DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	1	134

(2) HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)

"A FULLY CONTROLLED ACCESS FACILITY"

ARKANSAS DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PLANS FOR STATE HIGHWAY

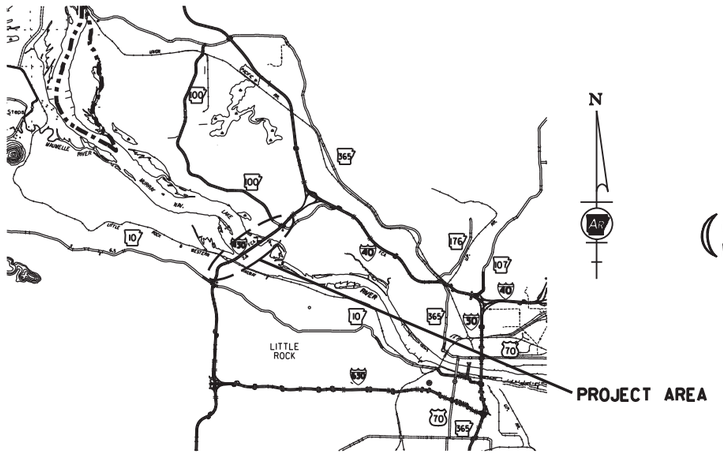
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)

PULASKI COUNTY

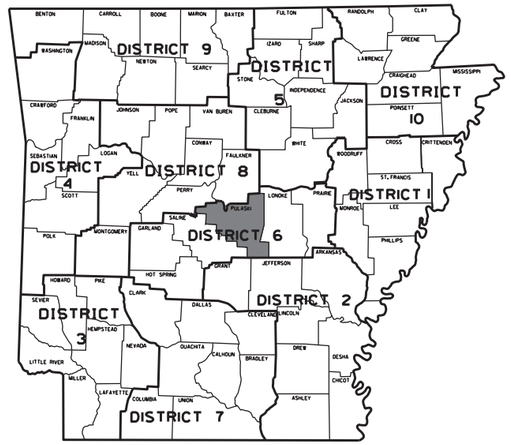
ROUTE I-430 SECTION 21

JOB 061630

FED. AID PROJ. NHPP-430-2(269)10



VICINITY MAP



ARK. HWY. DIST. NO. 6

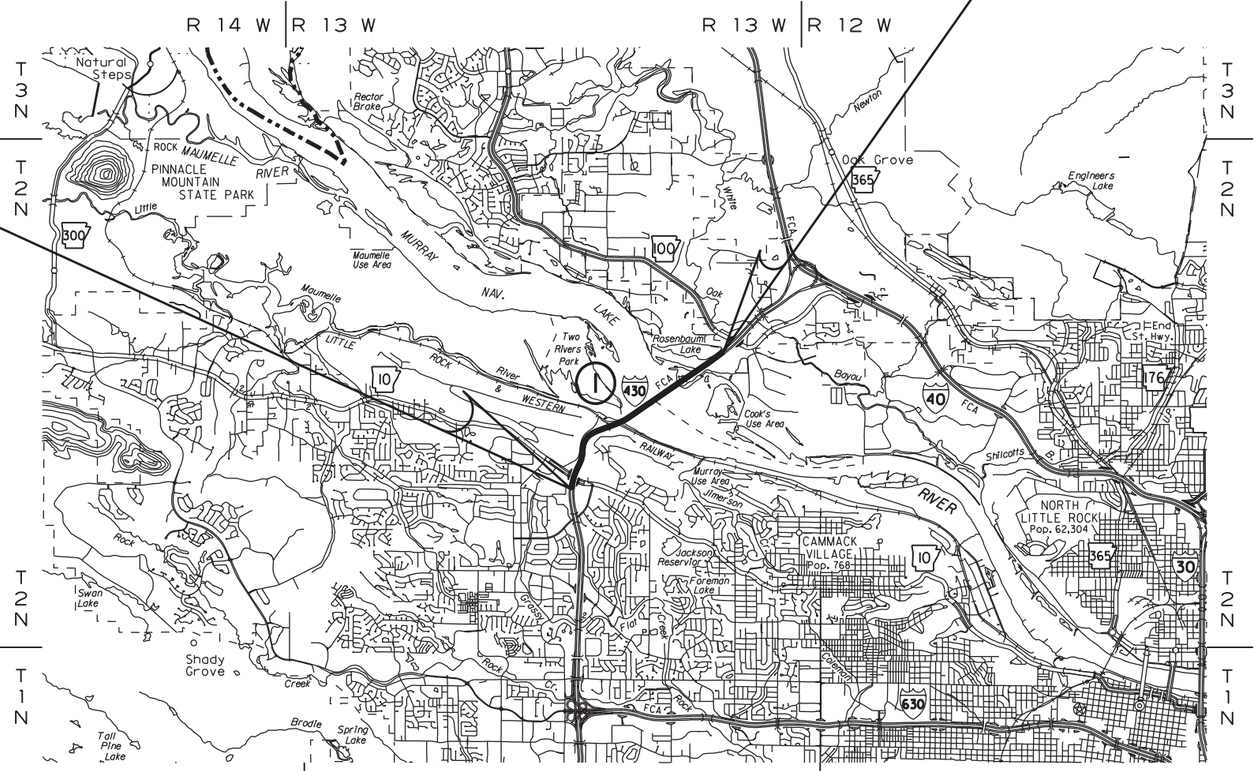
BRIDGE INFORMATION

(1) STA. 543+85.08 BR. END
4983'-11" TOTAL LENGTH
103'-0" CLEAR ROADWAY
BR. NO. 05320
STA. 593+69.02 BR. END

NOT TO SCALE

STA. 620+00.00
END JOB 061630

STA. 495+00.00
BEGIN JOB 061630
LOG MILE 9.44



DESIGN TRAFFIC DATA

DESIGN YEAR	2040
2020 ADT	96,000
2040 ADT	112,000
2040 DHV	12,320
DIRECTIONAL DISTRIBUTION	0.60
TRUCKS	3%
DESIGN SPEED	70 MPH

APPROVED

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7836
M. P. BANES

Digitally signed by Banes, Emanuel
Jun 10 2020 6:22 AM

DEPUTY DIRECTOR AND CHIEF ENGINEER

	BEGIN PROJECT	MID-POINT OF PROJECT	END PROJECT
LATITUDE	N 34°47'13"	N 34°47'55"	N 34°48'29"
LONGITUDE	W 92°23'28"	W 92°22'42"	W 92°21'39"

LENGTH OF PROJECT CALCULATED ALONG C.L.

GROSS LENGTH OF PROJECT	12500.00	FEET	OR	2.367	MILES
NET	ROADWAY	7516.06		1.423	MILES
NET	BRIDGES	4983.94		0.944	MILES
NET	PROJECT	12500.00		2.367	MILES

HT39710 6/1/2020
R061630.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.		061630	2	134

(2) INDEX OF SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

May 21 2020 3:44 PM

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2	INDEX OF SHEETS		
3	STANDARD DRAWINGS		
4	GOVERNING SPECIFICATIONS AND GENERAL NOTES		
5 - 6	TYPICAL SECTIONS OF IMPROVEMENT		
7 - 11	SPECIAL DETAILS		
12 - 16	TEMPORARY EROSION CONTROL DETAILS		
17 - 25	MAINTENANCE OF TRAFFIC DETAILS		
26 - 32	PERMANENT PAVEMENT MARKING DETAILS		
33 - 36	QUANTITIES		
37	SCHEDULE OF BRIDGE QUANTITIES	05320	61818
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56	ILLUMINATION NOTES		
57	SUMMARY OF ITS AND ILLUMINATION QUANTITIES		
58	ILLUMINATION QUANTITIES		
59 - 73	ILLUMINATION LAYOUT		
74 - 77	ILLUMINATION TABLES		
78 - 80	ILLUMINATION DETAILS - SERVICE		
81 - 83	ILLUMINATION DETAILS - LIGHT POLE		
84	ILLUMINATION DETAILS - CONDUIT		
85	ILLUMINATION DETAILS - JUNCTION BOX		
86 - 87	NAVIGATION LIGHTING		
88	FIBER OPTIC CABLE QUANTITY		
89	FIBER OPTIC CABLE NOTES		
90	FIBER OPTIC CABLE LAYOUT CONFIGURATION		
91	FIBER TERMINATION BOX CONFIGURATION		
92	FIBER TERMINATION PORT CONFIGURATION		
93	BRIDGE MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS		
94	GROUND MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS		
95	GROUND AND BRIDGE MOUNTED CABINETS WIRING TO ITS DEVICES ON STEEL POLE		
96	SHOULDER MOUNTED OVERHEAD DMS TEE MOUNT DETAILS		
97	MEDIAN MOUNTED OVERHEAD DMS TEE MOUNT DETAILS		
98	OVERHEAD DMS TRUSS STRUCTURE DETAILS		
99	OVERHEAD LCS TRUSS STRUCTURE DETAILS		
100	ADVANCE DMS LOCATION MAP		
101 - 103	ADVANCE DMS SERVICE CONNECTION		
104	ANTENNA SUPPORT STRUCTURE QUANTITY		
105 - 106	ANTENNA SUPPORT STRUCTURE		
107	SIGNING SUMMARY OF QUANTITIES		
108	SIGNING QUANTITIES		
109 - 113	SIGN PLACEMENT SHEET		
114 - 120	SIGN LAYOUT SHEET		
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122	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 2 OF 7)	05320	61820
123	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 3 OF 7)	05320	61821
124	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 4 OF 7)	05320	61822
125	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 5 OF 7)	05320	61823
126	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 6 OF 7)	05320	61824
127	DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE (SHEET 7 OF 7)	05320	61825
128	SUPPLEMENTAL DETAILS OF VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY	05320	61826
129	DETAILS OF TYPE SPECIAL APPROACH GUTTER	05320	61827
130	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 1 OF 4)	TM-040-60-53, TM-430-60-55	61828
131	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 2 OF 4)	TM-040-60-53, TM-430-60-55	61829
132	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 3 OF 4)	TM-040-60-53, TM-430-60-55	61830
133	DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION (SHEET 4 OF 4)	TM-040-60-53, TM-430-60-55	61831
134	DETAILS OF METAL BRIDGE RAILING TYPE A	05320	14492A

H139710 5/18/2020
R061630.DGN

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06-18-2020				6	ARK.			
				JOB NO.		061630	3	134

(2) STANDARD DRAWINGS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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BRIDGE STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
55060____	STANDARD DETAILS FOR HYDRODEMOLITION AND LMC OVERLAY SLAB ON BEAM/GIRDER BRIDGES	01-09-20

ROADWAY STANDARD DRAWINGS

DRWG.NO.	TITLE	DATE
CDP-1____	CONCRETE DITCH PAVING	12-08-16
CPCR-2___	CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED DEFORMED WIRE MAT	03-23-89
CPCR-3___	DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED	10-18-96
CPCR-4___	DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED	02-27-14
FES-1____	FLARED END SECTION	10-18-96
FES-2____	FLARED END SECTION	10-18-96
FPC-9S___	DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)	07-26-12
GR-6_____	GUARDRAIL DETAILS	11-07-19
GR-7_____	GUARDRAIL DETAILS	11-07-19
GR-8_____	GUARDRAIL DETAILS	11-07-19
GR-9_____	GUARDRAIL DETAILS	11-07-19
GR-10____	GUARDRAIL DETAILS	11-07-19
GR-11____	GUARDRAIL DETAILS	11-07-19
GR-12____	GUARDRAIL DETAILS	05-14-20
GRT-1____	GUARDRAIL DETAILS	11-07-19
PCC-1____	CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING	02-27-14
PM-1_____	PAVEMENT MARKING DETAILS	02-27-20
PM-2_____	PERMANENT PAVEMENT MARKING ON ACCESS CONTROLLED ROADWAYS	05-14-20
PU-1_____	DETAILS OF PIPE UNDERDRAIN	12-08-16
SD-5_____	CONTROLLER CABINET UTILITY DRAWER	09-12-13
SD-6_____	HEAVY DUTY PULL BOX	11-16-17
SD-9_____	SERVICE POINT	11-07-19
SD-11____	STEEL POLE WITH MAST ARM	11-16-17
SHS-1____	STANDARD HIGHWAY SIGNS AND SUPPORTS ASSEMBLIES	09-12-13
SHS-2____	U-CHANNEL POST ASSEMBLIES	02-27-14
SHS-3____	DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS	09-12-13
SHS-4____	DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS	09-12-13
SHS-5____	DETAILS OF GUIDE SIGN PANELS	09-12-13
SHS-6____	MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS	09-12-13
SHS-7____	DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS	09-12-13
TC-1_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-2_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11-07-19
TC-3_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	02-27-20
TC-4_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TC-5_____	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION-TEMPORARY PRECAST BARRIER	11-07-19
TEC-1____	TEMPORARY EROSION CONTROL DEVICES	11-16-17
TR-1_____	DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS	01-21-00

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
06-04-2020				6	ARK.			
06-18-2020				JOB NO.		061630	4	134
06-22-2020								

(2) GOVERNING SPECS. AND GENERAL NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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GOVERNING SPECIFICATIONS

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

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 061630
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
210-1_____	UNCLASSIFIED EXCAVATION
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
404-3_____	DESIGN OF ASPHALT MIXTURES
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
510-1_____	GRINDING PORTLAND CEMENT CONCRETE PAVEMENT
600-2_____	INCIDENTAL CONSTRUCTION
603-1_____	LANE CLOSURE NOTIFICATION
604-1_____	RETROREFLECTIVE SHEETING FOR TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
604-3_____	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES (MASH)
605-1_____	CONCRETE DITCH PAVING
617-1_____	GUARDRAIL TERMINAL (TYPE 2)
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
700-2_____	TRAFFIC CONTROL FACILITIES
723-1_____	GENERAL REQUIREMENTS FOR SIGNS
730-1_____	BREAKAWAY SIGN SUPPORT
800-1_____	STRUCTURES
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 061630__	ANTENNA SUPPORT STRUCTURE ASSEMBLY
JOB 061630__	ASSESSMENT OF WORKING DAYS – MAINTENANCE OF TRAFFIC
JOB 061630__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 061630__	BRIDGE DECK REPAIR FOR LATEX MODIFIED CONCRETE OVERLAYS
JOB 061630__	BRIDGE POST MOUNTED SIGN SUPPORT
JOB 061630__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 061630__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 061630__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 061630__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 061630__	CONCRETE FOR BRIDGE MODIFICATION
JOB 061630__	CONCRETE PULL BOX
JOB 061630__	CONSTRUCTION PROJECT INFORMATION SIGN
JOB 061630__	DETAILS FOR RIVER TRAFFIC SAFETY
JOB 061630__	DIAMOND GRINDING TO REMOVE LONGITUDINAL GROOVING IN PCC PAVEMENT IN PREPARATION FOR UTBWC
JOB 061630__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 061630__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 061630__	ENHANCED THERMOPLASTIC PAVEMENT MARKING
JOB 061630__	FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT
JOB 061630__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 061630__	HYDRODEMOLITION - CLASS 1
JOB 061630__	INNERDUCT CONDUIT
JOB 061630__	INSURANCE, CONSTRUCTION, AND FLAGGING REQUIREMENTS ON RAILROAD PROPERTY (LRWR)
JOB 061630__	INTELLIGENT TRANSPORTATION SYSTEM CABINET
JOB 061630__	INTELLIGENT TRANSPORTATION SYSTEM (ITS) FIBER OPTIC CABLE
JOB 061630__	LANE-USE CONTROL SIGNAL ASSEMBLY
JOB 061630__	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)
JOB 061630__	LIGHTING CONTROLLER ASSEMBLY
JOB 061630__	MAINTENANCE OF TRAFFIC
JOB 061630__	MANAGEMENT OF HYDRODEMOLITION WASTEWATER
JOB 061630__	MANDATORY ELECTRONIC CONTRACT
JOB 061630__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 061630__	NAVIGATION LIGHTING SYSTEM
JOB 061630__	NESTING SITES OF MIGRATORY BIRDS
JOB 061630__	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB 061630__	OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY
JOB 061630__	PAN-TILT-ZOOM CAMERA SYSTEM
JOB 061630__	PARTNERING REQUIREMENTS
JOB 061630__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 061630__	PVC COATED GALVANIZED STEEL CONDUIT

GOVERNING SPECIFICATIONS - CONTINUED

NUMBER	TITLE
JOB 061630__	REMOVAL OF EXISTING SERVICE POINT ASSEMBLY
JOB 061630__	REMOVING EXISTING PORTLAND CEMENT CONCRETE PAVEMENT
JOB 061630__	RESTRICTIONS ON THE USE OF RECYCLED ASPHALT PAVEMENT MATERIAL
JOB 061630__	ROADWAY ILLUMINATION POLE
JOB 061630__	SEQUENCE OF CONSTRUCTION
JOB 061630__	SERVICE POINT ASSEMBLY
JOB 061630__	SERVICE POINT MODIFICATION
JOB 061630__	SITE USE (A+B+C METHOD) – CALENDAR DAY CONTRACT
JOB 061630	SLOTTED CORRUGATED STEEL PIPE DRAIN
JOB 061630__	SOIL STABILIZATION
JOB 061630__	SPECIAL SAFETY REQUIREMENTS FOR BRIDGES
JOB 061630__	SPECIAL SAFETY REQUIREMENTS FOR OVERHEAD SIGNS
JOB 061630__	STEEL SIGN STRUCTURES
JOB 061630__	STORM WATER POLLUTION PREVENTION PLAN
JOB 061630__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 061630__	TRAFFIC CONTROL DEVICES IN CONSTRUCTION ZONES
JOB 061630__	ULTRATHIN BONDED WEARING COURSE
JOB 061630__	UTILITY ADJUSTMENTS
JOB 061630__	VALUE ENGINEERING
JOB 061630__	VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY
JOB 061630__	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 ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
6. THE SEQUENCE AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLANS IS A GENERAL OUTLINE FOR THE CONSTRUCTION OF THIS PROJECT, AND IN NO WAY IS IT INTENDED TO COVER EVERY ITEM IN THE PROJECT. ITEMS NOT CRITICAL TO THE CONSTRUCTION SEQUENCE MAY BE CONSTRUCTED IN ANY STAGE AS APPROVED BY THE RESIDENT ENGINEER.
7. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
8. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
9. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 3 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

HT39710 6/22/2020
R061630.DGN

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(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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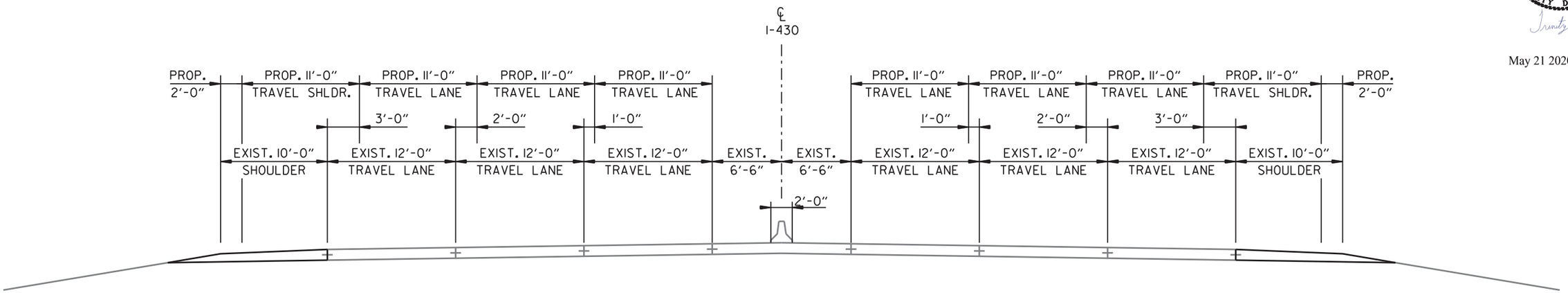
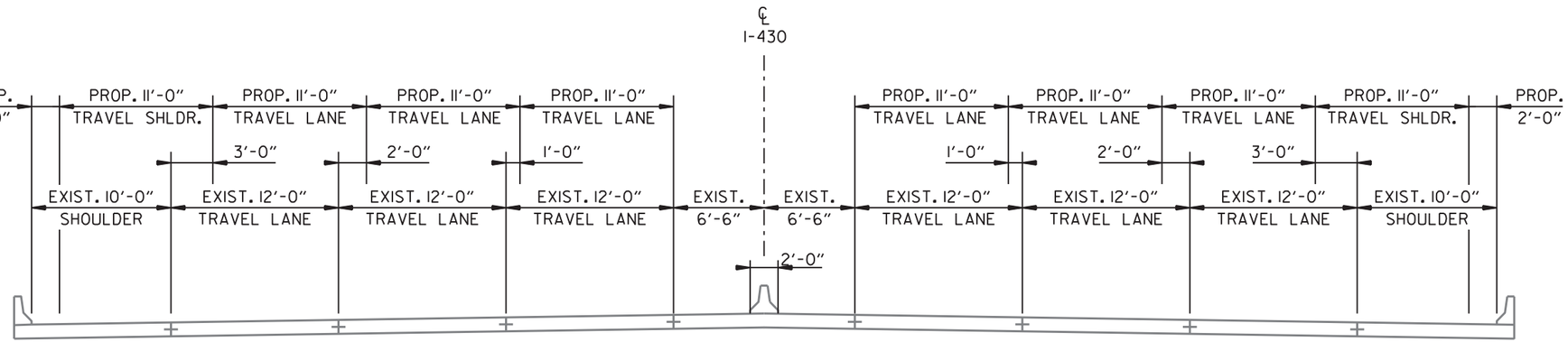


I-430
PART-TIME SHOULDER RUNNING
LANE CONFIGURATION



I-430 RIVER BRIDGE
PART-TIME SHOULDER RUNNING
LANE CONFIGURATION

HT39710 5/18/2020
R061630.DGN

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06-04-2020			

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6	ARK.			
JOB NO.		061630	5a	134

(2) TYPICAL SECTIONS OF IMPROVEMENT

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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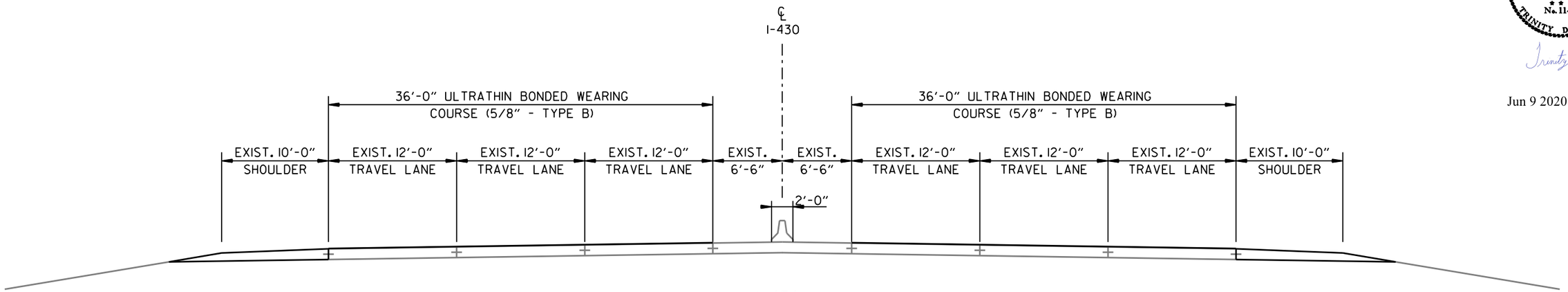
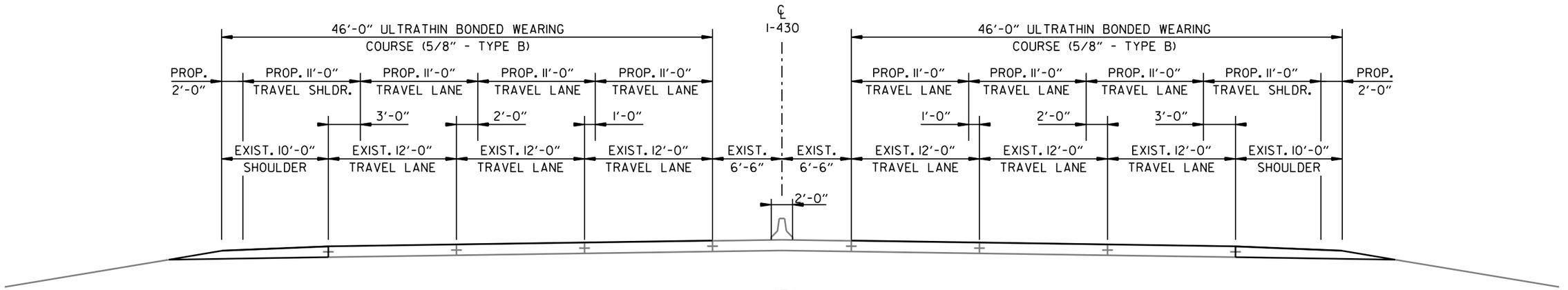


I-430
ULTRATHIN BONDED WEARING COURSE
L.M. 9.44 TO L.M. 9.97



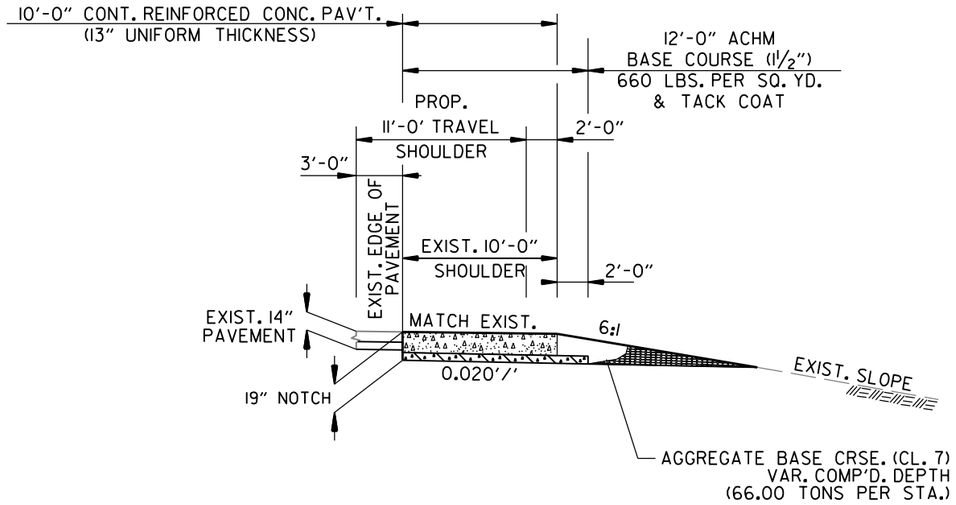
I-430
ULTRATHIN BONDED WEARING COURSE
L.M. 9.97 TO L.M. 10.33

HT39710 6/4/2020
R061630.DGN

TYPICAL SECTIONS OF IMPROVEMENT

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
06-04-2020				6	ARK.			
				JOB NO.		061630	6	134

(2) TYPICAL SECTIONS OF IMPROVEMENT



I-430
FULL DEPTH SHOULDER RECONSTRUCTION
STA. 523+26.00 S.B. - STA. 543+48.58 S.B.
STA. 526+46.00 N.B. - STA. 543+48.58 N.B.
(SHOWN IN THE DIRECTION OF TRAVEL)

NOTES:

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

THE EXISTING PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

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Trinity Smith

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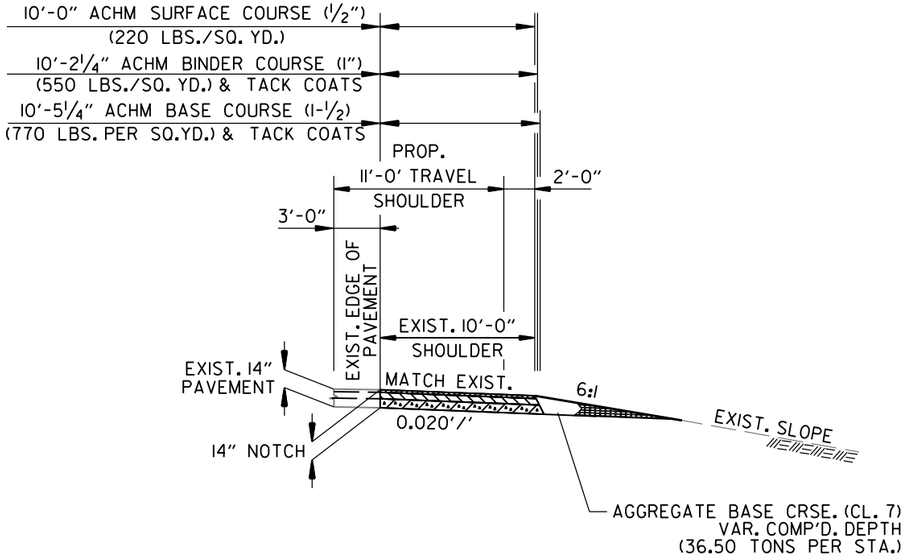
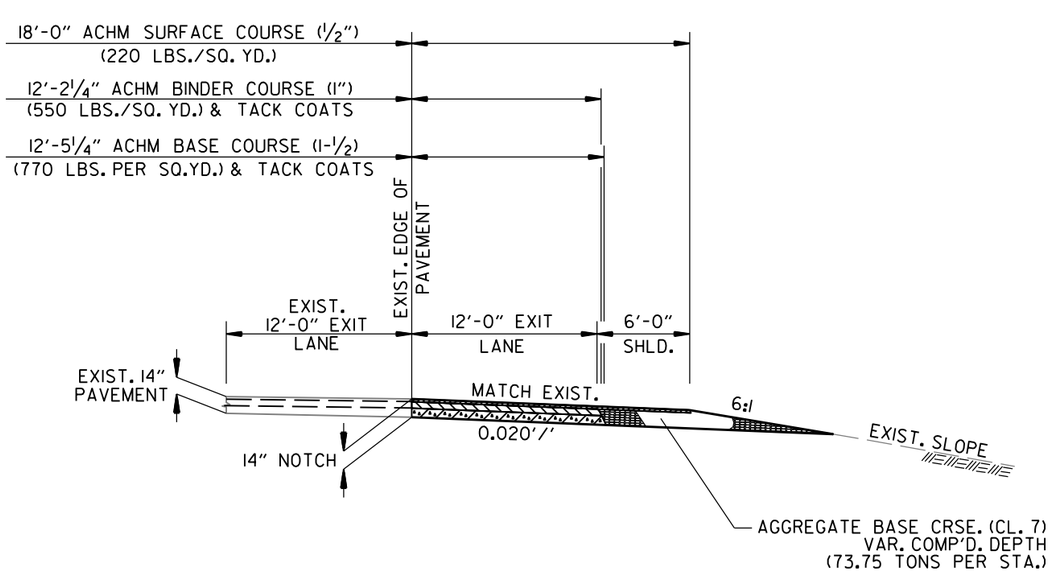


I-430
FULL DEPTH SHOULDER RECONSTRUCTION
STA. 593+69.02 S.B. - STA. 615+72.00 S.B.
STA. 593+69.02 N.B. - STA. 608+35.00 N.B.
(SHOWN IN THE DIRECTION OF TRAVEL)



I-430
NORTHBOUND EXIT RAMP
STA. 609+35.00 N.B. - STA. 620+00.00 N.B.
STA. 700+81.27 N.B. - STA. 705+41.64 N.B.

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TYPICAL SECTIONS OF IMPROVEMENT

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				6	ARK.			
				JOB NO.		061630	7	134

(2) SPECIAL DETAILS

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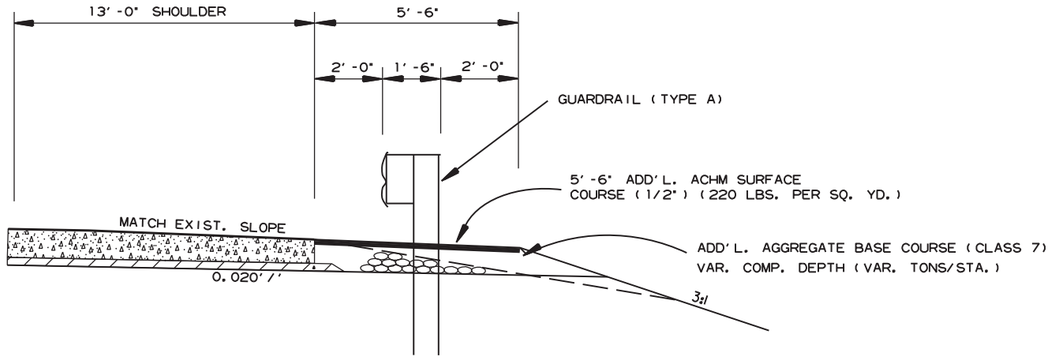
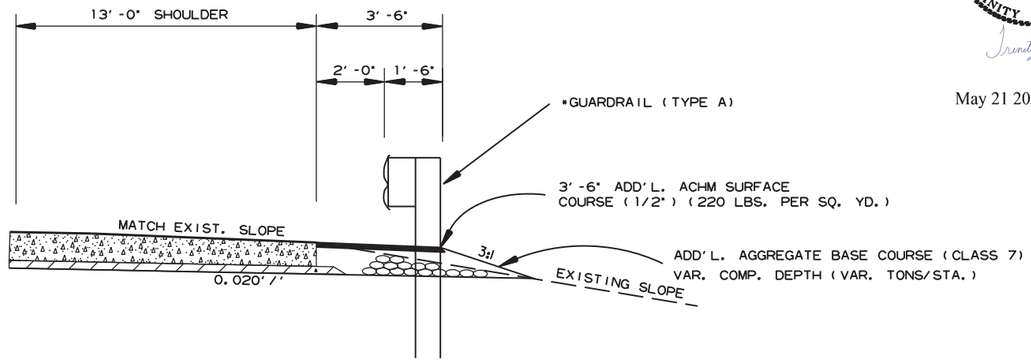


5' -6" WIDENING FOR GUARDRAIL WITH FULL DEPTH SHOULDERS

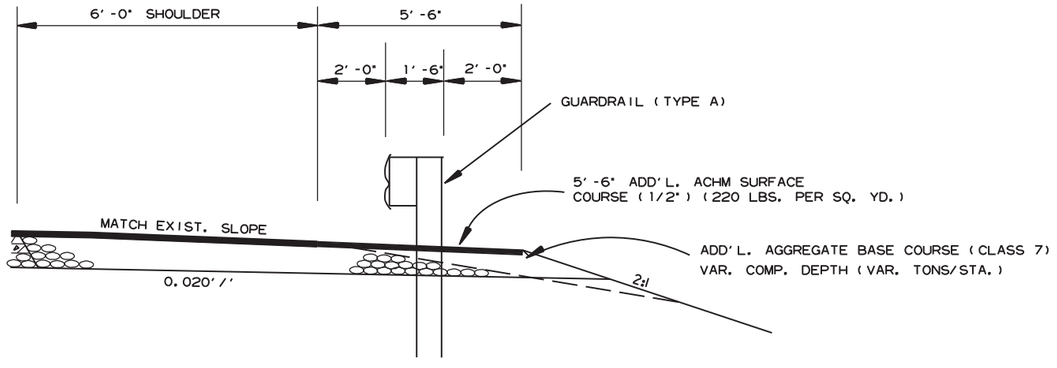
STA. 523+88.93 - 542+85.08 S.B.
STA. 538+63.93 - 542+85.08 N.B.
STA. 594+69.02 - 596+40.17 S.B.



*DENOTES 8' -0" GUARDRAIL POSTS TO BE INSTALLED

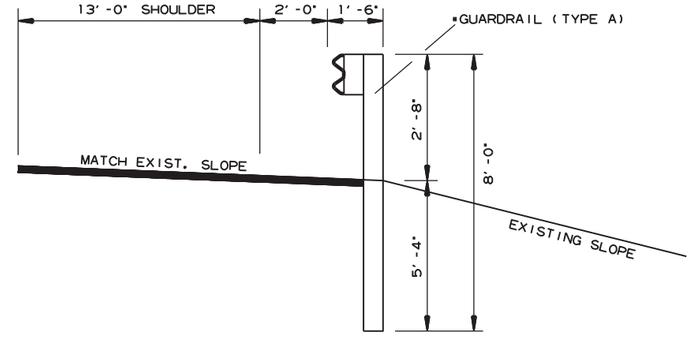
3' -6" WIDENING FOR GUARDRAIL WITH FULL DEPTH SHOULDERS

STA. 542+85.08 - 543+85.08 S.B.
STA. 542+85.08 - 543+85.08 N.B.
STA. 593+69.02 - 594+69.02 S.B.



5' -6" WIDENING FOR GUARDRAIL

STA. 608+89.73 - 620+00.00 N.B.
STA. 700+81.27 - 704+88.52 N.B. EXIT RAMP



SECTION DETAIL FOR GUARDRAIL

NOTE: REFER TO STANDARD DRAWINGS
GR-6, GR-7, GR-8, GR-9, GR-10, GR-11, & GR-12
FOR ADDITIONAL INFORMATION.

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(2) SPECIAL DETAILS

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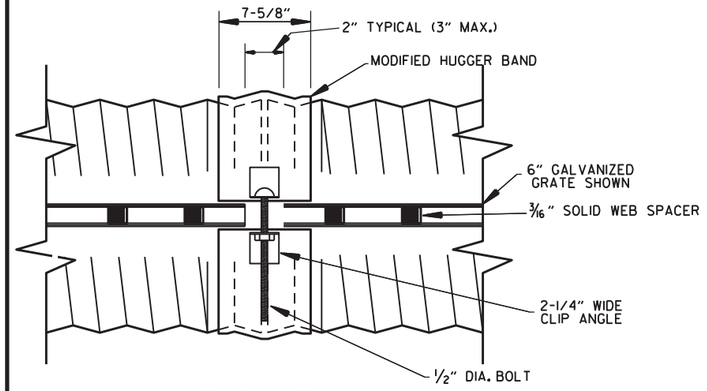
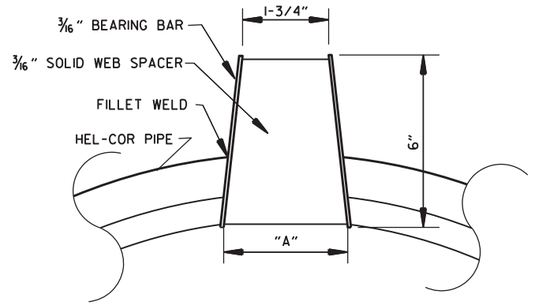
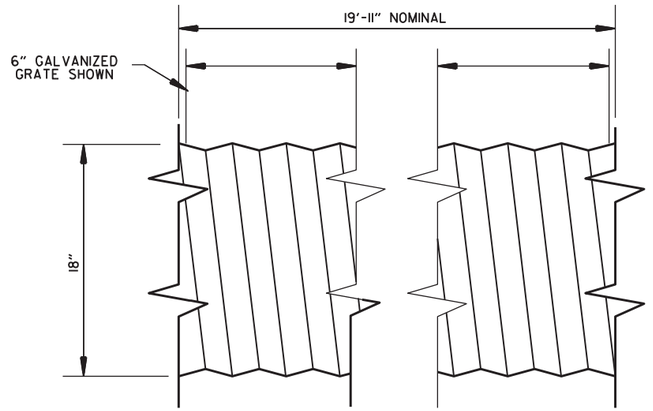


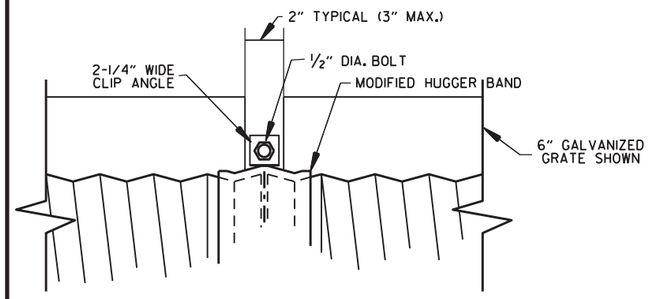
TOP VIEW



SECTION A-A
STANDARD DETAIL



TYPICAL PIPE SECTION



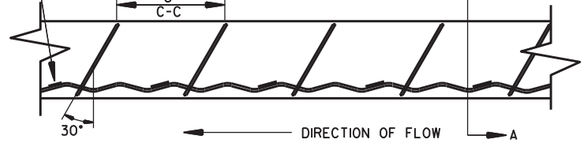
SIDE VIEW

TRAPEZOIDAL GALVANIZED GRATE (SHOWN)

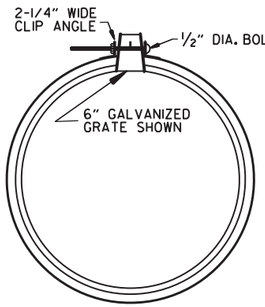
STANDARD SIZES						
GAGE OF PIPE	DIAMETER OF PIPE					
	12"	15"	18"	24"	30"	36"
16	X	X	X	X	X	X
14	X	X	X	X	X	X
12	N/A	N/A	N/A	N/A	X	X

GRATE TYPE		"A"
VERT	2 1/2"	1 3/4"
VERT	6"	1 3/4"
TRAP	2 1/2"	2 1/4"
TRAP	6"	3"

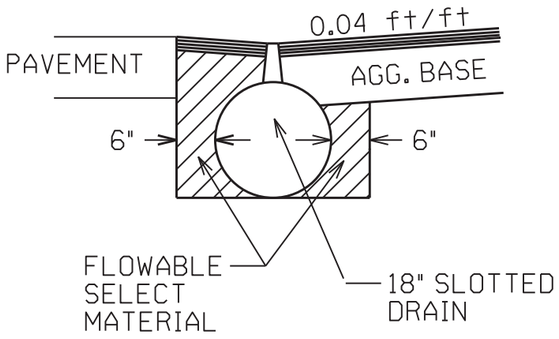
VERT = VERTICAL
TRAP = TRAPEZODIAL

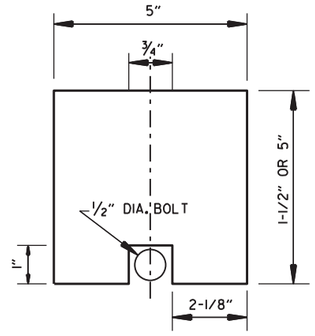


GRATE WELDING DETAIL



END VIEW





GAP PLATE (OPTIONAL)

MAY BE PLACED DIRECTLY OVER BAND BOLT TO PROVIDE CONTINUOUS FORM FOR GROUTING

SLOTTED DRAIN NOTES

1. GRATING IS AVAILABLE IN DEPTHS OF 2-1/2" AND 6".
2. VERTICAL GRATING (STRAIGHT SIDES) WITH VERTICAL SPACERS IS ALSO AVAILABLE.
3. FOR 6" VERTICAL AND TRAPEZODIAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY BE FURNISHED WITH THE 4" TECHCO BAND ANGLE.
4. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
5. THE GRATE SHALL BE MADE FROM A 570 GRADE 36 STEEL AND BE GALVANIZED IN ACCORDANCE WITH ASTM A123.

MANUFACTURING TOLERANCES

1. VERTICAL BOW ± 3/8"
2. HORIZONTAL BOW ± 5/8"
3. TWIST ± 1/2"

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SLOTTED DRAIN DETAILS
SPECIAL DETAILS

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(2) SPECIAL DETAILS

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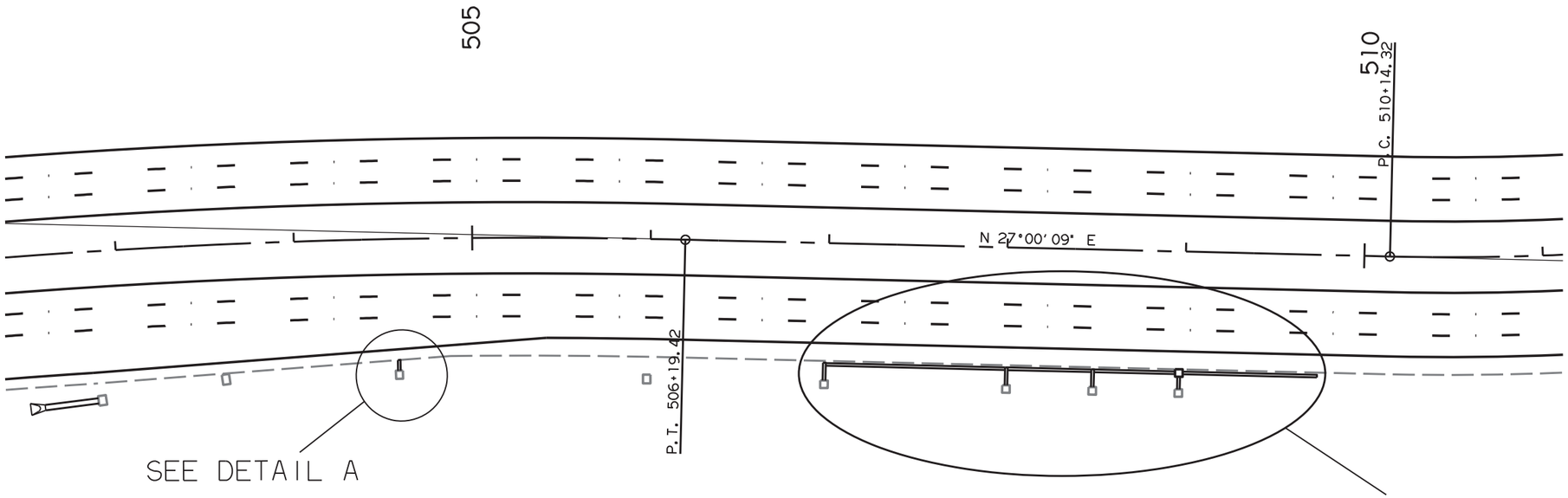
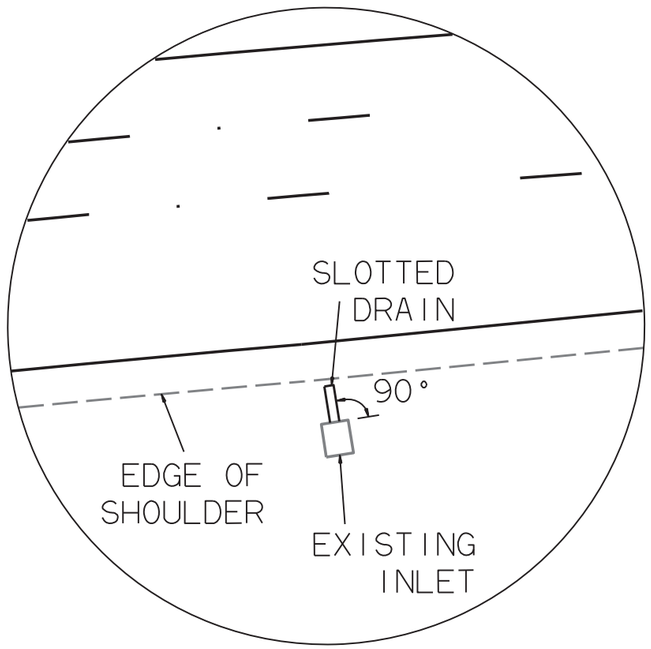
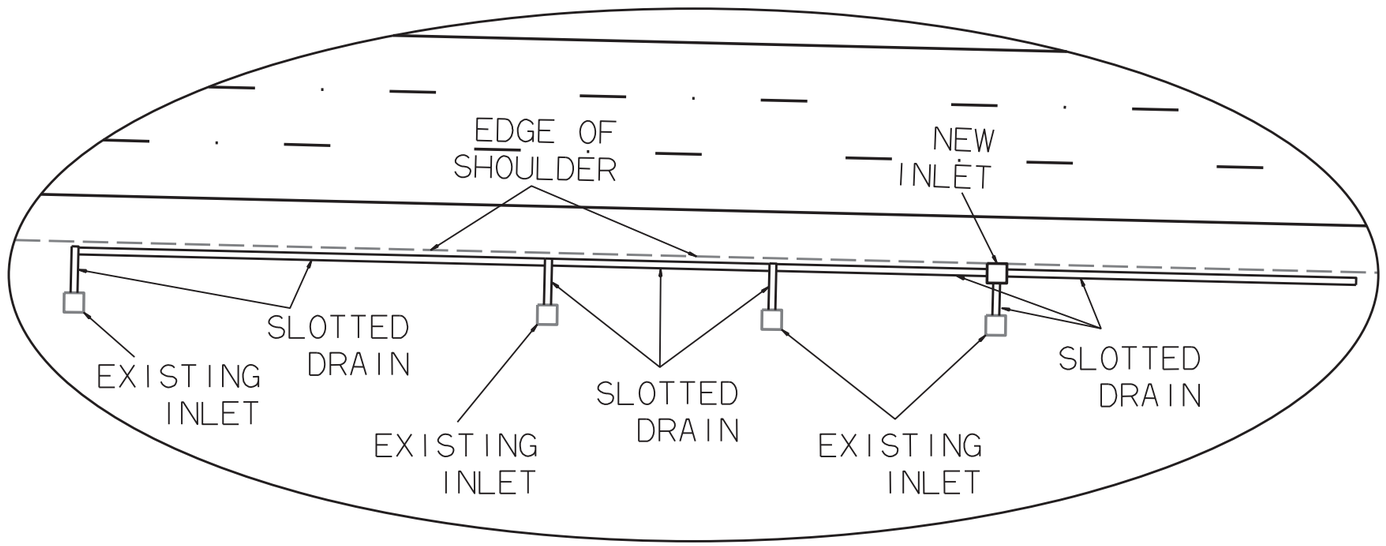




DETAIL A
LONGITUDINAL SLOTTED DRAIN



DETAIL B
LATERAL SLOTTED DRAIN

SLOTTED DRAIN DETAILS
SPECIAL DETAILS

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DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
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(2) SPECIAL DETAILS

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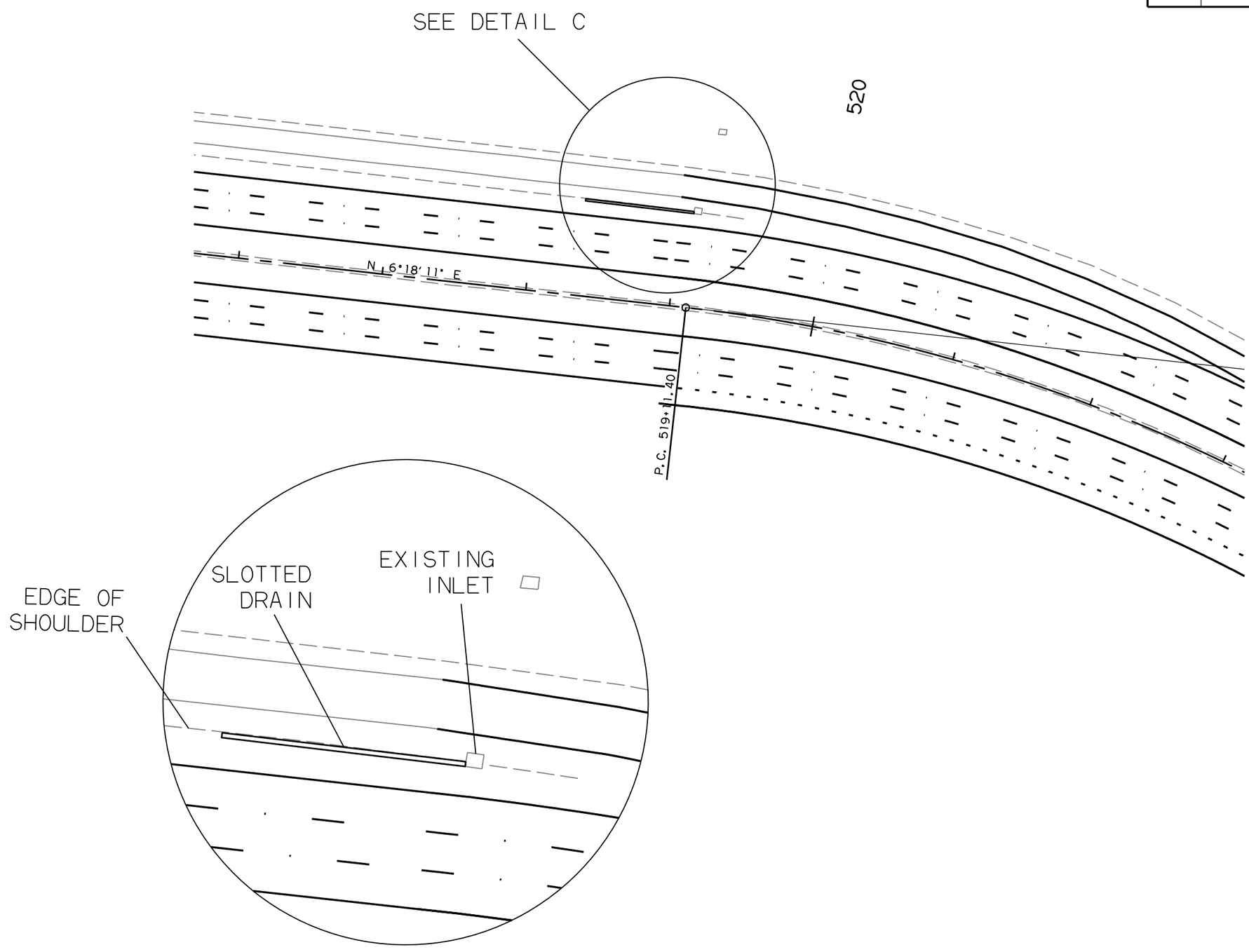

DETAIL C
LATERAL SLOTTED DRAIN

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R061630.DGN

SLOTTED DRAIN DETAILS
SPECIAL DETAILS

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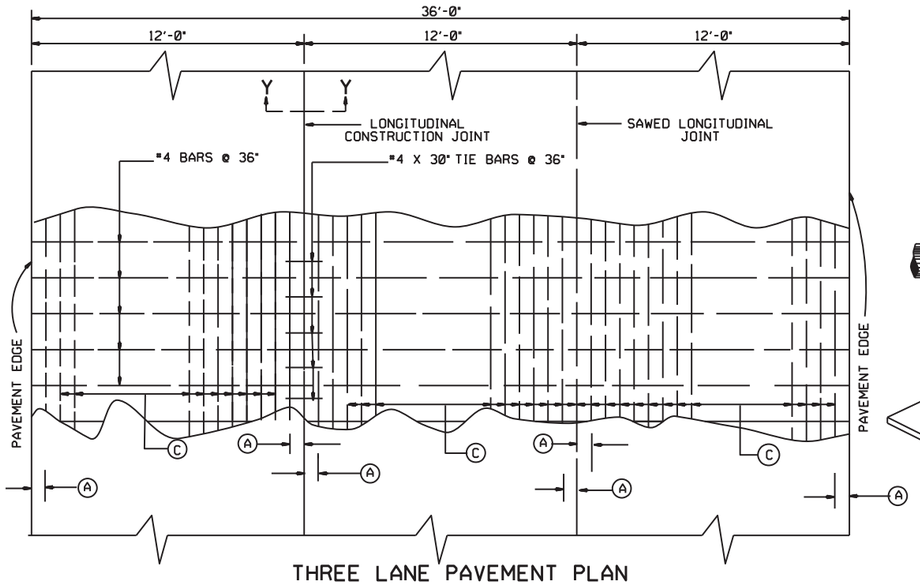
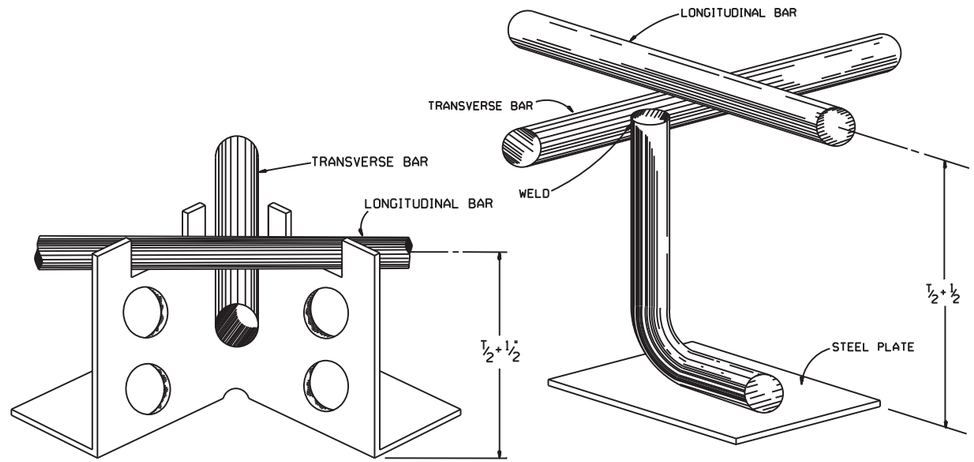
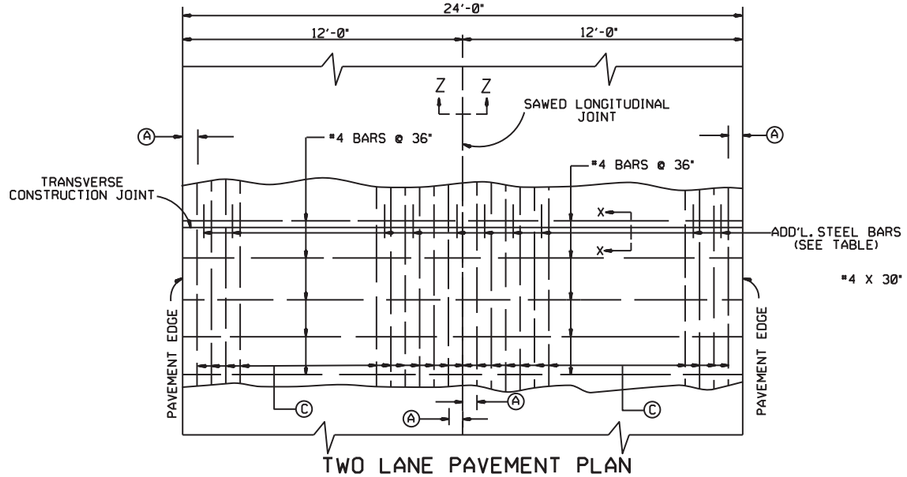
(2) SPECIAL DETAILS



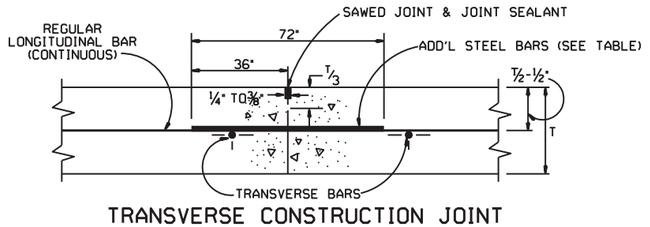
THREE LANE PAVEMENT PLAN
(12 FT. AND 24 FT. PLACEMENT) •



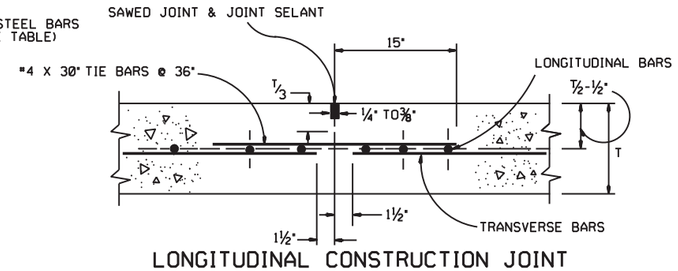
SUGGESTED CHAIR DETAILS



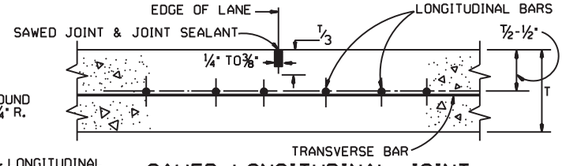
TWO LANE PAVEMENT PLAN
(24 FT. PLACEMENT) •



TRANSVERSE CONSTRUCTION JOINT
SECTION X-X

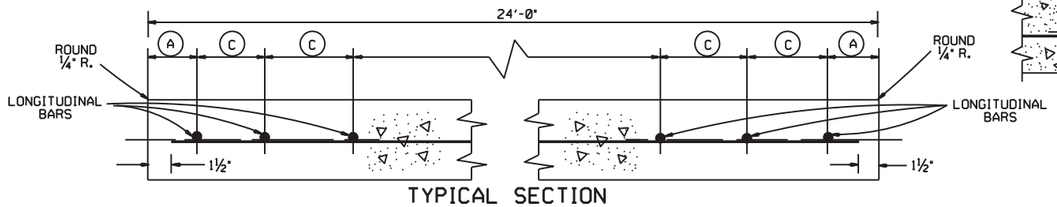


LONGITUDINAL CONSTRUCTION JOINT
SECTION Y-Y



SAWED LONGITUDINAL JOINT
SECTION Z-Z

JOINT DETAILS



TYPICAL SECTION
(24 FT. PLACEMENT) •

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

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

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• GENERAL NOTES •

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

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

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

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

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

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

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

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

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

TABLE OF EQUIVALENT LONGITUDINAL REINFORCEMENT

PAVEM'T. THICKNESS	BAR SIZE	24'-0" PLACEMENT WIDTH				12'-0" PLACEMENT WIDTH				ADD'L STEEL② TRANS. CONSTR. JOINT			
		SPACING (C-C)		BARS PER PLACE--MENT	STEEL ①	SPACING (C-C)		BARS PER PLACE--MENT	STEEL ①	SIZE	AVG. SPACING	② NO. PER LANE	WEIGHT
		A	C		LBS./ SQ. YD.	A	C		LBS./ SQ. YD.				LBS. PER FOOT
INCHES		INCHES				INCHES					INCHES		
6	#5	5½	7	40	18.28	5½	7	20	18.26	⅝" X 72"	14	10	5.22
8	#6	4½	7½	38	24.55	4½	7½	19	24.41	¾" X 72"	15	10	7.51
9	#6	3¾	6½	44	27.98	3¾	6½	22	27.95	¾" X 72"	13	11	8.26
10	#7	4	8½	34	29.53	4	8½	17	29.51	⅞" X 72"	17	8	8.18
11	#7	4½	7½	38	32.78	4½	7½	19	32.75	⅞" X 72"	15	10	10.22
12	#7	5½	7	40	34.39	5½	7	20	34.37	⅞" X 72"	14	10	10.22
13	#7	3¾	6½	44	37.65	3¾	6½	22	37.62	⅞" X 72"	13	11	11.24

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

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

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

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(2) SPECIAL DETAILS

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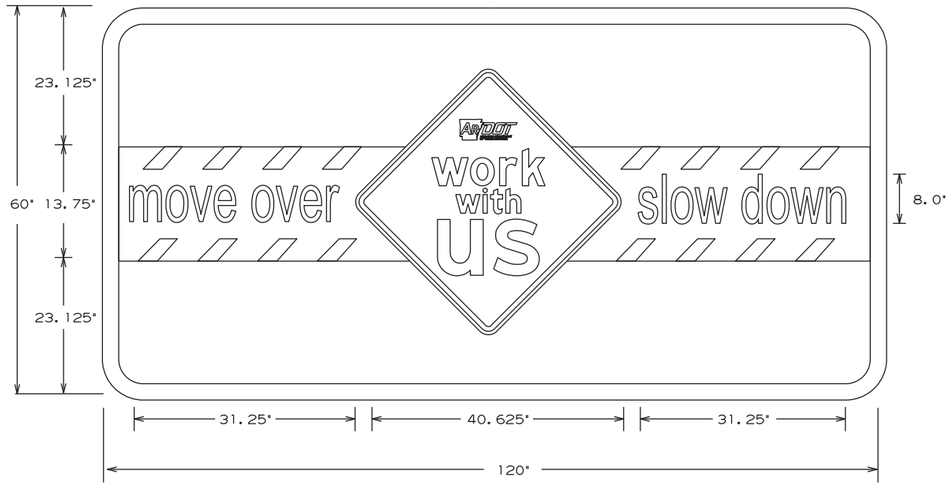

2" WHITE BORDER, 2" RADII, GREEN BACKGROUND
"move over/slow down" 5.31" NIVEAU GROTESK, REGULAR FONT x 1.5Y
"work with us" FRUTIGER LT 75 BLACK FONT

NOTE: DIGITAL ART WORK FILE AVAILABLE FROM ARDOT MAINTENANCE DIVISION SIGN SHOP 501-569-2665.
THIS SIGN SHALL BE PLACED 2640' PRECEDING THE FIRST ADVANCE WARNING SIGN, IN THE DIRECTION OF TRAFFIC.

WORK WITH US SIGN

6.0" Radius, 1.3" Border, Black on Orange;
"Job XXXXXX" C 2K; "Start Date Mo Year" C 2K;
"Est Completion Mo Year" C 2K; "IDRIVE " Arial;
" ARKANSAS.COM " Arial;

CONSTRUCTION PROJECT INFORMATION SIGN

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(2) TEMPORARY EROSION CONTROL DETAILS

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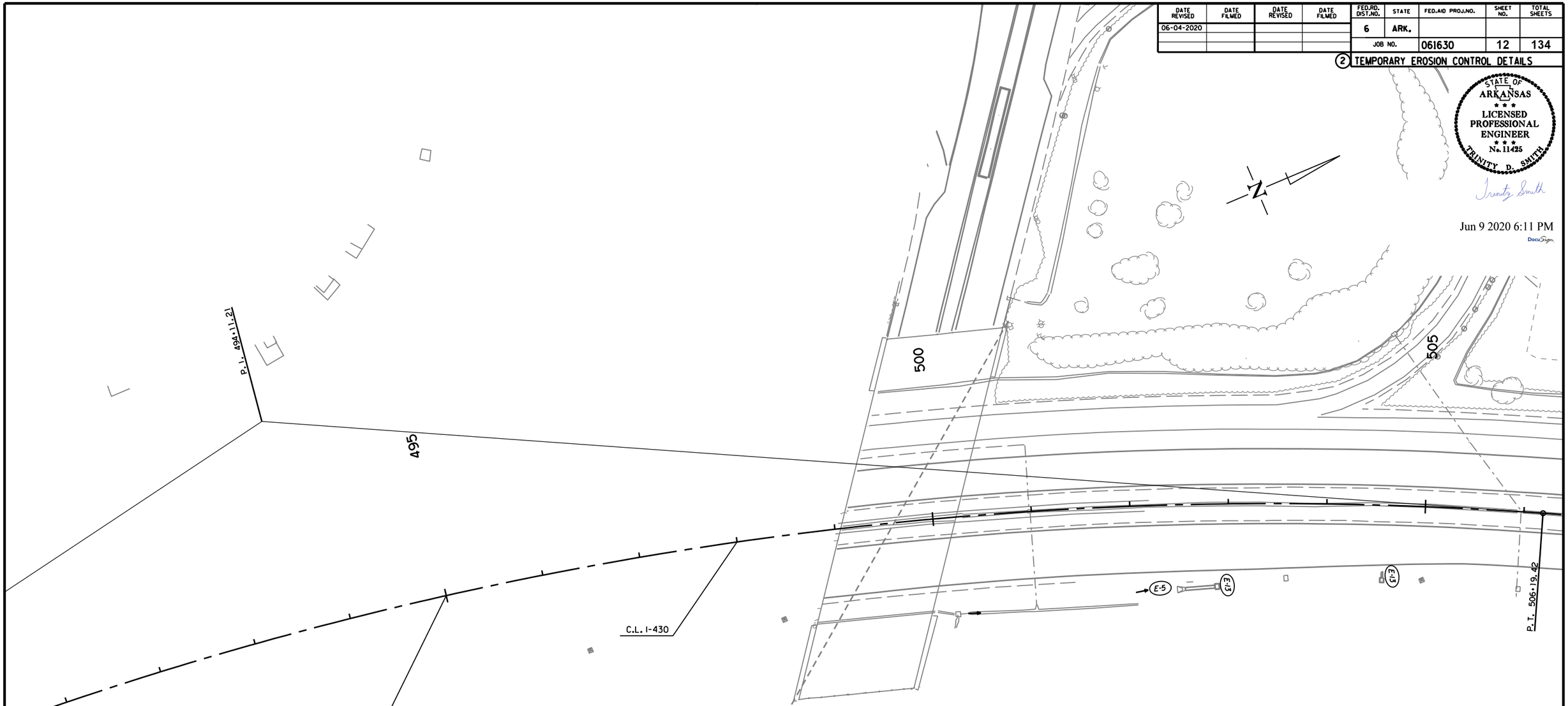

STA. 495+00.00
BEGIN JOB
LOG MILE 9.44

LEGEND

(E-5)	= SAND BAG DITCH CHECKS
(E-13)	= FILTER SOCK

REVISIONS

DATE OF REVISION	REVISION

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TEMPORARY EROSION CONTROL DETAILS

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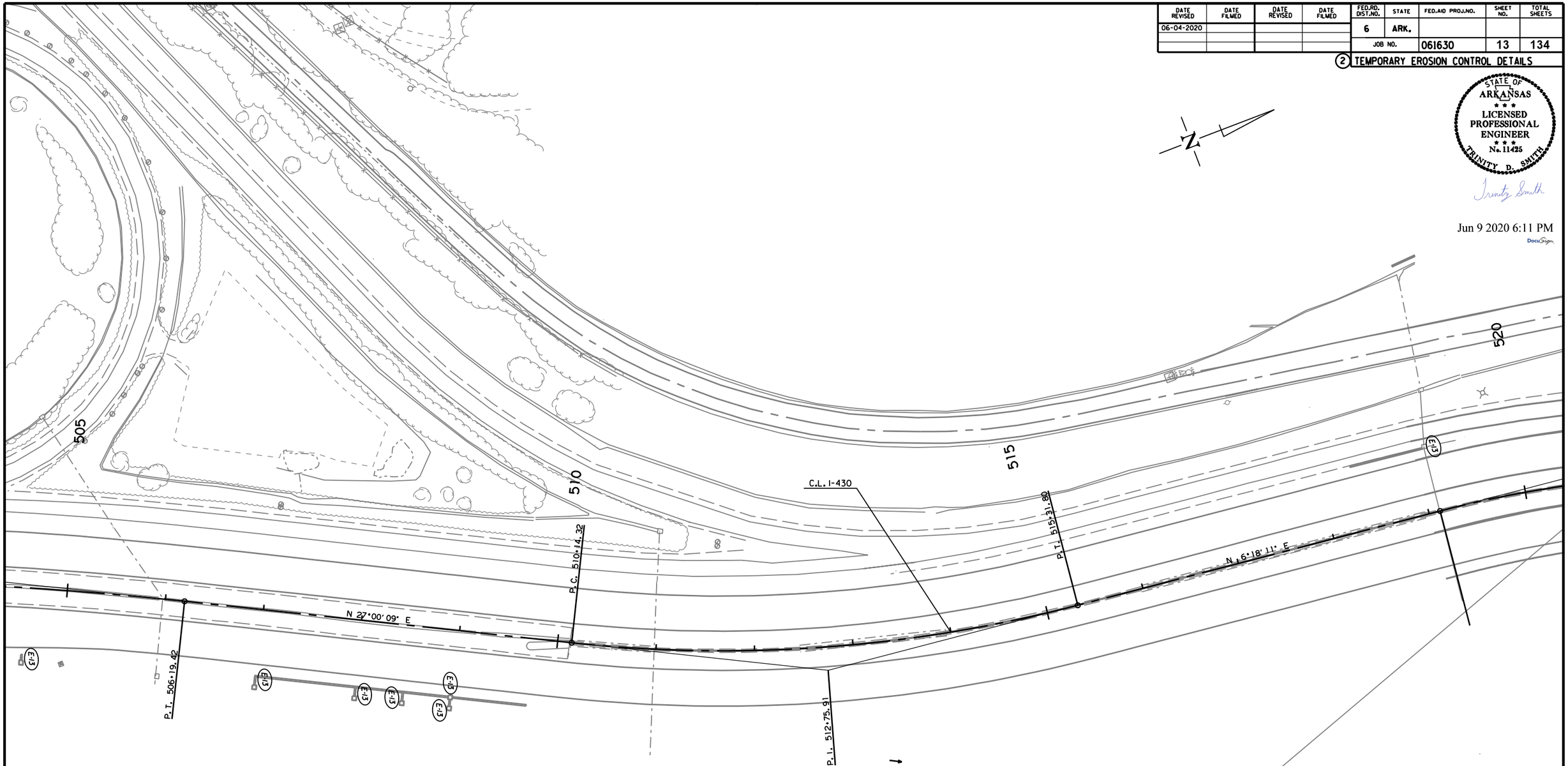

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-13 = FILTER SOCK

HT39710 6/9/2020
R061630.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	15	134

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

May 21 2020 3:35 PM

535 540 545 550

50' BUFFER

C.L. I-430

STA. 543+85.08
BEGIN BRIDGE

P.C. 546+46.21

N

E-11 • 2165 LIN.FT.

CONST. LIMITS

N 70°58'02" E

E-5 E-5 E-5 E-5 E-5

CONST. LIMITS

E-11 • 620 LIN.FT.

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-5 = SAND BAG DITCH CHECKS

E-11 = SILT FENCE

N

590 595 600 605

STA. 593+69.02
END BRIDGE

E-11 • 2670 LIN.FT.

CONST. LIMITS

C.L. I-430

E-11 • 3165 LIN.FT.

R061630.DGN

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	16	134

(2) TEMPORARY EROSION CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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50' BUFFER

C.L. I-430

605 610 615 620

E-II
• 2670 LIN.FT.

P.C. 619+07.70

700

CONST. LIMITS

E-II
• 3165 LIN.FT.

N 57°05' 07" E

STA. 620+00.00
END JOB 061630

P.O.B. 700+00.00

P.C. 700+49.87

REVISIONS

DATE OF REVISION	REVISION

LEGEND

E-II = SILT FENCE

620 700

C.L. I-430

P.C. 619+07.70

P.I. 704+14.58

705

STA. 705+41.64
END I-430 NB EXIT RAMP CONST.

I-430 N.B. EXIT RAMP

N 57°05' 07" E

P.O.B. 700+00.00

P.C. 700+49.87

CONST. LIMITS

E-II
• 3165 LIN.FT.

N 78°42' 27" E

P.O.E. 708+61.21

P.T. 707+70.61

STA. 700+81.27
BEGIN I-430 NB EXIT RAMP CONST.

TEMPORARY EROSION CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	17	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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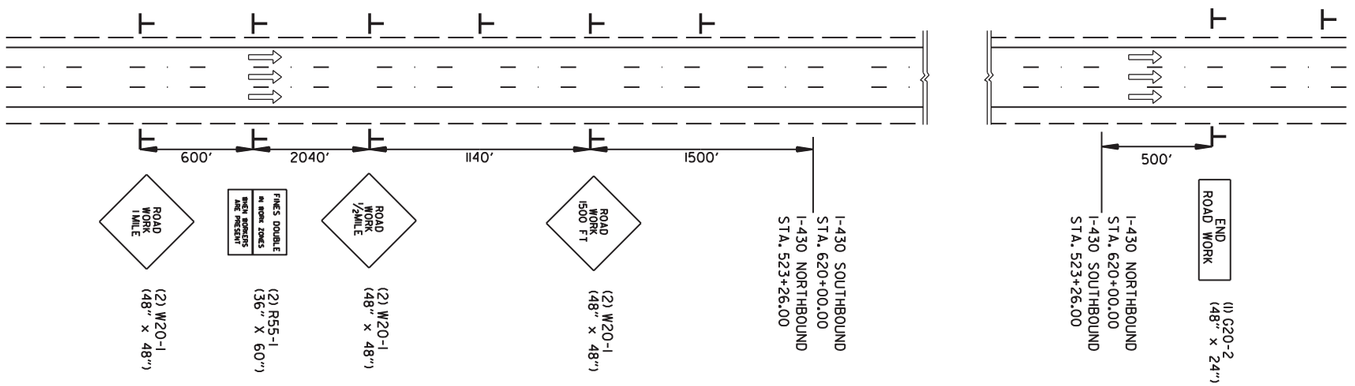
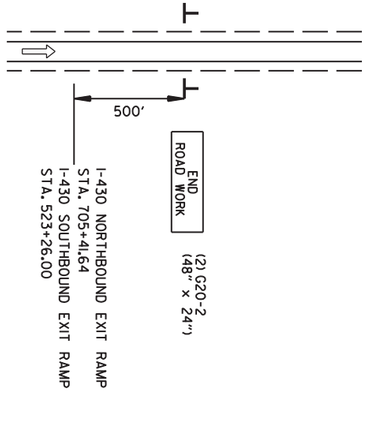
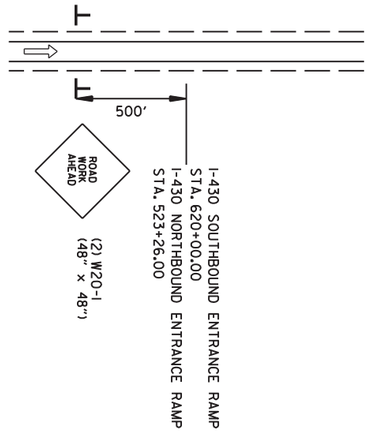
PORTABLE CHANGEABLE MESSAGE SIGN



ADVANCE WARNING SIGNS
I-430
(ALL STAGES)



ADVANCE WARNING SIGNS
I-430 EXIT RAMPS
(ALL STAGES)



ADVANCE WARNING SIGNS
I-430 ENTRANCE RAMPS
(ALL STAGES)

HT39710 5/18/2020
R061630.DGN

ADVANCE WARNING
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	18	134

(2) MAINTENANCE OF TRAFFIC DETAILS

CONSTRUCTION SEQUENCE

STAGE 1:

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

REMOVE PERMANENT PAVEMENT MARKINGS AND PLACE CONSTRUCTION PAVEMENT MARKINGS AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.

INSTALL P.C.C.B. AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.

REMOVE AND CONSTRUCT BRIDGE PEDESTALS IN LOCATIONS SPECIFIED IN PLANS.

NOTCH AT EXISTING SHOULDER EDGE AND CONSTRUCT FULL DEPTH PAVEMENT AND GUARDRAIL WIDENING AS SHOWN IN THE PLANS. INSTALL GUARDRAIL.

CONSTRUCT BRIDGE MODIFICATIONS, INSTALL I.T.S. EQUIPMENT, INSTALL LIGHTING, AND INSTALL SLOT DRAINS AS SHOWN IN THE PLANS.

STAGE 2:

RETAIN ADVANCE WARNING SIGNS AS SHOWN IN THE ADVANCE WARNING DETAILS.

INSTALL TRAFFIC DRUMS AND REMOVE P.C.C.B. AS SHOWN IN THE MAINTENANCE OF TRAFFIC DETAILS.

PERFORM HYDRODEMOLITION ON BRIDGE DECK.

DIAMOND GRIND EXISTING CONCRETE PAVEMENT L.M. 9.44 - L.M. 10.33 TO REMOVE TINES AND APPLY U.T.B.W.C.

REMOVE TRAFFIC DRUMS AND PLACE FINAL STRIPING AS SHOWN IN THE PERMANENT PAVEMENT MARKING DETAILS.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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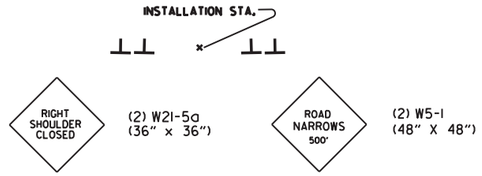
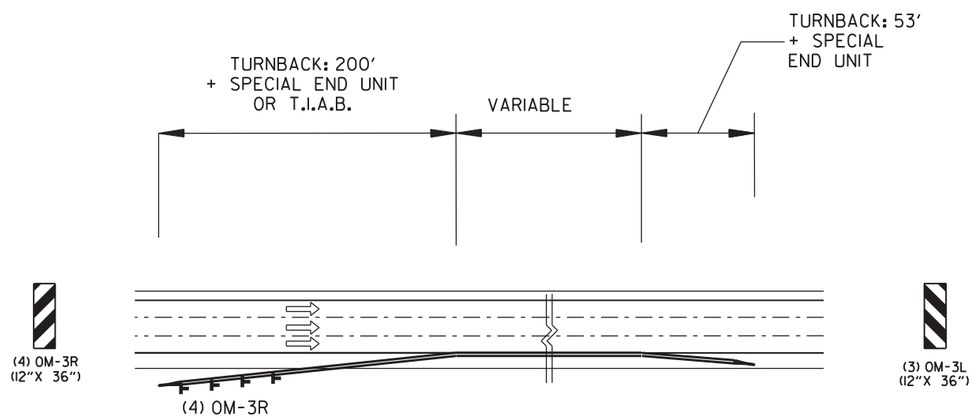


ADVANCE WARNING SIGNS

I-430 NORTHBOUND
STA. 523+26.00
I-430 SOUTHBOUND
STA. 620+00.00



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

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

DETAIL OF OBJECT MARKERS AT PRECAST CONCRETE BARRIER TURNBACKS

HT39710 5/18/2020
R061630.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.		061630	19	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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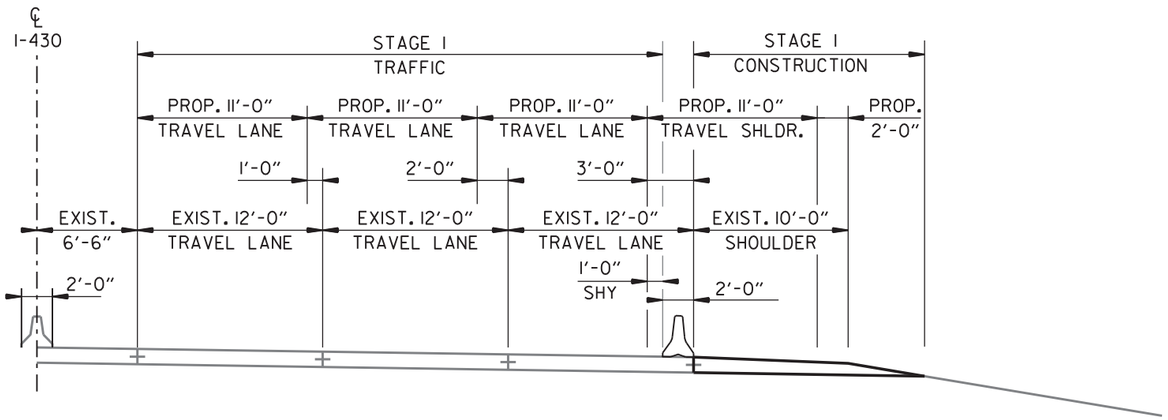
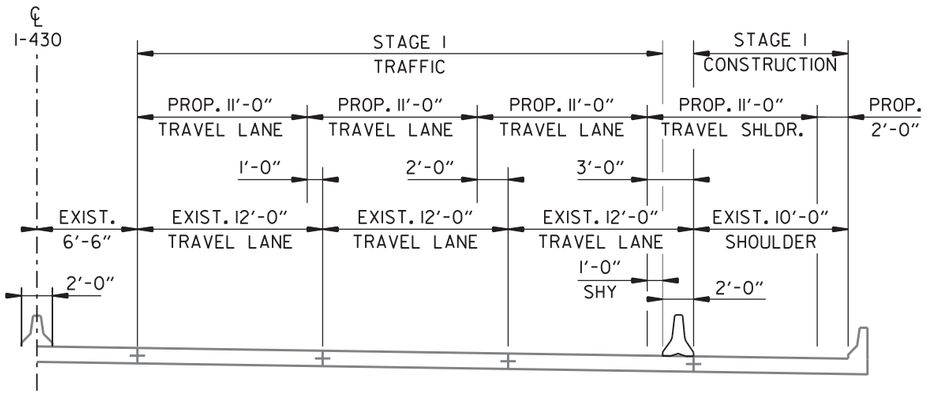


I-430
STAGE I CONSTRUCTION
(SHOWN IN THE DIRECTION OF TRAVEL)



I-430 RIVER BRIDGE
STAGE I CONSTRUCTION
STA. 543+85.08 - STA. 593+69.02
(SHOWN IN THE DIRECTION OF TRAVEL)

HT39710 5/18/2020
R061630.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.		061630	20	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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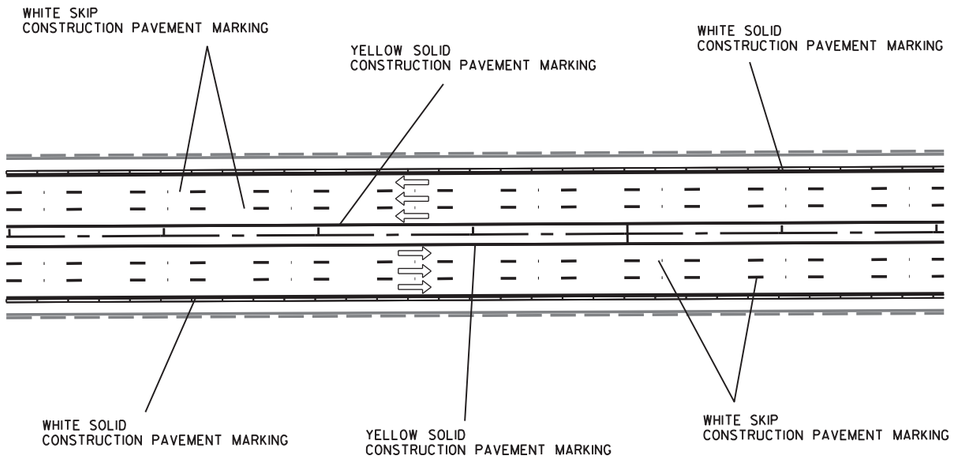

HT39710 5/18/2020
R061630.DGN

CONSTRUCTION PAVEMENT MARKING DETAILS
MAINTENANCE OF TRAFFIC DETAILS

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

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	21	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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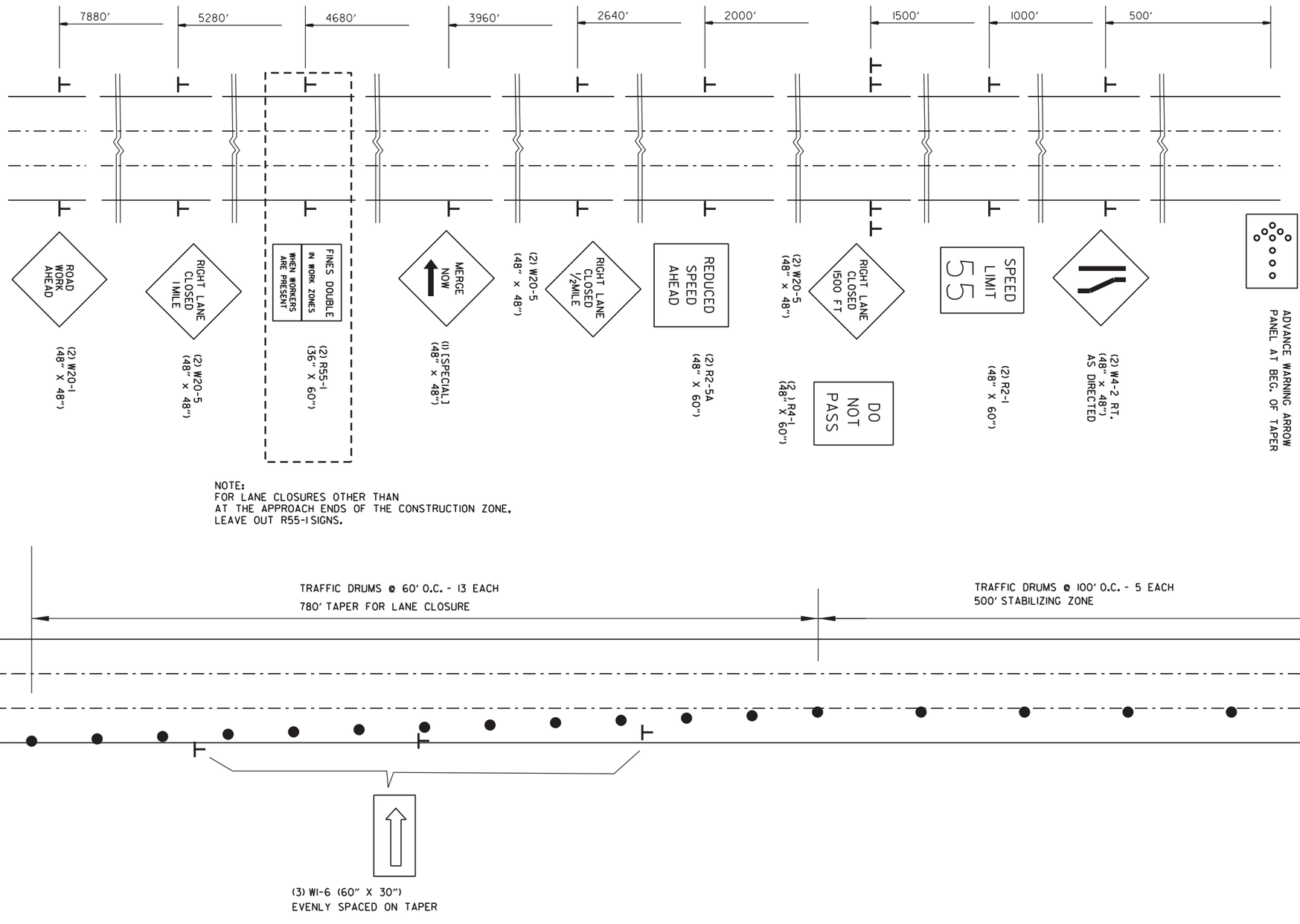

ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM PLACEMENT FOR OUTSIDE LANE CLOSURE (I-430)

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

HT39710 5/18/2020
R061630.DGN

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

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	22	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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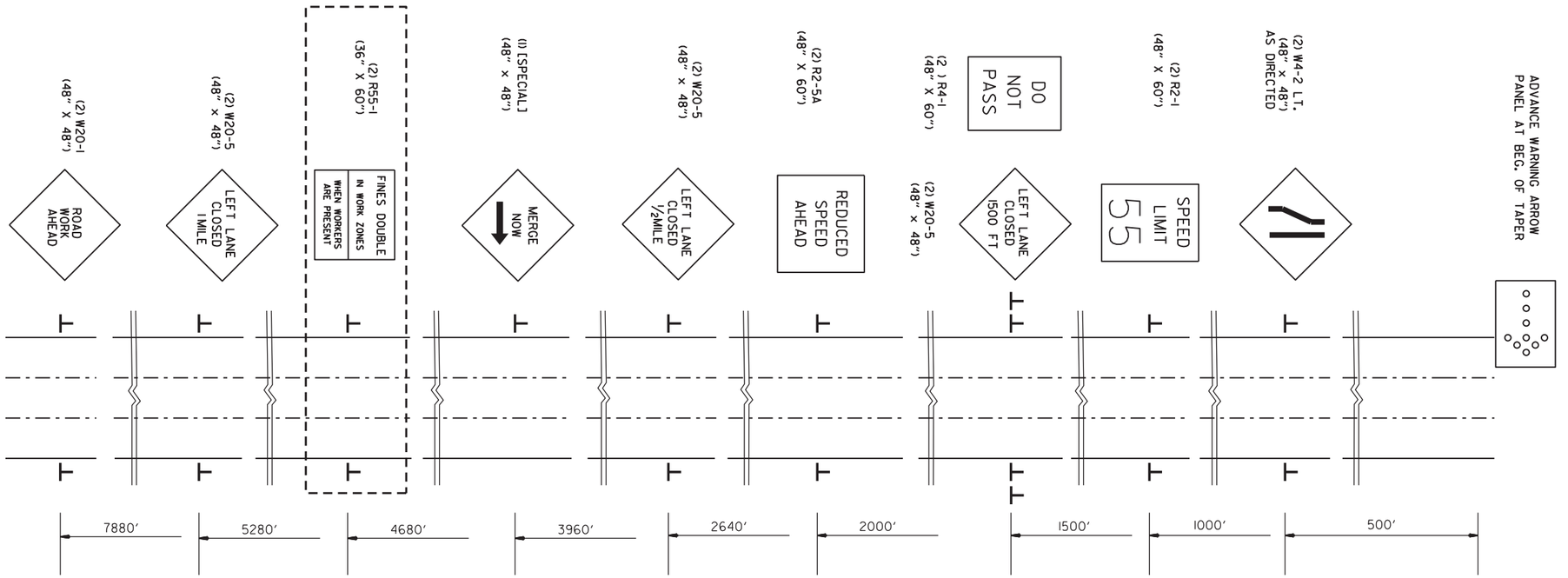
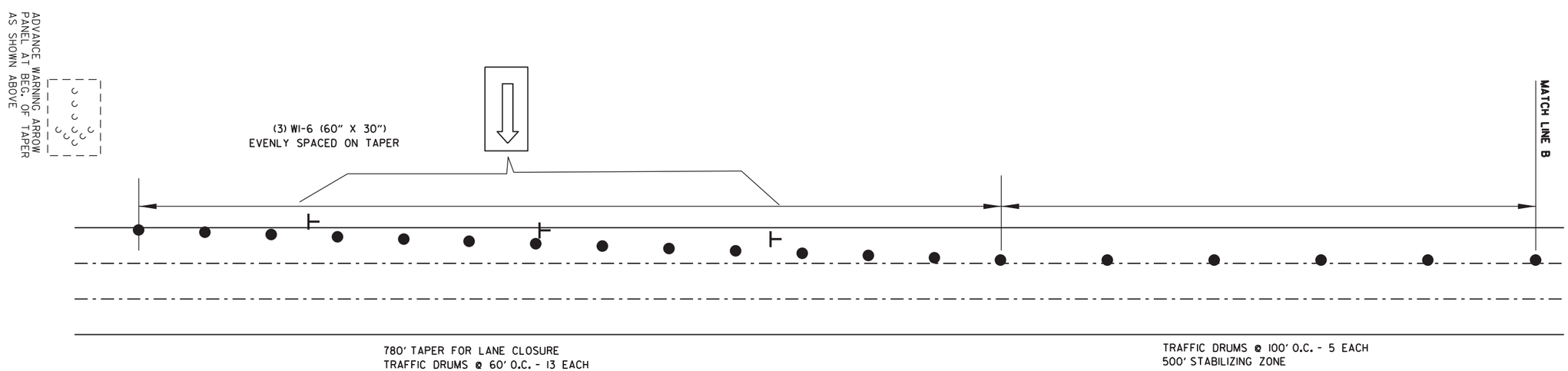


NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.



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

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

HT39710 5/18/2020
R061630.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.		061630	23	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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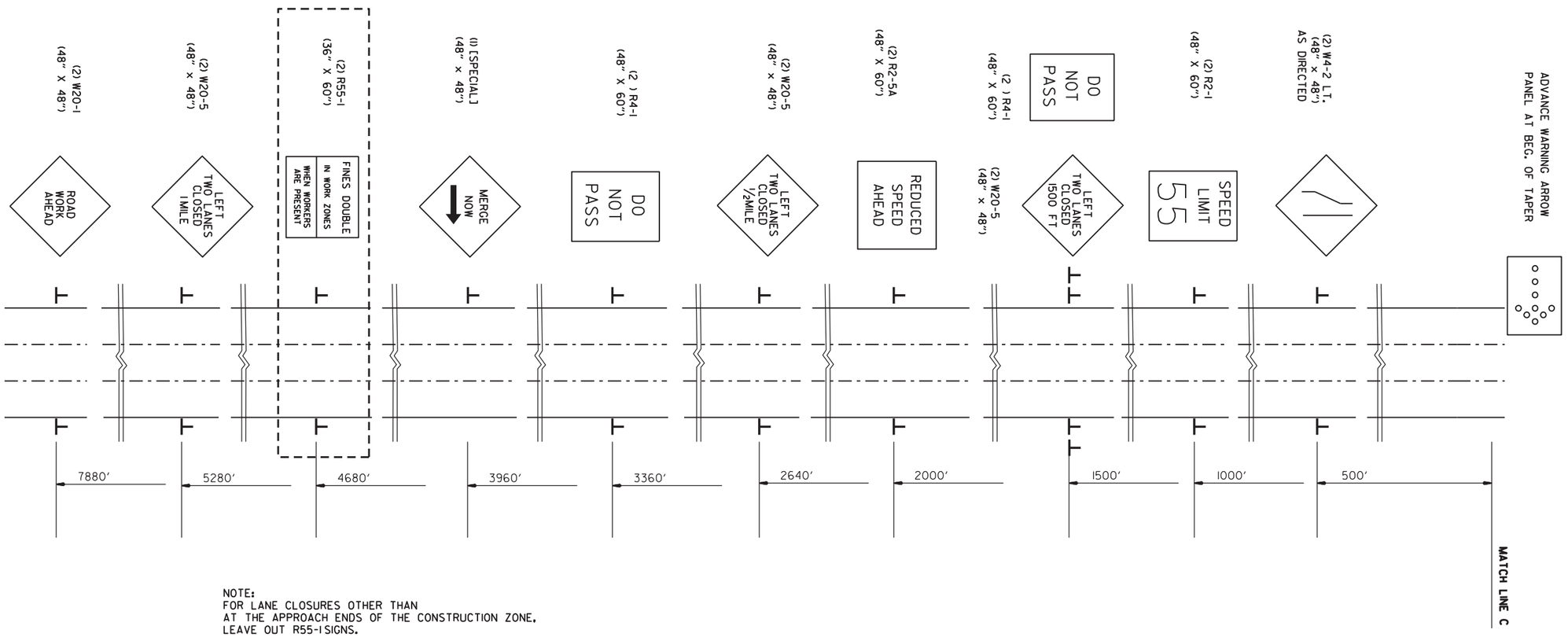

NOTE:
FOR LANE CLOSURES OTHER THAN
AT THE APPROACH ENDS OF THE CONSTRUCTION ZONE,
LEAVE OUT R55-1 SIGNS.

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

HT39710 5/18/2020
R061630.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	24	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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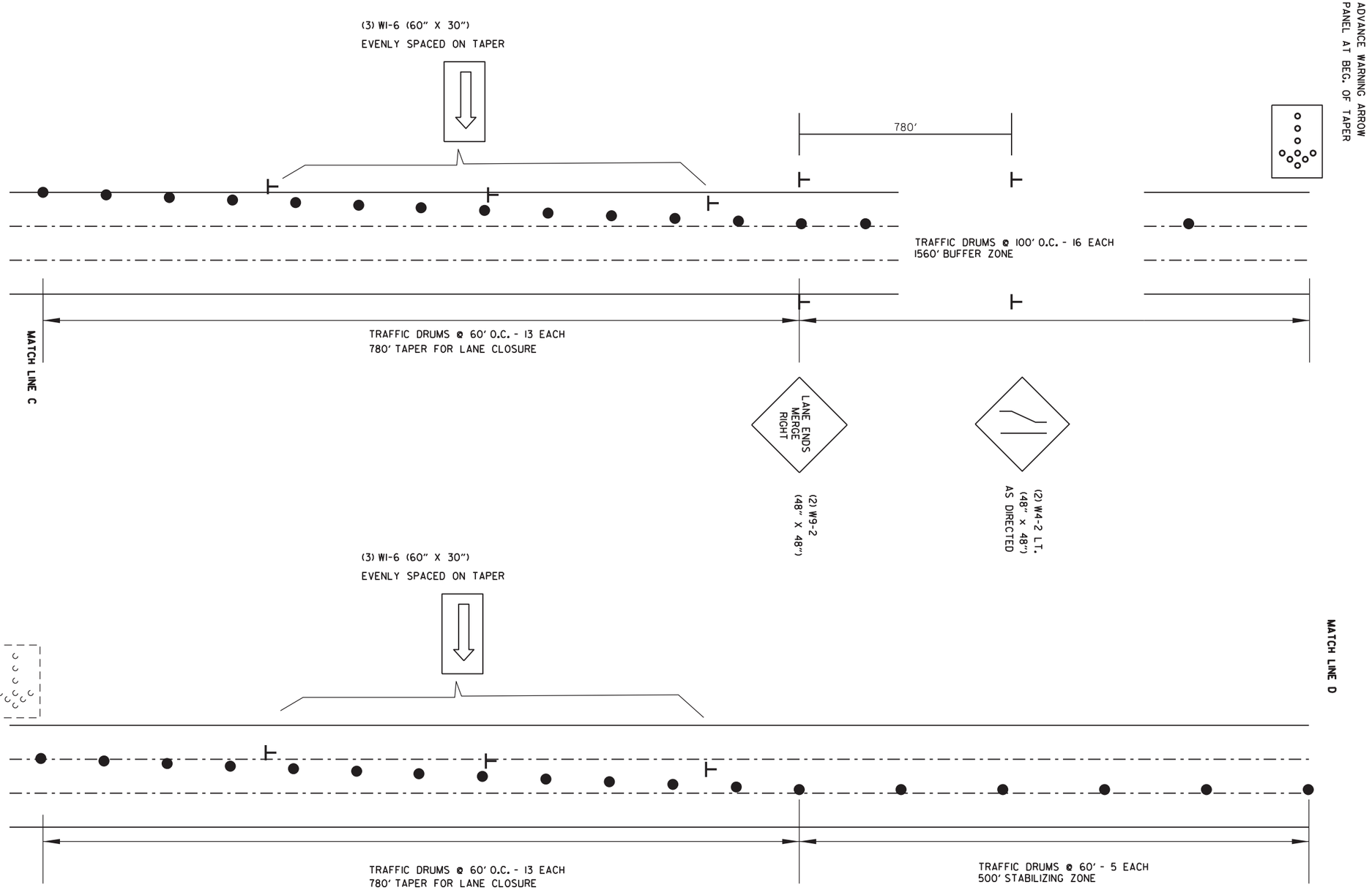

ADVANCE WARNING SIGNS & TYPICAL TRAFFIC DRUM LAYOUT FOR INSIDE & MIDDLE LANE CLOSURES (I-430)

HT39710 5/18/2020
R061630.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	25	134

(2) MAINTENANCE OF TRAFFIC DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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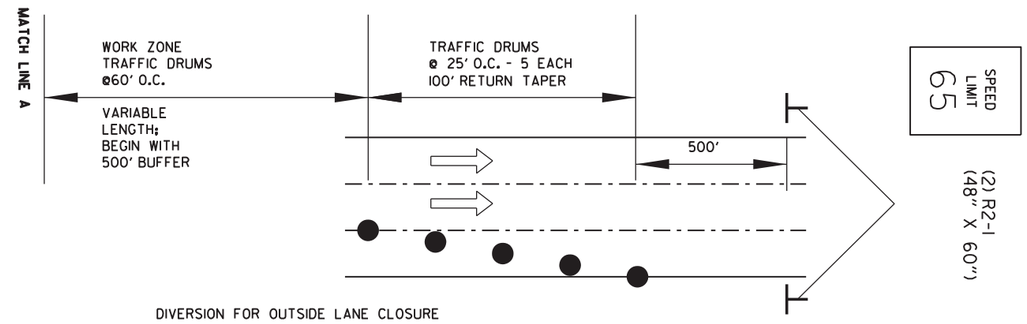
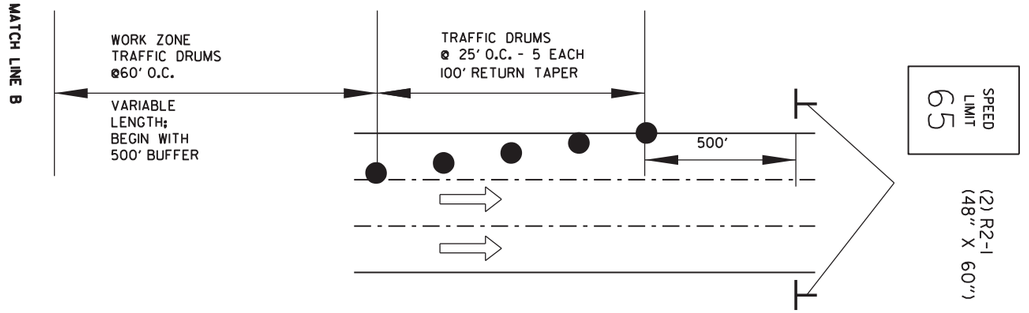
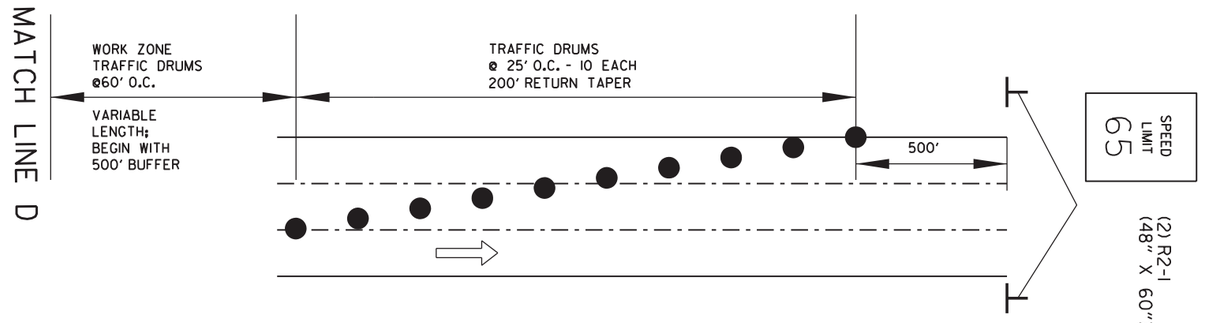


DIVERSION FOR OUTSIDE LANE CLOSURE



DIVERSION FOR INSIDE LANE CLOSURE



DIVERSION FOR INSIDE AND MIDDLE LANE CLOSURES

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

HT39710 5/18/2020
R061630.DGN

LANE CLOSURE
MAINTENANCE OF TRAFFIC DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	26	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

Jun 9 2020 6:11 PM

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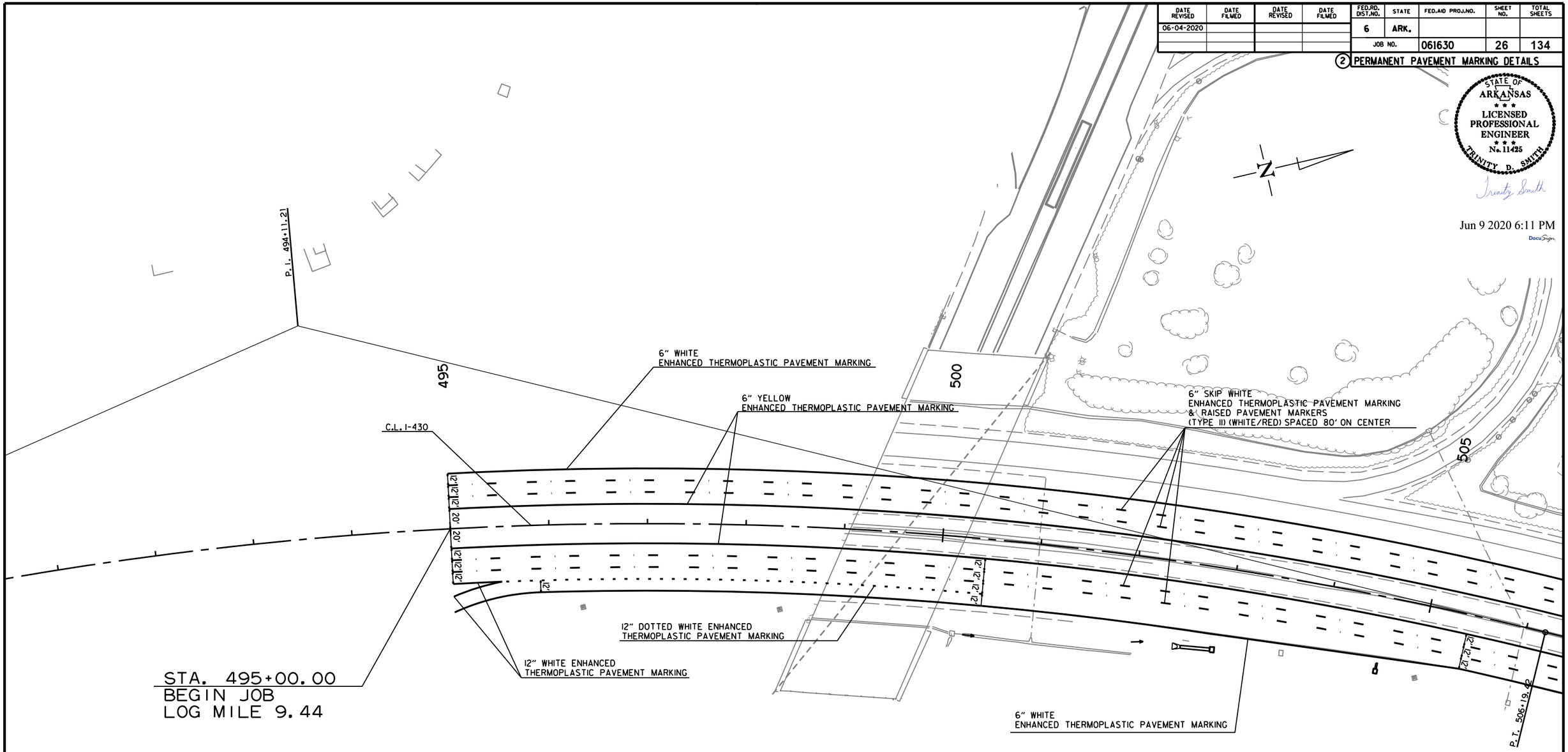

PERMANENT PAVEMENT MARKING DETAILS

HT39710 6/9/2020
R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	27	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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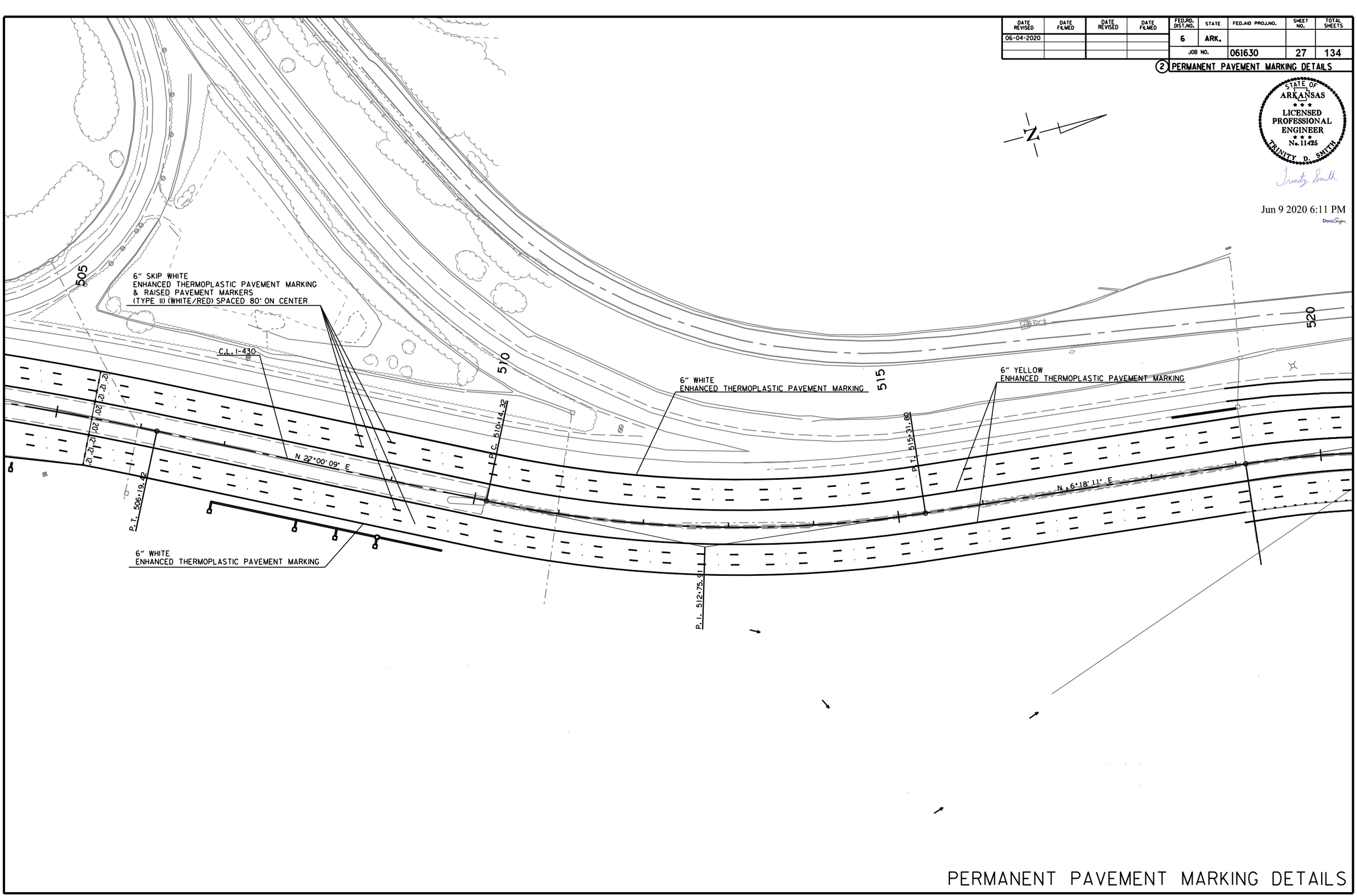

PERMANENT PAVEMENT MARKING DETAILS

HT39710 6/9/2020
R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	28	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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520

525

530

535

P.I. 526+36.71

STA. 523+26.00 LT.

STA. 525+26.00 LT.

STA. 527+26.00 LT.

STA. 530+26.00 LT.

200' TAPER

300' TAPER

12" WHITE THERMOPLASTIC PAVEMENT MARKING

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

CONST. LIMITS

12" DOTTED WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" SKIP WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING & RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER

C.L. I-430

6" YELLOW ENHANCED THERMOPLASTIC PAVEMENT MARKING

STA. 526+46.00 RT.

STA. 529+49.00 RT.

P.I. 532+04.68

EXIST. 425' GORE TAPER

STA. 523+26.00 LT.

STA. 519+01.00 LT.

