.83	280.44	2.75	43.06								
526+46.85	526+69.52	LEFT ES RAMP SHOULDER	22.67	78.71	17.84	9.25	23.30	0.46	7.28								
512+57.14	520+04.43	RIGHT WS RAMP SHOULDER	747.29	38.81	290.02	6.83	567.11	7.15	111.95								
520+04.43	520+59.69	RIGHT WS RAMP SHOULDER (GORE AREA BETWEEN WS RAMP & C-D ROAD RAMP)	55.26			6.83	41.94	0.53	8.28								
TOTALS:					16346.43		17776.84	362.06	5671.94		15045.62	827.56		15045.62	752.30		10898.88

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (3/8").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

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

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	176	242
				②	QUANTITIES			

STATE OF ARKANSAS ★★★ REGISTERED PROFESSIONAL ENGINEER ★★★ No. 12475 SHANNON R. MAZIAR

11-3-2016

CONCRETE PAVEMENT - I-440/I-40 INTERCHANGE RAMPS

STATION	STATION	LOCATION	LENGTH	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)				ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.			TACK COAT 0.05 GAL. PER SQ. YD.			PORTLAND CEMENT CONCRETE PAVEMENT	
				AVG. WID.	PROCESSING	CEMENT	AGGREGATE	AVG. WID.	SQ. YD.	PG 64-22	AVG. WID.	SQ. YD.	GAL.	AVG. WID.	13" U.T.
			FEET	FEET	SQ. YD.	TON	TON	FEET		TON	FEET			FEET	SQ. YD.
501+25.98	506+48.81	SW 2 LANE RAMP	522.83	24.00	1394.21	29.28	458.70	24.00	1394.21	76.68	24.00	1394.21	69.71	24.00	1394.21
506+48.81	517+44.59	SW RAMP	1095.78	15.00	1826.30	38.35	600.85	15.00	1826.30	100.45	15.00	1826.30	91.32	15.00	1826.30
524+34.22	524+41.55	SW RAMP	7.33	VAR.	12.21	0.26	4.02	VAR.	12.21	0.67	VAR.	12.21	0.61	VAR.	12.21
524+41.55	535+50.70	SW RAMP	1109.15	15.00	1848.58	38.82	608.18	15.00	1848.58	101.67	15.00	1848.58	92.43	15.00	1848.58
535+50.70	537+86.99	SW RAMP	236.29	15.00	393.82	8.27	129.57	15.00	393.82	21.66	15.00	393.82	19.69	15.00	393.82
535+52.63	537+86.99	NW RAMP TURNOUT	234.36	VAR.	461.22	9.69	151.74	VAR.	461.22	25.37	VAR.	461.22	23.06	VAR.	461.22
537+86.99	542+27.67	SW/NW RAMP 2 LANE RAMP	440.68	27.00	1322.04	27.76	434.95	27.00	1322.04	72.71	27.00	1322.04	66.10	27.00	1322.04
542+27.67	545+97.21	SW RAMP TAPER	369.54	VAR.	853.58	17.93	280.83	VAR.	853.58	46.95	VAR.	853.58	42.68	VAR.	853.58
545+97.21	547+10.44	SW HALF RAMP	113.23	VAR.	94.95	1.99	31.24	VAR.	94.95	5.22	VAR.	94.95	4.75	VAR.	94.95
506+48.81	511+19.80	SE RAMP TURNOUT	470.99	VAR.	1056.85	22.19	347.70	VAR.	1056.85	58.13	VAR.	1056.85	52.84	VAR.	1056.85
511+19.80	527+47.08	SE RAMP	1627.28	15.00	2712.13	56.95	892.29	15.00	2712.13	149.17	15.00	2712.13	135.61	15.00	2712.13
502+88.35	505+30.45	ES 2 LANE RAMP	242.10	27.00	726.30	15.25	238.95	27.00	726.30	39.95	27.00	726.30	36.32	27.00	726.30
505+30.45	508+63.13	ES RAMP	332.68	15.00	554.47	11.64	182.42	15.00	554.47	30.50	15.00	554.47	27.72	15.00	554.47
526+46.85	544+57.80	ES RAMP	1810.95	15.00	3018.25	63.38	993.00	15.00	3018.25	166.00	15.00	3018.25	150.91	15.00	3018.25
505+30.45	508+41.97	WS RAMP TURNOUT	311.52	VAR.	611.03	12.83	201.03	VAR.	611.03	33.61	VAR.	611.03	30.55	VAR.	611.03
508+41.97	526+56.46	WS RAMP	1814.49	15.00	3024.15	63.51	994.95	15.00	3024.15	166.33	15.00	3024.15	151.21	15.00	3024.15
TOTALS:					19910.09	418.10	6550.42		19910.09	1095.07		19910.09	995.51		19910.09

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (3/8").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

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

CONCRETE PAVEMENT - SUMMARY

LOCATION	AGGREGATE BASE COURSE (CLASS 7)	CEMENT STABILIZED CRUSHED STONE BASE COURSE (6" COMP'D. DEPTH)			GEOTEXTILE FABRIC (TYPE SPECIAL)	ACHM SURFACE COURSE (3/8") 110 LBS. PER SQ. YD.		TACK COAT 0.05 GAL. PER SQ. YD.		PORTLAND CEMENT CONCRETE PAVEMENT
		PROCESSING	CEMENT	AGGREGATE			PG 64-22			13" U.T.
	TON	SQ. YD.	TON	TON	SQ. YD.	SQ. YD.	TON	SQ. YD.	GAL.	SQ. YD.
CONCRETE PAVEMENT - I-440 RIGHT MAIN LANES		2116.57	44.45	696.37	65635.03					65635.03
CONCRETE PAVEMENT - I-440 RIGHT MAIN LANE SHOULDERS	11510.86	1807.52	35.40	554.59	17474.72					14211.92
CONCRETE PAVEMENT - I-440 LEFT MAIN LANES		10517.13	220.86	3460.13	65798.54					65798.54
CONCRETE PAVEMENT - I-440 LEFT MAIN LANE SHOULDERS	10968.56	3442.71	72.30	1132.65	17236.88					13998.08
CONCRETE PAVEMENT - I-440/I-40 INTERCHANGE RAMPS		19910.09	418.10	6550.42		19910.09	1095.07	19910.09	995.51	19910.09
CONCRETE PAVEMENT - I-440/I-40 INTERCHANGE RAMP SHOULDERS	16346.43	17776.84	362.06	5671.44		15045.62	827.56	15045.62	752.30	10898.88
TOTALS:	38825.85	55570.86	1153.17	18066.10	166145.17	34955.71	1922.63	34955.71	1747.81	190452.54

BASIS OF ESTIMATE:

ACHM SURFACE COURSE (3/8").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER

MAXIMUM NUMBER OF GYRATIONS = 115 FOR PG 64-22

CEMENT STABILIZED CRUSHED STONE BASE COURSE = 94.0% AGGR. 6.0% CEMENT

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

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SUMMARY OF QUANTITIES (BOX 1 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
201	CLEARING	96	STATION
201	GRUBBING	96	STATION
202	REMOVAL AND DISPOSAL OF CURB	98	LIN. FT.
SP & 202	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	181521	SQ. YD.
202	REMOVAL AND DISPOSAL OF APPROACH GUTTERS	9	EACH
202	REMOVAL AND DISPOSAL OF DROP INLETS	3	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS	3	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	1507	SQ. YD.
202	REMOVAL AND DISPOSAL OF GUARDRAIL	4180	LIN. FT.
202	REMOVAL AND DISPOSAL OF CONCRETE MEDIAN BARRIER	1302	LIN. FT.
202	REMOVAL AND DISPOSAL OF IMPACT ATTENUATION BARRIER	1	EACH
SP & 202	REMOVAL OF CORRUGATIONS IN CONCRETE PAVEMENT	3431	SQ. YD.
SP & 202	REMOVAL OF RUMBLE STRIPS IN CONCRETE PAVEMENT	6494	SQ. YD.
SP	SHAPING DITCH	10	STATION
210	UNCLASSIFIED EXCAVATION	55298	CU. YD.
210	COMPACTED EMBANKMENT	10816	CU. YD.
SP & 210	SOIL STABILIZATION	1000	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	47704	TON
308	AGGREGATE IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	18066	TON
308	CEMENT IN CEMENT STABILIZED CRUSHED STONE BASE COURSE	1153	TON
308	PROCESSING CEMENT STABILIZED CRUSHED STONE BASE COURSE	55571	SQ. YD.
SS & 401	TACK COAT	7151	GAL.
SP & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	9296	TON
SP & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")	367	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	3227	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")	145	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")	1825	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")	98	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	4657	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	32	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	218	TON
SP & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	103	TON
SP & 415	ACHM PATCHING OF EXISTING ROADWAY	100	TON
SP	ACHM PATCHING OF EXISTING SHOULDERS	50	TON
501	PORTLAND CEMENT CONCRETE PAVEMENT (13" UNIFORM THICKNESS)	190453	SQ. YD.
504	APPROACH GUTTERS	152.99	CU. YD.
507	REMOVAL AND DISPOSAL OF CONCRETE PAVEMENT FOR PATCHING	1900	SQ. YD.
507	PORTLAND CEMENT CONCRETE PAVEMENT PATCHING (12" UNIFORM THICKNESS)	1900	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1.00	EACH
603	TRAFFIC CONTROL SUPERVISOR	1.00	LUMP SUM
SP & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
603	12" TEMPORARY CULVERT	1150	LIN. FT.
SS & 604	SIGNS	3257	SQ. FT.
SS & 604	BARRICADES	96	LIN. FT.
SS & 604	TRAFFIC DRUMS	1047	EACH
604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	49440	LIN. FT.
SP	MOBILE SPEED NOTIFICATION SYSTEM	2	EACH
604	RELOCATING PRECAST CONCRETE BARRIER	100620	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	8473	LIN. FT.
604	REMOVABLE CONSTRUCTION PAVEMENT MARKINGS	357187	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	97908	LIN. FT.
604	ADVANCE WARNING ARROW PANEL	600	DAY
SP & 604	PORTABLE CHANGEABLE MESSAGE SIGN	172	WEEK
SP	AWIS MOBILIZATION	1.00	LUMP SUM
SP	AWIS OPERATION	8	MNTH
SP	DEVICE RELOCATION	16	EACH
SP	FURNISH AND INSTALL CLOSED CIRCUIT TELEVISION SYSTEM	4	EACH
SP	FURNISH AND INSTALL PUBLIC NOTIFICATION SYSTEM	1	EACH
SP	FURNISH AND INSTALL VARIABLE MESSAGE SIGN	4	EACH
SP	FURNISH AND INSTALL VEHICLE DETECTION SYSTEM	16	EACH
605	CONCRETE DITCH PAVING (TYPE B)	167	SQ. YD.
SP	CULVERT CLEAN OUT	22	EACH
606	12" ZINC COATED (GALVANIZED) CORRUGATED STEEL PIPE CULVERTS (16 GAUGE)	300	LIN. FT.
609	DROP INLETS (TYPE NI)	3	EACH
614	CONCRETE SPILLWAY (TYPE A)	3	EACH
617	GUARDRAIL (TYPE A)	6275	LIN. FT.
617	TERMINAL ANCHOR POSTS (TYPE 1)	14	EACH
617	GUARDRAIL TERMINAL (TYPE 2)	24	EACH
617	THRIE BEAM GUARDRAIL TERMINAL	14	EACH
620	LIME	10	TON
620	SEEDING	5.00	ACRE
SS & 620	MULCH COVER	10.00	ACRE
620	WATER	677.1	M.GAL.
621	TEMPORARY SEEDING	5.00	ACRE
621	SILT FENCE	50975	LIN. FT.
621	SAND BAG DITCH CHECKS	616	BAG
621	DROP INLET SILT FENCE	384	LIN. FT.
621	SEDIMENT REMOVAL AND DISPOSAL	1968	CU. YD.
621	ROCK DITCH CHECKS	39	CU. YD.
621	WATTLE (20")	225	LIN. FT.
621	TRIANGULAR SILT DIKE	100	LIN. FT.
623	SECOND SEEDING APPLICATION	5.00	ACRE
624	SOLID SODDING	5167	SQ. YD.
SP & 625	GEOTEXTILE FABRIC (TYPE SPECIAL)	166145	SQ. YD.
631	CONCRETE BARRIER WALL (MEDIAN TYPE SP-1)	1176	LIN. FT.
SP & 635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
642	RUMBLE STRIPS IN PORTLAND CEMENT CONCRETE SHOULDERS	29168	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (4") (ALTERNATE NO. 1)	59605	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (4") (ALTERNATE NO. 2)	59605	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING WHITE (8") (ALTERNATE NO. 1)	11622	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE WHITE (8") (ALTERNATE NO. 2)	11622	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC PAVEMENT MARKING YELLOW (4") (ALTERNATE NO. 1)	60297	LIN. FT.
* SP	HIGH PERFORMANCE MARKING TAPE YELLOW (4") (ALTERNATE NO. 2)	60297	LIN. FT.
* SP & 719	INVERTED PROFILE THERMOPLASTIC CONTRAST PAVEMENT MARKING (SKIP LINE) WHITE (4") (ALTERNATE NO. 1)	21314	LIN. FT.
* SP	HIGH PERFORMANCE CONTRAST MARKING TAPE (SKIP LINE) WHITE (4") (ALTERNATE NO. 2)	21314	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	3217	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-43)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-44)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-45)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-46)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-47)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-49)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-50)	1	EACH
SP	STEEL OVERHEAD SIGN STRUCTURE (OH-440-60-51)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-440-60-48)	1	EACH
SP	STEEL BRIDGE MOUNTED SIGN STRUCTURE (BM-040-60-49)	1	EACH

*DENOTES ALTERNATE BID ITEMS.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER

11-29-2016

DATE REVISED	DATE PLANED	DATE REVISED	DATE PLANED
11-29-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	BB06(2)	177	242

JOB NO.

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	1595	SQ. FT.
725	GUIDE SIGN-OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	5497	SQ. FT.
726	STANDARD SIGN	1066	SQ. FT.
727	EXIT NUMBER PANEL (TYPE A)	240	SQ. FT.
727	EXIT NUMBER PANEL (TYPE B)	197	SQ. FT.
727	EXIT NUMBER PANEL (TYPE C)	125	SQ. FT.
729	CHANNEL POST SIGN SUPPORT (TYPE U-1)	36	EACH
730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	15762	POUND
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	43	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER	33	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	102	EACH
731	TEMPORARY IMPACT ATTENUATION BARRIER (RELOCATION)	50	EACH
804	REINFORCING STEEL-ROADWAY (GRADE 60)	14070	POUND

REVISIONS

DATE	REVISION	SHEET NUMBER
11-29-16	REVISED SP "REMOVING EXISTING PORTLAND CEMENT CONCRETE PAVEMENT," REVISED QUANTITIES FOR "SOIL STABILIZATION" AND "REMOVABLE CONSTRUCTION PAVEMENT MARKINGS," ADDED ITEM "CONSTRUCTION PAVEMENT MARKINGS"	163, 166, 177, 178

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12411 ARKANSAS

11-29-2016

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
8-29-16			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.		178	242
JOB NO.	BB0612			

2 SUMMARY OF QUANTITIES AND REVISIONS

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	179	242

(2) PLAN STA. 300+00 TO STA. 330+00

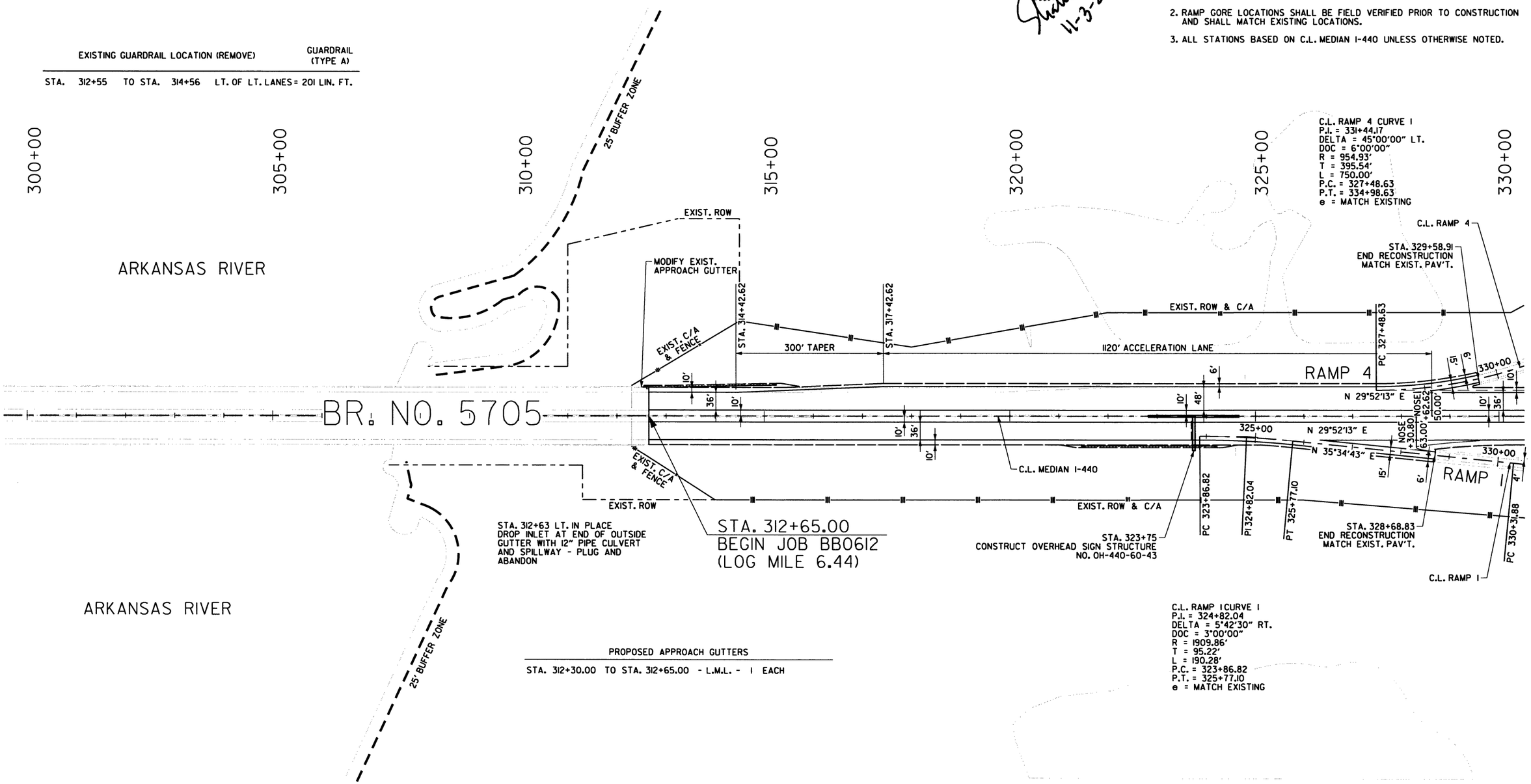
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12604
SHAHRIAR ALAND
11-3-2016

PROPOSED GUARDRAIL LOCATION	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 312+54.39 TO STA. 315+23.14 LT OF LT LANES	= 200 LIN. FT.		1 EACH	1 EACH
STA. 321+47.08 TO STA. 324+22.08 RT OF RT LANES	= 225 LIN. FT.	1 EACH	1 EACH	

EXISTING GUARDRAIL LOCATION (REMOVE)	GUARDRAIL (TYPE A)
STA. 312+55 TO STA. 314+56 LT. OF LT. LANES	= 201 LIN. FT.

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.



PROPOSED APPROACH GUTTERS

STA. 312+30.00 TO STA. 312+65.00 - L.M.L. - 1 EACH

REMOVE & RECONSTRUCT APPR. GUTTERS

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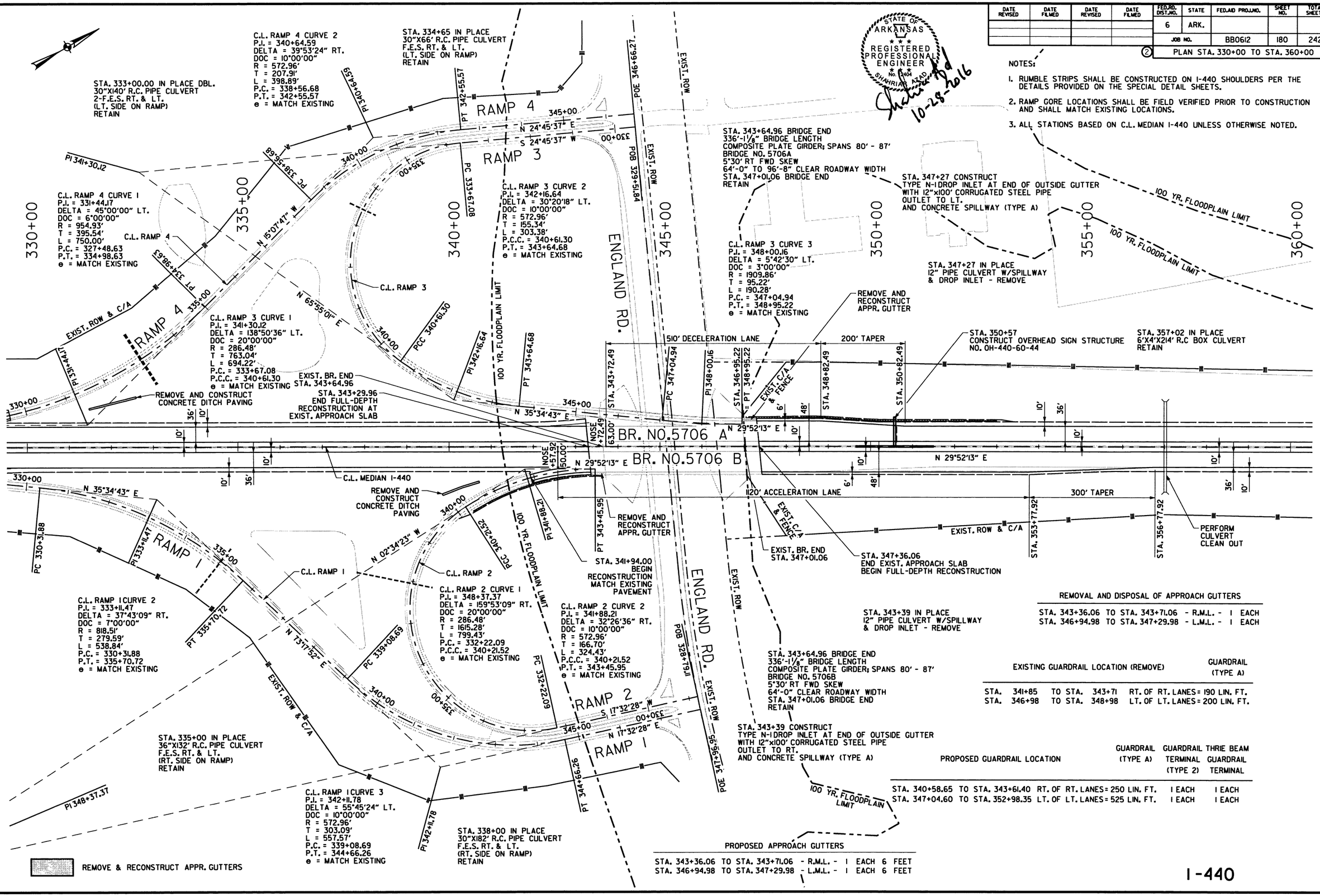
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	180	242

② PLAN STA. 330+00 TO STA. 360+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ADID
10-28-2016

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.



REMOVAL AND DISPOSAL OF APPROACH GUTTERS

STA. 343+36.06	TO STA. 343+71.06	- R.M.L. -	1 EACH
STA. 346+94.98	TO STA. 347+29.98	- L.M.L. -	1 EACH

EXISTING GUARDRAIL LOCATION (REMOVE)			GUARDRAIL (TYPE A)
STA. 341+85	TO STA. 343+71	RT. OF RT. LANES = 190 LIN. FT.	
STA. 346+98	TO STA. 348+98	LT. OF LT. LANES = 200 LIN. FT.	

PROPOSED GUARDRAIL LOCATION			GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 340+58.65	TO STA. 343+61.40	RT. OF RT. LANES = 250 LIN. FT.	1 EACH	1 EACH	
STA. 347+04.60	TO STA. 352+98.35	LT. OF LT. LANES = 525 LIN. FT.	1 EACH	1 EACH	

PROPOSED APPROACH GUTTERS

STA. 343+36.06	TO STA. 343+71.06	- R.M.L. -	1 EACH 6 FEET
STA. 346+94.98	TO STA. 347+29.98	- L.M.L. -	1 EACH 6 FEET

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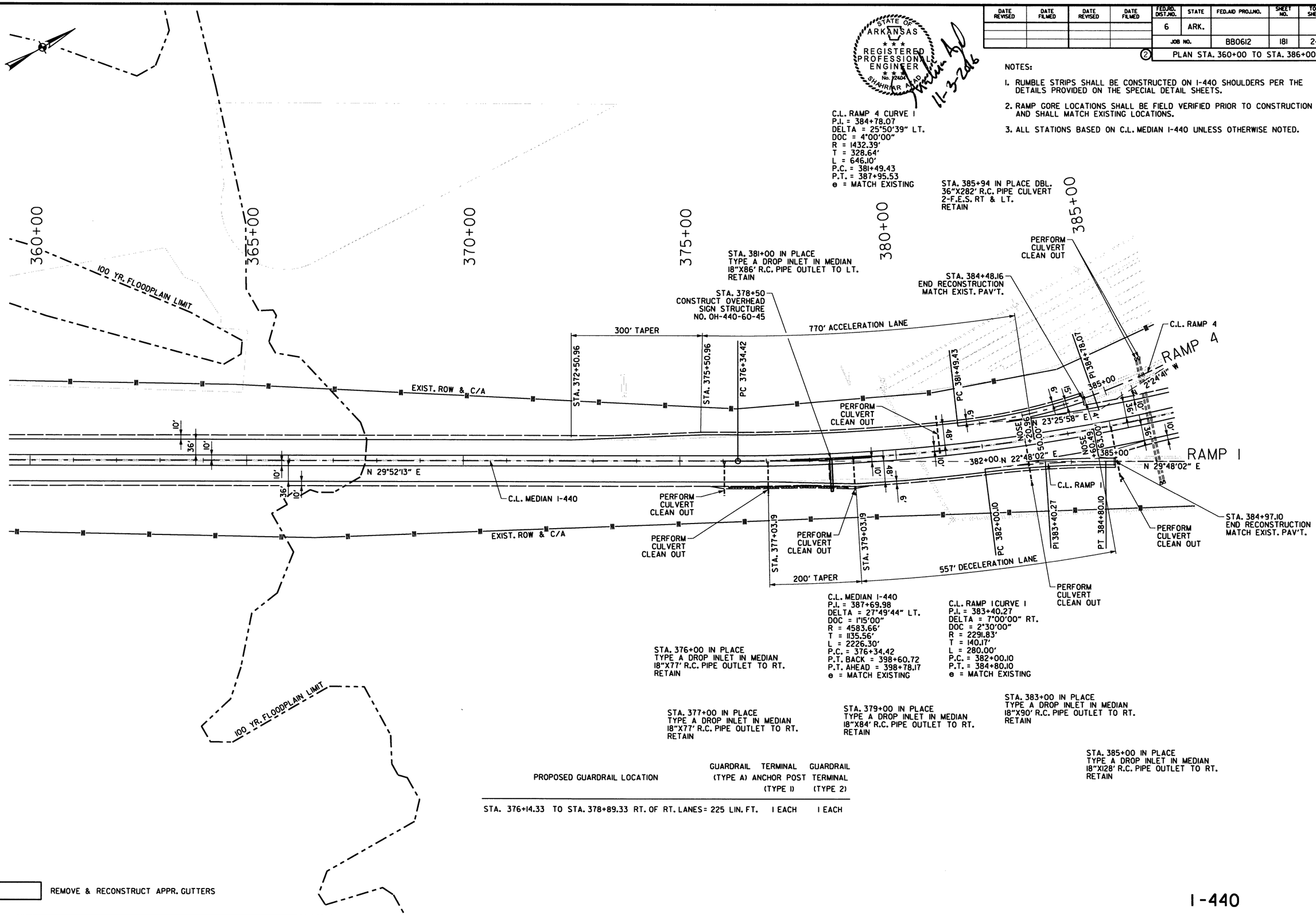
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	181	242

② PLAN STA. 360+00 TO STA. 386+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHAHRIAR ALAM
11-3-2016

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.



PROPOSED GUARDRAIL LOCATION	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)
STA. 376+14.33 TO STA. 378+89.33 RT. OF RT. LANES	= 225 LIN. FT.	1 EACH	1 EACH

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	182	242
				PLAN STA. 386+00 TO STA. 413+00				

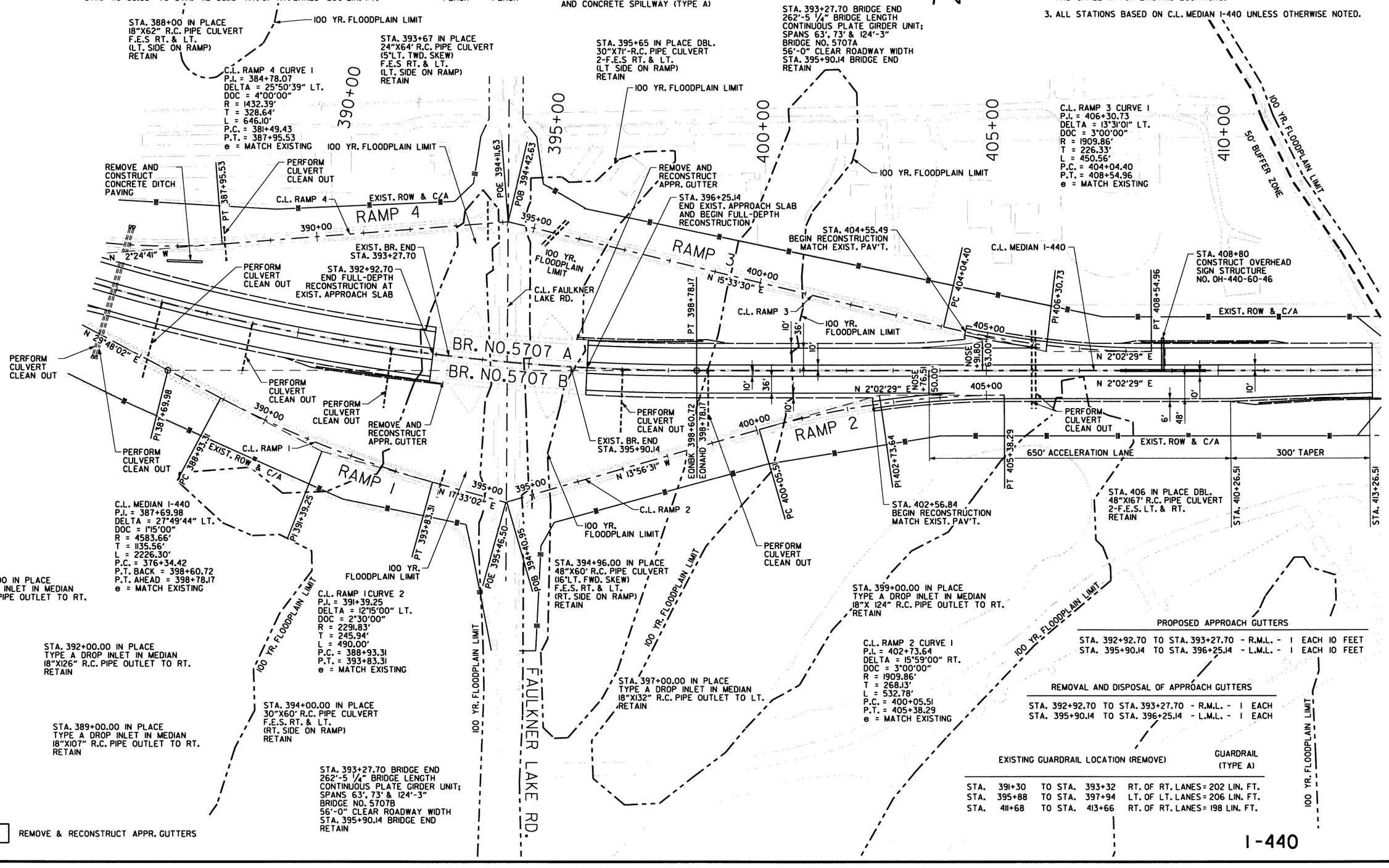
NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHAHRIAR MIRZA 11-3-2016

PROPOSED GUARDRAIL LOCATION

	GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 390+49.18 TO STA. 393+17.93 RT. OF RT. LANES = 200 LIN. FT.			1 EACH	1 EACH
STA. 396+00.16 TO STA. 398+86.36 LT. OF LT. LANES = 200 LIN. FT.			1 EACH	1 EACH
STA. 408+32.84 TO STA. 411+07.84 LT. OF LT. LANES = 225 LIN. FT.		1 EACH	1 EACH	
STA. 410+89.35 TO STA. 413+58.10 RT. OF RT. LANES = 200 LIN. FT.			1 EACH	1 EACH



PROPOSED APPROACH GUTTERS

STA. 392+92.70 TO STA. 393+27.70	- R.M.L. -	1 EACH	10 FEET
STA. 395+90.14 TO STA. 396+25.14	- L.M.L. -	1 EACH	10 FEET

REMOVAL AND DISPOSAL OF APPROACH GUTTERS

STA. 392+92.70 TO STA. 393+27.70	- R.M.L. -	1 EACH
STA. 395+90.14 TO STA. 396+25.14	- L.M.L. -	1 EACH

EXISTING GUARDRAIL LOCATION (REMOVE)	GUARDRAIL (TYPE A)
STA. 391+30 TO STA. 393+32 RT. OF RT. LANES = 202 LIN. FT.	
STA. 395+88 TO STA. 397+94 LT. OF LT. LANES = 206 LIN. FT.	
STA. 411+68 TO STA. 413+66 RT. OF RT. LANES = 198 LIN. FT.	

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	183	242

(2) PLAN STA. 413+00 TO STA. 443+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12294
STEVEN A. BRIARS
10-28-2016

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

REMOVAL AND DISPOSAL OF APPROACH GUTTERS

STA. 413+33.00 TO STA. 413+68.00 - R.M.L. - 1 EACH
STA. 436+05.00 TO STA. 436+40.00 - L.M.L. - 1 EACH

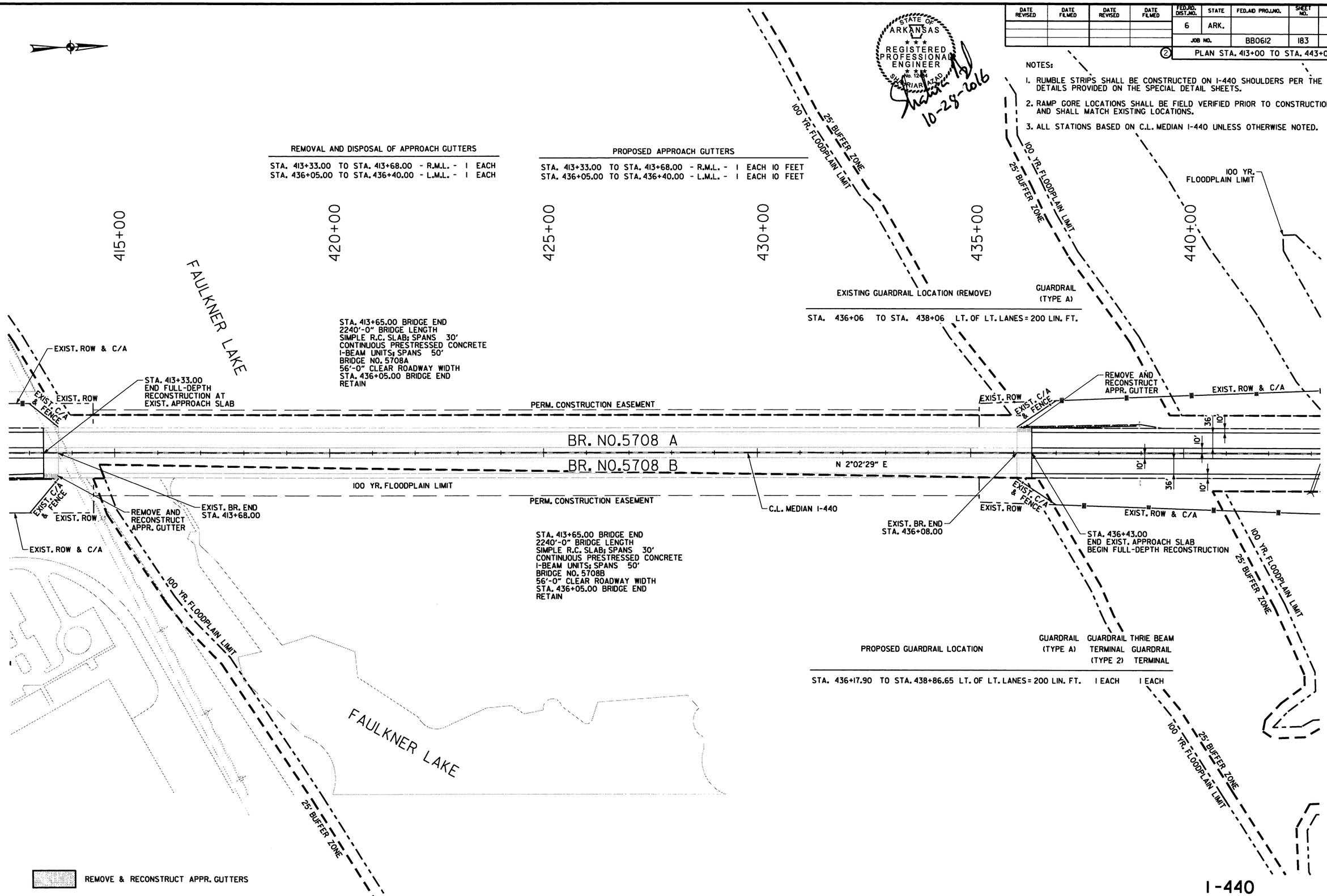
PROPOSED APPROACH GUTTERS

STA. 413+33.00 TO STA. 413+68.00 - R.M.L. - 1 EACH 10 FEET
STA. 436+05.00 TO STA. 436+40.00 - L.M.L. - 1 EACH 10 FEET

EXISTING GUARDRAIL LOCATION (REMOVE)

GUARDRAIL (TYPE A)

STA. 436+06 TO STA. 438+06 LT. OF LT. LANES = 200 LIN. FT.



PROPOSED GUARDRAIL LOCATION

	GUARDRAIL (TYPE A)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 436+17.90 TO STA. 438+86.65 LT. OF LT. LANES = 200 LIN. FT.		1 EACH	1 EACH

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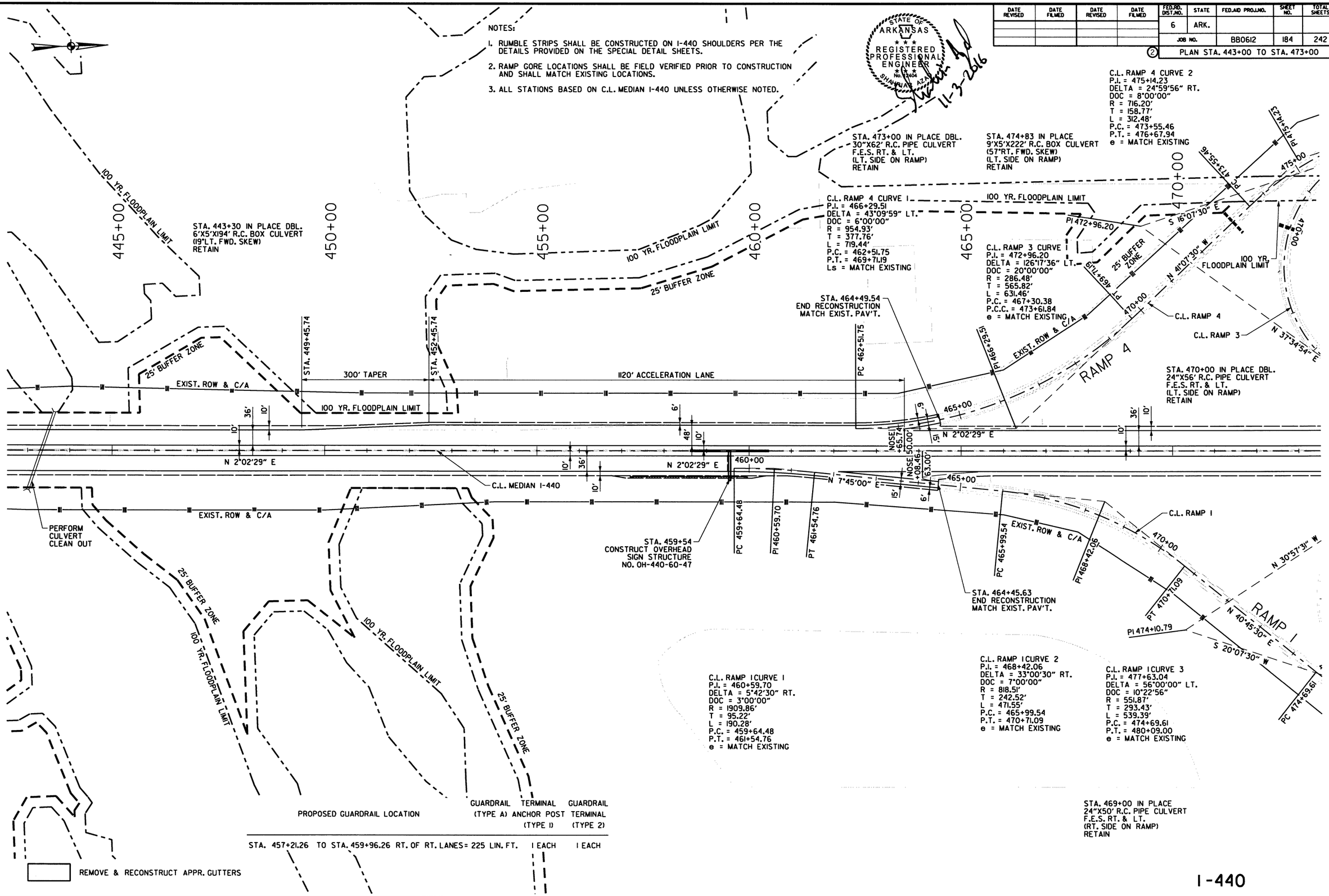
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	184	242

(2) PLAN STA. 443+00 TO STA. 473+00

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12404 SHANNON A.E. ARNOLD 11-3-2016



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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	185	242
				(2)	PLAN STA. 473+00 TO STA. 503+00			

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNON A. ZACHARY
11-3-2016

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

* THE LISTED EXISTING VERTICAL CLEARANCES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

C.L. RAMP 4 CURVE 2
P.I. = 475+14.23
DELTA = 24°59'56" RT.
DOC = 8°00'00"
R = 716.20'
T = 158.77'
L = 312.48'
P.C. = 473+55.46
P.T. = 476+67.94
e = MATCH EXISTING

C.L. RAMP 3 CURVE 1
P.I. = 472+96.20
DELTA = 126°17'36" LT.
DOC = 20°00'00"
R = 286.48'
T = 565.82'
L = 631.46'
P.C. = 467+30.38
P.C.C. = 473+61.84
e = MATCH EXISTING

C.L. RAMP 3 CURVE 2
P.I. = 475+14.47
DELTA = 29°49'54" LT.
DOC = 10°00'00"
R = 572.96'
T = 152.63'
L = 298.32'
P.C.C. = 473+61.84
P.T. = 476+60.16
e = MATCH EXISTING

STA. 470+00 IN PLACE DBL.
24"X56' R.C. PIPE CULVERT
F.E.S. RT. & LT.
(LT. SIDE ON RAMP)
RETAIN

EXISTING VERTICAL CLEARANCE UNDER BRIDGE NO. 5709 IS 17'-8" SOUTHBOUND AND 17'-8" NORTHBOUND, MINIMUM 16'-0" VERTICAL CLEARANCE IS REQUIRED FROM FINISHED ROADWAY. *

REMOVAL AND DISPOSAL OF APPROACH GUTTERS

STA. 489+13.80	TO STA. 489+48.80	- R.M.L. -	1	EACH
STA. 500+87.13	TO STA. 501+22.13	RT. SW	1	EACH
STA. 500+87.13	TO STA. 501+22.13	LT. SW	1	EACH

STA. 18+08 IN PLACE DBL.
9'X5'X246' R.C. BOX CULVERT
WITH 18"X6' R.C. PIPE INLET IN MEDIAN
RETAIN

STA. 23+57.81 BRIDGE END
273'-4" BRIDGE LENGTH
CONTINUOUS W-BEAM UNIT;
SPANS 47', 94', 84' & 46'
BRIDGE NO. 5709
18°10' LT FWD SKEW
68'-0" CLEAR ROADWAY WIDTH
STA. 26+31.19 BRIDGE END
RETAIN

STA. 489+48.80 BRIDGE END
1154'-4 " BRIDGE LENGTH
CONTINUOUS W-BEAM UNIT;
BRIDGE NO. 5710
STA. 501+03.08 BRIDGE END
RETAIN

C.L. RAMP 3 CURVE 3
P.I. = 482+00.16
DELTA = 5°42'30" LT.
DOC = 3°00'00"
R = 1909.86'
T = 95.22'
L = 190.28'
P.C. = 481+04.94
P.T. = 482+95.22
e = MATCH EXISTING

STA. 483+00
REMOVE EXISTING SIGN STRUCTURE
CONSTRUCT OVERHEAD SIGN STRUCTURE
NO. OH-440-60-49

PROPOSED APPROACH GUTTERS

STA. 489+13.80	TO STA. 489+48.80	- R.M.L. -	1 EACH	10 FEET
STA. 500+87.13	TO STA. 501+22.13	RT. SW	1 EACH	10 FEET
STA. 500+87.13	TO STA. 501+22.13	LT. SW	1 EACH	6 FEET
STA. 502+53.35	TO STA. 502+88.35	LT. & RT. ES	1 EACH	

C.L. RAMP ES CURVE 1
P.I. = 498+60.81
DELTA = 35°40'01" LT.
DOC = 4°00'00"
R = 1432.39'
T = 460.81'
L = 891.67'
P.C. = 494+00.00
P.T. = 502+91.67
e = MATCH EXISTING

STA. 478+14.07
BEGIN RECONSTRUCTION
MATCH EXIST. PAV'T.

STA. 489+13.80
END FULL-DEPTH
RECONSTRUCTION
AT EXIST. APPROACH SLAB

REMOVE AND
RECONSTRUCT
APPR. GUTTER

STA. 488+21
CONSTRUCT OVERHEAD
SIGN STRUCTURE
NO. OH-440-60-50

STA. 495+20
REMOVE EXISTING
OVERHEAD SIGN
STRUCTURE
NO. OH-440-60-10

C.L. RAMP ES
STA. 502+88.35
END EXIST. APPROACH
SLAB BEGIN FULL-DEPTH
RECONSTRUCTION

REMOVE AND REPLACE
LIP CURB ALONG EXIST.
APPR. GUTTER

REMOVE AND
RECONSTRUCT
APPR. GUTTER

C.L. RAMP SW
STA. 501+25.98
END EXIST. APPROACH
SLAB BEGIN FULL-DEPTH
RECONSTRUCTION

C.L. RAMP SW
STA. 501+41
REPLACE EXISTING
OVERHEAD SIGN
STRUCTURE
NO. OH-440-60-51

C.L. RAMP 2 CURVE 3
P.I. = 476+04.29
DELTA = 33°00'00" RT.
DOC = 11°00'00"
R = 520.87'
T = 154.29'
L = 300.00'
P.C.C. = 474+50.00
P.T. = 477+50.00
e = MATCH EXISTING

STA. 479+69
REPLACE EXISTING BRIDGE
MOUNTED SIGN STRUCTURE
NO. BM-440-60-48

STA. 476+05.41
BEGIN RECONSTRUCTION
MATCH EXIST. PAV'T.

C.L. RAMP 2 CURVE
P.I. = 467+34.06
DELTA = 35°21'46" RT.
DOC = 11°00'00"
R = 520.87'
T = 166.05'
L = 321.48'
P.C. = 465+68.01
P.C.C. = 468+89.49
e = MATCH EXISTING

C.L. RAMP SW CURVE 1
P.I. = 499+17.34
DELTA = 27°30'00" RT.
DOC = 3°00'00"
R = 1909.86'
T = 467.34'
L = 916.67'
P.C. = 494+50.00
P.T. = 503+66.67
e = MATCH EXISTING

EXISTING GUARDRAIL LOCATION (REMOVE)

				GUARDRAIL (TYPE A)
STA. 487+49	TO STA. 489+49	RT. OF RT. LANES	=	200 LIN. FT.
STA. 501+00	TO STA. 502+78	LT. OF RAMP SW	=	178 LIN. FT.
STA. 501+04	TO STA. 502+77	LT. OF RAMP SW	=	173 LIN. FT.
STA. 502+72	TO STA. 504+86	RT. OF RAMP ES	=	214 LIN. FT.
STA. 502+72	TO STA. 504+87	LT. OF RAMP ES	=	215 LIN. FT.

STA. 482+00 IN PLACE
24"X144' R.C. PIPE CULVERT
F.E.S. RT. & LT.
(RT. SIDE ON RAMP)
RETAIN

C.L. RAMP 2 CURVE 2
P.I. = 474+10.79
DELTA = 128°54'59" RT.
DOC = 23°00'00"
R = 249.11'
T = 521.30'
L = 560.51'
P.C.C. = 468+89.49
P.C.C. = 474+50.00
e = MATCH EXISTING

C.L. RAMP 1 CURVE 3
P.I. = 477+63.04
DELTA = 56°00'00" LT.
DOC = 10°22'56"
R = 551.87'
T = 293.43'
L = 539.39'
P.C. = 474+69.61
P.T. = 480+09.00
e = MATCH EXISTING

PROPOSED GUARDRAIL LOCATION

			GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA. 477+28.66	TO STA. 481+28.66	RT. OF RT. LANES	= 350 LIN. FT.	1 EACH	1 EACH	
STA. 478+83.12	TO STA. 485+33.12	LT. OF LT. LANES	= 600 LIN. FT.	1 EACH	1 EACH	
STA. 486+70.15	TO STA. 489+38.90	RT. OF RT. LANES	= 200 LIN. FT.		1 EACH	1 EACH
STA. 501+00.41	TO STA. 501+94.61	LT. OF RAMP SW	= 75 LIN. FT.	1 EACH		1 EACH
STA. 501+01.49	TO STA. 501+95.24	RT. OF RAMP SW	= 75 LIN. FT.	1 EACH		1 EACH
STA. 502+62.79	TO STA. 505+56.54	LT. OF RAMP ES	= 225 LIN. FT.		1 EACH	1 EACH
STA. 502+63.45	TO STA. 505+82.20	RT. OF RAMP ES	= 250 LIN. FT.		1 EACH	1 EACH

REMOVE & RECONSTRUCT APPR. GUTTERS

I-440

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	186	242

② PLAN STA. 503+00 TO STA. 533+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12345
SHAHRIAR ZAND
11-3-2016

EXISTING GUARDRAIL LOACTION (REMOVE)

					GUARDRAIL (TYPE A)
STA.	515+39	TO STA.	517+69	LT. OF RAMP SW = 230 LIN. FT.	
STA.	515+47	TO STA.	517+69	RT. OF RAMP SW = 222 LIN. FT.	

PROPOSED GUARDRAIL LOCATION

					GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)	THRIE BEAM GUARDRAIL TERMINAL
STA.	507+53.66	TO STA.	510+28.66	RT. OF RAMP SW = 225 LIN. FT.	1 EACH		1 EACH	
STA.	507+53.66	TO STA.	510+28.66	LT. OF RAMP SW = 225 LIN. FT.	1 EACH		1 EACH	
STA.	514+25.79	TO STA.	517+69.54	LT. OF RAMP SW = 275 LIN. FT.			1 EACH	1 EACH
STA.	515+01.11	TO STA.	517+69.86	RT. OF RAMP SW = 200 LIN. FT.			1 EACH	1 EACH

C.L. RAMP ES
STA. 520+81 IN PLACE
12" PIPE CULVERT W/SPILLWAY
& DROP INLET - RETAIN

C.L. RAMP ES CURVE 2
P.I. = 524+21.59
DELTA = 123°05'57" RT.
DOC = 7°00'00"
R = 818.51'
T = 1510.63'
L = 1758.56'
P.C. = 509+10.96
P.T. = 526+69.52
e = MATCH EXISTING
515+00

C.L. RAMP ES
STA. 507+28.93
9.5' LT. NOSE
LOCATION

C.L. RAMP WS

REMOVE AND
CONSTRUCT
CONCRETE DITCH
PAVING

C.L. RAMP ES

EXIST. BR. END
C.L. RAMP ES
STA. 515+86.32

C.L. RAMP SW
STA. 537+86.99

C.L. RAMP SW
STA. 536+37.33
9.50' RT.
NOSE LOCATION

C.L. RAMP SW
STA. 535+52.63
BEGIN RECONSTRUCTION
MATCH EXIST. PAV'T.

