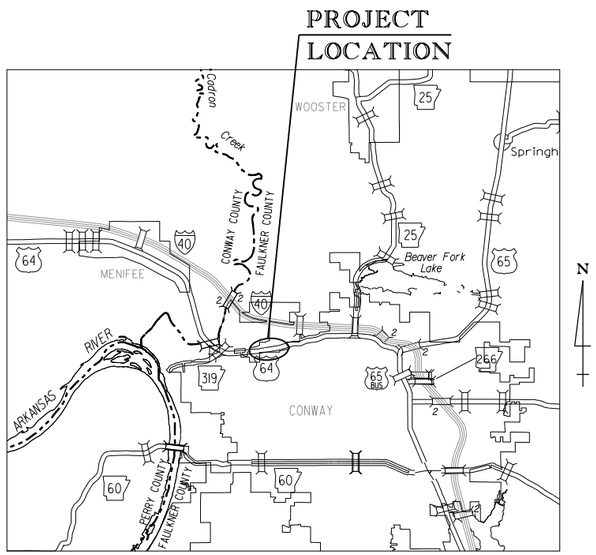
DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	1	80
		HWY. 64/HOGAN LN. ROUNDABOUT (CONWAY) (S)				



ARKANSAS DEPARTMENT OF TRANSPORTATION
CONSTRUCTION PLANS FOR STATE HIGHWAY

HWY. 64/HOGAN LN. ROUNDABOUT (CONWAY) (S)

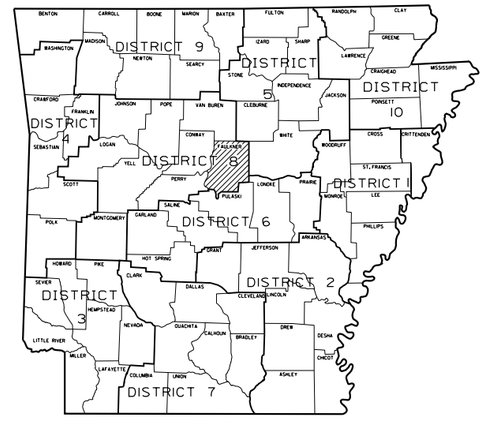
FAULKNER COUNTY

ROUTE 64 SECTION 8

JOB 080634

FED. AID PROJ. CRTLC-STPC-STPLC-9095(40)

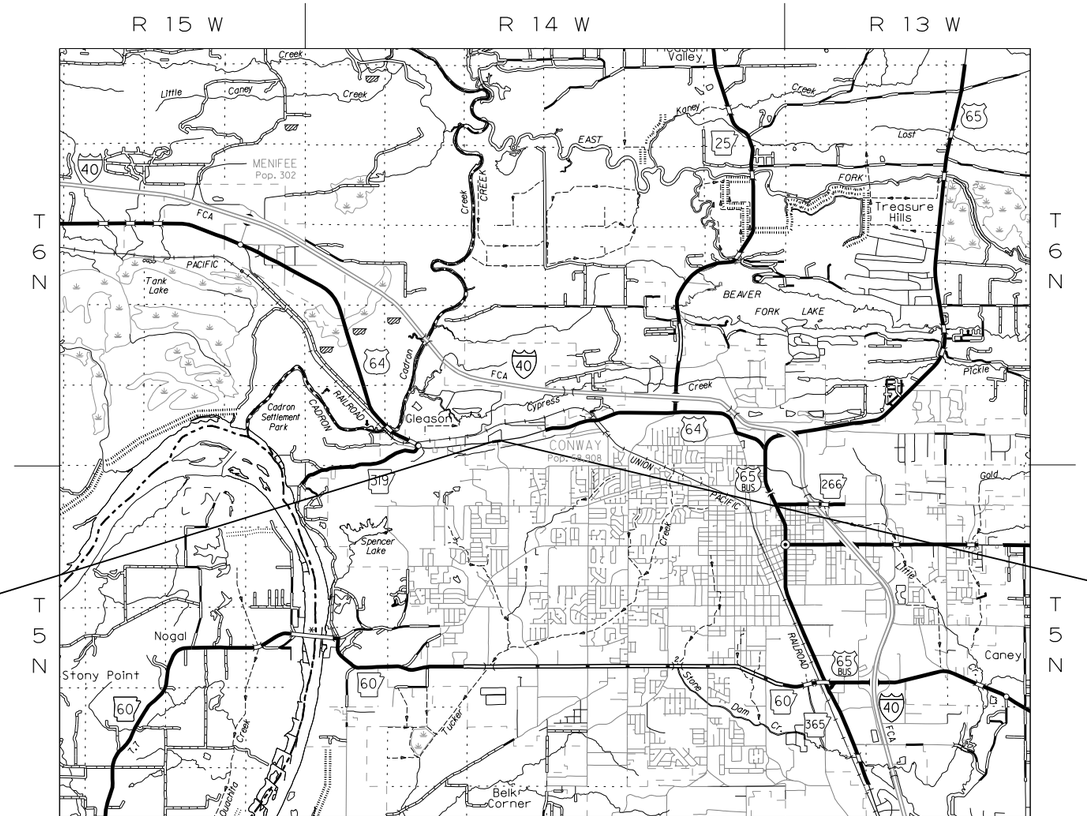
NOT TO SCALE



ARKANSAS HIGHWAY DISTRICT 8

· DESIGN TRAFFIC DATA ·

DESIGN YEAR	2044
2024 ADT	11,000
2044 ADT	14,000
2044 DHV	1,540
DIRECTIONAL DISTRIBUTION	60%
TRUCKS	5%
DESIGN SPEED	55 MPH



STA. 12+00.00
BEGIN JOB 080634
L.M. 1.31

STA. 25+50.00
END JOB 080634

PROJECT COORDINATES

	BEGIN	MID-POINT	END
LATITUDE	N 35°06'42"	N 35°06'42"	N 35°06'44"
LONGITUDE	W 92°30'06"	W 92°29'58"	W 92°29'51"
STATION	12+00.00	19+00.00	25+50.00

GROSS LENGTH OF PROJECT	1350.00	FEET OR	0.256 MILES
NET LENGTH OF ROADWAY	1350.00	FEET OR	0.256 MILES
NET LENGTH OF BRIDGES	0.00	FEET OR	0.00 MILES
NET LENGTH OF PROJECT	1350.00	FEET OR	0.256 MILES

