

ELECTRICAL NOTES

- IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TESTS, AND OTHER SERVICES AS MAY BE NECESSARY TO ACHIEVE THIS PRODUCT. THE CONTRACTOR SHALL ACKNOWLEDGE ACCEPTANCE OF THE PLANS AS AN ADEQUATE DEFINITION OF THE SCOPE OF WORK AND EXTRA COST CLAIMS BASED ON DISCREPANCIES ON THE PLANS WILL NOT BE CONSIDERED.
- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC) AND ALL LOCAL CODES HAVING JURISDICTION. ALL EQUIPMENT, DEVICES, AND MATERIAL SHALL BE LISTED WITH UNDERWRITERS LABORATORIES FOR ITS APPLICATION AS INSTALLED AND SHALL BEAR THE UL LABEL.
- THE ELECTRICAL CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY SUCH FEES AS MAY BE NECESSARY FOR INSPECTIONS, TESTS, AND OTHER SERVICES WHICH ARE REQUIRED FOR THE COMPLETION OF HIS WORK.
- ELECTRICAL PLANS ARE DIAGRAMMATIC. DO NOT SCALE DRAWINGS.
- CONSULT PLANS OF ALL OTHER TRADES FOR COORDINATION AND FOR RELATED AND ADJOINING WORK.
- SHOP DRAWINGS FOR ALL ELECTRICAL EQUIPMENT, FIXTURES, DEVICES AND MATERIALS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE DELIVERY TO THE JOB SITE. EQUIPMENT, FIXTURES, DEVICES, AND MATERIAL DELIVERED TO THE JOB SITE OR INSTALLED PRIOR TO APPROVAL OF THE SHOP DRAWINGS, AND FOR WHICH THE SHOP DRAWINGS ARE SUBSEQUENTLY REJECTED, SHALL BE REPLACED WITH AN APPROVED ITEM AT NO ADDITIONAL COST TO THE OWNER.
- THE CORRECT NUMBER OF WIRES MAY NOT BE INDICATED FOR ALL CIRCUITS, ONLY THOSE WHERE CLARIFICATION IS NECESSARY. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRES NECESSARY FOR THE PROPER FUNCTION OF THE SYSTEM WHETHER INDICATED ON THE DRAWINGS OR NOT.
- THE LIGHTING FIXTURES SHALL BE FURNISHED AND INSTALLED COMPLETE WITH ALL ACCESSORIES (INCLUDING LAMPS) BY THE ELECTRICAL CONTRACTOR.
- SYMBOLS SHOWN ON THIS SHEET ARE STANDARD SYMBOLS AND MAY NOT NECESSARILY ALL BE APPLICABLE TO THIS PROJECT.
- THE CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE BY OWNER.
- CONDUCTORS SHALL BE INSTALLED CONTINUOUS BETWEEN DEVICES, WITH SPLICES LOCATED ONLY IN JUNCTION BOXES OR IN CABINETS. CONDUCTORS SHALL BE OF SUFFICIENT LENGTH TO REACH THE FARTHEST TERMINAL IN PANELS. A MINIMUM OF 6" LOOPS SHALL REMAIN WHERE CONNECTIONS OR TAPS ARE TO BE MADE IN BRANCH CIRCUIT WIRING.
- ELECTRICAL CONTRACTOR SHALL PROVIDE AS BUILT DRAWINGS AND ALL MANUFACTURERS DATA AND WARRANTY LITERATURE AT THE COMPLETION OF THE CONTRACT.

