

ADDENDUM #1

Job #:	241459	Project Title	Midway District Streetscape Ph. 2
Client:	City of Fort Tho	mas	
Issue Date:	March 11, 2025		
Bid Date:	March 14, 2025		
MENTIONED F	PROJECT.		PT OF ADDENDUM #1 FOR THE ABOVE- pbellew@verdantas.com.
Name / Title:		Company	: Date:
CLARIFICAT	ION:		

RFI Responses:

- The notes on the electrical plans indicated that the "vaults" for the utility relocation were by "others". The note has been revised to refer to the civil sheets. The vaults/pullboxes are included in the "Utility Relocate" portion of the bid.
- The plinth is 32"x32" while the light pole foundation is 24". This is correct, the square plinth will overhang the circular foundation. The site contractor will pour concrete as part of the sidewalk up to the foundation. The concrete from the sidewalk and foundation will support the plinth.
- A request was made to remove the trenching and backfill from the conduit item and make a separate line item. The bid tab has been revised.

Additional Changes:

- Signage was added at the corner of Garrison Ave.
- Additional utility service conduits for reconnects were added. The quantities on the bid tab have been revised.

Attachments:

Revised Plan Sheets (C5.1 & E-Series)

Revised Bid Tab.





					<u>ADDENDU</u>	M 1 BID TABULATIO
ITEM NO.	SPEC. NO.	ITEM	Estimated Quantity	Unit of Measure	Unit Cost Total	Total Amount
		HARDSCAPE				
1	110	MOBILIZATION	1	LS		
2	112	MAINTENANCE OF TRAFFIC	1	LS		
3	202	CLEARING AND GRUBBING	1	LS		
4	212/213	EROSION & SEDIMENT CONTROL	1	LS		
5	203	REMOVE EXISTING PAVEMENT (INCLUDES ROADWAY, CURBS, DRIVEWAYS, & SIDEWALK)	2,750	SY		
6	402/403	1-1/2" ASPHALT PAVEMENT SURFACE	5,400	SY		
7	402/403/SPL	ASPHALT DRIVE REPLACEMENT BEYOND APRON	850	SF		
8	408	1-1/2" ASPHALT MILLING AND TEXTURING	5,400	SY		
9	505	CONCRETE SIDEWALK	900	SF		
10	505	CONCRETE SIDEWALK WITH INTEGRAL CURB	550	SF		
11	505	CONCRETE DRIVE REPLACEMENT BEYOND APRON	1,400	SF		
12	505/SPL	CONCRETE SIDEWALK WITH PAVER BAND	8,300	SF		
13	505/SPL	PAVER SIDEWALK WITH CONCRETE BASE	2,850	SF		
14	505/SPL	CONCRETE APRON WITH PAVER BAND	2,950	SF		
15	505/SPL	PAVER CROSSWALK WITH CONCRETE BASE AND 1' WIDE CONCRETE BAND	2,200	SF		
16	SPL	ADA CURB RAMP (INCLUDES WHITICARE-GREER TRUNCATED DOME PAVERS, SHADE 34, AS PER PLANS)	16	EA		
17	SPL	PAVER BANDS, 4"X8", PINE HALL, FULL RANGE ENGLISH EDGE, STANDARD THICKNESS	1,900	SF		
18	SPL	PAVER BANDS, 4"X8", PINE HALL, FULL RANGE ENGLISH EDGE, VEHICULAR THICKNESS	2,350	SF		
19	SPL	PAVER FIELD, 4"X8", PINE HALL, RUMBLED COCOA, STANDARD THICKNESS	2,650	SF		
20	SPL	PAVER BANDS, 8"X8", HANOVER, TUMBLED GETTYSBURG GRAY	300	SF		
21	SPL	SANDBLASTED WELCOME MAT	14	EA		
22	506/SPL	VARIABLE HEIGHT VERTICAL CURB	2,450	LF		
23	203	REMOVE EXISTING STORM INLET	2	EA		
24	710	INSTALL STANDARD CATCH BASIN, 2'X2'	6	EA		
25	710	INSTALL STANDARD STORM MANHOLE, 4' DIAMETER	3	EA		
26	701	STORM SEWER - 12" DIAMETER	430	LF		



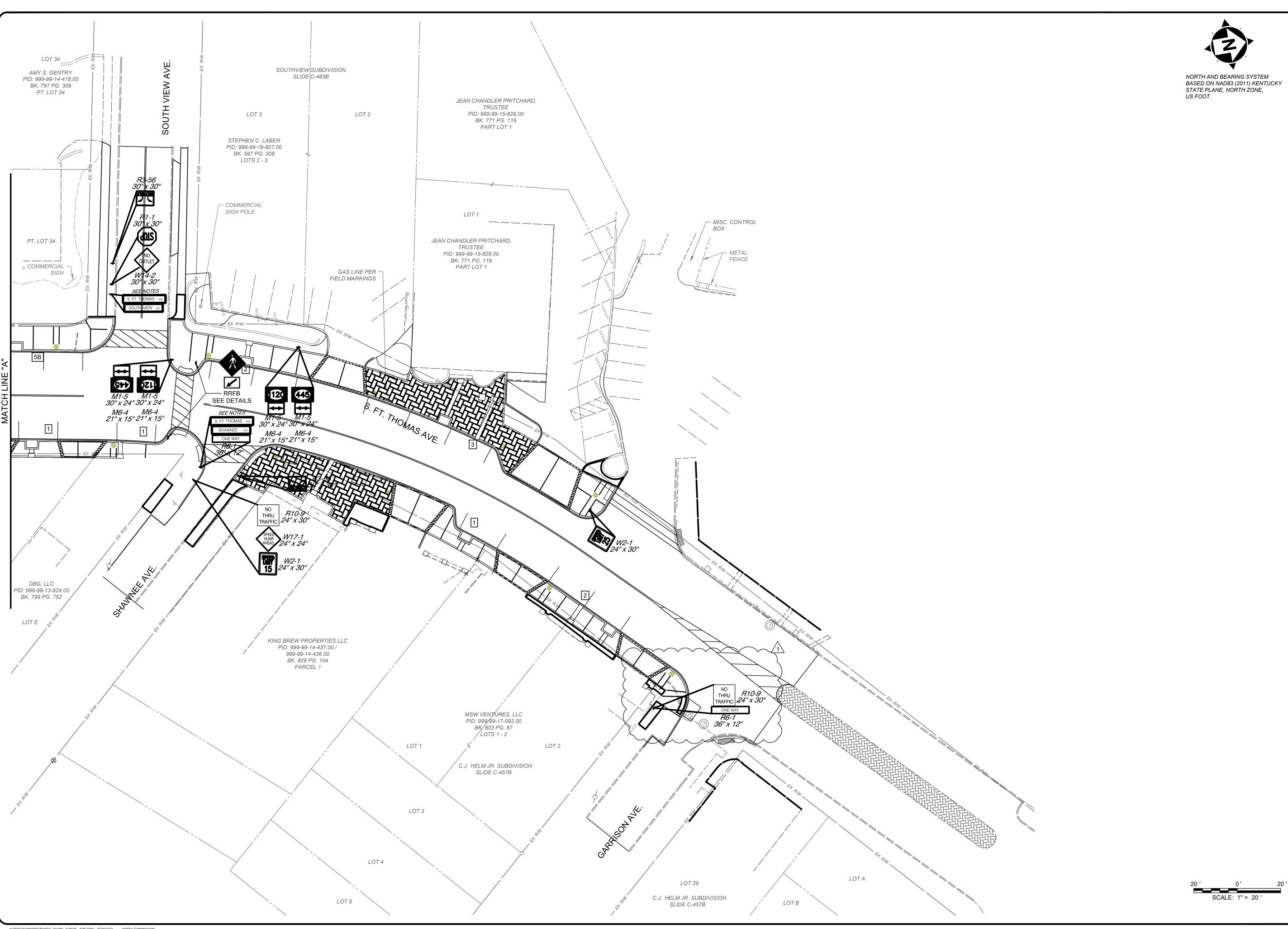
					ADDENDU	M 1 BID TABULATION
ITEM NO.	SPEC. NO.	ITEM	Estimated Quantity	Unit of Measure	Unit Cost Total	Total Amount
27	SPL	CONNECT DOWNSPOUT TO PROPOSED STORM SYSTEM	1	EA		
28	SPL	PLACE RECTANGULAR STEEL DOWNSPOUT LINE THROUGH SIDEWALK	1	EA		
29	SPL	ADJUST FIRE HYDRANT TO GRADE	2	EA		
30	SPL	ADJUST WATER VALVE/METER TO GRADE	15	EA		
31	SPL	ADJUST ELECTRIC/CATV BOX TO GRADE	2	EA		
32	SPL	ADJUST MANHOLE TO GRADE	8	EA		
33	713/714	PAVEMENT MARKING - PARKING STALLS	290	LF		
34	713/714	PAVEMENT MARKING - DOUBLE YELLOW CENTER LINE	910	LF		
35	713/714	PAVEMENT MARKING - TURN LANE CHANNELIZATION LINE	80	LF		
36	717	PAVEMENT MARKING - TRANSVERSE LINES	90	LF		
37	717	PAVEMENT MARKING - STOP BAR	80	LF		
38	717	PAVEMENT MARKING - CROSSWALK	515	LF		
39	717	PAVEMENT MARKING - RIGHT TURN ARROW	2	EA		
40	717	PAVEMENT MARKING - WORD "ONLY"	1	EA		
41	SPL	SIGNAGE, ALL SINGLE SIDED SIGNS SHALL HAVE A BLACK BACKING	223	SF		
42	SPL	SIGNAGE, STREET NAMES	8	EA		
43	SPL	INCLUDES DECROTIVE SIGNAGE POSTS	24	EA		
44	SPL	RRFB WITH BLACK POLE. CARMANAH R920-MX OR APPROVED EQUAL	2	EA		
45	SPL	SEGMENTAL BLOCK WALL	125	SF		
46	SPL	INSTALL BENCH, DUMOR, 58 SERIES, BLACK	1	EA		
47	SPL	INSTALL PLANTERS. DUMOR, 122-00SH, BLACK	11	EA		
48	SPL	INSTALL TRASH RECEPTACLE, DUMOR, 148-32SH-FTO, BLACK	5	EA		
			HARDSCAF	PE TOTAL:		
		LANDSCAPE	IANDOCAF	L TOTAL.		
		LANDSCAPE				
49	SPL	TREE PROTECTION FENCING	305	LF		
50	SPL	RELOCATE EXISTING TREE	1	EA		
51	SPL	DECIDUOUS TREE - 3" CAL.	17	EA		



			1	1		M 1 BID TABULATION
ITEM NO.	SPEC. NO.	ITEM	Estimated Quantity	Unit of Measure	Unit Cost Total	Total Amount
52	SPL	TREE ROOT BARRIER SYSTEM - 12" DEPTH AND 24" DEPTH PANELS	204	LF	15.7	
53	SPL	SHRUBS/PERENNIALS/GRASSES - 2 GAL.	223	EA		
	OI L	OTHORSE ENERGINACES - 2 One.	220			
54	SPL	SHRUBS/PERENNIAL/GRASSES - 1 GAL.	1,174	EA		
55	SPL	PLANTING SOIL	202	CY		
56	SPL	MULCH	21	CY		
57	SPL	TOPSOIL - SOD	35	CY		
58	SPL	sop	2,770	SF		
			LANDSCAF	E TOTAL:		
		UTILITY RELOCATE				
59	SPL	CONDUIT, 2", PVC, SCH 40,	1,775	LF		
60	SPL	CONDUIT, 3", PVC, SCH 40,	75	LF		
61	SPL	CONDUIT, 4", PVC, SCH 40,	7,200	LF		
62	SPL	CONDUIT, 6", PVC, SCH 40,	3,650	LF		
63	SPL	TRENCHING, BEDDING, BACKFILL & RESTORATION	3,600	LF		
64	SPL	PULL BOX/VAULT, 17"x30"	5	EA		
65	SPL	PULL BOX/VAULT, 30"x48"	1	EA		
66	SPL	PULL BOX/VAULT, 48"x60"	3	EA		
67	SPL	PULL BOX/VAULT, 84"x120"	2	EA		
		UTILIT	Y RELOCAT	E TOTAL:		
		LIGHTING & POWER				
	05:	COMPLETE HOUT FOUNDATION		F.		
68	SPL	CONCRETE LIGHT FOUNDATION	19	EA		
69	SPL	PRECAST 32"X32" CONCRETE PLINTH	19	EA		
70	SPL	STREET LIGHT ASSEMEBLY	19	EA		
71	SPL	WP/GFCI RECEPTACLE, GROUND MOUNTED	15	EA		
72	SPL	WP/GFCI RECEPTICAL, POLE MOUNTED	19	EA		
	251	CONDUCT ALL DIAG OU AG	105			
73	SPL	CONDUIT, 1", PVC, SH 40	465	LF		
74	SPL	CONDUIT, 1-1/2", PVC, SH 40	3,795	LF		
			L	L		



ITEM NO.	SPEC. NO.	ITEM	Estimated Quantity	Unit of Measure	Unit Cost Total	Total Amount
75	SPL	CONDUIT, 2", PVC, SH 40	300	LF		
76	SPL	CONDUIT, 4", PVC, SH 40	800	LF		
77	SPL	TRENCHING, BEDDING, BACKFILL & RESTORATION	2,200	LF		
78	SPL	PULL BOX, 11"x18"	22	EA		
79	SPL	PULL BOX 13"x24"	1	EA		
80	SPL	WIRING, #10 XHHW	12,000	LF		
81	SPL	WIRING, #12 XHHW	48,000	LF		
82	SPL	POWER SERVICE CABINET	1	EA		
		LIGHTIN	NG & POWE	R TOTAL:		
		BID SUMMARY				
			 HARDSCAF	 PE TOTAL:		
			LANDSCAF	PE TOTAL:		
		UTILIT	Y RELOCAT	E TOTAL:		
		LIGHTIN	NG & POWE	R TOTAL:		
			T/	TAL DID		
				OTAL BID:		



CAMPBELL COUNTY	ISSUE DATE:
- CITY OF FORT THOMAS, KY 41075 -	SCALE:
	DESIGNED BY:
SIGNAGE PLAN	DRAWN BY:

PROJECT NO. 241459

> DISCIPLINE CIVIL

SHEET NAME C5.1

44

TO BETTER COMMUNICATE SCOPE TO PERMIT AGENCIES AND CONTRACTORS, EACH DRAWING IN THIS DRAWING SET HAS BEEN CREATED IN BOTH "COLOR" AND "BLACK AND WHITE". THERE EXISTS A COLOR LAYER WITHIN EACH DRAWING WHERE VISIBILITY IS CONTROLLED THROUGH THE PDF LAYER MANAGER. THIS LAYER VISIBILITY CAN BE TOGGLED DISPLAYING EITHER "COLOR" OR "BLACK AND WHITE". TO MAINTAIN SCOPE BASED SHADING WHEN PRINTING TO PAPER, BLACK AND WHITE NEEDS TO BE VISIBLE.
FOR FURTHER INSTRUCTIONS, REFER TO CONTRACTOR RESOURCES ON OUR WEBSITE AND DOWNLOAD "DRAWING COLOR INSTRUCTIONS". WWW.KLHENGRS.COM - CONTRACTOR RESOURCES (RIGHT HAND SIDE OF PAGE).

