

First Amendment to Construction Contract
(South Roundabout Project)

This First Amendment to Construction Contract (the "First Amendment") is made and entered into this ____ day of _____, 2025 (the "Effective Date"), by and between the Town of Erie, a Colorado home rule municipality with an address of 645 Holbrook Street, P.O. Box 750, Erie, CO 80516 (the "Town"), and Concrete Express, Inc. d/b/a CEI, an independent contractor with a principal place of business at 2027 West Colfax Avenue, Denver, CO 80204 ("Contractor") (each a "Party" and collectively the "Parties").

Whereas, on May 13, 2025, the Parties entered into a Construction Contract (the "Contract"); and

Whereas, the Parties wish to amend the Contract as set forth herein.

Now Therefore, for the consideration hereinafter set forth, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Scope of Work. The Work required of the Contractor as specified in Paragraph 2 Scope of Work of the Contract is hereby amended to include the addition of all labor, services, material, tools supplies, equipment and other work necessary for the completion of the work identified in the Final Lighting Package Plans dated October 8, 2025, attached hereto and incorporated herein.
2. Commencement and Completion of Work. Contractor shall commence the additional Work required of Contractor by this First Amendment that has not already commenced or been completed within 10 days of the Effective Date. Final Completion of the entirety of the additional Work required of Contractor by this First Amendment shall be accomplished by Contractor by June 30, 2026, unless the time within which Contractor is required to achieve Final Completion is subsequently extended in accordance with the Contract Documents.
3. Contract Price. Paragraph 5 of the Contract is hereby amended to increase the not to exceed Contract Price from \$5,038,526.75 to \$5,711,442.95, allocated as Follows:

Original Contract Price	\$5,038,526.75
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Final Lighting Package

\$ 672,916.20

4. Except as expressly modified herein, the Contract shall remain in full force and effect.

In Witness Whereof, the Parties have executed this First Amendment as of the Effective Date.

Town of Erie, Colorado

Andrew J. Moore, Mayor

Attest:

Debbie Stamp, Town Clerk

Contractor



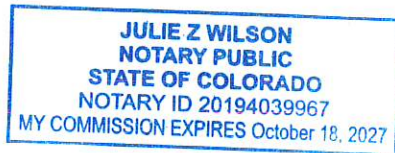
DEREK ROWLAND
PRESIDENT

State of Colorado)
) ss.
County of Denver)

The foregoing instrument was subscribed, sworn to and acknowledged before me
this 17th day of November, 2025, by Concrete Express, Inc. d/b/a CEI as
Derek Rowland, President of Concrete Express Inc.

My commission expires:

(Seal)


Notary Public

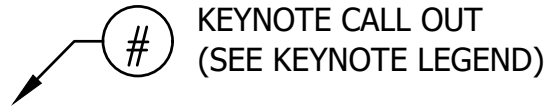
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LINETYPES

	EXISTING	PROPOSED
SANITARY SEWER		
STORM DRAIN		
WATER		
CURB AND GUTTER		
EDGE OF ASPHALT		
EDGE OF GRAVEL		
FENCE - BARBED WIRE		
FENCE - CHAINLINK/ WOVEN WIRE		
FENCE - VINYL		
FENCE - WOOD		
FIBER OPTIC		
GAS PIPELINE		
LIQUID PROPANE PIPELINE		
OIL PIPELINE		
UNDERGROUND POWER		
OVERHEAD POWER		
TELEPHONE		
TELEVISION/CABLE		
CONTOUR		
DEMO AREA		
PROPOSED ASPHALT		
PROPOSED CONCRETE		
PROPOSED GRAVEL		

ABBREVIATIONS

AC = FINISHED GRADE AT ASPHALT	PC = POINT OF CURVATURE
BC = FINISHED GRADE AT BUILDING CORNER	PI = POINT OF INTERSECTION
BRK = GRADE BREAK	POC = POINT ON CURVE
BFV = BUTTERFLY VALVE	PRC = POINT OF REVERSE CURVE
BVC = BEGIN VERTICAL CURVE	PT = POINT OF TANGENCY
CS = CURB STOP	PVI = POINT OF VERTICAL INTERSECTION
EA = FINISHED GRADE AT EDGE OF ASPHALT	RED = REDUCER
EC = FINISHED GRADE AT EDGE OF CONCRETE	RT = RIGHT
EVC = END VERTICAL CURVE	SD = STORM DRAIN
EW = FINISHED GRADE AT EDGE OF WALK	SDI = STORM DRAIN INLET
EX = APPROXIMATE EXISTING ELEVATION	SDMH = STORM DRAIN MANHOLE
FL = FINISHED GRADE AT FLOWLINE	SRVC = SERVICE
FT = FEET	SS = SANITARY SEWER
FG = FINISHED GRADE	SSMH = SANITARY SEWER MANHOLE
GR = EXISTING GRADE AT GROUND	TC = FINISHED GRADE AT TOP BACK OF CURB
GV = GATE VALVE	TW = FINISHED GRADE AT TOP OF WALL
HP = HIGH POINT	WTR = WATER
LF = LINEAL FOOT	(TYP.) = TYPICAL
LT = LEFT	



KEYNOTE CALL OUT
(SEE KEYNOTE LEGEND)

SYMBOLS

	EXISTING WATER REDUCER		WATER METER		TELEPHONE BOX		TRANSFORMER		IRRIGATION VALVE
	PROPOSED WATER REDUCER		YARD HYDRANT		TELEPHONE MANHOLE		POWER MANHOLE		BUSH
	EXISTING WATER VALVE		EXISTING SANITARY SEWER MANHOLE		TELEPHONE PEDESTAL		POWER METER		CONIFEROUS TREE
	PROPOSED WATER VALVE		PROPOSED SANITARY SEWER MANHOLE		COMMUNICATIONS MANHOLE		POWER POLE		DECIDUOUS TREE
	EXISTING FIRE HYDRANT		PROPOSED SANITARY SEWER CLEAN OUT		COMMUNICATIONS PEDESTAL		GUYWIRE		SIGNAL POLE
	PROPOSED FIRE HYDRANT		EXISTING STORM DRAIN MANHOLE		GAS MANHOLE		GAS MANHOLE		FOUND CORNER MONUMENT AS NOTED
	EXISTING CURB STOP		PROPOSED STORM DRAIN MANHOLE		GAS METER		GAS WELL		SET CORNER MONUMENT, REBAR WITH CAP
	PROPOSED CURB STOP		PROPOSED CATCH BASIN		GAS VALVE		BENCHMARK		BENCHMARK
	FIRE DEPT. CONNECTION		PROPOSED ROOF DRAIN		ELECTRIC JUNCTION BOX		BENCHMARK		SECTION QUARTER CORNER
	WELL		PROPOSED STORM DRAIN CLEAN OUT		ELECTRIC PEDESTAL		BENCHMARK		SECTION CORNER
	EXISTING WATER MANHOLE						BENCHMARK		

NOTE:

-EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES SHOWN ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. SERVICE LINES (WATER, POWER, GAS, STORM, SEWER, TELEPHONE & TELEVISION) MAY NOT BE STRAIGHT LINES OR AS INDICATED ON THE PLANS. STATE LAW REQUIRES CONTRACTOR TO CALL ALL UTILITY COMPANIES BEFORE EXCAVATION FOR EXACT LOCATIONS.

-UNLESS OTHERWISE SPECIFIED, ALL CONSTRUCTION LAYOUT AND STAKING SHALL BE PERFORMED UNDER THE RESPONSIBLE CHARGE OF A LAND SURVEYOR LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND BY A PARTY CHIEF OR ENGINEERING TECHNICIAN EXPERIENCED IN CONSTRUCTION LAYOUT AND STAKING TECHNIQUES AS ARE REQUIRED BY THE SPECIFIC TYPE OF WORK BEING PERFORMED.

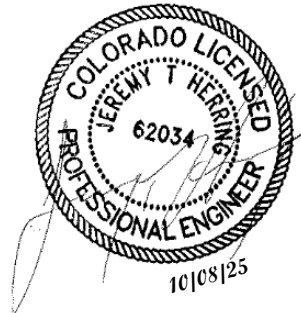
PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

LEGEND & ABBREVIATIONS






DRAWING HISTORY	DESCRIPTION
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9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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FILE:	22128_LIGHTING_COVER.DWG
PROJECT NO:	22128
CAD:	KK/UM
QUALITY ASSURANCE:	JH

E1.2



POLE NO.	TYPE	LINE	TYPE POLE BASE	FOUNDATION DIA. X DEPTH	LUMINAIRE MAST ARM	LUMINAIRE HEIGHT	LUMINAIRE TYPE	LUMENS	B U G RATING	LIGHT DISTRIBUTION	LIGHT COLOR	POLE COLOR
L1	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L2	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L3	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L4	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L5	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L6	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L7	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L8	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L9	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L10	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L11	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L12	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L13	ROADWAY	AUSTIN AVENUE	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L14	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L15	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L16	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L17	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L18	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L19	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L20	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L21	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L22	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L23	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L24	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L25	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK
L26	ROADWAY	COUNTY LINE ROAD	ANCHOR	2' 0" X 12' 0"	10'	35'	RFM-160W48LED3K-G2-R3M	16768	3-0-3	TYPE III	3000	BLACK

ESTIMATE OF QUANTITIES LIGHTING			
KEY	ITEM	QUANT	UNIT
	PULL BOX—COMPOSITE TYPE I	36	EACH
	SERVICE ASSEMBLY — TIE INTO EXISTING	1	LS
	ELECTRICAL METER	1	LS
	ROADWAY LUMINAIRE POLE — 35' MH	26	EACH
	RFM—160W48LED3K—G2—R3M	26	EACH
	2" CONDUIT PVC SCH 80	2850	LNFT
	3" CONDUIT PVC SCH 80	900	LNFT
	CONDUCTOR — COPPER AWG 8—600V	7600	LNFT
	CONDUCTOR — COPPER AWG 10—600V	3800	LNFT
	CONDUCTOR — COPPER 3 AWG 10—600V	1000	LNFT
	FOUNDATION — CONCRETE	36.5	CUYD

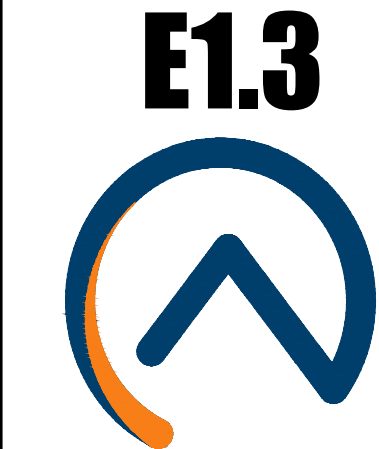
PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

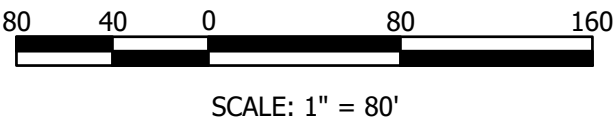
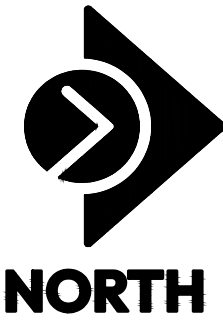
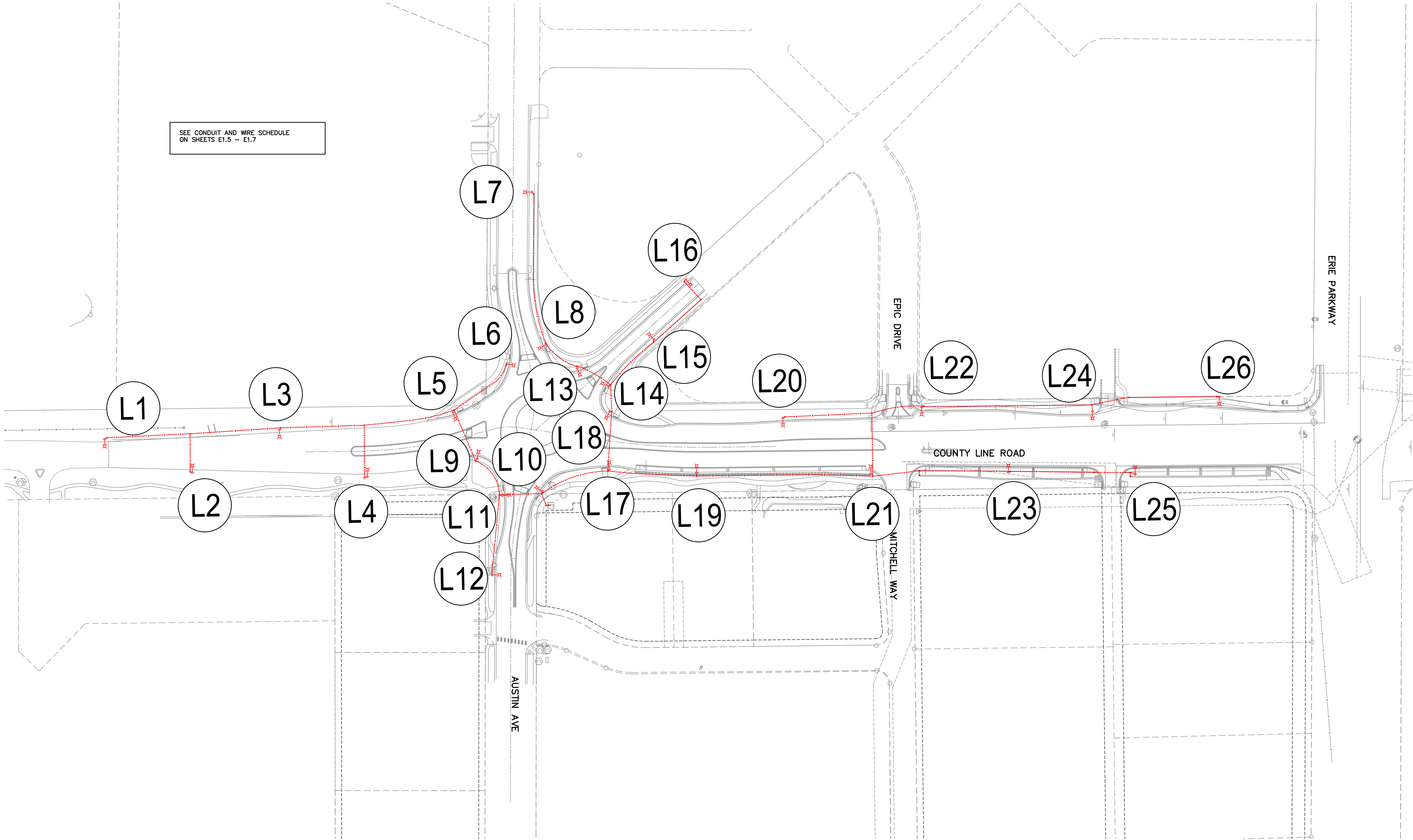
QUANTITIES & SUMMARY TABLE



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DATE	DESCRIPTION
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9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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PROJECT NO: 21128	
CAD: KKL/M	
QUALITY ASSURANCE: JH	



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SCALE SHOWN IS ACCURATE WHEN
PRINTED ON 22X34 SHEET WITH 1:1
PLOT SCALE, DOUBLE SCALE ON
11X17 SHEET WITH 1:2 PLOT SCALE.