GARVER LLC
CERTIFICATE OF AUTHORIZATION
No. 766
ARKANSAS-ENGINEER

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 14994
DUSTIN L. TACKETT

Digitally Signed 06/10/2024

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	3	80
		GOVERNING SPECIFICATIONS AND GENERAL NOTES				

GOVERNING SPECIFICATIONS

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

NUMBER	TITLE
ERRATA_____	ERRATA FOR THE BOOK OF STANDARD SPECIFICATIONS
FHWA-1273__	REQUIRED CONTRACT PROVISIONS FEDERAL-AID CONSTRUCTION CONTRACTS
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - NOTICE TO CONTRACTORS
FHWA-1273__	SUPPLEMENT - SPECIFIC EQUAL EMPLOYMENT OPPORTUNITY RESPONSIBILITIES (23 U.S.C. 140)
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - GOALS AND TIMETABLES
FHWA-1273__	SUPPLEMENT - EQUAL EMPLOYMENT OPPORTUNITY - FEDERAL STANDARDS
FHWA-1273__	SUPPLEMENT - POSTERS AND NOTICES REQUIRED FOR FEDERAL-AID PROJECTS
FHWA-1273__	SUPPLEMENT - WAGE RATE DETERMINATION
100-3_____	CONTRACTOR'S LICENSE
100-4_____	DEPARTMENT NAME CHANGE
102-2_____	ISSUANCE OF PROPOSALS
102-3_____	PREQUALIFICATION OF BIDDERS
103-2_____	CONTACT INFORMATION FOR MOTORIST DAMAGE CLAIMS
105-4_____	MAINTENANCE DURING CONSTRUCTION
107-2_____	RESTRAINING CONDITIONS
108-1_____	LIQUIDATED DAMAGES
108-2_____	WORK ALLOWED PRIOR TO ISSUANCE OF WORK ORDER
110-1_____	PROTECTION OF WATER QUALITY AND WETLANDS
210-1_____	UNCLASSIFIED EXCAVATION
303-1_____	AGGREGATE BASE COURSE
306-1_____	QUALITY CONTROL AND ACCEPTANCE
400-1_____	TACK COATS
400-4_____	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
400-5_____	PERCENT AIR VOIDS FOR ACHM MIX DESIGNS
400-6_____	LIQUID ANTI-STRIP ADDITIVE
400-7_____	TRACKLESS TACK
404-3_____	DESIGN OF ASPHALT MIXTURES
409-2_____	ASPHALT LABORATORY FACILITY
410-1_____	CONSTRUCTION REQUIREMENTS AND ACCEPTANCE OF ASPHALT CONCRETE PLANT MIX COURSES
410-2_____	DEVICES FOR MEASURING DENSITY FOR ROLLING PATTERNS
410-4_____	EVALUATION OF ACHM SUBLOT REPLACEMENT MATERIAL
416-1_____	RECYCLED ASPHALT PAVEMENT
501-2_____	CEMENT
502-1_____	WELDED WIRE REINFORCEMENT
505-1_____	PORTLAND CEMENT CONCRETE DRIVEWAY
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
620-1_____	MULCH COVER
621-1_____	FILTER SOCKS
632-1_____	CONCRETE ISLAND
634-1_____	CURBING
700-2_____	TRAFFIC CONTROL FACILITIES
723-1_____	GENERAL REQUIREMENTS FOR SIGNS
730-1_____	BREAKAWAY SIGN SUPPORT
800-1_____	STRUCTURES
802-4_____	CEMENT
804-2_____	REINFORCING STEEL FOR STRUCTURES
JOB 080634__	BASIC ELECTRICAL REQUIREMENTS
JOB 080634__	BIDDING REQUIREMENTS AND CONDITIONS
JOB 080634__	BROADBAND INTERNET SERVICE FOR ASPHALT CONCRETE PLANT
JOB 080634__	BROADBAND INTERNET SERVICE FOR FIELD OFFICE
JOB 080634__	BUY AMERICA - CONSTRUCTION MATERIALS
JOB 080634__	CARGO PREFERENCE ACT REQUIREMENTS
JOB 080634__	CLASS C FLY ASH IN PORTLAND CEMENT CONCRETE PAVEMENT AND CLASS S(AE) CONCRETE
JOB 080634__	COLD MILLING - COUNTY PROPERTY
JOB 080634__	CONCRETE PULL BOX
JOB 080634__	DESIGN AND QUALITY CONTROL OF ASPHALT MIXTURES
JOB 080634__	DISADVANTAGED BUSINESS ENTERPRISE BIDDER'S RESPONSIBILITIES
JOB 080634__	ELECTRICAL CONDUCTORS FOR LUMINAIRES
JOB 080634__	ELECTRICAL CONDUCTORS-IN-CONDUIT
JOB 080634__	ELECTRICAL DEMOLITION AND RELOCATION WORK
JOB 080634__	GOALS FOR DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION
JOB 080634__	LED ROADWAY ILLUMINATION POLE
JOB 080634__	LIQUIDATED DAMAGES PROCEDURE FOR BID LETTINGS
JOB 080634__	LONGITUDINAL JOINT DENSITIES FOR ACHM SURFACE COURSES
JOB 080634__	LONGITUDINAL TINING
JOB 080634__	MANDATORY ELECTRONIC CONTRACT
JOB 080634__	MANDATORY ELECTRONIC DOCUMENT SUBMITTAL
JOB 080634__	OFF-SITE RESTRAINING CONDITIONS FOR INDIANA AND NORTHERN LONG-EARED BATS
JOB 080634__	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORT
JOB 080634__	PARTNERING REQUIREMENTS
JOB 080634__	PEDESTAL TYPE SERVICE POINT ASSEMBLY
JOB 080634__	PERCENT AIR VOIDS AND NDESIGN FOR ACHM MIX DESIGNS
JOB 080634__	PRICE ADJUSTMENT FOR ASPHALT BINDER
JOB 080634__	PRICE ADJUSTMENT FOR FUEL
JOB 080634__	PROHIBITION OF CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT
JOB 080634__	RESTRICTIONS ON THE USE OF RECYCLED ASPHALT PAVEMENT MATERIAL
JOB 080634__	SHORING FOR CULVERTS
JOB 080634__	SOIL STABILIZATION
JOB 080634__	STORM WATER POLLUTION PREVENTION PLAN
JOB 080634__	SUBMISSION OF ASPHALT CONCRETE HOT MIX ACCEPTANCE TEST RESULTS
JOB 080634__	TEXTURED COATING FINISH (CAST-IN PLACE RETAINING WALLS)
JOB 080634__	UTILITY ADJUSTMENTS
JOB 080634__	VALUE ENGINEERING
JOB 080634__	WARM MIX ASPHALT
JOB 080634__	WATER POLLUTION CONTROL

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18314
RICHARD C. CORBYN

Digitally Signed 06/10/2024

GENERAL NOTES

1. GRADE LINE DENOTES FINISHED GRADE WHERE SHOWN ON PLANS.
2. ALL PIPE LINES, POWER, TELEPHONE, AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
3. ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U. S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
5. ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
6. ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO ENSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A FENCE TO CONTROL LIVESTOCK IN AREAS WHERE PASTURES ARE SEVERED. WIRE FENCE MAY BE CONSTRUCTED INITIALLY, OR IN LIEU THEREOF, THE CONTRACTOR AT HIS OWN EXPENSE, MAY ELECT TO PROVIDE TEMPORARY FENCING SUITABLE TO CONTAIN LIVESTOCK.
8. 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.
9. ALL FLEXIBLE BASE AND ASPHALTIC PAVEMENTS REMOVED SHALL BE PAID FOR UNDER THE ITEM NO. 210 - UNCLASSIFIED EXCAVATION.
10. THE EXISTING ASPHALT PAVEMENT TO BE REMOVED FROM THE REMAINING PAVEMENT SHALL BE SEPARATED BY SAWING ALONG A NEAT LINE. AFTER SAWING, THE PAVEMENT TO BE REMOVED SHALL BE CAREFULLY REMOVED IN A MANNER THAT WILL NOT DAMAGE THE PAVEMENT THAT IS TO REMAIN. ANY DAMAGE OF THE ASPHALT PAVEMENT THAT IS TO REMAIN IN PLACE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
11. THIS PROJECT IS COVERED UNDER A SECTION 404 NATIONWIDE 14 PERMIT. REFER TO SECTION 110 OF THE STANDARD SPECIFICATIONS, EDITION OF 2014, FOR PERMIT REQUIREMENTS.

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REVISED DATE:

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.18314
RICHARD C. CORBYN

Digitally Signed 06/10/2024

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	23	80
		QUANTITIES				

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.
12+27.00	12+62.00	HWY. 64 (WEST) RT.	36.00	6.00	24.00	16.00	0.20
14+80.00	15+45.00	HWY. 64 (WEST) RT.	69.00	6.00	46.00	30.67	0.39
15+05.00	15+18.00	HWY. 64 (WEST) RT.	36.00	6.00	24.00	16.00	0.20
19+84.22	20+58.00	HWY. 64 (EAST) RT.	81.00	6.00	54.00	36.00	0.45
20+58.00	21+30.00	HWY. 64 (EAST) RT.	74.00	6.00	49.33	32.89	0.41
20+58.00	20+90.00	HWY. 64 (EAST) RT.	39.00	6.00	26.00	17.33	0.22
23+13.00	25+54.00	HWY. 64 (EAST) RT.	281.00	4.00	124.89	124.89	1.57
24+85.00	25+60.00	HWY. 64 (EAST) RT.	81.00	6.00	54.00	36.00	0.45
19+96.00	20+23.00	HWY. 64 (EAST) LT.	88.00	6.00	58.67	39.11	0.49
05+66.63	06+06.38	CIRCULATORY ROADWAY	49.00	6.00	32.67	21.78	0.27
52+00.00	52+35.00	HOGAN LN. RT.	35.00	6.00	23.33	15.56	0.20
52+40.00	54+68.89	HOGAN LN. RT.	242.00	6.00	161.33	107.56	1.36
53+20.00	53+80.00	HOGAN LN. LT.	64.00	6.00	42.67	28.44	0.36
TOTALS:					**720.89**	**522.23**	**6.57**

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

DRIVEWAYS & TURNOUTS

STATION	SIDE	LOCATION	WIDTH	**MODIFIED CURB		PORTLAND CEMENT CONCRETE DRIVEWAY	ACHM SURFACE COURSE (3/8") 220 LBS. PER SQ. YD. (PG 64-22)		AGGREGATE BASE COURSE (CLASS 7)	STANDARD DRAWINGS
			FEET	STATION	STATION	SQ. YD.	SQ. YD.	TON	TON	
14+49	LT.	HWY. 64 WEST	14	14+28	14+65	32.92	50.34	5.54	20.56	DR-1
14+50	RT.	HWY. 64 WEST	24	14+24	14+76	46.22				DR-1
14+81	LT.	HWY. 64 WEST	14	14+65	15+02	32.85	69.01	7.59	28.18	DR-1
16+59	LT.	HWY. 64 WEST	12	16+39	16+79	35.56	77.47	8.52	31.63	DR-1
22+40	RT.	HWY. 64 WEST	24	22+14	22+66	46.22				DR-1
* ENTIRE PROJECT TEMPORARY DRIVES									100.00	
TOTALS:						**193.77**	**196.82**	**21.65**	**180.37**	

BASIS OF ESTIMATE:
ACHM SURFACE COURSE (3/8").....93.7% MIN. AGGR.....6.3% ASPHALT BINDER

THE CONTRACTOR, WITH THE APPROVAL OF THE ENGINEER, WILL BE ALLOWED TO SUBSTITUTE A HIGHER PERFORMANCE GRADE ASPHALT SURFACE COURSE FOR DRIVEWAYS AND MINOR SIDE STREET CONSTRUCTION AT NO ADDITIONAL COST TO THE DEPARTMENT.