STA. 519+00.00

STA. 533+00.00

EXIST. 1400' MEDIAN TAPER

15' 20' 12' 12' 12' 12' 20' 20' 12' 12' 12' 12'

21' 12' 12' 12' 12' 21'

12' 12' 12'

11' 11' 11' 11'

HT39710 6/4/2020
R061630.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	29	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

May 21 2020 3:38 PM

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535 540 545 550

N

6" SKIP WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING
& RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' ON CENTER

C.L. I-430

6" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

P.C. 546+46.31

CONST. LIMITS

N 70°58'02" E

CONST. LIMITS

6" YELLOW
ENHANCED THERMOPLASTIC PAVEMENT MARKING

STA. 543+85.08
BEGIN BRIDGE

6" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

550 555 560 565

N

6" SKIP WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING
& RAISED PAVEMENT MARKERS
(TYPE II) (WHITE/RED) SPACED 80' ON CENTER

P.T. 555+69.34

6" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

C.L. I-430

N 70°58'02" E

N 57°07'19" E

P.I. 551+10.09

6" YELLOW
ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE
ENHANCED THERMOPLASTIC PAVEMENT MARKING

5/18/2020

R061630.DGN

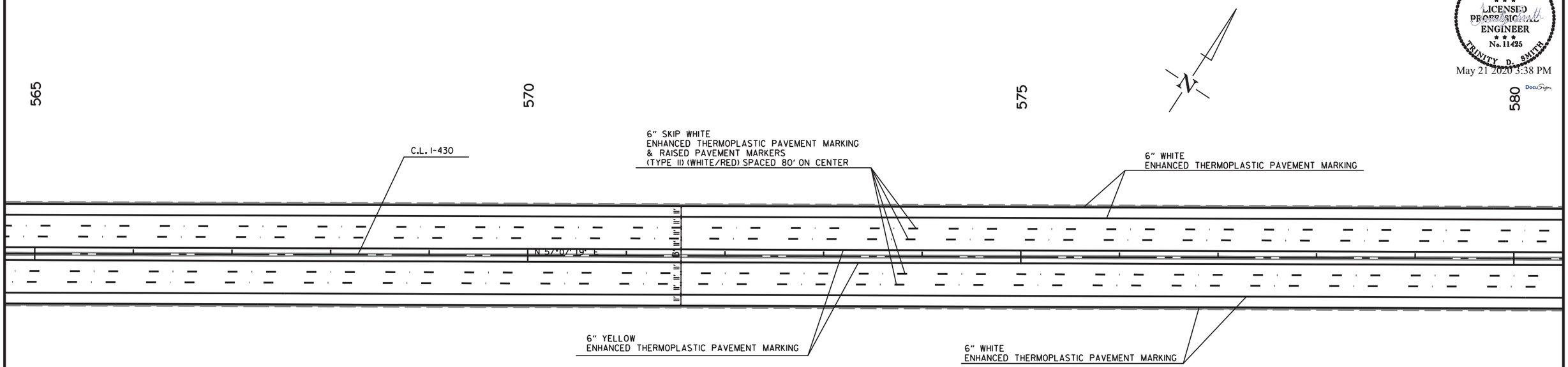
PERMANENT PAVEMENT MARKING DETAILS

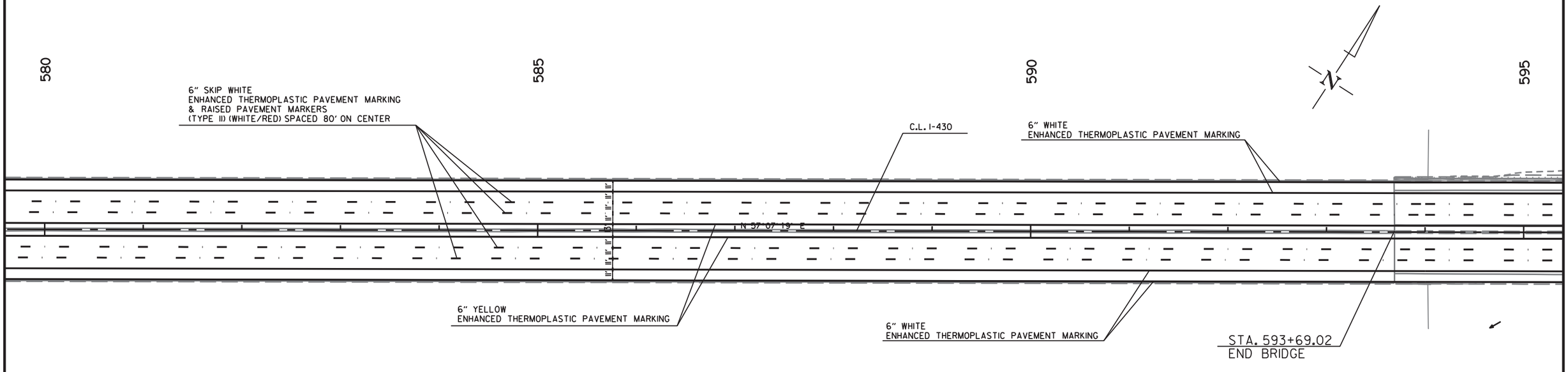
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	30	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

May 21 2020 3:38 PM





5/18/2020

R061630.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	31	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
May 24 2020 3:39 PM
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595 | STA. 596+30.00 | 600 | STA. 603+50.00 | 605 | STA. 605+35.00 RT. | STA. 608+35.00 RT. | STA. 609+35.00 RT. | 610

EXIST. 720' MEDIAN TAPER

6" SKIP WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING & RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

CONST. LIMITS

C.L. I-430

300' TAPER | 100'

N 57°07' 19" E

11" 11" 11" 11" 11" 11" 11" 11" 11" 11" 11" 11" 20' 20' 20' 12" 12" 12" 12" 20'

6" YELLOW ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

12" DOTTED WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

610 | STA. 612+72.00 LT. | 615 | STA. 615+72.00 LT. | 620 | P.C. 619+07.70 | 700 | 705

6" SKIP WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING & RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER

300' TAPER

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

12" DOTTED WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

C.L. I-430

N 57°07' 19" E

20' 11" 11" 11" 11" 11" 20' 12" 12" 12" 12" 12"

P.I. 704+14.58

N 57°05' 07" E

12" 12" 12" 12" 12"

CONST. LIMITS

STA. 609+35.00 LT.

12" DOTTED WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

300' TAPER

STA. 612+35.00 LT.

6" YELLOW ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING

6" SKIP WHITE ENHANCED THERMOPLASTIC PAVEMENT MARKING & RAISED PAVEMENT MARKERS (TYPE II) (WHITE/RED) SPACED 80' ON CENTER

STA. 620+00.00
END JOB 061630

P.O.B. 700+00.00

P.C. 700+49.87

CONST. LIMITS

5/18/2020

R061630.DGN

PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	32	134

(2) PERMANENT PAVEMENT MARKING DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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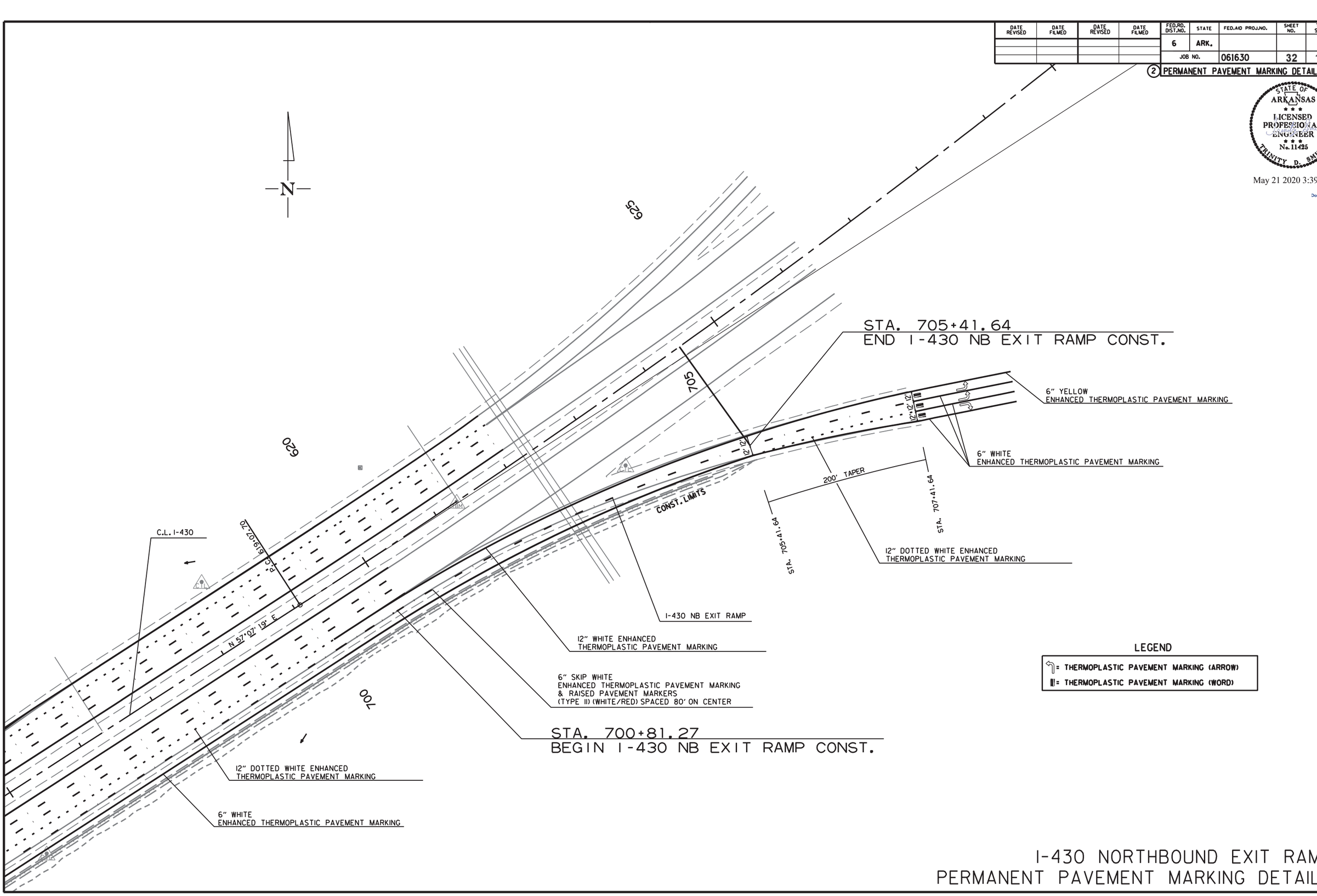

HT39710 5/18/2020
R061630.DGN

I-430 NORTHBOUND EXIT RAMP
PERMANENT PAVEMENT MARKING DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	33	134

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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ADVANCE WARNING SIGNS AND DEVICES

SIGN NUMBER	DESCRIPTION	SIGN SIZE	STAGE 1	STAGE 2	MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	TRAFFIC DRUMS	FURNISHING & INSTALLING PRECAST CONC. BARRIER	TEMPORARY IMPACT ATTENUATION BARRIER	TEMP. IMPACT ATTEN.BARR. (REPAIR)	* ADVANCE WARNING ARROW PANEL	* PORTABLE CHANGEABLE MESSAGE SIGN
			LIN. FT. - EACH			NO.	SQ. FT.	EACH	EACH	LIN. FT.	EACH		DAY	WEEK
W20-1	ROAD WORK 1500 FT.	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK 1 MILE	48"x48"	4	4	4	4	64.0							
W20-1	ROAD WORK AHEAD	48"x48"	8	8	8	8	128.0							
G20-2	END ROAD WORK	48"x24"	8	8	8	8	64.0							
W20-5	RIGHT LANE CLOSED 1 MILE	48"x48"	4	4	4	4	64.0							
W20-5	RIGHT LANE CLOSED 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-6	RIGHT LANE CLOSED 1500 FT.	48"x48"	4	4	4	4	64.0							
W20-7	LEFT LANE CLOSED 1 MILE	48"x48"	4	4	4	4	64.0							
W20-8	LEFT LANE CLOSED 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-9	LEFT LANE CLOSED 1500 FT.	48"x48"	4	4	4	4	64.0							
W20-10	LEFT TWO LANES CLOSED 1 MILE	48"x48"	4	4	4	4	64.0							
W20-11	LEFT TWO LANES CLOSED 1/2 MILE	48"x48"	4	4	4	4	64.0							
W20-12	LEFT TWO LANES CLOSED 1500 FT.	48"x48"	4	4	4	4	64.0							
W9-2	LANE ENDS MERGE RIGHT	48"x48"	4	4	4	4	64.0							
R2-5A	REDUCED SPEED AHEAD	48"x60"	4	4	4	4	80.0							
R2-1	SPEED LIMIT 55	48"x60"	4	4	4	4	80.0							
R2-1	SPEED LIMIT 65	48"x60"	4	4	4	4	80.0							
SPECIAL	MERGE NOW W/ARROW GRAPHIC (RIGHT)	48"x48"	4	4	4	4	64.0							
SPECIAL	MERGE NOW W/ARROW GRAPHIC (LEFT)	48"x48"	4	4	4	4	64.0							
W4-2 RT	RIGHT LANE ENDS GRAPHIC	48"x48"	4	4	4	4	64.0							
W4-2 LT	LEFT LANE ENDS GRAPHIC	48"x48"	4	4	4	4	64.0							
R55-1	FINES DOUBLE IN WORK ZONES	36"x60"	4	4	4	4	60.0							
R4-1	DO NOT PASS	48"x60"	4	4	4	4	80.0							
OM-3R	OBJECT MARKER	12"x36"	8		8	8	24.0							
W1-6	LARGE ARROW	48"x24"	12	12	12	12	96.0							
W21-5a	RIGHT SHOULDER CLOSED	36"X36"	4	4	4	4	36.0							
W5-1	ROAD NARROWS	48"x48"	4	4	4	4	64.0							
SPECIAL	WORK WITH US SIGN (MOVE OVER, SLOW DOWN)	120"x60"	2	2	2	2	100.0							
	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE							10						
	TRAFFIC DRUMS		412	412	412				412					
	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER		19012		19012					19012				
	TEMPORARY IMPACT ATTENUATION BARRIER		8		8						8			
	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)		8		8							8		
	ADVANCE WARNING ARROW PANEL		365	365	365								365	
	PORTABLE CHANGEABLE MESSAGE SIGN		52	52	52									52
TOTALS:							**1980.0**	**10**	**412**	**19012**	**8**	**8**	**365**	**52**

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

NOTE: THE QUANTITY OF TRAFFIC DRUMS PROVIDED IS FOR 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.

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

CONSTRUCTION PAVEMENT MARKINGS AND PERMANENT PAVEMENT MARKINGS

DESCRIPTION	STAGE 1	STAGE 2	END OF JOB	REMOVAL OF PERMANENT PAVEMENT MARKINGS	CONSTRUCTION PAVEMENT MARKINGS	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	RAISED PAVEMENT MARKERS	ENHANCED THERMOPLASTIC PAVEMENT MARKING			THERMOPLASTIC PAVEMENT MARKING	
							TYPE II	6"		12"	WORDS	ARROWS
							(WHITE/RED)	WHITE	YELLOW	WHITE		
	LIN. FT. - EACH			LIN. FT.		LIN. FT.	EACH	LIN. FT.			EACH	
REMOVAL OF PERMANENT PAVEMENT MARKINGS	27902			27902								
CONSTRUCTION PAVEMENT MARKINGS	27902	27902			55804							
REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		7252				7252						
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED)			648				648					
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")			56279					56279				
ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")			25400						25400			
ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (12")			2325							2325		
ENHANCED THERMOPLASTIC PAVEMENT MARKING (WORDS)			3								3	
ENHANCED THERMOPLASTIC PAVEMENT MARKING (ARROWS)			3									3
TOTALS:				**27902**	**55804**	**7252**	**648**	**56279**	**25400**	**2325**	**3**	**3**

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

H139710 6/4/2020
R061630.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			
06-18-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	34	134

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL					TEMPORARY EROSION CONTROL						
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	TEMPORARY SEEDING	MULCH COVER	WATER	SAND BAG DITCH CHECKS (E-5)	DROP INLET FILTER SOCK (12") (E-13)	SILT FENCE (E-11)	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	ACRE	ACRE	M.GAL.	BAG	LIN. FT.	LIN. FT.	CU. YD.
ENTIRE	PROJECT	STAGE 1	0.69	1.38	0.69	70.4	0.69	3.25	3.25	66.3	286	184	8620	339
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			0.17	0.34	0.17	17.3	0.17	0.81	0.81	16.5	72	46	2155	85
TOTALS:			**0.86**	**1.72**	**0.86**	**87.7**	**0.86**	**4.06**	**4.06**	**82.8**	**358**	**230**	**10775**	**424**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION

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.

GUARDRAIL

STATION	STATION	LOCATION	GUARDRAIL (TYPE A)	THRIE BEAM GUARDRAIL TERMINAL	GUARDRAIL TERMINAL (TYPE 2)	TERMINAL ANCHOR POST (TYPE 1)
			LIN. FT.	EACH		
524+33.83	543+77.58	S.B. I-430	1925	1		1
539+08.83	543+77.58	N.B. I-430	400	1	1	
593+76.52	595+95.27	S.B. I-430	150	1	1	
609+32.73	704+88.52	N.B. I-430	1425		1	1
TOTALS:			**3900**	**3**	**3**	**2**

REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	CONCRETE PAVEMENT
			SQ. YD.
523+26	543+85	S.B. I-430	2288
526+46	543+85	N.B. I-430	1932
TOTAL:			**4220**

REMOVAL AND DISPOSAL OF ITEMS

STATION	STATION	LOCATION	APPROACH GUTTERS	CONCRETE DITCH PAVING	GUARDRAIL
			EACH	SQ. YD.	LIN. FT.
502+23	502+83	RT. OF I-430		40	
524+48	543+85	LT. OF I-430			1937
539+31	543+85	RT. OF I-430			454
543+85	543+85	LT. & RT. OF I-430	2		
593+70	593+70	LT. & RT. OF I-430	2		
TOTALS:			**4**	**40**	**2391**

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.

EARTHWORK

	STATION	STATION	LOCATION / DESCRIPTION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT	* SOIL STABILIZATION
				CU. YD.		TON
	593+69.02	615+72.00	STAGE 1 - S.B. I-430	952		
	593+69.02	619+19.21	STAGE 1 - N.B. I-430	900		
	609+35.00	619+19.21	STAGE 1 - N.B. EXIT LANE		266	
	700+00.00	705+41.64	STAGE 1 - N.B. EXIT RAMP	141	136	
*	ENTIRE	PROJECT	TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER			100
	TOTALS:			**1993**	**402**	**100**

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

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

GRINDING PORTLAND CEMENT CONCRETE PAVEMENT

LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	GRINDING PORTLAND CEMENT CONCRETE PAVEMENT (SPECIAL)
			FEET	FEET	SQ. YD.
9.44	9.97	I-430	2798.40	72.00	22387.20
9.97	10.08	I-430	580.80	84.00	5420.80
10.08	10.33	I-430	1320.00	72.00	10560.00
TOTALS:			**4699.20**		**38368.00**

ULTRATHIN BONDED WEARING COURSE

LOG MILE	LOG MILE	LOCATION	TOTAL LENGTH	AVG. WIDTH	ULTRATHIN BONDED WEARING COURSE (5/8" - TYPE B)
			FEET	FEET	SQ. YD.
9.44	9.97	I-430	2798.40	72.00	22387.20
9.97	10.08	I-430	580.80	104.00	6711.47
10.08	10.33	I-430	1320.00	92.00	13493.33
TOTALS:			**4699.20**		**42592.00**

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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
06-04-2020				6	ARK.			
06-18-2020				JOB NO.		061630	35	134
				(2) QUANTITIES				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC

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

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

APPROACH GUTTERS

STATION	STATION	LOCATION	APPROACH GUTTER (TYPE SPECIAL)	REINFORCING STEEL-RDWY. (GR. 60)
			CU.YD.	POUND
543+75.08	543+85.08	LT. MAIN LANES	23.45	3430
543+75.08	543+85.08	RT. MAIN LANES	23.45	3430
593+69.02	593+79.02	LT. MAIN LANES	23.45	3430
593+69.02	593+79.02	RT. MAIN LANES	23.45	3430
TOTALS:			**93.80**	**13720**

4" PIPE UNDERDRAIN

STATION	STATION	LOCATIONS	4" PIPE UNDERDRAINS	UNDERDRAIN OUTLET PROTECTORS
			LIN. FT.	EACH
* ENTIRE PROJECT TO BE USED IF AND			2500	10
WHERE DIRECTED BY THE ENGINEER				
TOTALS:			**2500**	**10**

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

18" SLOTTED CORRUGATED STEEL PIPE DRAINS

STATION	STATION	LOCATIONS	18" SLOTTED CORRUGATED STEEL PIPE DRAINS
			LIN. FT.
504+57	504+57	RT. OF I-430	6
506+99	506+99	RT. OF I-430	10
507+00	508+02	RT. OF I-430	100
508+00	508+00	RT. OF I-430	10
508+02	508+50	RT. OF I-430	48
508+50	508+50	RT. OF I-430	10
508+50	508+95	RT. OF I-430	45
508+97	508+97	RT. OF I-430	6
509+00	509+75	RT. OF I-430	75
518+35	519+10	LT. OF I-430	75
TOTAL:			**385**

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING

SELECTED PIPE BEDDING

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

NOTE: QUANTITY 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.
502+23.00	502+53.00	RT. OF I-430	30.00	6.00	20.00	13.33	0.17
TOTALS:					**20.00**	**13.33**	**0.17**

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

STRUCTURES

STATION	DESCRIPTION	REINFORCED CONCRETE PIPE CULVERT	FLARED END SECTIONS FOR R.C. PIPE CULVERTS	DROP INLETS	MODIFYING DROP INLETS	STD. DWG. NOS.
		CLASS V	TYPE	TYPE		
		36"	36"	ST	ST	
		LIN. FT.	EACH	EACH		
502+87	RT. OF I-430 - MODIFY DROP INLET TO TYPE RM TOP W/PIPE INLET W/F.E.S.	30	1		1	FES-1, FES-2, FPC-9S, PCC-1
504+57	RT. OF I-430 - MODIFY DROP INLET TO TIE IN SLOTTED DRAIN				1	FPC-9S
506+99	RT. OF I-430 - MODIFY DROP INLET TO TIE IN SLOTTED DRAIN				1	FPC-9S
508+00	RT. OF I-430 - MODIFY DROP INLET TO TIE IN SLOTTED DRAIN				1	FPC-9S
508+50	RT. OF I-430 - MODIFY DROP INLET TO TIE IN SLOTTED DRAIN				1	FPC-9S
508+97	RT. OF I-430 - CONSTRUCT DROP INLET & MODIFY EXISTING DROP INLET TO TIE IN SLOTTED DRAIN			1	1	FPC-9S
519+10	LT. OF I-430 - MODIFY DROP INLET TO TIE IN SLOTTED DRAIN				1	FPC-9S
TOTALS:		**30**	**1**	**1**	**7**	

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

HT39710 6/18/2020
R061630.DGN

QUANTITIES

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	36	134

(2) QUANTITIES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
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BASE AND SURFACING

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		TACK COAT (0.05 GAL. PER SQ. YD.)			ACHM BASE COURSE (1 1/2")				ACHM BINDER COURSE (1")				ACHM SURFACE COURSE (1/2")				
				TON / STATION	TON	TOTAL WID.	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 64-22	PG 76-22
			FEET			FEET			FEET			TON	FEET			TON	FEET			TON	TON
MAIN LANES																					
593+69.02	615+72.00	S.B. I-430 - FULL DEPTH SHOULDER RECONST.	2202.98	36.50	804.09	41.26	10099.44	504.97	10.44	2555.46	770.00	983.85	10.19	2494.26	550.00	685.92	10.00	2447.76	220.00		269.25
593+69.02	608+35.00	N.B. I-430 - FULL DEPTH SHOULDER RECONST.	1465.98	36.50	535.08	41.26	6720.70	336.04	10.44	1700.54	770.00	654.71	10.19	1659.82	550.00	456.45	10.00	1628.87	220.00		179.18
609+35.00	612+35.00	N.B. I-430 - N.B. EXIT LANE TAPER	300.00	73.75	221.25	24.62	820.67	41.03	6.22	207.33	770.00	79.82	6.09	203.00	550.00	55.83	12.00	400.00	220.00		44.00
612+35.00	620+00.00	N.B. I-430 - N.B. EXIT LANE CONSTRUCTION	765.00	73.75	564.19	49.26	4187.10	209.36	12.44	1057.40	770.00	407.10	12.19	1036.15	550.00	284.94	18.00	1530.00	220.00		168.30
700+81.27	703+00.00	N.B. EXIT RAMP - N.B. EXIT LANE CONSTRUCTION	218.73	73.75	161.31	49.26	1197.18	59.86	12.44	302.33	770.00	116.40	12.19	296.26	550.00	81.47	18.00	437.46	220.00		48.12
703+00.00	705+41.64	N.B. EXIT RAMP - N.B. EXIT LANE CONSTRUCTION	241.64	36.88	89.12	24.62	661.02	33.05	6.22	167.00	770.00	64.30	6.09	163.51	550.00	44.97	12.00	322.19	220.00		35.44
ADDITIONAL FOR GUARDRAIL WIDENING																					
523+88.93	542+85.08	S.B. I-430	1896.15	54.50	1033.40												5.50	1158.76	220.00	127.46	
538+63.93	542+85.08	N.B. I-430	421.15	54.50	229.53												5.50	257.37	220.00	28.31	
542+85.08	543+85.08	S.B. I-430	100.00	34.75	34.75												3.50	38.89	220.00	4.28	
542+85.08	543+85.08	N.B. I-430	100.00	34.75	34.75												3.50	38.89	220.00	4.28	
593+69.02	594+69.02	S.B. I-430	100.00	24.25	24.25												3.50	38.89	220.00	4.28	
594+69.02	596+40.17	S.B. I-430	171.15	38.00	65.04												5.50	104.59	220.00	11.50	
608+89.73	620+00.00	N.B. I-430	1110.27	38.50	427.45												5.50	678.50	220.00	74.64	
700+81.27	704+88.52	N.B. EXIT RAMP	407.25	38.50	156.79												5.50	248.88	220.00	27.38	
TOTALS:					**4381.00**		**23686.11**	**1184.31**		**5990.06**		**2306.18**		**5853.00**		**1609.58**		**9331.05**		**282.13**	**744.29**

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (1/2").....94.9% MIN. AGGR.....5.1% ASPHALT BINDER
ACHM BINDER COURSE (1").....95.7% MIN. AGGR.....4.3% ASPHALT BINDER
ACHM BASE COURSE (1 1/2").....96.0% MIN. AGGR.....4.0% ASPHALT BINDER
MAXIMUM NUMBER OF GYRATIONS = 205 FOR PG 76-22
TACK COAT QUANTITIES WERE CALCULATED USING THE EMULSIFIED ASPHALT RATES. REFER TO SS-400-1 FOR THE RESIDUAL ASPHALT APPLICATION RATES.

PORTLAND CEMENT CONCRETE PAVEMENT

STATION	STATION	LOCATION	LENGTH	AGGREGATE BASE COURSE (CLASS 7)		ACHM BASE COURSE (1 1/2") 660 LBS. PER SQ. YD.			CONTINUOUSLY REINFORCED CONCRETE PAVEMENT		REINFORCING STEEL FOR PAVEMENT (BARS)
				TON / STATION	TON	AVG. WIDTH	SQ. YD.	PG 64-22	AVG. WIDTH	13" U.T.	
			FEET			FEET		TON	FEET	SQ. YD.	POUND
523+26.00	543+48.58	S.B. I-430	2022.58	66.00	1334.90	12.00	2696.77	889.93	10.00	2247.31	84611.22
526+46.00	543+48.58	N.B I-430	1702.58	66.00	1123.70	12.00	2270.11	749.14	10.00	1891.76	71224.76
TOTALS:					**2458.60**		**4966.88**	**1639.07**		**4139.07**	**155835.98**

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

HT.39710 5/18/2020
R06I630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6-22-2020				6	ARK.			
				JOB NO.		061630	37	134
				(1) 05320 - Quantities - 61818				

SCHEDULE OF BRIDGE QUANTITIES - JOB NO. 061630

LOG MILE	UNIT OF STRUCTURE	ITEM NO.	SS & 802	803	803	SS & 804	821	SP JOB 061630	SP JOB 061630	SP JOB 061630	SP JOB 061630
		ITEM	GROOVING	CLASS 1 PROTECTIVE SURFACE TREATMENT	CLASS 3 PROTECTIVE SURFACE TREATMENT	REINFORCING STEEL - BRIDGE (GRADE 60)	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)	RIVER TRAFFIC SAFETY	BRIDGE DECK REPAIR FOR LATEX MODIFIED CONCRETE OVERLAY	VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY (1½" THICK)	HYDRODEMOLITION - CLASS 1
		UNIT	SQ. YD	GALLON	LIN. FT	LBS.	LUMP SUM	LUMP SUM	SQ. FT	SQ. YD	SQ. YD
9.87	EXISTING BRIDGE NO. 05320 (1)		53,920.0	1,150.0	19,930	43,200	1	1	50,820	57,180	57,130
TOTALS FOR JOB NO. 061630			53,920.0 (4)	1,150.0 (4)	19,930	43,200 (2)	1 (3)	1	50,820 (2)	57,180 (4)(5)	57,130 (4)

(1) Existing bridge decks have no asphalt overlays.

(2) Quantity shown is for estimating and bidding purposes for bridge deck repair. Actual quantities, if any, will be determined in the field.

⚠(3) Modification of existing Bridge No. 05320 consists of reconstruction of select existing utility pole pilasters, ~~joint rehabilitation~~, partial removal and replacement of the bridge deck and rail and all incidentals necessary to complete this work; see Dwg. Nos. 61819-~~61826~~61825 for details.

(4) Quantity includes approach slabs and retained approach gutters.

(5) See "VERTICAL ALIGNMENT FOR VESLMC THICKENING" on Dwg. No. 61826.

⚠ Removed Joint Rehabilitation
LJB 6-22-2020
Checked By: DBS 6-22-2020

REFERENCE TABLE

Bridge No.	Existing Dwg. Nos.
05320	14992A 17413-17417, 17450-17452, 17455-17464, 17466-17467

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Ellis, Rick
Jun 22 2020 12:18 PM
BRIDGE ENGINEER
DocuSign

SCHEDULE OF BRIDGE QUANTITIES
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DKS DATE: 02/04/2020 FILENAME: b061630_q1.dgn
CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020

BRIDGE NO. 05320 DRAWING NO. 61818

PRINT DATE: 6/22/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
06-04-2020				6	ARK.			
06-18-2020				JOB NO.		061630	38	134
06-22-2020								

(2) SUMMARY OF QUANTITIES AND REVISIONS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Jun 22 2020 3:41 PM
DocuSign

SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	QUANTITY	UNIT
202	REMOVAL AND DISPOSAL OF APPROACH GUTTERS	4	EACH
202	REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING	40	SQ. YD.
202	REMOVAL AND DISPOSAL OF GUARDRAIL	2391	LIN. FT.
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	3	EACH
202	REMOVAL AND DISPOSAL OF CONDUIT	10752	LIN. FT.
SP & 202	REMOVAL OF EXISTING PORTLAND CEMENT CONCRETE PAVEMENT	4220	SQ. YD.
SS & 210	UNCLASSIFIED EXCAVATION	1993	CU. YD.
210	COMPACTED EMBANKMENT	402	CU. YD.
SP & 210	SOIL STABILIZATION	100	TON
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	7185	TON
SS & 401	TACK COAT	1234	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")	3787	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")	66	TON
SP, SS, & 405	ASPHALT BINDER (PG 76-22) IN ACHM BASE COURSE (1 1/2")	92	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")	1541	TON
SP, SS, & 406	ASPHALT BINDER (PG 76-22) IN ACHM BINDER COURSE (1")	69	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	1054	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (1/2")	14	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	42	TON
SP	ULTRATHIN BONDED WEARING COURSE (5/8"-TYPE B)	42592	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC	25	TON
502	REINFORCING STEEL FOR PAVEMENT (BARS)	155836	POUND
SP & 503	*CONTINUOUSLY REINFORCED CONCRETE* PAVEMENT (13" UNIFORM THICKNESS)	4139	SQ. YD.
504	APPROACH GUTTERS	93.80	CU. YD.
SP, SS, & 510	GRINDING PORTLAND CEMENT CONCRETE PAVEMENT (SPECIAL)	38368	SQ. YD.
601	MOBILIZATION	1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE	1	EACH
SP, SS, & 603	MAINTENANCE OF TRAFFIC	1.00	LUMP SUM
SS & 604	SIGNS	1980	SQ. FT.
SP, SS, & 604	CONSTRUCTION PROJECT INFORMATION SIGN UPDATE	10	EACH
SS & 604	TRAFFIC DRUMS	412	EACH
SS & 604	FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER	19012	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS	55804	LIN. FT.
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS	7252	LIN. FT.
604	REMOVAL OF PERMANENT PAVEMENT MARKINGS	27902	LIN. FT.
SS & 604	ADVANCE WARNING ARROW PANEL	365	DAY
SP, SS, & 604	PORTABLE CHANGEABLE MESSAGE SIGN	52	WEEK
SS & 605	CONCRETE DITCH PAVING (TYPE B)	20	SQ. YD.
606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS V)	30	LIN. FT.
SP & 606	18" SLOTTED CORRUGATED STEEL PIPE DRAIN	385	LIN. FT.
606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS	1	EACH
606	SELECTED PIPE BEDDING	10	CU. YD.
SS & 609	DROP INLETS (TYPE ST)	1	EACH
SS & 611	4" PIPE UNDERDRAINS	2500	LIN. FT.
SS & 611	UNDERDRAIN OUTLET PROTECTORS	10	EACH
SS & 617	GUARDRAIL (TYPE A)	4725	LIN. FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	5	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	6	EACH
SS & 617	THRIE BEAM GUARDRAIL TERMINAL	3	EACH
620	LIME	2	TON
620	SEEDING	0.86	ACRE
SS & 620	MULCH COVER	4.92	ACRE
620	WATER	170.7	M. GAL.
621	TEMPORARY SEEDING	4.06	ACRE
621	SILT FENCE	10775	LIN. FT.
621	SAND BAG DITCH CHECKS	358	BAG
621	SEDIMENT REMOVAL AND DISPOSAL	424	CU. YD.
SS & 621	FILTER SOCK (12")	230	LIN. FT.
623	SECOND SEEDING APPLICATION	0.86	ACRE
624	SOLID SODDING	13	SQ. YD.
635	ROADWAY CONSTRUCTION CONTROL	1.00	LUMP SUM
640	MODIFYING DROP INLETS	7	EACH
SP	GROUND MOUNTED ITS CABINET	16	EACH
SP	WALL MOUNTED ITS CABINET	13	EACH
SP	ANTENNA SUPPORT STRUCTURE ASSEMBLY (80')	1	EACH
SP	PTZ CAMERA SYSTEM	10	EACH
SP	WIC FIBER ENCLOSURE	31	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G.)	15405	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	4382	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/0 A.W.G.)	8963	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G., E.G.C.)	3791	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/6 A.W.G.)	4382	LIN. FT.
SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	27249	LIN. FT.
SP	COMMUNICATION CABLE, FIBER (72 CHANNEL)	13542	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/1 A.W.G.)	15473	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/3 A.W.G.)	8865	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/4 A.W.G.)	318	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/1 A.W.G.)	9170	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/3 A.W.G.)	11719	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/0 A.W.G., E.G.C.)	12404	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/000 A.W.G.)	898	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/000 A.W.G.)	898	LIN. FT.
709	GALVANIZED STEEL CONDUIT (1.5")	400	LIN. FT.
SP	PVC COATED GALVANIZED STEEL CONDUIT (4")	10752	LIN. FT.
SP	INNERDUCT CONDUIT (1")	21600	LIN. FT.
710	NON-METALLIC CONDUIT (1.25")	12049	LIN. FT.
710	NON-METALLIC CONDUIT (1.5")	400	LIN. FT.
710	NON-METALLIC CONDUIT (2")	2393	LIN. FT.
710	NON-METALLIC CONDUIT (3")	15945	LIN. FT.
SP & 711	CONCRETE PULL BOX (TYPE 2 HD)	63	EACH
SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	11	EACH

SUMMARY OF QUANTITIES (BOX 2 OF 2)

ITEM NUMBER	ITEM	QUANTITY	UNIT
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (12')	10	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (16')	3	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (17')	2	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')	6	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	EACH
SP	LED LUMINAIRE ASSEMBLY	74	EACH
SP	REMOVAL OF EXISTING SERVICE POINT ASSEMBLY	2	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
SP	SERVICE POINT ASSEMBLY (4 CIRCUITS)	1	EACH
SP	SERVICE POINT ASSEMBLY (6 CIRCUITS)	1	EACH
SP	SERVICE POINT MODIFICATION	1	EACH
SP	LIGHTING CONTROLLER ASSEMBLY	1	EACH
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)	3	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)	3	EACH
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (6")	56279	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING WHITE (12")	2325	LIN. FT.
SP	ENHANCED THERMOPLASTIC PAVEMENT MARKING YELLOW (6")	25400	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)	648	EACH
SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-040-60-53)	1	EACH
SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-430-60-53)	1	EACH
SP	BRIDGE POST MOUNTED SIGN SUPPORT	8	EACH
SS & 725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	578	SQ. FT.
SS & 725	GUIDE SIGN - OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	730	SQ. FT.
SP, SS, & 726	STANDARD SIGN	244	SQ. FT.
SS & 727	EXIT NUMBER PANEL (TYPE A)	75	SQ. FT.
SS & 730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	756	POUND
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)	17	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER	8	EACH
SS & 731	TEMPORARY IMPACT ATTENUATION BARRIER (REPAIR)	8	EACH
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)	13720	POUND
SP	NAVIGATION LIGHTING SYSTEM	1.00	LUMP SUM
SP	OVERHEAD DMS ASSEMBLY	3	EACH
SP	OVERHEAD DDMS ASSEMBLY	6	EACH
SP	LANE-USE CONTROL SIGNAL ASSEMBLY	22	EACH
SP	ROADWAY ILLUMINATION POLE (TYPE A, GROUND, 40')	30	EACH
SP	ROADWAY ILLUMINATION POLE (TYPE A, PEDESTAL, 40')	22	EACH
	STRUCTURES OVER 20' SPAN		
SS & 802	GROOVING	53920.0	SQ. YD.
803	CLASS 1 PROTECTIVE SURFACE TREATMENT	1150.0	GAL.
803	CLASS 3 PROTECTIVE SURFACE TREATMENT	19930	LIN. FT.
SS & 804	REINFORCING STEEL - BRIDGE (GRADE 60)	43200	POUND
SP	VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY (1 1/2" THICK)	57180	SQ. YD.
SP	HYDRODEMOLITION - CLASS 1	57130	SQ. YD.
821	MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. 05320)	1.00	LUMP SUM
SP	BRIDGE DECK REPAIR FOR LATEX MODIFIED CONCRETE OVERLAY	50820	SQ. FT.
SP	RIVER TRAFFIC SAFETY	1.00	LUMP SUM

REVISIONS

DATE	REVISION	SHEET NUMBER
06-04-2020	REVISED SHEETS TO REVISE JOB LIMITS. REVISED SHEETS TO INCLUDE SLOTTED DRAIN AT STA. 518+35 LT. ADDED SHEET TO INCLUDE SPECIAL DETAIL FOR ADDED SLOTTED DRAIN. ADDED SHEET TO INCLUDE TYPICAL SECTIONS FOR U.T.B.W.C. ADDED SHEET TO INCLUDE SURVEY CONTROL FOR REVISED JOB LIMITS. REVISED "ADVANCE WARNING SIGNS & DEVICES" QUANTITY BOX TO INCLUDE A NOTE FOR ITEMS WITH ESTIMATED QUANTITIES. DELETED SS 802-3 FROM GOVERNING SPECIFICATIONS. REPLACED SITE USE (A+C METHOD) - CALENDAR DAY CONTRACT SPECIAL PROVISION. PROVIDED SIGNED STORM WATER POLLUTION PREVENTION PLAN SPECIAL PROVISION. REMOVED PROSECUTION AND PROGRESS WITH BID SCHEDULE SPECIAL PROVISION. REVISED EXISTING PAVEMENT DEPTH LABEL ON TYPICAL SECTION. REVISED "ULTRATHIN BONDED WEARING COURSE (5/8" - TYPE B)", "18" SLOTTED CORRUGATED STEEL PIPE DRAIN", "FILTER SOCK (12")", "MODIFYING DROP INLETS", AND "GALVANIZED STEEL CONDUIT (1.5")" QUANTITIES.	1, 4, 5a, 6, 9a, 12-14, 26-28, 33-35, 38-40, 45-48
06-18-2020	REVISED MAINTENANCE OF TRAFFIC SPECIAL PROVISION. REMOVED SITE USE (A+C) - CALENDAR DAY CONTRACT SPECIAL PROVISION. ADDED SITE USE (A+B+C) - CALENDAR DAY CONTRACT SPECIAL PROVISION. ADDED FLEXIBLE BEGINNING OF WORK - CALENDAR DAY CONTRACT SPECIAL PROVISION. ADDED STANDARD DRAWING CDP-1. ADDED SS 605-1 TO GOVERNING SPECIFICATIONS. ADDED STANDARD DRAWINGS TO THE PLANS. REVISED SHEETS 123 AND 128 OF THE PLANS. ADDED "REMOVAL AND DISPOSAL OF CONCRETE DITCH PAVING", "CONCRETE DITCH PAVING (TYPE B)", AND "SOLID SODDING" QUANTITIES. REVISED "WATER" AND "OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-2)" QUANTITIES.	3, 4, 34, 35, 38, 107, 123, 128
06-22-2020	REVISED "INTELLIGENT TRANSPORTATION SYSTEM (ITS) FIBER OPTIC CABLE" AND "PVC COATED GALVANIZED STEEL CONDUIT" SPECIAL PROVISIONS. REVISED FIBER OPTIC CABLE NOTES. REVISED GROUND MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS. REVISED OVERHEAD LCS TRUSS STRUCTURE DETAILS. REVISED ILLUMINATION LAYOUT. REVISED ILLUMINATION DETAIL - JUNCTION BOX. REVISED ILLUMINATION TABLES. ADDED INNERDUCT CONDUIT SPECIAL PROVISION. ADDED "COMMUNICATION CABLE, FIBER (72 CHANNEL)", "PVC COATED GALVANIZED STEEL CONDUIT (4")", "NON-METALLIC CONDUIT (1.25")", "NON-METALLIC CONDUIT (1.5")", AND "INNERDUCT CONDUIT (1")" QUANTITIES. REMOVED "PVC COATED GALVANIZED STEEL CONDUIT (3")" QUANTITY. REVISED "COMMUNICATION CABLE, FIBER (12 CHANNEL)", "GALVANIZED STEEL CONDUIT (1.5")", "CONCRETE PULL BOX (TYPE 2 HD)", AND "CONCRETE PULL BOX (TYPE 3 HD)" QUANTITIES. REMOVED JOINT REHABILITATION FROM THE PLANS.	4, 37, 38, 57-73, 75, 85, 88, 94, 99, 123, 128

HT39710 6/22/2020
R061630.DGN

SUMMARY OF QUANTITIES AND REVISIONS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	39	134

(2) SURVEY CONTROL DETAILS

Project Name: s061630 prelim
Date: 2/6/2020
Coordinate System: ARKANSAS STATE PLANE - SOUTH ZONE BASED ON GPS CONTROL, PROJECTED TO GROUND.
Units: U.S. SURVEY FOOT

Point Name	Northing	Easting	Elev	Feature	Description
24	2086171.2726	1195454.9211	425.840	CTL	*2" ALUM CAP 5/8" REBAR RBR ALUM
47	2091860.4385	1204251.2362	271.651	CTL	*STD ARDOT MON STAMPED PN: 47 430
48	2091722.9062	1203750.8103	270.744	CTL	*STD ARDOT MON STAMPED PN: 48
49	2091402.3715	1203567.9529	270.697	CTL	*STD ARDOT MON STAMPED PN: 49 430
50	2091249.6409	1203031.0311	271.948	CTL	*STD ARDOT MON STAMPED PN: 50 430
51	2090941.1255	1202853.5489	272.556	CTL	*STD ARDOT MON STAMPED PN: 51 430
52	2090849.5863	1202420.1295	274.947	CTL	*STD ARDOT MON STAMPED PN: 52 430
53	2090516.9084	1202166.0784	277.356	CTL	*STD ARDOT MON STAMPED PN: 53 430
54	2090419.5991	1201775.7181	281.023	CTL	*STD ARDOT MON STAMPED PN: 54 430
55	2087623.2682	1196871.6279	323.792	CTL	*STD ARDOT MON STAMPED PN: 55 430
56	2087422.0844	1196281.5218	356.158	CTL	*STD ARDOT MON STAMPED PN: 56 430
100	2087817.7269	1197443.2226	305.586	GPS	*ARDOT GPS MON. 600055
101	2087215.5195	1195931.0345	376.145	GPS	*ARDOT GPS MON. 600055A
102	2093829.6125	1206347.1829	274.064	GPS	*ARDOT GPS MON. 600013
103	2092883.4904	1205672.9486	293.936	GPS	*ARDOT GPS MON. 600013A RESET
906	2091817.6395	1204051.9045	270.066	TBM	*SQUARE CUT S END DI 430 LITTLE ROCK
907	2090812.9474	1202503.2325	276.451	TBM	*SQUARE CUT IN CONC 430 LITTLE ROCK
908	2090364.2977	1201705.8544	284.711	TBM	*SQUARE CUT ON NW CRNR BR 430
909	2087818.4789	1197450.0968	306.135	TBM	*SQUARE CUT ON SW CRNR BR 430

*Note - Rebar and Cap - Standard - 5/8" Rebar with 2" Aluminum Cap stamped
*(standard markings common to all caps), or as indicated
(other markings indicated in the point description of the individual point).
USE CAF = 1.0 FOR STAKEOUT FOR THIS PROJECT
A PROJECT CAF OF 0.9999761086 HAS BEEN USED TO COMPUTE THE ABOVE GROUND COORDINATES.
THIS CAF IS INTENDED FOR USE WITHIN THE PROJECT LIMITS.
GRID DISTANCE = GROUND DISTANCE X CAF.
GRID COORDINATES ARE STORED UNDER FILE NAME s061630gi.ctl
HORIZONTAL DATUM: NAD 83 (2011)
VERTICAL DATUM: NAVD 88 POSITIONAL ACCURACY THIRD ORDER, UNLESS SPECIFIED OTHERWISE AT A SPECIFIC POINT.

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

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID BEARINGS - 0302-SOUTH ZONE
DETERMINED FROM GPS CONTROL POINTS: 600013 - 600013A, 600055A - 600055A
CONVERGENCE ANGLE: 00 12 51.2 LEFT AT LAT N 34-47-49.15 LON W092-22-57.92
GRID AZIMUTH = ASTRONOMICAL AZIMUTH - CONVERGENCE ANGLE.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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I-430

POINT NO.	TYPE	STATION	NORTHING	EASTING
8004	PC	481+08.50	2082761.1706	1194868.8970
8006	PT	506+19.42	2085202.0894	1195219.3618
8007	PC	510+14.32	2085553.9372	1195398.6565
8009	PT	515+31.80	2086047.0263	1195546.1477
8010	PC	519+11.40	2086424.3255	1195587.8226
8012	PT	532+04.68	2087381.7887	1196353.1187
8013	PC	546+46.31	2087851.9180	1197715.9439
8015	PT	555+69.34	2088254.9183	1198543.8510
8016	PC	619+07.70	2091695.7226	1203866.9807
8018	PT	644+82.15	2093323.3932	1205854.5980
8019	POE	650+30.37	2093716.0876	1206237.1394

I-430 NORTHBOUND EXIT RAMP

POINT NO.	TYPE	STATION	NORTHING	EASTING
8020	POB	700+00.00	2091644.9213	1203913.5983
8021	PC	700+49.87	2091672.0203	1203955.4636
8023	PT	707+70.61	2091941.6146	1204619.2780
8024	POE	708+61.21	2091959.3553	1204708.1227

HT39710 6/4/2020
R061630.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	39a	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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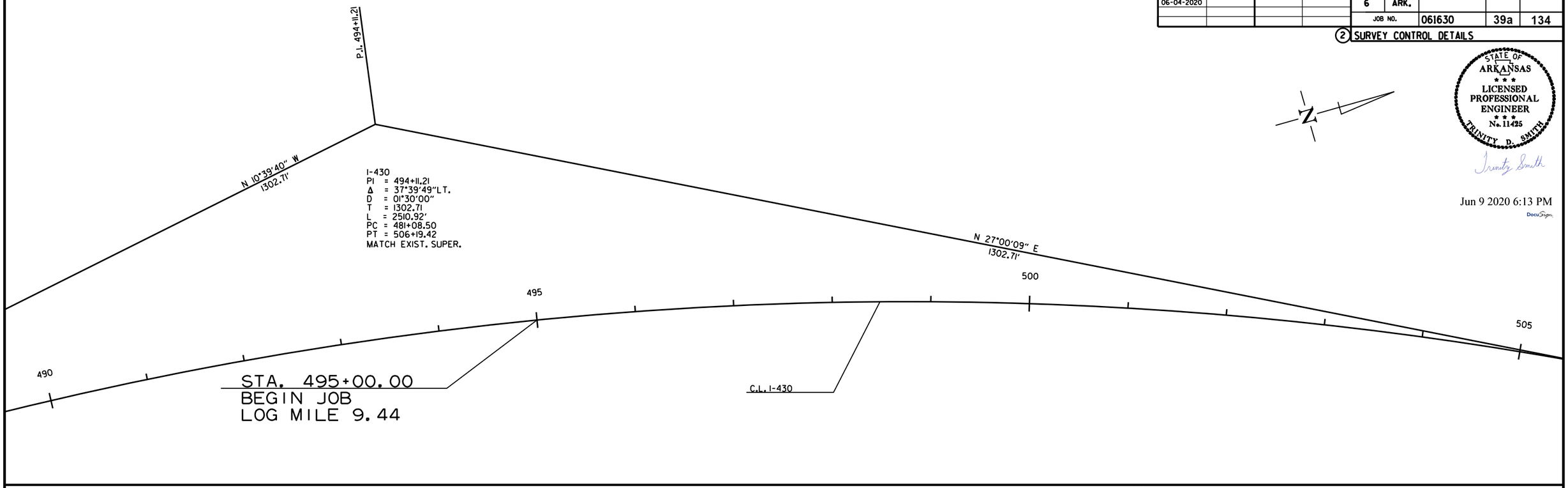

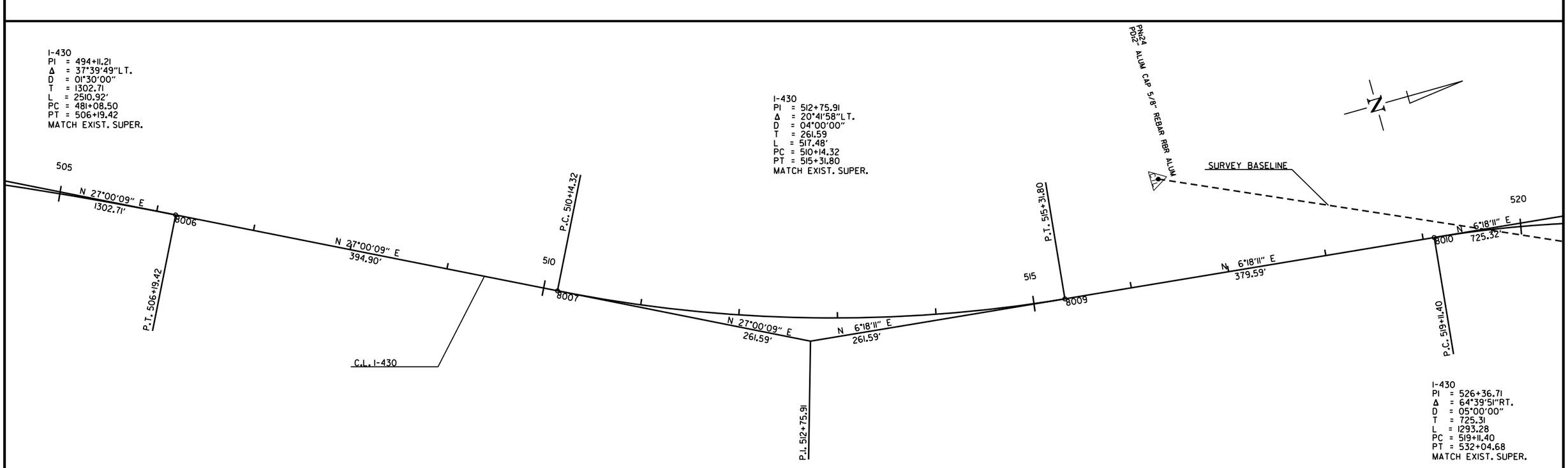

SURVEY CONTROL DETAILS

HT39710 6/4/2020
R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	40	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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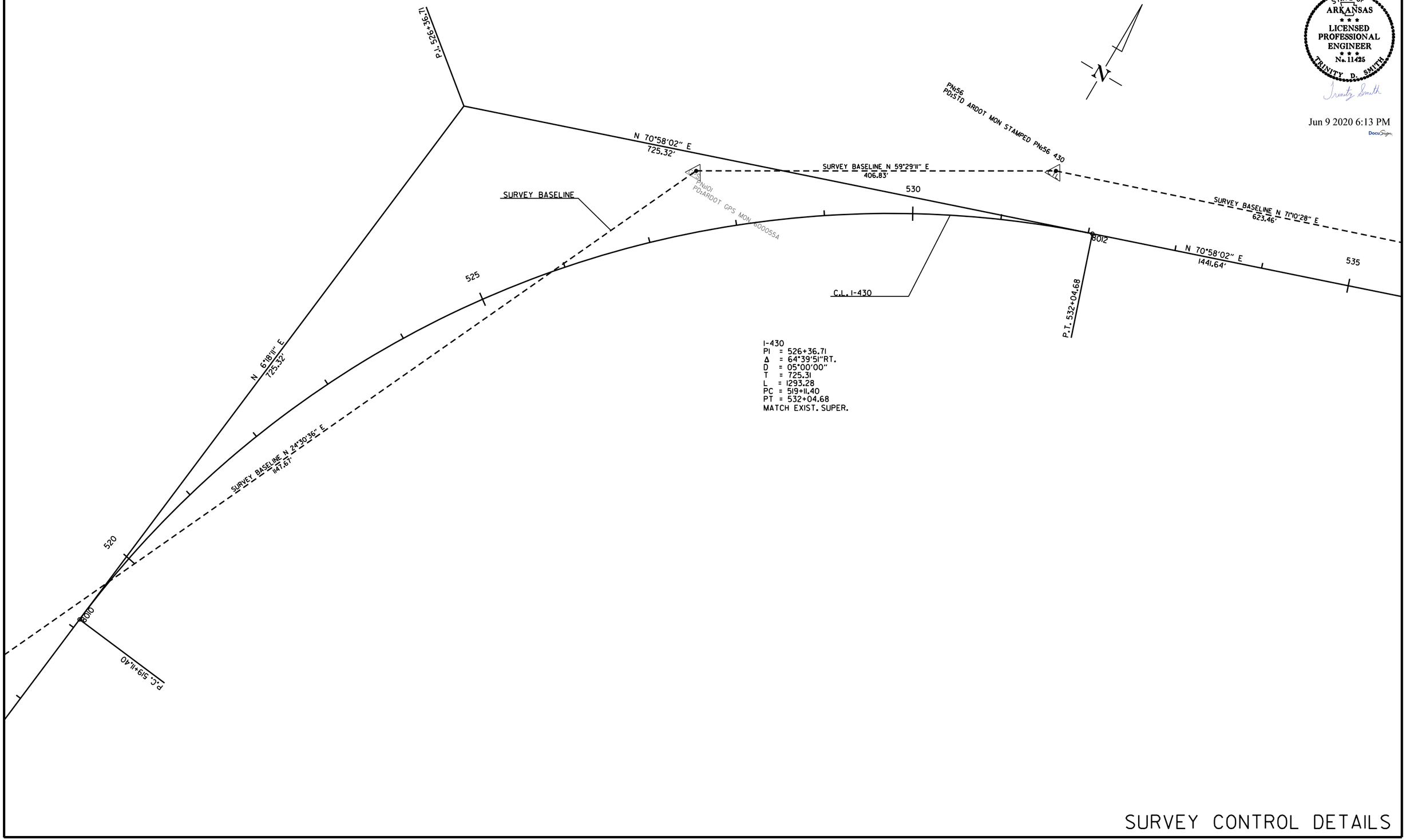

I-430
PI = 526+36.71
Δ = 64°39'51"RT.
D = 05°00'00"
T = 725.31
L = 1293.28
PC = 519+11.40
PT = 532+04.68
MATCH EXIST. SUPER.

HT39710 6/4/2020
R061630.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	41	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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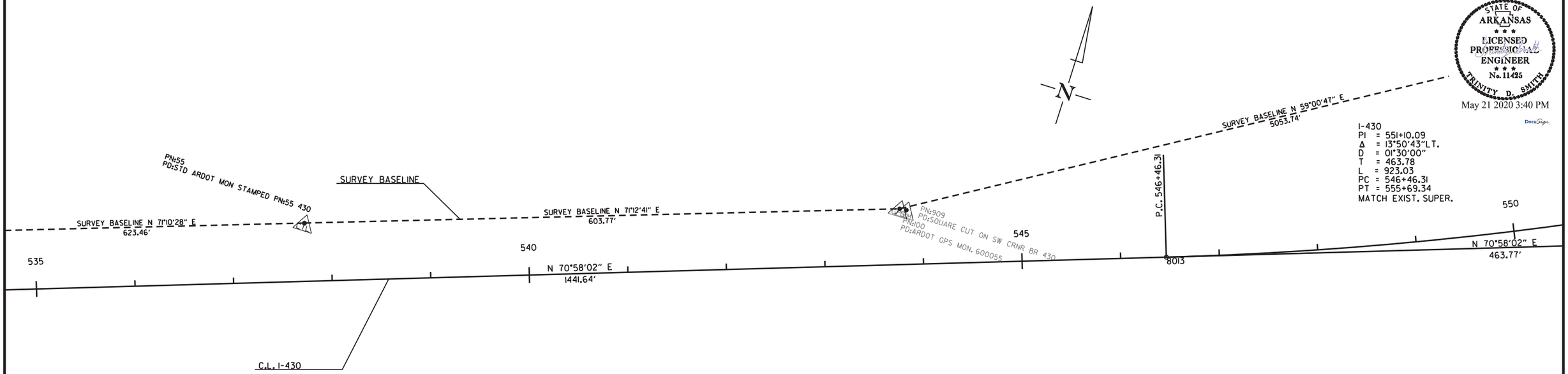

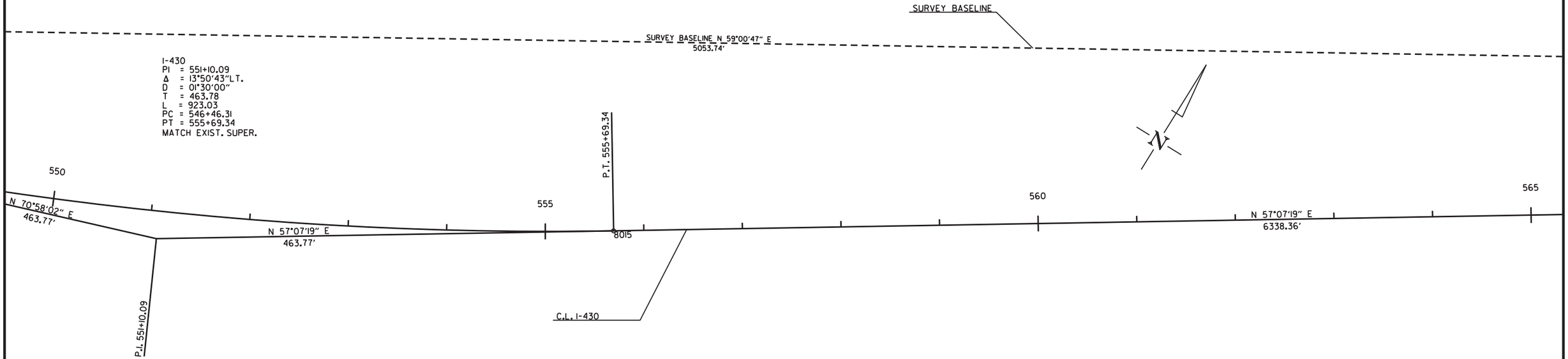

HT39710 5/18/2020
R061630.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	42	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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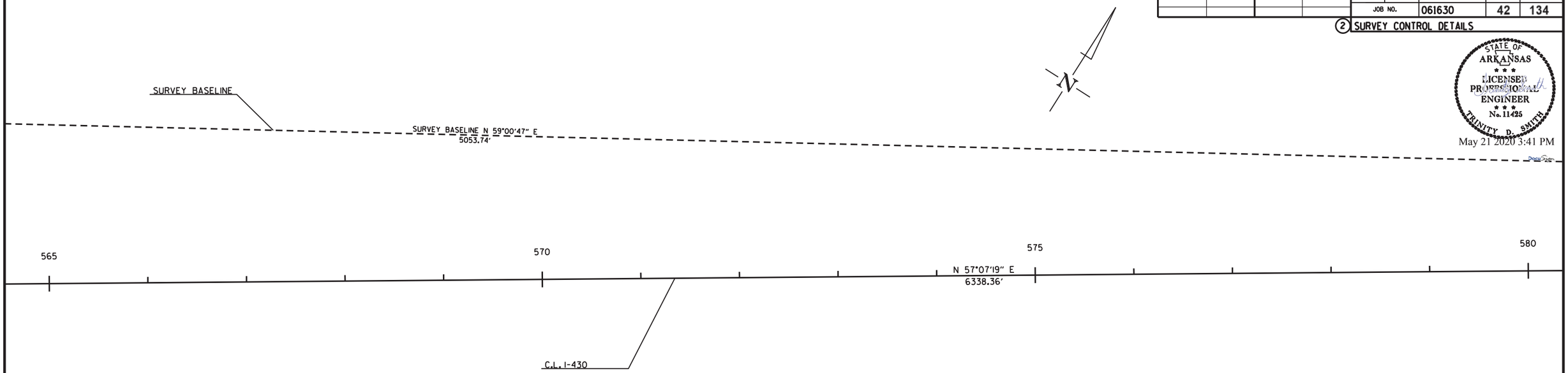

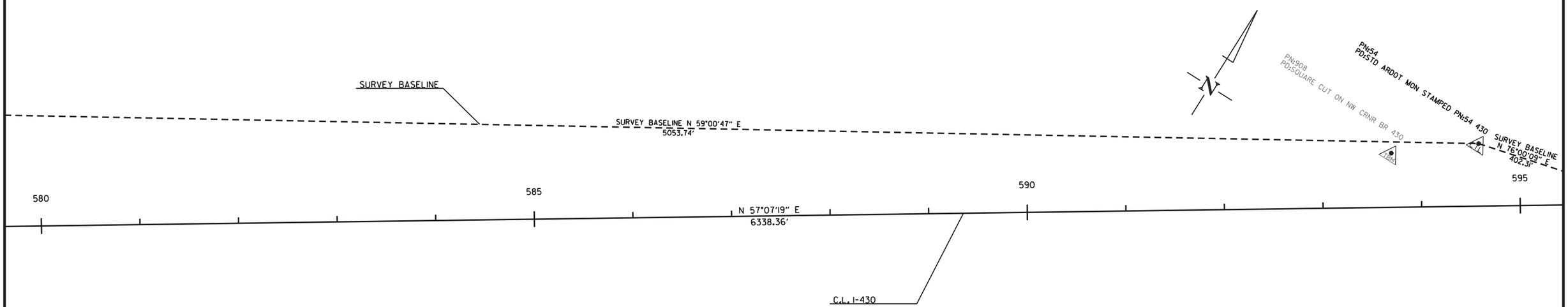

H.T.39710 5/18/2020
R061630.DGN

SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	43	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH
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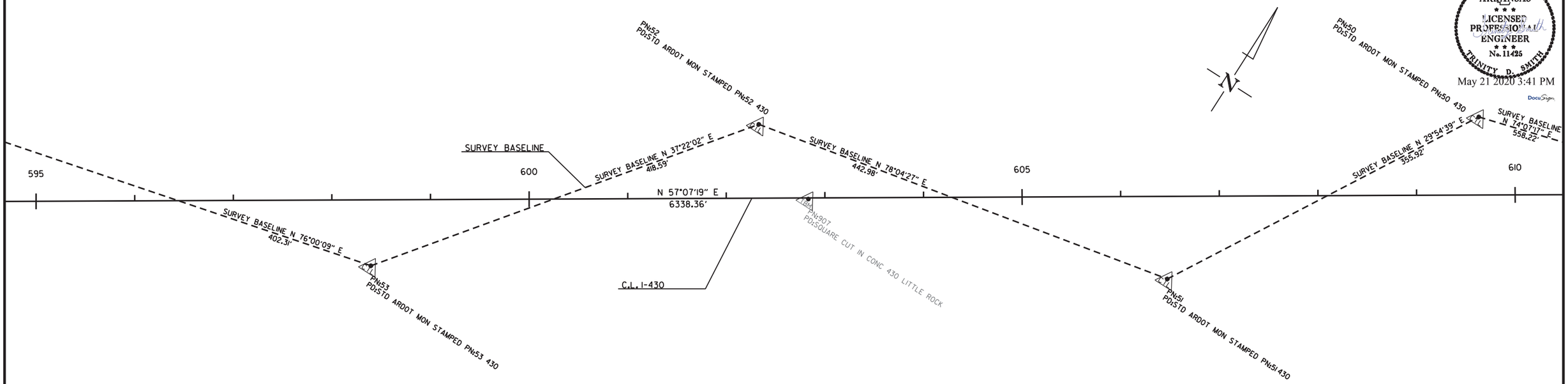
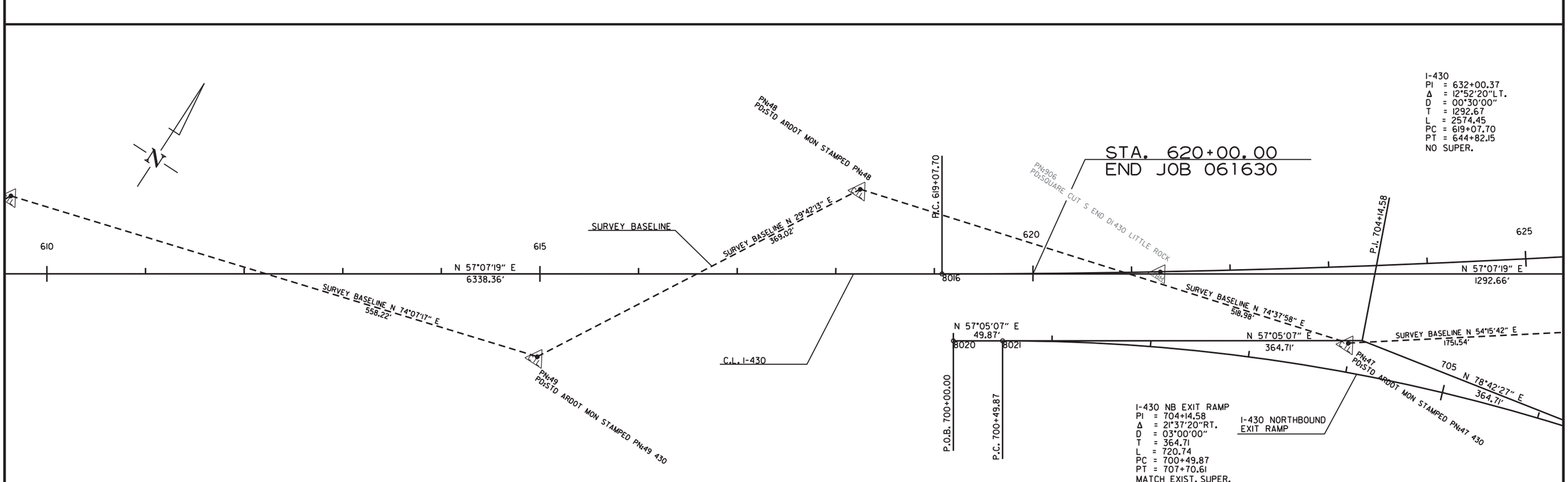
DocuSigned by:





SURVEY CONTROL DETAILS

HT 39710 5/18/2020
R061630.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.		061630	44	134

(2) SURVEY CONTROL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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I-430
PI = 632+00.37
Δ = 12°52'20"LT.
D = 00°30'00"
T = 1292.67
L = 2574.45
PC = 619+07.70
PT = 644+82.15
NO SUPER.

N

625
N 57°07'19" E
1292.66'

P.I. 704+14.58

SURVEY BASELINE N 54°15'42" E
1751.54'

P.O.E. 708+61.21

N 78°42'27" E
90.60'

8024

8023

705 N 78°42'27" E
364.71'

P.I. 707+70.61

PN:47
PD:STD ARDOT MON STAMPED PN:47 430

PN:906
PD:SQUARE CUT S END DI 430 LITTLE ROCK

SURVEY BASELINE N 74°37'58" E
518.98'

N 57°05'07" E
364.71'

P.C. 699+07.20

620

SURVEY BASELINE

PN:48
PD:STD ARDOT MON STAMPED PN:48

8016

SURVEY BASELINE N 23°42'13" E
369.02'

I-430 NORTHBOUND
EXIT RAMP

N 57°05'07" E
49.87'

8021

8020

P.O.B. 700+00.00

P.C. 700+49.87

I-430 NB EXIT RAMP
PI = 704+14.58
Δ = 21°37'20"RT.
D = 03°00'00"
T = 364.71
L = 720.74
PC = 700+49.87
PT = 707+70.61
MATCH EXIST. SUPER.

STA. 705+41.64
END I-430 NB EXIT RAMP CONST.

STA. 700+81.27
BEGIN I-430 NB EXIT RAMP CONST.

PN:49
PD:STD ARDOT MON STAMPED PN:49 430

H139710 5/18/2020
R061630.DGN

I-430 NORTHBOUND EXIT RAMP
SURVEY CONTROL DETAILS

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	45	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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P.I. 494+11.21

N 10°39'40" W

I-430
PI = 494+11.21
Δ = 37°39'49"LT.
D = 01°30'00"
T = 1302.71
L = 2510.92'
PC = 481+08.50
PT = 506+19.42
MATCH EXIST. SUPER.

STA. 495+00.00
BEGIN JOB
LOG MILE 9.44

STA. 503+58 IN PLACE
DROP INLET ON RT.
RETAIN

STA. 504+57 CONSTRUCT
18" X 6' SLOTTED DRAIN ON RT.
CONNECT TO EXIST. DROP INLET
@ STA. 504+57 RT.

N 27°00'09" E

STA. 502+87 IN PLACE
TYPE ST DROP INLET ON RT.
MODIFY DROP INLET TO TYPE RM TOP
AND CONSTRUCT 30' X 36" R.C. PIPE INLET W/F.E.S.
FIELD VERIFY FLOW LINES

I-430

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

530 520 510 500 490 480 470 460 450 440

490+00 491+00 492+00 493+00 494+00 495+00 496+00 497+00 498+00 499+00 500+00 501+00 502+00 503+00 504+00 505+00

HT39710 6/9/2020
R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	46	134

(2) PLAN AND PLOT SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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I-430
PI = 494+11.21
Δ = 37°39'49"LT.
D = 01°30'00"
T = 1302.71
L = 2510.92'
PC = 481+08.50
PT = 506+19.42
MATCH EXIST. SUPER.

STA. 507+00 - 508+02 CONSTRUCT
18" X 102' SLOTTED DRAIN ON RT.
CONNECT TO SLOTTED DRAIN @ STA. 508+02 RT.

STA. 508+02 - 508+50 CONSTRUCT
18" X 48' SLOTTED DRAIN ON RT.
CONNECT TO SLOTTED DRAIN @ STA. 508+50 RT.

STA. 508+50 - 508+95 CONSTRUCT
18" X 45' SLOTTED DRAIN ON RT.
CONNECT TO DROP INLET @ STA. 508+97 RT.

STA. 509+00 - 509+75 CONSTRUCT
18" X 75' SLOTTED DRAIN ON RT.
CONNECT TO DROP INLET @ STA. 508+97 RT.

I-430
PI = 512+75.91
Δ = 20°41'58"LT.
D = 04°00'00"
T = 261.59
L = 517.48'
PC = 510+14.32
PT = 515+31.80
MATCH EXIST. SUPER.

STA. 518+35 - 519+10 CONSTRUCT
18" X 75' SLOTTED DRAIN ON LT.
CONNECT TO DROP INLET @ STA. 509+10 LT.

N 27°00'09" E

N 6°18'11" E

P.T. 506+19.42

P.C. 510+14.32

P.T. 515+31.80

P.I. 512+75.91

P.C. 519+11.40

STA. 505+99 IN PLACE
DROP INLET ON RT.
RETAIN

STA. 506+99 CONSTRUCT
18" X 10' SLOTTED DRAIN ON RT.
CONNECT TO EXIST. DROP INLET
@ STA. 506+99 RT.

STA. 508+00 CONSTRUCT
18" X 10' SLOTTED DRAIN ON RT.
CONNECT TO EXIST. DROP INLET
@ STA. 508+00 RT.

STA. 508+50 CONSTRUCT
18" X 10' SLOTTED DRAIN ON RT.
CONNECT TO EXIST. DROP INLET
@ STA. 508+50 RT.

STA. 508+97 CONSTRUCT
TYPE ST. DROP INLET ON RT.
AND 18" X 6' SLOTTED DRAIN
CONNECT TO EXIST. DROP INLET
@ STA. 508+97 RT.

I-430
PI = 526+36.71
Δ = 64°39'51"RT.
D = 05°00'00"
T = 725.31
L = 1293.28
PC = 519+11.40
PT = 532+04.68
MATCH EXIST. SUPER.

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

I-430

490 480 470 460 450 440 430 420 410 400

505+00 506+00 507+00 508+00 509+00 510+00 511+00 512+00 513+00 514+00 515+00 516+00 517+00 518+00 519+00 520+00

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R061630.DGN

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	GUARDRAIL TERMINAL (TYPE 2) EACH	TERMINAL ANCHOR POST (TYPE 1) EACH
524+33.83	543+77.58	LT.	1925	1		1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	47	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 519+00.00

EXIST. 1400' MEDIAN TAPER

STA. 533+00.00

530

535

525

520

P.I. 525+36.71

STA. 525+26.00 LT.

CONST. LIMITS

N 70°58'02" E

STA. 523+26.00 LT.

200' TAPER

N 6°18'11" E

44'

48'

6'

10'

15'

36'

20'

P.C. 519+11.40

P.T. 532+04.68

300' TAPER

STA. 526+46.00 RT.

STA. 529+46.00 RT.

I-430
PI = 526+36.71
Δ = 64°39'51"RT.
D = 05°00'00"
T = 725.31
L = 1293.28
PC = 519+11.40
PT = 532+04.68
MATCH EXIST. SUPER.

EXIST. 425' GORE TAPER

STA. 523+26.00 LT.

I-430

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R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-04-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	48	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

Trinity Smith

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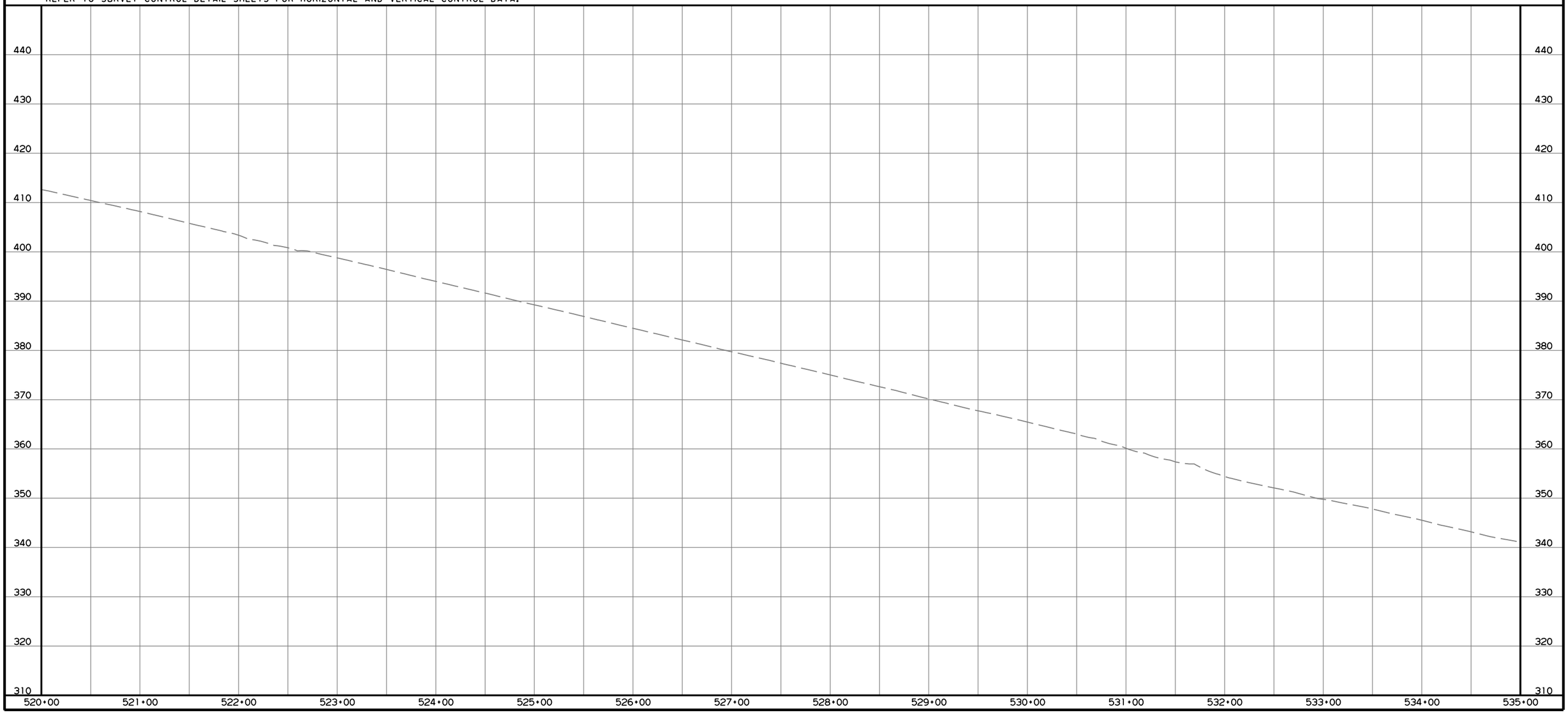
I-430

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



HT39710 6/4/2020
R061630.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.		061630	49	134

(2) PLAN AND PROFILE SHEETS

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	GUARDRAIL TERMINAL (TYPE 2) EACH
539+08.83	543+77.58	RT.	400	1	1

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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I-430
PI = 551+10.09
Δ = 13°50'43"LT.
D = 01°30'00"
T = 463.78
L = 923.03
PC = 546+46.31
PT = 555+69.34
MATCH EXIST. SUPER.

535 540 545 550

CONST. LIMITS
N 70° 58' 02" E
CONST. LIMITS
P.C. 546+46.31
2' 44' 12' 44' 2'

I-430

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

BRIDGE END
STA. 543+85.08

360 350 340 330 320 310 300 290 280 270

535+00 536+00 537+00 538+00 539+00 540+00 541+00 542+00 543+00 544+00 545+00 546+00 547+00 548+00 549+00 550+00

HT39710 5/18/2020
R061630.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.		061630	50	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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DocuSigned

I-430
PI = 551+10.09
Δ = 13°50'43" LT.
D = 01°30'00"
T = 463.78
L = 923.03
PC = 546+46.31
PT = 555+69.34
MATCH EXIST. SUPER.

550 555 560 565

P. T. 555+69.34

N 70°58'02" E

N 57°07'19" E

P. I. 551+10.09

44'

44'

I-430

HT39710 5/18/2020
R061630.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.		061630	51	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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565 570 575 580

N 57°07'19" E

21'
44'
53'
44'
21'

I-430

HT39710 5/18/2020
R061630.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.		061630	52	134

(2) PLAN AND PROFILE SHEETS

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	THRIE BEAM GUARDRAIL TERMINAL EACH	GUARDRAIL TERMINAL (TYPE 2) EACH
593+76.52	595+95.27	LT.	150	1	1

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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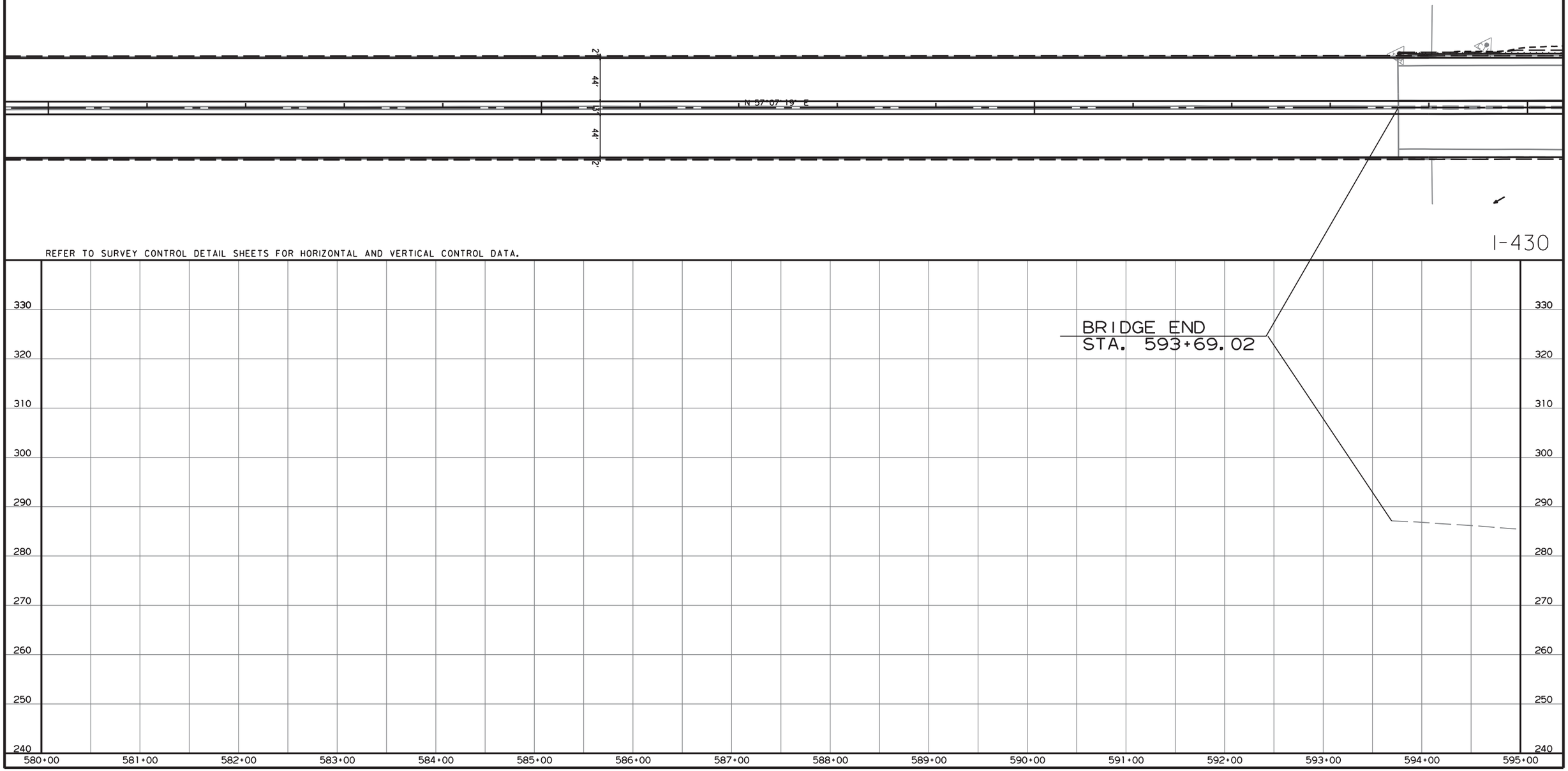

REFER TO SURVEY CONTROL DETAIL SHEETS FOR HORIZONTAL AND VERTICAL CONTROL DATA.

HT39710 5/18/2020
R061630.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.		061630	53	134

(2) PLAN AND PROFILE SHEETS

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	GUARDRAIL TERMINAL (TYPE 2) EACH	TERMINAL ANCHOR POST (TYPE 1) EACH
609+32.73	704+88.52	RT.	1425	1	1

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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595 600 605 610

STA. 596+30.00 — STA. 603+50.00 — STA. 605+35.00 RT. — STA. 608+35.00 RT. — STA. 609+35.00 RT.

EXIST. 720' MEDIAN TAPER

300' TAPER 100' 300' TAPER

CONST. LIMITS

N 57°07'19" E

2' 44' 8' 44' 2' 2' 44' 20' 20' 44' 2' 48' 2' 9.6 48'

I-430

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

320 310 300 290 280 270 260 250 240 230

595+00 596+00 597+00 598+00 599+00 600+00 601+00 602+00 603+00 604+00 605+00 606+00 607+00 608+00 609+00 610+00

HT39710 5/18/2020
R061630.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.		061630	54	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

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STA. 612+35.00 RT.
STA. 612+72.00 LT.
STA. 615+72.00 LT.
300' TAPER
300' TAPER
610
615
620
625

I-430
PI = 632+00.37
Δ = 12°52'20"LT.
D = 00°30'00"
T = 1292.67
L = 2574.45
PC = 619+07.70
PT = 644+82.15
NO SUPER.

P.C. 619+07.70
700
705
P.I. 704+14.58
N 57°07' 19" E
N 57°05' 07" E
44'
48'
60'
60'
CONST. LIMITS
B.L. 700.00
9.87

I-430

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

STA. 620+00.00
END JOB 061630

310
300
290
280
270
260
250
240
230
220

610+00 611+00 612+00 613+00 614+00 615+00 616+00 617+00 618+00 619+00 620+00 621+00 622+00 623+00 624+00 625+00

HT39710 5/18/2020
R061630.DGN

STA.	STA.	SIDE	GUARDRAIL (TYPE A) LIN. FT.	GUARDRAIL TERMINAL (TYPE 2) EACH	TERMINAL ANCHOR POST (TYPE 1) EACH
609+32.73	704+88.52	RT.	1425	1	1

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

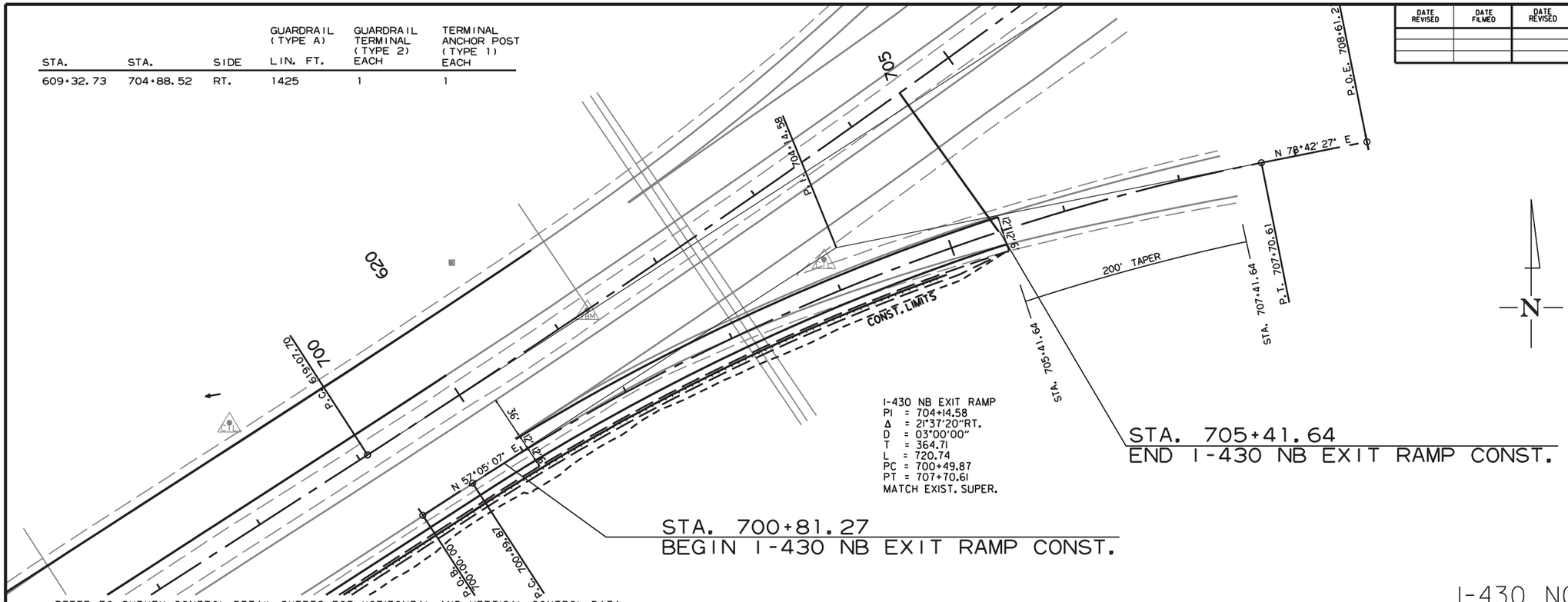
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	55	134

(2) PLAN AND PROFILE SHEETS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 11425
TRINITY D. SMITH

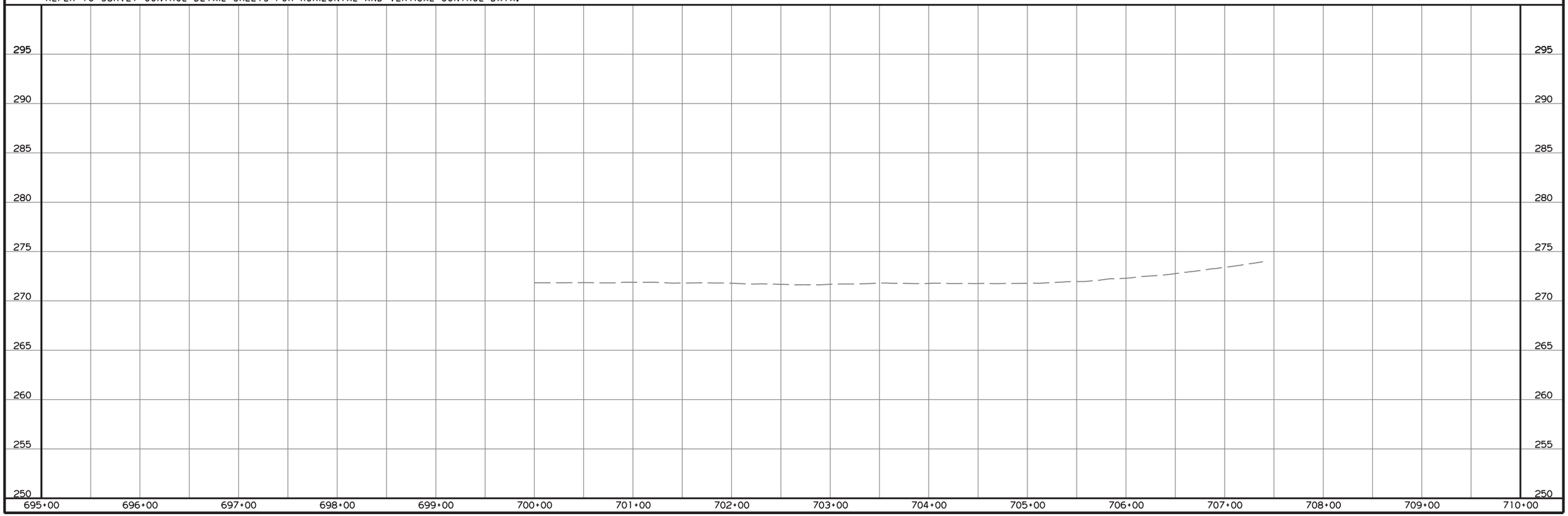
May 21 2020 3:43 PM

DocuSign



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

I-430 NORTHBOUND EXIT RAMP



HT39710 5/18/2020
R061630.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.		061630	56	134

(2) ILLUMINATION NOTES

GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NFPA 70, CURRENT EDITION), LIFE SAFETY CODE (NFPA 101, CURRENT EDITION), UNDERGROUND FACILITIES DAMAGE PREVENTION ACT (§14-271-101 ET SEQ.), AND LOCAL ELECTRICAL CODE.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION TO PROJECT ENGINEER, TO ENSURE ARKANSAS STATE CODES (§17-28-101 ET SEQ. AND §20-31-101 ET SEQ.) ARE MET. THE DOCUMENTATION SHALL INCLUDE:
   (1) ELECTRICIANS' LICENSE INFORMATION AND EXPIRATION DATE.
   (2) THE RATIO OF LICENSED-ELECTRICIAN-TO-APPRENTICE-ELECTRICIANS.
   (3) PRINTED SEARCH RESULT OF LICENSED ELECTRICIANS FROM ARKANSAS DEPARTMENT OF LABOR ELECTRICIAN LICENSEE DIRECTORY (https://www.ark.org/labor/electrician/search.php)
   ALL LICENSES SHALL BE VALID AND CURRENT.

3. EXTEND GREEN EQUIPMENT GROUNDING CONDUCTOR (E.G.C.) FROM GROUND BAR AT MAIN BREAKER TO CONTROL PANEL AND TO FIRST POLE. SOLIDLY BOND E.G.C. TO GROUND LUG OF CONTROL CABINET AND TO POLE GROUND. ENSURE THAT ONLY ONE NEUTRAL-TO-GROUND BOND EXISTS IN THE SYSTEM AND THAT IT IS AT THE MAIN BREAKER.

4. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, STANDARD DRAWINGS AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITION.

5. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD AS SHOWN IN THE STANDARD DRAWINGS MAY BE USED.

6. TRAFFIC SIGNAL POLES AND ROADWAY ILLUMINATION POLES SHALL BE GALVANIZED AND BLACK POWDER COATED. VISORS SHALL BE SUPPLIED FOR ALL LANE CONTROL SIGNALS.

7. PAVEMENT MARKING SHOWN FOR REFERENCE ONLY. SEE PERMANENT PAVEMENT MARKING DETAILS.

8. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENTS FOR CLEARANCE ABOVE ROADWAY ONLY AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY (SEE NOTES ON STANDARD DRAWING). PAYMENT WILL BE INCLUDED IN SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

9. ALL CONCRETE PULL BOXES SHALL BE TYPE 2 HD UNLESS OTHERWISE INDICATED. ALL CONDUIT FROM PULL BOX TO LIGHT POLE SHALL BE TWO (2") INCH DIAMETER. ALL CONDUIT SHALL BE SCHEDULE 40 THREE (3") INCH DIAMETER UNLESS SPECIFIED ON PLANS.

10. CONDUIT INSTALLED UNDER ROADWAY SURFACES SHALL BE INSTALLED BY A PUSHING OR BORING METHOD OR AS DIRECTED BY ENGINEER. PVC OR HDPE CONDUIT SHALL BE USED. PVC CONDUIT SHALL BE MARKED "DIR. BORING" OR "DIRECTIONAL BORING" AS PER NEC.

11. ITS EQUIPMENT ON THE SAME CIRCUIT SHALL BE CONNECTED ON ALTERNATING PHASES AND THE LOAD DISTRIBUTED AS EVENLY AS POSSIBLE ON EACH PHASE.

12. NON-DESTRUCTIVE MEG TEST AND CURRENT LEAKAGE TEST SHALL BE PERFORMED ON NEW CONDUCTORS, IN THE PRESENCE OF FIELD INSPECTOR. THE TEST VOLTAGE SHALL BE LIMITED TO 600 VOLTS. ANY CONDUCTOR NOT MEETING THE MIMINUM ACCEPTABLE VALUE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE USING NEW CONDUCTOR. THE RESULTS SHALL BE DOCUMENTED AND PROVIDED TO THE JOB ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES CAUSED BY MEG TEST WHILE DEVICES OR ACCESSORIES ARE STILL CONNECTED AND SHALL BE REPLACED AT CONTRACTOR'S EXPENSE. SEE SPECIAL PROVISION ELECTRICAL CONDUCTORS-IN-CONDUIT.

13. PULL BOX LIDS SHALL CLOSE FLUSH WITHOUT PINCHING ANY CONDUCTORS. CONDUIT LENGTHS IN PULL BOXES SHALL BE SET ACCORDINGLY. ANY CONDUCTORS THAT HAVE BEEN DAMAGED BY PINCHING SHALL BE COMPLETELY REPLACED AT CONTRACTOR'S EXPENSE.

14. THE CONTRACTOR SHALL NOT ENGAGE IN EXCAVATION OR DEMOLITION ACTIVITIES WITHOUT HAVING FIRST NOTIFIED THE ARKANSAS ONE CALL CENTER IN ACCORDANCE WITH A.C.A. § 14-271 UNDERGROUND FACILITIES DAMAGE PREVENTION ACT. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE CALL SYSTEM. THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE CALL CENTER.

15. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. SOME UTILITES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES INVOLVED AND VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL IT IS NO LONGER NECESSARY.

16. CONTRACTOR SHALL NOTIFY ALL EXISTING UTILITY OWNERS BEFORE BEGINNING WORK ON THIS PROJECT.

17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF REPAIR OR REPLACEMENT OF EXISTING UTILITES DAMAGED DURING THE CONSTRUCTION.

18. EACH ROADWAY ILLUMINATION POLE SHALL BE BONDED TO EQUIPMENT GROUNDING CONDUCTOR PER NEC. SEE ARTICLES 250 AND 410.

19. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED.

20. ALL LUMINAIRE ASSEMBLIES SHALL HAVE BUG RATING OF U0.

21. BEFORE FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE 2 SETS OF LEDGER SIZE (11" X 17") AS-BUILT PLANS TO THE MAINTENANCE AUTHORITY AND ARDOT.

22. PULL CABLE SHALL BE MINIMUM 1/4" PULL NYLON OR POLYESTER ROPE, OR 1200 LBS PULL TAPE WHEN PULLING CONDUCTORS. STEEL CABLE OR FISH TAPE SHALL NOT BE USED. CONNECT PULLING DEVICES TO COPPER WIRE AND NOT TO JACKET. USE PULLING COMPOUND PER MANUFACTURER'S REQUIREMENTS. ALL BENDS SHALL NOT BE LESS THAN RECOMMENDED BY NEC FOR CONDUCTORS USED.

23. ALL CONCRETE PULL BOXES SHALL BE TYPE 2 HD UNLESS OTHERWISE INDICATED ON THE PLANS.

24. SLACK CABLES IN PULL BOXES SHALL BE 2 FEET.

25. AS DETERMINED BY THE ENGINEER, FOUNDATION EMBEDMENT MAY BE DECREASED BY A MAXIMUM OF TWO (2) FEET IF COMPETENT ROCK IS ENCOUNTERED PRIOR TO ACHIEVING PLAN EMBEDMENT AND AT LEAST HALF OF THE REMAINING PLAN EMBEDMENT LENGTH IS KEYED INTO COMPETENT ROCK.

26. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE RESIDENT ENGINEER OR ASSIGNED DEPARTMENT PROJECT INSPECTOR EACH DAY PRIOR TO ELECTRICAL RELATED WORK. NO ELECTRICAL WORK WILL BE ALLOWED OR APPROVED WITHOUT THIS PRIOR NOTIFICATION.

27. ALL STEEL POLES SHALL BE DESIGNED TO MEET THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

28. IN PULL BOXES, POLE BASES, JUNCTION BOXES AND CONTROLLER CABINETS, THE DIRECTION OF EACH CABLE RUN SHALL BE INDICATED BY ATTACHING A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO THE CONDUIT. TAGS SHALL BE EMBOSSED, STAMPED OR ENGRAVED WITH LETTERS 1/4" OR GREATER IN HEIGHT AND SECURED TO THE CONDUIT WITH NYLON OR PLASTIC TIES. IN INSTANCES WHERE THE CONDUIT OR CONDUIT ENTRANCES ARE NOT VISIBLE OR ACCESSIBLE, A DIRECTION TAG SHALL BE ATTACHED TO EACH CABLE.

29. ALL NON-METALLIC CONDUIT RUNS SHALL HAVE BELL RING FITTINGS INSTALLED ON THE TERMINATING ENDS OF THE CONDUIT. THIS INCLUDES PULL BOXES, POLE BASES, AND CABINETS.

30. ALL CONCRETE PULL BOXES SHALL BE SET ON A GRAVEL OR CRUSHED STONE BEDDING AS SPECIFIED IN SECTION 711, CONCRETE PULL BOX, OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, EDITION OF 2014.

31. GROUND, E.G.C., AND GROUND RODS SHALL BE EXOTHERMICALLY BONDED.

32. ALL ITS CABINETS SHALL BE INSTALLED DOWNSTREAM OF TRAFFIC. GROUND MOUNTED CABINETS SHALL BE ORIENTED IN A WAY THAT THE BACK OF CABINET FACES THE TRAFFIC AND THE DOOR OPENS TOWARDS THE DIRECTION OF TRAFFIC.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTINI

I-430
ILLUMINATION NOTES

MAINT_061630 Lighting.dgn 4/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-22-2020				6	ARK.			
				JOB NO.		061630	57	134

(2) SUMMARY OF ITS & ILLUMINATION QUANTITIES

SUMMARY OF ITS AND ILLUMINATION QUANTITIES

	ITEM NUMBER	ITEM	QUANTITY	UNIT
	202	REMOVAL AND DISPOSAL OF CONDUIT	10752	LIN. FT.
	SP	ANTENNA SUPPORT STRUCTURE ASSEMBLY (80')	1	EACH
	SP	PTZ CAMERA SYSTEM	10	EACH
	SP	WIC FIBER ENCLOSURE	31	EACH
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/1 A.W.G.)	9170	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/1 A.W.G.)	15473	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/3 A.W.G.)	11719	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/3 A.W.G.)	8865	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G.)	15405	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	4382	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/6 A.W.G.)	4382	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/0 A.W.G.)	8963	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/0 A.W.G., E.G.C.)	12404	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G., E.G.C.)	3791	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/4 A.W.G.)	318	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/000 A.W.G.)	898	LIN. FT.
	SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/000 A.W.G.)	898	LIN. FT.
	SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	27249	LIN. FT.
	SP	COMMUNICATION CABLE, FIBER (72 CHANNEL)	13542	LIN. FT.
	SP	PVC COATED GALVANIZED STEEL CONDUIT (4")	10752	LIN. FT.
	709	GALVANIZED STEEL CONDUIT (1.5")	400	LIN. FT.
	710	NON-METALLIC CONDUIT (1.25")	12049	LIN. FT.
	710	NON-METALLIC CONDUIT (1.5")	400	LIN. FT.
	710	NON-METALLIC CONDUIT (2")	2393	LIN. FT.
	710	NON-METALLIC CONDUIT (3")	15945	LIN. FT.
	SP & 711	CONCRETE PULL BOX (TYPE 2 HD)	63	EACH
	SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	16	EACH
	202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	3	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (12')	10	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (16')	3	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (17')	2	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')	6	EACH
	SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	EACH
	SP	LED LUMINAIRE ASSEMBLY	74	EACH
	SP	REMOVAL OF EXISTING SERVICE POINT ASSEMBLY	2	EACH
	SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
	SP	SERVICE POINT ASSEMBLY (4 CIRCUITS)	1	EACH
	SP	SERVICE POINT ASSEMBLY (6 CIRCUITS)	1	EACH
	SP	SERVICE POINT MODIFICATION	1	EACH
	SP	LIGHTING CONTROLLER ASSEMBLY	1	EACH
	SP	NAVIGATION LIGHTING SYSTEM	1.00	LUMP SUM
	SP	OVERHEAD DMS ASSEMBLY	3	EACH
	SP	OVERHEAD DDMS ASSEMBLY	6	EACH
	SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-040-60-53)	1	EACH
	SP	STEEL TEE MOUNT SIGN STRUCTURE (TM-430-60-53)	1	EACH
	SP	LANE-USE CONTROL SIGNAL ASSEMBLY	22	EACH
	SP	ROADWAY ILLUMINATION POLE (TYPE A, GROUND, 40')	30	EACH
	SP	ROADWAY ILLUMINATION POLE (TYPE A, PEDESTAL, 40')	22	EACH
	SP	INNERDUCT CONDUIT (1")	21600	LIN. FT.
*	SP	GROUND MOUNTED ITS CABINET	16	EACH
*	SP	WALL MOUNTED ITS CABINET	13	EACH

* TWO SPARE WIC FIBER ENCLOSURES, ONE SPARE GROUND MOUNTED ITS CABINET, AND ONE SPARE WALL MOUNTED ITS CABINET ARE TO BE PROVIDED FOR FUTURE USE.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
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SUMMARY OF QUANTITIES
ITS & ILLUMINATION

MAINT_061630 Lighting.dgn 6/2/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-22-2020				6	ARK.			
				JOB NO.		061630	58	134
				(2) ILLUMINATION QUANTITIES				

SUMMARY OF ILLUMINATION QUANTITIES

ITEM NO.	ITEM	QUANTITIES TOTAL	UNIT
202	REMOVAL AND DISPOSAL OF CONDUIT	10752	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/1 A.W.G.)	9170	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/1 A.W.G.)	15473	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/3 A.W.G.)	11719	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/3 A.W.G.)	8865	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/4 A.W.G.)	15405	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G.)	4382	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/6 A.W.G.)	4382	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (3C/0 A.W.G.)	8963	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/0 A.W.G., E.G.C.)	12404	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/12 A.W.G., E.G.C.)	3791	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (1C/4 A.W.G.)	318	LIN. FT.
SP	PVC COATED GALVANIZED STEEL CONDUIT (4")	10752	LIN. FT.
SP	NON-METALLIC CONDUIT (1.25")	12049	LIN. FT.
710	NON-METALLIC CONDUIT (2")	2393	LIN. FT.
710	NON-METALLIC CONDUIT (3")	14860	LIN. FT.
SP & 711	CONCRETE PULL BOX (TYPE 2 HD)	63	EACH
SP & 711	CONCRETE PULL BOX (TYPE 3 HD)	16	EACH
202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	3	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (12')	10	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (16')	3	EACH
SS & 714	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (17')	2	EACH
SS & 715	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (26')	6	EACH
SS & 716	TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION (28')	1	EACH
SP	LED LUMINAIRE ASSEMBLY (BUG U0 TYPE)	74	EACH
SP	REMOVAL OF EXISTING SERVICE POINT ASSEMBLY	2	EACH
SP	SERVICE POINT ASSEMBLY (1 CIRCUIT)	1	EACH
SP	SERVICE POINT ASSEMBLY (4 CIRCUITS)	1	EACH
SP	SERVICE POINT ASSEMBLY (6 CIRCUITS)	1	EACH
SP	SERVICE POINT MODIFICATION	1	EACH
SP	LIGHTING CONTROLLER ASSEMBLY	1	EACH
SP	NAVIGATION LIGHTING SYSTEM	1.00	LUMP SUM
SP	ROADWAY ILLUMINATION POLE (TYPE A, GROUND, 40')	30	EACH
SP	ROADWAY ILLUMINATION POLE (TYPE A, PEDESTAL, 40')	22	EACH

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
Jun 23, 2020 8:37 AM
No. 7527
JOSEPH A. SARTINI
DocuSign

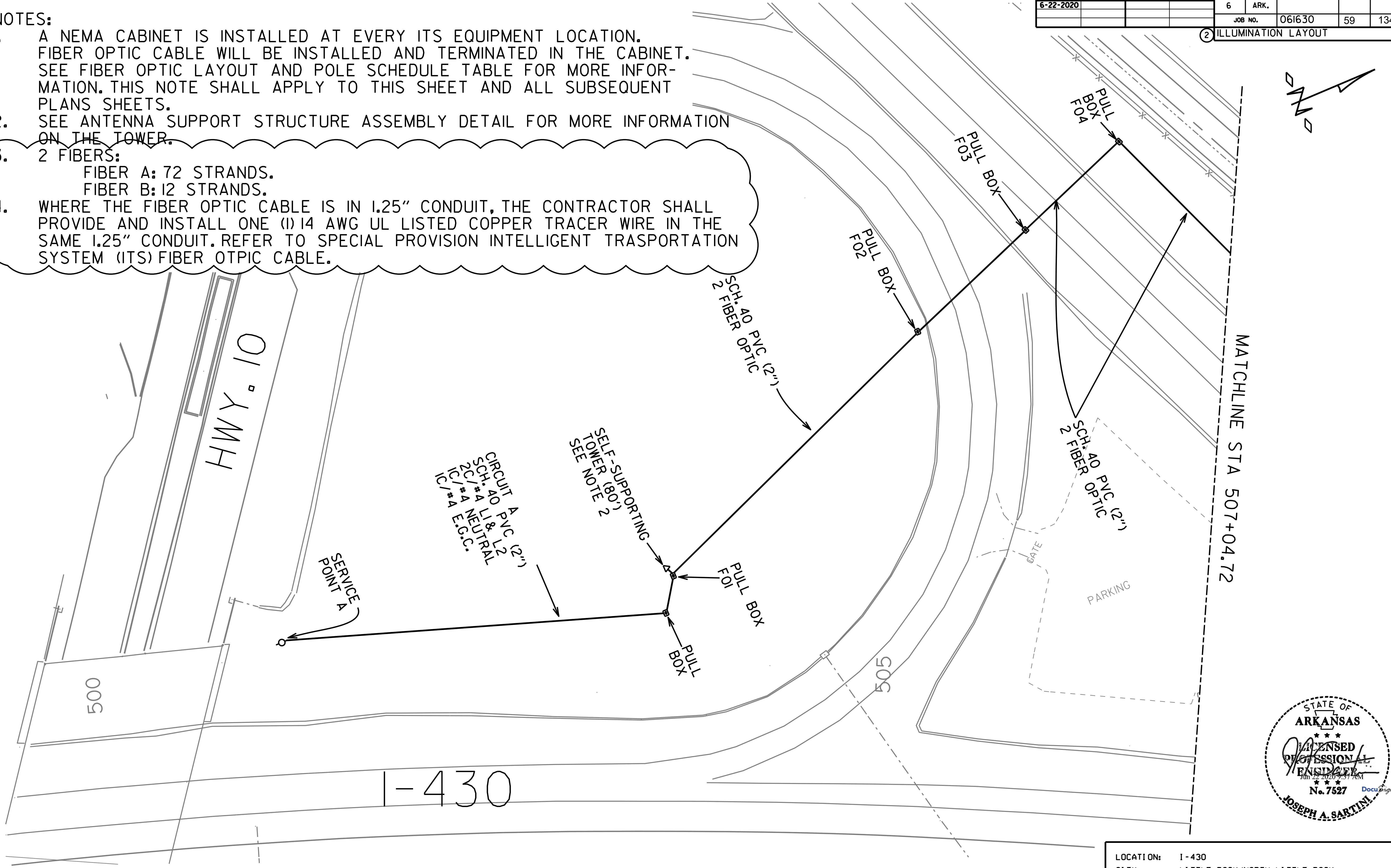
MAINT_061630 Lighting.dgn 4/30/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-22-2020				6	ARK.			
				JOB NO.		061630	59	134

(2) ILLUMINATION LAYOUT

NOTES:

1. A NEMA CABINET IS INSTALLED AT EVERY ITS EQUIPMENT LOCATION. FIBER OPTIC CABLE WILL BE INSTALLED AND TERMINATED IN THE CABINET. SEE FIBER OPTIC LAYOUT AND POLE SCHEDULE TABLE FOR MORE INFORMATION. THIS NOTE SHALL APPLY TO THIS SHEET AND ALL SUBSEQUENT PLANS SHEETS.
2. SEE ANTENNA SUPPORT STRUCTURE ASSEMBLY DETAIL FOR MORE INFORMATION ON THE TOWER.
3. 2 FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
4. WHERE THE FIBER OPTIC CABLE IS IN 1.25" CONDUIT, THE CONTRACTOR SHALL PROVIDE AND INSTALL ONE (1) 14 AWG UL LISTED COPPER TRACER WIRE IN THE SAME 1.25" CONDUIT. REFER TO SPECIAL PROVISION INTELLIGENT TRASPORTATION SYSTEM (ITS) FIBER OTPIC CABLE.



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
Jun 22 2020 9:37 AM
[illegible]

LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	06 SCALE: 1" = 60' DRAWN BY: PC

MAINT_061630 Lighting.dgn 3/25/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-22-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	60	134

(2) ILLUMINATION LAYOUT

NOTES:
1. 2 FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
2. WHERE THE FIBER OPTIC CABLE IS IN 1.25" CONDUIT, THE CONTRACTOR SHALL ROVIDE AND INSTALL ONE (1) 14 AWG UL LISTED COPPER TRACER WIRE IN THE AME 1.25" CONDUIT. REFER TO SPECIAL PROVISION INTELLIGENT TRASPORTATION YSTEM (ITS) FIBER OTPIC CABLE.

PULL BOX F05

PULL BOX F06

PULL BOX F07

PULL BOX F08

SCH. 40 PVC 2 FIBER OPTIC (2")

SCH. 40 PVC 2 FIBER OPTIC (2")

MATCHLINE STA. 507+04.72

MATCHLINE STA. 516+30.00

510

615

P.C. 510+14.32

P.T. 615+31.80

I-430

N 27°00' 09" E

SAFETY BARRIER

PAVED

PAVED

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

SCALE IN FEET
0 30 60 120

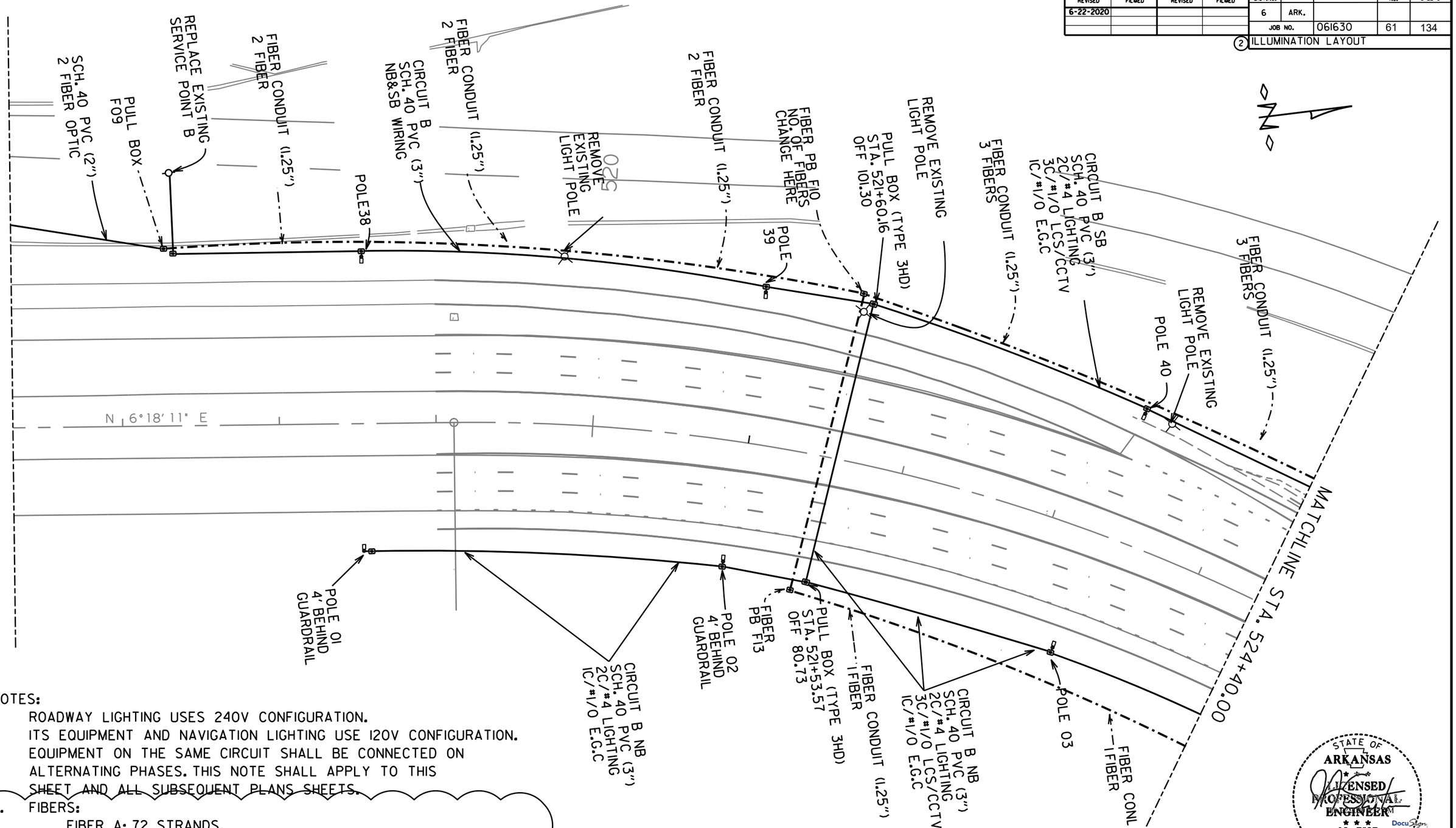
LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	06 SCALE: 1" = 60' DRAWN BY: PC

MAINT_061630 Lighting.dgn 3/25/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-22-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	61	134

(2) ILLUMINATION LAYOUT



NOTES:

1. ROADWAY LIGHTING USES 240V CONFIGURATION. ITS EQUIPMENT AND NAVIGATION LIGHTING USE 120V CONFIGURATION. EQUIPMENT ON THE SAME CIRCUIT SHALL BE CONNECTED ON ALTERNATING PHASES. THIS NOTE SHALL APPLY TO THIS SHEET AND ALL SUBSEQUENT PLANS SHEETS.
2. FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
3. WHERE THE FIBER OPTIC CABLE IS IN 1.25" CONDUIT, THE CONTRACTOR SHALL ROVIDE AND INSTALL ONE (1) 14 AWG UL LISTED COPPER TRACER WIRE IN THE AME 1.25" CONDUIT. REFER TO SPECIAL PROVISION INTELLIGENT TRASPORTATION YSTEM (ITS) FIBER OTPIC CABLE.

