

ELECTRICAL ABBREVIATIONS			
A AMP	AMPERES	M	METER
ABV	ABOVE	MC	MOMENTARY CONTACT OR MECHANICAL CONTRACTOR
AG	ABOVE GRADE		
AA	AUDIBLE ALARM	MCB	MAIN CIRCUIT BREAKER
AC	ABOVE COUNTER	MCC	MOTOR CONTROL CENTER
ACH	ABOVE COUNTER HEIGHT	MH	MAN HOLE
ADD	ADDENDUM	MLO	MAIN LUG ONLY
AFC	AVAILABLE FAULT CURRENT	MWFO	MULTI MODE FIBER OPTIC
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MRS	MOTOR RATED SWITCH
AFF	ABOVE FINISHED FLOOR	MSB	MAIN SWITCHBOARD
AHU	AIR HANDLING UNIT	MT	EMPTY
AL	ALUMINUM	N	NEUTRAL
ANT	ANTENNA	NC	NORMALLY CLOSED
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AV	AUDIO VISUAL	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GUAGE	NO	NORMALLY OPEN
BAS	BUILDING AUTOMATION SYSTEM	NTS	NOT TO SCALE
BFC	BELOW FINISHED CEILING	OC	ON CENTER
BPS	BOLTED PRESSURE SWITCH	PB	PULL BOX OR PUSH-BUTTON
C	CONDUIT OR CONTROLLED RECEPT	PE	PNEUMATIC ELECTRIC
CAB	CABINET	PF	POWER FACTOR
CB	CIRCUIT BREAKER	PH	PHASE
CCTV	CLOSED CIRCUIT TV	PNL	PANEL
CKT	CIRCUIT	PR1	PRIMARY
CLG	CEILING	PT	POTENTIAL TRANSFORMER
COMM	COMMUNICATIONS	R	RACEWAY
CT	CURRENT TRANSFORMER	RECEPT	RECEPTACLE
CTRL	CONTROL	REFG	REFRIGERATOR
CU	COPPER	RTU	ROOF TOP UNIT
DAS	DISTRIBUTED ANTENNA SYSTEM	SEC	SECONDARY
DED	DEDICATED	SGB	SERVICE GROUND BAR
DN	DOWN	SMFO	SINGLE MODE FIBER OPTIC
EC	ELECTRICAL CONTRACTOR	SPKR	SPEAKER
EGB	ELECTRICAL GROUND BAR	STP	SHIELDED TWISTED PAIR
ELEC	ELECTRIC OR ELECTRICAL	SUB	SUBSTATION
EM	EMERGENCY	SW	SWITCH
EMT	ELECTRICAL METALLIC TUBING	SWBD	SWITCH-BOARD
ENCL	ENCLOSURE	TEL	TELEPHONE
EP	ELECTRIC PNEUMATIC	TELCOM	TELECOMMUNICATIONS
EPO	EMERGENCY POWER OFF	TGB	TELECOMMUNICATIONS GROUND BAR
EW	ELECTRIC WATER COOLER	TMSB	TELECOMMUNICATIONS MAIN GROUND BAR
F	FUSE OR FUSED	TR	TAMPER RESISTANT
FA	FIRE ALARM	TSTAT	THERMOSTAT
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TYP	TYPICAL
FACP	FIRE ALARM CONTROL PANEL	UC	UNDER COUNTER
FB	FLOOR BOX	UF	UNDER FLOOR
FO	FIBER OPTIC	UG	UNDER GROUND
FSD	FIRE-SMOKE DAMPER	UH	UNIT HEATER
FV	FILM VIEWER	UNO	UNLESS NOTED OTHERWISE
G, GND	GROUND	USB	UNIVERSAL SERIAL BUS
GC	GENERAL CONTRACTOR	UTP	UNSHIELDED TWISTED PAIR
GFEP	GROUND FAULT EQUIPMENT PROTECTION	V	VOLT OR VOLTAGE
GFI, GFCI	GROUND FAULT CIRCUIT INTERRUPTER	VA	VOLT-AMP
HH	HAND HOLE	VAC	VOLTS ALTERNATING CURRENT
HOA	HAND OFF AUTO	VDC	VOLTS DIRECT CURRENT
IG	ISOLATED GROUND	W	WATT, WIRE OR WALL PHONE
JBOX	JUNCTION BOX	WAP	WIRELESS ACCESS POINT
KV	KILOVOLT	WP	WEATHERPROOF
KVA	KILOVOLT-AMP	X	EXISTING
KW	KILOWATT	XFMR	TRANSFORMER
KWH	KILOWATT-HOUR		