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

** FOR INFORMATION ONLY

PAVEMENT REPAIR OVER CULVERTS (ASPHALT)

STATION	LOCATION	WIDTH	LENGTH	TON
		FEET		
12+45	HWY. 64 (WEST)	9.67	25.26	24
17+93	HWY. 64 (WEST)	7.92	23.13	18
20+15	HWY. 64 (EAST)	9.08	21.8	19
20+11	HWY. 64 (EAST)	9.08	14.94	13
25+05	HWY. 64 (EAST)	10.25	27.42	27
TOTAL:				**101**

AVG. DEPTH = 16"

SELECTED PIPE BEDDING

LOCATION	SELECTED PIPE BEDDING
	CU.YD.
ENTIRE PROJECT TO BE USED IF	
AND WHERE DIRECTED BY THE	210
ENGINEER	
TOTAL:	**210**

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

FENCING

STATION	STATION	LOCATION	WIRE FENCE (TYPE A)
			LIN. FT.
24+57	26+50	HWY. 64 (EAST) LT.	203
TOTAL:			**203**

EROSION CONTROL

STATION	STATION	LOCATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL										
			SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	FILTER SOCKS (18") (E-13)	SAND BAG DITCH CHECKS (E-5)	ROCK DITCH CHECKS (E-6)	DROP INLET SILT FENCE (E-7)	SILT FENCE (E-11)	SEDIMENT BASIN (E-14)	OBLITERATION OF SEDIMENT BASIN	*SEDIMENT REMOVAL & DISPOSAL
			ACRE	TON	ACRE	M.GAL.	ACRE	SQ.YD.	ACRE	ACRE	M.GAL.	LIN. FT.	BAG	CU.YD.	LIN. FT.	LIN. FT.	CU.YD.	CU.YD.	CU. YD.
ENTIRE	PROJECT	CLEARING AND GRUBBING										46	396	48		1772			102
ENTIRE	PROJECT	STAGE 1										368	264	30					38
ENTIRE	PROJECT	STAGE 2										161							7
*ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER.			3.97	7.94	3.97	452.6	3.97	3786	4.77	4.77	97.3	100	100		100		100	100	104
TOTALS:			**3.97**	**7.94**	**3.97**	**452.6**	**3.97**	**3786**	**4.77**	**4.77**	**97.3**	**675**	**760**	**78**	**100**	**1772**	**100**	**100**	**251**

BASIS OF ESTIMATE:
LIME .....2 TONS / ACRE OF SEEDING
WATER.....102.0 M.G. / ACRE OF SEEDING
WATER.....20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER.....12.6 GAL. / SQ. YD. OF SOLID SODDING
FILTER SOCKS.....23 LIN. FT./LOCATION
SAND BAG DITCH CHECKS.....22 BAGS / LOCATION
ROCK DITCH CHECKS.....3 CU.YD./LOCATION

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

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

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SUMMARY OF QUANTITIES

ITEM NUMBER	ITEM		QUANTITY	UNIT
201	CLEARING		18	STATION
201	GRUBBING		18	STATION
202	REMOVAL AND DISPOSAL OF CURB AND GUTTER		809	LIN. FT.
202	REMOVAL AND DISPOSAL OF FENCE		266	LIN. FT.
202	REMOVAL AND DISPOSAL OF DROP INLETS		3	EACH
202	REMOVAL AND DISPOSAL OF PIPE CULVERTS		5	EACH
202	REMOVAL AND DISPOSAL OF HEADWALLS		5	EACH
202	REMOVAL AND DISPOSAL OF SIGNS		9	EACH
SP & 202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION		2	EACH
SS & 206	FLOWABLE SELECT MATERIAL		11	CU. YD.
SP, SS, & 210	UNCLASSIFIED EXCAVATION		15731	CU. YD.
SP & 210	COMPACTED EMBANKMENT		8592	CU. YD.
SP & 210	SOIL STABILIZATION		100	TON
SP, SS, & 303	AGGREGATE BASE COURSE (CLASS 7)		1877	TON
SP, SS, & 309	PORTLAND CEMENT CONCRETE BASE (5" UNIFORM THICKNESS)		189	SQ. YD.
SP, SS, & 309	PORTLAND CEMENT CONCRETE BASE (10" UNIFORM THICKNESS)		733	SQ. YD.
SS & 401	TACK COAT		1646	GAL.
SP, SS, & 405	MINERAL AGGREGATE IN ACHM BASE COURSE (1 1/2")		1269	TON
SP, SS, & 405	ASPHALT BINDER (PG 64-22) IN ACHM BASE COURSE (1 1/2")		57	TON
SP, SS, & 406	MINERAL AGGREGATE IN ACHM BINDER COURSE (1")		652	TON
SP, SS, & 406	ASPHALT BINDER (PG 64-22) IN ACHM BINDER COURSE (1")		31	TON
SP, SS, & 407	MINERAL AGGREGATE IN ACHM SURFACE COURSE (3/8")		3148	TON
SP, SS, & 407	ASPHALT BINDER (PG 64-22) IN ACHM SURFACE COURSE (3/8")		1	TON
SP, SS, & 407	ASPHALT BINDER (PG 70-22) IN ACHM SURFACE COURSE (3/8")		210	TON
SP & 412	COLD MILLING ASPHALT PAVEMENT		2359	SQ. YD.
SP, SS, & 414	ASPHALT CONCRETE PATCHING FOR MAINTENANCE OF TRAFFIC		10	TON
SP, SS, & 501	PORTLAND CEMENT CONCRETE PAVEMENT (11" UNIFORM THICKNESS)		536	SQ. YD.
SP, SS, & 505	PORTLAND CEMENT CONCRETE DRIVEWAY		193.77	SQ. YD.
601	MOBILIZATION		1.00	LUMP SUM
SP & 602	FURNISHING FIELD OFFICE		1	EACH
SS & 603	MAINTENANCE OF TRAFFIC		1.00	LUMP SUM
SS & 604	SIGNS		257	SQ. FT.
SS & 604	TRAFFIC DRUMS		174	EACH
SS & 604	VERTICAL PANELS		20	EACH
604	CONSTRUCTION PAVEMENT MARKINGS		9884	LIN. FT.
604	CONSTRUCTION PAVEMENT MARKINGS (WORDS)		1	EACH
604	CONSTRUCTION PAVEMENT MARKINGS (ARROWS)		1	EACH
604	REMOVAL OF CONSTRUCTION PAVEMENT MARKINGS		1182	LIN. FT.
SP, SS, & 605	CONCRETE DITCH PAVING (TYPE B)		721	SQ. YD.
SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		140	LIN. FT.
* SS & 606	18" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	1304	LIN. FT.
* SS & 606	18" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	1304	LIN. FT.
SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		7	LIN. FT.
* SS & 606	24" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	384	LIN. FT.
* SS & 606	24" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	384	LIN. FT.
SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		122	LIN. FT.
* SS & 606	30" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)	(ALTERNATE NO. 1)	430	LIN. FT.
* SS & 606	30" SMOOTH LINED POLYMER PRECOATED METALLIC COATED CORRUGATED STEEL PIPE	(ALTERNATE NO. 2)	430	LIN. FT.
SS & 606	36" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		67	LIN. FT.
SS & 606	42" REINFORCED CONCRETE PIPE CULVERTS (CLASS III)		105	LIN. FT.
SS & 606	18" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
SS & 606	24" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		1	EACH
SS & 606	30" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		3	EACH
SS & 606	36" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
SS & 606	42" FLARED END SECTIONS FOR REINFORCED CONCRETE PIPE CULVERTS		2	EACH
SS & 606	SELECTED PIPE BEDDING		210	CU. YD.
SS & 609	DROP INLETS (TYPE C)		3	EACH
SS & 609	DROP INLETS (TYPE E)		1	EACH
SS & 609	DROP INLETS (TYPE MO)		19	EACH
SS & 609	JUNCTION BOXES (TYPE E)		2	EACH
SS & 609	DROP INLET EXTENSIONS (4')		12	EACH
SS & 609	DROP INLET EXTENSIONS (8')		1	EACH
SS & 615	PAVEMENT REPAIR OVER CULVERTS (ASPHALT)		101	TON
SS & 619	WIRE FENCE (TYPE A)		203	LIN. FT.
620	LIME		8	TON
620	SEEDING		3.97	ACRE
SS & 620	MULCH COVER		8.74	ACRE
620	WATER		558.1	M. GAL.
621	TEMPORARY SEEDING		4.77	ACRE
621	SILT FENCE		1772	LIN. FT.
621	SAND BAG DITCH CHECKS		760	BAG
621	DROP INLET SILT FENCE		100	LIN. FT.
621	SEDIMENT BASIN		100	CU. YD.
621	OBLITERATION OF SEDIMENT BASIN		100	CU. YD.
621	SEDIMENT REMOVAL AND DISPOSAL		251	CU. YD.
621	ROCK DITCH CHECKS		78	CU. YD.
SS & 621	FILTER SOCK (18")		675	LIN. FT.
623	SECOND SEEDING APPLICATION		3.97	ACRE
624	SOLID SODDING		4440	SQ. YD.
626	EROSION CONTROL MATTING (CLASS 3)		941	SQ. YD.
SP, SS, & 632	CONCRETE ISLAND		957	SQ. YD.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE A) (1' 6")		3020	LIN. FT.
SS & 634	CONCRETE COMBINATION CURB AND GUTTER (TYPE E-1) (2' 0")		440	LIN. FT.
635	ROADWAY CONSTRUCTION CONTROL		1.00	LUMP SUM
637	MAILBOXES		1	EACH
637	MAILBOX SUPPORTS (SINGLE)		1	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/8 A.W.G., E.G.C.)		850	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/10 A.W.G., E.G.C.)		1400	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G., E.G.C.)		1200	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES		630	LIN. FT.
710	NON-METALLIC CONDUIT (2")		2300	LIN. FT.
SP, SS, & 711	CONCRETE PULL BOX (TYPE 2 HD)		19	EACH
SP	LED ROADWAY ILLUMINATION POLE (18,700 LUMENS, DECORATIVE, T-BASE, 30')		14	EACH
SP	PEDESTAL TYPE SERVICE POINT (100 AMP)		1	EACH
718	REFLECTORIZED PAINT PAVEMENT MARKING WHITE (12")		119	LIN. FT.
718	REFLECTORIZED PAINT PAVEMENT MARKING YELLOW (12")		1505	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (6")		1167	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING WHITE (12")		31	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (6")		2991	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING YELLOW (8")		1626	LIN. FT.
719	THERMOPLASTIC PAVEMENT MARKING (WORDS)		4	EACH
719	THERMOPLASTIC PAVEMENT MARKING (ARROWS)		2	EACH
719	THERMOPLASTIC PAVEMENT MARKING (BIKE EMBLEMS)		1	EACH
719	THERMOPLASTIC PAVEMENT MARKING (YIELD LINE)		51	LIN. FT.
721	RAISED PAVEMENT MARKERS (TYPE II)		35	EACH
SS & 725	GUIDE SIGN-ROADSIDE MOUNTED (DEMOUNTABLE LEGEND)		85	SQ. FT.
SS & 726	STANDARD SIGN		176	SQ. FT.
SS & 730	BREAKAWAY SIGN SUPPORT (TYPE G-2)		698	POUND
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G-1)		15	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-2)		3	EACH
SP	OMNI-DIRECTIONAL BREAKAWAY SIGN SUPPORTS (TYPE G2-3)		3	EACH
801	UNCLASSIFIED EXCAVATION FOR STRUCTURES-ROADWAY		104	CU. YD.
SP, SS, & 802	CLASS S CONCRETE-ROADWAY		30.91	CU. YD.
SP	TEXTURED COATING FINISH		42	SQ. YD.
SS & 804	REINFORCING STEEL-ROADWAY (GRADE 60)		3887	POUND
SS & 816	FILTER BLANKET		78	SQ. YD.
SS & 816	DUMPED RIPRAP		70	CU. YD.