SCALE IN FEET
0 30 60 120

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

LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	06 SCALE: 1" = 60' DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/13/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-22-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	62	134

(2) ILLUMINATION LAYOUT

CIRCUIT B SB SCH. 40 PVC (3") 2C/#4 LIGHTING 3C/#1/0 LCS/CCTV 1C/#1/0 E.G.C

PULL BOX STA. 524+88.69 OFF 81.30

OC-430-60-15 INSTALL SB DDMS SEE SIGN LAYOUT

POLE 41 4' BEHIND GUARDRAIL

FIBER CONDUIT (1.25") 2 FIBER

CONST. LIMITS

CIRCUIT B SB SCH. 40 PVC (3") 2C/#4 LIGHTING 3C/#1/0 LCS/CCTV 1C/#1/0 E.G.C

POLE 42 4' BEHIND GUARDRAIL SB TWO (2) CCTV

FIBER CONDUIT (1.25") 2 FIBER

530

CIRCUIT B SB SCH. 40 PVC (3") 2C/#4 LIGHTING 3C/#1/0 LCS/CCTV 1C/#1/0 E.G.C

POLE 43 4' BEHIND GUARDRAIL

MATCHLINE STA. 524+40.00

MATCHLINE STA. 532+10.00

POLE 04

CIRCUIT B-NB SCH. 40 PVC (3") 2C/#4 LIGHTING 3C/#1/0 LCS/CCTV 1C/#1/0 E.G.C

FIBER CONDUIT (1.25") 1FIBER

1.25")

POLE 05 NB LCS01 28' MAST ARM 15' LUM. ARM

CIRCUIT B-NB SCH. 40 PVC (3") 2C/#4 LIGHTING 3C/#1/0 LCS/CCTV 1C/#1/0 E.G.C

FIBER CONDUIT (1.25") 1FIBER

POLE 06 NB LCS02 26' MAST ARM 15' LUM. ARM

P.T. 532+00.68

NOTES:

1. THE NUMBER OF FIBER CHANGES AFTER OH-430-60-15. ~~SEE FIBER OPTIC CABLE LAYOUT CONFIGURATION.~~
2. FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
3. WHERE THE FIBER OPTIC CABLE IS IN 1.25" CONDUIT, THE CONTRACTOR SHALL ROVIDE AND INSTALL ONE (1) 14 AWG UL LISTED COPPER TRACER WIRE IN THE AME 1.25" CONDUIT. REFER TO SPECIAL PROVISION INTELLIGENT TRASPORTATION YSTEM (ITS) FIBER OTPIC CABLE.

SCALE IN FEET
0 30 60 120

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
DocuSigned

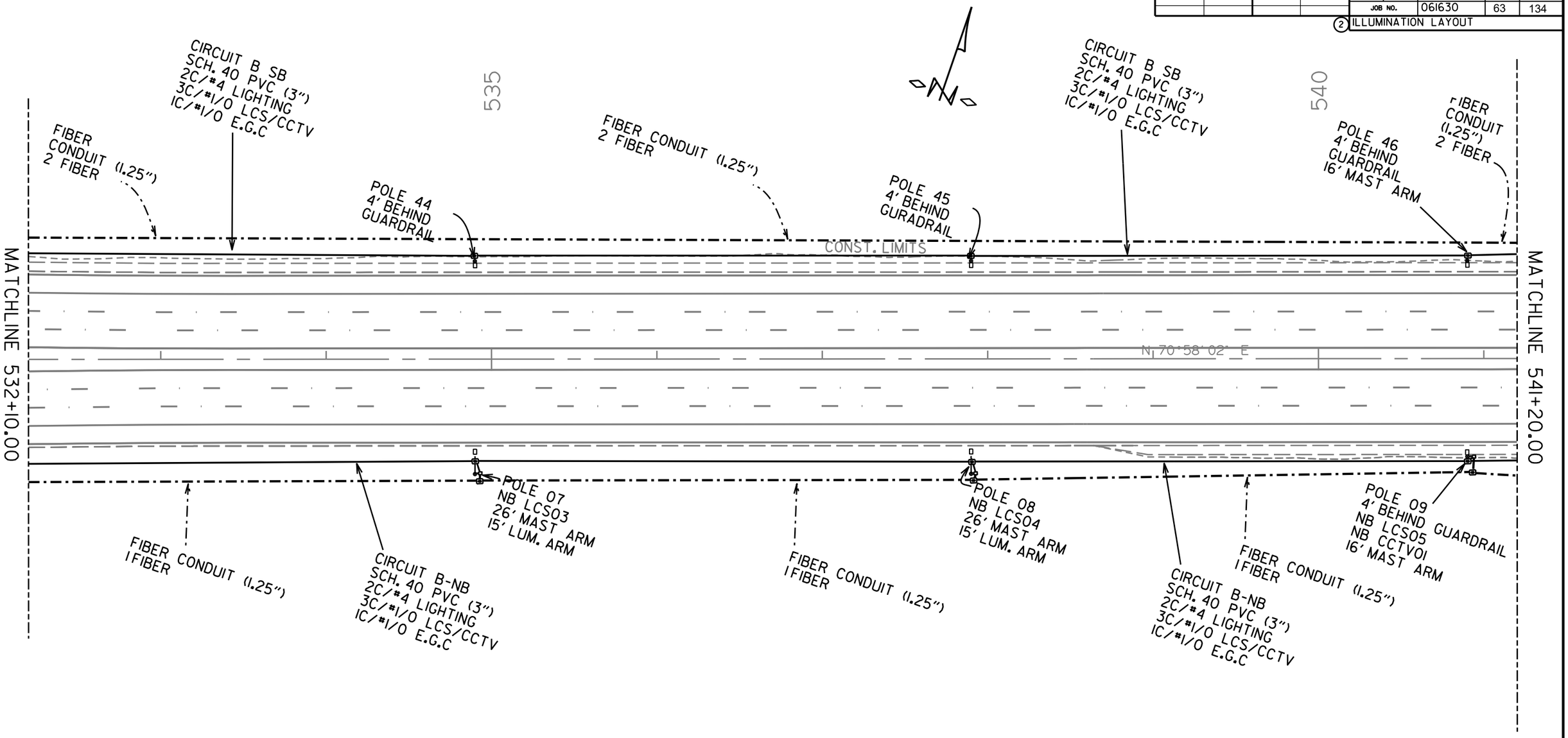
LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: 1" = 60' DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/13/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-22-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	63	134

(2) ILLUMINATION LAYOUT



NOTES:

1. POWER LINE CROSSES I-430.
2. ~~CROSS DRAIN EXISTS BETWEEN POLE 45 AND POLE 08.~~
3. 2 FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
4. WHERE THE FIBER OPTIC CABLE IS IN 1.25" CONDUIT, THE CONTRACTOR SHALL ROVIDE AND INSTALL ONE (1) 14 AWG UL LISTED COPPER TRACER WIRE IN THE AME 1.25" CONDUIT. REFER TO SPECIAL PROVISION INTELLIGENT TRASPORTATION YSTEM (ITS) FIBER OTPIC CABLE.

SCALE IN FEET
0 30 60 120

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MAINT_061630 Lighting.dgn 4/13/2020

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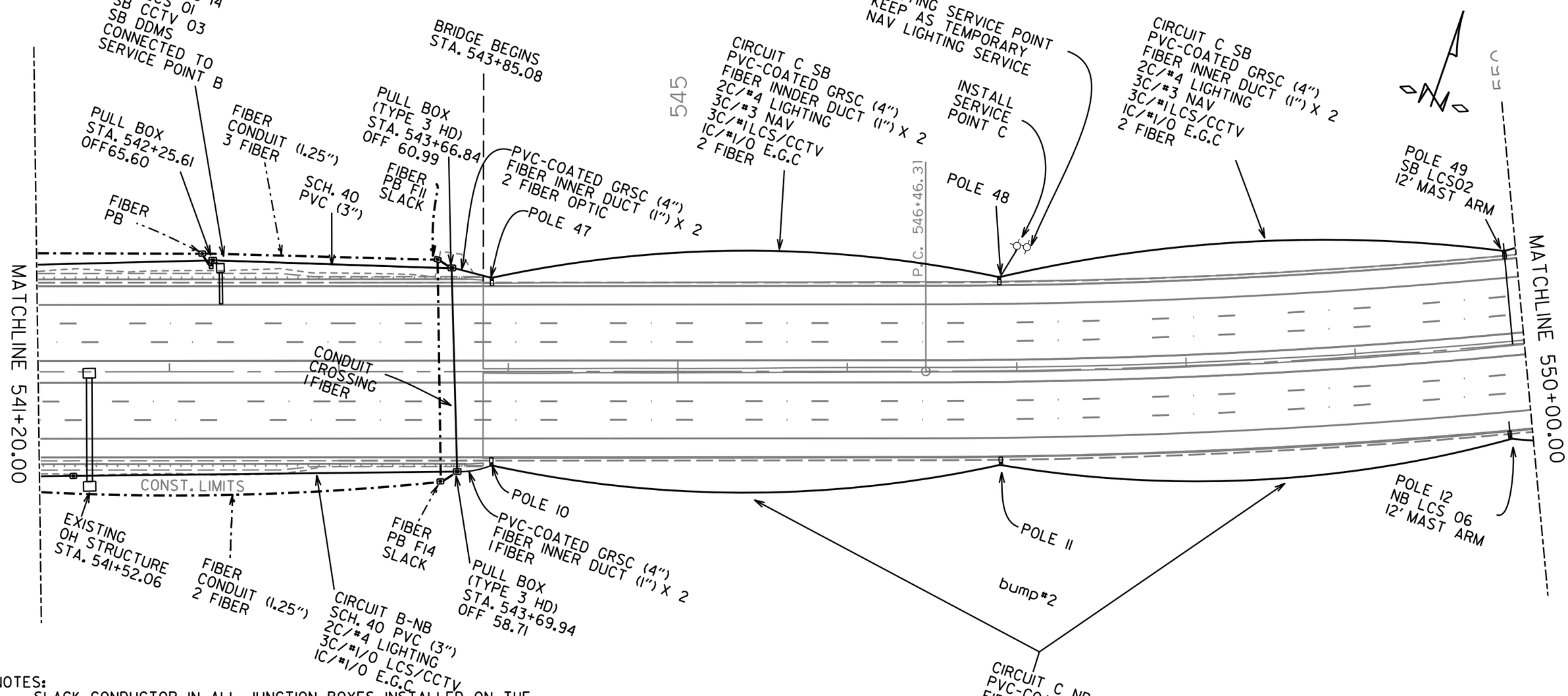
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	64	134

(2) ILLUMINATION LAYOUT



NOTES:

1. SLACK CONDUCTOR IN ALL JUNCTION BOXES INSTALLED ON THE BRIDGE SHALL BE 1'.
2. WALL-MOUNTED CABINETS ON THE BRIDGE SHALL BE INSTALLED DOWNSTREAM OF TRAFFIC. SEE BRIDGE PILASTER DETAILS.
3. SEE BRIDGE PILASTER DETAILS FOR POLES MOUNTED ON THE BRIDGE.
4. AN INTERNAL CANISTER DAMPER SHALL BE FACTORY-INSTALLED FOR ALL POLES INSTALLED ON THE BRIDGE. AN ADDITIONAL VIBRATION DAMPER SHALL BE INSTALLED FOR ALL BRIDGE-MOUNTED POLES WITH A MASTARM. SEE BRDIGE POLE SCHEMATIC.
5. REMOVE AND REPLACE EXISTING CONDUITS ON THE BRIDGE. THE NEW NORTHBOUND CONDUIT SHALL BE INSTALLED WHERE THE EXISTING CONDUITS USED TO RESIDE. THE NEW CONDUIT STRAPS ON THE EXTERIOR STRINGER SHALL BE INSTALLED AT EXISTING PRE-DRILLED LOCATIONS. THE NEW SOUTHBOUND CONDUIT SHALL BE INSTALLED UNDERNEATH CONCRETE STRUTURE SEE ILLUMINATION DETAILS - CONDUIT. THE EXISTING SOUTHBOUND CONDUIT SHALL BE USED AS TEMPORARY POWER SOURCE FOR NAVIGATION LIGHTING.
6. INSTALL OZ/GEDNEY EXPANSION AX OR EQUIL AT BRIDGE EXPANSION JOINTS.
7. 2 FIBERS:
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   FIBER B: 12 STRANDS.
   IFIBER:
   FIBER C: 12 STRANDS.

SCALE IN FEET
0 30 60 120

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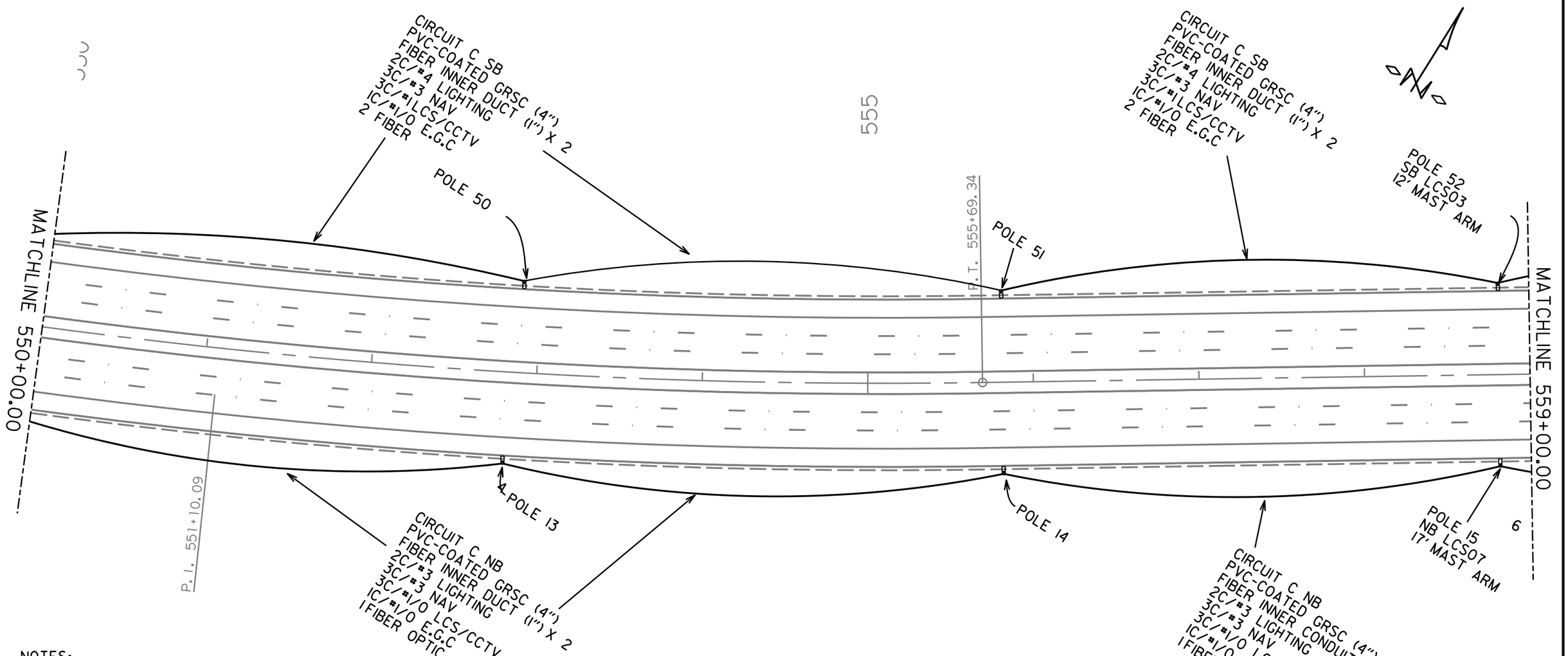
6	ARK.			
JOB NO.		061630	65	134

(2) ILLUMINATION LAYOUT



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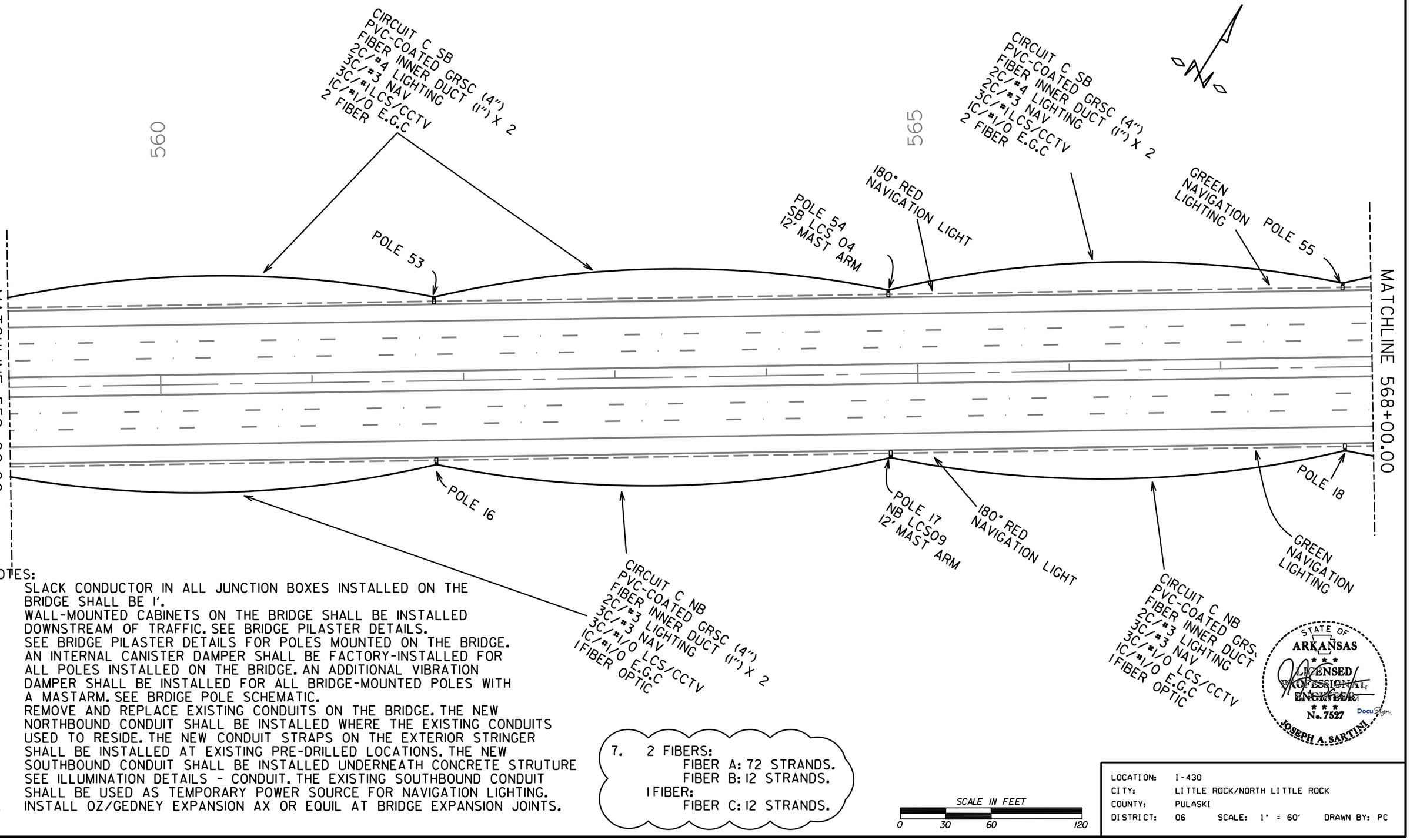
6	ARK.			
JOB NO.		061630	66	134

(2) ILLUMINATION LAYOUT



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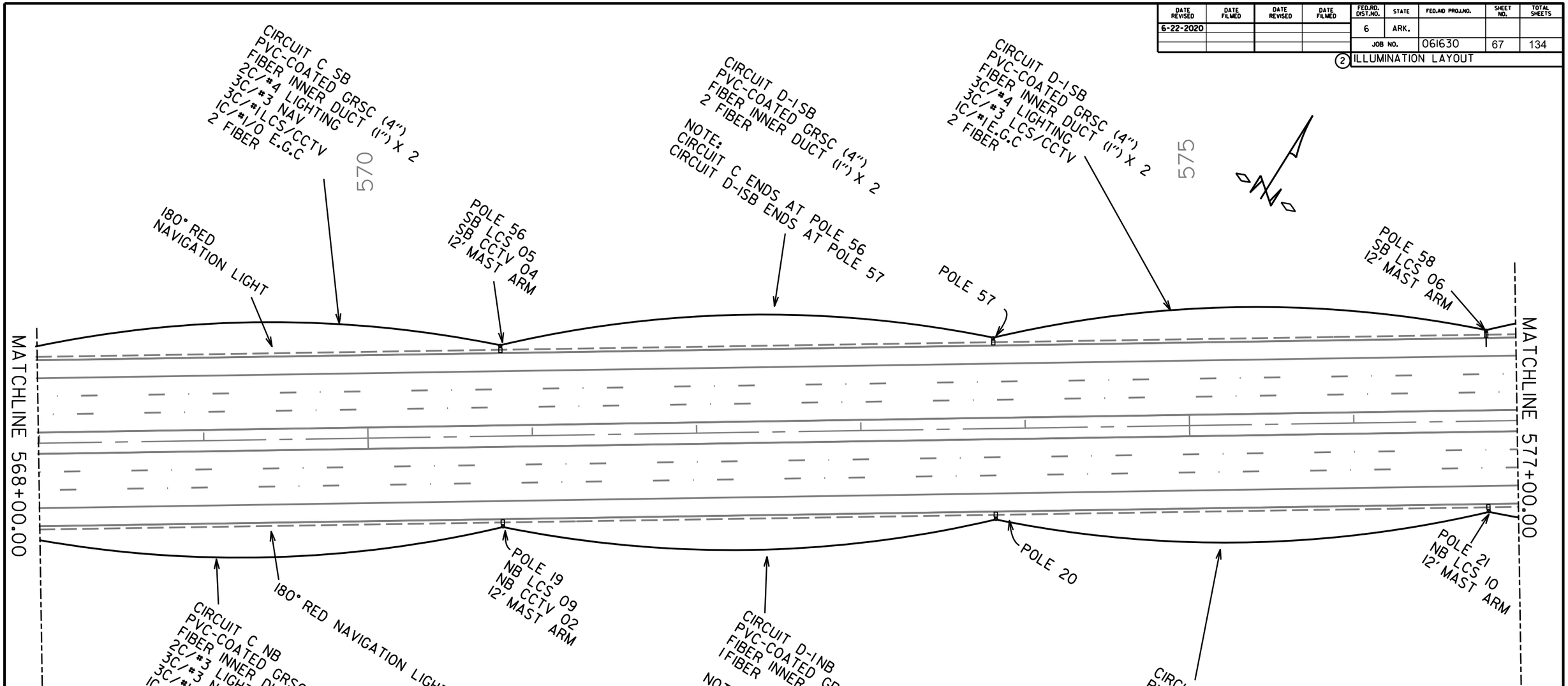
6	ARK.			
JOB NO.		061630	67	134

(2) ILLUMINATION LAYOUT



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SCALE IN FEET
0 30 60 120

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
DocuSigned by:

LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
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MAINT_061630 Lighting.dgn 4/14/2020

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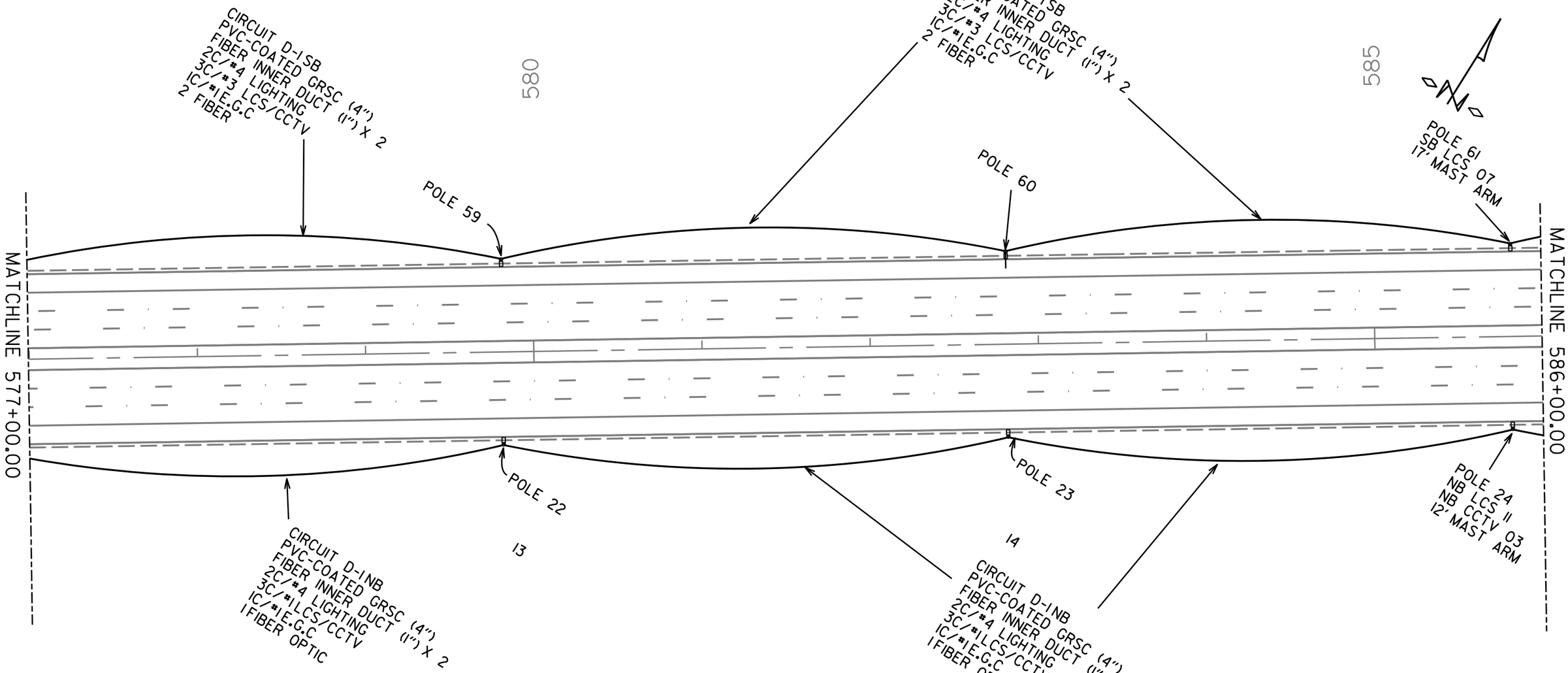
6	ARK.			
JOB NO.		061630	68	134

(2) ILLUMINATION LAYOUT



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SCALE IN FEET
0 30 60 120

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
DocuSigned

LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	06 SCALE: 1" = 60' DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/14/2020

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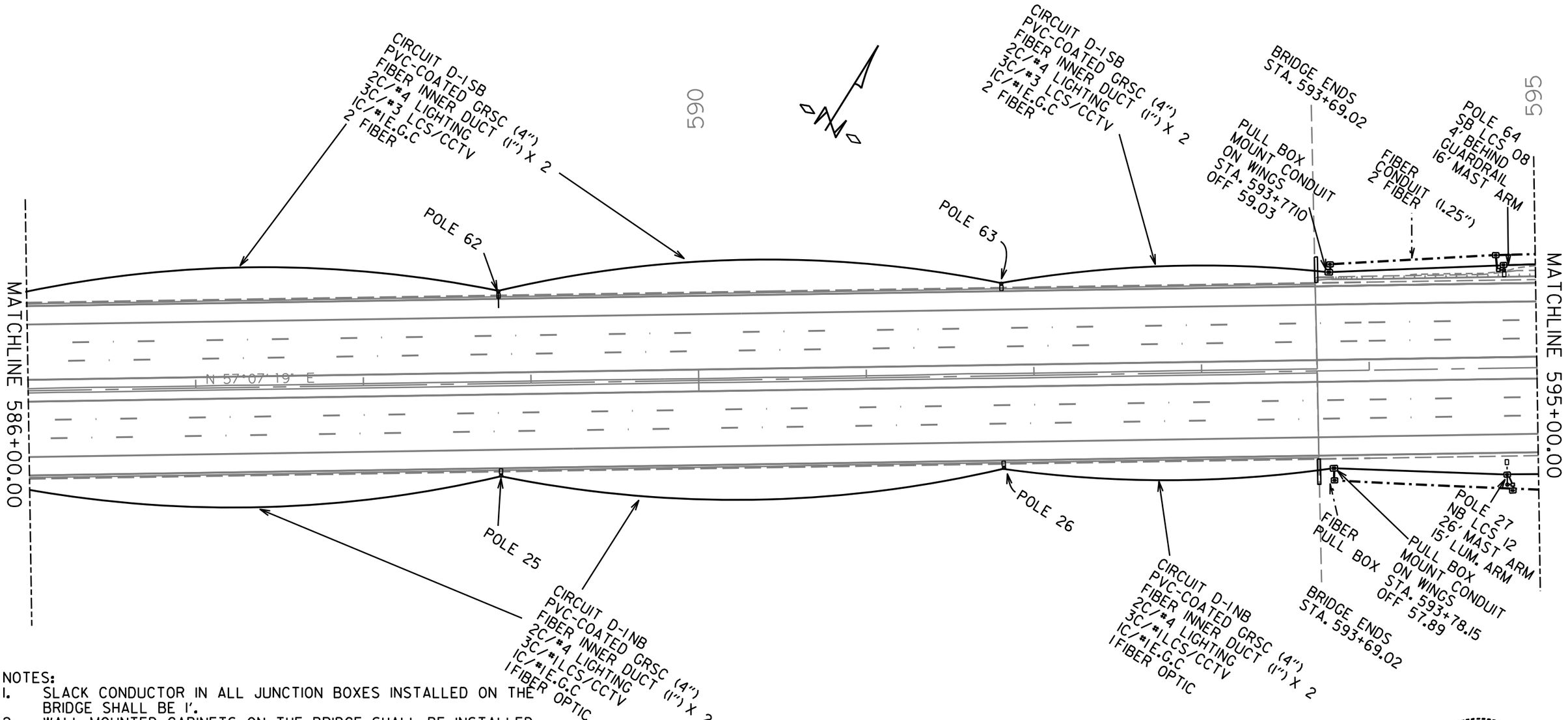
6	ARK.			
JOB NO.		061630	69	134

(2) ILLUMINATION LAYOUT



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SCALE IN FEET
0 30 60 120

STATE OF ARKANSAS
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6	ARK.			
JOB NO.		061630	70	134

(2) ILLUMINATION LAYOUT

595

600

MATCHLINE 595+00.00

MATCHLINE 604+00.00

CONST. LIMITS

CIRCUIT D-1SB
SCH. 40 PVC (3")
2C/#4 LIGHTING
3C/#3 LCS/CCTV
1C/#1E.G.C

POLE 65

FIBER CONDUIT (1.25")
2 FIBER

FIBER CONDUIT (1.25")
2 FIBER

POLE 66

CIRCUIT D-1SB
SCH. 40 PVC (3")
2C/#4 LIGHTING
3C/#3 LCS/CCTV
1C/#1E.G.C

CIRCUIT D-2 SB
SHC. 40 PVC (3")
2C/#6 LIGHTING
3C/#6 LCS/CCTV
1C/#6 E.G.C

POLE 67
SB LCS 09
26' MAST ARM
15' LUM. ARM
SEE NOTE 1

FIBER CONDUIT (1.25")
3 FIBER

FIBER PB F12

PULL BOX (TYPE 3HD)
STA. 602+82.51
OFF 72.35

CONDUIT CROSSING
FIBER OPTIC

EXISTING DMS
MODIFY EXISTING SERVICE POINT D
INSTALL SB CCTV 05
INSTALL TYPE 3 HD

FIBER CONDUIT (1.25")
1FIBER

CIRCUIT D-1NB
SCH. 40 PVC (3")
2C/#4 LIGHTING
3C/#1LCS/CCTV
1C/#1E.G.C

POLE 28

FIBER CONDUIT (1.25")
1FIBER

POLE 29

CIRCUIT D-1NB
SCH. 40 PVC (3")
2C/#4 LIGHTING
3C/#1LCS/CCTV
1C/#1E.G.C

FIBER PB F15

PULL BOX (TYPE 3HD)
STA. 602+82.46
OFF 72.65

POLE 30

NOTES:
1. THE CONTRACTOR SHALL MAKE 4" ADJUSTMENT TO THE FOUNDATION FOR POLE 67. SEE STANDARD DRAWING SD-11.
2. 2 FIBERS:
   FIBER A: 72 STRANDS.
   FIBER B: 12 STRANDS.
   1FIBER:
   FIBER C: 12 STRANDS.

SCALE IN FEET
0 30 60 120

LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: 1" = 60' DRAWN BY: PC

STATE OF ARKANSAS
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DocuSign

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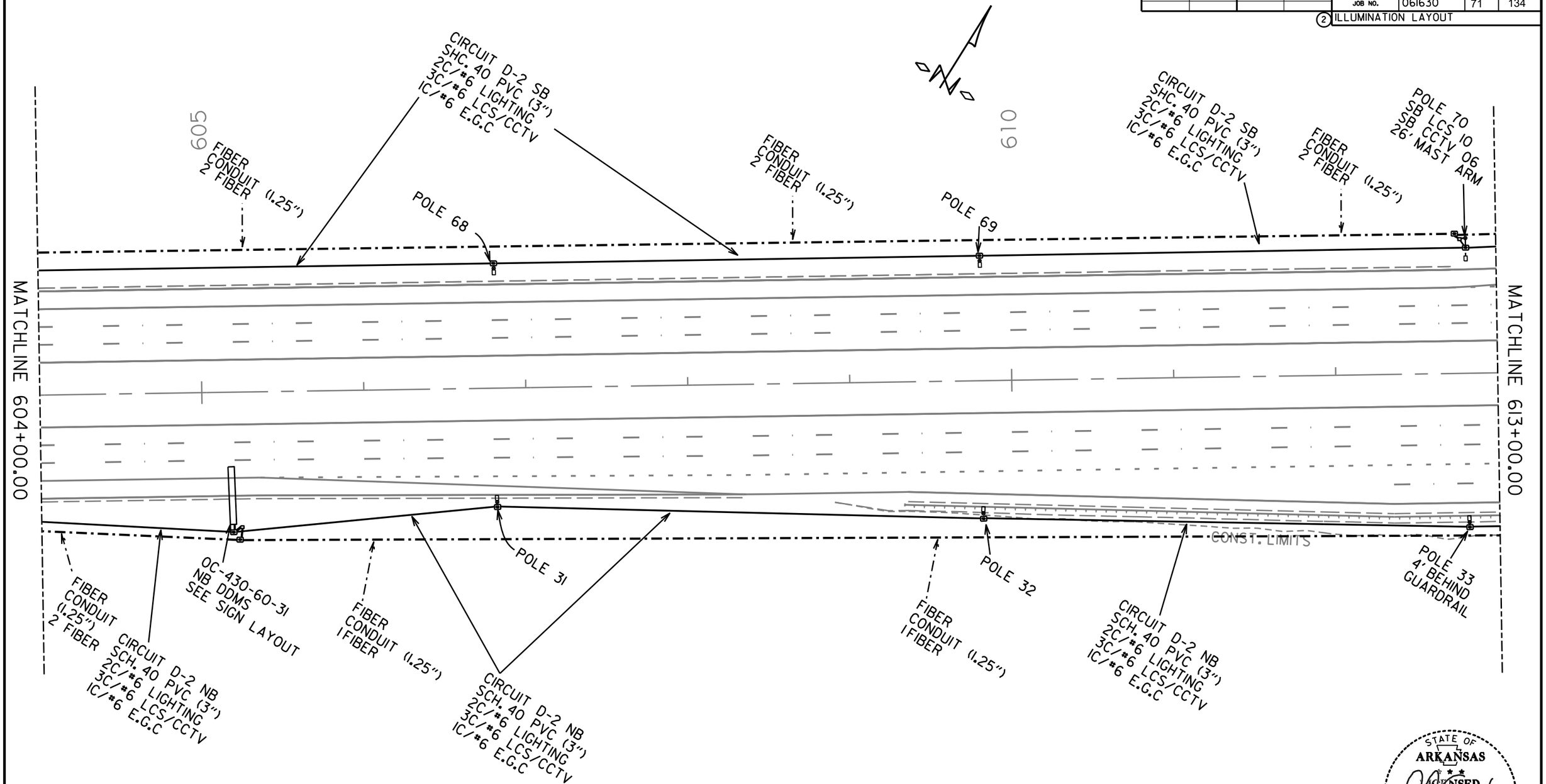
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	71	134

(2) ILLUMINATION LAYOUT



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SCALE IN FEET
0 30 60 120

LOCATION: I-430
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COUNTY: PULASKI
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MAINT_061630 Lighting.dgn 4/14/2020

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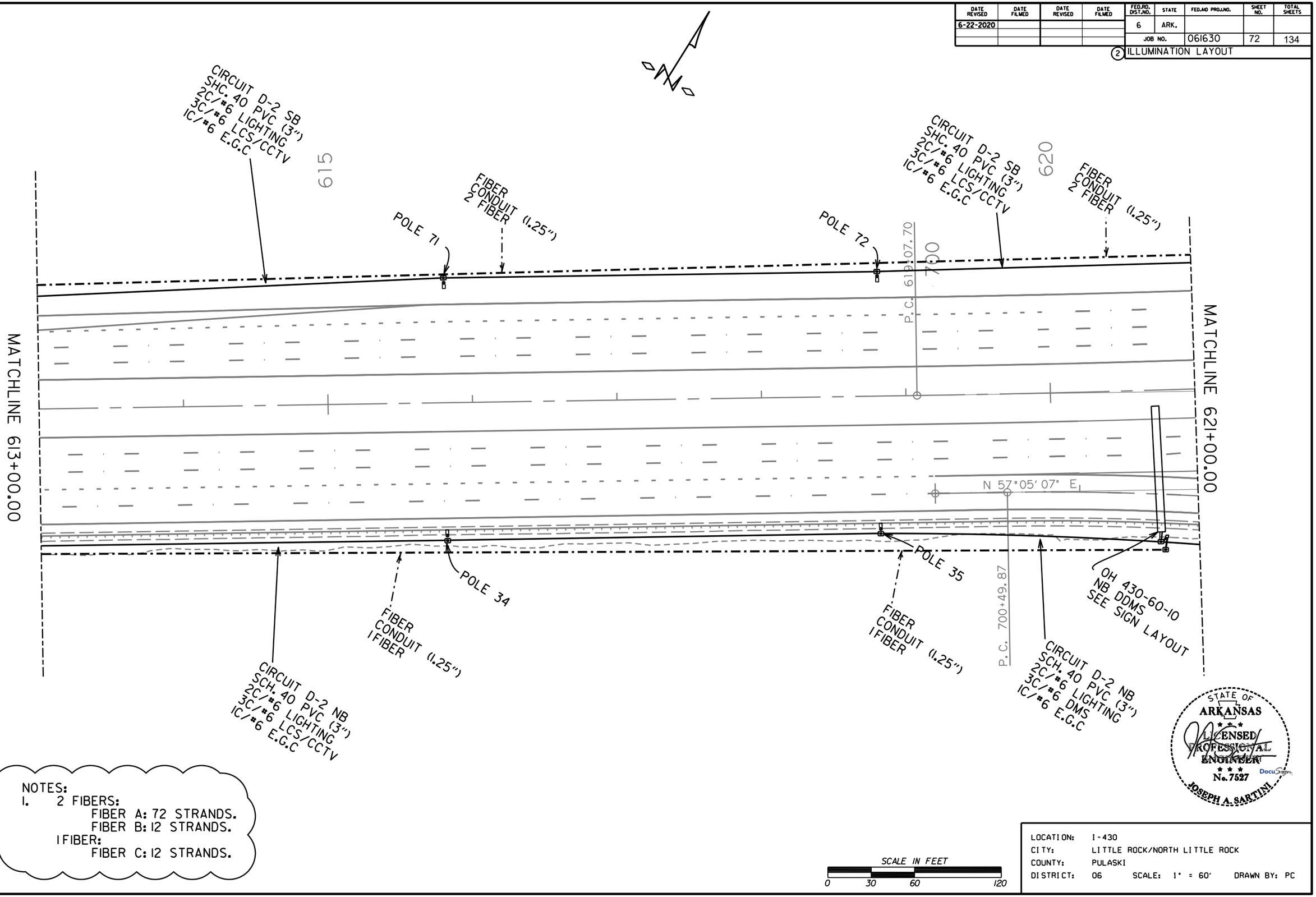
(2) ILLUMINATION LAYOUT



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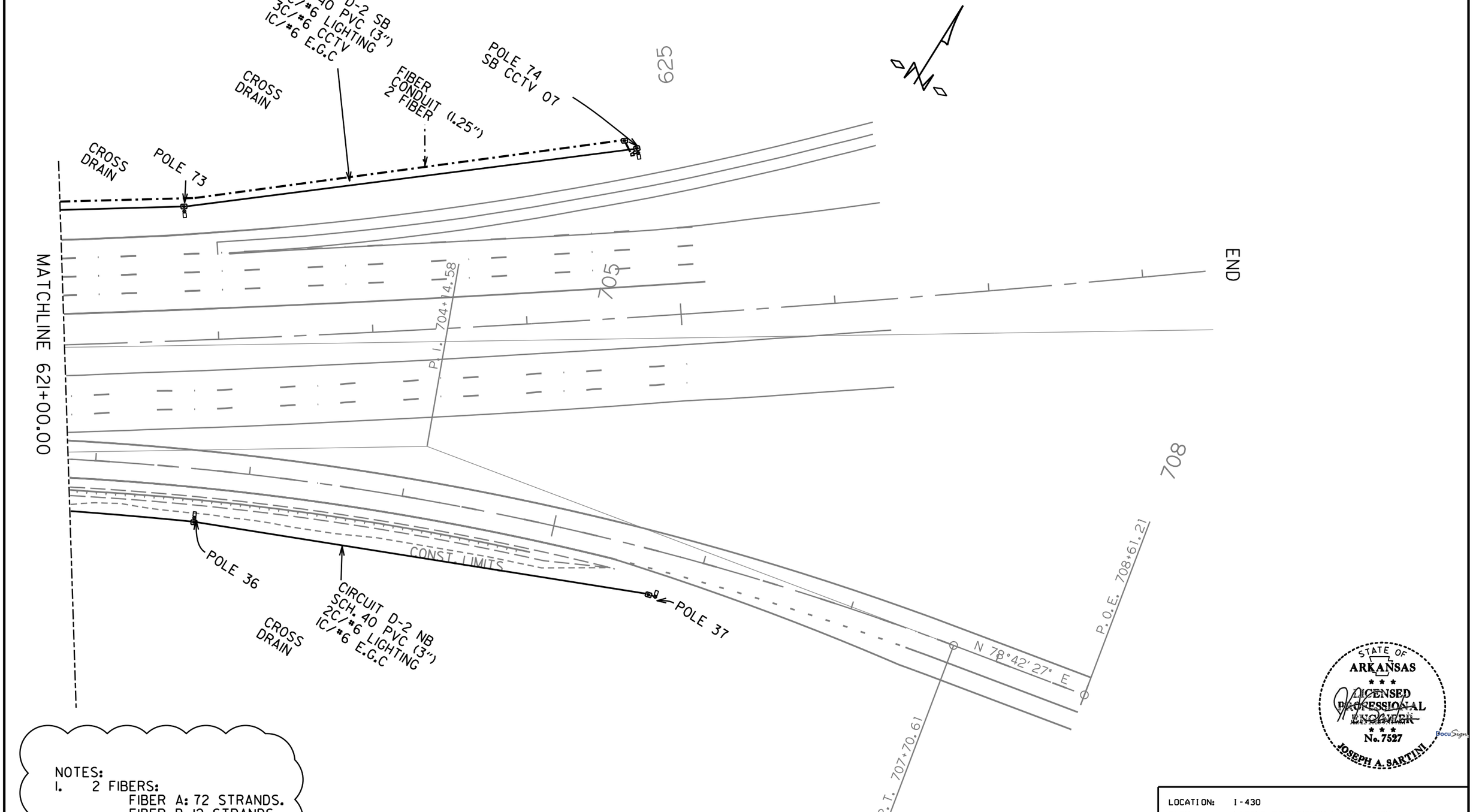
(2) ILLUMINATION LAYOUT



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(2) ILLUMINATION TABLES

POLE SCHEDULE I-430 NORTHBOUND

	POLE NO.	ATTACHED ITS EQUIPMENT	TYPE OF POLE BASE	NORTHING	EASTING	STA.	OFFSET (FT)	POLE HT. (FT)	MAST ARM MOUNTING HT. (FT)	MAST ARM LENGTH (FT)	LUMINAIRE ARM LENGTH (FT)	ORIENTATION ANGLE (PLAN NORTH = 0°, CLOCKWISE ROTATION)	HANDHOLE ORIENTATION (MASTARM/LUMINAIRE = 0°, CLOCKWISE ROTATION)
CIRCUIT B NB	POLE 01		NON-BREAKAWAY	2086357.46	1195662.08	518+53.08	81.15	40				280	180
	POLE 02		NON-BREAKAWAY	2086583.97	1195696.76	520+95.12	77.04	40				280	180
	POLE 03		BREAKAWAY	2086785.94	1195776.88	523+28.59	78.24	40				300	180
	POLE 04		BREAKAWAY	2086989.43	1195910.39	525+90.13	76.38	40				310	180
	POLE 05	LCS 01, CABINET	NON-BREAKAWAY	2087177.20	1196116.83	528+89.96	76.26	40	20	28	15	320	180
	POLE 06	LCS 02, CABINET	NON-BREAKAWAY	2087310.51	1196363.12	531+89.98	70.55	40	20	26	15	340	180
	POLE 07	LCS 03, CABINET	NON-BREAKAWAY	2087409.13	1196645.49	534+89.98	69.50	40	20	26	15	340	180
	POLE 08	LCS 04, CABINET	NON-BREAKAWAY	2087506.96	1196929.09	537+89.98	69.50	40	20	26	15	340	180
	POLE 09	LCS 05, NB CCTV 01, CABINET	NON-BREAKAWAY	2087614.51	1197209.34	540+89.98	59.22	40	20	16		340	180
CIRCUIT C NB	POLE 10		NON-BREAKAWAY	2087716.45	1197491.52	543+89.98	54.88	39				340	0
	POLE 11		NON-BREAKAWAY	2087814.72	1197775.63	546+89.98	54.88	39				340	0
	POLE 12	LCS 06, CABINET	NON-BREAKAWAY	2087927.05	1198054.85	549+86.76	54.88	39	18	12		330	0
	POLE 13		NON-BREAKAWAY	2088060.21	1198323.60	552+82.52	54.88	39				330	0
	POLE 14		NON-BREAKAWAY	2088215.32	1198583.68	555+81.29	54.88	39				330	0
	POLE 15	LCS 07, CABINET	NON-BREAKAWAY	2088378.17	1198835.63	558+81.29	54.88	39	18	17		330	0
	POLE 16		NON-BREAKAWAY	2088541.03	1199087.57	561+81.29	54.88	39				330	0
	POLE 17	LCS08, CABINET	NON-BREAKAWAY	2088703.88	1199339.52	564+81.29	54.88	39	18	12		330	0
	POLE 18		NON-BREAKAWAY	2088866.74	1199591.47	567+81.29	54.88	39				330	0
	POLE 19	LCS09, NB CCTV 02, CABINET	NON-BREAKAWAY	2089029.60	1199843.42	570+81.29	54.88	39	18	12		330	0
CIRCUIT D-1 NB	POLE 20		NON-BREAKAWAY	2089192.45	1200095.37	573+81.29	54.88	39				330	0
	POLE 21	LCS10, CABINET	NON-BREAKAWAY	2089355.31	1200347.32	576+81.29	54.88	39	18	12		330	0
	POLE 22		NON-BREAKAWAY	2089518.16	1200599.26	579+81.29	54.88	39				330	0
	POLE 23		NON-BREAKAWAY	2089681.02	1200851.21	582+81.29	54.88	39				330	0
	POLE 24	LCS11, NB CCTV03, CABINET	NON-BREAKAWAY	2089843.88	1201103.16	585+81.29	54.88	39	18	12		330	0
	POLE 25		NON-BREAKAWAY	2090006.73	1201355.11	588+81.29	54.88	39				330	0
	POLE 26		NON-BREAKAWAY	2090169.59	1201607.06	591+81.29	54.88	39				330	0
	POLE 27	LCS12, CABINET	NON-BREAKAWAY	2090320.16	1201866.94	594+81.29	69.5	40	20	26	15	330	180
	POLE 28		BREAKAWAY	2090488.19	1202115.49	597+81.24	63.31	40				330	180
	POLE 29		BREAKAWAY	2090646.35	1202370.53	600+81.29	68.94	40				330	180
CIRCUIT D-2 NB	POLE 30		BREAKAWAY	2090804.98	1202625.22	603+81.29	73.98	40				330	180
	POLE 31		BREAKAWAY	2090970.93	1202875.16	606+81.29	70.29	40				330	180
	POLE 32		NON-BREAKAWAY	2091124.08	1203133.35	609+81.26	81.83	40				330	180
	POLE 33		NON-BREAKAWAY	2091278.43	1203390.83	612+81.29	91.98	40				330	180
	POLE 34		NON-BREAKAWAY	2091441.28	1203642.78	615+81.29	91.98	40				330	180
	POLE 35		NON-BREAKAWAY	2091604.14	1203894.73	618+81.28	91.98	40				330	180
	POLE 36		NON-BREAKAWAY	2091750.97	1204158.37	624+79.70	115.04	40				340	180
	POLE 37		BREAKAWAY	2091865.92	1204438.61	624+74.47	181.46	40				345	180

BRIDGE

NOTES:

1. SERVICE POINT A PROVIDE POWER TO A SELF-SUPPORTING TOWER ONLY.
2. LCS DENOTES LANE CONTROL SIGN. A NEMA 3R CABINET SHALL BE INSTALLED AT EVERY LCS LOCATION. SEE FIBER OPTIC LAYOUT.
3. A NEMA 3R CABINET SHALL BE INSTALLED AT EVERY ITS LOCATION. SEE ILLUMINATION LAYOUT AND FIBER OPTIC LAYOUT SHEETS.
4. INSTALL SB CCTV 05 ON THE TEE MOUNT AT SERVICE POINT D. THE FOUNDATION SHALL BE ADJUSTED 4". SEE STANDARD DRAWING, SD-11.
5. ORIENTATION FOR MAST ARM AND LUMINAIRE ARM SHALL IDENTICAL.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
2-4-2020
JOSEPH A. SARTIN

LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: 1" = N/A' DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6-22-2020				6	ARK.			
				JOB NO.		061630	75	134

(2) ILLUMINATION TABLES

POLE SCHEDULE I-430 SOUTHBOUND

	POLE NO.	ATTACHED ITS EQUIPMENT	TYPE OF POLE BASE	NORTHING	EASTING	STA.	OFFSET (FT)	POLE HT. (FT)	MAST ARM MOUNTING HT. (FT)	MAST ARM (FT)	LUMINAIRE ARM (FT)	ORIENTATION ANGLE (PLAN NORTH = 0°, CLOCKWISE ROTATION)	HANDHOLE ORIENTATION (MASTARM = 0°, CLOCKWISE ROTATION)	
CIRCUIT B SB	POLE 38		BREAKAWAY	2086378.55	1195475.64	518+53.58	106.48	40				95	180	
	POLE 39		BREAKAWAY	2086632.02	1195529.54	520+96.64	96.94	40				110	180	
	POLE 40		BREAKAWAY	2086862.90	1195636.00	523+32.47	82.25	40				120	180	
	POLE 41		NON-BREAKAWAY	2087080.87	1195802.08	525+89.98	65.36	40				130	180	
	POLE 42	CCTV 01 AND 02, CABINET	NON-BREAKAWAY	2087291.82	1196037.28	528+89.98	63.26	40				150	180	
	POLE 43		NON-BREAKAWAY	2087433.69	1196318.85	531+89.98	60.34	40				160	180	
	POLE 44		NON-BREAKAWAY	2087530.86	1196603.49	534+89.98	59.27	40				160	180	
	POLE 45		NON-BREAKAWAY	2087628.69	1196887.09	537+89.98	59.27	40				160	180	
	POLE 46	CABINET LCS 01 ON SIGN STRUCTURE CCTV 03 ON SIGN STRUCTURE	NON-BREAKAWAY	2087726.52	1197170.69	540+89.98	59.27	40	20	16		160	180	
CIRCUIT C SB	POLE 47		NON-BREAKAWAY	2087820.29	1197455.96	543+90.23	54.88	39				160	0	BRIDGE
	POLE 48		NON-BREAKAWAY	2087918.15	1197738.88	546+90.23	54.88	39				160	0	
	POLE 49	LCS 02, CABINET	NON-BREAKAWAY	2088029.75	1198015.62	549+93.05	54.88	39	18	12		160	0	
	POLE 50		NON-BREAKAWAY	2088159.80	1198276.98	552+89.31	54.88	39				150	0	
	POLE 51		NON-BREAKAWAY	2088307.49	1198524.09	555+81.29	54.88	39				150	0	
	POLE 52	LCS 03, CABINET	NON-BREAKAWAY	2088470.35	1198776.04	558+81.29	54.88	39	18	12		150	0	
	POLE 53		NON-BREAKAWAY	2088633.21	1199027.99	561+81.29	54.88	39				150	0	
	POLE 54	LCS 04, CABINET	NON-BREAKAWAY	2088796.06	1199279.94	564+81.29	54.88	39	18	12		150	0	
	POLE 55		NON-BREAKAWAY	2088958.92	1199531.89	567+81.29	54.88	39				150	0	
	POLE 56	LCS 05, CCTV04, CABINET	NON-BREAKAWAY	2089121.78	1199783.84	570+81.29	54.88	39	18	12		150	0	
CIRCUIT D-1 SB	POLE 57		NON-BREAKAWAY	2089284.63	1200035.78	573+81.29	54.88	39				150	0	
	POLE 58	LCS 06, CABINET	NON-BREAKAWAY	2089447.49	1200287.73	576+81.29	54.88	39	18	12		150	0	
	POLE 59		NON-BREAKAWAY	2089610.34	1200539.68	579+81.29	54.88	39				150	0	
	POLE 60		NON-BREAKAWAY	2089773.20	1200791.63	582+81.29	54.88	39				150	0	
	POLE 61	LCS 07, CABINET	NON-BREAKAWAY	2089936.06	1201043.58	585+81.29	54.88	39	18	17		150	0	
	POLE 62		NON-BREAKAWAY	2090098.91	1201295.52	588+81.29	54.88	39				150	0	
	POLE 63		NON-BREAKAWAY	2090261.77	1201547.47	591+81.29	54.88	39				150	0	
	POLE 64	LCS 08, CABINET	NON-BREAKAWAY	2090427.65	1201797.47	594+81.29	58.48	40	20	16		150	180	
	POLE 65		BREAKAWAY	2090594.50	1202046.62	597+81.11	63.36	40				150	180	
	POLE 66		BREAKAWAY	2090762.14	1202295.59	600+81.21	68.98	40				150	180	
CIRCUIT D-2 SB	POLE 67	LCS 09, CABINET, SEE NOTE 4.	NON-BREAKAWAY	2090936.80	1202539.99	603+81.28	83	40	20	26	15	150	180	
	POLE 68		BREAKAWAY	2091092.13	1202796.82	606+81.29	74.02	40				150	180	
	POLE 69		BREAKAWAY	2091254.98	1203048.77	609+81.29	74.02	40				150	180	
	POLE 70	LCS 10, CCTV 06, CABINET	NON-BREAKAWAY	2091425.79	1203295.58	612+81.29	83.49	40	20	26	15	150	180	
	POLE 71		BREAKAWAY	2091588.25	1203547.78	615+81.29	83.02	40				150	180	
	POLE 72		BREAKAWAY	2091751.11	1203799.73	618+81.29	83.02	40				150	180	
	POLE 73		BREAKAWAY	2091915.98	1204047.61	621+80.99	83.69	40				150	180	
	POLE 74	CCTV 07, CABINET	BREAKAWAY	2092103.83	1204276.93	624+79.06	106.08	40				140	180	

NOTES:

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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
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JOSEPH A. SARTINI
DocuSigned

LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: 1" = N/A' DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	76	134

(2) ILLUMINATION TABLES

VOLTAGE DROP, CIRCUIT A

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP	TOWER	120	1	1	#4	15.00	15.00	0.31	280	2.60	2.17
										TOTAL	2.17

VOLTAGE DROP, CIRCUIT B, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP B	PB F13	240	1	1	#4	1.88	8.46	0.31	690	3.62	1.51
PB F13	POLE 03	240	1	1	#4	0.94	6.58	0.31	160	0.65	0.27
POLE 03	POLE 04	240	1	1	#4	0.94	5.64	0.31	300	1.05	0.44
POLE 04	POLE 05	240	1	1	#4	0.94	4.70	0.31	300	0.87	0.36
POLE 05	POLE 06	240	1	1	#4	0.94	3.76	0.31	300	0.70	0.29
POLE 06	POLE 07	240	1	1	#4	0.94	2.82	0.31	300	0.52	0.22
POLE 07	POLE 08	240	1	1	#4	0.94	1.88	0.31	300	0.35	0.15
POLE 08	POLE 09	240	1	1	#4	0.94	0.94	0.31	300	0.17	0.07
										TOTAL	3.31

VOLTAGE DROP, CIRCUIT B, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP B	NB LCS 01	120	1	1	#1/0	1.30	8.47	0.12	1450	2.95	2.46
NB LCS 01	NB LCS 02	120	1	1	#1/0	1.30	7.17	0.12	300	0.52	0.43
NB LCS 02	NB LCS 03	120	1	1	#1/0	1.30	5.87	0.12	300	0.42	0.35
NB LCS 03	NB LCS 04	120	1	1	#1/0	1.30	4.57	0.12	300	0.33	0.27
NB LCS 04	NB LCS 05+ NB CCTV01	120	1	1	#1/0	3.27	3.27	0.12	300	0.24	0.20
										TOTAL	3.71

VOLTAGE DROP, CIRCUIT C, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	POLE 10	240	1	1	#3	0.94	9.40	0.25	540	2.54	1.06
POLE 10	POLE 11	240	1	1	#3	0.94	8.46	0.25	300	1.27	0.53
POLE 11	POLE 12	240	1	1	#3	0.94	7.52	0.25	300	1.13	0.47
POLE 12	POLE 13	240	1	1	#3	0.94	6.58	0.25	300	0.99	0.41
POLE 13	POLE 14	240	1	1	#3	0.94	5.64	0.25	300	0.85	0.35
POLE 14	POLE 15	240	1	1	#3	0.94	4.70	0.25	300	0.71	0.29
POLE 15	POLE 16	240	1	1	#3	0.94	3.76	0.25	300	0.56	0.24
POLE 16	POLE 17	240	1	1	#3	0.94	2.82	0.25	300	0.42	0.18
POLE 17	POLE 18	240	1	1	#3	0.94	1.88	0.25	300	0.28	0.12
POLE 18	POLE 19	240	1	1	#3	0.94	0.94	0.25	300	0.14	0.06
										TOTAL	3.70

VOLTAGE DROP, CIRCUIT C, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	NB LCS06	120	1	1	#1/0	1.30	7.55	0.12	1130	2.05	1.71
NB LCS 06	NB LCS07+ NB CCTV02+ FUTURE EQUIPMENT	120	1	1	#1/0	2.30	6.25	0.12	900	1.35	1.13
NB LCS 07	NB LCS08	120	1	1	#1/0	1.30	3.95	0.12	600	0.57	0.47
NB LCS 08	NB LCS09 + NB CCTV02	120	1	1	#1/0	2.65	2.65	0.12	600	0.38	0.32
									3230	TOTAL	3.62

VOLTAGE DROP, CIRCUIT C, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	RED NAVIGATION LIGHTING	120	1	1	#3	1.00	3.00	0.25	2650	3.98	3.31
RED NAVIGATION LIGHTING	GREEN NAVIGATION LIGHTING	120	1	1	#3	1.00	2.00	0.25	210	0.21	0.18
GREEN NAVIGATION LIGHTING	RED NAVIGATION LIGHTING	120	1	1	#3	1.00	1.00	0.25	210	0.11	0.09
										TOTAL	3.58

VOLTAGE DROP, CIRCUIT B, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP B	POLE 38	240	1	1	#4	0.94	8.46	0.31	175	0.92	0.38
POLE 38	POLE 39	240	1	1	#4	0.94	7.52	0.31	260	1.21	0.51
POLE 39	POLE 40	240	1	1	#4	0.94	6.58	0.31	255	1.04	0.43
POLE 40	POLE 41	240	1	1	#4	0.94	5.64	0.31	275	0.96	0.40
POLE 41	POLE 42	240	1	1	#4	0.94	4.70	0.31	315	0.92	0.38
POLE 42	POLE 43	240	1	1	#4	0.94	3.76	0.31	315	0.73	0.31
POLE 43	POLE 44	240	1	1	#4	0.94	2.82	0.31	300	0.52	0.22
POLE 44	POLE 45	240	1	1	#4	0.94	1.88	0.31	300	0.35	0.15
POLE 45	POLE 46	240	1	1	#4	0.94	0.94	0.31	300	0.17	0.07
										TOTAL	2.85

VOLTAGE DROP, CIRCUIT B, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	DMS	120	1	1	#1/0	1.30	9.81	0.12	855	2.01	1.68
DMS	SB CCTV01+ SB CCTV02	120	1	1	#1/0	3.94	8.51	0.12	425	0.87	0.72
SB CCTV01+ SB CCTV02	SB LCS 01	120	1	1	#1/0	1.30	4.57	0.12	1215	1.33	1.11
SB LCS 01	SB CCTV03+ DMS	120	1	1	#1/0	3.27	3.27	0.12	135	0.11	0.09
										TOTAL	3.60

VOLTAGE DROP, CIRCUIT C, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	POLE 48	240	1	1	#4	1.88	9.40	0.31	60	0.35	0.15
POLE 48	POLE 49	240	1	1	#4	0.94	7.52	0.31	300	1.40	0.58
POLE 49	POLE 50	240	1	1	#4	0.94	6.58	0.31	300	1.22	0.51
POLE 50	POLE 51	240	1	1	#4	0.94	5.64	0.31	300	1.05	0.44
POLE 51	POLE 52	240	1	1	#4	0.94	4.70	0.31	300	0.87	0.36
POLE 52	POLE 53	240	1	1	#4	0.94	3.76	0.31	300	0.70	0.29
POLE 53	POLE 54	240	1	1	#4	0.94	2.82	0.31	300	0.52	0.22
POLE 54	POLE 55	240	1	1	#4	0.94	1.88	0.31	300	0.35	0.15
POLE 55	POLE 56	240	1	1	#4	0.94	0.94	0.31	300	0.17	0.07
										TOTAL	2.77

VOLTAGE DROP, CIRCUIT C, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	SB LCS02	120	1	1	#1	1.30	7.24	0.15	360	0.78	0.65
SB LCS 02	SB LCS03	120	1	1	#1	1.30	5.94	0.15	900	1.60	1.34
SB LCS 03	SB LCS04	120	1	1	#1	1.30	4.64	0.15	600	0.83	0.70
SB LCS 04	SB LCS05+ SB CCTV04+ FUTURE EQUIPMENT	120	1	1	#1	3.34	3.34	0.15	600	0.60	0.50
										TOTAL	3.18

VOLTAGE DROP, CIRCUIT C, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	% VD
SP C	RED NAVIGATION LIGHTING	120	1	1	#3	1.00	3.00	0.25	1880	2.82	2.35
RED NAVIGATION LIGHTING	GREEN NAVIGATION LIGHTING	120	1	1	#3	1.00	2.00	0.25	210	0.21	0.18
GREEN NAVIGATION LIGHTING	RED NAVIGATION LIGHTING	120	1	1	#3	1.00	1.00	0.25	210	0.11	0.09
										TOTAL	2.61

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN

LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
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MAINT_061630 Lighting.dgn 3/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	77	134

(2) ILLUMINATION TABLES

VOLTAGE DROP, CIRCUIT D-1, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	POLE 29	240	1	1	#4	0.94	9.40	0.31	273	1.59	0.66
POLE 29	POLE 28	240	1	1	#4	0.94	8.46	0.31	300	1.57	0.66
POLE 28	POLE 27	240	1	1	#4	0.94	7.52	0.31	300	1.40	0.58
POLE 27	POLE 26	240	1	1	#4	0.94	6.58	0.31	300	1.22	0.51
POLE 26	POLE 25	240	1	1	#4	0.94	5.64	0.31	300	1.05	0.44
POLE 25	POLE 24	240	1	1	#4	0.94	4.70	0.31	300	0.87	0.36
POLE 24	POLE 23	240	1	1	#4	0.94	3.76	0.31	300	0.70	0.29
POLE 23	POLE 22	240	1	1	#4	0.94	2.82	0.31	300	0.52	0.22
POLE 22	POLE 21	240	1	1	#4	0.94	1.88	0.31	300	0.35	0.15
POLE 21	POLE 20	240	1	1	#4	0.94	0.94	0.31	300	0.17	0.07
										TOTAL	3.94

VOLTAGE DROP, CIRCUIT D-1, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	NB LCS 12	120	1	1	#1	1.30	5.56	0.15	873	1.46	1.21
NB LCS 12	NB LCS 11+ NB CCTV 03	120	1	1	#1	2.96	4.26	0.15	900	1.15	0.96
NB LCS 11	NB LCS 10	120	1	1	#1	1.30	1.30	0.15	900	0.35	0.29
									2673	TOTAL	2.46

VOLTAGE DROP, CIRCUIT D-2B, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	POLE 30	240	1	1	#6	0.94	7.52	0.49	173	1.27	0.53
POLE 30	POLE31	240	1	1	#6	0.94	6.58	0.49	300	1.93	0.81
POLE31	POLE 32	240	1	1	#6	0.94	5.64	0.49	300	1.66	0.69
POLE 32	POLE 33	240	1	1	#6	0.94	4.70	0.49	300	1.38	0.58
POLE 33	POLE 34	240	1	1	#6	0.94	3.76	0.49	300	1.11	0.46
POLE 34	POLE 35	240	1	1	#6	0.94	2.82	0.49	300	0.83	0.35
POLE 35	POLE 36	240	1	1	#6	0.94	1.88	0.49	300	0.55	0.23
POLE 36	POLE 37	240	1	1	#6	0.94	0.94	0.49	300	0.28	0.12
										TOTAL	3.76

VOLTAGE DROP, CIRCUIT D-2B, NORTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	NB DMS01	120	1	1	#6	1.30	2.60	0.49	308	0.78	0.65
NB DMS01	NB DMS02	120	1	1	#6	1.30	1.30	0.49	1560	1.99	1.66
										TOTAL	2.31

ILLUMINATION STATISTICS

DESCRIPTION	AVERAGE (FOOT-CANDLE)	MAXIMUM (FOOT-CANDLE)	MINIMUM (FOOT-CANDLE)	AVG/MIN
I-430 NB ZONE 1	0.7	2.2	0.2	3.5:1
I-430 SB ZONE 1 (NOTE 2)	0.3	1.0	0.1	3.0:1
I-430 SB EXIT 9 OFF-RAMP	1.0	2.3	0.4	2.5:1
I-430 NB ZONE 2	0.8	3.0	0.2	4.0:1
I-430 SB ZONE 2	0.8	3.1	0.2	4.0:1
I-430 NB ZONE 3	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 3	0.9	3.1	0.2	4.5:1
I-430 NB ZONE 4	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 4	1.0	3.1	0.2	5.0:1
I-430 NB ZONE 5	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 5	0.9	3.1	0.2	4.5:1
I-430 NB ZONE 6	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 6	0.9	3.1	0.2	4.5:1
I-430 NB ZONE 7	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 7	0.9	3.1	0.2	4.5:1
I-430 NB ZONE 8	0.9	3.1	0.2	4.5:1
I-430 SB ZONE 8	0.8	3.1	0.2	4.0:1
I-430 NB ZONE 9	0.8	3.1	0.2	4.0:1
I-430 SB ZONE 9	0.8	3.0	0.2	4.0:1
I-430 NB ZONE 10	0.7	3.1	0.2	3.5:1
I-430 SB ZONE 10	0.7	3.1	0.2	3.5:1

NOTES

1. CALCULATIONS WERE BASED ON 0.83 LLF.
2. THERE IS A SEPARATION BY BARRIER WALL BETWEEN SB EXIT 9 OFF-RAMP AND SB ZONE 1. 0.1 FC IS CREATED BY A CALCULATION POINT ON THE CURVATURE OF LEFT LANE WHERE NO CONFLICT ZONE EXISTS.

VOLTAGE DROP, CIRCUIT D-1, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	POLE 66	240	1	1	#4	0.94	9.40	0.31	285	1.66	0.69
POLE 66	POLE 65	240	1	1	#4	0.94	8.46	0.31	300	1.57	0.66
POLE 65	POLE 64	240	1	1	#4	0.94	7.52	0.31	300	1.40	0.58
POLE 64	POLE 63	240	1	1	#4	0.94	6.58	0.31	300	1.22	0.51
POLE 63	POLE 62	240	1	1	#4	0.94	5.64	0.31	300	1.05	0.44
POLE 62	POLE 61	240	1	1	#4	0.94	4.70	0.31	300	0.87	0.36
POLE 61	POLE 60	240	1	1	#4	0.94	3.76	0.31	300	0.70	0.29
POLE 60	POLE 59	240	1	1	#4	0.94	2.82	0.31	300	0.52	0.22
POLE 59	POLE 58	240	1	1	#4	0.94	1.88	0.31	300	0.35	0.15
POLE 58	POLE 57	240	1	1	#4	0.94	0.94	0.31	300	0.17	0.07
										TOTAL	3.97

VOLTAGE DROP, CIRCUIT D-1, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	SB LCS 08	120	1	1	#3	1.30	4.43	0.25	885	1.96	1.63
SB LCS 08	SB LCS 07+ FUTURE EQUIPMENT	120	1	1	#3	1.83	3.13	0.25	600	0.94	0.78
SB LCS 07+ FUTURE EQUIPMENT	SB LCS 06	120	1	1	#3	1.30	1.30	0.25	600	0.39	0.33
										TOTAL	2.74

VOLTAGE DROP, CIRCUIT D-2, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	POLE 67	240	1	1	#6	0.94	7.52	0.49	190	1.40	0.58
POLE 67	POLE 68	240	1	1	#6	0.94	6.58	0.49	300	1.93	0.81
POLE 68	POLE 69	240	1	1	#6	0.94	5.64	0.49	300	1.66	0.69
POLE 69	POLE 70	240	1	1	#6	0.94	4.70	0.49	300	1.38	0.58
POLE 70	POLE 71	240	1	1	#6	0.94	3.76	0.49	300	1.11	0.46
POLE 71	POLE 72	240	1	1	#6	0.94	2.82	0.49	300	0.83	0.35
POLE 72	POLE 73	240	1	1	#6	0.94	1.88	0.49	300	0.55	0.23
POLE 73	POLE 74	240	1	1	#6	0.94	0.94	0.49	300	0.28	0.12
										TOTAL	3.81

VOLTAGE DROP, CIRCUIT D-2, SOUTHBOUND

SEGMENT		VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	SEG AMP	Z/1000ft	LENGTH	VD	%VD
SP D	SB CCTV 05	120	1	1	#6	1.30	5.56	0.49	35	0.15	0.12
SB CCTV 05	SB LCS 09	120	1	1	#6	2.96	4.26	0.49	190	0.55	0.46
SB LCS 09	SB LCS 10 + SB CCTV 06	120	1	1	#6	1.30	2.96	0.49	900	2.61	2.18
SB LCS 10 + SB CCTV 06	SB CCTV 07	120	1	1	#6	2.30	1.30	0.49	1200	1.53	1.27
										TOTAL	2.76

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN

LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: 1" = N/A" DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/14/2020

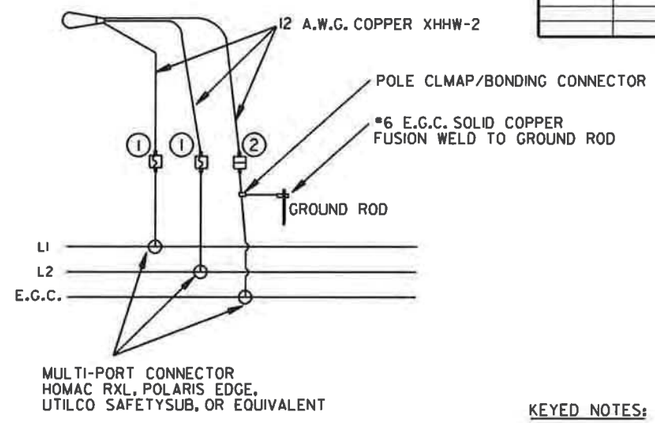
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.ROAD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	78	134

(2) ILLUMINATION DETAILS - SERVICE

ELECTRICAL SERVICE DATA

CIRCUIT ID	CIRCUIT NUMBER	LOCATION	SERVICE VOLTAGE	SERVICE CONDCUTORS	MAIN CIRCUIT BREAKER	BRANCH CIRCUIT BREAKER	BRANCH CIRCUIT (AMPS)	KVA LOAD
A		N 2084807.48, E 1194845.92	SINGLE PHASE 120/240V, 3 WIRE	LIGHTING: 2C/4 A.W.G. 1C/4 A.W.G. NEUTRAL 1C/4 A.W.G. E.G.C.	2P/100A	1P/20A	15.00	1.80
B	NB-01	N 2086263.03, E 1195407.63	SINGLE PHASE 120/240V, 3 WIRE	LIGHTING: 2C/4 A.W.G. 1C/1/0 A.W.G. E.G.C.	2P/100A	2P/15A	8.46	2.03
	NB-02			ITS: 2C/1/0 A.W.G. 1C/1/0 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/15A	8.47	1.02
	SB-01			LIGHTING: 2C/4 A.W.G. 1C/1/0 A.W.G. E.G.C.		2P/15A	8.46	2.03
	SB-02			LIGHTING: 2C/1/0 A.W.G. 1C/1/0 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/15A	8.51	1.02
C	NB-01	N 2087939.40, E 1197742.66	SINGLE PHASE 120/240V, 3 WIRE	LIGHTING: 2C/3 A.W.G. 1C/1/0 A.W.G. E.G.C.	2P/100A	2P/15A	9.40	2.26
	NB-02			ITS: 2C/1/0 A.W.G. 1C/1/0 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/15A	7.55	0.91
	NB-03			NAV. LIGHTING: 2C/3 A.W.G. 1C/3 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/10A	3.00	0.36
	SB-01			LIGHTING: 2C/4 A.W.G. 1C/1/0 A.W.G. E.G.C.		2P/15A	9.40	2.26
	SB-02			ITS: 2C/1 A.W.G. 1C/1 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/15A	7.24	0.87
	SB-03			NAV. LIGHTING: 2C/3 A.W.G. 1C/3 A.W.G. NEUTRAL 1C/1/0 A.W.G. E.G.C.		1P/10A	3.00	0.36
D	01-NB-01	N 2090812.24, E 1202496.34	SINGLE PHASE 120/240V, 3 WIRE	LIGHTING: 2C/4 A.W.G. 1C/1 A.W.G. E.G.C.	2P/100A	2P/15A	9.40	2.26
	01-NB-02			ITS: 2C/1 A.W.G. 1C/1 A.W.G. NEUTRAL 1C/1 A.W.G. E.G.C.		1P/10A	5.56	0.67
	01-SB-01			LIGHTING: 2C/4 A.W.G. 1C/3 A.W.G. E.G.C.		2P/15A	9.4	2.26
	01-SB-02			ITS: 2C/3 A.W.G. 1C/3 A.W.G. NEUTRAL 1C/3 A.W.G. E.G.C.		1P/10A	4.43	0.53
	02-NB-01			2C/6 A.W.G. 1C/6 A.W.G. E.G.C.		2P/15A	7.52	1.80
	02-NB-02			2C/6 A.W.G. 1C/6 A.W.G. NEUTRAL 1C/6 A.W.G. E.G.C.		1P/10A	2.6	0.31
	02-SB-01			LIGHTING: 2C/6 A.W.G. 1C/6 A.W.G. E.G.C.		2P/15A	7.52	1.80
	02-SB-02			ITS: 2C/6 A.W.G. 1C/6 A.W.G. NEUTRAL 1C/6 A.W.G. E.G.C.		1P/10A	5.56	0.67

NOTE:
ITS EQUIPMENT ON THE SAME CIRCUIT SHALL BE CONNECTED ON ALTERNATING PHASES AND THE LOAD DISTRIBUTED AS EVENLY AS POSSIBLE ON EACH PHASE.



MULTI-PORT CONNECTOR
HOMAC RXL, POLARIS EDGE,
UTILCO SAFETYSUB, OR EQUIVALENT

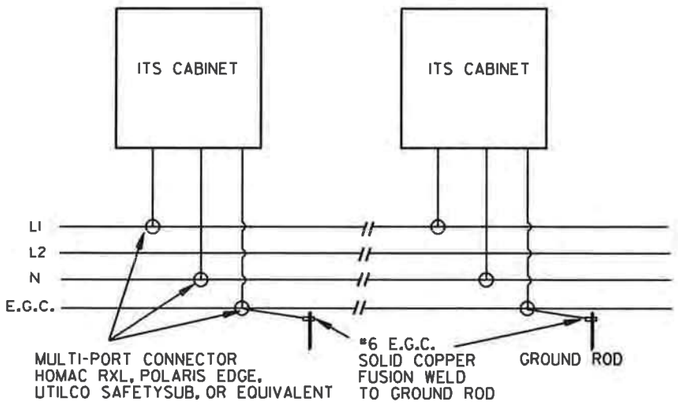
TYPICAL WIRING FOR LUMINAIRES
THREE-WIRE CIRCUIT-CENTER GROUNDED
LUMINIARES SERVED AT 240 VAC.

(120/240 VOLT SERVICE)

LUMINAIRE WIRING SCHEMATICS

KEYED NOTES:

1. FUSED CONNECTOR - SHALL BE WATERTIGHT, UL-LISTED, AND DESIGNED AS BREAKAWAY (HOMAC FLOOD-SEAL, EATON BUSSMANN OR EQUAL). USE A FUSED CONNECTOR FOR THE LINE WIRE ON ALL POLES. USE MANUFACTURER'S RECOMMENDED FUSE SIZE.
2. UN-FUSED CONNECTOR - SHALL BE WATERTIGHT AND SHALL BE DESIGNED AS BREAKAWAY (HOMAC FLOOD-SEAL, EATON BUSSMANN, OR EQUAL).



TYPICAL WIRING FOR LUMINAIRES
FOUR-WIRE CIRCUIT-CENTER GROUNDED
ITS SERVED AT 120VAC. ALTERNATE
PHASE SO THAT EVERY OTHER ITS
EQUIPMENT IS CONNECTEC TO THE
SAME PHASE.

(120/240 VOLT SERVICE)

ITS CABINET WIRING SCHEMATICS

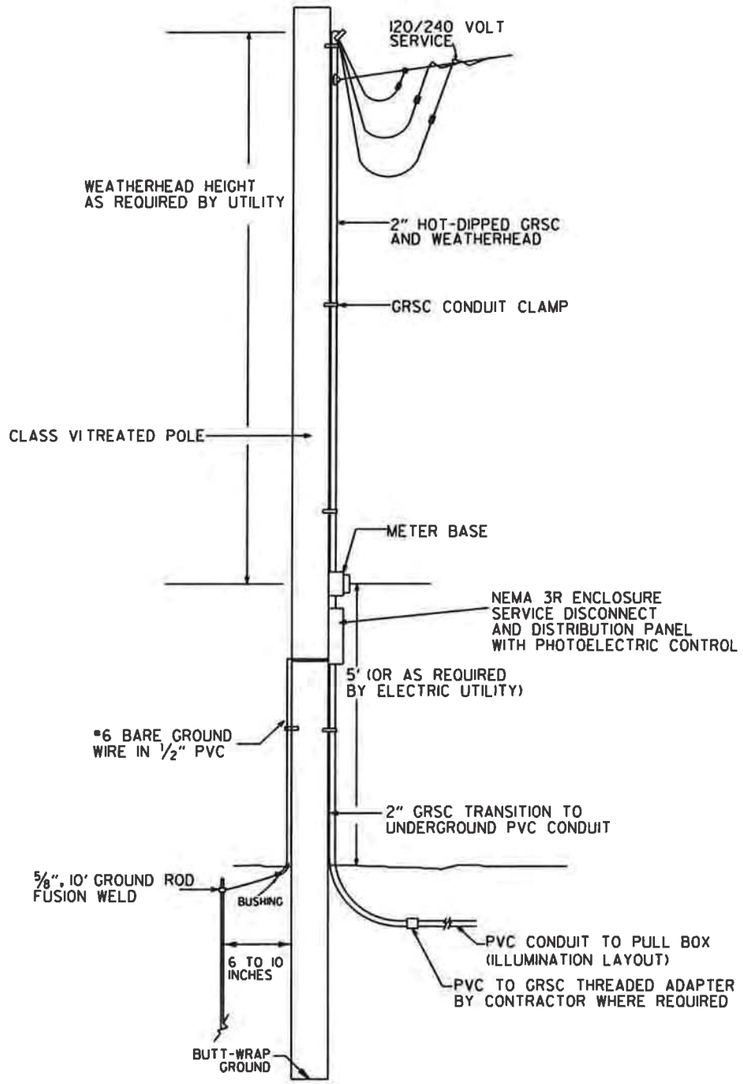
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7627
5-4-2020
JOSEPH A. SARTINO

LOCATION:	I-430
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	06 SCALE: N/A DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	79	134

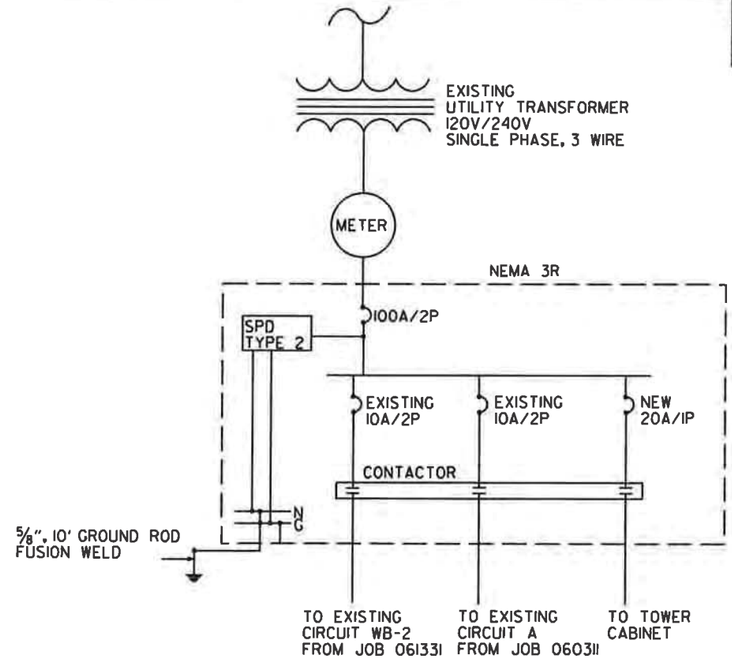
(2) ILLUMINATION DETAILS - SERVICE



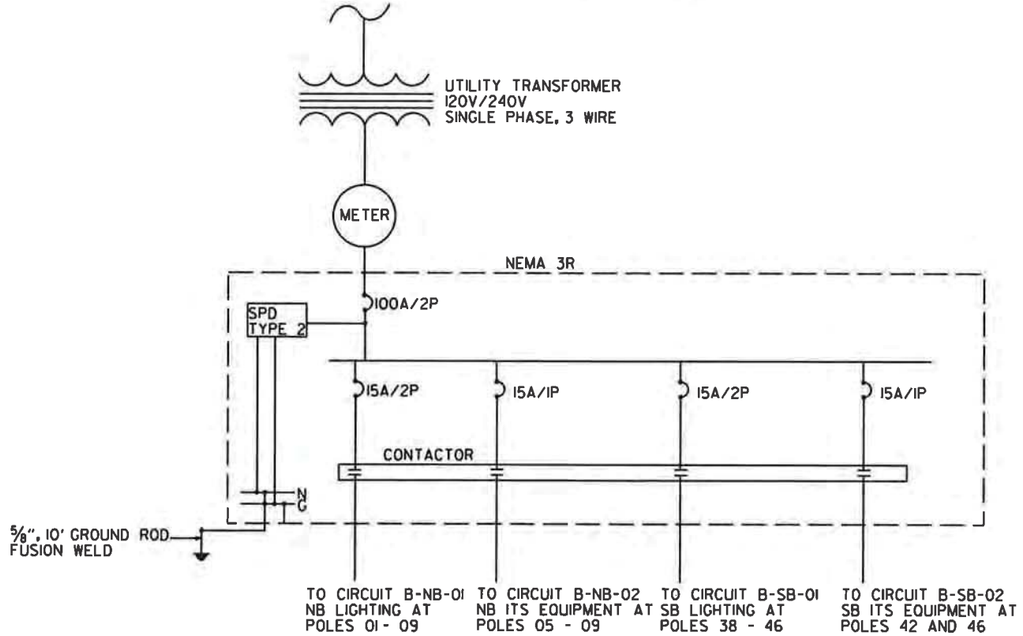
LUMINAIRE SERVICE POINT ASSEMBLY

120V/240 VAC LUMINAIRE SERVICE POINT ASSEMBLY FOR ROADWAY LIGHTING

NOTE:
1. NYLON BUSHINGS SHALL BE INSERTED INTO ALL GRSC ENTERING CABINETS.
2. USE MINIMUM 1/4" PULL ROPE OR 1200LBS PULL TAPE WHEN PULLING CONDUCTORS.



ONE-LINE DIAGRAM FOR SERVICE POINT A
(NO SCALE)



ONE-LINE DIAGRAM FOR SERVICE POINT B
(NO SCALE)

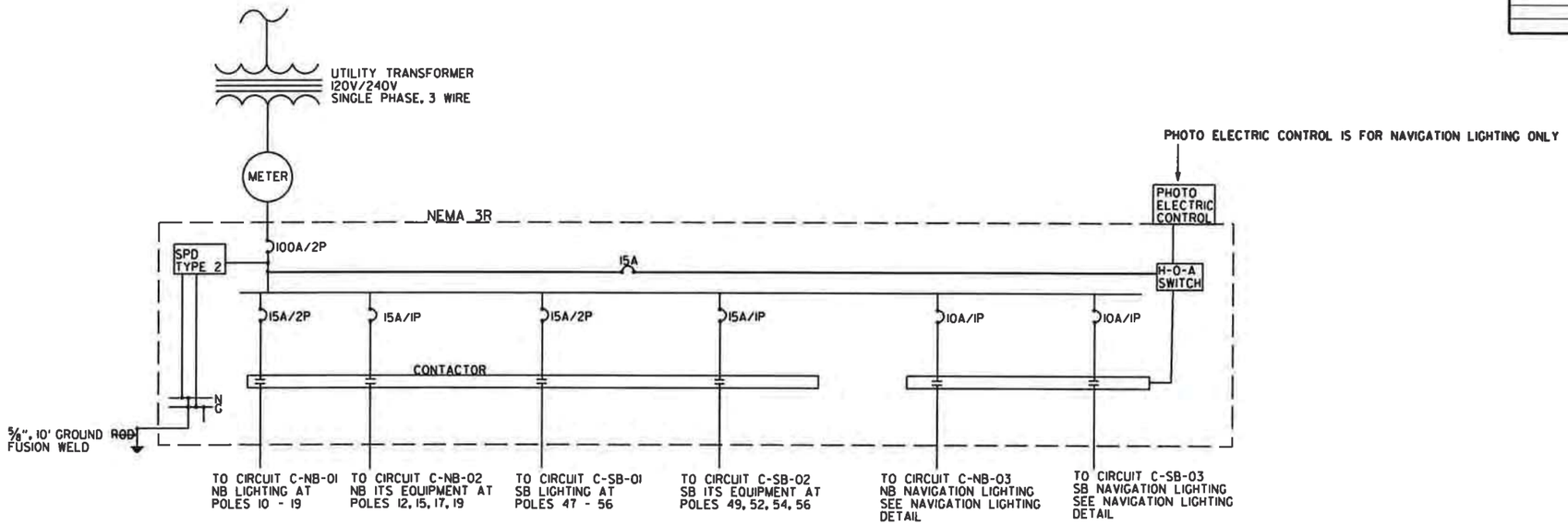
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN

LOCATION:	I-430			
CITY:	LITTLE ROCK/NORTH LITTLE ROCK			
COUNTY:	PULASKI			
DISTRICT:	06	SCALE: N/A	DRAWN BY: PC	

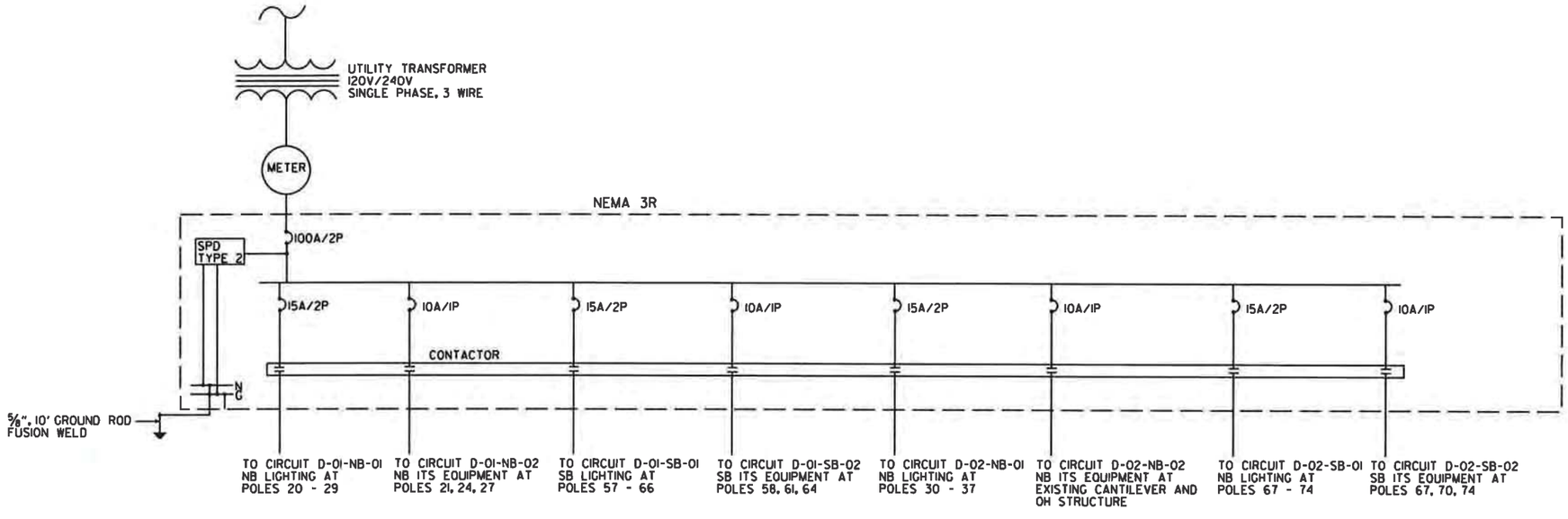
MAINT_061630 Lighting.dgn 4/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	80	134

(2) ILLUMINATION DETAILS - SERVICE



ONE-LINE DIAGRAM FOR SERVICE POINT C
(NO SCALE)



ONE-LINE DIAGRAM FOR SERVICE POINT D
(NO SCALE)

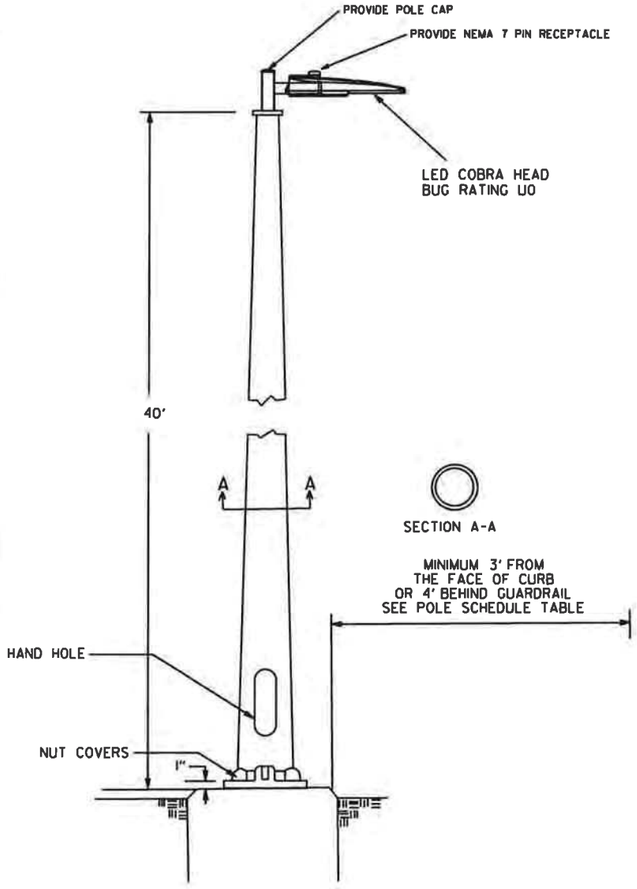
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7627
5-4-2020
JOSEPH A. SARTINO

LOCATION:	I-430			
CITY:	LITTLE ROCK/NORTH LITTLE ROCK			
COUNTY:	PULASKI			
DISTRICT:	06	SCALE: N/A	DRAWN BY: PC	

MAINT_061630 Lighting.dgn 4/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	81	134

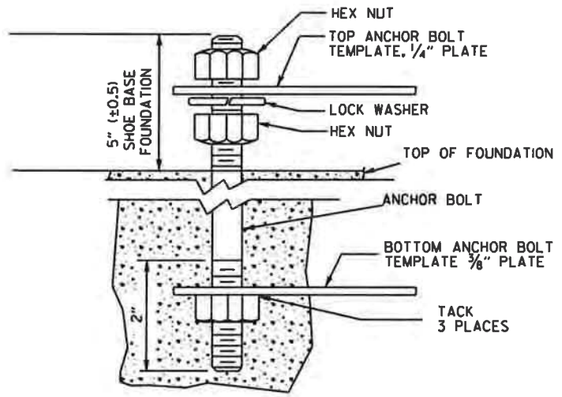
(2) ILLUMINATION DETAILS - LIGHT POLE



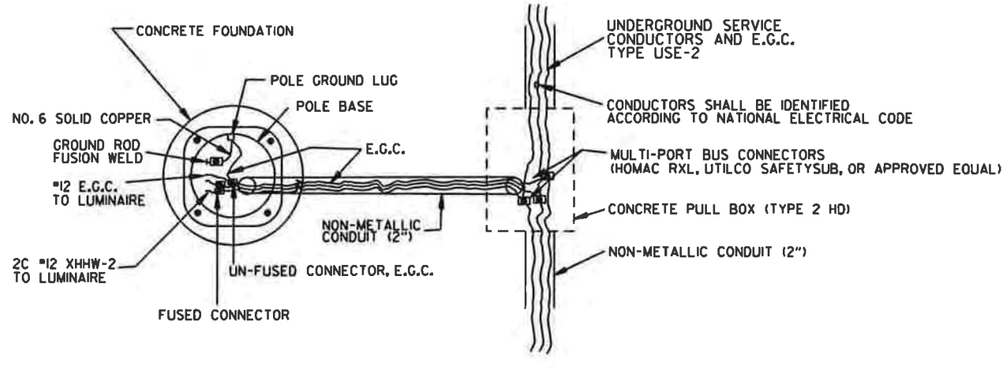
COBRA HEAD LUMINAIRE WITH SHOE BASE

NOTES:

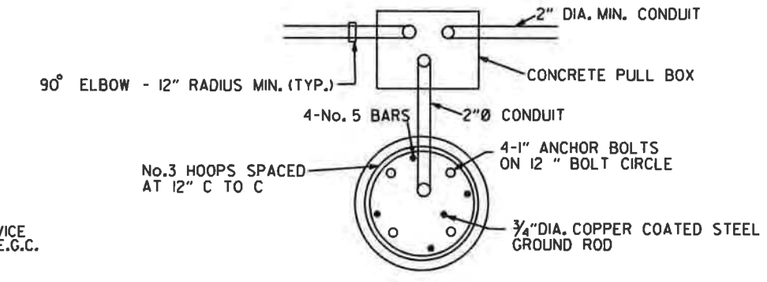
1. LUMINAIRE POLES SHALL MEET THE REQUIREMENTS OF 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR ON THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS, 2001 EDITION WITH 2003 AND 2006 INTERIMS.
2. STEEL LUMINAIRE POLES SHALL BE A MINIMUM OF 11 GAUGE. STEEL LUMINAIRE POLES SHALL BE HOT-DIPPED GALVANIZED. OTHER DIMENSIONS PER MANUFACTURER'S RECOMMENDATION AS NECESSARY TO MEET THE REQUIREMENTS OF THE SP - LED ROADWAY ILLUMINATION POLE.
3. LUMINAIRE POLES SHALL BE FABRICATED FROM ASTM A572 GRADE 50 OR 65 STEEL.
4. POLE CAP OR TENON CAP SHALL BE PROVIDED.
5. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF SECTION 714 OF THE STANDARD SPECIFICATIONS. THE TOP 8" OF ALL ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM M232. ANCHOR BOLTS IN FOUNDATIONS SHALL BE 1.25" X 30" FOR MOUNTING HEIGHT OF 40' OR GREATER, 1" X 30" FOR MOUNTING HEIGHT LESS THAN 40'. ANCHOR BOLTS SHALL HAVE TOP END THREADED NOT LESS THAN 5" AND FURNISHED WITH GALVANIZED HEX NUTS, LOCK WASHERS, AND TEMPLATE. THE LOWER END OF THE BOLT SHALL BE THREADED AND FURNISHED WITH HEX NUT AND TEMPLATE.
6. FOR LIGHT POLES MOUNTED ON THE BRIDGE, SEE BRIDGE PILASTER DETAILS.
7. AN INTERNAL CANISTER DAMPER SHALL BE FACTORY-INSTALLED FOR ALL POLES INSTALLED ON THE BRIDGE. AN ADDITIONAL VIBRATION DAMPER SHALL BE INSTALLED FOR ALL BRIDGE-MOUNTED POLES WITH A MASTARM. SEE BRDIGE POLE SCHEMATIC.



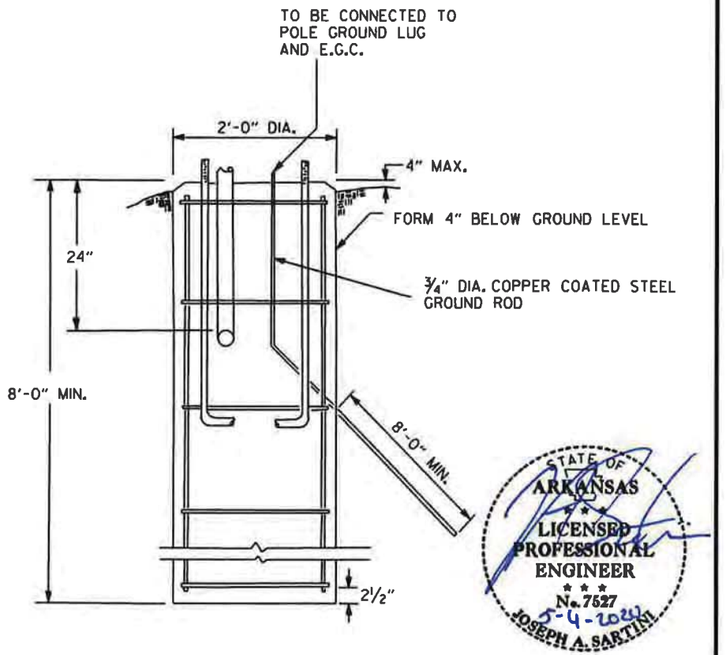
ANCHOR BOLT DETAIL



POLE FOUNDATION/PULL BOX WIRING DETAIL



PLAN



ROADWAY LUMINAIRE POLE FOUNDATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
2-4-2020
JOSEPH A. SARTINI

I-430
ILLUMINATION DETAILS
LIGHT POLE

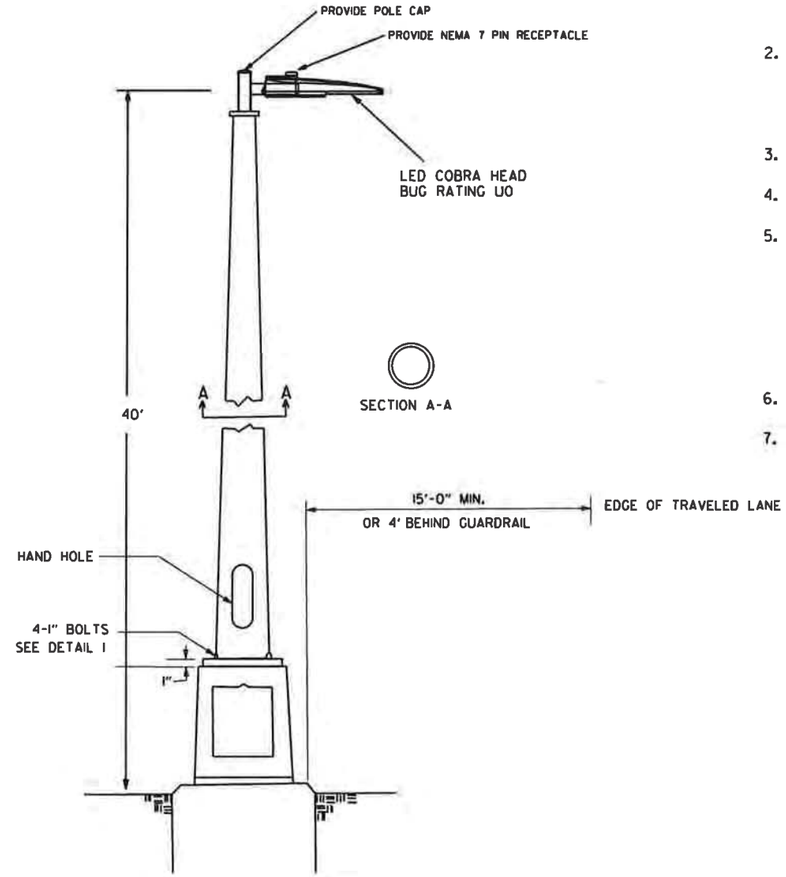
MAINT_061630 Lighting.dgn 3/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	82	134

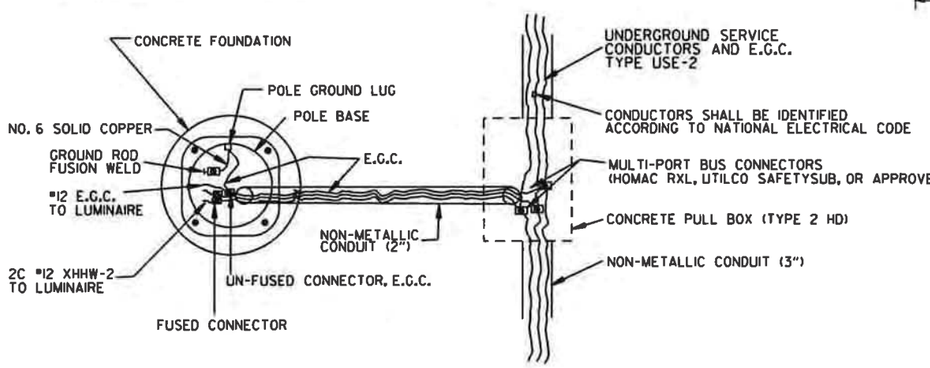
(2) ILLUMINATION DETAILS - LIGHT POLE

NOTES:

1. LUMINAIRE POLES SHALL MEET THE REQUIREMENTS OF 90 MPH WIND ZONE WITH A 1.3 GUST FACTOR ON THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS, 2001 EDITION WITH 2003 AND 2006 INTERIMS.
2. STEEL LUMINAIRE POLES SHALL BE A MINIMUM OF 11 GAUGE. STEEL LUMINAIRE POLES SHALL BE HOT-DIPPED GALVANIZED. OTHER DIMENSIONS PER MANUFACTURER'S RECOMMENDATION AS NECESSARY TO MEET THE REQUIREMENTS OF THE SP - LED ROADWAY ILLUMINATION POLE.
3. LUMINAIRE POLES SHALL BE FABRICATED FROM ASTM A572 GRADE 50 OR 65 STEEL.
4. POLE CAP OR TENON CAP SHALL BE PROVIDED.
5. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF SECTION 714 OF THE STANDARD SPECIFICATIONS. THE TOP 8" OF ALL ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM M232. ANCHOR BOLTS IN FOUNDATIONS SHALL BE 1.25" X 30" FOR MOUNTING HEIGHT OF 40' OR GREATER, 1" X 30" FOR MOUNTING HEIGHT LESS THAN 40'. ANCHOR BOLTS SHALL HAVE TOP END THREADED NOT LESS THAN 5" AND FURNISHED WITH GALVANIZED HEX NUTS, LOCK WASHERS, AND TEMPLATE. THE LOWER END OF THE BOLT SHALL BE THREADED AND FURNISHED WITH HEX NUT AND TEMPLATE.
6. FOR LIGHT POLES MOUNTED ON THE BRIDGE, SEE BRIDGE PILASTER DETAILS.
7. AN INTERNAL CANISTER DAMPER SHALL BE FACTORY-INSTALLED FOR ALL POLES INSTALLED ON THE BRIDGE. AN ADDITIONAL VIBRATION DAMPER SHALL BE INSTALLED FOR ALL BRIDGE-MOUNTED POLES WITH A MASTARM. SEE BRDIGE POLE SCHEMATIC.

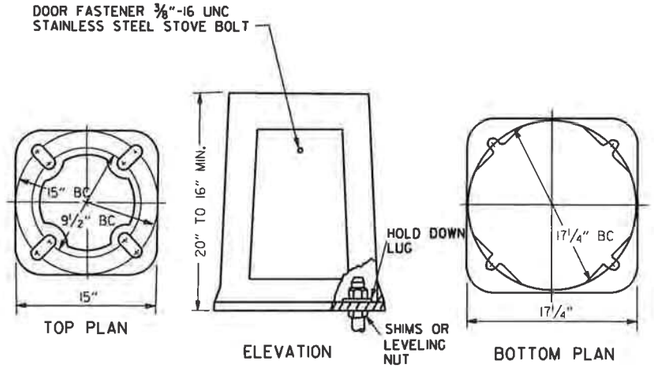


COBRA HEAD LUMINAIRE WITH BREAKAWAY BASE



POLE FOUNDATION/PULL BOX WIRING DETAIL

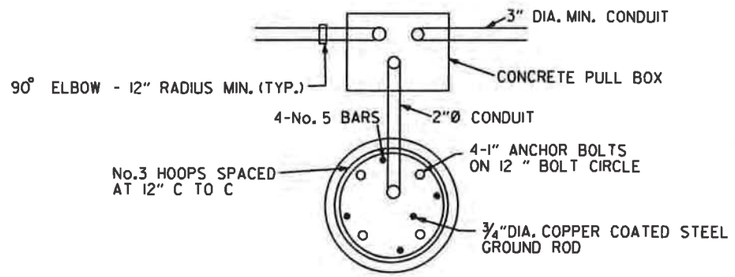
NOTE: FUSES SHALL BE SLOW-BLOW FUSE



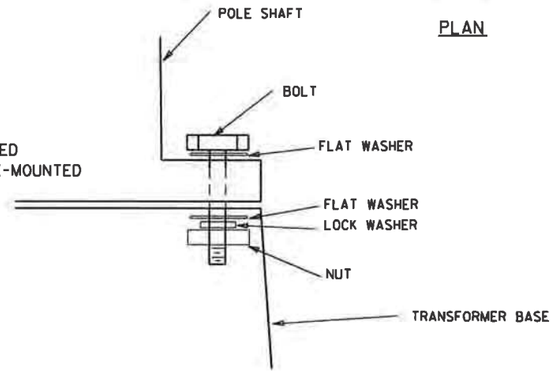
NOTE: DOOR OPENING APPROX. 7" x 8" x 10.5"
TOP AND BOTTOM BOLT HOLES WILL ACCOMMODATE MINIMUM 1" DIA. BOLTS
MATERIAL SHALL CONFORM TO COMMERCIAL DESIGNATION: A356-T6 ALLOY.

4 - HOT DIP GALVANIZED HOLD DOWN LUGS PROVIDED FOR USE UNDER ANCHOR BOLT HEX NUTS AS SHOWN.

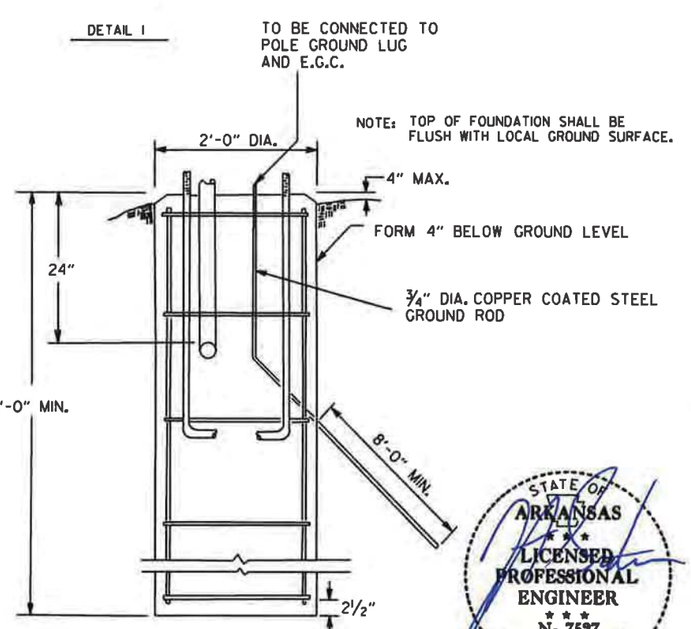
TYPICAL BREAKAWAY TRANSFORMER BASE



PLAN



DETAIL 1



ROADWAY LUMINAIRE POLE FOUNDATION

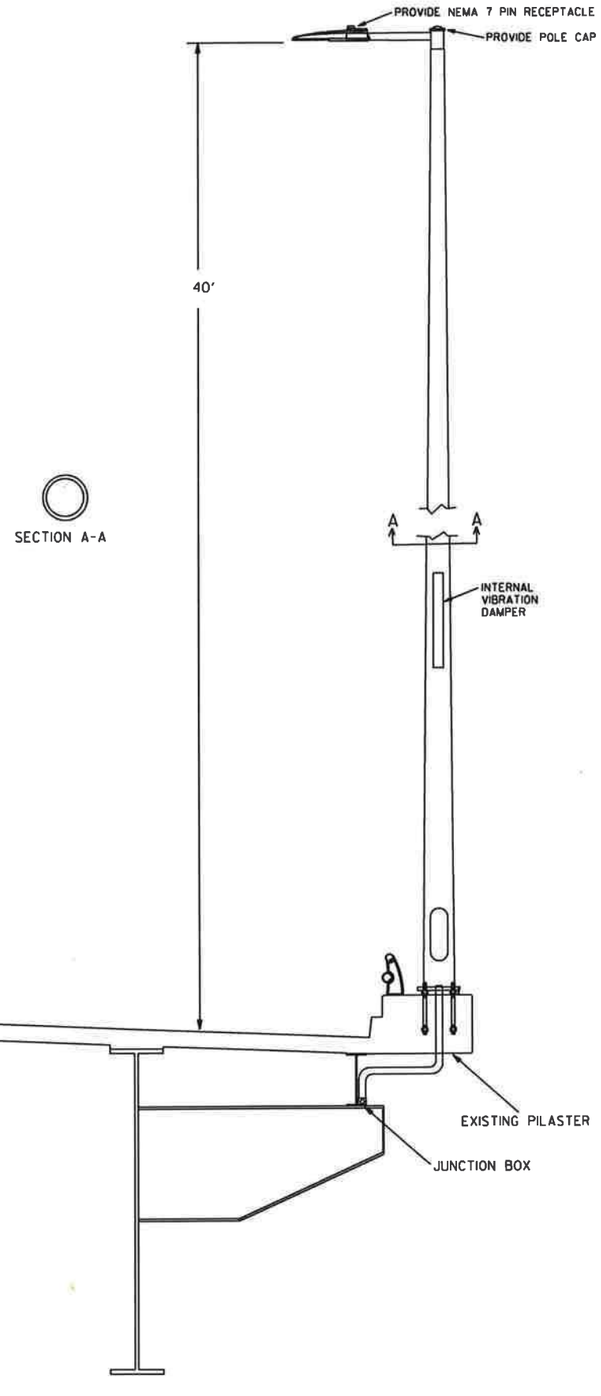
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN

I-430
ILLUMINATION DETAILS
LIGHT POLE

MAINT_061630 Lighting.dgn 3/31/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	83	134

(2) ILLUMINATION DETAILS - LIGHT POLE



SECTION A-A

COBRA HEAD LUMINAIRE ON PILASTER

NOTES:

1. BRIDGE MOUNTED LUMINAIRE POLES SHALL MEET THE REQUIREMENTS OF AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION (2015) WITH 2019 INTERIM REVISIONS.

2. STEEL LUMINAIRE POLES SHALL BE A MINIMUM OF 11 GAUGE.
STEEL LUMINAIRE POLES SHALL BE HOT-DIPPED GALVANIZED.
OTHER DIMENSIONS PER MANUFACTURER'S RECOMMENDATION AS NECESSARY TO MEET THE REQUIREMENTS OF THE SP - LED ROADWAY ILLUMINATION POLE.

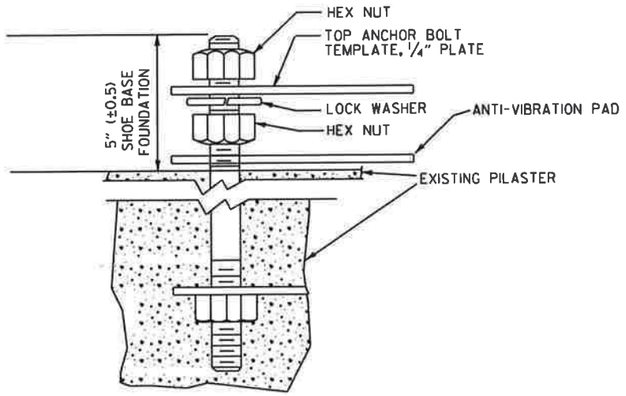
3. LUMINAIRE POLES SHALL BE FABRICATED FROM ASTM A572 GRADE 50 OR 65 STEEL.

