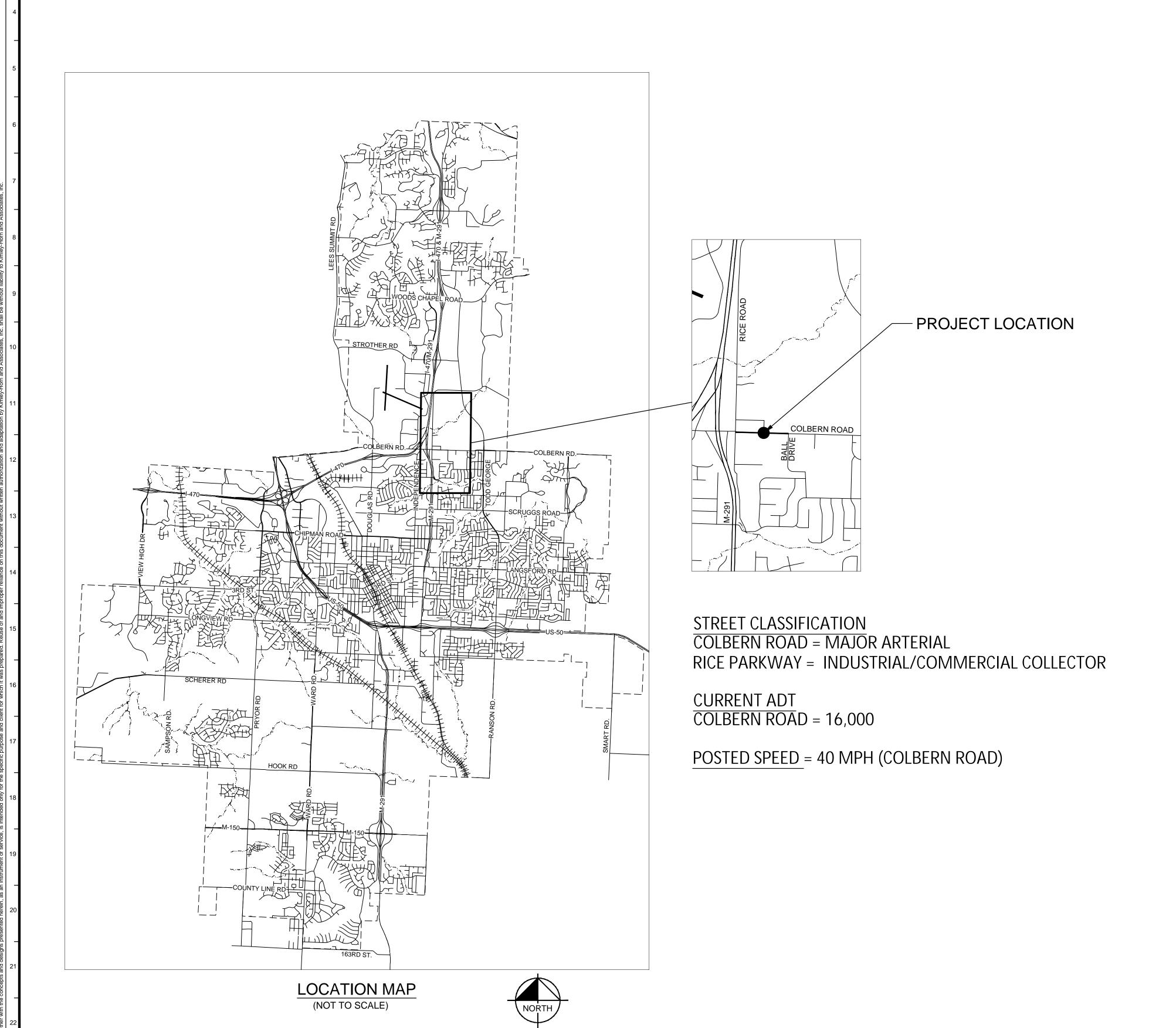
CITY OF LEE'S SUMMIT, MISSOURI PUBLIC WORKS DEPARTMENT TRAFFIC SIGNAL INSTALLATION COLBERN ROAD AND RICE PARKWAY



	SHEET LIST TABLE
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	GENERAL NOTES
3	TRAFFIC SIGNAL PLAN
4	DIMENSION PLAN
5	WIRING & PHASING DIAGRAM
6	SUMMARY OF SIGNAL QUANTITIES
7	SIGNAL HEAD MOUNTING DETAILS
8	CONTROLLER CABINET & BASE DETAILS
9	POST BASE DETAILS
10	TUBULAR STEEL POST DETAILS
11	TUBULAR STEEL POST LOADING REQUIREMENTS
12	PULL BOX DETAILS
13	CONDUIT & DETECTION DETAILS
14	POWER SUPPLY ASSEMBLY
15	POWER SUPPLY ASSEMBLY 120 VOLTS
16	TRAFFIC CONTROL DETAILS

l	JIILIIY	& GOVER	NING AGEN	ICY CONTACT	S
---	---------	---------	-----------	-------------	---

TIM BUSHART TB2697@ATT.COM STEPHEN JEFFERS, 816-363-9437 STEPHEN.JEFFERS@EVERGY.COM

JOHN MEADOWS, 816-918-3088 JOHNMEADOWS@COMCAST.COM

CONSOLIDATED COMMUNICATIONS JOHN CASTILOW, 913-322-9785 JOHN.CASTILOW@EVERFASTFIBER.COM

LAUREN MARCUCCI, 913-663-1900 LMARCUCCI@GOOGLE.COM

LSR7 - FIBER

LSR7 - TRANSPORTATION

SPECTRUM KEVIN STEELE

RICHI GARCIA, 816-507-0713 RICHI.GARCIA@SPIREENERGY.COM BRANDON MYER, 816-206-4257 BRANDON.MYER@UPNFIBER.COM BLUEBIRD COMMUNICATIONS 314-237-2125

CITY STORMWATER - PW OPERATIONS 816-969-1870 CITY FIBER - ITS DEPARTMENT BRYAN HALL, 816-969-1234

CITY WATER UTILITIES

816-969-1940

KINZIE WOODERSON, 816-986-1050 KINZIE.WOODERSON@LEESUMMIT.K12.MO.US KEITH HENRY, 816-986-2405 KEITH.HENRY@LEESUMMIT.K12.MO.US

KEVIN.STEELE@CHARTER.COM

KNOWN UNDERGROUND UTILITIES IN THE VICINITY OF THE WORK ARE SHOWN ON THESE PLANS, ALTHOUGH OTHERS MAY EXIST. THE LOCATIONS SHOWN ARE BELIEVED TO BE REASONABLY CORRECT, BUT DO NOT PURPORT TO BE ABSOLUTELY SO. BEFORE STARTING WORK, THE CONTRACTOR SHALL GIVE NOTICE TO AND OBTAIN INFORMATION FROM EACH OWNER AND OPERATOR OF EXISTING UNDERGROUND FACILITIES IN ACCORDANCE WITH THE MISSOURI UNDERGROUND FACILITY SAFETY AND DAMAGE PREVENTION STATUTE (RSMO CHAPTER 319.015 - 319.050).



ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

GENERAL NOTES:

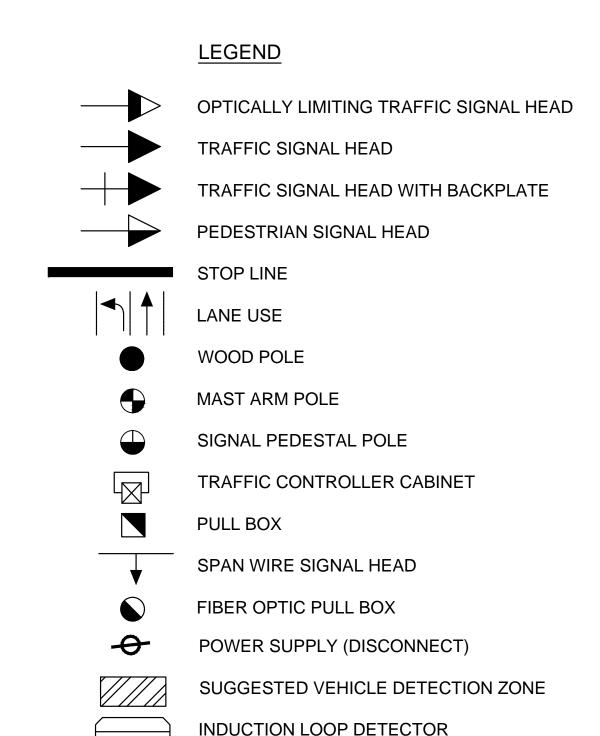
- 1. THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS (APPROVED BY THE CITY OF LEE'S SUMMIT) AND ONE (1) COPY OF THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATION AT THE JOB SITE AT ALL TIMES
- 2. CONSTRUCTION OF THE IMPROVEMENTS SHOWN OR IMPLIED BY THIS SET OF DRAWINGS SHALL NOT BE INITIATED OR ANY PART THEREOF UNDERTAKEN UNTIL THE DIRECTOR OF PUBLIC WORKS OR HIS AGENT IS NOTIFIED OF SUCH INTENT. AND ALL REQUIRED AND PROPERLY EXECUTED BONDS AND CONTRACT AGREEMENTS ARE RECEIVED AND APPROVED BY THE CITY.
- 3. THE CONSTRUCTION COVERED BY THESE PLANS SHALL CONFORM TO ALL APPLICABLE STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF LEE'S SUMMIT. MISSOURI. IN CURRENT USE. SPECIFICALLY. BUT NOT **EXCLUSIVE TO:**

TRAFFIC SIGNAL SPECIFICATION: SECTION 2900 TRAFFIC SIGNAL STANDARD DRAWINGS: DRAWINGS TS-1 THROUGH TS-9

- 4. ALL WORKMANSHIP AND MATERIALS SHALL BE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- 5. RIGHT-OF-WAY LIMITS AND EASEMENTS SHOULD BE CROSS CHECKED BY THE CONTRACTOR AND APPROVED BY THE FIELD INSPECTOR BEFORE UNDERTAKING ANY EXCAVATIONS TO THE SITE.
- 6. THE CONTRACTOR SHALL STAKE THE LOCATION OF ALL POLES, PULL BOXES, AND CONTROLLER CABINET BASE, THEN PROVIDE THE CITY ONE WEEK NOTICE PRIOR TO THE START OF CONSTRUCTION, AND SUBSEQUENT CONSTRUCTION ACTIVITIES, FOR INSPECTION AND APPROVAL. THE CONTRACTOR SHALL PROVIDE A WORK SCHEDULE, CONTACT NAMES, AND PHONE NUMBERS. NOTIFICATION AND COORDINATION SHALL BE WITH THE CITY'S TRAFFIC ENGINEER.
- 7. ALL LOCATIONS INDICATED IN DRAWINGS, INCLUDING CONDUIT RUNS ARE SUBJECT TO ADJUSTMENT TO CLEAR OBSTRUCTIONS AND TO MEET SITE CONDITIONS. IF ANY. BY THE CITY.
- 8. EXISTENCE AND LOCATION OF ANY UNDERGROUND OR OVERHEAD FACILITIES SHOWN ON THESE DRAWINGS OR REFERENCE TO ANY SOIL CONDITIONS, IF MADE, ARE APPROXIMATE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL SITE CONDITIONS AND LOCATE ALL UTILITIES, INCLUDING DEPTH, BEFORE STARTING CONSTRUCTION SO THAT ANY ADJUSTMENTS TO DESIGN CAN BE MADE PRIOR TO POLE ORDERING OR FABRICATION. IN ADDITION. THE CONTRACTOR SHALL AVOID DISRUPTION OF SERVICES PROVIDED BY THE UTILITIES AND SHALL ENSURE THAT PROPER CLEARANCES (OVERHEAD AND UNDERGROUND) ARE MAINTAINED FOR THE DURATION OF CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES.
- 9. THE CONTRACTOR SHALL COORDINATE WITH THE CITY TRAFFIC ENGINEER FOR ANY NECESSARY CHANGES TO THE TRAFFIC SIGNALS RESULTING FROM EXISTING UTILITIES OR OTHER CONSTRUCTION ISSUES.
- 10. ANY EQUIPMENT DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 11. SIGNAL EQUIPMENT SHALL NOT FORM AN OBSTRUCTION TO THE MOVEMENT OF PEDESTRIAN AND WHEELCHAIR TRAFFIC AND SHALL BE ADA ACCESSIBLE. WHERE SIDEWALKS ARE PRESENT, A MINIMUM CLEAR WIDTH OF 48 INCHES SHALL BE AVAILABLE FOR PEDESTRIAN AND WHEELCHAIR MOVEMENT. PULL BOXES SHALL NOT BE INSTALLED WITHIN SIDEWALK RAMPS.
- 12. CONDUITS TO BE PLACED OUTSIDE OF PAVED AREAS SHALL BE TRENCHED IN PLACE. ALL COMPACTION AND BACKFILL SHALL MEET CITY OF LEE'S SUMMIT REQUIREMENTS. AT THE OPTION OF THE CONTRACTOR, CONDUITS MAY BE BORED OUTSIDE PAVED AREAS. CONDUITS TO BE PLACED WITHIN THE LIMITS OF PAVEMENT SHALL BE BORED UNLESS OTHERWISE AUTHORIZED BY THE CITY TRAFFIC ENGINEER.
- 13. THE CONTRACTOR SHALL COORDINATE ALL ELECTRICAL POWER REQUIREMENTS AND CONNECTION ACTIVITIES WITH THE ELECTRIC UTILITY COMPANY, INCLUDING LOCATION OF THE METER, CIRCUITRY AND CONNECTION REQUIREMENTS, AND POWERING UP THE COMPLETE SYSTEM. THE CONTRACTOR IS REQUIRED TO REQUEST METER INSTALLATION AND PAY ALL ELECTRIC BILLS AND SERVICE FEES.
- 14. ALL DISTURBED SURFACES SHALL BE MADE GOOD TO MATCH EXISTING AT THE CONTRACTOR'S EXPENSE.
- 15. CONTRACTOR SHALL MAINTAIN VEHICLE AND PEDESTRIAN TRAFFIC AT ALL TIMES.
- 16. FINAL ACCEPTANCE SHALL BE DEFINED AS FINAL WRITTEN APPROVAL AND ACCEPTANCE BY THE CITY, INCLUDING COMPLETION OR CORRECTION OF ALL PUNCH LIST ITEMS AND THE TRAFFIC SIGNAL IS FULLY OPERATIONAL FOR A TIME PERIOD OF FIFTEEN (15) DAYS, WITHOUT ANY DEFICIENCIES, AS NOTED IN THE SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

- 1. ANY WORK NOT COVERED BY THESE DRAWINGS OR SPECIFICATIONS SHALL BE SUBJECT TO THE CITY OF LEE'S SUMMIT DESIGN & CONSTRUCTION MANUAL
- 2. THE CONTRACTOR SHALL CONTACT THE PUBLIC WORKS OPERATIONS DEPARTMENT (816-969-1870) TO PROGRAM THE SIGNAL CONTROLLER. THE CONTRACTOR SHALL PROVIDE AT LEAST 10 WORKING DAYS NOTICE PRIOR TO INITIATING FLASHING SIGNAL OPERATION.
- 3. THE NEW TRAFFIC SIGNAL SHALL FLASH YELLOW FOR COLBERN ROAD AND RED FOR RICE PARKWAY/PRIVATE DRIVEWAY FOR A PERIOD OF 7 CALENDAR DAYS PRIOR TO NORMAL SIGNAL OPERATION AND THE BEGINNING OF THE TEST PERIOD.
- 4. NEW SIDEWALKS AND CURB RAMPS WILL BE INSTALLED BY OTHERS.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF ALL EQUIPMENT THAT IS NOT SALVAGED.
- 6. THE TOP 6" OF ALL BACKFILL AREAS SHALL BE TOPSOIL. ALL UNPAVED SURFACES DISTURBED BY CONSTRUCTION SHALL BE SODDED.
- 7. PAVEMENT MARKINGS AT THE INTERSECTION WILL BE INSTALLED BY OTHERS.
- 8. SINGLE LANE CLOSURES SHALL BE PERMITTED ON COLBERN ROAD DURING TIMES WHEN WORK IS IN PROGRESS BETWEEN 9:30 AM AND 3:00 PM.