* DENOTES ALTERNATE BID ITEMS.

REVISIONS

DATE	REVISION	SHEET NUMBER
6/10/2024	ADDED FED. AID PROJ. NUMBER, ADDED SS 102-3 "PREQUALIFICATION OF BIDDERS". ADDED SP "ELECTRICAL CONDUCTORS FOR LUMINAIRES", "LED ROADWAY ILLUMINATION POLE", AND "PEDESTAL TYPE SERVICE POINT". REVISED SP "CONCRETE PULL BOX" AND "ELECTRICAL CONDUCTORS-IN-CONDUIT". REMOVED SP "ROADWAY ILLUMINATION ASSEMBLY" AND "SERVICE POINT ASSEMBLY (UNDERGROUND SECONDARY SERVICE, ROADWAY LIGHTING)". REVISED SUMMARY OF QUANTITIES FOR LIGHTING SP AND PLAN REVISIONS. REVISED "ELECTRICAL CONDUCTORS-IN-CONDUIT (_C/A.W.G.,___)" PAY ITEM NAMES AND QUANTITIES. REVISED CONCRETE PULL BOX, ROADWAY ILLUMINATION POLE, AND SERVICE POINT PAY ITEM NAMES. ADDED "ELECTRICAL CONDUCTORS FOR LUMINAIRES" PAY ITEM AND QUANTITY. REVISED ELECTRICAL LEGEND AND NOTES, LIGHTING INSTALLATION PLAN, AND ELECTRICAL DETAILS. REVISED DRIVEWAYS & TURNOUTS ASPHALT BINDER CONTENT TO MATCH BASE AND SURFACING ASPHALT BINDER CONTENT.	1, 3, 23, 27, 38, 40, 43-44

SUMMARY OF QUANTITIES AND REVISIONS

Digitally Signed 06/10/2024

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No. 18314
RICHARD C. CORBYN

DATE REVISED	DATE REVISED	DATE REVISED
6/10/2024		

SUMMARY OF QUANTITIES AND REVISIONS

FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	080634	27	80

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	38	80
		ELECTRICAL LEGEND AND NOTES				

CONSTRUCTION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NFPA70, CURRENT EDITION), LIFE SAFETY CODE (NFPA 101, CURRENT EDITION), UNDERGROUND FACILITIES DAMAGE PREVENTION ACT (§4-27-101ET SEQ.), AND LOCAL ELECTRICAL CODE. IN ADDITION, ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CURRENT EDITION.

2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION TO PROJECT ENGINEER, TO ENSURE ARKANSAS STATE CODES (14-28-101ET SEQ. AND 20-31-101ET 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. THE CONTRACTOR SHALL NOT ENGAGE IN EXCAVATION OR DEMOLITION ACTIVITIES WITHOUT HAVING FIRST NOTIFIED THE ARKANSAS ONE CALL CENTER IN ACCORDANCE WITH 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.

4. UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. SOME UTILITIES 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.

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

6. 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 NOTED.

7. 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.

8. 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 CONDUCTORS NOT MEETING THE MINIMUM 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 ELECTRICAL SPECIAL PROVISIONS.

9. 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.

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

11. ALL ELECTRICAL COMPONENTS SHALL BE UL LISTED.

12. ALL LUMINAIRE ASSEMBLIES SHALL HAVE BUG RATING OF U-0.

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

14. 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.

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

16. SLACK CABLES IN PULL BOXES SHALL BE 3 FEET.

17. CONDUCT A MINIMUM 14-DAY BURN TEST FOR THE COMPLETE LIGHTING SYSTEM. REPLACE BURNED OUT AND NOTICEABLY DIM LUMINAIRES; MALFUNCTIONING EQUIPMENT SHALL BE CORRECTED, AND RETEST THE SYSTEM. OTHERWISE REMOVE AND REPLACE WITH NEW EQUIPMENT.

18. SEE STANDARD DRAWING SD-6 FOR PULL BOX CONSTRUCTION.

19. ALL METAL POLES SHALL BE BONDED TO E.G.C. PER NEC 410 PART IV AND PART V.

20. THE CONTRACTOR SHALL LABEL ALL CONDUCTORS IN PULL BOXES AND AT SPLICE POINTS.

21. CONDUCTORS SHALL CONTINUOUSLY RUN DIRECTLY FROM SERVICE POINTS TO ELECTRICAL DEVICES AND/OR PULL BOXES WITHOUT SPLICES BEING MADE IN THE CONDUIT. ANY CONDUCTORS THAT HAVE BEEN DAMAGED BY PINCHING SHALL BE COMPLETELY REPLACED AT THE CONTRACTOR'S EXPENSE.

22. ALL SPLICES SHALL BE WATERTIGHT AND UL-LISTED FOR CONTINUOUS USE IN SUBMERSIBLE INSTALLATION.

23. E.G.C. SHALL BE EXOTHERMICALLY BONDED TO GROUND ROD.

24. 2C/_A.W.G._*_ E.G.C. INDICATES TWO CURRENT CARRYING CONDUCTORS AND ONE E.G.C.

25. FOUNDATION FOR ALL POLES SHALL BE EXTENDED IF NECESSARY TO ACCOMMODATE THE REQUIREMENT FOR CLEARANCE ABOVE ROADWAY AND MEET POLE SCHEDULE AT LOCATIONS WHERE THE GROUND ELEVATION AT THE POLE IS BELOW THE ELEVATION OF THE ROADWAY. POLE FOUNDATION SHALL BE AT THE SAME ELEVATION LEVEL OF THE ROADWAY. WORK WILL BE SUBSIDIARY TO THE LED ROADWAY ILLUMINATION POLE PAY ITEM.

26. ELECTRICAL SERVICE SHALL BE PROVIDED BY THE CITY/COUNTY (MAINTENANCE AUTHORITY) TO A SERVICE POLE WITH EXTERNAL RAINTIGHT BREAKER (MAIN BREAKER), GALVANIZED STEEL SERVICE RISER, METER LOOP (IF REQUIRED), AND WEATHERHEAD AT A MUTUALLY ACCEPTABLE POINT WITHIN THE RIGHT-OF-WAY. THE CONTRACTOR SHALL PROVIDE THE SERVICE POINT ASSEMBLY PER PLANS SET AND CONTRACT PRIOR TO THE DATE ELECTRICAL COMPANIES PROVIDE SERVICE.

27. CONTRACTOR SHALL ATTACH A PERMANENT TAG OF RIGID PLASTIC OR NON-FERROUS METAL TO EACH CONDUIT AT PULLBOXES, POLE BASES, AND JUNCTION BOXES. 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. EACH TAG SHALL INDICATE THE END LOCATION OF CONDUIT RUN. THE COST OF THE TAGS SHALL BE SUBSIDIARY TO THE CONDUIT PAY ITEM.
   EXAMPLES FOR CONDUIT:
   SERVICE POINT TO PULL BOX 1(SP TO PB-1)
   PULL BOX 1TO SERVICE POINT (PB-1TO SP)
   PULL BOX 1TO PULL BOX 2 (PB-1TO PB-2)

28. CONDUIT BELL END FITTINGS SHALL BE INSTALLED ON ALL TERMINATING ENDS OF NON-METALLIC CONDUIT RUNS. THIS INCLUDES PULL BOXES AND POLE BASES. THE COST OF THE FITTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE PAY ITEM. ALL NON-METALLIC CONDUIT SHALL USE LONG SWEEP 90 DEGREE ELBOWS ON ALL CONDUIT BENDS.

29. CONDUIT SHALL BE BURIED NOT LESS THAN 18" DEPTH BELOW THE FINAL GRADE, AND MINIMUM 24" DEPTH UNDER THE ROADWAY AND SIDEWALK, UNLESS OTHERWISE INDICATED ON THE PLANS.