4. POLE CAP OR TENON CAP SHALL BE PROVIDED.

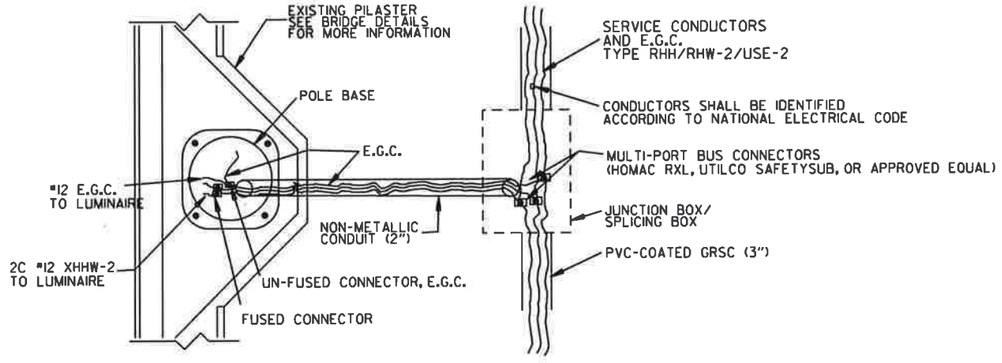
5. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF SECTION 714 OF THE STANDARD SPECIFICATIONS. THE TOP 8" OF ALL ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM M232. ANCHOR BOLTS IN FOUNDATIONS SHALL BE 1.25" X 30" FOR MOUNTING HEIGHT OF 40' OR GREATER, 1" X 30" FOR MOUNTING HEIGHT LESS THAN 40'. ANCHOR BOLTS SHALL HAVE TOP END THREADED NOT LESS THAN 5" AND FURNISHED WITH GALVANIZED HEX NUTS, LOCK WASHERS, AND TEMPLATE. THE LOWER END OF THE BOLT SHALL BE THREADED AND FURNISHED WITH HEX NUT AND TEMPLATE.

6. FOR LIGHT POLES MOUNTED ON THE BRIDGE, SEE BRIDGE PILASTER DETAILS.

7. AN INTERNAL CANISTER DAMPER SHALL BE FACTORY-INSTALLED FOR ALL POLES INSTALLED ON THE BRIDGE. AN ADDITIONAL VIBRATION DAMPER SHALL BE INSTALLED FOR ALL BRIDGE-MOUNTED POLES WITH A MASTARM. SEE BRDIGE POLE SCHEMATIC.



ANCHOR BOLT DETAIL



POLE FOUNDATION/PULL BOX WIRING DETAIL

NOTE: FUSES SHALL BE SLOW-BLOW FUSE

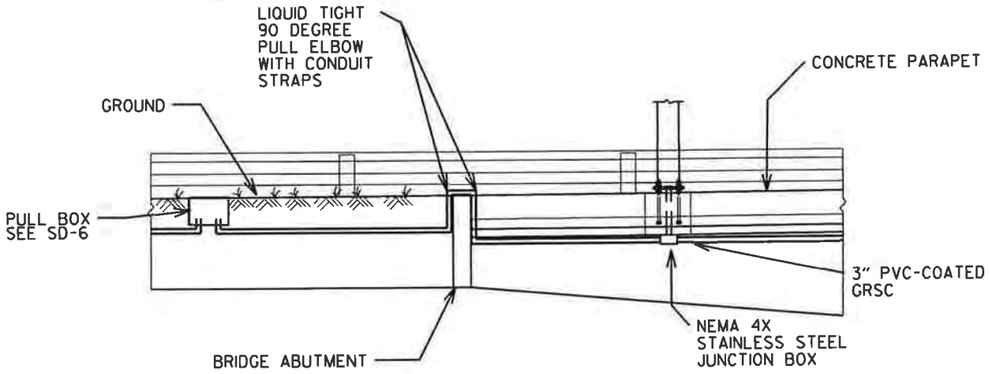
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-14-2020
JOSEPH A. SARTINI

I-430
ILLUMINATION DETAILS
LIGHT POLE

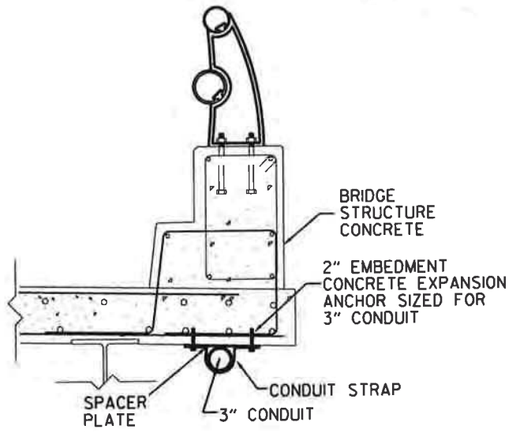
MAINT_061630 Lighting.dgn 5/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	84	134

(2) ILLUMINATION DETAILS - CONDUIT

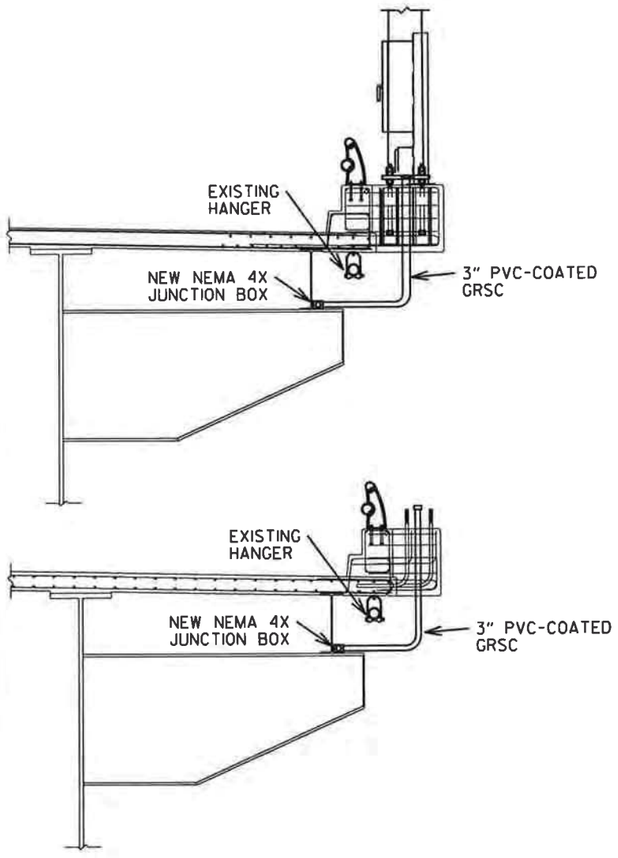


SIDE ELEVATION - CONDUIT MOUNTING AT BRIDGE ABUTMENT

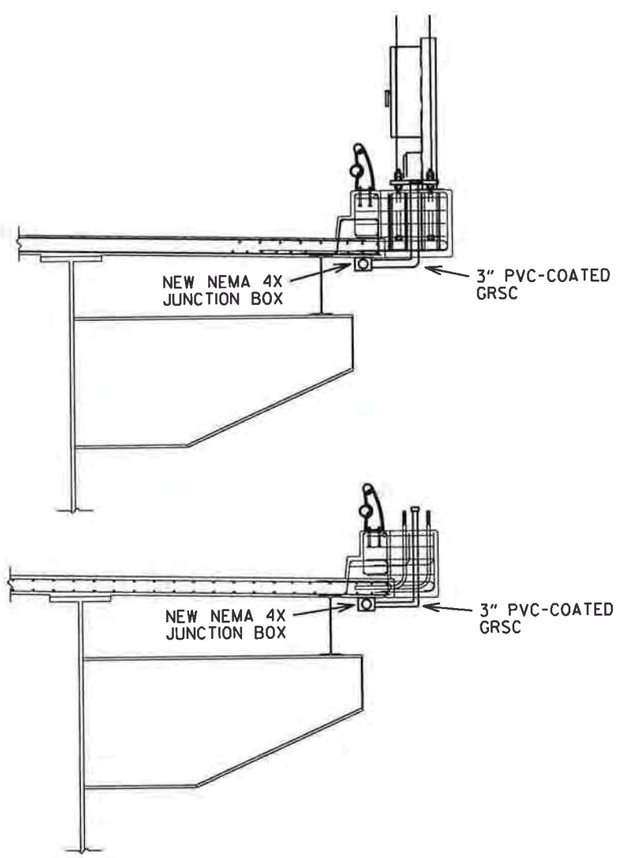


CONCRETE STRUCTURE FASTENING

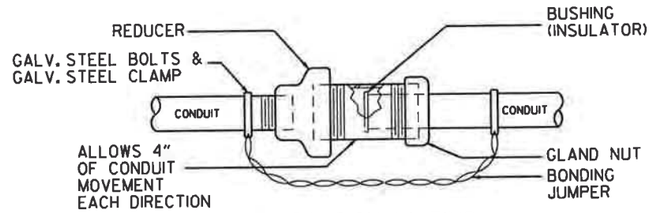
N.T.S.



BRIDGE CROSS SECTION - NORTHBOUND



BRIDGE CROSS SECTION - SOUTHBOUND



EXPANSION FITTING

N.T.S.

NOTE:
1. EXPANSION FITTING SHALL BE O-Z/GEDNEY AX OR EQUAL.
2. COST OF GALVANIZED STEEL JUNCTION BOXES, AND ALL MISCELLANEOUS ITEMS REQUIRED TO ATTACH CONDUIT TO EXISTING BRIDGE SHALL BE INCLUDED IN ITEM PVC COATED GALVANIZED STEEL CONDUIT (3").

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
3-4-2020

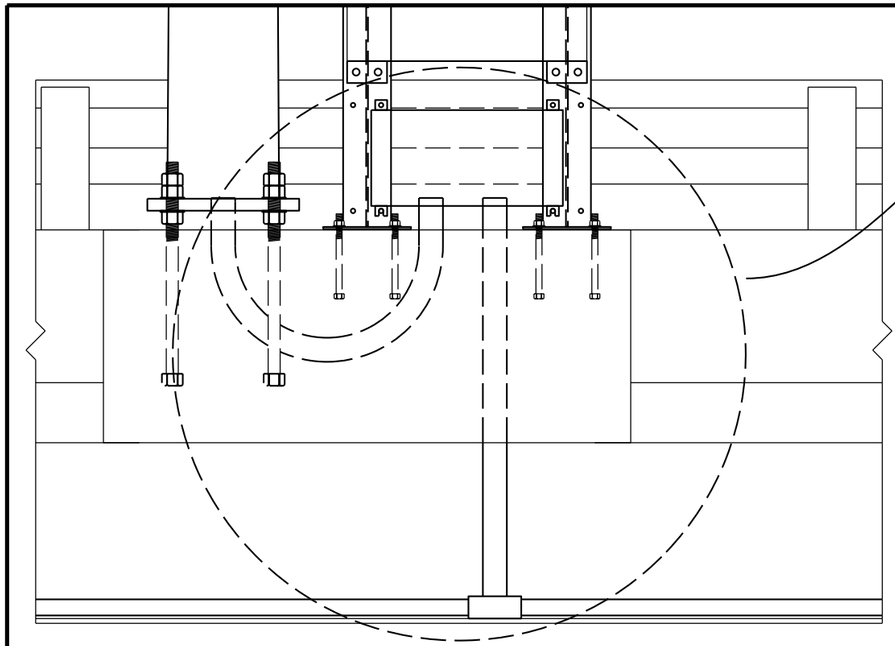
LOCATION: I-430
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 06 SCALE: N/A DRAWN BY: PC

MAINT_061630 Lighting.dgn 4/21/2020

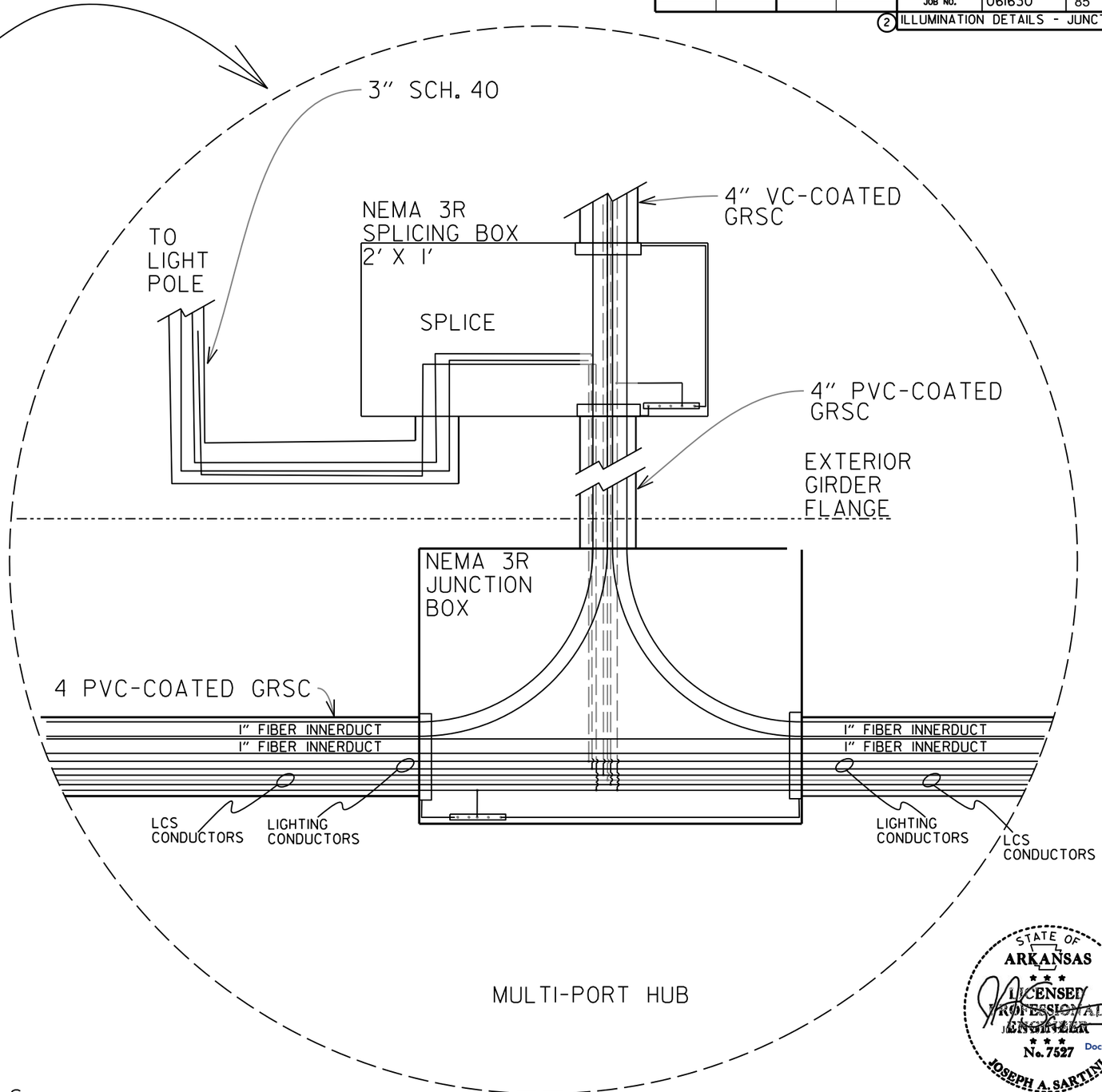
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6-22-2020			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	85	134

(2) ILLUMINATION DETAILS - JUNCTION BOX



CABINET ELEVATION VIEW



NOTE:

1. SLACK CONDUCTORS IN JUNCTION BOXES SHALL BE MINIMUM 1'.
2. BOND EXTERNAL GROUND LUG USING 6 AWG COPPER TO E.G.C.
3. NEMA JUNCTION BOX SHALL BE STAINLESS STELL WITH CAPTIVE HARDWARE.
4. INSTALL NEW GROUNDING AND BONDING TYPE INSULATED BUSHING ON ALL CONDUITS AND BOND TO GROUND BAR.
5. BOND ALL BRANCH CIRCUIT GROUND CONDDUCTORS TO E.G.C AND GROUND BAR.
6. BOND ALL LIGHT POLE, SPLICING BOX, WALL-MOUNTED CABINET GROUND TO E.G.C. AND GROUND BAR.
7. SEE BRIDGE CABINET ELEVATION VEW SCHEMATICS DETAILS FOR MORE INFORMATION.
8. 1" FIBER INNER DUCT SHALL RUN FROM NEMA JUNCTION BOX TO THE ITS CABINET.

STATE OF ARKANSAS
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No. 7527
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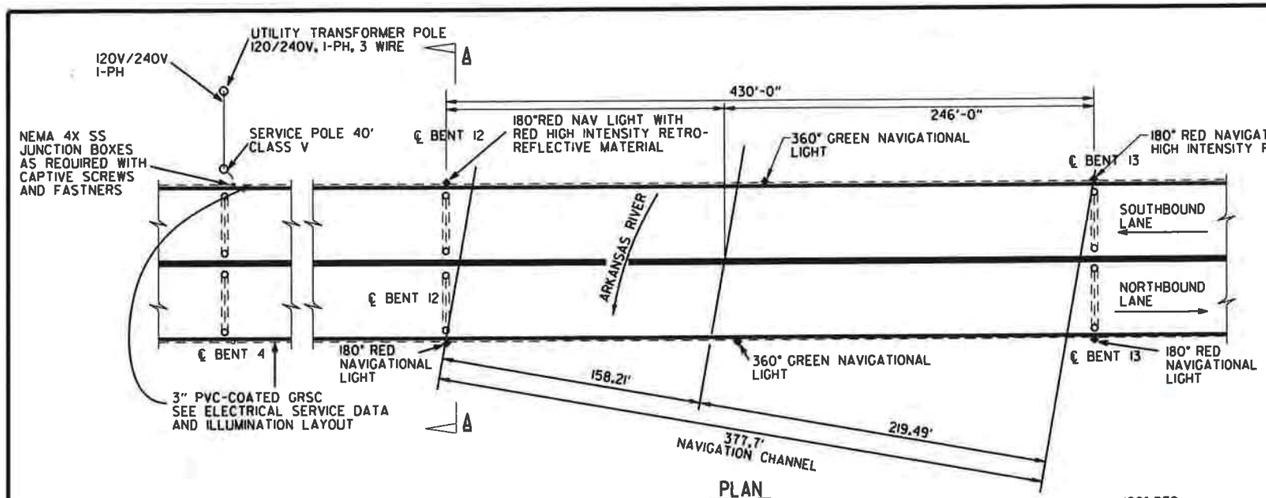
DocuSign

LOCATION:	I-430			
CITY:	LITTLE ROCK/NORTH LITTLE ROCK			
COUNTY:	PULASKI			
DISTRICT:	06	SCALE: N/A		DRAWN BY: PC

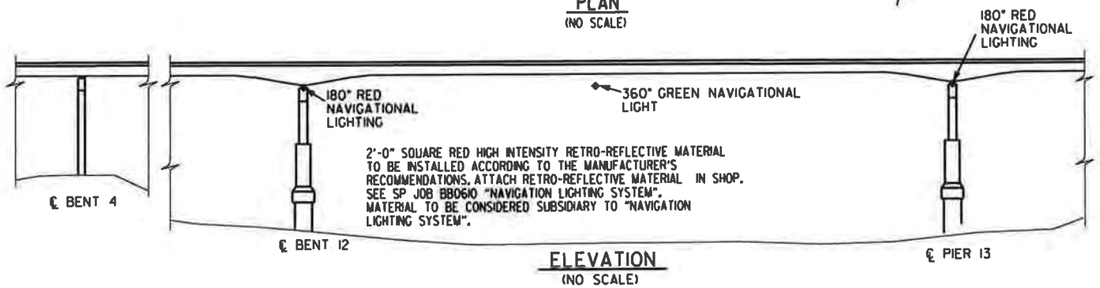
MAINT_061630 Lighting.dgn 4/20/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED./RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	86	134

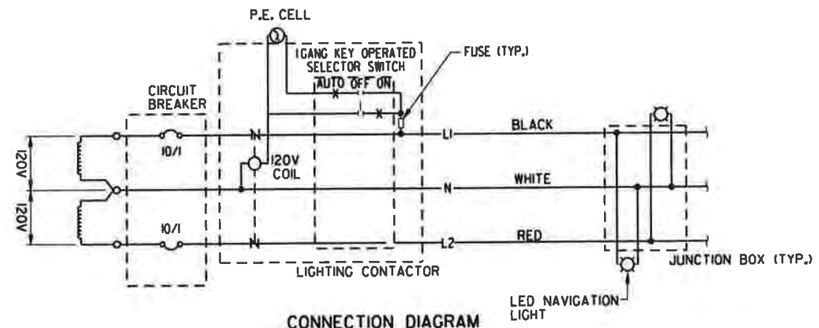
(2) NAVIGATION LIGHTING



PLAN
(NO SCALE)



ELEVATION
(NO SCALE)



CONNECTION DIAGRAM
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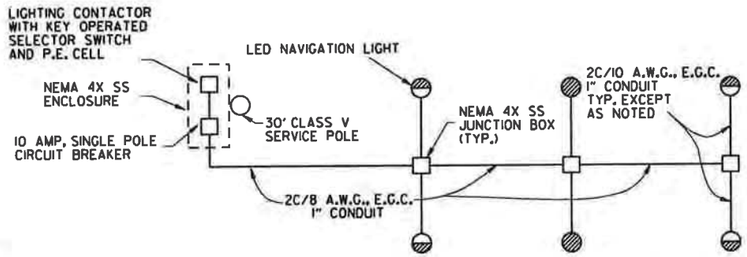

WIRING DIAGRAM FOR NAVIGATION LIGHTS
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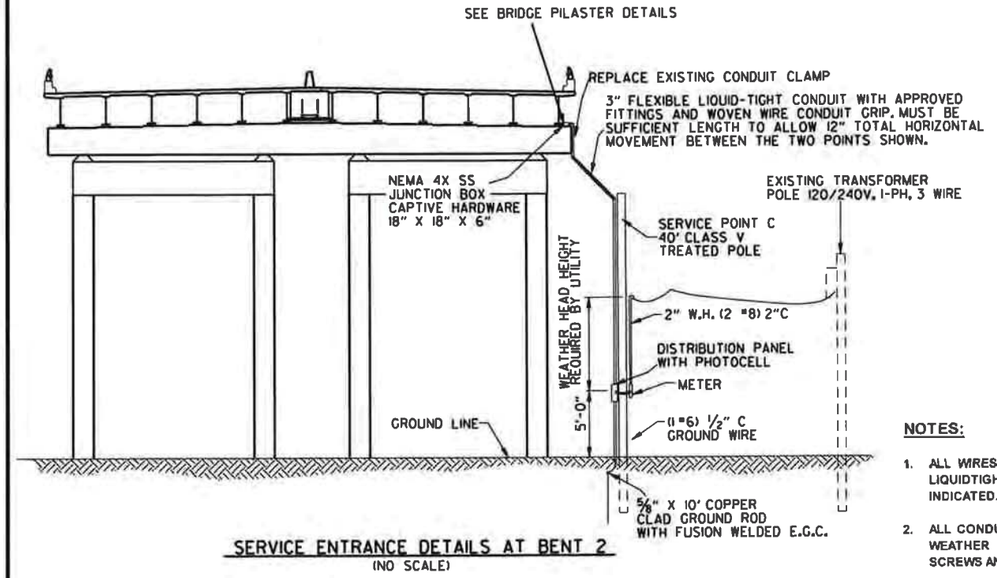
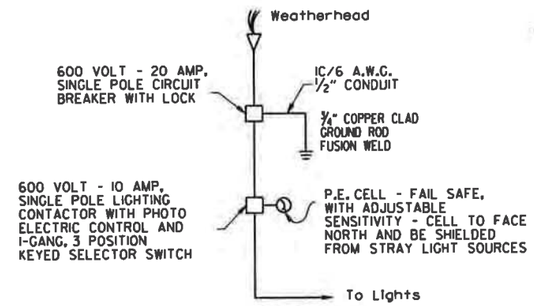


SERVICE ENTRANCE DETAILS AT BENT 2
(NO SCALE)



RISER DIAGRAM
(No Scale)

NOTES:

1. ALL WIRES SHALL BE RUN IN PVC-COATED GALVANIZED STEEL CONDUIT AND LIQUIDTIGHT FLEXIBLE ARMORED METALLIC CONDUIT UNLESS OTHERWISE INDICATED.
2. ALL CONDUIT AND JUCTION BOXES SHALL BE NEMA 4X STAINLESS STEEL HAVE WEATHER PROOF COVERS. ALL JUNCTION BOXES SHALL INCLUDE CAPTIVE SCREWS AND FASTENERS.
3. ALL CONDUIT RUNS AND ALL STRUCTURAL STEEL SHALL BE MADE ELECTRICALLY CONTINUOUS BY APPROVED GROUNDING.
4. EXPANSION FITTINGS SHALL BE WEATHER PROOF O.Z. GEDNEY TYPE EX OR AX OR APPROVED EQUAL WITH EXTERNAL BONDING JUMPER.
5. FOR ADDITIONAL INFORMATION, SEE JOB 061630 SP, NAVIGATION LIGHTING SYSTEM.
6. THE NAVIGATION LIGHTING SYSTEM SHALL BE TIDELAND NOVA-65 OR APPROVED EQUAL.
7. THE USE OF THE MANUFACTURER'S NAME IS INTENDED TO INDICATE ONLY THE TYPE AND QUALITY OF PRODUCT TO BE FURNISHED. OTHER MANUFACTURER'S PRODUCTS PROVIDING EQUAL STANDARDS OF PERFORMANCE AND QUALITY WILL BE CONSIDERRED ACCEPTABLE SUBJECT TO THE APPROVAL OF THE ENGINEER.
8. ATTACH RETRO-REFLECTIVE MATERIAL IN SHOP. SEE JOB 061630 SP, NAVIGATION LIGHTING SYSTEM.
9. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS DETAILING MOUNTING PLACES, SLIDING TROLLEY AND CONNECTION DESIGNED BY AN ENGINEER LICENSED IN ARKANSAS.

MAINT_061630 Lighting.dgn 4/2/2020

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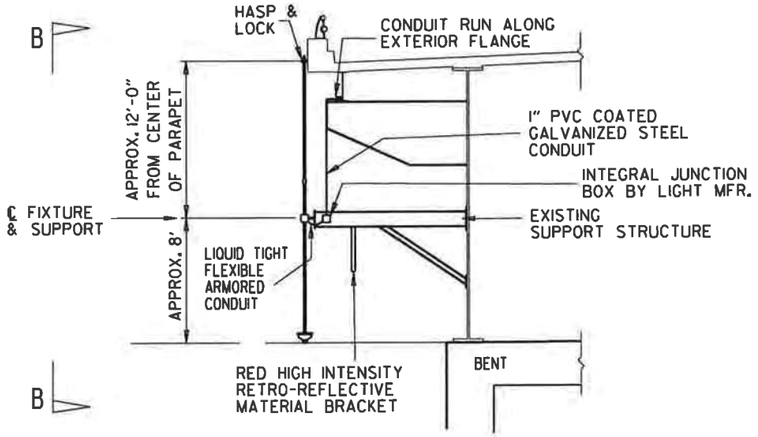
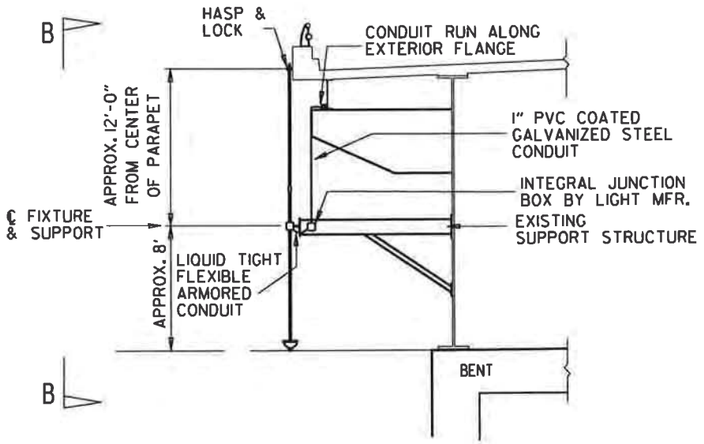
				6	ARK.			
				JOB NO.		061630	87	134

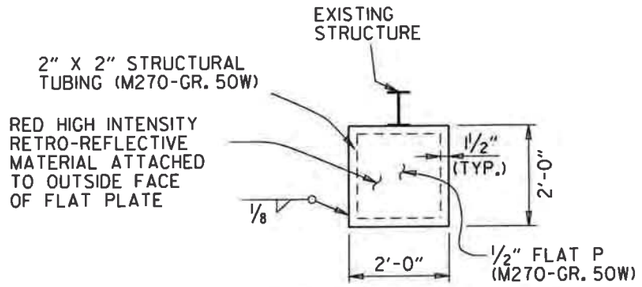
(2) NAVIGATION LIGHTING



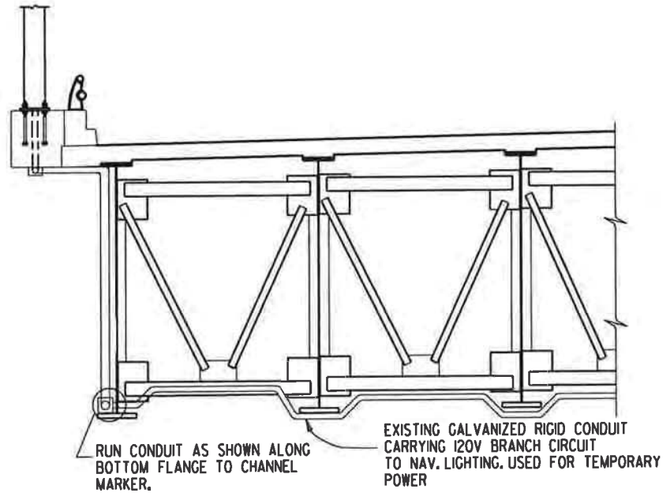
LIGHT MOUNTING DETAIL
UPSTREAM
(No Scale)



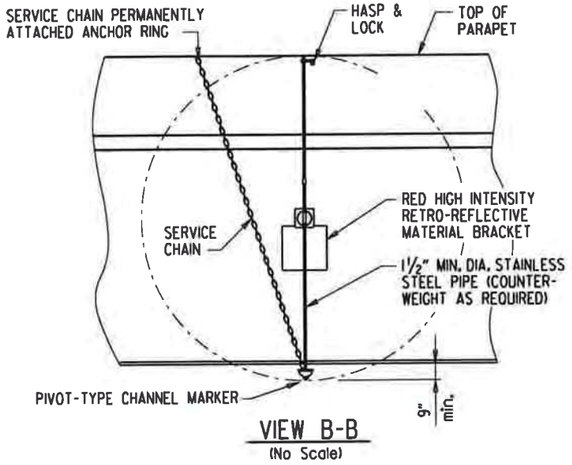
LIGHT MOUNTING DETAIL
DOWNSTREAM
(No Scale)



RETRO-REFLECTIVE PLATE
(NO SCALE)



SECTION A-A
(No Scale)



VIEW B-B
(No Scale)

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
5-4-2020

NAVIGATION LIGHTING

MAINT_061630 Lighting.dgn 4/2/2020

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06/22/2020				6	ARK.			
				JOB NO.		061630	88	134

(2) FIBER OPTIC CABLE QUANTITY

STATE OF ARKANSAS
LICENSED PROFESSIONAL
Jun 22 2020 9:42 PM
No. 7527
JOSEPH A. SARTINI
DocuSign

	ITEM NUMBER	ITEM	QUANTITY	UNIT
	SP	COMMUNICATION CABLE, FIBER (12 CHANNEL)	27249	LIN. FT.
	SP	COMMUNICATION CABLE, FIBER (72 CHANNEL)	13542	LIN. FT.
*	SP	WIC FIBER ENCLOSURE	31	EACH

* INCLUDES 2 EXTRA ITEMS FOR SPARES. ONE WALL MOUNT UNIT AND ONE RACK MOUNT UNIT.

SEE020.DGN 6/19/2020

DATE: _____ FILE NAME: _____.__.dgn

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
06/22/2020				6	ARK.			
				JOB NO.		061630	89	134

(2) FIBER OPTIC CABLE NOTES

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
JOSEPH A. SARTINI
No. 7527
DocuSigned

Notes:

1. FIBER A:

SHALL START AT THE MAIN ITS CABINET AND END AT ITS SITE NUMBER 74. FIBER A CABLE SHALL INCLUDE 72 FIBER STRANDS.

TERMINATION SHALL BE IN ACCORDANCE WITH THE PLANS AT THE FOLLOWING ITS SITES: MAINT ITS CABINET AND SITE NUMBER 74. TOTAL OF 2 SITES
50 FT OF SLACK SHALL BE INCLUDED AT EACH OF THE FOLLOWING PULL BOXES: F1, F2, F3. F4, F5, F6, F7, F8, F9, F10, F11, F12 AND THE PULL BOX CORRESPONDING WITH POLE# 74. TOTAL OF 13 PULLBOXES.
10 FT OF SLACK SHALL BE INCLUDED AT EACH CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 2 CABINETS
3 FT OF SLACK SHALL BE INCLUDED AT THE FIBER TERMINATION BOX (WITH NO JACKET ON THE FIBER STRANDS).TOTAL OF 2 SITES
30 FT OF SLACK SHALL BE INCLUDED AT EVERY PULL BOX FOR THIS FIBER PATHWAY. TOTAL OF 9 SITES (NOT COUNTING THE ABOVE LISTED PULLBOXES).

2. FIBER B:

SHALL START AT THE MAIN ITS CABINET AND END AT ITS SITE NUMBER 74. FIBER B CABLE SHALL INCLUDE 12 FIBER STRANDS.

SHALL BE TERMINATED IN ACCORDANCE TO THE PLANS AT THE FOLLOWING ITS SITES: MAIN ITS CABINET, SIGN STRUCTURE OC-430-60-15, 42, SIGN STRUCTURE OC-430-60-14, 49, 52, 54, 56, 58, 61, 64, 67, 70 AND 74 RESPECTFULY. REFER TO FIBER LAYOUT DETAIL. TOTAL OF 14 SITES.
50 FT OF SLACK SHALL BE INCLUDED AT EACH OF THE FOLLOWING PULL BOXES: F1, F2, F3. F4, F5, F6, F7, F8, F9, F10, F11, F12 AND THE PULL BOX CORRESPONDING WITH POLE# 74. TOTAL OF 12 PULLBOXES.
10 FT (TWO COILS OF 5 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH GROUND MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 8 SITES.
6 FT (TWO COILS OF 3 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH WALL MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 6 SITES
3 FT OF SLACK SHALL BE INCLUDED AT THE FIBER TERMINATION BOX (WITH NO JACKET ON THE FIBER STRANDS). TOTAL OF 14 SITES.
30 FT (TWO COILS OF 15 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EVERY PULL BOX FOR THIS FIBER PATHWAY. TOTAL OF 10 SITES (NOT COUNTING THE ABOVE LISTED PULLBOXES).

3. FIBER C:
SHALL START AT SIGN STRUCTURE OC-430-60-15 AND END AT ITS SITE NUMBER SIGN STRUCTURE OH-430-60-10. FIBER C CABLE SHALL INCLUDE 12 FIBER STRANDS.
SHALL BE TERMINATED IN ACCORDANCE TO THE PLANS AT THE FOLLOWING ITS SITES: SIGN STRUCTURE OC-430-60-15, 05, 06, 07, 08, 09, 12, 15, 17, 19, 21, 24, 27, SIGN STRUCTURE OC-430-60-31 AND SIGN STRUCTURE OH-430-60-10 RESPECTFULY. REFER TO FIBER LAYOUT DETAIL. TOTAL OF 15 SITES.

50 FT OF SLACK SHALL BE INCLUDED AT EACH OF THE FOLLOWING PULL BOXES: F10, F13, F14, AND F15 . TOTAL OF 4 PULLBOXES.

10 FT (TWO COILS OF 5 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH GROUND MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 9 SITES.
6 FT (TWO COILS OF 3 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH WALL MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 6 SITES.
3 FT OF SLACK SHALL BE INCLUDED AT THE FIBER TERMINATION BOX (WITH NO JACKET ON THE FIBER STRANDS). TOTAL OF 15 SITES
30 FT (TWO COILS OF 15 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EVERY PULL BOX FOR THIS FIBER PATHWAY. TOTAL OF 13 SITES (NOT COUNTING THE ABOVE LISTED PULLBOXES).

4. FIBER D:
SHALL START AT SIGN STRUCTURE OC-430-60-14 AND END AT ITS SITE NUMBER 09. FIBER D CABLE SHALL INCLUDE 12 FIBER STRANDS.
TERMINATION SHALL BE IN ACCORDANCE WITH THE PLANS AT THE FOLLOWING ITS SITES: SIGN STRUCTURE OC-430-60-14 AND SITE NUMBER 09. REFER TO FIBER LAYOUT DETAIL. TOTAL OF 2 SITES
50 FT OF SLACK SHALL BE INCLUDED AT EACH OF THE FOLLOWING PULL BOXES: F11 AND F14. TOTAL OF 2 PULLBOXES.
10 FT (TWO COILS OF 5 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH GROUND MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 2 SITES.
3 FT OF SLACK SHALL BE INCLUDED AT THE FIBER TERMINATION BOX (WITH NO JACKET ON THE FIBER STRANDS). TOTAL OF 2 SITES.
30 FT (TWO COILS OF 15 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EVERY PULL BOX FOR THIS FIBER PATHWAY. TOTAL OF 2 SITES (NOT COUNTING THE ABOVE LISTED PULLBOXES).

5. FIBER E:
SHALL START AT SIGN STRUCTURE OC-430-60-31 AND END AT ITS SITE NUMBER 67. FIBER C CABLE SHALL INCLUDE 12 FIBER STRANDS.
TERMINATION SHALL BE IN ACCORDANCE WITH THE PLANS AT THE FOLLOWING ITS SITES: SIGN STRUCTURE OC-430-60-31, EXISTING DMS SITE AND SITE NUMBER 67. REFER TO FIBER LAYOUT DETAIL. TOTAL OF 3 SITES
50 FT OF SLACK SHALL BE INCLUDED AT EACH OF THE FOLLOWING PULL BOXES: F12 AND F15. TOTAL OF 2 PULLBOXES.
10 FT (TWO COILS OF 5 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH GROUND MOUNTED CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 2 SITES.
6 FT (TWO COILS OF 3 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EACH EXISTING CABINET WHERE THE FIBER TERMINATES AT EACH ITS SITE. TOTAL OF 1 SITES.
3 FT OF SLACK SHALL BE INCLUDED AT THE FIBER TERMINATION BOX (WITH NO JACKET ON THE FIBER STRANDS). TOTAL OF 3 SITES.
30 FT (TWO COILS OF 15 FT EACH DIRECTION) OF SLACK SHALL BE INCLUDED AT EVERY PULL BOX FOR THIS FIBER PATHWAY. TOTAL OF 3 SITES (NOT COUNTING THE ABOVE LISTED PULLBOXES).

6. THE SLACK SHALL BE EQUALLY DISTRIBUTED ON EITHER SIDE.

7. EACH COIL OF SLACK SHALL BE LABELED WITH A WATER PROOF LABEL OR TAG SHOWING THE FOLLOWING:
MANUFACTURER NAME, THE CABLE TYPE, THE LENGTH OF COIL, THE FIBER RUN NUMBER IN THE PLANS, LAST TERMINATION POINT AND NEXT TERMINATION POINT.

8. ALL FIBER NUMBERS/RUNS SHALL BE LABELED AT EACH CABINET AND TERMINATION BOX IN BOTH DIRECTION WITH A WATER PROOF LABEL OR TAG SHOWING THE FOLLOWING:
MANUFACTURER NAME, THE CABLE TYPE, THE LENGTH OF COIL, THE FIBER RUN NUMBER IN THE PALN, LAST TERMINATION POINT AND NEXT TERMINATION POINT.

9. NO SPLIES SHAL BE ALLOWED AT THE ANY POINT. ONLY TERMINATION WILL BE ALLOWED WHERE SPECIFIED FOR AT THE SITES LISTED ABOVE AND AS DESCRIBED IN THE PLANS. IN CASE OF ANY SPLICE, CUTS, TERMINATION WHERE IT IS NOT SPECIFIED OR ANY DAMAGES TO THE FIBER, THE CONTRACTOR SHALL BE RESPONSIBLE TO REPLACE THE WHOLE RUN OF FIBER, START TO END AT NO COST TO THE DEPARTMENT.

10. EACH OF THE FOLLOWING SITES REPRESENT AN ITS SITE WHERE A CABINET SHALL BE INSTALLED (REFER TO ANTENNA SUPPORT STRUCTURE ASSEMBLY AND ITS CABINET SPECIAL PROVISIONS FOR MORE CABINET DETAILS) AND THE FIBER SHALL BE TERMINATED AS DESCIBED:
MAIN ITS CABINET SITE. TOTAL 1 SITE.
SITES AT POLES 05, 06, 07, 08, 09, 12, 15, 17, 19, 21, 24, 27, 42, 49, 52, 54, 56, 58, 61, 64, 67, 70, AND 74. TOTAL OF 23 SITES.
SITES AT SIGN STRUCTURES: OC-430-60-15, OC-430-60-14, OC-430-60-15, OC-430-60-31, OH-430-60-10. TOTAL OF 4 SITES.
DMS SITE (EXISTING SITE AND CABINET). TOTAL 1 SITE.

11. THE CABINETS SHALL BE MOUNTED AS FOLLOWS AND SHALL INCLUDE THE DESCRIBED FIBER TERMINATION ENCLOSURE (REFER TO ITS CABINET AND ITS FIBER OPTIC CABLE SPECIAL PROVISIONS FOR MORE DETAILS);
THE FOLLOWING SITES SHALL BE GROUND MOUNTED CABINET AND INCLUDE RACK MOUNTED FIBER TERMINATION ENCLOSURE: 05, 06, 07, 08, 09, 27, SIGN STRUCTURE OC-430-60-31, SIGN STRUCTURE OH-430-60-10, SIGN STRUCTURE OC-430-60-15, SIGN STRUCTURE OC-430-60-14, 42, 64, 67, 70 AND 74. TOTAL OF 15 SITES.
THE FOLLOWING SITES SHALL BE WALL MOUNTED CABINET AND INCLUDE A WALL MOUNTED FIBER TERMINATION ENCLOSURE: 12, 15, 17, 19, 21, 24, 49, 52, 54, 56, 58, AND 61. TOTAL OF 12 SITES.
THE MAIN ITS CABINET SHALL BE AS DESCRIBED IN THE ANTENNA SUPPORT STRUCTURE ASSEMBLY. THE CONTRACTOR SHALL SUPPLY THE FIBER TERMINATION ENCLOSURE. TOTAL OF 1 SITE.
THE DMS SITE HAS AN EXISTING CABINET. THE CONTRACTOR SHALL SUPPLY THE FIBER TERMINATION ENCLOSURE. TOTAL OF 1 SITE.

12. CONTRACTOR SHALL PROVIDE 4 PAIR OF JUMPERS AT EACH CABINET WHERE THE FIBER TERMINATES. EACH JUMPER SHALL BE 5FT LONG. TOTAL OF 116 JUMPER CABELS.

13. THE CONTRACTOR SHALL ONLY TERMINATE THE FIRST 3 PAIRS (6 STRANDS) OF FIBER WIRE OF THE FOLLOWING COLORS: BLUE, ORANGE, GREEN, BROWN, GRAY AND WHITE AS DESCRIBED IN THE PLANS. THE TERMINATED STRANDS SHALL BE TERMINATED IN THE FIBER TERMINATION ENCLOSURE AS DESCRIBED IN THE PLANS. REFER TO THE FIBER PLANS FOR MORE DETAILS.

14. THE REST OF THE FIBER STRANDS, OF THE FOLLOWING COLORS: RED, BLACK, YELLOW, VIOLET, PINK AND AQUA SHALL NOT BE TERMINATED. REFER TO THE FIBER PLANS FOR MORE DETAILS.
ANY TERMINATION OR CUTS OF THESE STRANDS WILL BE CONSIDERED DAMGED TO THE FIBER CABLE AND THE CONTRACTOR SHLL BE RESPONSIBLE FOR REPLACING THE FIBER RUN START TO END AT NO COST TO THE DEPARTMENT.

15. ALL FIBER CONNECTIONS SHALL BE ACCORDING TO THE PLANS AND IN THE SAME ORDER.

16. ALL FIBER CONNECTORS SHALL BE ST CONNECTORS AT ALL THE TERMINATION POINTS.

17. THE CONTRACTOR SHALL TURN ALL UNUSED FIBER CABLE TO THE DEPARTMENT'S MAINTENANCE DIVISION.

18. THE CONTRACTOR SHALL TURN OVER ALL TOOLS, EQUIPMENT AND INSTRUMENTS USED TO INSTALL, TERMINATE, OPERATE, TEST, REPAIR AND MAINTAIN THE FIBER CABLE IN THIS JOB.

19. CONTRACTOR SHALL INCLUDE A FIBER TERMINATION BOX (WIC FIBER ENCLOSURE) AT THE MAIN ITS SITE FROM THE SAME TYPE AND SIZE SPECIFIED IN THE PLANS AND ITS FIBER OPTIC CABLE SPECIAL PROVISION.

20. SPARE FIBER TERMINATION ENCLOSURES SAHLL BE TURNED OVER TO THE DEPARTMENT MAINTENACE DIVIONS.

DATE: _____ FILE NAME: _____.dgn

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

SEE020.DGN 6/19/2020

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	90	134

(2) FIBER OPTIC CABLE LAYOUT CONFIGURATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
6-4-2020
JOSEPH A. SARTINO

LEGEND:

- FIBER A
- FIBER B
- FIBER C
- FIBER D
- FIBER E
- SIGN STRUCTURE
- CONDUIT
- POLE
- DMS — DMS
- PULLBOX

MAIN ITS CABINET

F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15

SIGN STRUCTURE OC-430-60-15

SIGN STRUCTURE OC-430-60-14

POLE 42 POLE 49 POLE 52 POLE 54 POLE 56 POLE 58 POLE 61 POLE 64 POLE 67 POLE 70 POLE 74

POLE 05 POLE 06 POLE 07 POLE 08 POLE 09 POLE 12 POLE 15 POLE 17 POLE 19 POLE 21 POLE 24 POLE 27

BRIDGE

DMS

SIGN STRUCTURE OH-430-60-10

SIGN STRUCTURE OC-430-60-31

FIBER LAYOUT CONFIGURATION

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

DATE: _____ FILE NAME: _____.dgn

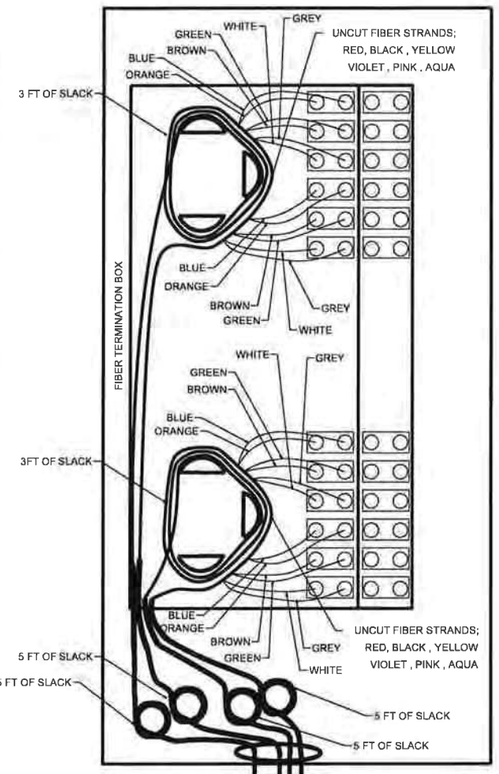
SEED20.DGN 4/16/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	91	134

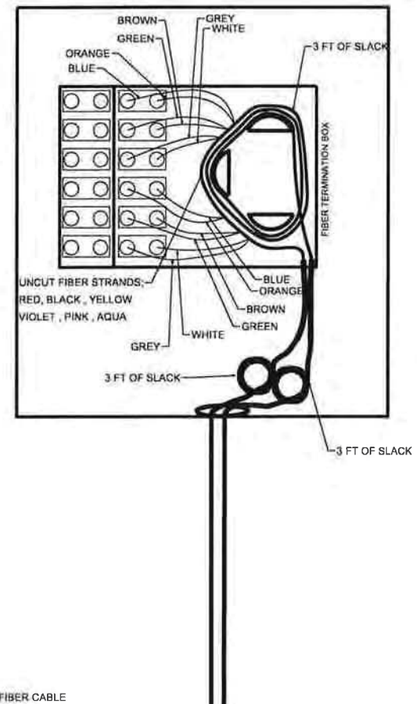
2 FIBER TERMINATION BOX CONFIGURATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
6-4-2020
JOSEPH A. SARTIN

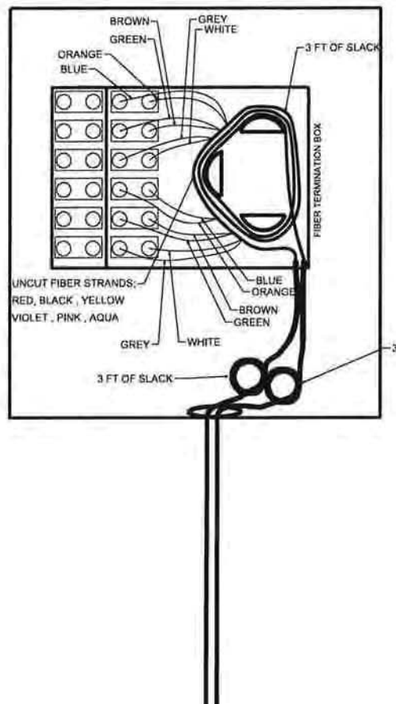
EXAMPLE OF ITS SITE
WITH 24 PORT FIBER TERMINATION BOX



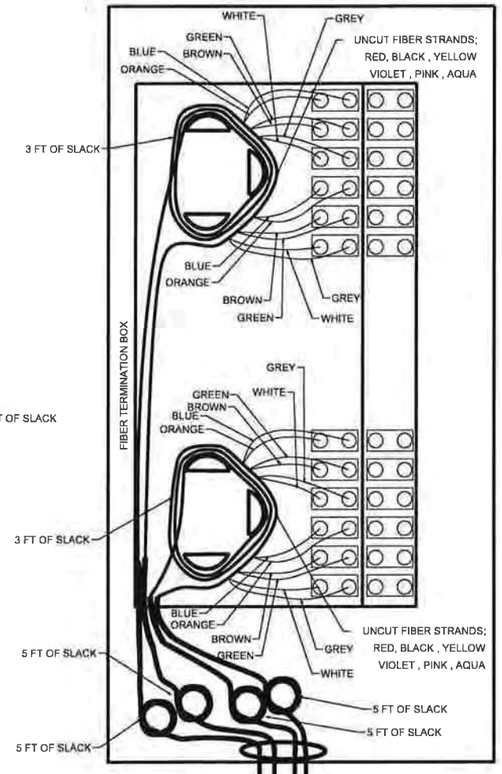
EXAMPLE OF ITS SITE
WITH 12 PORT FIBER TERMINATION BOX

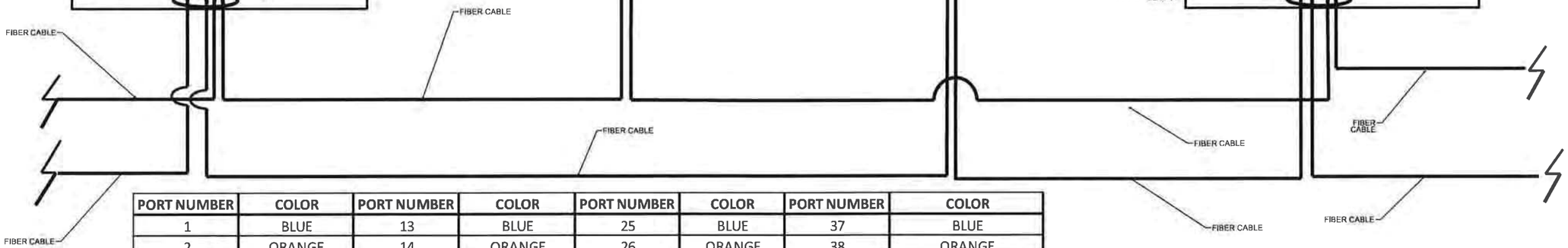


EXAMPLE OF ITS SITE
WITH 12 PORT FIBER TERMINATION BOX



EXAMPLE OF ITS SITE
WITH 24 PORT FIBER TERMINATION BOX





PORT NUMBER	COLOR	PORT NUMBER	COLOR	PORT NUMBER	COLOR	PORT NUMBER	COLOR
1	BLUE	13	BLUE	25	BLUE	37	BLUE
2	ORANGE	14	ORANGE	26	ORANGE	38	ORANGE
3	GREEN	15	GREEN	27	GREEN	39	GREEN
4	BROWN	16	BROWN	28	BROWN	40	BROWN
5	GREY	17	GREY	29	GREY	41	GREY
6	WHITE	18	WHITE	30	WHITE	42	WHITE
7	BLUE	19	BLUE	31	BLUE	43	BLUE
8	ORANGE	20	ORANGE	32	ORANGE	44	ORANGE
9	GREEN	21	GREEN	33	GREEN	45	GREEN
10	BROWN	22	BROWN	34	BROWN	46	BROWN
11	GREY	23	GREY	35	GREY	47	GREY
12	WHITE	24	WHITE	36	WHITE	48	WHITE

SEED20.DGN 4/16/2020

DATE: _____ FILE NAME: _____.dgn

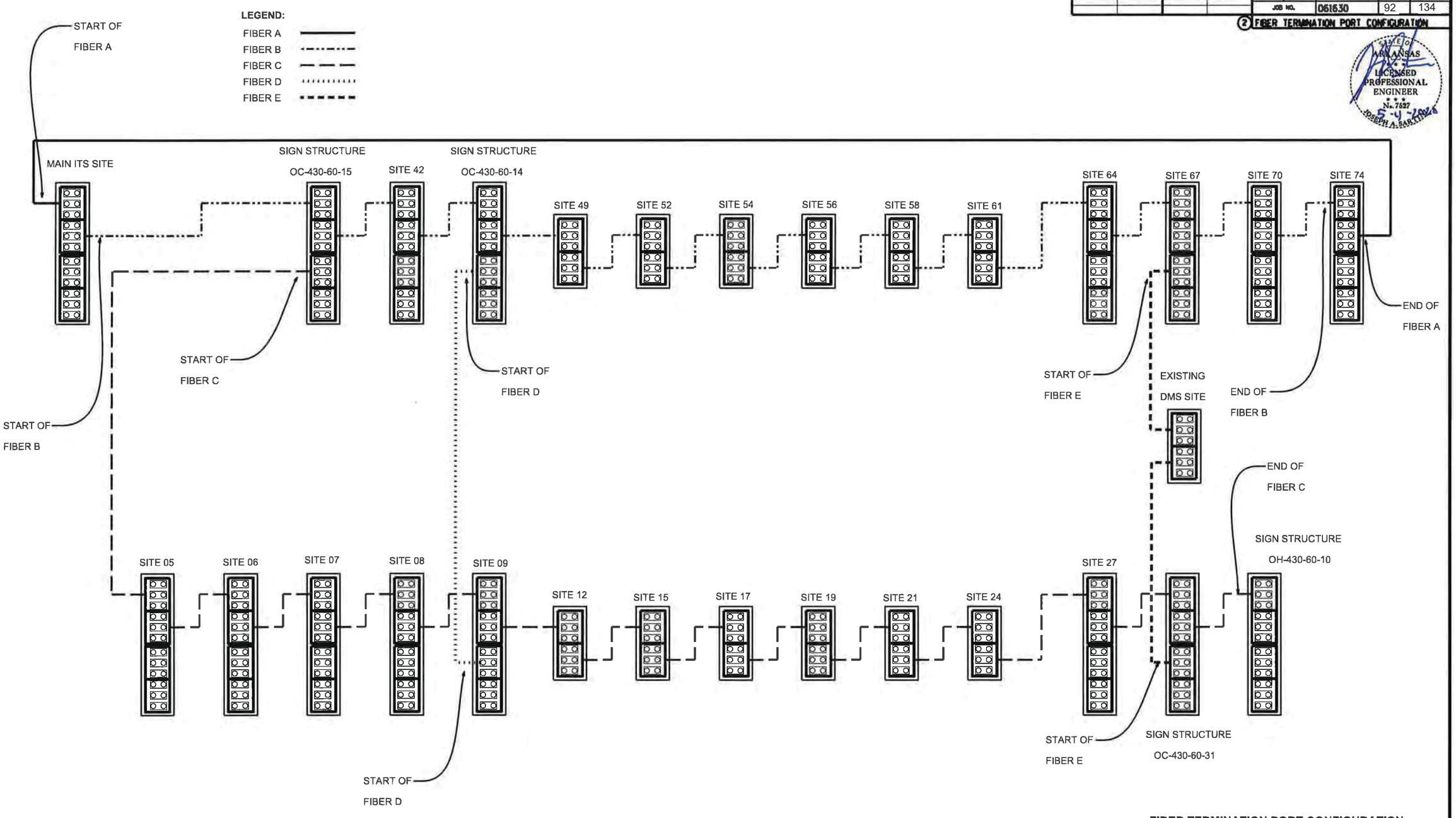
FIBER TERMINATION BOX CONFIGURATION

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	92	134

(2) FIBER TERMINATION PORT CONFIGURATION

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7637
5-4-2020
JOSEPH A. SARTIN



FIBER TERMINATION PORT CONFIGURATION

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

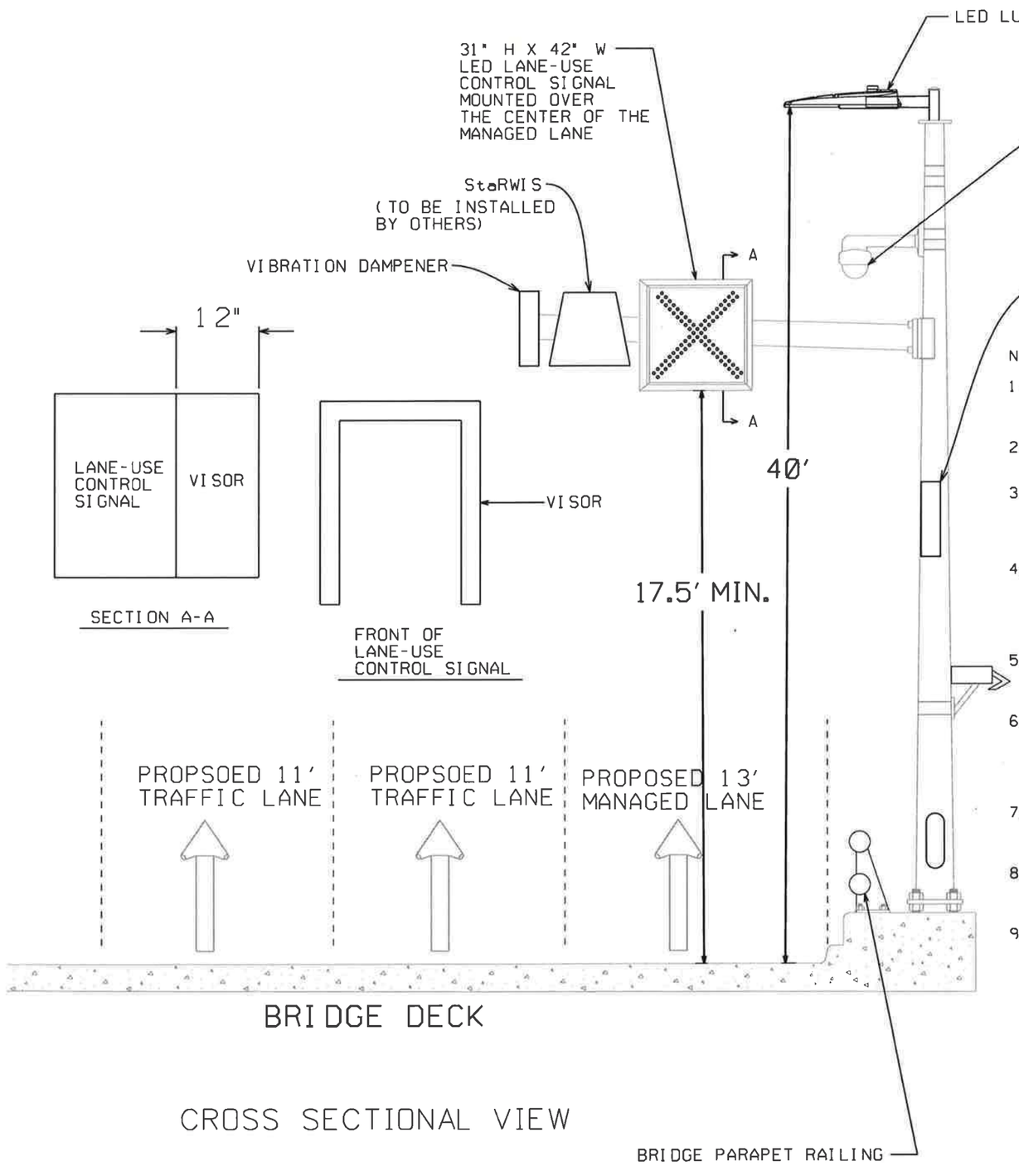
DATE: _____ FILE NAME: _____.dgn

SEE020.DGN 4/16/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	93	134

(2) BRIDGE MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-18-2020
JOSEPH A. SARTIN



CROSS SECTIONAL VIEW

NOTES:

1. SEE SPECIAL PROVISIONS "LANE-USE CONTROL SIGNAL ASSEMBLY" AND "OVERHEAD VARIABLE MESSAGE SIGN ASSEMBLY" FOR SPECIFICATIONS AND REQUIREMENTS ON THE LANE USE CONTROL SIGNAL.
2. DESIGN AND OPERATION OF THE LANE-USE CONTROL SIGNAL SHALL CONFORM TO THE PROVISIONS IN CHAPTER 4M OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD, 2009).
3. MINIMUM STRUCTURAL REQUIREMENTS FOR GROUND MOUNTED STEEL TRAFFIC SIGNAL POLES: DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH EDITIONS (2001) WITH 2003 AND 2006 INTERIMS.
4. MINIMUM STRUCTURAL REQUIREMENTS FOR BRIDGE MOUNTED STEEL TRAFFIC SIGNAL POLES: DESIGN SPECIFICATIONS: AASHTO LFRD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, FIRST EDITION (2015) WITH 2019 INTERIM REVISIONS. THIS DESIGN SPECIFICATION SUSPERSEDES WHAT'S SHOWN ON STANDARD DRAWING SD-11 FOR BRIDGE MOUNTED POLES ONLY.
5. ALL CABINETS, STEEL POLES, AND ASSOCIATED EQUIPMENT SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (2014) AND ALL SUPPLMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.
6. ALL LANE-USE CONTROL SIGNALS SHALL BE INSTALLED WITH A MINIMUM TWELVE INCH DEEP VISOR TO IMPROVE VISIBILITY OF THE SIGNAL INDICATIONS IN DIRECT SUNLIGHT AND TO ALSO RESTRICT ALL SIGNAL INDICATIONS ON THE INTERSTATE 430 BRIDGE TO MARITIME TRAFFIC ON THE ARKANSAS RIVER. THE COST OF THE VISOR IS CONSIDERED SUBSIDIARY TO PAY ITEM "LANE-USE CONTROL SIGNAL ASSEMBLY".
7. SEE STANDARD DRAWINGS SD-6, SD-9, AND SD-11 FOR DETAILS ON PULL BOXES, SERVICE POINT, CABINET GROUND MOUNTING AND GROUNDING, AND GROUND MOUNTED TRAFFIC SIGNAL POLE STRUCTURAL SPECIFICATIONS AND INSTALLATION REQUIREMENTS.
8. SEE BRIDGE PLANS AND BRIDGE MOUNTED CABINET DETAILS FOR CONDUIT MOUNTING AND ROUTING TO AND FROM CABINET AND TRAFFIC SIGNAL POLE OR ILLUMINATION POLE MOUNTED ON BRIDGE REINFORCED CONCRETE PEDESTAL.
9. ALL LANE-USE CONTROL SIGNALS SHALL BE MOUNTED 17 FEET 6 INCHES MINIMUM (19 FEET MAXIMUM) ABOVE THE ROADWAY SURFACE MEASURED FROM THE BOTTOM OF THE SIGNAL FACE.

BRIDGE MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS

DATE: 5-14-2020 FILE NAME: MAINT_ITS.dgn

LOCATION: I-430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: CJS

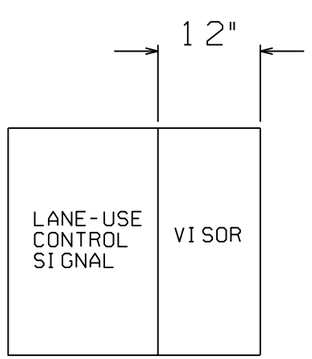
MAINT_061630_ITS SPECIAL DETAILS.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/22/20			

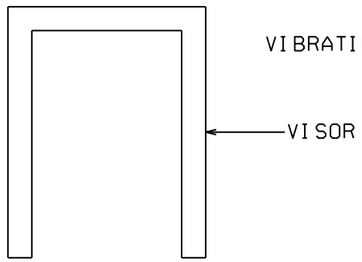
FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	94	134

(2) GROUND MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS

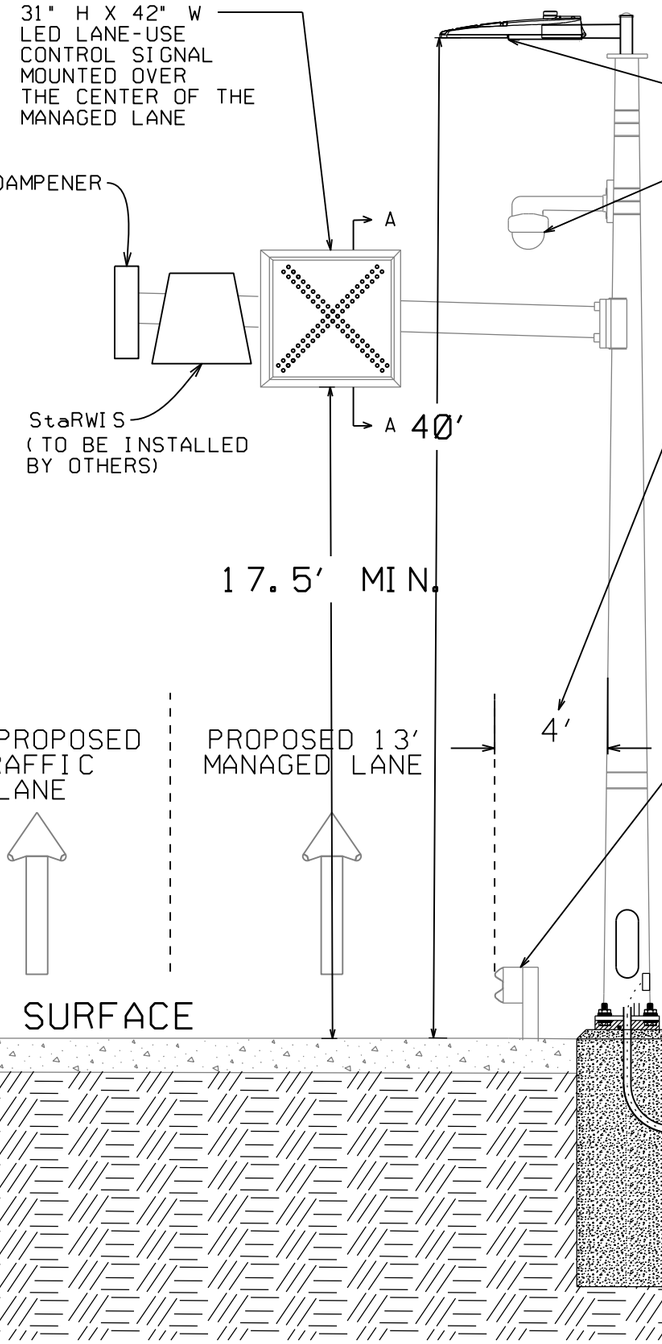
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINI
DocuSign

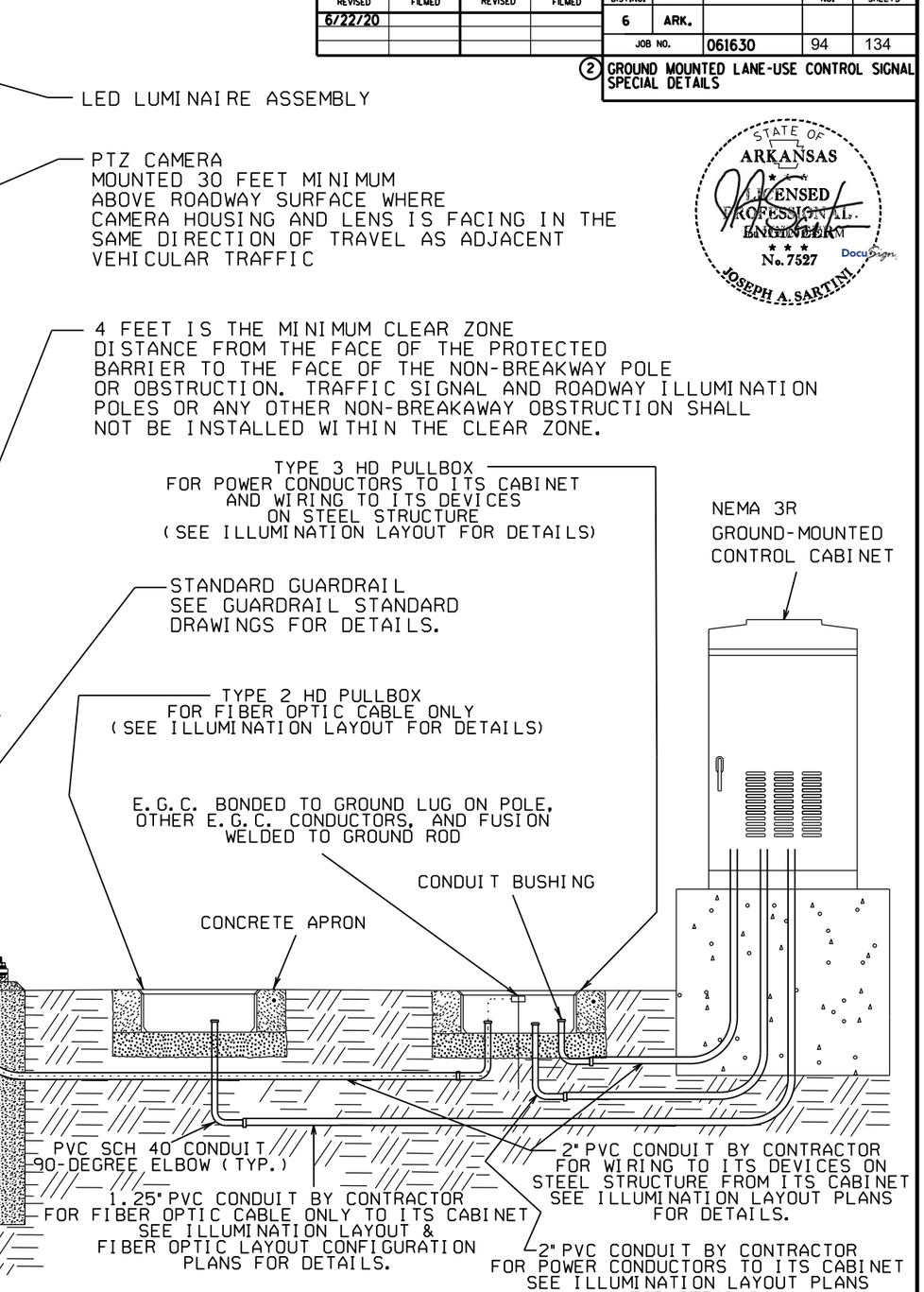


SECTION A-A



FRONT OF LANE-USE CONTROL SIGNAL





CROSS SECTIONAL VIEW

NOTES:

1. SOLID COPPER GROUND WIRE BETWEEN CABINET AND GROUND ROD. FUSION WELDED SOLID GROUND WIRE TO GROUND ROD.
2. SOLID COPPER WIRE FROM POWER CIRCUIT SHALL ALSO BE FUSION WELDED TO GROUND ROD.
3. SOLID COPPER GROUND WIRE IN SEPARATE 0.5" NMC FROM STEEL POLE TO PULLBOX IS NOT SHOWN. SEE SD-11 FOR DETAILS.

GROUND MOUNTED LANE-USE CONTROL SIGNAL SPECIAL DETAILS

DATE: 6-22-2020 FILE NAME: MAINT_ITS.dgn

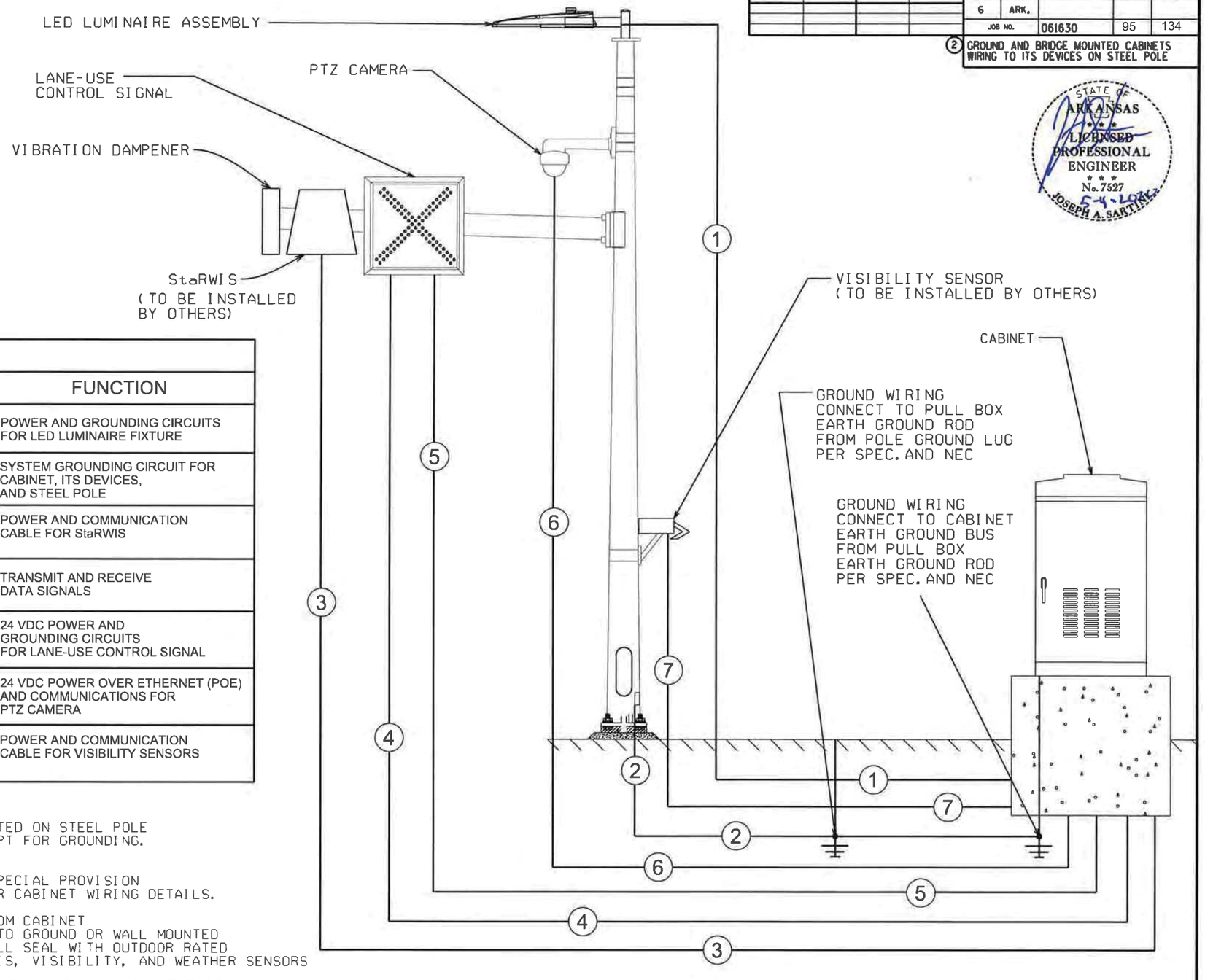
LOCATION:	I-430 ARKANSAS RIVER BRIDGE
CITY:	LITTLE ROCK/NORTH LITTLE ROCK
COUNTY:	PULASKI
DISTRICT:	6 SCALE: N/A DRAWN BY: CJS

MAINT_061630_ITS SPECIAL DETAILS.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.		061630	95	134

(2) GROUND AND BRIDGE MOUNTED CABINETS WIRING TO ITS DEVICES ON STEEL POLE

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTINI



WIRING DETAIL

ID	DESCRIPTION	FUNCTION
(1)	1-2C/#12 A.W.G. WITH E.G.C. (GROUND)	POWER AND GROUNDING CIRCUITS FOR LED LUMINAIRE FIXTURE
(2)	1-1C/#8 A.W.G. E.G.C.	SYSTEM GROUNDING CIRCUIT FOR CABINET, ITS DEVICES, AND STEEL POLE
(3)	1-LUFFT 8371.UK050 CONNECTION CABLE (FUTURE USE)	POWER AND COMMUNICATION CABLE FOR StaRWIS
(4)	2-FIBER CABLE MULTIMODE OUTDOOR RATED (2 FIBERS EACH CABLE MIN.) (ONE IN USE, THE OTHER FUTURE SPARE)	TRANSMIT AND RECEIVE DATA SIGNALS
(5)	1-1C/#12 A.W.G. POWER 1-1C/#10 AW.G. GROUND	24 VDC POWER AND GROUNDING CIRCUITS FOR LANE-USE CONTROL SIGNAL
(6)	1-CAT5E CABLE	24 VDC POWER OVER ETHERNET (POE) AND COMMUNICATIONS FOR PTZ CAMERA
(7)	1-LUFFT 8371.UK015 CONNECTION CABLE (FUTURE USE)	POWER AND COMMUNICATION CABLE FOR VISIBILITY SENSORS

NOTES:

1. WIRING FROM BRIDGE MOUNTED CABINET TO ITS DEVICES MOUNTED ON STEEL POLE IS EXACTLY THE SAME AS THE GROUND MOUNTED CABINET EXCEPT FOR GROUNDING. SEE ILLUMINATION DETAILS FOR SYSTEM GROUNDING.
2. REFER TO INTERIOR CABINET WIRING SPECIAL DETAILS AND SPECIAL PROVISION "INTELLIGENT TRANSPORTATION SYSTEM CABINET" FOR INTERIOR CABINET WIRING DETAILS.
3. WIRING FOR StaRWIS, VISIBILITY, AND WEATHER SENSORS FROM CABINET TO STEEL POLE FOR FUTURE USE IS CONSIDERED SUBSIDIARY TO GROUND OR WALL MOUNTED ITS CABINETS PAY ITEMS IN THE CONTRACT. CONTRACTOR SHALL SEAL WITH OUTDOOR RATED ELECTRICAL TAPE THE WIRING CONNECTIONS TO FUTURE StaRWIS, VISIBILITY, AND WEATHER SENSORS FROM WATER INTRUSION ON OR IN THE STEEL POLE.

GROUND AND BRIDGE MOUNTED CABINETS WIRING TO ITS DEVICES ON STEEL POLE

DATE: 4-16-2020 FILE NAME: MAINT_ITS.dgn

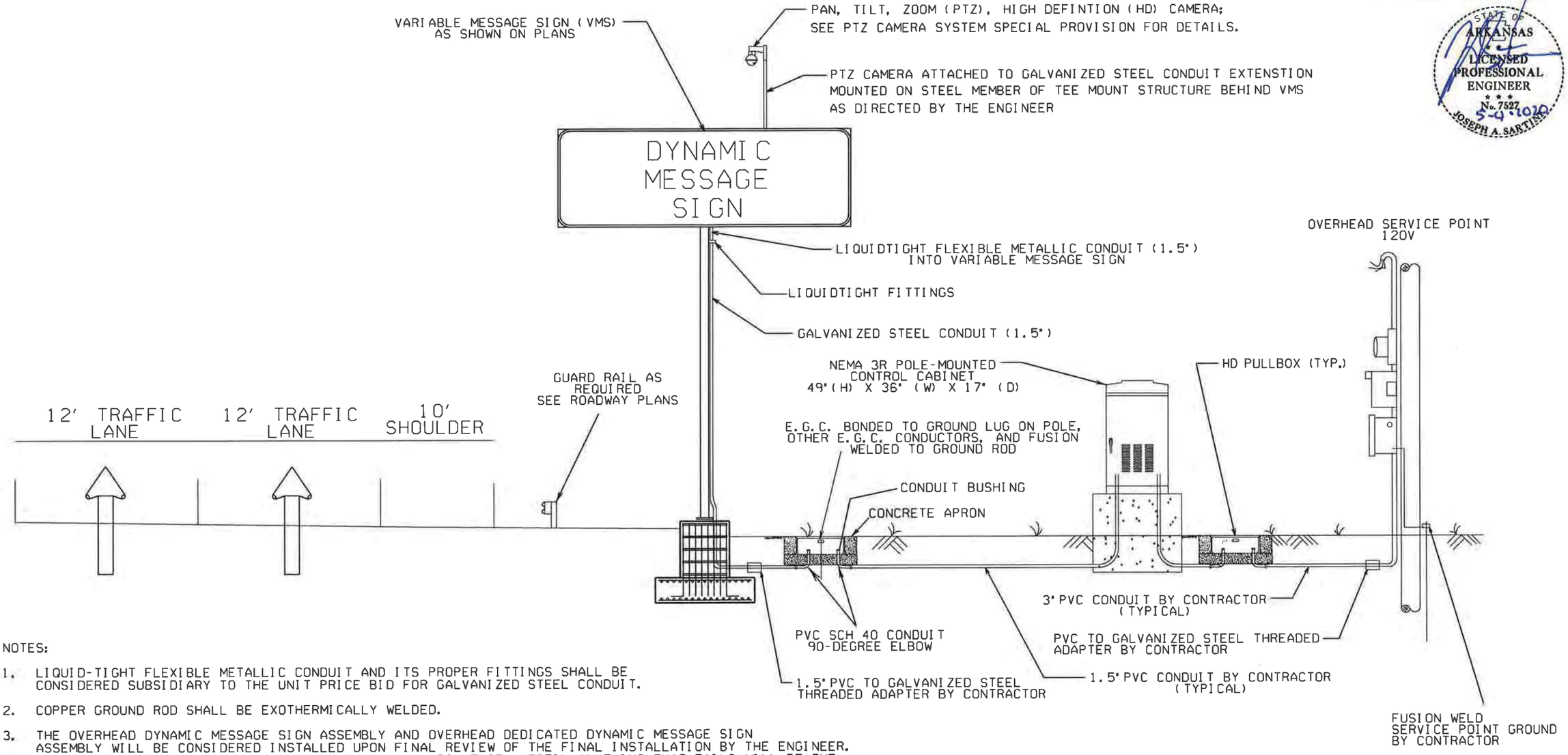
LOCATION: I-430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: CJS

MAINT_061630_ITS SPECIAL DETAILS.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.		061630	96	134

(2) SHOULDER MOUNTED
OVERHEAD DMS TEE MOUNT DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN



NOTES:

1. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT AND ITS PROPER FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICE BID FOR GALVANIZED STEEL CONDUIT.
2. COPPER GROUND ROD SHALL BE EXOTHERMICALLY WELDED.
3. THE OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY AND OVERHEAD DEDICATED DYNAMIC MESSAGE SIGN ASSEMBLY WILL BE CONSIDERED INSTALLED UPON FINAL REVIEW OF THE FINAL INSTALLATION BY THE ENGINEER. AT THIS TIME A THIRTY DAY PERFORMANCE TEST WILL COMMENCE WHEREIN ANYTHING THAT FAILS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REQUIREMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO CONTRACT UNIT PRICE BID FOR "OVERHEAD DMS ASSEMBLY" AND "OVERHEAD DDMS ASSEMBLY".
4. MINIMUM STRUCTURAL REQUIREMENTS:
   DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH EDITIONS (2001) WITH 2003 AND 2006 INTERIMS.
5. FOR DYNAMIC MESSAGE SIGN CONNECTION TO STRUCTURE, SEE MANUFACTURER RECOMMENDATIONS. SEE SPECIAL PROVISION "OVERHEAD VARIABLE MESSAGE SIGN ASSEMBLY" FOR ADDITIONAL DETAILS. VARIABLE MESSAGE SIGN ASSEMBLIES ARE TO BE CENTERED ON THE STRUCTURE OR PLACED AS DIRECTED BY THE ENGINEER.
6. SEE BRIDGE PLANS FOR DETAILS ON OVERHEAD TEE MOUNT STRUCTURE.

SHOULDER MOUNTED
OVERHEAD DMS TEE MOUNT DETAILS

DATE: 4-7-2020 FILE NAME: MAINT_ITS.dgn

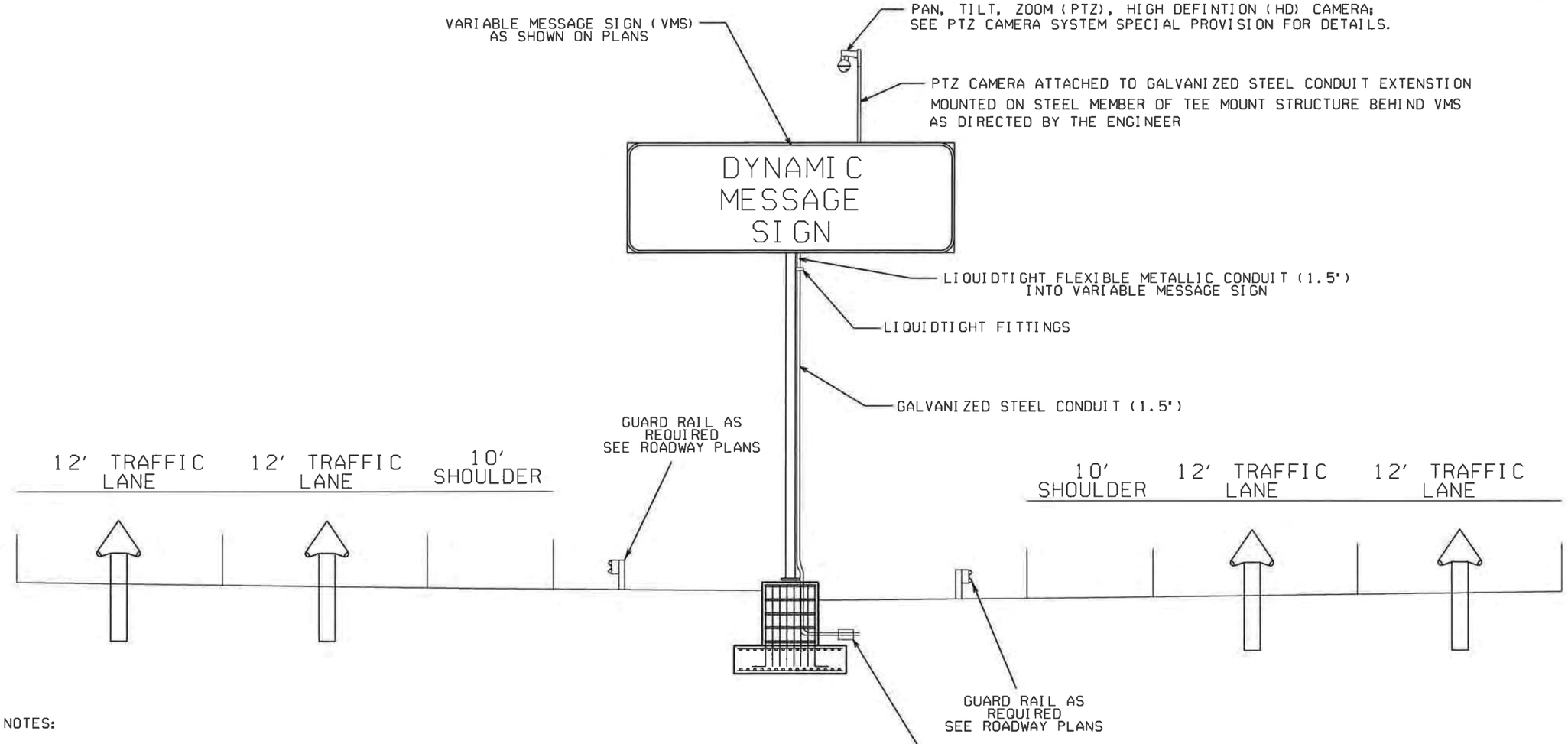
LOCATION:	I-430 ARKANSAS RIVER BRIDGE				
CITY:	LITTLE ROCK/NORTH LITTLE ROCK				
COUNTY:	PULASKI				
DISTRICT:	6	SCALE:	N/A	DRAWN BY:	CJS

MAINT_061630_ITS/3/2020 DETAILS.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.		061630	97	134

(2) MEDIAN MOUNTED
OVERHEAD DMS TEE MOUNT DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN



NOTES:

1. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT AND ITS PROPER FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICE BID FOR GALVANIZED STEEL CONDUIT.
2. COPPER GROUND ROD SHALL BE EXOTHERMICALLY WELDED.
3. THE OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY AND OVERHEAD DEDICATED DYNAMIC MESSAGE SIGN ASSEMBLY WILL BE CONSIDERED INSTALLED UPON FINAL REVIEW OF THE FINAL INSTALLATION BY THE ENGINEER. AT THIS TIME A THIRTY DAY PERFORMANCE TEST WILL COMMENCE WHEREIN ANYTHING THAT FAILS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THIS REQUIREMENT WILL NOT BE PAID SEPARATELY, BUT SHALL BE CONSIDERED SUBSIDIARY TO CONTRACT UNIT PRICE BID FOR "OVERHEAD DMS ASSEMBLY" AND "OVERHEAD DDMS ASSEMBLY".
4. MINIMUM STRUCTURAL REQUIREMENTS:
   DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 4TH EDITIONS (2001) WITH 2003 AND 2006 INTERIMS.
5. FOR DYNAMIC MESSAGE SIGN CONNECTION TO STRUCTURE, SEE MANUFACTURER RECOMMENDATIONS. SEE SPECIAL PROVISION "OVERHEAD VARIABLE MESSAGE SIGN ASSEMBLY" FOR ADDITIONAL DETAILS. VARIABLE MESSAGE SIGN ASSEMBLIES ARE TO BE CENTERED ON THE STRUCTURE OR PLACED AS DIRECTED BY THE ENGINEER.
6. SEE BRIDGE PLANS FOR DETAILS ON OVERHEAD TEE MOUNT STRUCTURE.

MEDIAN MOUNED
OVERHEAD DMS TEE MOUNT DETAILS

DATE: 4-7-2020 FILE NAME: MAINT_ITS.dgn

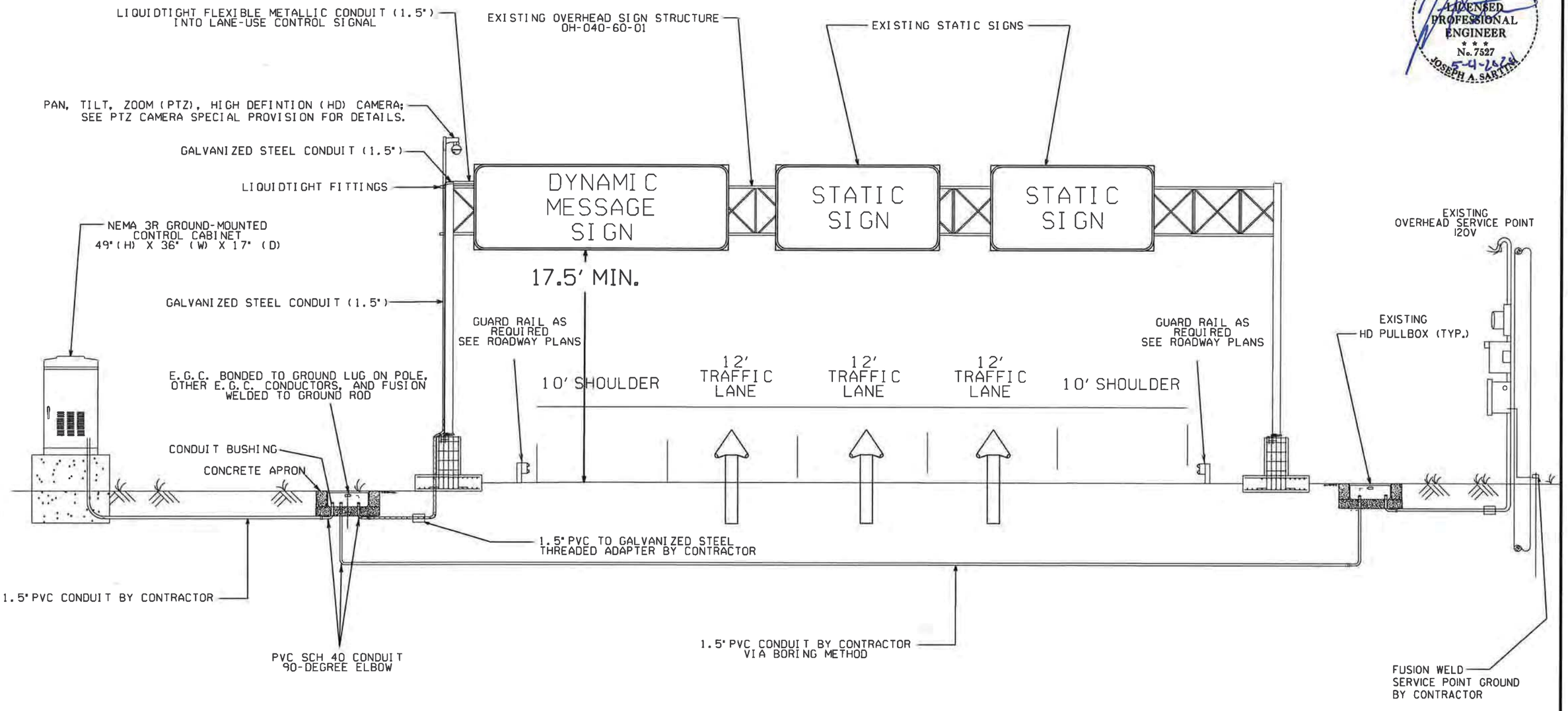
LOCATION:	I-430 ARKANSAS RIVER BRIDGE		
CITY:	LITTLE ROCK/NORTH LITTLE ROCK		
COUNTY:	PULASKI		
DISTRICT:	6	SCALE: N/A	DRAWN BY: CJS

MAINT_061630_ITS_3822020 DETAILS.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.		061630	98	134

(2) OVERHEAD DMS TRUSS STRUCTURE DETAILS

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020
JOSEPH A. SARTIN



NOTES:

1. SOLID COPPER GROUND WIRE BETWEEN CABINET AND GROUND ROD. FUSION WELDED SOLID GROUND WIRE TO GROUND ROD.
2. SOLID COPPER WIRE FROM POWER CIRCUIT SHALL ALSO BE FUSION WELDED TO GROUND ROD.

OVERHEAD DMS TRUSS STRUCTURE DETAILS

DATE: 4-21-2020 FILE NAME: MAINT_ITS.dgn

LOCATION:	I-430 ARKANSAS RIVER BRIDGE				
CITY:	LITTLE ROCK/NORTH LITTLE ROCK				
COUNTY:	PULASKI				
DISTRICT:	6	SCALE:	N/A	DRAWN BY:	CJS

MAINT_061630_ITS_SIGNAL_DETAILS.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
6/22/20			

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	99	134

(2) OVERHEAD LCS TRUSS STRUCTURE DETAILS

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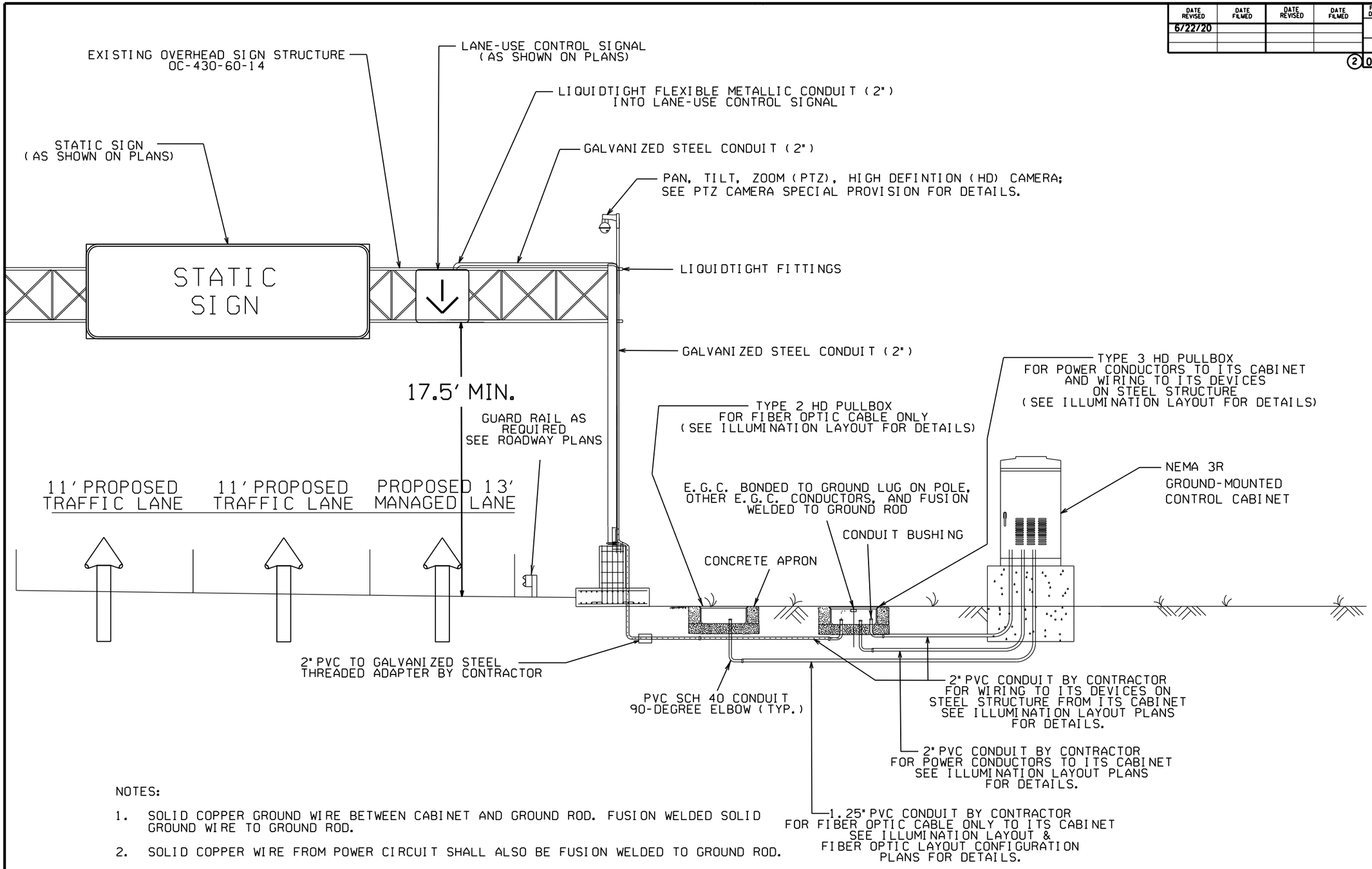


NOTES:

1. SOLID COPPER GROUND WIRE BETWEEN CABINET AND GROUND ROD. FUSION WELDED SOLID GROUND WIRE TO GROUND ROD.
2. SOLID COPPER WIRE FROM POWER CIRCUIT SHALL ALSO BE FUSION WELDED TO GROUND ROD.

OVERHEAD LCS TRUSS STRUCTURE DETAILS

DATE: 6-22-2020 FILE NAME: MAINT_ITS.dgn

LOCATION:	I-430 ARKANSAS RIVER BRIDGE			
CITY:	LITTLE ROCK/NORTH LITTLE ROCK			
COUNTY:	PULASKI			
DISTRICT:	6	SCALE: N/A	DRAWN BY:	CJS

MAINT_061630_ITS_6/22/2020 OVERHEAD DETAILS.DGN

DATE REVISED	DATE FILED	DATE REVISED	DATE FILED	FED.HWY. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	100	134

(2) ADVANCE DMS LOCATION MAP

•NOTE: FINAL LOCATIONS OF ALL ADV. DMS, AND THEIR RESPECTIVE STRUCTURES SHALL BE SUBMITTED TO THE ITS MANAGEMENT SECTION FOR APPROVAL BEFORE CONSTRUCTION.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTIN
7-29-20

EB DMS ON EXISTING OVHD STRUCTURE OH-040-60-01
MODEL: VF-2420-96X192-20-RGB
APPROX. LOG MILE 145.797
34° 50' 37.30" N, 92° 20' 59.32" W

WB DMS ON NEW TEE MOUNT STRUCTURE TM-040-60-53
MODEL: VF-2420-96X304-20-RGB
APPROX. LOG MILE 149.094
34° 48' 32.25" N, 92° 19' 4.16" W

NB DMS ON NEW TEE MOUNT STRUCTURE TM-430-60-55
MODEL: VF-2420-96X304-20-RGB
APPROX. LOG MILE 8.669
34° 46' 33.21" N, 92° 23' 23.11" W

ADV. DMS @ I-40EB, VOLTAGE DROP

SEGMENT		Pullbox	VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	Z/1000FT	LENGTH	VD	%VD
SP	DMS CABINET	0.00	120.00	1.00	1.00	#6	15.00	0.49	200.00	2.94	2.45

ADV. DMS @ I-40WB, VOLTAGE DROP

SEGMENT		Pullbox	VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	Z/1000FT	LENGTH	VD	%VD
SP	DMS CABINET	5.00	120.00	1.00	1.00	#3/0	35.00	0.077	840.00	4.53	3.77

ADV. DMS @ I-430NB, VOLTAGE DROP

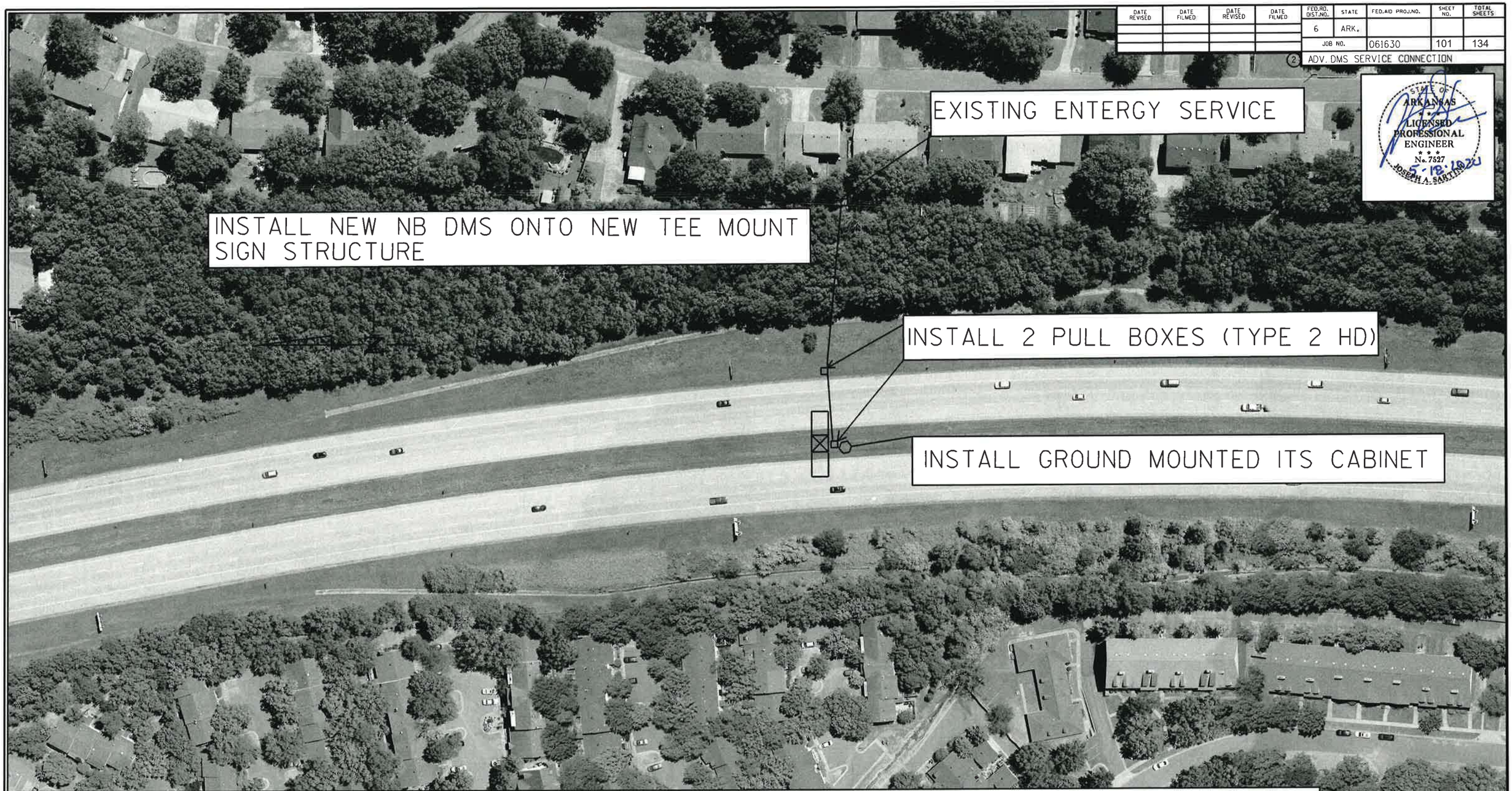
SEGMENT		Pullbox	VOLTAGE	PHASE	SETS	CONDUCTOR	CURRENT	Z/1000FT	LENGTH	VD	%VD
SP	DMS CABINET	2.00	120.00	1.00	1.00	#3	35.00	0.25	245.00	4.29	3.57

LOCATION: I-430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: JMG

DATE: 2-28-2020 FILE NAME: .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.		061630	101	134
				(2) ADV. DMS SERVICE CONNECTION				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-18-2020
JOSEPH A. SARTIN



NOTES:
1. CONTRACTOR SHALL CONNECT DMS SERVICE TO EXISTING POWER TO THE EAST.

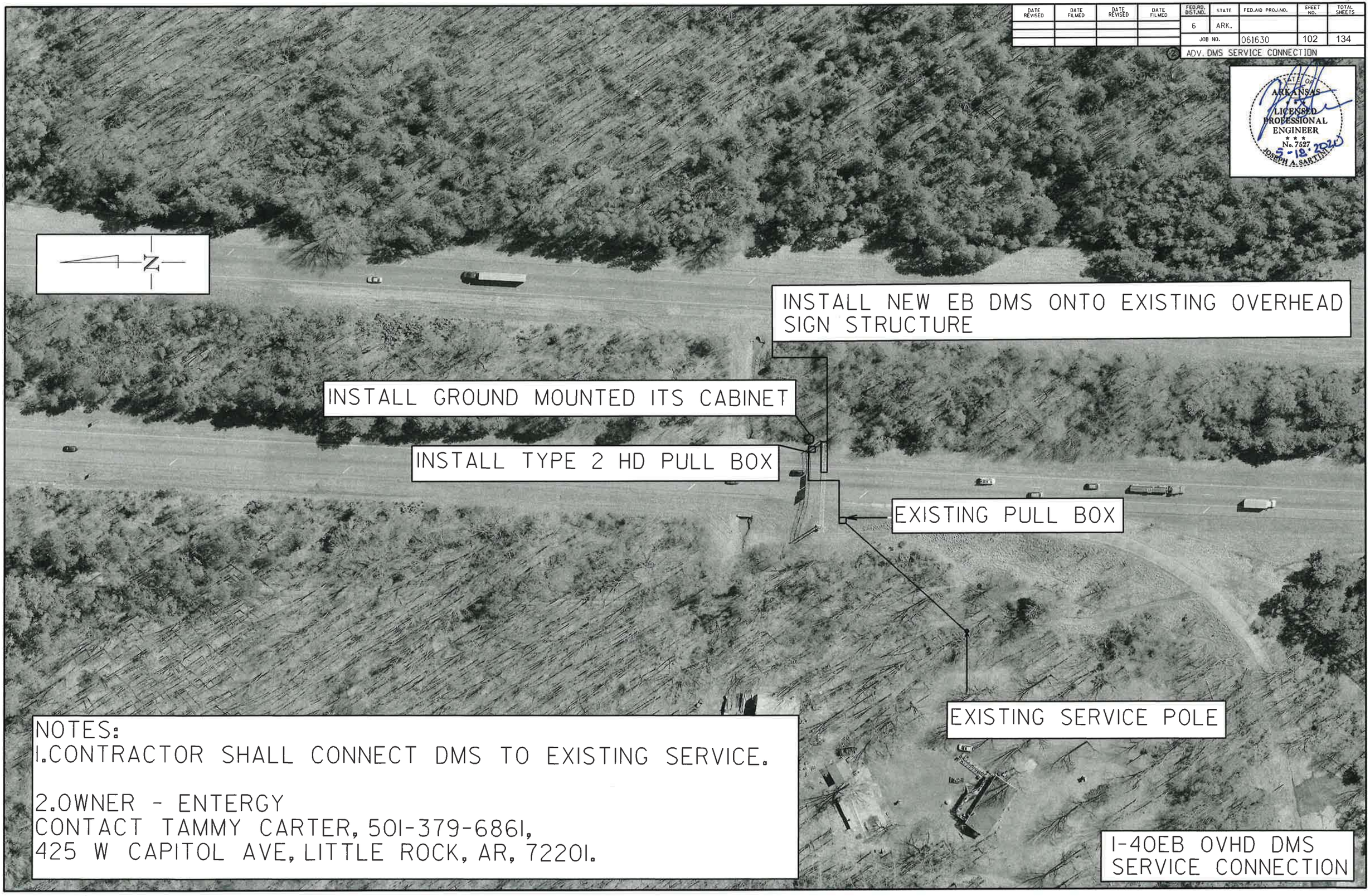
2. OWNER - ENTERGY
CONTACT TAMMY CARTER, 501-379-6861,
425 W CAPITOL AVE, LITTLE ROCK, AR, 72201.

I-430 NB TEE MOUNTED DMS SERVICE CONNECTION

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	102	134
ADV. DMS SERVICE CONNECTION				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-18-2020
JOSEPH A. SARTINI



NOTES:
1.CONTRACTOR SHALL CONNECT DMS TO EXISTING SERVICE.

2.OWNER - ENTERGY
CONTACT TAMMY CARTER, 501-379-6861,
425 W CAPITOL AVE, LITTLE ROCK, AR, 72201.