EXIST. BR. END
C.L. RAMP ES
STA. 520+38.27

STA. 508+63.13
END FULL-DEPTH
RECONSTRUCTION

C.L. RAMP WS CURVE 2
P.I. = 518+49.22
DELTA = 54°38'59" LT.
DOC = 5°00'00"
R = 1145.92'
T = 592.08'
L = 1093.00'
P.C. = 512+57.14
P.T. = 523+50.14
e = MATCH EXISTING

C.L. RAMP NE

STA. 515+25.00 BRIDGE END
878'-8"" BRIDGE LENGTH;
BRIDGE NO. 5985A
52'-0" CLEAR ROADWAY WIDTH
STA. 524+03.67 BRIDGE END
RETAIN

STA. 515+85.90 BRIDGE END
451'-5" BRIDGE LENGTH
CONTINUOUS W-BEAM UNIT;
BRIDGE NO. 5711
25'-0" CLEAR ROADWAY WIDTH
STA. 520+37.27 BRIDGE END
RETAIN

C.L. RAMP WS CURVE 1
P.I. = 507+30.78
DELTA = 8°00'00" LT.
DOC = 2°00'00"
R = 2864.79'
T = 200.33'
L = 400.00'
P.C. = 505+30.45
P.T. = 509+30.45
e = MATCH EXISTING

100 YR.
FLOODPLAIN
LIMIT

C.L. MEDIAN I-40

C.L. RAMP SW

STA. 513+34
RETAIN OVERHEAD
SIGN STRUCTURE
NO. OH-440-60-26

STA. 343+80
REPLACE EXISTING BRIDGE
MOUNTED SIGN STRUCTURE
NO. BM-040-60-49

C.L. RAMP ES
STA. 526+46.85
BEGIN FULL-DEPTH
RECONSTRUCTION

C.L. MEDIAN I-440

EXISTING VERTICAL CLEARANCE UNDER
OVERHEAD SIGN BRIDGE IS 19'-1"
SOUTHBOUND. MINIMUM 17'-0" VERTICAL
CLEARANCE IS REQUIRED FROM FINISHED
ROADWAY. *

C.L. RAMP NW

STA. 536+39
RETAIN OVERHEAD
SIGN STRUCTURE
NO. OH-440-60-27

STA. 530+00.00
END JOB BB0612
(LOG MILE 10.67)

BR. NO. 5985 A&B PT 526+69.52

N 2°01'52" E

C.L. RAMP SW CURVE 1
P.I. = 499+17.34
DELTA = 27°30'00" RT.
DOC = 3°00'00"
R = 1909.86'
T = 467.34'
L = 916.67'
P.C. = 494+50.00
P.T. = 503+66.67
e = MATCH EXISTING

EXISTING VERTICAL CLEARANCE UNDER
OVERHEAD SIGN BRIDGE IS 19'-9"
SOUTHBOUND. MINIMUM 17'-0" VERTICAL
CLEARANCE IS REQUIRED FROM FINISHED
ROADWAY. *

STA. 515+25.00 BRIDGE END
878'-8"" BRIDGE LENGTH;
BRIDGE NO. 5985B
52'-0" CLEAR ROADWAY WIDTH
STA. 524+03.67 BRIDGE END
RETAIN

C.L. RAMP WN

C.L. RAMP SW
STA. 517+46 IN PLACE
12" PIPE CULVERT W/SPILLWAY
& DROP INLET - RETAIN

C.L. RAMP SW

EXIST. BR. END
C.L. RAMP SW
STA. 517+79.59

EXIST. BR. END
C.L. RAMP SW
STA. 523+99.22

C.L. RAMP SW
STA. 524+34.22
END EXIST. APPROACH SLAB
BEGIN FULL-DEPTH RECONSTRUCITON

C.L. RAMP SW CURVE 2
P.I. = 542+99.13
DELTA = 149°54'01" LT.
DOC = 7°00'00"
R = 818.51'
T = 3044.13'
L = 2141.43'
P.C. = 512+55.00
P.T. = 533+96.43
e = MATCH EXISTING

C.L. EANES RD.

C.L. RAMP SW
STA. 510+58.54
15.16' RT.
NOSE LOCATION

C.L. RAMP SW
STA. 509+98
RETAIN EXISTING
OVERHEAD SIGN
STRUCTURE
NO. OH-440-60-11

C.L. RAMP SW
STA. 517+44.59
END FULL-DEPTH
RECONSTRUCTION AT
EXIST. APPROACH SLAB

PERFORM
CULVERT
CLEAN OUT

STA. 534+15.06

CONSTRUCTION
JOINT

C.L. RAMP SE CURVE 1
P.I. = 520+78.93
DELTA = 53°03'27" RT
DOC = 2°00'00"
R = 2864.79'
T = 1430.12'
L = 2652.87'
P.C. = 506+48.81
P.T. = 533+01.68
e = MATCH EXISTING

EXISTING VERTICAL CLEARANCE UNDER
OVERHEAD SIGN BRIDGE IS 22'-0"
NORTHBOUND. MINIMUM 17'-0" VERTICAL
CLEARANCE IS REQUIRED FROM FINISHED
ROADWAY. *

REMOVE AND REPLACE
LIP CURB ALONG EXIST.
APPR. GUTTER

100 YR.
FLOODPLAIN
LIMIT

C.L. RAMP SE

STA. 517+79.59 BRIDGE END
619'-6" BRIDGE LENGTH
CONTINUOUS W-BEAM UNIT;
BRIDGE NO. 5712
25'-0" CLEAR ROADWAY WIDTH
STA. 523+99.22 BRIDGE END
RETAIN

BR. NO. 5712

PERFORM
CULVERT
CLEAN OUT

* THE LISTED EXISTING VERTICAL CLEARANCES
SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

PROPOSED APPROACH GUTTERS

STA 517+44.59	TO STA 517+79.59	LT. & RT. SW RAMP	1 EACH

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

REMOVE & RECONSTRUCT APPR. GUTTERS

I-440

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	187	242

(2) PLAN STA. 309+00 TO STA. 339+00

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 12404
SHANNON R. MAO
11-3-2016

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

EXISTING GUARDRAIL LOCATION (REMOVE)			GUARDRAIL (TYPE A)
STA. 521+28	TO STA. 523+56	LT. OF RAMP WS	= 228 LIN. FT.
STA. 521+36	TO STA. 523+56	RT. OF RAMP WS	= 220 LIN. FT.

PROPOSED GUARDRAIL LOCATION		GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)
STA. 521+05.66	TO STA. 523+80.66	LT. OF RAMP WS = 225 LIN. FT.	1 EACH	1 EACH
STA. 521+12.84	TO STA. 523+81.31	RT. OF RAMP WS = 225 LIN. FT.	1 EACH	1 EACH

C.L. RAMP SW
STA. 543+25 IN PLACE
24"X74' R.C. PIPE CULVERT
F.E.S. RT. & LT.
(RAMP SW)
RETAIN

C.L. RAMP ES CURVE 2
P.I. = 524+21.59
DELTA = 123°05'57" RT.
DOC = 7°00'00"
R = 818.51'
T = 1510.63'
L = 1758.56'
P.C. = 509+10.96
P.T. = 526+69.52
e = MATCH EXISTING

C.L. RAMP SW CURVE 3
P.I. = 546+15.50
DELTA = 22°57'28" RT.
DOC = 3°00'00"
R = 1909.86'
T = 387.83'
L = 765.25'
P.C. = 542+27.67
P.T. = 549+92.92
e = MATCH EXISTING

C.L. MEDIAN I-40
STA. 316+95 IN PLACE
DROP INLET IN MEDIAN
(TYPE UNKNOWN)
WITH OUTLET RT. AND LT.
(LENGTH UNKNOWN)
RETAIN

C.L. RAMP SW
STA. 547+10.44
BEGIN FULL-DEPTH
RECONSTRUCTION
MATCH EXIST. PAV'T

C.L. RAMP SW
STA. 535+52.63
END FULL-DEPTH
RECONSTRUCTION
MATCH EXIST. PAV'T.

C.L. RAMP SW
STA. 536+37.33
9.50' RT.
NOSE LOCATION

C.L. MEDIAN I-40
STA. 315+07
RETAIN EXIST OVERHEAD
SIGN STRUCTURE

C.L. RAMP WS
STA. 526+56.46
BEGIN FULL-DEPTH
RECONSTRUCTION
MATCH EXIST. PAV'T.

C.L. MEDIAN I-40
STA. 326+76
RETAIN EXIST OVERHEAD
SIGN STRUCTURE
NO. OH-040-60-29

C.L. RAMP SW
STA. 520+93.15
12.08' RT.
NOSE LOCATION

C.L. RAMP WS
STA. 518+75 IN PLACE
24"X64' R.C. PIPE CULVERT
F.E.S. RT. & LT.
RETAIN

C.L. RAMP WS CURVE 2
P.I. = 518+49.22
DELTA = 54°38'59" LT.
DOC = 5°00'00"
R = 1145.92'
T = 592.08'
L = 1093.00'
P.C. = 512+57.14
P.T. = 523+50.14
e = MATCH EXISTING

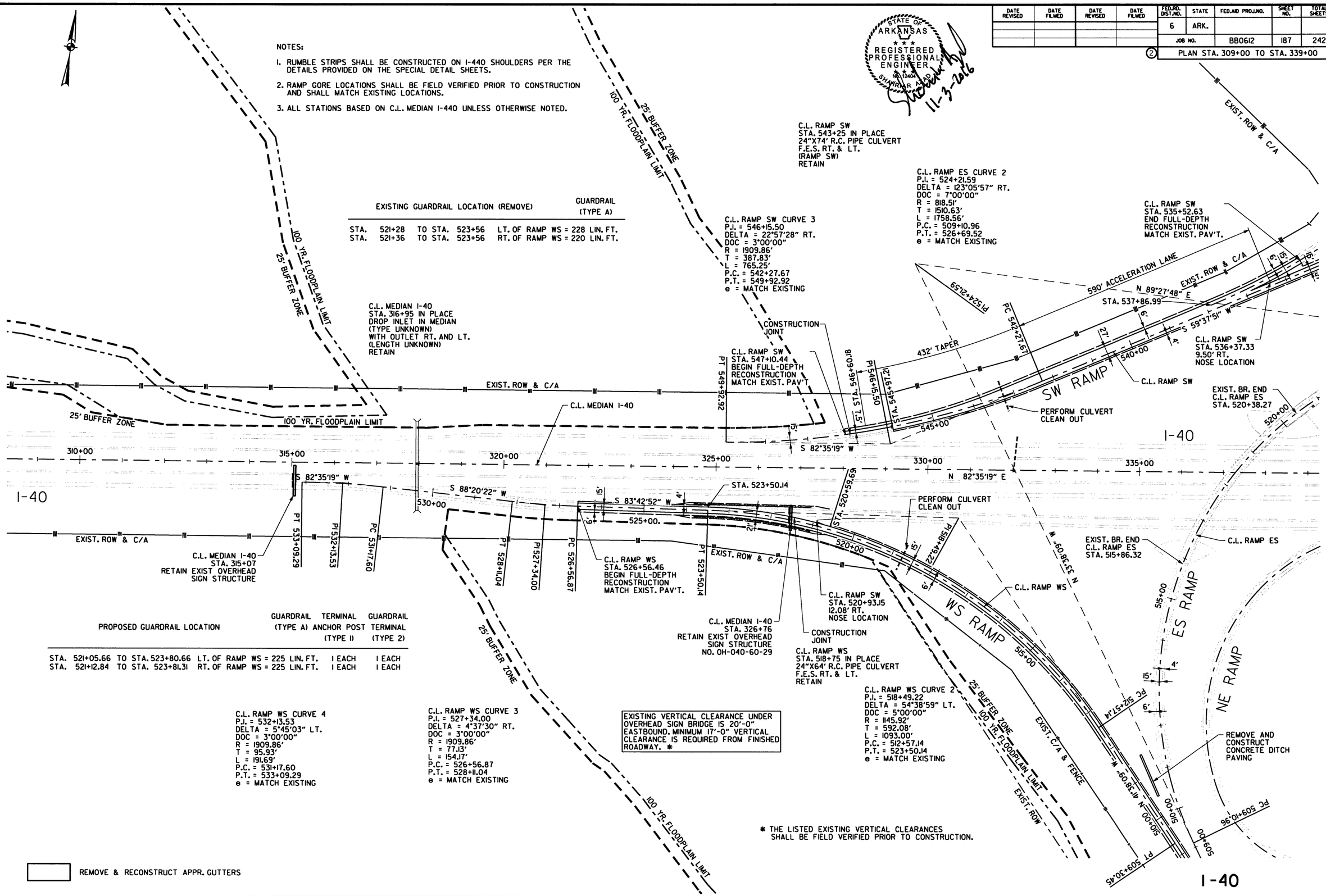
C.L. RAMP WS CURVE 4
P.I. = 532+13.53
DELTA = 5°45'03" LT.
DOC = 3°00'00"
R = 1909.86'
T = 95.93'
L = 191.69'
P.C. = 531+17.60
P.T. = 533+09.29
e = MATCH EXISTING

C.L. RAMP WS CURVE 3
P.I. = 527+34.00
DELTA = 4°37'30" RT.
DOC = 3°00'00"
R = 1909.86'
T = 77.13'
L = 154.17'
P.C. = 526+56.87
P.T. = 528+11.04
e = MATCH EXISTING

EXISTING VERTICAL CLEARANCE UNDER OVERHEAD SIGN BRIDGE IS 20'-0" EASTBOUND. MINIMUM 17'-0" VERTICAL CLEARANCE IS REQUIRED FROM FINISHED ROADWAY. *

* THE LISTED EXISTING VERTICAL CLEARANCES SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION.

REMOVE & RECONSTRUCT APPR. GUTTERS



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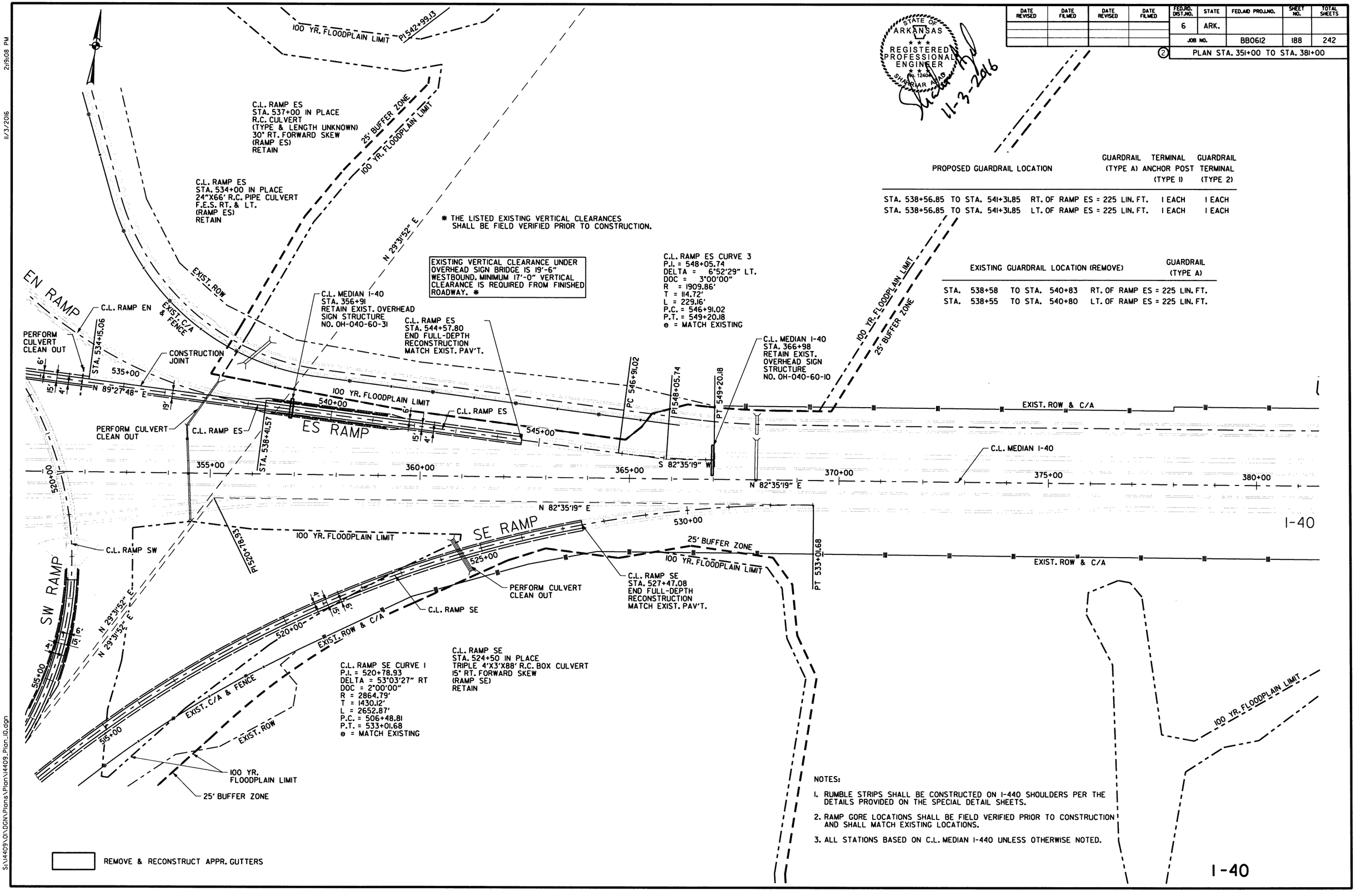
				6	ARK.			
				JOB NO.		BB0612	188	242

② PLAN STA. 351+00 TO STA. 381+00

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12400 SHAHRIAR ABAD 11-3-2016



PROPOSED GUARDRAIL LOCATION

			GUARDRAIL (TYPE A)	TERMINAL ANCHOR POST (TYPE 1)	GUARDRAIL TERMINAL (TYPE 2)
STA. 538+56.85	TO STA. 541+31.85	RT. OF RAMP ES = 225 LIN. FT.	1 EACH	1 EACH	1 EACH
STA. 538+56.85	TO STA. 541+31.85	LT. OF RAMP ES = 225 LIN. FT.	1 EACH	1 EACH	1 EACH

EXISTING GUARDRAIL LOCATION (REMOVE)			GUARDRAIL (TYPE A)
STA. 538+58	TO STA. 540+83	RT. OF RAMP ES = 225 LIN. FT.	
STA. 538+55	TO STA. 540+80	LT. OF RAMP ES = 225 LIN. FT.	

NOTES:

1. RUMBLE STRIPS SHALL BE CONSTRUCTED ON I-440 SHOULDERS PER THE DETAILS PROVIDED ON THE SPECIAL DETAIL SHEETS.
2. RAMP GORE LOCATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION AND SHALL MATCH EXISTING LOCATIONS.
3. ALL STATIONS BASED ON C.L. MEDIAN I-440 UNLESS OTHERWISE NOTED.

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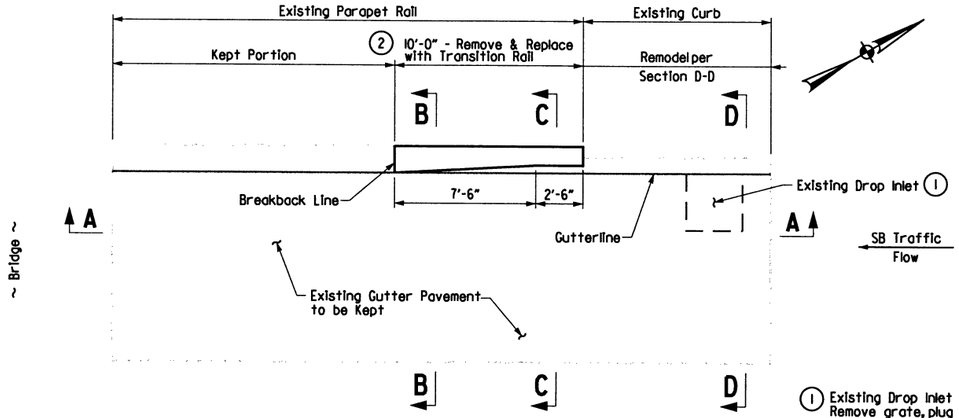
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	189	242
				(1) A5705		APPROACH GUTTER		59307

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



TYPE SPECIAL I GUTTER PLAN

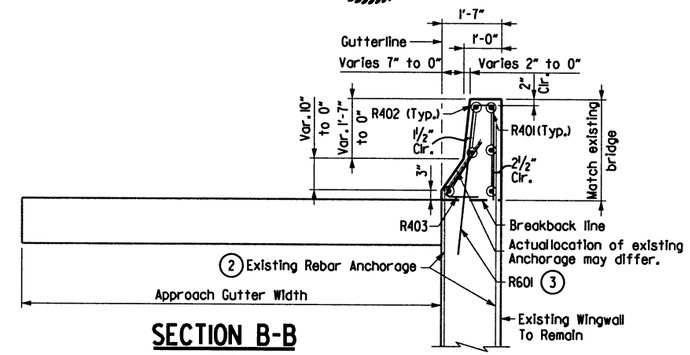
SCALE: 3/8" = 1'-0"

(1) Existing Drop Inlet to be Abandoned. Remove grate, plug outlet, backfill with concrete flush with surrounding pavement.

(2) Preserve existing parapet vertical anchorage reinforcing from the wingwall, projection past breakback line.

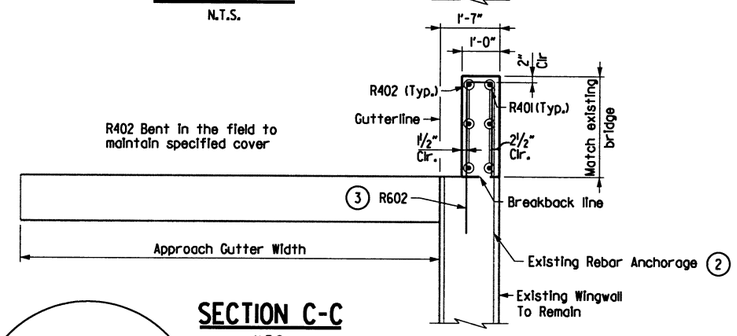
(3) Bars R601 & R602 to be drilled and grouted into existing wingwall per Section 804.06. A minimum depth of 1'-6" must be drilled while keeping 2" Clr. from the top of constructed parapet.

Small longitudinal adjustments to location are permissible to avoid kept anchorage reinforcing while maintaining specified cover.



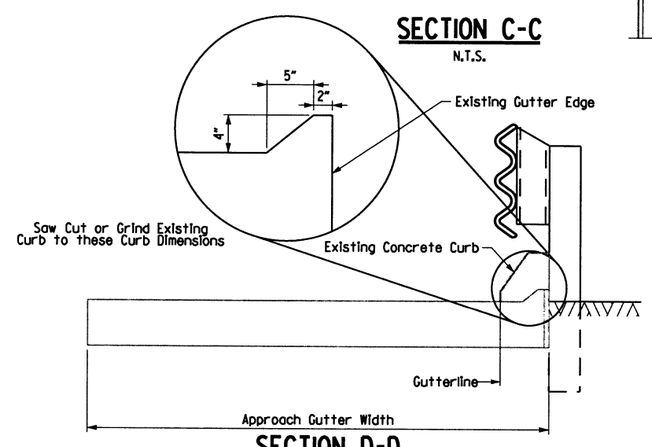
SECTION B-B

N.T.S.



SECTION C-C

N.T.S.



SECTION D-D

N.T.S.

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

All labor and materials for work shown will be measured and paid as Approach Gutter, in accordance with Section 504.

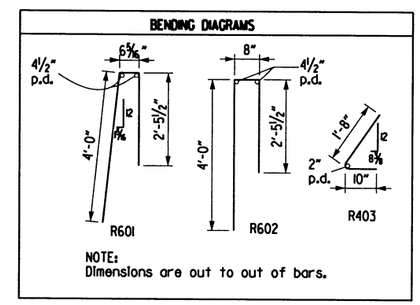
TYPE SPECIAL I BAR LIST

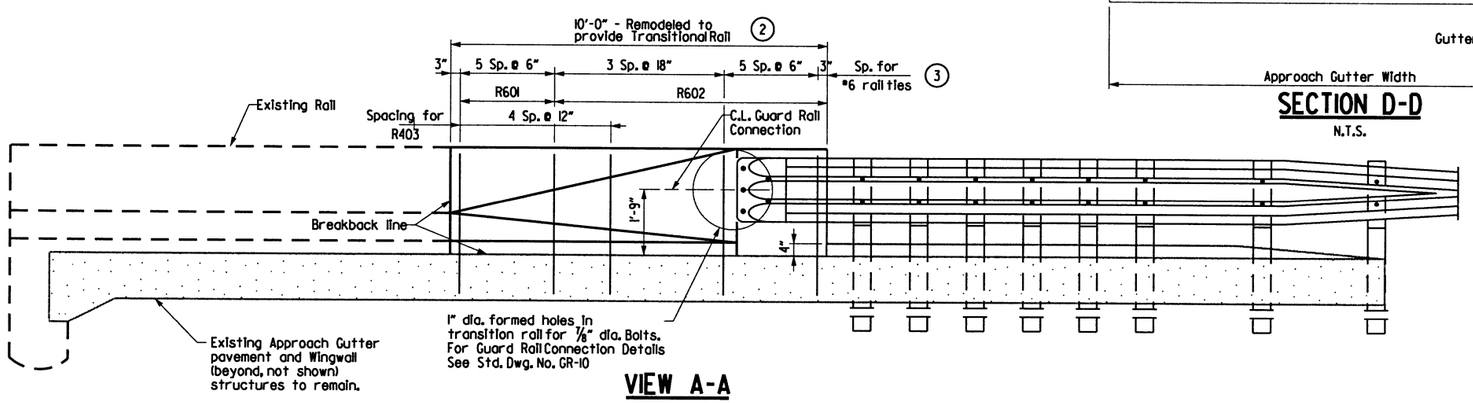
Mark	No. Req'd.	Length	Pin Dia.
R401	3	9'-10"	Str.
R402	3	9'-8"	Str.
R403	5	2'-6"	2"
R601	6	7'-0"	4½"
R602	10	7'-1"	4½"

TYPE SPECIAL I TABLE OF QUANTITIES

(Shown for information only)

Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
216	1.14





VIEW A-A

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL I
APPROACH GUTTER ON 440
OVER ARKANSAS RIVER

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TAP DATE: June 2016
CHECKED BY: STS DATE: June 2016
DESIGNED BY: TAP DATE: May 2016
FILENAME: BB0612mi_asi.dgn
SCALE: AS SHOWN

BRIDGE NO. A5705 DRAWING NO. 59307

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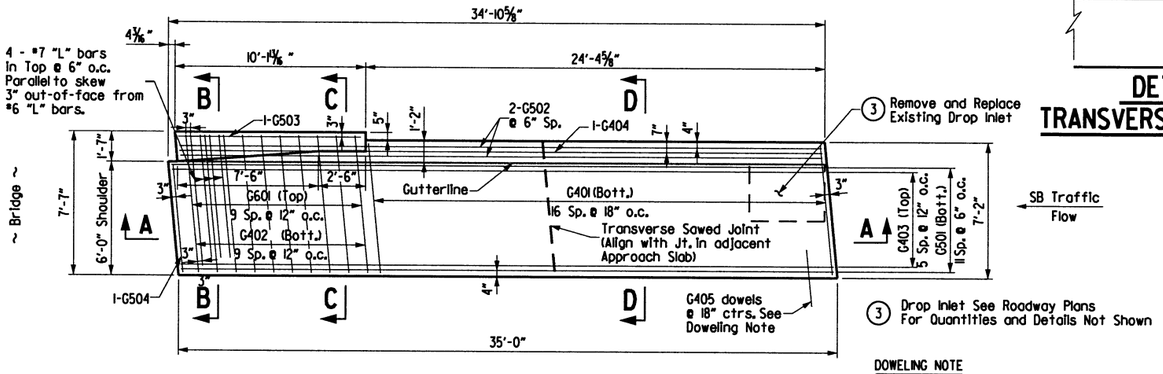
				6	ARK.			
				JOB NO.		BB0612	190	242
				1	A&B5706	APPROACH GUTTER		59308

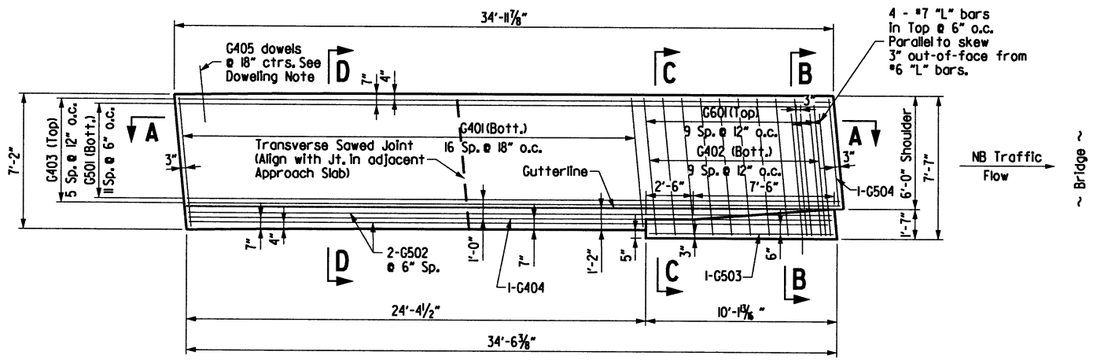
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



TYPE SPECIAL 3 GUTTER PLAN

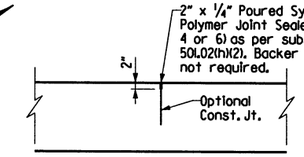
SCALE: ⅜" = 1'-0"



TYPE SPECIAL 2 GUTTER PLAN

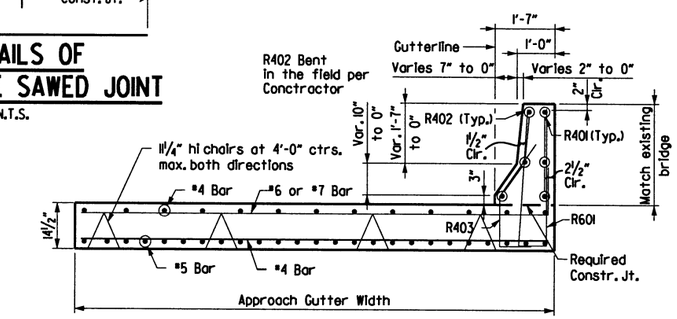
SCALE: ⅜" = 1'-0"

Note: All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to Longitudinal bar lengths may be required.



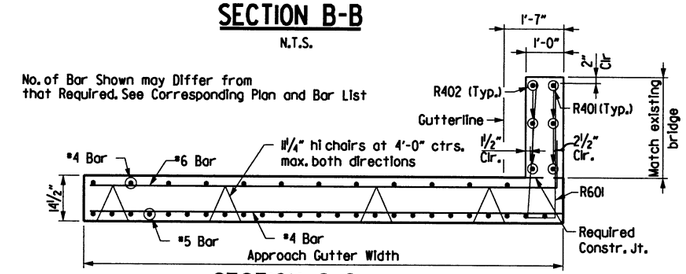
DETAILS OF TRANSVERSE SAWED JOINT

N.T.S.



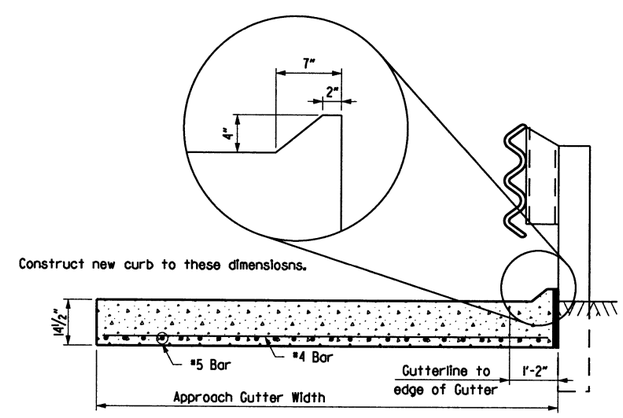
SECTION B-B

N.T.S.



SECTION C-C

N.T.S.



SECTION D-D

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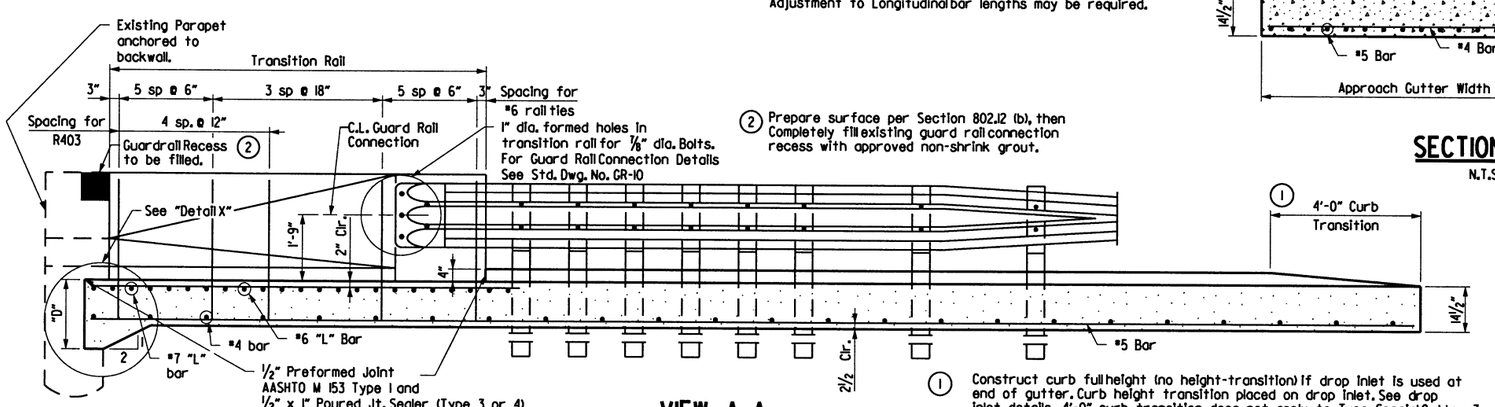
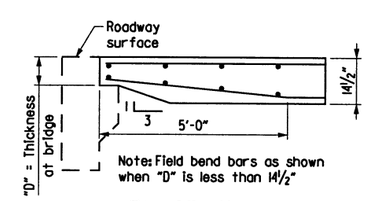


VIEW A-A

Prepare surface per Section 802.12 (b), then Completely fill existing guard rail connection recess with approved non-shrink grout.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details. 4'-0" curb transition does not apply to Type Special Gutter 3.



Note: Field bend bars as shown when "D" is less than 14½"

DETAIL X

SCALE: ½" = 1'-0"

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504.

TYPE SPECIAL 2 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	6'-10"	Str.
G402	10	7'-3"	Str.
G403	6	34'-8"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	11	34'-8"	Str.
G502	2	34'-2"	Str.
G503	1	9'-10"	Str.
G504	1	5'-8"	Str.
G601	10	8'-6"	4 1/2"
R401	3	9'-10"	Str.
R402	3	9'-8"	Str.
R403	5	7'-8"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 3 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	6'-10"	Str.
G402	10	7'-3"	Str.
G403	6	34'-8"	Str.
G404	1	34'-1"	Str.
G405	23	3'-0"	Str.
G501	12	34'-8"	Str.
G502	2	34'-1"	Str.
G503	1	9'-9"	Str.
G504	1	5'-8"	Str.
G601	10	8'-6"	Str.
R401	3	9'-9"	Str.
R402	3	9'-8"	Str.
R403	5	7'-8"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 2 TABLE OF QUANTITIES

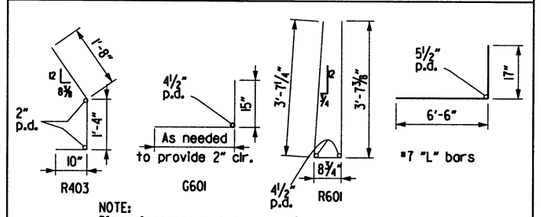
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1255	12.69

(Shown for information only)

TYPE SPECIAL 3 TABLE OF QUANTITIES

Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1292	12.64

BENDING DIAGRAMS



NOTE: Dimensions are out to out of bars.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL 2 & 3 APPROACH GUTTER
440 BRIDGES OVER ENGLAND RD.

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TAP DATE: June2016
CHECKED BY: STS DATE: June2016
DESIGNED BY: TAP DATE: May2016
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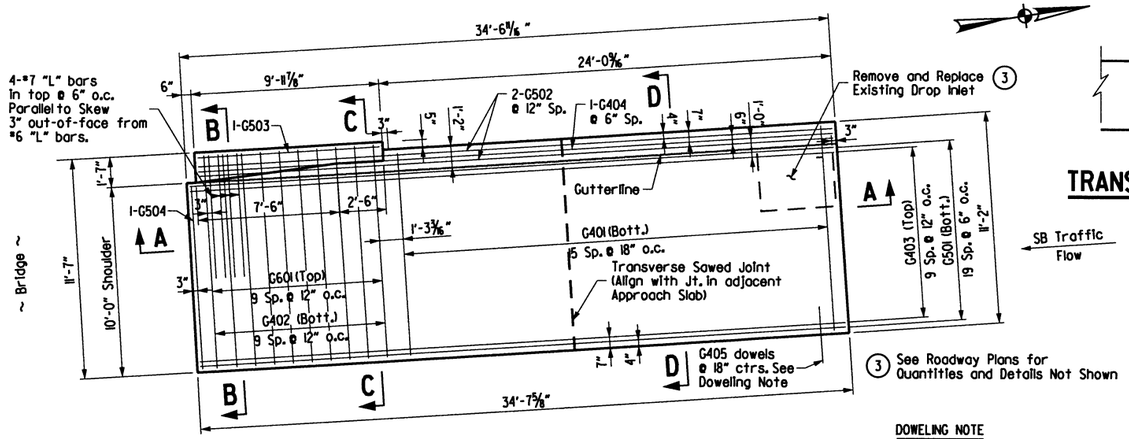
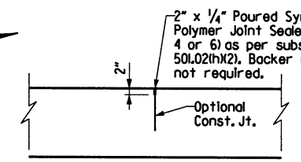
				6	ARK.			
				JOB NO.		BB0612	191	242
				(1) A&B5707		APPROACH GUTTER		59309

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016



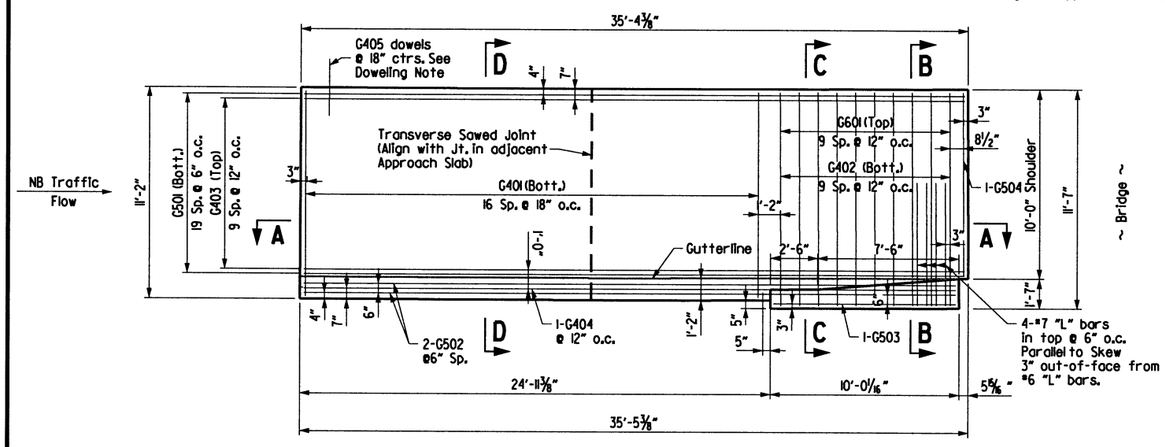
TYPE SPECIAL 5 GUTTER PLAN

SCALE: 3/8" = 1'-0"



DETAILS OF TRANSVERSE SAWED JOINT

N.T.S.



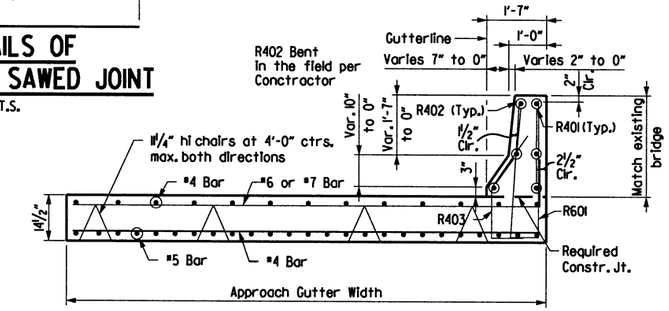
TYPE SPECIAL 4 GUTTER PLAN

SCALE: 3/8" = 1'-0"

DOWELING NOTE

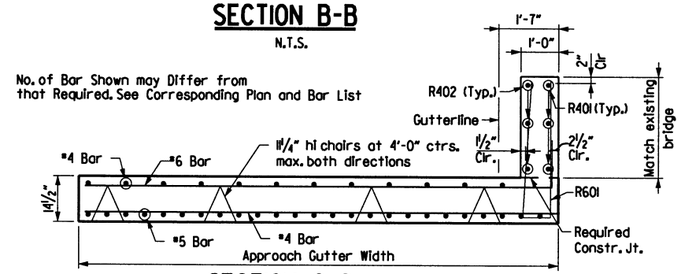
Existing Approach Slab shall have dowels drilled and grouted at 18" Sp. into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "Approach Gutters".

Note:
All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to Longitudinal bar lengths may be required.



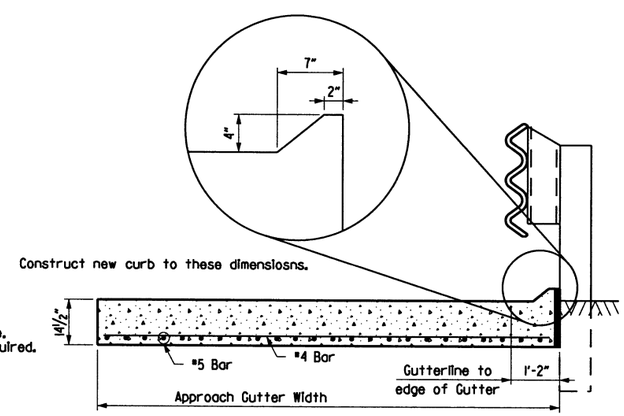
SECTION B-B

N.T.S.



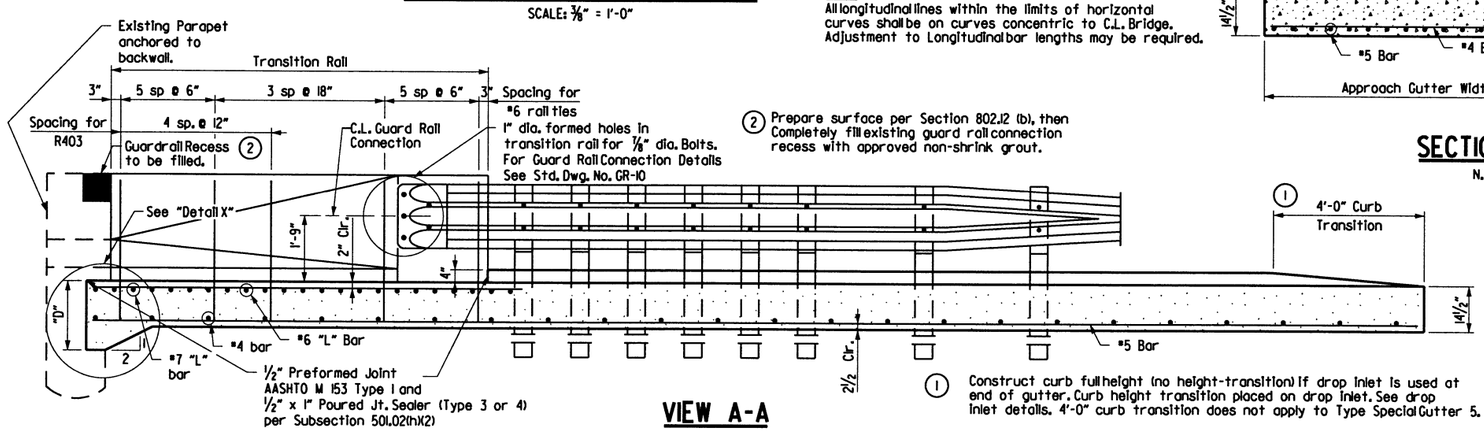
SECTION C-C

N.T.S.



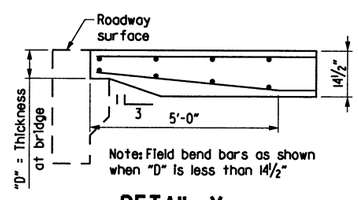
SECTION D-D

N.T.S.



VIEW A-A

(1) Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details. 4'-0" curb transition does not apply to Type Special Gutter 5.



DETAIL X

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504.

TYPE SPECIAL 4 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-4"	Str.
G404	1	34'-3"	Str.
G405	23	3'-0"	Str.
G501	20	34'-3"	Str.
G502	2	34'-7"	Str.
G503	1	9'-8"	Str.
G504	1	9'-8"	Str.
G601	10	12'-6"	4 1/2"
R401	3	9'-8"	Str.
R402	3	9'-8"	Str.
R403	3	7'-8"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 5 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	16	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-3"	Str.
G404	1	33'-9"	Str.
G405	23	3'-0"	Str.
G501	20	34'-3"	Str.
G502	2	33'-9"	Str.
G503	1	9'-8"	Str.
G504	1	9'-8"	Str.
G601	10	11'-3"	4 1/2"
R401	3	9'-8"	Str.
R402	3	9'-8"	Str.
R403	10	3'-9"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 4 TABLE OF QUANTITIES

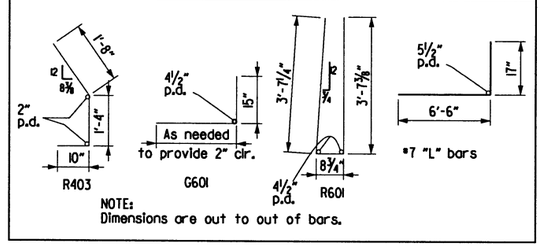
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1681	19.10

(Shown for information only)

TYPE SPECIAL 5 TABLE OF QUANTITIES

Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1663	18.69

BENDING DIAGRAMS



BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL 4 & 5
APPROACH GUTTER
440 BRIDGES OVER FAULKNER LAKE RD.

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TAP	DATE: June2016	FILENAME: BB0612ml_as3.dgn	
CHECKED BY: STS	DATE: June2016	SCALE: AS SHOWN	
DESIGNED BY: TAP	DATE: May2016		

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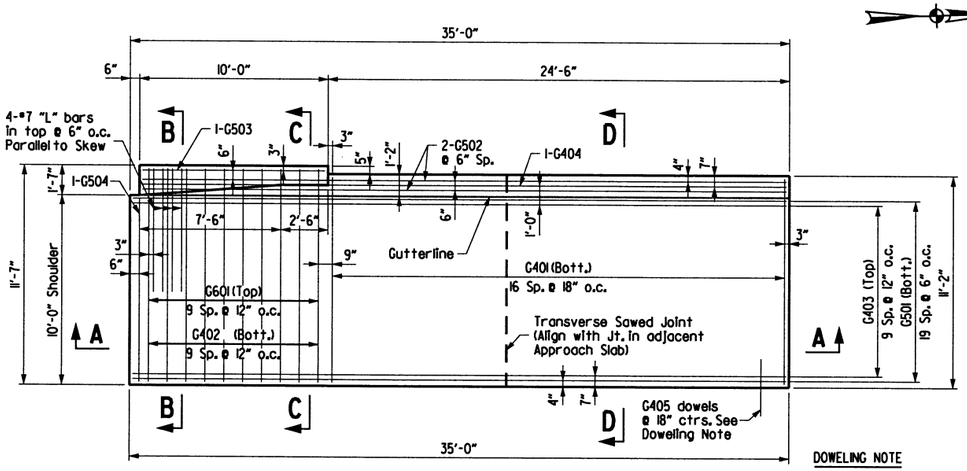
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	192	242
				① A&B5708		APPROACH GUTTER		59310

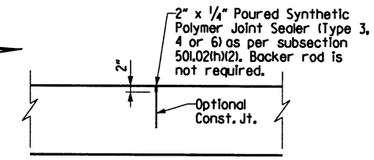
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



TYPE SPECIAL 7 GUTTER PLAN

SCALE: 3/8" = 1'-0"



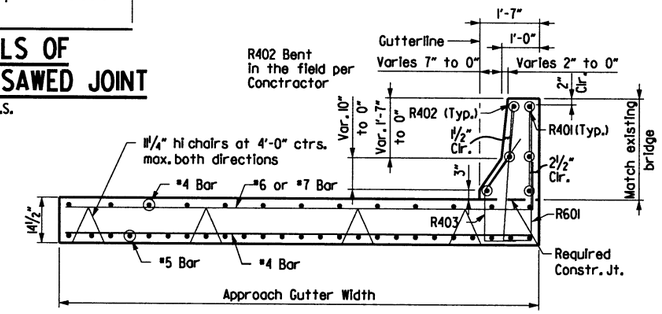
DETAILS OF TRANSVERSE SAWED JOINT

N.T.S.

SB Traffic Flow

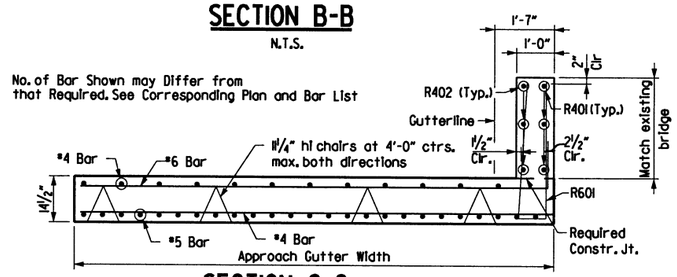
DOWELING NOTE

Existing Approach Slab shall have dowels drilled and grouted at 18" Sp. into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "Approach Gutters".



SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

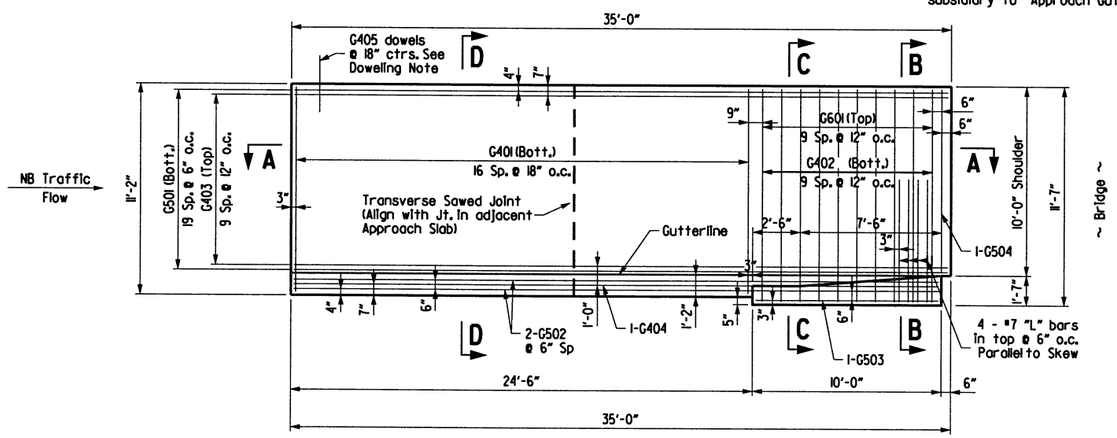
Approach Gutters will be measured and paid for in accordance with Section 504.