WORK SHOWN BOLD-DASHED INDICATES SELECTIVE DEMOLITION WORK (UNLESS OTHERWISE INDICATED)

DRAWING APPEARANCE

WORK SHOWN FADED INDICATES EXISTING WORK TO REMAIN OR NEW WORK BY OTHERS AS APPLICABLE (UNLESS OTHERWISE INDICATED)

WORK SHOWN BOLD-CONTINUOUS INDICATES NEW WORK (UNLESS OTHERWISE INDICATED)

PLAN-VIEW AND

GRAPHIC

RATED FOR CLASSIFIED LOCATION

MANHOLE	MH
FLUSH MOUNTED PULL BOX	P
FLUSH MOUNTED JUNCTION BOX OR PULL BOX AS APPLICABLE FOR APPLICATION	ū
CABLING / RACEWAY INSTALLED BELOW FLOOR OR GRADE	
CABLING / RACEWAY INSTALLED CONCEALED IN WALLS OR ABOVE CEILING	
BRANCH CIRCUIT HOME RUN WITH PANEL NAME AND CIRCUIT NUMBER(S)	LPA-1,3
WIRE / CABLE / RACEWAY	
SURGE PROTECTIVE DEVICE	2
ELECTRICAL PANELBOARD OR DISTRIBUTION BOARD	DAME.
SINGLE LINE DIAGRAM	
OIL FILLED TRANSFORMER	PAD OPOLE
ELECTRICAL PANELBOARD OR DISTRIBUTION BOARD (DIMENSIONS MAY VARY / FLUSH OR SURFACE MOUNTED AS INDICATED)	
MISCELLANEOUS	
SW = SPLIT WIRED T = TAMPER-RESISTANT W = WEATHER PROOF WHILE IN USE COVER AND WEATHER RESISTANT RECEPTACLE	Ф ^{SW} Ф ^г
H = INSTALL RECEPTACLE HORIZONTALLY L = LIT (PROVIDE ILLUMINATED FACE OR INDICATOR LIGHT TO INDICATE THERE IS POWER TO RECEPTACLE)	
RECEPTACLE ATTRIBUTES 42" = MOUNT RECEPTACLE AT THIS HEIGHT ABOVE GRADE / FINISHED FLOOR C = INSTALL AROVE COLINTER AND RACKSPLASH	
GFI / GFCI RECEPTACLES	*
SINGLE ("SIMPLEX"), DUPLEX, AND DOUBLE DUPLEX ("QUAD") RECEPTACLE RESPECTIVELY	ф ф ф
RECEPTACLES AND MISCELLANEOUS OUTLETS	RE
DESCRIPTION	SYMBOL
ELECTRIC LEGEND	

UPO DN	CONDUIT UP OR DOWN		
	ABBRE	ABBREVIATIONS	3 ,
42" DISTANCE	DISTANCE ABOVE FINISHED FLOOR / GRADE /	LR	LEGALLY REQUIRED STANDBY
AF AMP FRAME	PAVEMENT AMP FRAME OF FUSED SWITCH OR CIRCUIT	<u> S</u>	LONG - INSTANTANEOUS
AFCI BREAKER ARC-FAUL	BREAKER ARC-FAULT CIRCUIT INTERRUPTER	LSIG	LONG - SHORT - INSTANTANEOUS - GROUND FAULT
	AMP TRIP OF FUSED SWITCH OR CIRCUIT	MCB	MAIN CIRCUIT BREAKER

GFI/GFCI GND H.C. H.O.A.	GED FWE	FBO	EERR EWR C		EMS:	n m C	DW CH	C.T.C.	BAS	ATS	AT CI	AF	42"
GROUND FAULT CIRCUIT INTERRUPTER DEVICE GROUND WORK UNDER DIVISION 23 "HAND - OFF - AUTO" SWITCH ISOLATED GROUND SHORT CIRCUIT CURRENT	RECEPTACLE TO BE USED FOR A FLAT PANEL DISPLAY. FURNISHED WITH EQUIPMENT BY OTHERS - INSTALLED AND WIRED BY E.C. GARBAGE DISPOSAL GROUND FAULT EQUIPMENT PROTECTION	FURNISHED BY OTHERS - INSTALLED AND WIRED BY E.C. FURNISHED AND INSTALLED BY OTHERS - WIRED BY E.C.	EMERGENCY STANDBY RATING EXISTING TO REMAIN ELECTRIC WATER COOLER EXISTING	ENERGY BEDLICTION MAINTENANCE SWITCH	EMERGENCY POWER OFF	WORK INDER DIVISION 26	COUNTER HEIGHT OR SPECIAL HEIGHT DEVICE DISHWASHER	WORK UNDER DIVISION 27 OR 28 AS APPLICABLE CIBCLIT BEFAKED	BUILDING AUTOMATION SYSTEM	AUTOMATIC TRANSFER SWITCH	ARC-FAULT CIRCUIT INTERRUPTER AMP TRIP OF FUSED SWITCH OR CIRCUIT BEFALLED	AMP FRAME OF FUSED SWITCH OR CIRCUIT BREAKER	DISTANCE ABOVE FINISHED FLOOR / GRADE / PAVEMENT
VFD/VSD VIF VM VP WG WR	UCR UL U.L.S.E. UNO	TAAC TR TTB TYP	S.C. SCCR SPD ST	(R)	P.C.	SO	OFE 0	NIC NIC	W C	MTO	MCB	LSIG LSI	드뮤
VARIABLE FREQUENCY / SPEED DRIVE VERIFY IN FIELD VENDING MACHINE VANDAL PROOF WEATHERPROOF WIRE GUARD WEATHER RESISTANT	UNDER COUNTER REFRIGERATOR UNDERWRITER'S LABORATORY LISTED FOR SERVICE ENTRANCE UNLESS NOTED OR INDICATED OTHERWISE ON DRAWINGS OR IN SPECIFICATIONS	TO ABOVE ACCESSIBLE CEILING TAMPER RESISTANT TELEPHONE TERMINAL BOARD TYPICAL	WORK UNDER DIVISION 21 SHORT CIRCUIT CURRENT RATING SURGE PROTECTIVE DEVICE SHUNT TRIP	RELOCATE	WORK UNDER DIVISION 22	WIREU BY E.C. OPTIONAL STANDBY	OWNER-FURNISHED EQUIPMENT - INSTALLED AND	NOT IN CONTRACT (SHOWN FOR REFERENCE ONLY)	MICROWAVE OVEN	MAIN LUGS ONLY MANIAL TRANSFER SWITCH	MAIN CIRCUIT BREAKER	LONG - SHORT - INSTANTANEOUS - GROUND FAULT	LEGALLY REQUIRED STANDBY LONG - INSTANTANEOUS

CONDUIT APPLICATION
---POWER - OUTDOOR--EXPOSED
UNDERGROUND

RACEWAY TYPE

RACEWAY AND CONDUCTOR NOTES

GE NERAL **ELECTRICAL INSTALLATION NOTES**

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- : PROVIDE ALL ELECTRICAL WORK COMPLIANT WITH ALL PREVAILING CODES.
 MATERIALS, COMPONENTS AND ASSEMBLED COMPONENTS WITH LISTINGS AND LABELS FROM A
 SNIZED TESTING LABORATORY (NRTL), MANUFACTURED, LISTED AND LABELED FOR THEIR INTENDED USE.
 INFACES: SEPARATE DEVICE BOXES BY A MINIMUM OF 6 INCHES WHERE INSTALLED BACK-TO-BACK WITHIN
 D MAINTAIN REQUIRED FIRE AND SOUND RATING (TYPICAL OF ALL DEVICE BOXES INSTALLED ON DEMISING
 ISTED FIRE-RATED WRAPS AROUND ALL RECESSED OUTLET, DEVICE AND EQUIPMENT BOXES IN
 WALLS, CEILINGS AND FLOORS TO MEET OR EXCEED THE RESPECTIVE FIRE/SMOKE RATING OF THE
- HERESMOKE RATED WALLS, CELINGS AND FLOORS TO MEET OR EXCEED THE RESPECTIVE FREESMOKE PATING OF THE SHAPPACE SHALL DRAWN OF BUILDING SHOULDES AND FROM THE SHAPPACE SHALL PRESENTED SHAPPACE SHAP

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ELECTR IC CONDUIT AND WIRE MATERIAL SCHEDULE

MC - METAL CLAD CABLE
MI - MINERAL INSULATED CAE
HMC - HEALTHCARE METAL C
USE - UNDERGROUND SERVIC
SE - SERVICE ENTRANCE CAE
UF - UNDERGROUND FEEDER
NM - NON-METALLIC SHEATHI
RMC - RIGID METAL CONDUIT
RNC - RIGID NON-METALLIC C
RTRC - REINFORCED THERM
LIM - LINE ISOLATION MONITC CABLE NVICE ENTRANCE CABLE CABLE ED CABLE

CONDUIT MOSETTING RESIN CONDUIT OR ARC - ALUMINUM RIGID CONDUIT
EMT - ELECTRIC METALLIC TUBING
ENT - ELECTRIC NON-METALLIC TUBING
ENT - ELECTRIC NON-METALLIC TUBING
FMC - FLEXIBLE METALLIC CONDUIT
GRC - GALVANIZED RIGID STEEL CONDUIT
HDPE - HIGH DENSITY POLYETHYLENE CONDUIT
IMC - INTERMEDIATE METAL CONDUIT
LFMC - LIQUID-TIGHT FLEXIBILE METALLIC CONDUIT
SCH 40 PVC - SCHEDULE 40 POLYVINYL CHLORIDE CONDUIT
SCH 80 PVC - SCHEDULE 80 POLYVINYL CHLORIDE CONDUIT

2018 KENTUCKY BUILDING CODE (BASED ON THE INTERNATIONAL BUILDING CODE) 2023 NFPA 70 - NATIONAL ELECTRICAL CODE (NEC) 2016 NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE 2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC) **TESTING/COMMISSIONING FOR LIGHTING** APPLICABLE BUILDING CODES

ELECTRIC DESIGN CRITERIA

LIGHTING CONTROL DEVICES AND SYSTEMS SHALL BE TESTED TO ENSURE THE HARDWARE AND SPROGRAMMED, AND IN PROPER WORKING ORDER. INSTALLING CONTRACTOR SHALL BE RESPONSI REPORTS AND CERTIFICATES (UNLESS COMMISSIONING IS BEING PERFORMED IN WHICH CASE THE RESPONSIBLE FOR ALL REPORTS, CERTIFICATES, ETC.) AND SHALL PROVIDE MANUALS FOR LIGHTI PRIOR TO PROJECT CLOSE-OUT AND ALSO INCLUDE THE NAME AND ADDRESS OF AT LEAST ONE SICONTROL EQUIPMENT. INSTALLING CONTRACTOR SHALL BE RESPONSIBLE FOR CONTRACTING WIT ARRANGE FOR TESTING OF THE LIGHTING CONTROL SYSTEMS AND SHALL BE RESPONSIBLE FOR E PERFORMANCE TESTING FORMS/REPORTS ARE COMPLETED AND SUBMITTED TO THE OWNER AND SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE REQUIREMENTS LISTED IN THE APPLICABLE ENERGY CODE INCLUDING (BUT N SHALL FOLLOW THE RESPONSIBLE FOR TH

UTILITY COORDINATION

COORDINATE UTILITY SERVICE WORK CONTAINED WITHIN THIS DRAWING SET WITH RESPECTIVE STARTED THIS COORDINATION PROCESS WITH UTILITY COMPANY REPRESENTATIVE LISTED BEL CONTINUE THIS COORDINATION PROCESS PRIOR TO STARTING ANY WORK AND CONTINUE THE

OBTAIN AND COMPLY WITH UTILITY INSTALLATION DETAILS AND STA

UTILITY COMPANY	DUKE ENERGY		
UTILITY CONTACT	ZACHARY HOFSTETTER		
PHONE NUMBER	513-256-6726		
EMAIL ADDRESS	ZACHARY.HOFFSTETTER@DUKE-ENERGY.COM	E-ENERGY.COM	
DATE(S) CONTACTED	12/02/2024		
KLH CONTACT	GARRICK NIEBERDING & MATT MINARD	MINARD	
ELECTRICAL SECONDARY SI	ELECTRICAL SECONDARY SERVICE (OWNER-PURCHASED SECONDARY)	ONDARY)	
TRANSFORMER			
OWNERSHIP		עדורודא	
NEW OR EXISTING		NEW	
SECONDARY VOLTAGE (V)		240V	
RESPONSIBILITY MATRIX (X = FURNISH AND INSTALL)	= FURNISH AND INSTALL)	<u> עדוורודץ</u>	DIVISION 26 CONTRACTOR
TRANSFORMER		×	
PRIMARY CABLE		×	
TERMINATE PRIMARY CABLE	Ħ	×	
SECONDARY CONDUIT			X
SECONDARY CONDUCTORS	O.		×
TERMINATE SECONDARY CONDITIONS	ONDLICTORS		×

REVISIONS

Revised per Addendum 01

DATE

		AWING IN	
HEET MBER	SHEET NAME	CURRENT REVISION DATE	CURRENT REVISION DESCRIPTION
1	ELECTRIC COVER SHEET		
12	ELECTRIC SPECIFICATIONS		
3	ELECTRIC SPECIFICATIONS		
_	ELECTRIC SITE PLAN - SOUTH		
10	ELECTRIC SITE PLAN - NORTH		
_	ELECTRIC LIGHTING - SCHEDULES		
1	ELECTRIC POWER - DETAILS		
_	ELECTRIC POWER - SINGLE LINE & SCHEDLILES		



MIDWAY DISTRICT PHASE II **CAMPBELL COUNTY** CITY OF FORT THOMAS, KY 41076

DATE:	3/10/25	REV
DRAWN BY:	GMN	1
CHECKED BY:	MKM	
APPROVED BY:		
F.B. NOF	PG	

ELECTRIC COVER SHEET

E0-001

Whenever the words "contractor", "this contractor", etc. appear on drawings or in these specifications for the Electrical Work, it shall refer to the Electrical Sub-Contractor. Whenever the word "Provide" appears in these documents, it shall be interpreted to mean "Furnish and Install". Whenever the word "Relocate" appears in these documents, it shall be interpreted to disconnect electrical feed, make safe including lock out, store and protect device, reinstall, rework and extend conduit and wire to new location, re-energize and test.