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.RD. DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	103	134
				ADV. DMS SERVICE CONNECTION				

I-40WB DMS SERVICE CONNECTION

NOTES:
1. CONTRACTOR SHALL CONNECT DMS SERVICE TO EXISTING POWER TO THE NORTH
2. ALL PULLBOX SHALL BE SPACED AT 200'.
3. OWNER - ENTERGY
CONTACT TAMMY CARTER, 501-379-6861,
425 W CAPITOL AVE, LITTLE ROCK, AR, 72201.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINO
5-18-2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED

FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	104	134

(2) ANTENNA SUPPORT STRUCTURE QUANTITY/

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SANDIDGE
5-18-2020

QUANTITY

ITEM NUMBER	ITEM	QUANTITY	UNIT
SP	ANTENNA SUPPORT STRUCTURE ASSEMBLY (80')	1	EACH

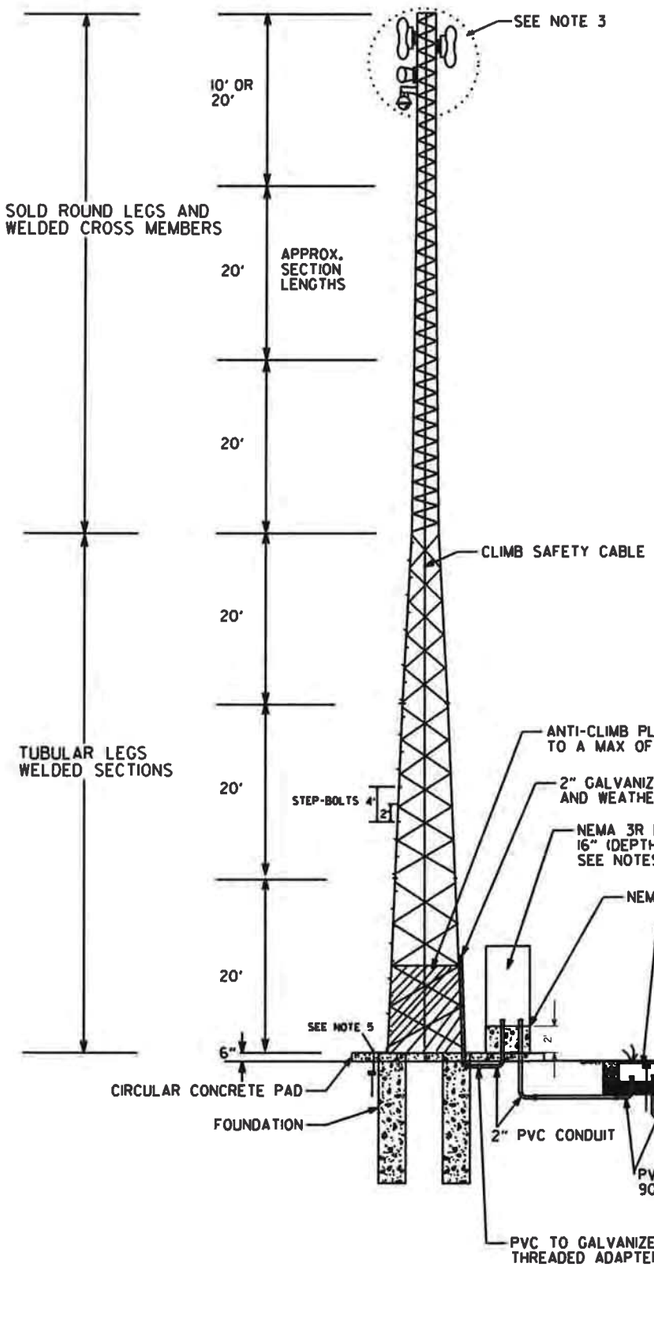
SEE020.DGN 4/21/2020

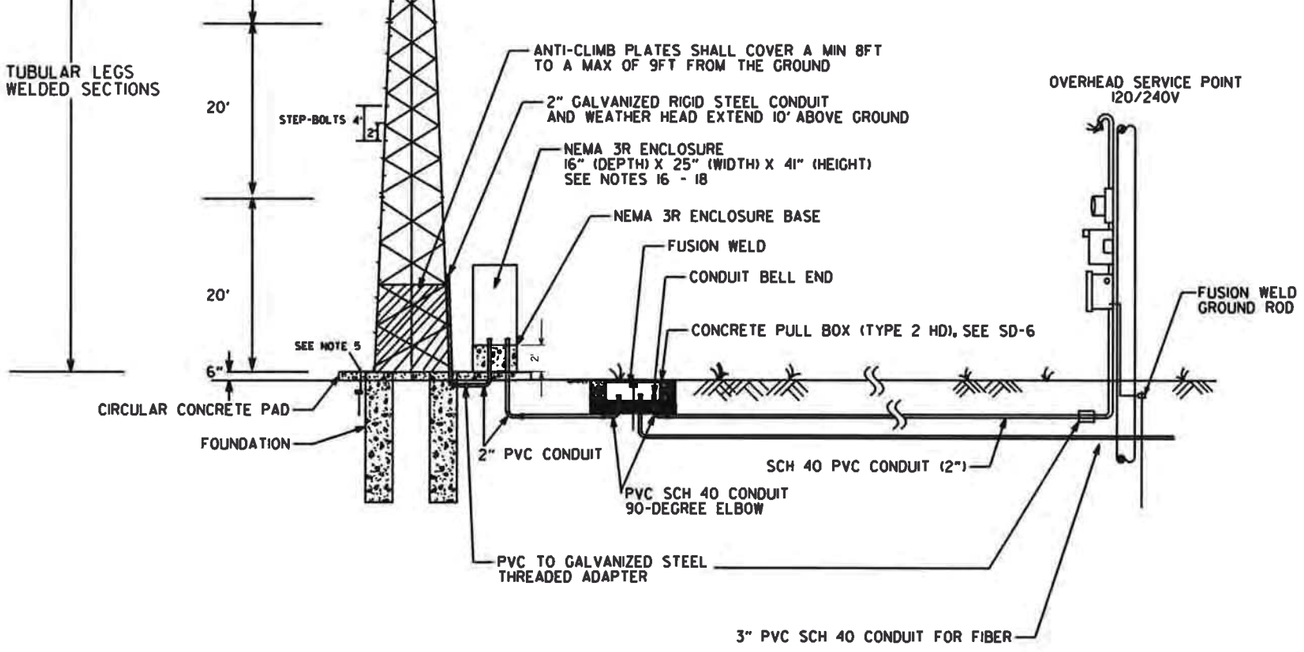
DATE: _____ FILE NAME: _____.dgn

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

DATE REVISED	DATE PLANED	DATE REVISED	DATE PLANED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	105	134

(2) ANTENNA SUPPORT STRUCTURE





NOTES:

1. ANTENNA SUPPORT STRUCTURE ASSEMBLY SHALL BE A STEEL, SELF-SUPPORTING, THREE-SIDED TRUSS STRUCTURE DESIGNED AND FURNISHED IN ACCORDANCE WITH THE LATEST VERSION OF ANSI/TIA.EIA-222, THE ARDOT STANDARD SPECIFICATION FOR HIGHWAY CONSTRUCTION, 2014 EDITION, AND JOB SPECIAL PROVISION "ANTENNA SUPPORT STRUCTURE ASSEMBLY".
2. ALL METALLIC HARDWARE USED ON ANTENNA SUPPORT STRUCTURES SHALL BE HOT-DIPPED GALVANIZED.
3. THE NUMBER OF ITS EQUIPMENT VARIES AT EACH LOCATION. CONTRACTOR SHALL VERIFY THE NUMBER OF EQUIPMENT AT EACH LOCATION ON THE PLANS.
4. THE LOCATIONS OF SELF-SUPPORTING TOWERS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE FINAL LOCATION OF SELF-SUPPORTING TOWERS WITH THE ENGINEER.
5. SELF-SUPPORTING TOWERS SHALL BE GROUNDED IN ACCORDANCE WITH R-56 STANDARDS AND GUILINES FOR COMMUNICATION SITES.
6. CONTRACTOR SHALL OBTAIN SOIL CORE SAMPLE AND SUBMIT TO THE TOWER MANUFACTURER FOR FOUNDATION CONSTRUCTION. SEE SPECIAL PROVISION "ANTENNA SUPPORT STRUCTURE ASSEMBLY."
7. THE LENGTHS OF SECTIONS SHOWN ON THIS SHEET ARE APPROXIMATE. LENGTH OF TOWERS AT EACH LOCATION IS SHOWN ON THE LOCATIONS TABLE.
8. THE CONTRACTOR SHALL NOTIFY THE ITS MANAGEMENT SECTION AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE AND SCHEDULE FOR AN INSPECTION. EACH SELF-SUPPORTING TOWER SITE SHALL BE INSPECTED BY ITS MANAGEMENT STAFF BEFORE THE CONCRETE FOOTINGS ARE POURED, AND AFTER A TOWER IS BUILT BUT NOT STOOD.
9. A STATIC ELECTRICITY DISSIPATOR SHALL BE INSTALLED AT THE TOP ACCORDING TO THE HEIGHT OF A TOWER.
10. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. SOME UTILITES MAY HAVE BEEN RELOCATED SINCE THE TIME OF DESIGN AND THE CONTRACTOR'S NOTICE TO PROCEED. THE CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES INVOLVED AND VERIFY THE LOCATIONS OF UNDERGROUND UTILITIES. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL IT IS NO LONGER NECESSARY.
11. THE CONTRACTOR SHALL NOT ENGAGE IN EXCAVATION OR DEMOLITION ACTIVITIES WITHOUT HAVING FIRST NOTIFIED THE ARKANSAS ONE CALL CENTER IN ACCORDANCE WITH A.C.A. § 14-271 ET. SEQ. UNDERGROUND FACILITIES DAMAGE PREVENTION ACT. NOT ALL UTILITY COMPANIES ARE MEMBERS OF THE ARKANSAS ONE CALL SYSTEM. THE CONTRACTOR IS ADVISED TO CONTACT ALL NON-MEMBER UTILITIES AS WELL AS THE ONE CALL CENTER.
12. 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.
13. ONE (1) SAFETY CABLE GRAB SHALL BE PROVIDED FOR EACH LOCATION. CLIMBING STEP-BOLTS, CLIMBING SAFETY CABLE AND REQUIRED ACCESSORIES FOR INSTALLATION SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM, "ANTENNA SUPORT STRUCTURE ASSEMBLY."
14. THE HIGHEST SECTION OF THE TOWER SHALL HAVE 19.5" FACE.
15. ALL CABLES FOR ITS EQUIPMENT TIED TO THE SELF-SUPPORTING TOWER STRUCTURE BY USING STACKABLE SNAP-IN HANGERS WITH RUBBER INSERTS.
16. NEMA ENCLOSURE SHALL BE PLACED 6FT FROM THE ANTENNA SUPPORT ASSEMBLY. THE BACK OF THE CABINET SHALL FACE THE TOWER. THE CONCRETE MOUNTING PAD FOR THE ENCLOSURE SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM, ANTENNA UPPORT STRUCTURE ASSEMBLY.
17. THE MINIMUM DEPTH OF CONDUIT COVER SHALL BE A MINIMUM OF 24".
18. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (NATIONAL ELECTRICAL CODE), NFPA 101 (LIFE SAFETY CODE), AND STATE AND LOCAL ELECTRICAL CODE.

STATE OF ARKANSAS
JOSEPH A. SARTIN
LICENSED PROFESSIONAL ENGINEER
No. 7527
5-4-2020

SEE020.DGN 4/16/2020

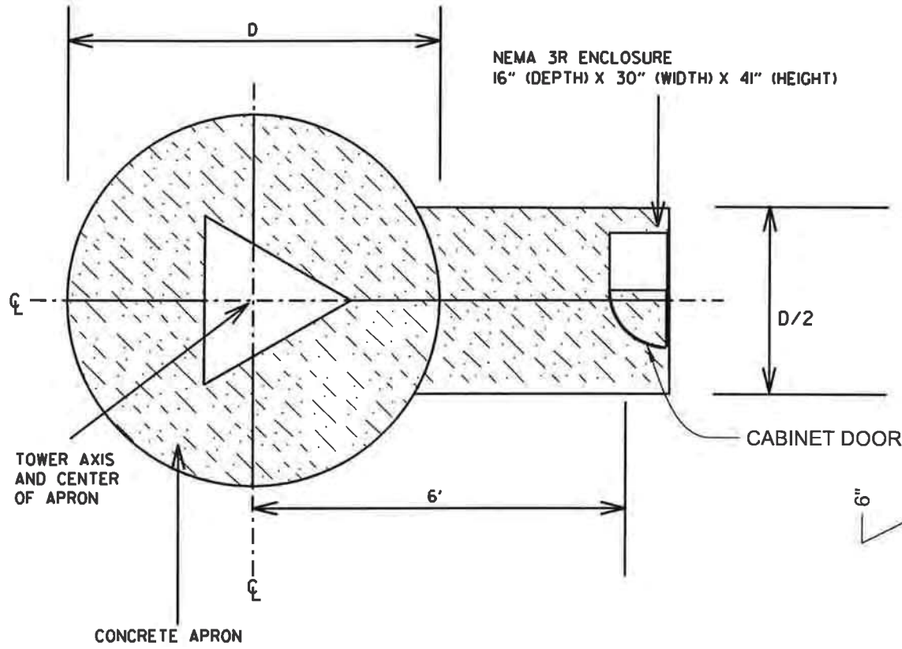
DATE: _____ FILE NAME: _____.dgn

LOCATION: I - 430 ARKANSAS RIVER BRIDGE
CITY: LITTLE ROCK/NORTH LITTLE ROCK
COUNTY: PULASKI
DISTRICT: 6 SCALE: N/A DRAWN BY: HAA

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		060630	106	134

(2) ANTENNA SUPPORT STRUCTURE

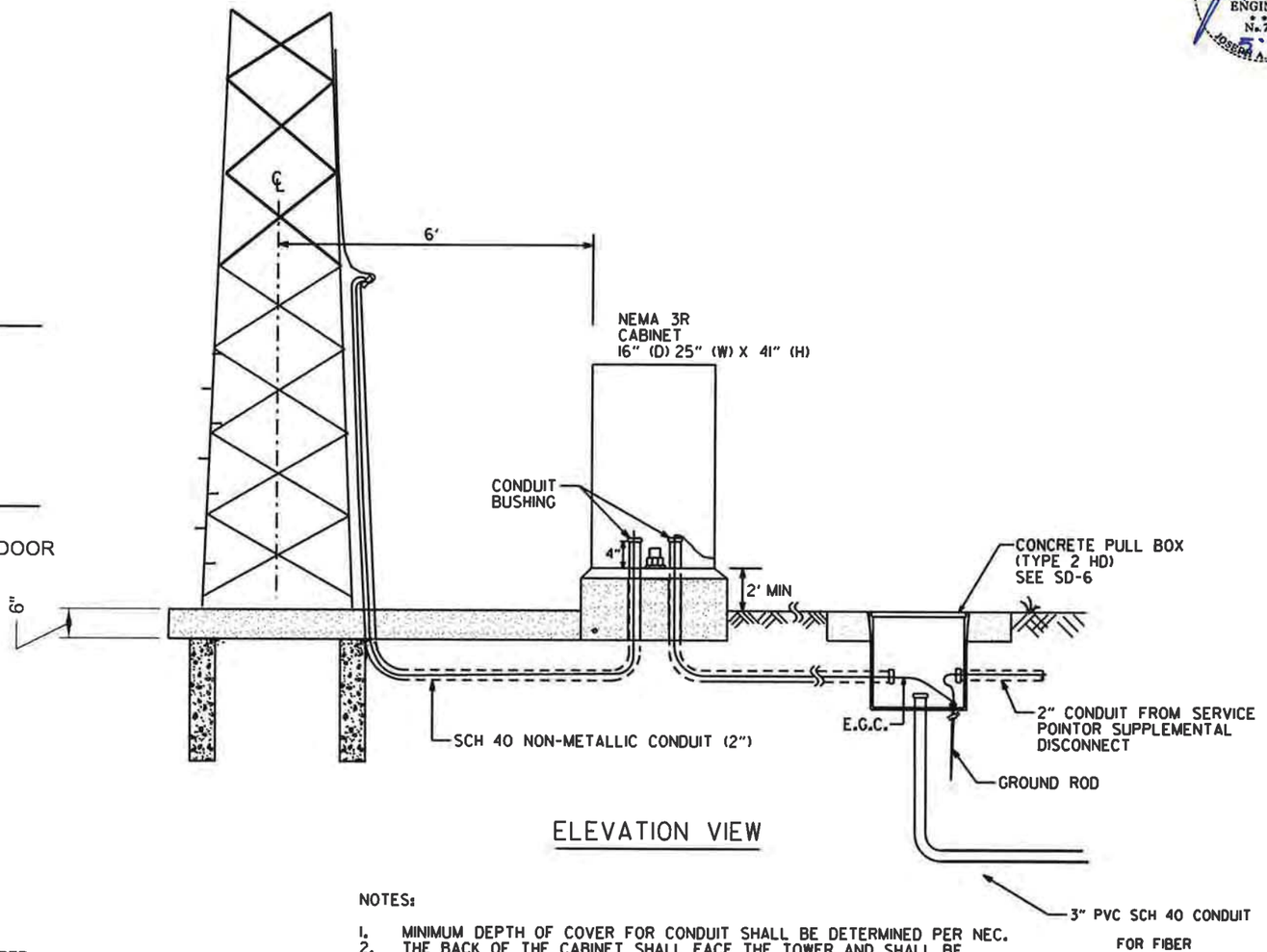
STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTIN
5-4-2020



DETAILS OF CONCRETE APRON

FOR SELF-SUPPORTING TOWER

NOTES:
1. THE DIAMETER (D) OF CONCRETE APRON CHANGES WITH RESPECT TO THE MAX FACE SPREAD AT THE BASE OF SELF-SUPPORTING TOWER. CONSULT WITH THE MANUFACTURER.
2. ALL REINFORCING BARS TO BE GRADE 60. FOR INFORMATION ON THE REINFORCING WIRE MESH, LENGTH AND SIZE OF REBARS, CONSULT THE ASSEMBLY MANUFACTURER.



ELEVATION VIEW

NOTES:

1. MINIMUM DEPTH OF COVER FOR CONDUIT SHALL BE DETERMINED PER NEC.
2. THE BACK OF THE CABINET SHALL FACE THE TOWER AND SHALL BE 6FT FROM THE TOWER. SEE NOTE 16 AND DRAWING ABOVE.

SEE020.DGN 4/16/2020

DATE: _____ FILE NAME: _____.dgn

LOCATION:	I - 430 ARKANSAS RIVER BRIDGE			
CITY:	LITTLE ROCK/NORTH LITTLE ROCK			
COUNTY:	PULASKI			
DISTRICT:	6	SCALE: N/A	DRAWN BY:	HAA

SIGNING SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM	TOTAL	UNIT
SS & 303	AGGREGATE BASE COURSE (CLASS 7)	345	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (1/2")	80	TON
SP, SS, & 407	ASPHALT BINDER (PG 76-22) IN ACHM SURFACE COURSE (1/2")	4	TON
SS & 617	GUARDRAIL (TYPE A)	825	LIN.FT.
SS & 617	TERMINAL ANCHOR POSTS (TYPE 1)	3	EACH
SS & 617	GUARDRAIL TERMINAL (TYPE 2)	3	EACH
SS & 725	GUIDE SIGN - ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)	578	SQ. FT.
SS & 725	GUIDE SIGN - OVERHEAD MOUNTED (DEMOUNTABLE LEGEND)	730	SQ. FT.
SP, SS, & 726	STANDARD SIGN	244	SQ. FT.
SS & 727	EXIT NUMBER PANEL (TYPE A)	75	SQ. FT.
SP	BRIDGE - POST MOUNTED SIGN SUPPORT	8	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT (TYPE G-2)	17	EACH
SS & 730	BREAKAWAY SIGN SUPPORT (TYPE G-2)	756	POUND

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.

THE CONTRACTOR SHOULD MAKE EVERY EFFORT TO LOCATE BURIED UTILITIES PRIOR TO EXCAVATION INCLUDING, BUT NOT LIMITED TO, CALLING ARKANSAS ONE CALL CENTER (800) 482-8998 FOR LOCATES. SHOULD IT BE DETERMINED A POSSIBILITY OF A UTILITY CONFLICT, CONTRACTOR SHALL CONSULT WITH THE RESIDENT ENGINEER FOR FURTHER GUIDANCE.

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).

BASIS OF ESTIMATE:
NMAX = 205
MINERAL AGGREGATE 94.9%
ASPHALT BINDER (PG 76 – 22) 5.1%

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

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	108	134

SIGNING QUANTITIES

STANDARD SIGNS (BOX 1 OF 1)

SIGN NO./ LOCATION	STANDARD SIGNS FLAT SHEET OMNI-DIRECTIONAL SIGN SUPPORTS TYPE G1 EA.	G2 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.	POLE EA.	STANDARD SIGN SQ. FT.
SS-507+36SB		1											20.00
SS-515+80SB		1											20.00
SS-630+00NB		1											20.00
SS-640+00NB		1											20.00
SS-549+86NB												1	18.00
SS-549+86SB												1	18.00
SS-561+81NB												1	18.00
SS-561+81NB												1	18.00
SS-573+81NB												1	18.00
SS-573+81SB												1	18.00
SS-585+81NB												1	18.00
SS-585+81SB												1	18.00
SS-536+00NB		1											20.00
TOTALS (BOX 1 OF 1):		**5**										**8**	**244.00**

MAIN LANES ROADSIDE MOUNTED SIGNING QUANTITIES (BOX 1 OF 1)

SIGN NO./ LOCATION	OMNI-DIRECTIONAL SIGN SUPPORT G1	G2	G3	I-BEAM STRUCTURE TYPE G1	G2	G3	GUIDE SIGN DEMOUNTABLE LEGEND LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	I-BEAM BREAKAWAY SIGN SUPPORT STEEL SECT. A-572 BEAM	LBS	SIGN POST LENGTH H-1 LIN FT	H-2 LIN FT	H-3 LIN FT	STUB POST H-1 LIN FT	H-2 LIN FT	H-3 LIN FT	FOOTINGS DIA. LIN FT	DEPTH LIN FT	EMBED. LIN FT	SIGN POST AND STUB POUND	EXIT NUMBER PANEL LEGEND	TYPE A SQ. FT.	B SQ. FT.	C SQ. FT.	SUPPLEMENTAL GUIDE SIGN DEMOUNTABLE LEGEND	SQ. FT.
SS 531+00SB		1					6.00	5.50	33.00																		
SS 605+00NB		1					6.00	5.50	33.00																		
SS 543+86SB		1					6.50	5.50	35.75																		
SS 594+00NB		1					6.50	5.50	35.75																		
SS 525+00NB		1					7.00	6.50	45.50																		
SS 532+50NB		1					7.00	6.50	45.50																		
SS 539+21NB		1					7.00	6.50	45.50																		
SS 602+50SB		1					7.00	6.50	45.50																		
SS 613+00SB		1					7.00	6.50	45.50																		
SS 621+00SB		1					7.00	6.50	45.50																		
EXIT 9-SB		1					6.50	5.00	32.50																		
ML 430-12-2NB		1					6.00	3.50	21.00																		
ML 430-12-1NB							17.50	6.50	113.75	W8	21.00	13.50	14.50		3.99	3.99		2.50	5.50	6.67	755.58						
TOTALS :		**12.00**							**577.75**												**755.58**						

OVERHEAD SIGNING QUANTITIES (BOX 1 OF 1)

SIGN NO./ LOCATION	STRUCTURE TYPE INSTALL SIGN STRUCTURE TM	OC	OH	BM	REMOVE EXISTING SIGN STRUCTURE TM	OC	OH	BM	MODIFY EXISTING SIGN STRUCTURE TM	OC	OH	BM	GUIDE SIGN LENGTH LIN. FT.	HEIGHT LIN. FT.	SQ. FT.	EXIT NUMBER PANEL LEGEND	TYPE A SQ. FT.	B SQ. FT.	C SQ. FT.	OVERHEAD DMS ASSEMBLY EACH	STD. SIGN 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
OC-430-60-31										1																	
OC 430-12-1NB													17.50	12.00	210.00	12	20.00										
OH-430-60-10											1																
OH 430-12-2NB													17.50	13.00	227.50	12	20.00										
OC-430-60-14										1																	
OC 430-9-1SB													14.00	10.00	140.00	9	17.50										
OC-430-60-15										1																	
OC 430-9-2SB													14.50	10.50	152.25	9	17.50										
TM-430-60-55	1																			1.00		550	2	2	230	56
TM-040-60-53	1																			1.00		275	1	1	115	28
TOTALS (BOX 1 OF 1):	**2**									**3.00**	**1.00**				**729.75**		**75.00**			**3.00**		**825.00**	**3.00**	**3.00**	**345.00**	**84.00**

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-2-2020
JOSEPH A. SARTIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	F.(S.)AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	109	134

(2) SIGN PLACEMENT SHEET

REPLACE
OC-430-9-2SB

EXIT 9
10
Cantrell Rd

MAINTAIN OVERHEAD STRUCTURE
OC-430-60-15

LM 10.27 SB
STA 524+22SB

INSTALL
DO NOT DRIVE ON SHOULDER
(1) SS 515+80SB
(2) SS 507+36SB

REPLACE
EXIT 9-SB
STA 518+34SB

EXIT
9

P.I. 526+36.71

STA. 525+26.00 LT.

525

STA. 527+26.00 LT.

STA. 543+26.00 LT.

200' TAPER

300' TAPER

530

STA. 530+26.00 LT.

END TRAVEL ON SHOULDER

INSTALL
SS 531+00SB

MAINTAIN

Maumelle Park
Pinnacle Mountain State Park
EXIT 9

520

STA. 523+26.00 LT.

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

INSTALL
SS 525+00NB

STA. 526+46.00 RT.

300' TAPER

STA. 529+46.00 RT.

BRIDGE ICES BEFORE ROAD

MAINTAIN

P.I. 532+04.68

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

INSTALL
SS 532+50NB

Maumelle
North Little Rock
EXIT 12

REPLACE
ML 430-12-1NB
STA 534+34NB

535

STA. 519+01.00 LT.

STATE OF ARKANSAS
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11-2-2020
JOSEPH A. SARTINI

SIGN PLACEMENT SHEET

dwe237 3/18/2020
R061630.DGN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED.AID DIST.NO.	STATE	FED.AID PROJ.NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	110	134

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-27-2020
JOSEPH A. SARTIN

N

535 540 545 550

REPLACE OC-430-9-1SB
EXIT 9
10 Cantrell Rd ½ MILE

MAINTAIN OVERHEAD STRUCTURE OC-430-60-14
LM 10.65 SB
STA 541+95SB

TRAVEL ON SHOULDER ENDS ¼ MILE
INSTALL SS 543+86SB

P.C. 546+46.31

INSTALL SS 549+86SB
TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY
POLE 49

SPEED LIMIT 65
INSTALL SS 536+00NB

SPEED LIMIT 65
REPLACE WITH SS 539+21NB
TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

MAINTAIN OVERHEAD STRUCTURE OH-430-60-39

REPLACE ML 430-12-2NB STA 543+53NB
Arkansas River

POLE 12
INSTALL SS 549+86NB
TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

550 555 560 565

N

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY
INSTALL SS 561+81SB
POLE 53

P.T. 555+69.34

POLE 16
INSTALL SS 561+81NB
TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

P.I. 551+10.09

3/18/2020

R061630.DGN

SIGN PLACEMENT SHEET

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				6	ARK.			
				JOB NO.	061630		111	134

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
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4-2-2020
JOSEPH A. SARTIN

565 570 575 580

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

INSTALL SS 573+81SB

POLE 57

POLE 20

INSTALL SS 573+81NB

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

580 585 590 595

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

INSTALL SS 585+81SB

POLE 61

N 31° 37' 13" E

POLE 24

INSTALL SS 585+81NB

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY

MAINTAIN

Arkansas River

TRAVEL ON SHOULDER ENDS ¼ MILE

INSTALL SS 594+00NB

3/18/2020

R061630.DGN

SIGN PLACEMENT SHEET

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				6	ARK.			
				JOB NO.	061630		112	134

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
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4-1-2020
JOSEPH A. SARTIN

595

Little Rock
NEXT 8 EXITS
MAINTAIN

600

BRIDGE ICES BEFORE ROAD
MAINTAIN

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY
INSTALL
SS 602+50SB

REPLACE
OC-430-12-1NB
STA 605+70NB

EXIT 12
100
Maumelle Blvd
Crystal Hill Rd

MAINTAIN OVERHEAD STRUCTURE
OC-430-60-31

605

Purple Heart Trail
MAINTAIN

610

END TRAVEL ON SHOULDER
INSTALL
SS 605+00NB

610

SPEED LIMIT 65
MAINTAIN

STA. 612+72.00 LT.

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY
INSTALL
SS 613+00SB

615

300' TAPER

STA. 615+72.00 LT.

620

TRAVEL ON SHOULDER ALLOWED ON GREEN ARROW ONLY
INSTALL
SS 621+00SB

P.C. 619+02.70

700

P.T. 704+14.58

705

N 57°05'07" E

P.C. 700+49.87

MAINTAIN
REPLACE
OH 430-12-1NB

EXIT 13B
40 WEST
Fort Smith
Oklahoma City

MAINTAIN
EXIT 13A
40 EAST
Memphis

EXIT 12
100
Maumelle Blvd
Crystal Hill Rd

MAINTAIN OVERHEAD STRUCTURE
OH-430-60-10
LM 11.81 NB
STA 621+31NB

MAINTAIN
EXIT
12

STA. 609+35.00 LT.

300' TAPER

STA. 612+35.00 LT.

SIGN PLACEMENT SHEET

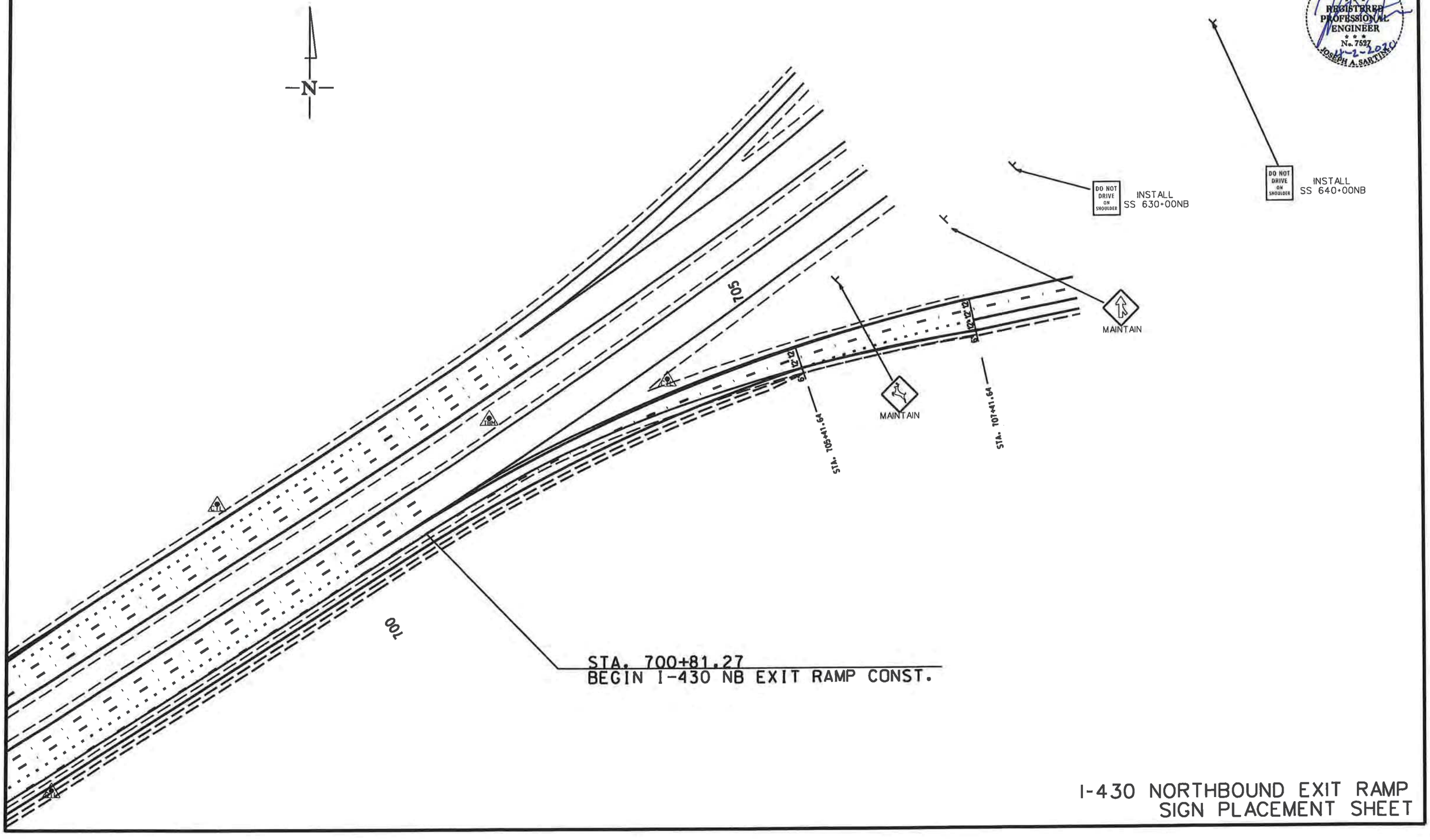
3/18/2020

R061630.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.	061630		113	134

(2) SIGN PLACEMENT SHEET

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
JOSEPH A. SARTINO
3-2-2020



dme237 3/18/2020
R061630.DGN

I-430 NORTHBOUND EXIT RAMP
SIGN PLACEMENT SHEET

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	114	134

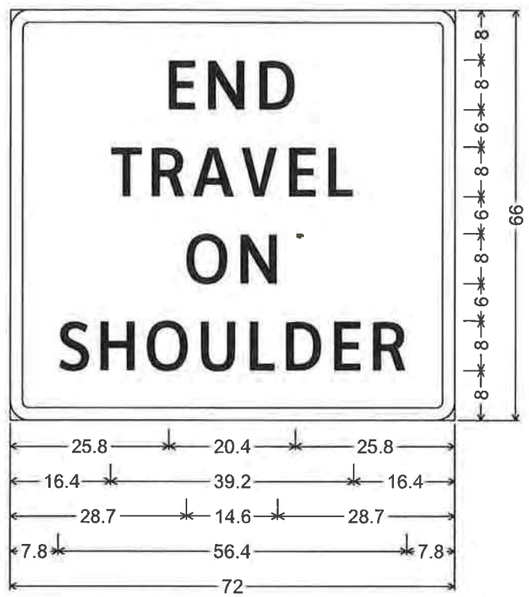
SIGN LAYOUT SHEET

4 EACH
OMNI-DIRECTIONAL G-2

3.0" Radius, 1.0" Border, Black on, White;
"DO NOT", ClearviewHwy-2-W;
"DRIVE", ClearviewHwy-2-W;
"ON", ClearviewHwy-2-W;
"SHOULDER", ClearviewHwy-2-W;

- SS 507+36SB
- SS 515+80SB
- SS 630+00NB
- SS 640+00NB

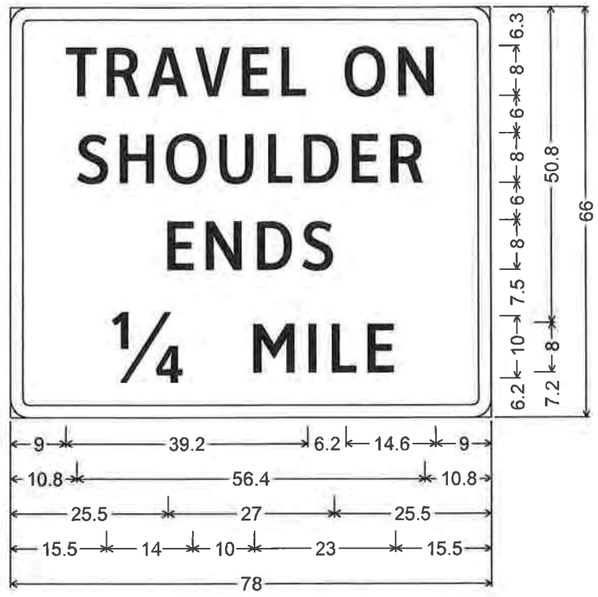
2 EACH
OMNI-DIRECTIONAL G-2



3.0" Radius, 2.0" Border, Black on, White;
"END", ClearviewHwy-3-W;
"TRAVEL", ClearviewHwy-3-W;
"ON", ClearviewHwy-3-W;
"SHOULDER", ClearviewHwy-3-W;

- SS 531+00SB
- SS 605+00NB

2 EACH
OMNI-DIRECTIONAL G-2



3.0" Radius, 2.0" Border, Black on, White;
"TRAVEL ON", ClearviewHwy-3-W;
"SHOULDER", ClearviewHwy-3-W;
"ENDS", ClearviewHwy-3-W;
"1/4", ClearviewHwy-3-W;
"MILE", ClearviewHwy-3-W;

- SS 543+86SB
- SS 594+00NB

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4-1-2020
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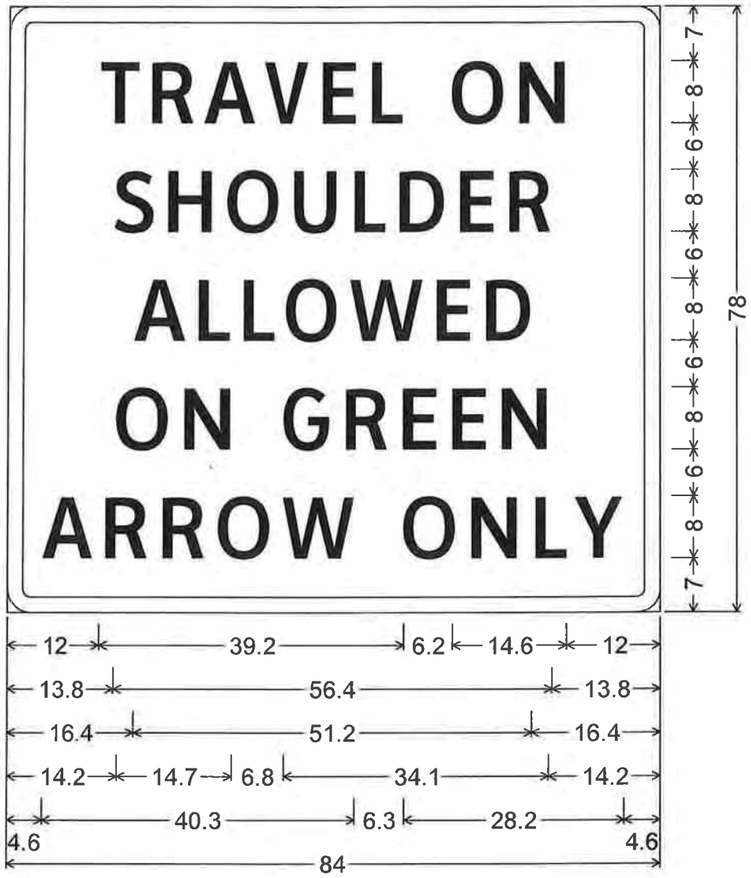
				6	ARK.			
				JOB NO.		061630	115	134
				②	SIGN LAYOUT SHEET			

6 EACH
OMNI-DIRECTIONAL G-2



- SS 525+00NB
- SS 532+50NB
- SS 539+21NB
- SS 602+50SB
- SS 613+00SB
- SS 621+00SB

3.0" Radius, 2.0" Border, Black on, White;
"TRAVEL ON", ClearviewHwy-3-W;
"SHOULDER", ClearviewHwy-3-W;
"ALLOWED", ClearviewHwy-3-W;
"ON GREEN", ClearviewHwy-3-W;
"ARROW ONLY", ClearviewHwy-3-W;

8 EACH
BRIDGE - POLE MOUNTED

- SS 549+86NB (POLE 12)
- SS 549+86SB (POLE 49)
- SS 561+81NB (POLE 16)
- SS 561+81SB (POLE 53)
- SS 573+81NB (POLE 20)
- SS 573+81SB (POLE 57)
- SS 585+81NB (POLE 24)
- SS 585+81SB (POLE 61)

3.0" Radius, 0.8" Border, Black on, White;
"TRAVEL ON", ClearviewHwy-2-W;
"SHOULDER", ClearviewHwy-2-W;
"ALLOWED", ClearviewHwy-2-W;
"ON GREEN", ClearviewHwy-2-W;
"ARROW ONLY", ClearviewHwy-2-W 60% spacing;

STATE OF ARKANSAS
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4-2-2020
JOSEPH A. SARTIN

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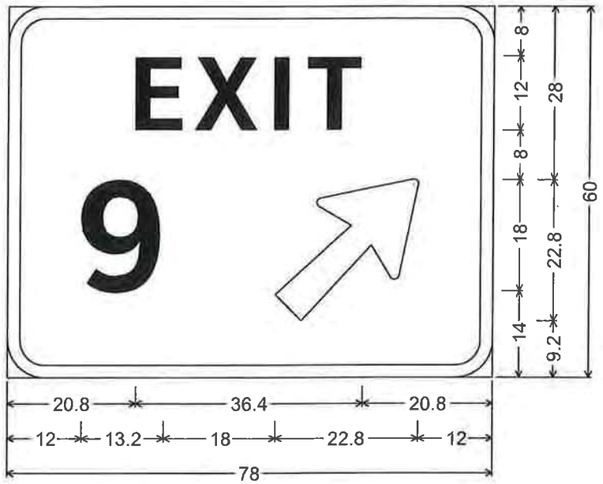
				6	ARK.			
				JOB NO.		061630	116	134

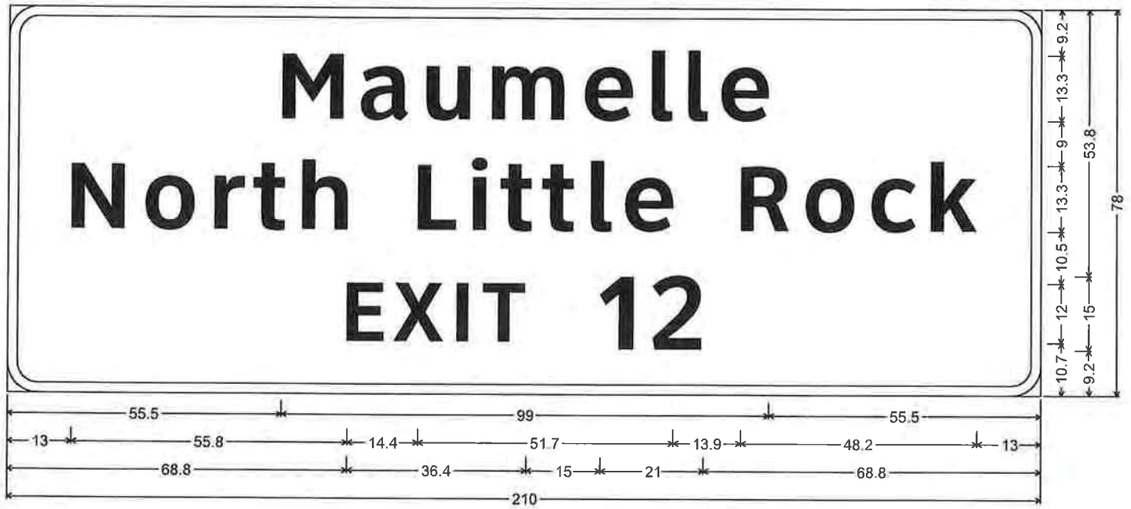
② SIGN LAYOUT SHEET

- EXIT 9-SB



EXIT9-SB ;
6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R;
"9", ClearviewHwy-5-W-R;
Arrow Custom - 29.0" 45';

- ML 430-12-1NB



ML430-12-1NB;
6.0" Radius, 2.0" Border, White on, Green;
"Maumelle", ClearviewHwy-5-W-R; "North Little Rock", ClearviewHwy-5-W-R; "EXIT", ClearviewHwy-5-W-R; "12", ClearviewHwy-5-W-R;

- ML 430-12-2NB

ML430-12-2NB;
6.0" Radius, 1.3" Border, White on, Green;
"Arkansas", ClearviewHwy-5-W-R;
"River", ClearviewHwy-5-W-R;

- SS 536+00NB

R2-1
48X60

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-2-2014
JOSEPH A. SARTIN

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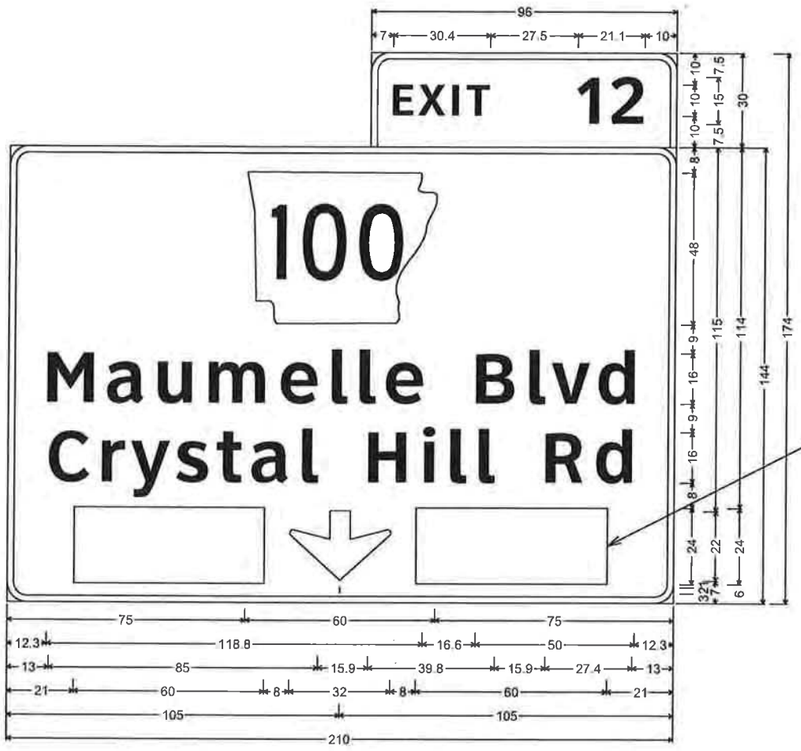
② SIGN LAYOUT SHEET

OC-430-60-31



OC430-12-1NB;

6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "12", ClearviewHwy-5-W-R;

6.0" Radius, 2.0" Border, White on, Green;
"Maumelle Blvd", ClearviewHwy-5-W-R; "Crystal Hill Rd", ClearviewHwy-5-W-R; Rectangle Black;
Down Arrow 22.0" 270'; Rectangle Black;

DMS - MESSAGE DISPLAYED DURING
SHOULDER TRAVEL TIMES

2 EACH VM-1020-24X64-20-RGB
(1'11" X 4'8" X 5")

(YELLOW BACKGROUND WITH BLACK TEXT)

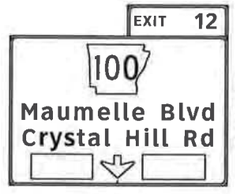
EXIT ONLY

CUT-OUTS FOR DMS BLOCKS

NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS 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 A 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.

REPLACE
OC-430-12-1NB

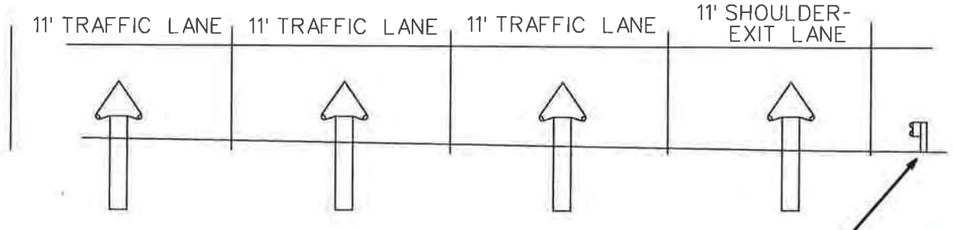


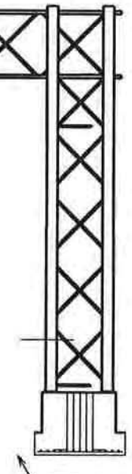
MAINTAIN OVERHEAD STRUCTURE
OC-430-60-31

LM 11.52 NB
STA 605+74NB

SEE OVERHEAD SIGN STRUCTURE DETAILS FOR DESIGN SPECIFICATIONS.

17.5 FT. MIN. VERTICAL CLEARANCE OVER THE HIGHEST POINT OF THE ROADWAY.





SEE OVERHEAD SIGN STRUCTURE DETAILS FOR MIN. LENGTH.

INSTALL GUARDRAIL
(NOTE: REFER TO SPECIAL DETAILS FOR SHOULDER WIDENING AND GUARDRAIL PLACEMENT)

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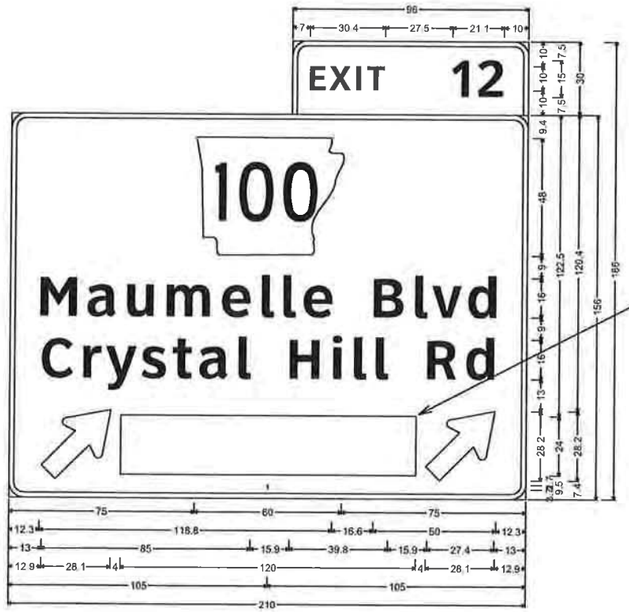
				②	SIGN LAYOUT SHEET			

OH-430-60-10



OH430-12-2NB;

6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "12", ClearviewHwy-5-W-R;

6.0" Radius, 2.0" Border, White on, Green;
"Maumelle Blvd", ClearviewHwy-5-W-R; "Crystal Hill Rd", ClearviewHwy-5-W-R;
Arrow Custom - 35.8° 45°; Reclangle Black; Arrow Custom - 35.8° 45°;

DMS - MESSAGE DISPLAYED DURING
SHOULDER TRAVEL TIMES

1 EACH VM-1020-24X128-20-RGB
(1'11" X 9'0" X 5")

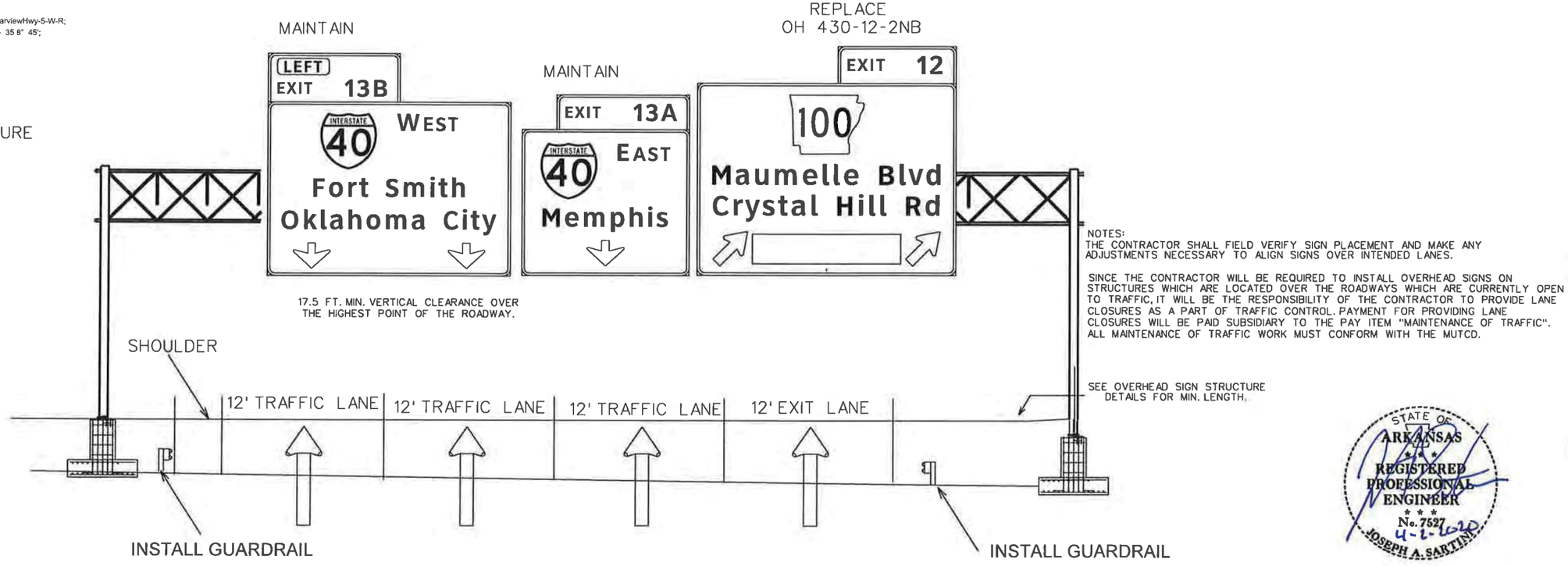
(YELLOW BACKGROUND WITH BLACK TEXT)

EXIT ONLY

CUT-OUTS FOR DMS BLOCKS

MAINTAIN OVERHEAD STRUCTURE
OH-430-60-10
LM 11.81 NB

SEE OVERHEAD SIGN STRUCTURE
DETAILS FOR DESIGN SPECIFICATIONS.



NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS 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 A 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.

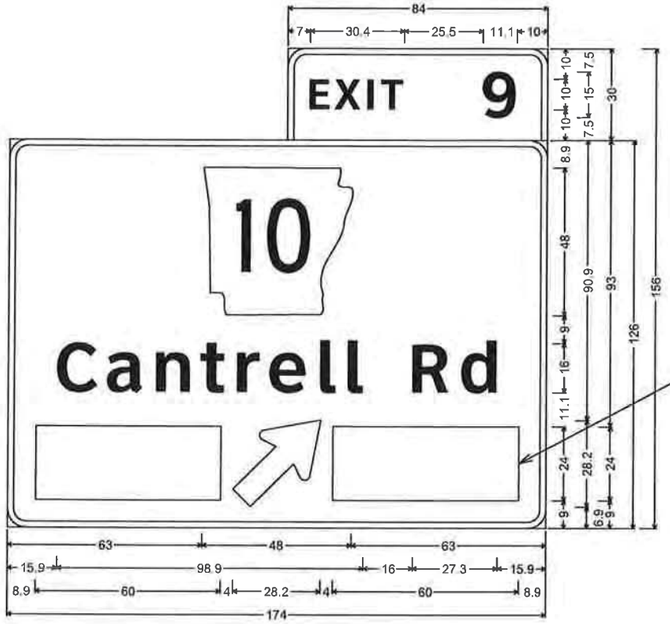
SEE OVERHEAD SIGN STRUCTURE
DETAILS FOR MIN. LENGTH.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-2-2020
JOSEPH A. SARTIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	119	134

② SIGN LAYOUT SHEET

OC-430-60-15



OC430-9-2SB;

6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "9", ClearviewHwy-5-W-R;

6.0" Radius, 2.0" Border, White on, Green;
"Cantrell Rd", ClearviewHwy-5-W-R; Rectangle Black; Arrow Custom - 35.8" 45°; Rectangle Black;

DMS - MESSAGE DISPLAYED DURING SHOULDER TRAVEL TIMES

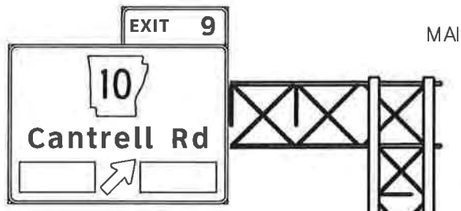
2 EACH VM-1020-24X64-20-RGB
(1'11" X 4'8" X 5")

(YELLOW BACKGROUND WITH BLACK TEXT)

EXIT ONLY

CUT-OUTS FOR DMS BLOCKS

REPLACE
OC-430-9-2SB

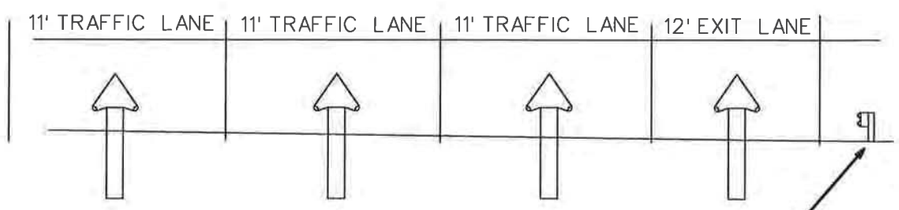


MAINTAIN OVERHEAD STRUCTURE
OC-430-60-15

LM 10.27 SB

SEE OVERHEAD SIGN STRUCTURE DETAILS FOR DESIGN SPECIFICATIONS.

17.5 FT. MIN. VERTICAL CLEARANCE OVER THE HIGHEST POINT OF THE ROADWAY.



SEE OVERHEAD SIGN STRUCTURE DETAILS FOR MIN. LENGTH.

EXISTING GUARDRAIL
(NOTE: REFER TO SPECIAL DETAILS FOR SHOULDER WIDENING AND GUARDRAIL PLACEMENT)

NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS NECESSARY TO ALIGN SIGNS OVER INTENDED LANES.

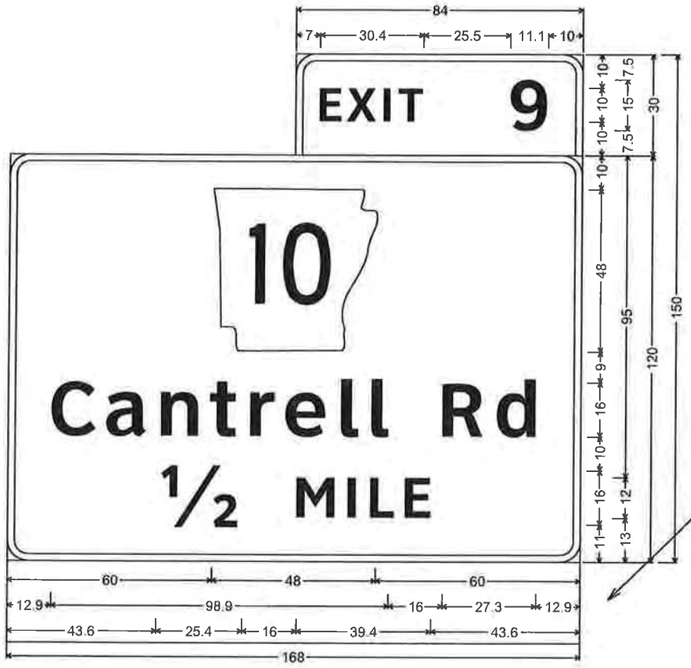
SINCE THE CONTRACTOR WILL BE REQUIRED TO INSTALL OVERHEAD SIGNS ON STRUCTURES WHICH ARE LOCATED OVER THE ROADWAYS WHICH ARE CURRENTLY OPEN TO TRAFFIC, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE LANE CLOSURES AS A PART OF TRAFFIC CONTROL. PAYMENT FOR PROVIDING LANE CLOSURES WILL BE PAID SUBSIDIARY TO THE PAY ITEM "MAINTENANCE OF TRAFFIC". ALL MAINTENANCE OF TRAFFIC WORK MUST CONFORM WITH THE MUTCD.

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-2-2020
JOSEPH A. SARTIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD NO	STATE	FED. NO. PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630	120	134

② SIGN LAYOUT SHEET

OC-430-60-14



OC430-9-1SB;

6.0" Radius, 2.0" Border, White on, Green;
"EXIT", ClearviewHwy-5-W-R; "9", ClearviewHwy-5-W-R;

6.0" Radius, 2.0" Border, White on, Green;
"Cantrell Rd", ClearviewHwy-5-W-R; "½", ClearviewHwy-5-W-R;
"MILE", ClearviewHwy-5-W-R;

DMS - MESSAGE DISPLAYED DURING
SHOULDER TRAVEL TIMES

1 EACH VM-1020-24X160-20-RGB
(1'11" X 11'2" X 5")

(YELLOW BACKGROUND WITH BLACK TEXT)

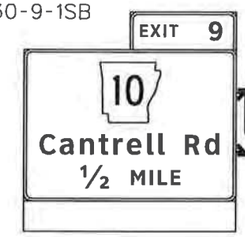
EXIT ONLY

CUT-OUTS FOR DMS BLOCKS

NOTES:
THE CONTRACTOR SHALL FIELD VERIFY SIGN PLACEMENT AND MAKE ANY ADJUSTMENTS 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 A 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.

REPLACE
OC-430-9-1SB

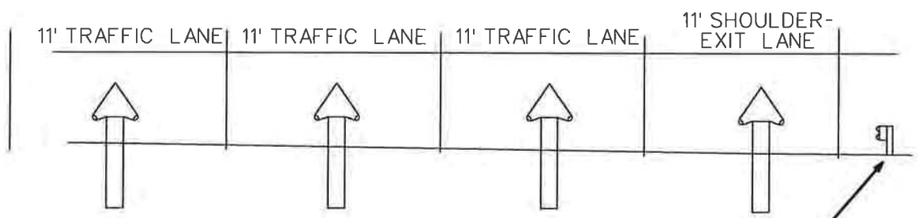


MAINTAIN OVERHEAD STRUCTURE
OC-430-60-14

LM 10.65 SB

SEE OVERHEAD SIGN STRUCTURE DETAILS FOR DESIGN SPECIFICATIONS.

17.5 FT. MIN. VERTICAL CLEARANCE OVER THE HIGHEST POINT OF THE ROADWAY.

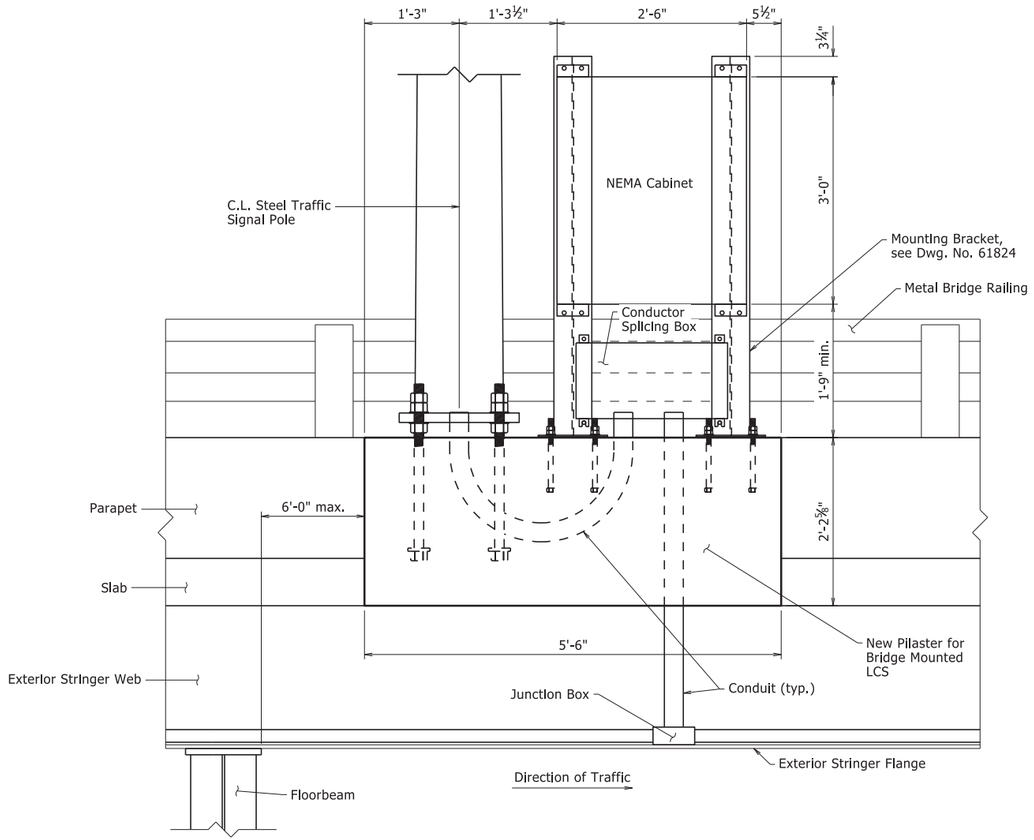


SEE OVERHEAD SIGN STRUCTURE DETAILS FOR MIN. LENGTH.

EXISTING GUARDRAIL
(NOTE: REFER TO SPECIAL DETAILS FOR SHOULDER WIDENING AND GUARDRAIL PLACEMENT)

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 7527
4-6-2020
JOSEPH A. SARTIN

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - Bridge Modification - 61819			



ELEVATION VIEW OF NEW PILASTER FOR BRIDGE MOUNTED LCS

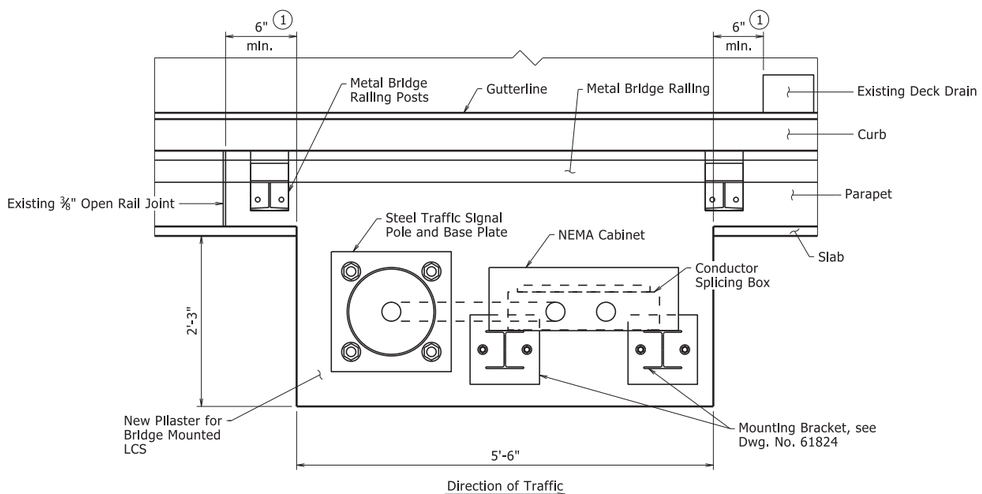
1" = 1'-0"

LEGEND OF ABBREVIATIONS	
Abbreviation	Meaning
ITS	Intelligent Transportation System
Min.	Minimum
LCS	Lane-Use Control Signals
Max.	Maximum

The details on this drawing depict reconstructed new bridge pilasters in their final condition at locations noted as Bridge Mounted LCS on ITS Plans. For details of the removal of the existing pilasters and the partial removal of the existing deck at these locations, see Dwg. No. 61820. For details of reinforcing for new bridge pilasters, see Dwg. No. 61822. For details of anchor bolts for Steel Traffic Signal Pole and Mounting Brackets, see Dwg. No. 61823. For General Notes, see Dwg. No. 61821.

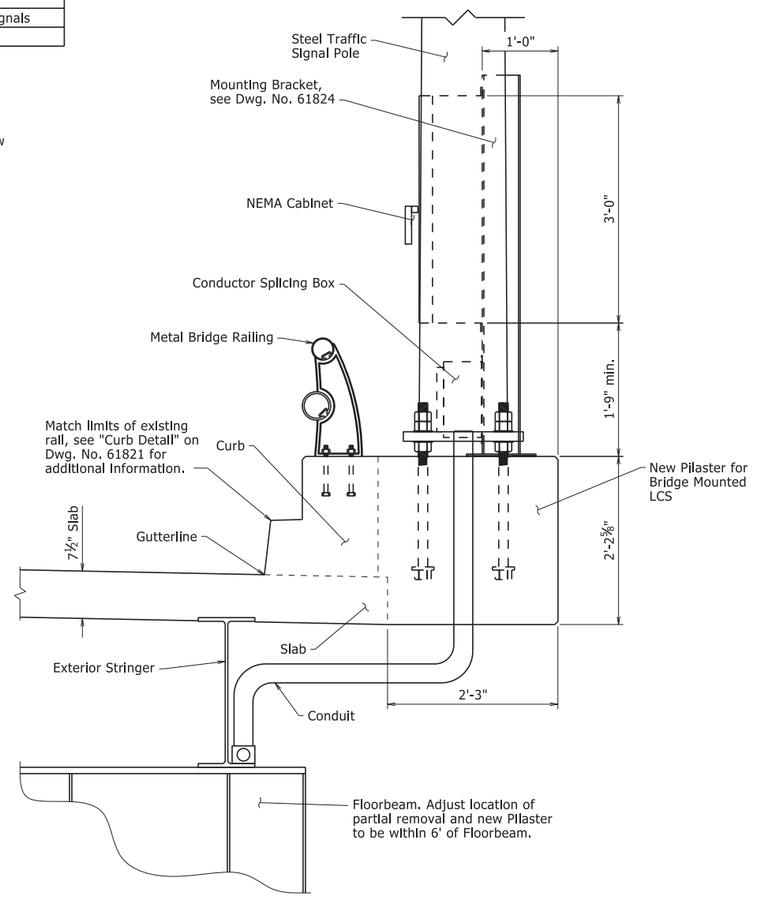
For details of Steel Traffic Signal Pole, NEMA Cabinet, Junction Box, Conductor Splicing Box and Conduit, see ITS Plans.

① Placement of new pilaster for bridge mounted lane control signals shall be adjusted as necessary to avoid interference with existing deck drains. A minimum horizontal clearance of 6" shall be kept between new concrete placement and both existing deck drains and existing open rail joints. For additional details, see Existing Bridge Drawings. Adjusted placement of concrete removal shall be coordinated with the Engineer.



PLAN VIEW OF NEW PILASTER FOR BRIDGE MOUNTED LCS

1" = 1'-0"



SECTION VIEW OF NEW PILASTER FOR BRIDGE MOUNTED LCS

1" = 1'-0"
Looking in Direction of Traffic

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

May 15 2020 4:52 PM

Charles R. Ellis
DocuSign

BRIDGE ENGINEER

SHEET 1 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

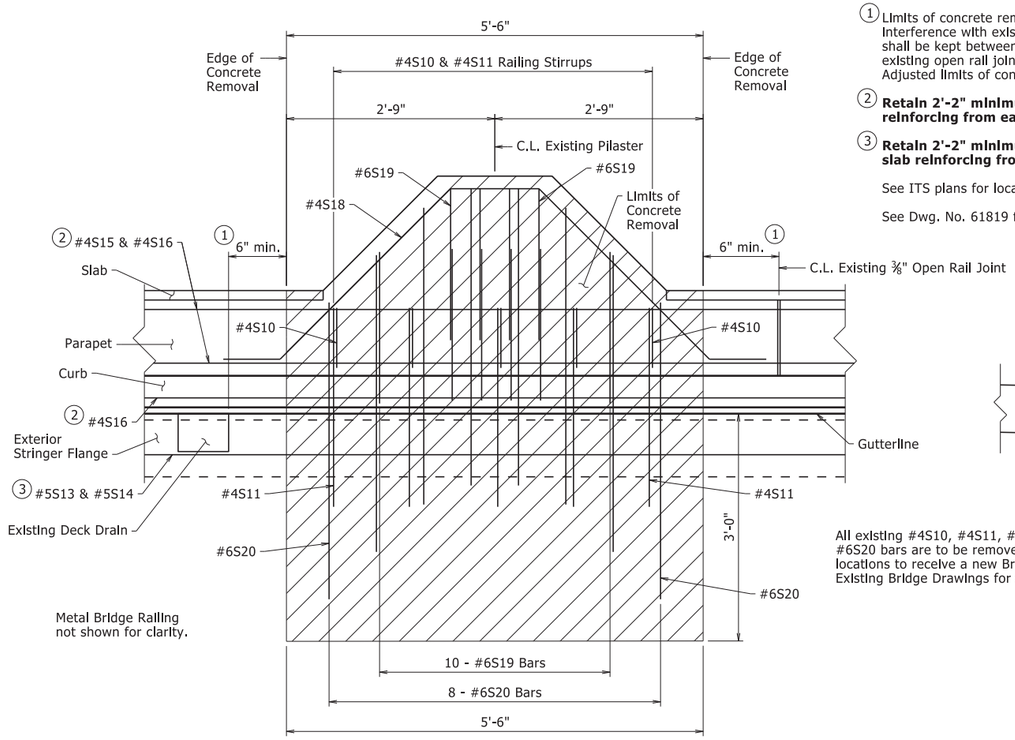
LITTLE ROCK, ARK.

DRAWN BY: DKS DATE: 02/04/2020 FILENAME: b061630_details.dgn
CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020

BRIDGE NO. 05320 DRAWING NO. 61819

PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - Bridge Modification - 61820			



EXISTING PILASTER REMOVAL PLAN VIEW

Remove Existing Pilasters at Locations to Receive New Pilaster for Bridge Mounted LCS
1" = 1'-0"

① Limits of concrete removal shall be adjusted as necessary to avoid interference with existing deck drains. A minimum horizontal clearance of 6" shall be kept between concrete removal and both existing deck drains and existing open rail joints. For additional details, see Existing Bridge Drawings. Adjusted limits of concrete removal shall be coordinated with the Engineer.

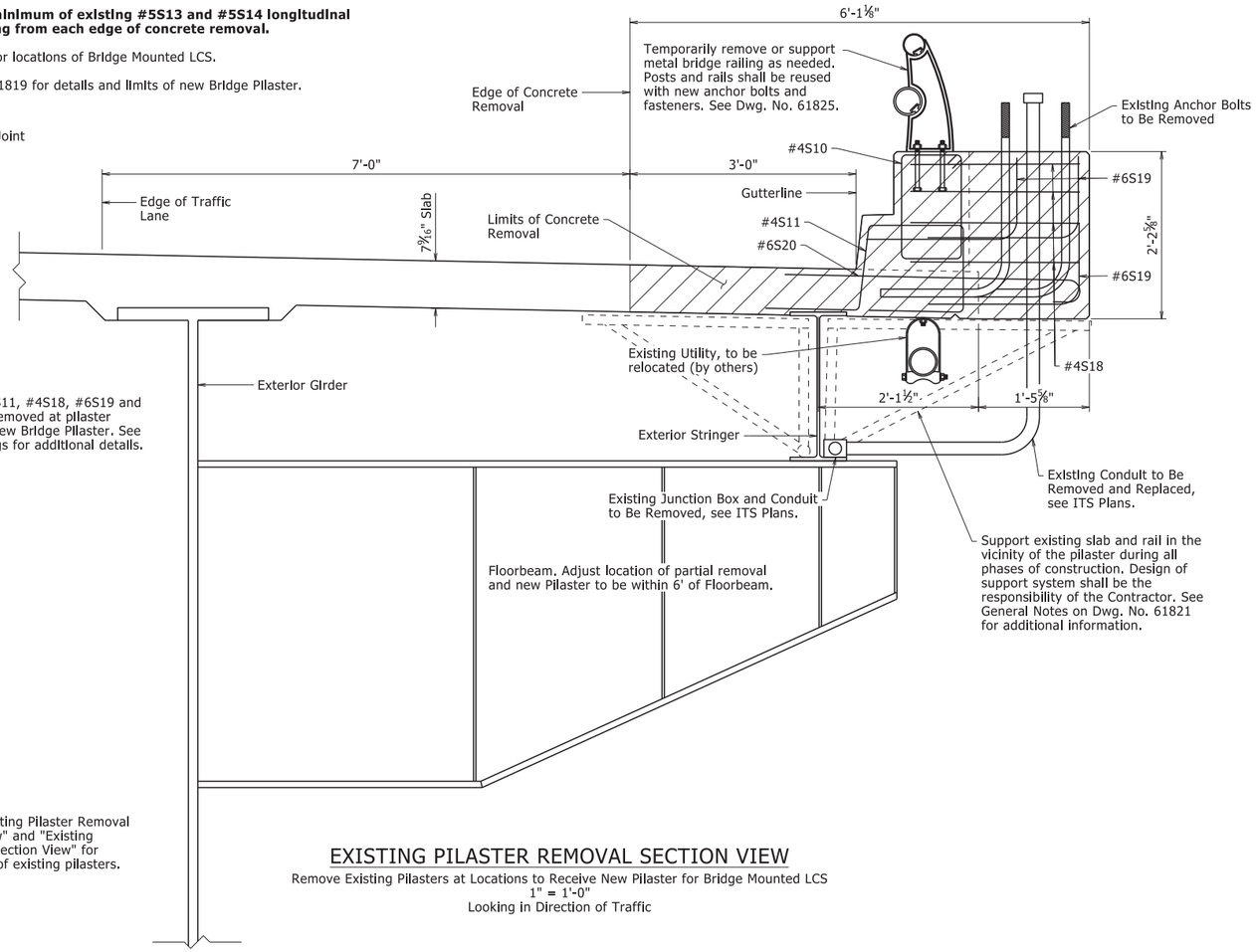
② **Retain 2'-2" minimum of existing #4S15 and #4S16 longitudinal rail reinforcing from each edge of concrete removal limits.**

③ **Retain 2'-2" minimum of existing #5S13 and #5S14 longitudinal slab reinforcing from each edge of concrete removal.**

See ITS plans for locations of Bridge Mounted LCS.

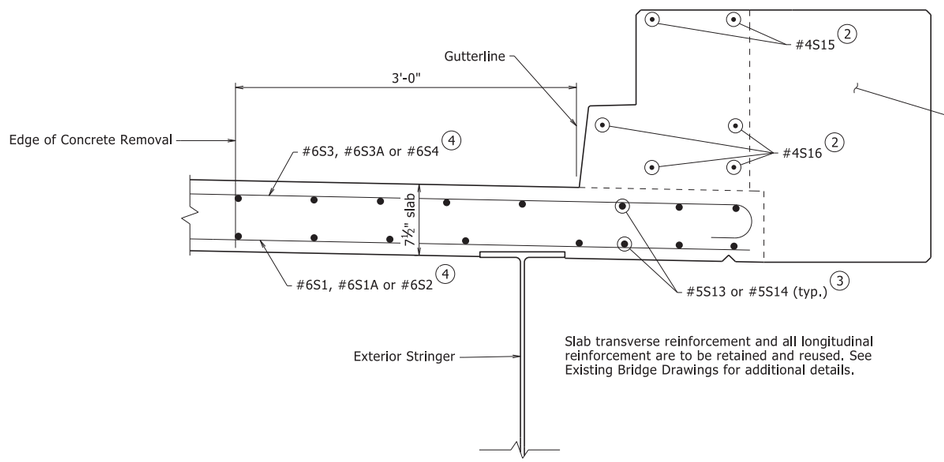
See Dwg. No. 61819 for details and limits of new Bridge Pilaster.

All existing #4S10, #4S11, #4S18, #6S19 and #6S20 bars are to be removed at pilaster locations to receive a new Bridge Pilaster. See Existing Bridge Drawings for additional details.



EXISTING PILASTER REMOVAL SECTION VIEW

Remove Existing Pilasters at Locations to Receive New Pilaster for Bridge Mounted LCS
1" = 1'-0"
Looking in Direction of Traffic



SECTION SHOWING RETAINED SLAB AND RAIL REINFORCING

1½" = 1'-0"
Looking in Direction of Traffic

④ **Retain existing transverse slab reinforcement**

NOTE: All bar designations shown coincide with existing bridge drawings.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

May 15 2020 4:52 PM
Charles R. Ellis
DocuSign
BRIDGE ENGINEER

SHEET 2 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DKS DATE: 02/04/2020 FILENAME: b061630_details.dgn
CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020

BRIDGE NO. 05320 DRAWING NO. 61820

PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
06-18-2020				6	ARK.			
06-22-2020				JOB NO.		061630	123	134
				① 05320 - Bridge Modification - 61821				

GENERAL NOTES

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

DESIGN SPECIFICATIONS: AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, First Edition (2015) with 2019 Interim Revisions and AASHTO LRFD Bridge Design Specifications, Seventh Edition (2014) with 2015 Interim Revisions. Base Wind Speed = 120 mph (3 sec. gust)

⚠1 MODIFICATION OF EXISTING BRIDGE STRUCTURE: The details herein are for the partial removal of the existing bridge structure and the construction of new bridge pilasters at locations noted as Bridge Mounted Lane-Use Control Signal (LCS) on ITS Plans. ~~Existing pilasters are used only to support Bridge Light Poles. Damaged existing pilasters at Light Pole locations shall be replaced at the Engineer's direction and as shown herein for new bridge pilasters.~~

New pilasters are designed to support a 40 foot tall Steel Traffic Signal Pole with a 17 foot long mast arm and attachments with a total gross area of 83 sq. ft. The Mast Arm with its attachments is assumed to weigh 375 lbs. (see "Bridge Mounted Lane-Use Control Signal Special Details" in ITS Plans). Use of a taller pole or longer mast arm must be approved by the Engineer. Shop drawings for the Steel Traffic Signal Pole assembly shall be submitted for approval by the Engineer.

Care shall be exercised during the removal of the existing slab and rail concrete to ensure that the existing retained reinforcing is not damaged beyond repair and that the stringer is not damaged. Any existing retained reinforcing steel damaged beyond repair during the removal of the slab and rail shall be replaced as directed by the Engineer, at the Contractor's expense. Minor straightening of the existing slab and rail reinforcing after the partial concrete removal will be allowed. A QPL approved Epoxy Resin System may be used to replace any damaged existing slab and rail reinforcing steel. For additional details of existing concrete removal, existing pilaster removal, and retained existing reinforcing, see Dwg. No. 61820.

New Pilasters shall be constructed as shown on Dwg. No. 61819. All new concrete shall be High Early Strength Class S(AE) Concrete with a minimum 28-day strength of f'c = 4,000 psi as specified in Special Provision Job No. 061630 "Concrete for Bridge Modification". The Contractor shall take measures to ensure bridge vibrations do not adversely affect the newly placed concrete during the curing process. All new rebar meeting the requirement of Section 804 shall be Grade 60 (Yield Strength = 60,000 psi) conforming to AASHTO M 31 or M 322, Type A, with mill test reports.

Structural steel for the Mounting Brackets shall be ASTM A709, Grade 36 or Gr. 50 and galvanized according to Subsection 807.19. Galvanized coating damaged during transport, handling, or erection shall be field repaired in accordance with Subsection 807.88.

Anchor bolts for the Steel Traffic Signal Pole and Mounting Brackets shall comply with AASHTO M 314, Grade 36 including Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with Subsection 807.07.

All mounting bracket bolts shall comply with ASTM F3125 Grade A325, Type 1 and galvanized according to Subsection 807.06. Nuts and washers for the ASTM F3125 Grade A325, Type 1 bolts shall be furnished and galvanized in accordance with Subsection 807.06.

Anchor bolts for the Steel Traffic Signal Pole and Mounting Bracket shall be cast in place in the locations shown on Dwg. No. 61824; post installation is not allowed. Bolt projections shall be as shown on Dwg. No. 61823.

New Pilasters shall be completed prior to placing the adjacent VESLMC overlay. Steel Traffic Signal Poles shall not be installed until the hydrodemolition is completed.

All portions of the existing deck and rail that are removed and rebuilt shall be temporarily supported during all phases of construction. The Contractor shall be responsible for the design of the temporary support system, including the ability of the existing exterior stringer to carry induced construction loads.

Existing Bridge Metal rail shall be carefully removed where necessary to construct the new bridge pilasters. After the construction of the new pilaster, existing railing posts shall be re-anchored to the rail using new anchor bolts, either cast-in-place or drilled and grouted. See Dwg. No. 61825 for details.

⚠1 PAYMENT: This work consists of the partial removal and reconstruction of portions of the existing bridge, temporary removal and reinstallation of the existing metal bridge railing, and the supply and installation of anchor bolts, mounting brackets, and all associated hardware at locations noted as Bridge Mounted Lane-Use Control Signal (LCS) on ITS Plans. All Materials, Labor, Tools, Equipment, Temporary Supports, and other items required to complete the work shown herein shall not be paid for directly, but shall be subsidiary to the item "Modification of Existing Bridge Structure (Bridge No.)". ~~See Drawing No. 61826 for joint rehabilitation that is subsidiary to the item "Modification of Existing Bridge Structure (Bridge No.)".~~ See ITS Plans for payment of Steel Traffic Signal Poles, Splicing Boxes, NEMA Cabinets, conduit, and all other items associated with bridge illumination and lane-control devices.

VERIFICATION: Except as noted, components of the existing bridge are to be retained and joined to the proposed work. Information and dimensions shown are based on the existing bridge plans. The Contractor is to adhere strictly to the requirements for verification of the geometry of the existing bridge and its relationship to the proposed work described in Subsection 821.02 and make necessary adjustments to fit the proposed work to the existing structure. Payment for this work shall be considered subsidiary to the item "Modification of Existing Bridge Structure (Bridge No.)". Existing bridge plans are available upon request and may assist the Contractor in this work.

REMOVAL AND SALVAGE: All material removed from the existing bridge under Item 821 shall be disposed of according to Section 205. All material removed from the existing bridge shall become the property of the Contractor.

MAINTENANCE OF TRAFFIC: See Roadway Plans.

ITS PLANS: See ITS Plans for details of Bridge Mounted Lane-Use Control Signals (LCS) and Bridge Lighting.

⚠1 REMAINING EXISTING PILASTERS: Some existing pilasters are to remain and shall support new Bridge Light Poles; see ITS Plans for locations. The Contractor shall bring to the attention of the Engineer any of these existing pilasters that are found to be damaged.

ANCHOR BOLT NUT TIGHTENING PROCEDURE

This work shall be performed only on days with winds less than 15 MPH. All tightening of the nuts is to be done in the presence of the inspector.

ANCHOR BOLTS FOR STEEL TRAFFIC SIGNALS: Anchor bolts shall be pretensioned. Exposed anchor bolt threads shall be cleaned and lubricated prior to installation of leveling nuts. Threads and bearing surfaces of nuts shall be cleaned and lubricated immediately prior to assembly. Leveling nuts shall be initially installed at the same elevation. Leveling nuts/washers shall be in firm contact with the base plate prior to snug tightening of the jam nuts. Jam nuts/washers shall be in firm contact with base plate when snug tight. Beveled washers may be required to provide firm contact.

After jam nuts are snug tight, the leveling nuts shall be tightened to a snug tight condition to ensure full contact is achieved. After all the jam nuts and the leveling nuts have been brought to a snug tight condition, install the top nuts to snug tight. After all nuts are snug tight, tension the jam nuts using the turn-of-nut method. While tensioning the jam nuts, do not allow the leveling nut to rotate. After tensioning the jam nuts, tension the top nuts using the turn of the nut method. While tensioning the top nuts, do not allow the jam nuts or leveling nuts to rotate. For the turn-of-nut method, nuts shall be incrementally turned using a star pattern until achieving the required rotation specified in Table Below. A minimum of 2 tightening cycles (passes) will be required

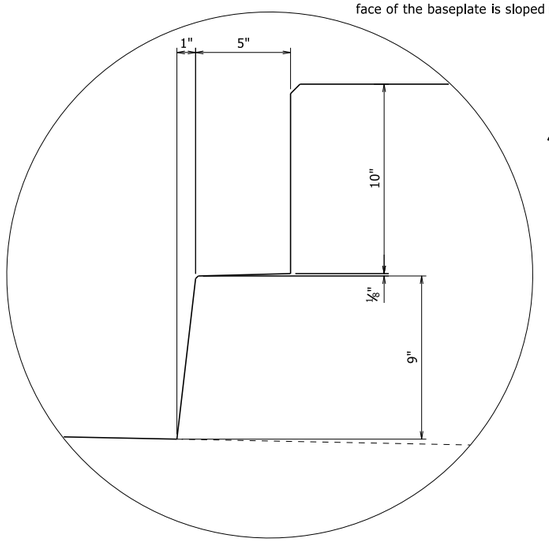
ANCHOR BOLTS FOR MOUNTING BRACKETS: Exposed anchor bolt threads shall be cleaned and lubricated prior to installation of nuts. Threads and bearing surfaces of nuts shall be cleaned and lubricated immediately prior to assembly. Install jam nuts to snug tight; jam nuts/washers shall be in firm contact with base plate when snug tight. Beveled washers may be required to provide firm contact. Install top nuts to firm tight. Tension the jam nuts using the turn-of-nut method. After tensioning the jam nuts, tension the top nut using the turn-of-nut method. While tensioning the top nuts, do not allow the jam nuts to rotate. For the turn-of-nut method, nuts shall be incrementally turned using a star pattern until achieving the required rotation specified in Table Below. A minimum of 2 tightening cycles (passes) will be required.

NUT ROTATION TABLE FOR TURN-OF-NUT METHOD

NUT	① NUT ROTATION BEYOND SNUG TIGHT
Jam Nuts	1/12 turn
Top Nuts	1/6 turn

① Nut rotation is relative to the anchor bolt. The tolerance is plus 20 degrees, minus 0 degrees

A beveled washer shall be used if the nut is not in firm contact with the baseplate or the outer face of the baseplate is sloped more than 1:40.



CURB DETAIL
3" = 1'-0" Scale

⚠1 General Notes revised.
LJB 6-22-2020 Checked By: DBS 6-22-2020

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

Jun 22 2020 12:18 PM
Charles R. Ellis
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BRIDGE ENGINEER

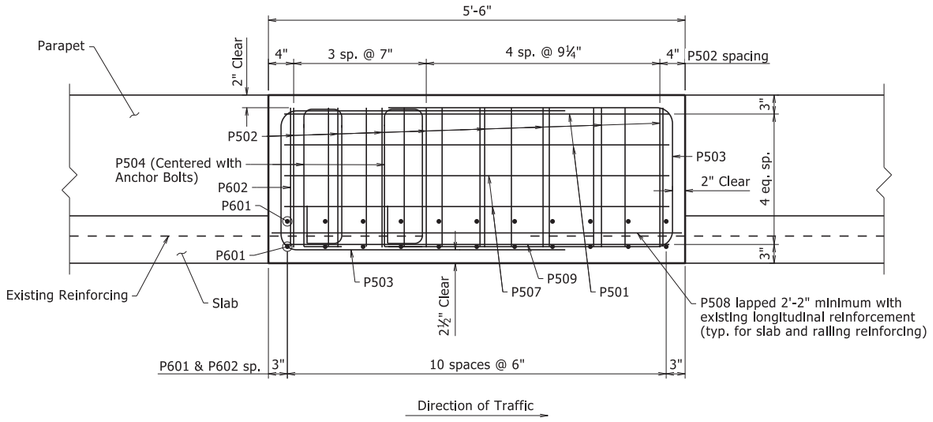
SHEET 3 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DKS DATE: 02/04/2020 FILENAME: b061630_details.dgn
CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020
BRIDGE NO. 05320 DRAWING NO. 61821

PRINT DATE: 6/22/2020

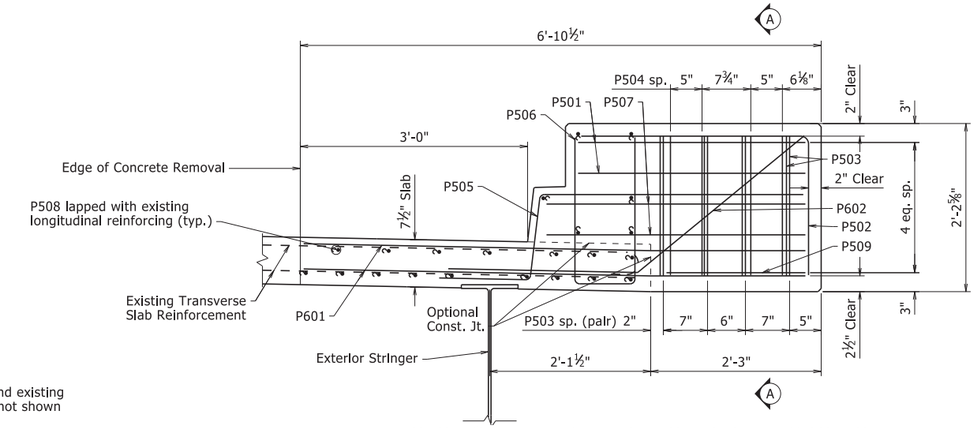
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - Pilaster Details - 61822			



SECTION A-A NEW PILASTER REINFORCING

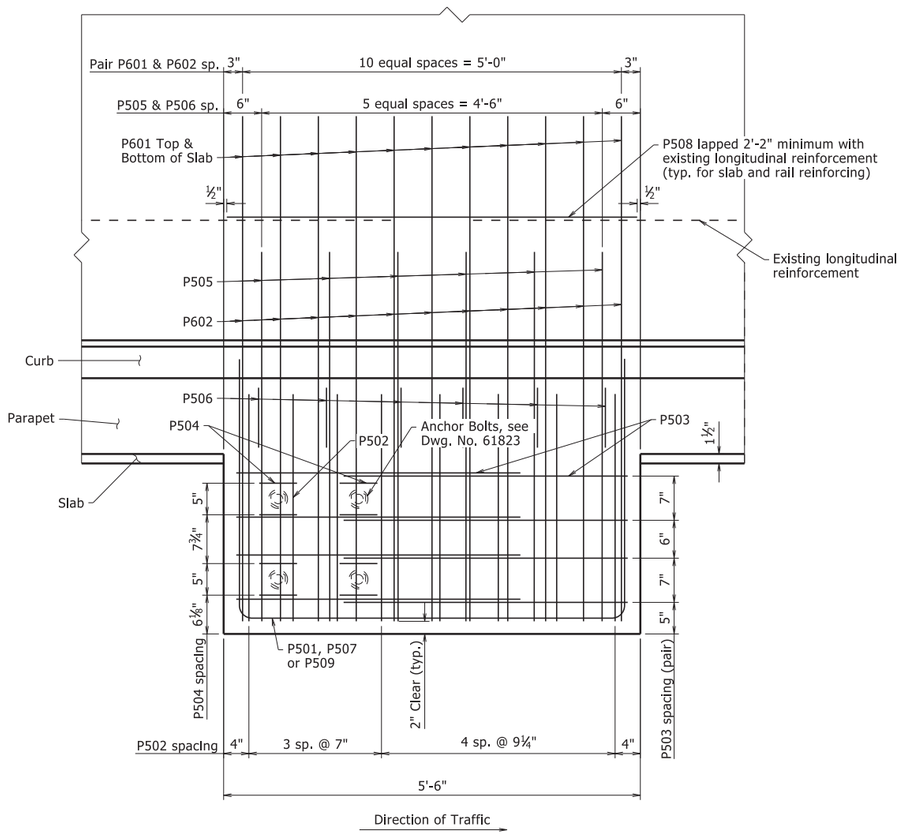
1" =1'-0"

NOTE: Anchor bolts, Metal Railing, and existing reinforcement, except as noted, are not shown for clarity.



SECTION VIEW NEW PILASTER REINFORCING

Looking In Direction of Traffic
1" = 1'-0"

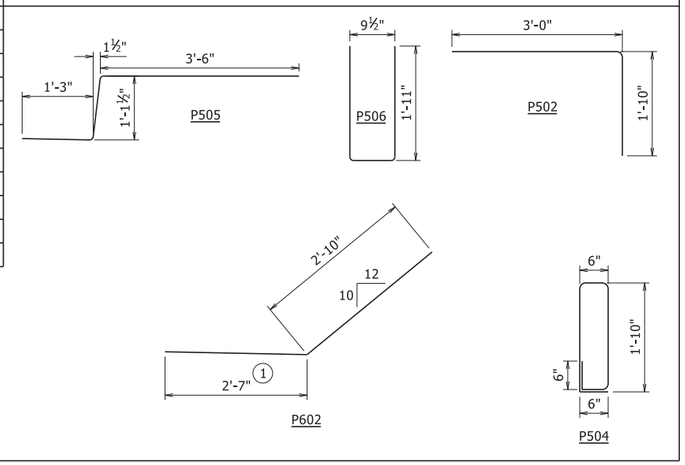


PLAN VIEW OF NEW PILASTER REINFORCING

1" = 1'-0"

② BAR LIST - PER NEW PILASTER

MARK	NO. REQ'D	"X"	"Y"	LENGTH	P.D.
P501	2	3'-0"	5'-1"	10'-11"	2½"
P502	8			4'-9"	2½"
P503	8	3'-9"	1'-10"	9'-1"	2½"
P504	8			5'-2"	2½"
P505	6			5'-10"	2½"
P506	6			4'-5"	2½"
P507	2	3'-5"	5'-1"	11'-9"	2½"
P508	18			5'-5"	Str.
P509	1	1'-10"	5'-1"	8'-7"	2½"
P601	22			6'-8"	Str.
P602 ①	11			5'-4"	4½"



Dimensions are out to out of bars.

① Field bend bars to maintain required clear distance.

② Reinforcing steel shall not be paid for directly, but shall be considered subsidiary to the pay item "Modification of Existing Bridge Structure (Bridge No.)".

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

SHEET 4 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21

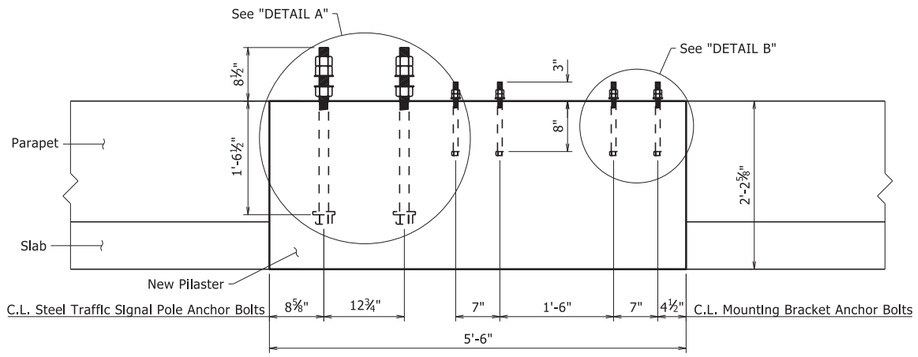
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: DKS DATE: 02/04/2020 FILENAME: b061630_details.dgn
CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020

BRIDGE NO. 05320 DRAWING NO. 61822

PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - Bridge Modification - 61823			

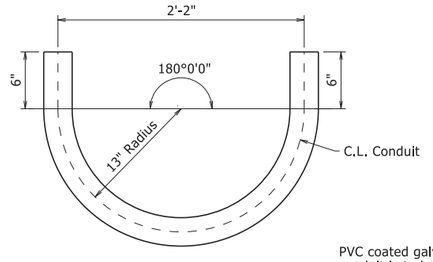


ANCHOR BOLTS ELEVATION VIEW

1" = 1'-0"

TABLE OF FABRICATOR VARIABLES

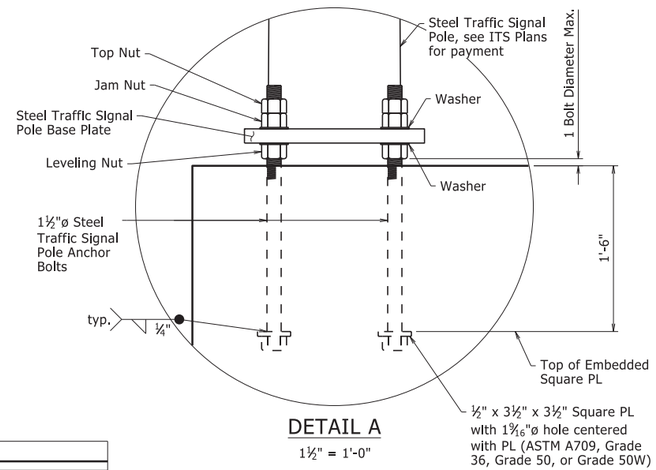
ANCHOR BOLT			
NO. of BOLTS EACH PILASTER	ANCHOR BOLT (ø x L)	GRADE	STEEL WASHER SIZE (O.D.)
4	1½" x 27"	36	3"
4	⅝" x 11"	36	1¼"



CONDUIT DETAIL

1½" = 1'-0"

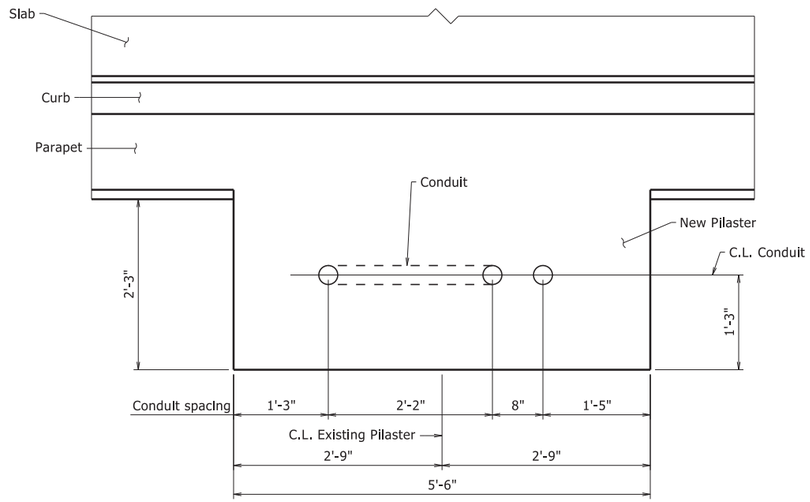
PVC coated galvanized steel conduit is to be used. See ITS Plans for additional details.



DETAIL A

1½" = 1'-0"

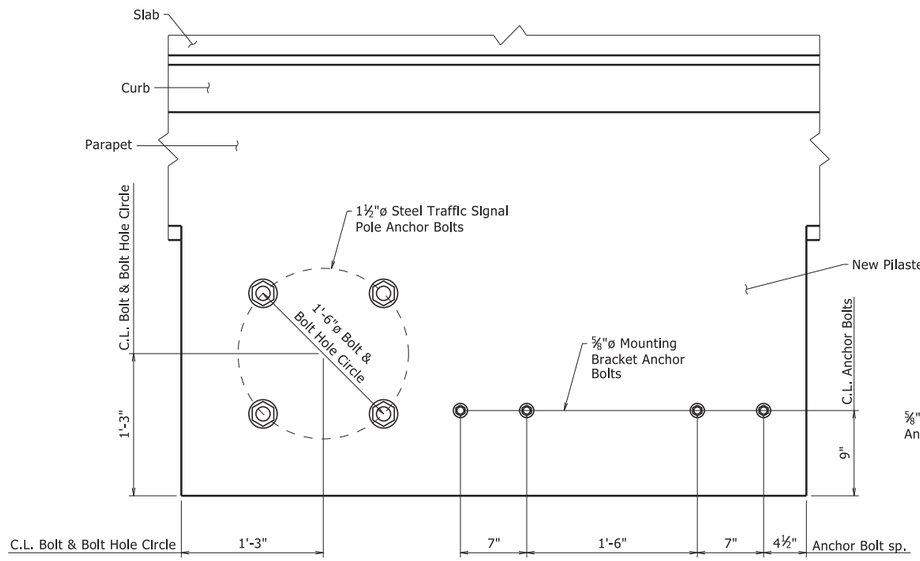
See "Anchor Bolt Nut Tightening Procedure", Dwg. No. 61821.



UTILITIES PLAN VIEW

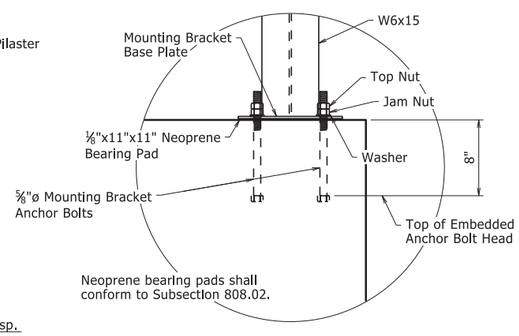
1" = 1'-0"

Anchor bolts, nuts and washers shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables".



ANCHOR BOLTS PLAN VIEW

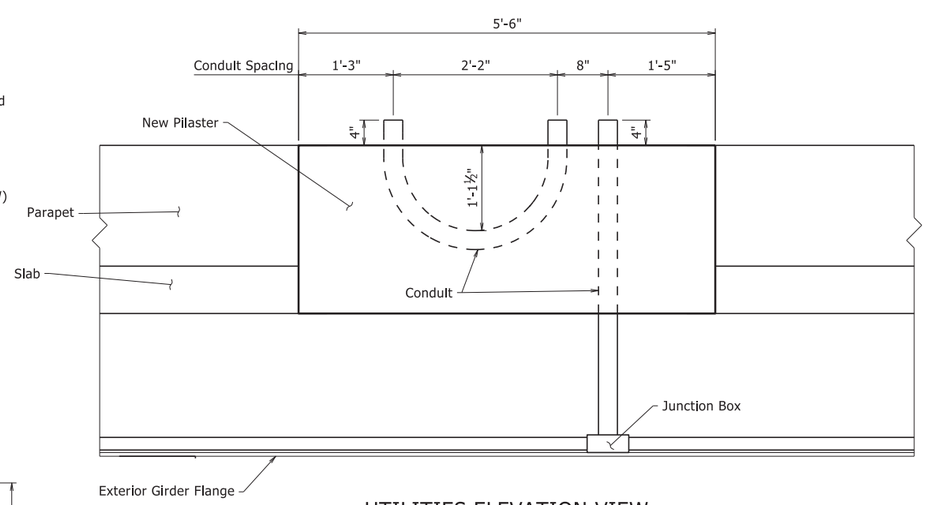
1½" = 1'-0"



DETAIL B

1½" = 1'-0"

See "Anchor Bolt Nut Tightening Procedure", Dwg. No. 61821.



UTILITIES ELEVATION VIEW

1" = 1'-0"

SHEET 5 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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Charles R. Ellis
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BRIDGE ENGINEER

DRAWN BY: DKS DATE: 02/04/2020
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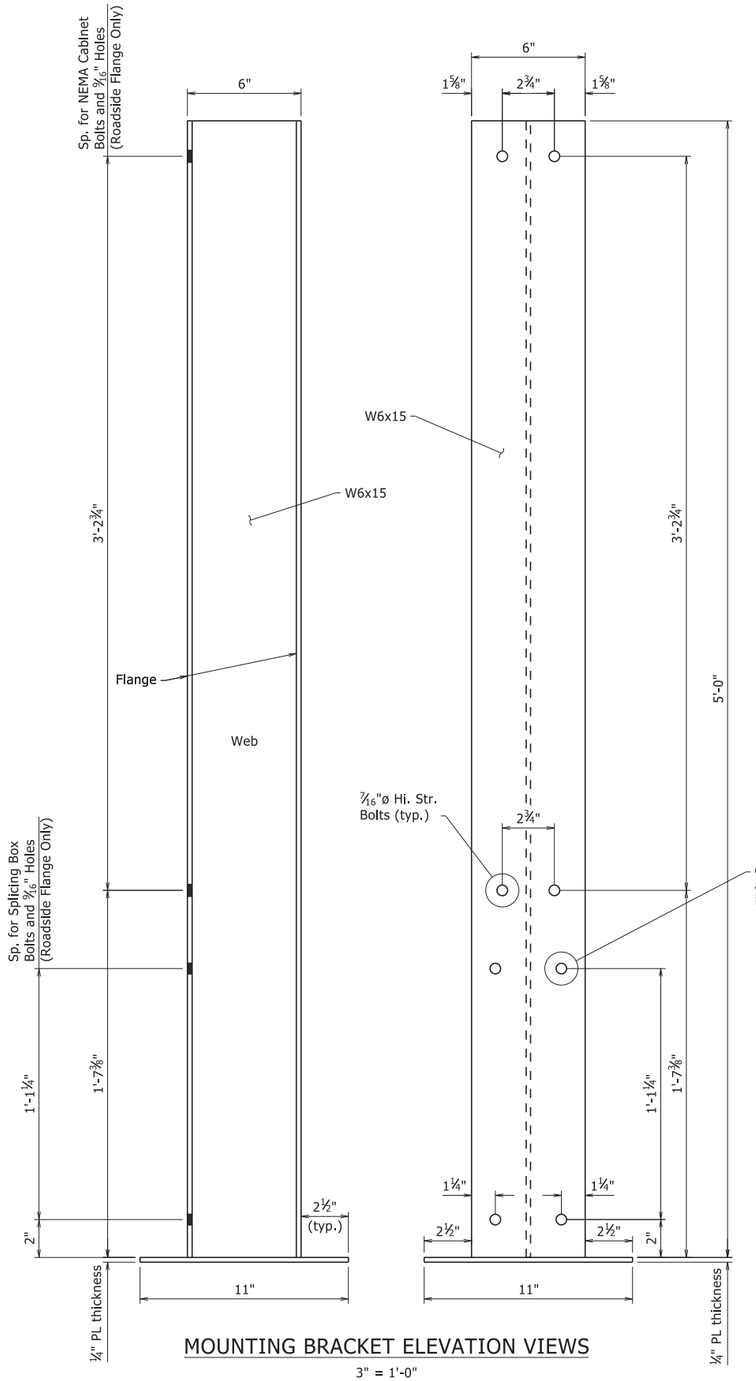
FILENAME: b061630_details.dgn
SCALE: As Noted

BRIDGE NO. 05320 DRAWING NO. 61823

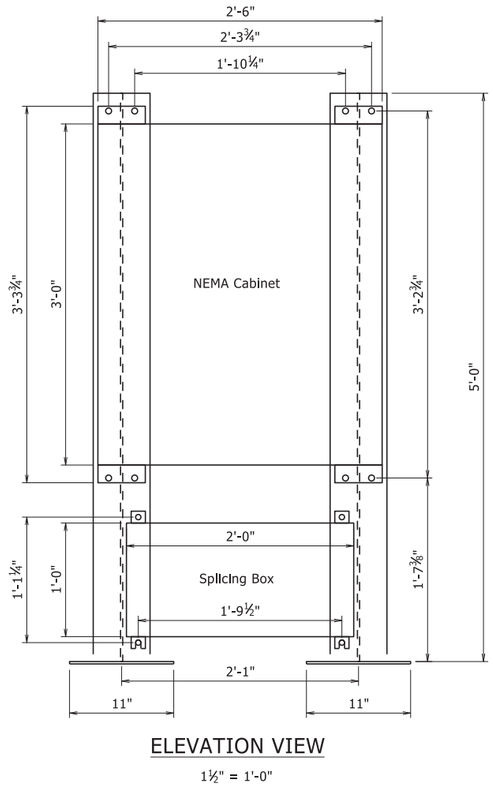
PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - Bridge Modification - 61824			



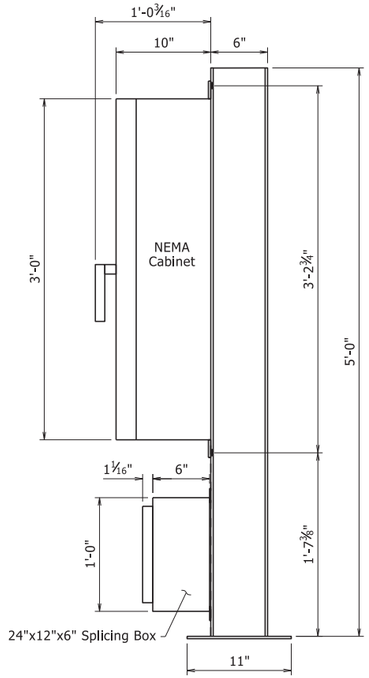
MOUNTING BRACKET ELEVATION VIEWS

3" = 1'-0"



ELEVATION VIEW

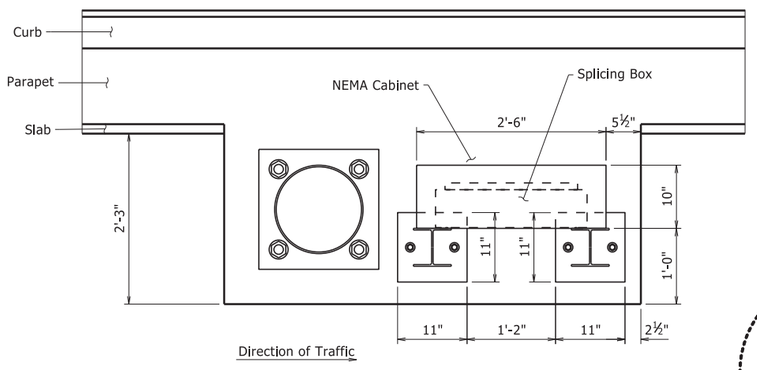
1½" = 1'-0"



SECTION VIEW

1½" = 1'-0"

The Contractor shall verify dimensions of NEMA Cabinet and Splicing Box prior to the fabrication of the Mounting Brackets to ensure proper fitment.



MOUNTING BRACKET PLAN VIEW

1" = 1'-0"

MOUNTING BRACKET NOTES

For General Notes, see Dwg. No. 61821.

All connection bolts shall be 7/16"ø High Strength bolts.

All holes for connection bolts shall be 9/16"ø.

High Strength bolts, nuts and washers shall be galvanized and conform to Subsection 807.06.

For additional information of NEMA Cabinets, see ITS Plans.

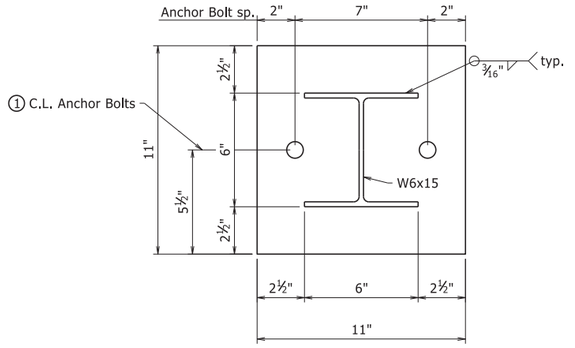
Structural steel for all plates and shapes shall be ASTM A709 Gr. 36 or Gr. 50.

⅛"x11"x11" neoprene bearing pads required under all Mounting Brackets. See "DETAIL B" on Dwg. No. 61823 for additional information.

① For details of anchor bolts, see Dwg. No. 61823.

Mounting Brackets shall not be paid for directly, but shall be considered incidental to the item "MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)".

See ITS Plans for payment of NEMA Cabinet and Splicing Box.



MOUNTING BRACKET BASE DETAIL

1" = 1'-0"

SHEET 6 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE
HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S)
PULASKI COUNTY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

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BRIDGE ENGINEER

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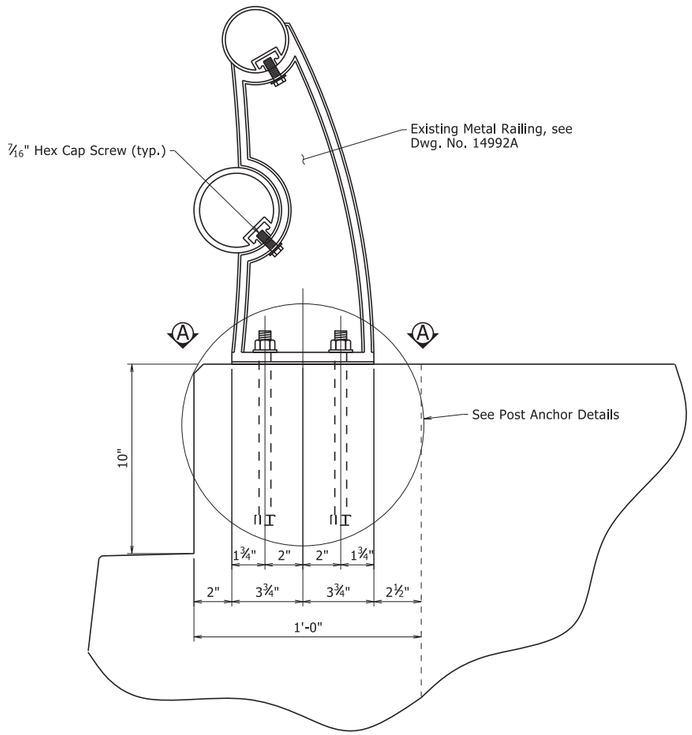
DESIGNED BY:	DBS	DATE:	01/2020		

BRIDGE NO. 05320 DRAWING NO. 61824

PRINT DATE: 5/15/2020

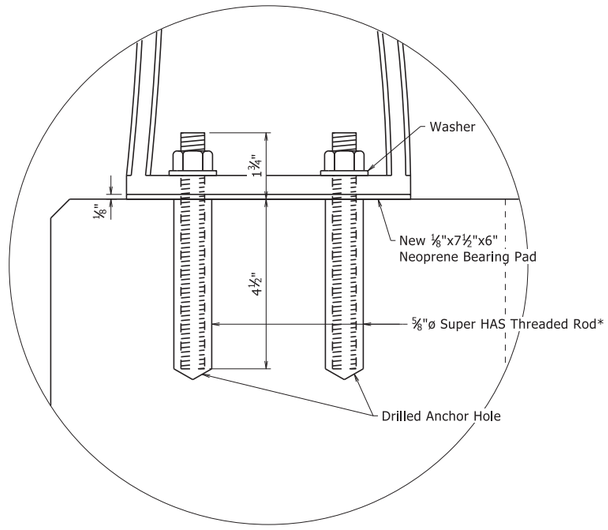
DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		

① 05320 - Bridge Modification - 61825



METAL RAILING POST SECTION

3" = 1'-0"

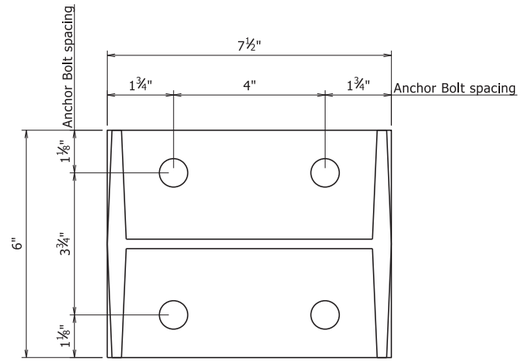


*Use HILTI HIT-RE 500 V3 Epoxy Adhesive Anchor System or an approved equal.

The Epoxy Adhesive Anchor System shall be installed in accordance with Manufacturer's recommendations.

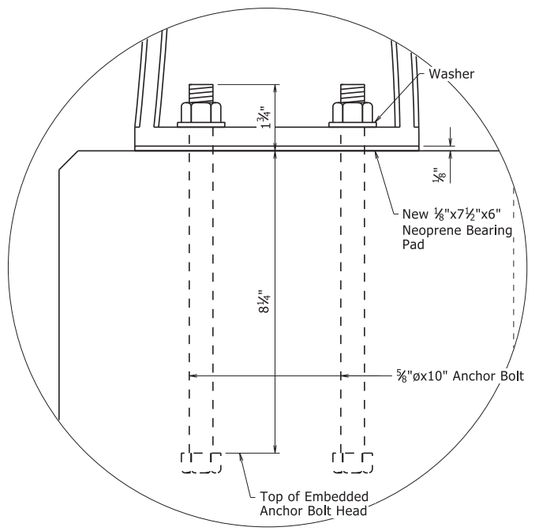
ALTERNATE POST ANCHOR DETAIL

Epoxy Adhesive Anchors
6" = 1'-0"



SECTION A-A

6" = 1'-0"



POST ANCHOR DETAIL

Cast-In-Place Bolts
6" = 1'-0"

Place shims between bearing pad and post where necessary to align railing posts.

TABLE OF FABRICATOR VARIABLES

ANCHOR BOLT			
NO. of BOLTS EACH POST	ANCHOR BOLT (ø x L)	GRADE	STEEL WASHER SIZE (O.D.)
4	⅝" x 10"	36	1¼"

Reinstall Metal Railing at new pilaster locations once rail and pilaster construction is complete.

Metal Railing posts shall not be placed upon areas that are improperly finished, deformed or irregular.

Metal Railing posts shall be set in the same location as originally installed and perpendicular to top of parapet.

Class 1 Protective Surface Treatment shall be applied to the top of the parapets in accordance with Section 803 before placing metal railing posts.

Cast in place anchor bolts shall conform to Subsection 807.07. The anchor bolt grade of steel shall be as specified in the "Table of Fabricator Variables".

Steel shims shall conform to ASTM A709, Gr. 36.

All replacement Hexagon Head Cap Screws shall conform to the requirements of ASTM A320, B8 Class 1 Stainless Steel. Washers shall be made of type 304 stainless steel and meet the dimensional tolerances of ASME B18.21.1.

If anchor bolts are drilled into parapet, reinforcing bars shall be properly placed to avoid damage.

Temporary removal of Metal Railing, including all materials, labor, equipment, tools and all incidentals necessary to complete the work, will not be paid for directly, but will be considered subsidiary to the item "MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO.)".

Neoprene bearing pads shall conform to Subsection 808.02.

See Dwg. No. 14992A for additional information and details of existing Metal Bridge Railing.