PUSH BUTTON DETECTOR

SECONDARY SERVICE POINT

EXISTING CONDUIT

POST NUMBER

PB24 PUSH BUTTON NUMBER

PROPOSED CONDUIT

SIGNAL FACE NUMBER

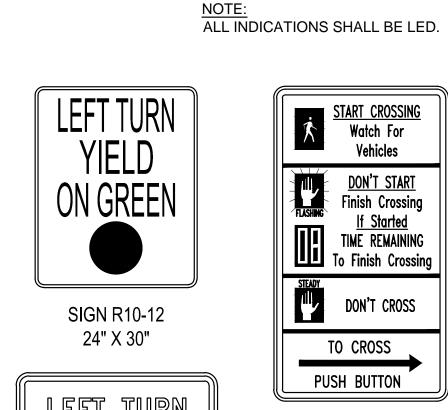
DETECTOR NUMBER

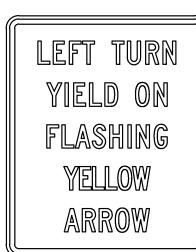
PULL BOX NUMBER

COBRA HEAD LUMINAIRE

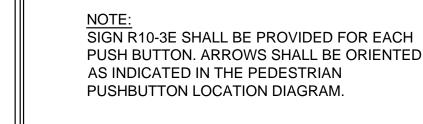
VIDEO DETECTION CAMERA

EMERGENCY VEHICLE PREEMPTION (EVP)





R10-12A



START CROSSING
Watch For

DON'T START
Finish Crossing

To Finish Crossing

TO CROSS

PUSH BUTTON

SIGN R10-3E

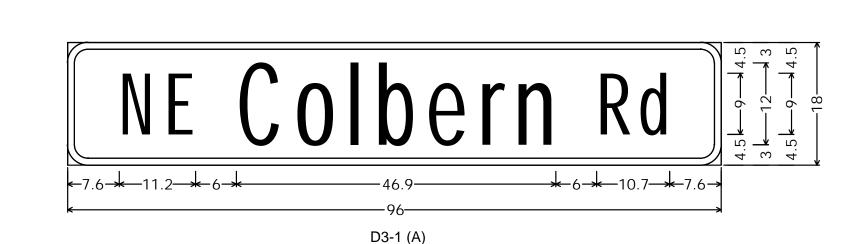
9" X 15"

<u>If Started</u> TIME REMAINING

DON'T CROSS

30" X 36"

TYPICAL REGULATORY SIGN DETAIL



→ NE Rice Pkwy

18" X 96"

18" X 108"

NE Rice Pkwy -D3-1 (C) 18" X 108"

> 9" AND 12" SERIES "C". UPPERCASE/LOWERCASE WITH SILVER WHITE. HIGH INTENSITY LETTERS AND 3/4" BORDER ON GREEN, HIGH INTENSITY BACKGROUND.

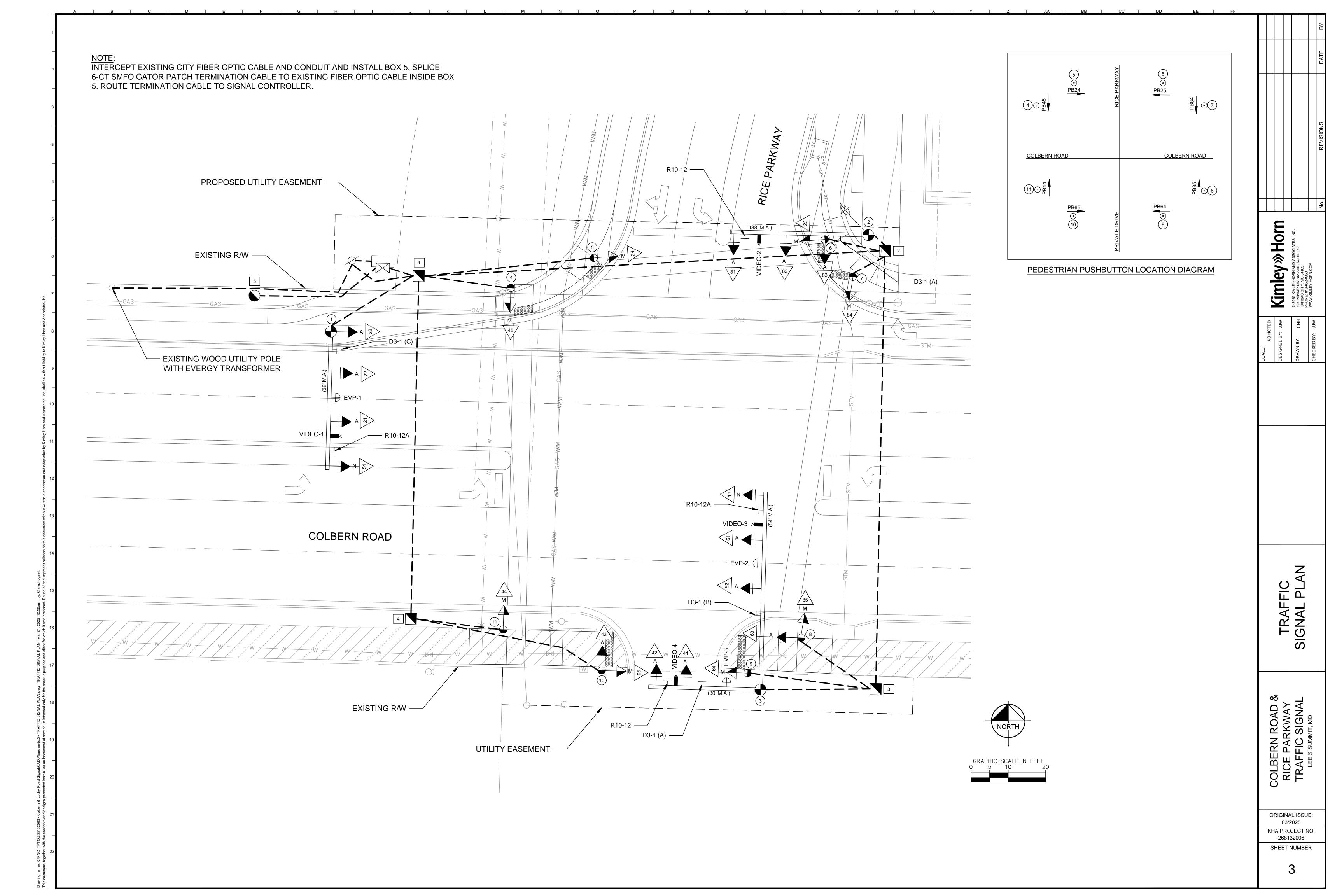
> > STREET NAME SIGN DETAILS

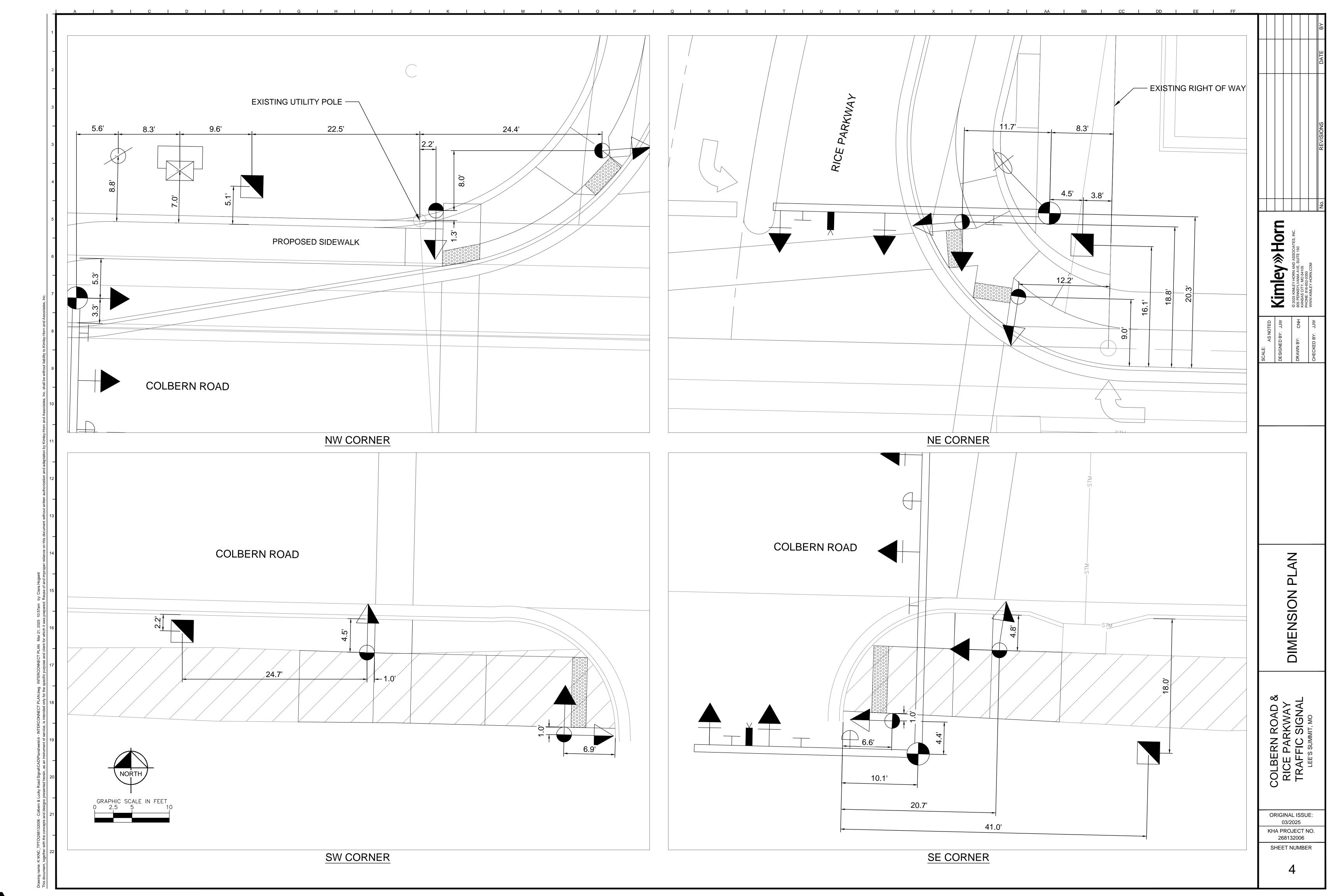
≫Horn Kimley

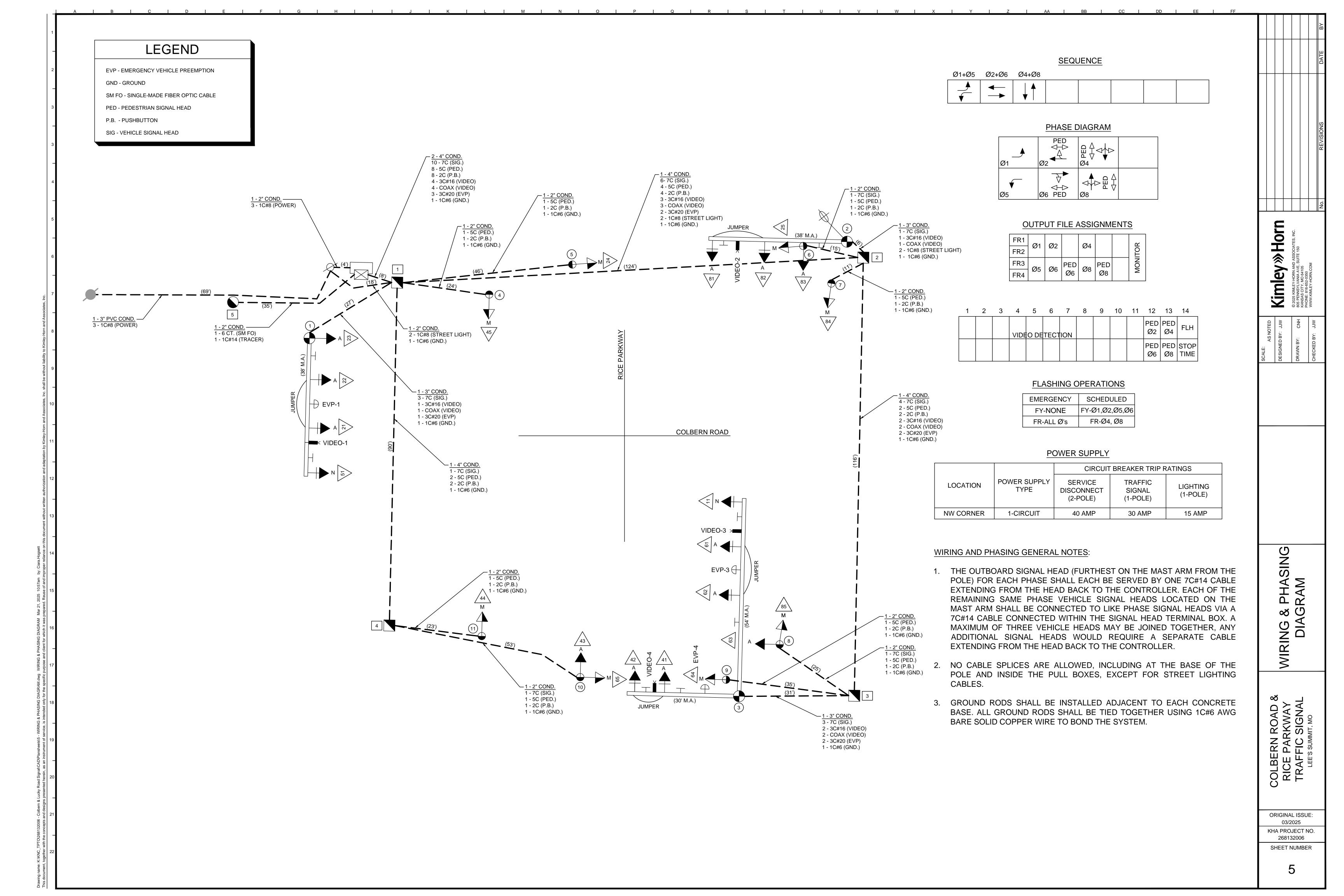
> S ENERAL

COLBERN ROAD & RICE PARKWAY TRAFFIC SIGNAL

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO 268132006







											POLE	S				
O		DEST POLE				ST RM	INCLUDED	S	SIGNA SPAC	L HEAI	D		LIGHTING			
POLE NO.		EIGH EET				GTH ET)	ANGLE	A E	B F	C G	D H	MOUNTING	15,000 LUMEN		CKET ENGTH	REMARKS
<u>ā</u>	4	8	15	30	38	54			<u> </u>	9	П	HEIGHT	CLASS 1 LED LUMINAIRES	10'	15'	
1					1			11'	13'	12'						
2					1			22'	14'			30'	1		1	
3						1	90°	27'	13'	12'						
3				1			90	20'	8'							
4		1														
5		1														
6			1													
7		1														
8			1													
9		1														
10			1													
11		1														
TOTALS		5	3	1	2	1							1		1	

SIGNAL HEAD SPACING (FEET) MAY BE ADJUSTED TO SITE CONDITIONS AS APPROVED BY THE PROJECT INSPECTOR.