TYPE SPECIAL 6 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-8"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	20	34'-8"	Str.
G502	2	34'-2"	Str.
G503	1	9'-8"	Str.
G504	1	9'-8"	Str.
G601	10	12'-6"	Str.
R401	3	9'-8"	Str.
R402	3	9'-8"	Str.
R403	10	3'-9"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

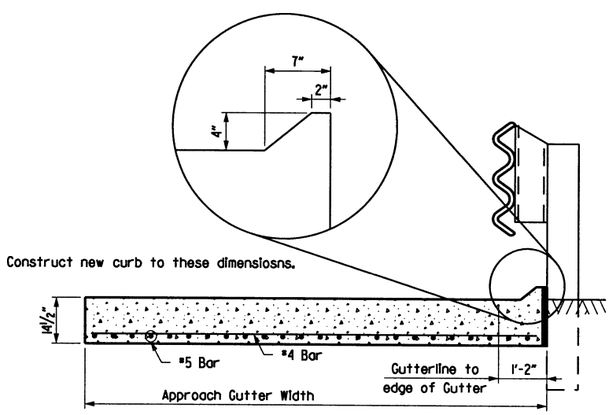
TYPE SPECIAL 7 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-8"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	20	34'-8"	Str.
G502	2	34'-2"	Str.
G503	1	9'-8"	Str.
G504	1	9'-8"	Str.
G601	10	12'-6"	4 1/2"
R401	3	9'-8"	Str.
R402	3	9'-8"	Str.
R403	10	3'-9"	2"
R601	10	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"



TYPE SPECIAL 6 GUTTER PLAN

SCALE: 3/8" = 1'-0"



SECTION D-D

N.T.S.

TYPE SPECIAL 6 TABLE OF QUANTITIES

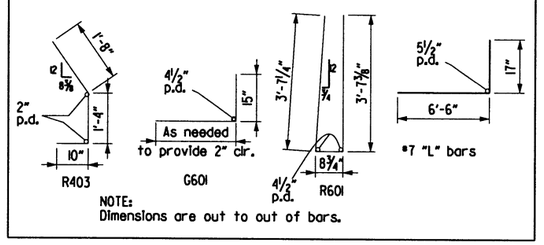
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1644	18.89

(Shown for information only)

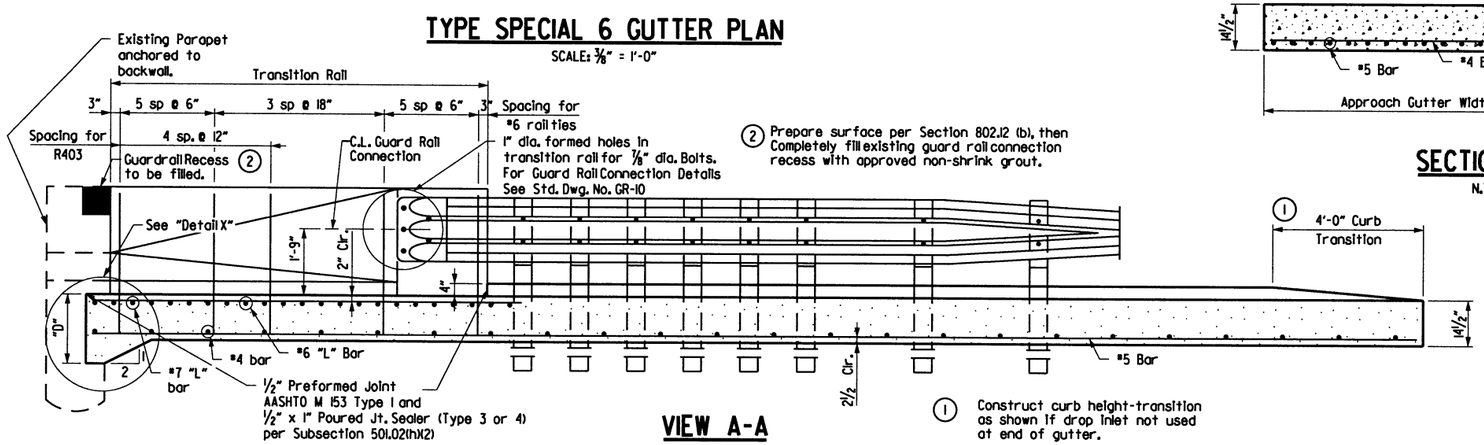
TYPE SPECIAL 7 TABLE OF QUANTITIES

Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1670	18.89

BENDING DIAGRAMS

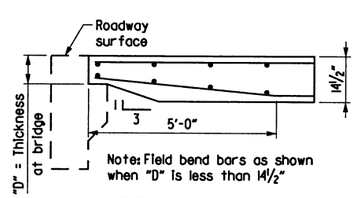


NOTE: Dimensions are out to out of bars.



VIEW A-A

① Construct curb height-transition as shown if drop inlet not used at end of gutter.



Note: Field bend bars as shown when "D" is less than 14 1/2"

DETAIL X

SCALE: 1/2" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL 6 & 7
APPROACH GUTTER
440 BRIDGES OVER FAULKNER LAKE

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	June 2016	FILENAME:	BB0612ml_as4.dgn
CHECKED BY:	STS	DATE:	June 2016	SCALE:	AS SHOWN
DESIGNED BY:	TAP	DATE:	May 2016		

BRIDGE NO. A&B5708 DRAWING NO. 59310

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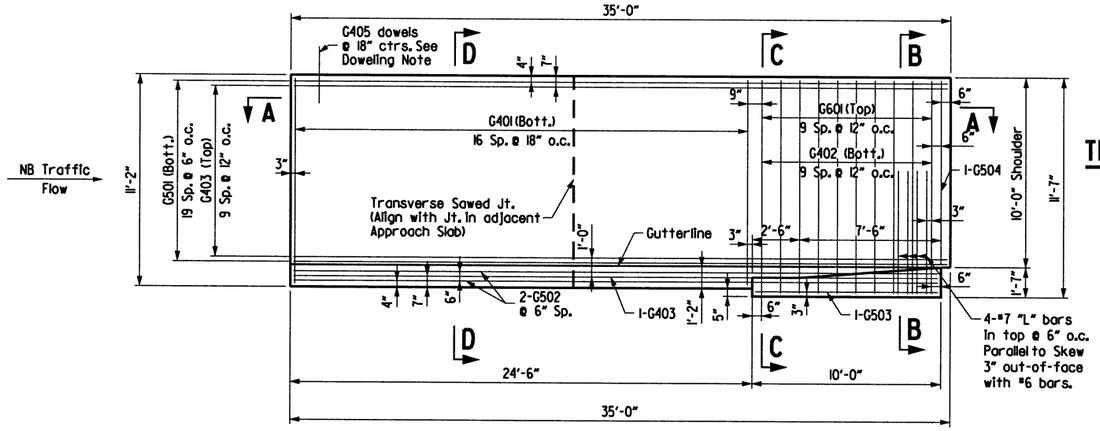
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	193	242
				(1) B5710		APPROACH GUTTER		59311

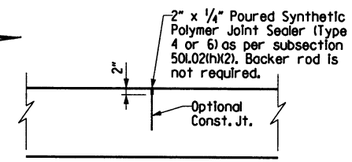
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



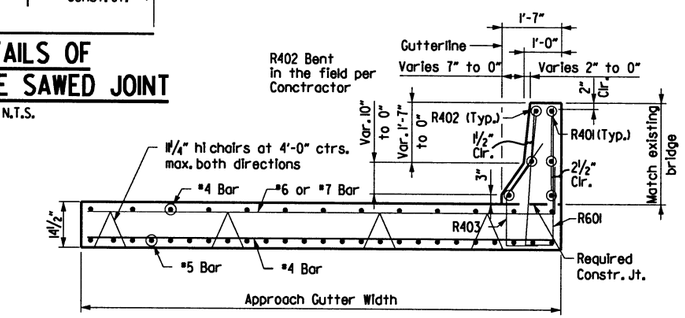
TYPE SPECIAL 8 GUTTER PLAN

SCALE: 3/8" = 1'-0"



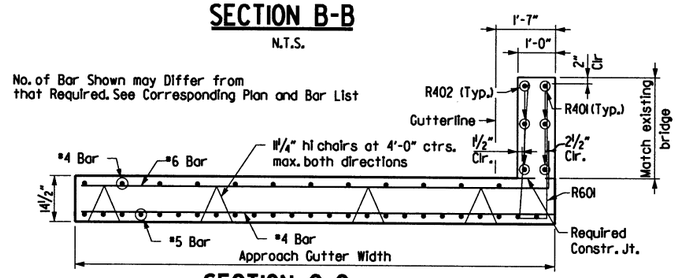
DETAILS OF TRANSVERSE SAWED JOINT

N.T.S.



SECTION B-B

N.T.S.



SECTION C-C

N.T.S.

DOWELING NOTE

Existing Approach Slab shall have dowels drilled and grouted at 18" Sp. into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "Approach Gutters".

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504.

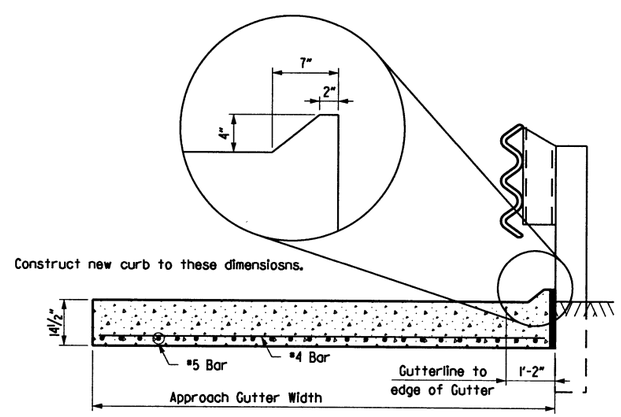
TYPE SPECIAL 8 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-8"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	20	34'-8"	Str.
G502	2	34'-2"	Str.
G503	1	9'-8"	Str.
G504	1	9'-8"	Str.
G601	10	12'-6"	4 1/2"
R401	3	9'-8"	Str.
R402	3	9'-8"	Str.
R403	5	3'-9"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 8 TABLE OF QUANTITIES

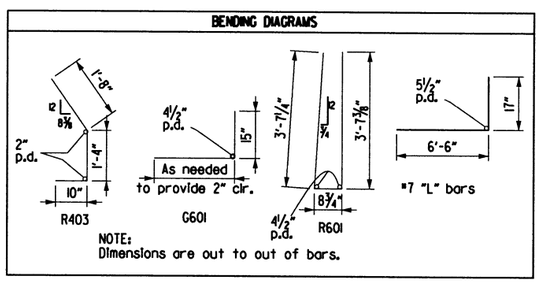
(Shown for information only)

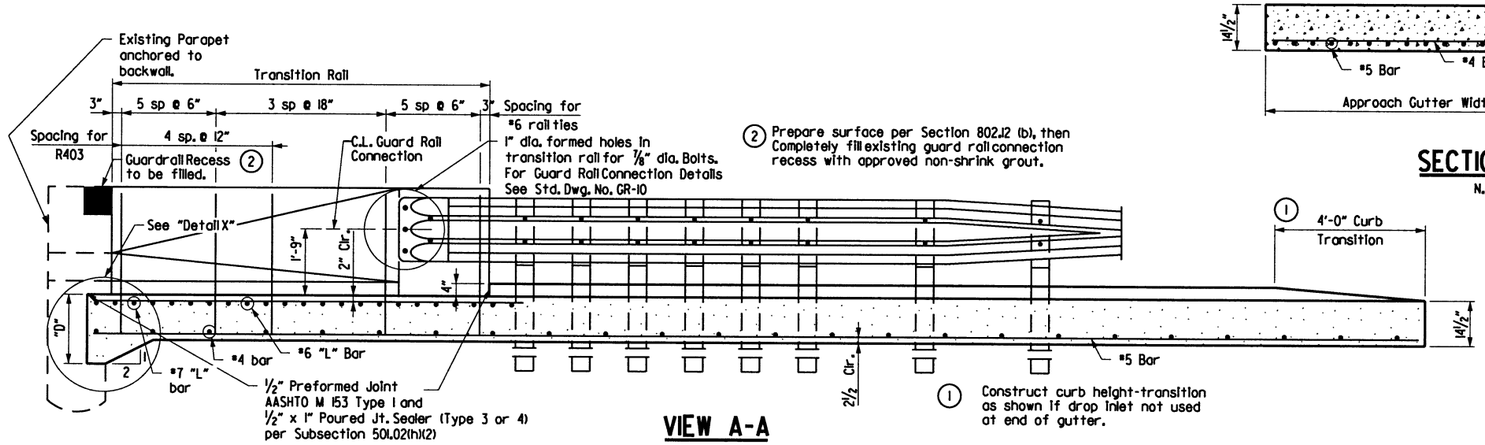
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1655	18.89



SECTION D-D

N.T.S.

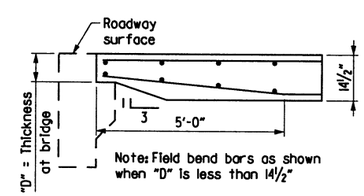




(2) Prepare surface per Section 802.12 (b), then Completely fill existing guard rail connection recess with approved non-shrink grout.

(1) Construct curb height-transition as shown if drop inlet not used at end of gutter.

VIEW A-A



Note: Field bend bars as shown when "D" is less than 14 1/2"

DETAIL X

SCALE: 1/2" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL 8 APPROACH GUTTER
440 BRIDGES OVER C.R.I.&P. R.R.
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TAP DATE: June 2016
CHECKED BY: STS DATE: June 2016
DESIGNED BY: TAP DATE: May 2016
FILENAME: BB0612ml_as5.dgn
SCALE: AS SHOWN

BRIDGE NO. B5710 DRAWING NO. 59311

11/2/2016 4:06:37 PM

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	194	242

(1) D5710 **APPROACH GUTTER** 59312

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

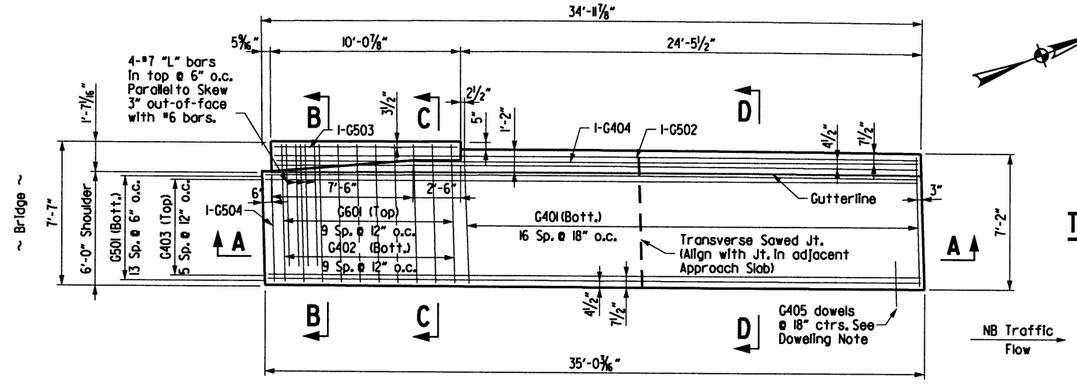
Stephen T. Smiley 2 Nov 2016

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

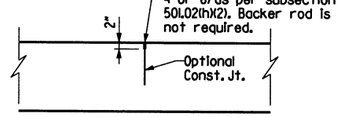
Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

Approach Gutters will be measured and paid for in accordance with Section 504.



TYPE SPECIAL 9 GUTTER PLAN

SCALE: ⅜" = 1'-0"

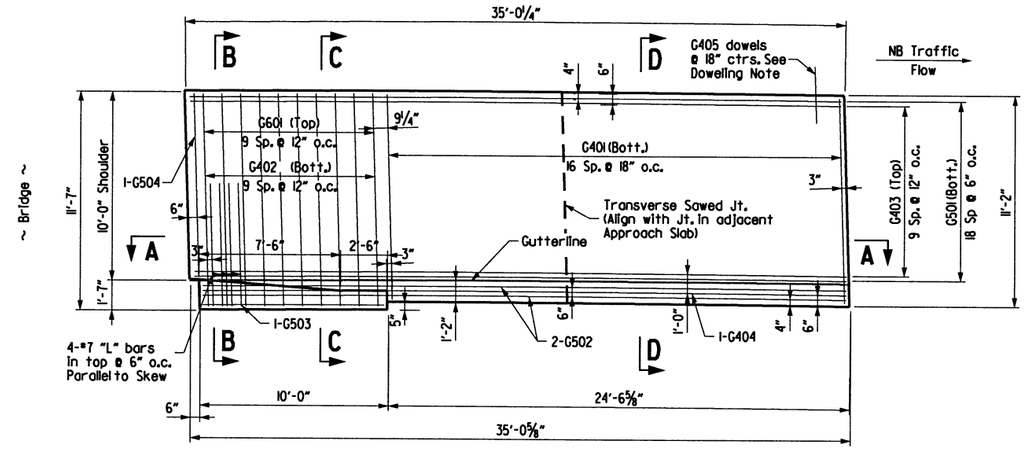


DETAILS OF TRANSVERSE SAWED JOINT

N.T.S.

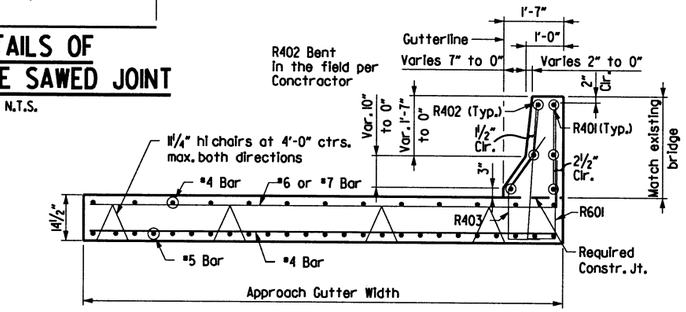
DOWELING NOTE

Existing Approach Slab shall have dowels drilled and grouted at 18" Sp. into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "Approach Gutters".



TYPE SPECIAL 10 GUTTER PLAN

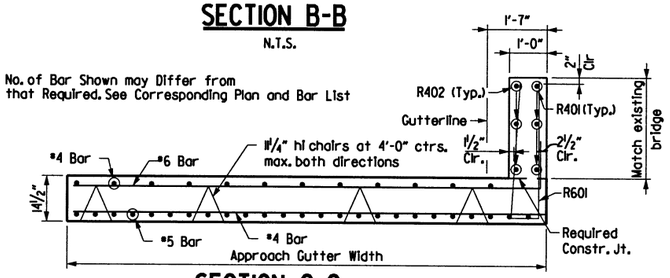
SCALE: ⅜" = 1'-0"



SECTION B-B

N.T.S.

No. of Bar Shown may Differ from that Required. See Corresponding Plan and Bar List



SECTION C-C

N.T.S.

TYPE SPECIAL 9 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	6'-10"	Str.
G402	6	7'-3"	Str.
G403	10	34'-8"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	12	34'-8"	Str.
G502	2	34'-2"	Str.
G503	1	9'-9"	Str.
G504	1	5'-7"	Str.
G601	10	7'-3"	4 1/2"
R401	3	9'-9"	Str.
R402	3	9'-9"	Str.
R403	5	3'-9"	2"
R601	16	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

TYPE SPECIAL 10 BAR LIST

Mark	No. Req'd.	Length	Pin Dia.
G401	17	10'-10"	Str.
G402	10	11'-3"	Str.
G403	10	34'-7"	Str.
G404	1	34'-2"	Str.
G405	23	3'-0"	Str.
G501	19	34'-7"	Str.
G502	2	34'-2"	Str.
G503	1	9'-7"	Str.
G504	1	9'-7"	Str.
G601	10	12'-6"	4 1/2"
R401	3	9'-7"	Str.
R402	3	9'-8"	Str.
R403	10	3'-9"	2"
R601	10	7'-11"	4 1/2"
R701	4	6'-6"	5 1/2"

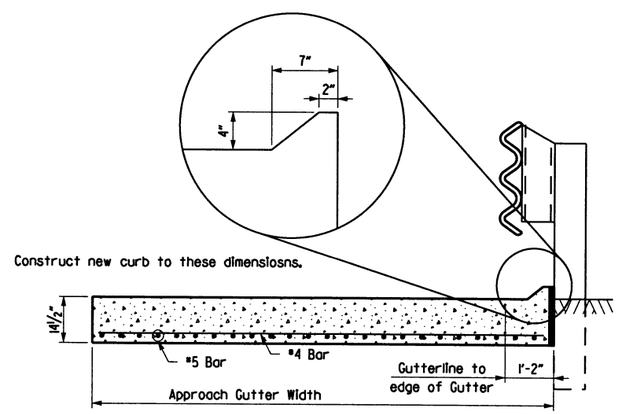
TYPE SPECIAL 9 TABLE OF QUANTITIES

Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1194	12.72

(Shown for information only)

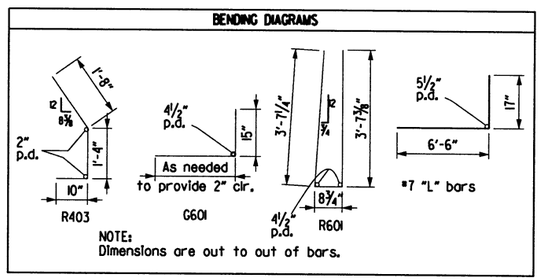
TYPE SPECIAL 10 TABLE OF QUANTITIES

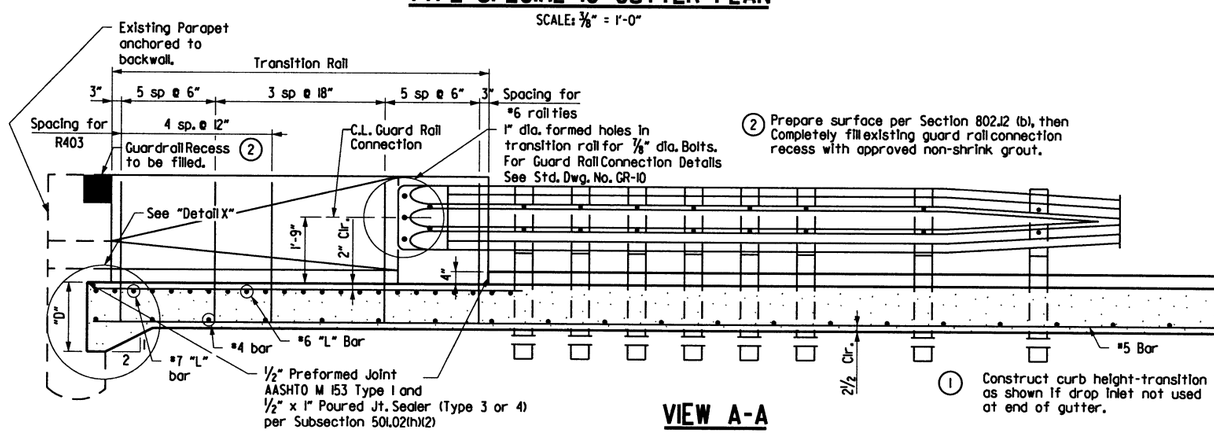
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
1696	18.90



SECTION D-D

N.T.S.

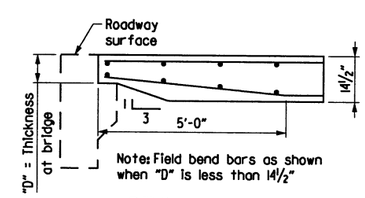




(2) Prepare surface per Section 802.12 (b), then Completely fill existing guard rail connection recess with approved non-shrink grout.

(1) Construct curb height-transition as shown if drop inlet not used at end of gutter.

VIEW A-A



DETAIL X

SCALE: ½" = 1'-0"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL 9 & 10
APPROACH GUTTER
440 BRIDGES OVER C.R.I.&P. R.R.

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	June 2016	FILENAME:	BB0612ml_as6.dgn
CHECKED BY:	STS	DATE:	June 2016	SCALE:	AS SHOWN
DESIGNED BY:	TAP	DATE:	June 2016		

BRIDGE NO. D5710 DRAWING NO. 59312

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	195	242
				(1) 5710C&5712	APPROACH GUTTER			59313

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

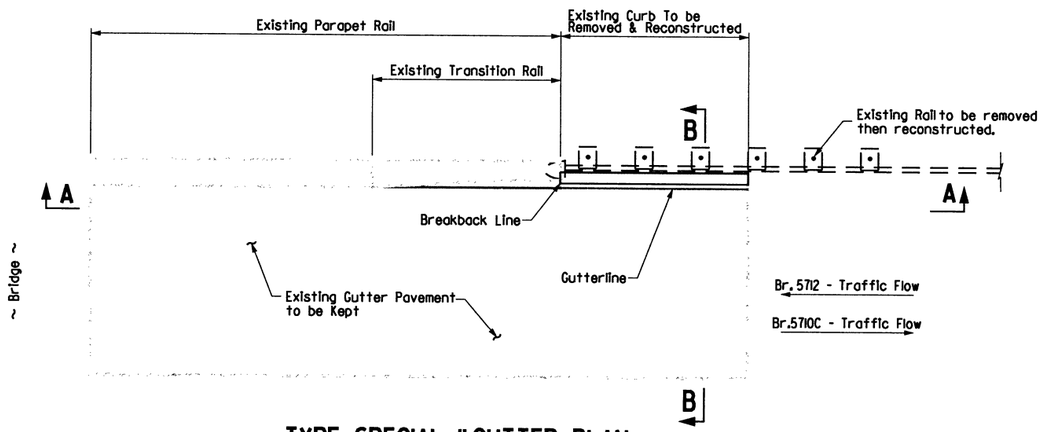
Stephen T. Smiley 2 Nov 2016

GENERAL NOTES:

Concrete shall be Class S or Class S (AE) or mixture used for Portland Cement Concrete Pavement.

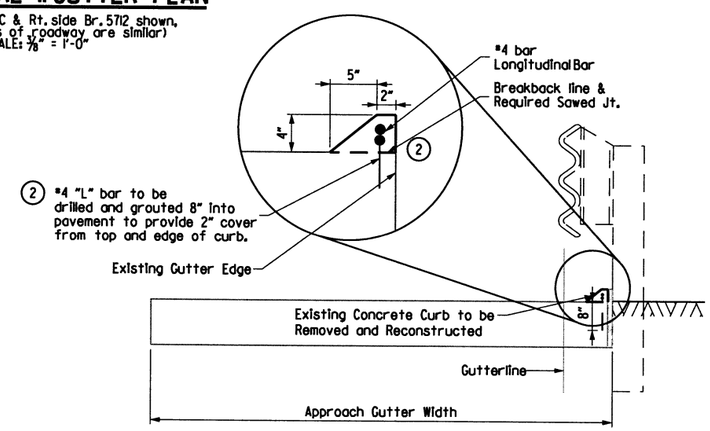
Reinforcement Steel shall conform to AASHTO M31 or M332 Type A, Grade 60 (fy = 60,000 psi).

Modification to Approach Gutter will be measured and paid as Approach Gutter, in accordance with Section 504.



TYPE SPECIAL II GUTTER PLAN

(Lt. side Br. 5710C & Rt. side Br. 5712 shown, opposite sides of roadway are similar)
SCALE: 1/8" = 1'-0"



SECTION B-B

N.T.S.

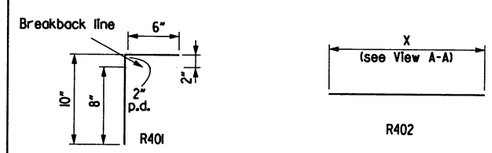
TYPE SPECIAL II TABLE OF QUANTITIES

(Approximate Quantities for both sides of Roadway shown for information only)

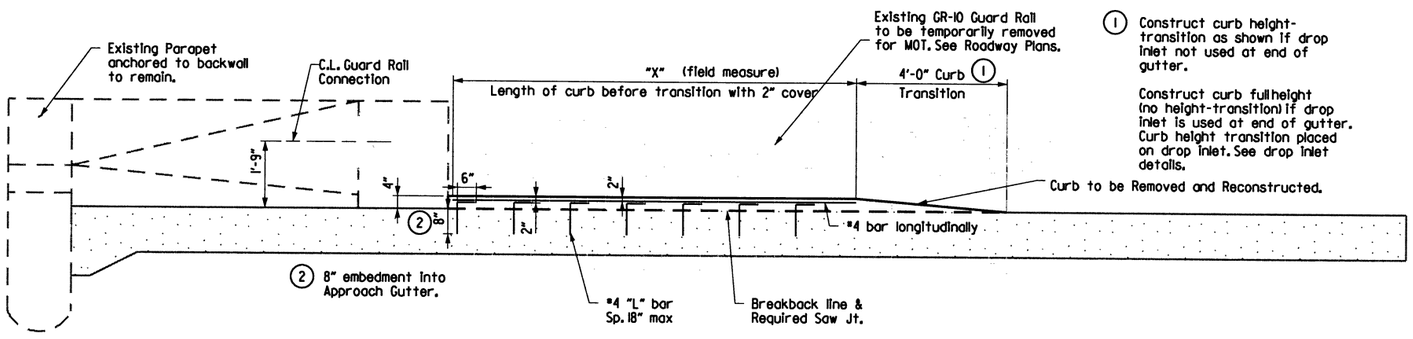
Reinforcing Steel (Lbs)	Concrete (Cu. Yds.)
52	0.22

BENDING DIAGRAMS

(2) R401s to be drilled and grouted 8" into Approach Gutter.



NOTE:
Dimensions are out to out of bars.



(1) Construct curb height-transition as shown if drop inlet not used at end of gutter.

Construct curb full height (no height-transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

VIEW A-A

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

DETAILS OF TYPE SPECIAL II
APPROACH GUTTER ON NORTH TERMINAL
INTERCHANGE RAMP SW

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: TAP DATE: June2016
CHECKED BY: STS DATE: June2016
DESIGNED BY: TAP DATE: May2016
FILENAME: BB0612ml_as7.dgn
SCALE: AS SHOWN

BRIDGE NO. 5710C & 5712 DRAWING NO. 59313

11/2/2016 4:06:39 PM

S:\14409\01\DGN\Plans\Bridge\Approach\BB0612ml_as7.dgn

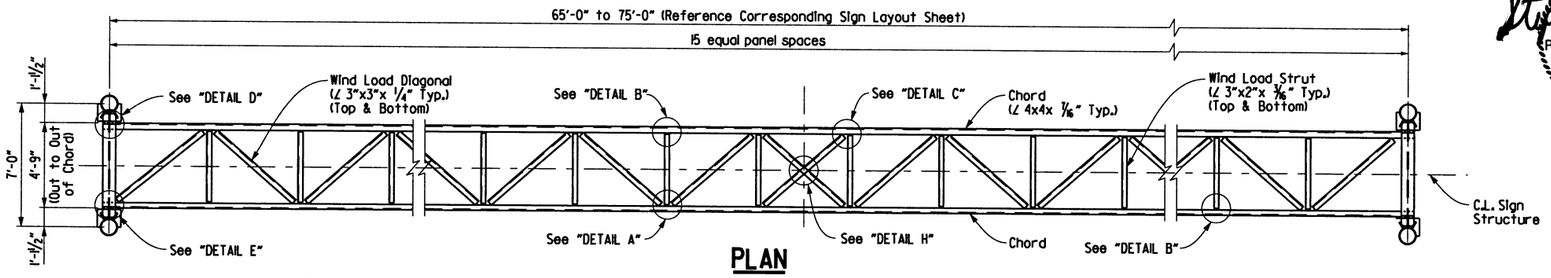
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	196	242

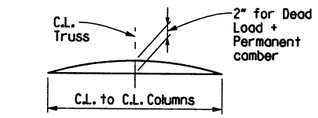
(1) OH-440-60-43 thru 47 OH SIGN STR. 59314

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2Nov2016

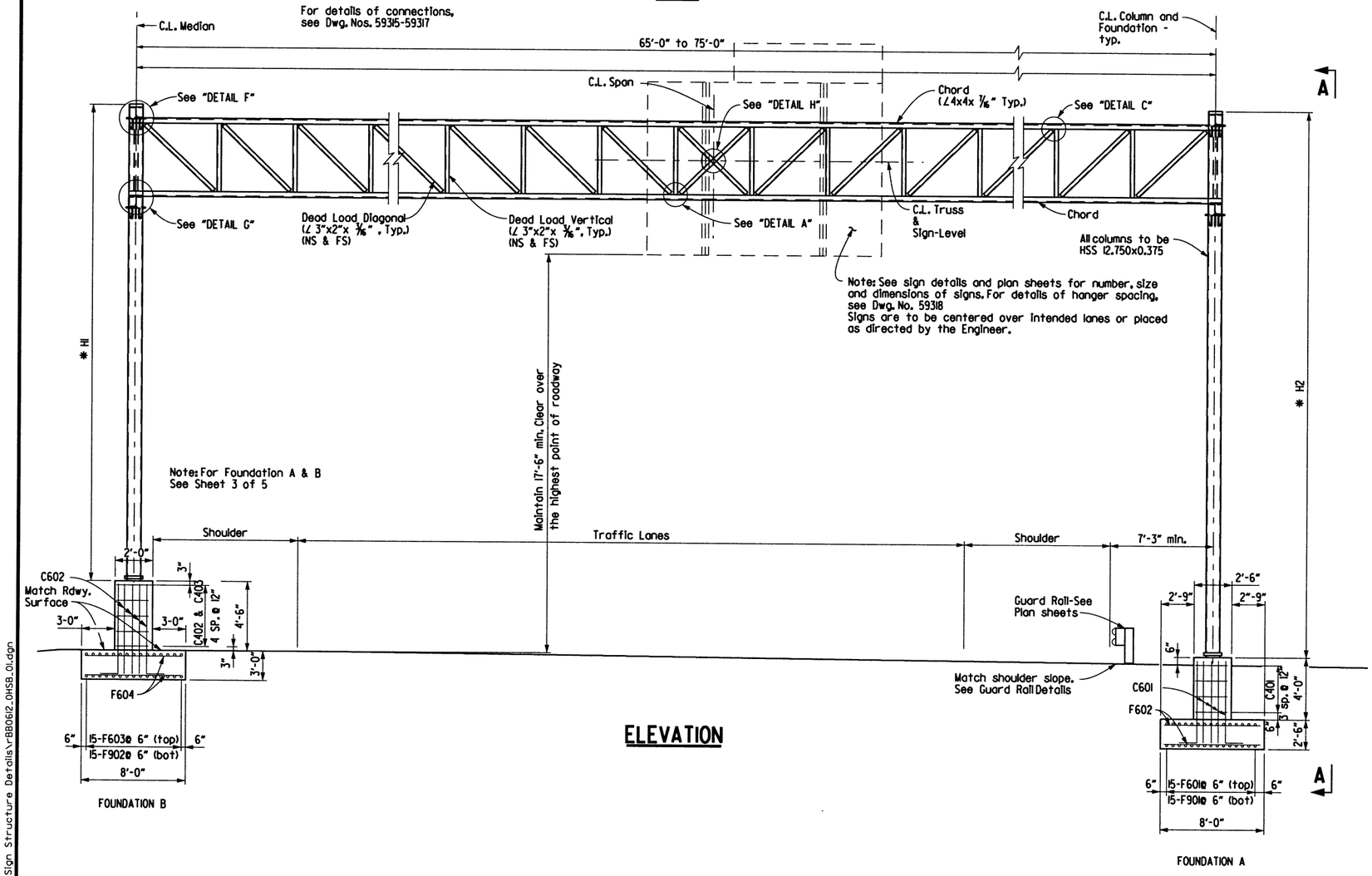


PLAN



TRUSS CAMBER DIAGRAM

For details of connections, see Dwg. Nos. 59315-59317



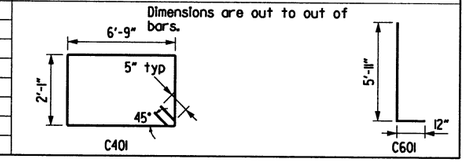
ELEVATION

BAR LIST-FOUNDATION A

MARK	NO. REQ'D	LENGTH	P.D.
C401	8	18'-2"	3"
C601	48	6'-9"	4½"
F601	15	17'-6"	STR.
F602	70	7'-6"	STR.
F901	15	17'-6"	STR.

BENDING DIAGRAMS

Dimensions are out to out of bars.

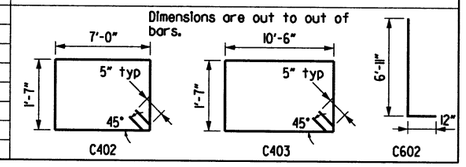


BAR LIST-FOUNDATION B

MARK	NO. REQ'D	LENGTH	P.D.
C402	10	17'-8"	3"
C403	5	24'-8"	3"
C602	74	7'-9"	4½"
F603	15	17'-6"	STR.
F604	70	7'-6"	STR.
F902	15	17'-6"	STR.

BENDING DIAGRAMS

Dimensions are out to out of bars.



APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

FOUNDATION	CLASS S CONCRETE (cu. Yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. Yd.)
A	17.22	2659	51
B	22.00	3137	26

*Note: The Contractor shall make field measurements to determine the column heights 'H1' & 'H2' that are required to maintain the minimum vertical clearance at the critical point. 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 span length (65'-0" to 75'-0") is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 5
DETAILS FOR STANDARD 65' TO 75'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47

DRAWN BY: AG/AKH DATE: June2016
CHECKED BY: STS DATE: June2016
DESIGNED BY: AG DATE: Apr112016

FILENAME: rBB0612_OHSB_01.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59314

S:\14409\01\DGN\Plans\Signs\Sign Structure Details\rBB0612_OHSB_01.dgn
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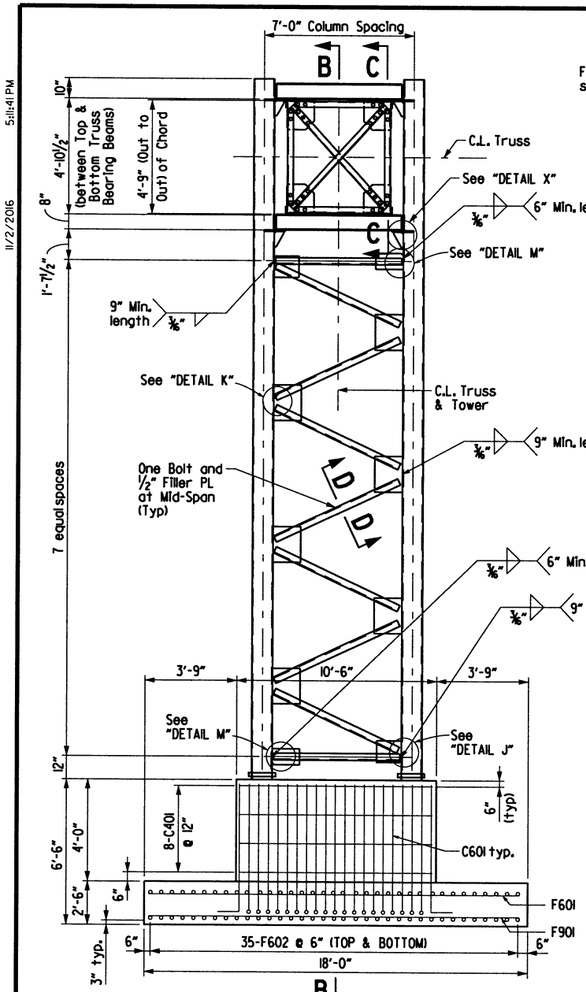
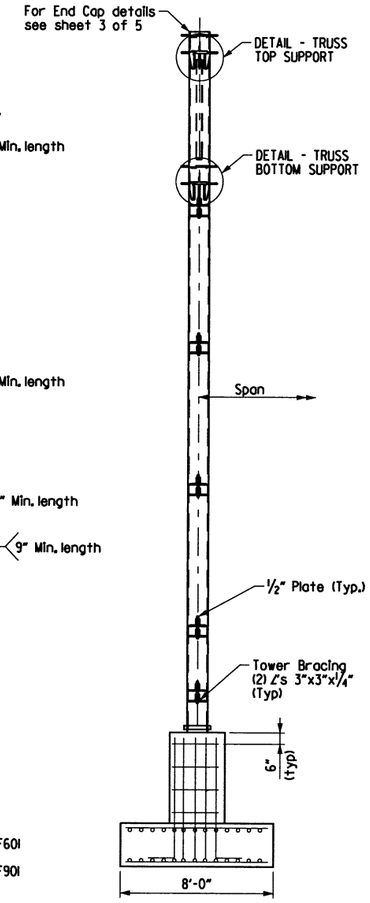
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	197	242
				1	OH-440-60-43 thru 47	OH SIGN STR.		59315

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

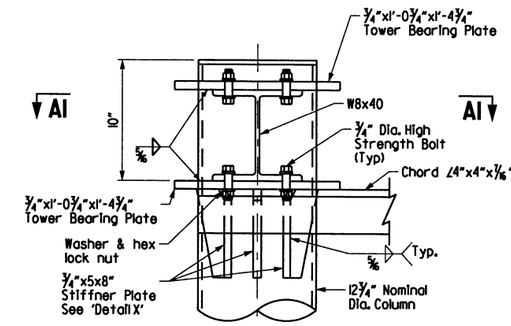
Stephen T. Smiley 2 Nov 2016



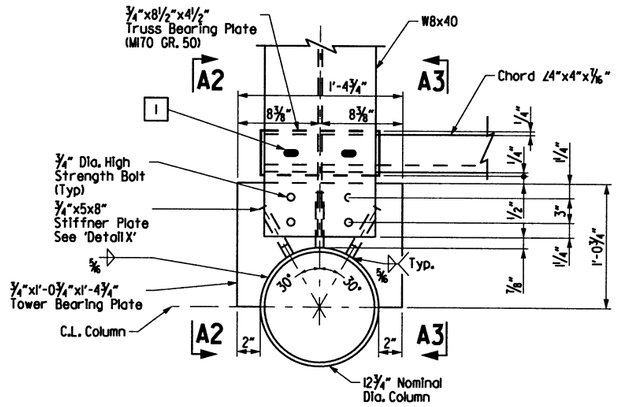
VIEW A-A (FOUNDATION B)



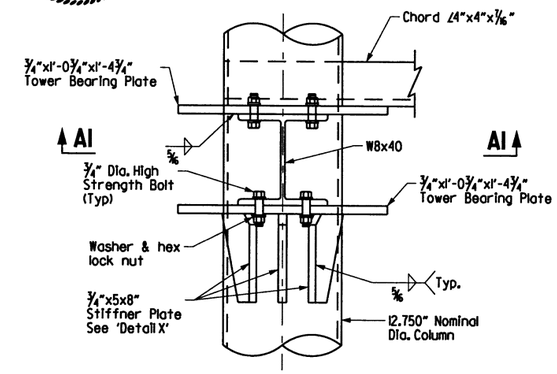
SECTION B-B



DETAIL - TRUSS TOP SUPPORT

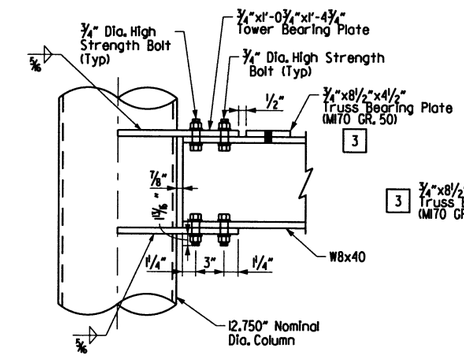


VIEW A1-A1



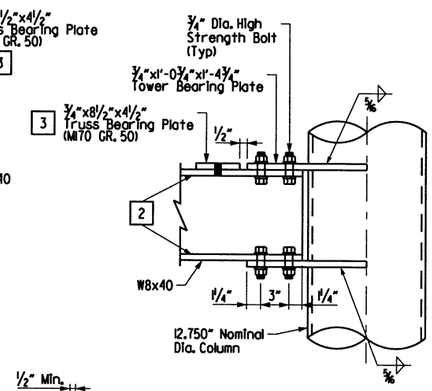
DETAIL - TRUSS BOTTOM SUPPORT

1. Slotted Hole in Gusset Plate and Chord Angle 5/16"x2". Use plate washer on Gusset plate side.
2. Bolts shall be ¾" Dia. and open holes shall be 15/16". Minimum bolt spacing shall be 2 ½"
3. Bottom Support shown, top similar



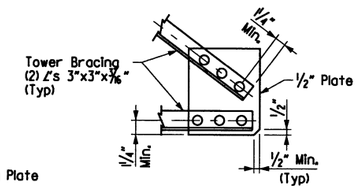
VIEW A3-A3

¾"x5"X8" Stiffner Plates not shown for clarity

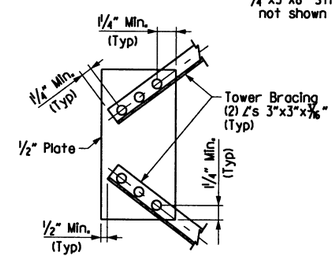


VIEW A2-A2

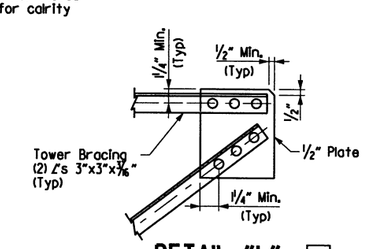
¾"x5"X8" Stiffner Plates not shown for clarity



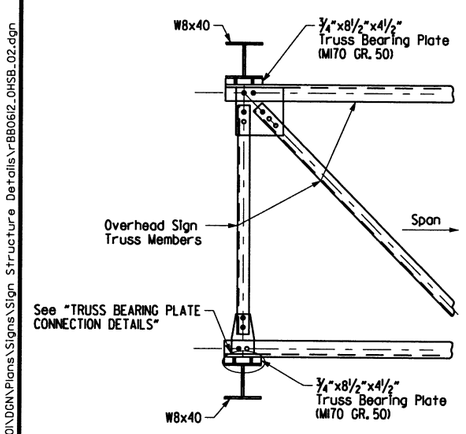
DETAIL "J" 2



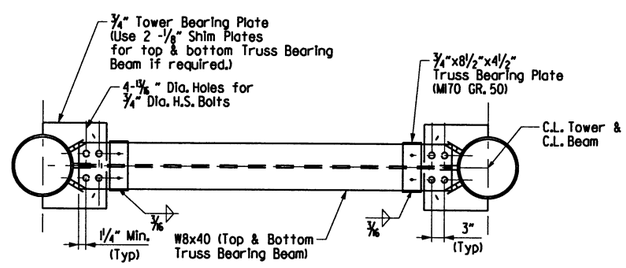
DETAIL "K" 2



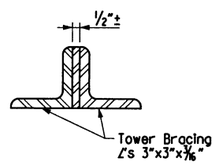
DETAIL "L" 2



SECTION C-C



PLAN VIEW AT TRUSS BEARING BEAM



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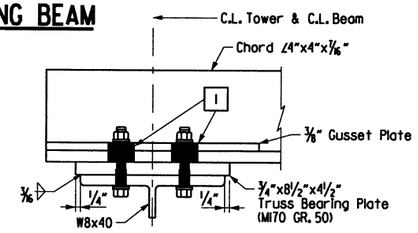
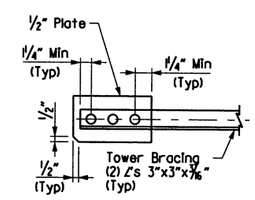
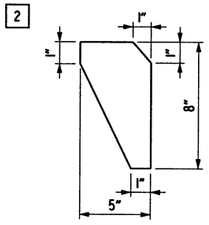


TRUSS BEARING PLATE CONNECTION DETAILS



DETAIL "M" 2



DETAIL X

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 5
DETAILS FOR STANDARD 65' TO 75'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47

DRAWN BY:	AG/AKH	DATE:	June2016
CHECKED BY:	STS	DATE:	June2016
DESIGNED BY:	AG	DATE:	Apr112016

FILENAME: rBB0612_OHSB_02.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59315

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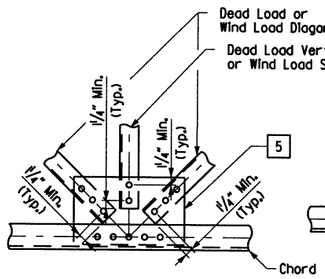
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	198	242

1 OH-440-60-43 thru 47 OH SIGN STR. 59316

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



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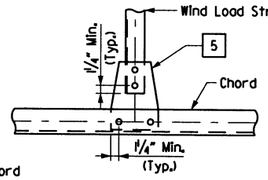
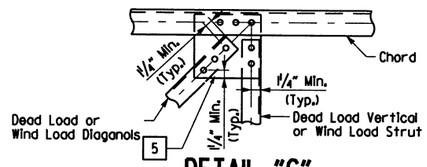


DETAIL "B"



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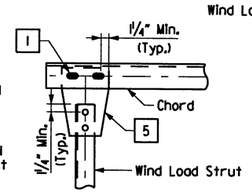

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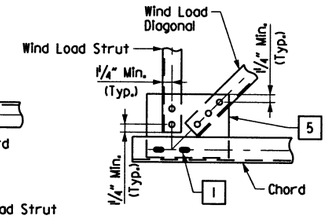

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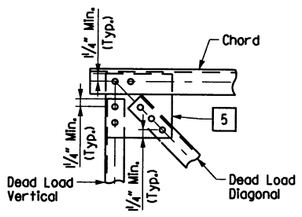

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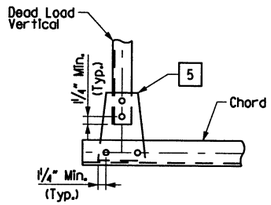

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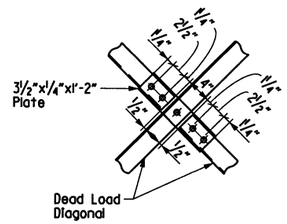

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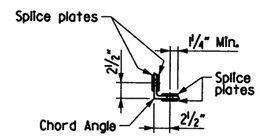
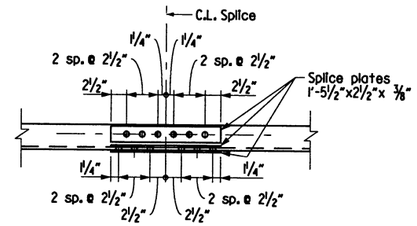


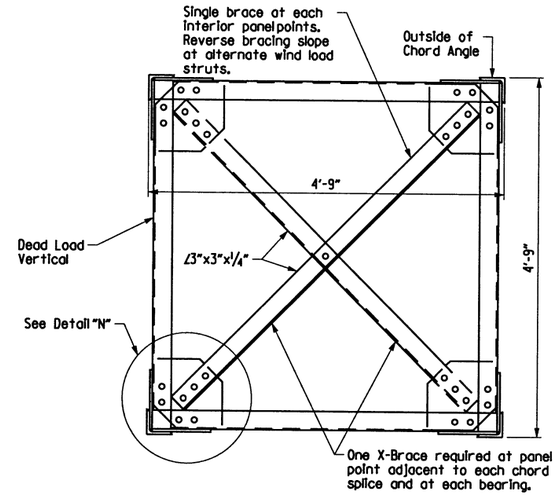
SECTION ON C.L. SPLICE

(4"∠ Shown)

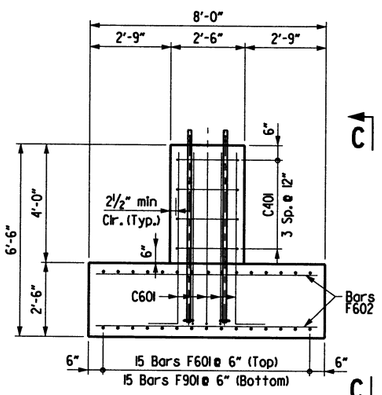


CHORD SPLICE USING PLATES 1

(4"∠ Shown)

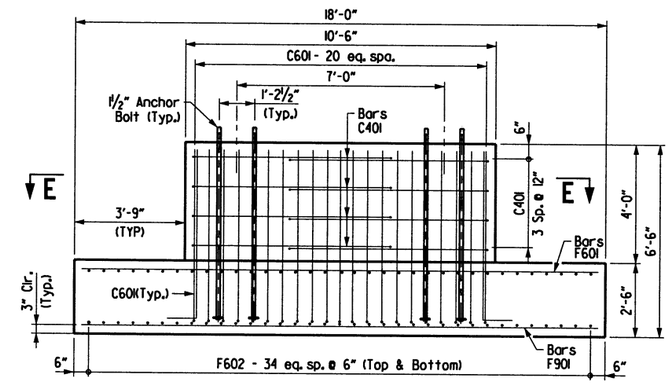


TRUSS SECTION

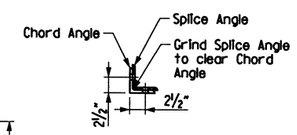


FOUNDATION "A"

END CAP DETAILS

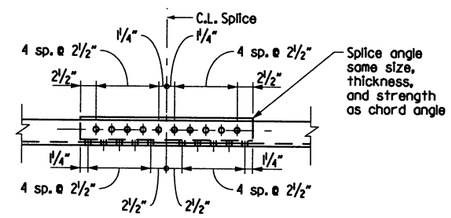


VIEW "C-C"



SECTION ON C.L. SPLICE

(4"∠ Shown)



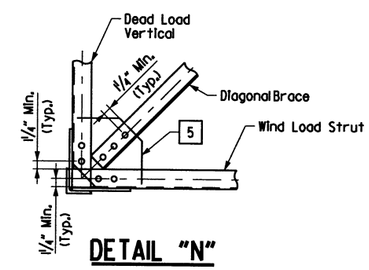
OPTIONAL CHORD SPLICE USING ANGLES 1

(Place splice angle on inside of truss)
(4" ∠ Shown)

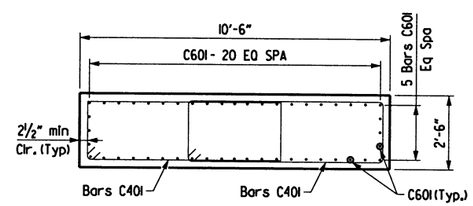
Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

1 Slotted Hole in Gusset Plate and Chord Angle ⅜"x2". Use plate washer on Gusset plate side.

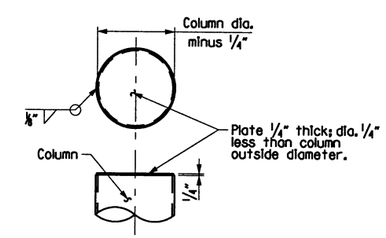
5 Gusset plates to be same thickness as thickest web member in connection.