SCALE: 1" = 80'

PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

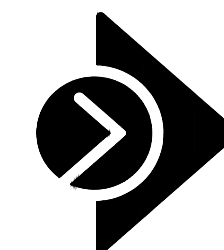

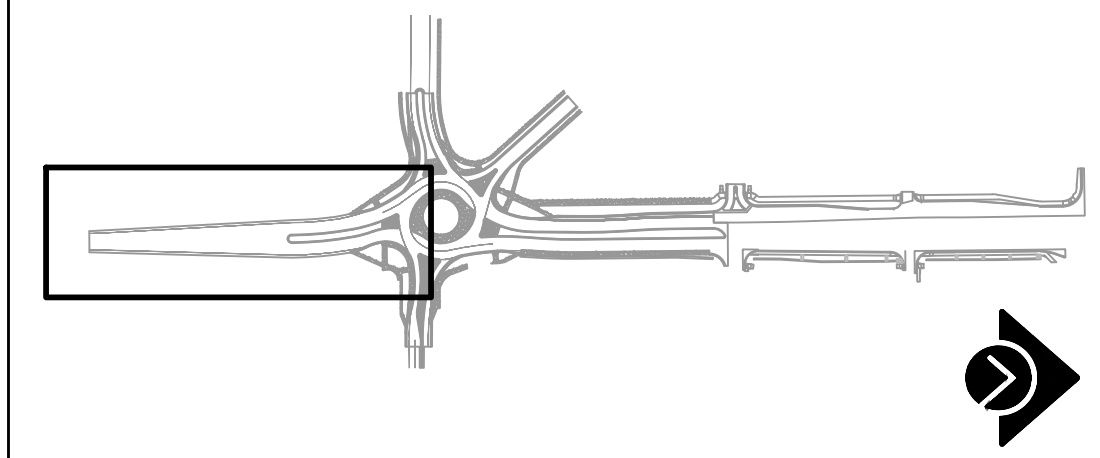
ERIE, COLORADO

ELECTRICAL SITE PLAN - OVERVIEW



DRAWING HISTORY	
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9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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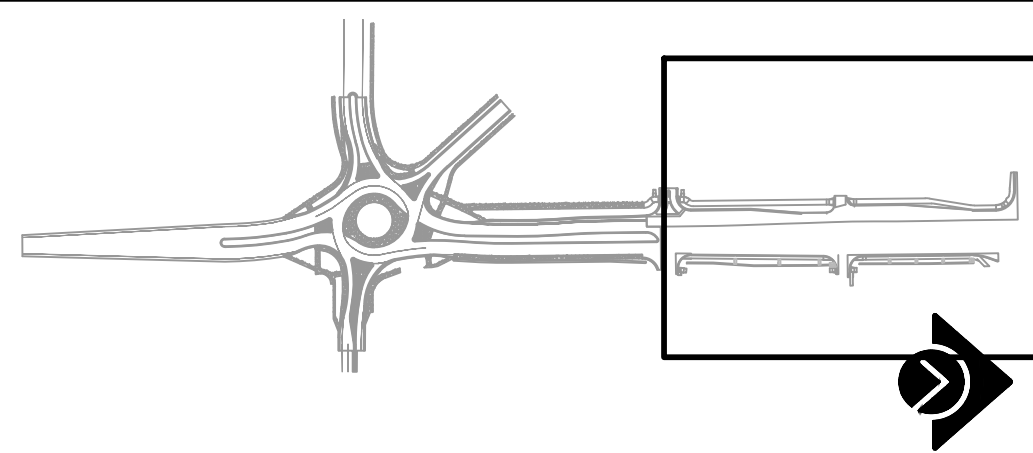
PRELIMINARY - FOR REVIEW

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY
ERIE, COLORADO
ELECTRICAL SITE PLAN - SOUTH








E1.5





PRELIMINARY - FOR REVIEW

[illegible]

CONDUIT & WIRE SCHEDULE	
	-INSTALL NEW 2 INCH SCH 80 PVC CONDUIT (TRENCH) -2 NEW OF AWG. NO. 8 CONDUCTOR (LIGHTING) -1 NEW OF AWG. NO. 10 CONDUCTOR (GROUND)
	-INSTALL NEW 3 INCH SCH 80 PVC CONDUIT (TRENCH) -2 NEW OF AWG. NO. 8 CONDUCTOR (LIGHTING) -1 NEW OF AWG. NO. 10 CONDUCTOR (GROUND)
	-INSTALL NEW 2 INCH SCH 80 PVC CONDUIT (TRENCH) -2 NEW OF AWG. NO. 8 CONDUCTOR (LIGHTING) -1 NEW OF AWG. NO. 10 CONDUCTOR (GROUND) -1 NEW OF 3 AWG. NO. 10 (IRRIGATION)
	-INSTALL NEW 3 INCH SCH 80 PVC CONDUIT (BORE) -2 NEW OF AWG. NO. 8 CONDUCTOR (LIGHTING) -1 NEW OF AWG. NO. 10 CONDUCTOR (GROUND) -1 NEW OF 3 AWG. NO. 10 (IRRIGATION)
	-INSTALL NEW 2 INCH SCH 80 PVC CONDUIT (TRENCH) -1 NEW OF 3 AWG. NO. 10 (IRRIGATION)

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL SITE PLAN - NORTH



DRAWING HISTORY

DATE	DESCRIPTION
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6/12/25 PRELIMINARY - FOR REVIEW

9/22/25
PRELIMINARY - FOR REVIEW

10/8/25 PRELIMINARY - FOR REVIEW

[illegible]

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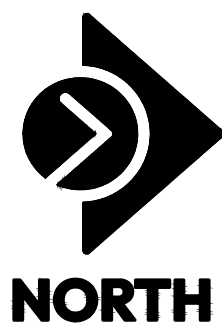
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PROJECT NO:

22128

CAD:

HC

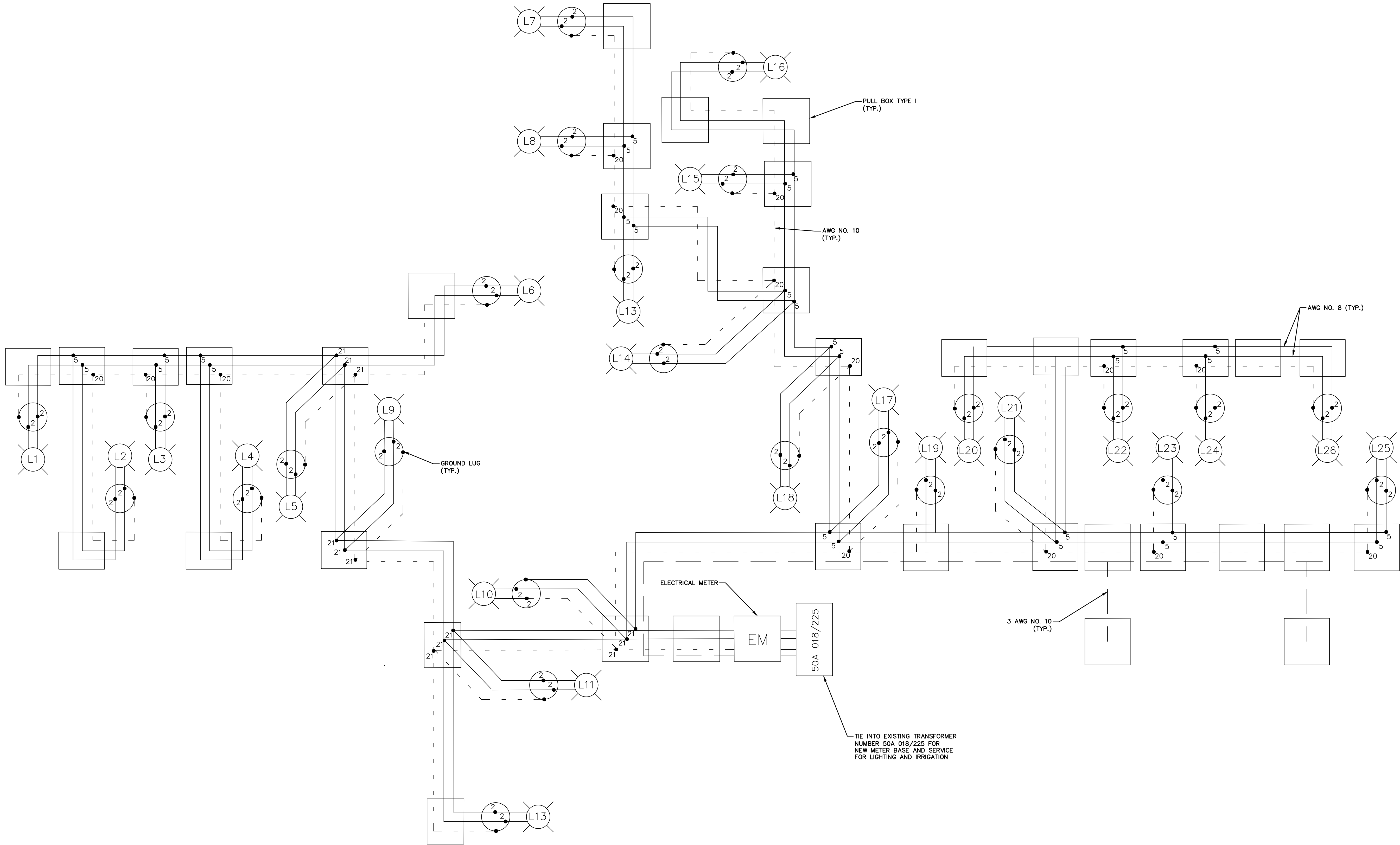


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PLOT SCALE. DOUBLE SCALE ON
11X17 SHEET WITH 1:2 PLOT SCALE.



SCALE: 1" = 30'

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PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL DETAILS



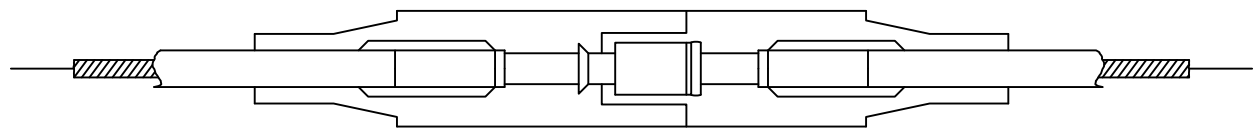
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DESCRIPTION	PRELIMINARY - FOR REVIEW
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PROJECT NO:	22128
CAD:	KK/UM
QUALITY ASSURANCE:	JH



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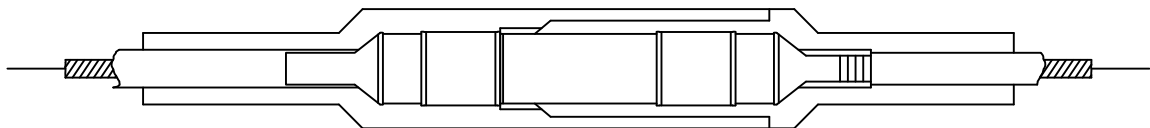
WATERTIGHT CONNECTORS

TYPES 1, 6, 11 & 16

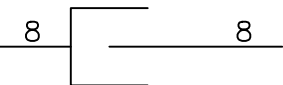


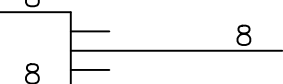
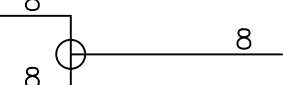
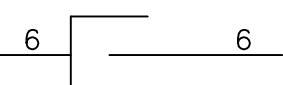


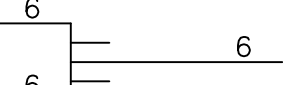
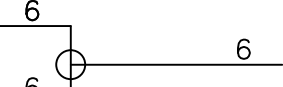
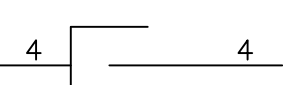

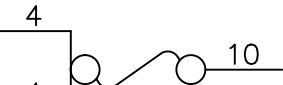
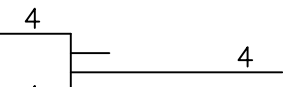
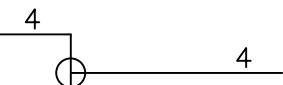
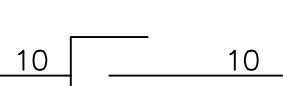