	SIGNS			
SIGN	LEGEND	NO.	S.F.	TOTAL S.F.
R10-12	LEFT TURN YIELD ON GREEN	2	5	10
R10-12A	LEFT TURN YIELD ON FLASHING YELLOW ARROW	2	7.5	15
D3-1(A)	COLBERN ROAD	2	12	24
D3-1(B)	RICE PARKWAY (L)	1	13.5	13.5
D3-1(C)	RICE PARKWAY (R)	1	13.5	13.5
TOTAL				76

P - POLE MOUNTED SIGNAL HEAD M - MAST ARM MOUNTED SIGNAL HEAD S - SPAN WIRE MOUNTED SIGNAL HEAD

THE TRAFFIC SIGNAL SYSTEM SHALL BE COMPLETE AND THE CONTRACTOR SHALL FURNISH AND INSTALL ALL EQUIPMENT AND MATERIALS NECESSARY FOR THE SATISFACTORY OPERATION OF ELECTRICAL APPARATUS AND FOR COMPLETE OPERATION OF THE TRAFFIC SIGNAL SYSTEM WHETHER SPECIFICALLY MENTIONED OR NOT.

		SIGNA	L CONDU	IIT	
FROM	ТО	3" PVC	2" HDPE	3" HDPE	4" HDPE
XFMR	Ø	69'			
Ø	\boxtimes		4'		
Ø	1		18'		
\boxtimes	1				16'
1	1			27'	
1	4		24'		
1	5		46'		
1	2				124'
2	2			6'	
2	9		15'		
2	7		11'		
2	3				116'
3	3			31'	
3	8		25'		
3	9		35'		
1	4				90'
4	10		53'		
4	11		23'		
1	5		35'		
SUBT (FE		69'	286'	64'	346'
BID TO		70'	300'	70'	350'

																								L										_	ᆣ	_	_
	SIGNAL HEADS																																				
N	Э.		Q								IND	OICAT			\	/ISOR	s							SE	СТІ	ON:	S										
111	111	D TYPE	OPT. LIMITED	LOUVERS	BACKPLATE				12	2" LEC)'S					FLASH DON'T WALK	>	COUNTDOWN	Т	YPE						Ŋ	//OL	INTI	NG	i							
POLE	FACE	HEAD	OPT.	<u>آ</u>	BACI		_				, ,	_			WALK	FLAS N'T W	W/DW	UNTD	NOT.	CUT AWAY			1			2		;	3			4		5		6	
						R	Υ	G	R←	Y←	G←	G 🏌	Y→	G→		8		8 2	=	5 ₹		Р	s	М	Р	s I	ИΙ	P (s	М	Р	s	М	Р	М	PI	М
1	51	N			1				1	2	1								4														1				
	21	Α			1	1	1	1											3											1							
	22	Α			1	1	1	1											3											1							
	23	Α				1	1	1											3									1									
2	81	Α			1	1	1	1											3											1							
	82	Α			1	1	1	1											3											1							
3	11	Z			1				1	2	1								4														1				
	61	Α			1	1	1	1											3											1							
	62	Α			1	1	1	1											3											1							
	41	Α			1	1	1	1											3											1							
	42	Α			1	1	1	1											3											1							
4	45	М																1				1															
5	24	М																1				1															
6	25	М																1				1															
	83	Α				1	1	1											3									1									
7	84	М																1				1															
8	63	Α				1	1	1											3									1									
	85	М																1				1															
9	64	М																1				1															
10	43	Α				1	1	1											3									1									
	65	М																1				1															
11	44	М																1				1															
тот	ALS				10	12	12	12	2	4	2							8	44			8						4		8			2				

CONTROLLER AND EQUIPMENT		TOTALS
CABINET AND ACCESSORIES: NEMA TYPE P TS1 CABINET FIBER OPTIC READY		1
CONTROLLER: TYPE 3608 M 60 EAGLE EPAC COMPLETE PER PLANS, INCLUDING SOFTWARE, NTCIP REV 4.57		1
EMERGENCY VEHICLE DETECTION SYSTEM (COMPLETE): GTT		1
VIDEO DETECTION SYSTEM (COMPLETE)		1
1-CIRCUIT POWER SUPPLY (UTILITY ENCLOSURE PEDESTAL)		1
GROUND RODS		
PUSHBUTTON DETECTORS		8
INTERCONNECT EQUIPMENT		TOTALS
FIBER OPTIC DISTRIBUTION UNIT: GATOR PATCH OR CORNING WALL-MOUNTABLE INTERCONNECT CENTE	R	1
FIBER OPTIC DATA LINK SWITCH: CISCO, ANTARIAM COMTROL, OR		

			VII	DEO DETECTION SYSTEM (COMPLETE)	1		\boxtimes	5					77'	78'		
			1-0	CIRCUIT POWER SUPPLY (UTILITY ENCLOSURE PEDESTAL)	1			6					176'	177'	195'	igspace
			GF	ROUND RODS				7					172'	173'	0.071	_
				INCLIDATION DETECTORS				8					308'	309'	327'	_
			PU	SHBUTTON DETECTORS	8		\boxtimes	9					318' 180'	319' 181'	221'	\vdash
]		10					150'	151'	221	\vdash
				INTERCONNECT EQUIPMENT	TOTALS								130	131		\vdash
			l eine	D ODTIO DISTRIBUTION UNIT			XFMR	Ø				320'				T
				R OPTIC DISTRIBUTION UNIT: OR PATCH OR CORNING WALL-MOUNTABLE INTERCONNECT CENTER	1		Ø	\boxtimes				60'				
				R OPTIC DATA LINK SWITCH: CISCO, ANTARIAM COMTROL, OR ISSITION SWITCH WITH SEPARATE POWER SUPPLY	1		Ø	2		486'						
																$oxed{igspace}$
				R OPTIC SPLICE ENCLOSURE:												_
			THIN	COL FIBER OPTIC SPLICE ENCLOSURE	1											igspace
						ı										_
																_
SNAL	CONDU	JIT														\vdash
П		 														\vdash
	2"	3"	4"													\vdash
С	HDPE	HDPE	HDPE													
)'																
	4'															
	18'															
			16'													
	_	27'														
	24'															
	46'		40.41													
		6'	124'													$oxed{oxed}$
	15'	0														lacksquare
	11'						SYS	STEM	642'							\perp
	11		116'					TOTAL EET)	642'	486'		380'	1,286'	1,293'	2,365'	
	25'	31'						TOTAL EET)	650'	500'		400'	1,350'	1,400'	2,400'	
	25'						\									$oldsymbol{ol}}}}}}}}}}}}}}}}}$

				E	BASES	AND PU	LL BOX	ES			
N	О.			BAS	SES				PULL E	BOXES	
POLE	PULL BOX	B10	B13	С	EV	POWER SUPPLY	CONC. (C.Y.)	CLASS 1	CLASS 2	CLASS 3	FIBEI OPTI
1			1				3.40				
2			1				3.40				
3			1				3.40				
4				1			0.44				
5				1			0.44				
6				1			0.44				
7				1			0.44				
8				1			0.44				
9				1			0.44				
10				1			0.44				
11				1			0.44				
	1									1	
	2									1	
	3								1		
	4							1			
	5										1
	NTR.				1		2.00				
PO\	NER					1	1.00				
TOT	ΓALS		3	8	1	1	16.72	1	1	2	1

			FIBER OPTION	CINTERCONNECT CON	NDUIT & CABLE		
FROM	01	2" CONDUIT HDPE (ORANGE)	2" CONDUIT GRS	6-COUNT FIBER OPTIC TERMINATION CABLE (EACH)	#14 STRANDED COPPER TRACER WIRE	PULL STRING	REMARKS
\boxtimes	5	35'		1	35'	35'	
SUB [*] (FI	TOTAL EET)	85'		1	85'	85'	
BID (FI	TOTAL EET)	100'		1	100'	100'	

VEHICLE

DETECTION CABLE

m-138

DETECTION

3c#16 | COAX

95' 95'

205' 205'

713' 689'

1,013' 1,013'

1,100' 1,100'

850'

REMARKS

CONTROL

TYPE 20-1

226'

1,110'

GROUND

☒ ②

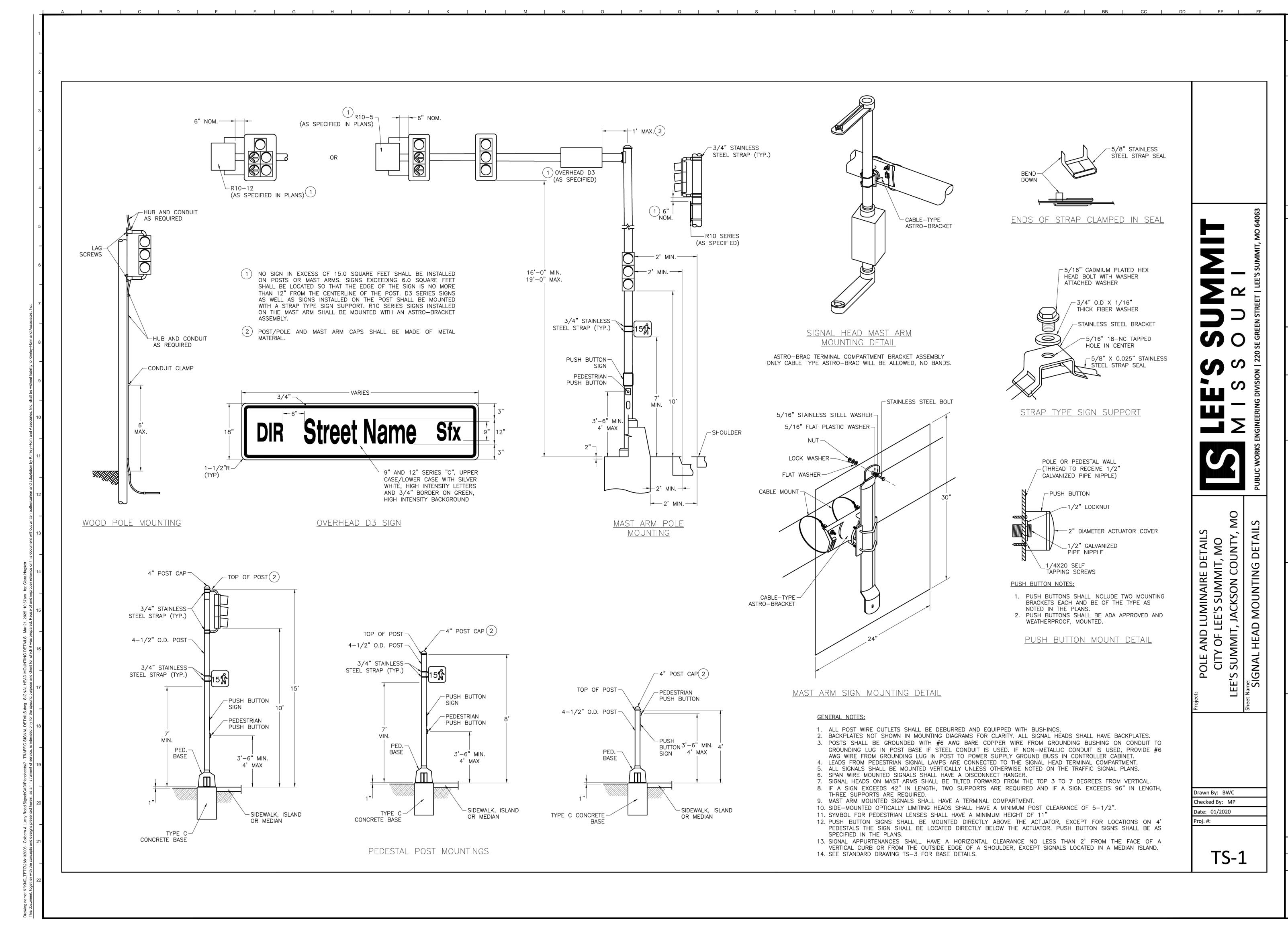
POWER/LIGHTING

#6 | 1c-10 | 3c-4 | 3c-6 | 1c-8 | 2c-14 | 5c-14 | 7c-14

		9		ı			
		1		! !	NC.		
			<u> </u>) [ATES,		
		-	<u> </u>	Ī	3SOCI/ TE 150		
					ND AS E, SUI	2	ΜC
			FIMIEV ≫HOLD		© 2025 KIMLEY-HORN AND ASSOCIATES, INC. 805 PENNSYLVANIA AVE, SUITE 150) 6410)350	JRN.C
		-	Ē	[LEY-H	TY, M(6-652-(EY-H
				, ; ;	25 KIN PENNS	SAS CI NE: 81	V.KIML
		1	<u> </u>	, ,	© 20 805 F	A P HO	*
					_		_
		AS NOTED	DESIGNED BY: JJW		CNH		
		AS N	D BY:		.: .:		2
	岜		IGNE		DRAWN BY:		79 97707110
	SCALE		DES		DRA		-
,							
J							