ELECTRICAL SYMBOLS LEGEND			
SYMBOL	DESIGNATIONS	MTG HT	
SYMBOL SCHEDULE NOTES			
A. THESE SYMBOLS COMPRISE A STANDARD LIST, NOT ALL SYMBOLS MAY APPEAR ON THESE DRAWINGS.			
B. MOUNTING HEIGHTS INDICATED ARE STANDARD. DIMENSIONAL NUMBERS INDICATED AT DEVICES SHALL OVERRIDE THESE STANDARDS. MOUNTED HEIGHTS ARE TO THE CENTER OF THE DEVICE, UNLESS NOTED OTHERWISE.			
C. MOUNTING HEIGHTS INDICATED ARE FOR STUD WALL CONSTRUCTION. WHEN BLOCK OR BRICK CONSTRUCTION IS USED, ADJUST MOUNTING HEIGHTS TO ALIGN DEVICE PLATES WITH RUNNING JOINT.			
D. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.			
GENERAL			
	HEAVY DASHED LINE WEIGHT INDICATES EXISTING ITEM TO BE REMOVED.		
	LIGHT SOLID LINE WEIGHT INDICATES EXISTING ITEM TO REMAIN.		
	HEAVY SOLID LINE WEIGHT INDICATES NEW ITEM OR NEW LOCATION.		
R	REMOVE EXISTING ITEM		
RL	REMOVE EXISTING ITEM AND RELOCATE AS INDICATED		
X	EXISTING ITEM TO REMAIN		
NL	NEW LOCATION FOR RELOCATED ITEM		
NOTES & TAGS			
	EQUIPMENT IDENTIFICATION TAG - SEE EQUIPMENT SCHEDULES		
	FEEDER SIZE TAG - SEE POWER RISER SCHEDULE		
	ELEC EQUIP CONNECTION TAG - SEE EQUIP SCHEDULE		
	KEYNOTE		
	MISCELLANEOUS NOTE		
	LIGHTING CONTROL SEQUENCE - SEE SCHEDULE		
X" H X" X" AFF symbol"/>	CABLE TRAY TAG X" W - WIDTH OF CABLE TRAY X" H - HEIGHT OF CABLE TRAY X" X" AFF - MOUNTING HEIGHT OF CABLE TRAY (FROM FINISH FLOOR TO BOTTOM OF TRAY)		
RACEWAYS			
	CONDUIT CONCEALED IN CEILING OR WALLS		
	CONDUIT CONCEALED IN THE FLOOR OR BELOW		
	CONDUIT EXPOSED ON THE CEILING OR WALLS		
	CONDUIT BURIED UNDERGROUND (# = DEPTH)		
	CONDUIT WITH BEND DOWN		
	CONDUIT WITH BEND UP		
	CONDUIT WITH BUSHED END		
	CONDUIT WITH BREAK OR CONTINUATION		
	CIRCUIT HOME RUN - L1 INDICATES PANEL - NUMBER		
	PULL BOX, SIZE AS NOTED		
	JUNCTION BOX - WALL/CEILING MOUNT		
	WIREWAY, DUCT BANK, OR FLOOR DUCT AS NOTED		
	CABLE TRAY, TYPE/SIZE AS INDICATED		
LIGHTING			
	LIGHT FIXTURE ID - REFER TO LIGHT FIXTURE SCHEDULE (SCHEDULE OVERRIDES SYMBOL ABBREVIATION) A - INDICATES LIGHT FIXTURE TYPE # - INDICATES CIRCUIT NUMBER b - INDICATES SWITCHING		
	LIGHT FIXTURE CIRCUIT TYPE - NO HATCH INDICATES NORMAL CIRCUIT - ANGLED HATCH INDICATES CRITICAL CIRCUIT - SOLID HATCH INDICATES LIFE SAFETY CIRCUIT		
	TROFFER TYPE LIGHT FIXTURE, SIZE AS INDICATED - CEILING MOUNT		
	CHANNEL OR INDUSTRIAL, LENGTH AS INDICATED		
	CHANNEL OR INDUSTRIAL WALL MOUNT, LENGTH AS INDICATED		
	ROUND DOWNLIGHT, RECESSED OR SURFACE MOUNT		
	SQUARE DOWNLIGHT, RECESSED OR SURFACE MOUNT		
	CEILING WALL WASH FIXTURE OR TRACK HEAD		
	WALL MOUNT FIXTURE OR SCOOCE	VERIFY	
	LINEAR SUSPENDED, LENGTH AS INDICATED	VERIFY	
	LINEAR RECESSED, LENGTH AS INDICATED	VERIFY	
	ROUND OR SQUARE PENDANT		
	TAPE OR ROPE LIGHT		
	UNDER CABINET FIXTURE, LENGTH AS INDICATED		
	TRACK FIXTURE, NUMBER OF HEADS AS INDICATED		
	VANITY FIXTURE		
	EMERGENCY BATTERY LIGHT - WALL/CEILING MOUNT		
	EXIT LIGHT, FILLED QUADRANT INDICATES FACES - WALL/CEILING MOUNT	VERIFY	
	WALL PACK	VERIFY	
	FLAG OR FLOOD LIGHT		
	SITE LIGHTING POLE FIXTURE, ROUND/RECTANGLE HEAD - NUMBER OF HEADS INDICATED		
	SITE LIGHTING ROUND OR SQUARE BOLLARD		
POWER			
	BRANCH CIRCUIT PANEL	VERIFY	
	EQUIPMENT CABINET	VERIFY	
	TRANSFORMER	VERIFY	
	MOTOR OR MOTOR CONNECTION	VERIFY	
	MOTOR CONTROLLER, STARTER OF VFD	VERIFY	
	COMBINATION STARTER & DISCONNECT SWITCH	VERIFY	
	DISCONNECT SWITCH	VERIFY	
	MOTOR RATED TOGGLE	VERIFY	
	MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD	VERIFY	
	DUPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	EMERGENCY DUPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	SPLIT DUPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	EMERGENCY SPLIT DUPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	SIMPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	EMERGENCY SIMPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	QUADPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	EMERGENCY QUADPLEX RECEPTACLE - WALL/CEILING MOUNT	18"	
	GFI RECEPTACLE, DUPLEX/QUADPLEX - WALL MOUNT	18"	
	GFI RECEPTACLE, DUPLEX/QUADPLEX - CEILING MOUNT	18"	
	GFI DEAD FRONT DEVICE, NORMAL/EMERGENCY - WALL MOUNT	18"	
	DUPLEX RECEPTACLE - CONTROLLED - WALL/CEILING MOUNT	18"	