EQUIPMENT SPECIFICATIONS

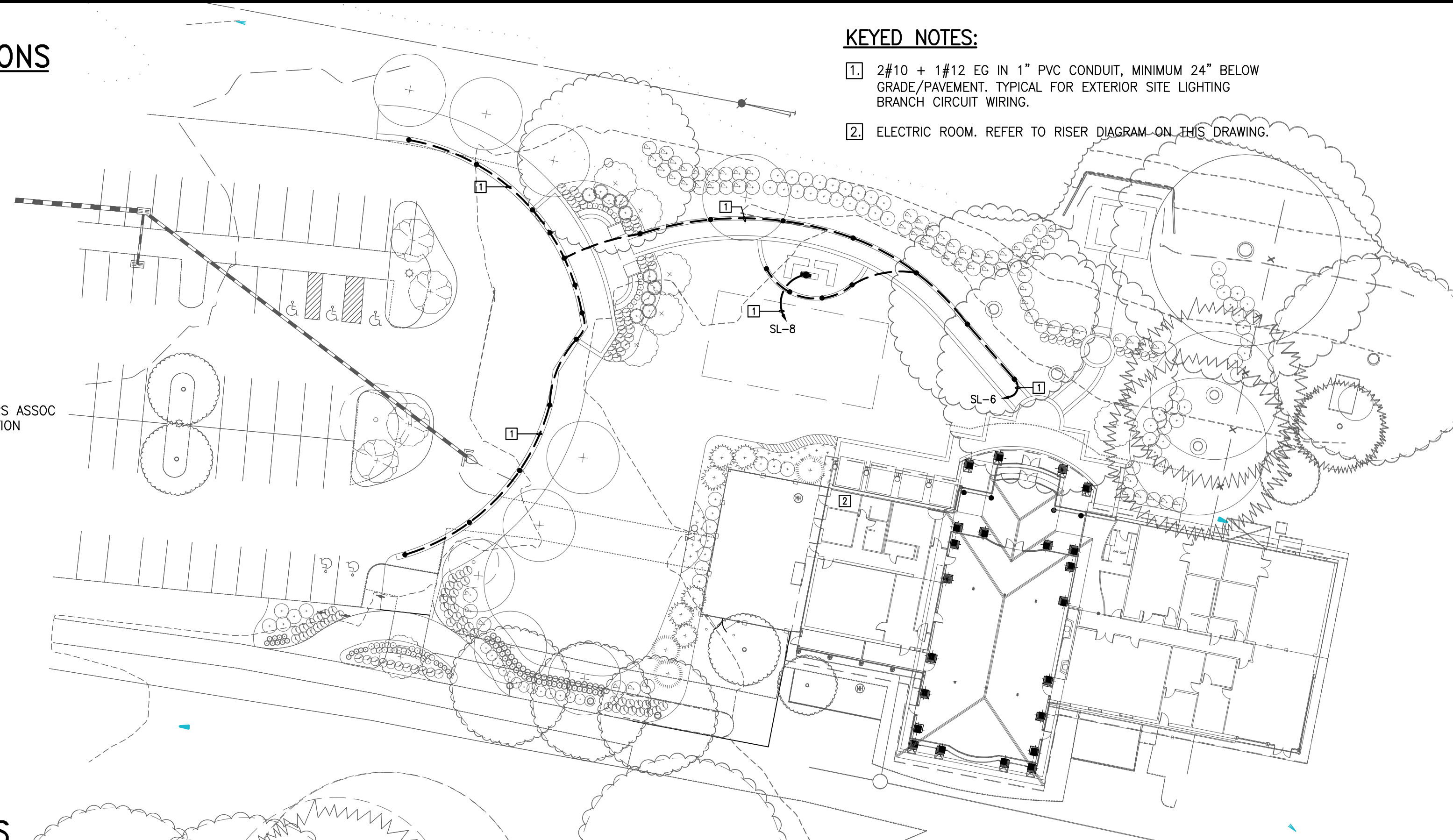
- RACEWAY:**
 - MINIMUM SIZE OF THE CONDUIT SHALL BE 3/4".
 - PROVIDE LIQUID TIGHT FLEXIBLE CONDUIT FOR CONNECTION OF MOTOR AND FOR OTHER ELECTRICAL EQUIPMENT WHERE SUBJECT TO MOVEMENT AND VIBRATION, AND ALSO WHERE SUBJECT TO ONE OR MORE OF THE FOLLOWING CONDITIONS, UNLESS NOTED OTHERWISE:
 - MOIST AND HUMID ATMOSPHERE WHERE CONDENSATE CAN BE EXPECTED TO ACCUMULATE.
 - CORROSIVE ATMOSPHERE.
 - SUBJECT TO DRIPPING OIL, GREASE OR WATER.
 - ALL CONDUITS SHALL BE GROUNDED PER NEC. CONDUITS ENTERING THE OUTLET BOXES, PANEL CABINETS ETC. MUST BE FITTED WITH A DOUBLE LOCKNUT AND BUSHING.
 - PROVIDE RIGID STEEL, THREADED, THICK WALL CONDUIT, GALVANIZED OR EMT FOR ALL PANEL FEEDERS, AND ALL EXPOSED WIRING IN UNFINISHED AREAS.
- WIRES AND CABLES:**
 - ALL WIRE AND CABLE SHALL BE COPPER WITH THHN/THWN INSULATION AND ALL WIRE SIZES ARE BASED ON COPPER CONDUCTORS WITH 75°C INSULATION UNLESS INDICATED OTHERWISE. ALL CONNECTORS, LUGS, ETC. SHALL BE LISTED FOR 75°C.
 - PROVIDE WIRING NOT SMALLER THAN #12 AWG FOR THE POWER DISTRIBUTION, AND NOT SMALLER THAN #14 AWG FOR THE FIRE ALARM SYSTEM. ARMORED METAL CABLE OR METAL CLAD CABLE, WHERE CONCEALED, MAY BE USED IF ACCEPTABLE TO THE LOCAL AUTHORITY HAVING JURISDICTION AND IN COMPLIANCE WITH APPLICABLE CODES.
 - CONDUCTORS INSTALLED UNDERGROUND OR IN THE WET LOCATIONS SHALL BE U.L. LISTED PER NEC, AND SHALL BE SUITABLE FOR WET LOCATIONS.
- ELECTRICAL BOXES AND FITTINGS:**