30. PRIOR TO THE ORDERING OF ALL LIGHTING EQUIPMENT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER A COPY OF THE APPLICABLE BROCHURES CONTAINING THE DESIGN CRITERIA FOR THE EQUIPMENT WHICH THE CONTRACTOR PROPOSES TO INSTALL FOR APPROVAL. THE SPECIFIC ITEMS THAT ARE PROPOSED FOR USE SHALL BE CLEARLY MARKED IN THE APPLICABLE BORCHURES. A LIST SHALL BE ATTACHED TO IDENTIFY THE PAY ITEM AND CONTAIN THE MANUFACTURER, QUANTITY, MODEL, AND IDENTIFYING DESCRIPTIONS OF EACH ITEM. ADEQUATE ENGINEERING DATA, ESSENTIAL SHOP DRAWINGS, AND SCHEMATIC DIAGRAMS SHALL BE PROVIDED FOR REVIEW. PARTIAL SUBMITTALS WILL NOT BE ACCEPTED FOR CONSIDERATION AND SHALL BE RETURNED FOR CORRECTION WITHOUT REVIEW.

IF ENGINEER DETERMINED THAT THE EQUIPMENT SUBMITTAL MEETS THE DESIGN CRITERIA, AN APPROVAL WILL BE PROVIDED. IF THE EQUIPMENT SUBMITTAL FOR USE IS REJECTED, THE CONTRACTOR SHALL RE-SUBMIT THE EQUIPMENT SUBMITTAL WITHIN FIFTEEN (15) DAYS OF NOTIFICATION OF EQUIPMENT REJECTION. THE EQUIPMENT RESUBMITTAL WILL BE CONSIDERED THE STARTING POINT OF A NEW APPROVAL CYCLE AS DESCRIBED.

ELECTRICAL SYMBOLS LEGEND

- EXISTING DECORATIVE LIGHT FIXTURE TO BE REMOVED AND FOUNDATION DEMOLISHED, SEE NOTES, PLANS AND SCHEDULES FOR MORE INFORMATION.
- EXISTING DECORATIVE LIGHT FIXTURE TO REMAIN, SEE NOTES, PLANS AND SCHEDULES FOR MORE INFORMATION.
- PB / LPB14 L14 — NEW LUMINAIRE, ARM, LIGHT POLE, FOUNDATION AND PULLOX ASSEMBLY, SEE NOTES, PLANS AND SCHEDULES FOR MORE INFORMATION.
- REMOVE EXISTING STREET LIGHTING CIRCUIT(S) AND ABANDON CONDUIT
- EXISTING STREET LIGHTING CIRCUIT(S) AND CONDUIT TO REMAIN
- CONDUIT & WIRE AS NOTED IN NOTES AND IN SCHEDULES.
- PB — PULL BOX
- RELAY CONTACT, NORMALLY OPEN.
- 20A/2P — CIRCUIT BREAKER, TRIP RATING SHOWN, 2-POLE UNLESS NOTED OTHERWISE.
- SPD — SURGE PROTECTIVE DEVICE WITH INDICATING LIGHTS.
- OR — 3/4" x 10' COPPER CLAD GROUND ROD.
- SP — SERVICE POINT LOCATION
- 20 AMP DUPLEX RECEPTACLE, WITH GROUND WIRE, "GFCI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER.

ABBREVIATIONS

A	AMP
ABC	ABOVE COUNTER
ACS	ACCESS CONTROL SYSTEM
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AIC	AMPS INTERRUPTING CAPACITY
AM	AMP-METER
ANN	ANNUNCIATOR
AP	AERIAL PRIMARY
AS	AERIAL SECONDARY
ATS	
AUX	AUXILIARY
BFI	BLOWN FUSE INDICATOR
BI	BYPASS ISOLATION
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CGRS	PVC COATED GALVANIZED RIGID STEEL
CKT	CIRCUIT
COM	COMMON
CONT	CONTINUOUS
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CRI	COLOR RENDERING INDEX
CS	CORD SET
CU	COEFFICIENT OF UTILIZATION
DEB	DIRECT EARTH BURIED
EC	EMPTY OR EMBEDDED CONDUIT
EF	EXHAUST FAN
EG	EQUIPMENT GROUND
EL	ELEVATION
EMT	ELECTRICAL METALLIC TUBING
ETM	ELASPED TIME METER
FC	FAN COIL
FDS	FUSED DISCONNECT SWITCH
FOC	FIBER OPTIC CABLE
FVNR	FULL VOLTAGE NON-REVERSING STARTER
FVR	FULL VOLTAGE REVERSING STARTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER OR HEAT PUMP
IDS	INTRUSION DETECTION SYSTEM
HR	HOUR
IG	ISOLATED GROUND
ISP	INDIVIDUALLY SHIELDED PAIR
JB	JUNCTION BOX
kVA	KILOVOLT-AMPERE
kVAR	KILOVOLT-AMPERE, REACTIVE
kW	KILOWATT
LA	LIGHTNING ARRESTER
LC	LIGHTING CONTACTOR
LLF	LIGHT LOSS FACTOR
LO	LUGS ONLY
LOR	LOCAL-OFF-REMOTE
LSI	LONG, SHORT, INSTANTANEOUS
LSIG	LONG, SHORT, INSTANTANEOUS, GROUND
LV	LOW VOLTAGE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MN	MASS NOTIFICATION
MON	MONACO
MS	MOTOR STARTER
MTS	MANUAL TRANSFER SWITCH
N	NEUTRAL
NFDS	NON-FUSED DISCONNECT SWITCH
NL	NIGHT LIGHT
OH	OVERHEAD
OHP	OVERHEAD PRIMARY
OHS	OVERHEAD SECONDARY
OL	OVERLOAD
PB	PUSH BUTTON
PEC	PHOTO ELECTRIC CELL
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PL	PILOT LIGHT
PMR	PHASE MONITOR RELAY
PNL	PANEL
PTT	PUSH-TO-TEST
PTZ	PAN-TILT-ZOOM
PVC	SCHEDULE 40 POLYVINYL CONDUIT
RECPT	RECEPTACLE
RVAT	REDUCED VOLTAGE AUTO-TRANSFORMER STARTER
SA	SURGE ARRESTER
SDBC	SOFT DRAWN BARE COPPER
SE	SERVICE ENTRANCE
SN	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SS	STAINLESS STEEL
STA	STATION
SW	SWITCH
TC	TIME CLOCK
TD	TIME DELAY
TDD	TIME DELAY ON DE-ENERGIZATION
TDE	TIME DELAY ON ENERGIZATION
TEL	TELEPHONE
THD	TOTAL HARMONIC DISTORTION
TMGB	TELECOMMUNICATIONS MAIN GROUND BAR
TGB	TELECOMMUNICATIONS GROUND BAR
TR	TAMPER RESISTANT
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRIC
UGP	UNDERGROUND PRIMARY
UGS	UNDERGROUND SECONDARY
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
VA	VOLT-AMP
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLT-METER
W	WATT OR WIRE
WAP	WIRELESS ACCESS POINT
WH	WEATHER HEAD
WM	WATT METER
WP	WEATHERPROOF
XFMR	TRANSFORMER

GENERAL NOTES:

1. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET BUT NOT BE UTILIZED ON THE PROJECT.
2. LIGHTING LEGEND SHOWS EXAMPLE IDENTIFIERS. REFER TO LIGHT FIXTURE SCHEDULE FOR SPECIFIC REQUIREMENTS.
3. ALL PARTS OF THIS INSTALLATION SHALL BE IN ACCORDANCE WITH THE ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT STANDARDS AND DETAILS, AND WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, CURRENT EDITIONS.
4. CONDUIT INSTALLED UNDER ROADWAY SECTIONS SHALL BE INSTALLED BY PUSHING OR BORING METHODS. IF THE ENGINEER DETERMINES THIS IS NOT FEASIBLE, THEN A TRENCHING METHOD MAY BE USED.
5. CONTRACTOR MAY USE HDPE OR PVC FOR BORING. SECTIONAL PVC SHALL BE UL LISTED AND MARKED FOR USE IN DIRECTIONAL BORING.