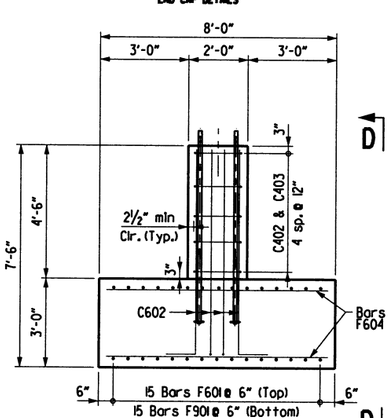
DETAIL "N"



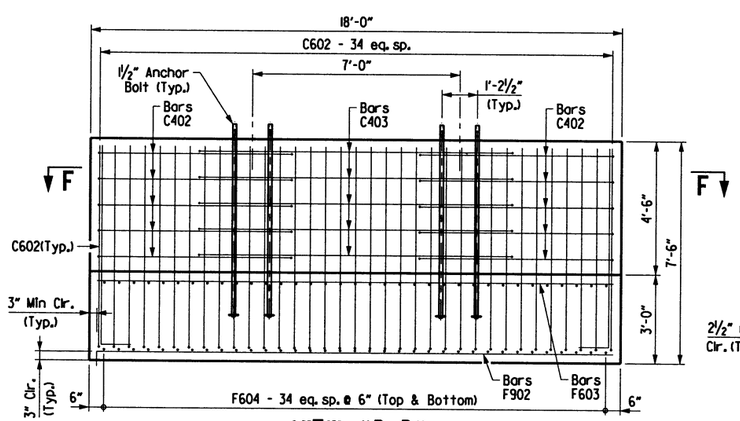
SECTION "E-E"



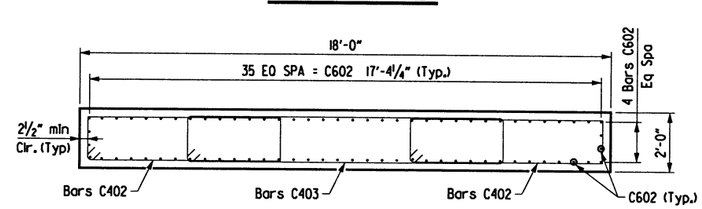
END CAP DETAILS



FOUNDATION "B"



VIEW "D-D"



SECTION "F-F"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 5
DETAILS FOR STANDARD 65' TO 75'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47

DRAWN BY: AG/AKH DATE: June2016
CHECKED BY: STS DATE: June2016
DESIGNED BY: AG DATE: April2016

FILENAME: rBB0612_OHSB_03.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59316

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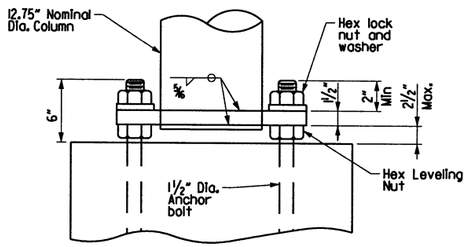
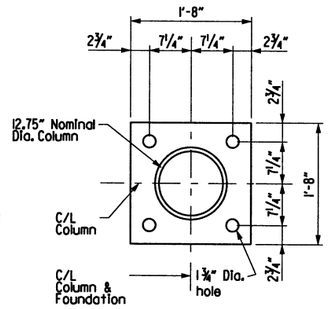
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	199	242
				(1) OH-440-60-43 thru 47		OH SIGN STR.		59317

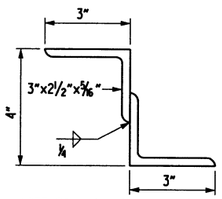
STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016



ELEVATION - COLUMN BASE

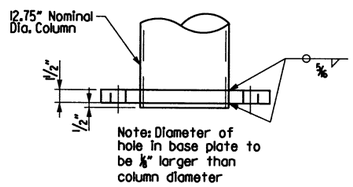


PLAN - PROPOSED COLUMN BASE



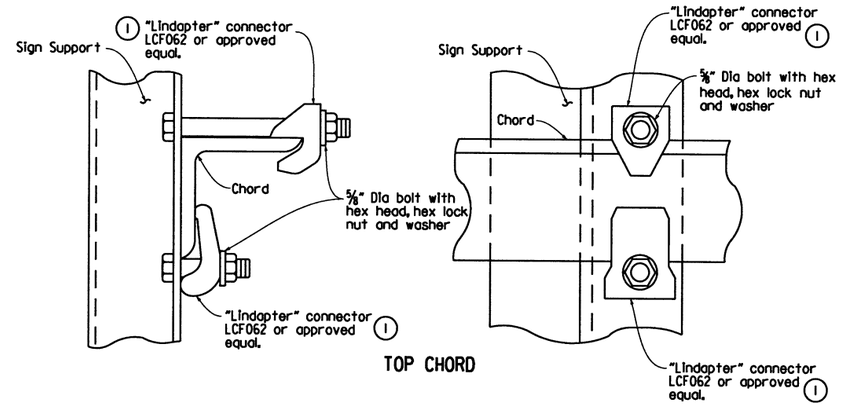
NOTE: Structural Z support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SUPPORT

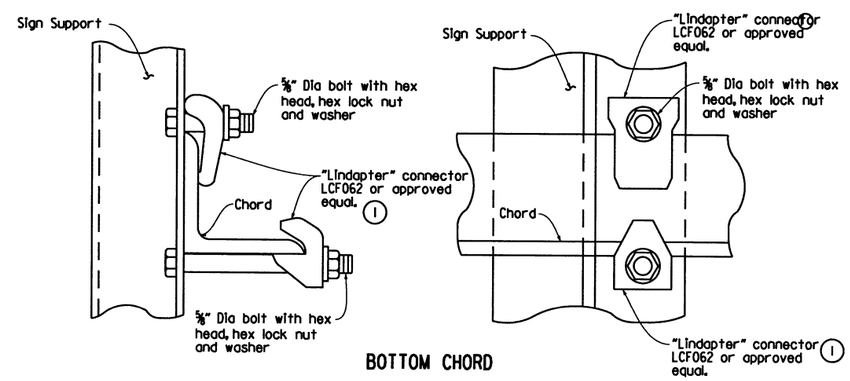


Note: Diameter of hole in base plate to be 1/8" larger than column diameter

DETAIL OF PROPOSED COLUMN CONNECTION TO BASE PLATE



TOP CHORD

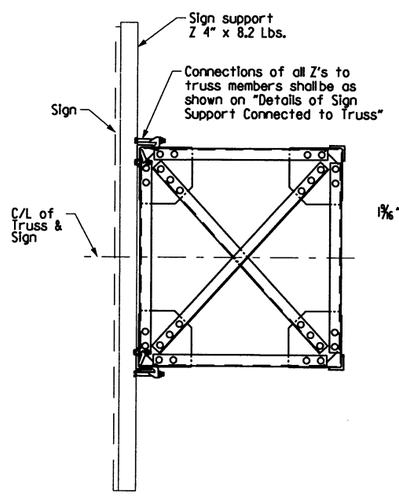


BOTTOM CHORD

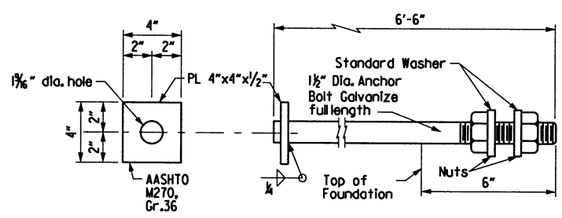
(1) Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

Note: Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTED TO TRUSS



SECTION THRU TRUSS



Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 5
DETAILS FOR STANDARD 65' TO 75'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47

DRAWN BY: AG/AKH DATE: June 2016
CHECKED BY: STS DATE: June 2016
DESIGNED BY: AG DATE: April 2016
FILENAME: rBB0612_OHSB_04.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59317

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	200	242
1 OH-440-60-43 thru 47		OH SIGN STR.		59318

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications.
Design Specifications: Standard Specifications for Structural supports for Highway Signs, Luminaries and Traffic Signals, AASHTO Sixth Edition 2013.

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15.5" 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 = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322 Type A, Grade 60) fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:
Angles: AASHTO M270, Grade 36 (Fy = 36,000 psi).
Plate, W-Section, WT-Sections AASHTO M270, Grade 50 (Fy = 50,000 psi).
1 Pipes ASTM A500 Grade B (Fy = 42,000 psi.
Z-Shapes: AASHTO M270, Grade 36 (Fy = 36,000 psi).
Shim Plates: ASTM A1011, SS, Grade 36, Type 2, or Grade 40.
Bolts: ASTM A325, Type 1.
Locknuts - Approved Type: Meeting or exceeding AASHTO M292
Washers: ASTM F436
Nuts: ASTM A563 or AASHTO M292, Grade 2H or Grade DH

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized. Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with Section 807.88.

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 or helical lap splices 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 1/2" 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 ASTM A325 Type 1, galvanized according to Subsection 807.06. Nuts and washers for ASTM A325 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 BB0612 "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 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.

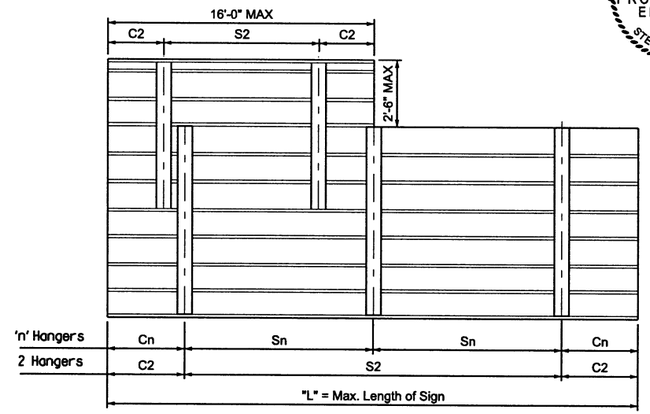
All truss member field connections shall be bolted connections.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

The excavations for the footings shall be back-filled before the structure is attached to the foundations.

The contractor shall make check measurements in the field and subject to the approval of the Engineer, make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.

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



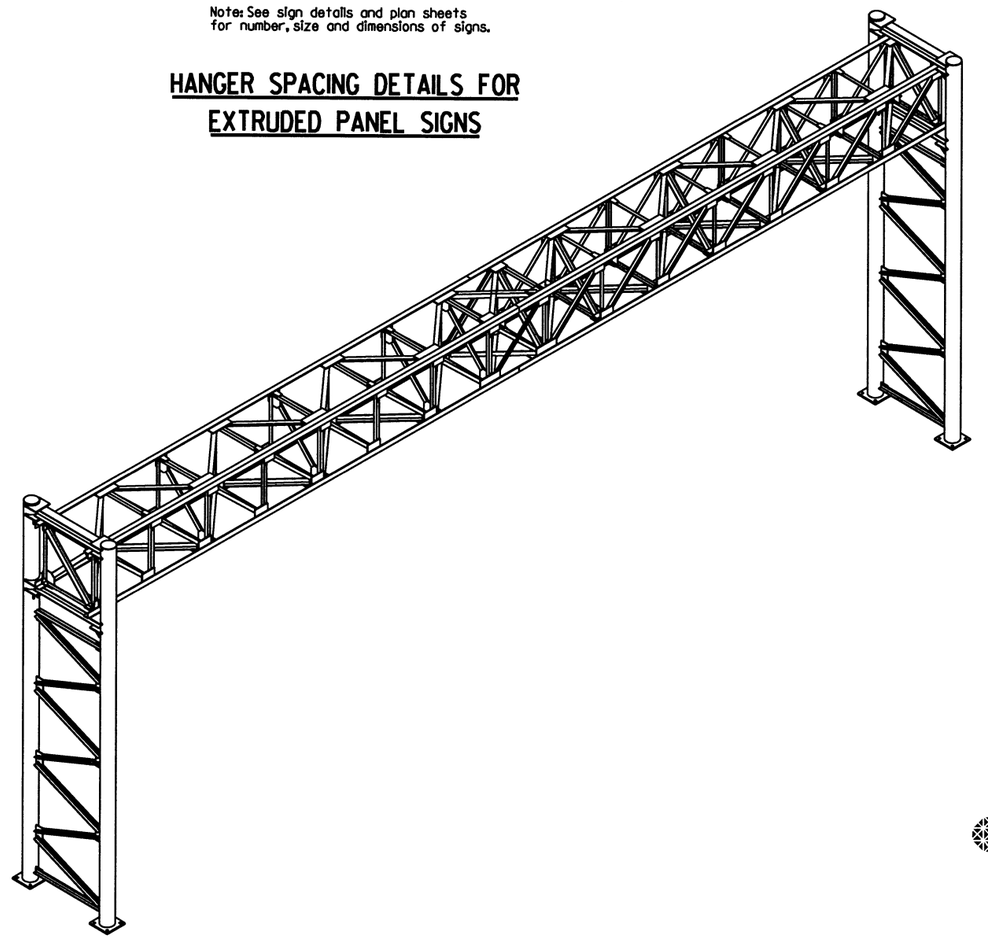
Note: See sign details and plan sheets for number, size and dimensions of signs.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

HANGER VARIABLES

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'

Hanger spacing and cantilever length shall be rounded to the nearest inch.



ISOMETRIC VIEW

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 5 OF 5
DETAILS FOR STANDARD 65' TO 75' OVERHEAD SIGN STRUCTURES WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-43, OH-440-60-44, OH-440-60-45, OH-440-60-46, OH-440-60-47

DRAWN BY: AG/AKH DATE: June2016
CHECKED BY: STS DATE: June2016
DESIGNED BY: AG DATE: April2016

FILENAME: rBB0612_OHSB_05.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59318

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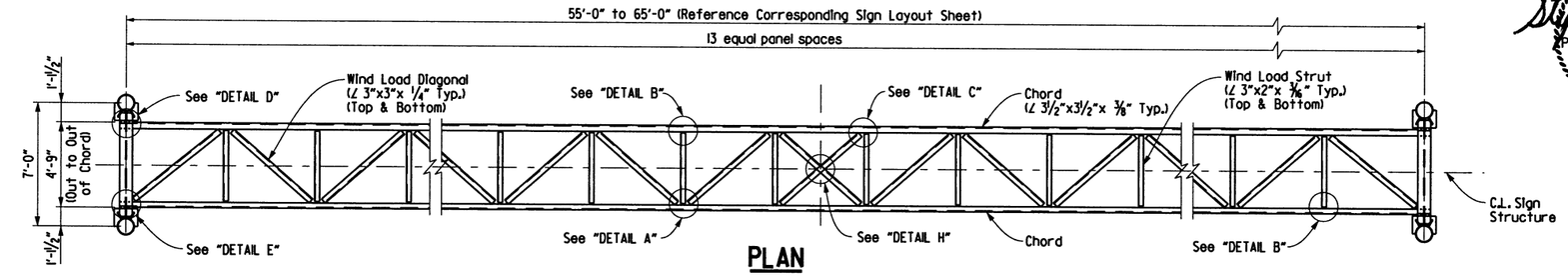
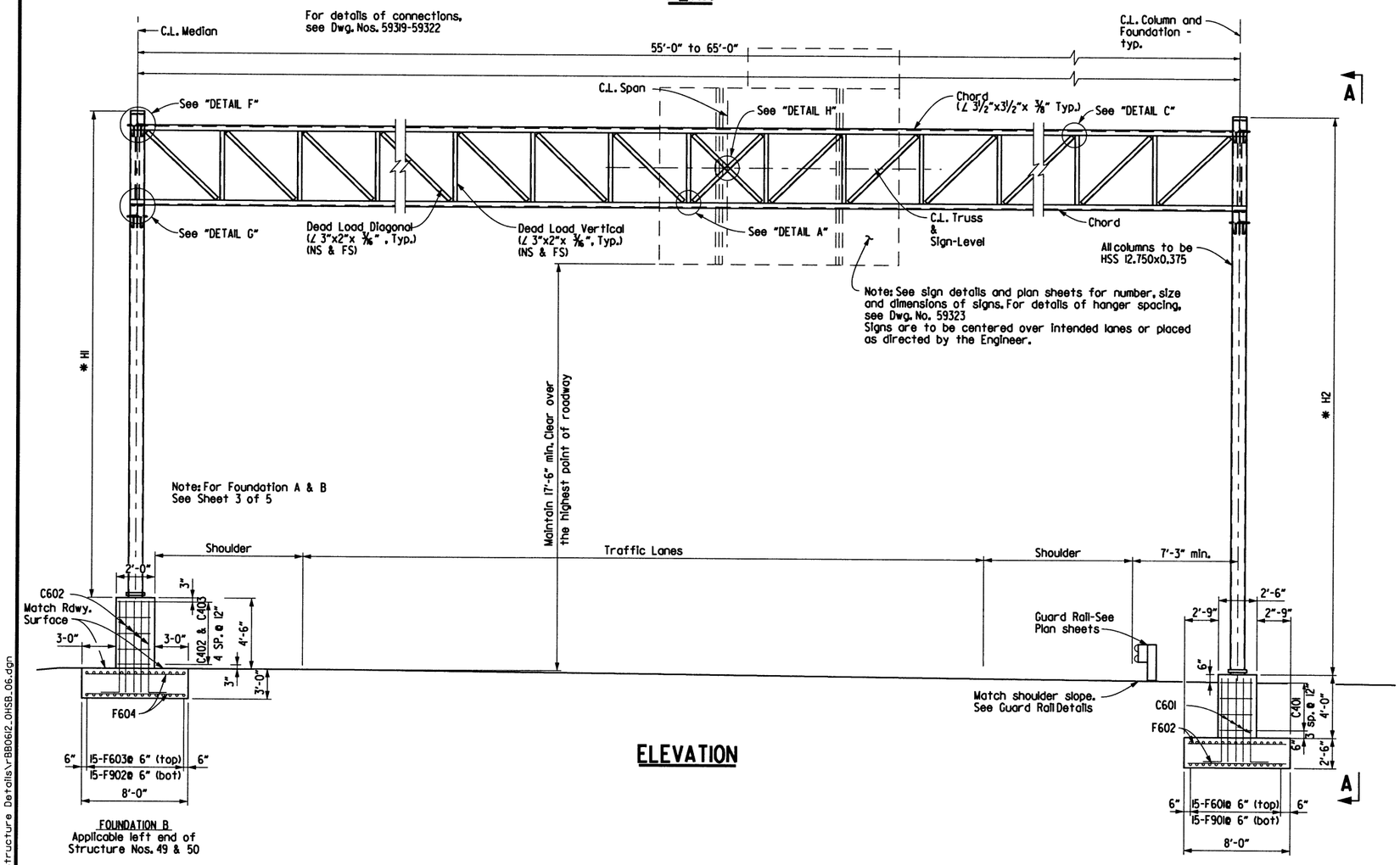
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	201	242
1	OH-440-60-49 thru 51 OH SIGN STR.			59319

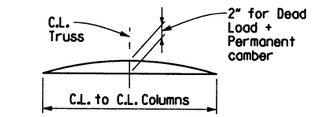
STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016



PLAN



ELEVATION



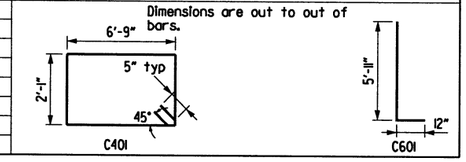
TRUSS CAMBER DIAGRAM

BAR LIST-FOUNDATION A

MARK	NO. REQ'D	LENGTH	P.D.
C401	8	18'-2"	3"
C601	48	6'-9"	4½"
F601	15	17'-6"	STR.
F602	70	7'-6"	STR.
F901	15	17'-6"	STR.

BENDING DIAGRAMS

Dimensions are out to out of bars.

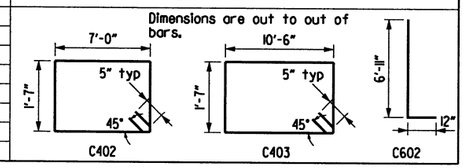


BAR LIST-FOUNDATION B

MARK	NO. REQ'D	LENGTH	P.D.
C402	10	17'-8"	3"
C403	5	24'-8"	3"
C602	74	7'-9"	4½"
F603	15	17'-6"	STR.
F604	70	7'-6"	STR.
F902	15	17'-6"	STR.

BENDING DIAGRAMS

Dimensions are out to out of bars.



APPROXIMATE QUANTITIES (FOR INFORMATION ONLY)

FOUNDATION	CLASS S CONCRETE (cu. Yd.)	REINFORCING STEEL (pounds)	EXCAVATION (cu. Yd.)
A	17.22	2659	51
B	22.00	3137	26

* Note: The Contractor shall make field measurements to determine the column heights 'H1' & 'H2' that are required to maintain the minimum vertical clearance at the critical point. 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 span length (55'-0" to 65'-0") is sufficient to meet the minimum clearances and to fit the new structure to the existing and/or proposed conditions.

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 5
DETAILS FOR STANDARD 55' TO 65'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO.					
OH-440-60-49	DRAWN BY:	AG/AKH	DATE:	June2016	FILENAME: rBB0612_OHSB_06.dgn
OH-440-60-50	CHECKED BY:	STS	DATE:	June2016	SCALE: NOT TO SCALE
OH-440-60-51	DESIGNED BY:	AG	DATE:	April2016	

DRAWING NO. 59319

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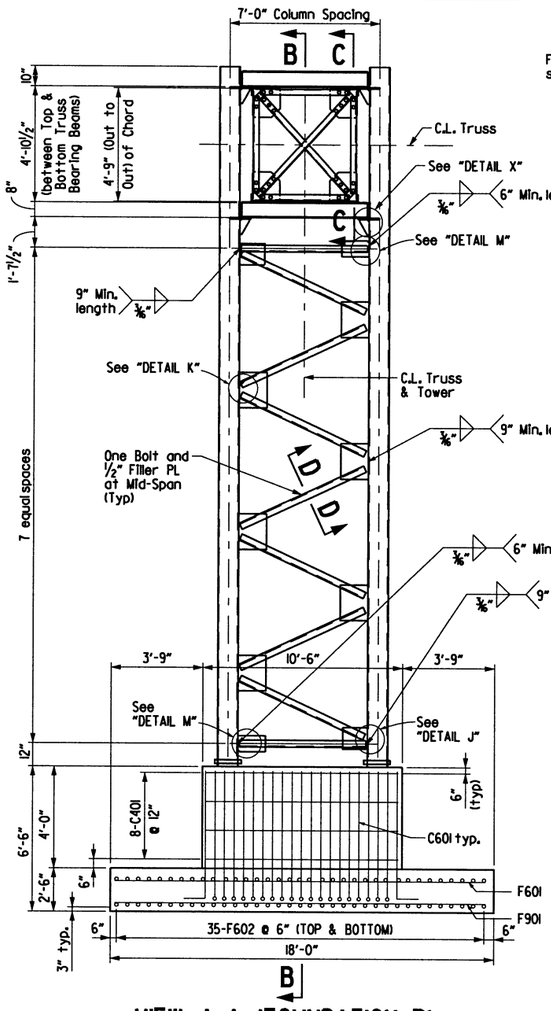
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	202	242
				1	OH-440-60-49 thru 51	OH SIGN STR.		59320

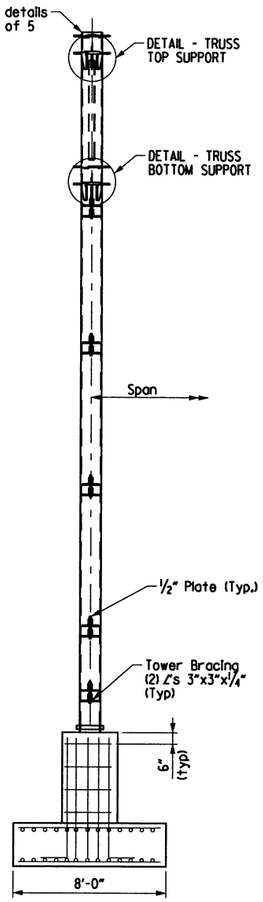
STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016

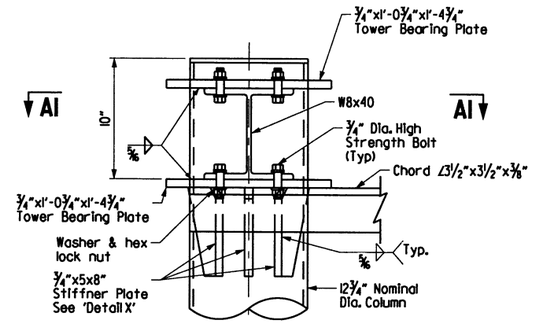


B

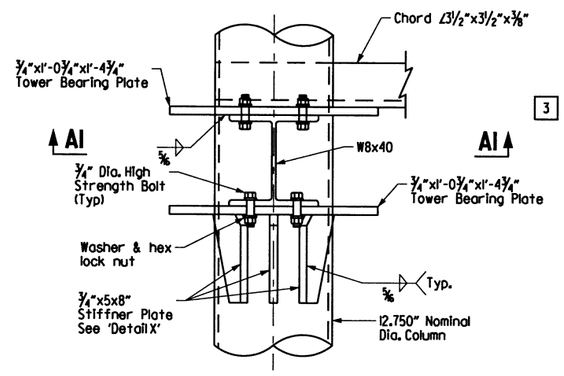
VIEW A-A (FOUNDATION B)



SECTION B-B

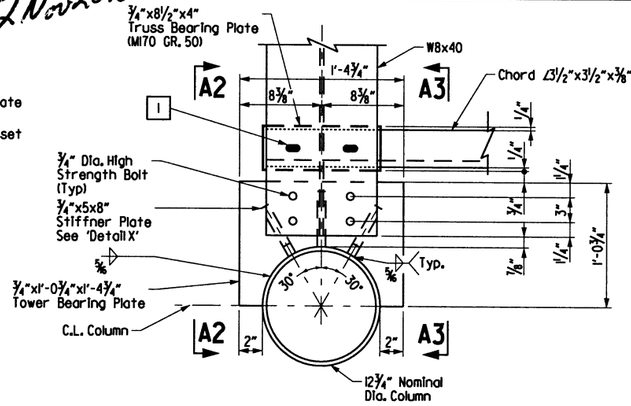


DETAIL - TRUSS TOP SUPPORT

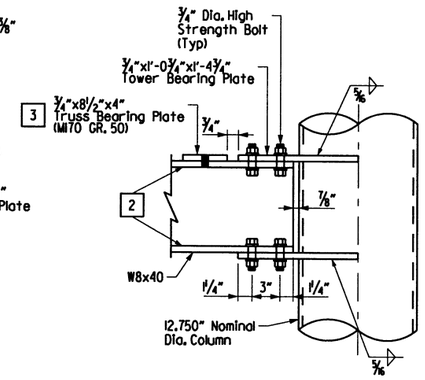


DETAIL - TRUSS BOTTOM SUPPORT

1. Slotted Hole in Gusset Plate and Chord Angle ⅜"x2". Use plate washer on Gusset plate side.
2. Bolts shall be ¾" Dia. and open holes shall be 9/16". Minimum bolt spacing shall be 2 ½"
3. Bottom Support shown, top similar

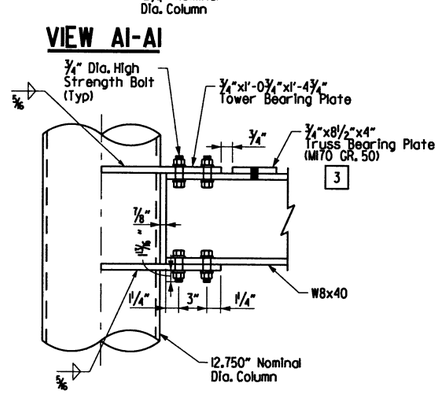


VIEW A1-A1



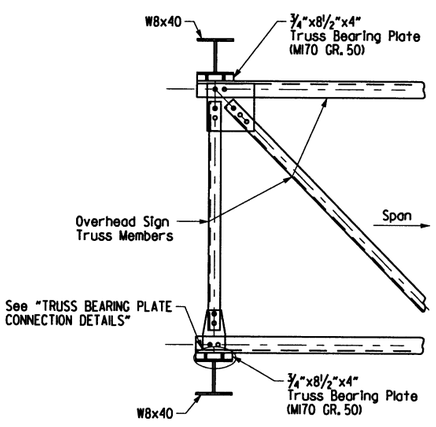
VIEW A2-A2

¾"x5"x8" Stiffner Plates not shown for clarity

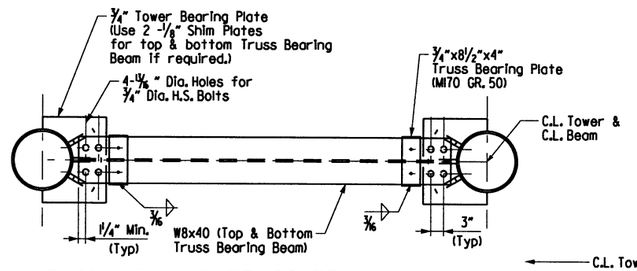


VIEW A3-A3

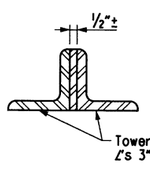
¾"x5"x8" Stiffner Plates not shown for clarity



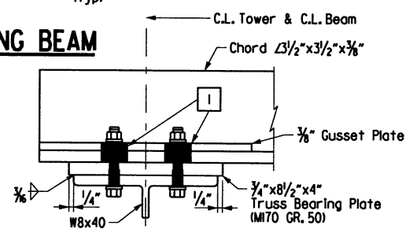
SECTION C-C



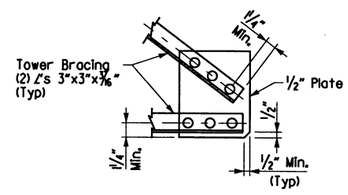
PLAN VIEW AT TRUSS BEARING BEAM



SECTION D-D



TRUSS BEARING PLATE CONNECTION DETAILS



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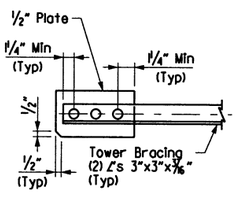

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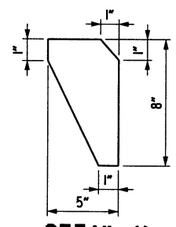

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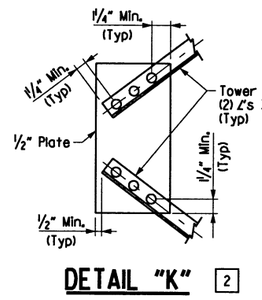

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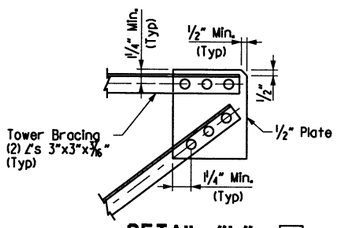

DETAIL "L" 2

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 5
DETAILS FOR STANDARD 55' TO 65'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO.				
OH-440-60-49	DRAWN BY: AG/AKH	DATE: June2016	FILENAME: rBB0612_OHSB_07.dgn	
OH-440-60-50	CHECKED BY: STS	DATE: June2016	SCALE: NOT TO SCALE	
OH-440-60-51	DESIGNED BY: AG	DATE: April2016		

DRAWING NO. 59320

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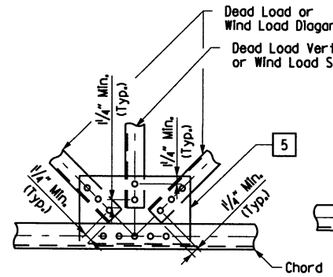
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	203	242
				1 OH-440-60-49 thru 51		OH SIGN STR.		59321

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



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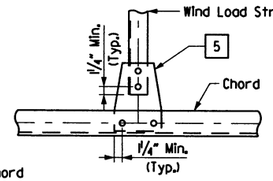

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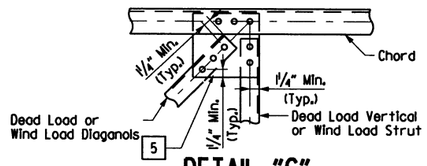

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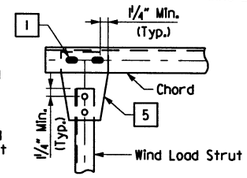

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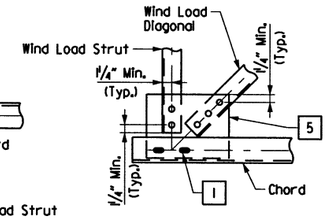

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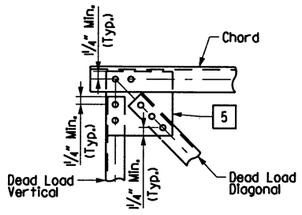

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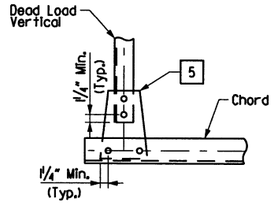

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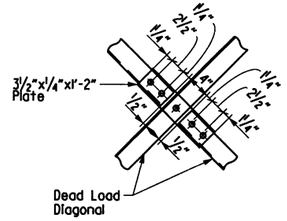

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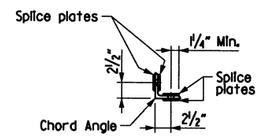
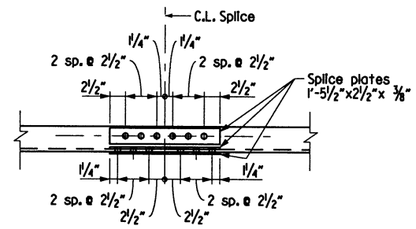


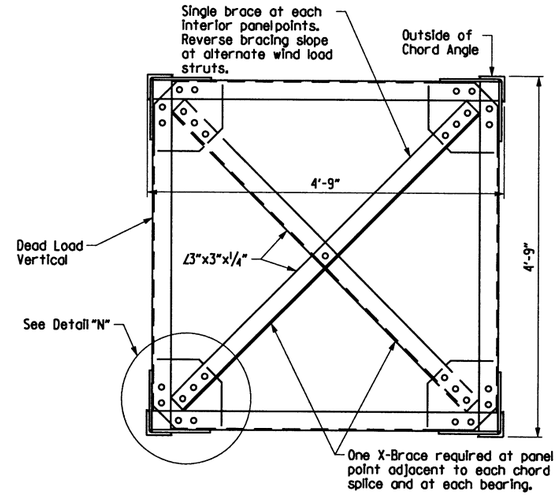
SECTION ON C.L. SPLICE

(3½"∠ Shown)

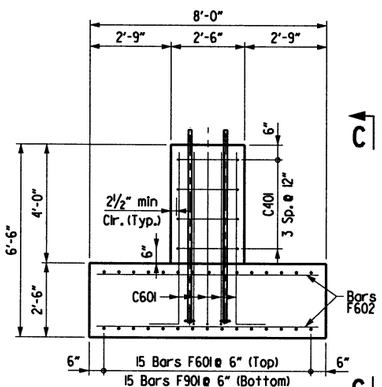


CHORD SPLICE USING PLATES 1

(3½"∠ Shown)

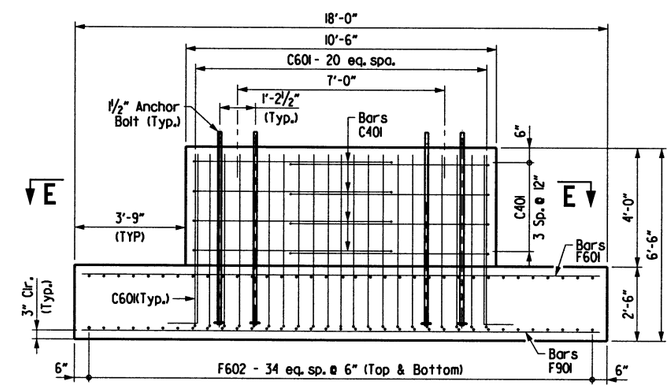


TRUSS SECTION

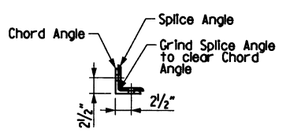


FOUNDATION "A"

END CAP DETAILS

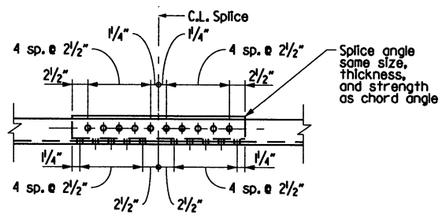


VIEW "C-C"



SECTION ON C.L. SPLICE

(4"∠ Shown)



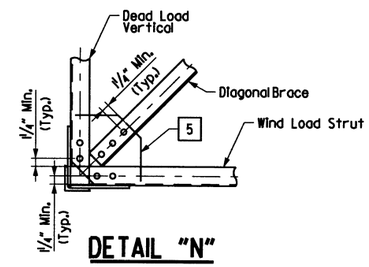
OPTIONAL CHORD SPLICE USING ANGLES 1

(Place splice angle on inside of truss)
(4" ∠ Shown)

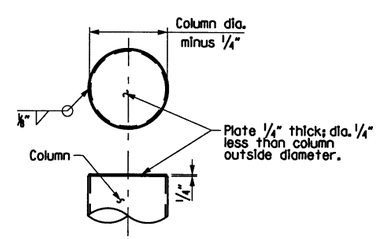
Note: Chord angles may be spliced in convenient lengths for galvanizing and sign placement.

1 Slotted Hole in Gusset Plate and Chord Angle ⅝"x2". Use plate washer on Gusset plate side.

5 Gusset plates to be same thickness as thickest web member in connection.



DETAIL "N"



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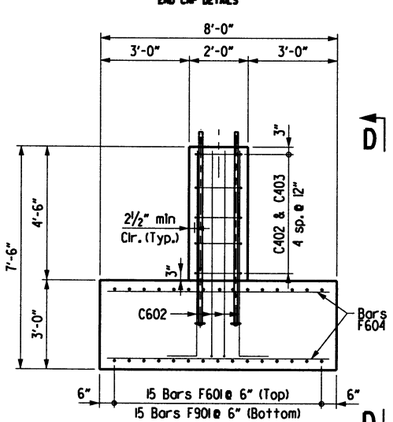
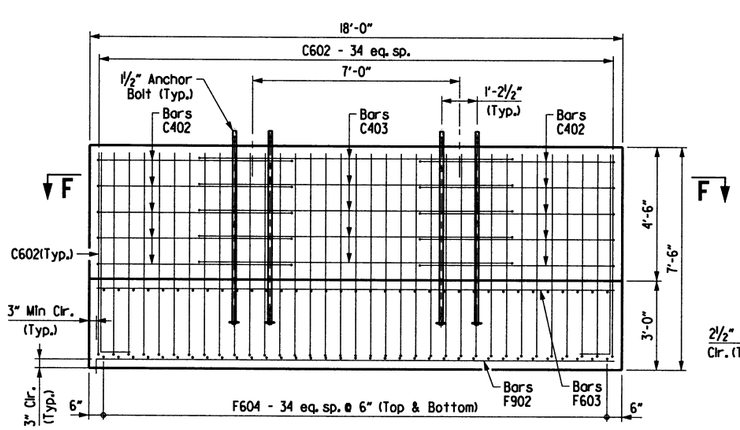
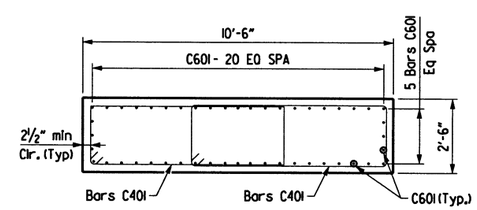


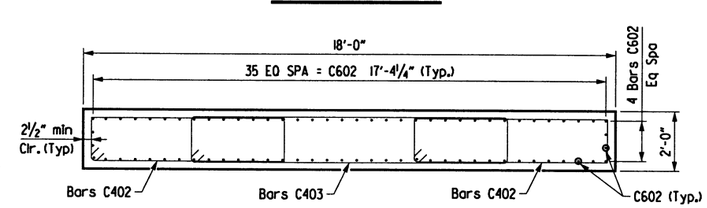
FOUNDATION "B"



VIEW "D-D"



SECTION "E-E"



SECTION "F-F"

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 3 OF 5
DETAILS FOR STANDARD 55' TO 65'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO. OH-440-60-49, OH-440-60-50, OH-440-60-51

DRAWN BY:	AG/AKH	DATE:	June2016
CHECKED BY:	STS	DATE:	June2016
DESIGNED BY:	AG	DATE:	April2016

FILENAME: r:BB0612_OHSB_08.dgn
SCALE: NOT TO SCALE

DRAWING NO. 59321

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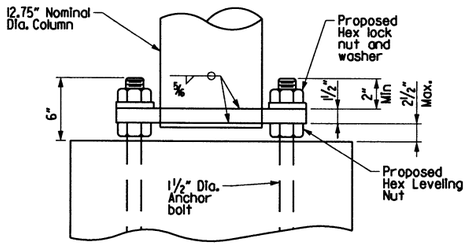
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

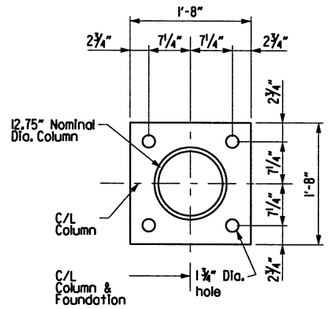
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		BB0612	204	242
(1) OH-440-60-49 thru 51		OH SIGN STR.		59322

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

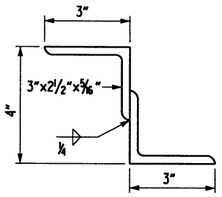
Stephen T. Smiley
2 Nov 2016



ELEVATION - COLUMN BASE

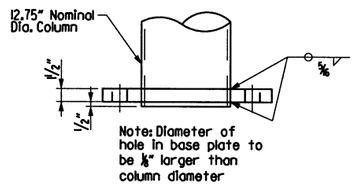


PLAN - PROPOSED COLUMN BASE



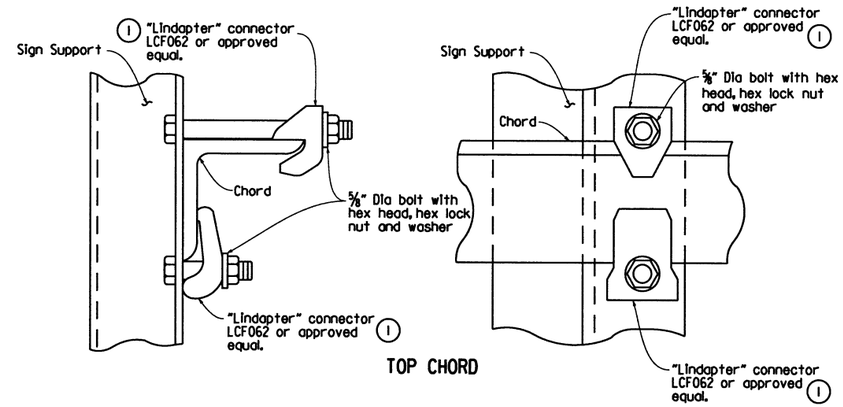
NOTE: Structural Z support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SUPPORT

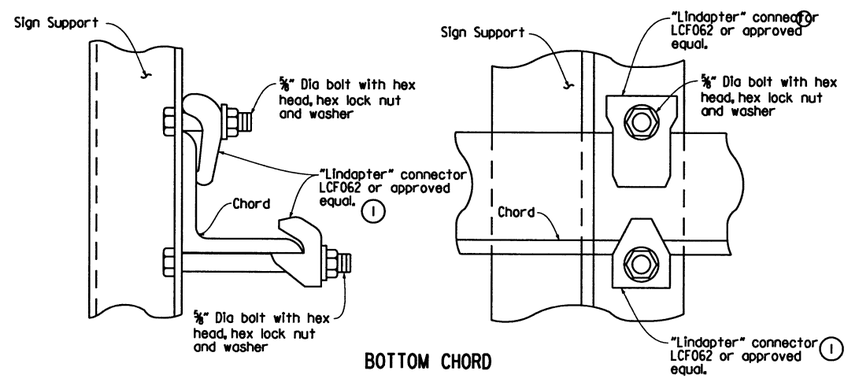


Note: Diameter of hole in base plate to be ⅛" larger than column diameter

DETAIL OF PROPOSED COLUMN CONNECTION TO BASE PLATE



TOP CHORD

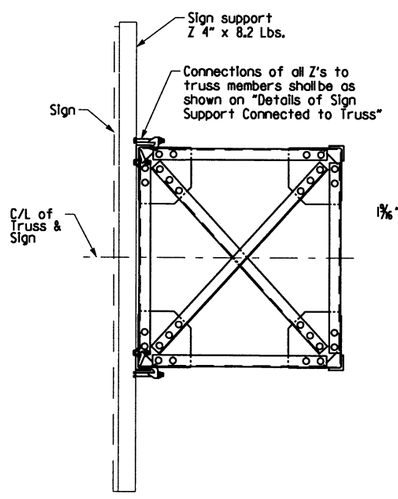


BOTTOM CHORD

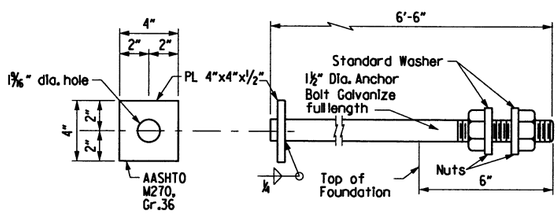
(1) Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

Note: Install all support connectors clear of the gusset plates and splice locations.

DETAIL OF SIGN SUPPORT CONNECTED TO TRUSS



SECTION THRU TRUSS



Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Section 807.07. Nuts for bolts shall be as specified in Section 807.07.

ANCHOR BOLT DETAIL

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 4 OF 5
DETAILS FOR STANDARD 55' TO 65'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

STRUCTURE NO.					
OH-440-60-49	DRAWN BY: AG/AKH	DATE: June2016	FILENAME: rBB0612_OHSB_09.dgn		
OH-440-60-50	CHECKED BY: STS	DATE: June2016	SCALE: NOT TO SCALE		
OH-440-60-51	DESIGNED BY: AG	DATE: April2016			

DRAWING NO. 59322

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	205	242
				1	OH-440-60-49 thru 51		OH SIGN STR.	59323

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 2014, with applicable special provisions and Supplemental Specifications.
Design Specifications: Standard Specifications for Structural supports for Highway Signs, Luminaries and Traffic Signals, AASHTO Sixth Edition 2013.

Basic Wind Speed = 90 m.p.h.

This structure is approved for a sign area equivalent to 75% of the span at 15.5" 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 = 3,500 psi
Reinforcing Steel (AASHTO M31 or M322 Type A, Grade 60) fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:
Angles: AASHTO M270, Grade 36 (Fy = 36,000 psi).
Plate, W-Section, WT-Section: AASHTO M270, Grade 50 (Fy = 50,000 psi).
1 Pipe: ASTM A500 Grade B (Fy = 42,000 psi.
Z-Shapes: AASHTO M270, Grade 36 (Fy = 36,000 psi).
Shim Plates: ASTM A1011, SS, Grade 36, Type 2, or Grade 40.
Bolts: ASTM A325, Type 1.
Locknuts - Approved Type: Meeting or exceeding AASHTO M292
Washers: ASTM F436
Nuts: ASTM A563 or AASHTO M292, Grade 2H or Grade DH

All steel shall be Galvanized according to section 807.19. Steel completely encased in concrete may not be Galvanized. Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with Section 807.88.

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 or helical lap splices 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 1/2" 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 ASTM A325 Type 1, galvanized according to Subsection 807.06. Nuts and washers for ASTM A325 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 BB0612 "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 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.

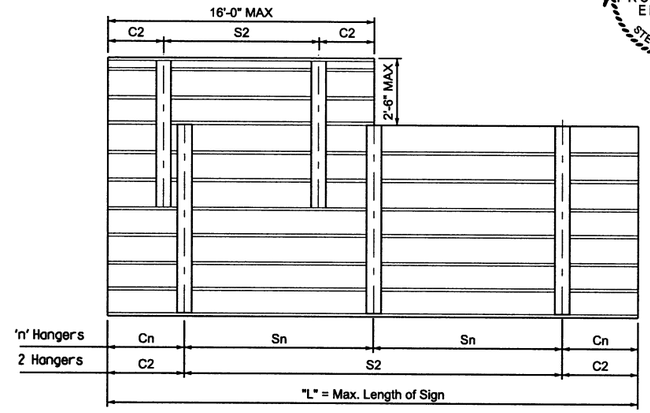
All truss member field connections shall be bolted connections.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to manufacturer's recommendations.

The excavations for the footings shall be back-filled before the structure is attached to the foundations.

The contractor shall make check measurements in the field and subject to the approval of the Engineer, make any adjustments necessary to meet the required clearances and to fit the new structures to the existing conditions.

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



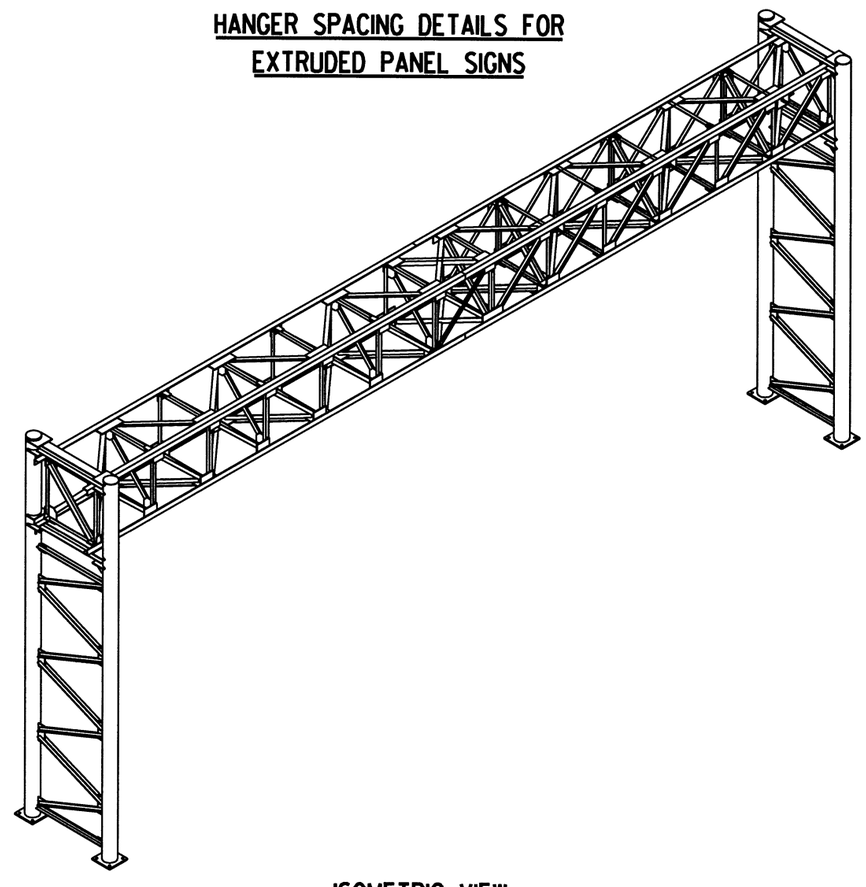
Note: See sign details and plan sheets for number, size and dimensions of signs.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

HANGER VARIABLES

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'

Hanger spacing and cantilever length shall be rounded to the nearest inch.