 - ALL BOXES AND FITTINGS SHALL BE OF CODE-GAUGE STEEL.
 - JUNCTION AND PULL BOXES: PROVIDE GALVANIZED CODE-GAUGE SHEET STEEL JUNCTION AND PULL BOXES WITH SCREW-ON COVER OF TYPES, SHAPES AND SIZES TO SUIT EACH RESPECTIVE LOCATION AND INSTALLATION, WITH WELDED SEAMS AND EQUIPPED WITH STAINLESS STEEL NUTS, SCREWS, AND WASHERS.
 - PROVIDE WEATHERPROOF OUTLETS FOR INTERIOR AND EXTERIOR LOCATIONS EXPOSED TO WEATHER OR MOISTURE.
 - ALL PULL BOXES SHALL BE FABRICATED FROM #12 OR HEAVIER GAUGE GALVANIZED STEEL AS REQUIRED BY THE NEC, AND SHALL BE EQUIPPED WITH SCREW FASTENED COVER.
- WIRING DEVICES:**
 - PROVIDE DUPLEX, SPECIFICATION GRADE RECEPTACLES 2 POLE, 3 WIRE GROUNDING WITH GREEN HEXAGONAL EQUIPMENT GROUND SCREWS, GROUND TERMINALS AND POLES INTERNALLY CONNECTED TO MOUNTING YOKE, 20 AMPERES, 125 VOLTS, WITH METAL PLASTER EARS, SIDE WIRING, NEMA CONFIGURATION 5-20R. HUBBELL CAT. NO. HBL5362 OR EQUAL.
 - WEATHERPROOF RECEPTACLE, SHALL BE WEATHER RESISTANT PER NEC 406.9.
 - ALL DEVICES INSTALLED IN THE LOCATION EXPOSED TO AMBIENT CONDITIONS SHALL BE WEATHERPROOF AND SHALL COMPLY WITH NEC 406.9.
- DISCONNECT SWITCHES:**
 - DISCONNECT SWITCHES SHALL BE TYPE HD, HEAVY DUTY, FUSIBLE OR NON-FUSIBLE, AS NOTED, SINGLE THROW, 600-V AC, 1200 A AND SMALLER: UL 98 AND NEMA KS 1, HORSEPOWER RATED, WITH CLIPS OR BOLT PADS TO ACCOMMODATE INDICATED FUSES, LOCKABLE HANDLE WITH CAPABILITY TO ACCEPT TWO PADLOCKS, AND INTERLOCKED WITH COVER IN CLOSED POSITION. NEMA TYPE 1 OR 3R, AS REQUIRED.