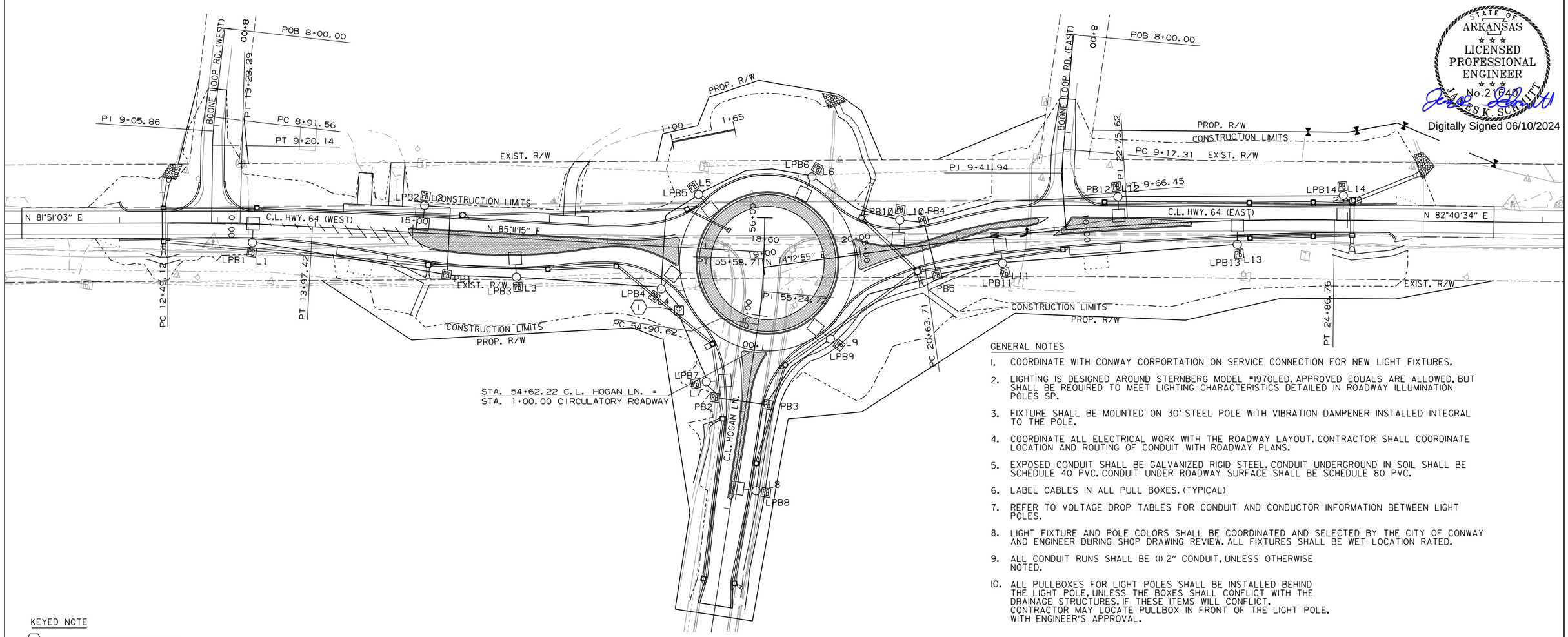
SUMMARY OF LIGHTING QUANTITIES

ITEM NO.	ITEM	QUANTITIES TOTAL	UNIT
SP&202	REMOVAL AND DISPOSAL OF LUMINAIRE POLE AND FOUNDATION	2	EACH
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/8 A.W.G., E.G.C.)	850	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/10 A.W.G., E.G.C.)	1400	LIN. FT.
SP	ELECTRICAL CONDUCTORS-IN-CONDUIT (2C/6 A.W.G., E.G.C.)	1200	LIN. FT.
SP	ELECTRICAL CONDUCTORS FOR LUMINAIRES	630	LIN. FT.
710	NON-METALLIC CONDUIT (2")	2300	LIN. FT.
SP,SS,&711	CONCRETE PULL BOX (TYPE 2 HD)	19	EACH
SP	LED ROADWAY ILLUMINATION POLE (18,700 LUMENS, DECORATIVE, T-BASE, 30')	14	EACH
SP	PEDESTAL TYPE SERVICE POINT ASSEMBLY (100 AMP)	1	EACH

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21040
JAMES K. SCHMITT
Digitally Signed 06/10/2024

WBCalloway 6/10/2024 7:36:11 AM
WORKSPACE: AHTD
L:\20IT\170I7654 - ARDOT 080634 Hwy64-Hogan Ln\Drawings\r080634_EL_01.dgn
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	40	80
		LIGHTING INSTALLATION PLAN				



STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21040
JAMES K. SCHMITT
Digitally Signed 06/10/2024

GENERAL NOTES

1. COORDINATE WITH CONWAY CORPORTATION ON SERVICE CONNECTION FOR NEW LIGHT FIXTURES.
2. LIGHTING IS DESIGNED AROUND STERNBERG MODEL #1970LED. APPROVED EQUALS ARE ALLOWED, BUT SHALL BE REQUIRED TO MEET LIGHTING CHARACTERISTICS DETAILED IN ROADWAY ILLUMINATION POLES SP.
3. FIXTURE SHALL BE MOUNTED ON 30' STEEL POLE WITH VIBRATION DAMPENER INSTALLED INTEGRAL TO THE POLE.
4. COORDINATE ALL ELECTRICAL WORK WITH THE ROADWAY LAYOUT. CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF CONDUIT WITH ROADWAY PLANS.
5. EXPOSED CONDUIT SHALL BE GALVANIZED RIGID STEEL. CONDUIT UNDERGROUND IN SOIL SHALL BE SCHEDULE 40 PVC. CONDUIT UNDER ROADWAY SURFACE SHALL BE SCHEDULE 80 PVC.
6. LABEL CABLES IN ALL PULL BOXES. (TYPICAL)
7. REFER TO VOLTAGE DROP TABLES FOR CONDUIT AND CONDUCTOR INFORMATION BETWEEN LIGHT POLES.
8. LIGHT FIXTURE AND POLE COLORS SHALL BE COORDINATED AND SELECTED BY THE CITY OF CONWAY AND ENGINEER DURING SHOP DRAWING REVIEW. ALL FIXTURES SHALL BE WET LOCATION RATED.
9. ALL CONDUIT RUNS SHALL BE (1) 2" CONDUIT, UNLESS OTHERWISE NOTED.
10. ALL PULLBOXES FOR LIGHT POLES SHALL BE INSTALLED BEHIND THE LIGHT POLE, UNLESS THE BOXES SHALL CONFLICT WITH THE DRAINAGE STRUCTURES. IF THESE ITEMS WILL CONFLICT, CONTRACTOR MAY LOCATE PULLBOX IN FRONT OF THE LIGHT POLE, WITH ENGINEER'S APPROVAL.

KEYED NOTE

(1) APPROXIMATE SERVICE POINT LOCATION, COORDINATE WITH CONWAY CORPORTATION TO DETERMINE FINAL PLACEMENT.

POLE SCHEDULE							
POLE NO.	LIGHT FIXTUE	PULL BOX AT BASE	HEIGHT	ALIGNMENT	STATION	OFFSET	ORIENTATION ANGLE (PLAN NORTH=0°, ROTATION CCW)
L1	1 X A	YES	30'	HWY. 64 (WEST)	13+43	18.7' RT.	358°
L2	1 X A	YES	30'	HWY. 64 (WEST)	15+11	28.2' LT.	174°
L3	1 X A	YES	30'	HWY. 64 (WEST)	16+09	39.8' RT.	4°
L4	1 X A	YES	30'	HWY. 64 (WEST)	17+57	43.6' RT.	322°
L5	1 X A	YES	30'	HWY. 64 (WEST)	17+90	54.9' LT.	217°
L6	1 X A	YES	30'	HWY. 64 (EAST)	19+61	85.0' LT.	154°
L7	1 X A	YES	30'	HOGAN LN.	54+25	43.5' LT.	274°
L8	1 X A	YES	30'	HOGAN LN.	53+22	23.6' RT.	82°
L9	1 X A	YES	30'	HWY. 64 (EAST)	19+58	81.8' RT.	52°
L10	1 X A	YES	30'	HWY. 64 (EAST)	20+45	29.1' LT.	175°
L11	1 X A	YES	30'	HWY. 64 (EAST)	21+43	27.9' RT.	7°
L12	1 X A	YES	30'	HWY. 64 (EAST)	22+67	29.6' LT.	182°
L13	1 X A	YES	30'	HWY. 64 (EAST)	23+87	24.4' RT.	0°
L14	1 X A	YES	30'	HWY. 64 (EAST)	24+95	25.1' LT.	180°
SP-1	N/A	N/A	N/A	HWY. 64 (EAST)	17+76	64.6' RT.	310°

FIXTURE SCHEDULE						
TYPE	DESCRIPTION	DISTRIBUTION	LAMPS		VOLTAGE	REMARKS
		LUMEN OUTPUT (MINIMUM)	WATTS	TYPE		
A	FIXT STERN I-GLI970-S-BFS-40L40T2 -MDL0I2SA-R7-PE-HSHB OLD UBK	TYPE 2 18,700 LUMENS	158W	LED	I20V	1,2,3,4

FIXTURE SCHEDULE NOTES:

1. PROVIDE FIXTURES LISTED AND LABELED FOR WET LOCATION.
2. PROVIDE FIXTURE WITH A 7-PIN RECEPTACLE FOR FUTURE CONTROLS.
3. PROVIDE FIXTURE WITH 4000K COLOR TEMPERATURE.
4. PROVIDE FIXTURE WITH A BUG RATING OF U0.

ILLUMINATION DESIGN CRITERIA TABLE		
DESCRIPTION	AVG	AVG/MIN
ROUNDABOUTS AND APPROACHES	1.1 fc	4.0:1

CALCULATED STATISTICS (BASED ON 0.77 LLF)		
DESCRIPTION	AVG	AVG/MIN
ROUNDABOUTS AND APPROACHES	1.6 fc	4.0:1

LIGHTING CALCULATIONS NOTES:

1. LIGHTING CALCULATIONS WERE PERFORMED USING AGI32 VERSION 19.10 SOFTWARE.
2. LIGHTING LEVELS ARE IN FOOTCANDLE UNITS (fc).
3. DESIGN BASIS IS THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA, IESNA LIGHTING HANDBOOK, 10TH EDITION, IES RP-8-18, IES DG-19-08, AND AASHTO ROADWAY LIGHTING DESIGN GUIDE (OCT 2018).