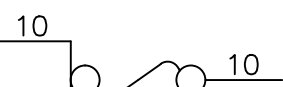
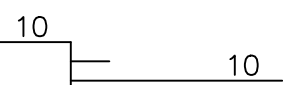




NON-FUSED BREAKAWAY

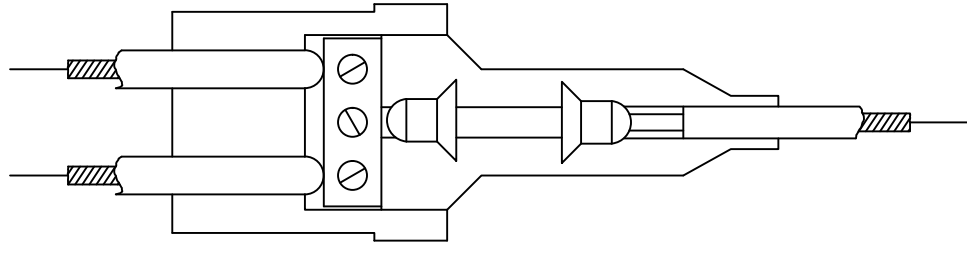
TYPES 2, 7, 12 & 17



FUSED BREAKAWAY

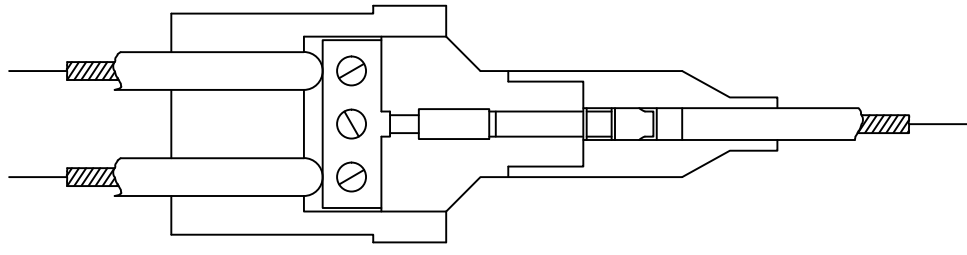
IDENTITY NO.	DESCRIPTIVE SYMBOL & WIRE SIZES
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21	

TYPES 3, 8, 13 & 18



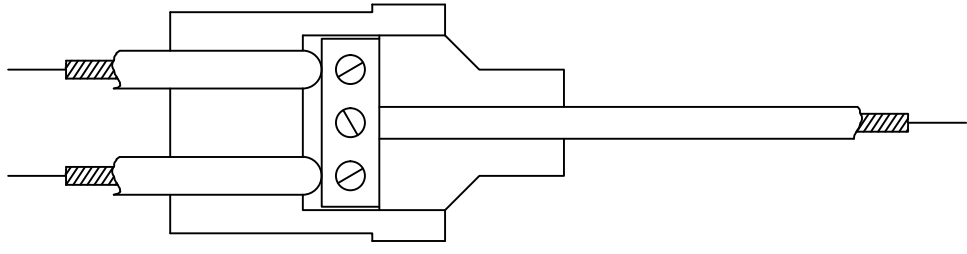
FUSED BREAKAWAY

TYPES 4, 9, 14 & 19



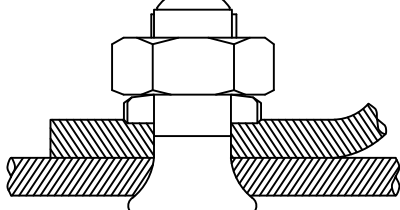
NON-FUSED BREAKAWAY

TYPES 5, 10, 15 & 20



NON-FUSED NON-BREAKAWAY

TYPE 21



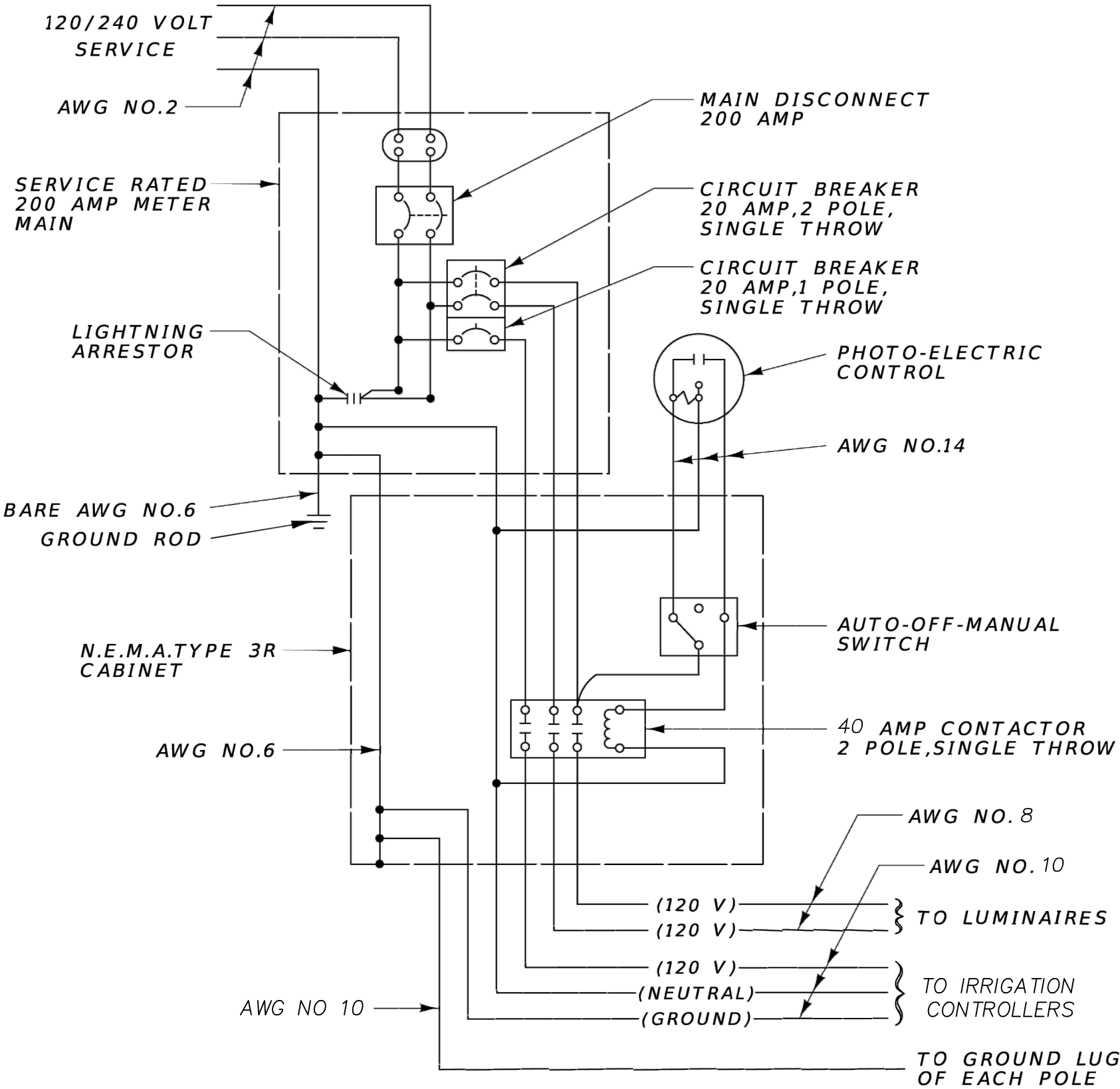
COPPER SPLIT BOLT –
MAKE WATERTIGHT USING
SELF ADHERING MASTIC

PROVIDE A PLUG AND RECEPTACLE HOUSED IN WATER-RESISTANT, SYNTHETIC RUBBER CAPABLE OF BURIAL IN THE GROUND OR INSTALLATION IN SUNLIGHT. THE HOUSING, CONSISTING OF 2 SECTIONS, PROVIDES A WATERTIGHT SEAL AROUND THE CABLE AND A WATERTIGHT SEAL BETWEEN THE TWO SECTIONS AT THE POINT OF DISCONNECTION. SUPPLY EACH KIT WITH SUFFICIENT SILICONE COMPOUND TO LUBRICATE METAL PARTS AND THE RUBBER HOUSINGS FOR EASY ASSEMBLY.

WHERE INDICATED, CRIMP A COPPER PIN AND A COPPER RECEPTACLE TO THE CABLE. THE RECEPTACLE IS TO ESTABLISH CONTACT PRESSURE WITH THE PIN THROUGH THE USE OF A COPPER BERYLLIUM SPRING AND BE EQUIPPED WITH A DISPOSABLE MOUNTING PIN. THE PIN IS TO BE CONSTRUCTED OF AT LEAST HALF-HARD MATERIAL. THE CRIMPING PORTION IS TO BE FULLY ANNEALED WHILE THE REST OF THE PIN IS MAINTAINED IN ITS ORIGINAL STATE OF HARDNESS. THE RECEPTACLE IS TO BE FULLY ANNEALED. THE PIN AND RECEPTACLE ARE TO LOCK TOGETHER SO THE CONNECTION IS MAINTAINED WHEN A MINIMUM FORCE OF 20 POUNDS TENSION IS APPLIED TO THE ATTACHED CABLES.

PROVIDE FUSED CONNECTOR KITS CONTAINING A PAIR OF SPRING LOADED 90% CONDUCTIVITY CONTACTS FOR GRIPPING A STANDARD MIDGET FERRULE TYPE FUSE. THE CONTACTS MUST BE FULLY ANNEALED AND ADAPTED TO BE CRIMPED TO THE CABLE.

WATERTIGHT CONNECTORS
NO SCALE



S-1
LUMINAIRE SERVICE WIRING DIAGRAM
NOT TO SCALE

PRELIMINARY - FOR REVIEW

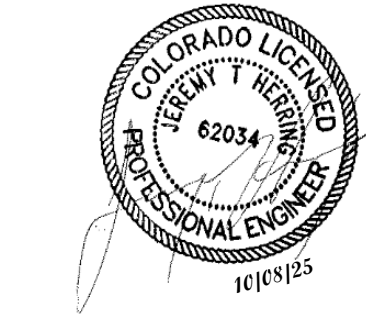
TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL DETAILS



DRAWING HISTORY	DESCRIPTION
DATE	PRELIMINARY - FOR REVIEW
6/12/25	PRELIMINARY - FOR REVIEW
9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
FILE:	2128 LIGHTING DETAILS.DWG
PROJECT NO:	2128
CAD:	KK/UM
QUALITY ASSURANCE:	JH



TOWN OF ERIE LIGHTING DESIGN

E1.10



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The Town of
ERIE
COLORADO



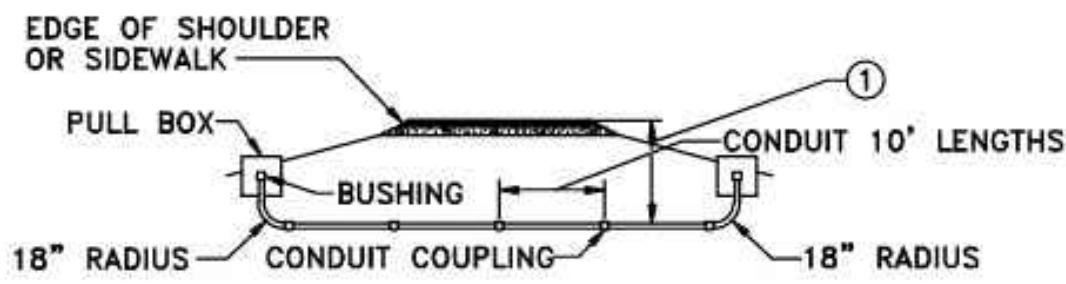
DRAWING TITLE: CONDUIT DETAILS

DRAWING NUMBER: TS-11

DRAWN BY: W.L.