The exact mounting height of devices shall be determined in the field with relation to architectural details and equipment being served. It shall be the responsibility of this contractor to coordinate outlet location with equipment. The Owners representative shall be permitted to relocate any outlet prior to installation within a 15 foot limit at no additional charge in contract price. All fasteners, hangers and methods of hanging exposed work in finished areas shall be submitted to the Owners representative for approval before installation.

The contract includes all items of material and labor required for the complete installation and full operation of the electrical work as shown on the drawings and hereinafter specified. All materials and methods shall be in accordance with applicable codes, regulations and/or ordinances and meet the approval of local inspection authority having jurisdiction. The latest edition of NFPA 70 (NEC/National Electrical Code) shall be the minimum requirement for all work. Examine the drawings and specifications for compliance with the above codes, regulations and ordinances and base bid and work accordingly. Obtain and pay for all permits and inspections related to this work. A certificate of approval for work from inspection authority shall be given to the Owner before final acceptance will be given by Owners representative.

All work, materials, and equipment shall have a one-year warranty after acceptance of the work by the Owner. Any defective items shall be removed and replaced at the electrical sub-contractor's expense and to the satisfaction of the engineer and owner's representative.

Perform work under this contract in close harmony with other contractors so completed work shall present a neat and workmanlike installation. Exposed finished materials and equipment shall be carefully cleaned and wiped to remove grease, smudges, fingerprints, dust and other spots and left smooth and clean. During the progress of the work, the electrical sub-contractor shall carefully clean the job site and shall leave the premises and all portions of the building in which he is working free of debris and in a clean and safe condition.

This contractor shall be responsible for the training of owner's representatives of each system to the satisfaction of the Owners representative.

The Electrical Contractor shall consult the Plumbing, HVAC and Structural plans (where applicable) in all instances before installing his work so that his work will not interfere with those branches. In the event of a conflict, this contractor shall report to the Owners representative at once and do no further work to be installed until a satisfactory arrangement is decided upon. Any work done, or equipment placed in position by this contractor, creating a conflict in violation hereof, shall be readjusted to the satisfaction of the Owner's representative at the expense of the contractor. The decision of the Owners representative shall be final in regard to changes due to conflicting conditions. Contractor shall complete his work or any part thereof at such time as may be designated by the Owner, so that it can be used for temporary or permanent use and such use of the system shall not be construed as an acceptance of same by Owner.

Two sets of electrical drawings shall be provided as record drawings which shall be separate, clean, copies reserved for the purpose of showing a complete picture of the work as actually installed. These drawings shall also serve as work progress report sheets and the electrical contractor shall make any notations, neat and legible thereon daily as work proceeds. The drawings shall be available for inspection at all times and shall be kept at the job at a location designated by the Owners representative. At the completion of the work, these record drawings shall be signed by the electrical contractor, dated and returned to the Owners representative. Final payment of contract will not be made until receipt and review of said drawings.

Provide two neatly bound (with tabbed sections) copies of maintenance books, instruction books and parts list pertaining to all equipment furnished. Submit to the Owners representative for approval. Final payment will not be made until drawings for record, maintenance and instruction manuals are delivered to the Owners representative.

26 05 02.00 - COMMON ELECTRICAL MATERIALS AND METHODS

All materials and equipment shall be new. All materials, apparatus and equipment shall bear the seal of Underwriters Laboratories Inc. (UL), or a similar credible testing agency, label where regularly supplied. Certain manufacturers of material and equipment are specified and plans are detailed according to this material. This

3/10/2025 5:14:08 PM

his bid on furnishing and insta and equipment.

Where more than one make of material or equipment is specified, the contractor shall state in his bid which make he proposes to furnish. Shop drawings shall be submitted on material and equipment to be furnished by the contractor for Engineers approval. This approval to be obtained prior to shipment of equipment.

Hold routing of new raceways in new and existing buildings as tightly as possible to the structure above. Obtain approval of owner's representative prior to installation. Do not install any electrical work within 6 inches of roof decking.

Neatly dress all work. Install all work parallel and perpendicular to surfaces or exposed structural members, and follow surface contours, where possible. Install splice and tap connectors which possess equivalent or better mechanical strength and insulation rating than conductors being spliced. Use splice and tap connectors which are compatible with conductor material. All wires shall be run continuous from outlet to outlet/luminaire to luminaire. Insulation value of joints shall be 100% in excess of wire. Provide adequate length of conductors within electrical enclosures and train the conductors to terminal points with no excess. Bundle multiple conductors, with conductors no larger than 10 AWG cabled in individual circuits. Make terminations so there is no bare conductor at the terminal.

Maintain a uniform elevation for all cable runs wherever possible. All cables shall be supported/anchored at maximum 4 foot intervals and within 12" of box or outlet and shall not sag. Install cables in a manner that prevents overheating. Cables shall be fastened directly to the structure using factory clamps/clips specifically designed for the respective cable (Caddy or equal).

Keep conductor splices to minimum. Pull conductors simultaneously where more than one is being installed in same raceway. Use UL listed pulling compound or lubricant, where necessary. Increase wire sizes to offset voltage drop as/if required.

Branch subfeeder circuits shall be installed as shown on the floor plans. Where outlets are indicated by letters on plans, they shall be controlled by corresponding switches

Outlets shall be located approximately as shown on the plans and shall be wired to provide control of outlets indicated. All wires of any one circuit shall be run in the same conduit.

Mechanical wire splicers shall be Scotchlock insulated type, TandB Stakon or approved equal. The conductors terminating at each wired outlet shall be left not less than 8" long at their outlet fittings to facilitate installment of devices or luminaires. Friction and rubber tape conform to Federal Specifications HH-T-11 and HH-T-111. Plastic electrical tape shall be Scotch #33+ or approved equal.

Do not share neutrals when amongst multiple branch circuits or with multi-wire branch circuits.

Provide all feeders and branch circuits with insulated (green covering) equipment grounding. Provide grounding electrode conductors for service entrances and derived systems.

Only install conduit exposed on rooftops when it is impossible to do otherwise, or only if specifically indicated for such installation case-by-case elsewhere in documents. Installation convenience, financial considerations, lack of coordination with other trades and similar rationale are not sufficient reasons for doing so. In cases where conduits must be installed on rooftops, derate conductors and modify conduit sizes as needed to accommodate this condition. Provide expansion fittings, which are UL listed and labeled for the respective applications, at all building expansion joints and at maximum distances of 100 feet. Paint all such conduits with at least two coats of UV-resistant weatherproof paint. Provide white paint on flat rooftops that have finishes white in color, and for otherwise-colored roof finishes that are not visible from the building interior or from the ground outdoors. Elsewhere select colors to match surrounding surfaces; submit colors to Architect for review in advance of procuring paint.

Provide all cutting and patching required for the admission of work. Any damage done by this contractor to the building during the progress of work shall be made good at contractor's own expense. All patching shall be done by a skilled craftsman in that respective trade. It shall be the responsibility of this contractor to supervise the installation of, and pay for all additional members, wood or metal and labor which may be required to support any type of permanent or temporary electrical apparatus employed in the execution of this contractor's work.

Access Doors: Do not use access doors unless special prior written permission is granted from the Owner's Representative. Install pull boxes, junction boxes, etc. in areas which are accessible after completion of construction. Do not install pull boxes or junction boxes above gypsum board or similar inaccessible ceiling systems. Where there is no other recourse but to provide an access door/panel, and where approval of Owner's Representative has been obtained, provide required access doors/panels as required for a complete codecompliant electrical installation as defined below. Provide access doors in fire/smoke ratings that meet or exceed the surrounding surface that is being penetrated.

Seal all new floor, ceiling, wall, slab, etc. penetrations to match or exceed existing assembly fire ratings. Provide sleeve seals for all sleeves, provide sleeves for all penetrations. All penetrations of fire-rated or smoke-rated wall, floors ceilings, etc. shall be sealed immediately after raceways are installed. All new electrically related work shall be supported directly from building structural members. New electrically related work shall not be supported from ductwork, ductwork hanger, ceiling supports, existing conduit support, etc.

Some Dine Requirer articulate apply to The follot the project necessary appropriation and return and return articular some conform and return recognitions.

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Include include include include include include include electron electron editable fields ar from KLH we de a transmittal: Transmittals shall enumerate each nittal for each section of each type and iteration.

de cover sheet / title page: The cover sheet shall de the information identified in the contract ments. It shall be included as the first page of each ronic and/or hardcopy document-based submittal. An able and printable PDF form created with editable and specification compliant appearance is available KLH upon request. It is also downloadable from the website at www.klhengrs.com.

de an index: The index shall enumerate the contents e submittal.

Include of the s

Include checklists: Where checklists are included with the specifications, complete and include them within the appropriate submittal. Supply complete submittals: Complete submittals of each type are required. Partial submittals will be rejected. Where a section requires a product data submittal, all product data for that section shall be supplied together, at one time, as one complete submittal. When resubmittal is required (e.g. Revise and Resubmit) the revised submittal shall be more complete, more accurate and more contract-compliant than its rejected predecessor. The submittal number (for each section and type) shall increment for each subsequent submittal (00 – Original submission, 01 – First Resubmitssion, 02 – Second Resubmission, etc...). Resubmittals shall include a copy of the reviewers comments supplied with the prior submittal rejection and shall be amended with a description of the specific action taken to comply with the reviewer's comments. The absence of this on resubmittal is cause for rejection.

Name electronic files to match the submittal ID and cover sheet: The electronic file name of submittals shall match the submittal for Section 260519 would be labeled "260519.00-PD-01". The original/first shop drawings submittal file for the same shall be labeled "260519.00-SD-00"; the first resubmittal of same shall be labeled "260519.00-SD-00"; the first resubmittal of same shall be labeled "260519.00-SD-00".

Name elecover sh shall ma submitta product labeled a same sh original/ section or resubmit

If expre Contrac availabl upon re discreti essly permitted by the Owner and the terms of the ct, editable electronic drawings may be made ble for the creation of shop and as-built drawings equest. Drawings will be made available at the ion of the Engineer.

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Submit

cated on the drawings or specified hereinafter. All wire II be copper. All wiring shall be new. No wire smaller 12 AWG shall be installed unless specifically ignated. Use of #14 color coded wire will be allowed control circuits only. Provide stranded conductors for all sunless indicated otherwise.

wide THHN/THWN-2 insulation for all conductors as ropriate for the locations where installed. Provide color ed insulation/jacket for phase identification. All wires II be rated at 600 volts. Provide type XHHW-2 llation for all wiring below grade or subject to moisture.

All conductors shall be rated for 90 deg. C. minimum. Provide with green insulated equipment ground conductor. Provide compatible steel fittings with integral red plastic insulated throat bushings. Cables shall be 90 deg. C. rated with all components and fittings listed for grounding and compliant with the following: UL Std.4 and UL Std. 83; ANSI E119 and E814; NFPA 70. Unless provide parity-s all appli

All fittings shall be set-screw or compression type steel, with insulated throats. Unless indicated otherwise on drawings or in other parts of the electrical specifications, all wiring of all systems shall be installed in conduit.

Conduit shall be cleaned inside before any wires are pulled. Conduit ends shall be capped and plugged with standard accessories as soon as conduit has been permanently installed. Conduit installed without conductors shall be provided with sweep bends and baling wire for pulling.

All joints shall be made tight with watertight couplings matching conduit and all corners shall be made with long radius elbows. The ends of all conduits shall be cut square and reamed and all joints brought to a shoulder. Conduit shall be continuous between outlets to make a complete installation and to provide a continuous ground. Suitable supports and fastening shall be provided for conduit.

All raceways shall be entirely free of plaster, mortar, water and other foreign matter before installing conductors or cables.