	SPECIAL PURPOSE RECEPTACLE - WALL/CEILING MOUNT	18"	
	EMERGENCY SPECIAL PURPOSE RECEPTACLE - WALL/CEILING MOUNT	18"	
	FLOOR BOX - DEVICES AS INDICATED		
	POWER POLE - DEVICES AS INDICATED	VERIFY	
	GROUND REFERENCE BUS - AS NOTED - WALL/CEILING MOUNT	VERIFY	
SWITCHES AND CONTROLS			
	SINGLE POLE TOGGLE SWITCH	48"	
	DOUBLE POLE TOGGLE SWITCH	48"	
	THREE WAY TOGGLE SWITCH	48"	
	FOUR WAY TOGGLE SWITCH	48"	
	TOGGLE SWITCH - "H" INDICATES SWITCHING	48"	
	PILOT LIGHT TOGGLE SWITCH	48"	
	ILLUMINATED TOGGLE - TOGGLE SWITCH	48"	
	KEYED SWITCH	48"	
	MOMENTARY CONTACT TOGGLE SWITCH	48"	
	TIMER SWITCH	48"	
	MULTI SWITCH, MULTI GANG BOX	48"	
	DIMMER SWITCH (# = WATTAGE)	48"	
	PUSH BUTTON SWITCH	48"	
	OCCUPANCY SENSOR - CLG MOUNT		
	OCCUPANCY SENSOR WALL SWITCH	48"	
	PHOTO ELECTRIC CELL	VERIFY	
	TIME CLOCK	60"	
	CONTACTOR	60"	
	RELAY	VERIFY	
	PUSH BUTTON STATION - BUTTONS AS INDICATED	48"	
FIRE ALARM			
	MANUAL PULL STATION	48"	
	HEAT DETECTOR (#=FIXED TEMP, R=RATE OF RISE)		
	SMOKE DETECTOR (P=PHOTOELECTRIC, I=IONIZATION)		
	DUCT MOUNTED PHOTOELECTRIC DETECTOR		
	BEAM DET (B-T=TRANSMITTER, B-R=RECEIVER)	VERIFY	
	COMBINATION SMOKE DETECTOR AND ALARM		
	REMOTE STATION - WALL/CEILING MOUNT	72"	
	REMOTE INDICATOR LAMP - WALL/CEILING MOUNT	72"	
	FLOW SWITCH		
	TAMPER SWITCH		
	MONITOR MODULE		
	CONTROL MODULE		
	FIRE/SMOKE DAMPER CONNECTION		
	DOOR HOLD OR DOOR HOLD CONNECTION	VERIFY	
	FIREMAN'S STATION - WALL MOUNT	48"	
	STROBE - WALL/CEILING MOUNT (# = CANDELA)	82"	
	BELL - WALL/CEILING MOUNT	82"	
	BELL/STROBE - WALL/CEILING MOUNT (# = CANDELA)	82"	
	CHIME - WALL/CEILING MOUNT	82"	
	CHIME/STROBE - WALL/CEILING MOUNT (# = CANDELA)	82"	
	HORN - WALL/CEILING MOUNT	82"	
	HORN/STROBE - WALL/CEILING MOUNT (# = CANDELA)	82"	
	SPEAKER - WALL/CEILING MOUNT	82"	
	SPEAKER/STROBE - WALL/CEILING MOUNT (# = CANDELA)	82"	
	COMBINATION FIRE ALARM/MASS NOTIFICATION SPEAKER/STROBE - WALL/CEILING MOUNT(# = CANDELA)	82"	
	FIRE ALARM CONTROL PANEL - WALL MOUNT	VERIFY	
SIGNAL AND COMMUNICATIONS			
	DATA BOX - WALL MOUNT (# = WIRE COUNTS)	18"	
	VOICE/DATA BOX - WALL MOUNT/FLOOR BOX (# = WIRE COUNTS)	18"	
	VOICE BOX - WALL MOUNT (# = WIRE COUNTS)	18"	
	DOUBLE GANG VOICE BOX - HIGH WALL MOUNT	48"	
	WIRELESS ACCESS POINT - WALL/CEILING MOUNT	VERIFY	
	SPEAKER - WALL/CEILING MOUNT	96"	
	HORN SPEAKER - WALL MOUNT	96"	
	VOLUME SWITCH - WALL MOUNT	60"	
	AUDIO JACK (M=MICROPHONE, A=AUXILIARY)	18"	
	WALL INTERCOM STATION (M=MASTER, R=REMOTE)	48"	
	BUZZER - WALL/CEILING MOUNT	96"	
	BELL - WALL/CEILING MOUNT	96"	
	CHIME - WALL/CEILING MOUNT	96"	
	CLOCK - WALL/CEILING MOUNT (# = DIAMETER)	96"	
	PROJECTOR/VIDEO CAMERA/DOCUMENT CAMERA - WALL/CEILING MOUNT	VERIFY	
	TV SYSTEM OUTLET - WALL/CEILING MOUNT	18"	
	AUDIO VIDEO SYSTEM OUTLET - WALL/CEILING MOUNT	18"	
	AV SYSTEMS CONTROLLER - WALL MOUNT	18"	
	AV MONITOR - WALL MOUNT	18"	
	ANNUNCIATOR PANEL - WALL MOUNT	VERIFY	
SECURITY			
	SECURITY - WALL MOUNT - TYPICAL	48"	
	CR - CARD READER		
	EP - EXIT PUSHBUTTON		
	KP - KEYPAD		
	M - MASTER STATION		
	KS - KEY SWITCH		
	SECURITY - CEILING MOUNT - TYPICAL		
	RX - REQUEST TO EXIT		
	DC - DOOR CONTACT		
	ES - ELECTRIC STRIKE		
	OCC - OVER-HEAD DOOR CONTACT		
	EL - ELECTRIC LOCK		
	MS - MONITOR STRIKE		
	ML - MAGNETIC LOCK		
	MD - MOTION DETECTOR		
	TH - POWER TRANSFER HINGE		
	GB - GLASS BREAKER DETECTOR		
	SECURITY CAMERA - WALL/CEILING MOUNT	VERIFY	
	SECURITY PANEL - WALL MOUNT	VERIFY	
NURSE CALL			
	NURSE CALL - WALL MOUNT - TYPICAL	VERIFY	
	AI - AUXILIARY INPUT STATION		
	D - DUTY STATION		
	ANN - ANNUNCIATOR PANEL		
	E - EMERGENCY PULL STATION		
	BD - PATIENT BED STATION		
	M - MASTER STATION		
	C - CODE BLUE STATION		
	M1 - SECONDARY MASTER STATION		
	C/SA - CODE BLUE/STAFF ASSIST COMBINATION STATION		
	P - PATIENT STATION (ENHANCED)		
	C-B - CODE BABY STATION		
	SA - STAFF ASSIST STATION		
	C-B/SA - CODE BABY/STAFF ASSIST COMBINATION STATION		
	TV - PATIENT TV STATION		
	WF - WORK FLOW (TOUCH SCREEN)		
	CC - CALL CANCEL		
	WF1 - WORK FLOW (4-BUTTON)		
	LOCATOR ANTENNA		
	DOME LIGHT - WALL/CEILING MOUNT (BLANK = 4 LIGHTS, # = NUMBER OF LIGHTS, Z = ZONE INDICATOR LIGHTS)	96"	
	NURSE CALL PANEL - WALL MOUNT	VERIFY	