APPROVED BY: G. BEHLEN

DATE: 1/2015



CONDUIT PLACEMENT UNDER PAVEMENT
OR SIDEWALK

NOTES

①	MINIMUM CONDUIT DEPTH:	UNDER PAVEMENT 30"	UNDER SIDEWALK 24"
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ALL PVC CONDUIT SHALL BE SCHEDULE 80

PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

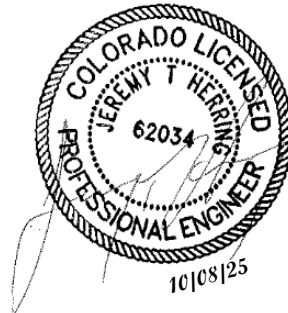
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL DETAILS



DRAWING HISTORY		FILE:	22128_LIGHTING_DETAILS.DWG
DATE	DESCRIPTION	PROJECT NO:	22128
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9/22/25	PRELIMINARY - FOR REVIEW	QUALITY ASSURANCE:	JH
10/8/25	PRELIMINARY - FOR REVIEW		
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TOWN OF ERIE LIGHTING DESIGN

ERIE, COLORADO

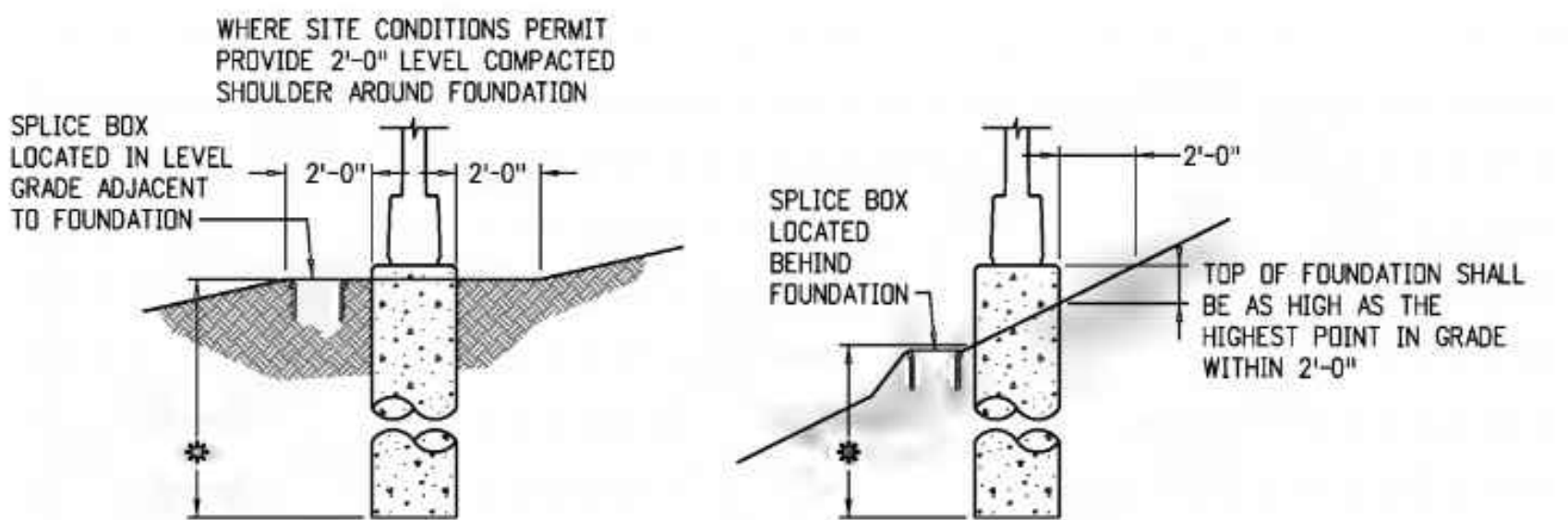


Sonobell
Intelligent Infrastructure. Enduring Communities.

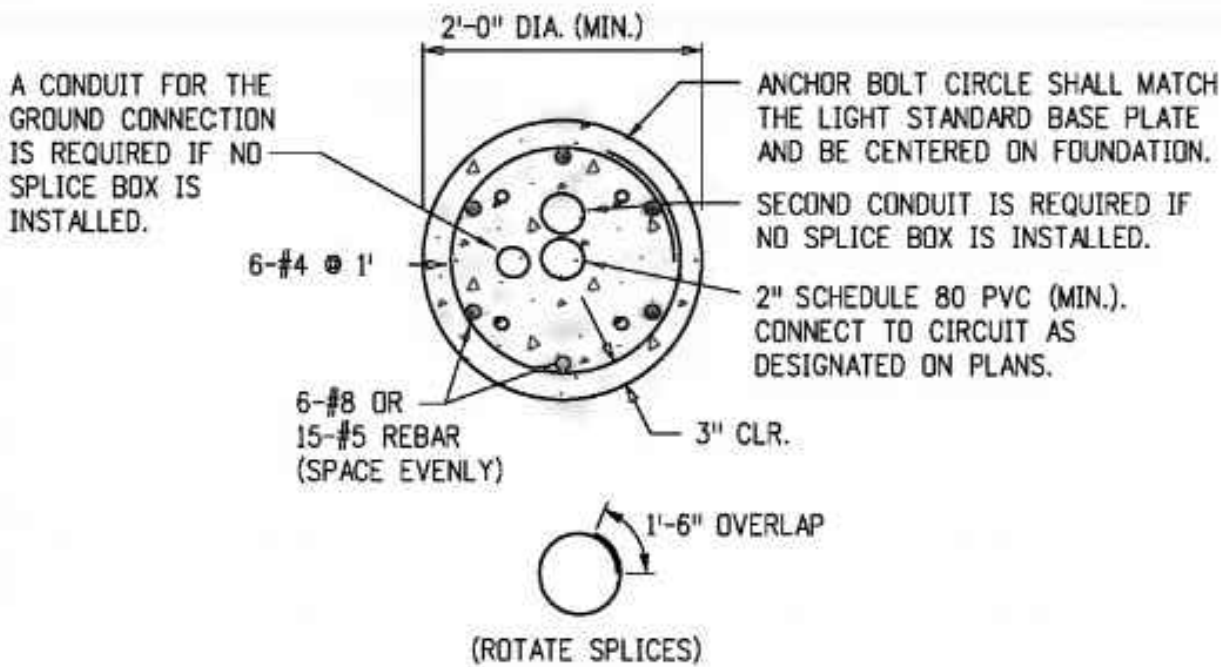
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QUALITY ASSURANCE:	
JH	



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FOUNDATION REQUIREMENTS FOR STEEP SLOPES



TYPICAL FOUNDATION SECTION

NOTES:

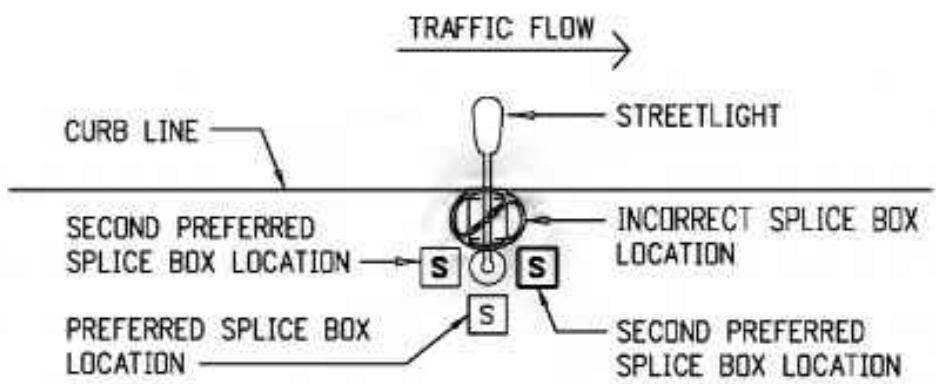
- DIMENSIONS FOR THE TRANSFORMER BASE, ANCHOR BASE AND ANCHOR BOLTS ARE VARIABLE FOR THE HEIGHT OF THE LIGHT STANDARD AND THE MAST ARM CONFIGURATION. ALL COMPONENTS SHALL FIT AND ACCOMMODATE THE REQUIREMENTS OF THE LIGHT STANDARD SUPPLIED.
- CONCRETE SHALL BE AIR ENTRAINED CLASS BZ AND SHALL CONFORM TO SECTION 601 FOR CONCRETE AND SECTION 602 FOR REINFORCING STEEL.
- WHERE LIGHT STANDARD FOUNDATION OCCUR IN HARDSCAPE AREAS, WHERE AN EXPOSED FOUNDATION COULD CREATE A TRIPPING HAZARD, THE TOP OF FOUNDATION SHALL BE FLUSH TO THE FINISHED SURFACE TO MEET A.D.A. REQUIREMENTS. WHERE EXPOSED LIGHT STANDARD FOUNDATION COMPLIES WITH A.D.A. REQUIREMENTS, FOUNDATION SHALL BE INSTALLED 2 INCHES ABOVE HARDSCAPE WITH CDDT APPROVAL.
- BOND (1) #4 STRANDED/INSULATED COPPER TO GROUND ROD IN PULL BOX / SPLICE BOX AND GROUNDING LUG IN POLE BASE HAND HOLE.
- PROVIDE 4-TERMINAL SUBMERSIBLE UNDERGROUND RATED LUG CONNECTIONS TO FIT #12 AWG - #350 AWG COPPER WIRE. ELECTRICAL SPLICES MAY BE MADE WITHIN THE POLE BASE OR TRANSFORMER BASE AT EACH REGION'S DISCRETION. SUBMERSIBLE UNDERGROUND RATED LUG CONNECTIONS ARE NOT REQUIRED WHEN SPLICES ARE MADE IN THE POLE.
- ALL PVC CONDUIT ENDS SHALL HAVE END BELLS OR MALE ADAPTOR, THREADED TERMINAL ENDS WITH SCREW ON BUSHING.
- FOUNDATION DIMENSIONS PER FOUNDATION SCHEDULE BELOW AND AS NOTED. LIGHT STANDARDS HIGHER THAN 50 FEET OR WITH BANNERS, PRECAST FOUNDATION, VARYING SOIL, OR WIND CONDITIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF COLORADO. FOR DESIGN WIND SPEEDS GREATER THAN V=155MPH ADD AN ADDITIONAL 1'-0" TO THE FOUNDATION DEPTH SHOWN IN THE FOUNDATION SCHEDULE BELOW.

FOUNDATION SCHEDULE

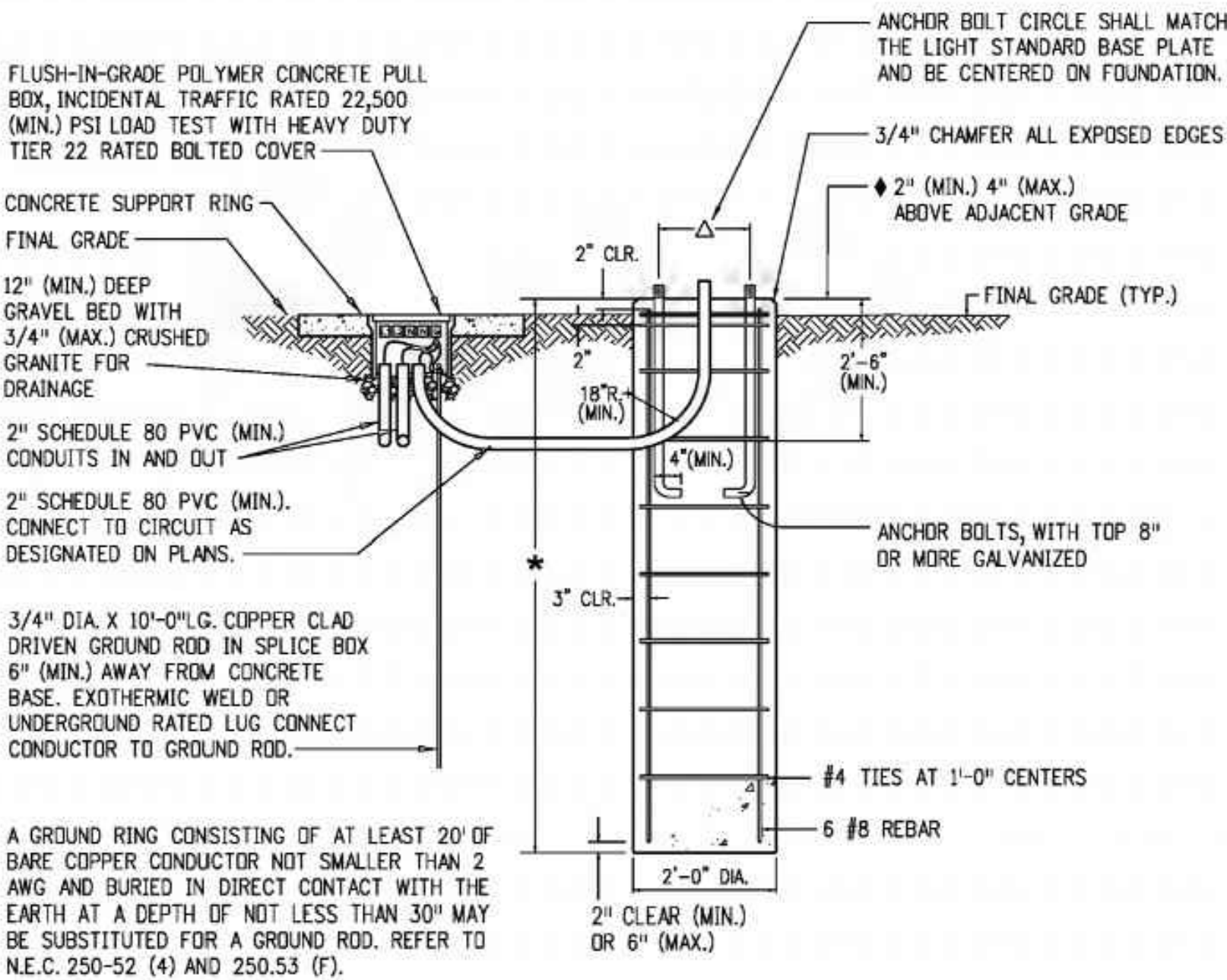
POLE HEIGHT	FOUNDATION DEPTH	FOUNDATION DIAMETER
< 20'	8'-0"	24"
20' - < 30'	9'-0"	24"
30' - 50'	12'-0"	24"
> 50'	P.S.E.	P.S.E.

P.S.E. (PER STRUCTURAL ENGINEER)
FOUNDATION DESIGN DATA:
BROWNS METHOD USING AASHTO LRFD LTS 1ST, 2015 WITH 2018 INTERIMS.

THE DESIGN ASSUMES FOLLOWING SOIL PARAMETERS:
SOIL DENSITY = 110 LB/CF
SOIL COHESION = 750 LB/SQFT FOR MEDIUM STIFF COHESIVE SOIL
SOIL ANGLE = 30° FOR MEDIUM DENSE COHESIONLESS SOIL
RESISTANCE FACTOR = 0.4 FOR FLEXURE.



TYPICAL STREET LIGHT SPLICE BOX PLACEMENT



TYPICAL CONCRETE LIGHT STANDARD FOUNDATION

LIGHT STANDARD FOUNDATION SHALL BE CAST-IN-PLACE CONCRETE. A COMPLETE FOUNDATION INCLUDES THE CLASS BZ CONCRETE, REINFORCING STEEL, PVC STUB OUT(S), GROUNDING ELECTRODE(S), ANCHOR BOLTS AND CONNECTOR BOLTS (FOR BREAKAWAY TYPE TRANSFORMER BASES).