OF SUMMARY OF SIGNAL QUANTITIES

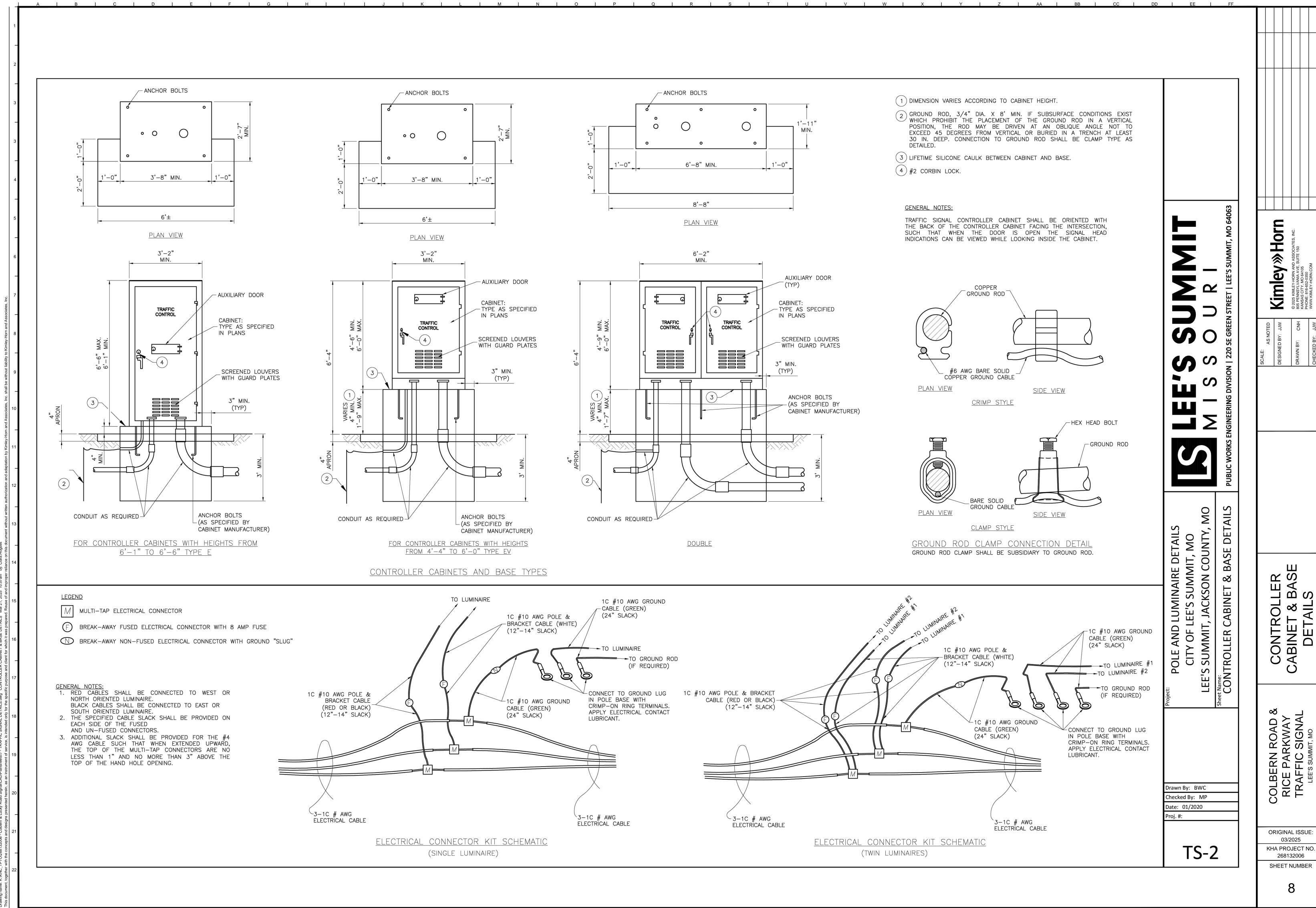
ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

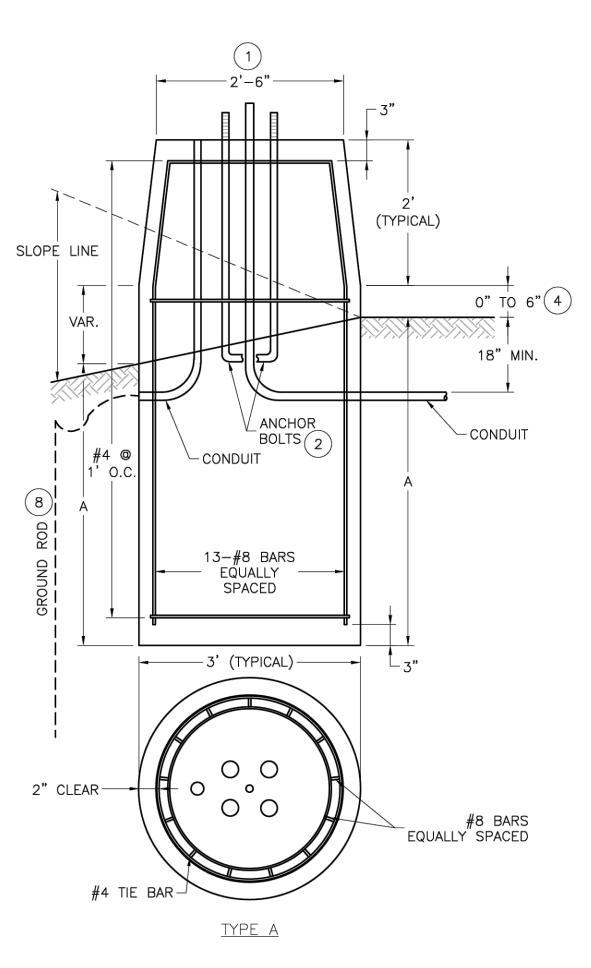


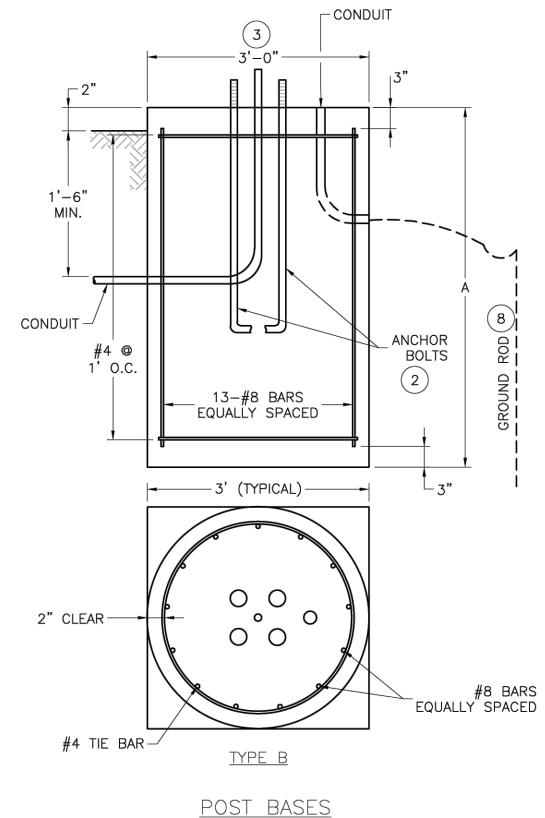
SIGNAL HEAD MOUNTING DETAILS COLBERN ROAD & RICE PARKWAY TRAFFIC SIGNAL LEE'S SUMMIT, MO

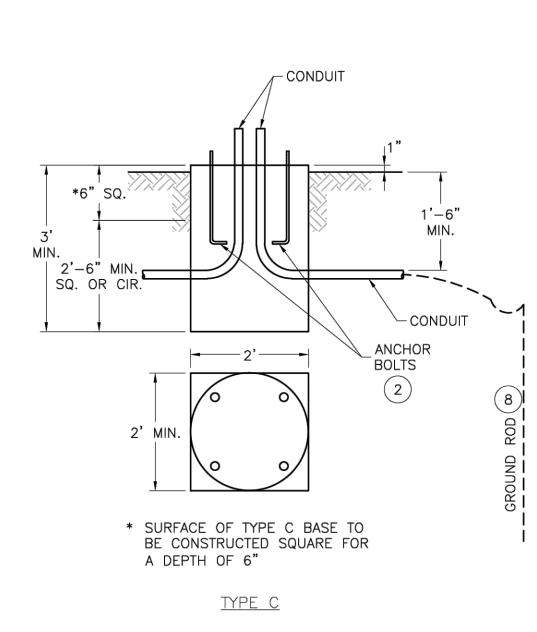
ORIGINAL ISSUE:

03/2025 KHA PROJECT NO. 268132006 SHEET NUMBER









	POST BAS	SES
POST TYPE	ARM LENGTH (FT.)	BASE TYPE
B, BL, C & CL	8 - 14	A-8 OR B-8
B, BL, C & CL	15 – 34	A-10 OR B-10
B, BL, C & CL	35 – 54	A-13 OR B-13

ARM LENGTH DETERMINED BY LENGTH OF LONGEST ARM FOR TYPE B & BL SIGNAL POSTS.

BASE TYPE A OR B DETERMINED BY LOCATION OF POST BASE.

SPECIAL DESIGN REQUIREMENTS:

SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN ON STANDARD DRAWING TS-5 SHALL HAVE ITS POST BASE DESIGNED BY A PROFESSIONAL ENGINEER AND APPROVED BY THE CITY ENGINEER (OR DESIGNEE). A SET OF DRAWINGS INCLUDING SPECIFICATIONS AND DESIGN COMPUTATIONS SHALL BE SUBMITTED FOR RECORD AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO) AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE FOUNDATION WILL MEET THE DESIGN CRITERIA.

- 1 IF BOLT CIRCLE IS 22 INCHES OR GREATER, USE TYPE B BASE. IF TYPE B BASE IS USED ANYWHERE, ALL TYPE B, BL, C, AND CL POSTS SHALL HAVE TYPE B BASE. BASE PLATE SHALL STAY WITHIN THE TOP OF THE POST BASE DIAMETER.
- 2 ANCHOR BOLT DIMENSIONS ARE SHOWN ON THE MANUFACTURER'S APPROVED DRAWINGS.
- 3 MAXIMUM BOLT CIRCLE DIAMETER IS 26". BASE PLATE SHALL STAY WITHIN THE TOP OF THE POST BASE DIAMETER.
- (4) 0" TO 6" VARIATION IN BASE HEIGHT IS FOR OBTAINING 16'-0" CLEARANCE. 0.13" C.Y. CONCRETE AND 3 LBS. REINFORCING STEEL PER 6".

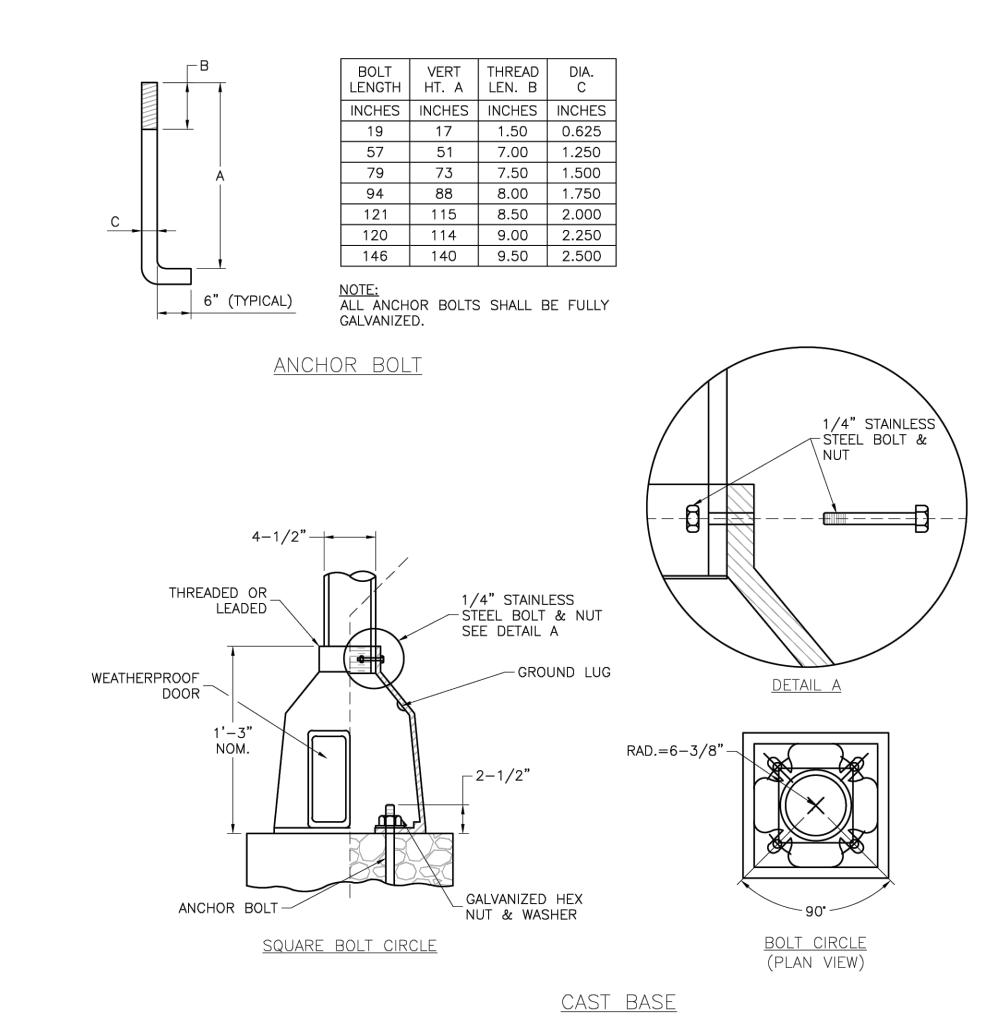
STEEL & CONCRETE REQUIREMENTS FOR POST BASES				
BASES		#8 STEEL BAR		00110
TYPE	A (10)	LENGTH	WEIGHT LBS 11	CONC. C.Y.
A-8	8'-0"	9'-6"	399	2.53
A-10	10'-0"	11'-6"	481	3.06
A-13	13'-0"	14'-6"	604	3.84
B-8	8'-0"	7'-6"	317	2.09
B-10	10'-0"	9'-6"	400	2.62
B-13	13'-0"	12'-6"	523	3.40
C*				0.44
10 SOIL DEPTH, NO ROCK 11 INCLUDE #4 TIE BAR				

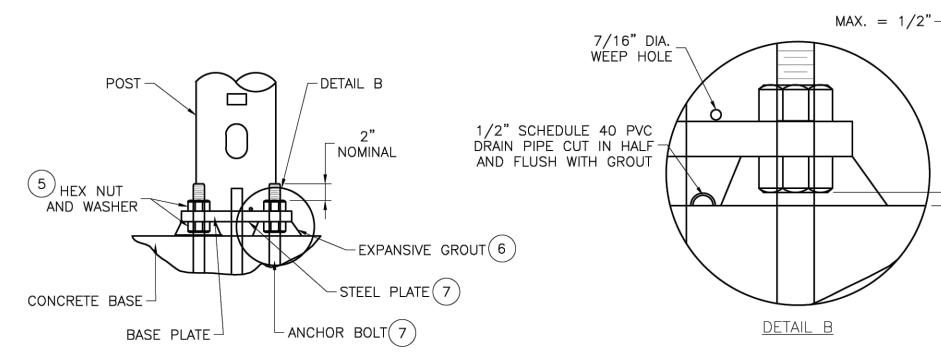
* SURFACE OF TYPE C BASE TO BE CONSTRUCTED SQUARE FOR A MINIMAL DEPTH OF 6".

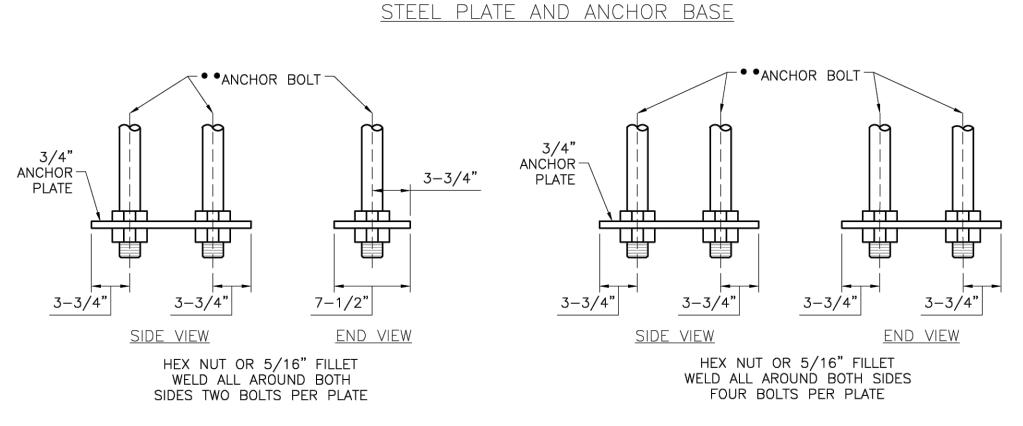
- 5 POSTS SHALL BE FURNISHED WITH INDIVIDUAL NUT COVERS.
- 6 EXPANSIVE GROUT SHALL BE USED BETWEEN THE POST BASE PLATE AND CONCRETE BASE.
- 7 PLATE AND BOLT SIZES SHALL BE SHOWN ON FABRICATORS SHOP DRAWINGS AND SHALL BE SUBJECT TO APPROVAL.
- 8 3/4" X 8' MINIMUM GROUND ROD. IF SUBSURFACE CONDITIONS EXIST WHICH PROHIBIT THE PLACEMENT OF THE GROUND ROD IN VERTICAL POSITION, THE ROD MAY BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES FROM VERTICAL OR BURIED IN A TRENCH AT LEAST 30 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CLAMP TYPE AS DETAILED ON STANDARD DRAWING TS-2.