ELECTRICAL SHEET LIST	
SHEET NUMBER	SHEET NAME
E0.0	ELECTRICAL TITLE SHEET
E0.1	SITE POWER PLAN
E0.2	SITE PHOTOMETRIC PLAN
E1.1	ELECTRICAL POWER AND LOW VOLTAGE PLAN
E1.2	ELECTRICAL ROOF PLAN
E2.1	ELECTRICAL LIGHTING PLAN
E3.1	PANEL SCHEDULES AND RISER DIAGRAM
E3.2	SERVICE GROUNDING DETAIL
E4.0	ELECTRICAL SPECIFICATIONS
SHEET TOTAL: 9	

description	by	
	mark	date
revisions	CM	CM
	CM	CM

date:	04/03/2022
project:	0422066-138
designed:	
drawn:	
checked:	

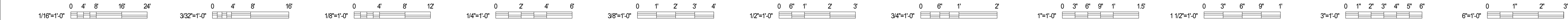
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Expires 12/31/2025

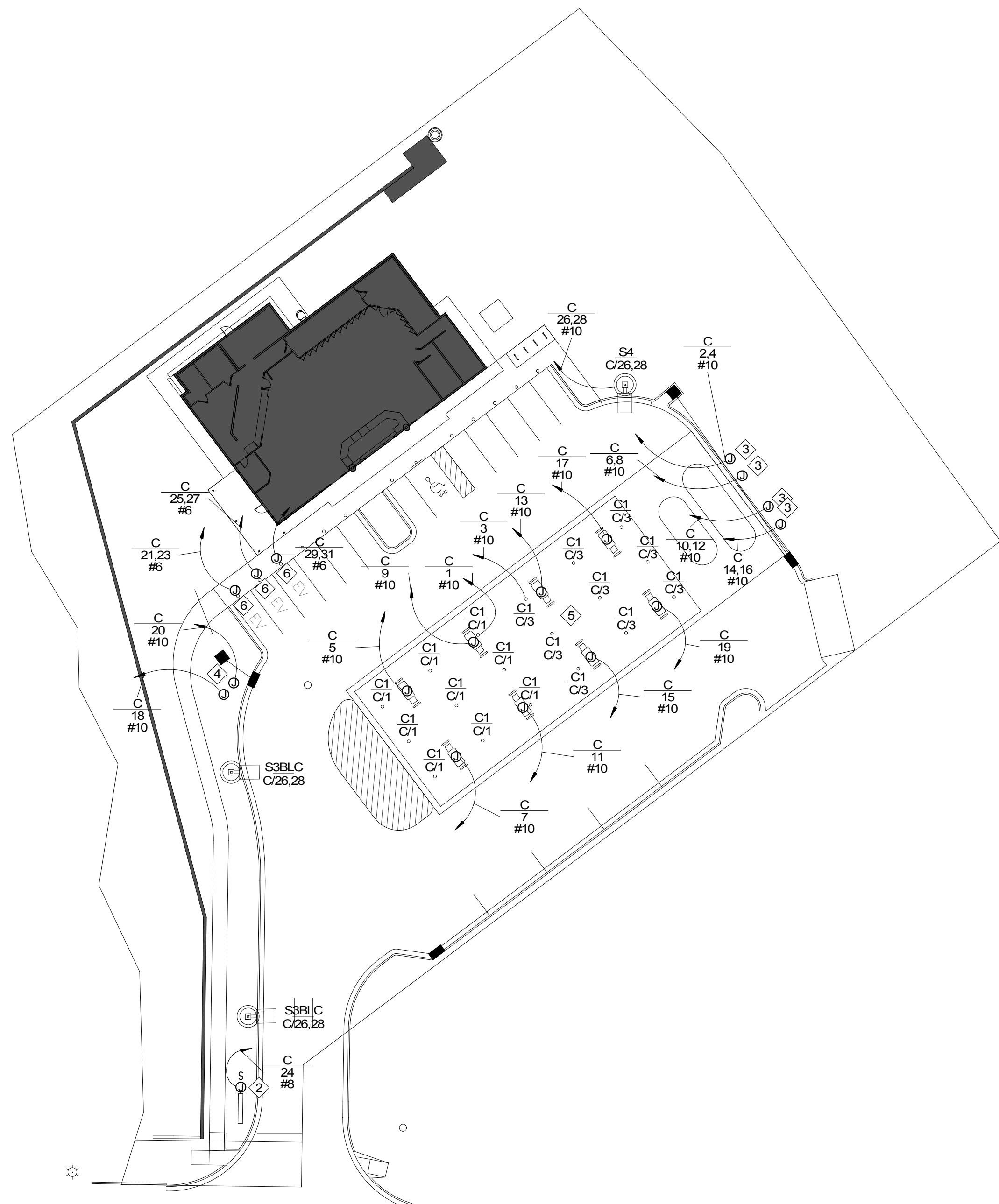
ELECTRICAL TITLE SHEET	
STORE# 022 - CAPRAWAY VILLAGE	
TBD - VILLAGE CENTER DRIVE	
CHAPEL HILL, NC 27516	