ELECTRICAL ABBREVIATIONS

A	AMP
AFF	ABOVE FINISHED FLOOR
AIC	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CU	COPPER
DN	DOWN
EC	EMPTY CONDUIT
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FSS	FUSED SAFETY SWITCH
GFI	GROUND FAULT INTERRUPTER
GND	GROUND
HP	HORSE POWER
HWRC	HOT WATER RECIRCULATING PUMP
IBC	INTERNATIONAL BUILDING CODE
IG	ISOLATED GROUND
KVA	KILOVOLT AMPS
KW	KILOWATTS
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFSS	NON FUSED SAFETY SWITCH
P	POLE
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT AMPS
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER

KEYED NOTES:

- 2#10 + 1#12 EG IN 1" PVC CONDUIT, MINIMUM 24" BELOW GRADE/PAVEMENT. TYPICAL FOR EXTERIOR SITE LIGHTING BRANCH CIRCUIT WIRING.
- ELECTRIC ROOM. REFER TO RISER DIAGRAM ON THIS DRAWING.



PARTIAL SITE PLAN-ELECTRICAL

SCALE: 1" = 30'-0"

ELECTRICAL SYMBOLS

NOTE: THESE SYMBOLS ARE STANDARD AND ALL MAY NOT BE APPLICABLE TO THIS JOB. ALL MOUNTING HEIGHTS ARE STANDARD UNLESS NOTED OTHERWISE ON THE DRAWINGS.

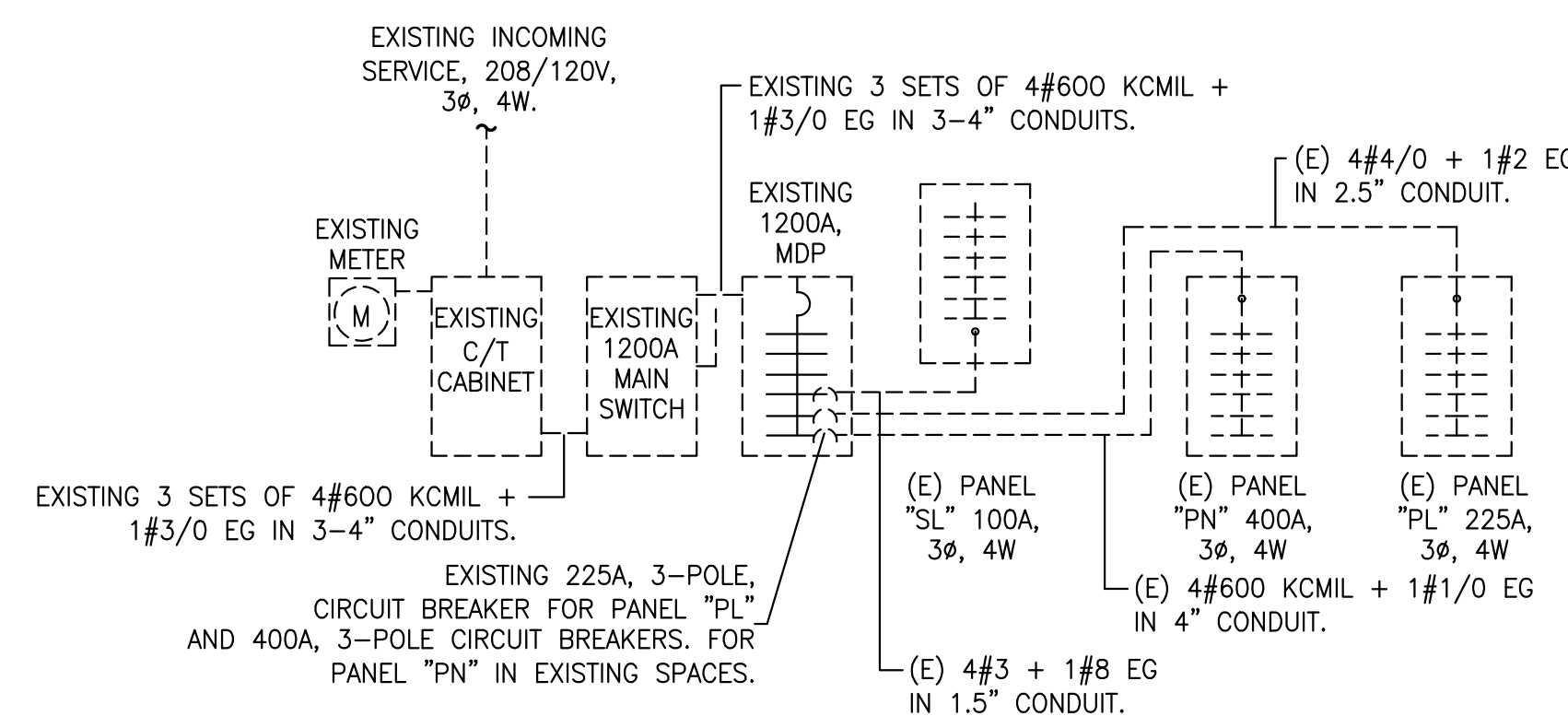
- ⊙ 8" x 42" LED ENCLOSED WEATHERPROOF BOLLARD FIXTURE. SELUX CATALOG No. NT-3.5-LG4700-30-SP-120-HL. 4700 LUMENS, 14 WATTS, 120 VOLT. SURFACE MOUNT, SEE BASE DETAIL. ALL FITTINGS SHALL BE NEMA TYPE 3R.
- ⚡ BRANCH CIRCUIT WIRING CONCEALED below grade. NUMBER OF HASHES INDICATES NUMBER OF WIRES AND SHOWN ONLY WHERE REQUIRED FOR CLARITY.
- HOME RUN TO PANELBOARD. NUMBER OF ARROWS INDICATE NUMBER OF CIRCUITS IN HOME RUN.
- ⌘ SURFACE MOUNTED SWITCH, +48" AFF.
- ⊙ JUNCTION BOX, SIZE AS REQUIRED.
- ⚡ DUPLEX RECEPTACLE, NEMA 5-20R, GROUND FAULT INTERRUPT, +44" AFF, U.O.N.
- ⊙ SINGLE RECEPTACLE, NEMA CONFIGURATION AS NOTED, +18" AFF.
- ⊙ PHOTO-CELL, WALL MOUNT +10'0" A.F.F.
- ⊙ DISCONNECT SWITCH. 600V, POLES, AMPS, AND FUSING TO MATCH CIRCUIT BREAKER. (UON)
- ⊥ GROUND PER NEC ARTICLE 250.