ISOMETRIC VIEW

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 5 OF 5
DETAILS FOR STANDARD 55' TO 65'
OVERHEAD SIGN STRUCTURES
WITH MEDIAN FOUNDATION
ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

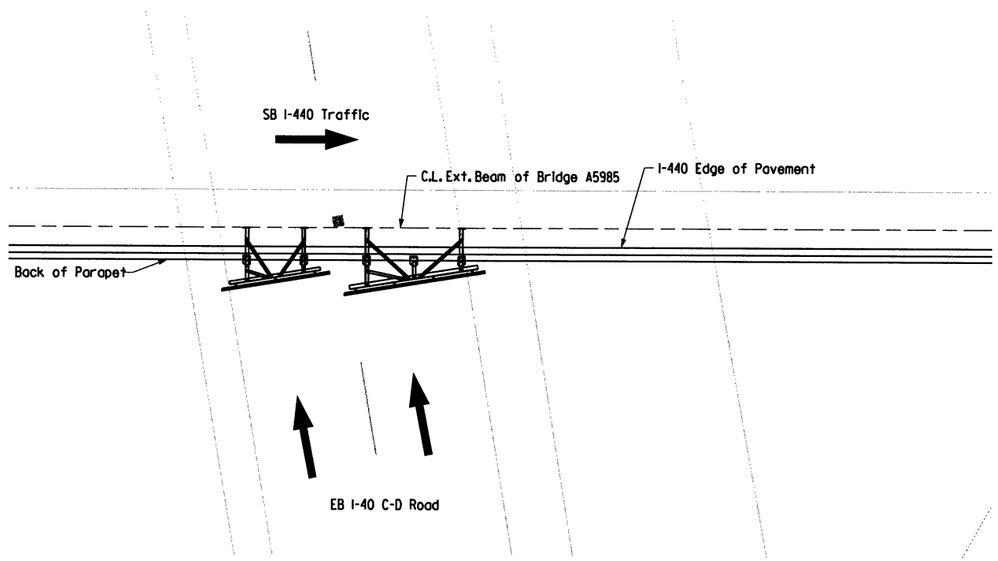
STRUCTURE NO.					
OH-440-60-49	DRAWN BY:	AG/AKH	DATE:	June2016	FILENAME: rBB0612_OHSB_10.dgn
OH-440-60-50	CHECKED BY:	STS	DATE:	June2016	SCALE: NOT TO SCALE
OH-440-60-51	DESIGNED BY:	AG	DATE:	April2016	

DRAWING NO. 59323

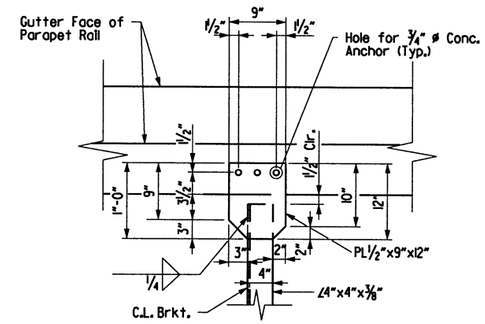
S:\14409\01\DGN\Plans\Signs\Sign Structure Details\rBB0612_OHSB_10.dgn 11/2/2016 5:11:49 PM

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	206	242
				(1) BM-040-60-49		SIGN DETAILS		59324

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016

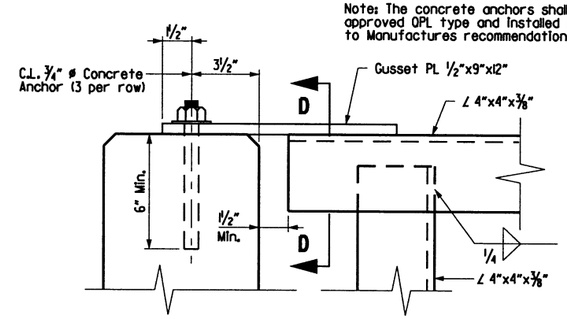


LOCATION SKETCH
No Scale

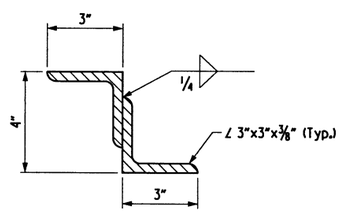


DETAIL A
No Scale

Note: The concrete anchors shall be an approved OPL type and installed according to Manufactures recommendations.

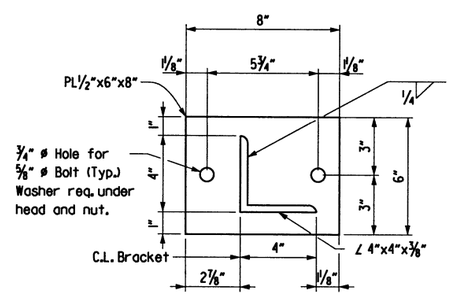


DETAIL B
No Scale

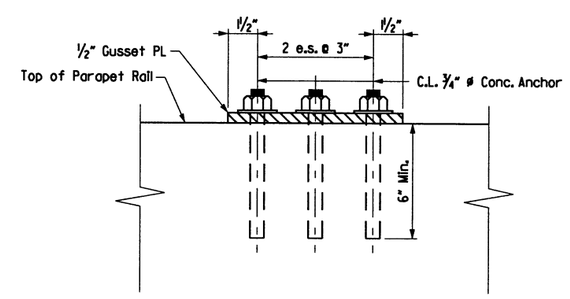


Note: Structural Z sign Support may be fabricated from angles as shown.

DETAILS OF ALTERNATE Z SIGN SUPPORT
No Scale



VIEW C-C
No Scale



VIEW D-D
No Scale

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edtion of 2014 with applicable Special Provisions and Supplemental Specifications.
Design Specifications: Standard Specifications for Structural Supports for Highway Sign, Luminaries and Traffic Signals, AASHTO Sixth Edition 2013.

BASIC WIND SPEED: 90 m.p.h.

Existing aluminum bridge mount structure to be replaced with new structure of steel members, conforming to the following specifications:

Angles:	AASHTO M270, Gr. 36 (Fy = 36,000psi
Plate:	AASHTO M270, Gr. 50 (Fy = 50,000psi)
Z-shapes:	AASHTO M270, Gr. 36 (Fy = 36,000psi)
Bolts:	ASTM A325 Type I, Galvanized
Locknuts:	Approved Type - Meeting or exceeding AASHTO M292
Washers:	ASTM F436
Nuts:	ASTM A563 or AASHTO M292, Grade 2H or DH

All steel shall be Galvanized in accordance with Subsection 807.19. Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with Section 807.88.

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.

Requests for substition of structural steel shapes shown with shapes of 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 substitions.

Field connections of steel members to one another, shall be bolted with high-strength bolts. Bolts shall be ⅞" diameter unless noted otherwise, holes shall be 15/16" diameter unless noted otherwise, installed and tightened in accordance with Section 807.71.

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 frame bolts shall comply with ASTM A325 Type I, galvanized according to Subsection 807.06, Nuts and washers for ASTM A325 Type I bolts shall be furnished and galvanized in accordance with Subsection 807.06.

Details shown are intended for reuse of existing connection anchor bolts embeded in bridge parapet and bolt holes in web of exterior bridge beam.
Prior to fabrication, Contractor shall field verify spacing, size, and condition of existing bolted connections to bridge; replace anchorages and/or relocate only if directed by the Engineer.

The Contractor shall make check measurements in the field and make any adjustments necessary to avoid any diaphrams, splice plates, joints in curb rise, and roll on the bridge. This may include shifting the sign structures with approval from the Engineer.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to Manufacturer's recommendations.

Surfaces of plates in contact with concrete or beam web shall be coated with a thick layer of asphaltic paint and allowed to dry before erection. Performed pads ⅛" thick, conforming to Section 808 of the Standard Specifications may be used in lieu of asphaltic paint coating for steel plates in contact with beam web or concrete parapet.

Method of Payment:
All work and materials shall be paid for in accordance with Special Provision Job BB0612 "STEEL SIGN STRUCTURES".

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 2
DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE
NORTH BELT SIGNING

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	8/22/2016	FILENAME:	BB0612_BM040_60_49_01.dgn
CHECKED BY:	STS	DATE:	8/22/2016	SCALE:	AS SHOWN
DESIGNED BY:	STS	DATE:	8/22/2016		

STRUCTURE NO. BM-040-60-49 DRAWING NO. 59324

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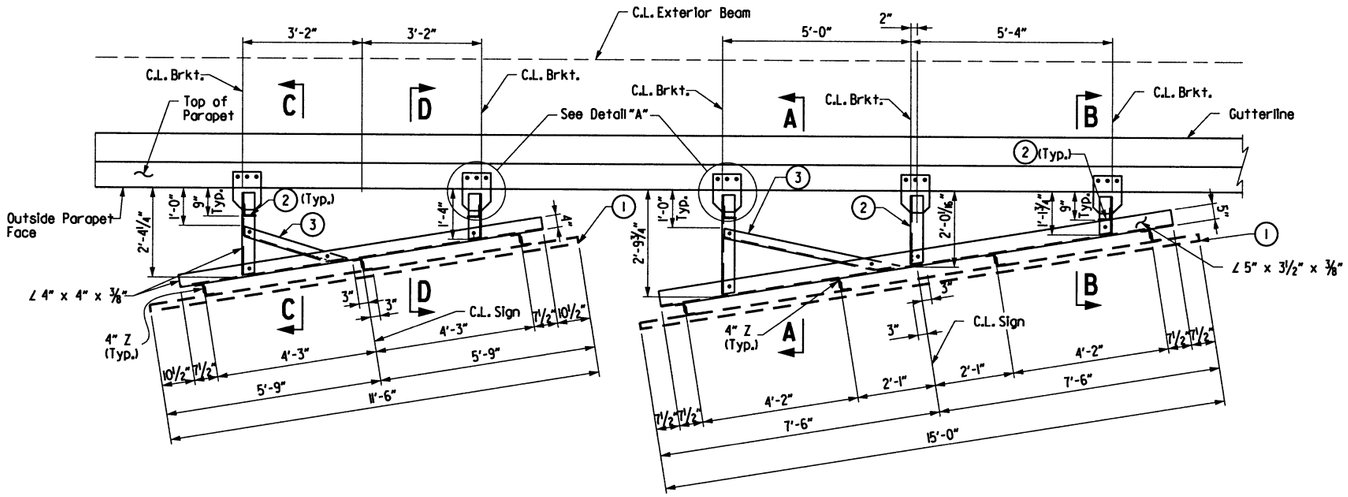
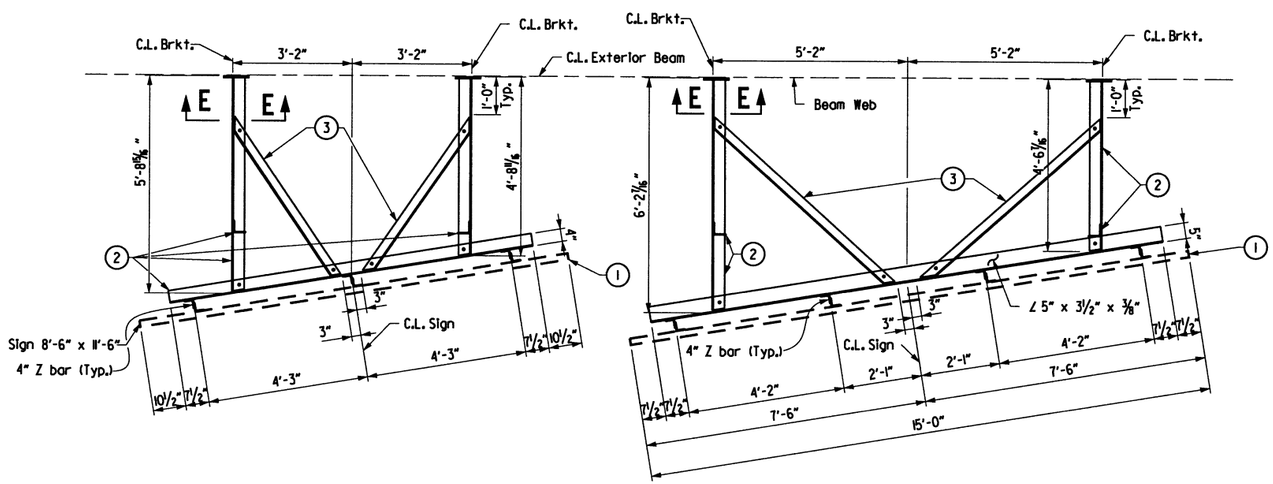
				6	ARK.			
				JOB NO.		BB0612	207	242
				(1) BM-440-60-49		SIGN DETAILS		59325

STATE OF ARKANSAS
Stephen T. Smiley
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY
2 Nov 2016



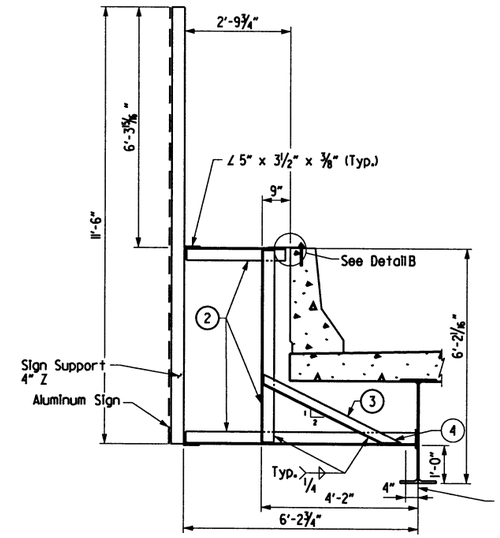
PLAN OF UPPER BRACING

½" = 1'-0"



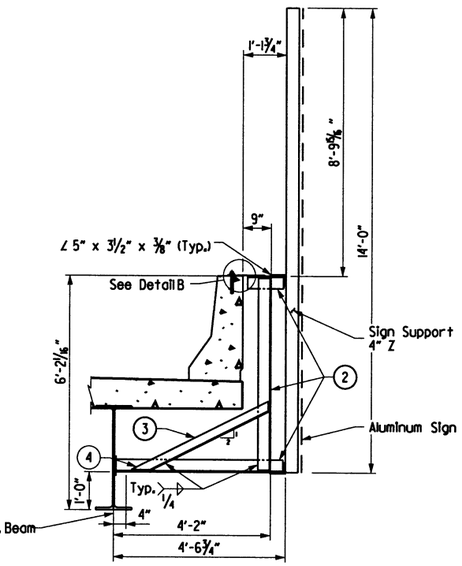
PLAN OF LOWER BRACING

½" = 1'-0"



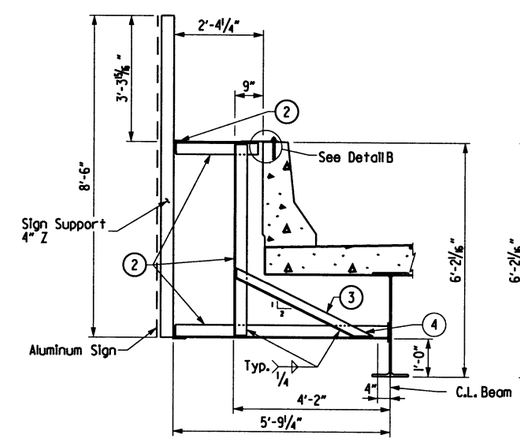
SECTION A-A

Scale: ½" = 1'-0"



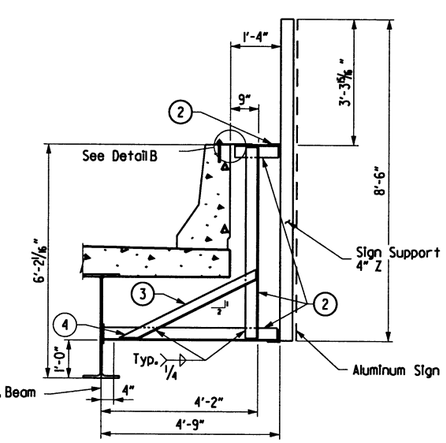
SECTION B-B

Scale: ½" = 1'-0"



SECTION C-C

Scale: ½" = 1'-0"



SECTION D-D

Scale: ½" = 1'-0"

(1) See Sign Layout for height of signs.

(2) ∠ 4" x 4" x 3/8"

(3) ∠ 3" x 3" x 5/16"

(4) 3/8" filler PL, fillet weld as shown, to both members

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 2
DETAILS OF BRIDGE MOUNTED SIGN STRUCTURE
NORTH BELT SIGNING

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	8/22/2016	FILENAME:	BB0612_BM040_60_49_02.dgn
CHECKED BY:	STS	DATE:	8/22/2016	SCALE:	AS SHOWN
DESIGNED BY:	STS	DATE:	8/22/2016		

STRUCTURE NO. BM-040-60-49 DRAWING NO. 59325

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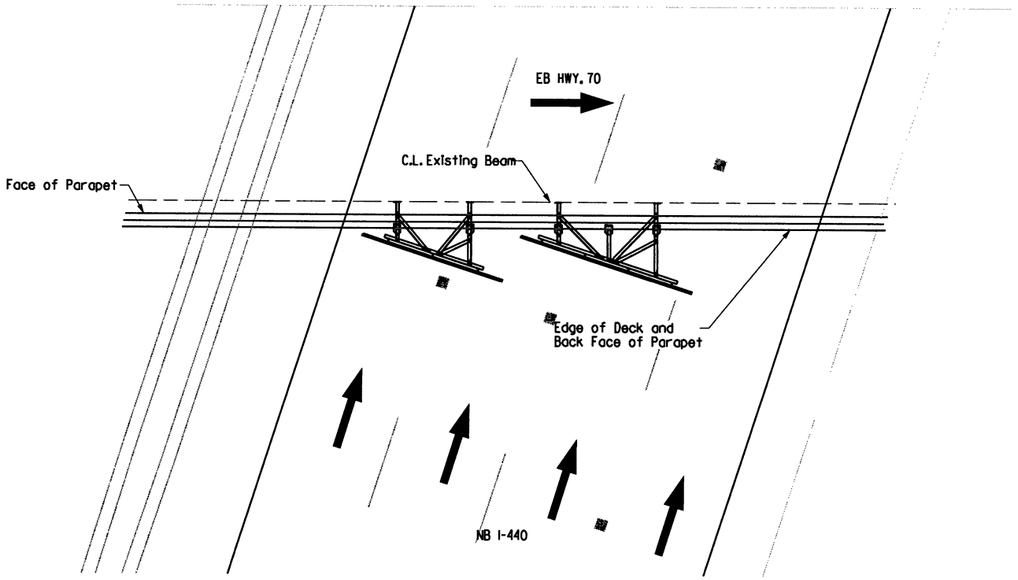
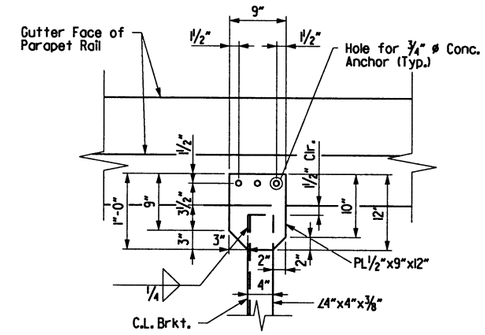
				6	ARK.			
				JOB NO.		BB0612	208	242
				1	BM-440-60-48	SIGN DETAILS		59326

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 13072
STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016

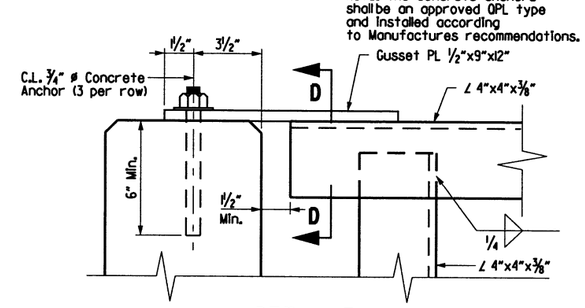


LOCATION SKETCH
No Scale

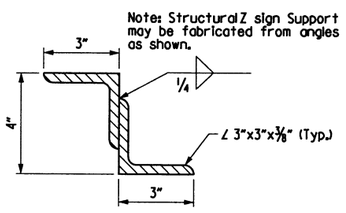


DETAIL A
No Scale

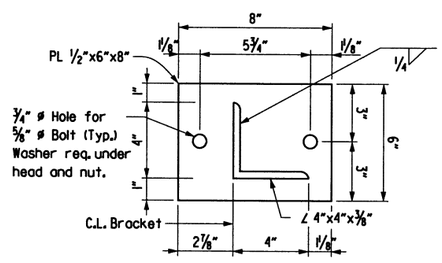
Note: The concrete anchors shall be an approved QPL type and installed according to Manufactures recommendations.



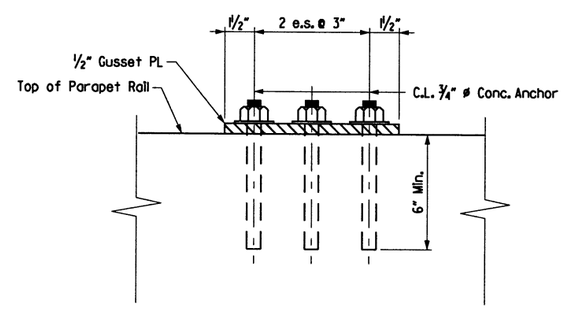
DETAIL B
No Scale



DETAILS OF ALTERNATE Z SIGN SUPPORT
No Scale



VIEW C-C
No Scale



VIEW D-D
No Scale

GENERAL NOTES:
Construction Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edtion of 2014 with applicable Special Provisions and Supplemental Specifications.
Design Specifications: Standard Specifications for Structural Supports for Highway Sign, Luminaries and Traffic Signals, AASHTO Sixth Edition 2013.

BASIC WIND SPEED: 90 m.p.h.

Existing aluminum bridge mount structure to be replaced with new structure of steel members, conforming to the following specifications:

Angles:	AASHTO M270, Gr. 36 (Fy = 36,000psi
Plate:	AASHTO M270, Gr. 50 (Fy = 50,000psi)
Z-shapes:	AASHTO M270, Gr. 36 (Fy = 36,000psi)
Bolts:	ASTM A325 Type 1, Galvanized
Locknuts:	Approved Type - Meeting or exceeding AASHTO M292
Washers:	ASTM F436
Nuts:	ASTM A563 or AASHTO M292, Grade 2H or DH

All steel shall be Galvanized in accordance with Subsection 807.19. Galvanized Coating damaged during transport, handling, or erection shall be field repaired in accordance with Section 807.88.

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.

Requests for substition of structural steel shapes shown with shapes of 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 substitions.

Field connections of steel members to one another, shall be bolted with high-strength bolts. Bolts shall be ⅜" diameter unless noted otherwise, holes shall be 11/16" diameter unless noted otherwise, installed and tightened in accordance with Section 807.71.

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 frame bolts shall comply with ASTM A325 Type 1, galvanized according to Subsection 807.06, Nuts and washers for ASTM A325 Type 1 bolts shall be furnished and galvanized in accordance with Subsection 807.06.

Details shown are intended for reuse of existing connection anchor bolts embeded in bridge parapet and bolt holes in web of exterior bridge beam.
Prior to fabrication, Contractor shall field verify spacing, size, and condition of existing bolted connections to bridge; replace anchorages and/or relocate only if directed by the Engineer.

The Contractor shall make check measurements in the field and make any adjustments necessary to avoid any diaphrams, splice plates, joints in curb rise, and roll on the bridge. This may include shifting the sign structures with approval from the Engineer.

Locknuts to be equipped with nylon locking inserts or other approved type locking system. Locknuts to be installed according to Manufacturer's recommendations.

Surfaces of plates in contact with concrete or beam web shall be coated with a thick layer of asphaltic paint and allowed to dry before erection. Performed pads ⅛" thick, conforming to Section 808 of the Standard Specifications may be used in lieu of asphaltic paint coating for steel plates in contact with beam web or concrete parapet.

Method of Payment:
All work and materials shall be paid for in accordance with Special Provision Job BB0612 "STEEL SIGN STRUCTURES".

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 1 OF 2
DETAILS OF BRIDGE MOUNTED
SIGN STRUCTURE
NORTH BELT SIGNING

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	8/22/2016	FILENAME:	BB0612_BM440_60_48_01.dgn
CHECKED BY:	STS	DATE:	8/22/2016	SCALE:	AS SHOWN
DESIGNED BY:	STS	DATE:	8/22/2016		

STRUCTURE NO. BM-440-60-48 DRAWING NO. 59326

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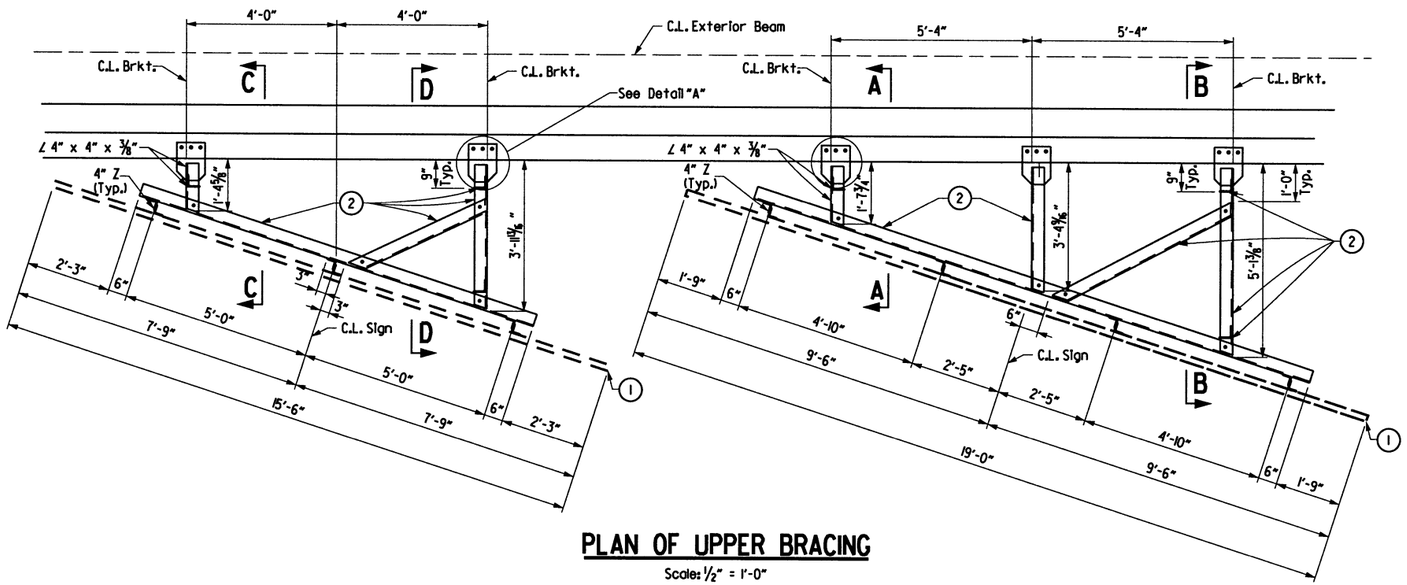
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		BB0612	209	242
				(1) BM-040-60-48		SIGN DETAILS		59327

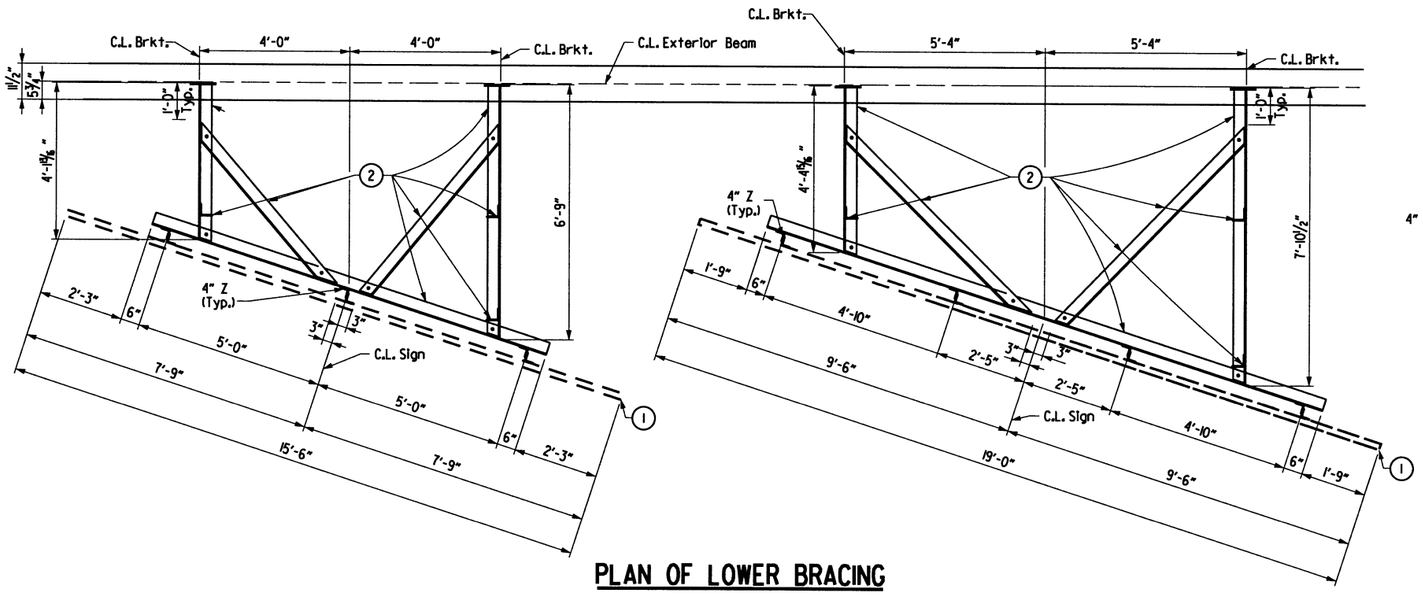
STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 13072 STEPHEN T. SMILEY

Stephen T. Smiley 2 Nov 2016



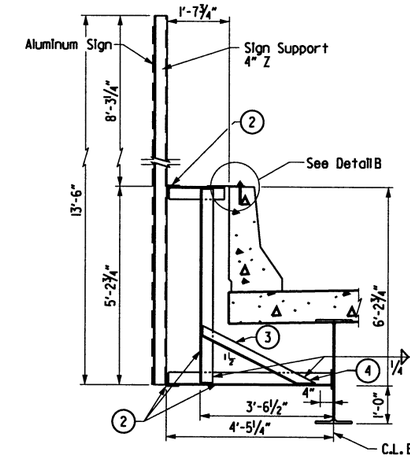
PLAN OF UPPER BRACING

Scale: 1/2" = 1'-0"



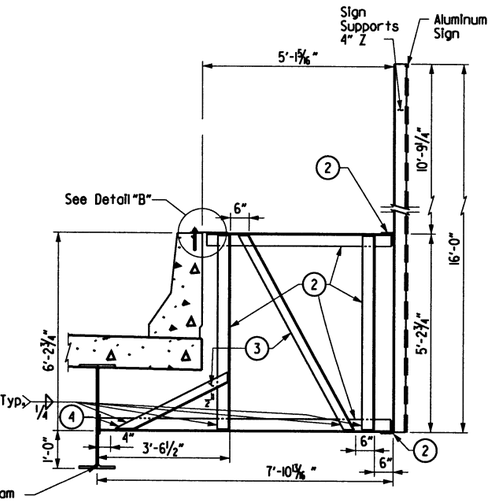
PLAN OF LOWER BRACING

Scale 1/2" = 1'-0"



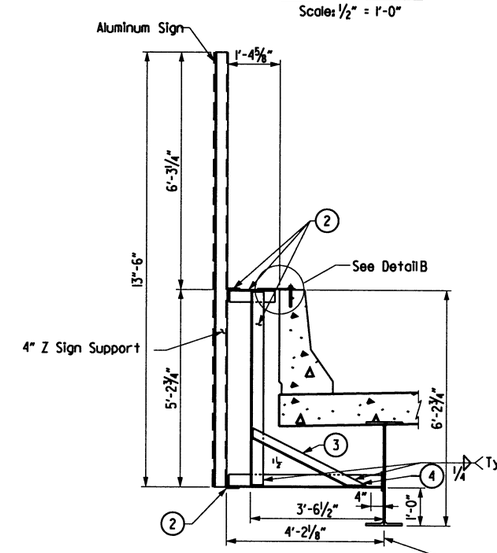
SECTION A-A

Scale: 1/2" = 1'-0"



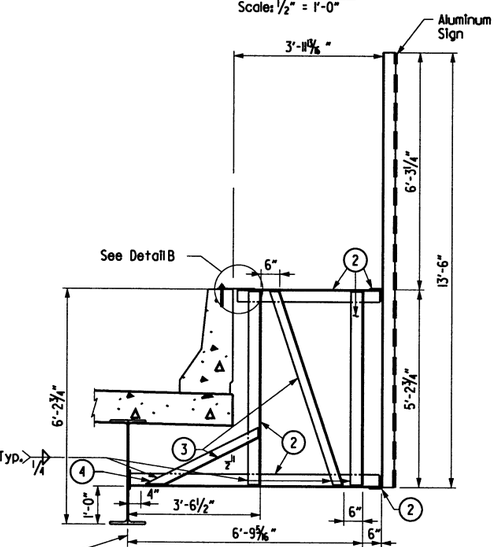
SECTION B-B

Scale: 1/2" = 1'-0"



SECTION C-C

Scale: 1/2" = 1'-0"



SECTION D-D

Scale: 1/2" = 1'-0"

(1) See Sign Layout for height of signs.

(2) ∠ 4" x 4" x 3/8"

(3) ∠ 3" x 3" x 5/16"

(4) 3/8" filler PL, fillet weld as shown, to both members

BRIDGEFARMER & ASSOCIATES, INC.
CONSULTING ENGINEERS

SHEET 2 OF 2
DETAILS OF BRIDGE MOUNTED
SIGN STRUCTURE
NORTH BELT SIGNING

ARK. RIVER BRIDGE - I-40 (S)
PULASKI COUNTY
ROUTE 440, SECTION 1

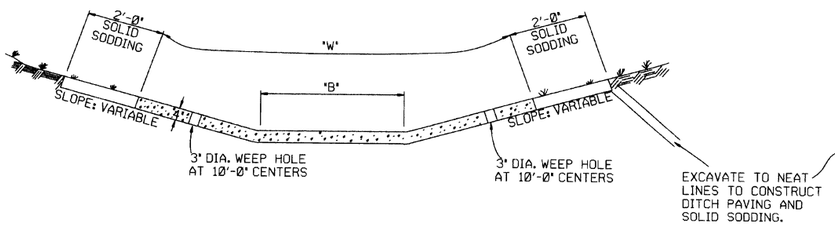
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY:	TAP	DATE:	8/22/2016	FILENAME:	BB0612_BM440_60_48_02.dgn
CHECKED BY:	STS	DATE:	8/22/2016	SCALE:	AS SHOWN
DESIGNED BY:	STS	DATE:	8/22/2016		

STRUCTURE NO. BM-440-60-48 DRAWING NO. 59327

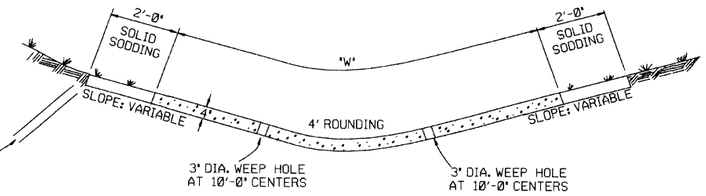
S:\14409\01\DGN\Plans\Signs\Sign Structure Details\BB0612_BM440_60_48_02.dgn 11/2/2016 5:11:56 PM

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



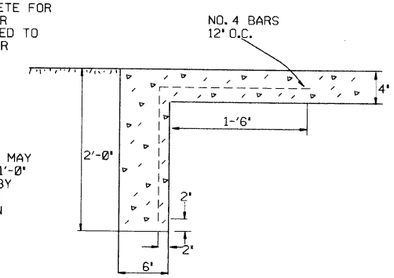
TYPE A

REFER TO TABULATION OF QUANTITIES FOR 'W' DIMENSIONS



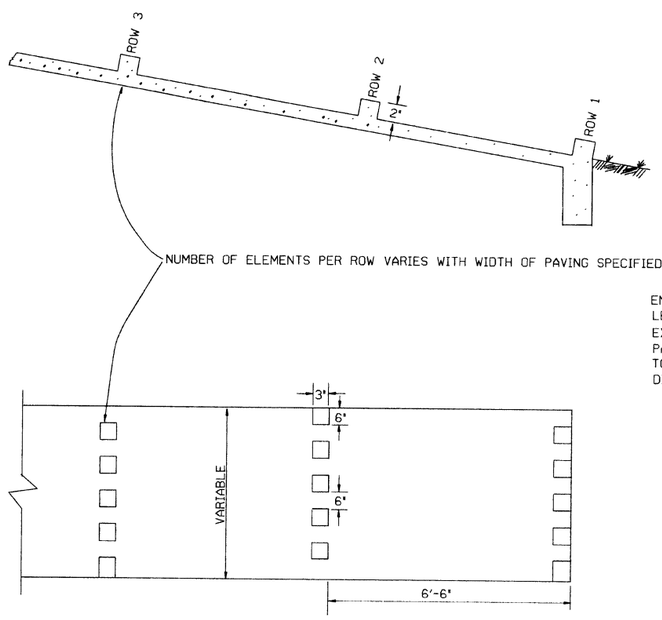
TYPE B

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



ENERGY DISSIPATORS
(NO SCALE)

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

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

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

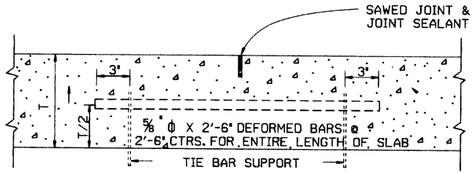
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45' INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	532-1-9-87
11-3-86	ADDED NOTE TO ENERGY DISS.	599-12-1-86
11-1-84	ENERGY DISSIPATOR DETAILS ADDED	508-11-1-84
11-1-84	EXCAVATION DETAILS ADDED TYPED A & B	
10-2-72	REVISED AND REDRAWN	508-10-2-72

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE DITCH PAVING

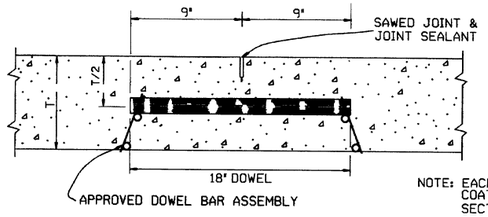
STANDARD DRAWING CDP-1



LONGITUDINAL JOINT

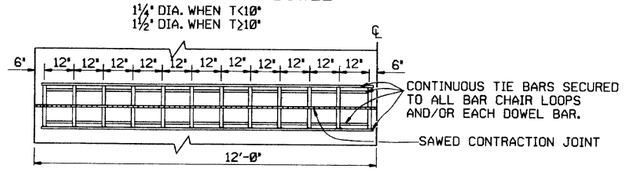
NOTE: THE TIE BAR SUPPORT SHOWN ABOVE MAY BE ELIMINATED IF OTHER APPROVED METHODS FOR PLACING AND SUPPORTING THE TIE BARS ARE PROVIDED.

TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.



NOTE: EACH DOWEL TO BE COATED ACCORDING TO SECTION 502 OF THE STANDARD SPECIFICATIONS.

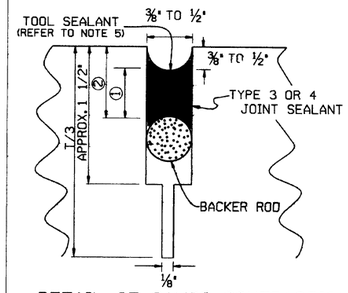
ROUND STEEL BAR DOWEL
1¼" DIA. WHEN T<10"
1½" DIA. WHEN T≥10"



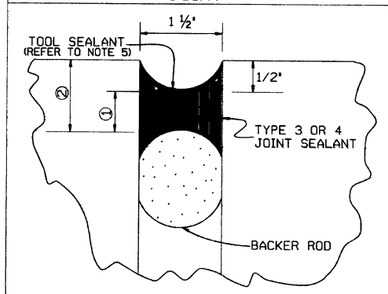
ONE-HALF 24' PAVEMENT
12 DOWELS
PLAN

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



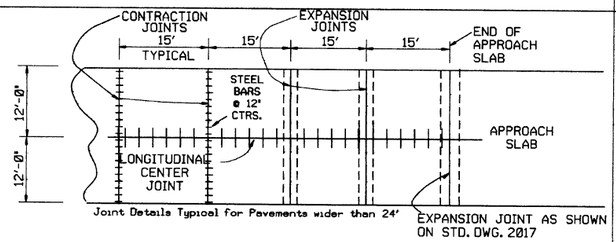
DETAIL OF EXPANSION JOINT

JOINT CONFIGURATION FOR TYPE 3 OR 4 JOINT SEALANT

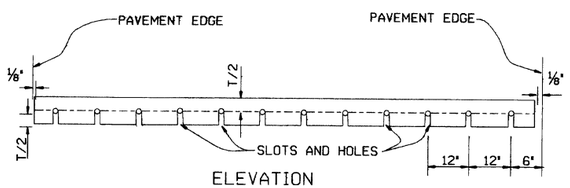
JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	¼	⅜	½
⅜	¼	½	½
½	¼	½	½
⅝	⅜	⅝	½
¾	⅜	¾	½
⅞	⅜	⅞	⅝
1	⅜	1	⅞
1 ½	¾	2	1 ¼

JOINT CONFIGURATION FOR TYPE 5 JOINT SEALANT

JOINT WIDTH	SEALANT THICKNESS ①	BACKER ROD DIAMETER	BACKER ROD PLACEMENT DEPTH ②
INCHES			
¼	½	⅜	¾
⅜	¾	½	1

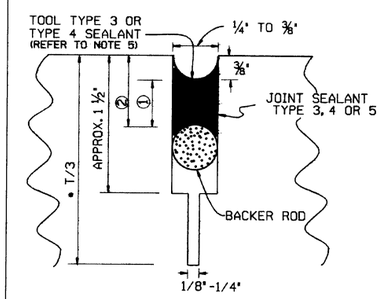


PLAN SHOWING EXPANSION JOINTS AT BRIDGE APPROACH SLABS



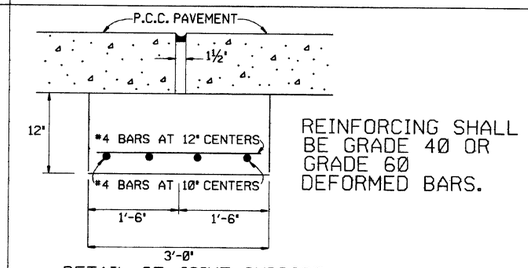
ELEVATION

NOTE: ALL DOWEL BARS SHALL CONFORM TO THE DETAILS FOR CONTRACTION JOINTS.



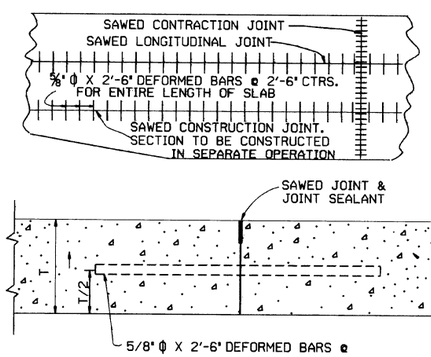
•NOTE: T/3 SAW CUT NOT REQUIRED FOR LONGITUDINAL CONSTRUCTION JOINT.

DETAIL OF SAWED
LONGITUDINAL JOINT
AND LONGITUDINAL CONSTRUCTION JOINT



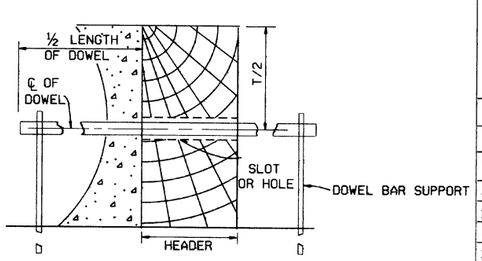
REINFORCING SHALL BE GRADE 40 OR GRADE 60 DEFORMED BARS.

DETAIL OF JOINT SUPPORT
FOR EXPANSION JOINTS



NOTE: TIE BARS SHALL BE 15" FROM TRANSVERSE JOINTS.

LONGITUDINAL CONSTRUCTION JOINT



SECTION

TRANSVERSE
CONSTRUCTION JOINT

GENERAL NOTES

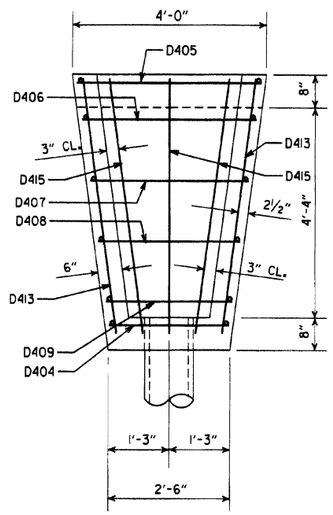
1. "T" DENOTES THICKNESS OF SLAB.
2. DOWEL BARS SHALL BE PLACED IN ACCORDANCE WITH THE DIMENSIONS SHOWN. A TOLERANCE OF PLUS OR MINUS ONE INCH WILL BE ALLOWED FOR THE VERTICAL AND LATERAL PLACEMENT AND A TOLERANCE OF PLUS OR MINUS ¼" WILL BE ALLOWED FOR THE TILT AND SKEW. DOWEL BARS SHALL BE FIELD COATED 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.

DATE	REVISION	DATE FILMED
5-25-06	ADDED GENERAL NOTE 7	
10-9-03	REMOVED TIE BAR COATING & REVISED GENERAL NOTES	
11-16-01	ADDED TOOL SEALANT AND NOTE 5; REVISED NOTE 3	
4-26-96	REVISED CONTRACTION JOINT NOTE	
11- 3-94	ADDED NOTE RE: REINF. BARS	
4- 1-93	REVISED DOWEL BARS & GEN. NOTES	4- 1-93
10- 1-92	REVISED DOWEL SPACING	10- 1-92
8- 15-91	ADDED SPAC FOR CONTR JTS & DEL KEYWAY	
05-24-90	REVISED TIE BAR, DOWEL & JOINT SIZE	
01-25-90	ADDED EXPANSION JOINT	01-25-90
11-30-89	CHANGED T/4+1 TO T/3+1	11-30-89
03-23-89	ALTERED SAWED JOINT & ADDED NOTE	512-03-23-89
07-15-88	REVISED AND REDRAWN	632-07-15-88

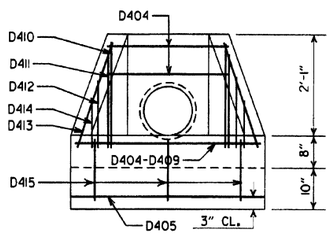
ARKANSAS STATE HIGHWAY COMMISSION

TRANSVERSE & LONGITUDINAL JOINTS
FOR CONCRETE PAVEMENT (NON-REINFORCED)

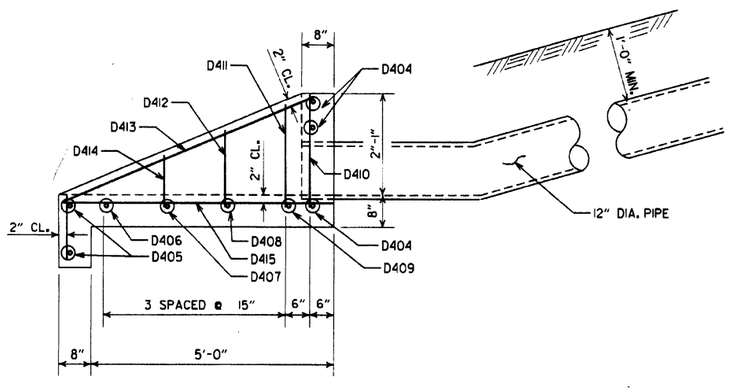
STANDARD DRAWING CPTJ - 6A



PLAN



FRONT ELEVATION

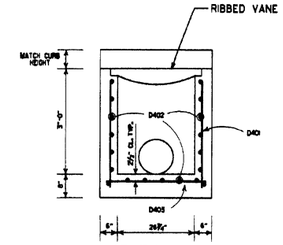


SIDE ELEVATION
CONCRETE SPILLWAY

BAR LIST (CONCRETE SPILLWAY)

MARK	NO. REQ'D.	LENGTH	BENDING DIAGRAM
D404	3	2'-2"	5'-4"; 1'-2"; 2" P.D.; D415
D405	2	3'-8"	
D406	1	3'-5"	
D407	1	3'-1"	
D408	1	2'-9"	
D409	1	2'-5"	
D410	2	2'-5"	
D411	2	2'-4"	
D412	2	1'-9"	
D413	2	5'-6"	
D414	2	1'-2"	
D415	3	6'-5"	

DETAILS OF CONCRETE SPILLWAY (TYPE A)

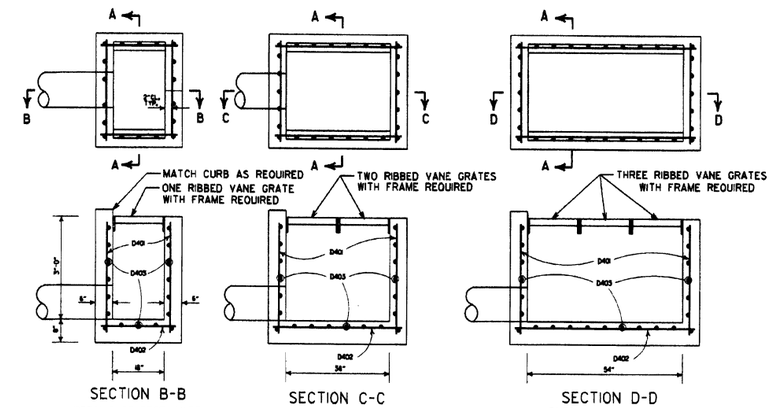


SECTION A-A

BAR LIST (DROP INLET)

MARK	TYPE N-1		TYPE N-2		TYPE N-3	
	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH	NO. REQ'D.	LENGTH
D401	20	3'-0"	26	3'-0"	32	3'-0"
D402	19	2'-2"	19	3'-8"	19	5'-2"
D403	17	2'-11"	20	2'-11"	23	2'-11"

ALL BARS #4 @ 6" SPACING



SECTION B-B
DETAILS OF DROP INLET
(TYPE N-1)

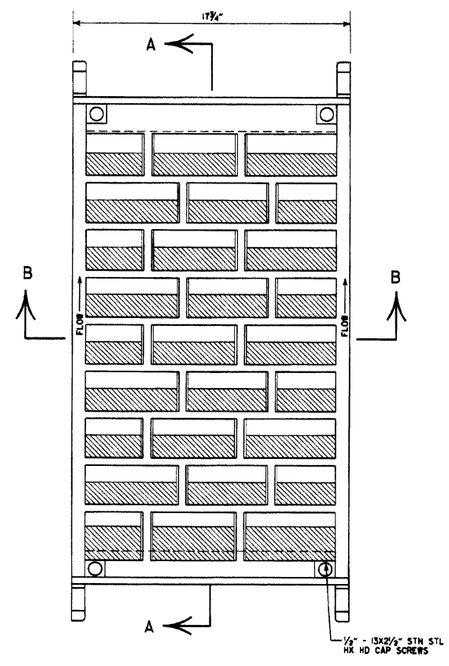
SECTION C-C
DETAILS OF DROP INLET
(TYPE N-2)

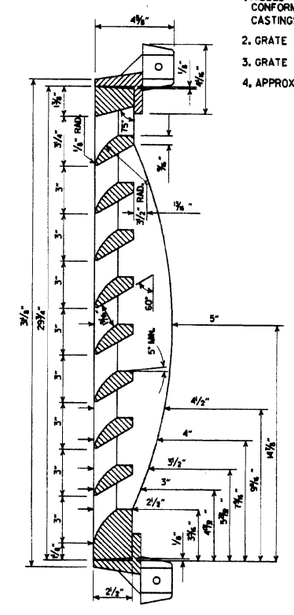
SECTION D-D
DETAILS OF DROP INLET
(TYPE N-3)

DETAILS OF DROP INLET

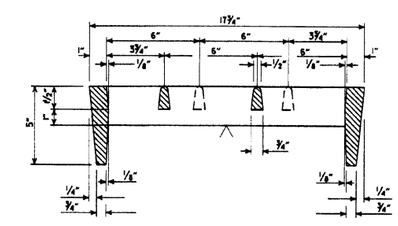
GENERAL NOTES (GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.