ELECTRICAL TITLE SHEET	
STORE# 022 - CAPRAWAY VILLAGE	
TBD - VILLAGE CENTER DRIVE	
CHAPEL HILL, NC 27516	



- A. 120 VOLT BRANCH CIRCUITS IN EXCESS OF 75' SHALL HAVE CONDUCTOR SIZE INCREASED A MINIMUM OF 1 CONDUCTOR SIZE. INSTALL CONTRACTOR SHALL DETERMINE ANNEAL CONDUCTOR SIZE TO BE INSTALLED TO ADHERE TO VOLTAGE DROP REQUIREMENTS.
- B. EACH SINGLE POLE BRANCH CIRCUIT SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTOR. IF EC INSTALLED MULTIWIRE BRANCH CIRCUIT SHALL BE PROVIDED. NEUTRAL SHALL BE INSTALLED PER THE SPECIFICATION AS MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNDERLAPPING CONDUCTORS AT ANY POINT WHERE THE BRANCH CIRCUIT ORIGINATES PER NEC 210.4B.
- C. ALL WORK SHALL COMPLY WITH NEC SECTIONS 514 AND 515.
- D. SUMMERSIBLE PUMP CONTROLLER PROVIDED BY OTHERS. MAKE ALL CONNECTIONS AS REQUIRED.
- E. CONNECT ALL EQUIPMENT PER MANUFACTURERS WRITTEN INSTRUCTIONS.
- F. USE RISER DIAGRAM ON SHEET E10 FOR FURTHER CONDUIT DETAILS AS THEY PERTAIN TO THE SITE.
- G. SEE SITE PHOTO/METRIC PLAN ON SHEET E02 FOR EXACT LOCATIONS OF SITE LIGHTS AND ARCHITECTURAL ELEVATIONS FOR LOCATIONS OF WALL MOUNTED LIGHTS.
- H. PROVIDE EXPLOSION PROOF CONNECTIONS AND SEAL OFFS AS REQUIRED FOR ALL HAZARDOUS AREAS AND WHEN ENTERING THE BUILDING FROM HAZARDOUS AREAS.
- I. SEE GASOLINE VENDOR DRAWINGS/S-HOP DRAWINGS FOR ADDITIONAL REQUIREMENTS.

- ① PROVIDE CONNECTION TO FUEL PUMP DISPENSER. COORDINATE WITH FUEL PUMP VENDOR PRIOR TO ROUGH-IN.
- ② PROVIDE WEATHERPROOF LOCAL DISCONNECT PER NEC 600 AND MAKE FINAL CONNECTION TO MONUMENT SIGN. COORDINATE WITH SIGN VENDOR PRIOR TO ROUGH-IN.
- ③ PROVIDE CONNECTION TO SUBMERSIBLE PUMP. LOCATION SHOWN FOR REFERENCE ONLY. VERIFY EXISTENCE OF CONNECTION WITH OWNER. REPRESENTATIVE PRIOR TO ROUGH-IN.
- ④ PROVIDE POWER FOR AIR AND VACUUM STATION. COORDINATE EXACT LOCATION WITH CIVIL PRIOR TO ROUGH-IN.
- ⑤ PROVIDE CONNECTION TO EMERGENCY SHUT OFF BUTTON LOCATED AT CHECKOUT.
- ⑥ PROVIDE CONNECTION TO OWNER PROVIDED ELECTRIC VEHICLE CHARGING STATION. VERIFY EXIST REQUIREMENTS OF OWNER. PROVIDE EQUIPMENT PRIOR TO ROUGH-IN AND ADJUST THE CIRCUIT BREAKER. PROVIDE ELECTRICAL WIRING REFERRED TO ACCORDANCE SPECIFIC MANUFACTURER CHARGING STATION REQUIREMENTS.
 - ① USE WIRE TO BE PROVIDED BY OWNER. PROVIDE IN LINE FUSE AND FUSE HOLDER WITH BREAKAWAY CAPABILITY. FERRAZ SHAWMUT FUSE, COOPER HUE SERIES, 140/200 AMPERE BUSSMAN TYPE KTK OR FRIE-APPROVED EQUIV.

[illegible]

1. BASE HEIGHT IS TYPICAL FOR SEDIMENTARY AND FOLIATED ROCK SOIL, ROUND TAPERED, POLES EXPOSED TO WINDS OF 70MPH, WITH ONE LIGHT FIXTURE.
2. CONFIRM WITH STRUCTURAL ENGINEER FOR BASE WIDTH AND DEPTH REQUIREMENTS IF ENVIRONMENTAL VARIABLES DIFFER FROM ABOVE. [REFER TO POLE DEPTH CALCULATION FOR ADDITIONAL INFORMATION].