Computer File Information			Sheet Revisions		Colorado Department of Transportation	ROADWAY LIGHTING	STANDARD PLAN NO.
Creation Date: 07/31/19			Date:	Comments			
Created By: Clanton			11/22/2019	FOUNDATION SOIL	 2829 W. Howard Pl. Denver, CO 80204 Phone: 303-757-9654 FAX: 303-757-9219	Issued By: Traffic & Safety Engineering Branch July 31, 2019	S-613-1 Sheet No. 3 of 6
Last Modification Date: 05/01/2020			05/01/2020	DETAIL UPDATES			
Last Modified By: CLANTON AND ASSOCIATES INC.					Traffic & Safety Engineering MKB	Project Sheet Number:	
CAD Ver.: MicroStation V8 Scale: Not to Scale Units:							

DRAWING HISTORY		DATE	DESCRIPTION
FILE:	2128 LIGHTING DETAILS.DWG		
PROJECT NO:		2128	
CAD:		KK/UM	
QUALITY ASSURANCE:		JH	

PRELIMINARY - FOR REVIEW

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Effective Date: July 31, 2022

TABLE OF RESPONSIBILITY

Drawing SC-70, 70A & 70B		
ITEM, MATERIAL OR WORK DESCRIPTION	PARTY TO FURNISH, OWN AND MAINTAIN	PARTY TO INSTALL
Permits and Inspections	Customer	N/A
Underground Service Lateral (Residential)	Company	Company
Underground Service Lateral (Commercial) (except WI and MI)	Customer	Customer
Service Entrance Conduit Under Hard Surface	Customer	Customer
Meter Pedestal	Customer	Customer
Meter Pedestal Mounting Base or Direct Burial Kit	Customer	Customer
Concrete Pad If Required	Customer	Customer
Line Side Conductor Terminations (except WI and MI)	Customer	Customer
Billing Meter	Company	Company
Load Side Conduit and Conductor	Customer	Customer
Ground Rod(s) – see definition	Customer	Customer

Point of Delivery:

Underground Service Residential (6 meters or fewer)

- At line side terminals of meter socket; or
- Line side of disconnect if main disconnect is used ahead of metering.

Underground Service Commercial – Point where the *Company's* facilities are first connected to the electric facilities of the customer.

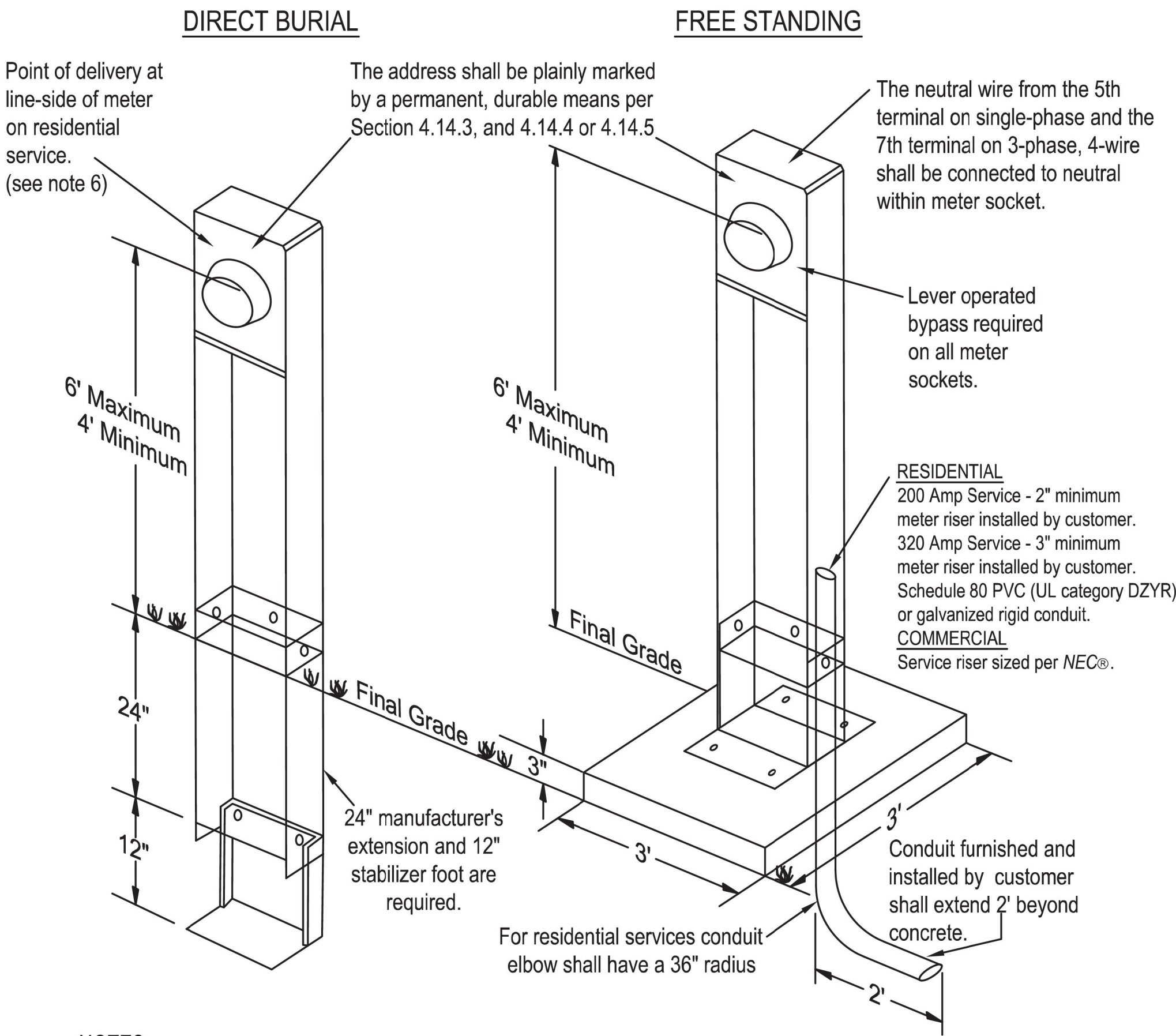
* Note: In TX/NM only, all Overhead to Underground Service Laterals that do not utilize a secondary pedestal will be Company owned. For service laterals extending directly from a pad mounted transformer, residential services will be Company owned while commercial services will be Customer owned unless Customer owned metering cabinet is on the same pad as the transformer. For all installations utilizing a secondary connection cabinet or a secondary pedestal, the Service Lateral will be Customer owned.

DRAWING SC-70

DIRECT BURIAL OR FREE STANDING PEDESTAL FROM
AN UNDERGROUND SECONDARY SUPPLY
Services up to 320 amp 1Ø-3Ø
Mobile Home, Area Lighting, Sprinkler System etc.
Residential or Commercial

Pedestals are not permitted to be installed in or on a mobile home.

Installation shall be outside the utility easement and shall be more than 6'
from the service pedestal, pull box or pad-mounted transformer.



NOTES:

- The free standing pedestal with a manufacturer's footing base shall be mounted on a 3' x 3' x 3" concrete pad with 95% ground compaction to prevent settling of pad.
- The direct burial pedestal shall have manufacturer's extension and stabilizer installed.
- The meter pedestal shall be installed to maintain vertical alignment throughout the life of the installation.
- The electric meter shall face away from the mobile home and preferably face the driveway or road.
- See Sections 4.17 and 4.18 for cold and hot sequence metering requirements.
- Point of delivery at Company facilities on commercial service (except in Wisconsin and Michigan).



Issued
Jan-17

Replaces
Jan-11

Drawn by
JD

Approved

File
I-1.15

PAGE

STANDARD FOR ELECTRIC INSTALLATION AND USE
I-1.15

PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL DETAILS



DRAWING HISTORY	DATE	DESCRIPTION
PRELIMINARY - FOR REVIEW	6/12/25	PRELIMINARY - FOR REVIEW
PRELIMINARY - FOR REVIEW	9/22/25	PRELIMINARY - FOR REVIEW
PRELIMINARY - FOR REVIEW	10/8/25	PRELIMINARY - FOR REVIEW
FILE:	22128_LIGHTING_DETAILS.DWG	
PROJECT NO:	22128	
CAD:	KK/UM	
QUALITY ASSURANCE:	JH	



Effective Date: July 31, 2022

TABLE OF RESPONSIBILITY

Drawing SC-150		
ITEM, MATERIAL OR WORK DESCRIPTION	PARTY TO FURNISH, OWN AND MAINTAIN	PARTY TO INSTALL
Permits and Inspections	Customer	N/A
Underground Service Lateral (6 or fewer Residential)	Company	Company
Underground Service Lateral (Commercial) (except WI and MI)	Customer	Customer
Service Entrance Conduit	Customer	Customer
Meter Socket	Customer	Customer
Line Side Conductor Terminations (except WI and MI)	Customer	Customer
Billing Meter	Company	Company
Load Side Conduit And Conductor	Customer	Customer
Ground Rod(s) – see definition	Customer	Customer

Point of Delivery:

Underground Service Residential (6 meters or fewer)

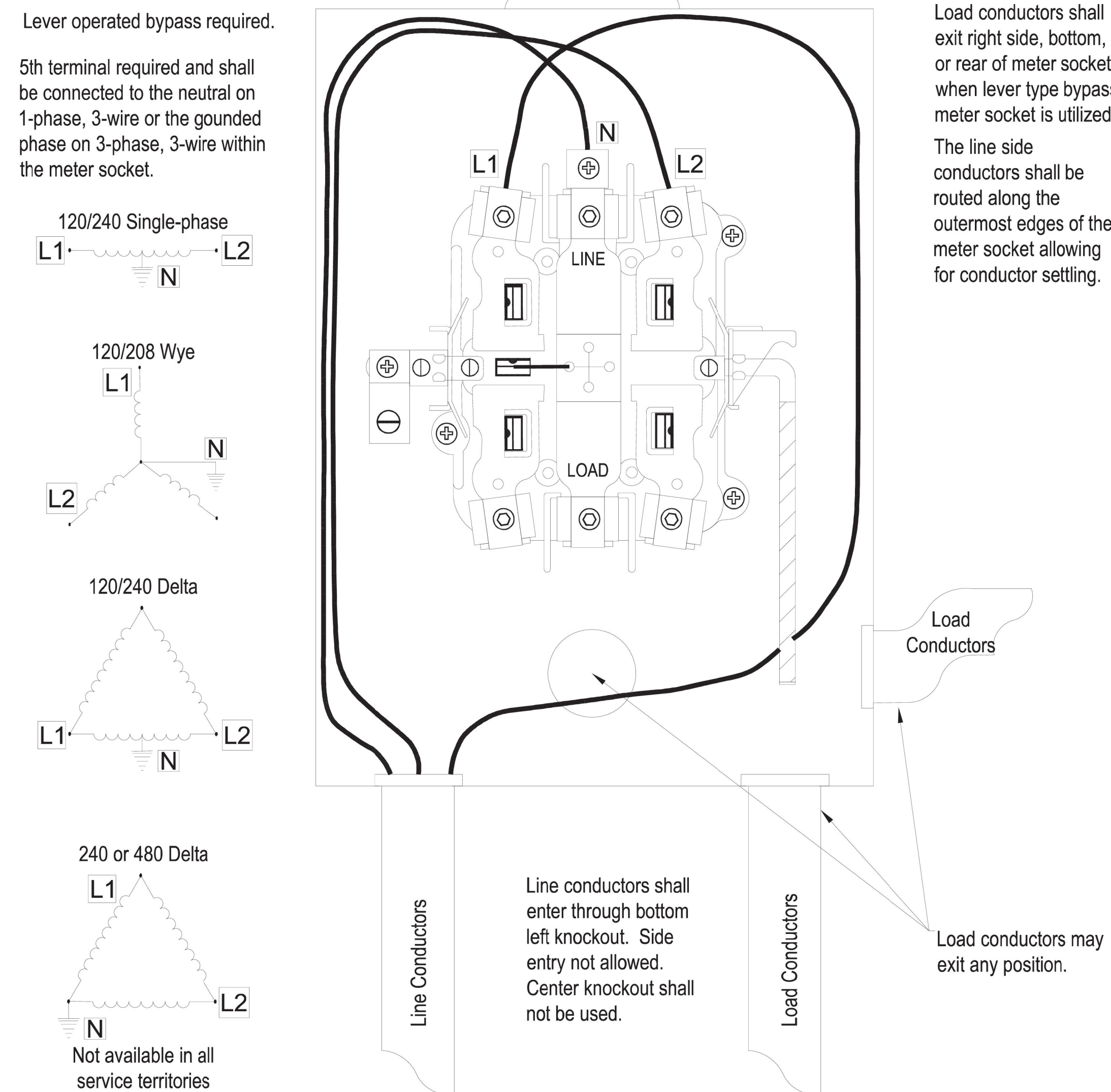
- At line side terminals of meter socket; or
- Line side of disconnect if main disconnect is used ahead of metering.

Underground Service Commercial – Point where the *Company's* facilities are first connected to the electric facilities of the customer.

* Note: In TX/NM only, all Overhead to Underground Service Laterals that do not utilize a secondary pedestal will be Company owned. For service laterals extending directly from a pad mounted transformer, residential services will be Company owned while commercial services will be Customer owned unless Customer owned metering cabinet is on the same pad as the transformer. For all installations utilizing a secondary connection cabinet or a secondary pedestal, the Service Lateral will be Customer owned.

DRAWING SC-150

WIRING CONFIGURATION FOR UNDERGROUND INSTALLATION
120/208 Volt or 120/240 Volt 1-Phase 3-Wire, 240 Volt Delta 3-Phase 3-Wire,
or 480 Volt Delta 3-Phase 3-Wire



NOTES:

1. See [Sections 4.17](#) and [4.18](#) for cold and hot sequence metering requirements.
2. Meter housing to be grounded per NEC®.