In general, gang type outlet boxes shall not be used. The outlet box locations indicated on drawings shall be considered approximate, and therefore, it shall be incumbent upon this contractor to study the general construction with relation to spaces and equipment surrounding each outlet. All outlet, switch and junction boxes shall be made of code galvanized steel complete with rings and screw cover plates and located where shown and noted on drawings. Where conduit is concealed, boxes shall not be less than 4" square x 1-1/2" deep. All boxes shall be equipped with proper covers to bring flush with finished wall surface.

Protect excavated openings with substantial fencing, signage, shoring, and steel roadway strict compliance with OSHA/NIOSH and as

Cables: Route cables perpendicular and parallel to the building architectural lines, surfaces, and structural members, keeping offsets to a minimum and following surface contours where possible. Maintain a uniform elevation for cable runs wherever possible. Support and anchor cables at maximum 4 foot intervals and within 12" of box or outlet in a manner that prevents sagging. Install cables in a manner that prevents overheating. Fasten cables directly to the structure using factory clamps and clips (zip ties and like products are not permitted) specifically designed for the respective cable (Caddy or equal). Cables may be utilized only if code-approved for the intended use and in the limited applications defined below.

Subject to compliand anelboard products and rating of panelbo Company, GE/ABB,

Panelboards shall bear UL labels for their specific applications. Panelboards shall be suitable for service voltage with number of branch circuits of capacity scheduled. Refer to the drawings for bussing material. Where copper is specified provide silver or tin plating. Unless otherwise indicated, panelboards and sections thereof, if any, shall have main-lugs-only of capacity equal to, or greater than, the rating or setting of the over the current protective device next back on the line. All circuit breaker panelboard bus assemblies shall be of the distributed (sequence) bussing type throughout, so that any 2 adjacent single pole breakers and/or spaces shall be replaceable by a 2-pole internal common trip breaker, and any 3 adjacent single pole breakers and/or spaces shall be replaceable by a 3 pole internal common trip breaker, 15 amp through 70 amp inclusive, without disturbing any other breaker. All panelboards shall be UL listed and labeled for use as service entrance equipment where being used as such.

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breakers shall be full ambient ermal magnetic molded case with quick-break action and positive handle trip on manual and on automatic operation. e of the over-the-center toggle operating and no a position between "on" and

Owner's Representative in field. Where roadwork is to be performed, coordinate all work with the Department of Transportation (DOT) and comply with all DOT requirements. Schedule all work with DOT and restore roadways, curbs and sidewalks as quickly as possible. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by excavation operations.

Provide adequate shoring, bracing, cold weather protection and dewatering for all excavation. Provide fill materials in 8 inch lifts and compact to 95%. Seal and protect raceways, boxes and structures during installation.

tripping.

All breakers

Excavated or borrowed material: Prior to backfilling, remove rock and gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetable matter, and other deleterious matter.

Controlled Low Strength Material (CLSM – "Flowable Backfill"): Flowable Backfill shall have and have a minimum compressive strength of 1200 PSI at 28 days. Concrete: Concrete shall be air entrained and have a minimum compressive strength of 3000 PSI at 28 days. Provide steel reinforcement per details on drawings. Provide joint dowel bars between concrete structures / duct banks.

Provide manufacturers standard self-adhesive vinyl tape not less than 3 mils thick by 1-1/2" wide. Where applicable, install on all concealed raceways at connection to all junction boxes, pull boxes, equipment, wall/floor/roof penetrations, etc. Unless otherwise indicated or required by governing regulations, provide orange tape with black letters. Provide circuit identification bands for all cables and conductors. Provide manufacturers standard color coding for cable/conductor jacket and/or insulation for all cables and conductors of all systems. Match identification with marking system used in existing systems (where applicable), shop drawings, contract documents, and similar previously established identification for projects electrical work. Provide on all conductors of all systems.

The following insulation color code shall be used for system and voltage identification. This shall apply to both feeder and branch circuit wiring. Interchange of colors shall not be permitted.

240/120V System:

White (neutral)

480/Y277V System:

Black, Red and White (neutral)

Equipment Grounding:

Green

Systems:

Yellow and Gray (neutral)

Equipment Grounding:

To match existing where applicable - verify in field.

Provide engraved plastic-laminate sign on major units of electrical equipment, including panelboards, disconnects, starters, control panels, etc. Except as otherwise indicated, provide single line of text, 1/2" high ettering, on 1/1/2" high sign (2" high where 2 lines are required), white lettering in black field. Unless determined otherwise in field, provide text matching terminology and numbering of the contract documents and shop drawings. Secure to substrate with fasteners, except use adhesive where fasteners should not or cannot penetrate substrate.

All equipment and system identification nomenclature shown on drawings or listed herein is shown for general design and installation reference only. The actual nameplate, etc. nomenclature for this project shall be verified by electrical contractor in field by e

Electrical Power Service
The electric service includes utility company transformer as indicated on drawings, furnished by local utility company, with secondary voltage as indicated on drawings. Furnish and install all work in strict compliance with all requirements set forth by the utility company providing electrical service for the project. Procure all needed details and information directly from the utility company as required for complete operational installations. Furnish and install all electrical work accordingly. Such work includes, but is not limited to: Pads, bases, vaults, pits, manholes, metering, supports, conduit, wiring, connections, maintaining clearances, testing, inspections and ancillary work as applicable. Determine available fault current from electric utility company and provide appropriately rated electrical service and distribution equipment to accommodate not only the initial transformer proposed by the utility company, but also a future larger transformer if applicable to allow for full usage of the electrical service capacity. Where indicated in project manual, or where indicated on drawings, or where required by prevailing codes, install ground-fault protection devices complying with electrical winding polarities indicated. Set field-adjustable GFP devices and circuit breakers for pickup and time-current sensitivity ranges as indicated, after installation of devices and CBs. Provide secondary ducts and cable, including one spare duct, from terminal pole to power service cabinet. Terminate ducts and cable at terminal pole as directed by utility company. Utility company will furnish and install the transformer and the primary cables, and will make service transformer and the primary cables, and will 24 16.00 - PANELBOARDS

Submittal Requirements

Product Data

For each provide bus configuration, current ratings, voltage ratings, SCCR Ratings, overcurrent protective device(s), surge suppression device(s), accessory, and components indicated. Include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.

nce with requirements, provide is of one of the following (for each type soard and enclosure): Square D, Siemens, Eaton/Cutler-Hammer.

Receptacles (WR)

Refer to the other Division 26 specification sections as applicable for requirements associated with conductors, cables, grounding and bonding, supports and bases, identification, contactors, control devices, wiring devices, and other equipment and components. Provide products that are made by the same respective manufacturer that will be used for other aspects of the project wherever possible.

Control Cabinet Assemblies

Provide NEMA standard equipment, including those incorporated as an integral part of a factory/shop pre-fabricated piece of equipment. Provide units as indicated on drawings and as indicated under Division 26 sections.

Provide fully operational pre-manufactured lighting control cabinets equivalent to Myers Power

Power Pedestal #MEUG32A-M200 series with #MEUG32-Base pad-mounting base for concrete foundation. Provide with features and accessory components (within the enclosure), as defined hereafter. MIDWAY DISTRICT PHASE II

installations. Furnish and install all electrical work accordingly. Such work includes, but is not limited to: Insulators, weatherheads, metering, supports, conduit, wiring, connections, maintaining clearances, testing, inspections and ancillary work as applicable. Determine available fault current from electric utility company and provide appropriately rated electrical service and distribution equipment to accommodate not only the initial transformer proposed by the utility company, but also a future larger transformer if applicable to allow for full usage of the electrical service capacity. Where indicated in project manual, or where indicated on drawings, or where required by prevailing codes, install ground-fault protection devices complying with electrical winding polarities indicated, after installation of devices and CB's. Provide secondary conduit(s) and wiring from outdoor weatherhead to service disconnect(s). Coordinate insulator locations, weatherhead locations and conductor tail lengths with utility company prior to commencing with any related work. Utility company will furnish and install the transformer and the overhead drop, and will make final overhead connections. Coordinate with drawings for number of spans, poles, special conditions, etc.

26 21 16.00 - LOW-VOLTAGE UNDERGROUND ELECTRICAL SERVICE ENTRANCE entrance work in strict accordance with spective utility company, and of authorities in. Coordinate with other electrical work, ompany wiring, as necessary to interface ruice entrance equipment work with other ruvice entrance conduits with sweep L's. Induits, immediately upon installation, to loisture, dirt, rodents, insects, etc. from rior to commencing with any service work, carefully coordinate installation of affected utility companies, with Owner's with other trades, with affected entities, ies having jurisdiction. Provide tight pment grounding and bonding service-entrance equipment, and wiring. All circuit breakers shall be full size. "Tandem" or "split" breakers shall not be permitted. All multi-pole breakers shall have internal common trip with all load side box lugs of one breaker in the same gutter. All circuit breakers shall have sealed cases to prevent tampering. All 15 and 20 ampere branch circuit breakers shall be UL Listed as SWD (switching duty). All 15-70 ampere branch circuit breakers shall be HACR Type. All GFCI circuit breakers shall be UL Class A with maximum threshold of 5 mA. All branch circuit breakers serving all ballasted (fluorescent/HID) lighting loads shall be HID rated. Provide barriers around any energized phase busbar or terminal supplied from a feeder tap, transformer, or service entrance conductors. Provide all electrical distribution related equipment with appropriately braced bussing and properly rated breakers, fuses, etc. for the available fault currents.

Fill out panelboard's circuit directory card upon completion of installation work. Directories shall be neatly typewritten. All panelboard directories shall include the actual room names/numbers that are selected for interior signage/designation.

All recessed panelboards shall be provided with a minimum of three 1-1/4" empty conduits terminated to a single 12" X 12" X 6" deep junction box above accessible

26 27 13.00 - ELECTRICITY METERING

Furnish and install all work in strict compliance with all requirements set forth by the utility company providing electrical service for the project. Procure all needed details and information directly from the utility company as required for complete operational installations. Furnish and install all electrical work accordingly. Such work includes, but is not limited to: CT cabinets (bussed if necessary), meter bases, supports, conduit, wiring, connections, maintaining clearances, testing and inspections. Provide lugs, lug kits and related accessory work as required to accommodate the conductor sizes and quantities needed for each application. Coordinate with single-line diagram, field conditions, etc. Meter will be furnished and installed by utility company. Provide metering-related work in strict accordance with utility company requirements. Position meters in locations approved by the utility company, the Design Professionals, and the Owner.

DATE

Meter Sockets: Provide meter sockets. Comply with requirements of electrical-power utility company. Steadystate and short-circuit current ratings shall meet indicated circuit ratings.

REVISIONS

262717.00 – POWER SERVICE CABINETS
SUBMITTAL Requirements
Product Data
For each type and size include dimensions, operating characteristics, electrical characteristics, detailed information for required contents with layout diagrams and furnished enclosures, specialties and accessories.

GENERAL

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Acceptable Manufacturers: Subject to being equivalent and subject to compliance with requirements, provide product by one of the manufacturers listed below. If not listed, submit as substitution.

American Products.

Eaton Electrical Inc.; Cutler-Hammer Business Unit.

General Electric Company; GE Consumer & Industrial - Electrical Distribution.

Myers Power Products, Inc. (basis of design)

Siemens Energy & Automation, Inc.

Square D; a brand of Schneider Electric.

Provide pre-fabricated UL Listed and Labeled Lighting Control Cabinets as shown and detailed on drawings.

Include all components as required for each to render the entire service, metering, power and control assembly fully operational including, but not limited to, the following.

Overall weatherproof enclosure

Overall weatherproof enclosure Incoming service lugs and bussing Meter socket
Window and externally accessible de for metering
Panelboard with main breaker
Surge protection device(s) (SPD)
Photocell (behind window) d externally accessible demand-reset

CAMPBELL COUNTY

CITY OF FORT THOMAS, KY 41076

ELECTRIC SPECIFICATIONS

de overall weatherproof NEMA 4X Stainless enclosure, with the following features. Provide DuPont Alesta UFB611T3 finish (aliphatic urethane, fast cure, black minitex II, fine textured, 30-39 gloss). Verify color with Owner prior to ordering.

E0-002

26 27 26.00 - WIRING DEVICES

Unless specifically indicated otherwise, or directed otherwise in field, coordinate finishes for wiring devices with architect and owner prior to ordering. Where applicable, devices on different branches of power shall be a different color.

Provide grounded ("neutral") conductors in all wall switch, dimmer and other lighting control outlet boxes, even if not immediately utilized.

Provide wall plates with engraved legends where indicated on drawings and/or where required per 26 05 53.00 - IDENTIFICATION FOR ELECTRICAL SYSTEMS Section. All device wall plates shall be standard size; "midway",

Provide units mounted within Power Service Cabinet. Do not splice leads where SPD units are provided with factory installed box connector fitting with factory leads. Install conductors with direct paths to and from SPD devices

E0-003

CONTRACT NO

Provide padlock provisions for all external doors and panels.

Provide removable utility access cover on rear with provisions for padlock.

Provide minimum 12-gauge enclosure construction with minimum 14 gauge hood and covers.

Provide minimum NLPA 3R enclosure.

Comps with Collarians specification ES-2E and EJOSER 308 requirements.

Provide of components of the provide of the p

Provide SPD materials manufacturer's standa published product info accordance with manu Coordinate with field cinstallation of SPD.

rials and components that comply with ndard design, in accordance with information. Provide wiring in strict nanufacturer's recommendations.

Provide SPD units with the following features: LED Status lights; Remote monitor contacts; Seven Mode device; Third-party tested; Compliance with UL 1449 2nd Edition; Compliance with NEMA LS-1, 1992; Compliance with ANSI/IEEE 62.41 and ANSI/IEEE 62.45. Provide equipment matched to voltage of electrical system at point of connection.

Submittal Requirements
Product Data
For each type include electrical characteristics, configurations, ratings, markings, colors, etc. Provide high exposure unit for service entrance equipment where shown on drawings. Provide unit equal to Surge Suppression Incorporated SDLB3, including the following additional features: The minimum single-pulse surge current withstand rating per phase shall not be less than 250 kA.