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BRIDGE ENGINEER

SHEET 7 OF 7
DETAILS OF MODIFICATION OF EXISTING BRIDGE STRUCTURE HWY. 10 - HWY. 100 (SYSTEM PRESERVATION & ITS IMPVTS.) (S) PULASKI COUNTY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: DBS DATE: 05/15/2020 SCALE: As Noted
DESIGNED BY: DBS DATE: 01/2020

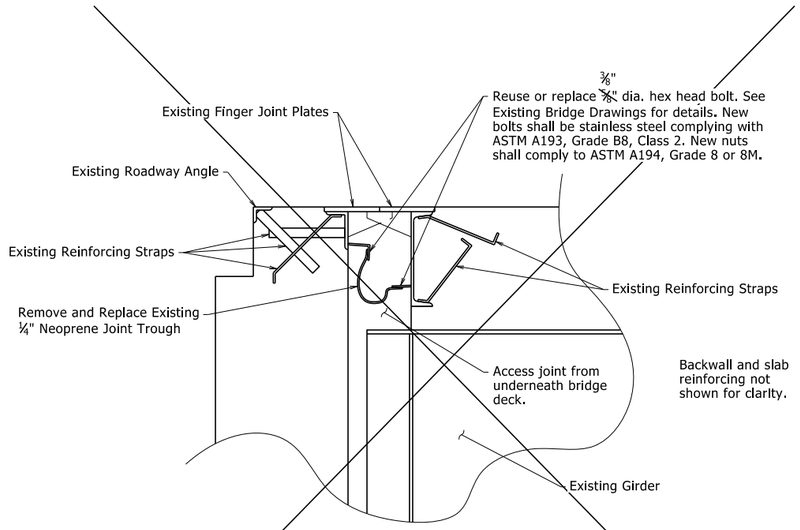
BRIDGE NO. 05320 DRAWING NO. 61825

PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED
06-18-2020			
06-22-2020			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
6	ARK.			
JOB NO.		061630	128	134

(1) 05320 - VESLMC OVERLAY - 61826



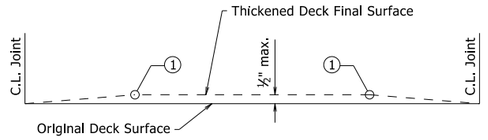
Existing neoprene joint trough shall be completely removed and new neoprene joint trough shall be installed across the entire width of the bridge deck in accordance with these details, Subsection 807.20 and the Manufacturer's recommendations. Prior to installing the new joint trough, the Contractor shall clean existing finger joint assemblies and parapet sliders at the Engineer's direction. The Contractor shall replace any hardware deemed damaged by the Engineer.

All work and material, including neoprene trough, related to removing the existing joint trough, cleaning the finger joint assemblies and installation of new joint trough shall be paid for under the item "MODIFICATION OF EXISTING BRIDGE STRUCTURE (BRIDGE NO. __)".

NEOPRENE JOINT TROUGH REHABILITATION

All Joints

(1) Stations and elevations are to be determined in the field to provide an additional ½" maximum deck thickness for the entire unit but not to exceed a transition rate of 50 feet per inch.



Inspection reports indicate less than 1½" concrete cover to reinforcing steel is present. VESLMC thickening will be required to increase the reinforcing steel cover in all units. Elevations shown are along Profile Grade Line. Additional tangent points may be allowed when approved by the Engineer.

VERTICAL ALIGNMENT FOR VESLMC THICKENING

(1) Removed Joint Rehabilitation

LJB 6-22-2020

Checked By: DBS 6-22-2020

For additional details of VESLMC, see Std. Dwg. No. 55060.

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Jun 22 2020 12:18 PM

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BRIDGE ENGINEER

SUPPLEMENTAL DETAILS OF VERY EARLY STRENGTH LATEX MODIFIED CONCRETE OVERLAY

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

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CHECKED BY: DBS DATE: 05/15/2020 SCALE: No Scale

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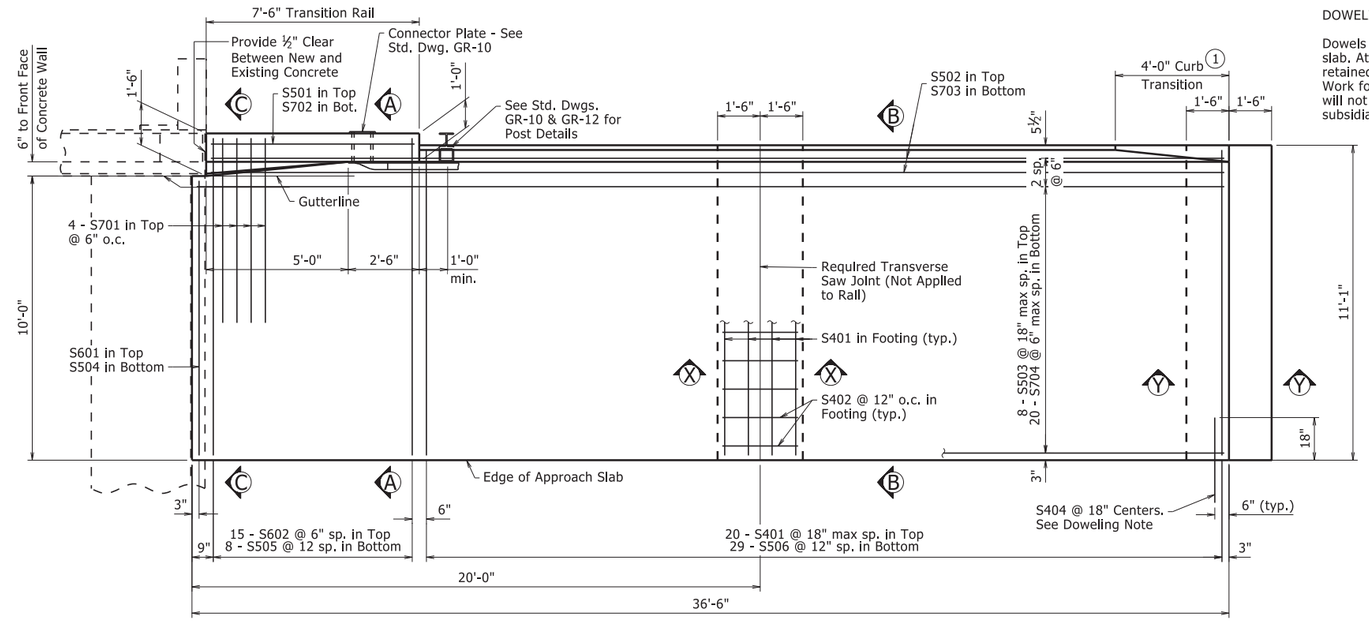
BRIDGE NO. 05320 DRAWING NO. 61826

PRINT DATE: 6/22/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		
				①	05320 - APPR. GUTTER - 61827			



PLAN - TYPE SPECIAL APPROACH GUTTERS

⅜" = 1'-0"

DOWELING NOTE:

Dowels shall be drilled and grouted 18" into existing slab. At the Contractor's option, existing dowels may be retained, cleaned and incorporated into new gutters. Work for drilling and grouting, or retaining and cleaning will not be paid for separately but will be considered subsidiary to "TYPE SPECIAL APPROACH GUTTER".

Reinforcing Steel	Concrete
(Lbs.)	(Cu. Yds.)
3250	23.45

TABLE OF QUANTITIES

Quantities for One Approach Gutter (For Information Only)

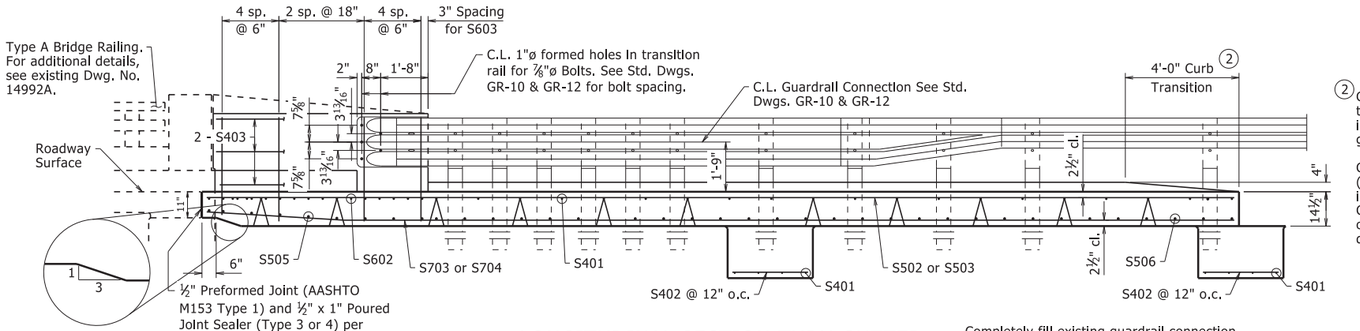
This Approach Gutter shall be placed at the outside shoulders at each bridge end, even where a previously retrofitted approach gutter exists.

BAR LIST FOR ONE TYPE SPECIAL GUTTER

MARK	NO. REQ'D	LENGTH	P.D.	BENDING DIAGRAMS
S401	28	10'-9"	Str.	
S402	22	2'-8"	Str.	
S403	6	7'-2"	Str.	
S404	25	3'-0"	Str.	
S501	1	7'-2"	Str.	
S502	2	35'-8"	Str.	
S503	8	36'-2"	Str.	
S504	1	9'-8"	Str.	
S505	8	11'-2"	Str.	
S506	29	10'-9"	Str.	
S601	1	9'-8"	Str.	
S602	15	12'-3"	4½"	
S603	11	7'-6"	4½"	
S701	4	7'-8"	5¼"	
S702	1	7'-2"	Str.	
S703	2	35'-8"	5¼"	
S704	20	36'-2"	5¼"	

S602: 11'-2", 15"
S603: 3'-7", 8"
S701: 6'-6", 17"
S703: 30'-8", 5'-0", 1:3
S704: 31'-2", 5'-0", 1:3

Dimensions are out to out of bars.



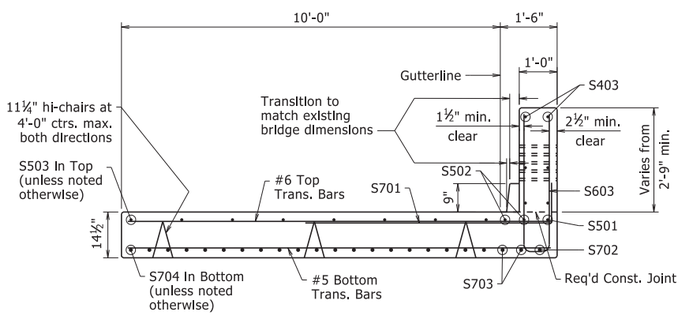
LONGITUDINAL SECTION THRU GUTTER

⅜" = 1'-0"

② Construct curb with height transition as shown if drop inlet is not used at end of gutter.

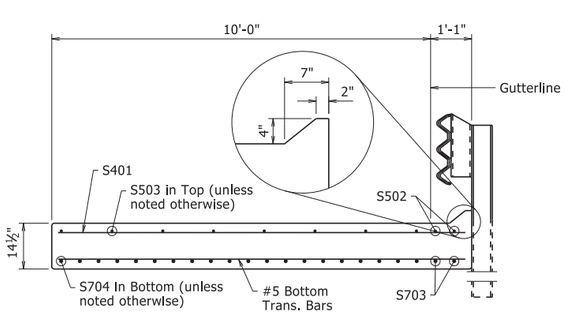
Construct curb full height (no height transition) if drop inlet is used at end of gutter. Curb height transition placed on drop inlet. See drop inlet details.

Completely fill existing guardrail connection recess with approved non-shrink grout. Work and material will not be paid for separately but will be considered subsidiary to "TYPE SPECIAL APPROACH GUTTER".



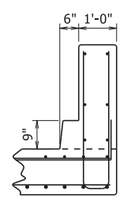
SECTION A-A

½" = 1'-0"



SECTION B-B

½" = 1'-0"



SECTION C-C

At End of Transition Rail

½" = 1'-0"

½" x 1" Poured Jt. Sealer (Type 3 or 4) per Subsection 501.02(h)(2) Backer rod is not required.

SECTION X-X

¼" = 1'-0"

SECTION Y-Y

¼" = 1'-0"

GENERAL NOTES

Concrete shall be Class S or S(AE) or mixture used for Portland Cement Concrete Pavement.

Reinforcing steel shall be Grade 60 (fy = 60,000 psi.) conforming to AASHTO M 31 or M 322, Type A, with mill test reports. Fabricate bar lengths to provide 2" minimum cover at each end.

Approach gutters will be measured and paid for in accordance with Section 504.

Preformed Joint and Poured Joint Sealer included in the item "Approach Gutters".

All longitudinal lines within the limits of horizontal curves shall be on curves concentric to C.L. Bridge. Adjustment to longitudinal bar lengths may be required. Transverse reinforcing shall be placed on radial lines to C.L. Bridge.

STATE OF ARKANSAS
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May 15 2020 4:52 PM

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DETAILS OF TYPE SPECIAL APPROACH GUTTER

ROUTE I-430 SEC. 21

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY:	DKS	DATE:	03/20/2020	FILENAME:	b061630_ag.dgn
CHECKED BY:	DBS	DATE:	05/15/2020	SCALE:	No Scale
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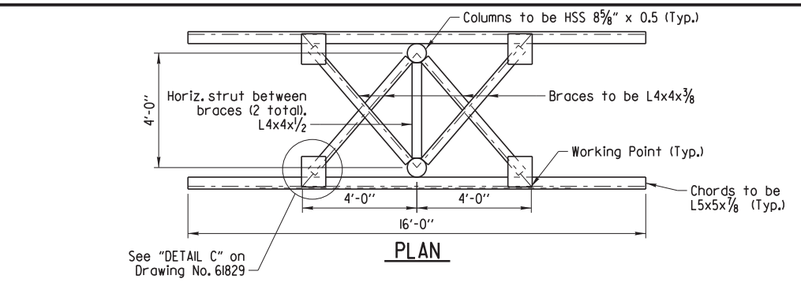
BRIDGE NO. 05320 DRAWING NO. 61827

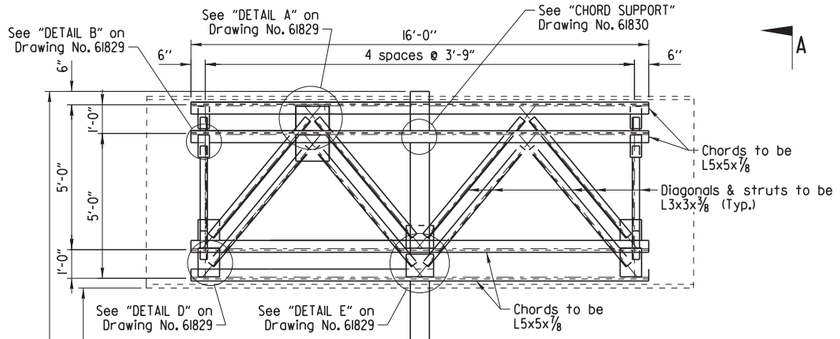
PRINT DATE: 5/15/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		

(1) SEE TABLE - TEE MOUNT SIGN - 61828

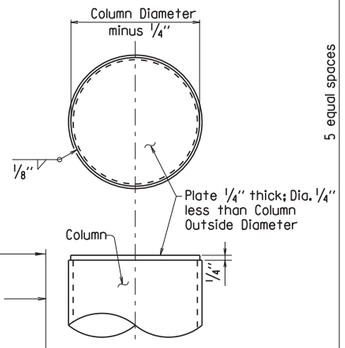


PLAN

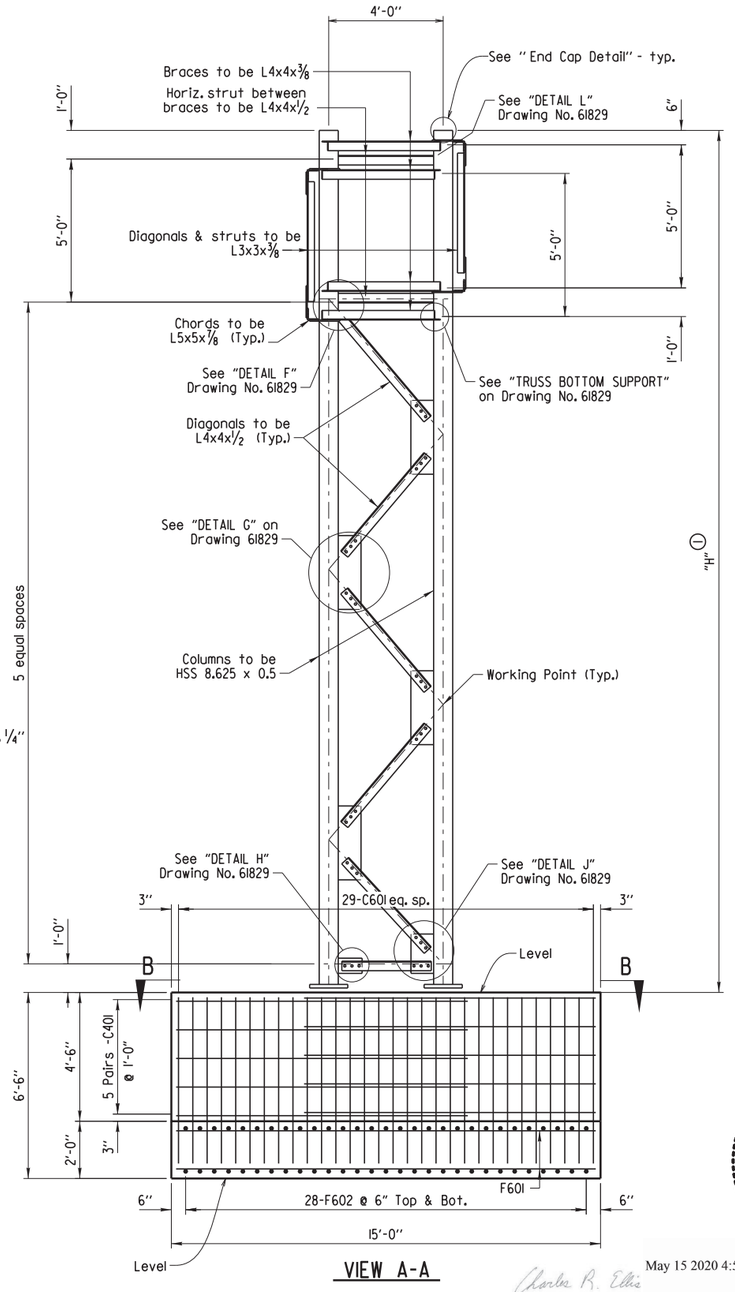


Note:
For Dynamic Message Sign connection to structure, see General Notes and Manufacturer's recommendations. See Special Provision Job No. 061630 "OVERHEAD DYNAMIC MESSAGE SIGN ASSEMBLY" for addition details. Dynamic Message Signs are to be centered on the structure or placed as directed by the Engineer.

ELEVATION



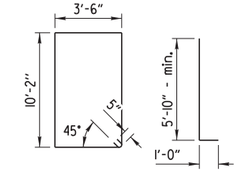
END CAP DETAIL



VIEW A-A

FOUNDATION BAR LIST - PER SIGN STRUCTURE

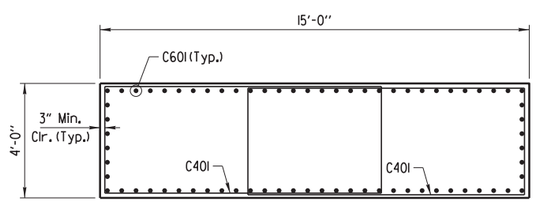
MARK	NO. REQ'D.	LENGTH	PIN. DIA.	BENDING DIAGRAMS Dimensions are out to out of bars.
C401	10	27'-10"	3"	
C601	72	6'-8"	4½"	
F601	30	14'-6"	Str.	
F602	56	7'-6"	Str.	



APPROX. QUANTITIES FOR FOUNDATION (FOR INFORMATION ONLY)

CLASS S CONCRETE (CU. YDS.)	REINFORCING STEEL (LBS.)	EXCAVATION (CU. YDS.)
18.90	2,220	44

(1) The Contractor shall make field measurements to determine the column height ("H") that is required to maintain the minimum vertical clearance. The column height shall be shown on the shop drawings with a note stating that the Contractor has made the required field measurements. If the structure height ("H") exceeds 30'-0" contact the Engineer.



SECTION B-B

SIGN STRUCTURE
TM-040-60-53
TM-430-60-55

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

May 15 2020 4:53 PM
Charles R. Ellis
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BRIDGE ENGINEER

SHEET 1 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

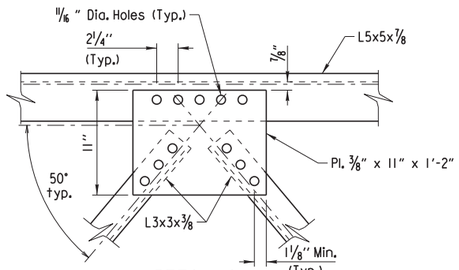
DRAWN BY: LJB DATE: 4-30-2020 FILENAME: b061630_tm.dgn
CHECKED BY: NAC DATE: 5-6-2020 SCALE: ⅜" = 1'-0"
DESIGNED BY: KAP DATE: APR. 2018

STR. NO. SEE TABLE DRAWING NO. 61828

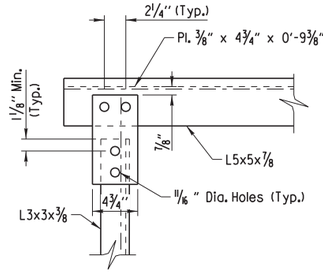
PRINT DATE: 5/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		

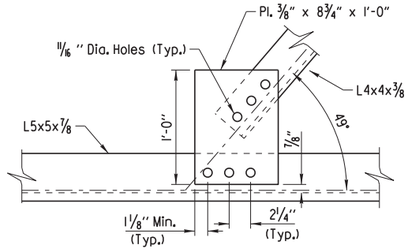
(1) SEE TABLE - TEE MOUNT SIGN - 61829



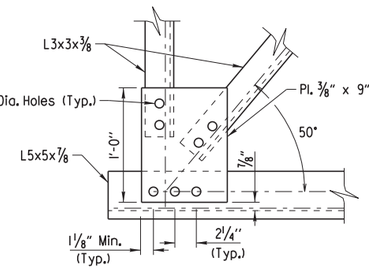
DETAIL A
Scale: 1 1/2" = 1'-0"



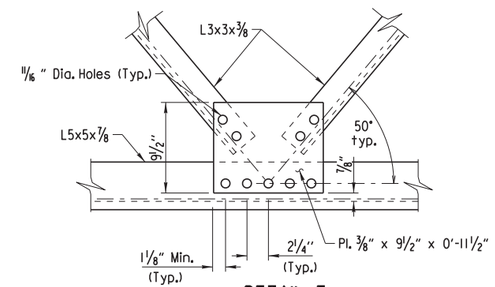
DETAIL B
Scale: 1 1/2" = 1'-0"



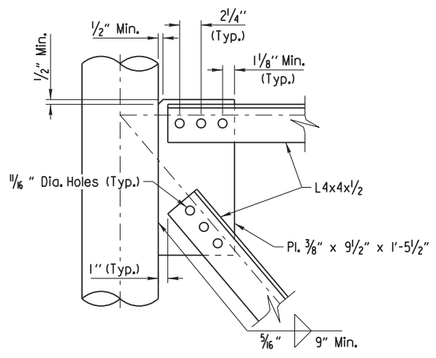
DETAIL C
Scale: 1 1/2" = 1'-0"



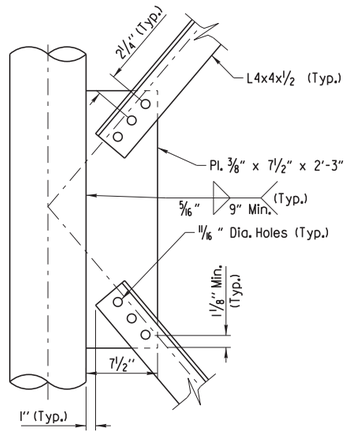
DETAIL D
Scale: 1 1/2" = 1'-0"



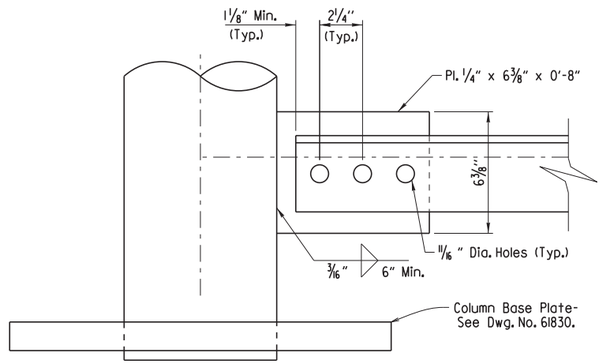
DETAIL E
Scale: 1 1/2" = 1'-0"



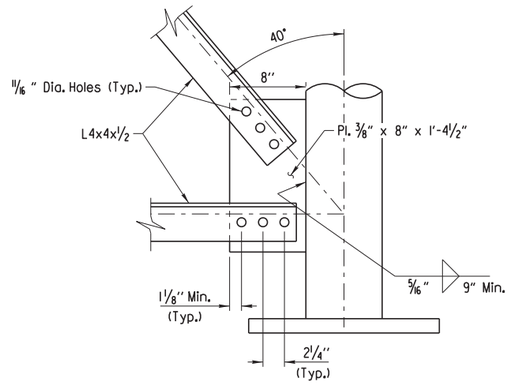
DETAIL F
Scale: 1 1/2" = 1'-0"



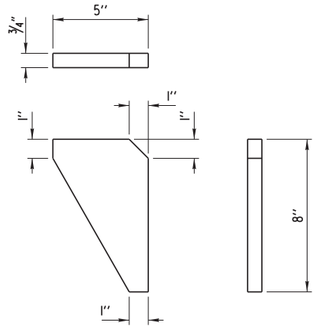
DETAIL G
Scale: 1 1/2" = 1'-0"



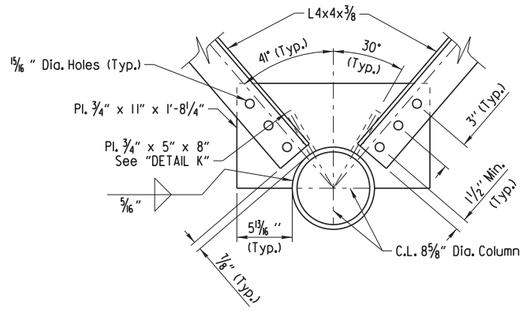
DETAIL H
Scale: 3" = 1'-0"



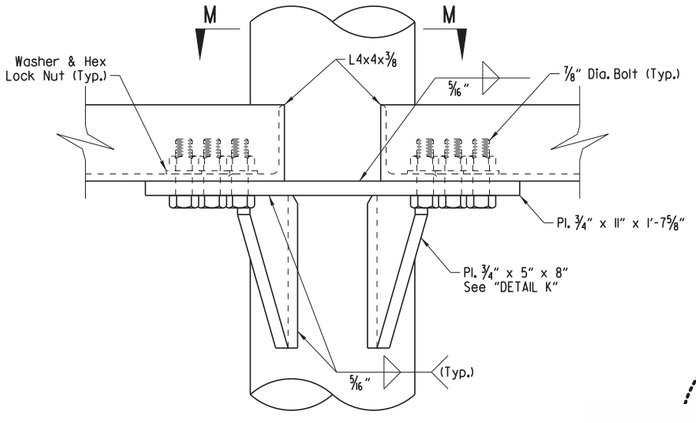
DETAIL J
Scale: 1 1/2" = 1'-0"



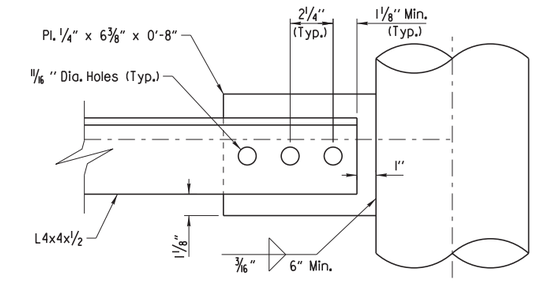
DETAIL K
Scale: 3" = 1'-0"



SECTION M-M
PLAN-TRUSS BOTTOM SUPPORT
Scale: 1 1/2" = 1'-0"



ELEVATION-TRUSS BOTTOM SUPPORT
Scale: 3" = 1'-0"
Bottom connection shown, top connection similar.



DETAIL L
Scale: 3" = 1'-0"

Charles R. Ellis
May 15 2020 4:53 PM
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STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS
BRIDGE ENGINEER

SHEET 2 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

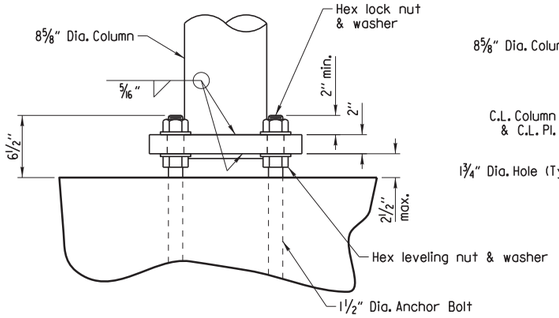
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 4-30-2020 FILENAME: b061630_tm.dgn
CHECKED BY: NAC DATE: 5-6-2020 SCALE: AS NOTED
DESIGNED BY: KAP DATE: APR. 2018
STR. NO. SEE TABLE DRAWING NO. 61829

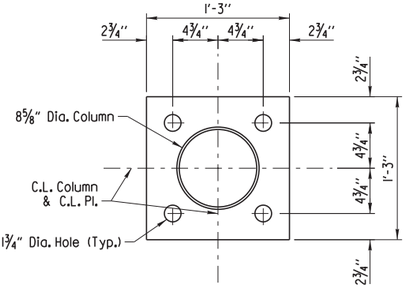
PRINT DATE: 5/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		

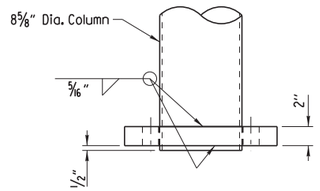
(1) SEE TABLE - TEE MOUNT SIGN - 61830



ELEVATION - COLUMN BASE
Scale: 1½"=1'-0"

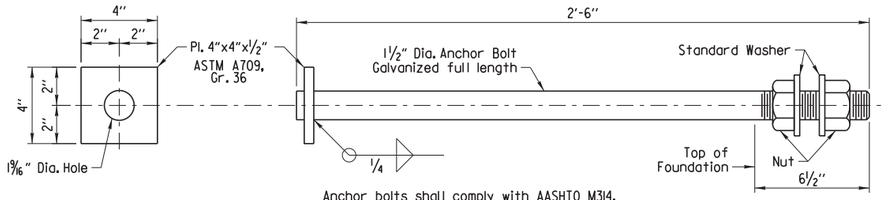


PLAN - COLUMN BASE
Scale: 1½"=1'-0"



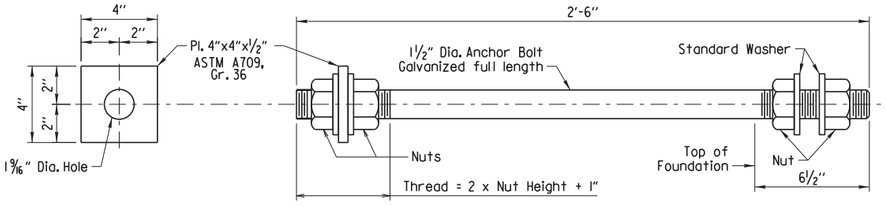
Note: Diameter of hole in base plate to be ⅛" larger than column diameter.

DETAIL OF COLUMN CONNECTION TO BASE PLATE
Scale: 1½"=1'-0"



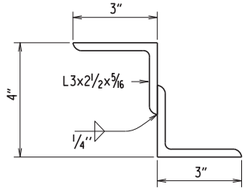
Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts for bolts shall be as specified in Subsection 807.07.

ANCHOR BOLT DETAIL
Scale: 3"=1'-0"



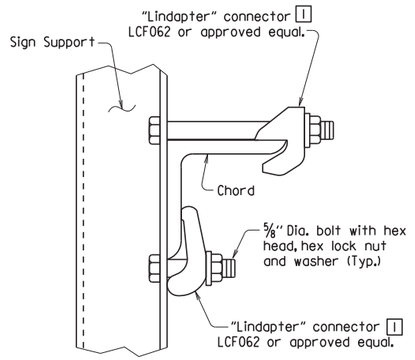
Anchor bolts shall comply with AASHTO M314, Grade 55, with Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts for bolts shall be as specified in Subsection 807.07.

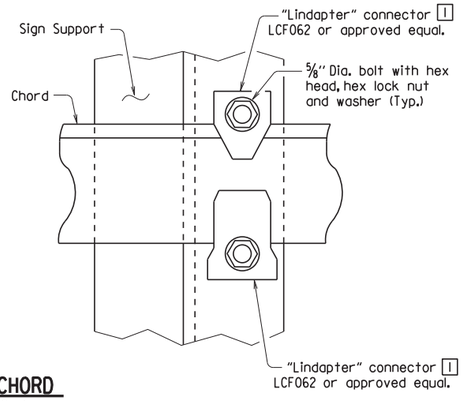
ALTERNATE ANCHOR BOLT DETAIL
Scale: 3"=1'-0"



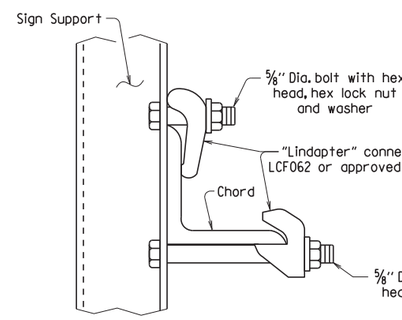
NOTE: Structural Z support may be fabricated from angles as shown.

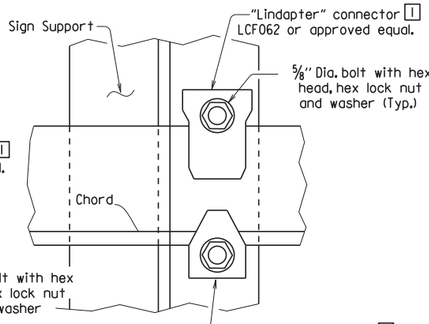
DETAILS OF ALTERNATE Z SUPPORT
No Scale





TOP CHORD
No Scale



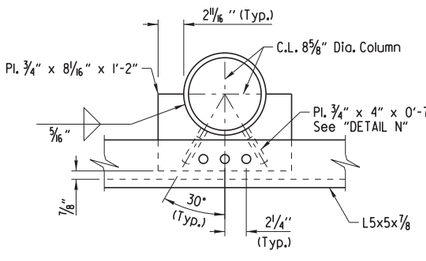


BOTTOM CHORD

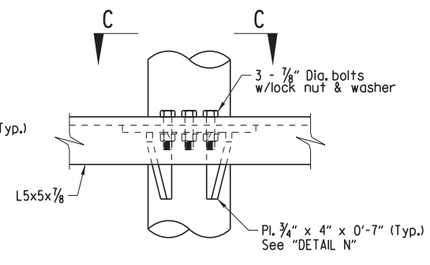
[1] Note: All "Lindapter" connectors or approved equal shall be installed according to manufacturer's recommendations. All connectors, bolts, nuts and washers shall be galvanized.

Note: Install all support connectors clear of the gusset plates and splice locations.

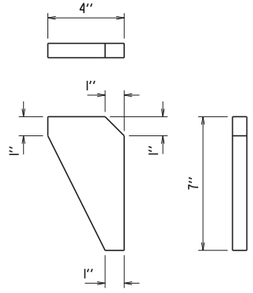
DETAIL OF SIGN SUPPORT CONNECTED TO TRUSS
No Scale



SECTION C-C
PLAN - CHORD SUPPORT
Scale: 1½"=1'-0"



ELEVATION - CHORD SUPPORT
Scale: 1½"=1'-0"



DETAIL N
Scale: 3"=1'-0"

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
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Charles R. Ellis
BRIDGE ENGINEER
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SHEET 3 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

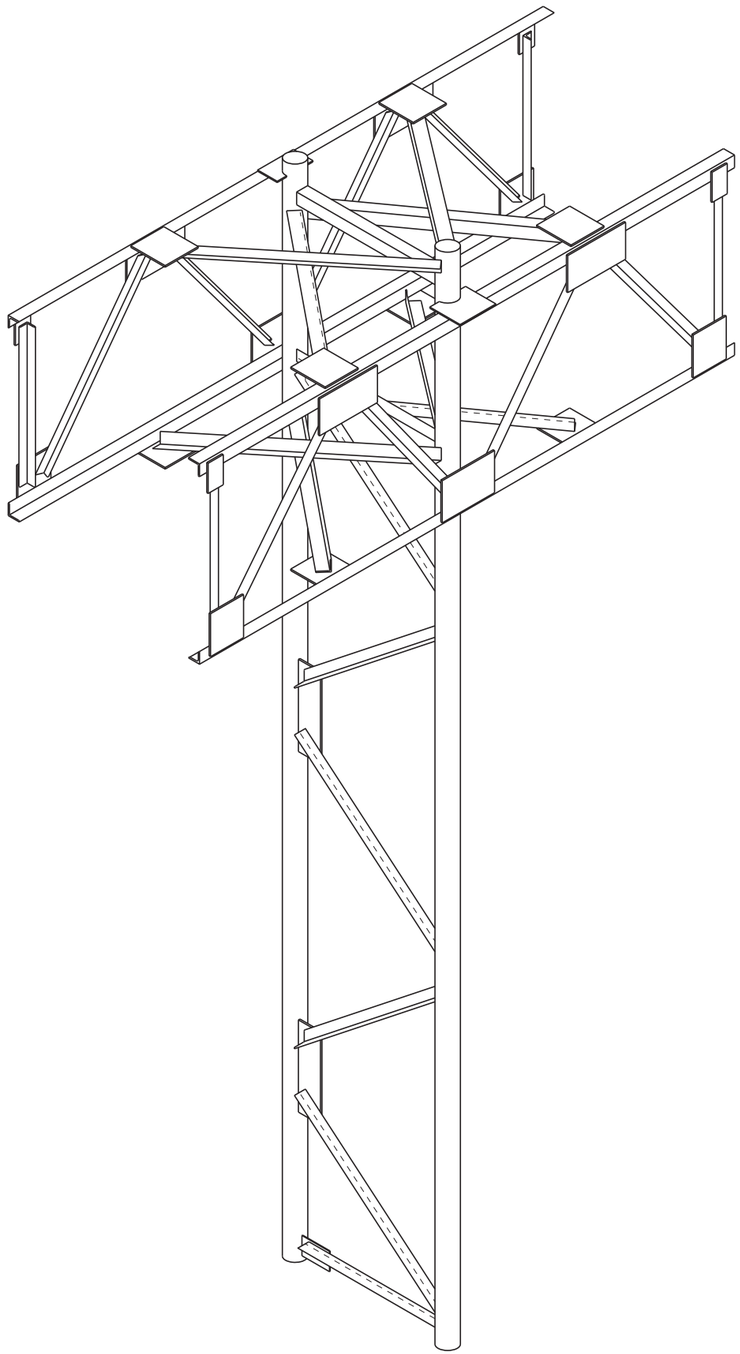
DRAWN BY: LJB DATE: 4-30-2020 FILENAME: b061630_tm.dgn
CHECKED BY: NAC DATE: 5-6-2020 SCALE: AS NOTED
DESIGNED BY: KAP DATE: APR. 2018

STR. NO. SEE TABLE DRAWING NO. 61830

PRINT DATE: 5/14/2020

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
				6	ARK.			
				JOB NO.		061630		

(1) SEE TABLE - TEE MOUNT SIGN - 61831



ISOMETRIC VIEW

GENERAL NOTES:

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

DESIGN SPECIFICATIONS: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, Sixth Edition, 2013 with current interim revisions.

Basic Wind Speed = 90 mph.
Fatigue Category: I

This structure is approved for 200 square feet of sign area and a Dynamic Message Sign (DMS) with a maximum dead load weight of 2200 lbs per side. Use of additional sign area or a heavier DMS must be approved by the Engineer. If the structure height ("H") exceeds 30'-0" contact the Engineer.

FOUNDATION MATERIALS AND STRENGTHS:

Class S Concrete	f'c = 3,500 psi
Reinforcing Steel (Gr. 60, AASHTO M 31 or M 322, Type A)	fy = 60,000 psi

Structural steel sign support members shall comply with the following specifications:

Angles:	ASTM A709, Gr. 36 (Fy = 36,000 psi)
Plate, W-Section:	ASTM A709, Gr. 50 (Fy = 50,000 psi)
(1) Pipe:	ASTM A139, Gr. C, straight-seam welded (Fy = 42,000 psi), ASTM A500, Gr. B (Fy = 42,000 psi), ASTM A501, Gr. B (Fy = 50,000 psi),
Z-Shapes:	AASHTO M 270, Grade 36 (Fy = 36,000 psi)
Shim Plates:	ASTM A1011, SS, Grade 36, Type 2, or Grade 40
Bolts:	ASTM A325, Type 1
Lock nuts - Approved Type:	ASTM A563, Grade DH or AASHTO M 292, Grade 2H
Washers:	ASTM F436
Nuts:	ASTM A563, Grade DH or AASHTO M 292, Grade 2H

The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and to fit the new structure to the existing conditions.

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 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.

All steel shall be galvanized according to Subsection 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 Subsection 807.88.

All main load carrying tension members greater than ½" in thickness shall conform to the requirements of the Longitudinal Charpy V-Notch test specified for Zone 1 minimum service temperature. This work and materials shall be paid for in accordance with Special Provision Job No. 061630 "Steel Sign Structures."

Truss field sections shall be shop assembled. Entire truss shall be fully assembled and lifted into place as one unit on to tower supports. All truss member connections shall be bolted connections.

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 except welding of tubular sections shall conform to AWS D1.1 Structural Welding Code.

No circumferential butt welds will be allowed in any pipe sections.

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.

Connections shall be bolted with high-strength bolts. Unless otherwise noted, bolts shall be ⅞" diameter and open holes shall be 11/16" diameter. Bolt spacing shall be 2¼" for ⅞" diameter bolts unless otherwise noted. Bolts shall be placed with heads on the outside face of all members.

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.

Lock nuts to be equipped with nylon locking inserts or other approved type locking system. Lock nuts to be installed according to manufacturer's recommendations.

Anchor bolts shall comply with AASHTO M 314, Grade 55 including Supplementary Requirement S1, and galvanized according to Subsection 807.07. Nuts and washers for anchor bolts shall be furnished and galvanized in accordance with Subsection 807.07. Anchor bolts shall be pretensioned in accordance with Special Provision Job No. 061630 "Steel Sign Structures."

Shoring may be required to protect existing shoulders during excavation. Any shoring required shall not be paid for directly, but shall be considered incidental to the item "Steel Tee Mount Sign Structure". The excavations for the footings shall be backfilled before the structure is attached to the foundations.

The DMS supplier shall be responsible for the attachment method and materials used to attach the DMS and it accessories to the structure. The method of attachment shall not facilitate any corrosion of the structure.

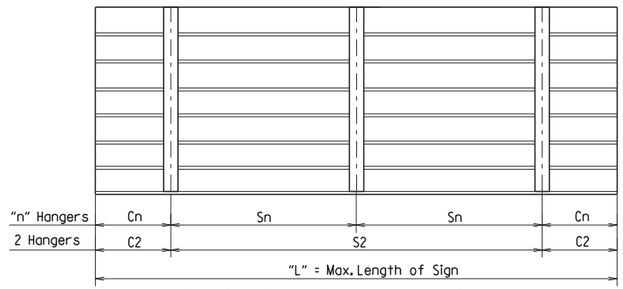
For additional information regarding the DMS, see Special Provision Job No. 061630 "Overhead Dynamic Message Sign Assembly."

(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

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.



Note: See sign details and plan sheets for number, size and dimensions of signs.

HANGER SPACING DETAILS FOR EXTRUDED PANEL SIGNS

STATE OF ARKANSAS
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May 15 2020 4:53 PM
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BRIDGE ENGINEER

SHEET 4 OF 4
DETAILS OF TEE MOUNT SIGN STRUCTURE WITH MEDIAN FOUNDATION

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: LJB DATE: 4-30-2020 FILENAME: b061630_tm.dgn
CHECKED BY: NAC DATE: 5-6-2020 SCALE: NONE
DESIGNED BY: KAP DATE: APR. 2018

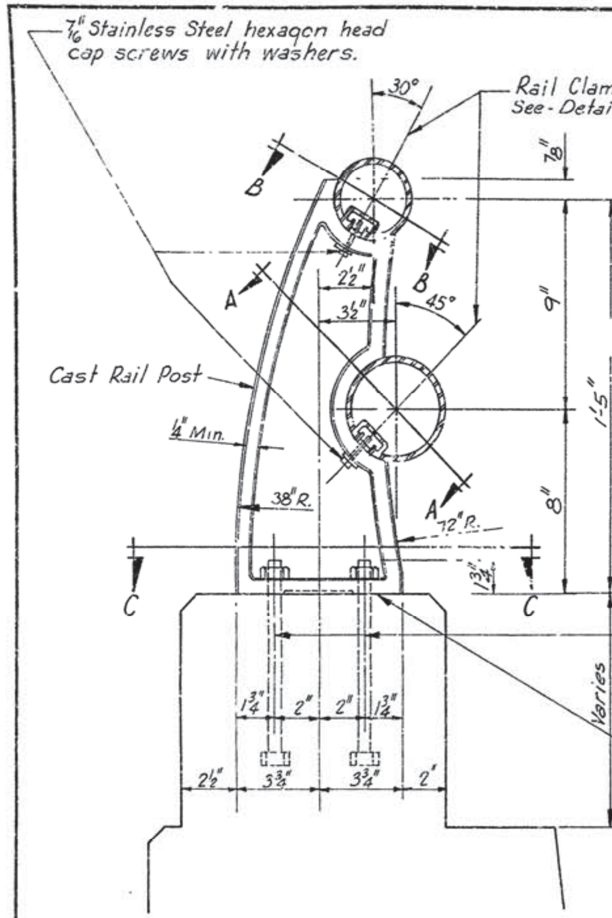
STR. NO. SEE TABLE DRAWING NO. 61831

PRINT DATE: 5/14/2020

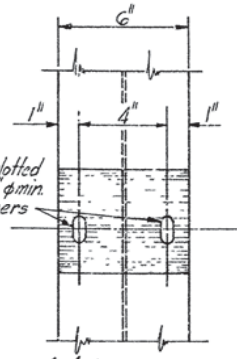
		DATE	DATE
		7-15-88	
2-6-70	597-2-6-70	1-16-89	502-1-16-89
9-15-78	824-1-10-84	11-2-90	11-5-90

FED. ROAD DIV.	STATE	FED. AID PROJ.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.					

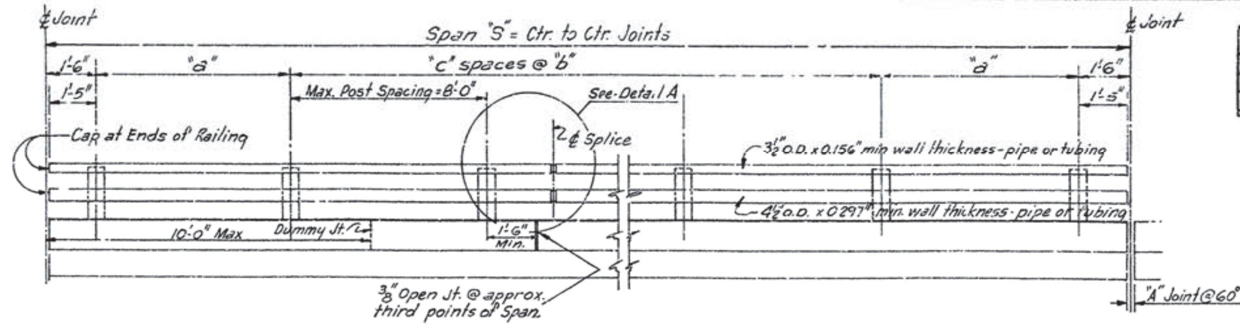
① STD. RAIL TY. A 14992A



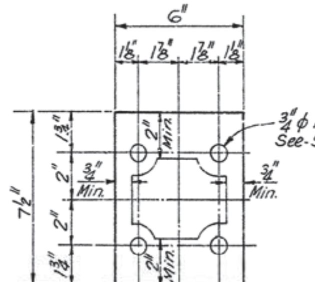
SIDE ELEVATION OF POST
3" = 1'-0"



SECTION A-A THRU RAIL POST
SECTION B-B SIMILAR
3" = 1'-0"



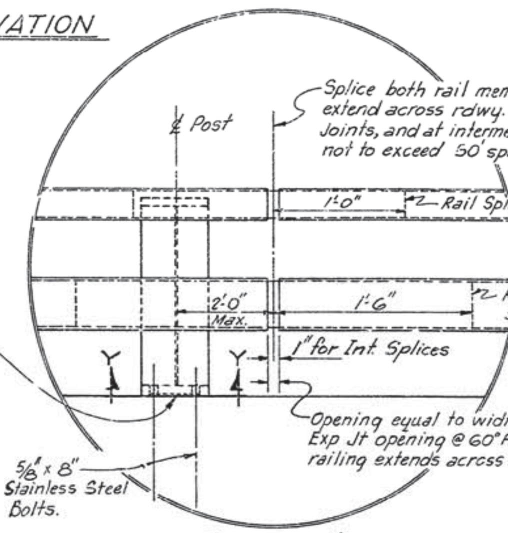
SIDE ELEVATION
3/8" = 1'-0"



SECTION Y-Y
3" = 1'-0"

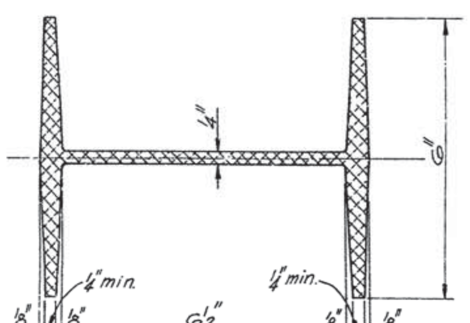
Preformed fabric or reinforced neoprene bearing pads shall be placed under each post. Bearing Pads to be 5" x 7 1/2" x 1/8" thick with 4-1"φ holes. Preformed fabric pads shall conform to Section 807.05(h)(1) of the Standard Specifications.

Reinforced Neoprene Pads shall conform to Section 807.05(h)(2) of the Standard Specifications.

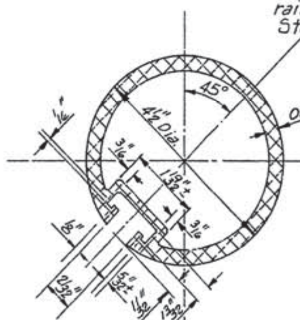


DETAIL A
1 1/2" = 1'-0"

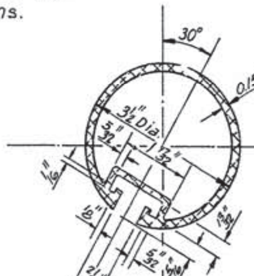
NOTE:
Boiled Linseed Oil shall be applied to the roadway surface, the face & top of Curbs & the face & top of Curb Risers before placing metal rail. See-Section 803 of the Standard Specifications.



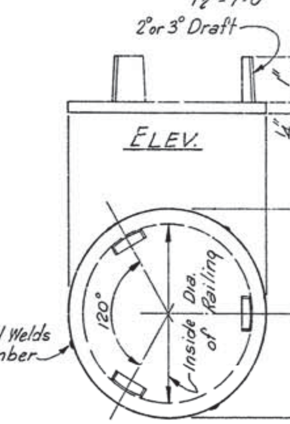
SECTION C-C OF RAIL POST
HALF SIZE



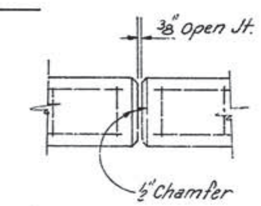
CROSS SECTION OF LOWER RAIL
HALF SIZE



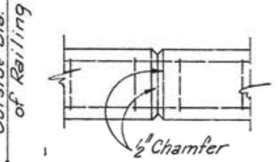
CROSS SECTION OF UPPER RAIL
HALF SIZE



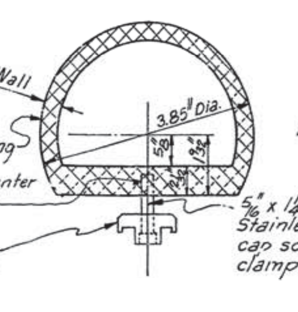
RAIL END CAP DETAILS
HALF SIZE



PLAN OF OPEN JOINT

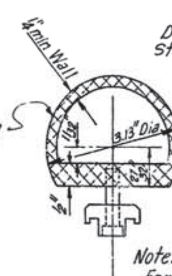


PLAN OF DUMMY JOINT



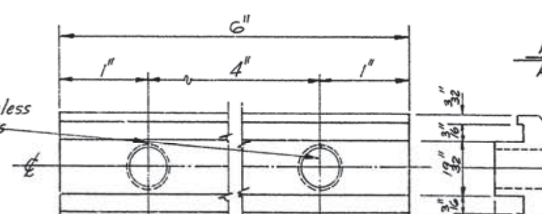
Note:
Set cap screw snug only to permit thermal expansion and contraction.

CROSS SECTION OF LOWER RAIL
SPLICE MEMBER & CLAMP BAR
HALF SIZE

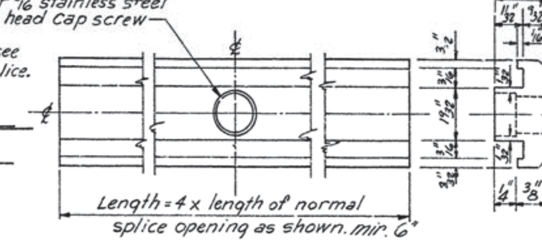


Note:
For details not shown, see details for Lower Rail Splice.

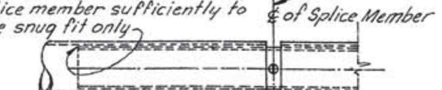
CROSS SECTION OF UPPER RAIL
SPLICE MEMBER & CLAMP BAR
HALF SIZE



RAIL POST CLAMP BAR
FULL SIZE



SPLICE CLAMP BAR
FULL SIZE



ALTERNATE SPLICE INSTALLATION
1 1/2" = 1'-0"

REVISIONS

1. Revised 9-15-78 for 1978 Specs. K.D.H.
2. Revised 7-15-88 for 1988 Specs.
3. Revised Pay Item & Specs. Notes. 1-16-89 MEC
4. ④ Rev. General Notes. 11-2-90 H.McMay.

GENERAL NOTES

Metal railing including posts and fasteners shall be paid for at the unit price bid for Metal Bridge Railing (Type A). This railing system is for installation on parapet walls only. For details of parapet walls, see span drawings. Parapet walls will be paid for at unit prices bid for concrete and reinforcing steel.

Railing components may be either aluminum or steel. Stainless steel fasteners may be used on either aluminum or steel systems. Other than the exceptions noted herein and in the Material Data, no mixing of aluminum and steel parts is permitted. For lists of material designations & specifications of various parts, see Material Data.

Uniform section steel or aluminum tubing or pipe of equivalent strength and wall thickness with approved fasteners may be submitted for approval. Toggle bolt fasteners 7/16" dia. with 5/16" toggle pin may be used to attach uniform sections to posts.

Rail tubes, pipes or extrusions must be fabricated to attach to at least three posts. Shop drawings of railing shall be submitted and approval secured before fabrication is begun.

Steel rail members shall be galvanized in accordance with ASTM A123 after fabrication. Steel fasteners other than stainless steel shall be galvanized according to ASTM 153, or B695 Class 40 or 50.

SPECIFICATIONS: Arkansas State Highway And Transportation Department Standard Specifications for Highway Construction, Edition ④ of 1991, with applicable Special Provisions and Supplemental Specifications.

MATERIAL DATA

PART	ALUMINUM		STEEL	
	Alloy	Specification	Grade	Specification
TUBING	6061-T6	ASTM B221		ASTM A36 ASTM A501
PIPE	6061-T6	ASTM B241		ASTM A36 A501
			B	ASTM A53 & A500
EXTRUSIONS	6061-T6	ASTM B221	—	——
RAILING END CAPS	356-F	ASTM B26	70-40	ASTM A27
	356-F	ASTM B108	—	ASTM A36
CAST RAIL POSTS	A444-T4	ASTM B108	70-40	ASTM A27
ANCHOR BOLTS & RAIL CLAMP SCREWS	Same as for Steel Railing		B8 ‡	ASTM A193
			—	
			B8 ‡	ASTM A320
WASHERS	Same as for Steel Railing			ASTM A276(302)
				ASTM A167(302)
* NUTS	Same as for Steel Railing		8	ASTM A194
			—	
TOGGLE BOLT ASSEMBLY	The entire assembly shall be capable of withstanding a tensile load of 9000 pounds applied through a 1" hole. The materials for components will be specified by recognized ASTM designations on shop drawings submitted for approval, and will be accepted by manufacturer's certification on approval by the engineer.			

* Threads on bolts, screws and nuts shall conform to American Standard coarse Series, Class 2A for screws, Class 2B for nuts, Fit ASA B1.1.
‡ Minimum yield strength - 80,000 psi

DETAILS OF METAL BRIDGE RAILING TYPE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: J.S. DATE: 2-3-68
TRACED BY: DATE:
CHECKED BY: J.E.M. DATE: 3-3-68
SCALE: As Noted

L. J. Carlson
BRIDGE ENGINEER

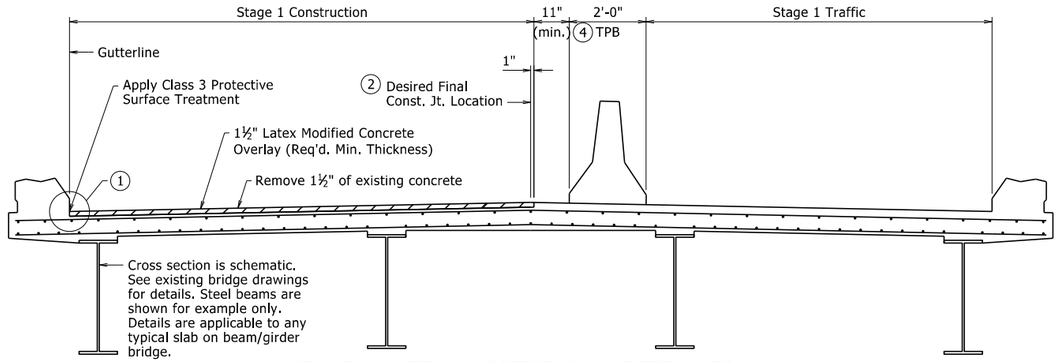
BRIDGE NO. DRAWING NO. 14992A

DATE REVISED	DATE FILMED	DATE REVISED	DATE FILMED	FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
1/9/2020				6	ARK.			
				JOB NO.				
				①	HYDRO/LMC OVERLAY - 55060			

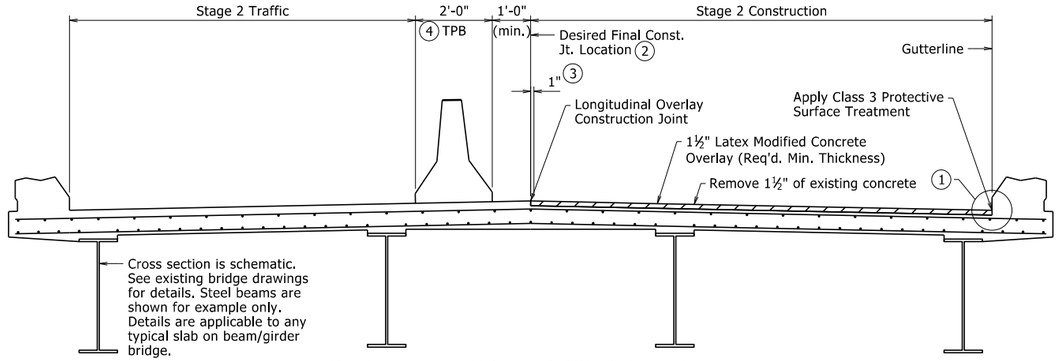
Stages of construction and traffic refer to Bridge Rehabilitation Work Zones as shown in Maintenance of Traffic Details. Numbering is shown for general purposes. See Roadway Plans for specific sequencing.

The minimum overlay placement length shall be a span length on simple span bridges and to an existing slab joint on continuous span bridges, unless otherwise approved by the Engineer. Refer to existing bridge drawings.

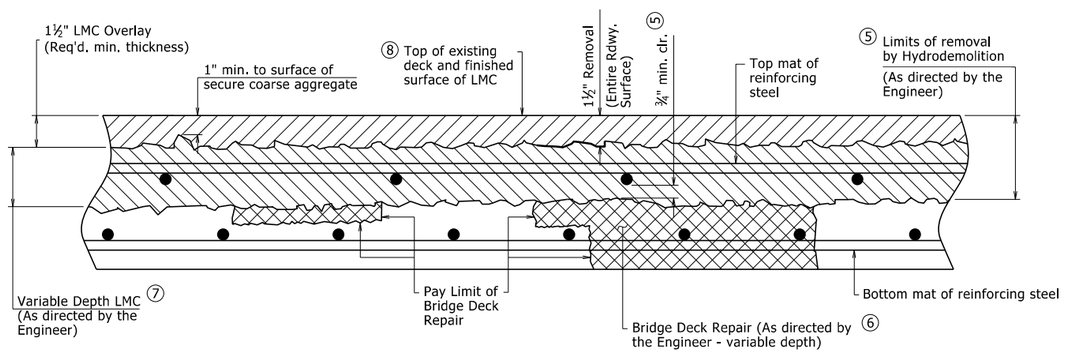
NOTE: Details shown are typical for staged construction. When full width rehabilitation of a bridge deck is possible, adjust hydrodemolition and latex modified concrete overlay operations and details accordingly.



STAGE 1 LATEX MODIFIED CONCRETE OVERLAY



STAGE 2 LATEX MODIFIED CONCRETE OVERLAY



DETAILS OF HYDRODEMOLITION AND LATEX MODIFIED CONCRETE OVERLAY

⚠1 ⑤ Removal of unsound concrete beyond 1½" below the original surface shall be at the direction of the Engineer. If the bond between existing concrete and the top mat of reinforcing steel is destroyed, then the concrete shall be removed to a minimum of ¾" clearance below the bar. This removal shall be subsidiary to the item Job SP "Hydrodemolition - Class _".

⑥ Areas requiring additional repair, as determined by the Engineer, shall be repaired in accordance with the Job SP "Bridge Deck Repair for Latex Modified Concrete Overlays".

⑦ Depth varies to achieve minimum clearance below top mat of reinforcing steel, where required.

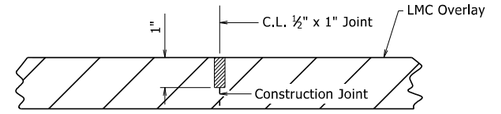
⑧ Finished surface of LMC Overlay shall match existing concrete deck surfaces unless increase is required to maintain minimum required LMC Overlay thickness and a minimum of 1½" cover to reinforcing steel and shear connectors.

① Hand tools shall be used as required to remove concrete adjacent to curbs, rails, and armored expansion joints.

② For staged construction, the final construction joint location shall be established by the Engineer to satisfy MOT and construction requirements. The desired location is at the C.L. Bridge, C.L. Lane, or Edge of Lane, but in no case shall be positioned in the line of a wheel path.

③ For staged construction, saw cut and remove 1" of initial Latex Modified Concrete Overlay when preparing surface for adjacent overlay.

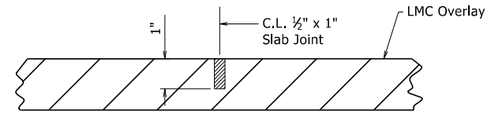
④ For staged construction, Temporary Precast Barrier (TPB) shall not be connected to the surface of the bridge deck. See Std. Dwg. TC-4 for additional details. Plastic drums shall be used in lieu of concrete barriers where shown in the Roadway Plans, see Std. Dwg. TC-3 for additional details.



Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod will not be required. Joint Sealer shall be measured and paid for as LMC Overlay. Longitudinal construction joints shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the overlay. Seal color shall be gray or other color similar to concrete.

LONGITUDINAL OVERLAY CONSTRUCTION JOINT DETAIL

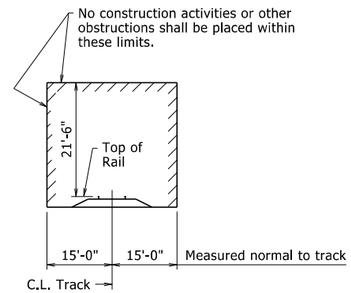
For Staged Construction



Use ½" x 1" Type 3 or 4 Joint Sealer. See Subsections 501.02(h) and 501.05(j). Backer Rod will not be required. Joint Sealer shall be measured and paid for as LMC Overlay. Slab joints shall extend from gutterline to gutterline. Slab joints shall be sawed as soon as the concrete has sufficiently set to allow sawing of the joint without damage to the overlay. Slab joints shall be placed at all pouring sequence construction joints and are required at existing slab joint locations. Pouring sequence construction joints shall align between stages of construction. The joint sealer shall extend across the deck from gutterline to gutterline. Seal color shall be gray or other color similar to concrete.

TRANSVERSE OVERLAY JOINT DETAIL

For Continuous Span Bridges



MINIMUM CONSTRUCTION CLEARANCE ENVELOPE

See Job SP "Insurance, Construction, and Flagging Requirements on Railroad Property" for additional railroad construction requirements.

GENERAL NOTES:

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

Details shown are schematic. The Contractor shall make check measurements in the field and make any adjustments necessary to meet the required clearances and fit the new work to the existing structure(s).

The operation or placement of vehicles, equipment, and/or materials on the subject bridge(s) necessary for the completion of this work shall be evaluated in accordance with Subsection 105.14. Certifications of the adequacy of all components for the anticipated loads shall address the capacity of the existing structure at all phases of this work.

Where applicable, construction activities for the existing bridge(s) over roadways and railroads shall be in accordance with the Job SP "Special Safety Requirements for Bridges" and as shown in "Minimum Construction Clearance Envelope".

⚠1 HYDRODEMOLITION: The entire roadway surface of the existing bridge deck and approach slabs and gutters, as applicable, shall receive hydrodemolition in accordance with the Job SP "Hydrodemolition - Class _" to a planned depth of 1½" below the existing bridge deck surface. Deteriorated concrete in the bridge deck below this depth shall be removed at the direction of the Engineer and up to the limits detailed. These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item Job SP "Hydrodemolition - Class _". Prior to hydrodemolition, cold milling of the concrete deck to a maximum depth of 1" will be allowed unless there will be a conflict with the existing reinforcing steel.

BRIDGE DECK REPAIR: After hydrodemolition, the deck surface shall be sounded and any areas of unsound, delaminated, or otherwise deteriorated concrete shall be removed at the direction of the Engineer and in accordance with Job SP "Bridge Deck Repair for Latex Modified Concrete Overlays".

LATEX MODIFIED CONCRETE OVERLAY: The entire area of the hydrodemolition shall receive a Latex Modified Concrete (LMC) Overlay to a planned depth of 1½" below the existing bridge deck surface in accordance with Job SP "Latex Modified Concrete Overlay". These areas shall be measured by the square yard and shall be paid for at the unit price bid for the item Job SP "Latex Modified Concrete Overlay (1½" Thick)". Areas of the existing bridge deck removed at the direction of the Engineer to a depth greater than 1½" below the existing bridge deck surface shall be filled with LMC concurrent to the placement of the 1½" LMC Overlay. This area shall be measured and paid for in accordance with Job SP "Latex Modified Concrete Overlay".

GROOVED FINISH: The LMC Overlay surface of the bridge deck and approach slabs and gutters, as applicable, shall be given a grooved finish as specified for final finishing in Subsection 802.19 for Class 7 Grooved Bridge Roadway Surface Finish and in accordance with Job SP "Latex Modified Concrete Overlay".

PROTECTIVE SURFACE TREATMENT: The longitudinal joint between the LMC Overlay and the adjacent existing concrete curb or rail shall be given a Class 3 Protective Surface Treatment as specified in Section 803 and in accordance with Job SP "Latex Modified Concrete Overlay". The roadway surface of the completed LMC Overlay shall be given a Class 1 Protective Surface Treatment as specified in Section 803.

JOINT REHABILITATION: After the placement of the LMC Overlay and if shown in the plans, the existing armored expansion joints shall be given a poured silicone joint sealant as specified in Section 809 and as shown in "Poured Silicone Joint Seal Details" on Standard Drawing No. 55064. Backwall repair, if shown in the plans or as directed by the Engineer, shall be completed prior to installation of the joint sealant.

If shown in the plans, the existing neoprene strip seal shall be removed and replaced. See "Strip Seal Joint Details" on Standard Drawing No. 55064.

NOTE: When "Very Early Strength Latex Modified Concrete Overlay (1½" Thick)" is shown in the plans for a particular bridge, all reference to "Latex Modified Concrete Overlay" and "LMC" on this sheet shall be considered synonymous with "Very Early Strength Latex Modified Concrete Overlay" and "VESLMC" for that bridge. See Job SP "Very Early Strength Latex Modified Concrete Overlay" for additional information.

⚠1 Modified Hydrodemolition SP reference to include "- Class _". By: KWY, Checked by: SWP; 1/9/2020.

This document was originally issued and sealed by Charles R. Ellis, PE No. 9235, on November 7, 2019. This copy is not a signed and sealed document.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 9235
CHARLES R. ELLIS

BRIDGE ENGINEER

STANDARD DETAILS FOR HYDRODEMOLITION AND LMC OVERLAY SLAB ON BEAM/GIRDER BRIDGES

ROUTE SEC.

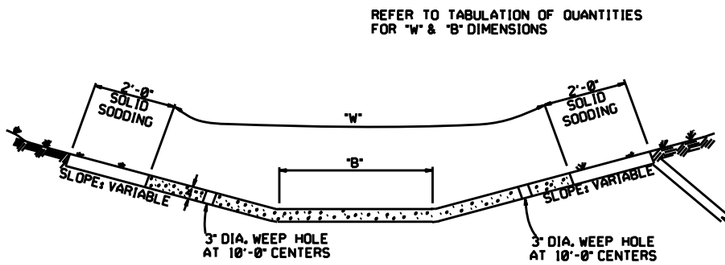
ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: KWY DATE: 11/7/2019
CHECKED BY: SWP DATE: 11/7/2019
DESIGNED BY: STD. DATE: -------
FILENAME: b55060.dgn
SCALE: None

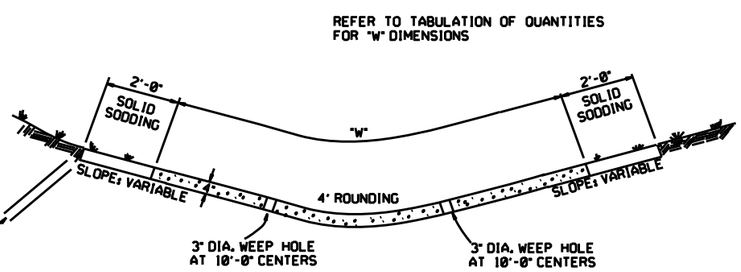
DRAWING NO. 55060

PRINT DATE: 1/15/2020



TYPE A

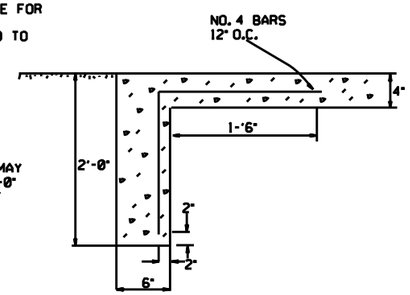
EXCAVATE TO NEAT LINES TO CONSTRUCT DITCH PAVING AND SOLID SODDING.



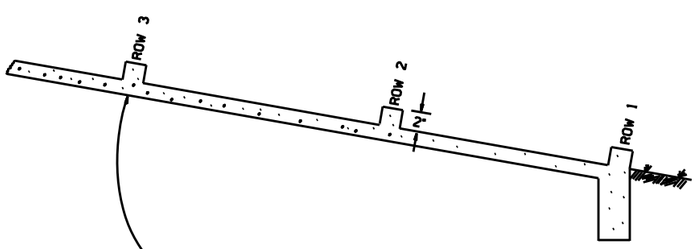
TYPE B

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

TOE WALL DEPTH MAY BE ALTERED TO 1'-0" WHEN DIRECTED BY THE ENGINEER IN ROCK EXCAVATION

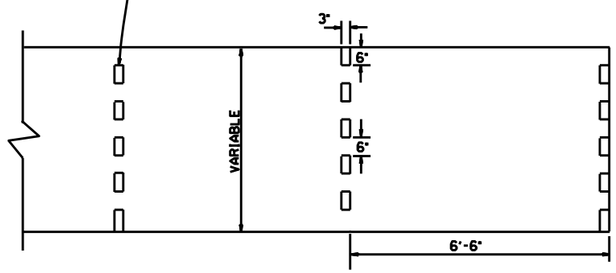


TOE WALL DETAIL FOR CONCRETE DITCH PAVING



NUMBER OF ELEMENTS PER ROW VARIES WITH WIDTH OF PAVING SPECIFIED

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



ENERGY DISSIPATORS
(NO SCALE)

GENERAL NOTES:

THE FULL WIDTH OF EACH SECTION SHALL BE POURED MONOLITHICALLY.

TOE WALLS TO BE CONSTRUCTED FULL WIDTH AT EACH END OF DITCH PAVING, AND POURED MONOLITHICALLY.

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

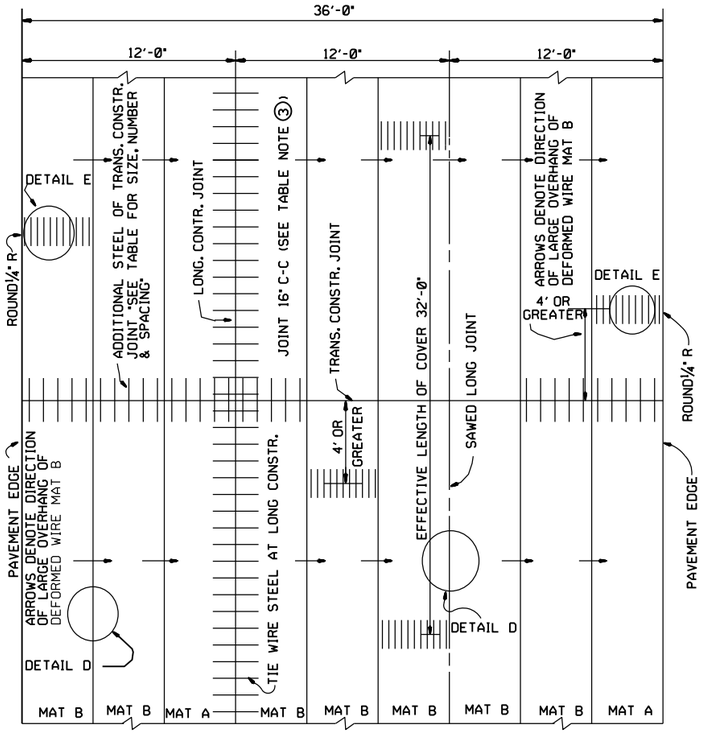
1" WIDE TRANSVERSE EXPANSION JOINTS SHALL BE PLACED IN CONCRETE DITCH PAVING AT 45° INTERVALS. THE SPACE SHALL BE FILLED WITH APPROVED JOINT FILLER COMPLYING WITH AASHTO M213.

DATE	REVISION	DATE FILM'D
12-8-16	CORRECTED ENERGY DISSIPATOR DRAWING AND NOTE	
11-17-10	ADDED GENERAL NOTE	
6-2-94	ADDED GENERAL NOTE ABOUT SOLID SODDING	
11-30-8	ELIMINATED MIN. ROWS OF ELEMENTS	111-30-89
7-15-88	REVISED DISSIPATOR NOTE	653-7-15-88
4-3-87	REVISED ENERGY DISSIPATOR	671-4-3-87
1-9-87	MODIFIED NOTE ON ENERGY DISS.	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

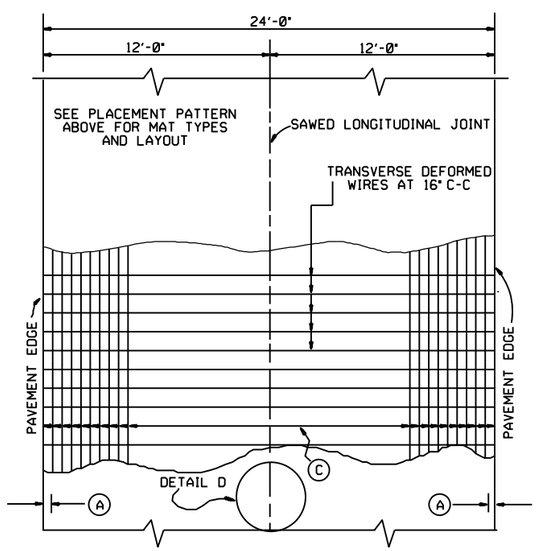
CONCRETE DITCH PAVING

STANDARD DRAWING CDP-1



THREE LANE PAVEMENT PLAN

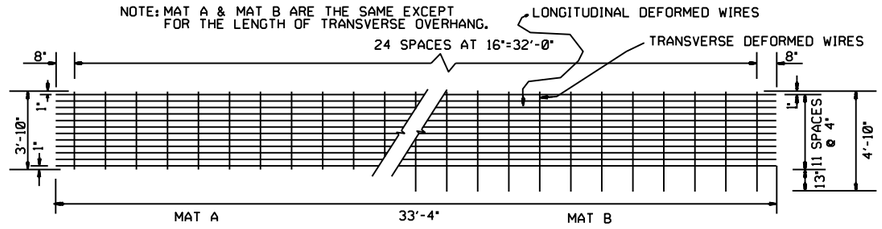
(12' AND 24' PLACEMENT)



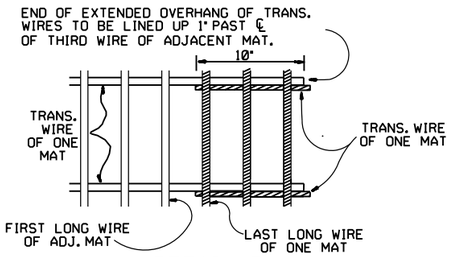
TWO LANE PAVEMENT PLAN

(24' PLACEMENT)

NOTE: MAT A & MAT B ARE THE SAME EXCEPT FOR THE LENGTH OF TRANSVERSE OVERHANG.

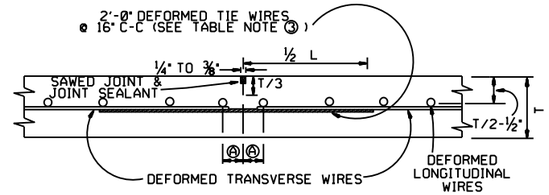


PREFABRICATED DEFORMED WIRE MATS

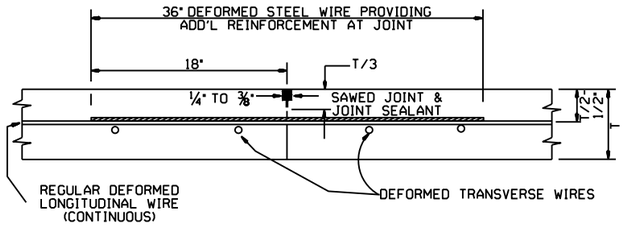


DETAIL D

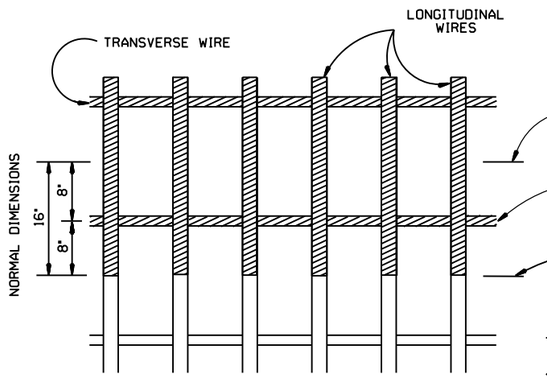
TYPICAL LAP OF TRANSVERSE WIRES



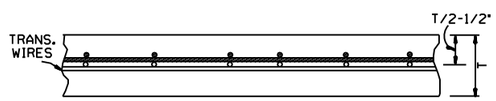
LONGITUDINAL CONSTRUCTION JOINT



TRANSVERSE CONSTRUCTION JOINT



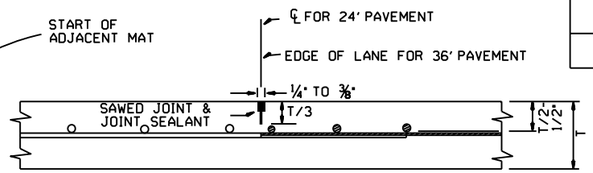
PLAN



SECTION

DETAIL E

TYPICAL LAP OF LONGITUDINAL WIRES



SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

JOINT AND JOINT SEAL DETAILS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.

CONSTRUCTION JOINTS MAY BE FORMED BY THE USE OF METAL OR WOOD FORMS EQUAL IN DEPTH TO THE NOMINAL DEPTH OF THE PAVEMENT, OR BY THE OTHER MEANS WHICH HAVE BEEN APPROVED BY THE ENGINEER PRIOR TO THEIR USE.

REFER TO TYPICAL SECTION FOR PAVEMENT WIDTH, THICKNESS AND CROWN.

IT IS THE INTENT OF THIS DESIGN THAT THE LONGITUDINAL STEEL BE AT THE CENTER OF THE SLAB. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO TAKE ALL NECESSARY PRECAUTIONS TO INSURE THAT THE FINAL POSITION OF THE STEEL IS NOT BELOW THE CENTER OF THE SLAB.

WITHIN ANY AREA BOUNDED BY TWO FEET OF PAVEMENT LENGTH MEASURED PARALLEL TO THE CENTERLINE, AND TWELVE FEET OF PAVEMENT WIDTH MEASURED PERPENDICULAR TO THE PAVEMENT CENTERLINE, NOT OVER 33% OF THE REGULAR LONGITUDINAL STEEL SHALL BE SPLICED.

ALL SPLICES SHALL BE A MINIMUM OF 16" FOR LONGITUDINAL STEEL AND 10" FOR TRANSVERSE STEEL.

AT TRANSVERSE CONSTRUCTION JOINTS THE REGULAR LONGITUDINAL STEEL SHALL EXTEND A MINIMUM OF FOUR FEET ON EITHER SIDE OF THE JOINT.

IF WIDTHS GREATER THAN TYPICAL WIDTHS OCCUR, INDIVIDUAL WIRES MAY BE ADDED TO OBTAIN ADDITIONAL WIDTH, PROVIDED THE C-C SPACING IS NOT EXCEEDED AND LAP REQUIREMENTS ARE MET.

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

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

PAVEMENT THICKNESS (T) IN.	LONGITUDINAL REINFORCEMENT											TRANS. REINF. FOR LONG. CONSTR. JOINT	
	WIRE SIZE	24' PLACEMENT SPACING C-C Ⓐ IN.	24' PLACEMENT SPACING C-C Ⓒ IN.	24' PLACEMENT ① STEEL LB/SY	12' PLACEMENT SPACING C-C Ⓐ IN.	12' PLACEMENT SPACING C-C Ⓒ IN.	12' PLACEMENT ① STEEL LB/SY	ADDITIONAL STEEL TRANS. CONSTR. JOINT WIRE SIZE	ADDITIONAL STEEL TRANS. CONSTR. JOINT LENGTH IN.	ADDITIONAL STEEL TRANS. CONSTR. JOINT ② NO. PER LANE	ADDITIONAL STEEL TRANS. CONSTR. JOINT WEIGHT LB./FT OF WIDTH	WIRE SIZE	TIE WIRES ③ WEIGHT LB./FT. OF LENGTH
8	D-19.2	2	4	20.59	2	4	20.51	D-19.2	36	16	2.61	D-8	.408
6	D-14.4	2	4	14.90	2	4	14.86	D-14.4	36	16	1.96	D-4	.204

TABLE NOTE

① INCLUDES BOTH LONGITUDINAL AND TRANSVERSE WIRES BASED ON THE WIDTH INDICATED AND AN EFFECTIVE COVER LENGTH OF 32 FEET. (ESTIMATING QUANTITIES INCLUDE SPLICES)

② THIS SHALL BE THE MINIMUM NUMBER OF ADDITIONAL STEEL WIRES TO BE PLACED PER LANE. THE ADDITIONAL STEEL WIRES SHALL BE PLACED EQUIDISTANT BETWEEN TWO REGULAR LONGITUDINAL REINFORCING WIRES AT AS NEAR A UNIFORM SPACING ACROSS THE LANE AS POSSIBLE.

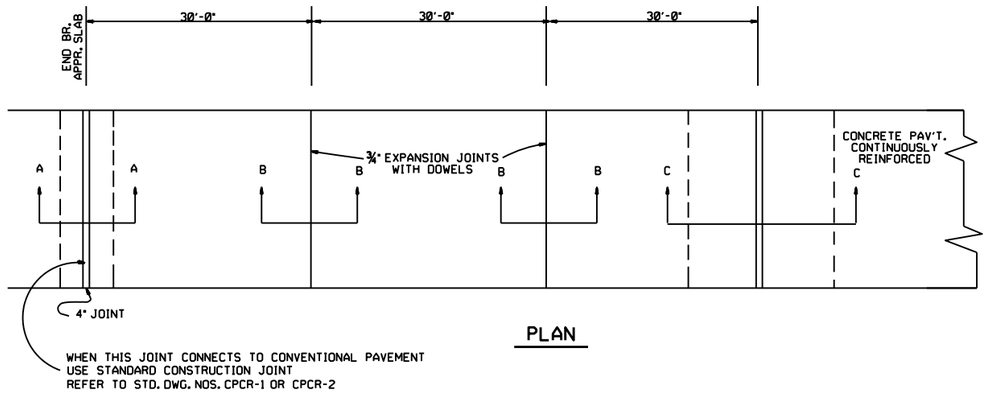
③ AT THE OPTION OF THE CONTRACTOR, #4 BARS X 30 IN. AT 30 IN. C-C MAY BE USED IN LIEU OF THE DEFORMED TIE WIRES AT 16 IN. C-C SHOWN, PROVIDED WRITTEN APPROVAL HAS BEEN RECEIVED FROM THE ENGINEER.

DATE	REVISION	DATE FILMED
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	509-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	651-11-3-86
1-4-83	DEPTH OF SAWED TRANSVERSE CONST. JOINT	676-1-4-83
10-2-72	REVISED AND REDRAWN	505-10-2-72

ARKANSAS HIGHWAY COMMISSION

CONCRETE PAVEMENT DETAILS CONTINUOUSLY REINFORCED DEFORMED WIRE MAT

STANDARD DRAWING CPCR-2



PLAN

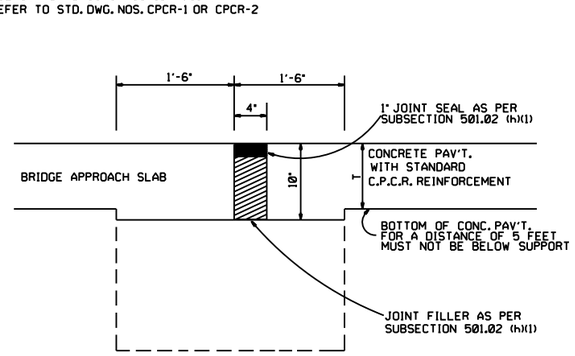
GENERAL NOTES

OTHER TYPES OF EXPANSION JOINTS MAY BE CONSTRUCTED AT THE OPTION OF THE CONTRACTOR AFTER APPROVAL BY THE ENGINEER.

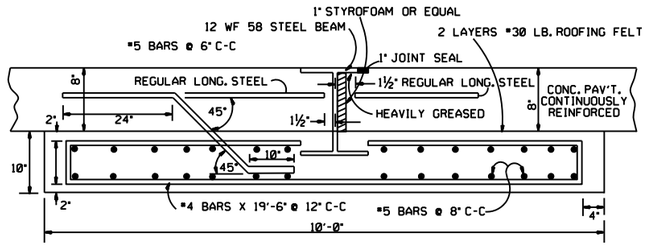
LOAD TRANSMISSION UNITS AND DOWELS SHALL BE SECURED PARALLEL TO THE PAVEMENT SURFACE AND CENTERLINE.

ALL EXPANSION JOINTS, INCLUDING ALL MATERIALS, DEVICES, AND WORK REQUIRED SHALL BE CONSIDERED AS SUBSIDIARY WORK AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PORTLAND CEMENT CONCRETE PAVEMENT. NO DIRECT PAYMENT WILL BE MADE FOR ANY MATERIAL, BAR CHAIR, STEEL OR ANY OTHER DEVICE SHOWN NOR FOR ITS INSTALLATION.

"T" DENOTES THICKNESS OF SLAB.



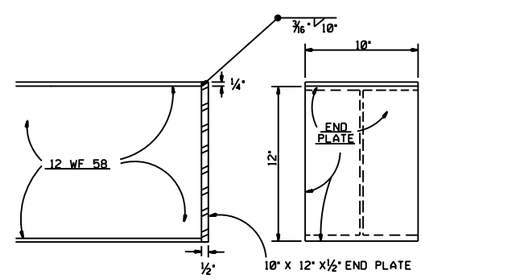
SECTION A-A



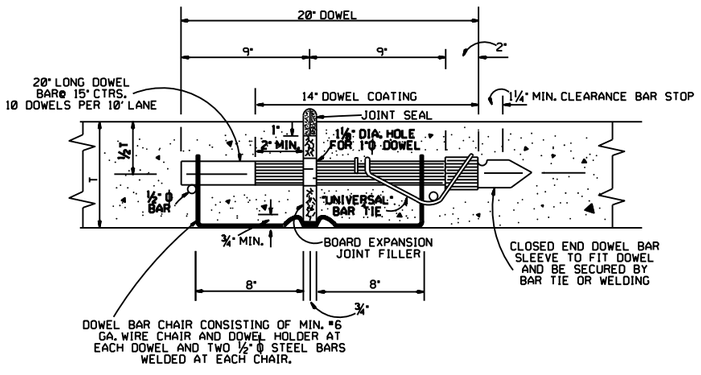
SECTION C-C

DETAIL OF WIDE FLANGE BEAM & JOINT SUPPORT

NOTE: WELD 12" X 10" X½" STEEL PLATE TO ENDS OF BEAM AFTER PLACEMENT OF CONCRETE PAVEMENT.

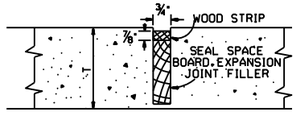


DETAIL OF END PLATE ATTACHMENT TO WIDE FLANGE BEAM



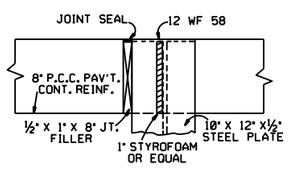
SECTION B-B
DETAIL OF EXPANSION JOINT

STRUCTURAL EXCAVATION	CLASS A CONCRETE	REINFORCING STEEL	STRUCTURAL STEEL
CU. YD.		LB.	
0.31	0.31	46.2	58.0

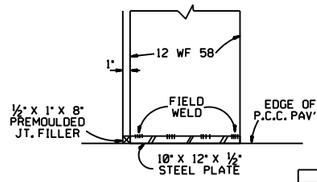


SEAL SPACE FOR EXPANSION JOINT

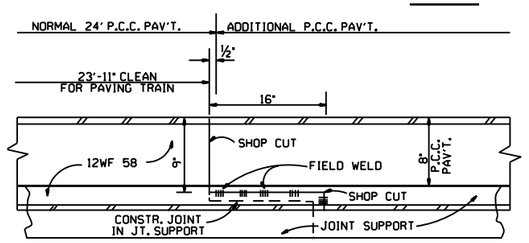
NOTE: BOARD JOINT FILLER OF SPECIFIED TYPE SHALL BE SECURED ON SUBGRADE IN EXACT POSITION AND LINE AS ILLUSTRATED OR BY OTHER APPROVED DEVICE.
JOINT ASSEMBLY SHALL BE SECURELY FASTENED INTO PLACE PRIOR TO PLACING CONCRETE.
AFTER SECOND PASSAGE OF FINISHING MACHINE REMOVE CONCRETE TO 1" BELOW TOP OF BOARD AND NAIL ¾" X ⅞" WOOD STRIP TO TOP OF BOARD FILLER TO FORM JOINT SEAL SPACE.
REPLACE CONCRETE AND FINISH WITH LONGITUDINAL FLOAT.
THE WOOD STRIP SHALL NOT BE REMOVED UNTIL IMMEDIATELY PRIOR TO POURING JOINT SEAL.



ELEVATION



PLAN



TRANSVERSE SECTION THROUGH WF BEAM AND JOINT SUPPORT

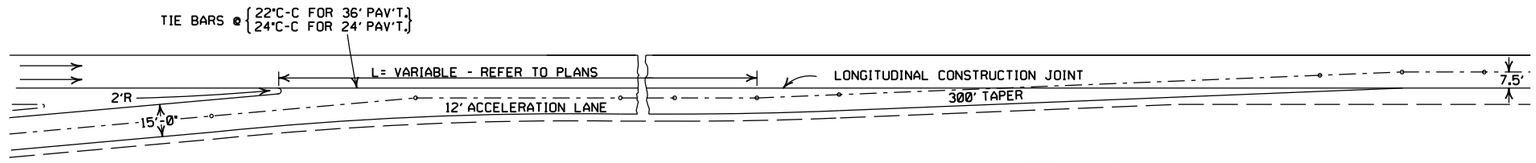
DATE	REVISION	DATE FILM'D
10-18-96	CORRECTED SUBSECTION AND SPELLING	
4-26-96	DELETE DOWEL BAR NOTE	
7-15-88	SUB-SECT. 501.03 (f)(1)TO 501.03 (h)(1)	
8-22-75	REVISED 4" EXP. JOINT MAT'L	
11-1-73	REVISED JOINT SEAL A-A	
10-2-72	REVISED AND REDRAWN	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF TERMINAL JOINTS FOR CONCRETE PAVEMENT

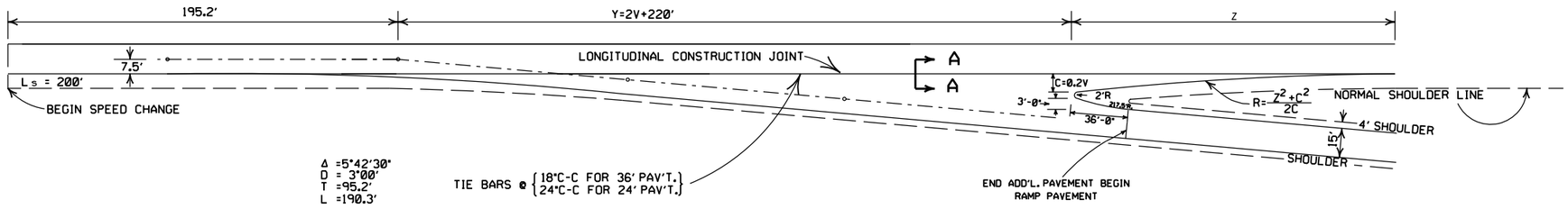
CONTINUOUSLY REINFORCED

STANDARD DRAWING CPCR-3



ENTRANCE RAMP

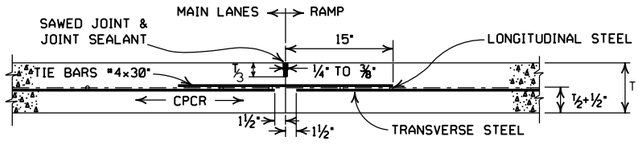
RETURN CURVES
Δ =2°17'30"
D = 3°00'
T =38.2'
L =76.4'



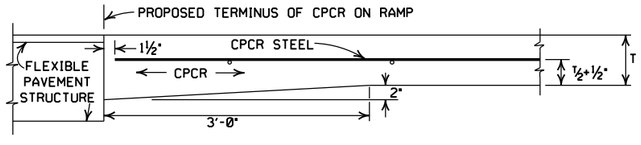
EXIT RAMP

DESIGN SPEED V	Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R	ADD'L. SURFACING SQ. YDS.
40	300.0	8.0	96.0	580.0	602.43
50	320.0	10.0	120.0	725.0	687.29
60	340.0	12.0	168.0	1182.0	790.55
70	360.0	14.0	210.0	1582.0	902.27

NOTE: ON GRADES IN EXCESS OF 4%, THE LENGTHS "Y" & "L" MAY BE VARIED TO FIT THE CASE IN THE RATION OF $\frac{1 \pm \%GRADE}{2}$ (LENGTH AS SHOWN).



LONGITUDINAL CONSTRUCTION JOINT
SECTION A - A



DETAIL FOR JUNCTION WITH FLEXIBLE TYPE PAVEMENT STRUCTURE

GENERAL NOTES

THE SEQUENCE OF OPERATION ON PLACING THE RAMP SHALL BE AS DIRECTED BY THE ENGINEER. THE LONGITUDINAL STEEL SHALL BE PLACED IN A DIRECTION APPROXIMATELY PARALLEL TO THE DIRECTION OF THE RAMP.

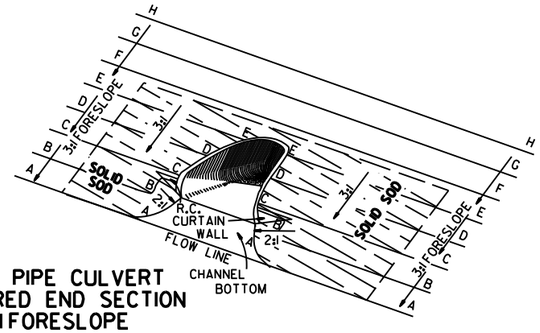
SAWED JOINT AND JOINT SEALANT FOR LONGITUDINAL CONSTRUCTION JOINT SHALL CONFORM TO THE DETAILS SHOWN FOR SAWED LONGITUDINAL JOINT ON STANDARD DRAWING CPTJ-6A.

DATE	REVISION	DATE FILMED
2-27-14	CORRECTED SPELLING	
3-23-89	ALTERED SAWED JOINT & ADDED NOTE	510-3-23-89
11-3-86	DIMEN'S. OF LONG. JTS.	652-11-1-86
10-2-72	REVISED AND REDRAWN	507-10-2-72

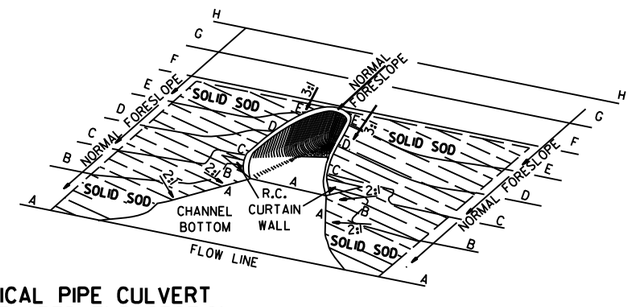
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF ENTRANCE & EXIT RAMPS FOR CONCRETE PAVEMENT CONTINUOUSLY REINFORCED

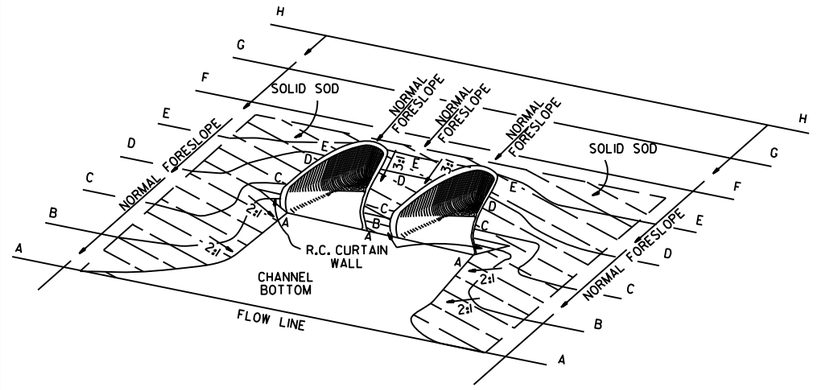
STANDARD DRAWING CPCR-4



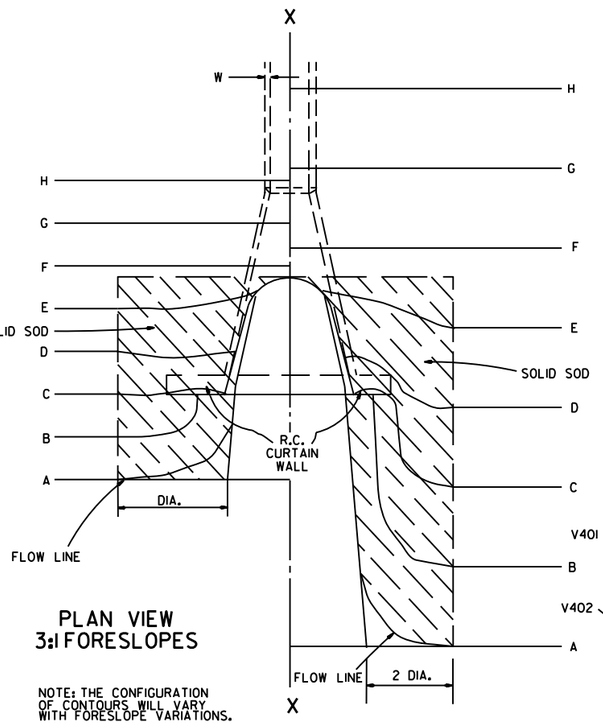
TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



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



PLAN VIEW
3:1 FORESLOPES

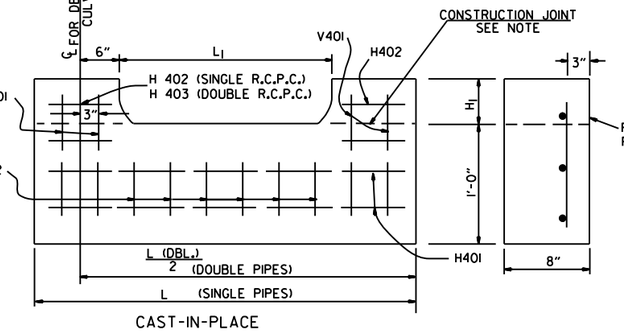
NOTE: THE CONFIGURATION OF CONTOURS WILL VARY WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES

R.C. CURTAIN WALL
DIMENSIONS & QUANTITIES

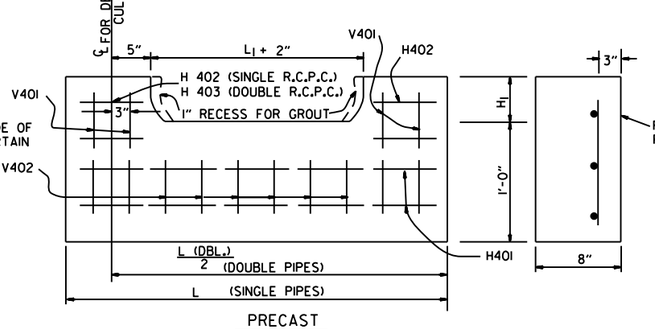
PIPE DIA.	H_1	L_1	L	L (DBL.)/2	SINGLE R.C.P.C. CONC. CU. YDS.	SINGLE R.C.P.C. REINF. STEEL LBS.	DOUBLE R.C.P.C. CONC. CU. YDS.	DOUBLE R.C.P.C. REINF. STEEL LBS.
18"	1'-11½"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0½"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3½"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1½"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9½"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

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



CAST-IN-PLACE

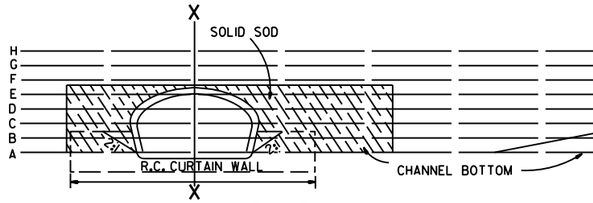
NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED MONOLITHICALLY. THE FLARED END SECTION SHALL THEN BE SET IN PLACE & THE REMAINING PORTIONS OF THE R.C. CURTAIN WALL PLACED.



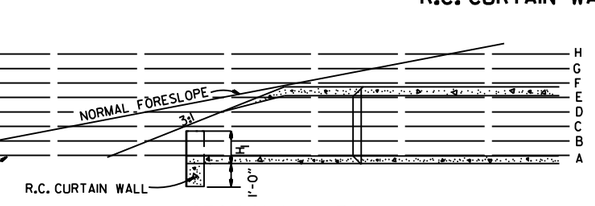
PRECAST

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

R.C. CURTAIN WALL DETAILS



END VIEW



SECTIONAL VIEW "X-X"

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	V401 L	NO.	V402 L	NO.	DOUBLE R.C. PIPE CULVERT H401 L	NO.	H402 L	NO.	H403 L	NO.	V401 L	NO.	V402 L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

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

SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C. 3:1	4:1	6:1	DOUBLE R.C.P.C. 3:1	4:1	6:1
	SQ. YDS.			SQ. YDS.		
18"	5	7	12	6	8	13
24"	8	12	19	9	13	20
30"	13	18	29	14	19	30
36"	17	26	41	18	28	43
42"	23	35	55	25	37	57
48"	29	46	68	31	48	70
54"	35	57	85	37	59	87
60"	45	62	104	48	65	107
72"	64	92	156	67	95	159

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

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE: FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED ¾".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W10 x W10 MAY BE USED IN LIEU OF REINFORCING BARS.

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

ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-1

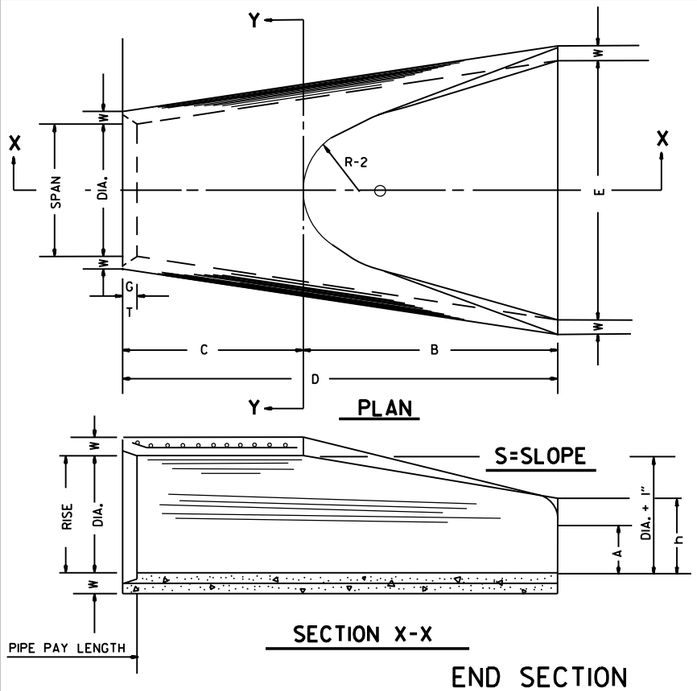
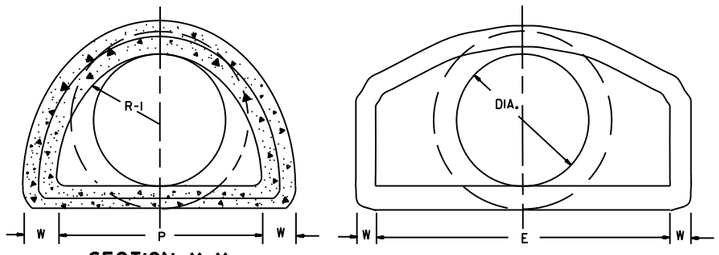


TABLE OF DIMENSIONS

DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2½"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15½"	12"	2"	1000	1'-0½"
24"	3"	9½"	3'-7½"	2'-6"	6'-1½"	4'-0"	3:1	25"	33 3/16"	16 15/16"	14"	2½"	1600	1'-1½"
30"	3½"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18½"	15"	3¼"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 13/16"	24 3/16"	20"	3½"	4100	1'-8"
42"	4½"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53⅞"	27½"	22"	3½"	5380	2'-2½"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56½"	28½"	22"	3½"	6550	2'-6"
54"	5½"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65½"	33⅛"	24"	4"	8750	2'-10½"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72½"	36 11/16"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 13/16"	38 15/16"	24"	5"	13250	4'-6"

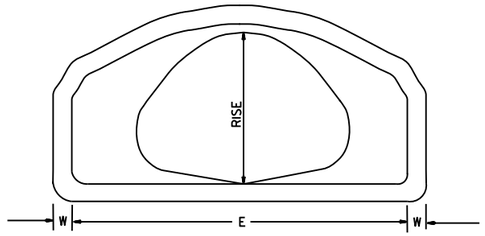


NOTE: TONGUE END ON UPSTREAM SECTION
GROOVE END ON DOWNSTREAM SECTION

ARCH PIPE

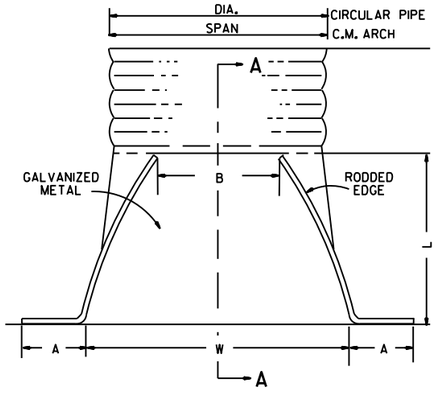
EQUIV. DIA.	• SPAN AASHTO M 206	• SPAN AHD NOMINAL	• RISE AASHTO M 206	• RISE AHD NOMINAL	W	A	B	C	D	E	P	R2	G-T	S
	INCHES													
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1½"	2½:1
18	22	22	13½	14	2½"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32⅛"	13"	2½"	2½:1
21	26	26	15½	16	2¾"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34⅛"	14"	2½"	2½:1
24	28½	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 11/16"	15"	2½"	2½:1
30	36¼	36	22½	23	3½"	10"	3'-1"	3'-0½"	6'-1½"	6'-0"	47 11/16"	20"	3"	2½:1
36	43¾	44	26⅜	27	4"	10½"	4'-0"	2'-1½"	6'-1½"	6'-6"	54 5/16"	22"	3½"	2½:1
42	51⅛	51	31 5/16	31	4½"	11½"	4'-7"	1-10¼"	6'-5¼"	7'-2"	59½"	23"	3¾"	2½:1
48	58½	59	36	36	5"	1'-3"	5'-3"	2'-10¾"	8'-1¾"	7'-10"	70 5/16"	24"	4¼"	2½:1
54	65	65	40	40	5½"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/16"	24"	4¾"	2¼:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/16"	24"	5"	2¼:1

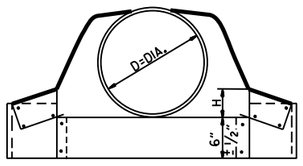
• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

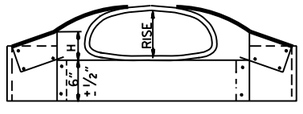


END VIEW
CONCRETE ARCH PIPE

END SECTION FOR REINFORCED CONCRETE PIPE CULVERTS







CIRCULAR PIPE

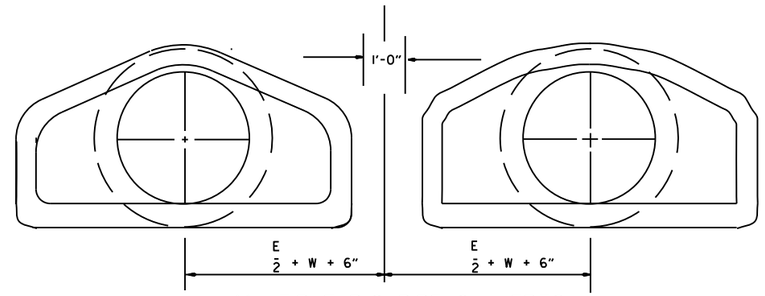
D. DIA.	GAUGE	A 1" ±	B. MAX.	H 1" ±	L 1½" ±	W 2" ±	S
		INCHES					
12	16	6	6	6	21	24	2½:1
15	16	7	8	6	26	30	2½:1
18	16	8	10	6	31	36	2½:1
21	16	9	12	6	36	42	2½:1
24	16	10	13	6	41	48	2½:1
30	14	12	16	8	51	60	2½:1
36	14	14	19	9	60	72	2½:1
42	12	16	22	11	69	84	2½:1
48	12	18	27	12	78	90	2½:1
54	12	18	30	12	84	102	2:1
60	12	18	33	12	87	114	1¾:1
66	12	18	36	12	87	120	1½:1
72	12	18	39	12	87	126	1 1/3:1

C.M. ARCH PIPE

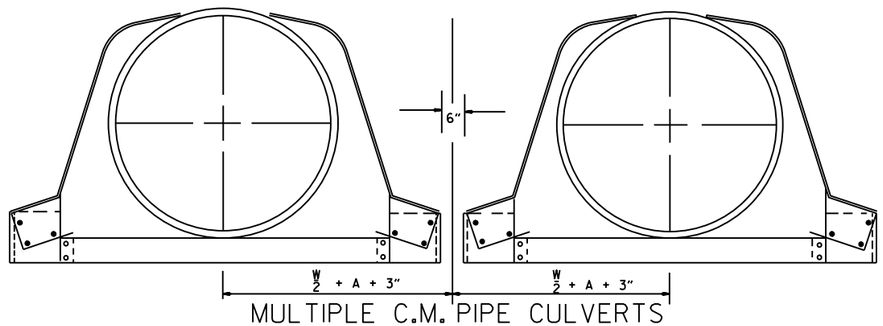
EQUIV. DIA.	SPAN	RISE	A 1" ±	B MAX.	H 1" ±	L 1½" ±	W 2" ±	S	GAUGE
	INCHES								
15"	17	13	7	9	6	19	30	2½:1	16
18"	21	15	7	10	6	23	36	2½:1	16
21"	24	18	8	12	6	28	42	2½:1	16
24"	28	20	9	14	6	32	48	2½:1	16
30"	35	24	10	16	6	39	60	2½:1	14
36"	42	29	12	18	8	46	75	2½:1	14
42"	49	33	13	21	9	53	85	2½:1	12
48"	57	38	18	26	12	63	90	2½:1	12
54"	64	43	18	30	12	70	102	2¼:1	12
60"	71	47	18	33	12	77	114	2¼:1	12

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

END SECTIONS FOR CORRUGATED METAL PIPE CULVERTS



MULTIPLE R.C. PIPE CULVERTS



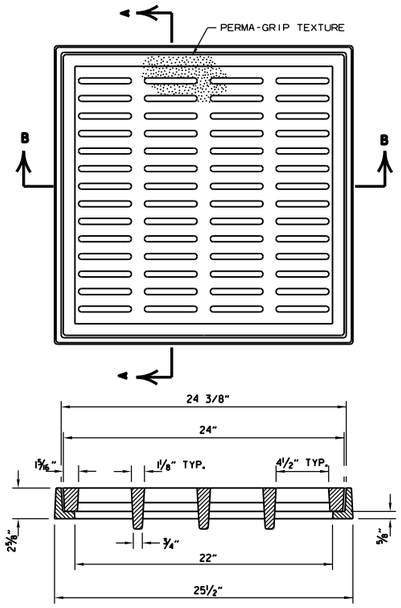
MULTIPLE C.M. PIPE CULVERTS

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

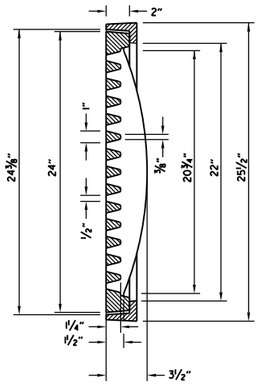
ARKANSAS STATE HIGHWAY COMMISSION

FLARED END SECTION

STANDARD DRAWING FES-2



SECTION B-B

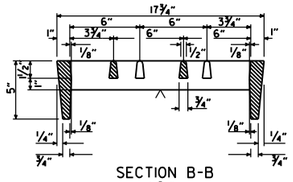


SECTION A-A

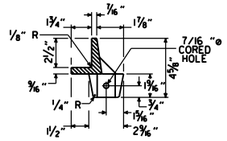
DETAILS OF PEDESTRIAN GRATE AND FRAME

GENERAL NOTES (PEDESTRIAN GRATE & FRAME)

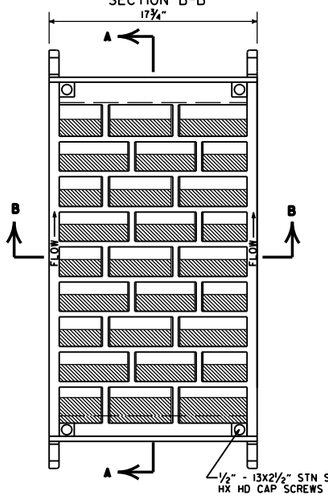
1. THE PEDESTRIAN GRATE SHALL BE ORIENTED IN THE TOP OF THE DROP INLET SO THAT THE ½" OPENINGS ARE PERPENDICULAR TO THE PATH OF PEDESTRIAN TRAVEL.
2. THE PEDESTRIAN GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
3. THE GRATE AND FRAME SHALL NOT BE PAINTED.
4. THE GRATE AND FRAME SHALL BE INSTALLED IN THE DROP INLET IN THE ASSEMBLED POSITION.
5. THE APPROXIMATE WEIGHT OF THE GRATE AND FRAME SHALL BE 218 LBS.
6. THE MINIMUM WATERWAY OPENING SHALL BE 122 SQ. IN.