N

1"=100'

LIGHTING INSTALLATION PLAN

WBCallaway 6/10/2024 7:36:12 AM
WORKSPACE: AHTD
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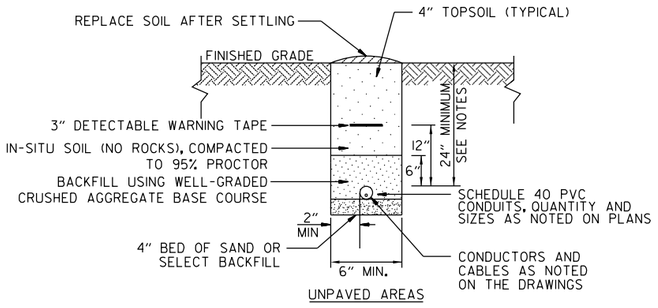
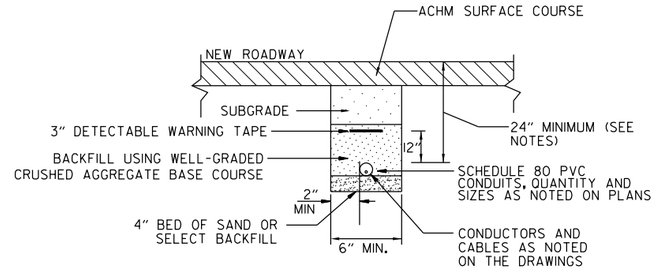
REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	43	80
		ELECTRICAL DETAILS III				



UNPAVED AREAS



PAVED AREAS

ELECTRICAL DUCT NOTES:

1. CONTRACTOR SHALL STAKE THE DUCT INSTALLATION IN PLAN AND ELEVATION FOR NEW ELECTRICAL DUCTS TO AVOID EXISTING UTILITIES. STAKING PLAN SHALL BE APPROVED BY OWNER AND ENGINEER PRIOR TO WORK.
2. CONTRACTOR SHALL ADJUST THE DEPTH OF THE ELECTRICAL DUCTS AS REQUIRED TO MAINTAIN THE MINIMUM COVER REQUIREMENT INDICATED AND AVOID EXISTING AND NEW UTILITIES.
3. SIMILAR CONSTRUCTION FOR OTHER DUCT SIZES.
4. INSTALL DUCT CONDUIT SUPPORTS AT 5'-0" O.C. MAXIMUM SPACING. UTILIZE LOCKING COLLARS OR HOLD DOWN BARS WITH ANCHORS TO PREVENT DUCT FLOTATION. (TYPICAL ALL DUCTS).
5. NO PVC SHALL EMERGE FROM THE GROUND OR CONCRETE SLAB OR ENCASEMENT.
6. INSTALL CONDUCTORS AND CABLES AS NOTED ON DRAWING. INSTALL PULLWIRE IN ALL SPARE DUCTS/CONDUITS.
7. MINIMUM COVER REQUIREMENT FOR DUCT BANKS UNDER ROADS, DRIVEWAYS AND PARKING LOTS SHALL BE 24".
8. VERTICAL AND HORIZONTAL DISTANCES BETWEEN CONDUITS SHALL BE 3" MINIMUM FOR DUCTS CONTAINING CIRCUITS OVER 600 VOLTS.
9. END BELLS OR COUPLINGS WITH REMOVABLE FACTORY PLUGS SHALL BE INSTALLED FLUSH WITH THE CONCRETE ENCASEMENT AT ACCESS POINTS.
10. ROCK REMOVAL SHALL BE CONSIDERED SUBSIDIARY TO DUCT INSTALLATION.

A NON-ENCASED ELECTRICAL DUCT BANK DETAILS
SCALE: N.T.S.

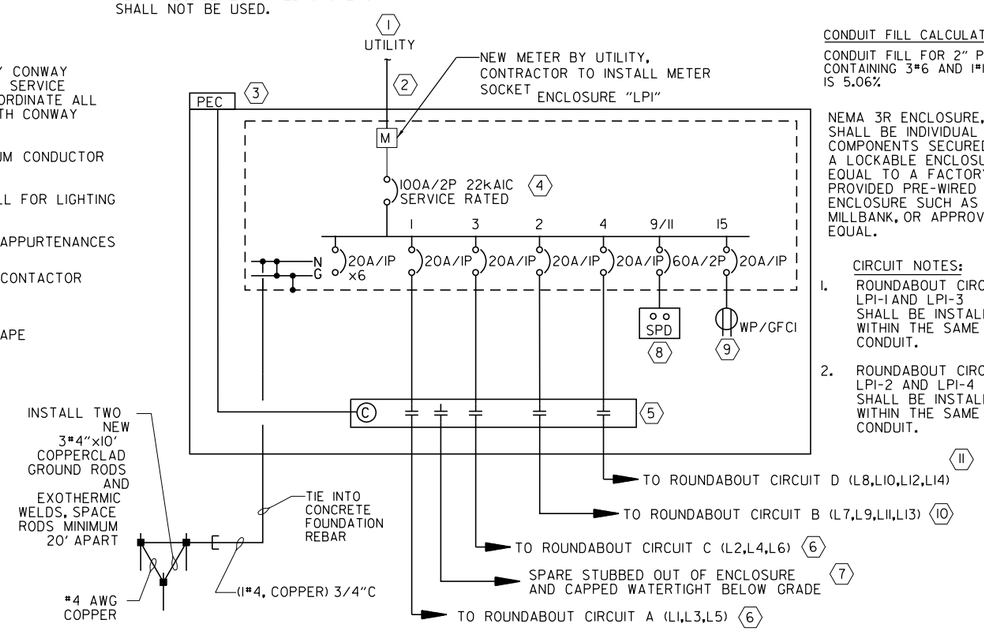
GENERAL NOTES

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE NFPA 70 (2023) NATIONAL ELECTRICAL CODE, NFPA 101 (2021) LIFE SAFETY CODE, STATE ELECTRICAL CODE, AND LOCAL ELECTRICAL CODE.
2. COORDINATE ELECTRICAL POWER SUPPLY WITH EQUIPMENT SUPPLIED.
3. COORDINATE ALL ELECTRICAL WORK AND POWER OUTAGES WITH CITY AND POWER UTILITY.
4. SERVICE WIRING SHALL BE MINIMUM TYPE THHN/THWN-2.
5. FEEDER AND BRANCH WIRING SHALL BE MINIMUM TYPE THHN/THWN-2.
6. EQUIPMENT SHORT CIRCUIT CURRENT RATINGS AND AVAILABLE INTERRUPTING CURRENT RATINGS SHALL BE FULLY RATED TO INTERRUPT SYMMETRICAL SHORT CIRCUIT CURRENT AVAILABLE AT TERMINALS. SERIES RATED SYSTEMS SHALL NOT BE USED.
7. NEUTRAL BUSES SHALL BE COPPER 100% RATED UNLESS OTHERWISE NOTED.
8. GROUND BUSES SHALL BE COPPER UNLESS OTHERWISE NOTED.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDER AND BRANCH CIRCUITS.
10. INSTALL ALL CONDUCTORS AND CABLES IN CONDUIT UNLESS OTHERWISE NOTED.
11. INSTALL LUGS AND JUNCTION BOXES AS REQUIRED TO FIT WIRING.
12. INSTALL NEW TYPED PANEL SCHEDULES IN ALL ELECTRICAL PANELS INDICATING WORK PERFORMED.
13. THE POWER UTILITY POINT OF CONTACT IS DALE GOTTSPONER, CONWAY CORPORATION, PHONE NUMBER 501-450-6049.
14. CONDUIT FILL IS PER NEC 2023 CHAPTER 9 CALCULATIONS AND TABLES.

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21040
JAMES K. SCHMIDT
Digitally Signed 06/10/2024

KEYED NOTES:

1. UTILITY TRANSFORMER BY CONWAY CORPORATION. SECONDARY SERVICE 240/120V, 1PHASE, 3W, COORDINATE ALL WORK AND EQUIPMENT WITH CONWAY CORPORATION
2. 3#2, 2"C, UTILIZE ALUMINUM CONDUCTOR FOR SERVICE
3. WEATHERPROOF PHOTOCELL FOR LIGHTING CONTROL
4. 100A PANEL BOARD AND APPURTENANCES WITH ENCLOSURE
5. TEN POLE 30A LIGHTING CONTACTOR
6. 2#10, 1#10 EGC, 2"C.
7. 2" CONDUIT WITH PULL TAPE
8. 3#6, 3/4"C.
9. 2#12, 1#12 EGC, 3/4"C.
10. 2#8, 1#8 EG, 2"C
11. 2#6, 1#6 EGC, 2"C.



C PROPOSED ONE LINE DIAGRAM FOR ROUNDABOUT LIGHTING
SCALE: N.T.S.

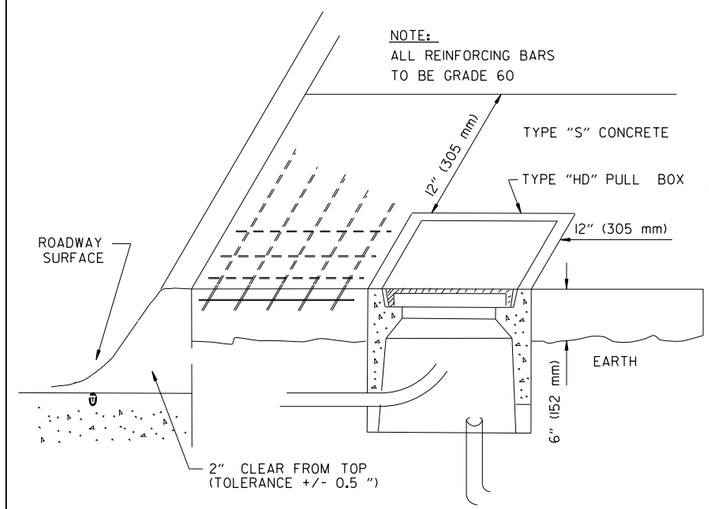
CONDUIT FILL CALCULATIONS:

CONDUIT FILL FOR 2" PVC CONTAINING 3#6 AND 1#10 EGC IS 5.06%

NEMA 3R ENCLOSURE, SHALL BE INDIVIDUAL COMPONENTS SECURED IN A LOCKABLE ENCLOSURE EQUAL TO A FACTORY PROVIDED PRE-WIRED ENCLOSURE SUCH AS MILLBANK, OR APPROVED EQUAL.