Connect SPDs to a disconnecting switch or breaker rated for (minimum) 30-amps in the panel per manufacturer's installation instructions to ensure a means of disconnecting the SPD from the service without deenergizing the panel or the connected loads. The use of direct bus bar connected SPDs is expressly prohibited and will be rejected.

Wall-Box Type Lighting Refer to specification 260 for types not listed here.

Special purpose recepmanufacturer as indicin field.

Self-Grounding Commercial Specification grade, Duplex Receptacles, Ground-Fault Circuit Interrupters: Feed-thru type, capable of protecting connected downstream receptacles on single circuit, grounding type UL-rated 943, Class A, Group 1, specification grade, 20-amperes rating (device and feed-thru), 125-volts, 60 Hz; with solid-state ground-fault sensing and signaling (maximum threshold of 5mA at 0.025 seconds maximum); equip with 20-ampere plug configuration, NEMA 5-20R. Provide ground fault circuit interrupter duplex receptacles equal to Leviton #8898 series. For receptacle circuits protected with 15A breakers, provide NEMA 5-15R equivalents. Where GFCI protected receptacles are shown on drawings, provide a separate GFCI receptacle for each one shown. Do not feed downstream receptacles from load-side (GFCI-protected) terminals of upstream receptacles.

26 43 13.00 - SURGE PROTECTION FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS

Provide equipment equ Surge Suppression Inc Eaton, Advanced Prote Sentron TPS, Liebert, I Power, and Leviton. qual to compliant products offered by ncorporated, GE/ABB, Square D, stection Technologies (APT), Siemens t, LEA, Current Technology, United

Submit manufacturer's system features and p equipment other than include in tabulation liproposed equipment t characteristics that me er's SPD data. Include tabulation of d performance characteristics. If an the basis of design is proposed, n line by line comparison of data for the nt to the specified equipment. Provide meet or exceed those specified.

Provide products compliant with the following:
Underwriter's Laboratory UL Standard 1449 latest Edition
Listed; NEMA LS-1 latest edition compliant; ANSI/IEEE
C62.41/62.45 latest edition compliant; MIL Standard 220A
compliant.

Protection and Filtering Elements: Test the SPD device repetitive surge current capacity utilizing a 1.2x50 microseconds 20kV open circuit voltage, and 8x20 microseconds 10kA short circuit Category C3 test waveform (as defined by ANSI/IEEE C62.41-1991 and ANSI/IEEE C62.45-1992) at one minute intervals. Define a failure as either performance degradation, or more than 10% deviation of clamping voltage, at the specified surge current. Base maximum surge current ratings on testing of a complete SPD system. Do not provide devices based on a maximum surge current rating by adding test results of individual components. Provide fusing system capable of allowing the rated maximum surge current to pass through without fuse operation. Do not provide systems utilizing a fusing system that opens below the maximum surge current level. Provide fusing system with thermal fuses and surge rated fuses, and include them in the surge current testing. Do not provide systems using gas tubes, silicon avalanche diodes, selenium rectifiers, or printed circuit board technology in surge current path. Provide maximum Continuous Operating Voltage (MCOV) for each voltage configuration at 115 percent of nominal.

All surface and recessed ceiling luminaires installed on grid or tile ceilings shall be installed to agree with module of ceiling either displacing a tile, or unit on center of tile, or centered on grid lines.

Provide luminaires and/or luminaire outlet boxes with hangers to properly support luminaire weight. All luminaires installed in or on suspended ceiling systems shall be anchored directly to the building structural system above. Such anchoring shall be independent of the ceiling support system. All luminaires shall be installed plumb and level. Support surface mounted luminaires greater than 2 feet in length at a point in addition to the outlet box luminaire stud.

REVISIONS

Revised per Addendum

Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting aimable luminaires to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose. Some of this work may be required after dark. Adjust aimable luminaires in the presence of Owner's Representative and Design Professionals.

MKM

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All exteriors lighting standards shall have inline fuses installed at the hand hole of each pole.

CHECKED BY:

APPROVED BY:

F.B. NO. _____PG.

"oversized" ("jumbo") or "extra deep" wall plates shall not be acceptable. Construct with metal screws for securing plates to devices; screw heads colored to match finish of plates. Except where/if indicated otherwise on drawings, wall plates in finished areas shall be commercial specification grade, satin finish stainless steel, with beveled edges, equal to Leviton Type 430 series. Wall plates in unfinished areas shall be galvanized steel unless otherwise noted. Refer to architectural finish schedules and owner representative for additional information.

avoiding sharp bends, loops, and excessive lengths. Install SPD components to the panelboard boxes as near as possible to the interior connection points; position the related branch breakers accordingly. Cut factory and field leads as required to minimize cable lengths.

26 51 00.00 - LIGHTING

CONSTRUCTION .

ting Controls: 260923.00 – Local Lighting Controls

eptacles shall be of the size, type and cated on the plans or as determined

Weather Resistant (WR) GFCI Receptacles: Provide for all receptacles installed in damp or wet locations. Any receptacle shown on the drawings with "WP/GFCI" next to it denoting exterior cover shall be installed with a WR GFCI receptacle. Provide duplex weather resistant receptacles equal to Leviton # W7899 series. Provide Weather-Resistant Receptacles with UL "WR" marking. All junction boxes and serviceable components for recessed luminaires shall be readily accessible for service or replacement from below the ceiling, without removing any ceiling components (other than tiles).

All luminaires utilized for emergency and/or egress lighting shall be connected ahead of switching. All drivers of the same type shall be of the same manufacturer and catalog number. All LED modules of the same type shall be of the same manufacturer and catalog number.

Light Emitting Diode (LED) Systems: Provide factory installed LED modules that are specifically designed for, and matched and mated to, the respective luminaire in which they are used. Provide LED modules that can easily be replaced in the field and are readily accessible for replacement. Provide color temperature as indicated in Luminaire Schedule. Provide factory installed driver(s) for the LED source utilized that are specifically coordinated to the LED source and luminaire in which they are used. Provide driver(s) having specific operating characteristics defined in the Luminaire Schedule. Provide driver(s) that can easily be replaced in the field and are readily accessible for replacement. Provide specification sheet for the specific driver as part of the Luminaire Submittal. Provide Total Harmonic Distortion (THD) rating of less than 20 percent. Provide factory-installed integral filtering system to ensure THD does not exceed 20 percent regardless of quantities and/or mixes with other manufactured LED systems.

LEXINGTON, KENTUCKY LOUISVILLE, KENTUCKY COLUMBUS, OHIO

DATE







All luminaires utilized for emergency and/or egress lighting shall be connected ahead of switching. All drivers of the same type shall be of the same manufacturer and catalog number. All LED modules of the same type shall be of the same manufacturer and catalog number.	All junction boxes and serviceable components for recessed luminaires shall be readily accessible for service or replacement from below the ceiling, without removing any ceiling components (other than tiles).	All recessed luminaires shall be equipped with necessary plaster frames and surface trim.	Product Data For each type include detailed product information, light source, color temperature, color rendering index, lumen outputs, life, driver manufacturer, model and type, ceiling connection details, integral controls as applicable, drawings of custom fixtures or components, wiring diagrams, warranty, etc. Arrange luminaire submittals in booklet form with separate sheets for each luminaire, assembled by luminaire "type" in alphabetical order.	Submittal Requirements
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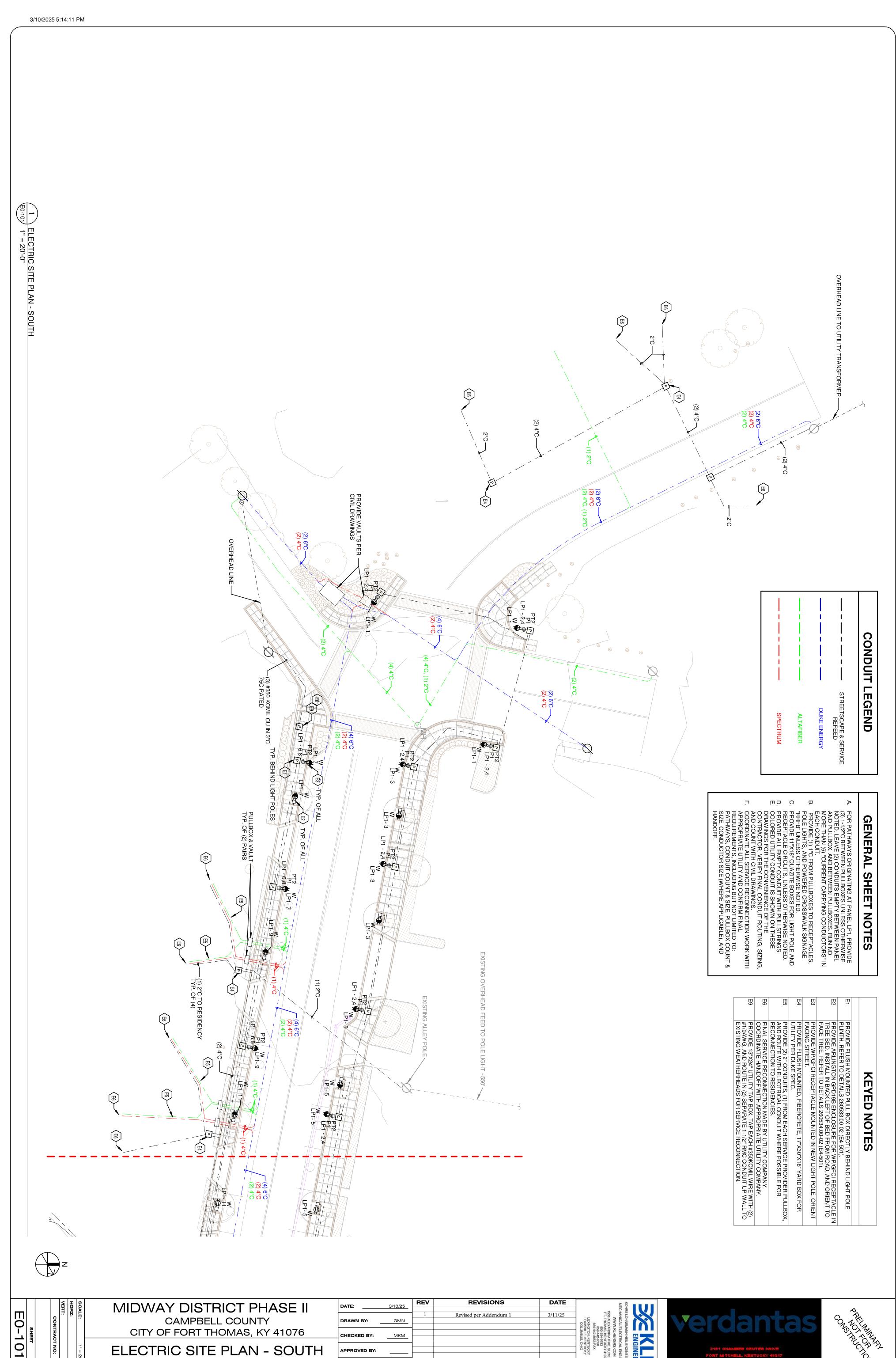
	verdantas
	2101 CHAMBER CENTER DRIVE
ı	FORT MITCHELL, KENTUCKY 41017
ı	TEL (859) 525-0544
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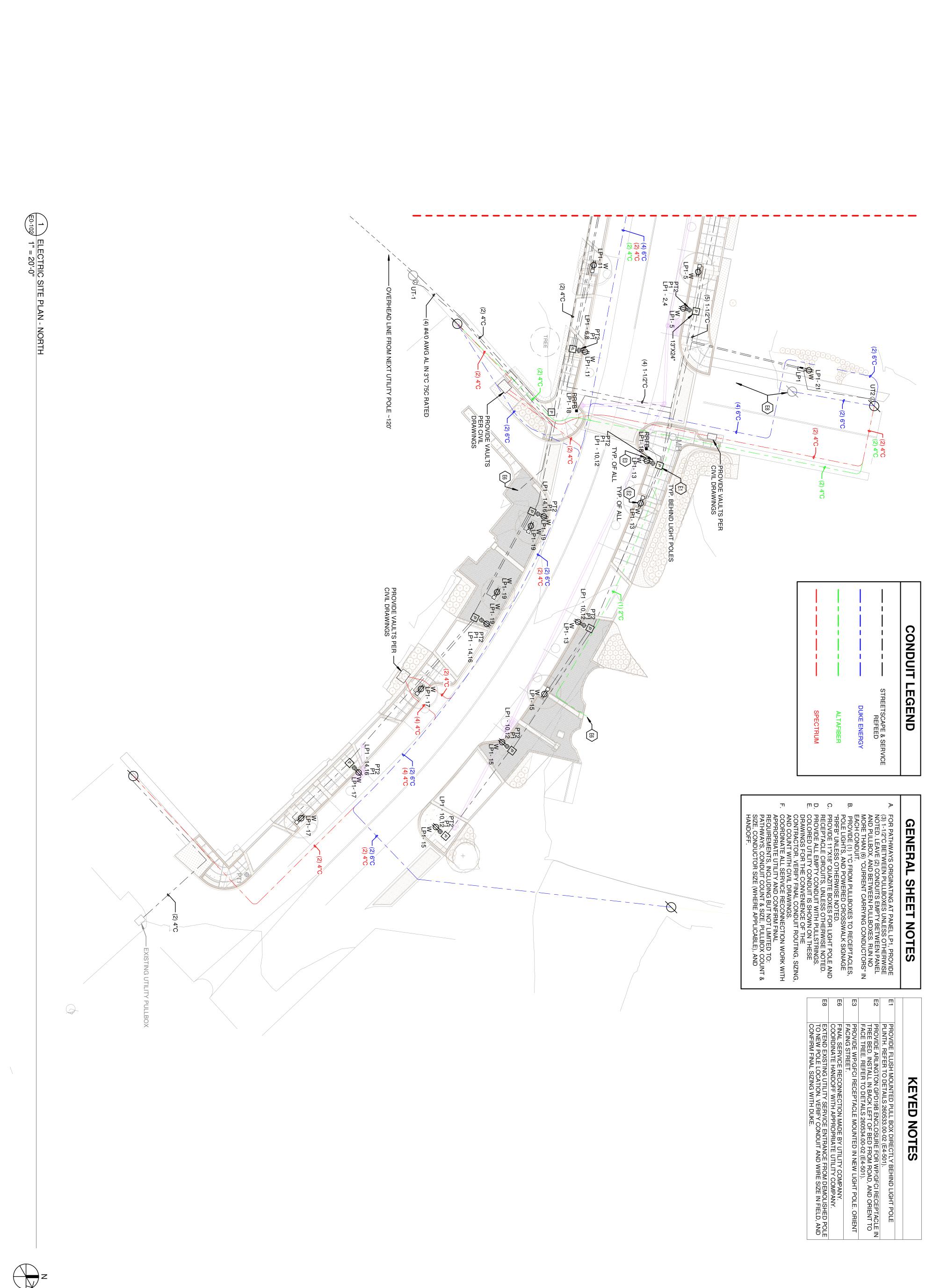
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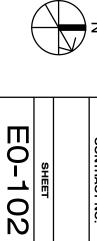
CAMPBELL COUNTY
CITY OF FORT THOMAS, KY 41076
ELECTRIC SPECIFICATIONS

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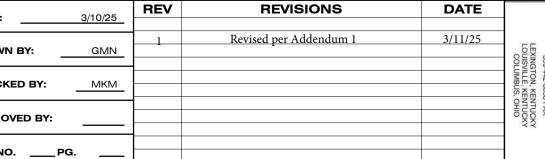
F.B. NO. _____PG.