BASE EMBEDMENT IN SOLID ROCK			
	REQUIRED EMBEDMENT FOR BASE TYPE		
SOLID ROCK ENCOUNTER POINT	A-8 B-8	A-10 B-10	A-13 B-13
AT SURFACE	4'-6"	4'-9"	5'-9"
AT ONE-FOURTH NORMAL DEPTH	3'-6"	4'-0"	5'-0"
AT ONE-HALF NORMAL DEPTH	3'-0"	3'-3"	3'-3"
AT THREE-FOURTHS NORMAL DEPTH	1'-3"	1'-3"	1'-0"

- 1. REQUIRED EMBEDMENT DEPTHS CAN BE INTERPOLATED BETWEEN ENCOUNTER POINTS FOR OTHER SOLID ROCK ENCOUNTER DEPTHS.
- NORMAL LENGTHS FOR ANCHOR BOLTS AND REINFORCING STEEL WILL BE REQUIRED.
- 3. CORE DRILL HOLES FOR ANCHOR BOLTS AND REINFORCING STEEL IN SOLID ROCK SHALL BE PROVIDED. CORE DRILL HOLES SHALL BE TWICE THE DIAMETER OF THE ANCHOR BOLT AND REINFORCING STEEL DIAMETER AND TO WITHIN 3 INCHES OF THE NORMAL BASE DEPTH.
- 4. IF SOIL, SHALE, GRAVEL, FRACTURED ROCK, OR VOIDS ARE ENCOUNTERED DURING CORE DRILLING, THE ROCK SHALL BE REMOVED TO THE POINT OF ENCOUNTER.
- 5. ANCHOR BOLTS AND REINFORCING STEEL SHALL BE GROUTED IN THE CORE DRILL HOLES WITH NON—SHRINK GROUT HAVING A MINIMUM STRENGTH OF 9,000 POUNDS IN 24 HOURS.
- 6. STRAIGHT ANCHOR BOLTS OF THE LENGTH SHOWN IN THE ANCHOR BOLT TABLE UNDER THE COLUMN "BOLT LENGTH"ARE ADEQUATE FOR USE IN GROUTED CORE DRILLED HOLES. NO HEAT INDUCED ALTERATION OR BENDING OF ANCHOR BOLTS WILL BE PERMITTED.







OPTIONAL STEEL PLATE FOR ANCHOR BOLTS

EE'S SUMMIT

orn

Kimley»H

ect:

CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, M

POLE AND LUMINAIRE DETAILS

Drawn By: BWC
Checked By: MP
Date: 01/2020
Proj. #:

TS-3

5-3

268132006 SHEET NUMBER

9

ORIGINAL ISSUE:

03/2025

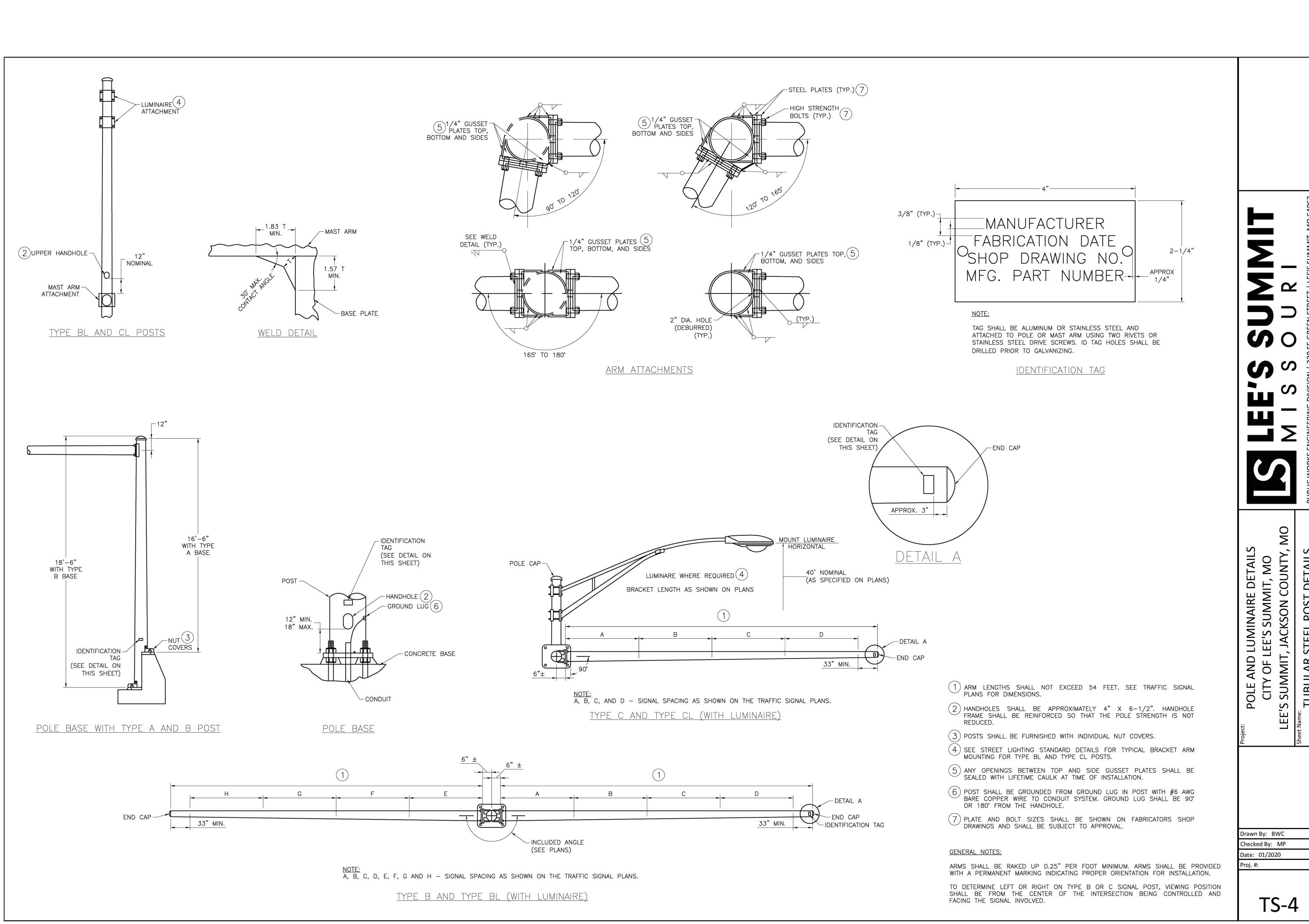
KHA PROJECT NO.

BASI

М Ш

O

COLBERN ROAD & RICE PARKWAY TRAFFIC SIGNAL LEE'S SUMMIT, MO



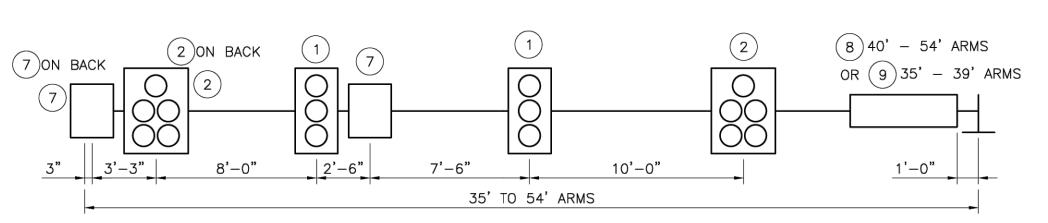
Kimley » Horn

DETAILS STEEL TUBULAR

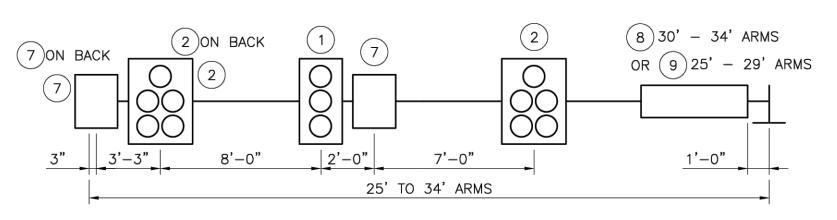
AR DE

TUBUL/ POST

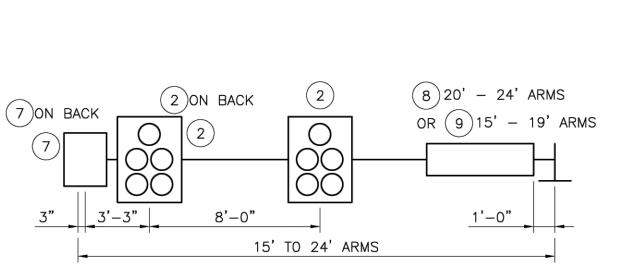
ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

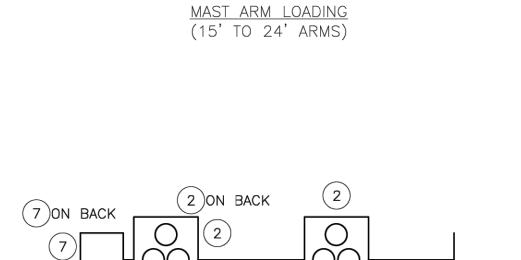


MAST ARM LOADING (35' TO 54' ARMS)

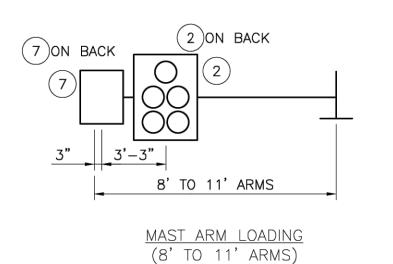


MAST ARM LOADING (25' TO 34' ARMS)





12' TO 14' ARMS MAST ARM LOADING (12' TO 14' ARMS)



NOTE:
ATTACHMENT LOCATIONS ARE FOR STRUCTURAL DESIGN PURPOSES ONLY.
ACTUAL LOCATIONS ARE SHOWN ON THE PLANS.

TYPICAL TOP VIEW

MINIMUM DESIGN LOADING FOR POST AND MAST ARM ATTACHMENTS

SURFACE PROJ. AREA WEIGHT AREA DESCRIPTION (LBS.)* (SQ. FT.) (SQ. FT.) 3-SECTION OL HEAD 32.5 8.0 5-SECTION OL HEAD 100.0 12.0 47.5 100.0 50.5 VERT. 5-SECTION OL HEAD 12.0 23.0 2-SECTION OL HEAD 40.0 6.0 1.0 3.5 150 WATT LUMINAIRE 30.0 2.0 1.1 N/A 9" X 18" SIGN N/A 27.0 7.5 30" X 36" SIGN N/A 15.0 120" X 18" SIGN 25.0 N/A 96" X 16" SIGN 10.7 12.0 18.7 N/A 96" X 16" SIGN 20.0 31.0 N/A

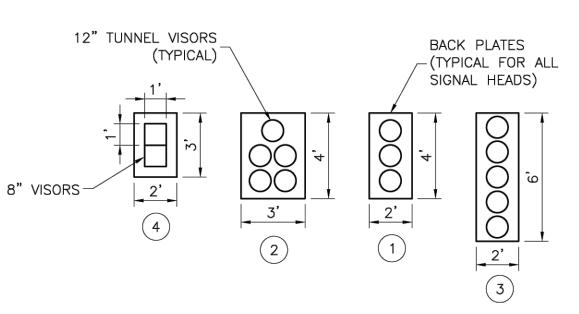
OL - OPTICALLY LIMITED * MOUNTING HARDWARE INCLUDED

96" X 28" SIGN

15'-0"

_AS REQUIRED PER PLANS

SECTION A-A



TRAFFIC SIGNAL HEAD TYPES

STRUCTURAL DESIGN REQUIREMENTS:

STRUCTURAL SUPPORTS SHALL BE DESIGNED AND FABRICATED TO WITHSTAND THEIR OWN LOADING AND THE ATTACHMENT LOADING SHOWN ON THIS DRAWING OR ON THE PLANS, WHICHEVER IS GREATER. STRUCTURAL MEMBERS INCLUDE POSTS, MAST ARMS AND LUMINAIRES BRACKET ARMS, AS REQUIRED.

DESIGN OF THE STRUCTURAL SUPPORTS SHALL BE BASED ON AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, 2015 OR LATEST REVISION WITH THESE EXCEPTIONS AND

MINIMUM DESIGN WIND SPEED OF 90 MPH AT 30 FEET ABOVE GROUND. GROUP LOADING:

PERCENT OF ALLOWABLE STRESS* <u>LOADS</u> GROUP I - DL GROUP II - DL + W 133 133 GROUP III - DL + ICE + 0.5(W**)

*NO LOAD REDUCTION FACTORS SHALL BE APPLIED IN CONJUNCTION WITH THESE INCREASED ALLOWABLE STRESSES. ** W TO BE COMPUTED ON THE BASIS OF THE WIND PRESSURE FORMULA. 25 PSF (1197 PA) MINIMUM FOR W FOR GROUP

SIGNAL STRUCTURES WHICH WILL EXCEED THE DIMENSION LIMITS SHOWN SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER*** BASED ON AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, 2015, 6TH EDITION, INCLUDING ANY INTERIM WITH THE CRITERIA NOTED BELOW:

- .. ULTIMATE DESIGN WIND SPEED SERVICE DESIGN WIND SPEED
- FATIGUE CATEGORY I
- •• MEAN RECURRENCE INTERVAL 700 YEARS 50 YEAR DESIGN LIFE.
- .. SHALL NOT BE SPECIFICALLY DESIGNED FOR TRUCK INDUCED WIND GUSTS.

SHALL BE SPECIFICALLY DESIGNED TO RESIST PERIODIC GALLOPING FORCES.

***A SET OF SHOP DRAWINGS INCLUDING WELD PROCEDURE SPECIFICATIONS AND DESIGN COMPUTATIONS SHALL BE SUBMITTED FOR RECORD AND REFERENCE. THE SUBMITTED DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE LAWS RELATING TO ARCHITECTS AND PROFESSIONAL ENGINEERS (CHAPTER 327, RSMO) AND SHALL INCLUDE A TITLE BLOCK OR SUMMARY SHEET WHICH LISTS AND CERTIFIES THAT THE PRODUCT MEETS ALL OF THE SPECIFIED DESIGN CRITERIA.