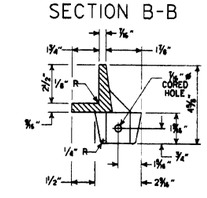




SECTION A-A



SECTION B-B



SECTION THRU FRAME

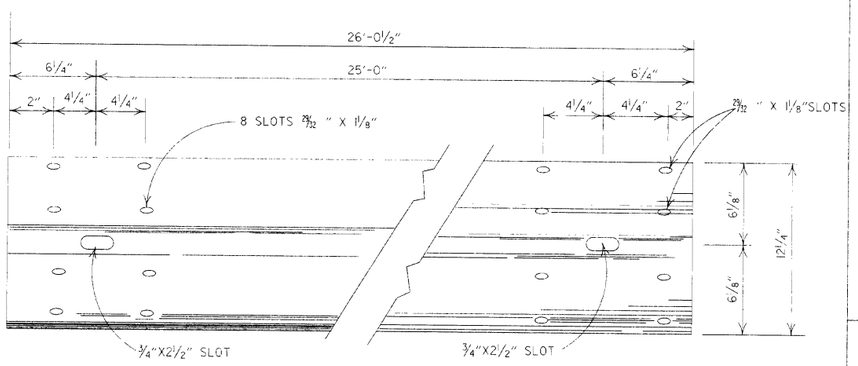
DETAILS OF RIBBED VANE GRATE AND FRAME

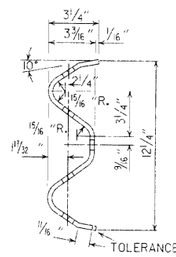
DATE REVISED	DATE FILMED	DESCRIPTION
7-02-98	7-2-98	REVISED SECT. A-A DETAIL OF DROP INLET & ADDED AASHTO REF. TO NOTE 1. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
8-15-91		ISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLETS AND SPILLWAY OUTLET

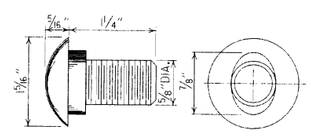
STANDARD DRAWING FPC-9N



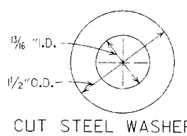


DETAILS OF
W-BEAM GUARD RAIL

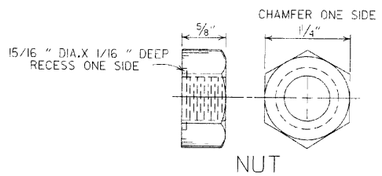
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



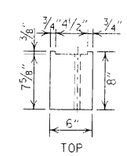
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



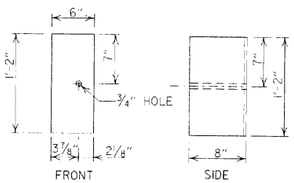
CUT STEEL WASHER



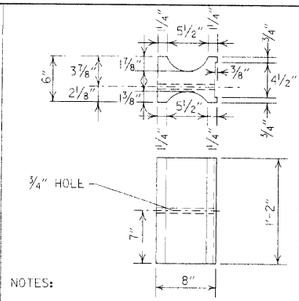
NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"x1'-2" WITH NO NOTCH REQUIRED.



WOOD BLOCKOUT
(W-BEAM)

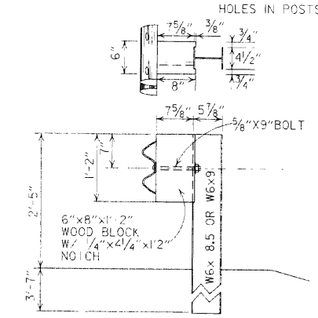


NOTES:

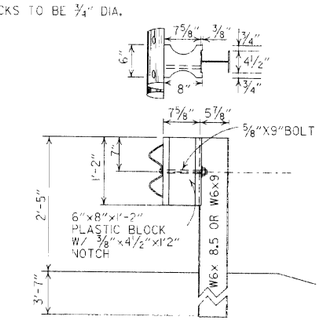
1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET NCHRP-350 TEST LEVEL 3 SPECIFICATIONS OR REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

PLASTIC BLOCKOUT
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.

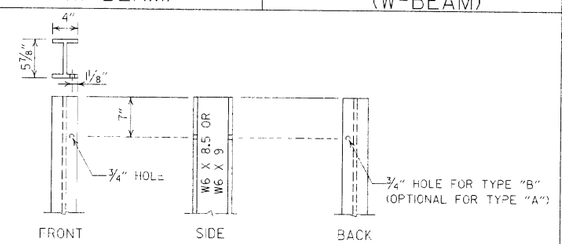


WOOD BLOCKOUT CONNECTIONS

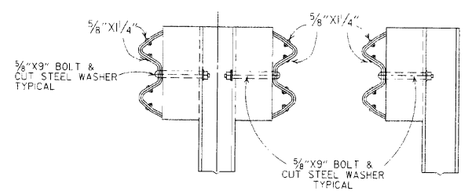


PLASTIC BLOCKOUT CONNECTIONS

DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)



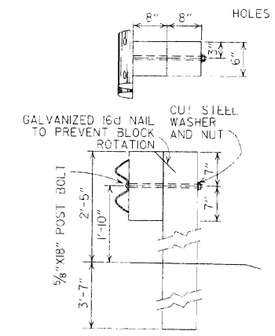
STEEL POST



TYPE "B" TYPE "A"

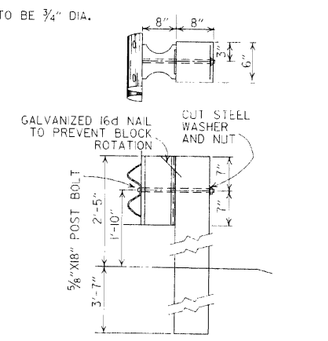
DETAILS OF STEEL LINE POST CONNECTIONS
(W-BEAM)

HOLES IN POSTS AND BLOCKS TO BE 3/4" DIA.



POSTS AND BLOCKS TO BE ROUGH SAWN 6"X8" WITH A TOLERANCE OF + OR - 1/4".

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 3/4" 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"	
10-5-09	ADDED REFERENCE TO MASH	
4-10-03	REVISED GENERAL NOTES	
8-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & ON STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
3-30-00	REMOVED GUARD RAIL AT BRIDGE ENDS	
1-12-00	ADDED PLASTIC BLOCKOUT	
8-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARD RAIL REPLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK, & ADDED DETAILS OF STEEL LINE POST CONN. REMOVED BACK-UP PLATE, REVISED HOLES IN STEEL POLES	
4-3-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
6-2-94	ADDED ALT. STEEL POST SIZE	
8-5-93	REVISED STEEL POST SIZE	8-5-93
10-1-92	REDRAWN & REVISED	10-1-92
8-15-91	REVISED WASHER NOTE	8-15-91
8-2-90	REV. GEN. NOTE & DEPHT OF ANC. POST IN ROCK	8-2-90
7-15-88	REVISED SECTION 3 & GENERAL NOTES	
3-4-88	REV. ANCHOR POST, ELEV. NOTES & POST IN ROCK	780 3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-9-87	REDRAWN & REVISED	802-10-9-87

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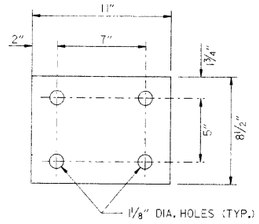
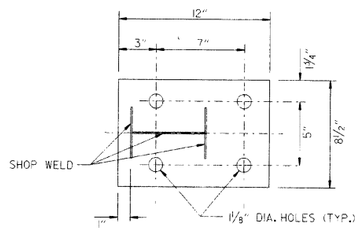
GUARD RAIL DETAILS

STANDARD DRAWING GR-8

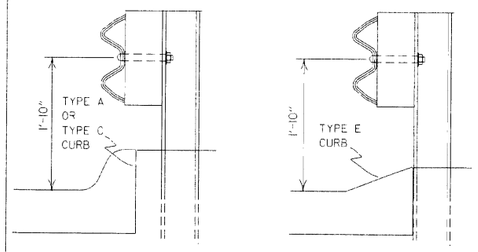


WASHER PLATE



BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.



FOR DESIGN SPEEDS OF 50 MPH OR LESS

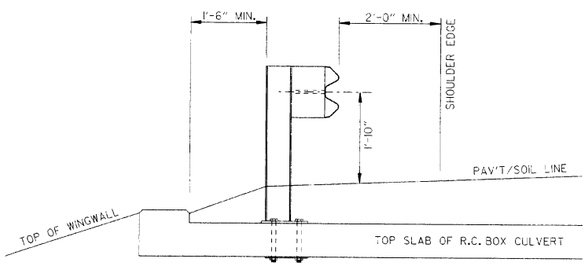
ALIGN FACE OF GUARD RAIL WITH FACE OF CURB.

FOR DESIGN SPEEDS OF 55 MPH OR MORE

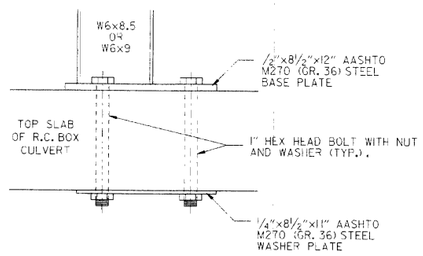
PLACE GUARD RAIL POSTS AGAINST BACK OF CURB.

DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB (W-BEAM)

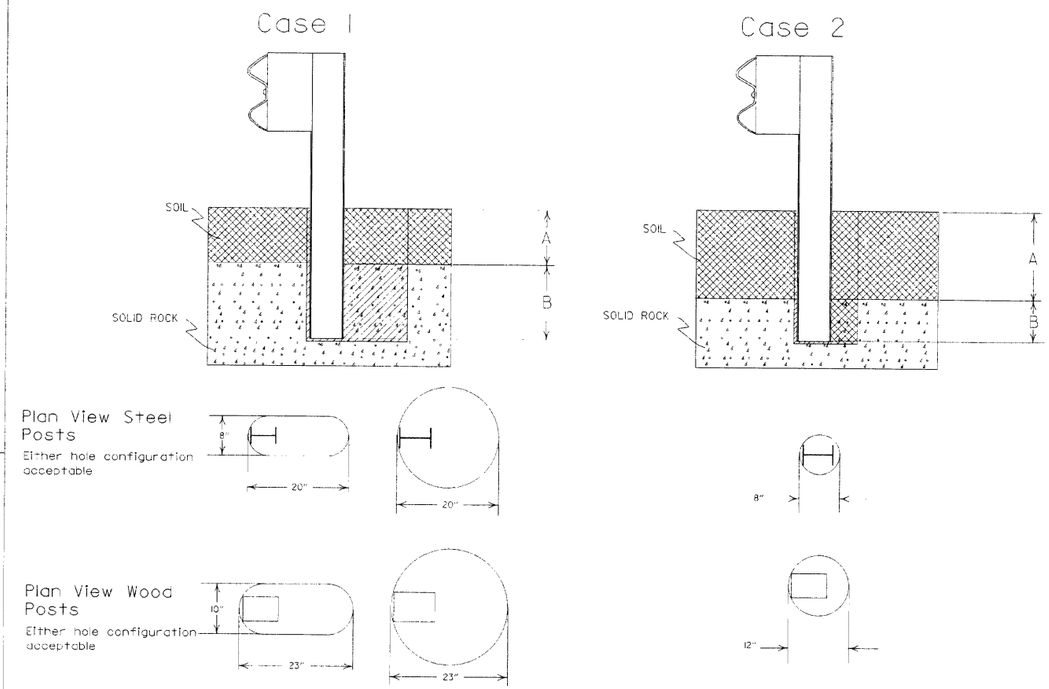
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A



DETAIL OF CONNECTION



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

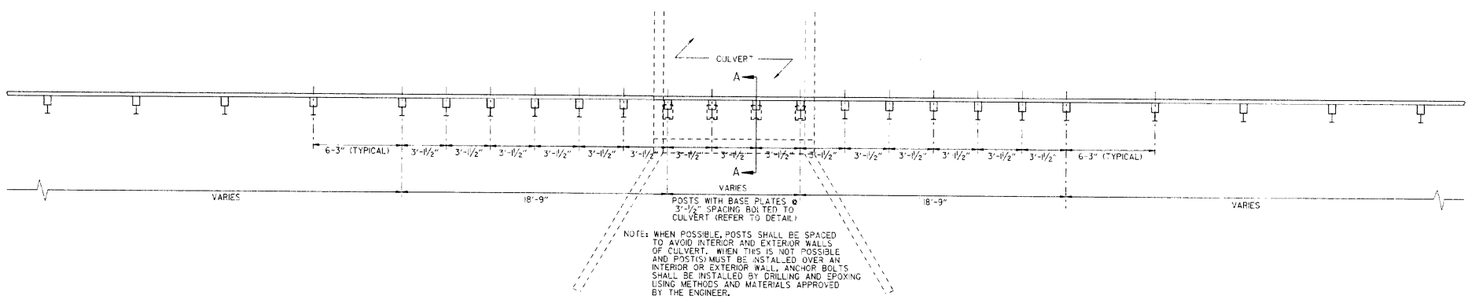
Zone A:
Backfill according to Section 617.03(a).

Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.

Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARD RAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARD RAIL POSTS AS SHOWN ON STD. DWG. GR-8.

DATE	REVISION	DATE FILM
7-14-10	RAISED HEIGHT OF GUARD RAIL 1"	
4-12-07	REVISED DETAIL OF GUARD RAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARD RAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARD RAIL PLACEMENT AT LOW-FILL CULVERTS	
3-30-00	REMOVED CONCRETE INSERT ANCHOR	
8-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADD. DET. OF GUARD RAIL CONNECTION TO R.C. BOX CULV'T. DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARD RAIL PLACE. BEHIND CURB & DET. OF POST PLACE. IN SOLID ROCK	
4-3-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
6-2-94	REVISED ALTERNATE POST SIZE	
8-5-93	REVISED STEEL POST SIZE	
10-1-92	REDRAWN & REVISED	10-1-92
8-2-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
1-15-88	CONFORMED TO 1988 SPECS	
3-4-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-9-87	REDRAWN & REVISED	803-10-9-87

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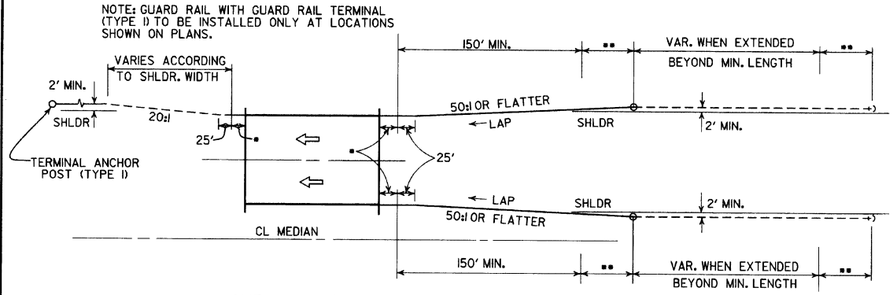
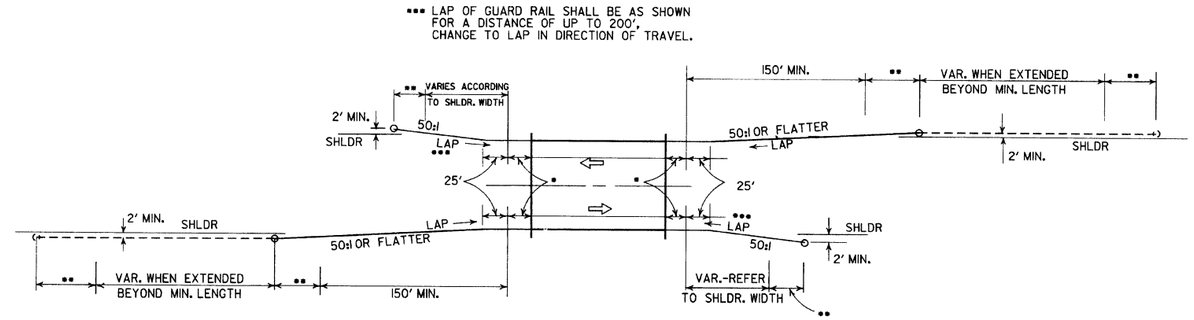
GUARD RAIL DETAILS

STANDARD DRAWING GR-8A

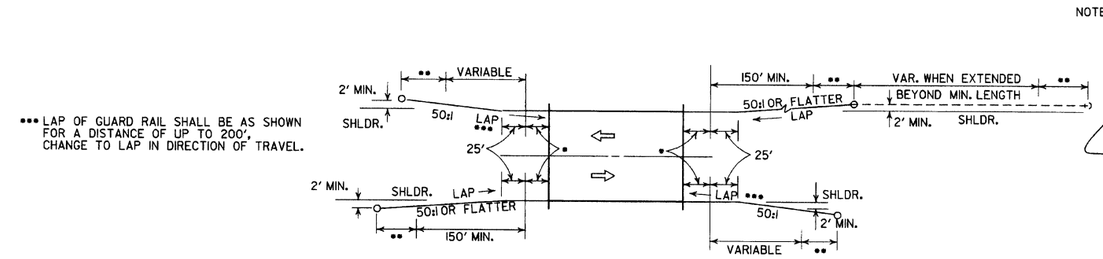


ONE-WAY TRAFFIC

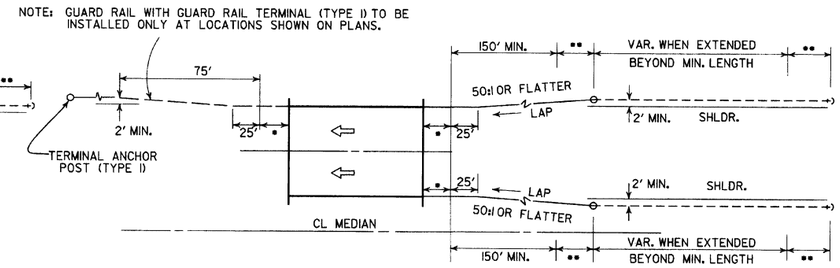


TWO-WAY TRAFFIC

METHODS OF INSTALLATION OF GUARD RAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARD RAIL TERMINAL (TYPE 2)



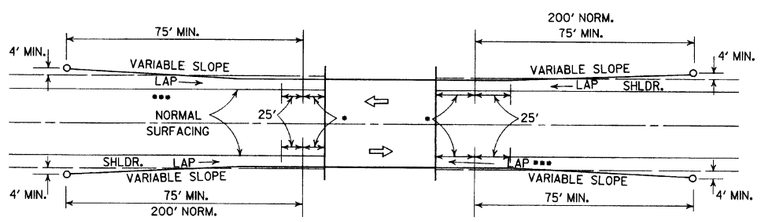
TWO-WAY TRAFFIC



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)

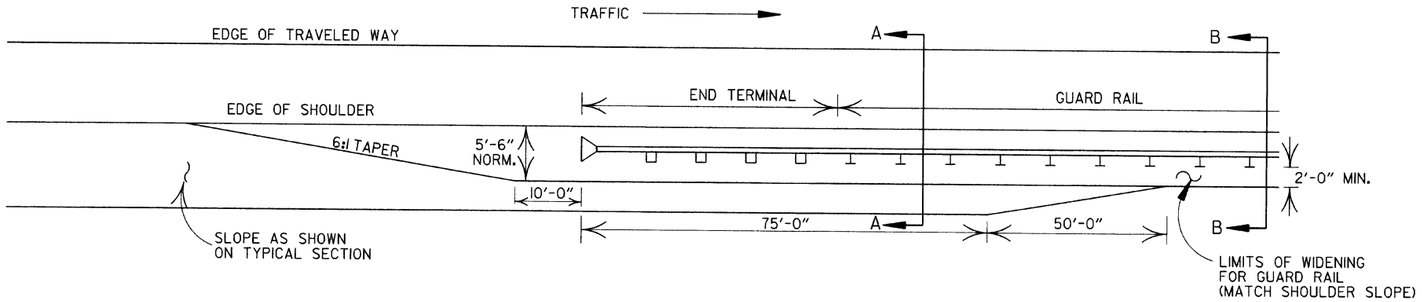
METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERMINAL (TYPE I) (FULL SHOULDER WIDTH OR LESS BRIDGES)

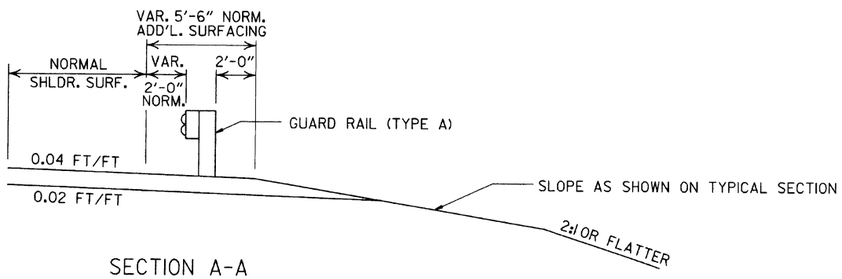
DATE	REVISION	DATE FILM
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARD RAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARD RAIL USING GUARD RAIL TERM. (TY. I)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

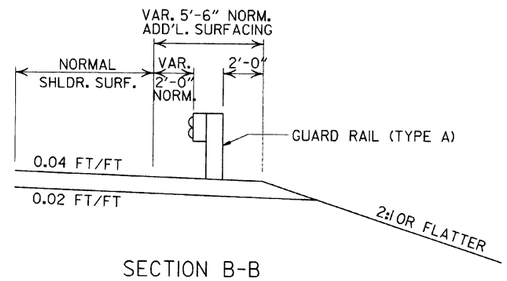
GUARD RAIL DETAILS

STANDARD DRAWING GR-9





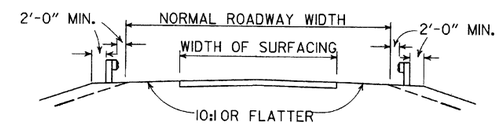
SECTION A-A



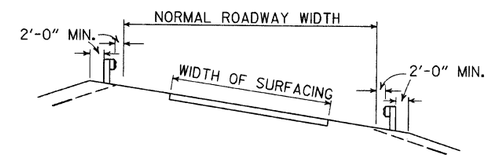
SECTION B-B

DETAILS OF WIDENING FOR GUARD RAIL

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARD RAIL.

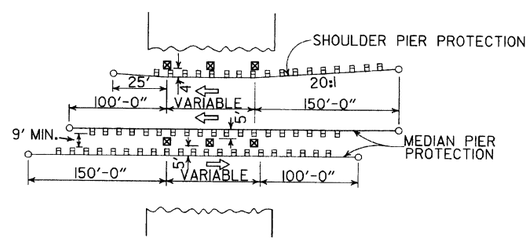


SECTION ON TANGENT



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	

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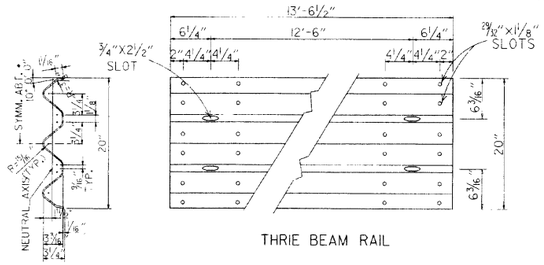
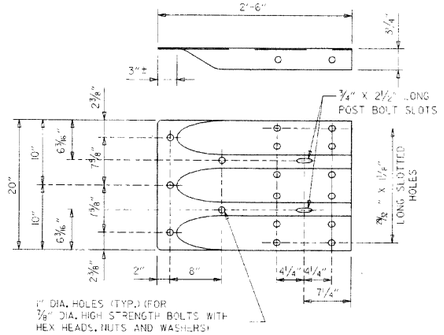
GUARD RAIL DETAILS

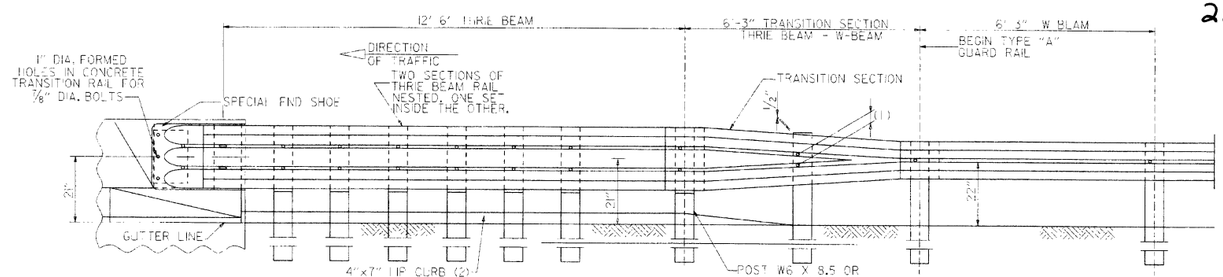
STANDARD DRAWING GR-9A



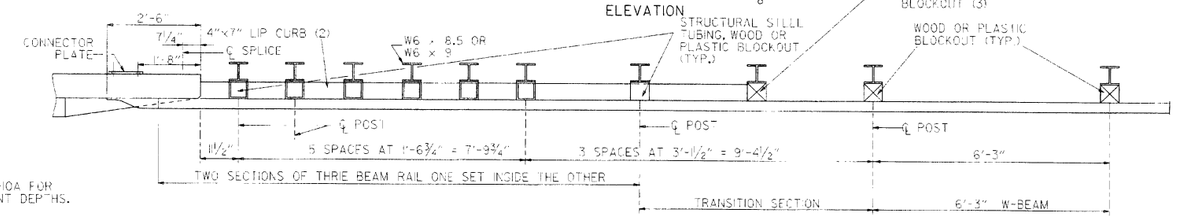
SECTION THRU THRIE BEAM RAIL



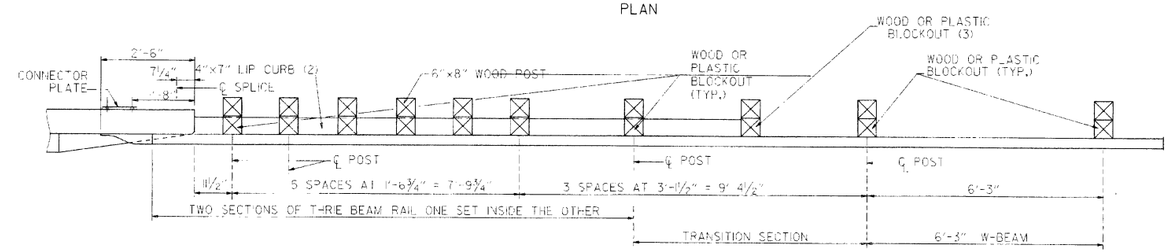
SPECIAL END SHOE



ELEVATION



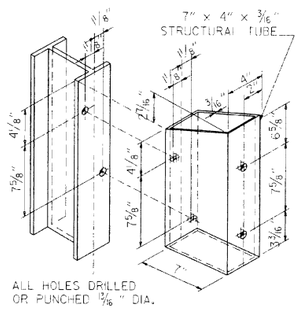
PLAN



PLAN

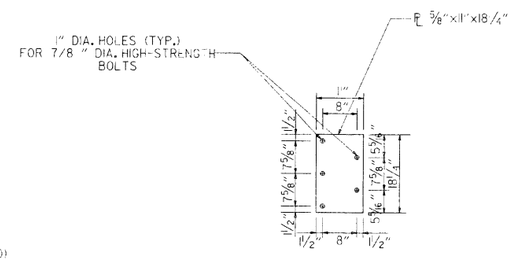
(1) VERIFY BOLT SPACING FROM RAIL TRANSITION PRODUCER.
(2) REFER TO APPROACH GUTTER DETAILS.
(3) LENGTH OF BLOCKOUT ON POST 8 TO BE MODIFIED TO FIT RAIL WIDTH.

THRIE BEAM GUARD RAIL CONNECTION AT BRIDGE ENDS



ATTACH BLOCKOUT TO POST USING ⅝" DIA. HEX HEAD BOLTS WITH 1½" O.D. CUT STEEL WASHERS AND NUT.

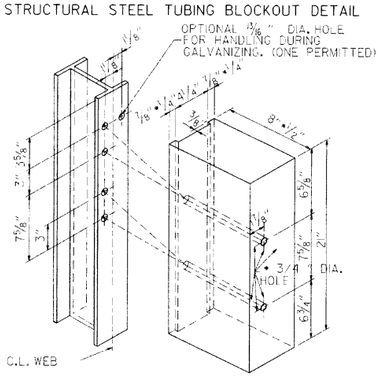
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



NOTE:
SEE STANDARD DRAWING GR-10A FOR GUARD RAIL POST EMBEDMENT DEPTHS.

CONNECTOR PLATE

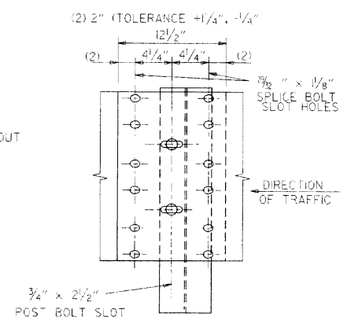
CONNECTOR PLATE SHALL BE AASHTO M270, GR. 36 AND SHALL BE GALVANIZED AFTER FABRICATION. GALVANIZING SHALL CONFORM TO SUBSECTION 807.19 OF THE STANDARD SPECIFICATIONS. CONNECTOR PLATE TO BE BOLTED TO SPECIAL END SHOE USING ⅞" DIA. HIGH STRENGTH BOLTS, WITH THE HEADS PLACED ON THE TRAFFIC FACE. WASHERS SHALL BE USED UNDER THE HEAD AND NUT. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND SHALL CONFORM TO SUBSECTION 807.06.



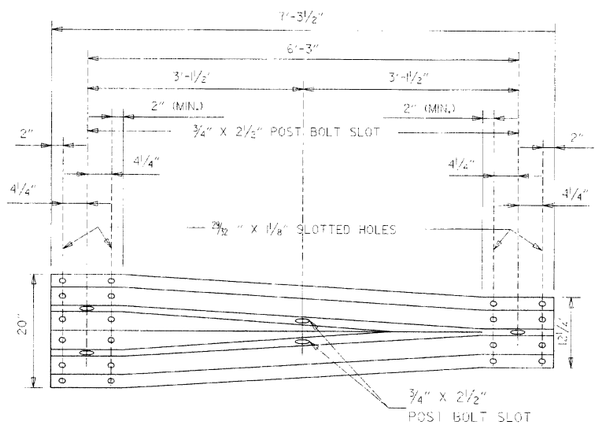
ALL HOLES ⅞" DIAMETER EXCEPT AS NOTED

HOLE PUNCHING DETAIL
FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



THRIE BEAM RAIL SPLICE AT POST



TRANSITION SECTION

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE II.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-9 & GR-11.

WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (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.

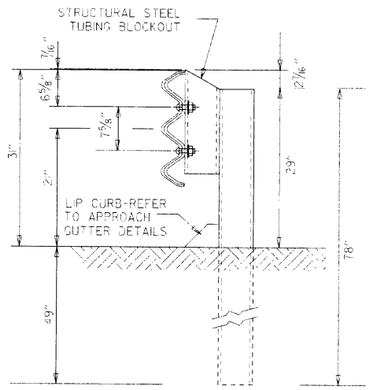
THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

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	

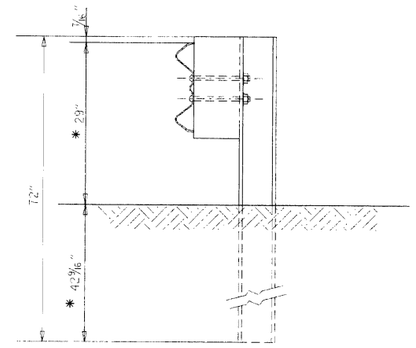
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10

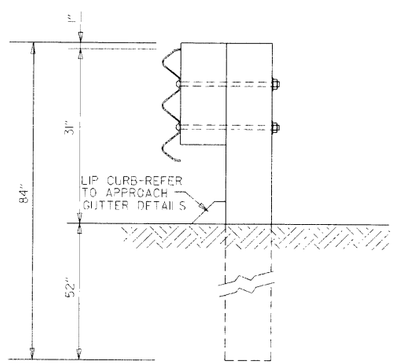


THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7

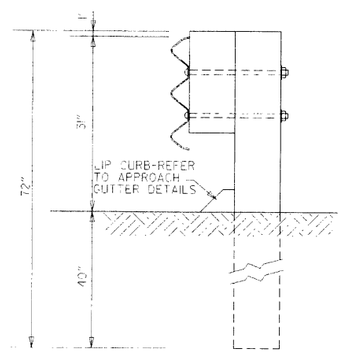


W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8

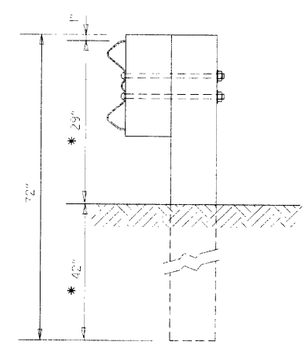
* NOTE:
THESE DIMENSIONS WILL NEED TO BE ADJUSTED IN THE FIELD TO MAKE THE TRANSITION FROM 21" MID POINT OF THRIE BEAM TO 22" MID POINT OF W-BEAM.



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUTS & WOOD POSTS
POSTS 1-6



THRIE BEAM RAIL
WITH WOOD OR PLASTIC
BLOCKOUT & WOOD POST
POST 7



W-BEAM TO THRIE BEAM
TRANSITION RAIL WITH WOOD OR
PLASTIC BLOCKOUT & WOOD POST
POST 8

GENERAL NOTES:

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

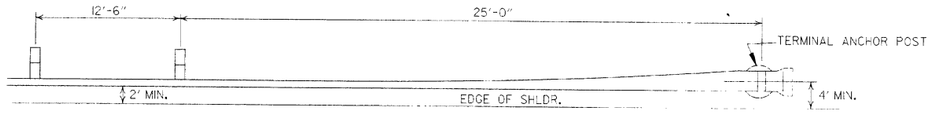
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 (1350 f) SOUTHERN PINE.

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	

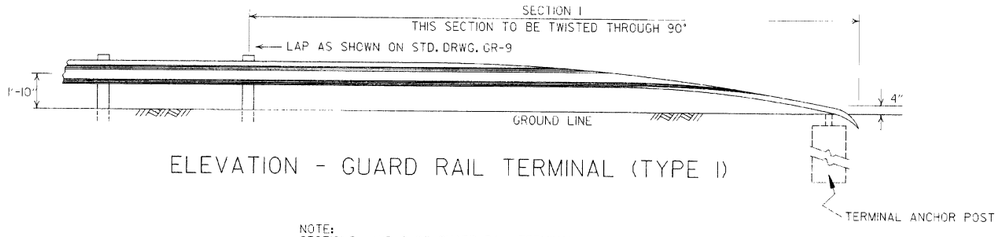
ARKANSAS STATE HIGHWAY COMMISSION

GUARD RAIL DETAILS

STANDARD DRAWING GR-10A

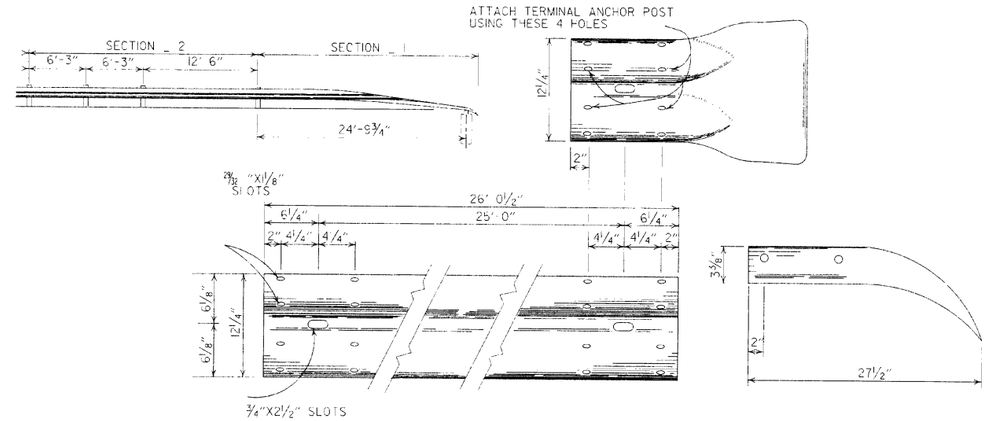


PLAN - GUARD RAIL TERMINAL (TYPE I)



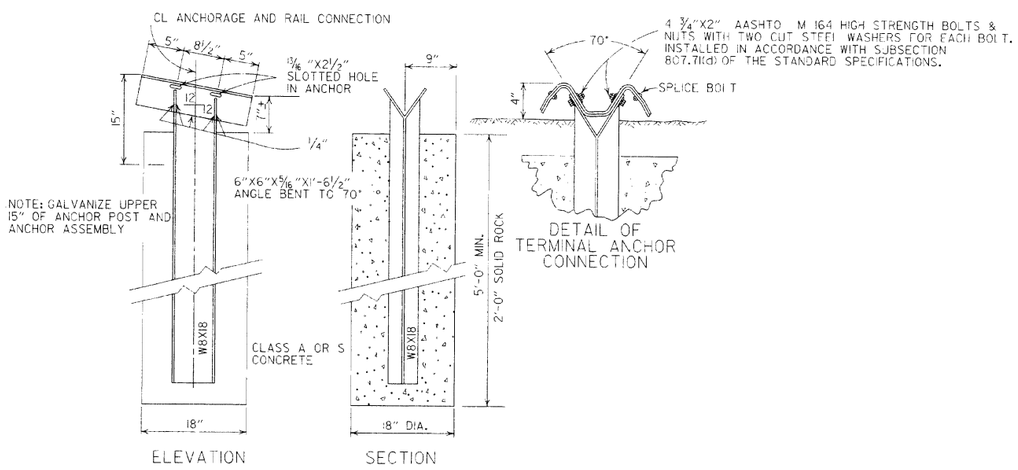
ELEVATION - GUARD RAIL TERMINAL (TYPE I)

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

DETAIL OF TERMINAL ANCHOR CONNECTION

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	
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

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.

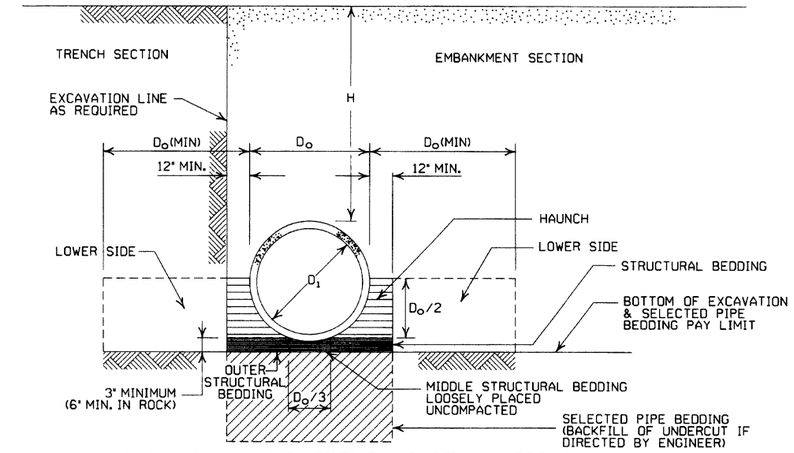
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_o = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

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.

GENERAL NOTES

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

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

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

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

CORRUGATED STEEL PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS (INCHES)				
		0.064	0.079	0.109	0.138	0.168
2⅔ INCH BY ½ INCH CORRUGATION RIVETED, WELDED, OR HELICAL LOCK-SEAM						
12	1	84	91			
15	1	67	73			
18	1	56	61			
24	1	42	46	59		
30	2	34	36	47		
36	2		30	39	41	
42	2		43	67	70	73
48	2		37	58	61	64
② 3 INCH BY 1 INCH OR 5 INCH BY 1 INCH CORRUGATION RIVETED, WELDED, BOLTED, OR HELICAL LOCK-SEAM						
36	1	48	60	88	111	118
42	1	41	51	72	90	102
48	1	36	45	64	77	85
54	2	32	40	59	71	79
60	2	29	36	53	64	71
66	2	26	33	47	58	64
72	2	24	30	44	53	59
78	2		28	41	49	54
84	2		26	38	45	51
90	2		24	35	43	45
96	2		22	33	40	44
102	2			31	38	42
108	2			30	35	39
114	2			28	34	37
120	2			27	32	35

CORRUGATED ALUMINUM PIPE (ROUND)

PIPE DIAMETER (INCHES)	① MINUMUM COVER TOP OF PIPE TO TOP OF GROUND "H" (FEET)	MAX. FILL HEIGHT "H" ABOVE TOP OF PIPE (FEET)				
		METAL THICKNESS IN INCHES				
		0.060	0.075	0.105	0.135	0.164
		2 ⅔ INCH BY ½ INCH CORRUGATION RIVETED OR HELICAL LOCK-SEAM				
12	1	45	45			
18	2	30	30	52		
24	2	22	22	39	41	
30	2		18	31	32	34
36	2.5		15	26	27	28
42	2			43	43	44
48	2			40	41	43
54	2			35	37	38
60	2				33	34
66	2					31
72	2					29

CORRUGATED METAL PIPE ARCHES

EQUIV. DIA. (INCHES)	PIPE DIMENSION SPAN X RISE (INCHES)	MINUMUM CORNER RADIUS (INCHES)	STEEL: 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

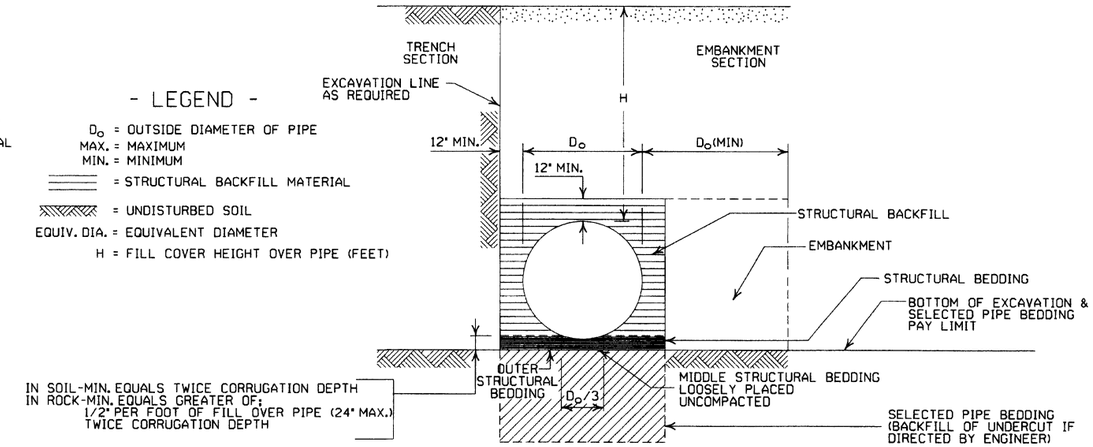
METAL THICKNESS IN INCHES			GAUGE NUMBER
STEEL			
ZINC COATED	UNCOATED	ALUMINUM	
0.064	0.0598	0.060	16
0.079	0.0747	0.075	14
0.109	0.1046	0.105	12
0.138	0.1345	0.135	10
0.168	0.1644	0.164	8

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."

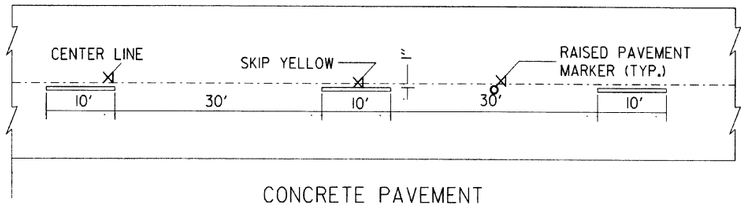
DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECS	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

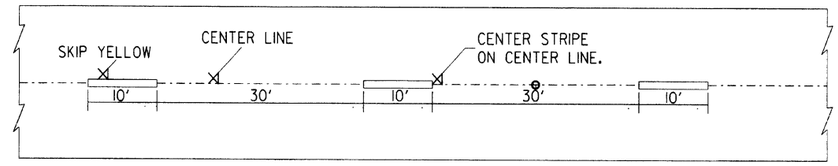
METAL PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCM-1

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.

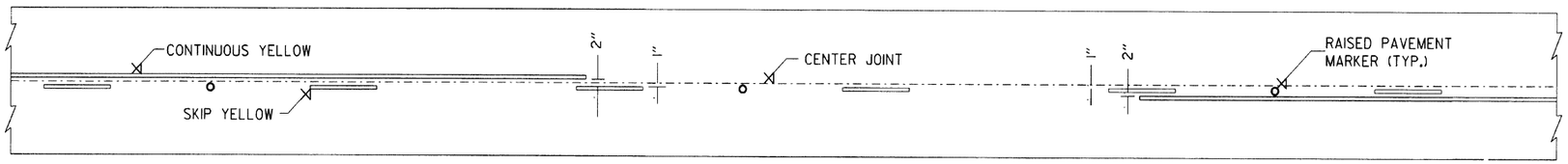


CONCRETE PAVEMENT

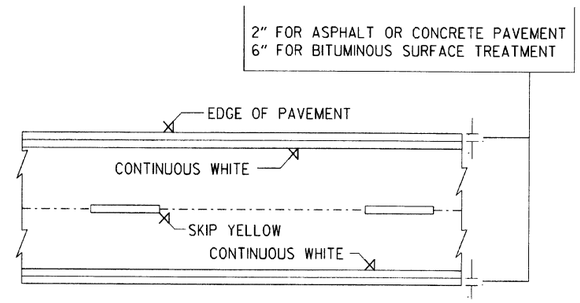


ASPHALT PAVEMENT

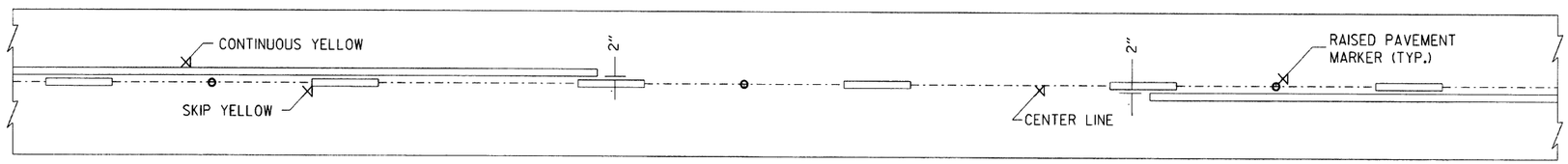
BROKEN LINE STRIPING



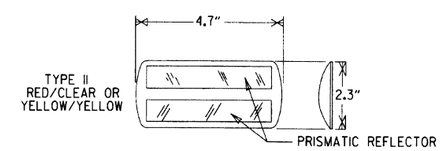
SOLID LINE STRIPING ON CONCRETE PAVEMENT



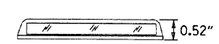
PAVEMENT EDGE LINE MARKING



SOLID LINE STRIPING ON ASPHALT PAVEMENT

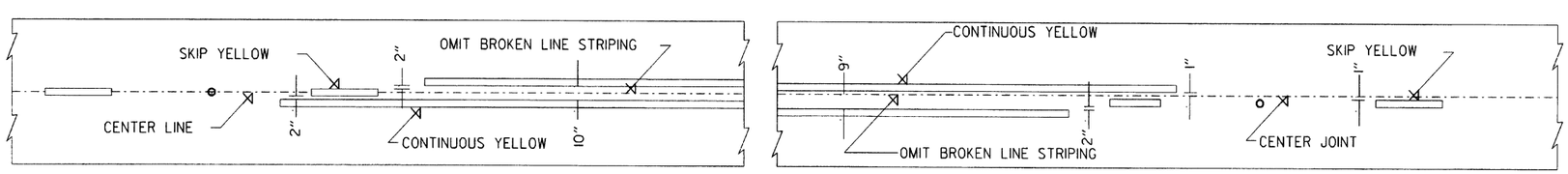


NOTE:
THE RED LENS OF THE TYPE II R.P.M. SHALL FACE THE INCORRECT TRAFFIC MOVEMENT.



DETAIL OF STANDARD RAISED PAVEMENT MARKERS

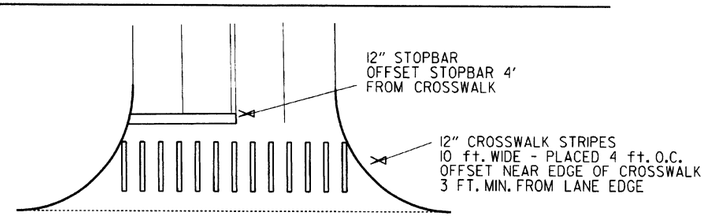
NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT MARKERS ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR MARKERS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR SIMILAR MARKERS MAY BE MADE BY REFERRING TO THE AHTD QUALIFIED PRODUCTS LIST.



ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



CROSSWALK AND STOPBAR DETAILS

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

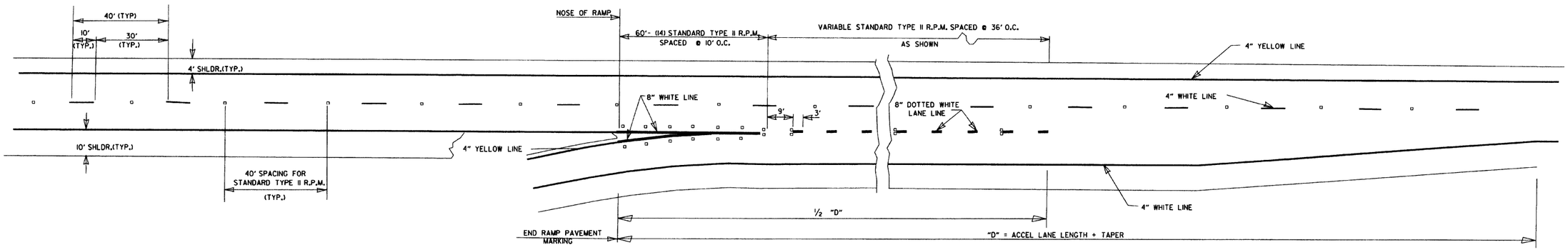
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

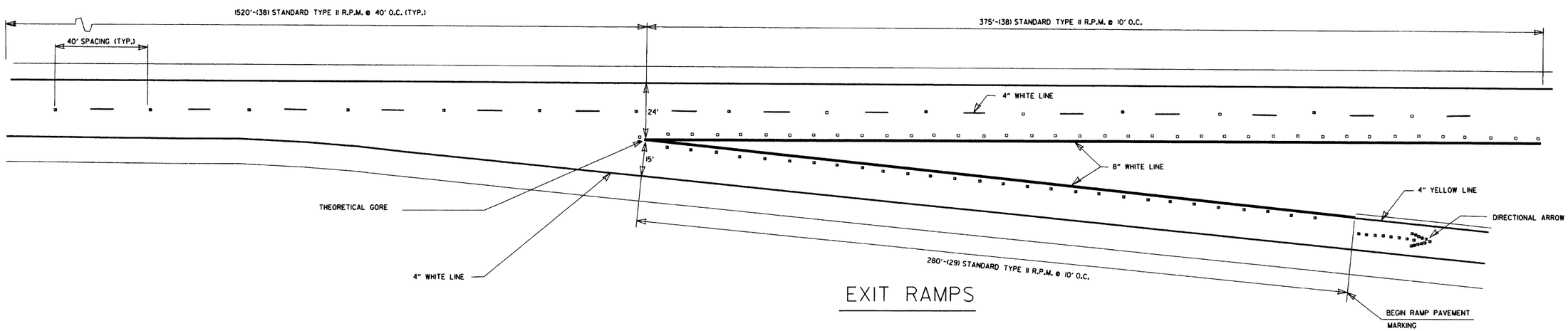
8" WHITE = 228 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

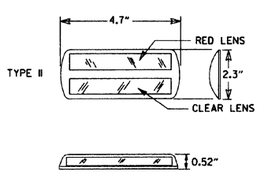
4" WHITE = 280 LIN. FT.
8" WHITE = 655 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH



ENTRANCE RAMPS

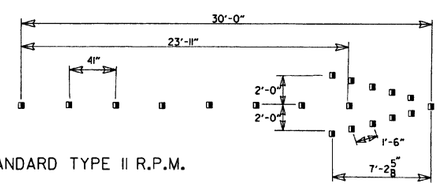


EXIT RAMPS



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

SUPERELEVATION TABLE FOR ONE - WAY TRAFFIC

DEGREE OF CURVE	30 MPH e	30 MPH Ls (FT) MINIMUM	30 MPH Ls (FT) DESIRABLE	40 MPH e	40 MPH Ls (FT) MINIMUM	40 MPH Ls (FT) DESIRABLE	50 MPH e	50 MPH Ls (FT) MINIMUM	50 MPH Ls (FT) DESIRABLE	55 MPH e	55 MPH Ls (FT) MINIMUM	55 MPH Ls (FT) DESIRABLE	60 MPH e	60 MPH Ls (FT) MINIMUM	60 MPH Ls (FT) DESIRABLE	65 MPH e	65 MPH Ls (FT) MINIMUM	65 MPH Ls (FT) DESIRABLE	70 MPH e	70 MPH Ls (FT) MINIMUM	70 MPH Ls (FT) DESIRABLE
0° 15'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 30'	N.C.			N.C.			N.C.			N.C.			N.C.			N.C.			N.C.		
0° 45'	N.C.			N.C.			N.C.			0.022			0.023			0.025			0.028		
1° 00'	N.C.			N.C.			R.C.			0.026			0.030			0.033			0.037		
1° 15'	N.C.			R.C.			0.021			0.032			0.037			0.041			0.046		
1° 30'	N.C.			0.021			0.026			0.037			0.043			0.048			0.054		
1° 45'	N.C.			0.025			0.031			0.043			0.049			0.055			0.062		
2° 00'	R.C.			0.028			0.036			0.048			0.055			0.062			0.070		
2° 15'	R.C.			0.031			0.040			0.053			0.061			0.069			0.078		
2° 30'	0.021			0.034			0.045			0.058			0.067			0.075			0.085		
2° 45'	0.023			0.037			0.049			0.063			0.072			0.081			0.091		
3° 00'	0.025			0.040			0.053			0.067			0.077			0.087			0.098		
3° 15'	0.027	150		0.043			0.057			0.072			0.082			0.093			0.105		
3° 30'	0.029		250	0.046			0.061			0.076			0.086			0.098			0.111		
3° 45'	0.031			0.049			0.065	205		0.080			0.090			0.103			0.117		
4° 00'	0.033			0.051			0.069	215		0.083			0.093			0.107			0.122		
4° 30'	0.037			0.056			0.072	225		0.087			0.097			0.112			0.128		
5° 00'	0.040			0.061			0.078	240		0.091			0.102			0.118			0.135		
5° 30'	0.043			0.066	185		0.083	250		0.094			0.106			0.123			0.141		
6° 00'	0.046			0.070	190		0.088	260		0.098			0.110			0.128			0.147		
6° 30'	0.050			0.074	200		0.092	270		0.102			0.115			0.133			0.153		
7° 00'	0.053			0.078	210		0.095	280		0.106			0.119			0.138			0.159		
7° 30'	0.056			0.081	215		0.098	285		0.109			0.123			0.143			0.165		
8° 00'	0.058			0.084	220		0.099	290		0.113			0.127			0.148			0.170		
8° 30'	0.061			0.087	225		0.100	290		0.116			0.131			0.152			0.175		
9° 00'	0.063			0.089	230					0.119			0.134			0.156			0.180		
10° 00'	0.068	160		0.094	235					0.125			0.141			0.164			0.189		
11° 00'	0.072	170		0.097	250					0.130			0.147			0.171			0.197		
12° 00'	0.076	175		0.099	250					0.135			0.152			0.177			0.204		
13° 00'	0.080	180		0.100	250					0.139			0.157			0.183			0.211		
14° 00'	0.083	190								0.143			0.162			0.188			0.217		
15° 00'	0.086	195								0.147			0.166			0.193			0.222		
16° 00'	0.089	200								0.150			0.170			0.198			0.228		
17° 00'	0.091	200								0.153			0.173			0.201			0.232		
18° 00'	0.093	205								0.156			0.176			0.204			0.235		
19° 00'	0.095	210								0.158			0.179			0.207			0.238		
20° 00'	0.097	215	300							0.160			0.181			0.209			0.241		
21° 00'	0.098	215								0.162			0.183			0.211			0.243		
22° 00'	0.099	215								0.163			0.185			0.213			0.245		
23° 00'	0.099	215								0.165			0.186			0.215			0.247		
24° 00'	0.100	220								0.166			0.188			0.216			0.249		

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'

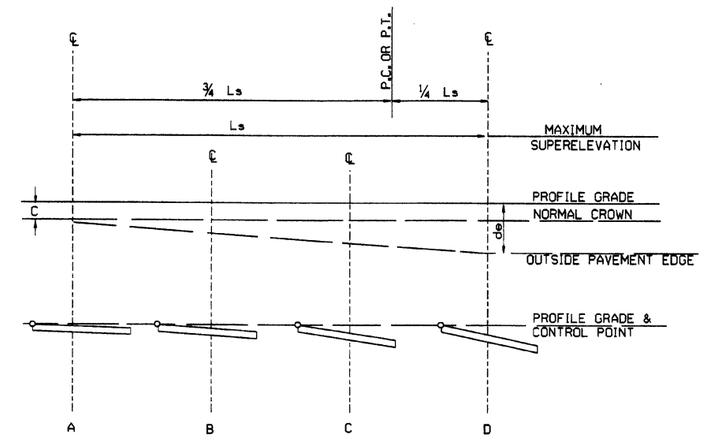
GENERAL NOTES

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 L_s MAY BE ROUNDED IN MULTIPLES OF 25 FT. OR 50 FT. TO PERMIT SIMPLER CALCULATIONS.
4. MINIMUM L_s 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%

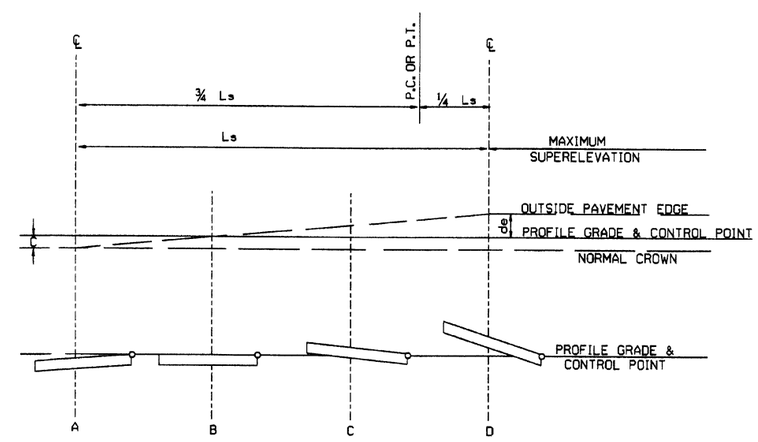
ABBREVIATIONS

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.)
L_s - LENGTH OF SUPERELEVATION TRANSITION (FT.)
C - NORMAL CROWN (FT.)



ONE-WAY TRAFFIC
INSIDE LANE

SUPERELEVATION FORMULA = $S = -\frac{L(de-C)}{L_s} - C$



ONE-WAY TRAFFIC
OUTSIDE LANE

SUPERELEVATION FORMULA = $S = +\frac{L(de+C)}{L_s} - C$

DATE	REVISION	DATE FILMED
01-09-87	ISSUED	578-1-15-87

ARKANSAS STATE HIGHWAY COMMISSION

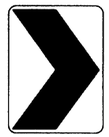
TABLES AND METHOD OF SUPERELEVATION FOR ONE-WAY TRAFFIC

STANDARD DRAWING SE-1

225

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.)

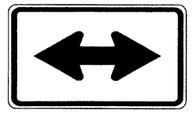
W2-1
30"X30"

S1-1
36"X36"

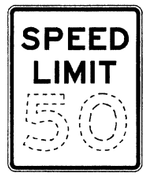
W3-2
36"X36"

County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.

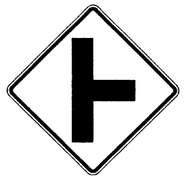


M6-4
21"X15"



R2-1
24"X30"

W1-5
30"X30"
(LT. or RT.)

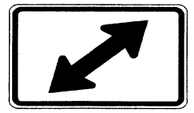


W2-2
30"X30"

W5-2
36"X36"

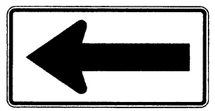
W8-3
36"X36"

R1-3P
18"X6"



M6-5
21"X15"

W1-1
30"X30"
(LT. or RT.)

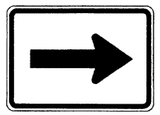


W1-6
48"X24"

W2-3
30"X30"
(LT. or RT.)

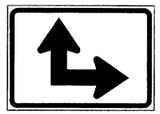
W5-3
36"X36"

W13-1P
18"X18"



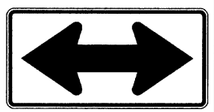
M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.



M6-6
21"X15"

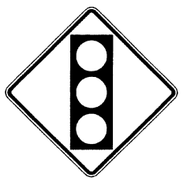
W1-2
30"X30"
(LT. or RT.)



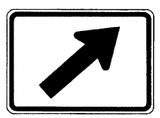
W1-7
48"X24"

W2-4
30"X30"

W10-1
36" DIAMETER



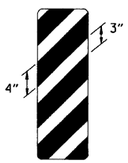
W3-3
36"X36"



M6-2
21"X15"

S4-3P
24"X8"

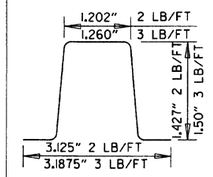
S4-2P
24"X10"



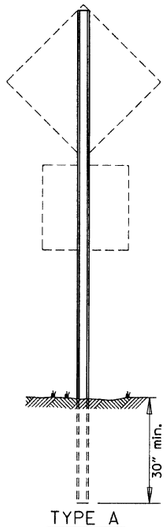
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION

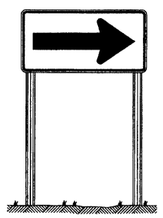


(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES

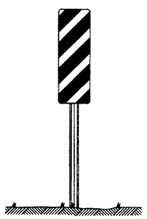


TYPE A

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

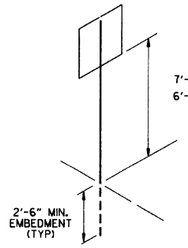
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED R1-3 TO R1-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1& W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED W1-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED W14-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & 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

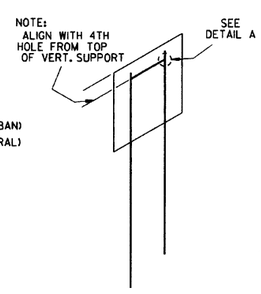
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

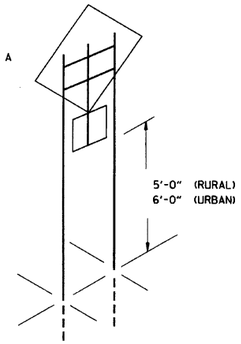
STANDARD DRAWING SHS-1



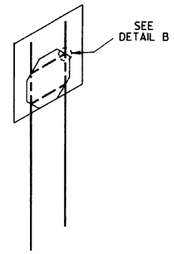
U-1



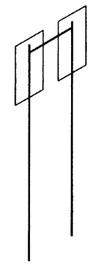
U-2



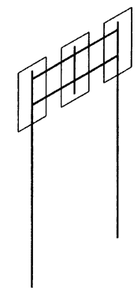
U-2 (A)



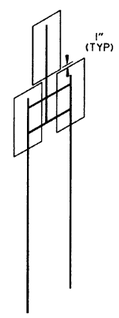
U-2 (B)



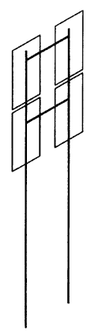
U-2 (1)



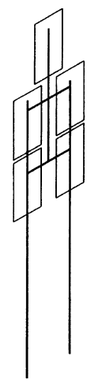
U-2 (2)



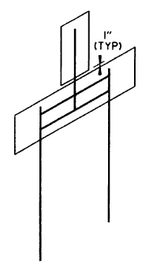
U-2 (3)



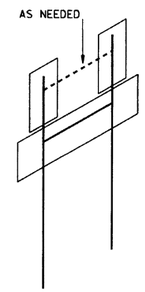
U-2 (4)



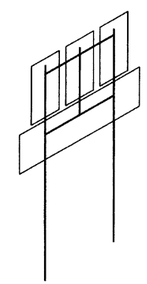
U-2 (5)



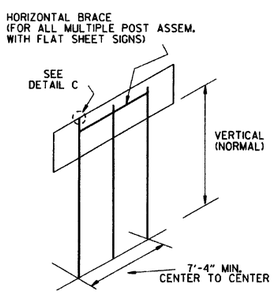
U-2 (6)



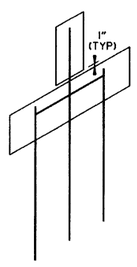
U-2 (7)



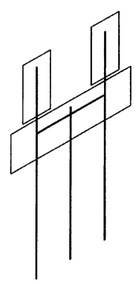
U-2 (8)



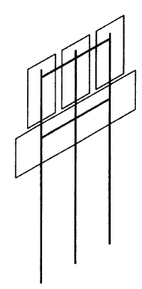
U-3



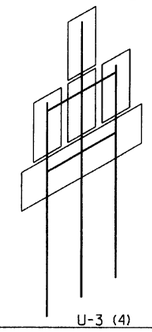
U-3 (1)



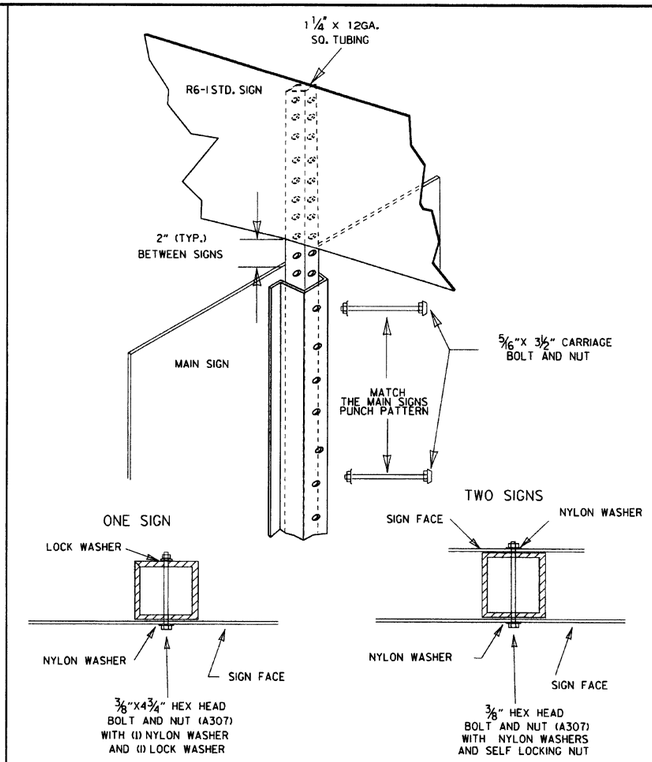
U-3 (2)



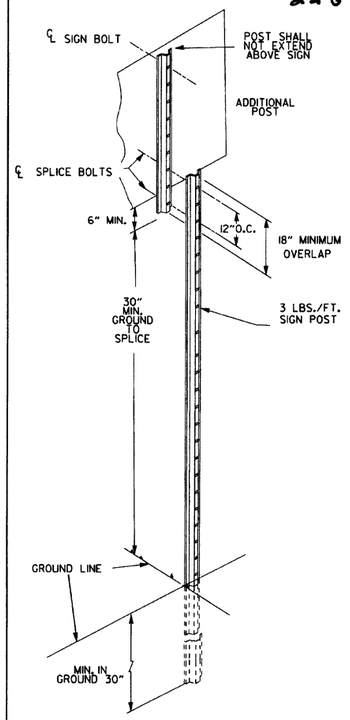
U-3 (3)



U-3 (4)



DETAIL E
R6-1 EXTENSION
FOR U-CHANNEL POST



DETAIL F
DETAIL OF SPLICES

NOTES:

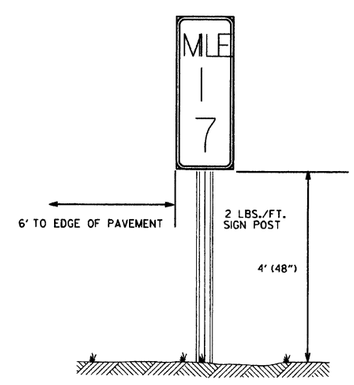
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

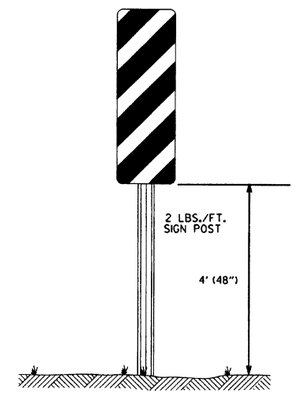
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

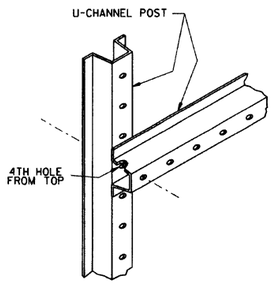
THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION

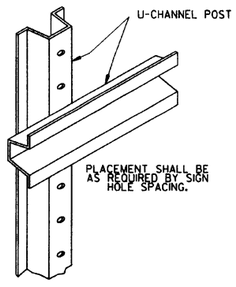


TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION



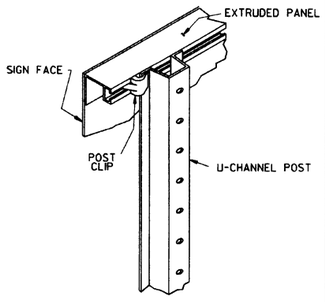
DETAIL A

SHOWING HORIZONTAL BRACE



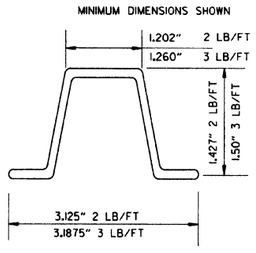
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



DETAIL C
U-CHANNEL POST

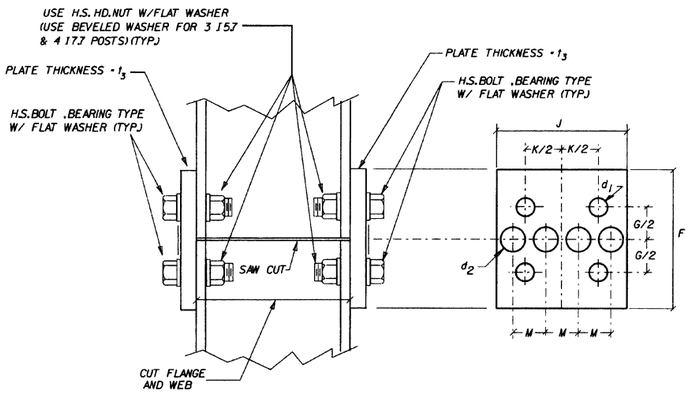
DATE	REVISION	FILMED
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

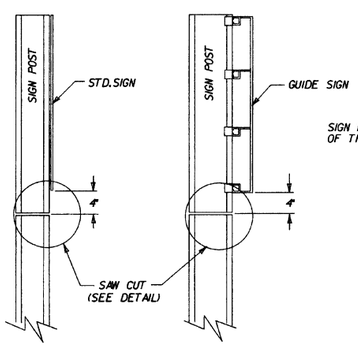
STANDARD DRAWING SHS-2

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	5/8" x 2 3/4"	450"-680"	5"	2"	11/4"	2 3/4"	11/8"	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 6X12																						
W 6X15												5"	2 1/2"		6"	3 1/2"	1 1/2"	11/16"	1 1/4"	5/8"	5/8" x 2 1/4"	2.51
W 8X18	3/4" x 3 1/2"	750"-1050"	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	11/32"	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"	1"	1/2"	3/4" x 2 1/4"	3.35
W 10X22												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.

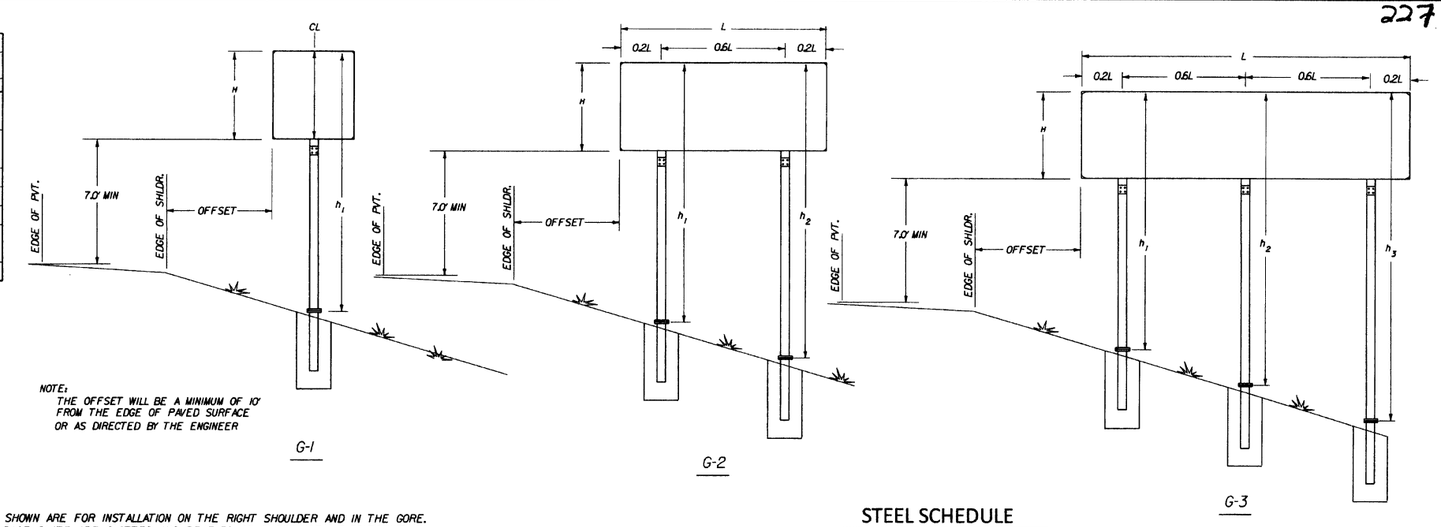


NOTE: POST SHALL BE SAW CUT AFTER GALVANIZING AND THE CUT SURFACE TREATED. AFTER PLATE IS INSTALLED AND ALL BOLTS FULLY TIGHTENED, WITH AN APPROVED ZINC SOLDER MEETING THE FEDERAL SPEC. O-G-93 (STICK ONLY).

STANDARD SIGNS

GUIDE SIGNS

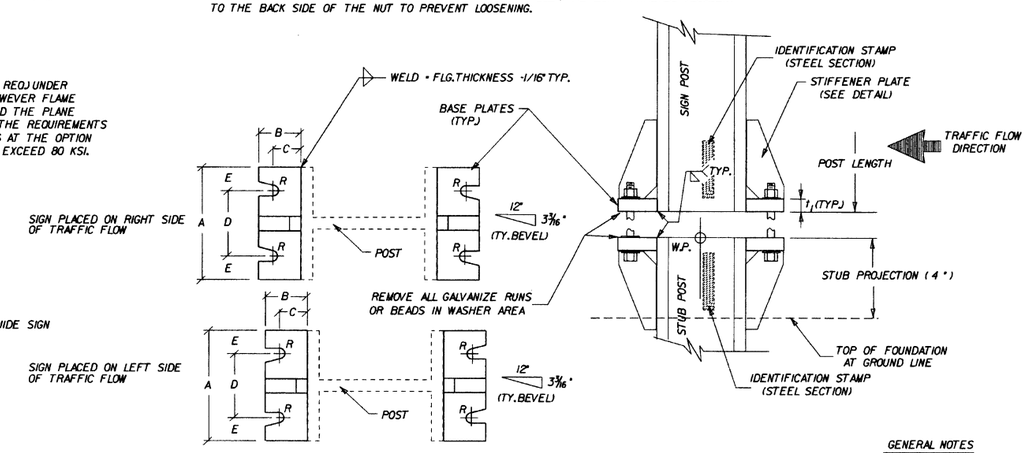
FUSE PLATE DETAILS

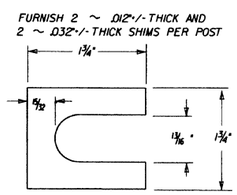


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

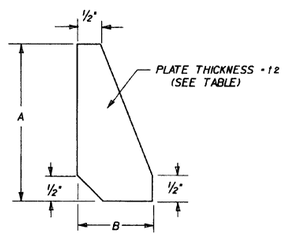
G-1 G-2 G-3

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.





SHIM DETAIL

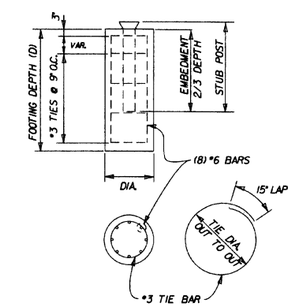


STIFFENER PLATE DETAIL

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

FOOTINIG 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

FOOTINIG 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

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.

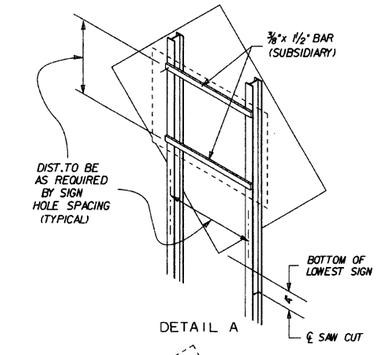
SIGN POST AND STUB POST

DATE	REVISION	FILMED
9-12-13	ISSUED	

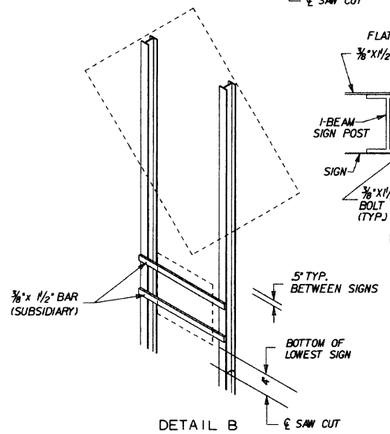
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS

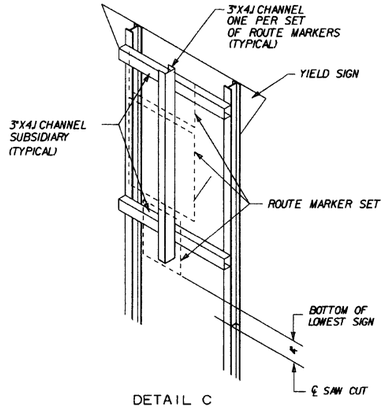
STANDARD DRAWING SHS-3



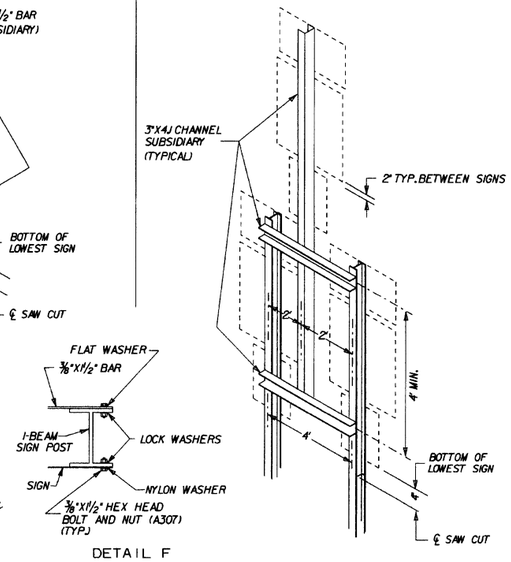
DETAIL A



DETAIL B

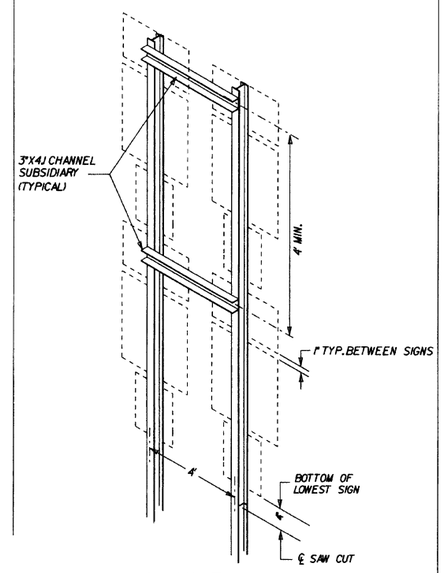


DETAIL C



DETAIL D

DETAIL F



DETAIL E

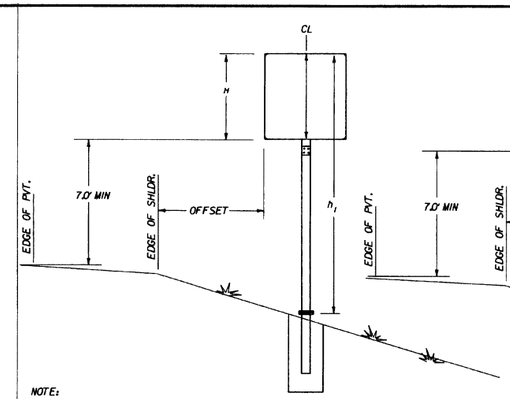
NOTE

ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHANNELS AND BAR STRAPS REQUIRED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. PAYMENT WILL BE CONSIDERED SUBSIDIARY TO THE MAIN SUPPORT.

THE GALVANIZED STEEL CHANNEL AND BAR SUPPORTS MAY BE ASTM A-36.

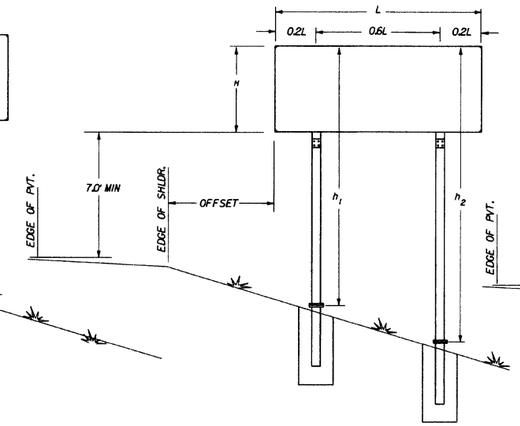
REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE 1/8" DIA. UNLESS OTHERWISE SHOWN.

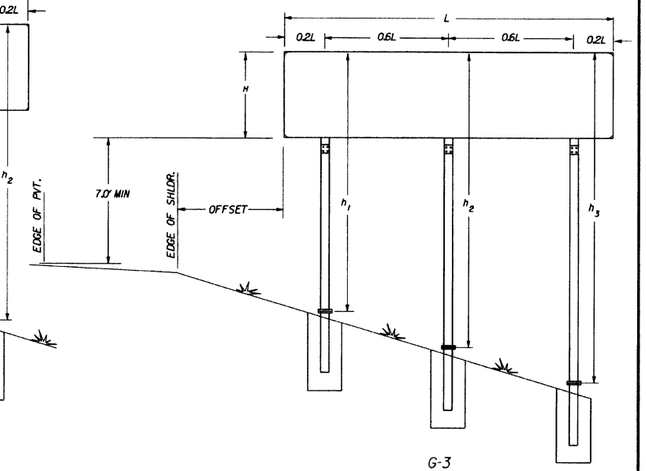


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER.

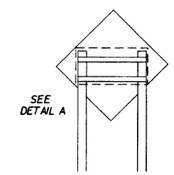
G-1



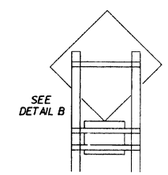
G-2



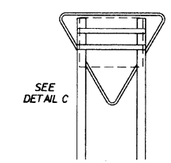
G-3



G2-1



G2-2



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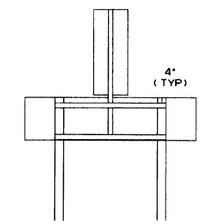

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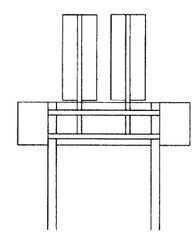
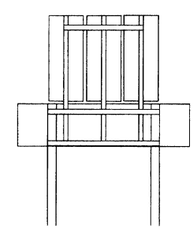
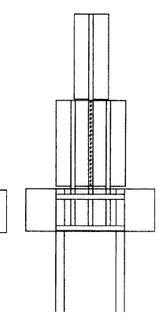


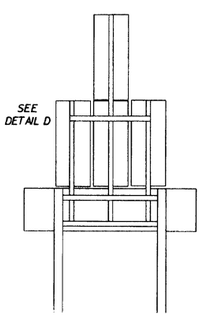
G2-5



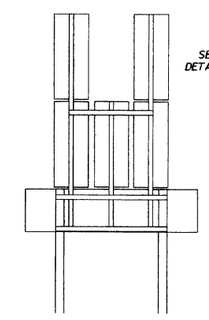
G2-6



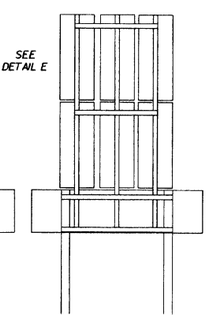
G2-7



G2-8



G2-9



G2-10

DATE	REVISION	FILMED
9-12-13	ISSUED	

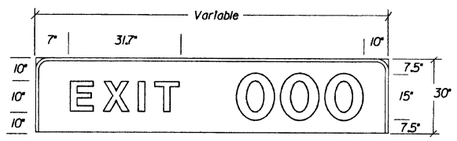
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS

STANDARD DRAWING SHS-4

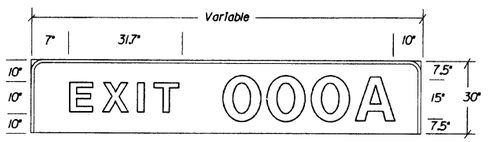
TYPICAL DETAIL

TYPE A



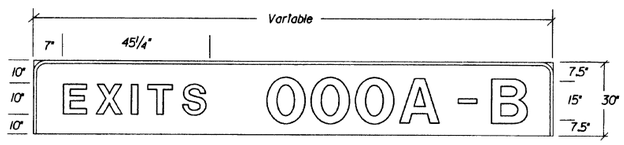
EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B



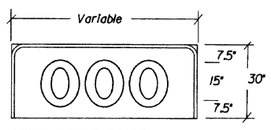
EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C



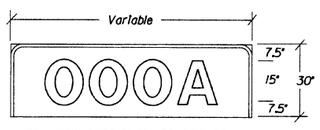
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30"=5.0 SF
2 DIGITS 42"X30"=8.75 SF
3 DIGITS 60"X30"=12.50 SF

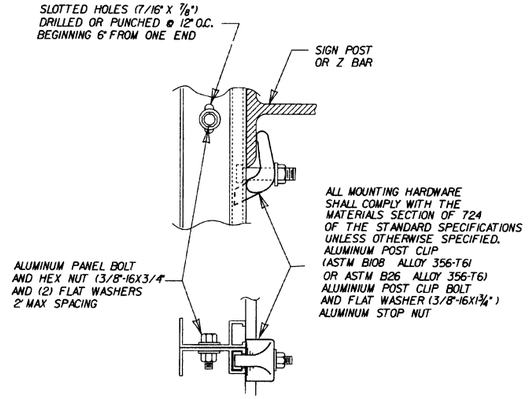
TYPE E

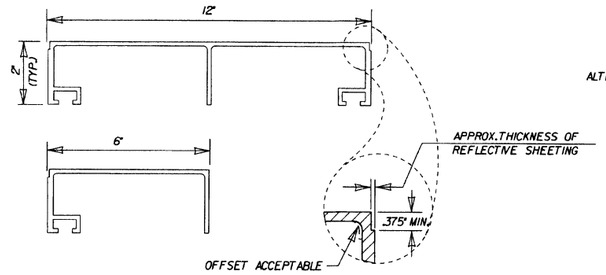


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

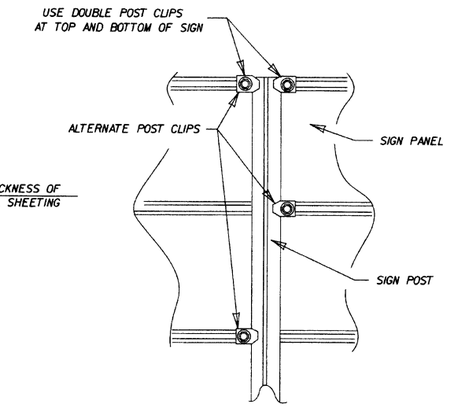
EXIT PANEL DETAILS

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".

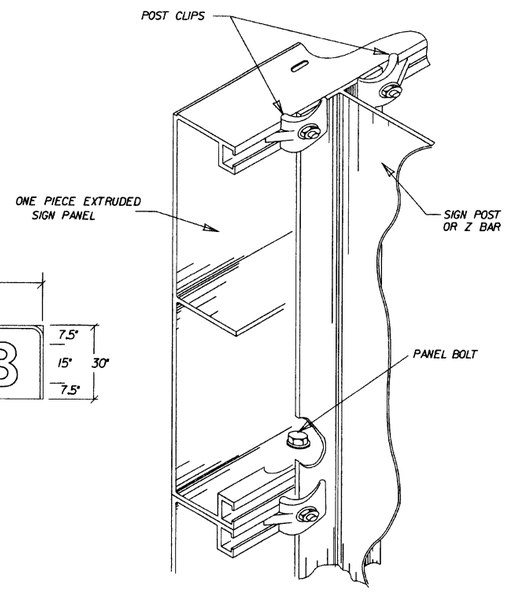




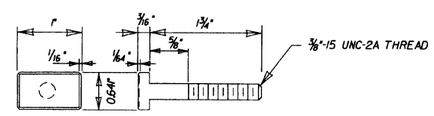
ONE PIECE EXTRUDED SIGN PANELS



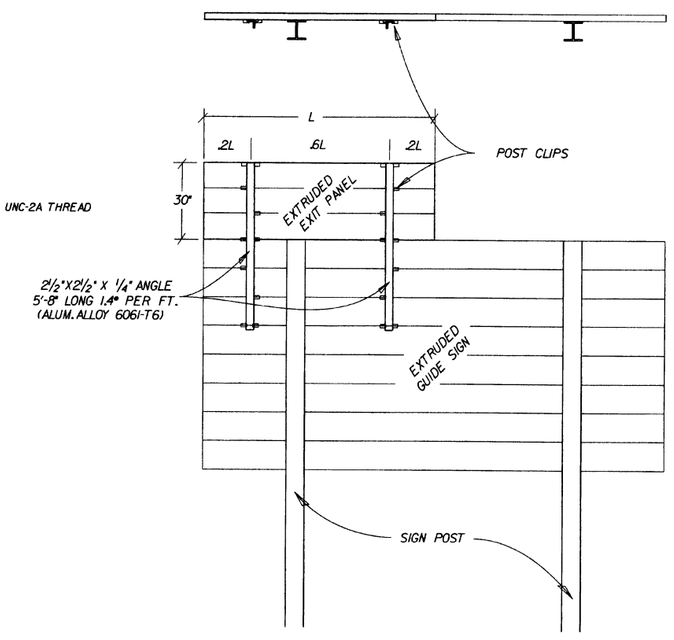
POST CLIP PLACEMENT

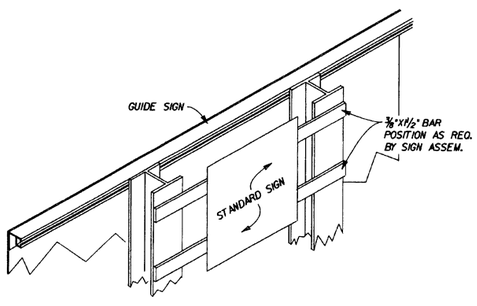


MOUNTING HARDWARE



POST CLIP BOLT





SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN

DATE	REVISION	FILMED
9-12-13	ISSUED	

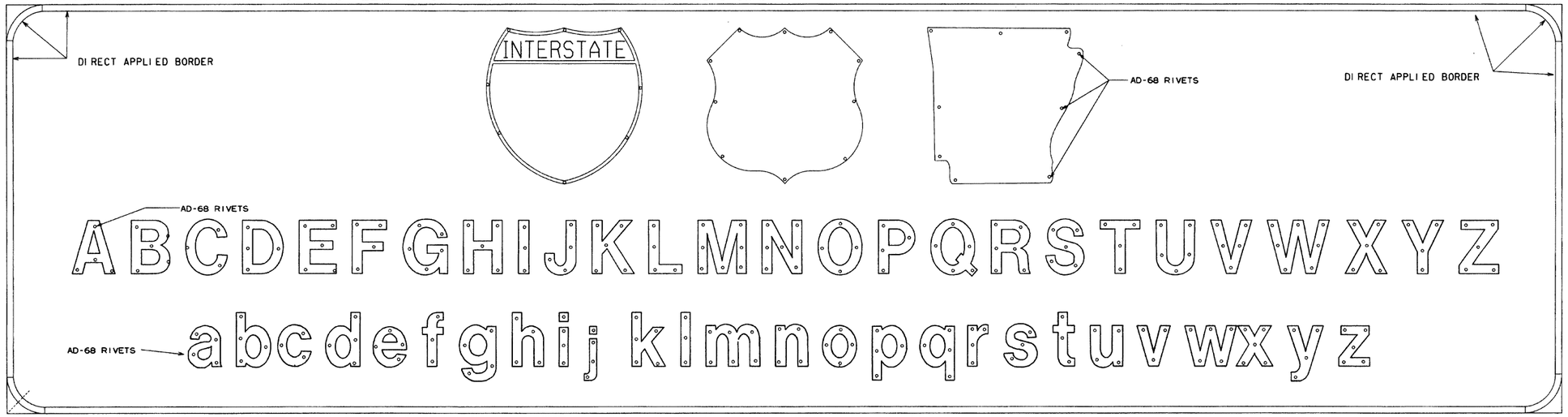
ARKANSAS STATE HIGHWAY COMMISSION

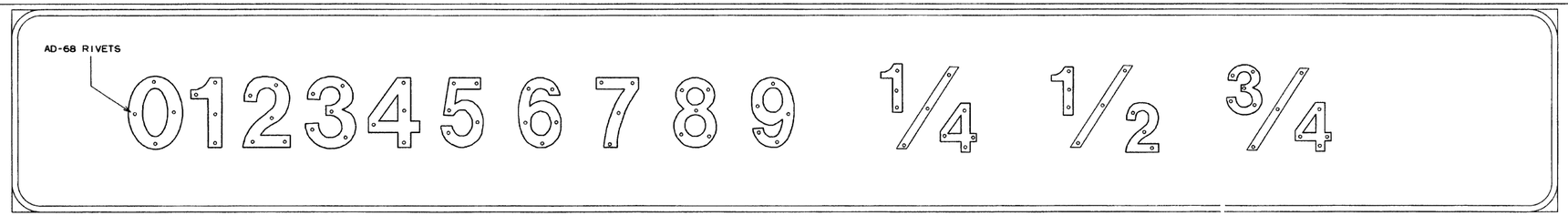
DETAILS OF GUIDE SIGN PANELS

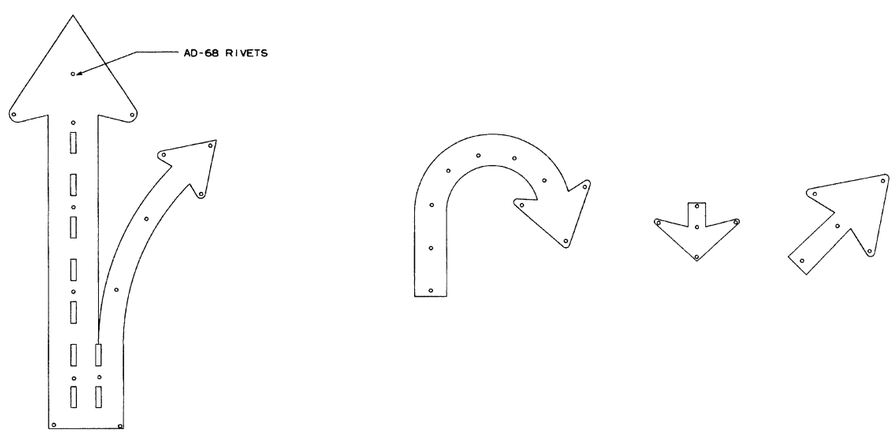
STANDARD DRAWING SHS-5

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.

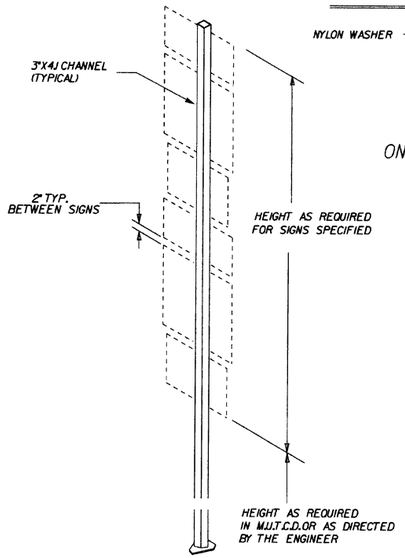
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

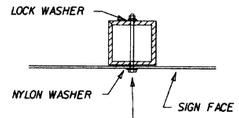
TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

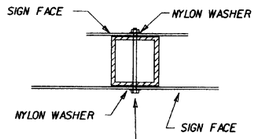
NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

DATE	REVISION	FILMED	
9-12-13	ISSUED		ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
			STANDARD DRAWING SHS-6





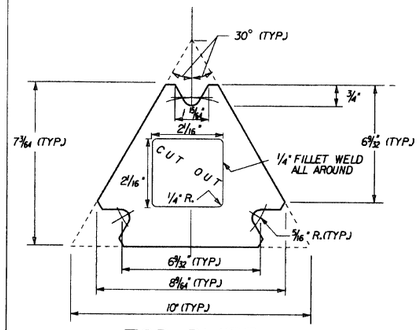
ONE SIGN



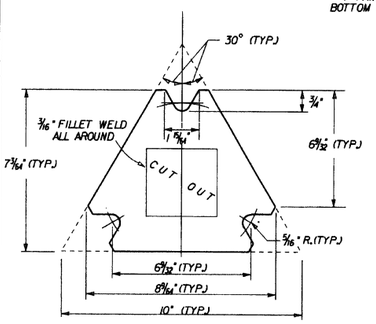
TWO SIGNS

CHANNEL SHALL BE FULL LENGTH OF RECTANGULAR AND SQUARE SIGNS AND SHALL EXTEND 1 1/2" BEYOND BOLT HOLES ON DIAMOND OR IRREGULAR SHAPED SIGNS.

MOUNTING HARDWARE



TOP PLATE



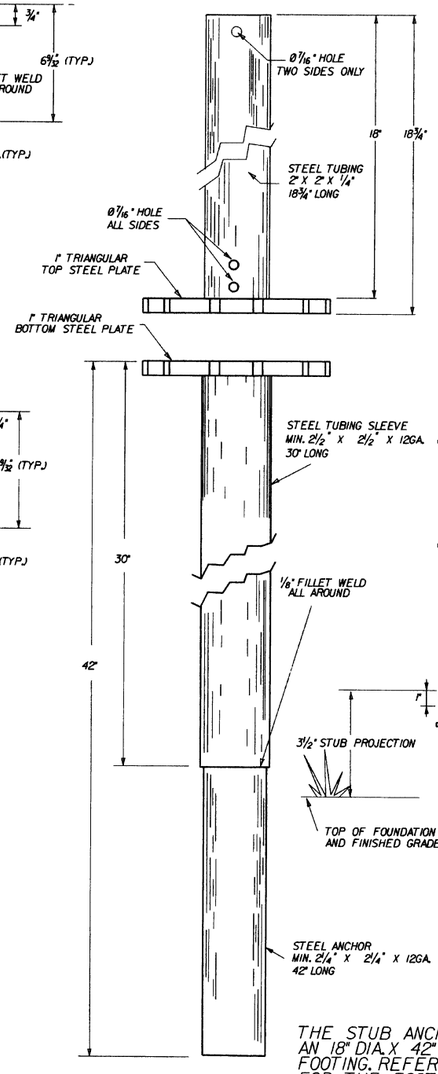
BOTTOM PLATE

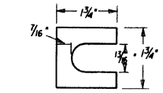
GENERAL NOTES:

THE TOP PLATE OF TRIANGULAR SUP-BASES SHALL HAVE THE SAME EXTERIOR DIMENSIONS AS THE BOTTOM PLATE.

INSIDE DIAMETER OF THE SIGN POST SHALL BE CUT THROUGH THE CENTER OF THE TOP PLATE WITH THE HOLE EDGE BEVELED AS SHOWN. THE BEVEL END SHALL BE TANGENT TO THE BOLT HOLE. ANY MISALIGNMENT SHALL BE REMOVED BY GRINDING. FACE OF BEVEL SHALL BE FINISHED TO A MINIMUM SMOOTHNESS OF 1-500.

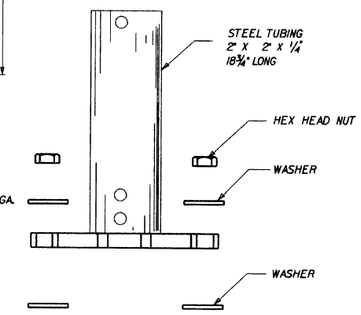
OTHER MASH COMPLIANT BREAKAWAY SIGN SUPPORTS THAT HAVE THE SAME TOP PLATE DIMENSIONS AND SUPPORT 2 1/4" X 2 1/4" SQUARE TUBE SIGN POSTS MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.

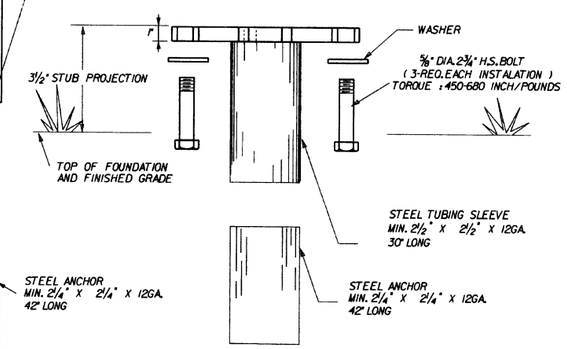




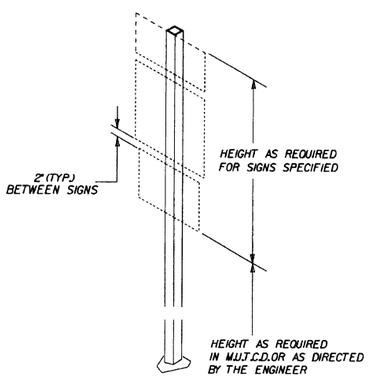
FURNISH (2) .012" THICK AND (2) .032" THICK SHIMS PER POST

SHIM DETAIL



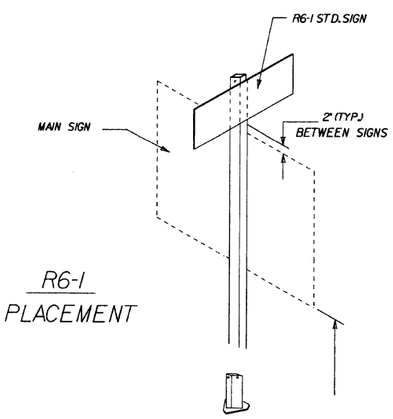


THE STUB ANCHOR SHALL BE SET IN AN 18" DIA. X 42" DEEP CONCRETE FOOTING. REFER TO STD. DRWG. SHS-3 FOR THE FOOTING DETAILS.