PANEL 'SL'									
		208/120 VOLTS		3 PHASE		4 WIRE		100 AMPS	
(EXISTING)		SOLID NEUTRAL: YES		NEMA TYPE: 1		MCB(MLO)			
LOCATION: CORRIDOR		GROUND BUS: YES		A.I.C. SYM. 10K		STD. FRAME		YES	
						MOUNTING		SURFACE	
REMARKS: EXISTING PANEL. ALL CIRCUIT BREAKERS ARE EXISTING UNLESS OTHERWISE NOTED.									
DESCRIPTION	CONNECTED KVA	C.B. AMPS		A B C		C.B. AMPS		CONNECTED KVA	DESCRIPTION
(E) EQUIPMENT	2.0	3	1	1	2	1	20	0.5	(E) LIGHTS
			20	5	4	1	20	0.4	(E) LIGHTS
SPACE	0.0	1	7	7	6	1	20*	0.3	(N) BOLLARD LTS**
SPACE	0.0	1	9	9	8	1	20*	0.3	(N) FIRE PIT
SPACE	0.0	1	11	11	10	1		0.0	SPACE
SPACE	0.0	1	13	13	12	1		0.0	SPACE
SPACE	0.0	1	15	15	14	1		0.0	SPACE
SPACE	0.0	1	17	17	16	1		0.0	SPACE
SPACE	0.0	1	19	19	18	1		0.0	SPACE
SPACE	0.0	1	17	17	20	1		0.0	SPACE

* PROVIDE NEW CIRCUIT BREAKER TO MATCH EXISTING TYPE. ** CONNECT THRU TIME CLOCK.
 EXISTING CONNECTED LOAD: 2.9 KVA.
 ADDITIONAL LOAD: 0.6 KVA.
 TOTAL CONNECTED LOAD: 3.5 KVA = 9.7 AMPS.