FOR TYPE B AND BL POSTS. ICE AND DEAD LOADING SHALL BE BASED ON THE COMBINED EFFECT OF DESIGN LOADING ON EACH ARM. WIND LOADING IS APPLIED AS DESCRIBED IN SECTION 1.2.5(B) OF THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS, 2015 OR LATEST VERSION.

GENERAL NOTES:

30'-0"

17'-6"

10'-0"

TYPICAL POST LOADING

ATTACHMENT LOCATIONS ARE FOR STRUCTURAL DESIGN PURPOSES ONLY. ACTUAL LOCATIONS ARE SHOWN ON THE PLANS.

neet Name: TUBULAR STEEL POST DESIGN LOADING REQUIREMENTS E'S SUMMIT, MO ACKSON COUNTY, I

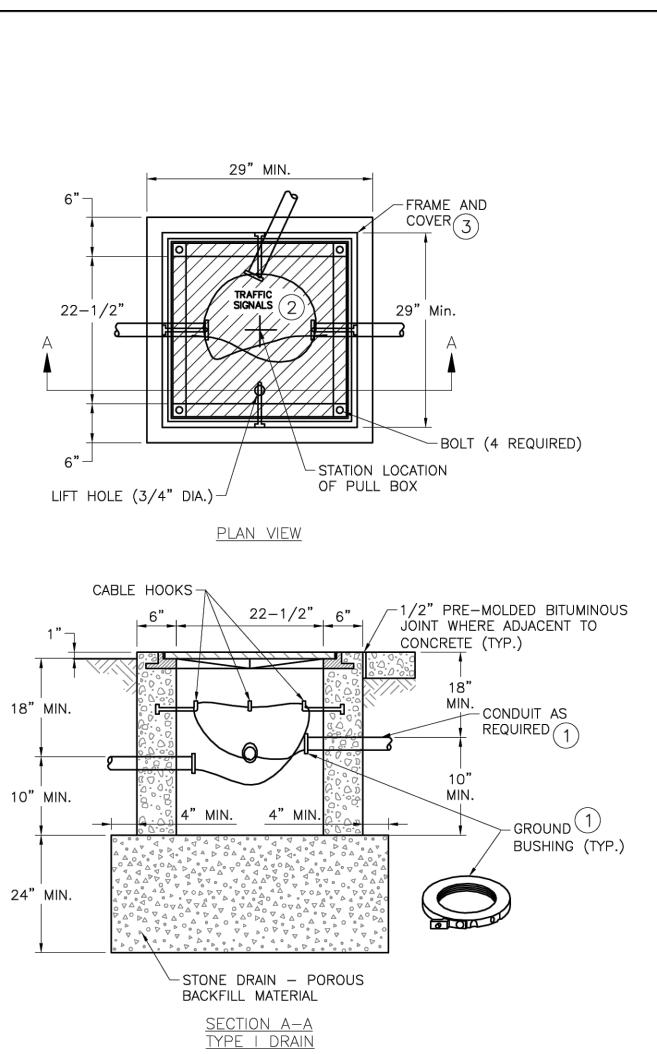
Checked By: MP Date: 01/2020

POLE AND LUMINAIRE DETAILS

TS-5

TUBULAR STEEL POST LOADING REQUIREMENTS

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006 SHEET NUMBER



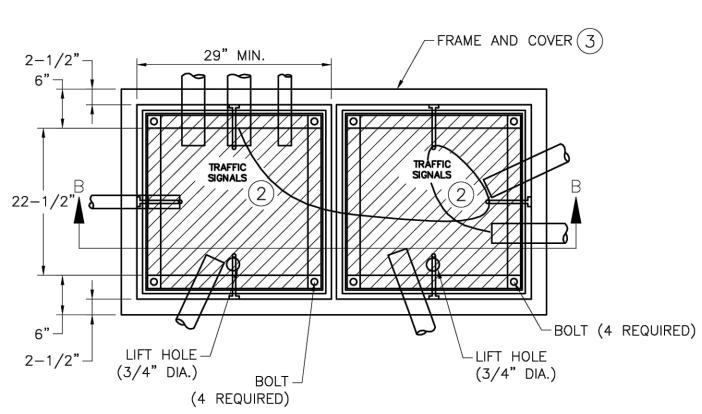
SINGLE CONCRETE PULL BOX

- 1) ALL METAL CONDUITS SHALL BE ELECTRICALLY BONDED BY A GROUND BUSHING AND #6 AWG BARE COPPER WIRE. FOR PVC, ALL GROUND WIRES SHALL BË CONNECTED.
- (2) SIGNAL PULL BOX COVERS SHALL BE EMBOSSED "TRAFFIC SIGNALS" OR HAVE COVER LABEL (APPLIED WITH EPOXY).
- 3 PULL BOX FRAMES AND COVERS SHALL BE CAST IRON AND THE FOLLOWING MINIMUM DIMENSIONS:

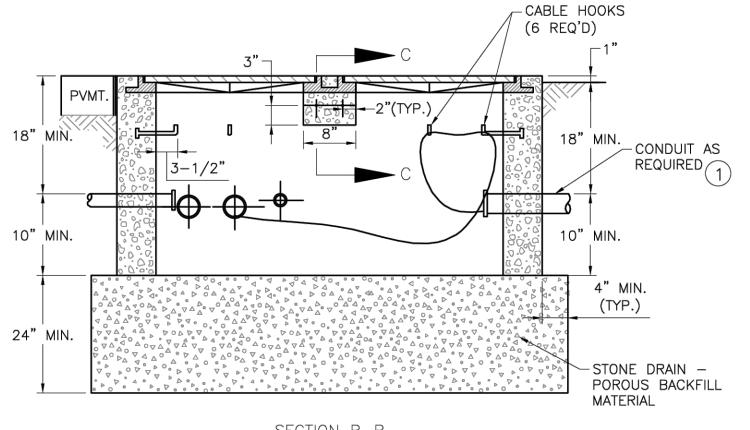
FRAME SIZE: 29" X 29" OPENING SIZE: 22 1/2" X 22 1/2" 4-1/4" FRAME HEIGHT: FRAME WEIGHT: 120 LBS. COVER SIZE: 22-5/8" X 22-5/8" COVER THICKNESS: 3/4" COVER WEIGHT: 140 LBS.

GENERAL NOTES:

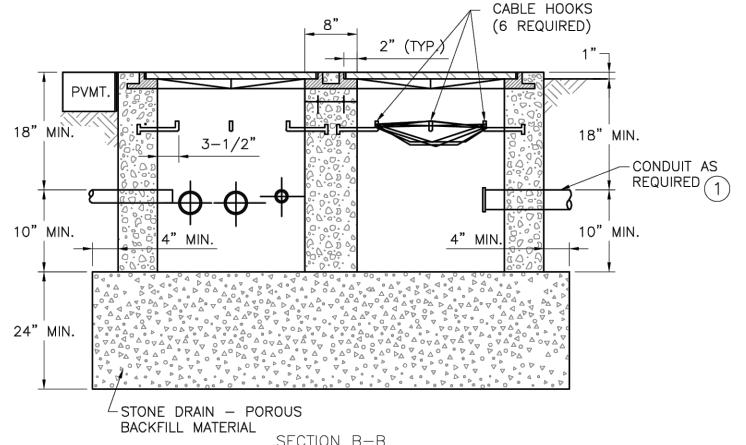
- 1. ALL DIMENSIONS SHOWN ARE NOMINAL.
- 2. BOLT CLEANOUT DETAIL SHALL BE APPROVED BY THE CITY TRAFFIC ENGINEER. 3. ALL CONCRETE SHALL BE 3,000 PSI MINIMUM, AND SHALL BE
- SUBSIDIARY TO THE PULL BOX. 4. PAVEMENT AND SUBGRADE SHALL BE AS SHOWN ON PLANS.
- 5. STONE DRAIN MATERIAL SHALL BE 1/2" 3/4" CLEAN ROCK.
- 6. LIFT OPENING REQUIRED ON ALL COVERS.
- 7. PREFORMED BOX WALLS MAY BE EITHER FLARED OR VERTICAL. 8. IF AN EXTENSION IS USED WITH A PREFORMED BOX, THE LIP OF THE EXTENSION MAY BE INTERIOR OR EXTERIOR. THE EXTENSION
- SHALL BE COMPATIBLE AND FROM THE SAME MANUFACTURER. 9. IF PREFORMED PULL BOXES ARE SPECIFIED, THE CONTRACTOR MAY USE THE STANDARD CONCRETE PULL BOX IN LIEU OF THE CLASS 1 OR 2 PREFORMED PULL BOX OR THE DOUBLE CONCRETE PULL BOX, TYPE A, IN LIEU OF THE CLASS 3 PREFORMED PULL BOXES.

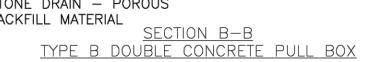


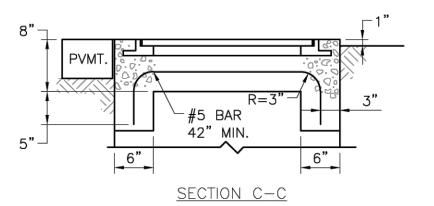
<u>PLAN VIEW</u>



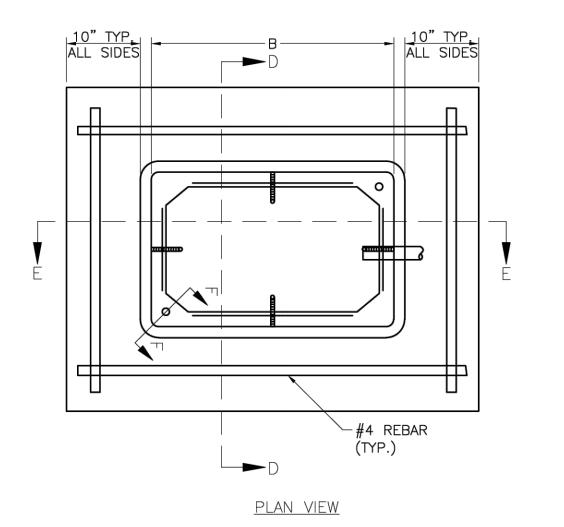
<u>SECTION B—B</u> TYPE A DOUBLE CONCRETE PULL BOX

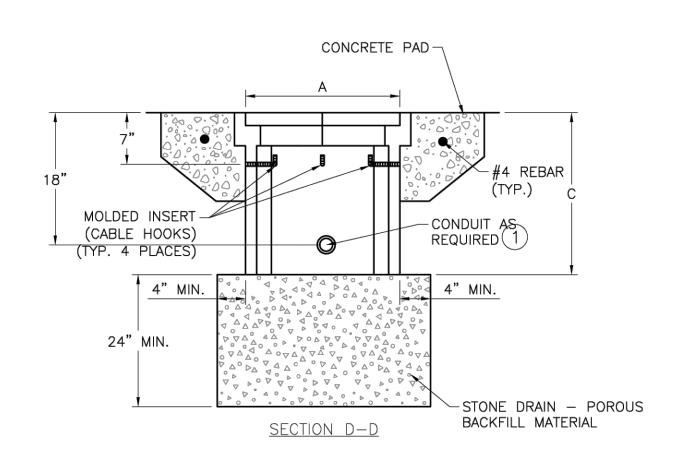


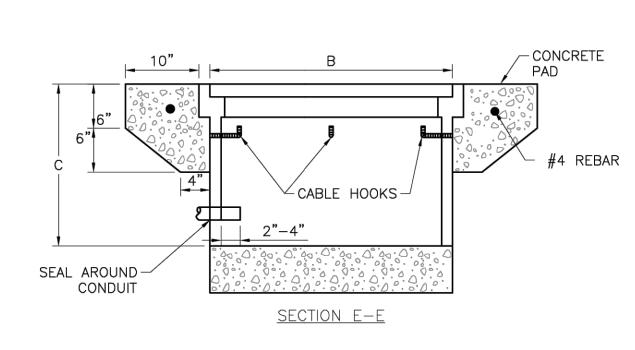




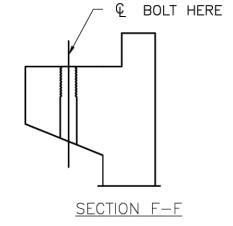
DOUBLE CONCRETE PULL BOX





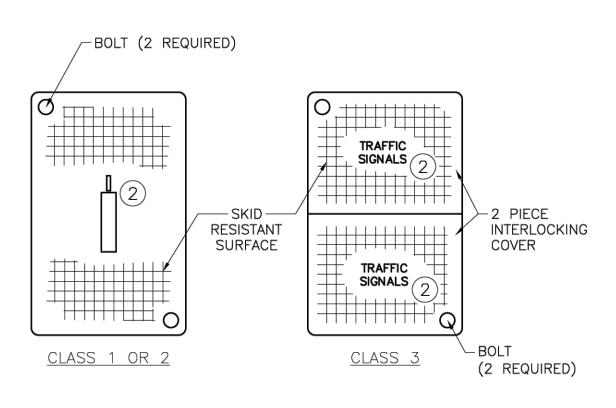


NUMBER OF ENTERING	CLASS	PREFORMED PULL BOX MINIMUM DIMENSIONS		
CONDUCTORS		Α	В	С
< 23	1	17"	30"	20"
23 - 68	2	24"	36"	24"
> 68	3	30"	48"	24"
Ç BOLT HERE				

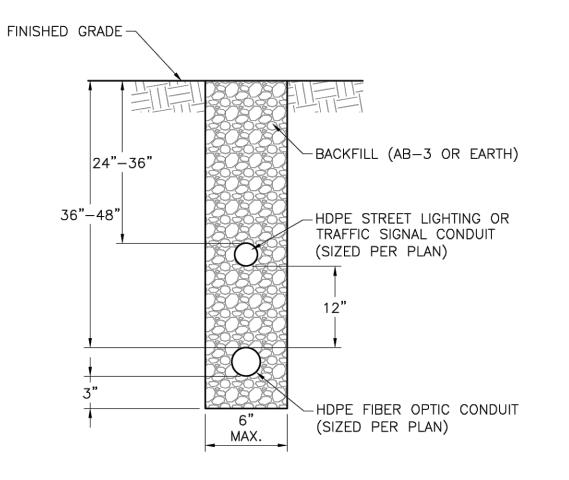


TYPICAL BOLT CLEANOUT

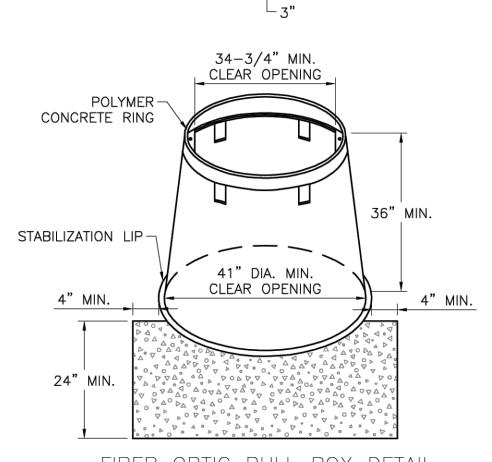
PREFORMED PULL BOX



PREFORMED PULL BOX COVER



TRENCH DETAIL



FIBER OPTIC PULL BOX DETAIL

ERN
$\mathbf{\omega}$
7
$\ddot{\circ}$

TS-6

Proj. #:

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

ETAIL

O

 \Box

COUPLER WITH RUBBER GROMMET **ANGLE** <u>PLAN</u> FRONT VIEW FRONT VIEW SIDE VIEW DOUBLE BARREL SINGLE BARREI ONE CHANNEL one or two channel OPTICAL DETECTOR 2' MIN. 2' MIN. STREET OR POLE OR CAMERA 2' MIN. 2' MIN.