MIDWAY DISTRICT PHASE II **CAMPBELL COUNTY** CITY OF FORT THOMAS, KY 41076 ELECTRIC SITE PLAN - NORTH

<u> </u>	/10/20		
DRAWN BY:	GMN	1	
CHECKED BY:	MKM		
APPROVED BY:			
F.B. NOPG.			









ELECTRIC LUMINAIRE SCHEDULE

NITROLS, ETC. FOR ALL LUMINAIRE COMPONENTS
WITH THE ARCHITECTURAL REFLECTED CEILING PLANS, CEILING INSTALLERS, ETC. AND PROVIDE APPROPRIA
HEN HANDLING EXPOSED REFLECTIVE LUMINAIRE SURFACES. REMOVE PLASTIC SHIPPING BAGS ONLY AFTER I
HE BOTTOM OF THE LUMINAIRE, UNLESS OTHERWISE NOTED.
ED ON DRAWINGS AND SCHEDULES. WHERE MULTIPLE MANUFACTURER SERIES/MODEL NUMBERS ARE LISTED

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ED ON DRAWINGS AND SCHEDULES. FOR A SINGLE LUMINAIRE, PROVIDE ONE OF THOSE LISTED. WHERE A SPECIFIC MANUFACTURER SERIES/MODEL NUMBER IT IS STATED THAT EQUIVALENTS WILL BE CONSIDERED, ANY PROPOSED NON-LISTED LUMINAIRES ARE SUBJECT TO REVIEW BY DESIGN PROFESSIONAL(S), AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. DESIGN PROFESSIONAL(S) AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. DESIGN PROFESSIONAL(S) AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. DESIGN PROFESSIONAL(S) AND ONLY IF OWNER CHOOSES TO CONSIDER SUBSTITUTION REQUESTS. ATE MOUNTING SYSTEM REQUIRED FOR EACH LUMINAIRE. ALSO, PROVIDE PLASTER FRAMES, WALL BRACKETS, SUPPORTS, OR OTHER APPURTENANCES AS REQUIRED FOR PROPER AND COMPLETE INSTALLATIONS. INTERIOR WORK IS COMPLETE, AND CLEAN ALL SURFACES WITH CLEAN DRY CHEESECLOTH.

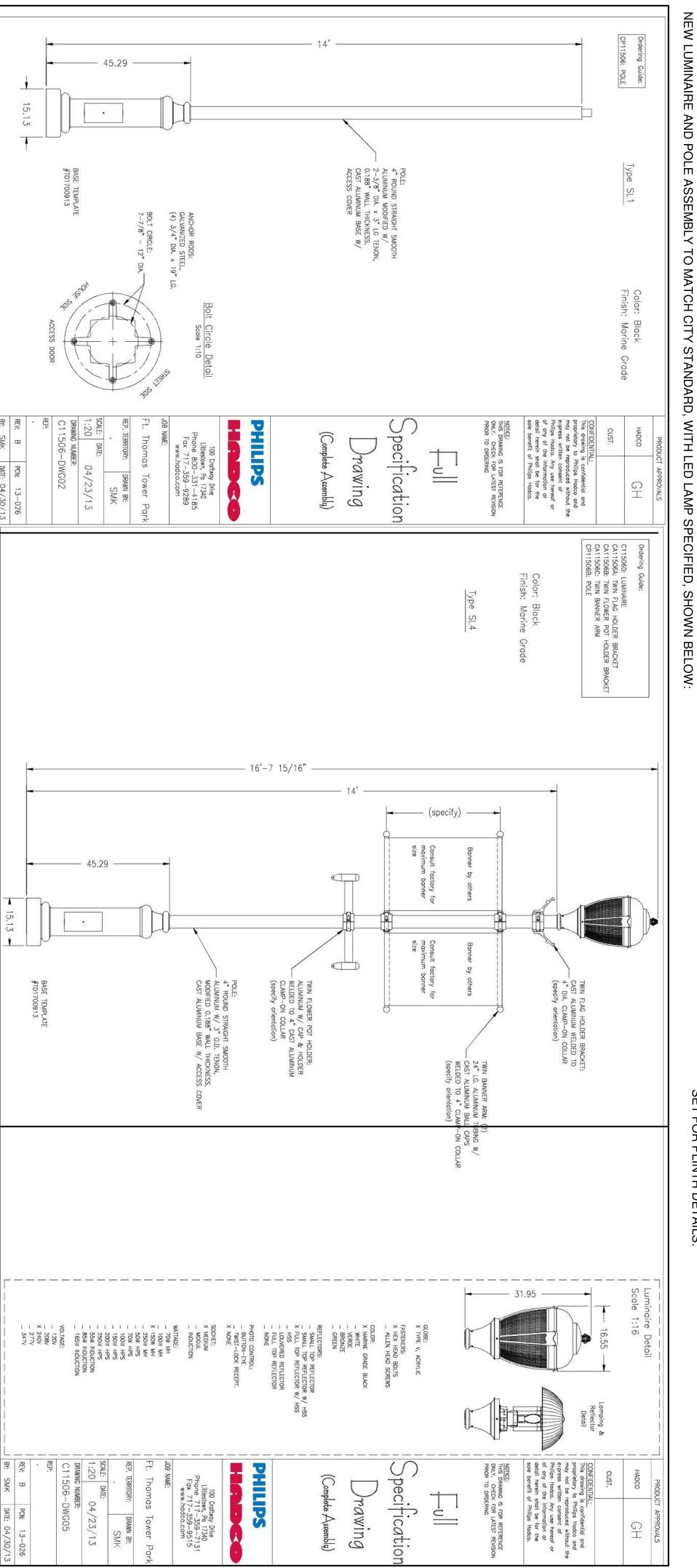
PT2	ТүрЕ	OWNER RES
POST TOP - TRADITIONAL	DESCRIPTION	ERVE THE RIGH
LIGHTING	TION MANUFACTURER	T TO REJECT A
		LL PRODUCTS
LAMP RETROFIT RAB LIGHTING C580F7G WITH MED BASE	MODEL	THAT ARE NOT
	ACCEPTED EQUALS	DEEMED TO BE FL
18" DIAM X 32" OAL	SIZE	JLLY EQUIVALEN
POST-TOP, 2-3/8" TENON	MOUNTING	NT TO THE BASIS-C
	FLANGE KIT	F-DESIGN LIST
	MATERIAL	ING(S). SUBMIT
ACRYLIC LENS, FULL TOP LED REFLECTOR	OPTICS	OWNER RESERVE THE RIGHT TO REJECT ALL PRODUCTS THAT ARE NOT DEEMED TO BE FULLY EQUIVALENT TO THE BASIS-OF-DESIGN LISTING(S). SUBMIT ALL REQUESTS AND QUESTIONS THROUGH THE FORMALLY-ESTABLISHED BIDDING PROCESS, NOT DIRECTLY TO ENGINEER
LED	LIGHT SOURCE	QUESTIONS THR
1	LIGHT SOURCE LAMP QTY LAMP BASE	DUGH THE FOR
E26 MEDIUM BASE	LAMP BASE	RMALLY-ESTAE
4000	COLOR TEMPERATURE (K)	ILISHED BIDDIN
80 11	CRI	G PROCESS,
12000	LUMEN OUTPUT (L)	NOT DIRECTLY
ELECTRONIC	DRIVER	TO ENGINEER.
0	DRIVER QTY	
No	BATTERY	
NONE	BATTERY TYPE	
NONE	DIMMING PROTOCOL	
MARINE GRADE BLACK: MATCH POLE	FINISH	
	OPTIONS	
27 VA	LOAD (VA)	
Yes	UNIVERSAL VOLTAGE (MVOLT)	
240 V	VOLTAGE	

ELECTRIC LUMINAIRE POL E SCHEDULE

P1	7	ALL FIE THE SE
	TYPE	ELDS LEFT ELECTED
POLE - ROUND	DESCRIPTION	POLE MOUNTED LUMIN
HADCO	MANUFACTURER	JULE BELOW ARE 1 JAIRES. REFER TO
P4030, STRAIGHT ALUMINUM	MODEL	TBD BY POLE MAI
ALUMINUM	MATERIAL	NUFACTURER. M PLAN FOR OTHER
4"	SIZE	ANUFACTI
125	GAUGE	JRER IS RESPON AT MAY BE INST.
14' - 0"	HEIGHT	ISIBLE FOR P
7.38	EPA	ERFORMING C)LE, SUCH AS S
POST TOP	MOUNTING	ALCULATIONS AND FL
TWIN FLAG HOLDER BRACKETS, TWIN	OPTIONS	ALL FIELDS LEFT BLANK IN THE SCHEDULE BELOW ARE TBD BY POLE MANUFACTURER. MANUFACTURER IS RESPONSIBLE FOR PERFORMING CALCULATIONS AND FURNISHING A POLE THAT MEETS EPA F THE SELECTED POLE MOUNTED LUMINAIRES. REFER TO SITE LIGHTING PLAN FOR OTHER ITEMS THAT MAY BE INSTALLED ON POLE, SUCH AS SECURITY EQUIPMENT, AND ACCOUNT FOR THIS IN THE CAL
MATCH FINISH OF	FINISH	A REQUIREMENTS FO
MATCH FINISH OF MATCH EXISTING POLES FROM PHASE 1.	COMMENTS	A REQUIREMENTS FOR THE PROJECT LOCATION AND CALCULATIONS.

SCALE: FINISHE PAVEMED OR GRA CHAMFE EDGES 265100.00-08 - LIGHT POLE BASE DETAIL - ROUND 6 **©** \bigcirc HANI SECTION VIEW 0 \ominus **√**® – 24"MIN. 9. (6) #6 VERTICAL REBARS - TIE VERTICAL BARS TO TIE LOOPS. 10. FOR BASES FLUSH WITH PAVEMENT, DO NOT PROVIDE CHAMFER. SEAL THE PERIMETER OF THE BASE TOP INSTEAD. 11. PROVIDE 24" MINIMUM RADIUS; EXTEND 3/4" MAXIMUM ABOVE FOUNDATION WITH NUMBER OF CONDUITS AS NEEDED, 1" MIN. 12. PROVIDE DIAMETER BOLT CIRCLE PER LUMINAIRE MANUFACTURER. 13. "X" AND "Y" DIMENSIONS ARE MINIMUM LENGTHS FROM THIS LINE. WHERE GRADE OR PAVEMENT IS SLOPED, "Y" IS FROM THE LOW SIDE OF THE SLOPE AND "X" IS FROM THE HIGH SIDE OF THE SLOPE. 14. PROVIDE ROUND CONCRETE BASE. 15. PROVIDE REBAR CAGE. 16. PROVIDE 5/8" X 10' GROUND ROD. PROVIDE 1" MINIMUM SCHEDULE 40 ELECTRICAL PVC CONDUIT. BACKFILL WITH EXCAVATED OR BORROWED MATERIAL. MATERIAL SHALL BE FREE OF ROCKS 1" DIAMETER AND LARGER. COMPACT TO 30% IN MAX 8" LIFTS OF LOOSE SOIL. PROVIDE 3000# CONCRETE BASE (CLASS A FORMED SURFACE WHERE EXPOSED). PROVIDE IN BASE BOLTED TO BASE PLATE WITH MIN. #6 AWG SHOUND LUG IN BASE BOLTED TO BASE PLATE WITH MIN. #6 AWG SOLID COPPER CONDUCTOR. BASE COVER OVER GALVANIZED STEEL WASHERS, NUTS & LOCKNUTS. BROUND CLAMP, IRREVERSIBLE SPLICE. PROVIDE MINIMUM OF FOUR ANCHOR BOLTS, GALVANIZED STEEL. PROVIDE MINIMUM OF FOUR ANCHOR BOLTS, GALVANIZED STEEL. PROVIDE #4 TIE LOOPS AT 3" FROM TOP AND BOTTOM AND +/- 12" C/C 3ETWEEN LOOPS. KEYED NOTES: PLAN VIEW

ALL P1 POLE LOCATIONS REQUIRE A SQUARE BASE PLINTH. REFER TO CIVIL SET FOR PLINTH DETAILS.