POLE HEIGHT	"Y" DEPTH (FEET)	"X" WIDTH (INCHES)	REBAR
<14'	5	16	(4)#5 REBAR
<14'	4.5	24	(4)#5 REBAR
15'-29'	6	24	(6)#5 REBAR
30'-40'	8	24	(8)#5 REBAR
30'-40'	6	30	(8)#5 REBAR

LAMPS						
TYPE	COLOR	BALLAST/ DRIVER	FIXTURE MAX VA	CONTROL MEDIA (LENS, LOUVER, ETC.)	MANUFACTURER'S SERIES NUMBER	NOTES
ALL LED	4000K	N/A	96 VA	FLAT LENS	CREE LIGHTING: CPY250-B-DM-F-B-UL-WH-4000	
ALL LED	4000K	N/A	132	N/A	CREE LIGHTING: OSQL-B-22L-40K7-3M-JL-OSQ-M-L-B-DA-BK-BLC	1,2
ALL LED	4000K	N/A	132	N/A	CREE LIGHTING: OSQL-B-22L-40K7-4M-UL-OSQ-M-L-B-DA-BK	2





Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
All Other Area	+	5.5 fc	34.2 fc	0.0 fc	N/A	N/A
Property Lines	+	0.3 fc	2.0 fc	0.0 fc	N/A	N/A

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
All Other Area	+	5.5 fc	34.2 fc	0.0 fc	N/A	N/A
Property Lines	+	0.3 fc	2.0 fc	0.0 fc	N/A	N/A

[illegible]