WHEN MULTIPLE DETECTOR UNITS ARE MOUNTED ON THE SAME MAST ARM, THEY SHALL BE SPACED APPROXIMATELY 12 INCHES APART.

2' MIN.

ORQ. CAMERA EQ. 2' MIN. 2' MIN

EMERGENCY VEHICLE DETECTION NOTES:

1. THE DETECTOR CABLE SHALL BE CONTINUOUS FROM THE OPTICAL DETECTOR TO THE TRAFFIC SIGNAL

BRACKET WITH STAINLESS STEEL

BAND (TYP.) (SEE DETAIL)

- CONTROLLER. NO SPLICES SHALL BE ALLOWED. 2. THE CONTRACTOR SHALL LABEL THE OPTICAL DETECTOR CABLE IN ALL PULL BOXES BY CHANNELS AS INDICATED ON THE PLANS. THIS SHALL BE ACCOMPLISHED WITH ALUMINUM TAGS ATTACHED TO THE CABLE WITH ALUMINUM WIRE. NO DIRECT PAYMENT SHALL BE MADE FOR THIS WORK.
- 3. OPTICOM SHALL BE MOUNTED INSIDE THE CONTROLLER CABINET. UNLESS OTHERWISE INDICATED ON THE PLANS, THE PLACEMENT OF THE OPTICAL DETECTORS SHALL BE CENTERED BETWEEN THE SIGNAL HEADS AND/OR SIGNAL HEAD AND SIGN LOCATED ON THE MAST ARMS. FURTHER INFORMATION ON OPTICAL DETECTOR PLACEMENT IS SHOWN IN THE DETAILS. THE FINAL PLACEMENT OF THE OPTICAL DETECTOR MAY BE ADJUSTED FOR LINE OF SIGHT REQUIREMENTS.
- 4. THE EQUIPMENT MANUFACTURER SHALL BE RESPONSIBLE FOR PROVIDING ONSITE TECHNICAL ASSISTANCE TO THE CONTRACTOR IN FINAL PLACEMENT OF THE OPTICAL DETECTORS, AS WELL AS IN ALL THE ASPECTS OF THE SYSTEM INSTALLATION.
- 5. PREEMPTION SEQUENCES AND TIMINGS SHALL BE DEVELOPED BY THE EQUIPMENT SUPPLIER. TIMINGS SHALL BE MARKED UP ON THE TIMING SHEETS FROM THE SPECIFIC MODEL OF CONTROLLER AT EACH INTERSECTION AND SUBMITTED FOR REVIEW BY THE CITY PRIOR TO IMPLEMENTATION BY THE SUPPLIER. PRE-EMPTION SEQUENCES SHALL USE AN ALL RED INTERVAL OR OTHER METHODS TO PREVENT THE OCCURRENCE OF "YELLOW TRAPS" AT INTERSECTIONS WITH PROTECTED/PERMITTED LEFT-TURN PHASING.
- 6. PREEMPTS ARE TO BE ASSIGNED AS FOLLOWS UNLESS OTHERWISE INDICATED IN THE PLANS:

DIRECTION	PREEMPT NO.	CHANNE
NORTHBOUND	1	Α
SOUTHBOUND	2	В
EASTBOUND	3	С
WESTBOUND	4	D

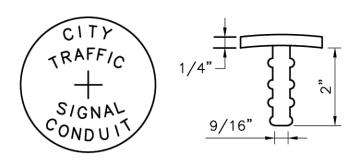
7. THE CONTRACTOR SHALL INSTALL THE EQUIPMENT CONSISTENT WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDED INSTALLATION PROCEDURES AND INTERFACE DIAGRAMS IN A NEAT AND WORKMANLIKE MANNER. EMERGENCY VEHICLE DETECTION SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR AND SHALL CONSIST OF ALL DETECTORS, PROCESSORS, MOUNTING BRACKETS, ETC FOR A FULLY OPERATIONAL SYSTEM.

OPTICAL DETECTOR

RADAR/VIDEO DETECTION NOTES:

- 1. THE RADAR/VIDEO DETECTION SYSTEM SHALL CONSIST OF VIDEO CAMERA(S), VIDEO DETECTION PROCESSOR (VDP), CABLES BRACKETS, AND ALL OTHER MATERIALS NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.
- 2. THE VIDEO DETECTION SYSTEM SHALL INCLUDE SOFTWARE THAT DETECTS VEHICLES IN MULTIPLE LANES OF EACH DIRECTION USING ONLY ONE VIDEO CAMERA. DETECTION ZONES (DZ) SHALL BE DEFINED USING ONLY A VIDEO MENU AND A POINTING DEVICE TO DEFINE AND PLACE ZONES ON A VIDEO IMAGE. UP TO 24 DZ PER CAMERA SHALL BE AVAILABLE
- 3. THE ACTUAL NUMBER AND LOCATION OF DZ SHALL BE DETERMINED IN THE FIELD BY THE CITY TRAFFIC ENGINEER. THE CITY RESERVES THE RIGHT TO HAVE ADDITIONAL ZONES PROGRAMMED OR MODIFY THOSE SHOWN BASED ON THE FIELD PROGRAMMING PERIOD COMPLETED PRIOR TO TURNING ON THE SIGNAL.
- 4. VIDEO CAMERAS ARE TO BE MOUNTED AS SHOWN ON THE TRAFFIC SIGNAL PLANS. IF THE CAMERA IS MOUNTED ON A TYPE BL OR CL POLE, THE CAMERA SHALL BE MOUNTED DIRECTLY TO THE LUMINAIRE BRACKET ARM. IF THE CAMERA IS MOUNTED ON A TYPE B OR C POLE, THE CAMERA SHALL BE MOUNTED ON THE MAST ARM USING A 6-FOOT RISER
- 5. VIDEO CAMERA PLACEMENT, ADJUSTMENT, SETUP AND INITIAL PROGRAMMING SHALL BE AT THE DIRECTION OF THE MANUFACTURERS REPRESENTATIVE. THE MANUFACTURERS REPRESENTATIVE SHALL ASSIST WITH IDENTIFYING OPTICAL CAMERA LOCATIONS, SYSTEM SETUP, PROGRAMMING, AND TURN-ON.

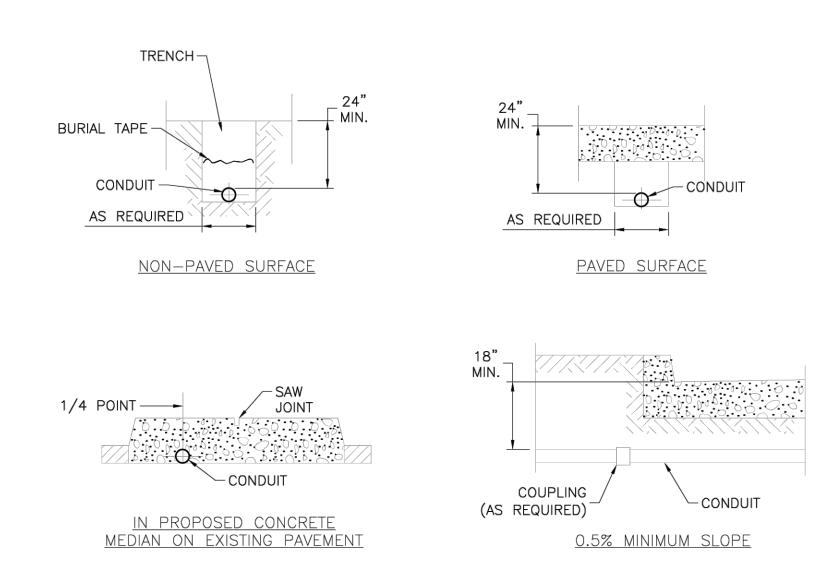
RADAR/VIDEO DETECTION



CONDUIT MARKER NOTES:

1. WHEREVER A CONDUIT PASSES BENEATH A CURBED STREET, ALUMINUM CONDUIT MARKERS SHALL BE INSTALLED IN THE CURB IMMEDIATELY OVER THE CONDUIT LOCATION. CONDUIT MARKERS SHALL BE FURNISHED BY THE CONTRACTOR AS DETAILED AND SHALL BE INSTALLED IN THE TOP OF THE CURB BY DRILLING THE CURB AND EPOXYING THE CONDUIT MARKER IN PLACE. CONDUIT MARKERS SHALL BE FLUSH WITH THE CURB. CONDUIT MARKERS SHALL BE SUBSIDIARY TO CONDUIT.

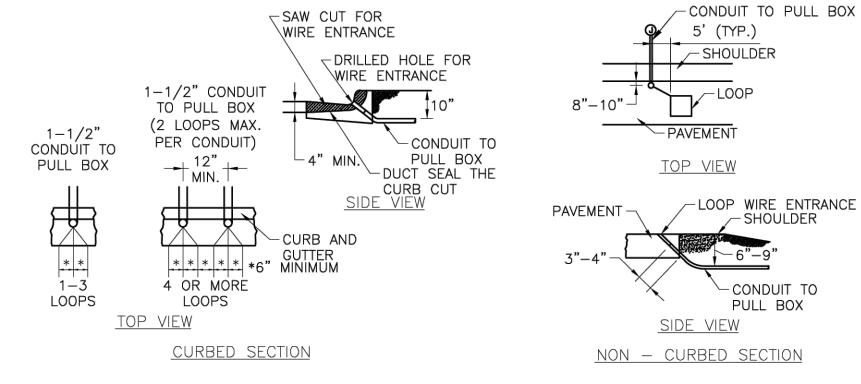
CONDUIT MARKER



CONDUIT LOCATION NOTES:

- 1. CONDUIT SHALL BE INSTALLED TO DRAIN, AND IF METALLIC ALL ENDS SHALL BE THREADED
- 2. THE CONTRACTOR SHALL NOTIFY THE CITY OF LEE'S SUMMIT, DEPARTMENT OF PUBLIC WORKS TRAFFIC DIVISION AT (816) 969-1807 FOR INSPECTION OF THE CONDUIT INSTALLATION. AT LEAST 24 HOURS NOTICE SHALL BE PROVIDED. THE CONDUIT SHALL NOT BE COVERED UNLESS INSPECTED AND APPROVED BY THE ENGINEER OR HIS AUTHORIZED REPRESENTATIVE, SO AS TO ENSURE PROPER DEPTH, CORRECT CONDUIT MATERIAL AND PROPER CONDUIT END TREATMENT AS DESCRIBED ABOVE.

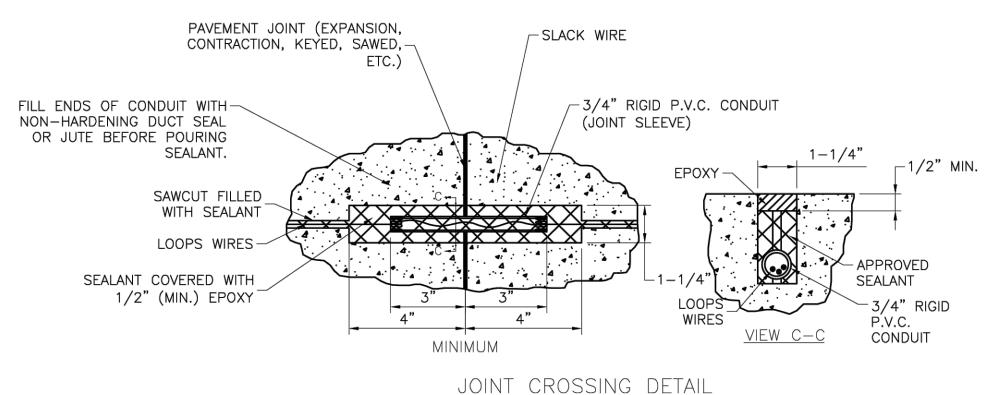
CONDUIT LOCATIONS

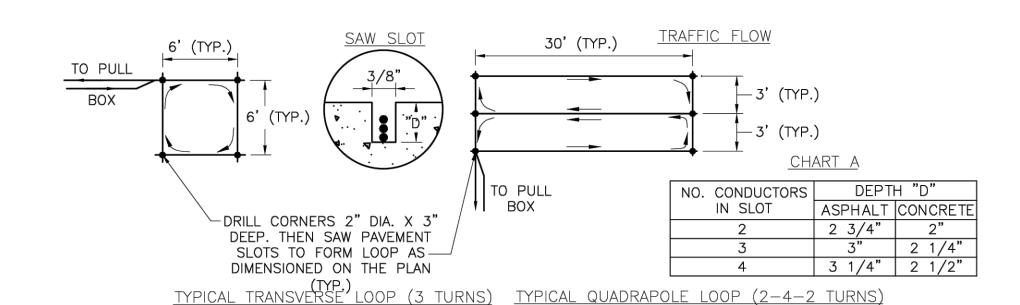


LOOP WIRE ENTRANCE NOTES:

1. SAW CUT IN THE CURB AND GUTTER SECTION AND CONDUIT ENTRANCE TO BE SEALED WITH A PLIABLE. NON-HARDENING DUCT SEALANT PRIOR TO APPLICATION OF LOOP SEALANT. NO LOOP SEALANT SHALL BE APPLIED IN THE CURB AND GUTTER SECTION OR AT CONDUIT ENTRANCE. GROUT AROUND CONDUIT INSERTED INTO CURB OR PAVEMENT SECTION. 3. EACH LOOP SHALL HAVE A SEPARATE LEAD-IN-SAW CUT TO THE LOOP WIRE ENTRANCE IN THE CURB OR AT THE EDGE OF PAVEMENT.