	Issued	Replaces	Drawn by	Approved	File	STANDARD FOR ELECTRIC INSTALLATION AND USE
	Oct-21	Feb-17	DCP		I-1.31	PAGE I-1.31

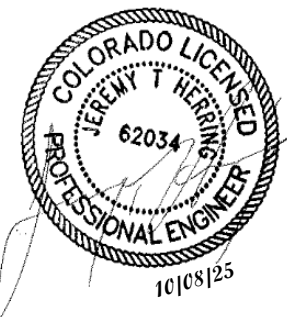
PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

ELECTRICAL DETAILS

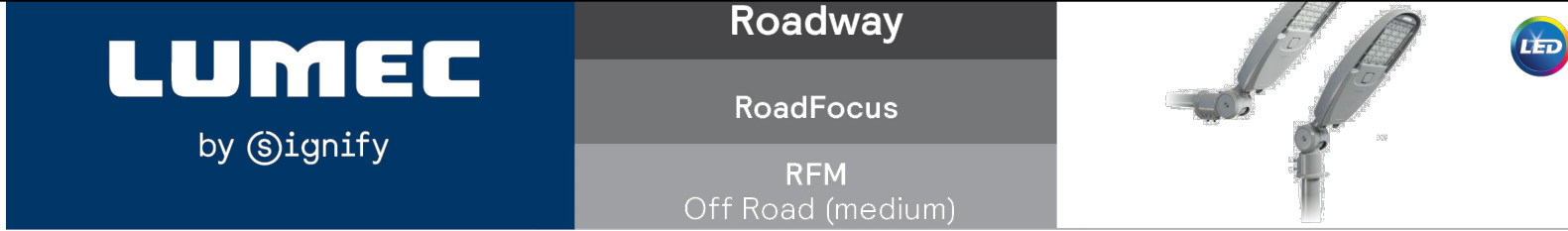


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DATE	DESCRIPTION
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9/2/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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QUALITY ASSURANCE:	
JH	

E1.16



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Not all roadway applications are created equal. Lumec **RoadFocus LED off road** cobra head luminaires offer a versatile solution for applications that are outside the range of traditional roadway lighting. Combined with specialized optics to be used in a tilt application, the knuckle adaptor can tackle even the most difficult installation. From traditional streets to off road applications, **The RoadFocus** product family will help you simplify your luminaire selection.

Ordering guide

Series	Application	LED module	CC1	Generation	Distribution	Voltage	Controls ¹	Adaptor ¹	Options	Finish
				G2						
				G2						
RFM	ORH ¹ Off road application	30W4LED	4K	4000K	Type 2	UNV	DALI	KAV3	2C	Black
RoadFocus	High Tilt	35W32LED²	3K	3000K	Type II	HVV	DALI	KAH3	API	Brn
medium	20-45°	45W48LED	2.7K¹	2700K	R25		factory addressable lighting interface	KAH3	factory installed NEMA table	GY3
	ORH ¹ Off road application	50W40LED			R2M		DMG ³ 0-10V		FAWS ⁴ Field adjustable wastage selector	WH
	Low Tilt	55W32LED²			Type II medium		SRD ⁵ Sensor ready driver, standard configuration		HS House Side Shield, shield 1 per 16 LED light engine	
	0-20°	55W48LED²			Type 3		SRD ⁵ Sensor ready driver, alternate configuration		NYBC ⁶ 4-position terminal block	
		72W32LED			Type III short				PH8 ¹⁰ Test-board photonic cell, UNV (100-27VAC)	
		80W48LED			Type III medium				PH8/347 ^{10,11} Test-board photonic cell (347VAC)	
		85W34LED			R3M Type III medium (AS1M)				PH8/480 ^{10,11} Test-board photonic cell (480VAC)	
		85W36LED			Type 3 High Tilt				PHXL ¹⁰ Test-board photonic cell, extended life, UNV (100-27VAC)	
		90W40LED			R3TM Type III medium (AS1M)				PH8 ⁹ Shorting cap, too less receptacle for back light	
		108W32LED			Type 4					
		108W48LED			Type IV (AS1M)					
		130W32LED²			Type 5					
		135W40LED			Type V (SYMM)					
		160W48LED								

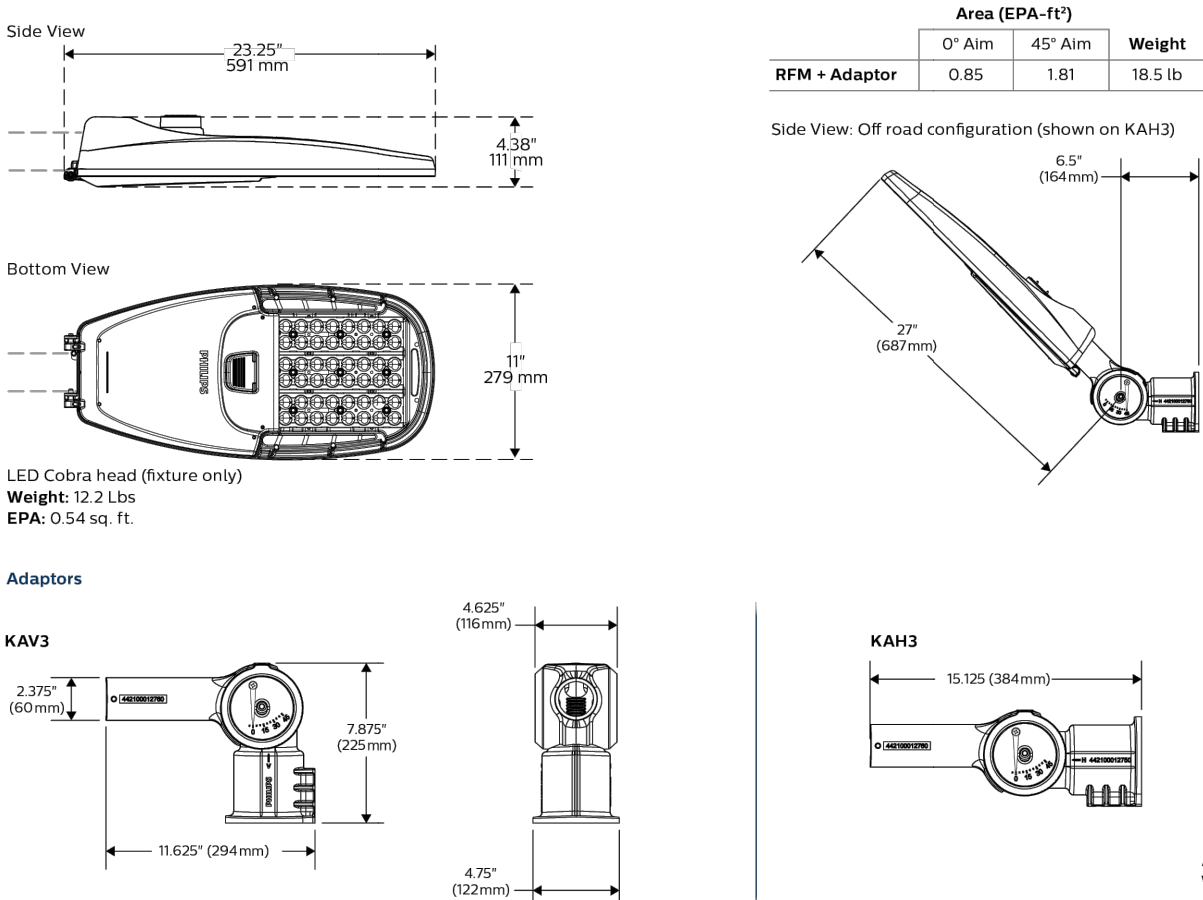
- Not available with HVU.
- Not available with HS option.
- Use of photoelectric cell or shorting cap is required to ensure proper illumination.
- Select either **DALI** or **DMG** or **SRD** or **SRD** mandatory option.
- Please note this integrated feature come standard with RoadFocus.
- Only available with **SRD** or **SRD** Driver Options.
- Only available with **DMG** Driver Options.
- Not available with **PH8**, **PH8/347**, **PH8/480**, **PHXL**, **PH8**, **DALI**, **SRD** or **SRD** Driver Options.
- Not available with **SRD** Driver Options.
- Either **RCY** or **RCY** must be selected for this option.
- Extended lead time may apply. Consult factory.
- FAWS table accuracy +/- 15% on these models.
- Not available with UNV.
- ORH only available with R3TM.
- ORL available with all optics but R3TM.
- Failure to properly select the "BAC" suffix could result in no recovery for an RMA or refund. This BAC designation hereafter does not address (i) the applicability of, or availability of a waiver under, the Trade Agreements Act, or (ii) the "Buy America" domestic content requirements imposed on states, localities, and other non-federal entities as a condition of receiving funds administered by the Department of Transportation or other federal agencies.
- Consult Signify to confirm whether specific accessories are BAA-compliant.

RoadFocus_RFM_OffRoad_Spec 05/21 page 1 of 7



RFM RoadFocus LED Off Road (medium) Roadway

Dimensions



Specifications

Housing
Made of a low copper die cast Aluminum alloy (A360, 0.100" (2.5mm) minimum thickness. Fits on a 1/6" (42mm) O.D. (1.25" NPS), 1.31" (48mm) O.D. (1.5" NPS) or 2.3/8" (60mm) O.D. (2" NPS) by 5.127" (140mm) minimum long tenon. Comes with a zinc plated clamp fixed by 2 zinc plated hexagonal bolts 3/8" by UNC for ease of installation. Provides an easy step adjustment of +/- 5° tilt in 2.5° increments. Includes integral bubble level standard (always included). A quick release, tool less entry, single latch, hinged, removable door opens downward to provide access to electronic components and to a terminal block. Door is secured to prevent accidental dropping or disengagement. A clearance of 13" (330mm) at the rear is required in order to remove the door. Complete with a blind guard protecting against birds and similar intruders and an ANSI label as per C136.15-2015 to identify wattage and source (both included in box). Housing (including electrical compartment) rated IP54 per ANSI C136.37.

Light Engine
Composed of 4 main components: LED Module / Optical System / Heat Sink / Driver.
Electrical components are RoHS compliant, IP66

LED Module
Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum spacing, target lumens and a superior lighting uniformity. System is rated IP66. Performance shall be tested per LM-63, LM-79 and TM-15 (IESNA) certifying its photometric performance. 0% uplight and 0% per IESNA TM-15.

Heat Sink
Built in the housing, designed to ensure high efficiency and superior cooling by natural vertical convection air flow pattern always close to LEDs and driver optimizing their efficiency and life. Product does not use any cooling device with moving parts (only passive cooling). Wide openings enable natural cleaning and removal of dirt and debris. Entire luminaire is rated for operation in ambient temperature of -40°C / -40°F up to +40°C / +104°F, -50°C / -122°F also available, consult factory.

Driver
High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral. Class 1, 140°C or 20% max.

DMG
Dimming compatible 0-10 volts.
The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 25kV (min).

RFM RoadFocus LED Off Road (medium) Roadway

Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM-21. Published L70 hours limited to 5 times actual LED test hours.

Ambient Temperature °C	Driver mA	Calculated L70 Hours	L70 per TM-21	Lumen Maintenance % at 100,000 hrs
25°C	up to 1250 mA	>100,000 hours	>60,000 hours	>96%

LED Wattage values

Ordering Code	Total LEDs	LED Current (mA)	Average System Watts ¹	Wattage label ¹
RFM-30W4LED	24	350	28	30
RFM-35W32LED ²	40	530	41	40
RFM-45W48LED	24	700	55	50
RFM-55W32LED	24	1050	82	80
RFM-55W32LED	32	350	37	40
RFM-55W32LED	32	530	53	50
RFM-72W32LED	32	700	73	70
RFM-90W40LED	32	1050	108	110
RFM-108W32LED	32	1250	129	130

16. Typical values, rounded.
17. As per ANSI C136.15-2015. Consult factory for other labeling needs.

Field Adjustable Wattage (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage
1	0.31	0.28
2	0.53	0.50
3	0.62	0.58
4	0.70	0.67
5	0.78	0.75
6	0.83	0.81
7	0.89	0.87
8	0.92	0.91
9	0.96	0.95
10	1.00	1.00

Note: Typical value accuracy +/- 5%

RoadFocus_RFM_OffRoad_Spec 05/21 page 2 of 7

RFM RoadFocus LED Off Road (medium) Roadway

Specifications (continued)

Integrated Features

DMG: Dimmable driver 0-10V.
RCY7: Tool less orientable receptacle with 7 pins, enabling dimming and additional functionality (to be determined), can be used with a twist lock Interact City node or photoelectric cell or a shorting cap.
SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C. High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSCL Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.
Please note that these integrated features always come with RoadFocus luminaire.
* Use of photoelectric cell or shorting cap is required to ensure proper illumination.
Driver and Luminaire Options
DALI: Pre-set driver compatible with the DALI control system.
SRD: Sensor Ready Driver including SR communication (used for dimming and other functionalities), 24V auxiliary supply and a logical signal input (LSI) connected to the top NEMA twist lock receptacle and bottom TLRSR receptacle. If this option included/chosen. This configuration is compatible with Interact City controllers.
SRD1: Sensor Ready Driver including SR communication (used for dimming and other functionalities) but with 24V auxiliary supply and a logical signal input (LSI) not connected to the top NEMA twist lock. If TLRSR receptacle option included, standard SR communication, 24V auxiliary supply and LSI are connected to the TLRSR receptacle.
FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level - see the FAWS multiplier chart for more details.
Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.
SP2: 20kV / 10kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.
NRC: No Receptacle. Fixture is shipped with a cap instead of a receptacle.
NYBC: 4-position terminal block.
RCY7: Tool Less orientable receptacle with 5 pins enabling dimming, can be used with a twist lock Interact City or photoelectric cell or a shorting cap.
TLRSR: SR Sensor control, installed in fixture door. Shipped with protective cover.