date:	04/08/2022
project:	0422995-138
designed:	CM
drawn:	CM
checked:	RM



SITE PHOTOMETRIC PLAN

STORE# 022 - CARRAWAY VILLAGE
TTBD - VILLAGE CENTER DRIVE
CHAPEL HILL, NC 27516



sheet

E0.2

ELECTRICAL, COMMUNICATIONS, AND ELECTRONIC SECURITY AND SAFETY					
PART 1 - General					
1.1 Scope of Work					
A. The general, special, and other conditions of the architectural, mechanical and vendor documents shall be considered an integral part of these electrical specifications.					
B. Reference to "contractor" in this specification shall mean "electrical contractor (EC)" unless otherwise noted. Work specified herein is the responsibility of the electrical contractor unless specifically noted otherwise.					
C. Furnish labor, materials, equipment, tools, and other items necessary for, or incidental to, installation of a complete electrical system as required for this project.					
D. Also include other work and miscellaneous equipment not specifically mentioned, but reasonably inferred, that are required for a fully functional and tested system.					
1.2 Drawings and Documents					
A. The drawings and specifications form a complete set of plans for the electrical work for this project. In the event the drawings and specifications conflict, the greater requirement or cost shall be included in the bid, or, if time, a clarification will be issued.					
B. Bidders shall examine other trade and equipment vendor drawings and specifications to avoid omissions, duplications, and to ensure the complete installation of electrical work. Verify scales and report dimensional discrepancies or other conflicts with the architect before submitting the bid.					
C. The electrical drawings are diagrammatic and are intended to show approximate layout only. Followed drawings as closely as actual construction and work of other trades will permit. Placement of electrical equipment and devices shall not interfere with locations or clearances of other trades' materials or equipment. Coordinate the placement of electrical devices with architectural plans, elevations, and details.					
D. Govern exact routing of cable and wiring and the locations of outlets by the structure and equipment served. Use dimensions from architectural drawings.					
E. The direct routing of conduits and wiring is to be assumed. Exact requirements shall be governed by the conditions of the project site. No length of wire or the addition of pull or junction boxes, etc., necessitated by such conditions, shall be included in the bid.					
F. Drawing representations, conduits, circulating, devices, speakers, etc. shown on the drawings as existing are based on existing plans and may not be installed as originally shown. Verify the accuracy of the "existing conditions" as shown on the drawings as the demolition work progresses. Perform modifications and additions as necessary to correct for these hidden conditions and allow for the completion of the work.					
1.3 Conditions at the Site					
A. Examine the site and be familiar with existing building conditions and limitations before submitting a bid. No extra payment will be allowed for work required because of these conditions, or if the information is readily ascertainable, for limitations or misunderstanding of existing conditions.					
B. Discrepancies from these documents should be reported to the architect/engineer before bid.					
1.4 Job Site Safety					
A. The electrical contractor is responsible for electric job site safety, including the safety of people and property during the performance of this work. This requirement will apply continuously and not be limited to normal working hours.					
B. No act, drawing review or construction review by the owner, the engineers or their consultants, is intended to include a review of the adequacy of the contractor's safety measures in, on, or near the construction site.					
PART 2 - GENERAL REQUIREMENTS					
2.1 Codes, Inspections, and Fees					
A. The completed electrical installation shall comply with the latest edition of the national electrical code as well as applicable federal, state, and local codes, regulations, and standards including interpretations by appropriate authorities having jurisdiction. Where the drawings and specifications call for workmanship or standards over code or regulatory requirements, the drawings and specifications shall govern.					
B. The work specified herein shall be subject to inspection and approval by state and local authorities having jurisdiction and the engineer. The contractor shall make the necessary arrangements to have the electrical work inspected by the appropriate inspector(s) and shall provide electronic "soft copies of final approved" certificate of inspection to the owner.					
C. Obtain and pay for licenses, permits, and fees for work installed by the contractor. The contractor is responsible for paying fees levied by the electric utility company for connection to electric services.					
2.2 Workmanship and Contractor Qualifications					
A. Provide electrical equipment and materials neatly and competently by persons experienced and skilled in the trade and accordance with available standards. Haphazard or poor installation will be a cause for rejection of work. Exposed components of the electrical systems shall be square and true with building lines and surfaces.					
B. Contractor shall be licensed in the state in which the project is located.					
2.3 Coordination of Work					
A. Give careful consideration to the work of the general, mechanical and other contractors/subcontractors on the project. Organize and phase the electrical work so that it will not interfere with the work of other trades.					
B. Drawings and specifications for other trades and general construction drawings shall be consulted for coordination information, details, dimensions, etc. Coordinate stubs, chase, furred spaces, suspended ceiling, locations of equipment, etc. The contractor shall review the mechanical-electrical drawings and equipment drawings of other disciplines, including data, security, audio-visual, closed-circuit television, paging, fire alarm, and kitchen. The contractor shall be responsible to report discrepancies between these drawings to the engineer before bidding for clarification. Solutions to unreported discrepancies will be determined by the engineer, with no additional compensation due to the contractor.					
C. The location of equipment outlets and wiring shall be verified with the actual equipment or approved shop drawings before rough-in work. Notify engineers of discrepancies.					
D. Dimensions given on the drawings shall take precedence over scaled dimensions. Dimensions, whether calculated or scaled, shall be verified in the field.					
E. Check actual job conditions before fabricating work. Coordinate with other trades to avoid rework due to field conditions. Changes or additions, subject to additional compensation, which is made without written authorization and an agreed price, shall be at the contractor's risk and expense.					
F. Coordinate routing of conduit and wire concealed in walls, soffits or ceilings installed by other contractor. Coordinate work to conceal conduit and wire.					
G. Verify items such as door swings, window locations, casework, etc., before installing electrical equipment or devices.					
H. Make minor adjustments to work when requested by the owner or the owner's representative when adjustments are necessary for proper operation and within the intent of the contract.					
2.4 Materials and Equipment					
A. Unless otherwise specified, material and equipment shall be new and manufactured by approved or listed manufacturers. Materials and equipment shall meet the equipment's governing codes.					
B. Material and equipment shall be listed and labeled by Underwriters Laboratories, Inc. (UL), as conforming to its standards in every case where such a standard has been established for that type of material or equipment.					
C. Obtain written approval seven days before bid, to use proposed substitute material or equipment before contracting to purchase such substitutes. The owner reserves the right to require the removal of material or equipment which does not have this written approval and which does not comply with the specifications, regardless of the state of installation of such equipment.					
D. Where equipment supplied by the contractor has characteristics other than as specified herein, the contractor shall, at no additional cost to the owner, remove and replace the electrical work necessitated by the substituted product.					
E. Equipment and device terminals and tags must be rated for 60/75 degrees C or 75 degrees C.					
F. Provide necessary hardware, hangers, blocking, brackets, bracing, runners, etc., required for equipment specified under this section.					
2.5 Shop drawings and submittals					
A. Submit shop drawings for electrical equipment in ".pdf" format. Shop drawing submittals shall allow for a minimum of seven working days for engineer review.					
B. Shop drawings shall be detailed, dimensioned manufacturers' drawings. Each set of shop drawings shall list the project name and address, and the contractor's name, address, and telephone number. An index page shall list individually the items in the submittal with references to type designations or other identifiers noted on drawings.					
C. Submittal to the engineer shall be via the general contractor and, where required, the architect. Do not submit incomplete shop drawings. Shop drawings that are incomplete or not signed by both the contractor and the general contractor shall be returned without review.					