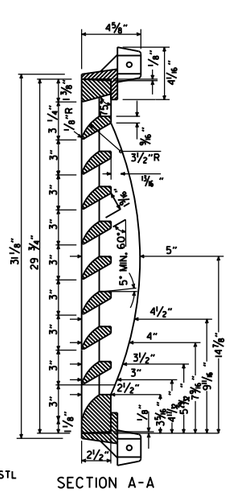


SECTION B-B



SECTION THRU FRAME



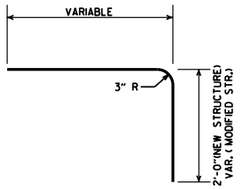


SECTION A-A

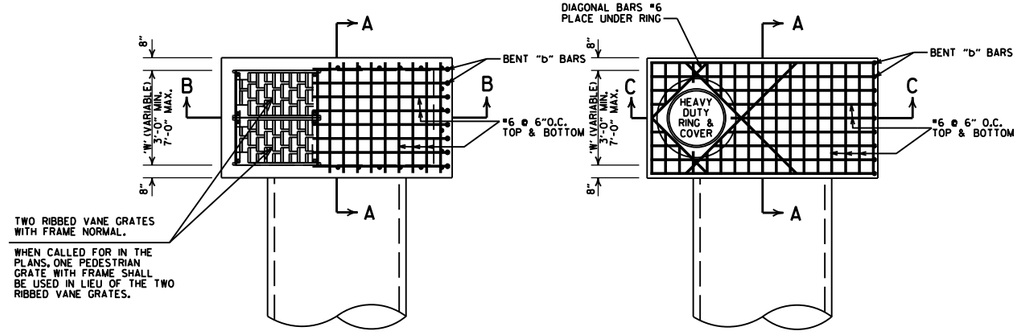
DETAILS OF RIBBED VANE GRATE AND FRAME

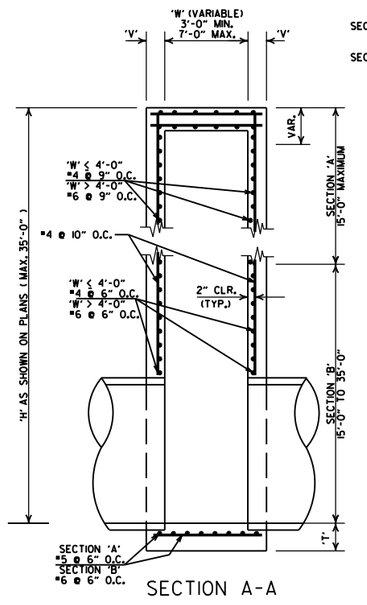
GENERAL NOTES (RIBBED VANE GRATE & FRAME)

1. RIBBED VANE GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. GRATE AND FRAME SHALL NOT BE PAINTED.
3. GRATE AND FRAME SHALL BE INSTALLED IN DROP INLET IN ASSEMBLED POSITION.
4. APPROXIMATE WEIGHT OF GRATE SHALL BE 170 LBS.



DETAIL OF BENT "b" BAR





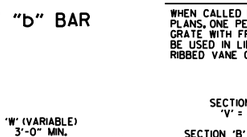
SECTION 'A'
'V' = 8"

SECTION 'B' (W≤4'-0")
'V' = 8"

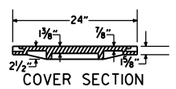
SECTION 'B' (W>4'-0")
'V' = 10"

SECTION A-A

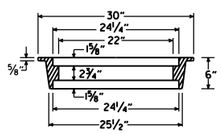
DETAILS OF DROP INLET (TYPE ST)



COVER FACE



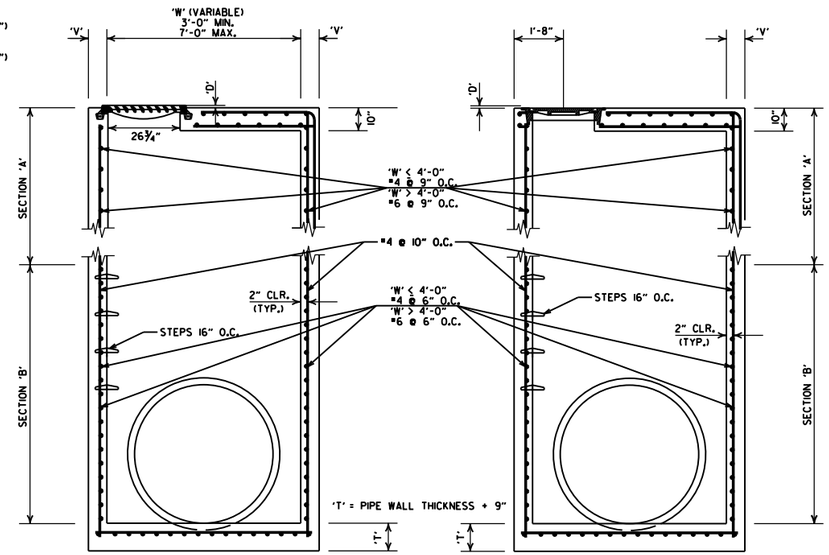
COVER SECTION



RING SECTION

HEAVY DUTY RING & COVER

APPROXIMATE TOTAL WEIGHT = 333 LBS.



SECTION B-B

SECTION C-C

DETAILS OF JUNCTION BOX (TYPE ST)

GENERAL NOTES (TYPE ST DROP INLET & JUNCTION BOX)

1. THE 'D' DIMENSION SHALL MATCH THE FINAL LIFT OF ACHM SURFACE COURSE SHOWN IN THE PLANS WHEN ASPHALT PAVING SURROUNDS THE GRATE OR RING COVER, AND SHALL BE 0" AT OTHER INSTALLATIONS.
2. THE STEPS SHALL BE OMITTED WHERE 'H' IS LESS THAN 4'-0".
3. ALL EXPOSED CORNERS ARE TO HAVE A ¾" CHAMFER.

GENERAL NOTES (HEAVY DUTY RING & COVER):

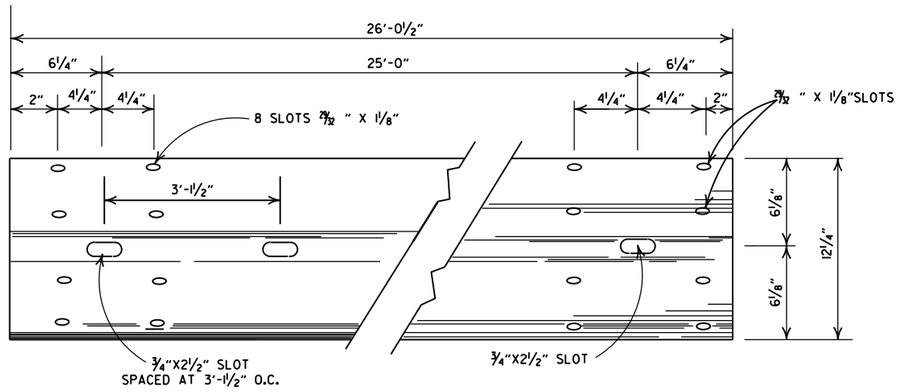
1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105, CLASS 35B, & AASHTO M 306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
4. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

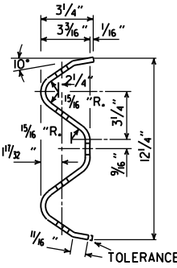
DATE REVISED	DATE FILMED	DESCRIPTION
7-26-12		REMOVED NOTE 4, REVISED 'T', REVISED BOTTOM SLAB REBAR FOR SECTION 'A', SHOWED REBAR CLEARANCE IN SECTIONS
11-16-01		ADDED NOTE 4
1-12-00		REVISED HEAVY DUTY RING & COVER
5-13-99		ADDED PEDESTRIAN FRAME & GRATE
7-02-98		REMOVED NOTE 5, REV. DIMENSIONS, ADDED HEAVY DUTY RING & COVER ADDED AASHTO REF. REVISED GRATE
10-18-96		REVISED ASTM REF. TO AASHTO
10-1-92		REVISED & REISSUED
8-15-91	8-15-91	REVISED & REISSUED

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET & JUNCTION BOX (TYPE ST)

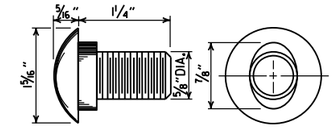
STANDARD DRAWING FPC-9S



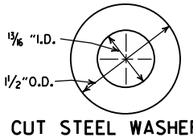


DETAILS OF W-BEAM GUARDRAIL

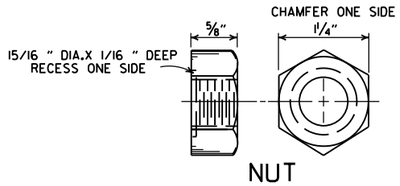
RAIL SECTION OF CLOSELY SIMILAR DIMENSIONS AND COMPARABLE STRENGTH MAY BE SUBSTITUTED IF APPROVED BY THE ENGINEER.



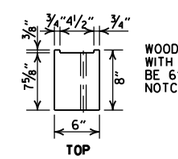
SPLICE BOLT
POST BOLT - SAME EXCEPT LENGTH



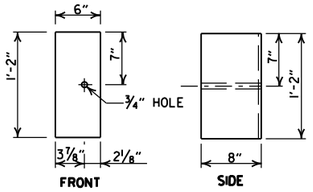
CUT STEEL WASHER



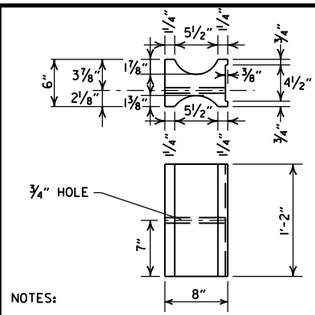
NUT



WOOD BLOCKOUT USED WITH WOOD POSTS SHALL BE 6"x8"xl'-2" WITH NO NOTCH REQUIRED.



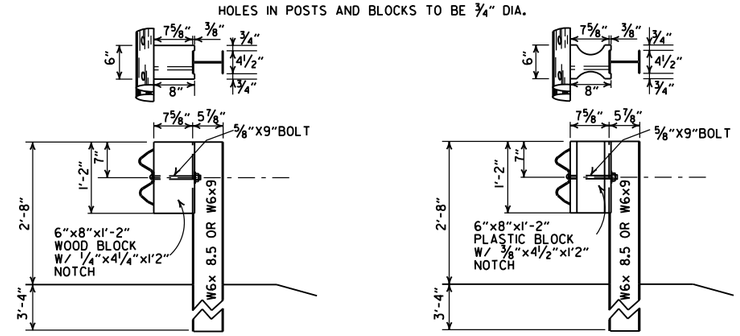
WOOD BLOCKOUT (W-BEAM)



NOTES:

1. SIMILAR SHAPED PLASTIC BLOCKOUTS MAY BE USED AS LONG AS THEY MEET REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
2. DIMENSIONS ARE SUBJECT TO MANUFACTURERS TOLERANCES.

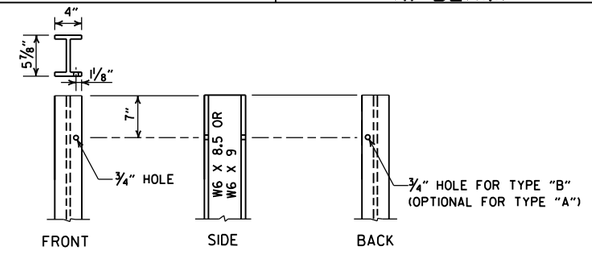
PLASTIC BLOCKOUT (W-BEAM)



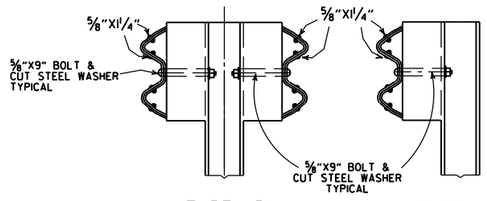
WOOD BLOCKOUT CONNECTIONS

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)

-GENERAL NOTES-

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN ¾" BEYOND IT.

WHERE W-BEAM GUARDRAIL CONTINUES, THE INTERMEDIATE SECTIONS SHALL HAVE A POST SPACING OF 6'-3" UNLESS OTHERWISE NOTED.

W-BEAM GUARDRAIL REPRESENTING INTERMEDIATE SECTIONS WILL BE MEASURED ALONG THE ROADWAY FACE FROM CENTERLINE OF POST TO CENTERLINE OF POST.

USE W-BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB. FOR EXTENSIONS OR MODIFICATION OF EXISTING GUARDRAIL, W-BEAM GUARDRAIL 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 GUARDRAIL OR PLASTIC BLOCKOUTS, AS LONG AS BLOCKOUT USED MEETS REQUIREMENTS FOR MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) FOR W-BEAM GUARDRAIL.

WOOD BLOCKOUT CONNECTIONS

PLASTIC BLOCKOUT CONNECTIONS

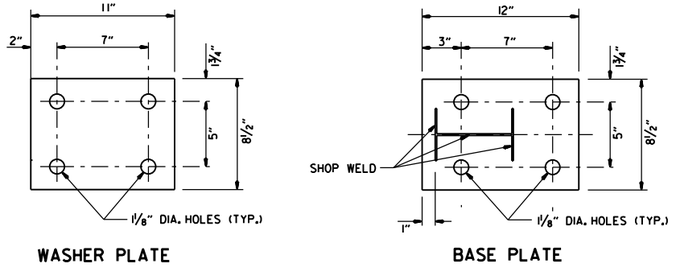
DETAILS OF WOOD LINE POST CONNECTIONS (W-BEAM)

DATE	REVISION	FILMED
11-07-19	RENUMBERED AND RENAMED	
11-16-17	REVISED GENERAL NOTES AND RAISED GUARDRAIL HEIGHT 3"	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
10-15-09	ADDED REFERENCE TO MASH	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED DIMENSION ON WOOD & PLASTIC BLOCKOUT CONNECTIONS & STEEL POST	
11-16-01	REVISED WOOD BLOCKOUT & DETAILS OF WOOD LINE POST CONNECTIONS	
03-30-00	REMOVED GUARDRAIL AT BRIDGE ENDS	
01-12-00	ADDED PLASTIC BLOCKOUT	
08-12-98	REV. BLOCKOUTS TO WOOD, DELETED CONC. POST & REV. GENERAL NOTE, DELETED DET. OF GUARDRAIL 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	
04-03-97	REMOVED "LAP IN DIRECTION OF TRAFFIC" NOTE & PLACED ARROWS ON WASHERS	
10-18-96	REVISED WOOD POST NOTE	
06-02-94	ADDED ALT. STEEL POST SIZE	
08-05-93	REVISED STEEL POST SIZE	8-5-93
10-01-92	REDRAWN & REVISED	10-1-92
08-15-91	REVISED WASHER NOTE	8-15-91
08-02-90	REV. GEN. NOTE & DEPTH OF ANC. POST IN ROCK	8-2-90
07-15-88	REVISED SECTION 3 & GENERAL NOTES	
03-04-88	REV. ANCHOR POST ,ELEV. NOTES & POST IN ROCK	780-3-4-88
10-30-87	REVISED WOOD LINE POST DETAIL	546-10-30-87
10-09-87	REDRAWN & REVISED	802-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

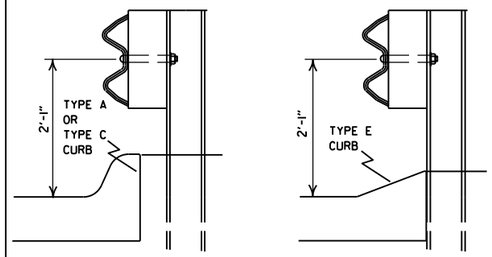
STANDARD DRAWING GR-6



WASHER PLATE

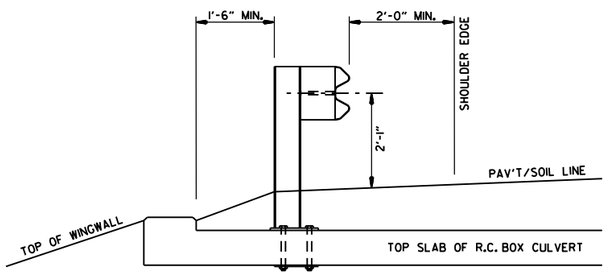
BASE PLATE

Note: Bolts, nuts, washers and plates shall be galvanized in accordance with Section 807 of the Standard Specifications.

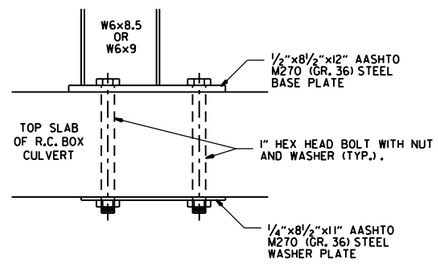


DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB (W-BEAM)

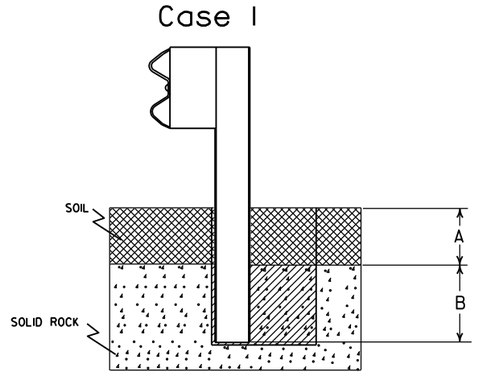
FOR DESIGN SPEEDS OF 50 MPH OR LESS ALL CURB FACES, AS SHOWN ON STD. DRWG. CG-1, MAY BE USED. FOR DESIGN SPEEDS OF 55 MPH OR MORE TYPE "E" CURB FACE SHALL BE USED.



SECTION A-A

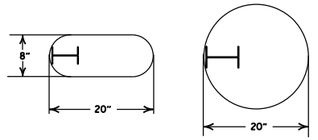


DETAIL OF CONNECTION



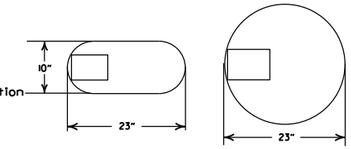
Plan View Steel Posts

Either hole configuration acceptable



Plan View Wood Posts

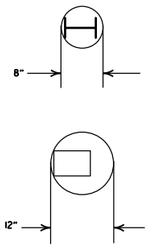
Either hole configuration acceptable



Notes: For overlying soil depths (A) ranging from 0 to 18", the depth of required drilling (B) is equal to 24".

Zone A:
Backfill according to Section 617.03(a).

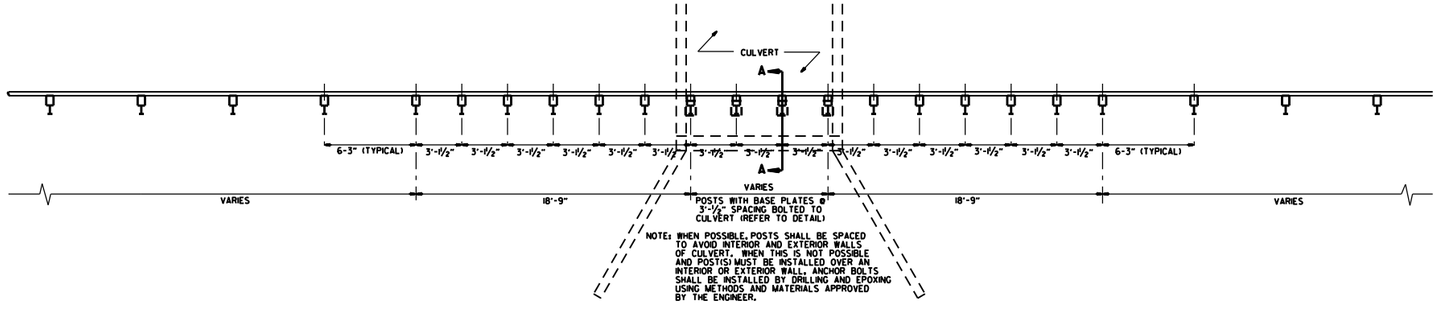
Zone B:
Backfill hole in 6" lifts with material meeting the requirements of Section 802.02(c) - Alternate gradation. Compact to 95% maximum dry density per ASTM D-698.



Notes: For overlying soil depths (A) ranging from 18" to 44", the depth of required drilling (B) is equal to either 12" or 44" minus the depth of soil whichever is less.

Zone A & B:
Backfill according to Section 617.03(a).

DETAIL OF POST PLACEMENT IN SOLID ROCK (W-BEAM)



PLAN LAYOUT OF TYPE A GUARDRAIL AT LOW-FILL CULVERTS

NOTE: THIS DETAIL IS TO BE USED ONLY WHEN THE COVER OVER THE CULVERT DOES NOT PERMIT FULL EMBEDMENT OF GUARDRAIL POSTS AS SHOWN ON STD. DWG. GR-6.

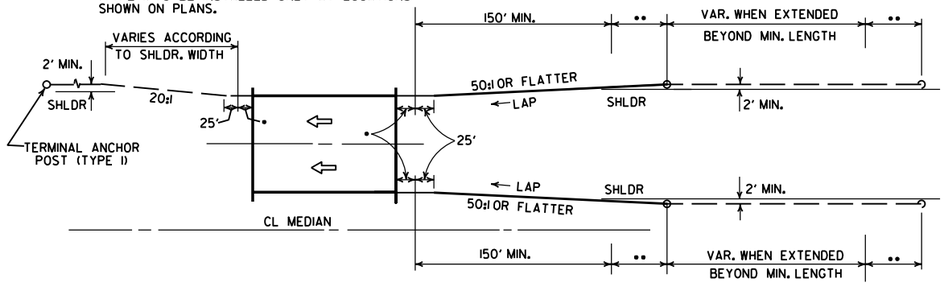
DATE	REVISION	FILMED
11-07-19	RENUMBERED, RENAMED, REVISED REFERENCE	
11-16-17	REVISED GUARDRAIL HEIGHT	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
04-12-07	REVISED DETAIL OF GUARDRAIL PLACEMENT BEHIND CURB	
11-10-05	ADDED GUARDRAIL PLACEMENT BEHIND CURB; REVISED DETAIL OF CONNECTION	
11-18-04	REVISED POST PLACEMENT IN ROCK & CULVERT CONNECTION DETAILS. ADDED DETAIL FOR GUARDRAIL PLACEMENT AT LOW-FILL CULVERTS	
03-30-00	REMOVED CONCRETE INSERT ANCHOR	
08-12-98	CHANGED STEEL SPACER BLOCK TO WOOD BLOCKOUT, ADDED DET. OF GUARDRAIL CONNECTION TO R.C. BOX CULV'T., DELETED DET. OF STEEL LINE POST CONN. & ADDED DET. OF GUARDRAIL PLACE. BEHIND CURB & DET. OF POSTPLACE. IN SOLID ROCK	
04-03-96	PLACED ARROWS AT CUT STEEL WASHERS	4-3-96
10-18-96	REV. ASTM REF. TO AASHTO	
11-22-95	ADDED OPTIONAL HOLES	
06-02-94	REVISED ALTERNATE POST SIZE	
08-05-93	REVISED STEEL POST SIZE	
10-01-92	REDRAWN & REVISED	10-1-92
08-02-90	DEL. WASHER ON ANCHOR ASSEMBLY	8-2-90
07-15-88	CONFORMED TO 1988 SPECS	
03-04-88	REVISED ANCHOR NOTE	
10-30-87	REVISED ANCHOR ASSEMBLY	712-10-30-87
10-30-87	REVISED PLACEMENT BEHIND CURB	547-10-30-87
10-09-87	REDRAWN & REVISED	803-10-9-87

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

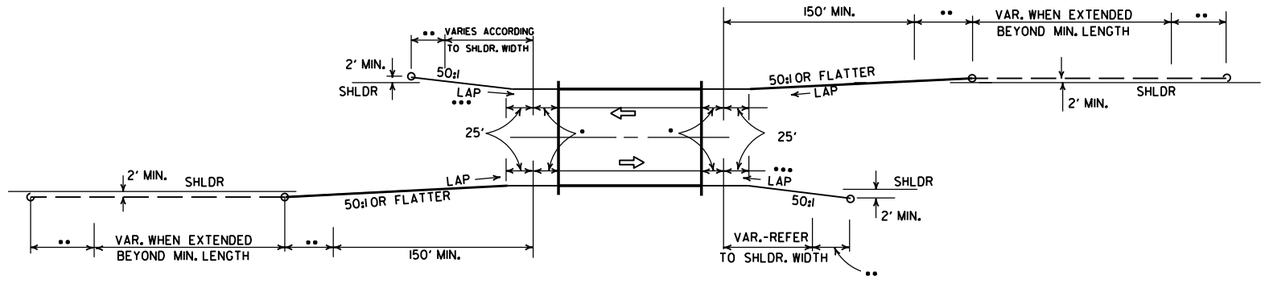
STANDARD DRAWING GR-7

NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

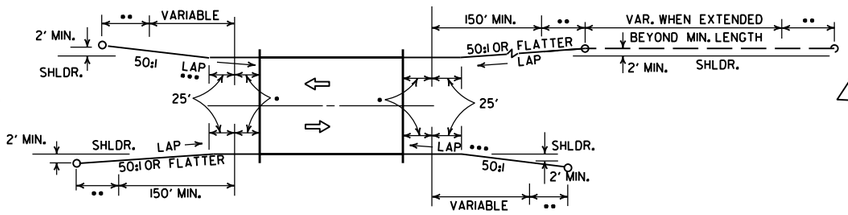
••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

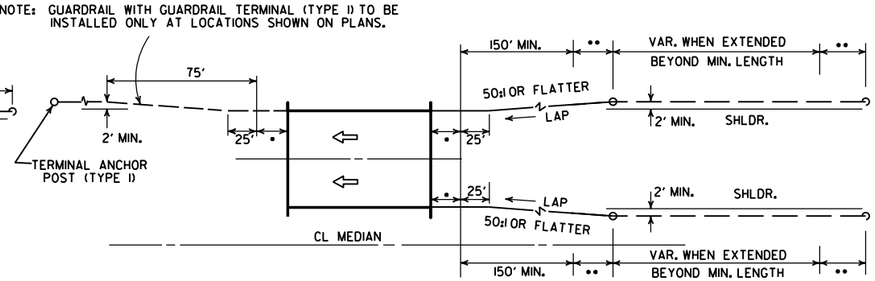
METHODS OF INSTALLATION OF GUARDRAIL AT LESS THAN FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



TWO-WAY TRAFFIC

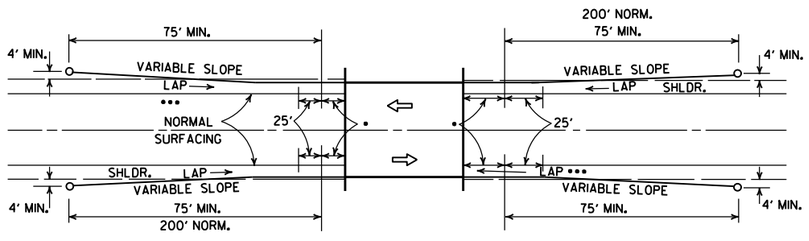
NOTE: GUARDRAIL WITH GUARDRAIL TERMINAL (TYPE 1) TO BE INSTALLED ONLY AT LOCATIONS SHOWN ON PLANS.



ONE-WAY TRAFFIC

METHOD OF INSTALLATION OF GUARDRAIL AT FULL SHOULDER WIDTH BRIDGES USING GUARDRAIL TERMINAL (TYPE 2)

••• LAP OF GUARDRAIL SHALL BE AS SHOWN FOR A DISTANCE OF UP TO 200'. CHANGE TO LAP IN DIRECTION OF TRAVEL.



METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERMINAL (TYPE 1) (FULL SHOULDER WIDTH OR LESS BRIDGES)

LEGEND

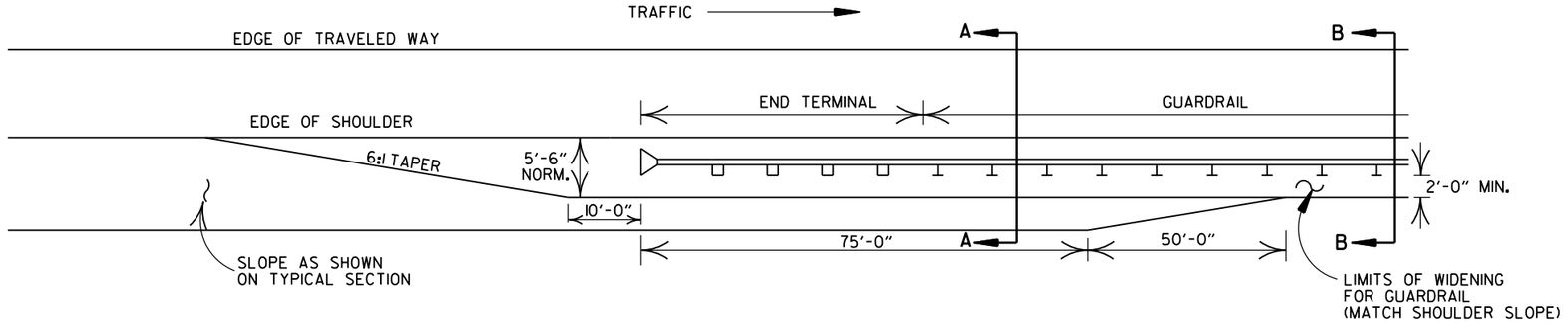
- • THRIE BEAM GUARDRAIL TERMINAL
- •• GUARDRAIL TERMINAL (TYPE 2)

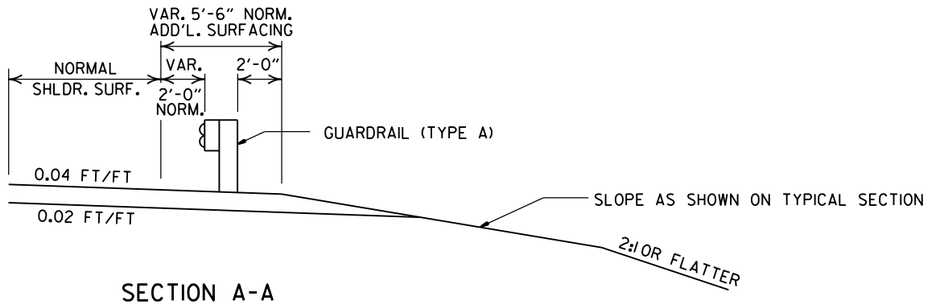
DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	REVISED LAYOUTS	
11-10-05	REMOVED GUARDRAIL NOTES AND DETAILS	
11-16-01	DELETED NOTE-METHOD OF INSTALLATION OF GUARDRAIL USING GUARDRAIL TERM. (TY. 1)	
1-12-00	ADDED CONSTRUCTION NOTE	1-12-00
6-26-97	REVISED LAYOUT	
10-1-92	REDRAWN & REVISED	10-1-92
	ADDED NOTE	
10-9-87	REDRAWN & REVISED	

ARKANSAS STATE HIGHWAY COMMISSION

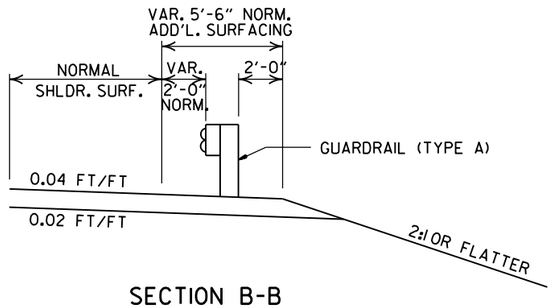
GUARDRAIL DETAILS

STANDARD DRAWING GR-8



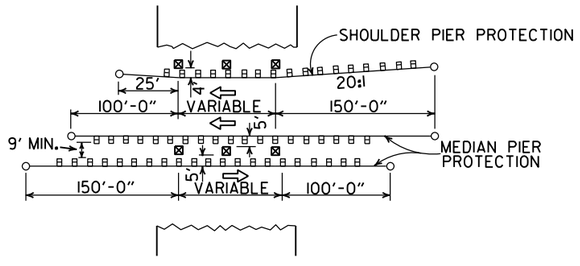


SECTION A-A



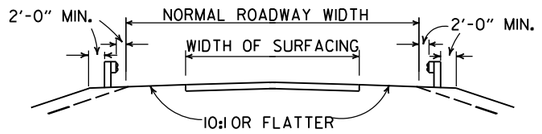
SECTION B-B

DETAILS OF WIDENING FOR GUARDRAIL

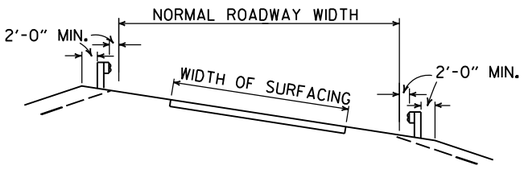


METHOD OF INSTALLATION OF GUARDRAIL AT FIXED OBSTACLE

NOTE: NORMAL SECTION TO BE WIDENED APPROX. 5'-6" EACH SIDE TO SUPPORT GUARDRAIL.



SECTION ON TANGENT



SECTION ON CURVE

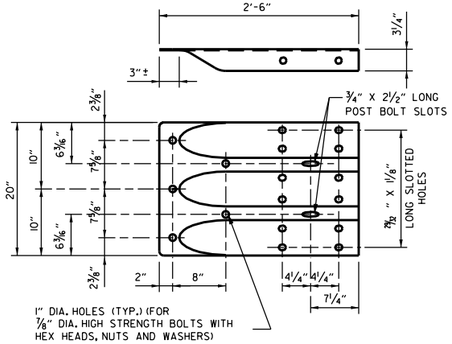
DETAILS SHOWING POSITION OF GUARDRAIL ON HIGHWAY

DATE	REVISION	DATE FILM
11-07-19	RENUMBERED AND RENAMED	
4-17-08	MINOR REVISION	
11-10-05	DRAWN	

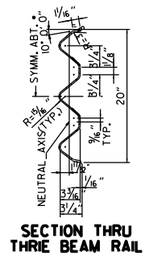
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

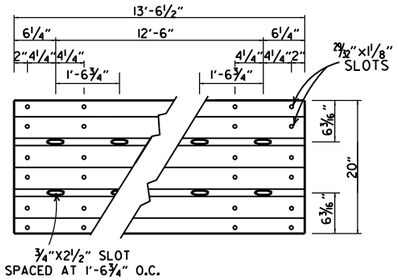
STANDARD DRAWING GR-9



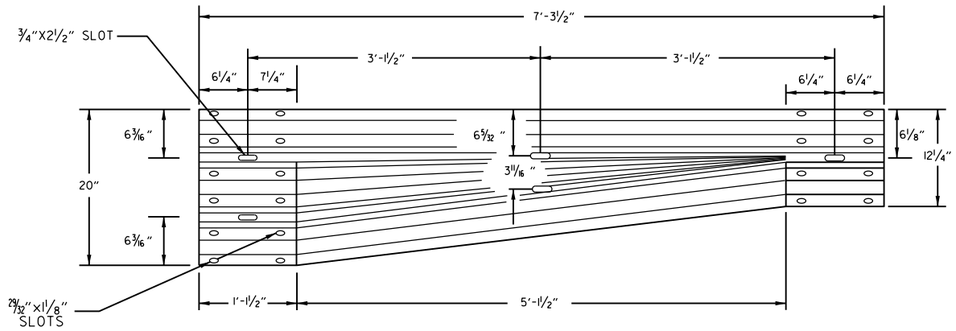
SPECIAL END SHOE



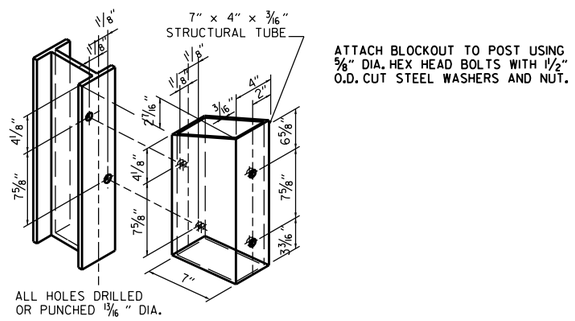
SECTION THRU THRIE BEAM RAIL



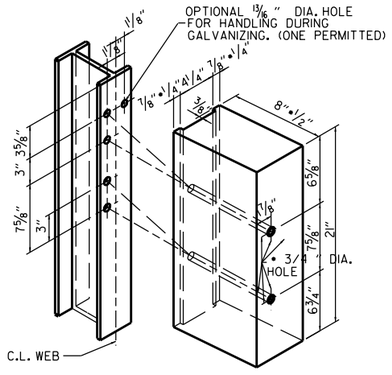
THRIE BEAM RAIL



TRANSITION SECTION



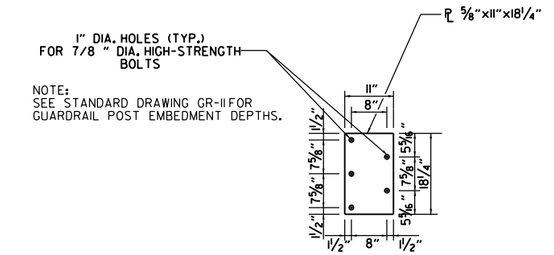
STRUCTURAL STEEL TUBING BLOCKOUT DETAIL



ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED

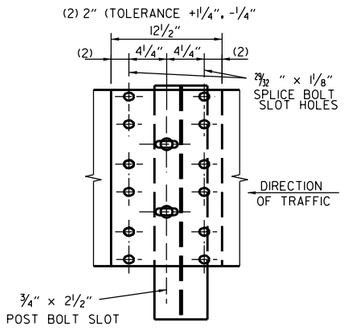
HOLE PUNCHING DETAIL FOR STEEL POST & WOOD OR PLASTIC BLOCKOUTS

NOTE: BLOCKS SHALL BE THE SAME TYPE THROUGHOUT THE PROJECT LIMITS.



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.



THRIE BEAM RAIL SPLICE AT POST

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 1.

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 3"4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

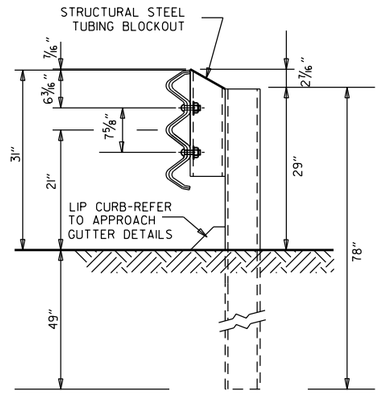
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7 f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED AND REVISED REFERENCES	
11-16-17	REVISED TRANSITION SECTION, GUARD RAIL HEIGHT, AND GENERAL NOTES; MOVED THRIE BEAM GUARD RAIL CONNECTIONS AT BRIDGES ENDS TO STD. DRWG. GR-12	
07-14-10	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	
04-10-03	REVISED GENERAL NOTES	
08-22-02	REVISED NOTE (2)	
06-29-00	MOVED DIMENSION LINES	
05-18-00	ADDED NOTE	
03-30-00	DRAWN & ISSUED	

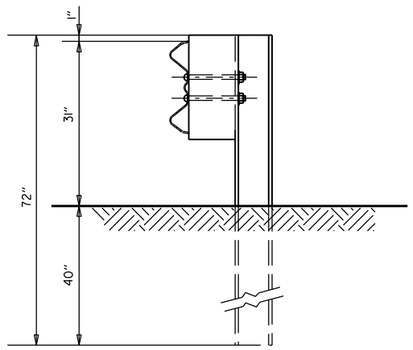
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

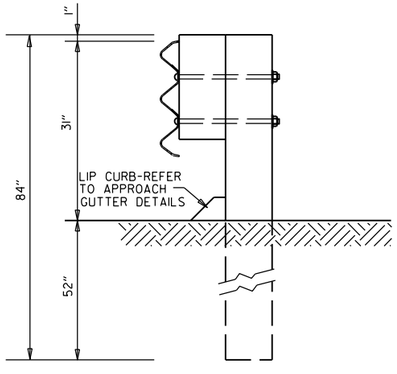
STANDARD DRAWING GR-10



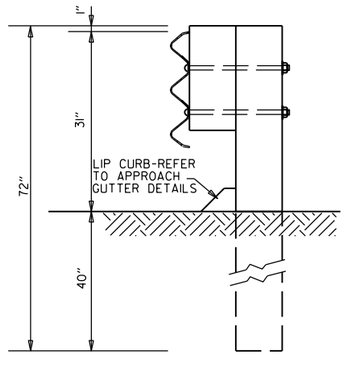
THRIE BEAM RAIL WITH STEEL TUBING BLOCKOUT
AND STEEL POST
POSTS 1-7



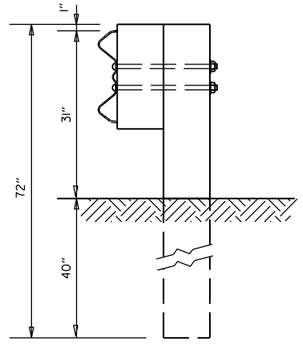
W-BEAM TO THRIE BEAM TRANSITION RAIL
WITH WOOD OR PLASTIC BLOCKOUT AND STEEL POST
POST 8



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.

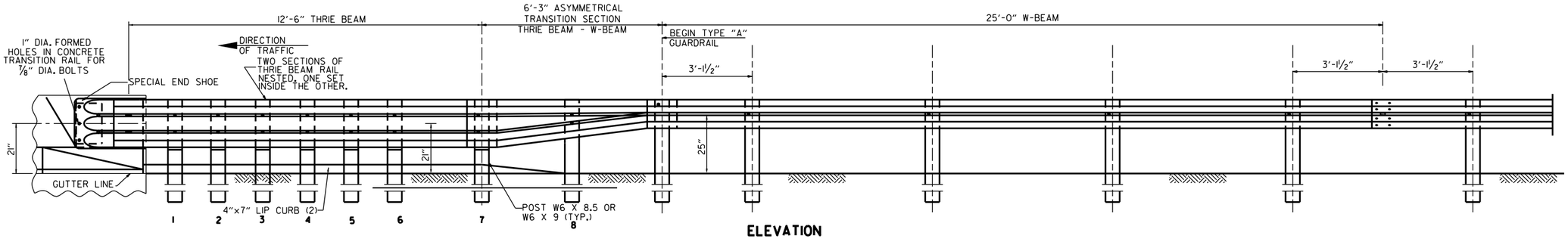
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1STRUCTURAL OR BETTER 9.7f (1400 f) OR NO.1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
11-07-19	RENAMED	
11-16-17	REVISED GUARDRAIL HEIGHT, CHANGED STD. DWG. NUMBER FROM GR-10A TO GR-11	
07-14-10	REVISED POST 8 DIMENSIONS	
11-29-07	ADDED PLASTIC BLOCKOUTS	
08-22-02	REVISED LIP CURB NOTE	
03-30-00	DRAWN & ISSUED	

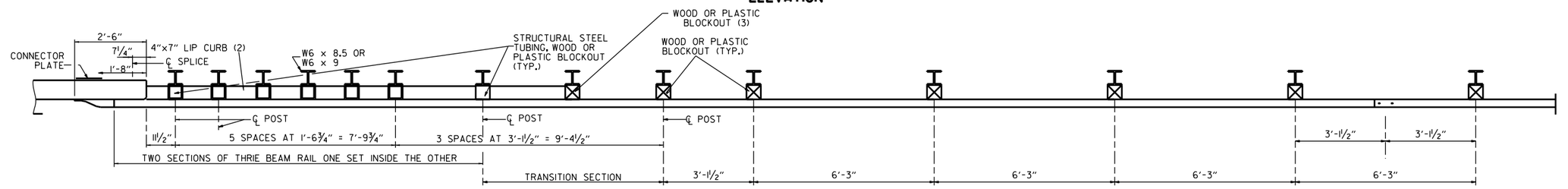
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

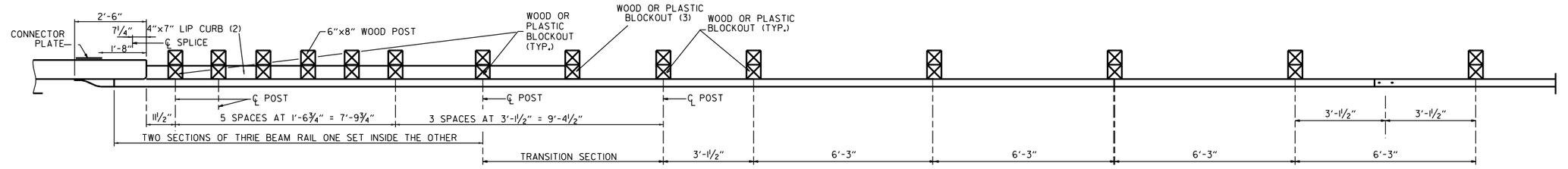
STANDARD DRAWING GR-11



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 GUARDRAIL CONNECTION AT BRIDGE ENDS

GENERAL NOTES:

THE THRIE BEAM RAIL, SPECIAL END SHOE, AND THE TRANSITION SECTION SHALL BE MADE OF STEEL AND SHALL BE 12 GAGE. ZINC COATING SHALL BE TYPE I.

RAIL POSTS SHALL BE SET PERPENDICULAR TO THE ROADWAY PROFILE GRADE AND VERTICALLY IN CROSS SECTION.

ALL BOLTS SHALL BE SUFFICIENT LENGTH TO EXTEND THROUGH THE FULL THICKNESS OF THE NUT AND NO MORE THAN 3/4" BEYOND IT.

ALL LAP SPLICES, INCLUDING SPECIAL END SHOES, SHALL BE MADE IN THE DIRECTION SHOWN ON STANDARD DRAWINGS GR-8 & GR-13.

REFER TO STD. DRWG. GR-11 FOR POST DETAILS.

USE THRIE BEAM GUARDRAIL COMPONENTS OF SAME MATERIAL FOR ENTIRE JOB.

THRIE BEAM POSTS SHALL BE SAME MATERIAL AS W-BEAM POSTS FOR ENTIRE JOB.

POSTS SHALL NOT BE PLACED AT SPLICE LOCATIONS ALONG W-BEAM RAILS.

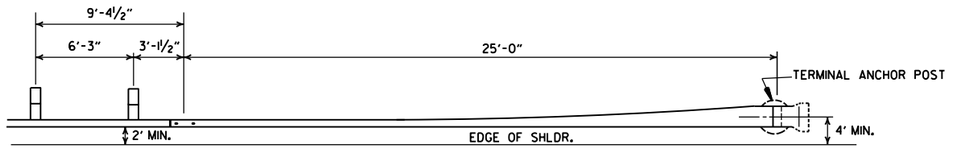
WOOD POSTS & WOOD BLOCKS SHALL BE EITHER DENSE NO. 1 STRUCTURAL OR BETTER 9.7f (1400 f) OR NO. 1 1350 f SOUTHERN PINE.

DATE	REVISION	FILMED
05-14-20	REVISED NOTES	
11-07-19	RENAMED & REVISED REFERENCES	
11-16-17	RE-DRAWN FROM STD. DWG. GR-10 & ISSUED	

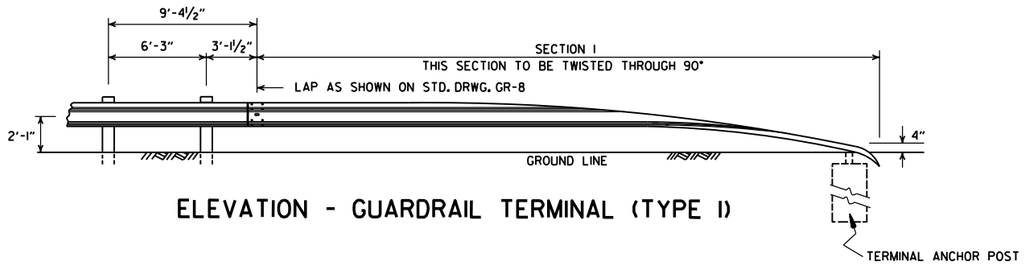
ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GR-12

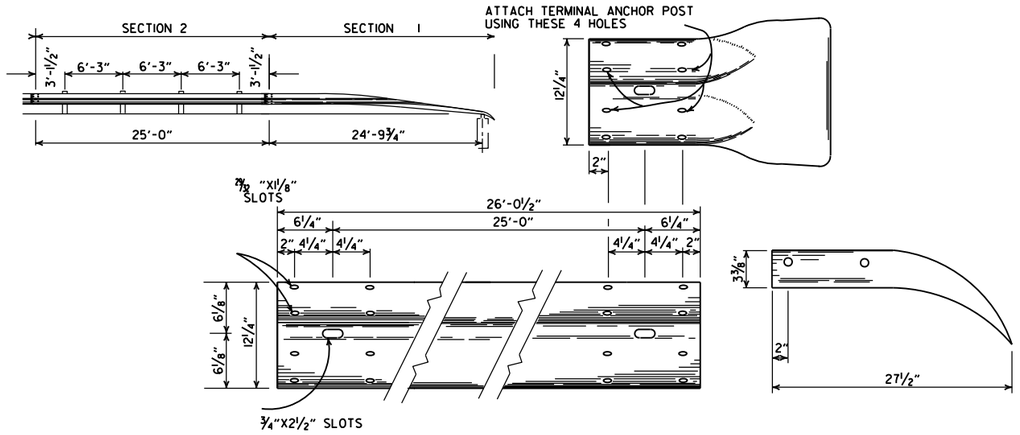


PLAN - GUARDRAIL TERMINAL (TYPE I)



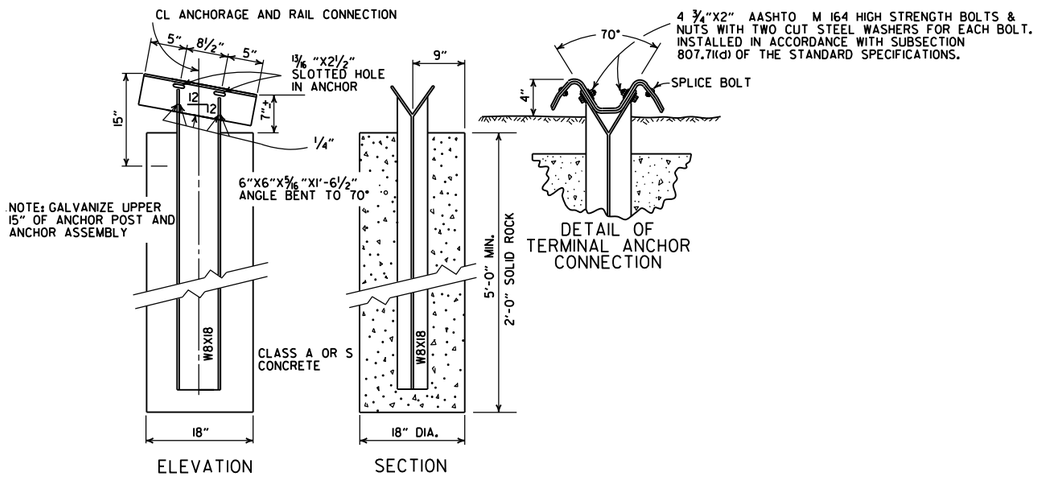
ELEVATION - GUARDRAIL TERMINAL (TYPE I)

NOTE:
SECTIONS I AND 2 OF GUARDRAIL TERMINAL SHALL BE PAID FOR AT THE PRICE BID PER LINEAR FOOT OF THE TYPE OF GUARDRAIL SPECIFIED.



SECTION I

TERMINAL SECTION



NOTE: RAIL MEMBERS MAY BE BOLTED TO ANGLE AT TERMINAL ANCHOR AND THE TWO ASSEMBLIES POSITIONED TO PROPER ALIGNMENT PRIOR TO PLACING CONCRETE AROUND 8 WF 17 POST IF CONTRACTOR SO DESIRES.

DETAIL OF TERMINAL ANCHOR POST (TYPE I)

DATE	REVISION	FILMED
11-07-19	RENAMED & REVISED REFERENCE.	
11-16-17	REVISED GUARDRAIL HEIGHT AND LOCATION OF POSTS	
07-14-10	RAISED HEIGHT OF GUARDRAIL 1"	
06-26-97	REVISED LAP NOTE	
10-18-96	REVISED ASTM REF. TO AASHTO	
11-03-94	DIMENSION TERMINAL DETAIL	
11-11-92	ADDED NOTE FOR PAYMENT	11-11-92
10-01-92	DRAWN & ISSUED	10-1-92

ARKANSAS STATE HIGHWAY COMMISSION

GUARDRAIL DETAILS

STANDARD DRAWING GRT-1

REINFORCED CONCRETE ARCH PIPE DIMENSIONS

EQUIV. DIA.	SPAN		RISE	
	AASHTO M 206	ARDOT NOMINAL	AASHTO M 206	ARDOT 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	31⅜	31
48	58½	59	36	36
54	65	65	40	40
60	73	73	45	45
72	88	88	54	54
84	102	102	62	62
90	115	115	72	72
96	122	122	77½	77
108	138	138	87⅛	87
120	154	154	96⅞	97
132	168¾	169	106½	107

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

REINFORCED CONCRETE HORIZONTAL ELLIPTICAL PIPE DIMENSIONS

EQUIV. DIA.	AASHTO M 207	
	SPAN	RISE
INCHES	INCHES	
18	23	14
24	30	19
27	34	22
30	38	24
33	42	27
36	45	29
39	49	32
42	53	34
48	60	38
54	68	43
60	76	48
66	83	53
72	91	58
78	98	63
84	106	68

THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PERCENT FROM THE VALUES SPECIFIED BY AASHTO M207.

CONSTRUCTION SEQUENCE

1. PLACE STRUCTURAL BEDDING MATERIAL TO GRADE. DO NOT COMPACT.
2. INSTALL PIPE TO GRADE.
3. COMPACT STRUCTURAL BEDDING OUTSIDE THE MIDDLE THIRD OF THE PIPE.
4. PLACE AND COMPACT THE HAUNCH AREA UP TO THE MIDDLE OF THE PIPE.
5. COMPLETE BACKFILL ACCORDING TO SUBSECTION 606.03.(f)(1).

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

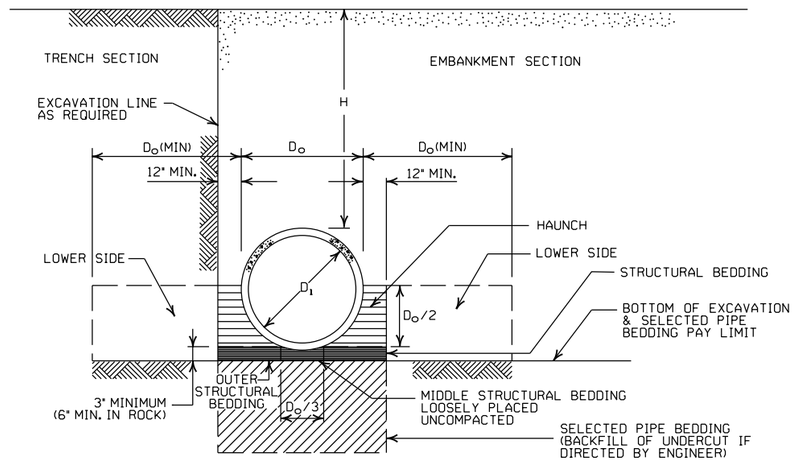
- LEGEND -

D_1 = NORMAL INSIDE DIAMETER OF PIPE
D_O = OUTSIDE DIAMETER OF PIPE
H = FILL COVER HEIGHT OVER PIPE (FEET)
MIN. = MINIMUM
= UNDISTURBED SOIL

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

* SM-3 WILL NOT BE ALLOWED.

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



EMBANKMENT AND TRENCH INSTALLATIONS

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

GENERAL NOTES

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

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

	CLASS OF PIPE			
	CLASS III		CLASS IV	CLASS V
INSTALLATION TYPE	TYPE 1 OR 2	TYPE 3	ALL	ALL
PIPE ID (IN.)	FEET			
12-15	2	2.5	2	1
18-24	2.5	3	2	1
27-33	3	4	2	1
36-42	3.5	5	2	1
48	4.5	5.5	2	1
54-60	5	7	2	1
66-78	6	8	2	1
84-108	7.5	8	2	1

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

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

INSTALLATION TYPE	CLASS OF PIPE		
	CLASS III	CLASS IV	CLASS V
	FEET		
TYPE 1	21	32	50
TYPE 2	16	25	39
TYPE 3	12	20	30

NOTE: IF FILL HEIGHT EXCEEDS 50 FEET, A SPECIAL DESIGN CONCRETE PIPE WILL BE REQUIRED USING TYPE 1 INSTALLATION.

MINIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2 OR TYPE 3	2.5	1.5

NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

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

MAXIMUM HEIGHT OF FILL "H" OVER R.C. ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS

INSTALLATION TYPE	CLASS OF PIPE	
	CLASS III	CLASS IV
	FEET	
TYPE 2	13	21
TYPE 3	10	16

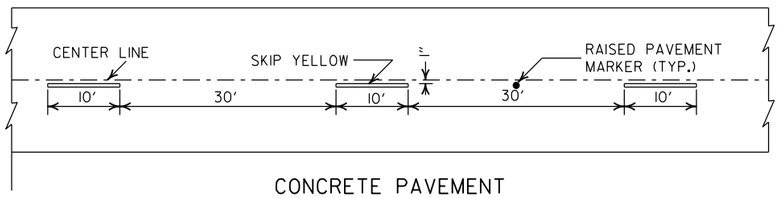
NOTE: TYPE 1 INSTALLATION WILL NOT BE ALLOWED FOR ARCH & HORIZONTAL ELLIPTICAL PIPE CULVERTS.

DATE	REVISION	DATE FILMED
2-27-14	REVISED GENERAL NOTE 1.	
12-15-11	REVISED FOR LRFD DESIGN SPECIFICATIONS	
5-18-00	REVISED TYPE 3 BEDDING & ADDED NOTE	
3-30-00	REVISED INSTALLATIONS	
11-06-97	ISSUED	

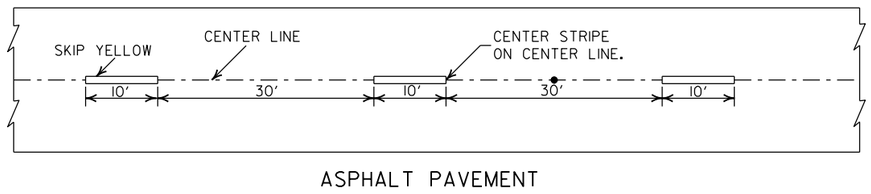
ARKANSAS STATE HIGHWAY COMMISSION

CONCRETE PIPE CULVERT FILL HEIGHTS & BEDDING

STANDARD DRAWING PCC-1

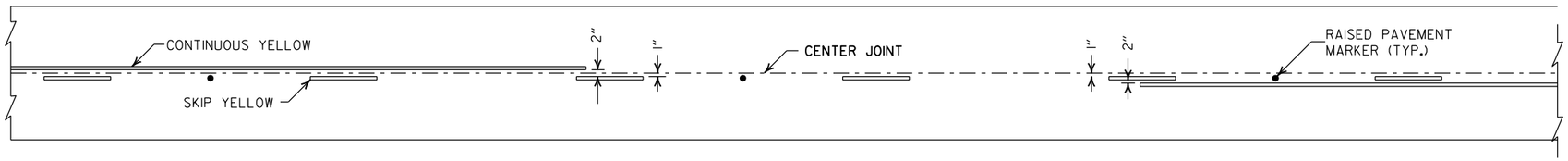


CONCRETE PAVEMENT

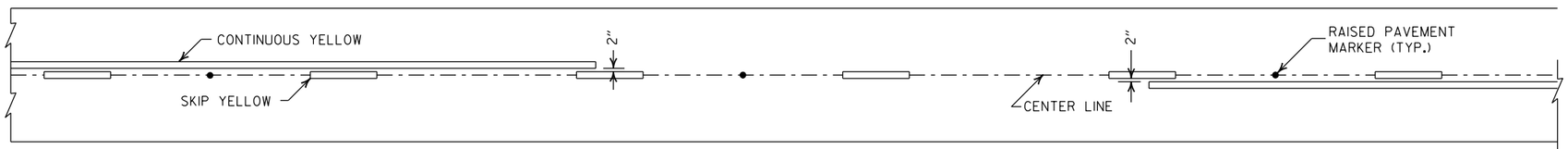


ASPHALT PAVEMENT

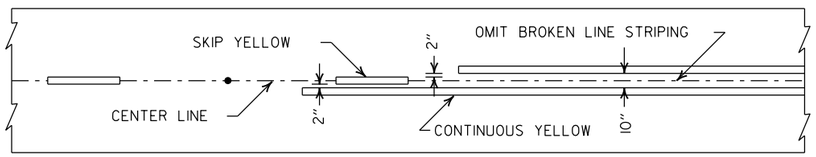
BROKEN LINE STRIPING



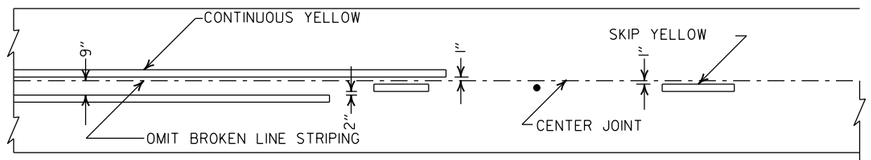
SOLID LINE STRIPING ON CONCRETE PAVEMENT



SOLID LINE STRIPING ON ASPHALT PAVEMENT

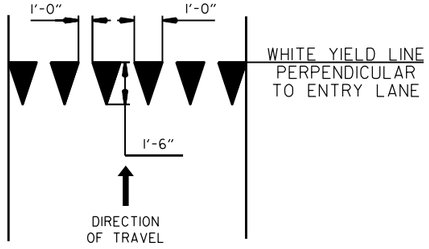


ASPHALT PAVEMENT

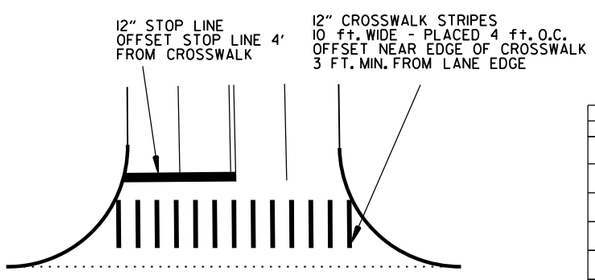


CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES

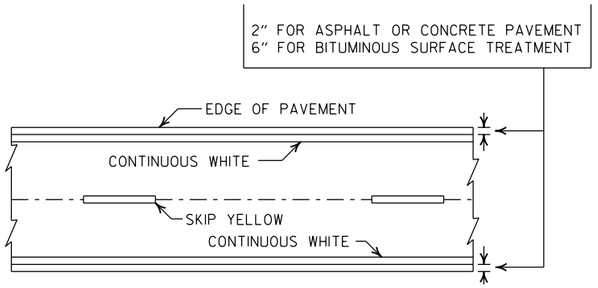


YIELD LINE DETAIL



CROSSWALK AND STOP LINE DETAILS

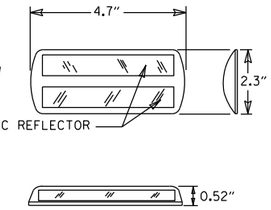
NOTES:
1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.



PAVEMENT EDGE LINE MARKING

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

TYPE II
RED/CLEAR OR
YELLOW/YELLOW



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

DETAIL OF STANDARD RAISED PAVEMENT MARKERS

DATE	REVISION	FILMED
2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR 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

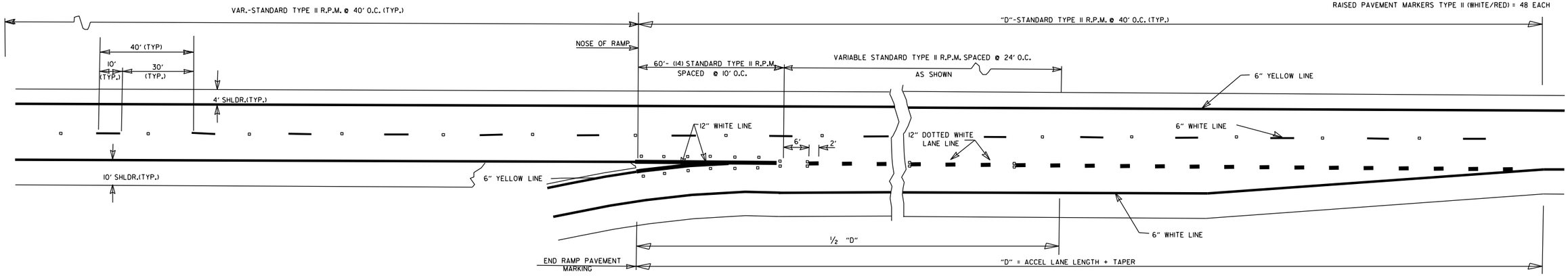
PAVEMENT MARKING QUANTITIES
(BASED ON 700' ACCEL. LANE + 300' TAPER)

ENTRANCE RAMP

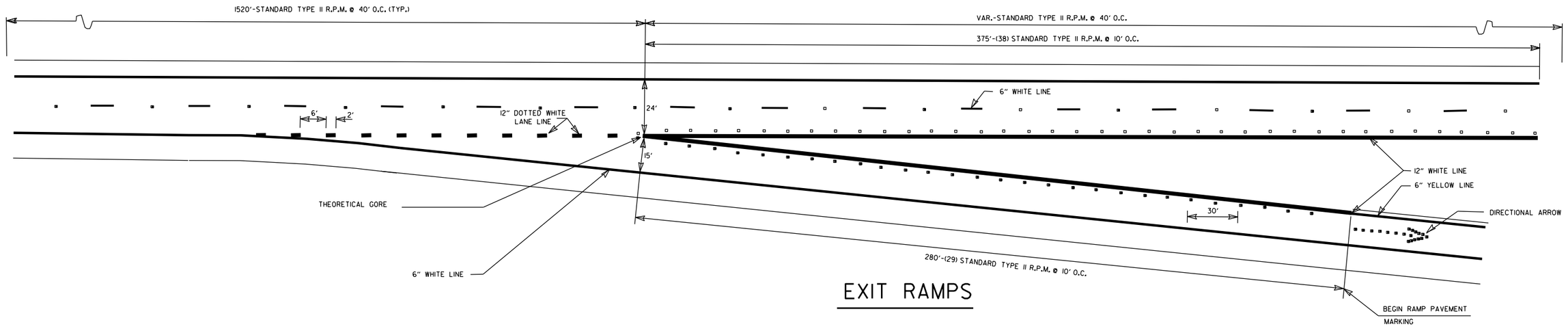
12" WHITE = 370 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH

EXIT RAMP

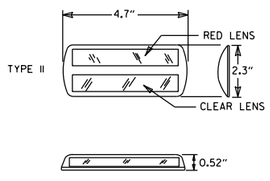
6" WHITE = 280 LIN. FT.
12" WHITE = 815 LIN. FT.
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 38 EACH
RAISED PAVEMENT MARKERS TYPE II (WHITE/RED) = 48 EACH



ENTRANCE RAMPS

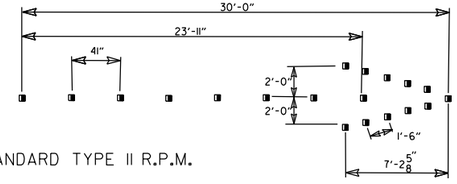


EXIT RAMPS



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 ARDOT QUALIFIED PRODUCTS LIST.

DATE	REVISION	FILMED
05-14-20	REMOVED CROSSHATCH MARKINGS ON EXIT RAMPS	
11-07-19	REVISED DOTTED PAV'T MARKINGS; ADDED CROSSHATCH MARKINGS ON EXIT RAMPS	
12-8-16	REVISED RAISED PAV'T MARKERS FOR 80' SPACING; REVISED WIDTH OF STRIPING	
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

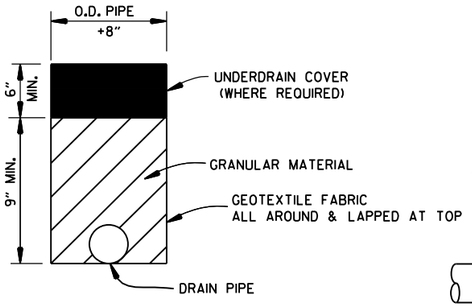
PAVEMENT MARKING DETAILS ON ACCESS CONTROLLED ROADWAYS

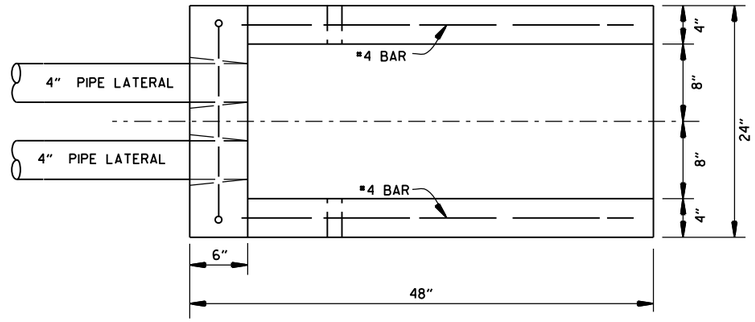
STANDARD DRAWING PM-2

NOTE:

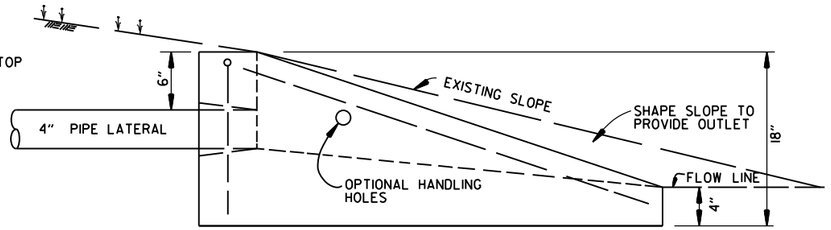
1. UNLESS OTHERWISE SPECIFIED ON THE PLANS, THE UNDERDRAIN COVER SHALL BE THOROUGHLY COMPACTED EARTH AND SHALL BE SUBSIDIARY TO PIPE UNDERDRAIN.

2. GRANULAR MATERIAL SHALL BE WRAPPED WITH GEOTEXTILE FABRIC. LAP FABRIC 12" OR THE WIDTH OF THE TRENCH AT THE TOP.

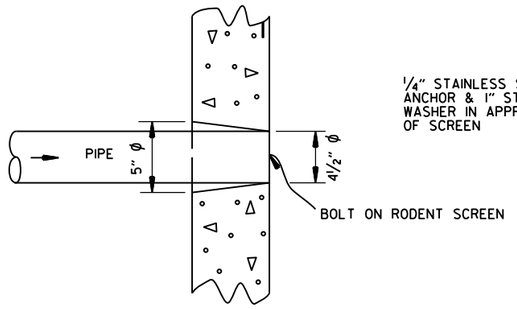




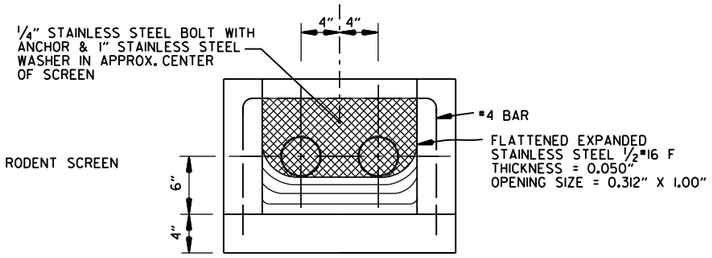
PLAN VIEW



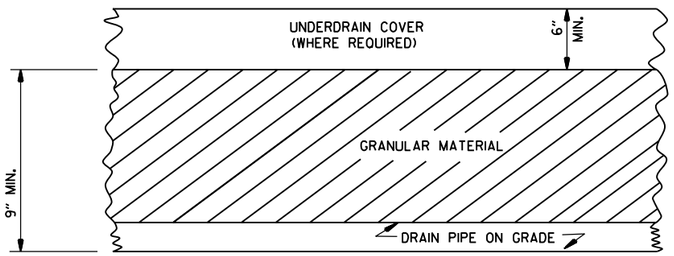
SIDE VIEW



DETAIL OF HOLE
FOR 4" PIPE

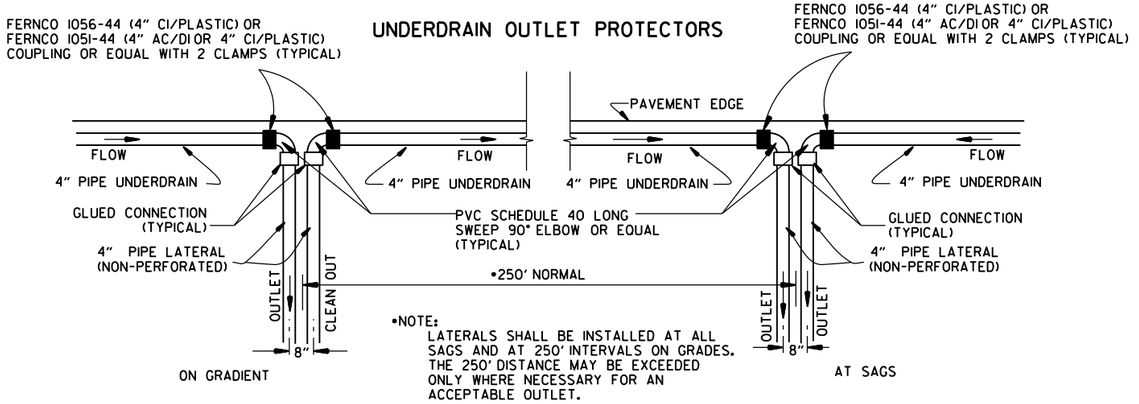


FRONT VIEW
(DETAIL OF RODENT SCREEN)



DETAILS OF PIPE UNDERDRAIN

UNDERDRAIN OUTLET PROTECTORS



DETAIL OF PIPE UNDERDRAIN LATERALS
WHEN PLACED ALONG PAVEMENT EDGE

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

NOTES FOR PIPE UNDERDRAINS

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF SECTION 625 FOR TYPE I. PAYMENT FOR GEOTEXTILE FABRIC AND GRANULAR FILTER MATERIAL SHALL BE INCLUDED IN THE PRICE BID PER LIN. FT. FOR "4" PIPE UNDERDRAINS" IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

2. 4" NON-PERFORATED SCHEDULE 40 PVC PIPE LATERALS WITH OUTLET PROTECTORS SHALL BE INSTALLED AS SHOWN HEREON. LATERALS WILL BE MEASURED AND PAID FOR AS "4" PIPE UNDERDRAINS." UNDERDRAIN OUTLET PROTECTORS WILL BE MEASURED AND PAID FOR BY THE UNIT IN ACCORDANCE WITH SECTION 611 OF THE STANDARD SPECIFICATIONS.

3. EXISTING 4" PIPE UNDERDRAINS MAY BE CONNECTED TO PROPOSED DROP INLETS OR EXTENDED WHERE DIRECTED BY THE ENGINEER. PAYMENT FOR CONNECTING TO DROP INLETS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID FOR "4" PIPE UNDERDRAINS."

4. THE LOCATION OF ALL LATERALS SHALL BE MARKED WITH 4" X 12" PERMANENT PAVEMENT MARKING TAPE (TYPE III WHITE) AT THE OUTSIDE EDGE OF THE SHOULDER, PLACED TRANSVERSE TO TRAFFIC. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS.

5. PAYMENT FOR THE RODENT SCREEN SHALL BE INCLUDED IN THE PRICE BID PER EACH FOR "UNDERDRAIN OUTLET PROTECTORS."

6. ANY EXISTING UNDERDRAINS THAT INTERFERE WITH INSTALLATION OF THE NEW UNDERDRAIN SYSTEM SHALL BE REMOVED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS CONTRACT ITEMS. EXISTING UNDERDRAIN OUTLET PROTECTORS SHALL BE REMOVED UNDER THE ITEM "REMOVAL AND DISPOSAL OF UNDERDRAIN OUTLET PROTECTORS."

7. AT LOCATIONS WHERE A SINGLE LATERAL IS USED THE CONTRACTOR SHALL HAVE THE FOLLOWING OPTIONS: 1. INSTALL OUTLET PROTECTOR AS SHOWN ON STANDARD DRAWING PU-1 AND GROUT THE UNUSED HOLE OR 2. INSTALL AN OUTLET PROTECTOR WITH A SINGLE HOLE.

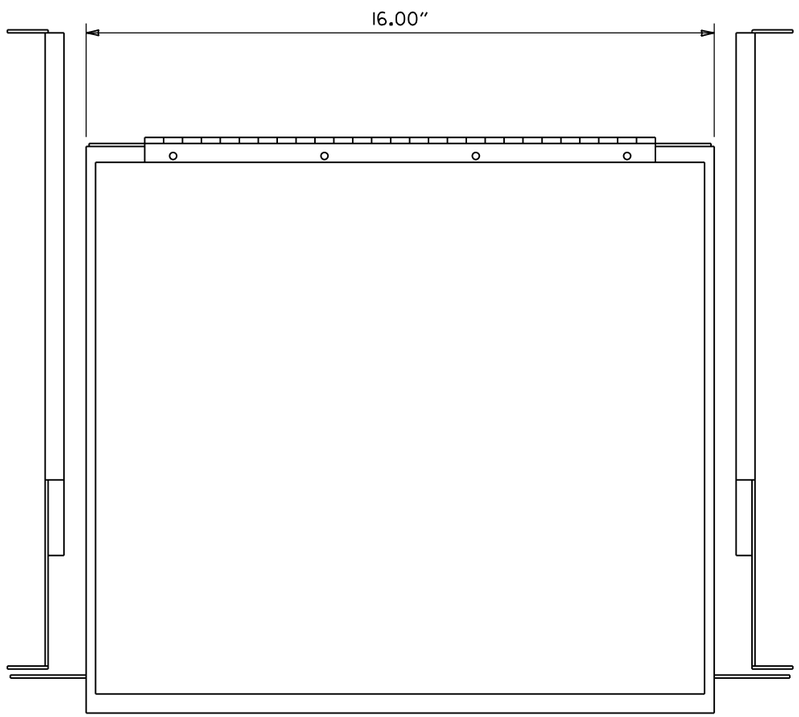
DATE	REVISION	DATE FILMED
12-8-16	ADDED NOTES FOR PIPE UNDERDRAINS, REVISED RODENT SCREEN DETAIL AND NOTES, REMOVED NOTE 1 FOR GRANULAR MATERIAL, ADDED NOTE FOR GEOTEXTILE FABRIC	
4-10-03	REVISED NOTE 3	
1-12-00	REVISED DETAIL OF UNDERDRAIN LATERALS	
11-18-98	REVISED NOTE	
10-18-96	REVISED MIN. DEPTH & GEOTEXTILE FABRIC	
4-26-96	ADDED LATERAL NOTE; 5½" TO 5"	
11-22-95	REVISED LATERALS	
7-20-95	REVISED LATERALS & ADDED NOTE	
11- 3-94	REVISED FOR DUAL LATERALS	11- 3-94
10- 1-92	SUBSTITUTED GEOTEXTILE	10- 1-92
8-15-91	ADDED POLYEDTHYLENE PIPE	8-15-91
11- 8-90	DELETED ALTERNATE NOTE	11- 8-90
1-25-90	ADDED 4" SNAP ADAPTER	1-25-90
11-30-89	DEL. (SUBGRADE); ADDED (WHERE REQUIRED)	11-30-89
7-15-88	ISSUED P.L.M.	647-7-15-88

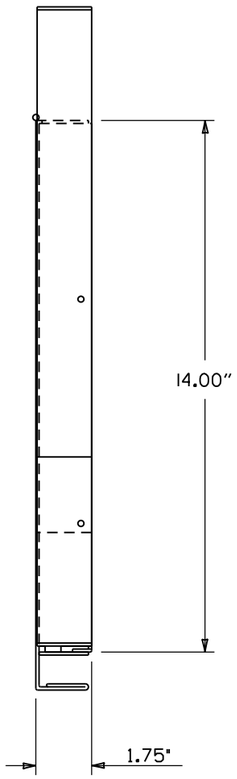
ARKANSAS STATE HIGHWAY COMMISSION

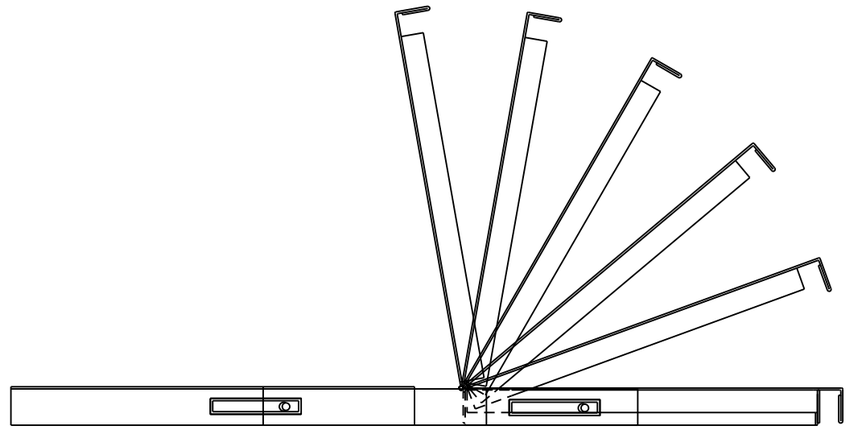
DETAILS OF PIPE UNDERDRAIN

STANDARD DRAWING PU-1

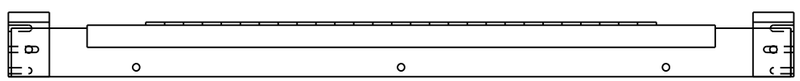
DRAWER PLAN VIEW



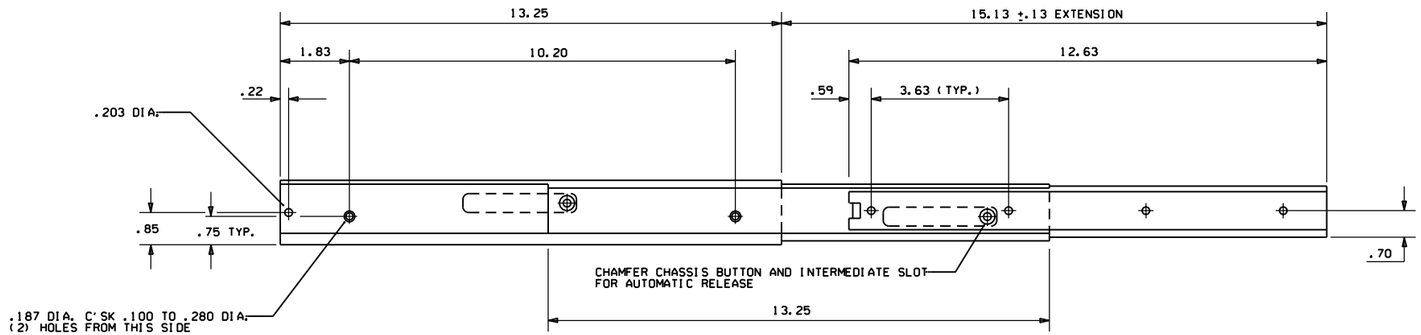




NOTES:
1. RIGHT HAND SLIDE SHOWN, LEFT SLIDE OPPOSITE.
2. GENERAL DEVICES (CC3002-99-0102) OR EQUAL AND CONTAINS (1) RIGHT HAND SLIDE ASSEMBLY, (1) LEFT HAND SLIDE ASSEMBLY.
3. ALL HARDWARE NECESSARY TO FASTEN SLIDE ASSEMBLY TO UNDERSIDE OF CONTROLLER SHELF SHALL BE INCLUDED.



FRONT VIEW



RIGHT SIDE ASSEMBLY

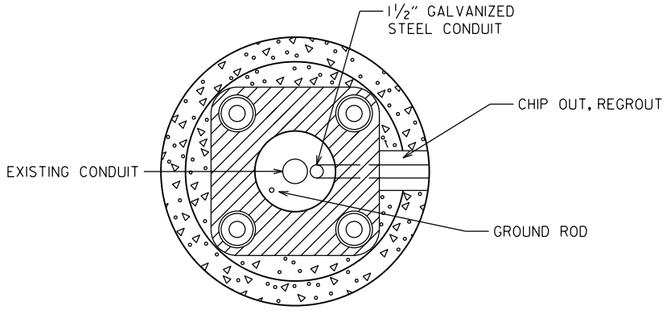
DATE	REVISION	DATE FILM
9-12-13	ISSUED AS STANDARD DRAWING	
6-15-05	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

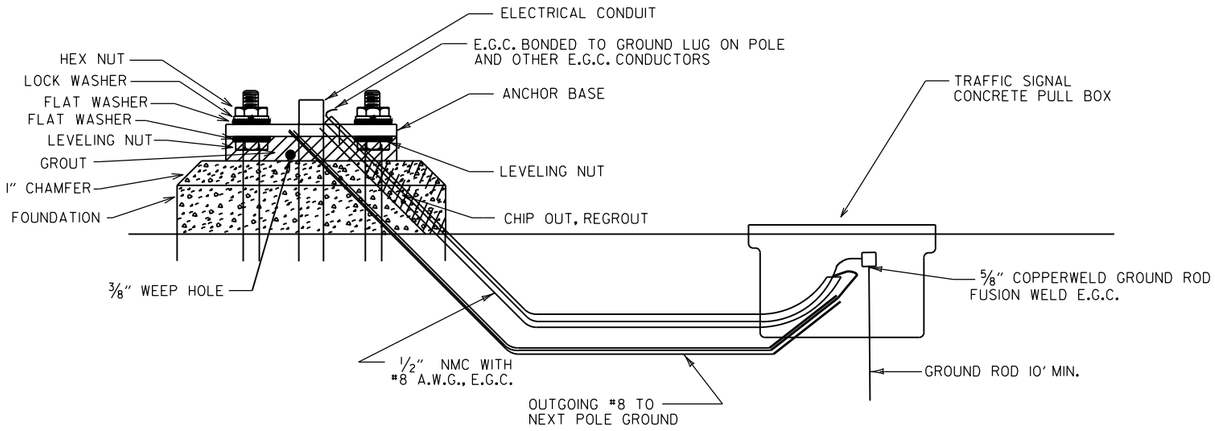
CONTROLLER CABINET UTILITY DRAWER

STANDARD DRAWING SD-5

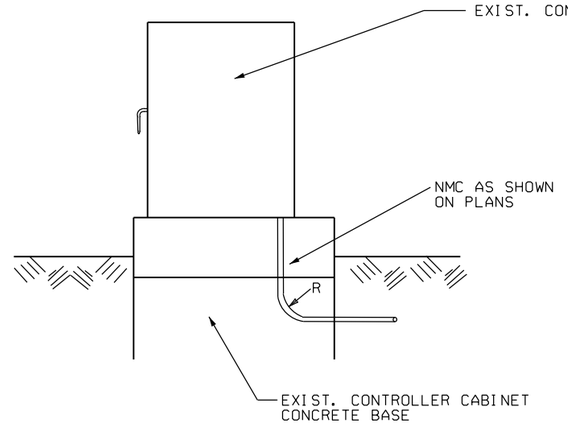
CONDUIT ENTRY TO EXISTING POLE BASE



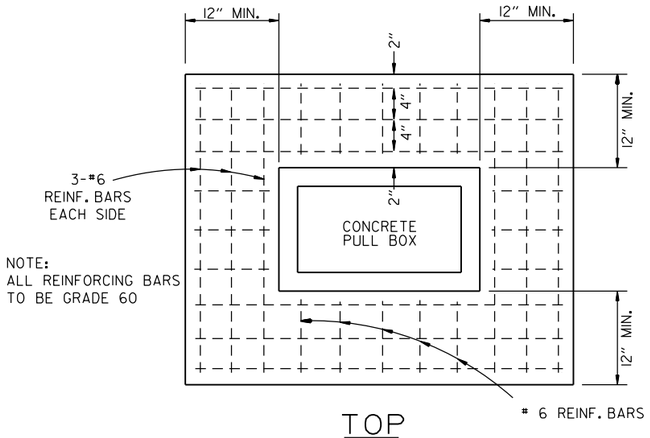
ANCHOR BASE



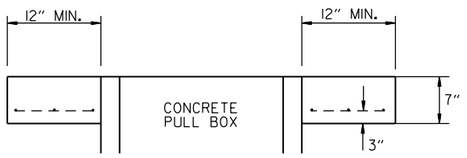
CONDUIT ENTRY TO EXISTING CONTROLLER CABINET



NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



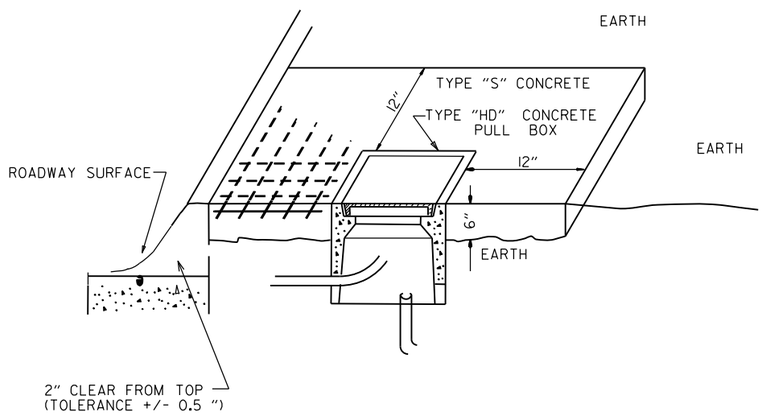
TOP



ELEVATION

NOTE:
ALL REINFORCING BARS TO BE GRADE 60

TYPE "HD" CONCRETE PULL BOX DETAIL



NOTE:
ALL TYPE 1 AND TYPE 2 HD CONCRETE PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" WIDE AND 7" IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD CONCRETE PULL BOX. THE CONCRETE PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S". THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE CONCRETE PULL BOX IS REQUIRED IN CONCRETE.

DATE	REVISION	FILMED
11-16-17	REVISED NOTES	
09-02-15	REVISED PULL BOX DEPTH	
09-12-13	ISSUED AS STANDARD DRAWING	
05-21-09	REVISED GROUNDING	
07-31-08	ADDED & REVISED CONDUIT ENTRY	
06-23-04	REVISED CLEARANCE AT CURB ENTRY	
01-04-02	ADDED REINFORCING TO BOX APRON	
07-02-01	REVISED	
12-27-99	REVISED NOTES	
11-18-98	ISSUED	

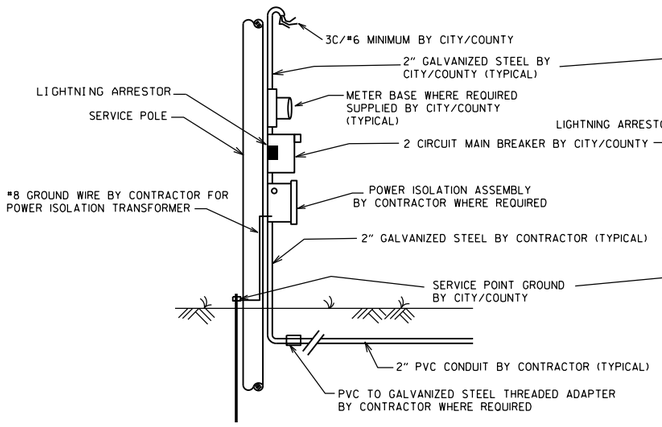
ARKANSAS STATE HIGHWAY COMMISSION

HEAVY DUTY PULL BOX

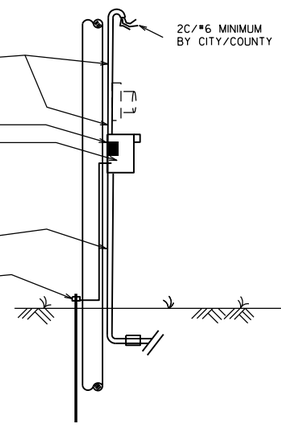
STANDARD DRAWING SD-6

MAIN BREAKER NOT NEAR CONTROLLER CABINET SECONDARY REQUIRED

WITH POWER ISOLATION ASSEMBLY



WITHOUT POWER ISOLATION ASSEMBLY



NOTES TO CONTRACTOR AND AGENCY RESPONSIBLE FOR MAINTENANCE OF THE INTERSECTION (CITY/COUNTY):

ELECTRICAL SERVICE TYPICALLY FALLS INTO TWO CATEGORIES:
MAIN BREAKER NEAR CONTROLLER CABINET; AND MAIN BREAKER NOT NEAR CONTROLLER CABINET. THE CONTRACTOR'S AND THE CITY'S/COUNTY'S RESPONSIBILITY VARIES ACCORDINGLY AS INDICATED ON THESE DETAILS.

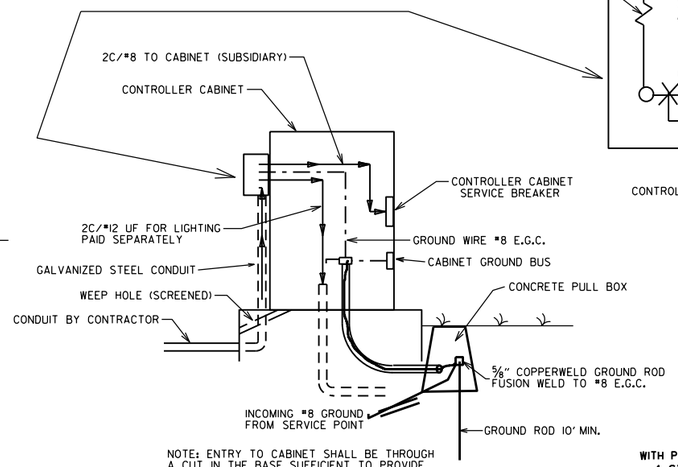
ALL SITUATIONS:
ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER) AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. SERVICE POINT INCLUDES GALVANIZED STEEL CONDUIT TO A POINT 18" BELOW GROUND LINE, TWO CIRCUIT MAIN BREAKER, LIGHTNING ARRESTOR, POWER ISOLATION ASSEMBLY WHERE REQUIRED, METER LOOP IF REQUIRED BY LOCAL UTILITY COMPANY, ELECTRICAL CONDUCTORS AND WEATHERHEAD. WHERE STREET LIGHTING IS INCLUDED AS PART OF SIGNAL INSTALLATION STREET LIGHTING CIRCUIT (2C/#12 A.W.G. UF RATED, TYPICAL) SHALL BE KEPT SEPARATE FROM THE CIRCUIT SERVING TRAFFIC SIGNAL. SERVICE WIRE AND WIRING FROM THE CONTROLLER TO MAIN BREAKER IS PROVIDED BY THE CONTRACTOR AS A PART OF THIS CONTRACT. WIRE AND WIRING FROM MAIN BREAKER, AND CONNECTION TO THE UTILITY IS THE RESPONSIBILITY OF THE CITY/COUNTY.

MAIN BREAKER NOT NEAR CONTROLLER CABINET:
THE MAIN BREAKER ASSEMBLY, GALVANIZED STEEL CONDUIT. WEATHERHEAD AND WIRE ABOVE MAIN BREAKER AND CONNECTION TO THE UTILITY SHALL BE PROVIDED BY CITY/COUNTY. CONTRACTOR SHALL PROVIDE AS PART OF CONTRACT SECONDARY BREAKER, CONDUIT, WIRE AND WIRING TO THE MAIN BREAKER.

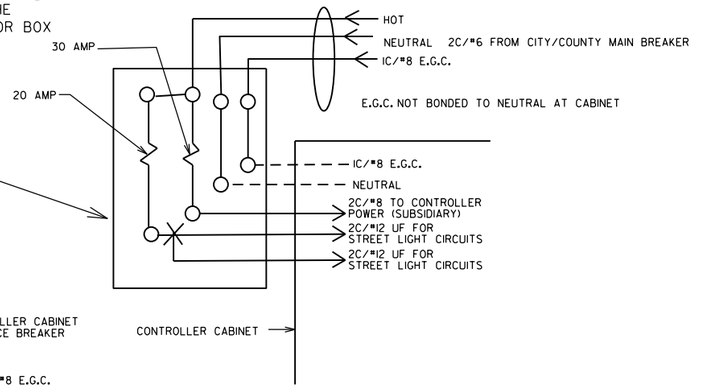
MAIN BREAKER NEAR CONTROLLER CABINET:
ALL COMPONENTS OF THE SERVICE POINT WITH THE EXCEPTION OF THE WIRE AND WIRING ABOVE THE MAIN BREAKER IS FURNISHED AND INSTALLED BY THE CONTRACTOR. WIRING FROM MAIN BREAKER INCLUDING CONNECTION TO THE UTILITY, IS THE RESPONSIBILITY OF THE CITY/COUNTY. IF METER LOOP IS REQUIRED, METER BASE AND HARDWARE IS PROVIDED BY THE CITY/COUNTY AND INSTALLED BY THE CONTRACTOR.

GROUND ROD - A 10' X 5/8" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND 1/2" NMC SHALL BE INCLUDED IN ITEM 701. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID FOR SEPARATELY.

SECONDARY BREAKER BY CONTRACTOR (SUBSIDIARY)



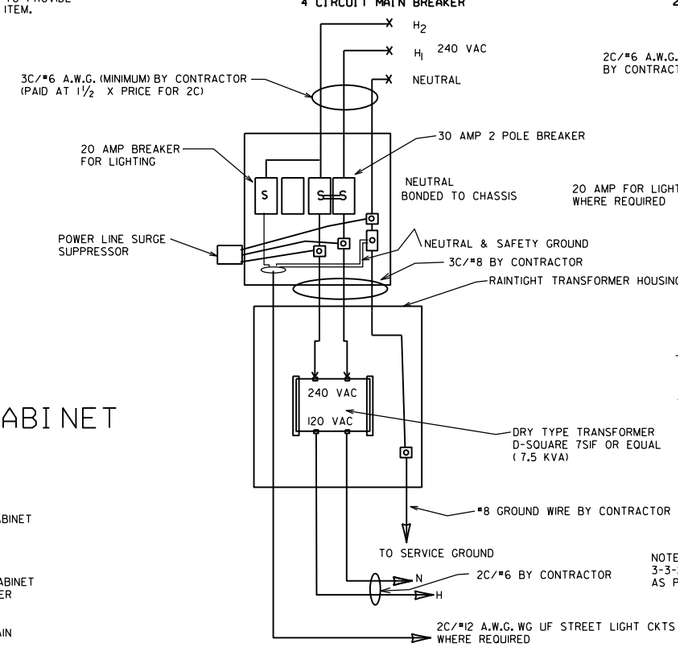
NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.



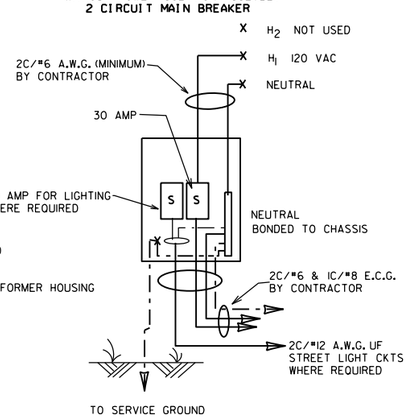
MAIN BREAKER WIRING (TYPICAL)

SERVICE GROUND IS TYPICALLY TIED TO NEUTRAL AT THE MAIN BREAKER. AS SUCH, CONTROLLER GROUND IS NOT TIED TO NEUTRAL AT SECONDARY BREAKER OR IN CONTROLLER CABINET.

WITH POWER ISOLATION ASSEMBLY
4 CIRCUIT MAIN BREAKER

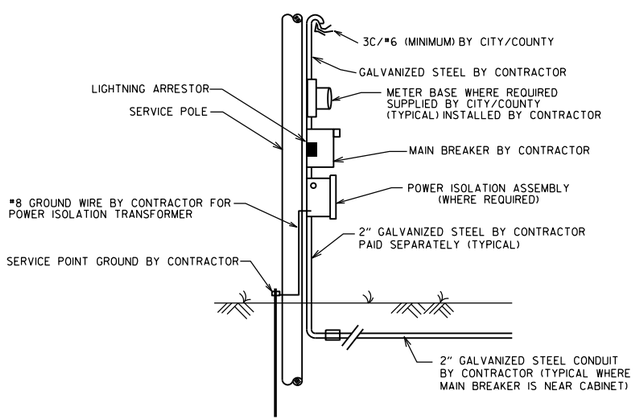


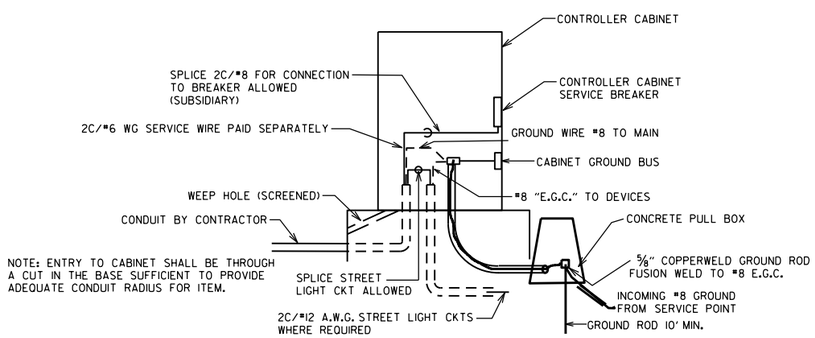
WITHOUT POWER ISOLATION ASSEMBLY
2 CIRCUIT MAIN BREAKER



NOTE: ELECTRICAL GROUND CONDUCTOR (E.C.G.) ADDED 3-3-2003, CONSISTING OF A IC/#8 A.W.G. CU GREEN WIRE AS PER NATIONAL ELECT. CODES.

MAIN BREAKER NEAR CONTROLLER CABINET SECONDARY NOT REQUIRED





NOTE: ENTRY TO CABINET SHALL BE THROUGH A CUT IN THE BASE SUFFICIENT TO PROVIDE ADEQUATE CONDUIT RADIUS FOR ITEM.

DATE	REVISION	FILMED
11-07-19	REVISED	
11-16-17	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
04-18-13	ADDED LIGHTNING ARRESTOR	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
03-03-03	ADDED EGC NOTE	
09-26-01	REVISED	
12-27-99	REVISED	
07-28-99	REVISED	
02-05-99	ISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

SERVICE POINT

STANDARD DRAWING SD-9

NOTES:
PEDESTRIAN AND TRAFFIC SIGNAL HEAD SIGNS:
EACH ITEM "TRAFFIC SIGNAL HEAD (4 SEC., 1-WAY)" SHALL INCLUDE A SPECIAL SIGN AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD UNLESS REMOVED WITHIN THE SIGNAL PLAN NOTES.

EACH ITEM "TRAFFIC SIGNAL HEAD (3 SEC., 1-WAY)" TO BE USED AS A LEFT TURN INDICATION ONLY SHALL INCLUDE A SIGN (R10-10) AS SHOWN, ATTACHED TO THE MAST ARM OR SPAN ASSEMBLY 12" TO THE RIGHT OF THE SIGNAL HEAD.

EACH PEDESTRIAN PUSHBUTTON SHALL HAVE ONE R10-3E SIGN ATTACHED TO THE POLE ABOVE THE BUTTON. ALL SIGNS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 723 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

ALL SIGN BLANKS SHALL BE CONSTRUCTED OF ALUMINUM ALLOY (ASTM DESIGNATION B-209. ALLOY 5052-H38) WITH THICKNESS OF 0.100 INCH.

GENERAL NOTES:
1. MAST ARM POLES SHALL BE MOUNTED A MINIMUM OF FOUR (4') FEET BEHIND CURB OR SHOULDER.

2. OCTAGONAL POLES AND ARMS MEETING THE REQUIREMENTS OF THE PLANS SPECIFICATIONS CAN BE INSTALLED IN LIEU OF ROUND. ALL POLES AND ARMS IN A JOB MUST BE THE SAME SHAPE.

3. MINIMUM STRUCTURAL REQUIREMENTS:
DESIGN SPECIFICATIONS: AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 4TH EDITION (2001) WITH 2003 AND 2006 INTERIMS.

USE FATIGUE CATEGORY I FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS 65 MPH AND GREATER AT THE STRUCTURE LOCATION AND ON ROUTES WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY II FOR ALL STRUCTURES ON ROUTES WHERE THE SPEED LIMIT IS LESS THAN 65 MPH AND GREATER THAN 45 MPH WITH MAST ARMS LESS THAN 60' AND ON ROUTES WHERE THE SPEED LIMITS OF 45 MPH AND LESS WITH AN MAST ARM OF 60' OR LONGER.

USE FATIGUE CATEGORY III FOR ALL STRUCTURES WHERE THE SPEED LIMIT IS 45 MPH AND LESS AND MAST ARMS LESS THAN 60'.

CONSTRUCTION SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION (CURRENT EDITION) WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS.

BASE WIND SPEED: 90 MPH.

STEEL MEMBERS CONSIDERED MAIN LOAD CARRYING MEMBERS WITH A THICKNESS GREATER THAN ½" SHALL MEET THE LONGITUDINAL CHARPY V-NOTCH TEST SPECIFIED IN SUBSECTION 807.05 OF THE STANDARD SPECIFICATIONS.

DEAD LOAD: AS A MINIMUM, DESIGN SHALL BE BASED ON THE FIXED ATTACHMENTS SHOWN BELOW OR AS MODIFIED IN THE PLANS.

ALL SIGNAL HEADS TO BE ONE WAY, TWELVE (12") INCH AND HAVE FIVE (5") INCH BACK PLATES:

SIGNAL HEADS AT THE END OF MAST ARM - ONE 4 SEC., 85 LB., 14.5 SQ. FT., ONE SIGN MOUNTED 3 FEET FROM SIGNAL HEAD (2'-0" X 2'-6"; 20 LB.) REMAINING SIGNAL HEADS SPACED AT 8 FT. (3 SEC., 56 LB., 8.3 SQ. FT.):
DESIGN TO ACCOMMODATE:
2 SIGNAL HEADS FOR MAST ARMS 10 FT. TO 16 FT.
3 SIGNAL HEADS FOR MAST ARMS 18 FT. TO 24 FT.
4 SIGNAL HEADS FOR MAST ARMS OVER 26 FT.

STREET NAME SIGN - 72" X 18", 36 LB., MOUNTED SUCH THAT OUTSIDE EDGE IS NOT GREATER THAT 12 FT. FROM POLE. DEPENDING UPON POSITION OF SIGNAL HEAD ADJACENT TO POLE, SIGN MAY OVERLAP POLE SHAFT.
ROADWAY LUMINAIRES (WHERE REQUIRED ON PLAN SHEET) - VARIABLE ARM LENGTH (MAX. WT. 75 LB., 3.3 SQ. FT.)
PEDESTRIAN SIGNALS - TWO 1 SEC., 12 INCH MOUNTED 8 FT. FROM BASE OF POLE. POST MOUNTED 3 SEC. SIGNAL HEAD AT 10 FT. ON SIDE OF POLE.

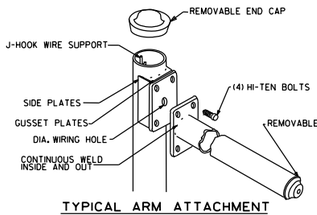
4. POLE/MAST ARM CAP - POLE AND MAST ARM CAPS SHALL BE PROVIDED, FABRICATED OF EITHER STEEL OR CAST ALUMINUM.

5. HAND HOLE - HAND HOLES SHALL BE 4 IN. X 6 IN. FOR STANDARD, AND 3 IN. X 5 IN. FOR PED POLES. MINIMUM PLACED APPROXIMATELY 12 INCHES FROM BASE, AND SHALL BE FIXED WITH A BOLT DOWN COVER. A VACCUM FORMED ABS COVER IS AN ACCEPTABLE ALTERNATE TO STEEL. POLES GREATER THAN 21FT. IN HEIGHT (FOR ROADWAY LUMINAIRE ATTACHMENT) SHALL INCLUDED A HAND HOLE WITHIN 12 INCHES OF MAST ARM(S) ATTACHMENT(S).

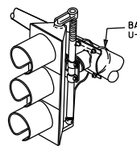
6. POLE/MAST ARM TAPER SLOPE - AVERAGE TAPER OF SIGNAL MAST ARMS AND POLE SHAFT SHALL BE 0.125 TO 0.15 INCHES PER FOOT.

MAST ARM CENTERLINE ANGLE AT ATTACHMENT POINT WITH POLE SHALL MAINTAIN NOT LESS THAN 0.5 DEGREES OR MORE THAN 4 DEGREES POSITIVE SLOPE WITH A LINE PERPENDICULAR TO THE POLE CENTERLINE. THE MAST ARM SHALL MAINTAIN A POSITIVE SLOPE AFTER IT IS PLACED UNDER LOAD.

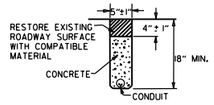
7. NUT COVERS - EACH POLE SHALL INCLUDE A BOLT DOWN NUT COVER FOR EACH ANCHOR BOLT.



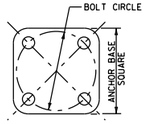
TYPICAL ARM ATTACHMENT



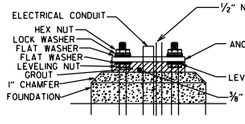
NOTE: THE SIGNAL SHALL BE CONNECTED TO THE MAST ARM BY BRACKETING AS DIRECTED BY THE ENGINEER.

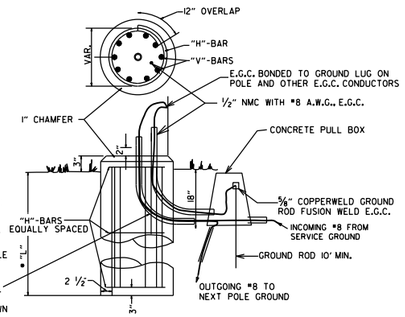


TRENCHING DETAIL
(FOR SAW CUT TRENCH IN ROADWAY)



ANCHOR BASE





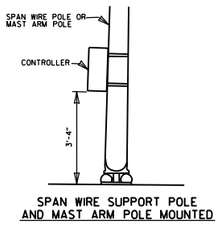
THE SWEEPING "L" IN THE FOUNDATION SHALL BE THE SAME SIZE AS THE CONDUIT FROM THE FOUNDATION TO THE PULL BOX AS SHOWN ON THE PLANS.

THE GROUND ROD SHALL BE FUSION WELDED TO A 1C/#8 A.W.G. SOLID COPPER GROUND WIRE. ATTACHMENT TO THE PRIMARY GROUND MAY BE BY AN APPROVED CLAMP. THE GROUND ROD IS TO BE LOCATED IN THE CONCRETE PULL BOX.

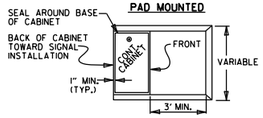
TYPICAL FOUNDATION DETAILS

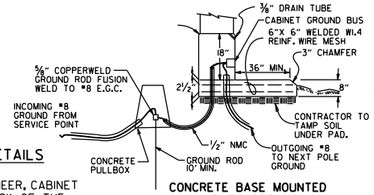
POLE FOUNDATION MINIMUM DIMENSIONS AND STEEL REINFORCING. ALL REINFORCING STEEL SHALL BE GRADE 40 MIN.

ARM LENGTH	FOUNDATION DIAMETER	DEPTH "L"*	STEEL		
			VERTICAL	HORIZONTAL	O.C.
PED	30"	7'-0"	12-#7 (6'-6")	10-#4	8.44"
2' TO 12'	30"	10'-6"	12-#7 (10'-0")	15-#4	8.42"
OVER 12' TO 20'	30"	11'-6"	12-#7 (11'-0")	16-#4	8.66"
OVER 20' TO 35'	36"	12'-6"	13-#8 (12'-0")	17-#4	8.88"
OVER 35' TO 50'	36"	13'-6"	13-#8 (13'-0")	19-#4	8.56"
OVER 50' TO 72'	42"	14'-6"	18-#8 (14'-0")	20-#4	8.74"
TWINS TO 20'	30"	16'-0"	12-#6 (15'-6")	22-#4	8.76"
TWINS OVER 20' TO 44'	36"	16'-0"	13-#8 (15'-6")	22-#4	8.76"
TWINS OVER 44' TO 50'	42"	16'-0"	18-#8 (15'-6")	22-#4	8.76"
TWINS OVER 50' TO 72'	42"	16'-6"	18-#8 (16'-0")	23-#4	8.64"



SPAN WIRE SUPPORT POLE AND MAST ARM POLE MOUNTED





CONCRETE BASE MOUNTED CABINET DETAILS

CONTROLLER CABINET MOUNTING DETAILS

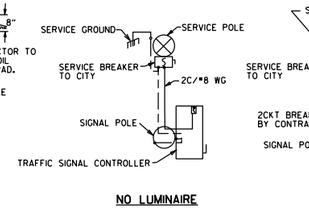
NOTE:
UNLESS OTHERWISE DIRECTED BY THE ENGINEER, CABINET ORIENTATION SHALL BE SUCH THAT THE BACK OF THE CABINET IS PARALLEL TO THE STREET AND POSITIONED TO ALLOW VISIBILITY OF THE SIGNAL DISPLAY WHILE OBSERVING THE CONTROLLER FRONT PANEL.

8. GROUND ROD - A 10' X ⅝" GROUND ROD SHALL BE INSTALLED IN THE CONCRETE PULL BOX FOR EACH POLE AND THE CONTROLLER. PAYMENT FOR THE GROUND ROD AND ½" NMC SHALL BE INCLUDED IN ITEM 714 FOR SIGNAL POLES AND ITEM 701 FOR THE CONTROLLER. THE CONCRETE PULL BOX AND CONDUCTOR BOX SHALL BE PAID SEPERATELY.