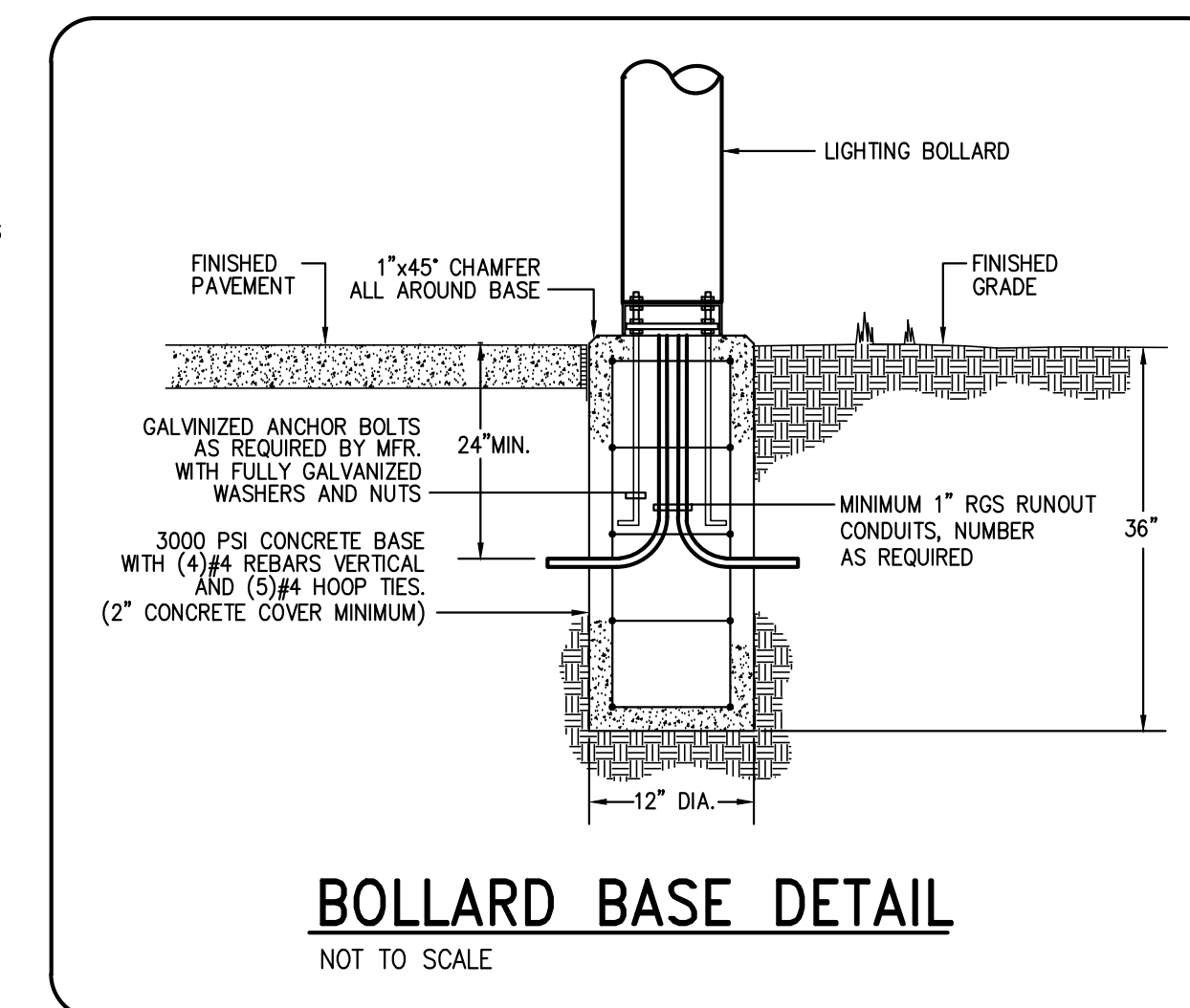
DEMO/NEW WORK LEGEND

- (E) DENOTES EXISTING TO REMAIN.
- (R) DENOTES EXISTING TO BE REMOVED.
- (RE) DENOTES EXISTING TO BE REMOVED AND RELOCATED.
- (ER) DENOTES NEW LOCATION OF EXISTING ITEM. (*)
- (N) DENOTES NEW TO MATCH EXISTING.
- (*) EXTEND BRANCH CIRCUIT WIRING AS REQUIRED. MAINTAIN INTEGRITY OF EXISTING SYSTEMS.



PARTIAL ELECTRIC RISER DIAGRAM

SCALE: NONE



BOLLARD BASE DETAIL

NOT TO SCALE

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ELECTRICAL PLAN AND DETAILS
 ALGONKIAN REGIONAL PARK
 WOODLAND ENTRANCE
 Loudoun County, Va.

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 August 27th, 2018

Revisions:

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