D. Cross out information or options not being provided or does not apply to the project. Failure to do so assumes that equipment, options, and accessories shown in the shop drawing materials are included.					
E. If the contractor uses materials other than those specified, the contractor shall be responsible for replacement, at no additional cost to the owner.					
F. The approval stamp on the shop drawings does not relieve the contractor or the supplier of responsibility for full contract compliance.					
2.6 Operations and Maintenance Manuals and Record Drawings					
A. Provide manuals to the owner covering the operation and maintenance of equipment provided under this contract. The manuals shall be digitally submitted to the architect/engineer for approval via e-mail, electronic files transfer, or USB. Manuals shall contain the following:					
1. Complete manufacturer catalog data, manufacturer's literature, wiring diagrams, detailed operating instructions, and a complete listing of suppliers and distributors where replacement parts and maintenance services are available for installed equipment. Include electrical shop drawings in ".pdf". Provide an AutoCAD file of drawings if available.					
2. Physical description and installation instructions, user's manual and operating instructions.					
3. Replaceable parts list. Include the light fixture schedule with replacement lamps per fixture type.					
4. Inspection certificates, signed by the appropriate inspector.					
5. Full listing of product warranties and extended warranties with registration and contact information.					
6. Indexed ".pdf" documents of items in the manual.					
B. Markup a set of construction documents as work progresses. Show actual circuit routing with dimensioned information, sizes, types, etc., equipment location changes, and other changes or deviations between project work, as-built, and contract documents. Markings shall be neat, legible, and permanent. Transfer applicable markings to the second set of documents and provide both sets of record documents to the owner.					
2.7 Excavation and Backfilling					
A. Perform excavation and backfill required for the installation of underground piping. Surplus materials are to be disposed of by the contractor. The contractor shall be responsible for the removal of materials and debris from the project site.					
B. Trenches shall be of sufficient width. Brace trenches to prevent cave-in or settlement. Use pumping equipment if required for dewatering.					
C. Backfill trenches with a maximum of 6-inch layers of well tamped dry earth to prevent settlement.					
2.8 Temporary Installations					
A. Comply with the owner and general contractor requirements. Electrical work must conform to NEC Article 590, temporary installations.					
B. Continuation of service: maintain continuity of existing equipment to remain. Maintain existing circuits of equipment energized. Restore circuits wiring which is to remain but was disturbed during demolition back to original condition.					
C. Electric power system: provide an electrical distribution system of sufficient size, capacity, and power characteristics required for construction operations.					
D. Provide temporary electrical service as required for the project.					
1. Existing existing building electrical distribution if available, and supplement as required for the project conditions.					
2. For service construction or service revisions, coordinate with the utility to provide temporary service for the duration of construction so as not to interfere with service construction. Pay for utility charges associated with the temporary service including energy bills.					
E. Lighting: provide temporary lighting with local switching throughout the construction area. Provide in casework or built-up structures where flexibility is required.					
F. Where light fixtures exist in the area of construction, utilize existing lights and outlets as much as practical to meet these requirements. Clean and re-lamp each fixture used for temporary at end of construction.					
G. Remove the temporary installation of electrical equipment, raceway and wire at the end of the project. Patch and seal sleeve openings.					
2.9 Protection of Equipment and Material					
A. Store and protect from damage equipment and material delivered to the job site. Cover with waterproof, tear-resistant, heavy duty tarp or polyethylene plastic as required to protect from construction debris, water, dust, etc.					
B. Plug or cap open ends of pipes and ducts while stored or installed during construction to prevent entrance of debris into the systems.					
2.10 Concrete Bases					
A. Material Properties:					
1. ACI 318 Reinforcing Steel (Fy): Typical 60,000 psi ASTM A615 Grade 60					
2. Cast-in-Place Concrete (f'c): 4,000 psi or 4,000 psi or less than or equal to 0.42: maximum aggregate size=3/4 inches, max slump=3 inches at placement.					
3. The contractor shall verify dimensions and existing conditions in the field that affect construction before commencing work on the affected element of shop drawing submittals. Resolve any discrepancies with the architect before construction. Pad to be a minimum 4 inches greater than the equipment footings.					
C. The detailing, fabrication and erection of reinforcing shall be done per the latest edition of ACI-318, "Manual of Standard Practice for Detailing Reinforced Concrete Structures and ACI-318, "Building Code Requirements for Structural Concrete."					
1. Aluminum conduit, aluminum sleeves, and aluminum embeds are not permitted in concrete. Calcium chloride is not permitted as a concrete additive.					
2. Provide suitable wire spacers, chairs, etc., for support of reinforcing steel in proper position while placing concrete. Bars shall be tied to prevent displacement while placing concrete. Chairs and slab bolters shall be plastic or steel with plastic ties. Chairs are to be stable and resist tipping.					
E. Where new pad exists pad extending pad, place matching joints in new, i.e. match existing joints. Match pad existing height (provide 3/8 inch min).					
F. Dowel new concrete pad extension pad with building lines and surfaces.					
G. Provide galvanized anchor bolts to secure equipment to the pad. Size, number, and placement per equipment manufacturer.					
2.11 Cutting and Patching					
A. Workmanship: layout work in advance. Exercise care where cutting, channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other surfaces is necessary for proper installation, support, or anchorage of conduit, raceways, or other electrical work. Repair damage to buildings, piping, and equipment using skilled craftsmen of trades involved in this project. Fill abandoned and unused core drills.					
B. Perform core drilling, cutting and patching necessary for the completion of the electrical work for this project. Fill abandoned and unused core drills.					
C. Surfaces that are disturbed by the contractor shall be repaired and refinished to provide a surface equal in strength, durability, and appearance to the original surface.					
D. Where it is necessary to drill or cut concrete slabs, the edges shall be sharply defined. Core holes shall be made with a rotary drill. Rectangular concrete cuts shall be made with a concrete saw. Do not penetrate post-tensioned slabs before the x-ray of the floor.					
E. Penetrations through smoke, fire, hazardous area or other rated separations shall be fire sealed to preserve the ratings of the separations.					
F. Cutting, drilling, patching, repairing, and refishing shall be done by persons skilled tradespersons.					
G. Avoid cutting and boring holes through the structure or structural members wherever possible. Obtain prior approval of structural engineer and conform to structural requirements when cutting or boring the structure and equipment is permitted.					
H. Clean away rubbish and litter generated during electrical installation.					
2.12 Clean-Up					
A. Upon completion of the work and at other times directed, remove materials and scrap generated by the electrical installation and leave the premises in a clean and orderly condition.					
B. Clean electrical equipment interiors before energizing and before final acceptance. Clean light fixtures, lenses, reflectors, and trim. Repair, clean and touch up minor scratches or blemishes on the factory painted equipment.					
C. Damaged, dentured or refurbished equipment shall be rejected and replaced at the contractor's expense.					
2.13 Acceptance Demonstration and Training					
A. Perform system start-up, testing, and programming before the owner's training. Do not schedule demonstrations until systems are fully operational and ready to turn over to the owner.					
B. Demonstrate to the owner the operation of the electrical installations. The timing of the demonstration will be determined by the owner upon completion of the work.					
C. Properly set automatic time switches to perform switching operations per schedules provided by the owner's representative, and demonstrate (using the manufacturer's operating instructions) how to override, test and program lighting systems.					
2.14 Rebate Programs					
A. Provide the owner with rebate forms, filled out with applicable project information, for utility or product rebate programs to which the owner is eligible.					
2.15 Guarantees and Warranties					
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