CIRCUIT NOTES:

1. ROUNDABOUT CIRCUIT LPI-1 AND LPI-3 SHALL BE INSTALLED WITHIN THE SAME 2" CONDUIT.
2. ROUNDABOUT CIRCUIT LPI-2 AND LPI-4 SHALL BE INSTALLED WITHIN THE SAME 2" CONDUIT.



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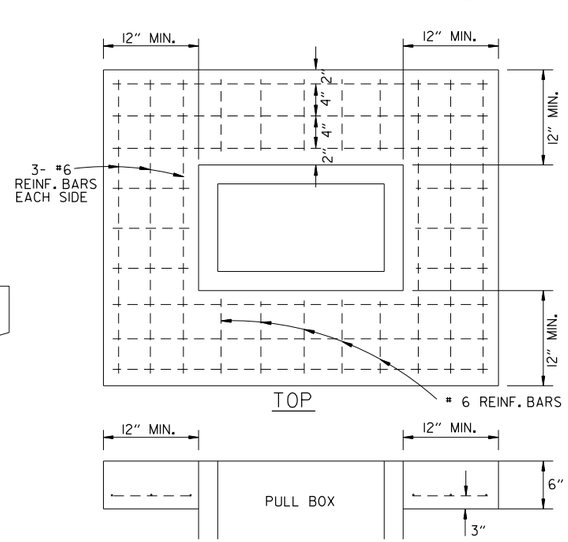

ELEVATION

B TYPE "HD" CONCRETE PULL BOX DETAIL
SCALE: N.T.S.

NOTES:

1. ALL TYPE HD PULL BOXES ARE INSTALLED WITH AN APRON OF CONCRETE 12" (305 MM) WIDE AND 6" (152 MM) IN DEPTH. ALL PAYMENT SHALL BE INCLUDED IN THE PRICE OF THE TYPE HD PULL BOX. PULL BOX SHALL BE INSTALLED FLUSH TO SURROUNDING GRADE UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER. THE CONCRETE SHALL BE CLASS "S." THREE #6 REINFORCING BARS IN THE APRON ON ALL SIDES OF THE PULL BOX ARE REQUIRED IN CONCRETE.
2. UL LISTED PULL BOX AND EXTRA HEAVY-DUTY COVER SHALL BE DESIGNED FOR A TEST LOAD OF 33,750 LBS AND A DESIGN LOAD OF 22,500 LBS.
3. PULL BOX INTERIOR DIMENSIONS SHALL BE 24"L x 18"W x 18"D (OPEN BOTTOM).
4. PROVIDE MINIMUM 3' SLACK CABLE LOOP FOR EACH CABLE.
5. COLOR CODE, TAG AND IDENTIFY ALL CABLES IN UL LISTED PULL BOX.
6. EXACT LOCATION OF EACH UL LISTED PULL BOX SHALL BE APPROVED BY THE OWNER AND ENGINEER.

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WORKSPACE: AHTD
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REVISED DATE:

DATE REVISED	DATE REVISED	FED. RD. DIST. NO.	STATE	JOB NO.	SHEET NO.	TOTAL SHEETS
6/10/2024		6	ARK.	080634	44	80
		ELECTRICAL DETAILS IV				

STATE OF ARKANSAS
LICENSED PROFESSIONAL ENGINEER
No.21640
JAMES K. SCHMITT
Digitally Signed 06/10/2024

PANEL NAME:	VOLTAGE	PHASE:	WIRE:	NEUTRAL RATING:	PANEL DESCRIPTION:
LP1	**120/240**	**1**	**3**	**100%**	**Lighting Panel**
MAINS:	MOUNTING:	MAX. NO. OF CIRCUITS:	MANUFACTURER:	PANEL A.I.C. RATING:	LOCATION:
100A MCB	**Surface**	**16**		**22,000**	**Exterior Pedestal**

NO	DESCRIPTION	BRANCH POLES	BRANCH BKR	WIRE (AWG)	VA L1	VA L2		Load Type	Load Type	VA L1	VA L2		WIRE (AWG)	BRANCH BKR	BRANCH POLES	DESCRIPTION	NO.
1	ROUNDABOUT CIRCUIT A (L1.L3,L5)	1	20	10	474			L	L	632			8	20	1	ROUNDABOUT CIRCUIT C (L2,L4,L6)	2
3	ROUNDABOUT CIRCUIT B (L7.L9,L11,L13)	1	20	10		474		L	L		632		6	20	1	ROUNDABOUT CIRCUIT D (L8,L10,L12,L14)	4
5	SPARE	1	20	-				-	-				-	20	1	SPARE	6
7	SPARE	1	20	-				-	-				-	20	1	SPARE	8
9	SPD	2	60	6				E	-				-	-	-	SPACE	10
11		-	-	6				E	-				-	-	-	SPACE	12
13	SPARE	1	20	-				-	-				-	-	-	SPACE	14
15	GFCI RECEPTACLE	1	20	12				R	-				-	-	-	SPACE	16

Description	Code	L1	L2		Total SUM	%
LIGHTING	L	1106	1106		2212	100
RECEPT	R	0	0		0	0
EQUIP.	E	0	0		0	0
OTHER		0	0		0	0
HVAC	H	0	0		0	0
CUSTOM	HC	0	0		0	0
ADDITIONAL		0	0		0	0
TOTAL		1106	1106		2212	
DEMAND		1106	1106		2212	100
%		50	50			

Design Load (kVA)
2.77
0.00
0.00
0.00
0.00
0.00
0.00
2.77

Spare 15%

Total Connected Load
9.2 Amps 2.21 kVA

Total Design Load *
13.6 Amps 3.25 kVA

* Total Design Load includes calculated Design Loads per NEC Demand Factors and the stated Spare Capacity.

VOLTAGE DROP CALCULATIONS

Panel ID	Location Description	# of Sets	Wire Size	One-Way Length (ft)	Line Current (Amps)	Voltage (Line-to-Line)	Phase	Power Factor (100% or 85%)	Wire Type	Conduit Type	Impedance (Ω/1000 ft)	Voltage Drop (Volts)	%VD
LP1-A	LP1-L4	1	10	55	3.96	120	1	85%	Copper	PVC	**1.1**	**0.47916**	**0.40%**
LP1-A	L4-L5	1	10	140	1.32	120	1	85%	Copper	PVC	**1.1**	**0.40656**	**0.34%**
LP1-A	L4-L3	1	10	175	2.64	119	1	85%	Copper	PVC	**1.1**	**1.0164**	**0.85%**
LP1-A	L3-L1	1	10	300	1.32	118	1	85%	Copper	PVC	**1.1**	**0.8712**	**0.74%**
												Total %VD	***2.33%***

Project: 17017654

VOLTAGE DROP CALCULATIONS

Panel ID	Location Description	# of Sets	Wire Size	One-Way Length (ft)	Line Current (Amps)	Voltage (Line-to-Line)	Phase	Power Factor (100% or 85%)	Wire Type	Conduit Type	Impedance (Ω/1000 ft)	Voltage Drop (Volts)	%VD
LP1-C	LP1-L4	1	10	55	3.96	120	1	85%	Copper	PVC	**1.1**	**0.47916**	**0.40%**
LP1-C	L4-L6	1	10	260	1.32	120	1	85%	Copper	PVC	**1.1**	**0.75504**	**0.63%**
LP1-C	L4-L2	1	10	340	1.32	119	1	85%	Copper	PVC	**1.1**	**0.98736**	**0.83%**
												Total %VD	***1.86%***

Project: 17017654

VOLTAGE DROP CALCULATIONS

Panel ID	Location Description	# of Sets	Wire Size	One-Way Length (ft)	Line Current (Amps)	Voltage (Line-to-Line)	Phase	Power Factor (100% or 85%)	Wire Type	Conduit Type	Impedance (Ω/1000 ft)	Voltage Drop (Volts)	%VD
LP1-B	LP1-L7	1	8	110	5.28	120	1	85%	Copper	PVC	**0.69**	**0.801504**	**0.67%**
LP1-B	L7-L9	1	8	190	3.96	119	1	85%	Copper	PVC	**0.69**	**1.038312**	**0.87%**
LP1-B	L9-L11	1	8	225	2.64	118	1	85%	Copper	PVC	**0.69**	**0.81972**	**0.69%**
LP1-B	L11-L13	1	8	270	1.32	117	1	85%	Copper	PVC	**0.69**	**0.491832**	**0.42%**
												Total %VD	***2.65%***

Project: 17017654

VOLTAGE DROP CALCULATIONS

Panel ID	Location Description	# of Sets	Wire Size	One-Way Length (ft)	Line Current (Amps)	Voltage (Line-to-Line)	Phase	Power Factor (100% or 85%)	Wire Type	Conduit Type	Impedance (Ω/1000 ft)	Voltage Drop (Volts)	%VD
LP1-D	LP1-PB	1	6	155	5.28	120	1	85%	Copper	PVC	**0.44**	**0.720192**	**0.60%**
LP1-D	PB-L8	1	6	115	1.32	119	1	85%	Copper	PVC	**0.44**	**0.133584**	**0.11%**
LP1-D	PB-PB	1	6	285	3.96	119	1	85%	Copper	PVC	**0.44**	**0.993168**	**0.83%**
LP1-D	PB-L10	1	6	50	1.32	118	1	85%	Copper	PVC	**0.44**	**0.05808**	**0.05%**
LP1-D	PB-L12	1	6	230	2.64	118	1	85%	Copper	PVC	**0.44**	**0.534336**	**0.45%**
LP1-D	L12-L14	1	6	260	1.32	118	1	85%	Copper	PVC	**0.44**	**0.302016**	**0.26%**
												Total %VD	***2.30%***

Project: 17017654