HS: House side shield, 1 per 16 LED light engine.
PH8: Twist-lock Photoelectric Cell, UNV (120-277VAC).
PH8/347: Twist-lock Photoelectric Cell, HVU (480VAC).
PH8/480: Twist-lock Photoelectric Cell, extended life, UNV (120-277VAC).
PHXL: Twist-lock Photoelectric Cell, extended life, UNV (120-277VAC).
SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C. High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSCL Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.
AP1: Factory Installed NEMA label, ANSI C136.15-2015 compliant. Consult factory for other labeling needs.
* Use of photoelectric cell or shorting cap is required to ensure proper illumination.
Luminaire Useful Life
Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750. System Reliability Tool, Advance data and LED manufacturer LM-80/TM-21 data, expected to reach 100,000+ hours (72W32LED and 108W48LED at 700mA) or 84,500 hours (R3W32LED and 160W48LED at 1050mA) with >L70 lumen maintenance @ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including LED life, driver life, PCB substrate, solder joints, only if cycles, burning hours and corrosion.

Wiring
The connection of the luminaire is done using a terminal block connector 600V, BSA for use with #2 14 AWG. wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a 10amp time-delay fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses.
Hardware
All exposed screws shall be complete with Ceramic primer seal to reduce seizing of the parts, also offers a high resistance to corrosion. All seals and sealing devices are made and/or lined with EPDM and/or silicone and/or rubber.
Adaptor
KAV3: Knuckle adaptor for vertical post. Design to fit on a 2-3/8" (60mm) to 3" (76mm) outside diameter by 4" (102mm) long tenon. Field adjustable for a 0° to 45° angle. (See detail drawing).
KAH3: Knuckle adaptor for horizontal tenon. Design to fit on a 2-3/8" (60mm) to 3" (76mm) outside diameter by 4" (102mm) long tenon. Field adjustable for a 0° to 45° angle. (See detail drawing).

Finish
Color in accordance with the AAMA 2603 standard. Application of polyester powder coat paint (1 mils/25.4 microns) with a 1 mils/24 microns of tolerance. The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.
The surface treatment achieves a minimum of 3000 hours for salt spray resistant finish in accordance with testing performed and per ASTM B117 standard.
LED products manufacturing standard
The electronic components sensitive to electrostatic discharge (ESD) such as light emitting diodes (LEDs) are assembled in compliance with IEC61340-5-1 and ANSI/ESD S20.20 standards so as to eliminate ESD events that could decrease the useful life of the product.
Vibration Resistance
The RFM Off-Road and adaptor assembly meets the ANSI C136.31 American National Standard for Roadway Luminaire Vibration specifications for Bridge/overpass applications. (Tested for 36 over 100,000 cycles)
Certifications and Compliance
cULus Listed for Canada and USA. Luminaire meets DOE and MSSCL Model Specification for LED Roadway Luminaires. Most versions of RoadFocus LED Cobrahead luminaires are DesignLights Consortium qualified, consult DLC QPL to confirm your specific future selection is approved. CCT: 3000K and warmer are Dark Sky Approved. Luminaire complies with or exceeds the following ANSI C136 standards:
2, 3, 10, 14, 15, 22, 25, 31, 37, 41.
Service Tag
Each individual luminaire is uniquely identifiable, thanks to the Service tag application. With a simple scan of a QR code, placed on the inside of the mast door, you gain instant access to the luminaire configuration, making installation and maintenance operations faster and easier, no matter what stage of the luminaire's lifetime. Just download the APP and register your product right away.
For more details visit: signify.com/servicetag
Limited Warranty
10-year limited warranty.
See signify.com/warranties for details and restrictions.
Brackets/Arms
For brackets / arms available with this luminaire, see Lumec 3D for details.

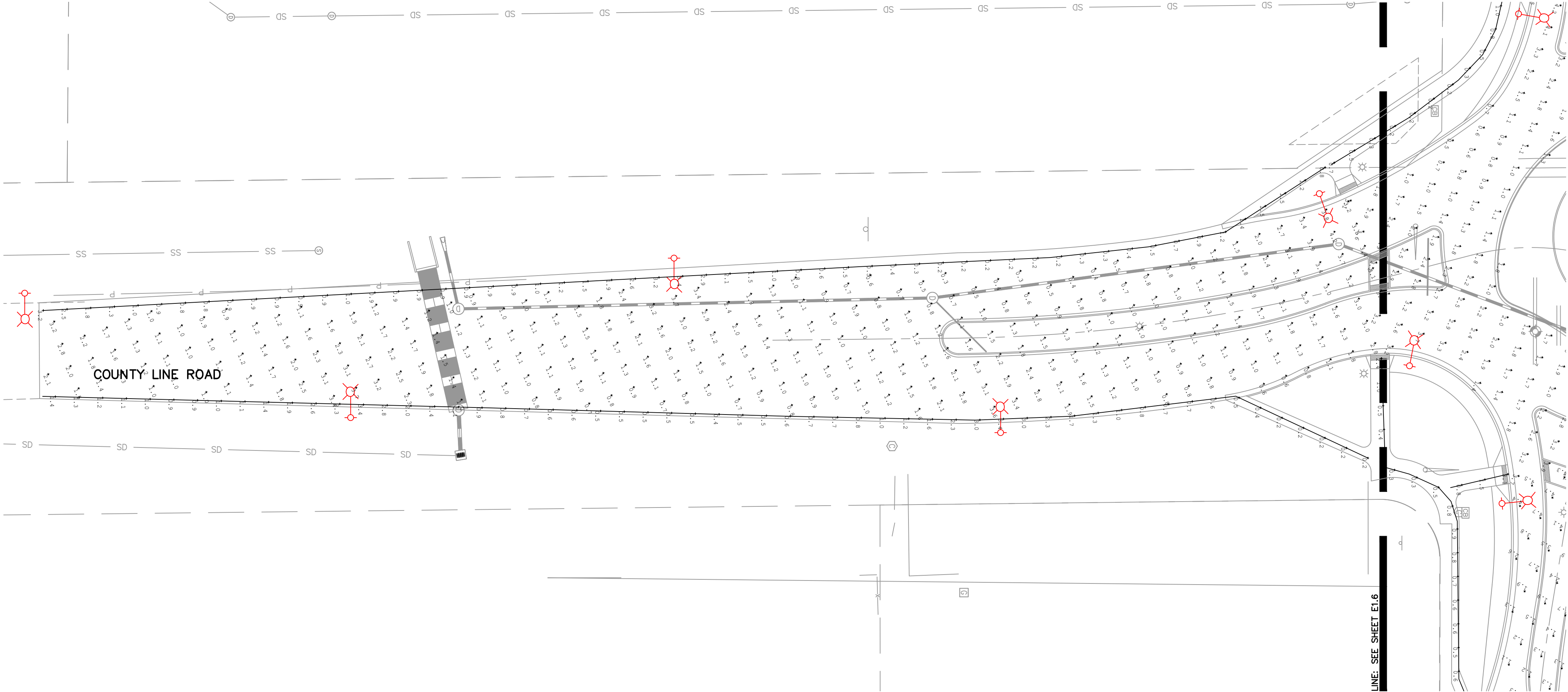
RFM RoadFocus LED Off Road (medium) Roadway

LED Wattage and Lumen Values: 3000K

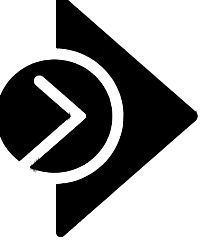
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	Color Temp.	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)
RFM-30W4LED	3000	3,518	126	B1-U0-G1	3,367	121	B1-U0-G1	3,498	125	B1-U0-G1	3,375	121	B1-U0-G1	3,485	125	B1-U0-G1				
RFM-45W48LED	3000	5,052	122	B1-U0-G1	4,845	117	B1-U0-G1	5,034	122	B1-U0-G1	4,857	117	B1-U0-G1	5,005	121	B1-U0-G1				
RFM-55W48LED	3000	6,407	117	B2-U0-G1	6,145	112	B2-U0-G1	6,384	117	B1-U0-G2	6,360	113	B2-U0-G1	6,361	116	B1-U0-G1				
RFM-55W32LED	3000	8,752	106	B2-U0-G2	8,384	102	B2-U0-G2	8,721	106	B1-U0-G2	8,494	102	B2-U0-G2	8,688	106	B2-U0-G2				
RFM-35W32LED	3000	4,750	128	B1-U0-G1	4,531	123	B1-U0-G1	4,601	124	B1-U0-G1	4,549	123	B1-U0-G1	4,697	127	B1-U0-G1				
RFM-55W32LED	3000	6,805	127	B2-U0-G1	6,519	122	B2-U0-G1	6,679	124	B1-U0-G2	6,544	122	B2-U0-G1	6,757	126	B1-U0-G1				
RFM-72W32LED	3000	8,614	118	B2-U0-G1	8,252	113	B2-U0-G2	8,380	115	B1-U0-G2	8,285	113	B2-U0-G2	8,555	117	B2-U0-G2				
RFM-108W32LED	3000	11,987	111	B3-U0-G2	11,483	106	B3-U0-G2	11,661	108	B2-U0-G2	11,528	107	B3-U0-G2	11,903	110	B2-U0-G2				
RFM-108W32LED	3000	13,848	108	B3-U0-G2	13,266	103	B3-U0-G2	13,471	105	B2-U0-G2	13,338	103	B3-U0-G2	13,751	107	B2-U0-G2				
RFM-85W36LED	3000	9,844	123	B2-U0-G2	9,490	118	B2-U0-G2	9,576	120	B2-U0-G2	9,467	118	B2-U0-G2	9,775	122	B2-U0-G2				
RFM-50W40LED	3000	5,993	135	B2-U0-G1	5,741	129	B2-U0-G1	5,830	131	B1-U0-G2	5,764	130	B2-U0-G1	5,952	134	B1-U0-G1				
RFM-90W40LED	3000	10,938	124	B3-U0-G2	10,478	119	B2-U0-G2	10,640	120	B2-U0-G2	10,519	119	B2-U0-G2	10,861	123	B2-U0-G2				
RFM-135W40LED	3000	14,941	111	B3-U0-G2	14,313	106	B3-U0-G3	14,535	108	B2-U0-G2	14,370	106	B3-U0-G2	14,838	110	B3-U0-G2				
RFM-55W48LED	3000	7,096	129	B2-U0-G1	6,797	123	B2-U0-G1	6,903	125	B1-U0-G2	6,824	124	B2-U0-G1	7,046	128	B1-U0-G1				
RFM-80W48LED	3000	10,206	127	B2-U0-G2	9,777	121	B2-U0-G2	9,929	123	B2-U0-G2	9,816	122	B2-U0-G2	10,136	126	B2-U0-G2				
RFM-100W48LED	3000	12,921	122	B3-U0-G2	12,378	117	B3-U0-G2	12,589	119	B2-U0-G2	12,427	117	B3-U0-G2	12,831	121	B2-U0-G2				
RFM-160W48LED	3000	17,981	112	B3-U0-G2	17,225	107	B3-U0-G3	17,469	109	B2-U0-G3	17,231	108	B3-U0-G3	17,656	111	B3-U0-G3				

Ordering Code	Type 4				Type 5			
	Color Temp.	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	Lumen Output (LPW)	Efficacy (LPW)	BUG Rating	
RFM-30W4LED	3000	3,427	123	B1-U0-G1	3,472	124	B2-U0-G1	
RFM-35W48LED	3000	4,931	119	B1-U0-G2	4,996	121	B3-U0-G1	
RFM-55W48LED	3000	6,254	114	B1-U0-G2	6,336	116	B3-U0-G1	
RFM-55W48LED	3000	8,543	104	B2-U0-G2	8,655	105	B3-U0-G2	
RFM-55W32LED	3000	4,507	122	B1-U0-G1	4,648	126	B3-U0-G1	
RFM-55W32LED	3000	4,485	121	B1-U0-G1	4,587	125	B3-U0-G1	
RFM-72W32LED	3000	8,209	112	B2-U0-G2	8,465	116	B3-U0-G2	
RFM-108W32LED	3000	11,423	106	B2-U0-G2	11,780	109	B4-U0-G2	
RFM-130W32LED	3000	13,196	102	B2-U0-G3	13,609	106	B4-U0-G2	
RFM-85W36LED	3000	9,381	117	B1-U0-G2	9,674	121	B3-U0-G2	
RFM-90W40LED	3000	5,711	129	B1-U0-G2	5,889	133	B3-U0-G1	
RFM-90W40LED	3000	10,423	118	B2-U0-G2	10,760	122	B4-U0-G2	
RFM-135W40LED	3000	14,239	105	B2-U0-G3	14,684	109	B4-U0-G2	
RFM-55W48LED	3000	6,762	123	B1-U0-G2	6,973	127	B3-U0-G1	

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ROUNDAABOUT	2.46	5.1	0.5	4.92	10.20
SOUTH LEG	1.56	4.2	0.3	5.20	14.00
EAST LEG	2.33	4.7	1.0	2.33	4.70
WEST LEG	0.96	4.4	0.1	9.60	44.00
NORTH LEG	1.20	3.9	0.1	12.10	39.00
NORTH WEST LEG	2.55	5.2	1.5	1.70	3.47



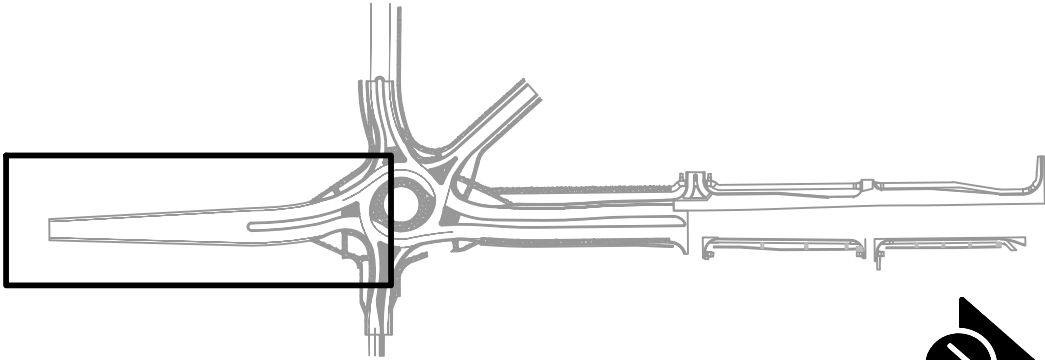
NORTH

SCALE: 1" = 30'



SCALE SHOWN IS ACCURATE WHEN
PRINTED ON 22X34 SHEET WITH 1:1
PLOT SCALE, DOUBLE SCALE ON
11X17 SHEET WITH 1:2 PLOT SCALE.