LOOP WIRE ENTRANCE DETAIL





TYPICAL LOOP DETAIL

LOOP DETECTION NOTES:

- 1. QUADRAPOLE LOOP TO BE ONE CONTINUOUS WIRE PLACED IN TWO TURNS. ALL LOOPS TO BE WOUND IN SAME
- DIRECTION, WITH START AND END CLEARLY MARKED AT PULL BOX. 2. TRANSVERSE LOOP TO BE ONE CONTINUOUS WIRE PLACED IN THREE TURNS. ALL LOOPS TO BE WOUND IN SAME DIRECTION, WITH START AND END CLEARLY MARKED AT PULL BOX.
- 3. SLOT IN PAVEMENT FOR LOOPS TO BE CUT & WIDE AT MINIMUM DEPTH "D" AS INDICATED IN CHART A. SLOT IN PAVEMENT FOR LEAD SHALL BE $\frac{1}{2}$ " WIDE AT MINIMUM DEPTH "D". FILL SLOTS WITH AN APPROVED ASPHALT SEALER (ASPHALT PAVEMENT) OR AN APPROVED ELASTIC EPOXY SEALANT (CONCRETE PAVEMENT) TO WITHIN 3" OF PAVEMENT SURFACE.
- 4. OTHER THAN SOLDERED TYPE SPLICE OR SPLICE MADE WITH WIRE NUTS AT THEIR JUNCITON, FEEDER CABLE AND LOOP WIRE SHALL BE OF CONTINUOUS RUN WITH NO SPLICES. ALL CONNECTIONS TO BE WATERTIGHT WITH APPROVED SPLICE KITS. WATERTIGHT CONNECTIONS SHALL EXTEND TO AND ENCOMPASS EACH OUTER JACKET OF THE DETECTOR FEEDER AND LOOP WIRE CABLES.
- 5. ALL LEADS FOR INDIVIDUAL LOOPS TO BE KEPT SEPARATE AND LOOP WIRE BETWEEN THE LOOP AND THE FEEDER CABLE CONNECTION SHALL BE TWISTED THREE TURNS PER FOOT.
- 6. ALL LOOPS SHALL BE WET CUT WITH EQUIPMENT APPROVED BY THE CITY TRAFFIC ENGINEER. 7. WHERE LOOPS ARE TO BE INSTALLED ON PROJECTS INVOLVING EITHER ASPHALT PAVEMENT CONSTRUCTION OR MILLING AND OVERLAY OF AN EXISTING ASPHALT PAVEMENT, LOOPS SHALL BE INSTALLED IN THE BASE COURSE
- PRIOR TO PLACEMENT OF THE ASPHALT SURFACE COURSE. 8. IF EXISTING LOOPS ARE TO BE ABANDONED AND NEW LOOP INSTALLED, ABANDONED LOOP WIRES SHALL BE REMOVED OR CUT COMPLETELY THROUGH ALONG ALL SLOTS PARALLEL TO VEHICLE FLOW.
- 9. LOOPS SHALL BE #14 AWG STRANDED WIRE IN PVC DUCT MADE UP OF 2 NON-TWISTED TURNS IN SINGLE SLOT OR AS RECOMMENDED BY MANUFACTURER OF THE DETECTOR AMPLIFIER. LOOP SHALL BE PLACED IN SAWED SLOTS IN A FIGURE EIGHT MANNER WITH DEVICE WHICH WILL NOT DAMAGE THE WIRE INSULATION. LEAD-IN CABLE SHALL BE 2-1C #14 AWG TWISTED.

LOOP DETECTION

0 **DETAIL** LEE'S SUMMIT, MC T, JACKSON COUNT DE ∞ AND 7 OF L CONDUIT CITY OLE S

Drawn By: BWC

Checked By: MP

TS-7

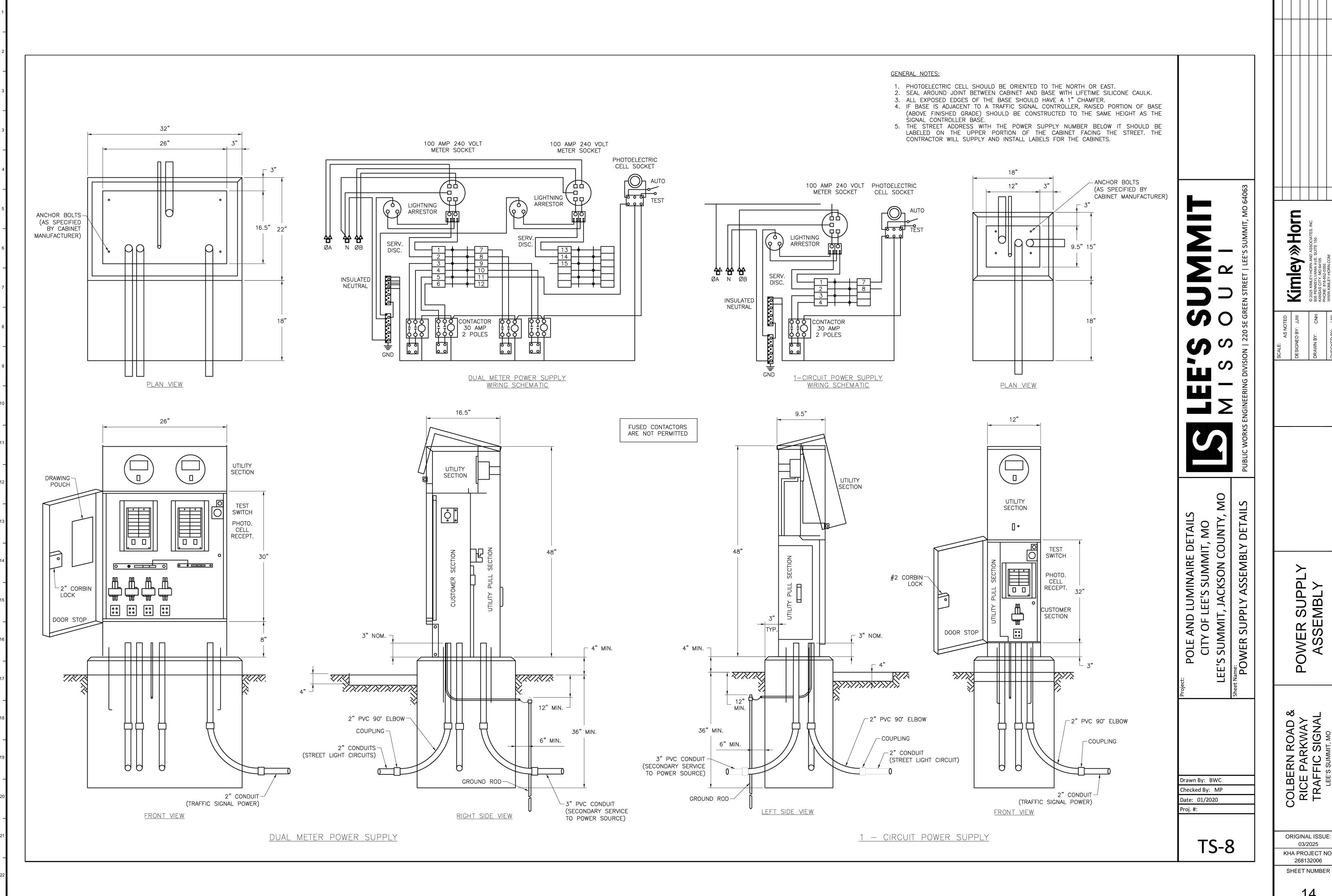
Date: 01/2020

Proj. #:

COLBERN ROAD & RICE PARKWAY TRAFFIC SIGNAL LEE'S SUMMIT, MO

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO 268132006

CONDUIT & ETECTION DETAILS

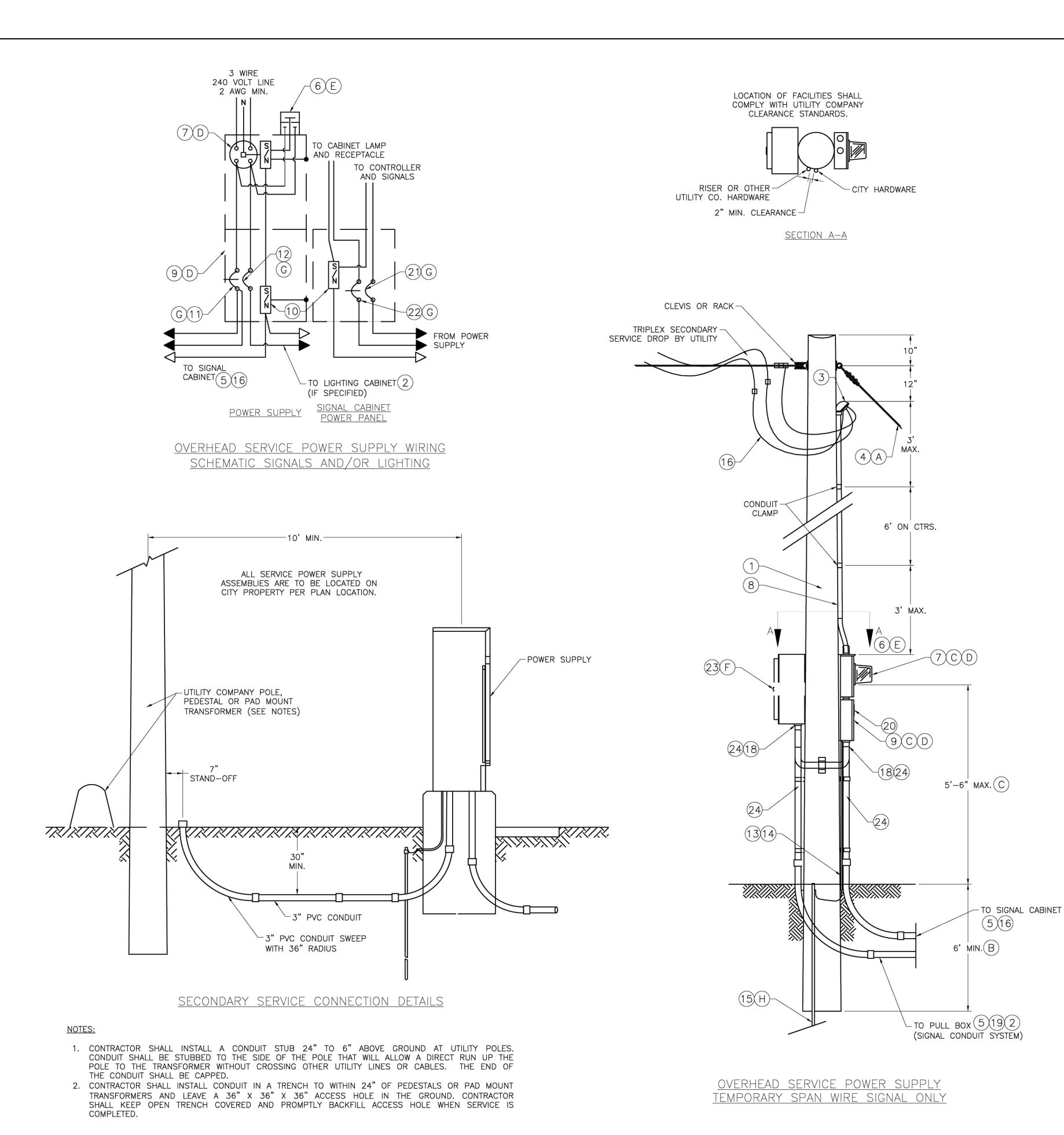


POWER SUPPLY ASSEMBLY

COLBERN ROAD & RICE PARKWAY TRAFFIC SIGNAL LEE'S SUMMIT, MO

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

14



	LIST OF MATERIALS				
ITEM	DESCRIPTION				
1	SERVICE POLE 30' MIN., CLASS IV WOOD, CONTRACTOR PROVIDED, CITY OWNED. *				
2	#8 AWG MIN. CABLE, 600 VOLT *				
3	SERVICE ENTRANCE HEAD				
4	GUY CABLE, AS REQUIRED				
5	2" MIN. RIGID CONDUIT WITH PREFORMED ELBOWS				
6	LIGHTNING ARRESTOR, VALVE TYPE, 2 POLE, 650 VOLT				
7	240 VOLT METER SOCKET, 100 AMP FOR SIGNALS				
8	2" MIN. RIGID CONDUIT				
9	SERVICE DISCONNECT BOX, LOCKING, RAINTIGHT, NEMA 4				
10	INSULATED, GROUNDABLE NEUTRAL, 200 AMP MINIMUM				
11	SIGNAL BREAKER, SINGLE POLE, 40 AMP MIN., TYPE A OR B				
12	LIGHTING BREAKER, SINGLE POLE, 40 AMP, TYPE A OR B				
13	METAL CONDUIT, 1/2"				
14	GROUND WIRE, #2 AWG MIN.				
15	GROUND ROD, 3/4" X 8' MIN.				
16	#2 AWG MIN. CABLE, 600 VOLT				
17	RESERVED				
18	THREADED CONDUIT HUB WITH SEALING WASHERS				
19	LIGHTING CABLES *				
20	WEATHERPROOF ADHESIVE LABEL (SIGNALS) VINYL RAISED LETTERING				
21	TYPE B CONTROLLER AND SIGNAL BREAKER, AS SPECIFIED.				
22	TYPE B AUXILIARY BREAKER, 15 AMP				
23	LIGHTING CONTROL CABINET				
24	2" STEEL CONDUIT (MIN.)				
*	SEE PLANS				

- (A) SERVICE POLE SHALL BE GUYED WHEN SPAN OF OVERHEAD WIRE EXCEEDS 50 FEET.
- (B) INCREASE 1 FOOT FOR EACH 5 FEET ABOVE 50 FEET.
- (C)SERVICE DISCONNECT BOXES AND METER BOXES SHALL BE ALUMINUM OR STAINLESS STEEL. ALL HARDWARE, HINGES, CATCHES, ETC. SHALL BE STAINLESS STEEL. METER SOCKET AND OTHER EQUIPMENT SHALL BE U.L. APPROVED AND CONFORM TO THE REQUIREMENTS OF THE UTILITY COMPANY PROVIDING POWER.
- (D) SCHEMATIC DIAGRAM SHALL BE MOUNTED ON INSIDE OF DOOR.
- E UTILITY COMPANY SHALL DECIDE IF LIGHTING ARRESTERS ARE TO BE CONNECTED ONT HE LOAD SIDE OR LINE SIDE OF THE METER. THE UTILITY COMPANY SHALL ALSO DECIDE IF THE LIGHTING ARRESTER IS TERMINATED IN THE METER OR DISCONNECT CABINET. IF TERMINATED IN THE DISCONNECT CABINET, IT SHALL BE INSTALLED ON THE CONNECT
- F IF LIGHTING IS SPECIFIED, INSTALL LIGHTING CONTROL ON POWER SUPPLY.
- (G) BREAKERS SHALL CONFORM TO THE STANDARD SPECIFICATIONS.
- (H) IF SUBSURFACE CONDITIONS EXIST WHICH PROHIBIT THE PLACEMENT OF THE GROUND ROD IN VERTICAL POSITION, THE ROD MAY BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES BURIED IN A TRENCH AT LEAST 30 IN. DEEP. CONNECTION TO GROUND ROD SHALL BE CLAMP TYPE AS DETAILED ON STANDARD DRAWING TS-2.

GENERAL NOTES:

- 1. FOR CABLE TYPES AND INSTALLATION, SEE STANDARD SPECIFICATIONS. 2. THE TYPE OF POWER SUPPLY ASSEMBLY IS SHOWN ON THE PLANS OR
- IS DESIGNATED ON THE CONTRACT. 3. THE UTILITY COMPANY SHALL BE NOTIFIED 30 DAYS PRIOR TO THE
- DATE OF SERVICE WILL BE REQUIRED. 4. ALL OPENINGS IN ANY UTILITY ENCLOSURE, SERVICE BOX, OR METER
- SHALL BE COVERED AND SEALED WITH LIFETIME SILICONE CAULK. 5. CONTRACTOR TO PROVIDE SUFFICIENT NUMBER OF GROUND ROD(S) AS
- REQUIRED FOR MAXIMUM OF 25 OHMS RESISTANCE TO GROUND. 6. ALL MATERIALS REQUIRED EXCLUDING REFERENCED ITEMS AS SHOWN ON DRAWING SHALL BE INCLUDED IN PRICE BID FOR POWER SUPPLY

MO POLE AND LUMINAIRE DETAILS CITY OF LEE'S SUMMIT, MO S SUMMIT, JACKSON COUNTY, ASSEMBLY Sheet Name:
POWER SUPPLY

ree's

POWER SUPPLY ASSEMBLY 120 VOLTS

ORIGINAL ISSUE: 03/2025 KHA PROJECT NO. 268132006

Drawn By: BWC

Checked By: MP

Date: 01/2020

15