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LS REV	NOTICE: THIS DRAWING	express writte Philips Hadco of any of the detail herein sole benefit o	CONFIDENTIA This drawing proprietary to	CUST.	HADCO	PRODU		
DATE: 3/10/25 REV	IS FOR REFERENCE	n consent of Any use hereof or information or shall be for the principle hadco.	LL: is confidential and Philips Hadco and Philips Hadco and		GH	ICT APPROVALS		
1		DATE:		;	3/10/25	-	REV	

IDWAY DISTRICT PHASE II
CAMPBELL COUNTY
CITY OF FORT THOMAS, KY 41076
ELECTRIC LIGHTING -

SCHEDULES

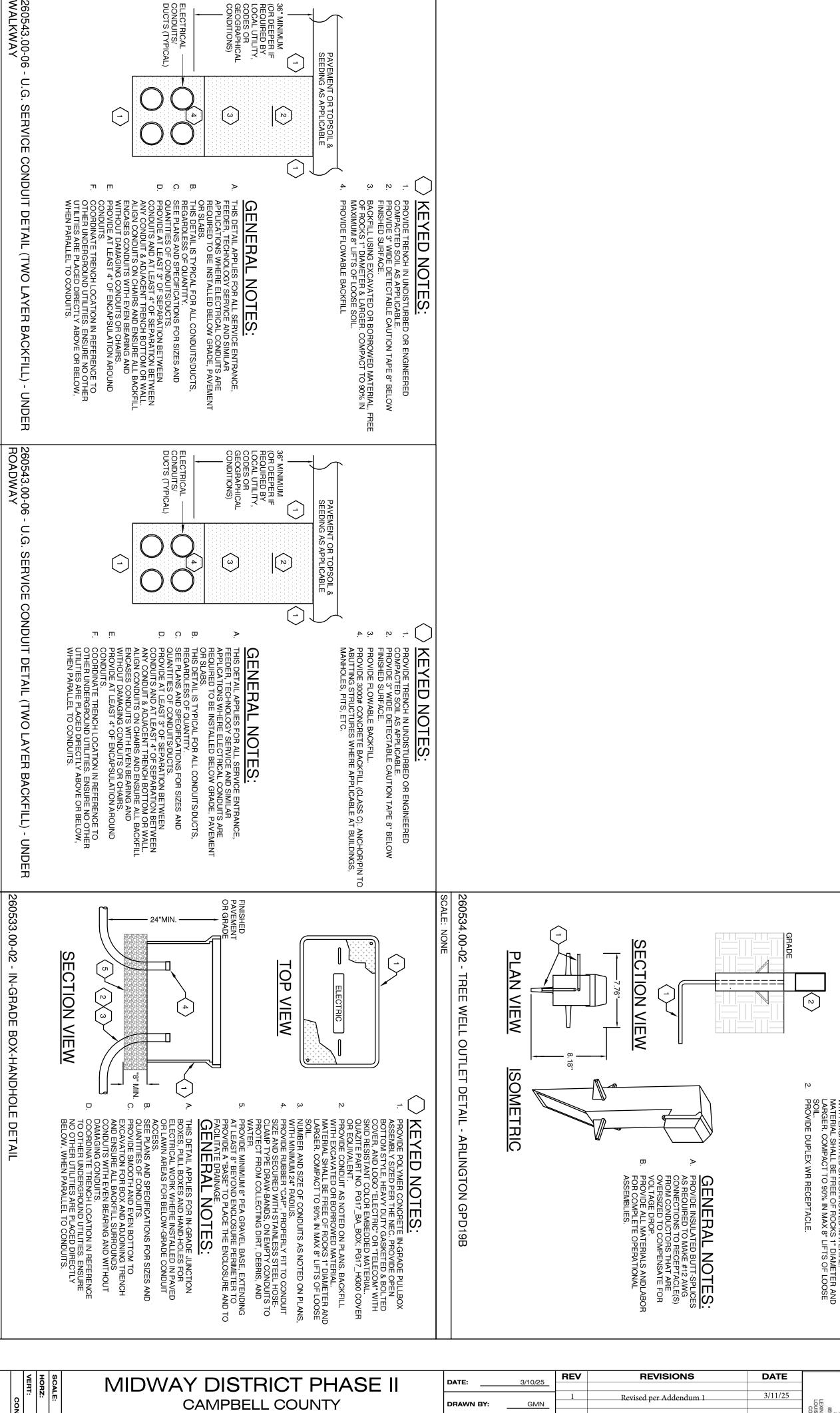
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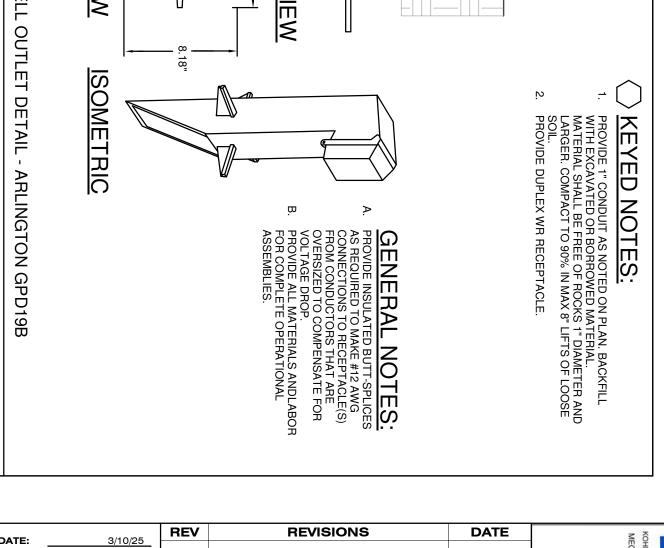
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1924		
DATE:	3/10/25	_
DRAWN BY:	GMN_	
CHECKED BY:	MKM	
APPROVED BY:		
F.B. NOI	PG	
_		

3/11/25







E4-501	SHEET	CONTRACT NO:	VERT:	HORZ:	SCALE: 1/8" = 1'-0"

CAMPBELL COUNTY CITY OF FORT THOMAS, KY 41076

OTT OF FORT HIGHAS, KT 41070
ELECTRIC POWER - DETAILS

DATE:	3/10/25	REV	REVISIONS	DATE	-
DRAWN BY:	GMN	1	Revised per Addendum 1	3/11/25	LOUISVI
CHECKED BY:	MKM				GTON, KER VILLE, KER LUMBUS,
APPROVED BY:					OHIO ALIOCKA ALIOCKA
F.B. NOP	G				





NEW CIRCUIT TO EXISTING CIRCUIT BREAKER
CONNECT BRANCH CIRCUIT, WHICH WAS DISCONNECTED FROM ANOTHER SOURCE AS PART OF SELECTIVE DEMOLITION, TO POLE SPACE(S) INDICATED, DETERMINE EXACT POLE ASSIGNMENT(S) BASED ON EXISTING COLOR-CODING OF THE BRANCH CIRCUIT CONDUCTOR INSULATION. PROVIDE NEW BREAKER IF REQUIRED. PROVIDE ARC FAULT CIRCUIT INTERRUPTER (AFCI) CIRCUIT BREAKER
PROVIDE COMBINATION ARC FAULT (AFCI) / GROUND FAULT (GFCI) CIRCUIT INTERRUPTER CIRCUIT BREAKER EXISTING FUSIBLE SWITCH/CIRCUIT BREAKER WITH NEW FUSES/TRIP RATING
PROVIDE DRAW-OUT CIRCUIT BREAKER
PROVIDE ENERGY REDUCTION MAINTENANCE (REDUCED ENERGY) CIRCUIT BREAKER
EXISTING CIRCUIT TO REMAIN

(ST)

(*) (#) *

D

ANEL

SCHEDULE

LEGEND

DEMAND CALCULATION NOTES:
TOTAL DEMAND:

30 A

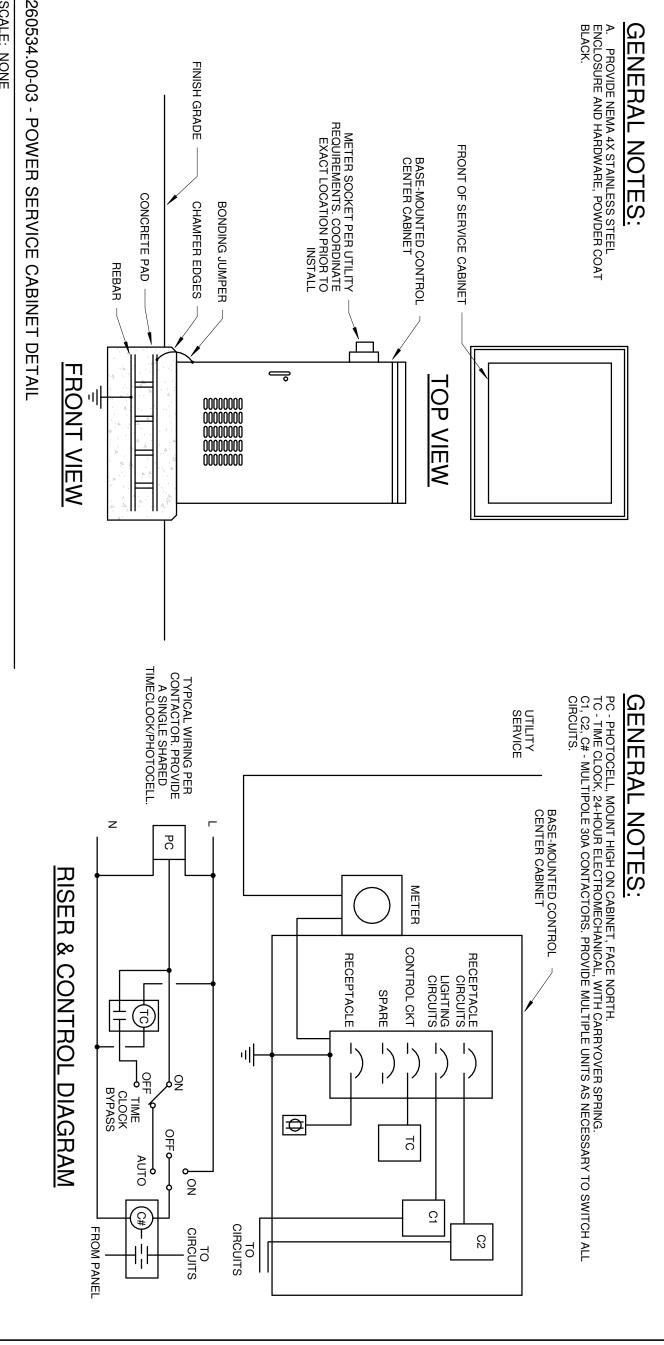
PANEL TOTALS

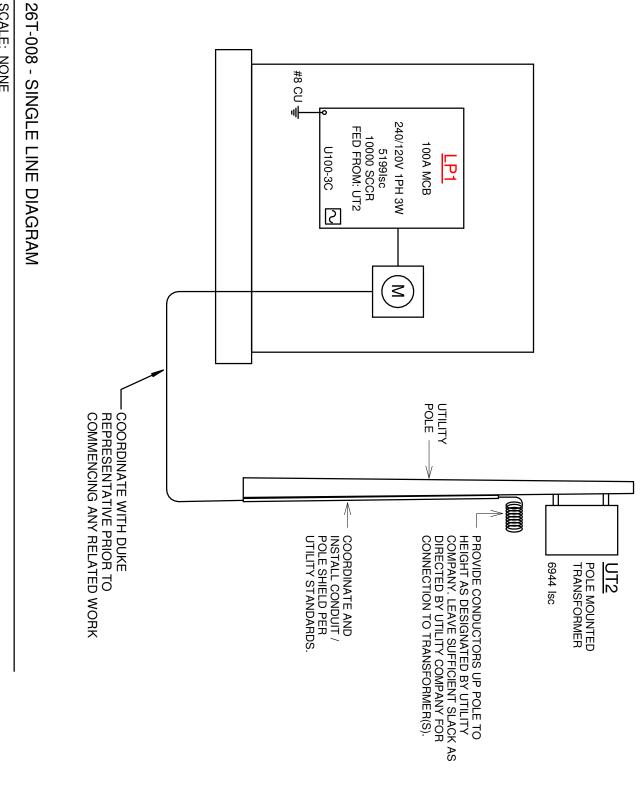
TAGE DROP

TYPICAL EQUIPMENT NAME NOMENCLATURE: 1 - POWER DISTRIBUTION SYSTEM (BLANK - NORMAL, E - EMERGENCY, S - STANDBY, L - LIFE SAFETY) 2 - DESCRIPTION (H - 480Y/277V, L - 208Y/120V) 3 - FLOOR / LEVEL 4 - SEQUENCE ALL ALUMINUM BUSSING SHALL BE TIN-PLATED. ALL COPPER BUSSING SHALL BE EITHER TIN-PLATED OR SILVER-PLATED DEMAND (kVA) 7261 VA DEMAND (A) MAINS RATING (A) ELECTRIC PANELBOARD AND SWITCHBOARD SCHEDULE 100 MAINS FRAME RATING (A) MAINS TYPE THERMAL MAGNETIC BUSSING (PLATED) MOUNTING COPPER OR ALUMINUM SURFACE (3) #3 AWG CU IN 1-1/4" CONDUIT 75C RATED LUGS TYPE Yes Ves Yes GEC Yes TYPE NEMA 1 FAULT CURRENT (A) 5199 SHORT CIRCUIT RATING (A) NOTES SEE POWER SERVICE CABINET DETAIL ON THIS SHEET.