KEY MAP
N.T.S.



PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

PHOTOMETRIC SITE PLAN - SOUTH



E1.18

DRAWING HISTORY	
DATE	DESCRIPTION
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9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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PROJECT NO: 2128	
CAD: KKL/M	
QUALITY ASSURANCE: JH	

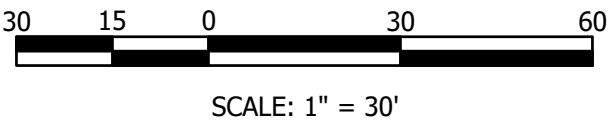
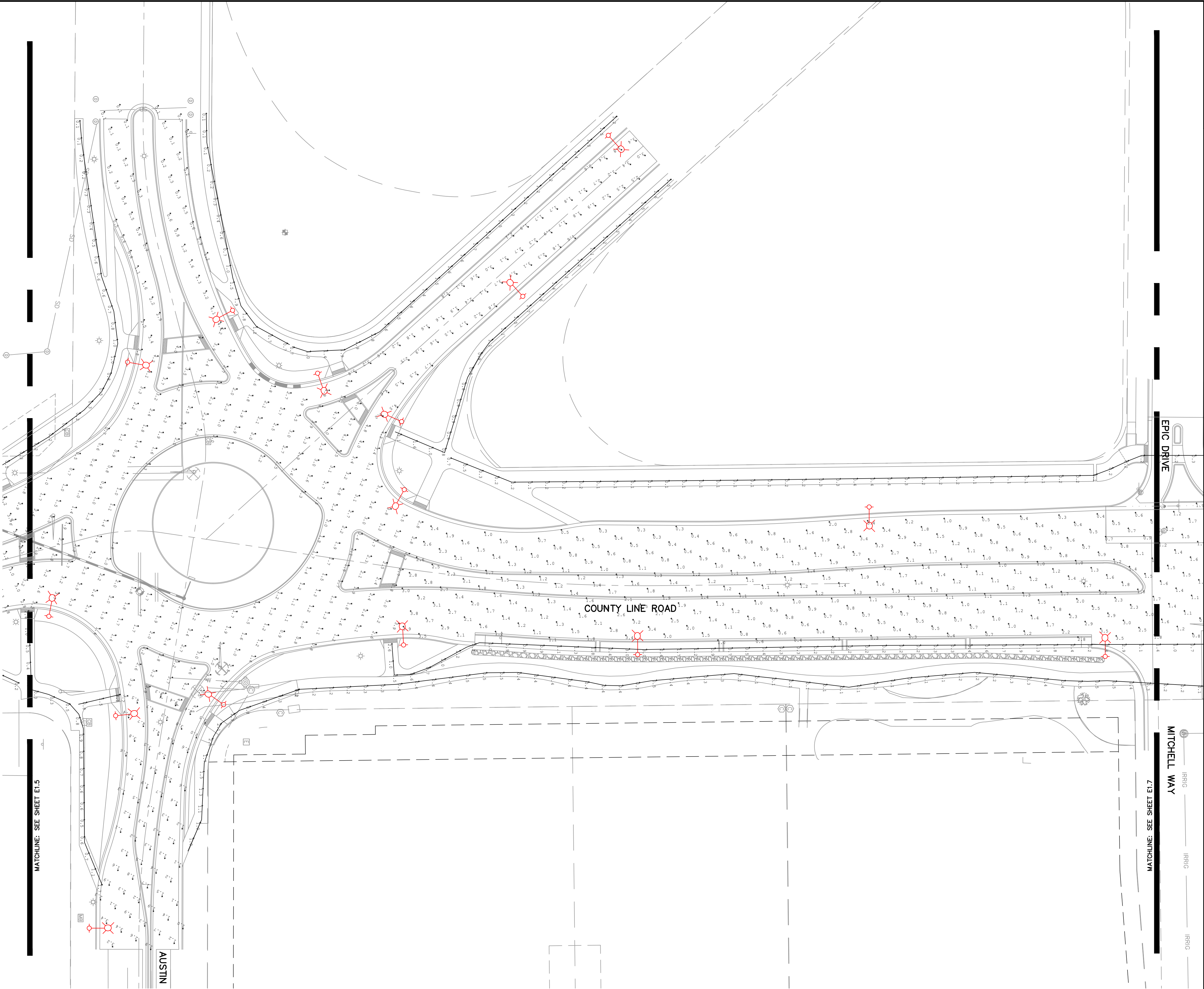


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Intelligent Infrastructure. Enduring Communities.



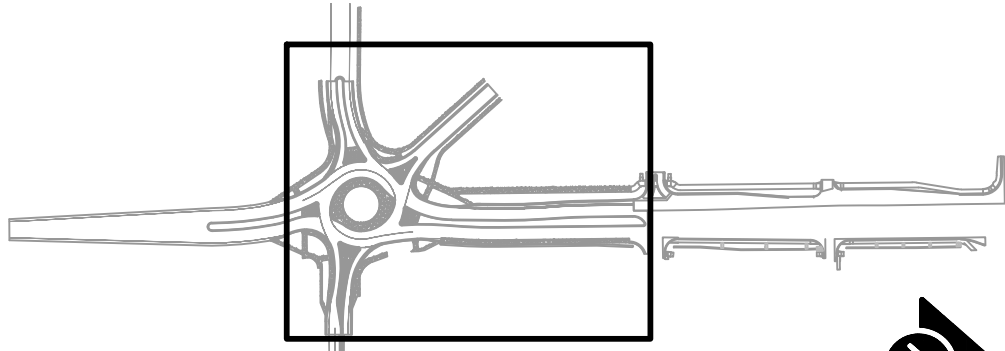
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SCALE SHOWN IS ACCURATE WHEN
PRINTED ON 22X34 SHEET WITH 1:1
PLOT SCALE, DOUBLE SCALE ON
11X17 SHEET WITH 1:2 PLOT SCALE.

SCALE: 1" = 30'

KEY MAP
N.T.S.



PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN

AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

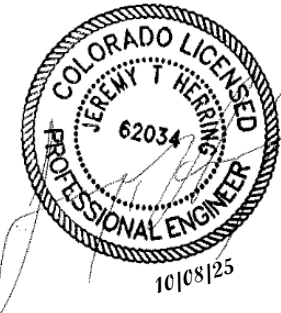
PHOTOMETRIC SITE PLAN



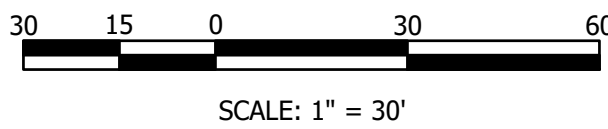
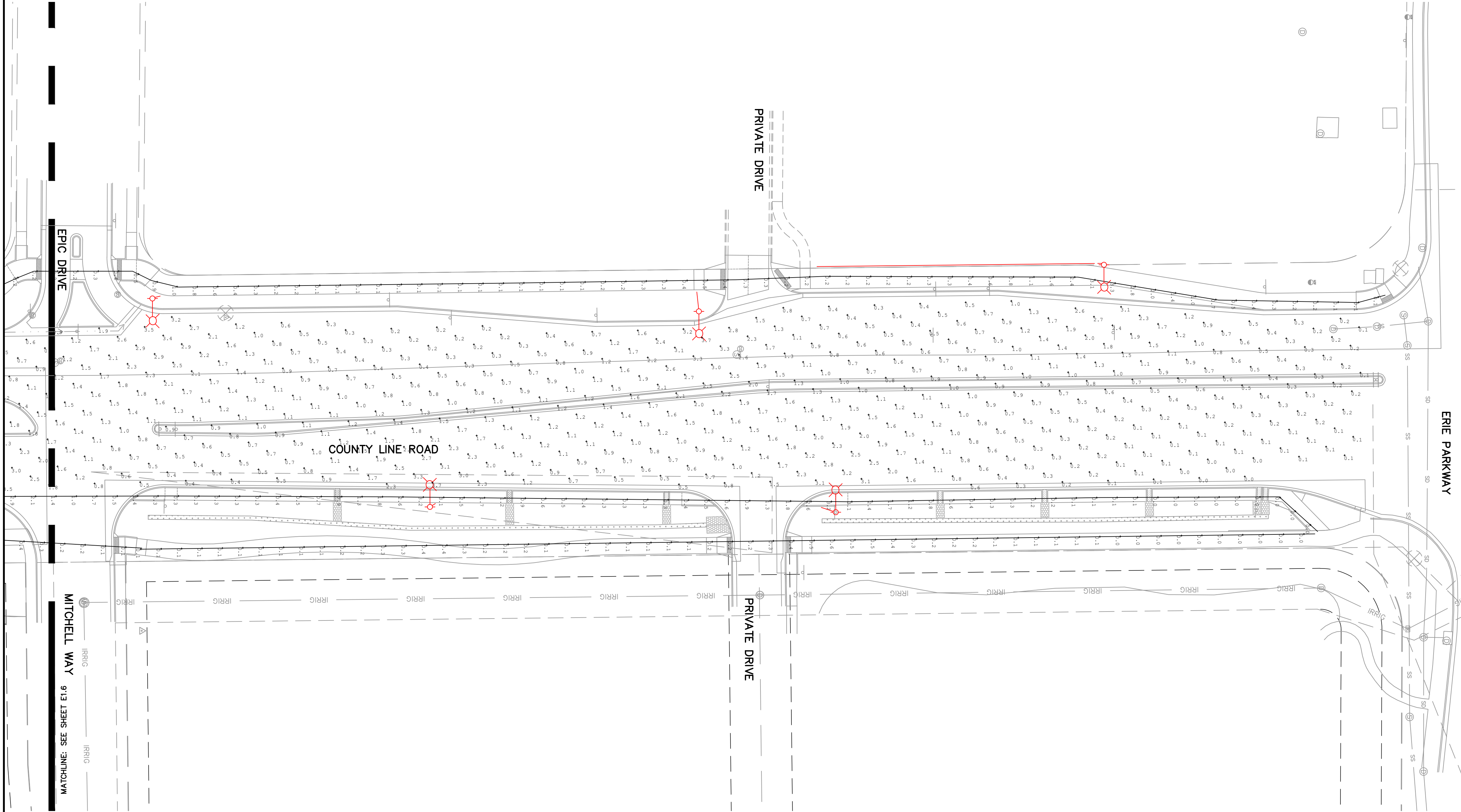
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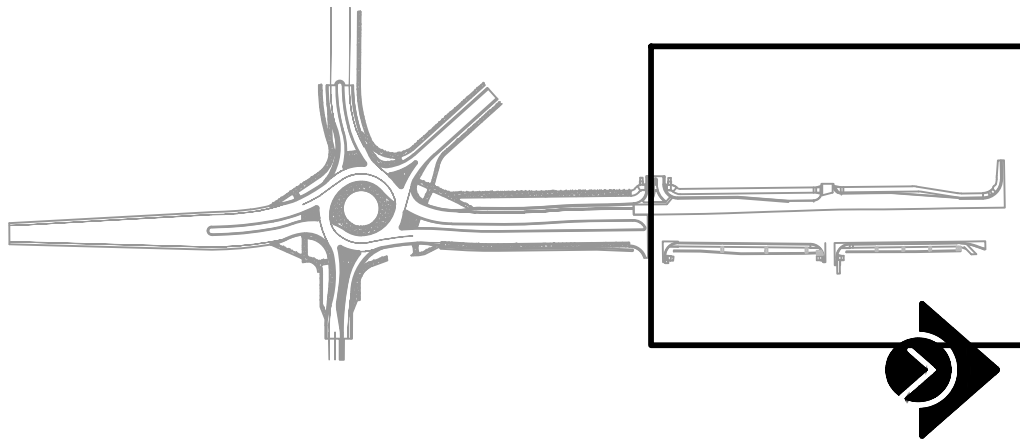


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SCALE SHOWN IS ACCURATE WHEN
PRINTED ON 22X34 SHEET WITH 1:1
PLOT SCALE, DOUBLE SCALE ON
11X17 SHEET WITH 1:2 PLOT SCALE.

KEY MAP
N.T.S.



PRELIMINARY - FOR REVIEW

TOWN OF ERIE LIGHTING DESIGN

COUNTY LINE ROAD LIGHTING DESIGN
AUSTIN AVE TO ERIE PARKWAY

ERIE, COLORADO

PHOTOMETRIC SITE PLAN - NORTH



E1.20

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PROJECT NO:	22128
CAD:	KK/UM
QUALITY ASSURANCE:	JH

DRAWING HISTORY	DESCRIPTION
DATE	DESCRIPTION
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9/22/25	PRELIMINARY - FOR REVIEW
10/8/25	PRELIMINARY - FOR REVIEW
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