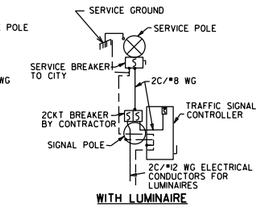
9. POLE BASE/FOUNDATION - ANCHOR BOLTS SHALL INCLUDE AS A MINIMUM, ONE LEVELING NUT, TWO FLAT WASHERS, ONE LOCK WASHER, AND ONE HEX NUT. PERIMETER OF ANCHOR BASE SHALL BE GROUTED WITH A ¼" WEEP HOLE. ALL CONCRETE SHALL BE CLASS "S" OR GREATER.

10. CONCRETE - ALL CONCRETE FOR CONTROLLER CABINET AND POLE FOUNDATIONS SHALL BE CLASS "S" OR GREATER.

11. PEDESTRIAN PHASES - PEDESTRIAN MOVEMENTS SHALL BE PUSH BUTTON ACTUATED AND CONCURRENTLY TIMED, UNLESS OTHERWISE INDICATED ON THE PLAN SHEET(S). FURNISHING AND INSTALLING PEDESTRIAN PUSH SWITCH SHALL BE CONSIDERED SUBSIDIARY TO THE ITEM 707 PEDESTRIAN SIGNAL HEAD.



NO LUMINAIRE



WITH LUMINAIRE

SERVICE DISCONNECT
NOTE: ELECTRICAL GROUND CONDUCTOR IS BONDED TO ALL METAL ENCLOSURES

* WHEN THE GROUND ELEVATION AT THE POLE IS LOWER THAN THE ROADWAY ELEVATION, THE LENGTH OF FOUNDATION ABOVE THE GROUND MAY BE INCREASED TO PROVIDE THE REQUIRED SIGNAL HEAD CLEARANCE ABOVE THE ROADWAY. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 18" OR LESS, NO INCREASE IN DEPTH "L" WILL BE REQUIRED. WHEN THE REQUIRED LENGTH OF FOUNDATION ABOVE THE GROUND IS 5'-6" OR LESS, INCREASE DEPTH "L" BY 1'-0". FOR LENGTHS GREATER THAN 5'-6", DEPTH "L" SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER. LONGITUDINAL REINFORCING, AS SHOWN IN THE TABLE, SHALL BE PROVIDED FOR THE LENGTH OF THE EXTENDED SHAFT AND #4 TIES SHALL BE PROVIDED AT A SPACING NOT TO EXCEED 9" ON CENTERS. PAYMENT WILL BE IN ACCORDANCE WITH SECTION 714 TRAFFIC SIGNAL MAST ARM AND POLE WITH FOUNDATION OF THE STANDARD SPECIFICATIONS.

** IN LIEU OF DESIGNING THE STRUCTURE TO RESIST PERIODIC GALLOPING, A VIBRATORY MITIGATION DEVICE MAY BE PROVIDED BY THE POLE MANUFACTURER. THE VIBRATORY MITIGATION DEVICE SHALL BE AN ANTI-GALLOPING PANEL CONSISTING OF A 60" X 16" X 0.125" SIGN BLANK MOUNTED NEAR THE END OF THE MAST ARM NOT TO EXCEED ONE QUARTER OF THE LENGTH OF THE MAST ARM FROM THE END OF THE MAST ARM WITH THE LONG AXIS OF THE PANEL COLLINEAR WITH THE LONG AXIS OF THE MAST ARM. THE PANEL SHOULD BE MOUNTED AT SUCH THE HEIGHT AS TO PROVIDE AT LEAST 6" CLEAR FROM THE TOP OF ANY SIGNAL ASSEMBLY OF SIGN PANEL LOCATED ON THE MAST ARM WITHIN THE LENGTH OF THE ANTI-GALLOPING PANEL.

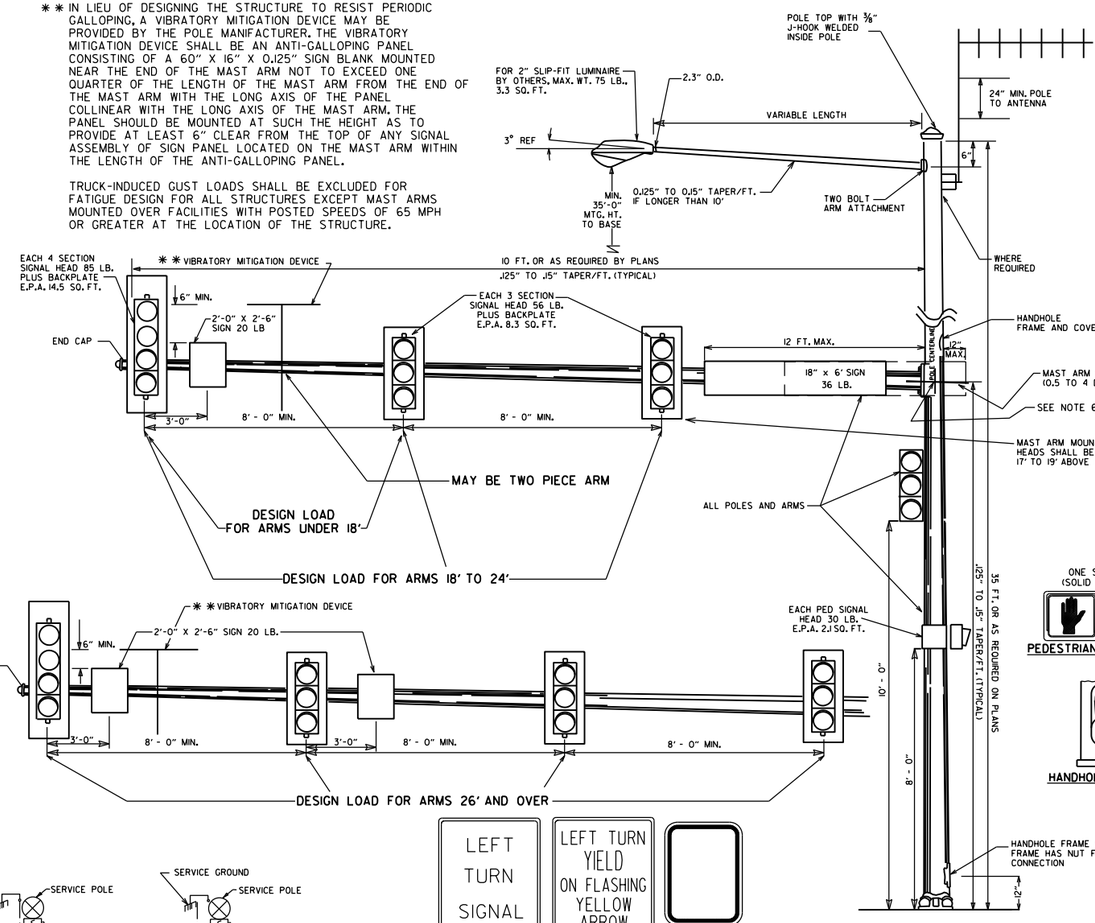
TRUCK-INDUCED GUST LOADS SHALL BE EXCLUDED FOR FATIGUE DESIGN FOR ALL STRUCTURES EXCEPT MAST ARMS MOUNTED OVER FACILITIES WITH POSTED SPEEDS OF 65 MPH OR GREATER AT THE LOCATION OF THE STRUCTURE.

SIGNAL OPERATION NOTES:

FLASHING OPERATION - PRIOR TO NORMAL OPERATION, SIGNAL SHALL BE FLASHED FOR A PERIOD OF 3 TO 5 WORK DAYS OR AS DIRECTED BY THE ENGINEER. SIGNAL SHALL BE PLACED IN OPERATION ONLY ON A REGULAR WORK DAY, EXCEPT FRIDAY.

THE CONTRACTOR MAY BE REQUIRED TO ALTER THE FLASHING DISPLAY DURING THE TEMPORARY FLASH PERIOD. AT THE TIME THE INTERSECTION IS PLACED IN PERMANENT OPERATION, THE FLASH SEQUENCE SHALL THEN BE RETURNED TO THAT INDICATED ON THE PLAN SHEETS. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THESE ALTERATION IN FLASH SEQUENCE.

SPECIAL NOTE: 90 MPH WIND ZONE DESIGN, SEE NOTE 3. MINIMUM STRUCTURAL REQUIREMENTS.



R10-10 SPECIAL R10-3e (SEE MUTCD)

DATE	REVISION	FILMED
11-16-17	REVISED NOTES, ADDED PEDESTRIAN SIGNAL HEAD DETAIL, ADDED HANDHOLE TERMINAL DETAIL, ADDED TRENCHING DETAIL	
02-27-14	REVISED NOTES.	
09-12-13	ISSUED AS STANDARD DRAWING	
12-08-16	REVISED NOTES	
02-27-14	REVISED NOTES	
09-12-13	ISSUED AS STANDARD DRAWING	
07-21-11	REVISED VMD, SIGNAL HEADS	
05-21-09	REVISED GROUNDING	
07-31-08	REVISED GROUNDING	
04-25-08	ADDED VIBRATORY MITIGATION DEVICE & NOTES	
04-18-08	REVISED AASHTO NOTES	
04-17-08	REVISED TO 2001 AASHTO STANDARDS	
10-12-04	REVISED CABINET ORIENTATION	
06-23-04	REVISED	
05-11-04	REV. NOTE 3/AASHTO REQUIREMENTS	
06-11-01	REV. NOTES & POLE MAST ARM SLOPE	
04-11-01	REVISED POLE TAPERS	
04-25-00	REV. NOTES & SIGNAL HEAD PLACEMENT	
11-22-99	REVISED FOUNDATION DETAILS	
11-17-98	REVISED DETAILS AND NOTES	
11-21-95	ISSUED	

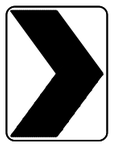
ARKANSAS STATE HIGHWAY COMMISSION

STEEL POLE WITH MAST ARM

STANDARD DRAWING SD-11

R1-1
30"X30"

W1-3
30"X30"
(LT. OR RT.)



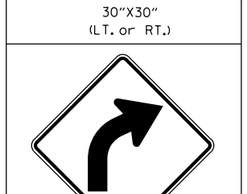
W1-8
18"X24"

W2-5
30"X30"

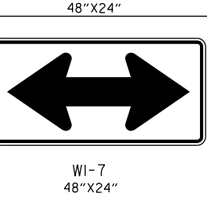
W3-1
36"X36"

W5-1
36"X36"

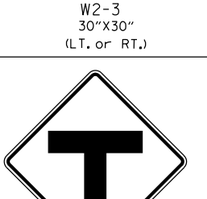
M6-3
21"X15"



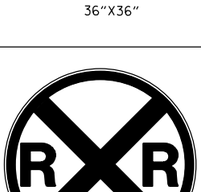
R1-2
36"X36"X36"



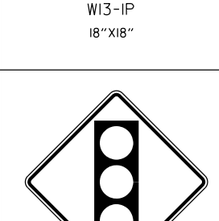
W1-4
30"X30"
(LT. or RT.)



W2-1
30"X30"



S1-1
36"X36"

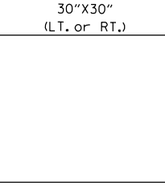


W3-2
36"X36"

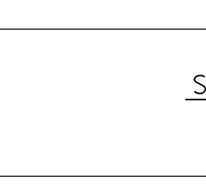
County
Route Marker
M1-6
24"X24"

NOTE: REFLECTORIZED YELLOW LEGEND (COUNTY NAME, ROUTE LETTER & NUMBER) & BORDER ON A BLUE BACKGROUND.

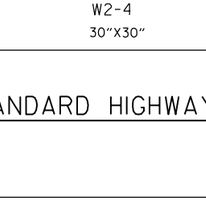
M6-4
21"X15"



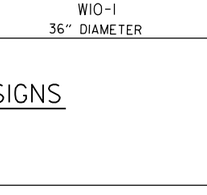
R2-1
24"X30"



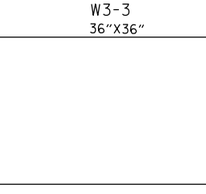
W1-5
30"X30"
(LT. or RT.)



W2-2
30"X30"

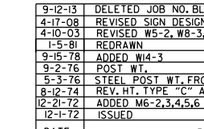


W5-2
36"X36"



W8-3
36"X36"

R1-3P
18"X6"



M6-5
21"X15"

W1-1
30"X30"
(LT. or RT.)

W1-6
48"X24"

W1-7
48"X24"

W2-3
30"X30"
(LT. or RT.)

W5-3
36"X36"

W13-1P
18"X18"

M6-1
21"X15"

NOTE: ALL M6 SIGNS TO BE MADE WITH REFLECTORIZED YELLOW ARROW & BORDER WITH BLUE BACKGROUND.

M6-6
21"X15"

W1-2
30"X30"
(LT. or RT.)

W2-4
30"X30"

W10-1
36" DIAMETER

W3-3
36"X36"

M6-2
21"X15"

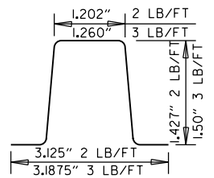
S4-3P
24"X8"

S4-2P
24"X10"

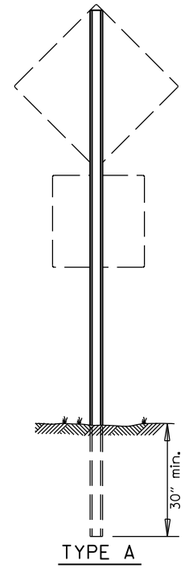
OM-3
12"X36"
(LT. or RT.)

MINIMUM DIMENSIONS SHOWN

SUPPORT SECTION



(U-CHANNEL)
STANDARD SUPPORT
ASSEMBLIES



TYPE A

NOTE: LENGTH OF SIGN POSTS SHALL BE DETERMINED SO AS TO PROVIDE FOR MINIMUM VERTICAL CLEARANCES AS CALLED FOR IN THE SPECIFICATIONS PLUS A MINIMUM VERTICAL PENETRATION OF 30" IN THE SOIL.

TYPE B

TYPE C

MINIMUM WEIGHT

TYPE A & B = 3 LBS./FT.
TYPE C = 2 LBS./FT.

STANDARD HIGHWAY SIGNS

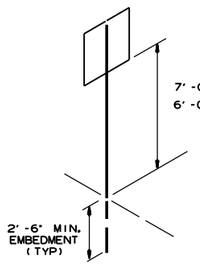
DATE	REVISION	DATE FILMED
9-12-13	DELETED JOB NO. BLOCK; REVISED RI-3 TO RI-3P	
4-17-08	REVISED SIGN DESIGNATION - W3-1 & W3-2	
4-10-03	REVISED W5-2, W8-3, OM-3; ADDED WI-8	
1-5-81	REDRAWN	960-1-15-81
9-15-78	ADDED WI4-3	877-9-15-78
9-2-76	POST WT.	623-9-3-76
5-3-76	STEEL POST WT. FROM 2#-3#; ADDED S4-2 & 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

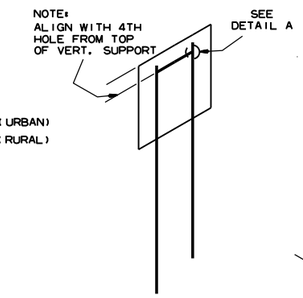
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD HIGHWAY SIGNS
AND SUPPORT ASSEMBLIES

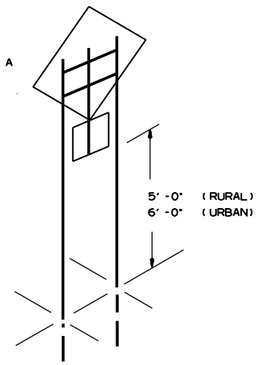
STANDARD DRAWING SHS-1



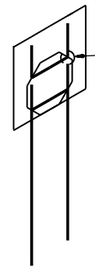
U-1



U-2



U-2 (A)



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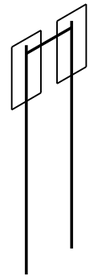

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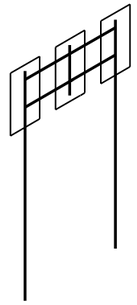

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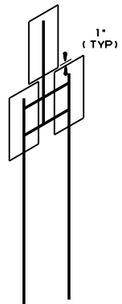

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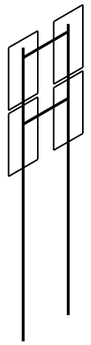

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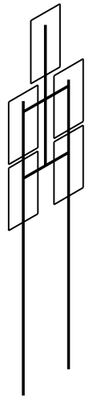

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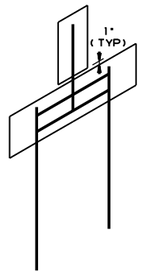

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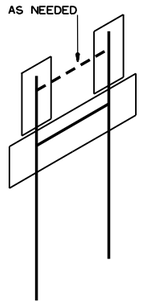

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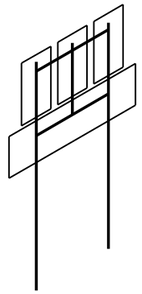

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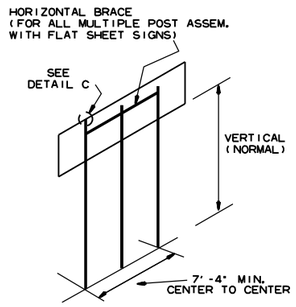
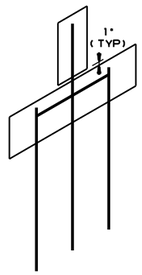


U-3



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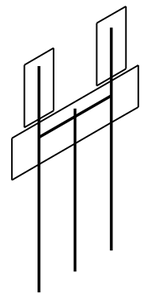

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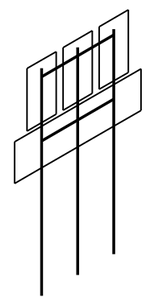

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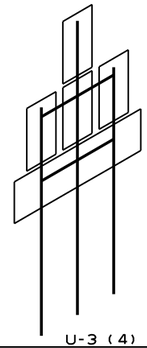

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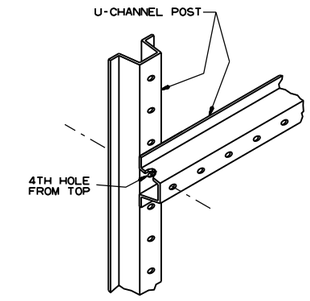
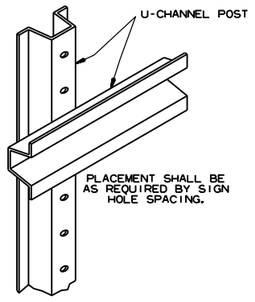


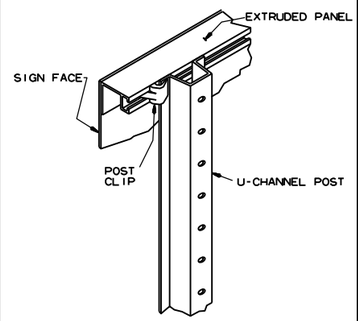
DETAIL A

SHOWING HORIZONTAL BRACE



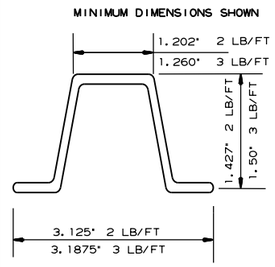
DETAIL B

SHOWING BACK-TO-BACK INSTALLATION



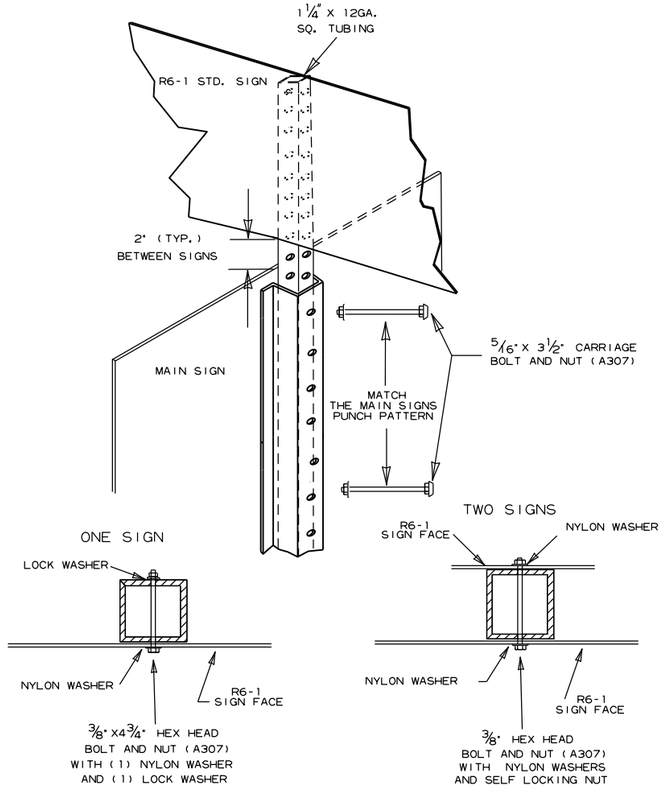
DETAIL C

SHOWING GUIDE SIGN MOUNTING WITH EXTRUDED PANELS



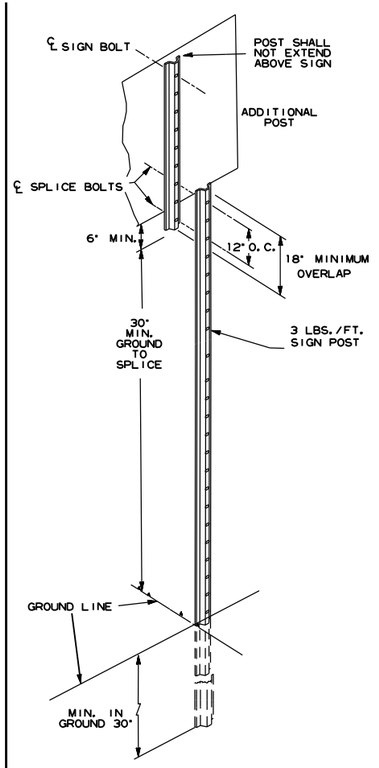
DETAIL C

U-CHANNEL POST



DETAIL E

R6-1 EXTENSION FOR U-CHANNEL POST



DETAIL F

DETAIL OF SPLICES

NOTES:

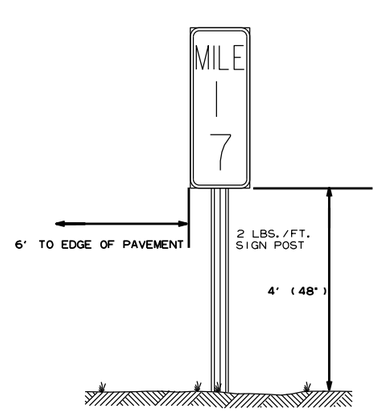
SIGNS AT LEAST 8' IN LENGTH MAY BE INSTALLED ON THREE 3 LB. POST. IN NO CASE SHALL THERE BE MORE THAN TWO 3 LB. POSTS WITHIN A 7' PATH.

SPLICES NECESSARY TO ATTAIN PROPER MOUNTING HEIGHT SHALL BE AS SHOWN IN DETAIL (F).

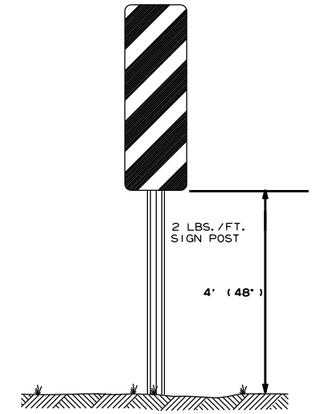
NORMAL INSTALLATIONS WILL REQUIRE 5/16" DIA. CARRIAGE BOLTS TO MOUNT SIGNS TO POST AND TO ASSEMBLE THE VARIOUS POST SUPPORTS.

ALL SIGN POSTS SHALL BE PLUMB.

THE POST FOR "TYPE U" SUPPORTS SHALL BE HOT DIP GALVANIZED.



TYPICAL MILE MARKER INSTALLATION



TYPICAL OM-3 INSTALLATION AT EDGE OF OBSTRUCTION

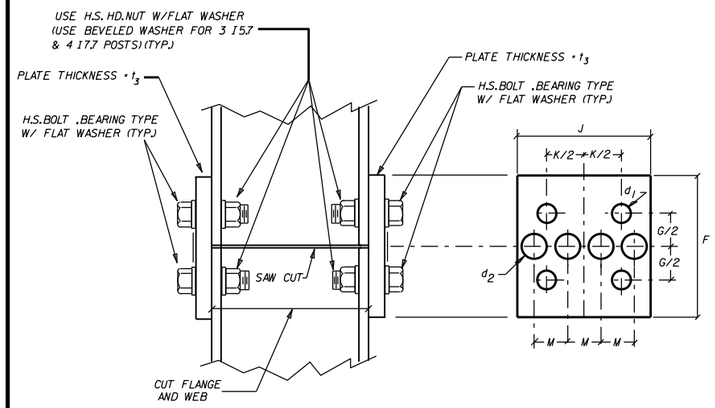
DATE	REVISION	FILMED
7-25-19	REVISED CARRIAGE BOLT WITH MATERIAL REQUIREMENT	
2-27-14	REVISED NOTES.	
9-12-13	REVISED U-2(3), U-2(6), U-3(1), DETAIL D; ADDED DETAILS E & F; ADDED TYPICAL MARKERS	
10-9-03	REMOVED ROUND POST & REVISED SPACING	
10-12-95	MOVED UPPER SPLICE	
6-8-95	REVISED SPLICE DETAIL	6-8-95
2-2-95	REDRAWN	2-2-95

ARKANSAS STATE HIGHWAY COMMISSION

U-CHANNEL POST ASSEMBLIES

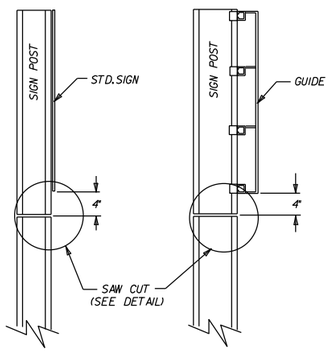
STANDARD DRAWING SHS-2

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												4¼"	2"		4"	2¼"	1"	9/16"	¾"	¼"	½" x 1½"	1.01
W 6X12	⅝" x 2¾"	450"-680"	5"	2"	1¼"	2¾"	1⅛"	¾"	½"	¼"	11/32"											
W 6X15												5"	2½"		6"	3½"	1½"	11/16"	1¼"	⅜"	⅝"x 2¼"	2.51
W 8X18												5"	2½"		5¼"	2¾"	1¼"	13/16"	1¼"	⅜"	¾" x 2¼"	2.26
W 8X21												5½"	2½"		5¼"	2¾"	1¼"	13/16"	1"	½"	¾" x 2¼"	3.35
W 10X22	¾" x 3½"	750"-1050"	6"	2¼"	1⅜"	3½"	1¼"	1"	¾"	5/16"	13/32"	6"	3"		5¾"	2¾"	1⅜"	13/16"	1⅛"	½"	¾" x 2¼"	4.03
W 10X26																						
W 12X26												6"	3"		6½"	3½"	1⅝"	13/16"	1⅜"	½"	¾" x 2¼"	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.

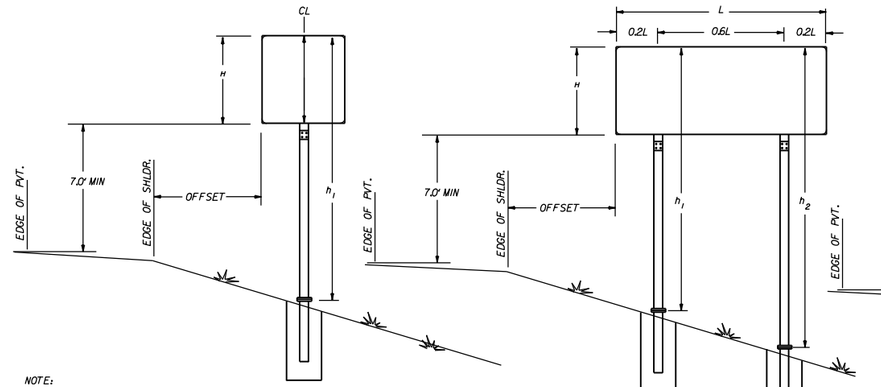
NOTE: BOLT HOLES,USED IN THE MOUNTING OF STANDARD SIGNS SHALL BE LOCATED IN THE FLANGE ADJACENT TO THE NEAR EDGE OF PAVEMENT FOR SINGLE POST ASSEMBLIES AND IN THE OUTSIDE FLANGES FOR MULTIPLE POST ASSEMBLIES.



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

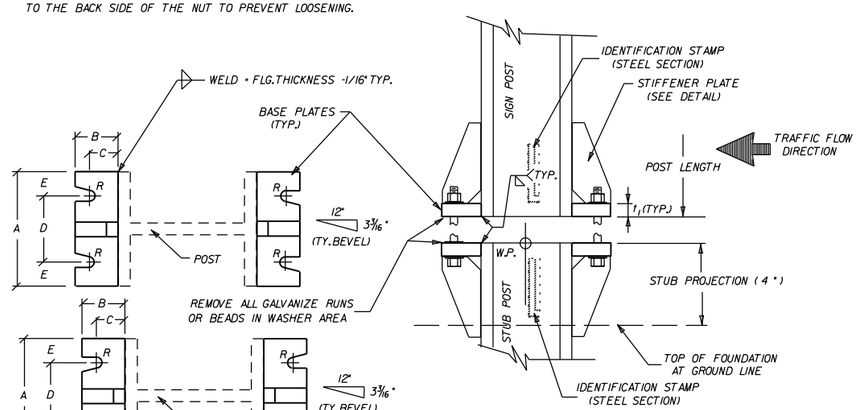
FUSE PLATE DETAILS



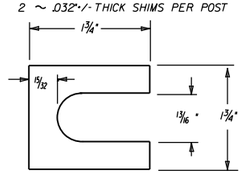
NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER

G-1 G-2 G-3

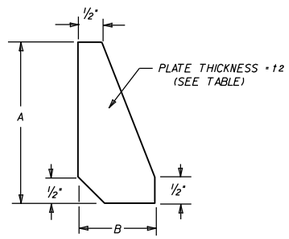
NOTE: SECTIONS SHOWN ARE FOR INSTALLATION ON THE RIGHT SHOULDER AND IN THE GORE. BOLT HOLES IN BASE PLATE ARE SLOTTED AND BEVELED AS SHOWN. USE H.S.BOLTS WITH HEX HD.,HEX NUT AND THREE FLAT WASHERS FOR EACH BOLT. SEE TABLE FOR BOLT DIA. AND TORQUE.
NOTE: ASSEMBLE SIGN POST TO STUB POST USING THE BOLTS 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.



FURNISH 2 ~ .012"+/- THICK AND 2 ~ .032"+/- THICK SHIMS PER POST



SHIM DETAIL



STIFFENER PLATE DETAIL

GENERAL NOTES

TIGHTEN THE HIGH STRENGTH BOLTS IN THE BASE CONNECTION ONLY TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.

BASE PLATES AND STIFFENER PLATES SHALL BE OF THE SAME MATERIAL AS THE PRIMARY SUPPORT POSTS WHICH THEY ARE WELDED.

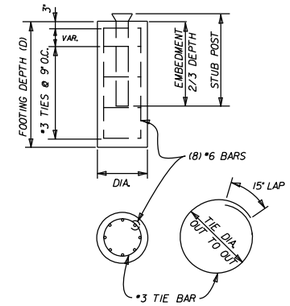
REFER TO THE PLANS FOR FOOTING DIMENSIONS.

EACH STUB POST AND SIGN POST SHALL HAVE A PERMANENT IDENTIFYING STAMP WHICH SPECIFIES THE STEEL SECTION USED. IF THE CONTRACTOR ELECTS TO SHIP THE STUB POST SEPARATE FROM THE SIGN POST A MATCH MARK SYSTEM WILL BE REQUIRED.

STEEL SCHEDULE

FOOTING DIAMETER	#3 TIE BARS		
	DIAMETER	BAR LENGTH	POUNDS
INCHES	INCHES	FEET	
18	12	4.39	1.65
24	18	5.96	2.24
30	24	7.53	2.83
36	30	9.1	3.42

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		24" DIAMETER		30" DIAMETER		36" DIAMETER	
		CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL	CLASS S CONCRETE	REINF STEEL
FEET		CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)	CU. YD.	(GRADE 60)
2.50	4	0.16	31						
3.00	4	0.20	37						
3.50	5	0.23	44						
4.00	6	0.26	52	0.47	56				
4.50	6	0.29	58	0.52	62				
5.00	7	0.33	66	0.58	70	0.91	74		
5.50	8			0.64	78	1.00	83		
6.00	8			0.70	84	1.09	89	1.57	93
6.50	9					1.18	98	1.70	103
7.00	10					1.27	106	1.83	112
7.50	10							1.96	118
8.00	11							2.09	128

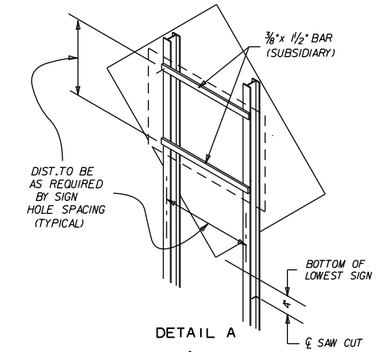
SIGN POST AND STUB POST

DATE	REVISION	FILMED
9-12-13	ISSUED	

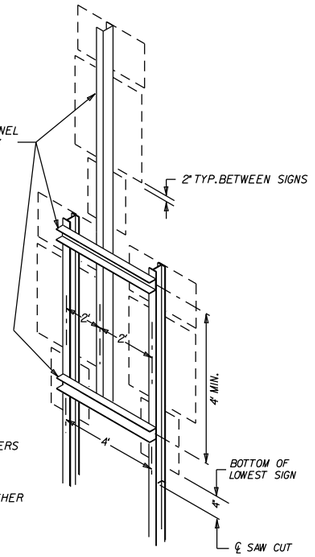
ARKANSAS STATE HIGHWAY COMMISSION

DETAIL OF BREAKAWAY SIGN SUPPORTS FOR GUIDE SIGNS

STANDARD DRAWING SHS-3



DETAIL A



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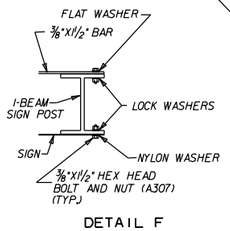
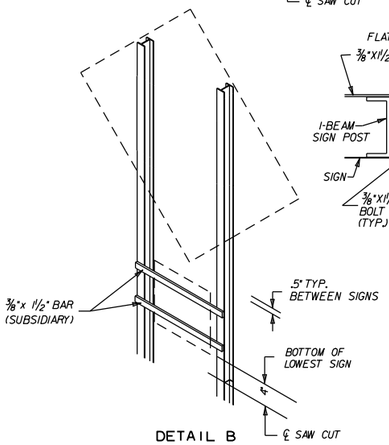
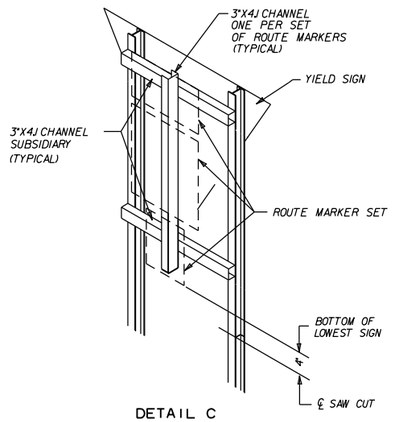


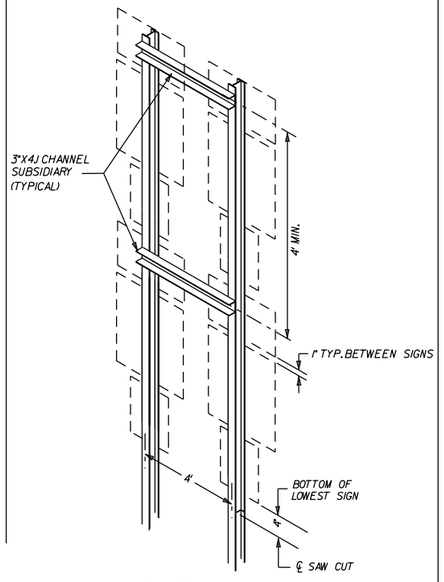
DETAIL F



DETAIL B



DETAIL C



DETAIL E

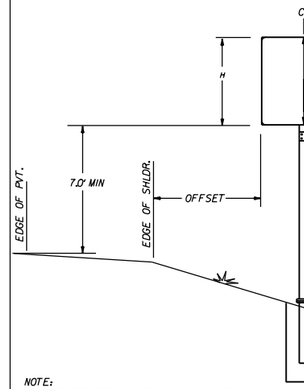
NOTE

ALL ADDITIONAL MOUNTING HARDWARE, BOLTS, NUTS, CHANNELS AND BAR STRAPS REQUIRED TO MOUNT SECONDARY SIGNS WILL BE CONSIDERED TO BE SUPPLEMENTAL TO THE MAIN SIGN SUPPORT SPECIFIED. PAYMENT WILL BE CONSIDERED SUBSIDIARY TO THE MAIN SUPPORT.

THE GALVANIZED STEEL CHANNEL AND BAR SUPPORTS MAY BE ASTM A-36.

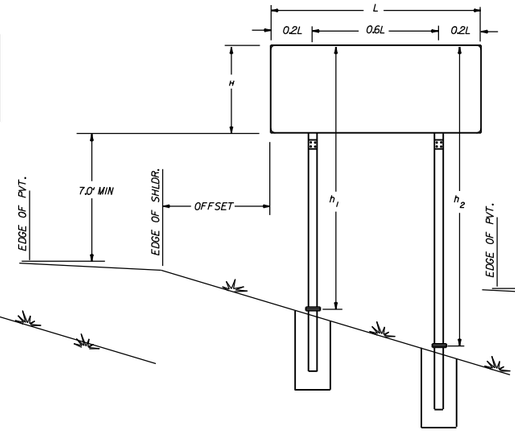
REFER TO THE P.C. RUTLEDGE FORMULA ON PAGE 58 OF THE AASHTO PUBLICATION "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.

ALL BOLT HOLES SHALL BE 1/8" DIA. UNLESS OTHERWISE SHOWN.

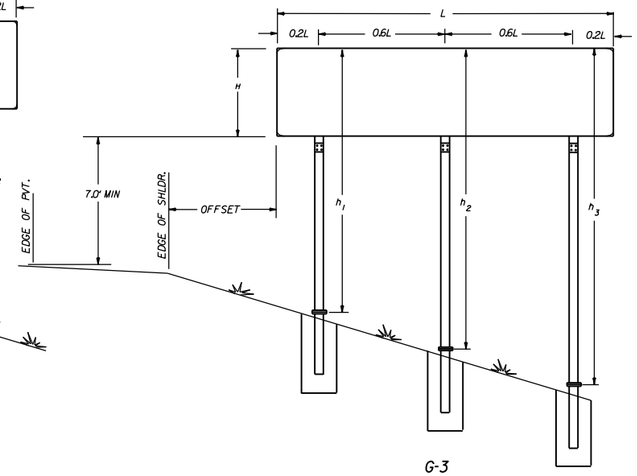


NOTE:
THE OFFSET WILL BE A MINIMUM OF 10' FROM THE EDGE OF PAVED SURFACE OR AS DIRECTED BY THE ENGINEER.

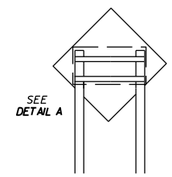
G-1



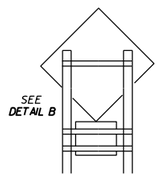
G-2



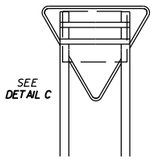
G-3



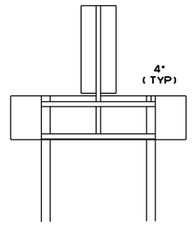
G2-1



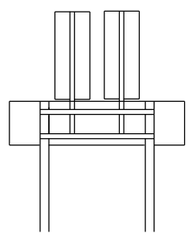
G2-2



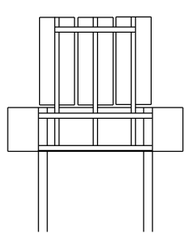
G2-3



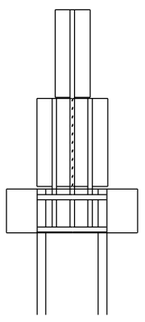
G2-4



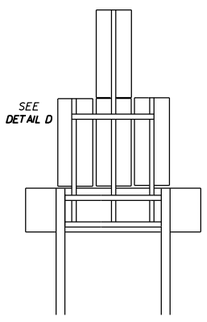
G2-5



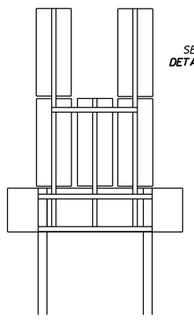
G2-6



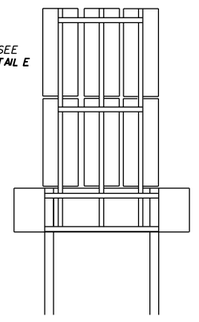
G2-7



G2-8



G2-9

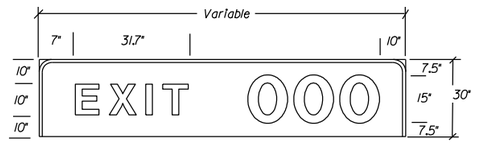


G2-10

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF BREAKAWAY SIGN SUPPORTS FOR STANDARD SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-4
DATE	REVISION	FILMED	

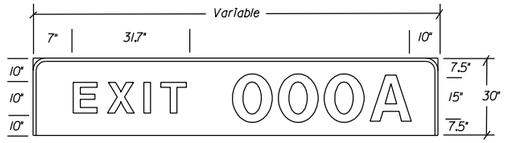
TYPICAL DETAIL

TYPE A



EXIT WITH 1 DIGIT 84"X30"=17.50 SF
EXIT WITH 2 DIGITS 96"X30"=20.0 SF
EXIT WITH 3 DIGITS 114"X30"=23.57 SF

TYPE B

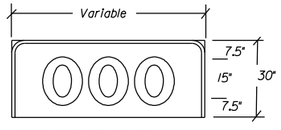


EXIT WITH 1 DIGIT PLUS "A"OR"B" 96"X30"=20.0 SF
EXIT WITH 2 DIGITS PLUS "A"OR"B" 114"X30"=23.57 SF
EXIT WITH 3 DIGITS PLUS "A"OR"B" 126"X30"=26.25 SF

TYPE C

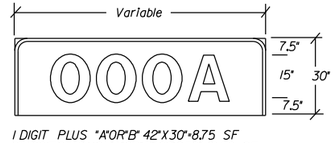
EXITS WITH 1 DIGIT PLUS "A"&"B" 132"X30"=27.50 SF
EXITS WITH 2 DIGITS PLUS "A"&"B" 150"X30"=31.25 SF
EXITS WITH 3 DIGITS PLUS "A"&"B" 168"X30"=35.00 SF

TYPE D



1 DIGIT 24"X30" =5.0 SF
2 DIGITS 42"X30" =8.75 SF
3 DIGITS 60"X30" =12.50 SF

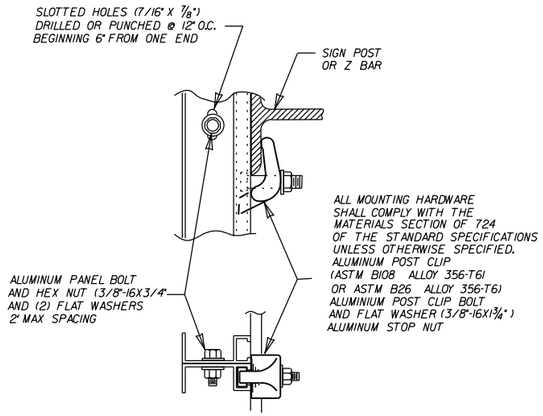
TYPE E

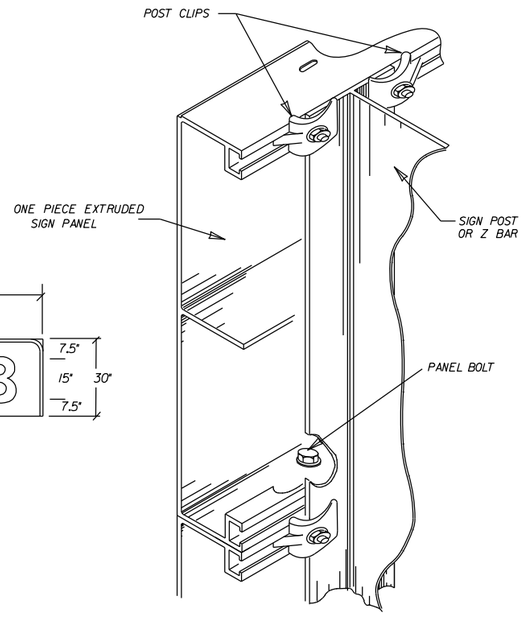


1 DIGIT PLUS "A"OR"B" 42"X30"=8.75 SF
2 DIGITS PLUS "A"OR"B" 60"X30"=12.50 SF
3 DIGITS PLUS "A"OR"B" 78"X30"=16.25 SF

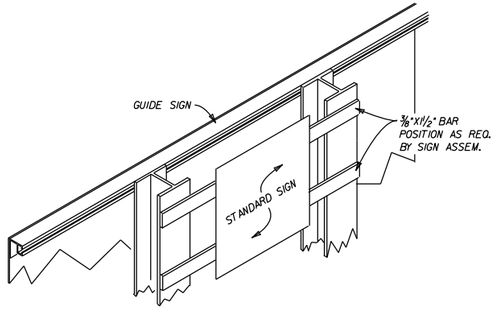
EXIT PANEL DETAILS

NOTE: EXIT NUMBER PANELS SHALL HAVE WHITE LEGENDS AND BORDERS. THE BACK GROUND COLOR WILL BE AS USE SPECIFIES. SHEETING TYPE WILL BE THE SAME AS THE GUIDE SIGN WHICH THE EXIT PANEL IS ATTACHED OR AS SPECIFIED IN THE PLANS. PAYMENT FOR ALL POST CLIPS, BOLTS, AND ANGLES SHALL BE SUBSIDIARY TO THE ITEM "EXIT NUMBER PANEL".

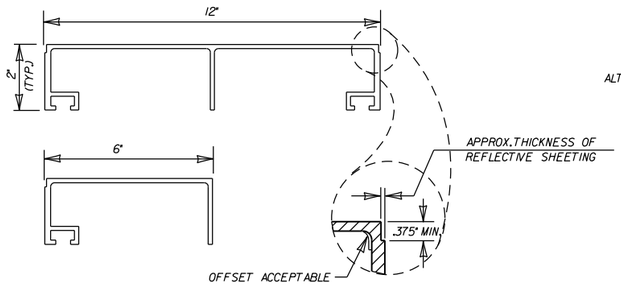




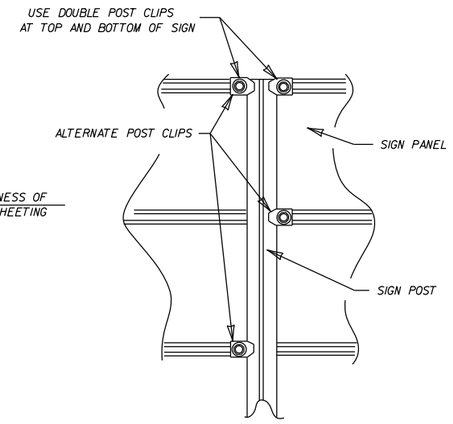
MOUNTING HARDWARE



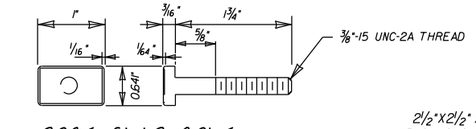
SECONDARY SIGN INSTALLATION ON BACKSIDE OF GUIDE SIGN



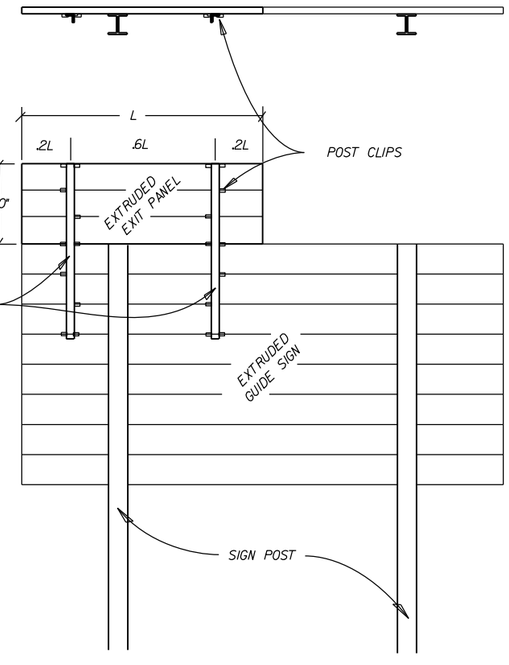
ONE PIECE EXTRUDED SIGN PANELS



POST CLIP PLACEMENT



POST CLIP BOLT



9-12-13	ISSUED	
DATE	REVISION	FILMED

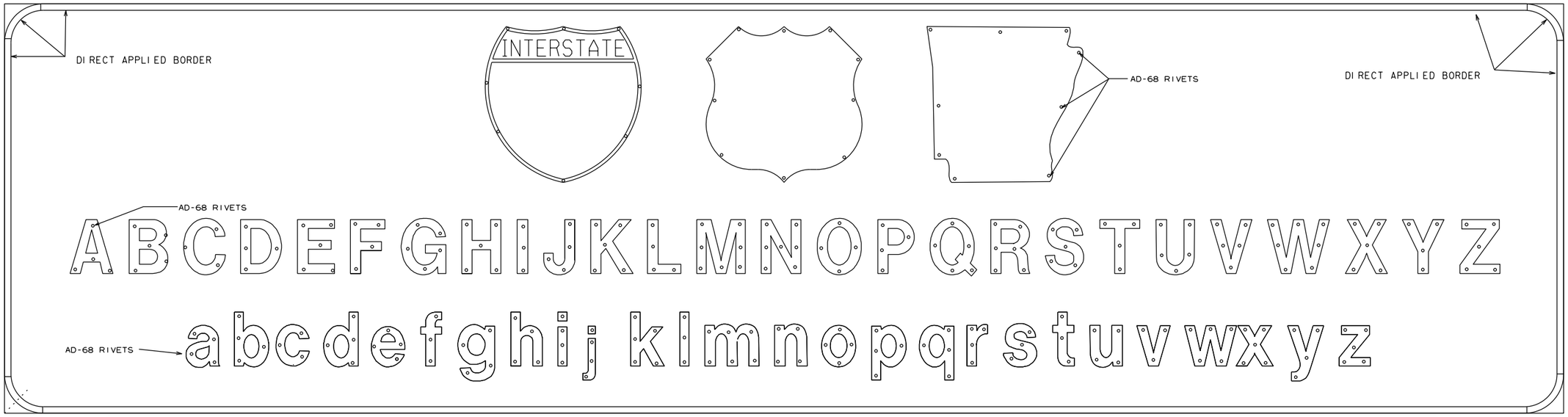
ARKANSAS STATE HIGHWAY COMMISSION

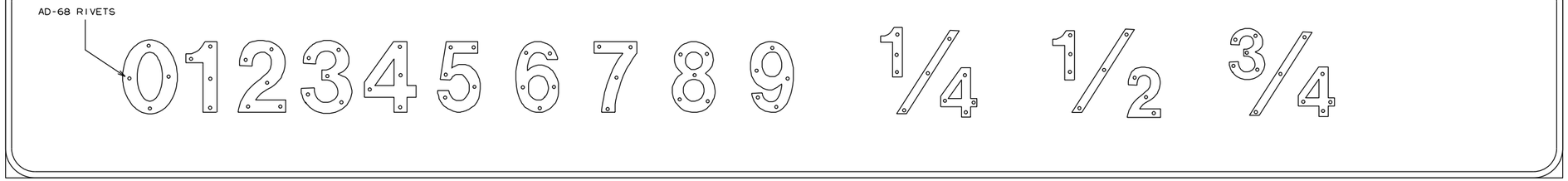
DETAILS OF GUIDE SIGN PANELS

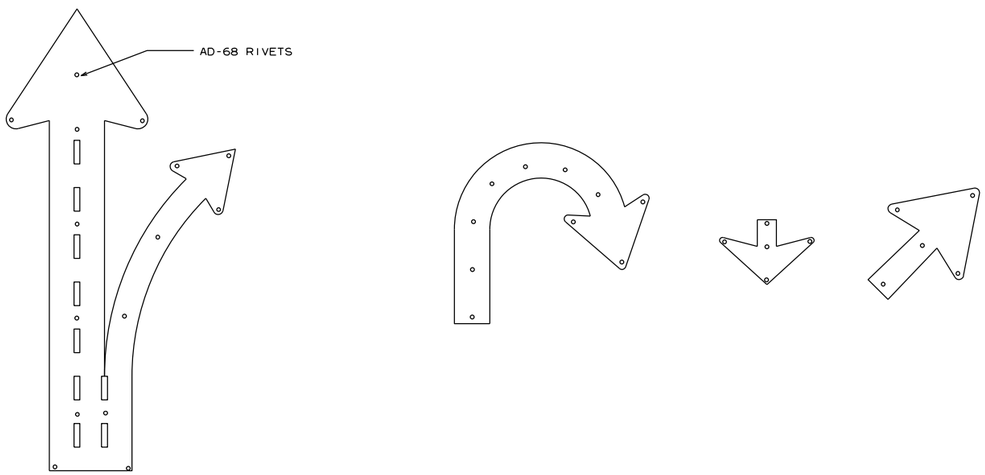
STANDARD DRAWING SHS-5

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.

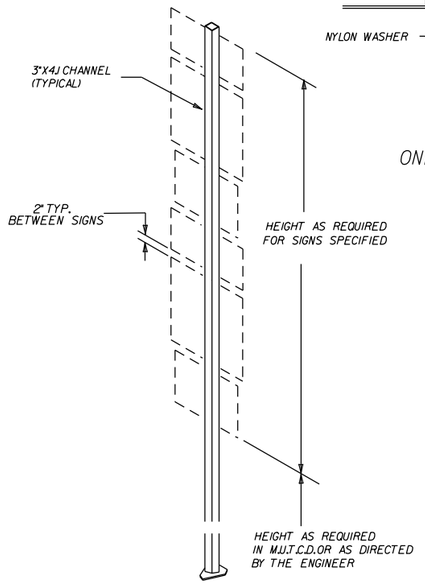
THE BACKGROUND ON ALL GUIDE SIGNS AND STANDARD SIGNS SHALL BE CONSTRUCTED USING TYPE III SHEETING.

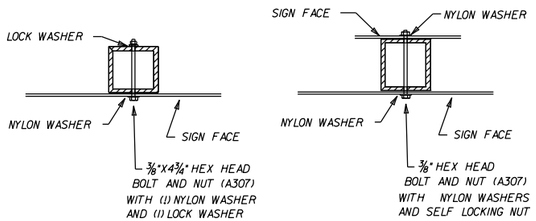
TYPE IX SHEETING FOR BORDER, LEGEND, SHIELDS, ARROWS, OR OTHER COPY SHALL BE ORIENTED VERTICALLY AS PER MANUFACTURERS' DATUM MARKS, ORIENTATION MARKS, OR OTHER RECOMMENDATIONS.

SIGN LEGEND, SHIELDS, ARROWS OR OTHER COPY SHALL BE APPLIED WITH RIVETS ONLY.

NO OTHER METHOD OF APPLYING CHARACTERS IS ALLOWED.

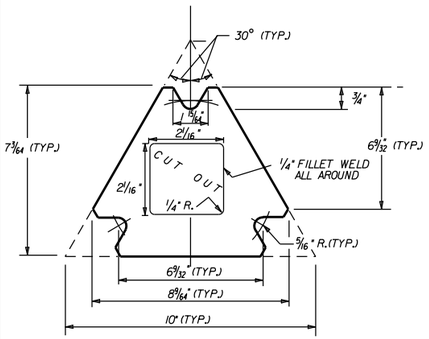
			ARKANSAS STATE HIGHWAY COMMISSION
			MOUNTING DETAILS FOR DEMOUNTABLE LEGEND ON GUIDE SIGNS
9-12-13	ISSUED		STANDARD DRAWING SHS-6
DATE	REVISION	FILMED	



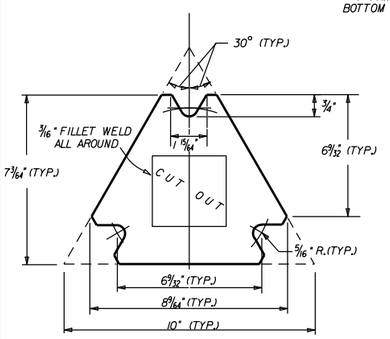


CHANNEL SHALL BE FULL LENGTH OF RECTANGULAR AND SQUARE SIGNS AND SHALL EXTEND 1½" BEYOND BOLT HOLES ON DIAMOND OR IRREGULAR SHAPED SIGNS.

MOUNTING HARDWARE



TOP PLATE



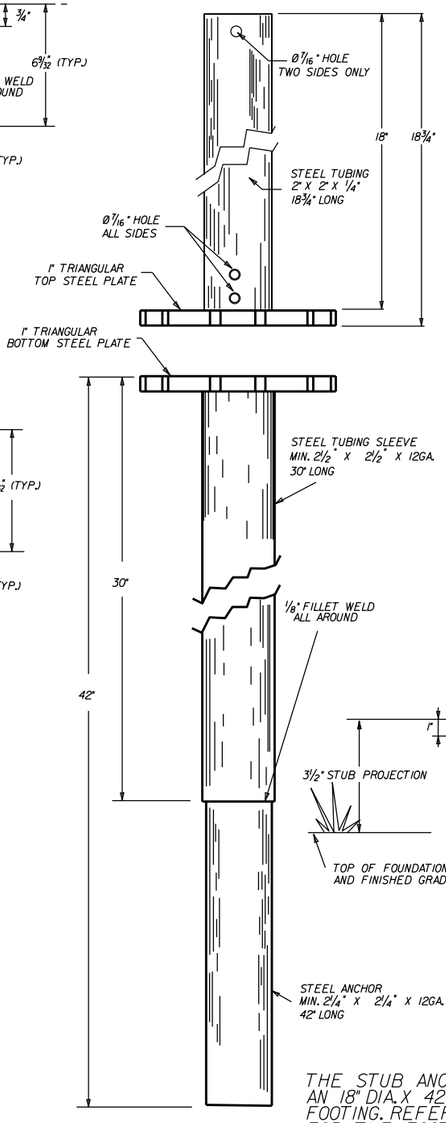
BOTTOM PLATE

GENERAL NOTES:

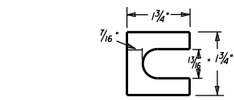
THE TOP PLATE OF TRIANGULAR SLIP BASES SHALL HAVE THE SAME EXTERIOR DIMENSIONS AS THE BOTTOM PLATE.

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 2¼" X 2¼" SQUARE TUBE SIGN POSTS MAY BE SUBSTITUTED AS APPROVED BY THE ENGINEER.

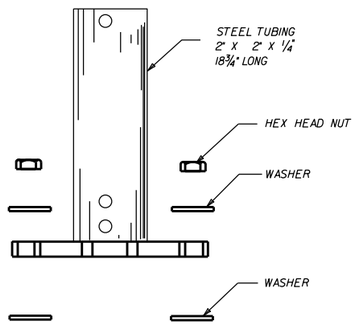


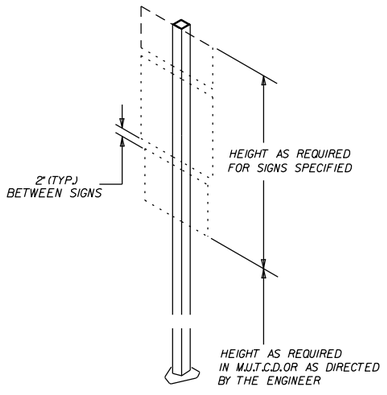
THE STUB ANCHOR SHALL BE SET IN AN 18" DIA. X 42" DEEP CONCRETE FOOTING. REFER TO STD.DRWG.SHS-3 FOR THE FOOTING DETAILS.



FURNISH (2) .012" THICK AND (2) .032" THICK SHIMS PER POST

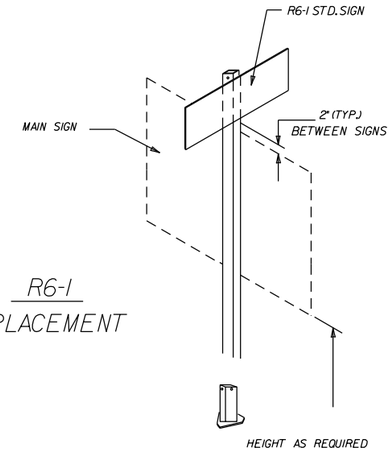
SHIM DETAIL





TYPE-I

BASIS OF ESTIMATE
APPROX. 100 lbs STEEL



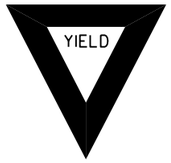
R6-1 PLACEMENT

			ARKANSAS STATE HIGHWAY COMMISSION
			DETAIL OF OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS
9-12-13	ISSUED		STANDARD DRAWING SHS-7
DATE	REVISION	FILMED	

R1-1

STANDARD 30"X30"
EXPRESSWAY 36"X36"
SPECIAL 48"X48"

R1-2



STD. 36"X36"X36"
EXPWY. 48"X48"X48"
FWY. 60"X60"X60"

R2-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

W3-5

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

W3-5a

STD. 36"X36"
EXPWY. 48"X48"
FWY. 48"X48"

R4-1

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

R4-2

STD. 24"X30"
EXPWY. 36"X48"
FWY. 48"X60"

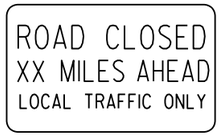
R5-1

STD. 30"X30"
EXPWY. 36"X36"
SPECIAL 48"X48"

R11-2

48"X30"

R11-3A



60"X30"

R11-4

60"X30"

W21-5a

STD. 36"X36"
FWY. 48"X48"

W1-1

STD. 36"X36"
FWY. 48"X48"

W1-2

STD. 36"X36"
FWY. 48"X48"

W1-3

STD. 48"X48"

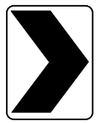
W1-4

STD. 48"X48"

W1-6

STD. 48"X24"
SPECIAL 60"X30"

W1-8



STD. 18"X24"
SPECIAL 24"X30"
EXPWY. 30"X36"
FWY. 36"X48"

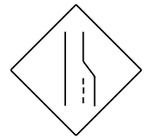
W3-1

STD. 36"X36"
SPECIAL 48"X48"

W3-2

STD. 36"X36"
SPECIAL 48"X48"

W4-2



STD. 36"X36"
FWY. 48"X48"

W5-1

STD. 36"X36"
SPECIAL 48"X48"

W6-3

EXPWY. 36"X36"
SPECIAL 48"X48"

W8-7

EXPWY. 36"X36"
FWY. 48"X48"

W9-2

STD. 36"X36"
FWY. 48"X48"

W13-1

STD. 24"X24"

W20-1

STD. 48"X48"

W20-2

STD. 48"X48"

W20-3

STD. 48"X48"

W20-4

STD. 48"X48"

W20-5

STD. 48"X48"

W20-7a

STD. 36"X36"
FWY. 48"X48"

W21-2

STD. 30"X30"
SPECIAL 36"X36"

W21-5

STD. 30"X30"
SPECIAL 36"X36"

W24-1

STD. 36"X36"

W1-4b

STD. 48"X48"

R56-1

STD. 18"X18"

W8-11

STD. 36"X36"
FWY. 48"X48"

W8-9

STD. 36"X36"
FWY. 48"X48"

G20-1

60"X24"

G20-2

48"X24"

OM-3L OM-3R

12"X36"

M4-9

STD. 30"X24"
SPECIAL 48"X36"
SPECIAL 60"X48"

M4-10

48"X18"

R55-1

36"X60"

• USE 6" C LETTERS
•• USE 4" D LETTERS

ADVANCE DISTANCES
(XXXX)

500 FT	½ MILE
1000 FT	¾ MILE
1500 FT	1 MILE AHEAD

GENERAL NOTES:

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

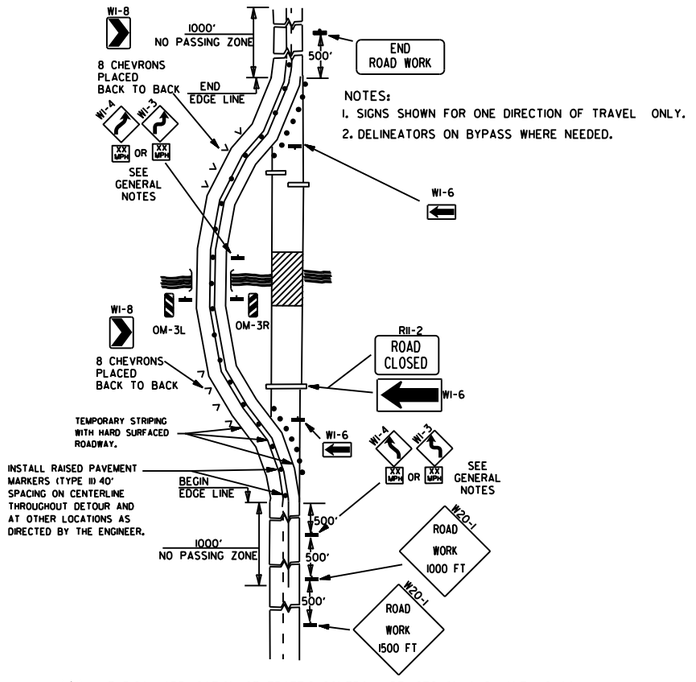
- NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED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

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

ARKANSAS STATE HIGHWAY COMMISSION

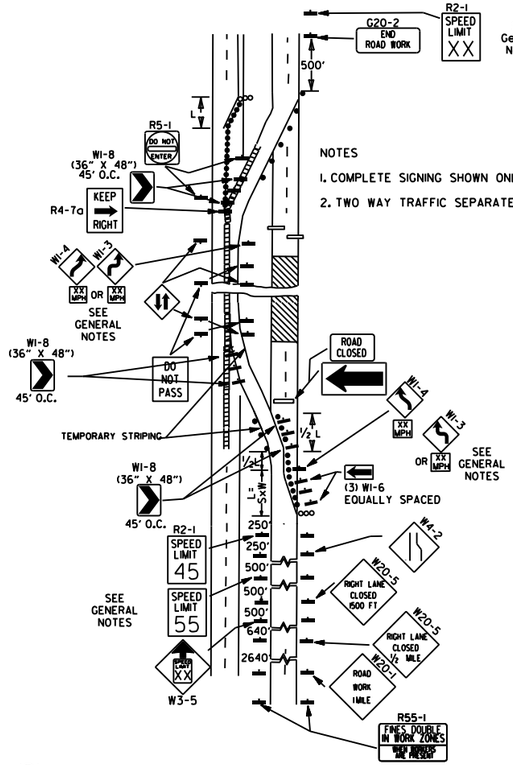
STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-1



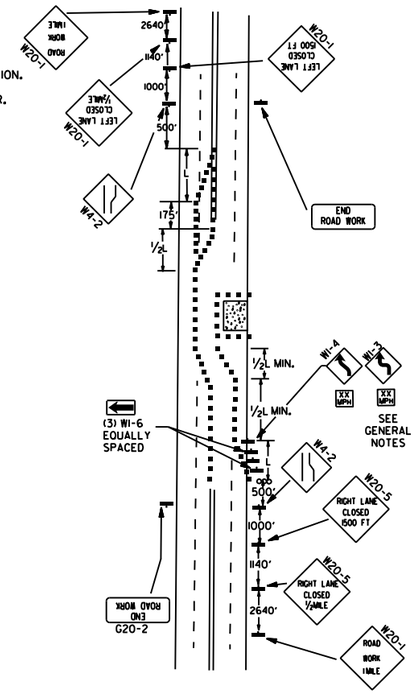
NOTES:
1. SIGNS SHOWN FOR ONE DIRECTION OF TRAVEL ONLY.
2. DELINEATORS ON BYPASS WHERE NEEDED.

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

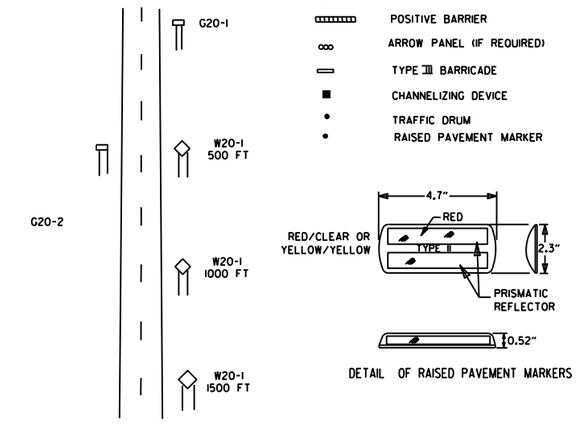


NOTES
1. COMPLETE SIGNING SHOWN ONLY IN CROSSOVER DIRECTION.
2. TWO WAY TRAFFIC SEPARATED WITH POSITIVE BARRIER.

(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

TAPER FORMULAE:

L=SXW FOR SPEEDS OF 45MPH OR MORE.

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

WHERE:

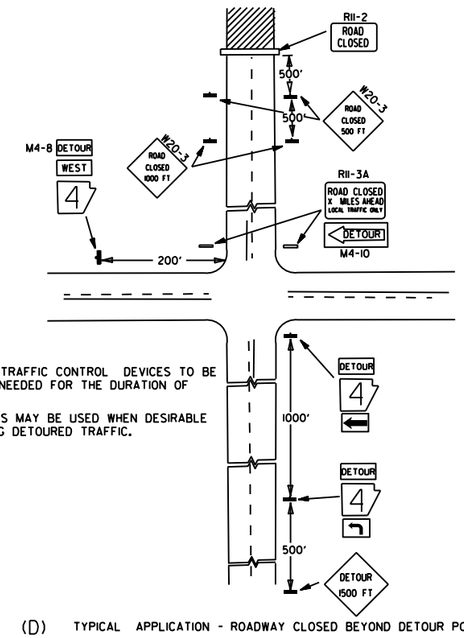
L= MINIMUM LENGTH OF TAPER.

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

W= WIDTH OF OFFSET.

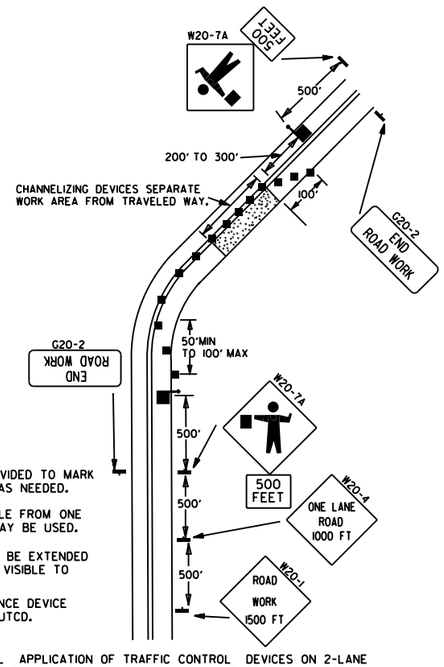
GENERAL NOTES:

1. THE MAINTENANCE DIVISION SHALL CONDUCT A BALL BANK STUDY TO DETERMINE THE ADVISORY SPEED LIMIT PRIOR TO OPENING TO TRAFFIC. THE ADVISORY SPEED WILL BE POSTED ON W1-3 OR W1-4 CURVE WARNING SIGNS. USE W1-4 WHEN SPEED IS GREATER THAN 30MPH AND W1-3 WHEN 30MPH OR LESS
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH 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 R2-155MPH 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 ARDOT QUALIFIED PRODUCTS LIST.
9. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).



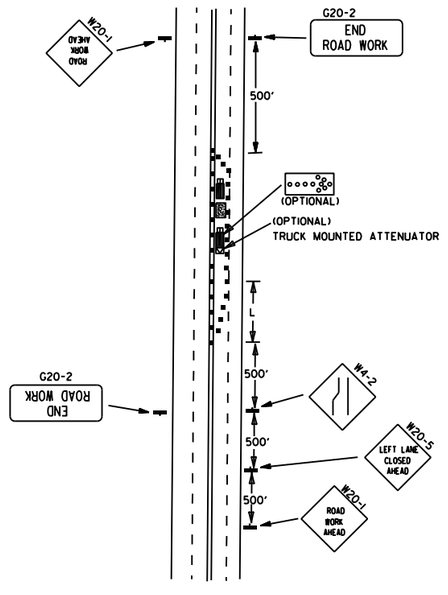
NOTES:
1. REGULATORY TRAFFIC CONTROL DEVICES TO BE MODIFIED AS NEEDED FOR THE DURATION OF THE DETOUR.
2. STREET NAMES MAY BE USED WHEN DESIRABLE FOR DIRECTING DETOURED TRAFFIC.

(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.



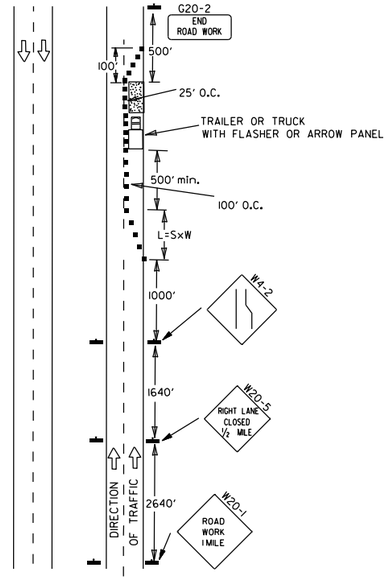
(F) TYPICAL APPLICATION - 4-LANE UNDIVIDED ROADWAY WITH INSIDE LANE CLOSED.

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

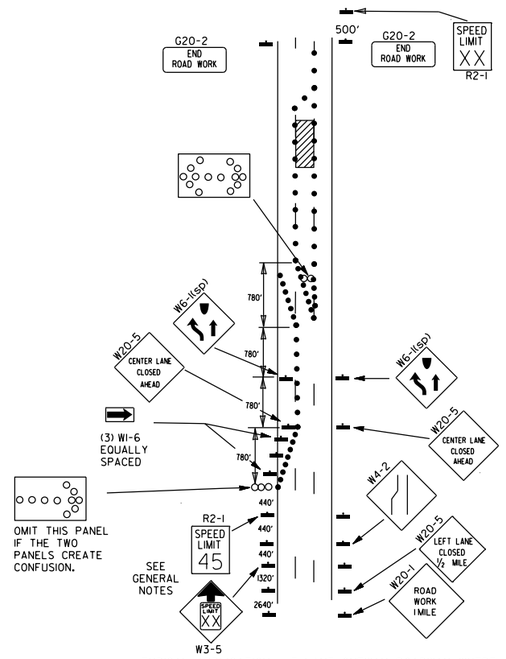
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

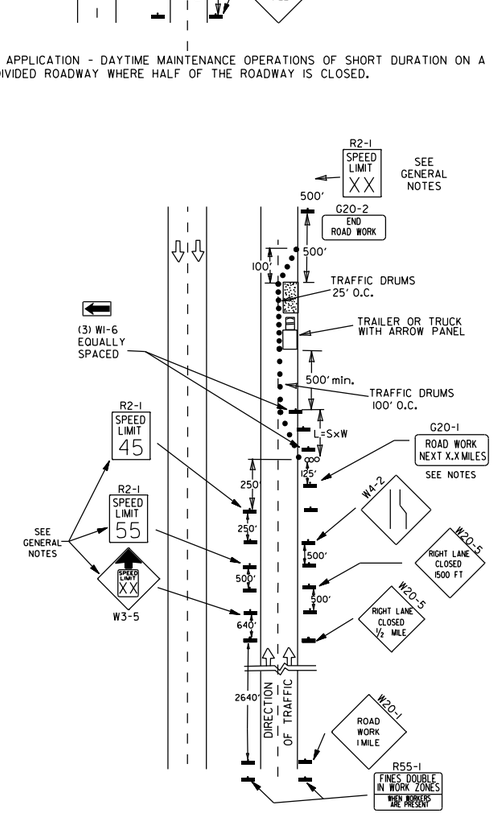
STANDARD DRAWING TC-2



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



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



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

KEY:

ooo ARROW PANEL (IF REQUIRED)

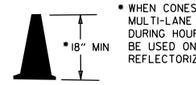
■ CHANNELIZING DEVICE

● TRAFFIC DRUM

GENERAL NOTES:

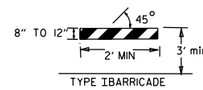
1. A SPEED LIMIT REDUCTION MAY BE IMPLEMENTED ONLY WHEN DESIGNATED IN THE PLAN OR WHEN RECOMMENDED BY THE ROADWAY DESIGN DIVISION.
2. WHEN THE EXISTING SPEED LIMIT IS 55MPH AND THE PLANS REQUIRE A SPEED LIMIT OF 45MPH, THE R2-1(55) SHALL BE OMITTED AND THE W3-5 SHALL BE INSTALLED AT THAT LOCATION. ADDITIONAL R2-145MPH 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 R2-155MPH 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. 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 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.
11. ALL TRAILER MOUNTED DEVICES SUCH AS ARROW PANELS AND PORTABLE CHANGEABLE MESSAGE SIGNS SHALL MEET THE REQUIREMENTS OF THE MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).

CHANNELIZING DEVICES

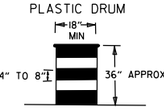


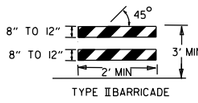
* WHEN CONES ARE USED ON FREEWAYS AND MULTI-LANE HIGHWAYS, THEY SHALL BE 28" MIN. DURING HOURS OF DARKNESS, 28" CONES SHALL BE USED ON ALL ROADWAYS, AND SHALL BE REFLECTORIZED IN ACCORDANCE WITH THE M.U.T.C.D.

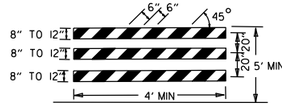
CONES



PLASTIC DRUM

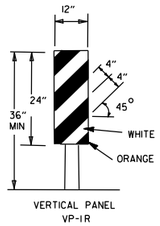




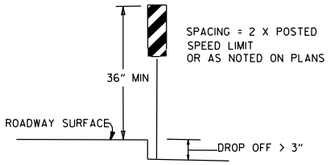


TYPE III BARRICADE

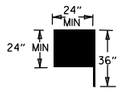
NOTE:
FOR ALL ROAD CLOSURES, THE TYPE III BARRICADES SHALL BE OF SUFFICIENT LENGTH TO EXTEND ACROSS ENTIRE ROADWAY.



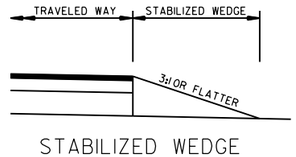
VERTICAL PANEL PLACEMENT



FLAG

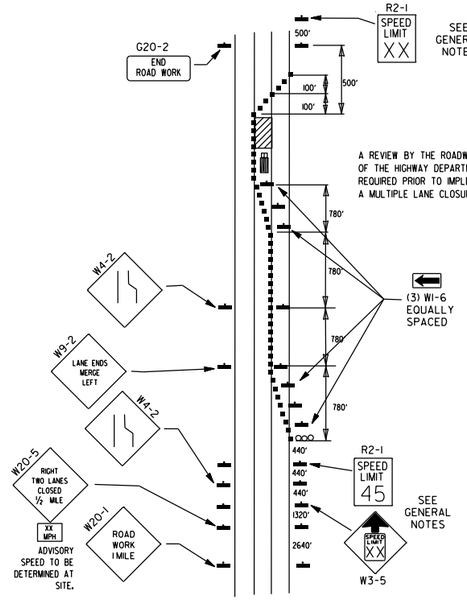


FLAG SHALL BE OF GOOD GRADE RED MATERIAL



STABILIZED WEDGE

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



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

TRAFFIC CONTROL DEVICES

NON-INTERSTATE

VERTICAL DIFFERENTIAL	LOCATION	TRAFFIC CONTROL ≤ 45 MPH	TRAFFIC CONTROL > 45 MPH
≤ 2"	CENTERLINE	W8-11 AND LANE STRIPING	W8-11 AND LANE STRIPING
> 2"	CENTERLINE	STANDARD LANE CLOSURE	STANDARD LANE CLOSURE
≤ 3"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-9, EDGE LINE STRIPING, AND VERTICAL PANELS
> 3" ≤ 6"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS	W8-17, EDGE LINE STRIPING, AND VERTICAL PANELS
> 6" ≤ 18"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(2)
> 18" ≤ 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	W8-17, EDGE LINE STRIPING, AND TRAFFIC DRUMS(1)	A STABILIZED WEDGE, W8-17, EDGE LINE STRIPING AND TRAFFIC DRUMS(3)
> 24"	EDGE OF TRAVELED LANE OR EDGE OF SHOULDER	PRECAST CONCRETE BARRIER(4) & EDGE LINES	PRECAST CONCRETE BARRIER(4) & EDGE LINES

INTERSTATE

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

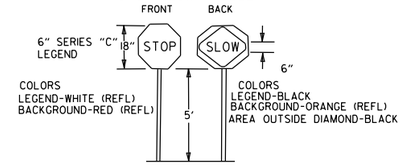
INTERSTATE AND NON-INTERSTATE

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

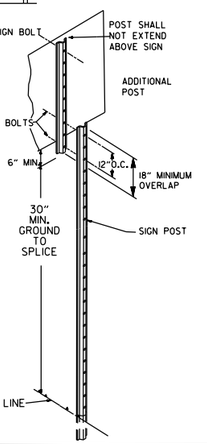
GENERAL NOTES:

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

STOP SLOW PADDLE



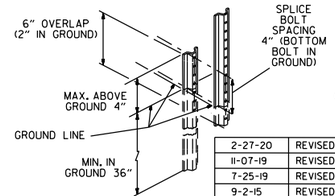
DETAIL OF SPLICES



NOTES: USE SPLICES ONLY WHEN NECESSARY FOR INSTALLATION. TYPICAL INSTALLATION SHOULD HAVE NO SPLICES (SEE STD. DRAWING NO. SHS-21)

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

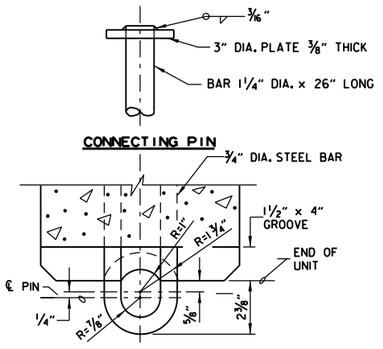
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION

STANDARD DRAWING TC-3

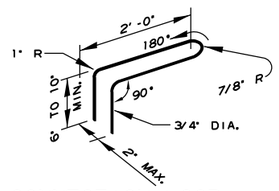
REINFORCING BAR TABLE PER BARRIER UNIT

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", LIFTING HOLE, 90°, 3 3/8" R
S-2	HORIZ. AROUND SLOTS BETWEEN V-1'S @ DRAIN SLOTS	#4	(2)	1 1/2" R, SLOTS, 7", 1'-6", 1" MIN. CLEAR TO BAR; 5'-1" BAR W/(4) 1 1/2" R BENDS & MIN. 1'-0" OVERLAP
V-1	VERTICAL IN BARRIER(3) EACH END & (2) AT EACH DRAIN SLOTS	#5	(16)	TOTAL LENGTH 4'-9"; 2 3/16" R; 12°; 1 1/2"; 9"; 2'-1 3/8"; 4 3/8"

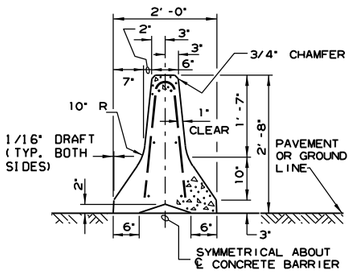


SECTION E-E

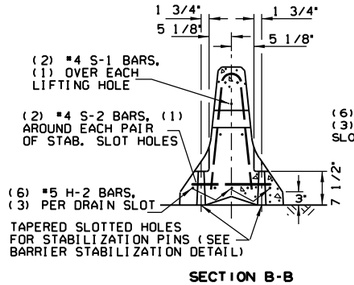
CONNECTION DETAILS



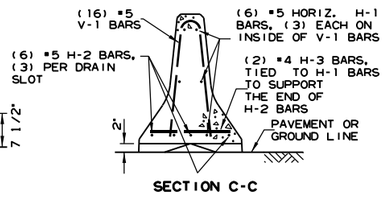
CONNECTION LOOP



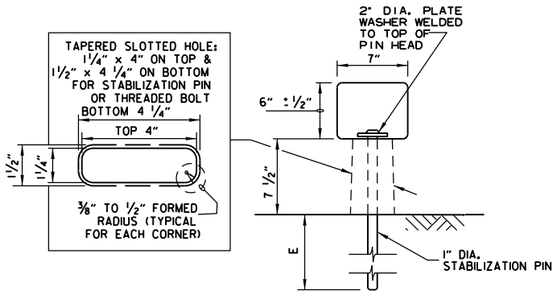
SECTION A-A



SECTION B-B



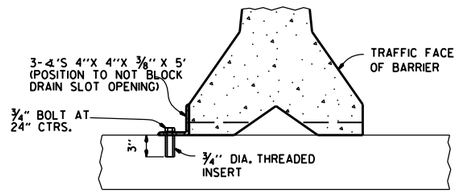
SECTION C-C



BARRIER STABILIZATION DETAIL

ROADWAY SECTION

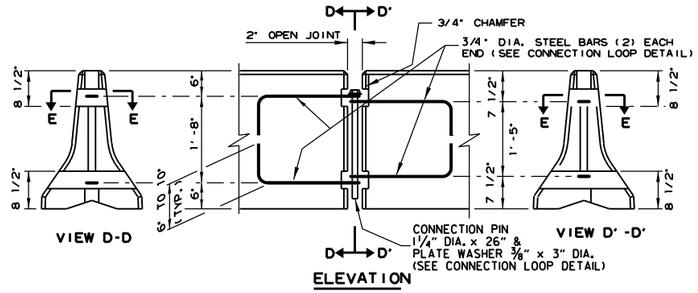
(E) 4" - CONCRETE PAVEMENT
8" - ASPHALT PAVEMENT
12" - SHOULDER AREAS



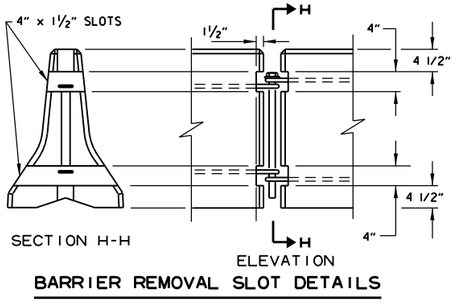
NOTE: " THREADED INSERTS SHALL BE CAST IN PLACE FOR ALL NEW BRIDGE DECKS AND DRILLED AND GROUTED FOR EXISTING BRIDGE DECKS. INSERTS SHALL HAVE A MINIMUM ULTIMATE LOAD CAPACITY OF 8000 LBS. IN TENSION. AFTER REMOVAL OF BARRIER, BOLTS, AND ANGLES, THE INSERTS SHALL BE FILLED WITH APPROVED NON-SHRINK EPOXY.

BARRIER STABILIZATION DETAIL

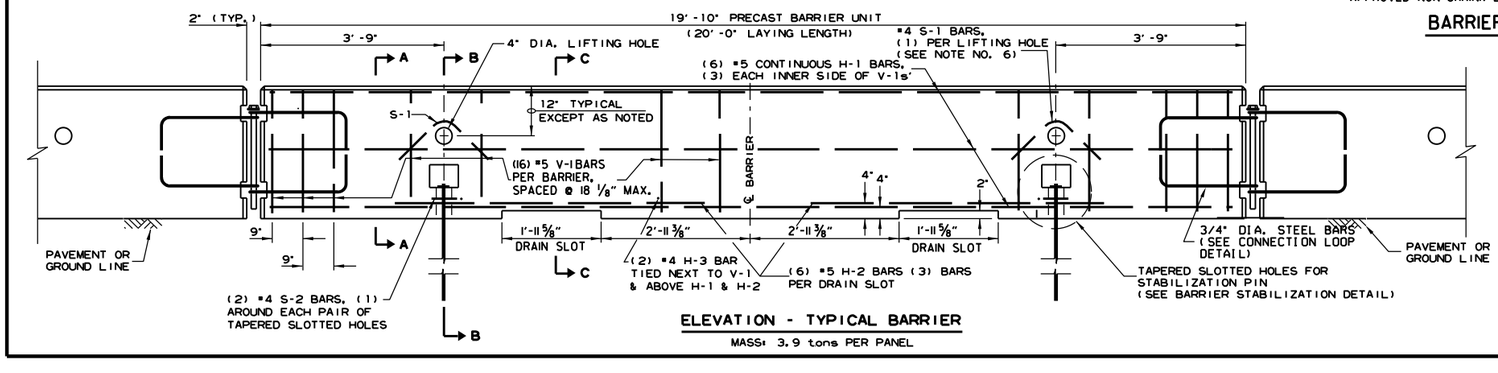
BRIDGE DECKS



ELEVATION



BARRIER REMOVAL SLOT DETAILS



ELEVATION - TYPICAL BARRIER

MASS: 3.9 tons PER PANEL

GENERAL NOTES

(1) THE CONTRACTOR SHALL FURNISH THE PRECAST CONCRETE BARRIER UNITS AND SHALL BE RESPONSIBLE FOR THE MANUFACTURE, SHIPMENT, STORAGE, PLACEMENT AND REMOVAL. AT THE COMPLETION OF THE PROJECT, THE PRECAST UNITS WILL REMAIN THE PROPERTY OF THE CONTRACTOR.

(2) MATERIALS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS:
CONCRETE: 2500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
REINFORCING STEEL: AASHTO M 31 OR M 53, GRADE 60
STRUCTURAL STEEL: AASHTO-M270 GRADE 36 SHALL BE USED FOR THE CONNECTION PIN, CONNECTION LOOPS, AND STABILIZATION PINS. A ONE PIECE PIN WITH A 3" ROUNDED TOP MAY BE USED IN PLACE OF THE DETAILED CONNECTION PIN.
DELINEATORS: DELINEATORS SHALL BE MOUNTED AT 10' SPACING ON TOP OF PRECAST BARRIER.

IN APPLICATIONS WHERE BARRIER WALL IS WITHIN 6 FEET OF A TRAFFIC LANE, ADDITIONAL DELINEATORS SHALL BE PLACED ON THE BARRIER AT 10' SPACING APPROXIMATELY ONE (1) FOOT FROM THE TOP OF THE BARRIER. DELINEATORS SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CONSTRUCTION CONCRETE BARRIER MARKERS.
DELINEATOR COLOR SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
PAYMENT FOR DELINEATORS SHALL BE CONSIDERED INCLUDED IN THE PRICE BID PER LIN. FT. FOR "FURNISHING AND INSTALLING PRECAST CONCRETE BARRIER". THE CONTRACTOR SHALL CERTIFY TO THE ENGINEER THAT THE MATERIAL AND THE DESIGN USED IN THE PRECAST BARRIER UNITS MEETS THE REQUIREMENTS AS SHOWN ON THIS STANDARD DRAWING.

(3) OTHER PRECAST CONCRETE BARRIERS THAT HAVE BEEN CRASH TESTED AND APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION TO MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) WILL BE ACCEPTED IN LIEU OF THE BARRIER SHOWN. DRAIN SLOTS SHALL BE PROVIDED AS NEEDED OR AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL FURNISH A CERTIFICATION OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) COMPLIANCE FOR ANY OTHER TYPES OF PRECAST BARRIER TO BE USED. THE CERTIFICATION SHALL STATE THAT THE PRECAST CONCRETE BARRIER MEETS THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH). MIXING OF SHAPES WILL NOT BE ALLOWED IN A CONTINUOUS LINE OF UNITS.

(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.

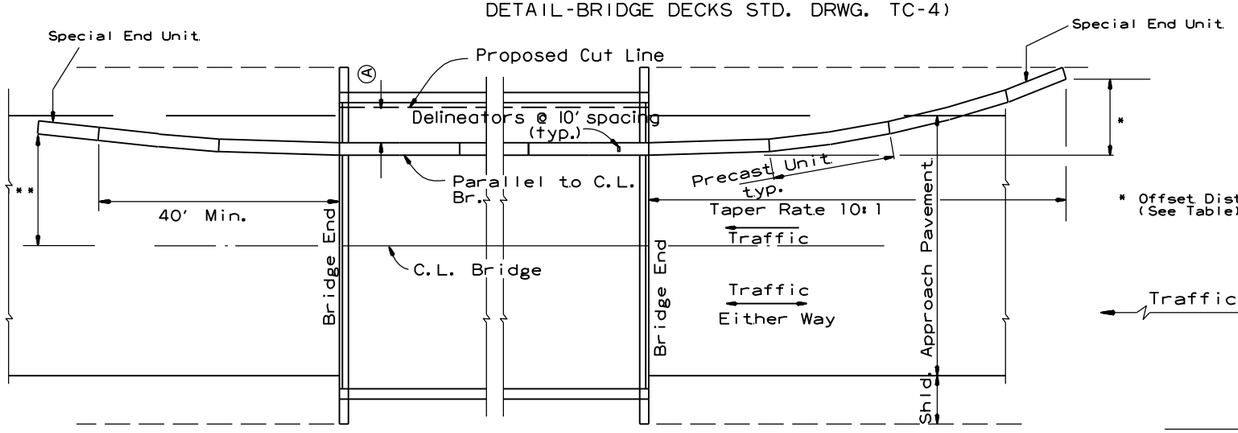
DATE	REVISION	FILMED
11-07-19	REVISED NOTE 3	
2-27-14	REVISED BARRIER STABILIZATION DETAIL	
10-15-09	ADDED REFERENCE TO WASH	
8-5-09	REV. NOTE 3 CONCERNING DRAIN SLOTS	
11-29-07	REVISED NOTE 3	
5-25-06	DELETED GENERAL NOTE 7	
11-18-04	REVISED BARRIER STABILIZATION DETAIL BRIDGE DECKS	
4-10-03	REVISED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

ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

STANDARD DRAWING TC-4

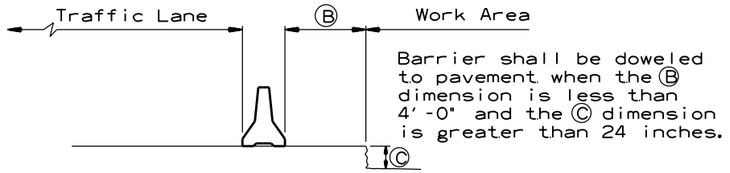
Ⓐ 4 feet or greater preferred. If less than 4 feet, Precast Units shall be connected to slab (SEE BARRIER STABILIZATION DETAIL-BRIDGE DECKS STD. DRWG. TC-4)



* Offset Distance (See Table)

BARRIER PLACEMENT ALONG BRIDGE WITH OFFSET

No Scale

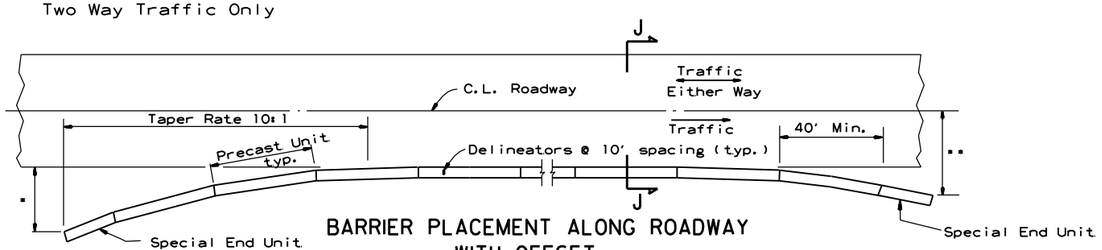


Barrier shall be doweled to pavement when the Ⓑ dimension is less than 4'-0" and the Ⓒ dimension is greater than 24 inches.

SECTION J-J

No Scale

** Offset Distance for Two Way Traffic Only



BARRIER PLACEMENT ALONG ROADWAY WITH OFFSET

No Scale

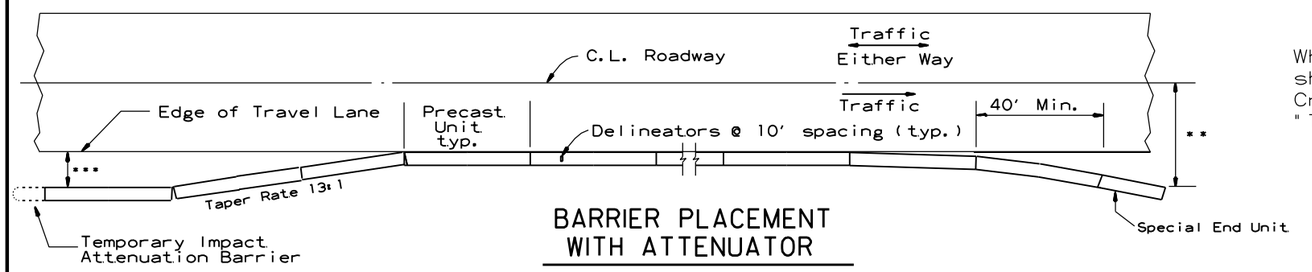
* Offset Distance (See Table)

** Offset Distance For Two Way Traffic Only

Offset Distance Table

Speed (MPH)	Offset Distance (FT.)
≤ 45	12
> 45	18

If offset distance is not attainable, then see "Barrier Placement With Attenuator" Detail shown below.

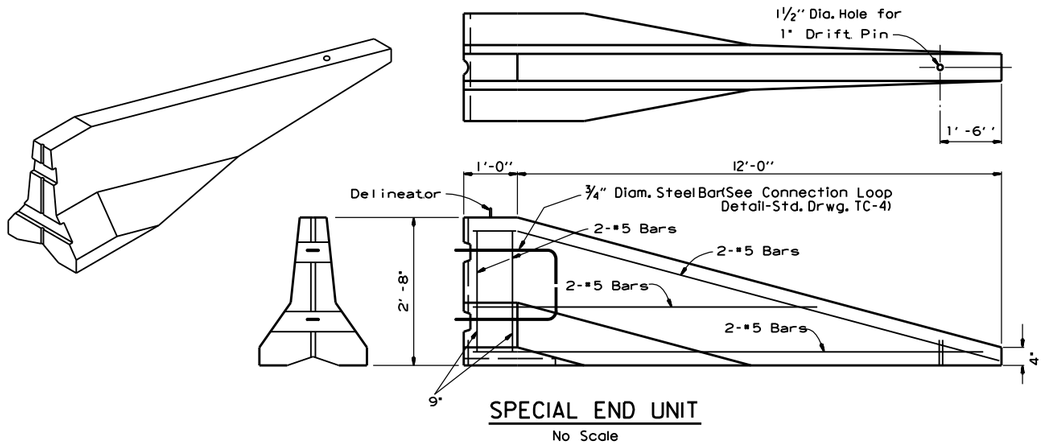


BARRIER PLACEMENT WITH ATTENUATOR

No Scale

** Offset Distance For Two Way Traffic Only

*** Min. 3'-0" From Edge of Travel Lane to Nearest Edge of Attenuator



SPECIAL END UNIT

No Scale

General Notes

When shown on the Plans, the ends of the Temporary Precast Concrete Barrier shall be protected with a Manual For Assessing Safety Hardware (MASH) approved Crash Cushion. Payment for Crash Cushions shall be made under the item of "Temporary Impact Attenuation Barrier."

DATE	REVISION	FILMED
11-07-19	REVISED NOTE	
10-15-09	ADDED REFERENCE TO MASH	
5-25-06	REVISED BARRIER PLACEMENT	
8-22-02	ISSUED NEW DRAWING	

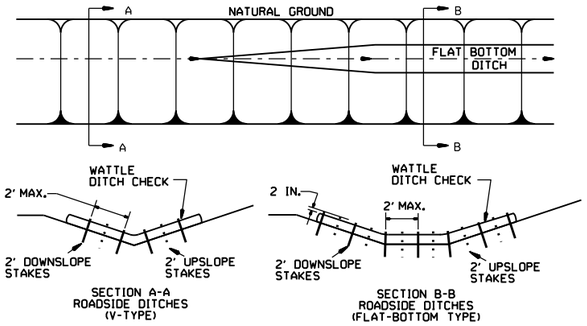
ARKANSAS STATE HIGHWAY COMMISSION

STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION - TEMPORARY PRECAST BARRIER

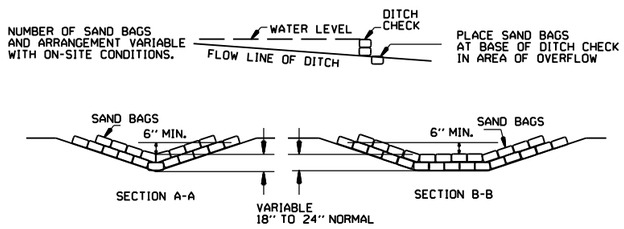
STANDARD DRAWING TC-5

GENERAL NOTES

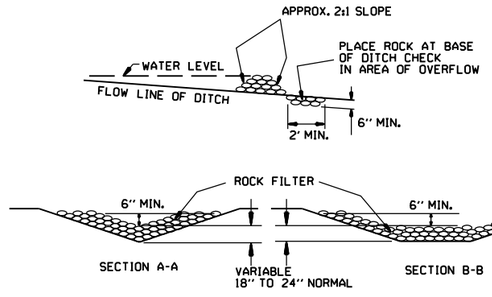
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO BOTTOM OF DITCH.



WATTLE DITCH CHECK (E-1)



SAND BAG DITCH CHECK (E-5)

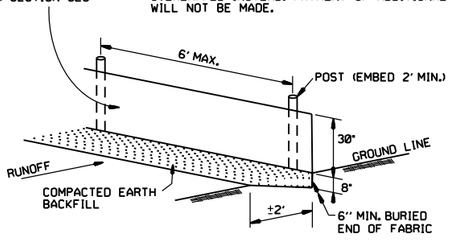


ROCK DITCH CHECK (E-6)

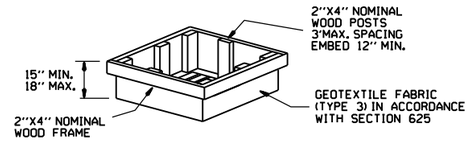
GENERAL NOTES

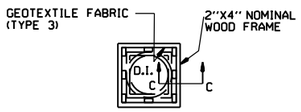
GEOTEXTILE FABRIC (TYPE 4) IN ACCORDANCE WITH SECTION 625

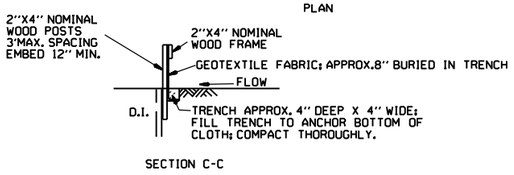
GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM ONLY AT A SUPPORT POST OR TWO SECTIONS OF FENCE MAY BE OVERLAPPED INSTEAD. PAYMENT OF ADDITIONAL MATERIAL FOR OVERLAP WILL NOT BE MADE.



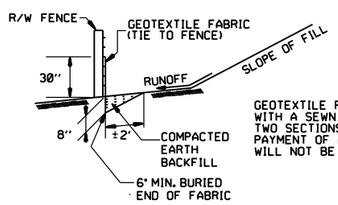
SILT FENCE (E-11)





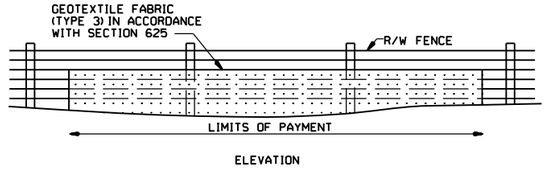


DROP INLET SILT FENCE (E-7)



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.



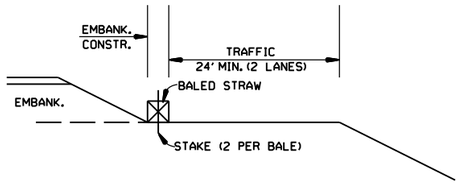
SILT FENCE ON R/W FENCE (E-4)

GENERAL NOTES

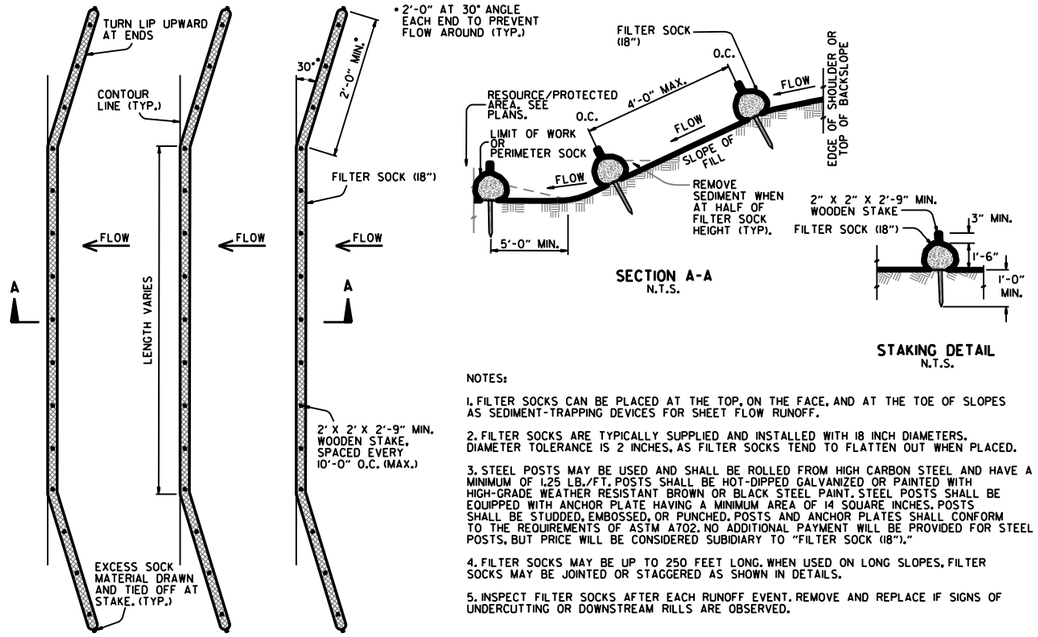
1. STRAW BALES SHALL BE INSTALLED SO THAT THE BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES. THE BALES SHALL BE A MINIMUM OF 30 INCHES IN LENGTH.

2. NO GAPS SHALL BE LEFT BETWEEN BALES.

3. BALED STRAW FILTER BARRIERS COMPLETED AND ACCEPTED WILL BE MEASURED BY THE BALE IN PLACE AS AUTHORIZED BY THE ENGINEER AND WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER BALE FOR BALED STRAW DITCH CHECKS.



BALED STRAW FILTER BARRIER (E-2)



NOTES:

1. FILTER SOCKS CAN BE PLACED AT THE TOP, ON THE FACE, AND AT THE TOE OF SLOPES AS SEDIMENT-TRAPPING DEVICES FOR SHEET FLOW RUNOFF.

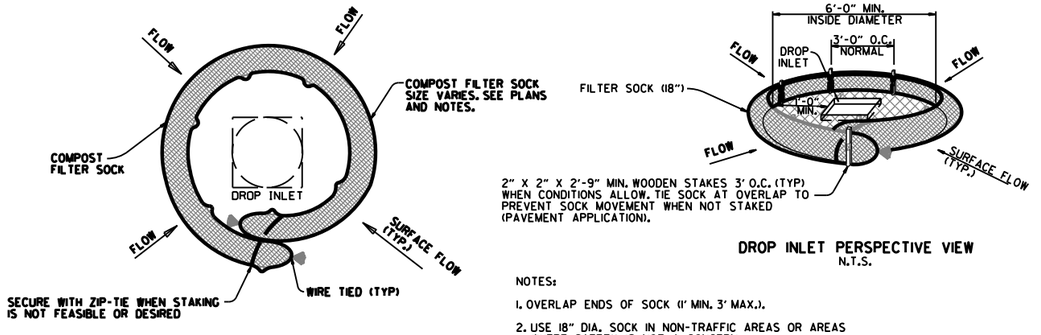
2. FILTER SOCKS ARE TYPICALLY SUPPLIED AND INSTALLED WITH 18 INCH DIAMETERS. DIAMETER TOLERANCE IS 2 INCHES, AS FILTER SOCKS TEND TO FLATTEN OUT WHEN PLACED.

3. STEEL POSTS MAY BE USED AND SHALL BE ROLLED FROM HIGH CARBON STEEL AND HAVE A MINIMUM OF 1.25 LB./FT. POSTS SHALL BE HOT-DIPPED GALVANIZED OR PAINTED WITH HIGH-GRADE WEATHER RESISTANT BROWN OR BLACK STEEL PAINT. STEEL POSTS SHALL BE EQUIPPED WITH ANCHOR PLATE HAVING A MINIMUM AREA OF 14 SQUARE INCHES. POSTS SHALL BE STUDDED, EMBOSSED, OR PUNCHED. POSTS AND ANCHOR PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A702. NO ADDITIONAL PAYMENT WILL BE PROVIDED FOR STEEL POSTS, BUT PRICE WILL BE CONSIDERED SUBIDIARY TO "FILTER SOCK (18")."

4. FILTER SOCKS MAY BE UP TO 250 FEET LONG. WHEN USED ON LONG SLOPES, FILTER SOCKS MAY BE JOINTED OR STAGGERED AS SHOWN IN DETAILS.

5. INSPECT FILTER SOCKS AFTER EACH RUNOFF EVENT. REMOVE AND REPLACE IF SIGNS OF UNDERCUTTING OR DOWNSTREAM RILLS ARE OBSERVED.

FILTER SOCK ALONG SLOPE (E-3)



NOTES:

1. OVERLAP ENDS OF SOCK (1' MIN. 3' MAX.).

2. USE 18" DIA. SOCK IN NON-TRAFFIC AREAS OR AREAS WHERE SAFETY IS NOT A CONCERN.

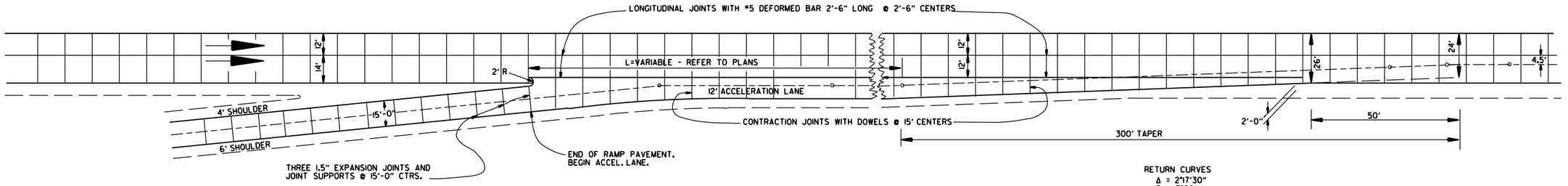
COMPOST FILTER SOCK DROP INLET PROTECTION (E-13)

DATE	REVISION	FILMED
11-16-17	ADDED FILTER SOCK E-3 AND E-13	
12-15-11	DELETED BALED STRAW DITCH CHECK & ADDED WATTLE DITCH CHECK	
11-18-98	ADDED NOTES	
07-02-98	ADDED BALED STRAW FILTER BARRIER (E-2)	
07-20-95	REVISED SILT FENCE E-4 AND E-11	7-20-95
07-15-94	REV. E-4 & E-11 MIN. 13" BURIED END OF FABRIC	
06-02-94	REVISED E-1,4,7 & 11; DELETED E-2 & 3	6-2-94
04-01-93	REDRAWN	
10-01-92	REDRAWN	
08-02-76	ISSUED R.D.M.	298-7-28-76

ARKANSAS STATE HIGHWAY COMMISSION

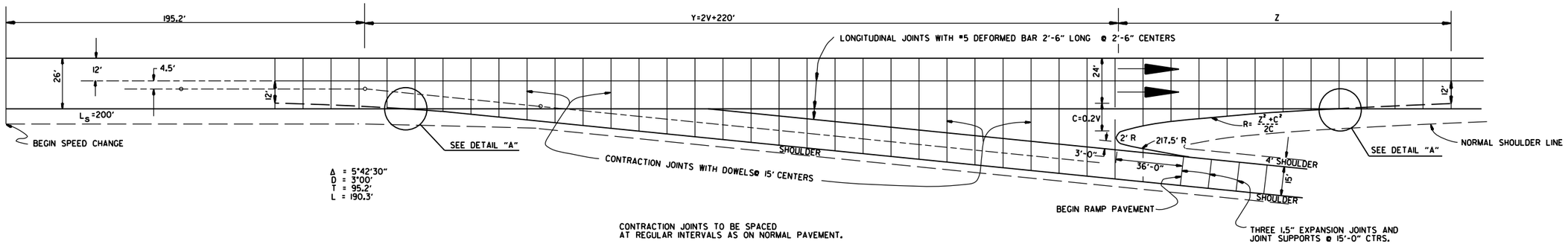
TEMPORARY EROSION CONTROL DEVICES

STANDARD DRAWING TEC-1



ENTRANCE RAMP

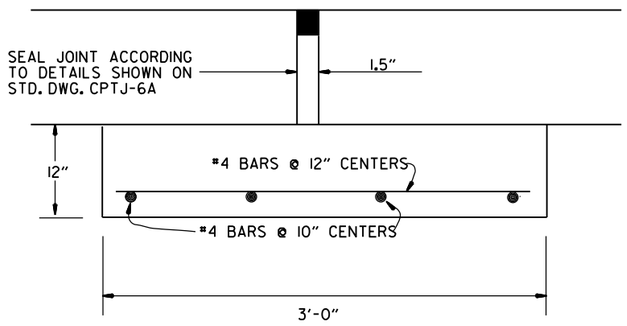
RETURN CURVES
Δ = 2°17'30"
D = 3°00'
T = 38.2'
L = 76.4'



Δ = 5°42'30"
D = 3°00'
T = 95.2'
L = 190.3'

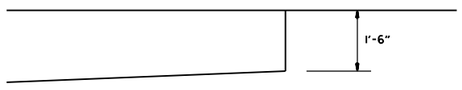
CONTRACTION JOINTS TO BE SPACED AT REGULAR INTERVALS AS ON NORMAL PAVEMENT.

EXIT RAMP



DETAIL OF EXPANSION JOINT & JOINT SUPPORT

NOTE: THE EXPANSION JOINTS SHALL BE MEASURED AND PAID FOR AS P.C.C. PAVEMENT (RAMP THICKNESS).
THE JOINT SUPPORT MAY BE CONSTRUCTED WITH CLASS "A", "S", OR PAVING CONCRETE. PAYMENT FOR THE JOINT SUPPORT SHALL BE FOR THE CONTRACT UNIT PRICE BID FOR THE CLASS OF CONCRETE USED. ALL OTHER WORK AND MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE JOINT SUPPORT SHALL BE SUBSIDIARY TO THE ABOVE ITEMS.



DETAIL "A"

EXIT RAMP

DESIGN SPEED V	X Y	NOSE OFFSET C	LENGTH NOSE TAPER Z	RETURN RADIUS R
40	300.0	8.0	96.0	580.0
50	320.0	10.0	120.0	725.0
60	340.0	12.0	168.0	1182.0
70	360.0	14.0	210.0	1582.0

DATE	REVISION	DATE FILM'D
1-12-00	REDRAWN & REISSUED	

ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF STANDARD TURNOUT FOR ENTRANCE & EXIT RAMPS

STANDARD DRAWING TR-1