	0.333	30 A	U100-3C (3) #3 AWG CU IN 1-1/4" CONDUIT 75C RATED	UT2 U	LP1
	_				UT2
NOTES	VD%	DEMAND (A)	FEEDER ID FEEDER	SUPPLY FROM F	SUPPLY TO
ENIVED STSTEM GNOONDING ELECTINODE CONDOCTOR AS AFFEICABLE.		M GOODING ELE	GNOOND BAN(3) TO RESPECTIVE OF STREAM SERVICE ENTRANCE OF DERIVED STSTE	OFR THE	CONDUIT MATERIAL PER THE
FROM INSULATED ISOLATED	CTOR(S)	ROUNDING CONDU	I = ISOLATED GROUND (PROVIDE CONTINUOUS INSULATED ISOLATED EQUIPMENT GROUNDING CONDUCTOR(S) FROM INSULATED ISOLATED	LDS ARE	RI ANK DECYMEN PIELDS ARE
			5 - SPECIAL (MAY BE BLANK)		
			4 - CONDUCTOR MATERIAL: C = COPPER, A = ALUMINUM	NDUCTOR	"AL" = ALUMINUM CONDUCTOR
			3 - TOTAL NUMBER OF PHASE AND GROUNDED ("NEUTRAL") CONDUCTORS	JUCTOR,	"CU" = COPPER CONDUCTOR,
			2 - CONDUCTOR AMPACITY		
			T = UPSIZED GROUND CONDUCTORS FOR TRANSFORMER SECONDARY		CONDITIONS, ETC.
			X = EXISTING FEEDER TO REMAIN UNLESS OTHERWISE NOTED	J	PULLING EASE, FIELD
			P = PARITY-SIZED EQUIPMENT GROUND CONDUCTOR	DUCTOR	ACCOMMODATE CONDUCTOR
		TILITY	U = EQUIPMENT GROUND CONDUCTOR REMOVED FOR SERVICE ENTRANCE FROM UTILITY	TO	SIZES AS REQUIRED TO
			1 - GROUND TYPE (MAY BE BLANK)	INCREASE	ARE MINIMUM SIZES. INCREASE
			* - INDICATES FEEDER SIZED TO COMPENSATE FOR VOLTAGE DROP	NDICATED	ALL CONDUIT SIZES INDICATED
			FEEDER ID NOMENCLATURE:		NOTES:
		'n			
			Г		

		ELECTRIC CIRCUIT SCHE	CIRC			DULE		
PANEL	CIRCUIT NUMBER	LOAD NAME	VOLTS	POLE	Homerun Wire Size	Homerun Voltage Drop	Final Connection Wire Size	Final Connection Voltage Drop
LP1		(G) RCPT - TREE/LIGHT POLE	120 V	_	*#10	2.783	#12	4.03
LP1	2,4	LIGHT POLES	240 V	2	#12	0.128	#12	0.655
LP1	ω	(G) RCPT - TREE/LIGHT POLE	120 V	_	*#10	2.464	#12	3.779
LP1	5	(G) RCPT - TREE/LIGHT POLE	120 V	_	#12	1.278	#12	3.818
LP1	6,8	LIGHT POLES	240 V	2	21#	0.088	#12	0.257
LP1	7	(G) RCPT - TREE/LIGHT POLE	120 V	1	21#	4.002	#12	4.728
LP1	9	(G) RCPT - TREE/LIGHT POLE	120 V	_	21#	2.045	#12	2.306
LP1	10,12	LIGHT POLES	240 V	2	21#	0.09	#12	0.239
LP1	11	(G) RCPT - TREE/LIGHT POLE	120 V	1	21#	1.681	#12	2.632
LP1	13	(G) RCPT - TREE/LIGHT POLE	120 V	1	21#	1.837	#12	2.793
LP1	14,16	LIGHT POLES	240 V	2	21#	0.11	#12	0.185
LP1	15	(G) RCPT - TREE/LIGHT POLE	120 V	1	*#10	2.426	#12	3.553
LP1	17	(G) RCPT - TREE/LIGHT POLE	120 V	1	01#*	2.963	#12	4.099
LP1	18	(G) POWERED CROSSWALK SIGNAGE	120 V	1	#12	1.247	#12	1.52
LP1	19	(G) RCPT - TREE/LIGHT POLE	120 V	_	#12	3.815	#12	4.932
F.	21	(G) RCPT - CONVENIENCE AT PANEL	120 V	_	#12	0 034		





3 (G) RCPT-1
5 (G) RCPT-1
7 (G) RCPT-1
9 (G) RCPT-1
11 (G) RCPT-1
13 (G) RCPT-1
15 (G) RCPT-1
17 (G) RCPT-1
19 (G) RCPT-1
21 (G) RCPT-1
23 (G) SPARE
23 (G) SPARE

CONNECTED LOAD:

- 0.00 3.7 kVA

ESTIMATED DEMAND 500 VA 641 VA 6120 VA

NOTES:
SEE POWER SERVICE CABINET DETAIL ON THIS SHEET.

(16) 20A

<u>PR QUANTITIES (NEW ONLY)</u> PROPERTIES (1) 30A / 2P, (1) 30A / 2P PANEL NAME: LP1

SYSTEM: 240/120V 1PH 3W FEEDER: (3) #3 AWG CU IN 1-1/4"

BUSSING: (
MAINS RATING (A): MAINS TYPE: FEEDER ID: (

3: COPPER OR ALUMINUM): 100 E: THERMAL MAGNETIC): U100-3C

MOUNTING: SURFACE
FAULT CURRENT (A): 5199
SHORT CIRCUIT RATING (A): 10000
LUGS TYPE:
ENCLOSURE TYPE: NEMA 1

SURGE SUPRES

0.90 0.05

0.54

0.05

2

20 A

20 A #12

#12 0.088 LIGHT POLES

0.11

0.72

0.11

2

20 A

#12

#12

CIRCUIT DESCRIPTION

0.54

0.40

0.54

0.04

2

20 A

20 A

#12

#12

0.11 LIGHT POLES

#12

ALK SIGNAGE

#12 1.247 (G) POWERED CROSSWALK
-- -- (G) SPARE
-- -- (G) SPARE
-- -- SPACE

0.54

0.05

2

20 A

20 A

#12

#12

0.09 LIGHT POLES

0.18

0.00

0.00

0.00

0.72

0.00

	GENERAL ELECTRICAL POWER DISTRIBUTION NOTES
	REQUIREMENTS OF NFPA 70. PROTECTION (OCP) AS REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NFPA 70. PROVIDE EQUIPMENT AND OCP RATED TO MEET OR EXCEED THE AVAILABLE SERIES-RATED FAULT CURRENT AT THE RESPECTIVE NODE IN THE POWER DISTRIBUTION SYSTEM SERIES, BATED REFAKERS/SYSTEMS ARE NOT DEBMITTED WHERE PROHIBITED BY
	PHOPERLY HAILED AND BHACED EQUIPMENT IS PROVIDED UNDER BASE BID. G. GROUNDING ELECTRODE CONDUCTOR SYSTEM: PROVIDE GROUNDING ELECTRODE CONDUCTOR SYSTEM IN STRICT COMPLIANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NEDA 70) INCLUDING ABTICLE 250 AND TABLE 250 AS THESE CONDUCTORS MAY OB MAY NOT
P POLE TO SY UTILITY EENT SLACK AS	
MPANY FOR ORMER(S).	D. POWER DISTRIBUTION EQUIPMENT LABELS: IN ADDITION TO LABELS REQUIRED WITHIN THE SPECIFICATIONS, INCLUDE CORRESPONDING MAXIMUM AIC (AVAILABLE INRUSH CURRENT) AND SHORT-CIRCUIT CURRENT RATING (SCCR) FOR EACH PIECE OF POWER DISTRIBUTION EQUIPMENT,
	CONDUCTOR TERMINATIONS: IN CASES WHERE CONDUCTOR SIZES ARE TOO LARGE TO FIT INTO
	SIZED TO FIT LUGS/TERMINALS. PROVIDE SPLICES IN SEPARATE BOXES IF REQUIRED BASED ON FIELD CONDITIONS, BOX SIZE LIMITATIONS, ETC. CONCEAL BOXES IN ACCESSIBLE OVERHEAD JOIST SPACES IN EMISSIED ASEAS
	F. ALUMINUM CONDUCTORS: PROVIDE THE FOLLOWING SUPPLEMENTAL WORK FOR ALUMINUM-CONDUCTOR ELECTRICAL EQUIPMENT CONNECTIONS, REGARDLESS OF WHO FURNISHES THE
	EQUIPMENT: REVIEW EQUIPMENT SUBMITTALS, INSTALLATION DOCUMENTS AND NAMEPLATES TO DETERMINE IF THERE ARE ANY WARRANTY OR UL LIMITATIONS REGARDING COPPER VERSUS
	ALUMINUM WIKING CONNECTIONS AT EQUIPMENT; IF THERE ARE ANY LIMITATIONS, PROVIDE LOCAL DISCONNECT AT OR NEAR EQUIPMENT (EXTERNAL TO THE EQUIPMENT) AND TERMINATE ALUMINUM CONDUCTORS TO THE LINE-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH: PROVIDE COPPER
	CONDUCTORS FROM LOAD-SIDE LUGS/TERMINALS OF THE DISCONNECT SWITCH TO THE RESPECTIVE EQUIPMENT FACTORY DISCONNECT OR LUG/TERMINALS AS APPLICABLE; COORDINATE ALL RELATED WORLD WITH ALL AFFECTED WISTALL FEBS
	G. <u>FEEDER TAPS</u> : PERFORM FEEDER TAPS IN ACCORDANCE WITH NFPA 70. PERFORM FEEDER TAPS TO PARALLELED-SET FEEDERS BY RESPECTIVELY TAPPING ALL PHASE, GROUNDED AND GROUNDING
	CONDUCTORS TO ENSURE UNIFORM CONHENT FLOW IN ALL SETS. H. BREAKER FRAME SIZES: AMPERE RATINGS INDICATED ON DRAWINGS FOR CIRCUIT BREAKERS ARE SLOWN TO DEFINE OVEROUIDERING DECLIDERING PROVIDE BREAKERS IN
	SIZES AND TYPES GREATER THAN THE DESIGNATED OVERCURRENT TRIP RATINGS WHERE NECESSARY TO ACHIEVE THE REQUIRED SELECTIVE COORDINATION, AND/OR AS NECESSARY FOR
	I. ELECTRIC UTILITY SERVICE WORK: PROVIDE ALL ELECTRIC UTILITY SERVICE WORK IN STRICT COMPLIANCE WITH PREVAILING REQUIREMENTS OF THE UTILITY COMPANY. THE DRAWINGS INDICATE RELATED REQUIREMENTS AT A SCHEMATIC LEVEL. IT IS NOT THE INTENT OF THESE DRAWINGS TO
	DELAIL ANY SOCH WORK.

T FOR FURTURE USE. PROVIDE BREAKER INDICATED. LOAD SHOWN FOR REFERENCE ONLY.)E GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) CIRCUIT BREAKER	PΑ	PANEL SCHEDULE GENERAL NOTES
DE GROUND-FAULT EQUIPMENT PROTECTION (GFEP) CIRCUIT BREAKER	₽	PROVIDE HACR RATED BREAKERS ON ALL MOTOR LOADS.
DE SPECIAL PURPOSE GROUND-FAULT CIRCUIT INTERRUPTER (SPGFCI) CIRCUIT BREAKER	œ	ALL CONDUCTORS SHOWN ARE COPPER.
DE HANDLE TIE	ဂ	ALL VOLTAGE DROP CALCULATIONS AND COMPENSATED WIRE SIZES ARE BASED ON RIGHT ANGLE CIRCUIT LENGTHS.
DE LOCK-ON DEVICE		ACTUAL VOLTAGE DROP MAY VARY BASED ON INSTALLED WIRE LENGTH.
DE ELECTRONIC LONG AND INSTANTANEOUS ADJUSTABILITY	.D	VOLTAGE DROP CALCULATIONS AND WIRE SIZES SHOWN IN THE PANEL SCHEDULES ARE FOR HOMERUN CONDUCTORS
DE ELECTRONIC LONG, SHORT, AND INSTANTANEOUS ADJUSTABILITY		ONLY. FOR CIRCUITS WITH MORE THAN 1 DEVICE, THESE SIZES ASSUME THE CONDUCTORS DOWNSTREAM OF THE
DE ELECTRONIC LONG, SHORT, INSTANTANEOUS, AND GROUND-FAULT ALARM ADJUSTABILITY		HOMERUN DEVICE ARE THE MINIMUM SIZE REQUIRED BY THE NEC BASED ON THE RATING OF THE CIRCUIT. WHERE THIS
DE ELECTRONIC LONG, SHORT, INSTANTANEOUS, AND GROUND-FAULT ADJUSTABILITY		IS NOT THE CASE, IT HAS BEEN INDICATED ON THE DRAWINGS. VOLTAGE DROP TO THE FARTHEST DEVICE HAS BEEN
)E LOCK-OUT/TAG-OUT DEVICE		CALCULATED TO NEVER EXCEED 5%.
E SINGLE LINE DIAGRAM / SCHEDULE FOR WIRE SIZE AND VOLTAGE DROP	iμ	RECEPTACLE LOADS CALCULATED AT 100% OF FIRST 10kVA, 50% OF REMAINDER. MOTOR LOADS CALCULATED AT 125%
DE SHUNT TRIP CIRCUIT BREAKER		OF THE LARGEST MOTOR, 100% OF ALL OTHER MOTORS.

E4-601

MIDWAY DISTRICT PHASE II

CAMPBELL COUNTY
CITY OF FORT THOMAS, KY 41076

ELECTRIC POWER - SINGLE LINE

& SCHEDULES

DATE:	3/10/25	RE
DRAWN BY:	GMN	1
CHECKED BY:	MKM	
APPROVED BY:		
F.B. NOPO	à	

REVISIONS	DATE	
vised per Addendum 1	3/11/25	5 6
		COLUME
		ON, KENTUC LE, KENTUC MBUS, OHIO
		OGS