TYPE-1

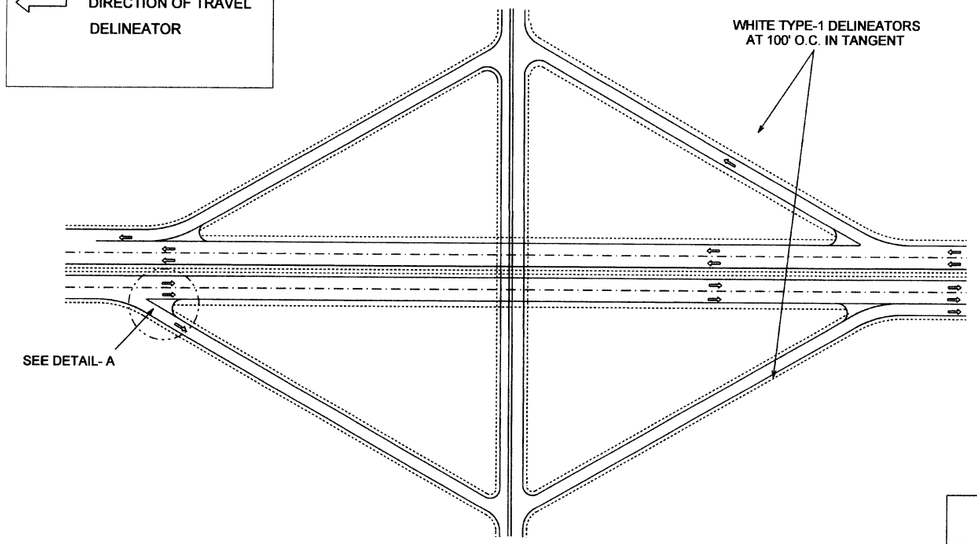
BASIS OF ESTIMATE
APPROX. 100 lbs STEEL



R6-1 PLACEMENT

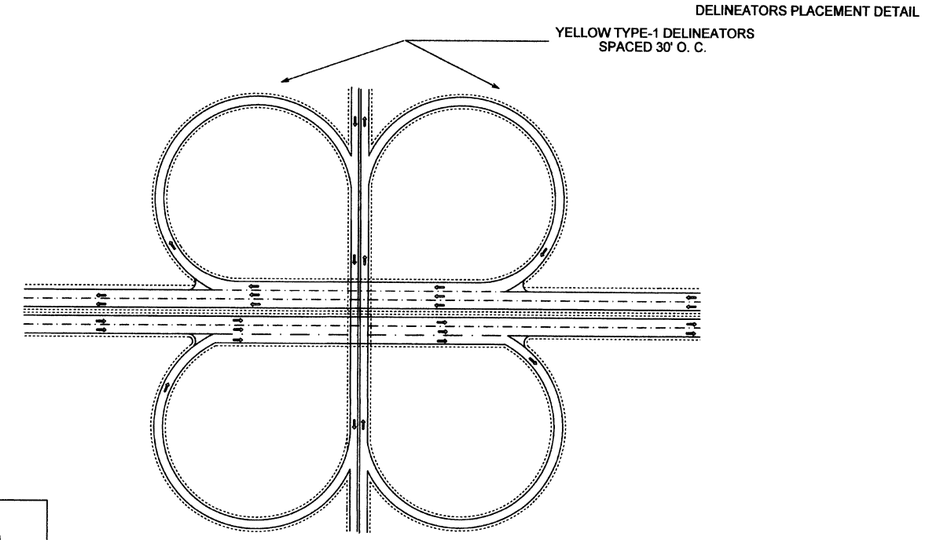
			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
9-12-13	ISSUED		STANDARD DRAWING SHS-7
DATE	REVISION	FILMED	

LEGEND
DIRECTION OF TRAVEL
DELINEATOR

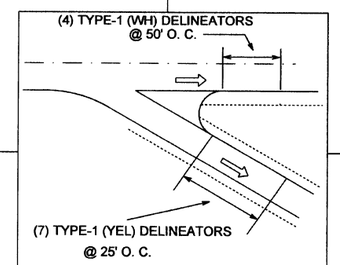


TYPICAL DIAMOND INTERCHANGE
(ALL RAMPS)

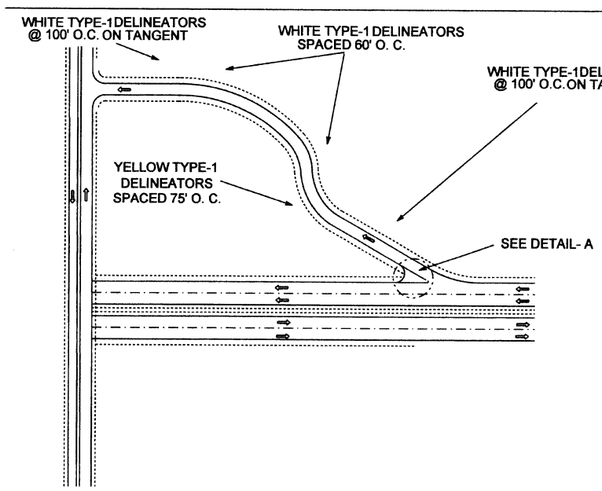
DELINEATORS PLACEMENT DETAIL



TYPICAL CLOVERLEAF INTERCHANGE
(ALL RAMPS)



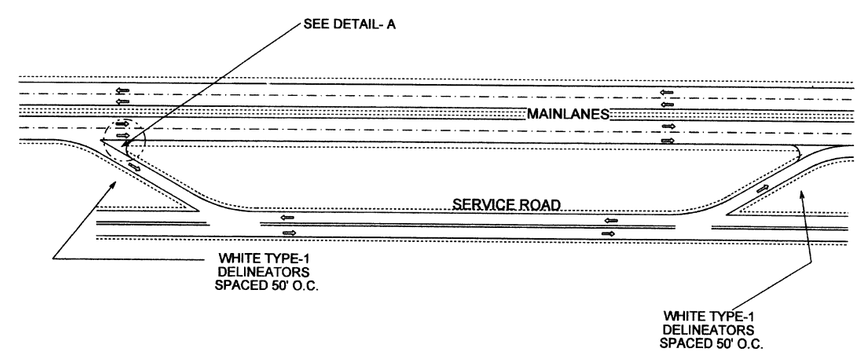
DETAIL - A



MODIFIED DIAMOND INTERCHANGE

NOTE:

DELINEATORS SHALL ONLY BE INSTALLED AS SHOWN IN DETAIL-A IF RAISED PAVEMENT MARKERS ARE NOT PRESENT IN THE GORE OF THE OFF RAMPS.



TYPICAL SLIP RAMP

GUIDANCE:

DELINEATORS SHOULD BE MOUNTED ON SUITABLE SUPPORTS SO THAT THE TOP OF THE HIGHEST RETROREFLECTOR IS 1.2 M (4 FT) ABOVE THE NEAR ROADWAY EDGE. THEY SHOULD BE PLACED 0.6 TO 2.4 M (2 TO 8 FT) OUTSIDE THE OUTER EDGE OF THE SHOULDER, OR IF APPROPRIATE, IN LINE WITH THE ROADSIDE BARRIER THAT IS 2.4 M (8 FT) OR LESS OUTSIDE THE OUTER EDGE OF THE SHOULDER.

DATE	REVISION	FILMED
9-12-13	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

TYPICAL DELINEATOR PLACEMENT ALONG THE INTERSTATE SYSTEM

STANDARD DRAWING SHS-8

R1-1 STOP STANDARD 30"X30" EXPRESSWAY 36"X36" SPECIAL 48"X48"	R1-2 YIELD STD. 36"X36"X36" EXPWY. 48"X48"X48" FWY. 60"X60"X60"	R2-1 SPEED LIMIT 50 STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	W3-5 SPEED LIMIT XX STD. 36"X36" EXPWY. 48"X48" FWY. 48"X48"	W3-5a XX MPH SPEED ZONE AHEAD STD. 36"X36" EXPWY. 48"X48" FWY. 48"X48"	R4-1 DO NOT PASS STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"	R4-2 PASS WITH CARE STD. 24"X30" EXPWY. 36"X48" FWY. 48"X60"
R5-1 DO NOT ENTER STD. 30"X30" EXPWY. 36"X36" SPECIAL 48"X48"	R11-2 ROAD CLOSED 48"X30"	R11-3A ROAD CLOSED XX MILES AHEAD LOCAL TRAFFIC ONLY 60"X30"	R11-4 ROAD CLOSED TO THRU TRAFFIC 60"X30"	RSP-1 SHOULDER CLOSED 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 ROAD NARROWS STD. 36"X36" SPECIAL 48"X48"	W6-3 EXPWY. 36"X36" SPECIAL 48"X48"	W8-7 LOOSE GRAVEL EXPWY. 36"X36" FWY. 48"X48"	W9-2 LANE ENDS MERGE RIGHT STD. 36"X36" FWY. 48"X48"	W13-1 XX M.P.H. STD. 24"X24"	W20-1 ROAD WORK XXXX STD. 48"X48"	W20-2 DETOUR XXXX STD. 48"X48"
W20-4 ONE LANE ROAD XXXX STD. 48"X48"	W20-5 RIGHT LANE CLOSED XXXX STD. 48"X48"	W20-7a 18" 500 FEET W6-2 24" STD. 36"X36" FWY. 48"X48"	W21-2 FRESH OIL STD. 30"X30" SPECIAL 36"X36"	W21-5 SHOULDER WORK STD. 30"X30" SPECIAL 36"X36"	W24-1 STD. 36"X36"	W1-4b STD. 48"X48"
W8-11 UNEVEN LANES STD. 36"X36" FWY. 48"X48"	W8-9 LOW SHOULDER STD. 36"X36" FWY. 48"X48"	G20-1 ROAD WORK NEXT XX MILES 60"X24"	G20-2 END ROAD WORK 48"X24"	OM-3L OM-3R YELLOW BLACK 12"X36"	M4-9 DETOUR STD. 30"X24" SPECIAL 48"X36" SPECIAL 60"X48"	M4-10 DETOUR 48"X18"

R56-1
CONTROLLED ACCESS HWY.
NO EXIT
STD. 18"X18"

R55-1
FINES DOUBLE IN WORK ZONES •
WHEN WORKERS ARE PRESENT ••
36"X60"
• USE 6" C LETTERS
•• USE 4" D LETTERS

W20-3
ROAD CLOSED XXXX
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.

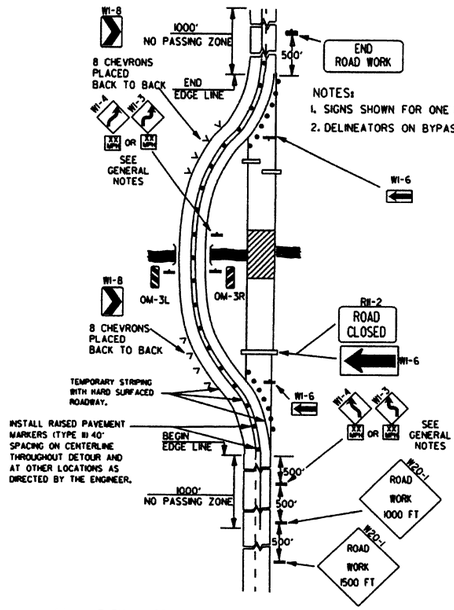
• NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF NCHRP-350 OR MANUAL FOR ASSESSING SAFETY 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	
11-15-91	DRAWN AND PLACED IN USE	

ARKANSAS STATE HIGHWAY COMMISSION

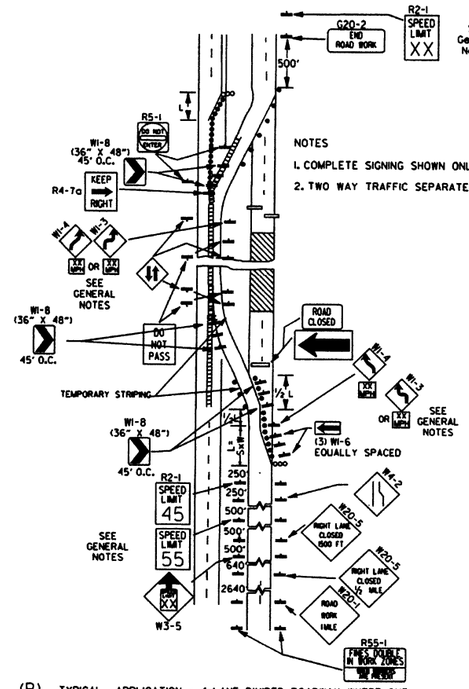
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



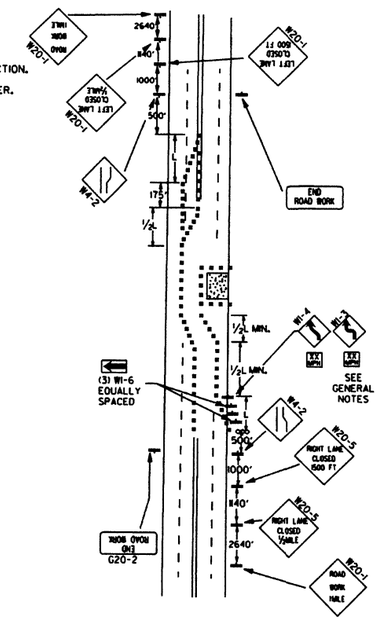
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

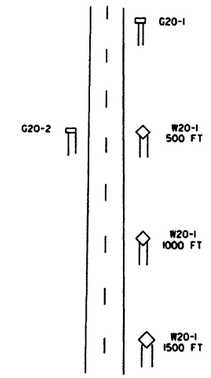


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

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

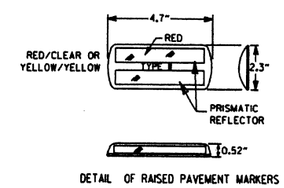


(C) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WHERE HALF OF THE ROADWAY IS CLOSED.



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

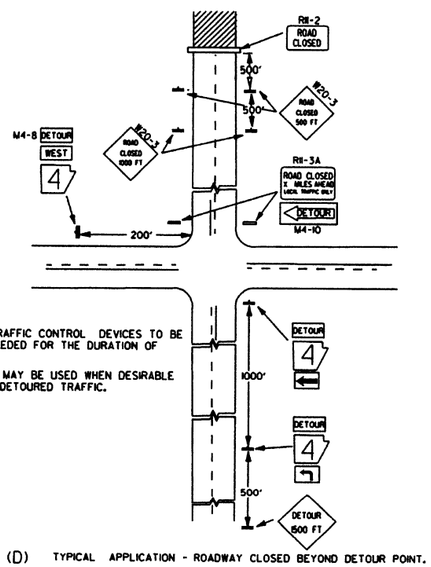
TAPER FORMULAE:

$L = S \times W$ FOR SPEEDS OF 45MPH OR MORE.

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

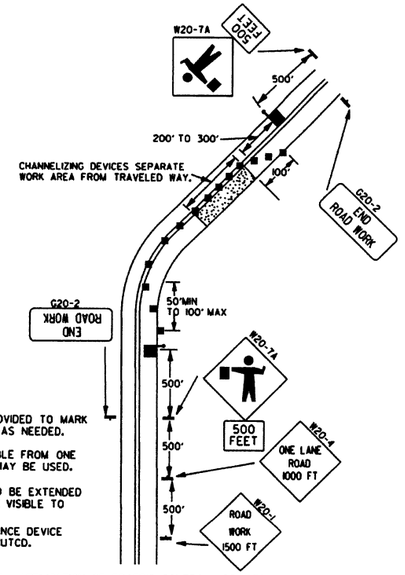
WHERE:
L= MINIMUM LENGTH OF TAPER.
S= NUMERICAL VALUE OF POSTED SPEED LIMIT PRIOR TO WORK OR 85TH PERCENTILE SPEED.
W= WIDTH OF OFFSET.

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



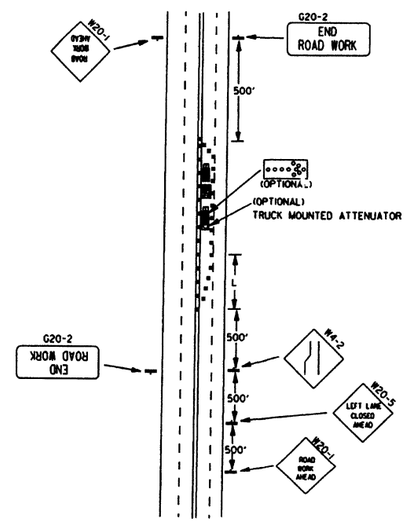
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



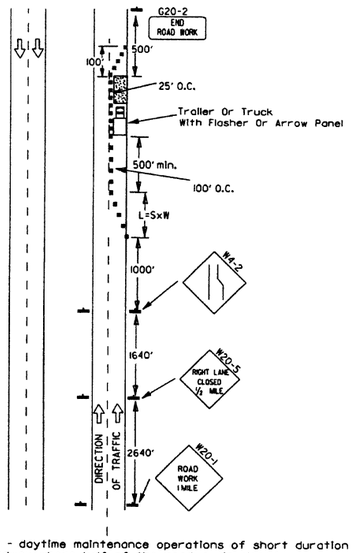
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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	

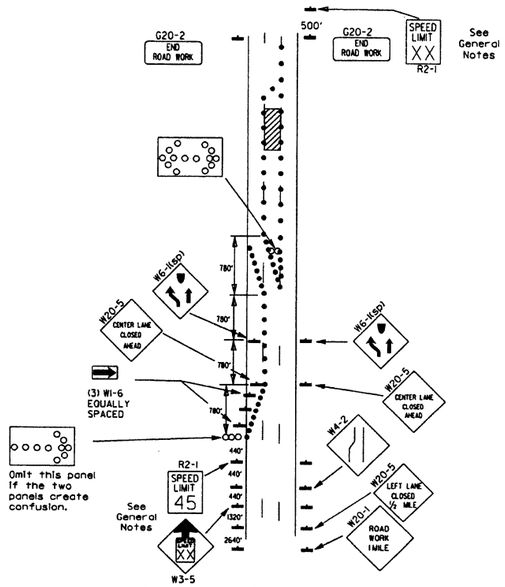
ARKANSAS STATE HIGHWAY COMMISSION

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.

KEY:

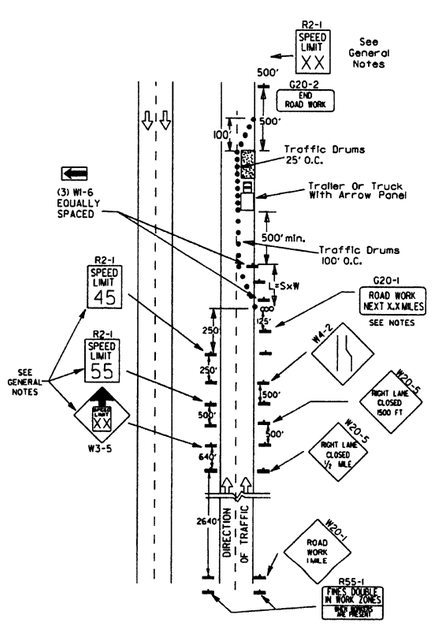
ooo Arrow Panel (if Required)

■ Channelizing Device

● Traffic drum

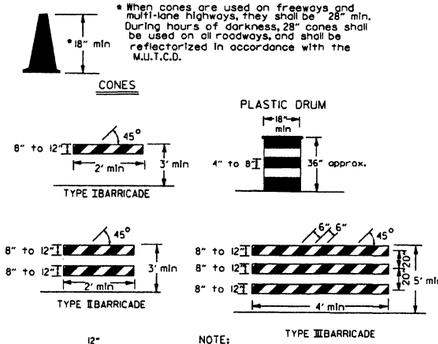
GENERAL NOTES:

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.



(C) Typical application - construction operations of intermediate to long term duration on a 4-lane divided roadway where half of the roadway is closed.

Channelizing devices



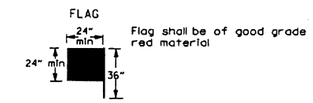
NOTE:
For all road closures, the Type III barricades shall be of sufficient length to extend across entire roadway.

TRAFFIC CONTROL DEVICES FOR VERTICAL PAVEMENT DIFFERENTIALS

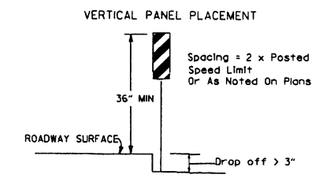
VERTICAL DIFFERENTIAL	LOCATIONS	TRAFFIC CONTROL
1" to 3"	Centerline, lane lines	W8-11
1" to 3"	Edge of shoulder	W8-9
Greater than 3"	Lane lines	Standard lane closure required
Greater than 3"	Edge of traveled lane	*RSP-1 and vertical panels, drums or concrete barrier
Greater than 3"	Edge of shoulder	*Vertical panels, drums or concrete barrier

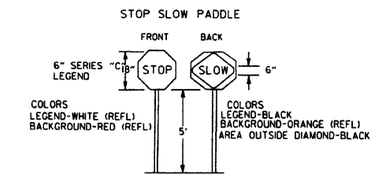
* When shown on the plans concrete barrier will be used.

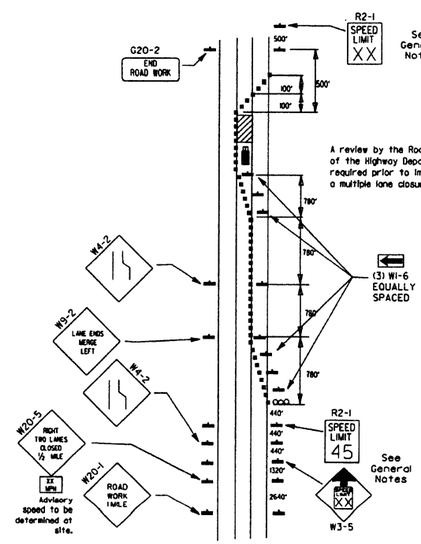
When the shoulder area is used as part of the traveled lane and there is insufficient width to place drums on the remaining shoulder width, then vertical panels shall be used.



Flag shall be of good grade red material

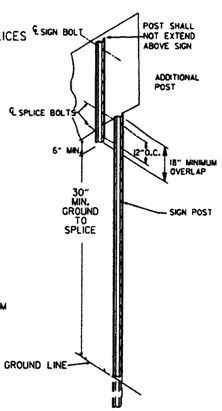






(D) Typical application - closing multiple lanes of a multilane highway.

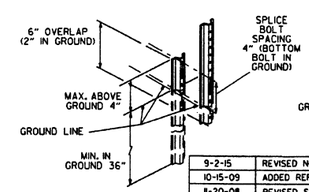
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-2)

NORMAL INSTALLATIONS WILL REQUIRE 1/4" DIA. BOLTS TO MOUNT SIGNS TO POST AND 5/16" DIA. BOLTS TO ASSEMBLE THE VARIOUS POST SUPPORTS. EACH OF THESE BOLTS SHALL BE CARRIAGE BOLTS.

SIGN POSTS SHALL BE PAINTED GREEN; SIGNS SHALL NOT BE PAINTED, AND ALL SIGN POSTS SHALL BE PLUMB.



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

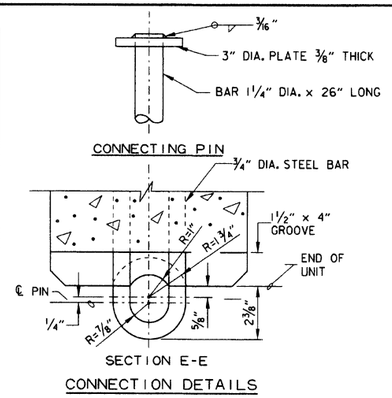
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

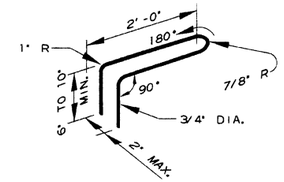
STANDARD DRAWING TC-3

REINFORCING BAR TABLE PER BARRIER UNIT

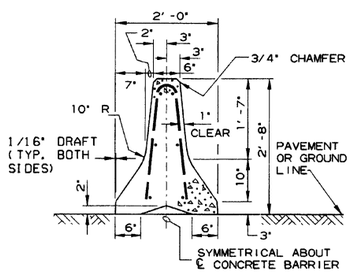
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	HORIZONTAL IN BARRIER TIED INSIDE V-1 BARS	#5	(6)	19'-3"
H-2	CENTERED ABOVE DRAIN SLOTS LONG. & TRANSVERSELY	#5	(6)	6'-6"
H-3	TIED ABOVE H-1 BARS TO SUPPORT H-2. TIED TO V-1	#4	(2)	1'-6"
S-1	OVER LIFT HOLES	#4	(2)	2'-5", 90°, 3 3/8" R, LIFTING HOLE
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1" MIN. CLEAR TO BAR, 1'-6", 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER (3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9", 2 3/16" R, 12°, 9 1/2", 2'-1 3/8", 4 3/8"



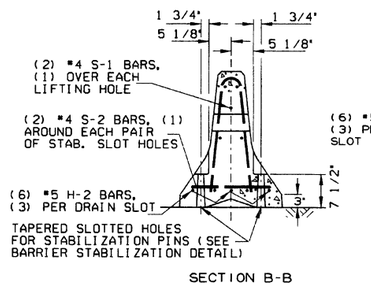
CONNECTION DETAILS



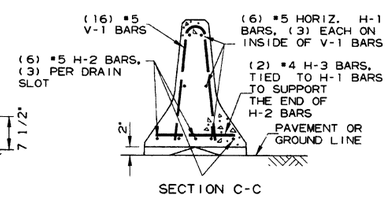
CONNECTION LOOP



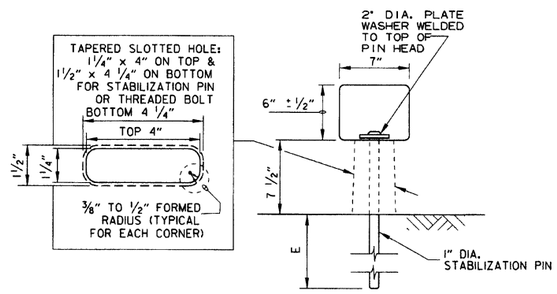
SECTION A-A



SECTION B-B



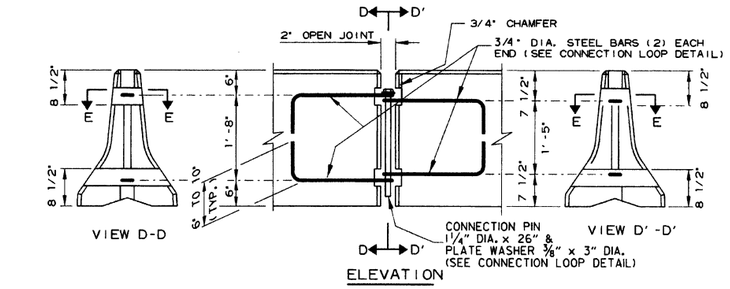
SECTION C-C



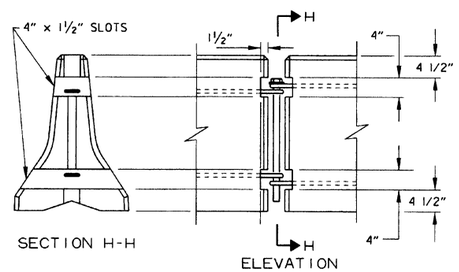
BARRIER STABILIZATION DETAIL

ROADWAY SECTION

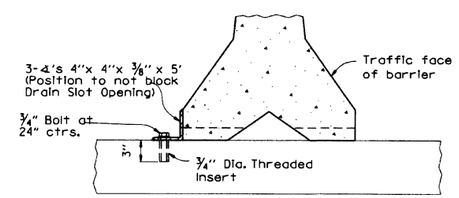
(E) 4" - Concrete Pavement
8" - Asphalt Pavement
12" - Shoulder Areas



ELEVATION



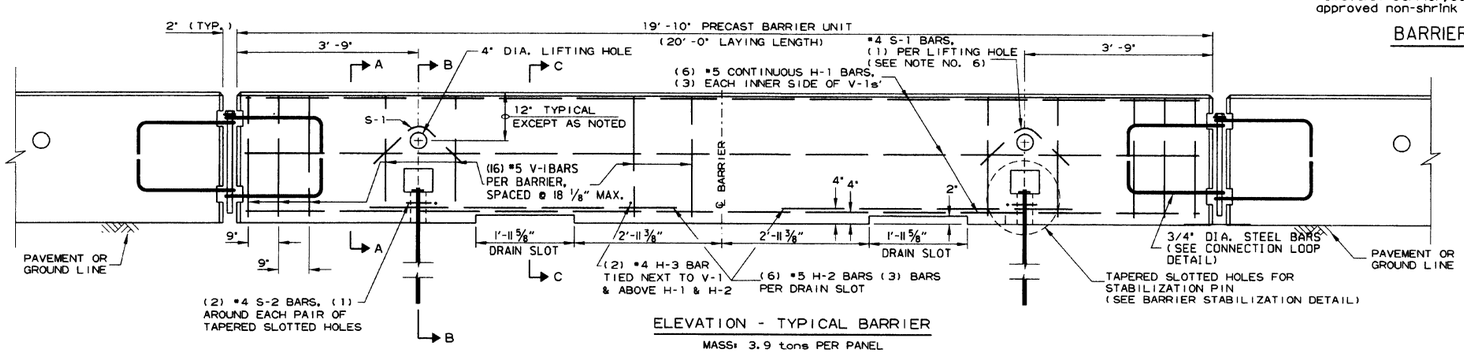
BARRIER REMOVAL SLOT DETAILS



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.

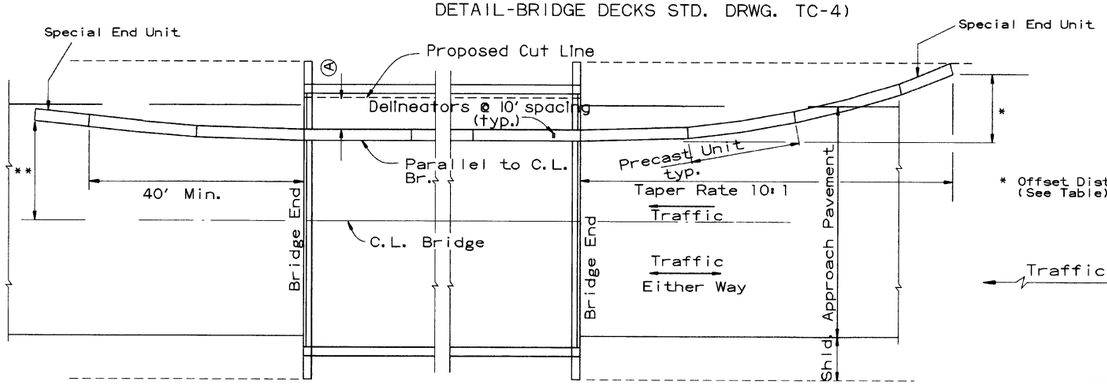
DATE	REVISION	FILMED
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO MASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED GENERAL NOTE 2	
8-22-02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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

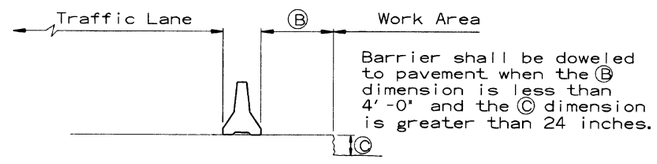
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

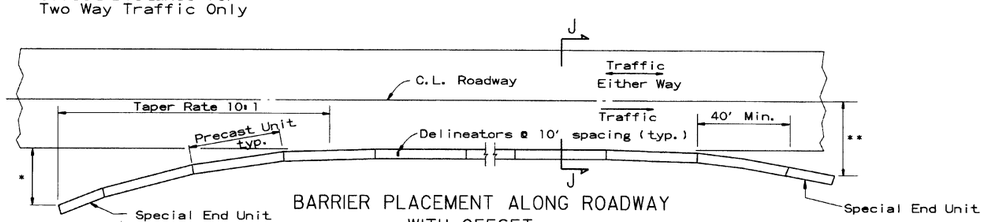
** Offset Distance for Two Way Traffic Only



Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

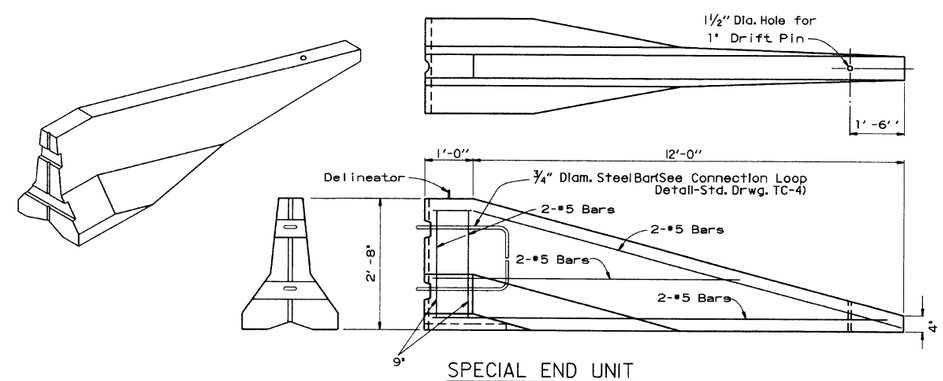
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

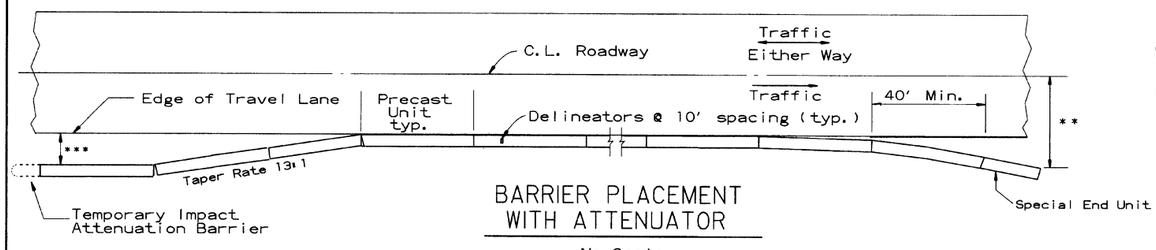
Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see 'Barrier Placement With Attenuator' Detail shown below.



SPECIAL END UNIT

No Scale



BARRIER PLACEMENT WITH ATTENUATOR

No Scale

*** 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	

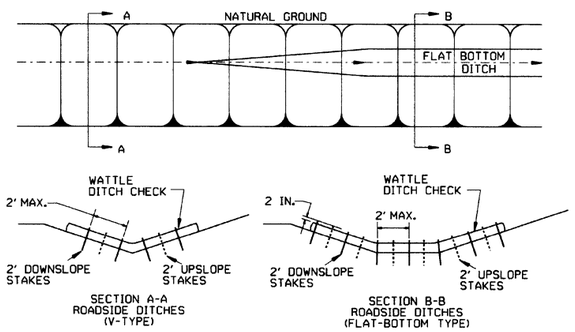
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

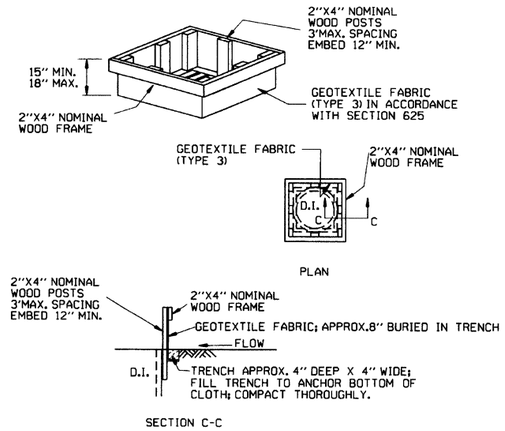
STANDARD DRAWING TC-5

GENERAL NOTES

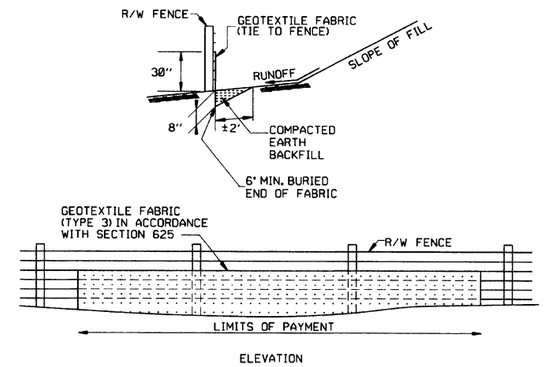
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



DROP INLET SILT FENCE (E-7)



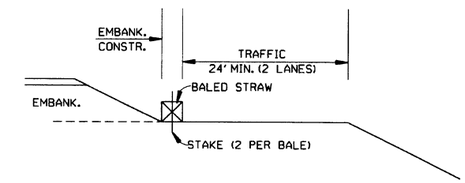
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

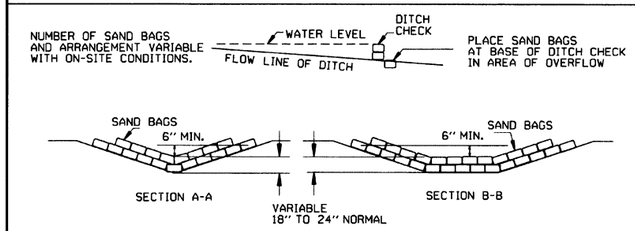
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST, OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

GENERAL NOTES

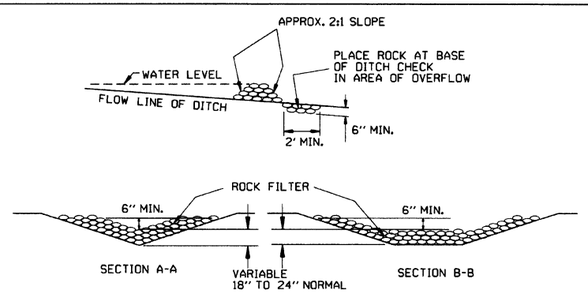
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.
2. NO GAPS SHALL BE LEFT BETWEEN BALES.
3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED 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.



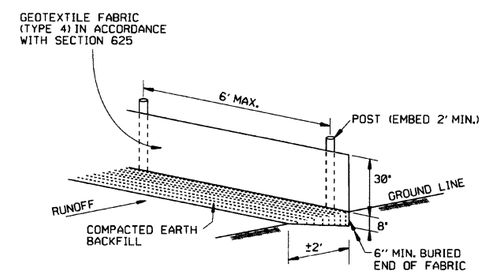
BALED STRAW FILTER BARRIER (E-2)



SAND BAG DITCH CHECK (E-5)



ROCK DITCH CHECK (E-6)



SILT FENCE (E-11)

GENERAL NOTES

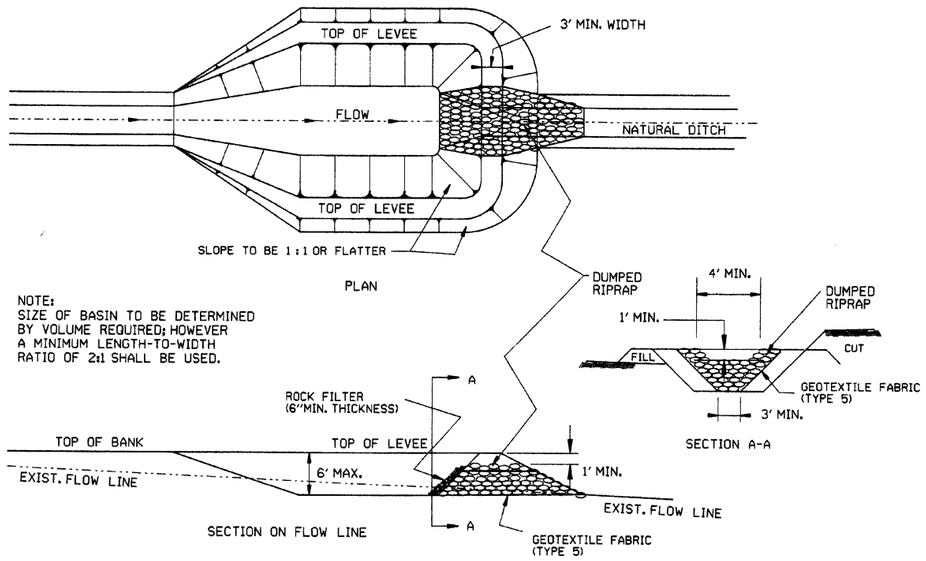
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.

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

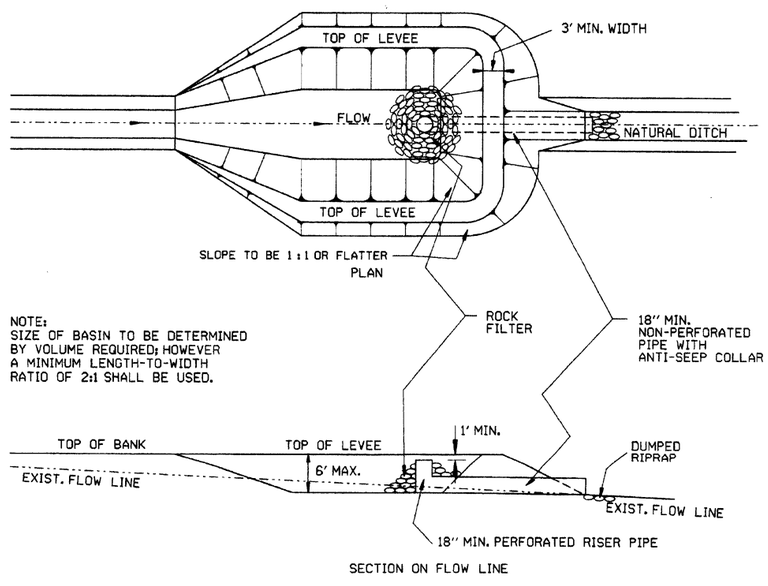
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

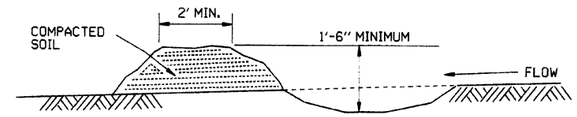
STANDARD DRAWING TEC-1



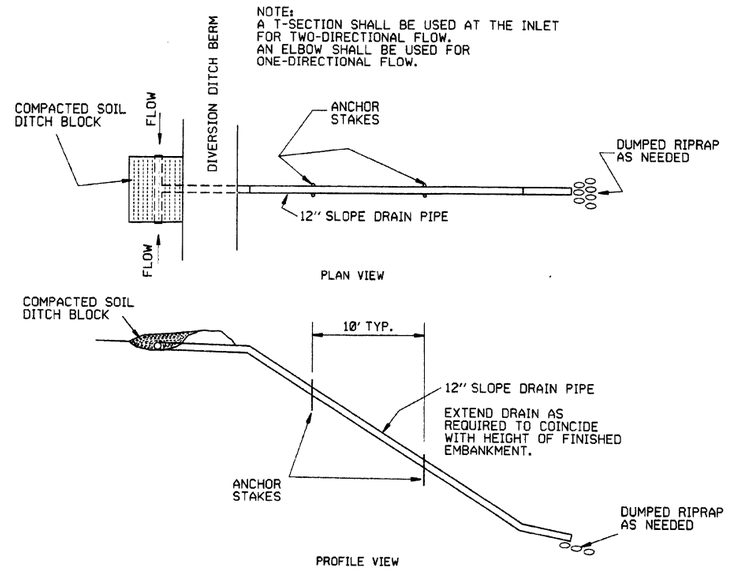
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



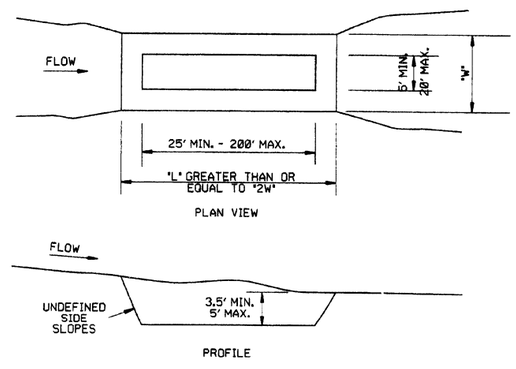
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



SEDIMENT BASIN (E-14)

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

ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

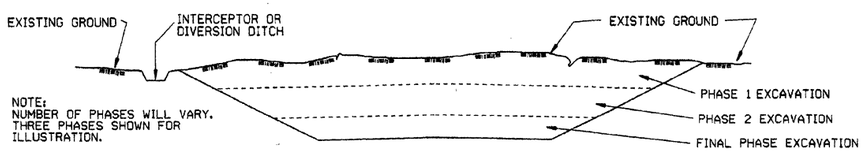
STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

CONSTRUCTION SEQUENCE

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

EXCAVATION



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

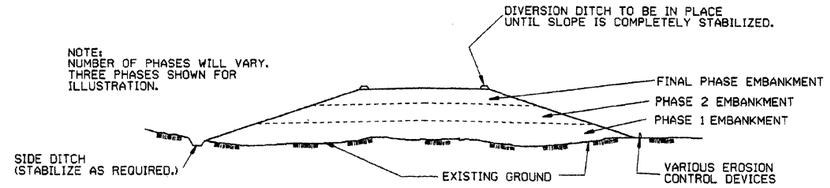
GENERAL NOTE

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

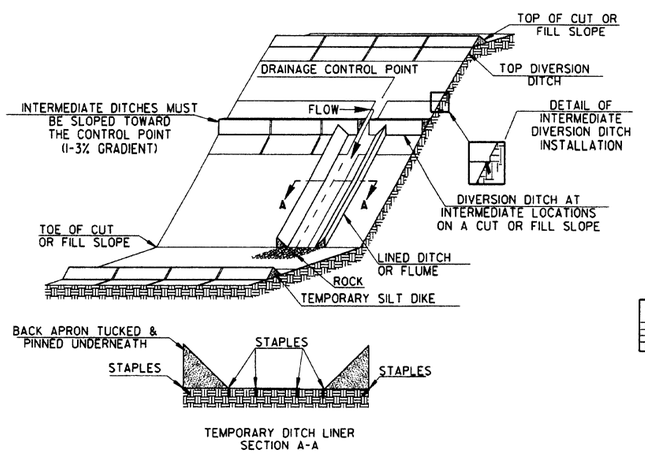
1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD 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

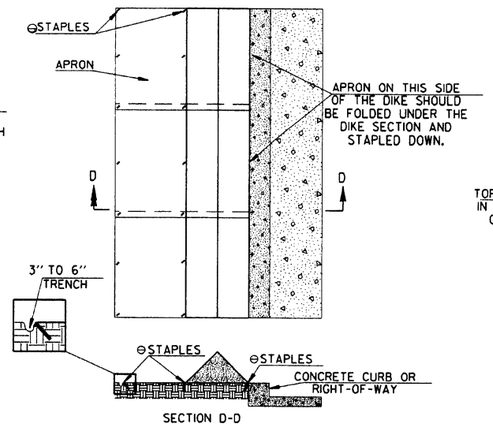
ARKANSAS STATE HIGHWAY COMMISSION

TEMPORARY EROSION CONTROL DEVICES

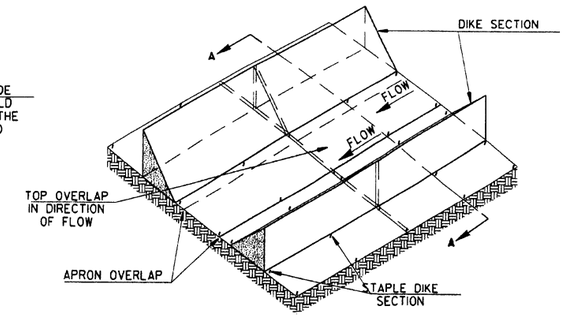
STANDARD DRAWING TEC-3



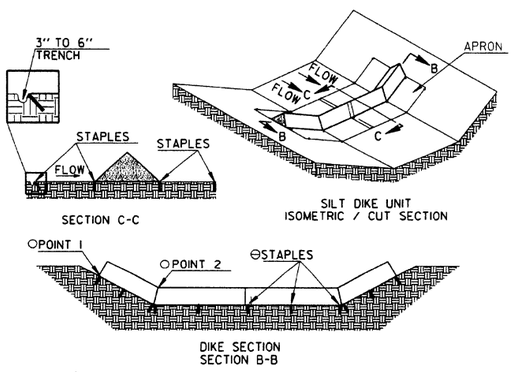
TRIANGULAR SILT DIKE INSTALLATION
FOR
DIVERSION DITCH AND/OR DITCH LINER



TRIANGULAR SILT DIKE INSTALLATION
FOR
CONTINUOUS BARRIER



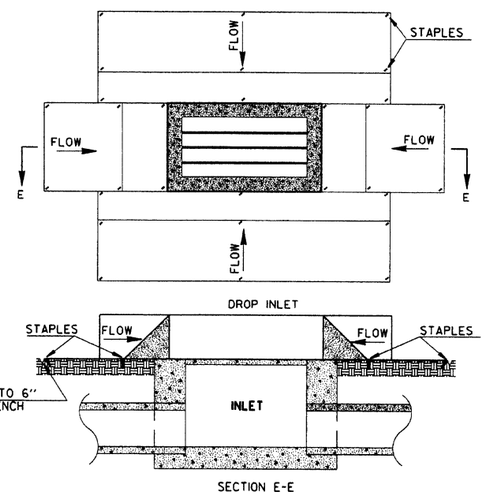
TRIANGULAR SILT DIKE INSTALLATION
FOR
TEMPORARY DITCH LINER



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.

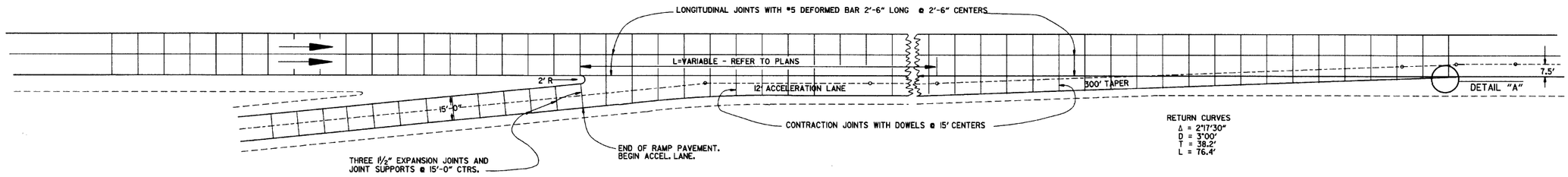
3. ACCEPTED TRIANGULAR SILT DIKE, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID FOR TRIANGULAR SILT DIKE. PRICE BID WILL INCLUDE THE COST OF FURNISHING THE DIKES, INSTALLING, MAINTAINING AND REMOVAL WHEN DIRECTED BY THE ENGINEER.

DATE	REVISION	FILMED
7-26-12	REVISED GENERAL NOTE 2.	
12-15-11	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

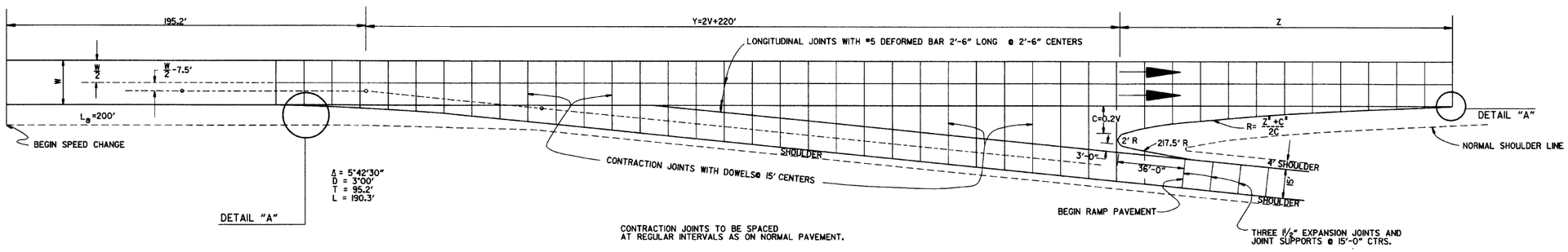
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-4



ENTRANCE RAMP

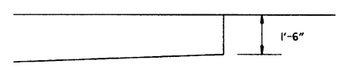
NOTE: JOINT SPACING ON THE MAIN LANES SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO THESE JOINT LAYOUTS. THE MAIN LANE JOINT SPACING MAY BE REDUCED TO A 12' MINIMUM.



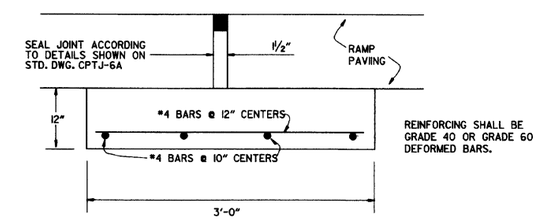
EXIT RAMP

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