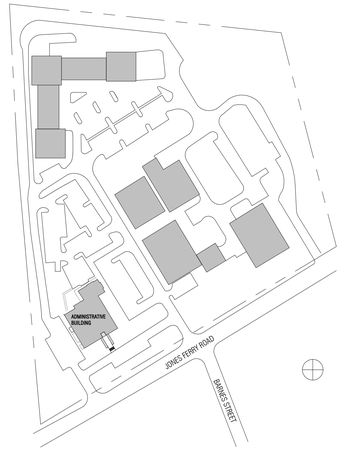
OWASA Security Fence & Gates

400 JONES FERRY ROAD, CARRBORO, NC 27510 | CONSTRUCTION DOCUMENTS | NOVEMBER 6, 2023

THOUGHTCRAFT ARCHITECTS PLLC — REGISTERED ARCHITECTURAL COMPANY — 53124 — NORTH CAROLINA — CHAPEL HILL, NC

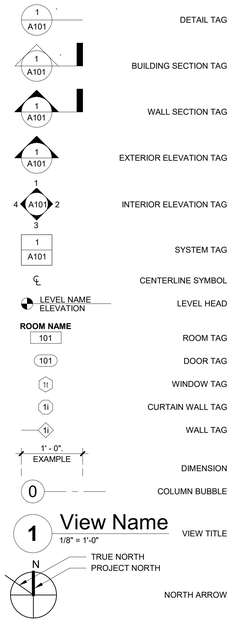
JASON W. HART — REGISTERED ARCHITECT — 12321 — NORTH CAROLINA — CHAPEL HILL, NC

11/06/2023



SHEET LIST	
SHEET NUMBER	SHEET NAME
A-0.1	SITE PLAN
A-0.2	WEST ELEVATION FENCE REPAIR
E-001	ELECTRICAL SYMBOL LIST, NOTES, AND ABBREVIATIONS
E-002	ELECTRICAL SPECIFICATIONS
E-301	LEVEL 1 POWER PLAN
E-302	LEVEL 2 POWER PLAN

A/C	Air Conditioning	EOS	Edge of slab	MACH	Machine	SF	Square Foot (Feet)
ACP	Acoustic Ceiling Panel	EQ	Equal	MAINT	Maintenance	SHR	Shower
ACT	Acoustic Ceiling Tile	EQUIP	Equipment	MATL	Material	SHT	Sheet
ACST	Acoustic	ESCAL	Escalator	MAX	Maximum	SHTHG	Sheathing
AHU	Air Handling Unit	EV	Electric Vehicle	MASRY	Masonry	SHV	Shelving
AD	Area Drain	EXH	Exhaust	MC	Medicine Cabinet	SIM	Similar
ADJ	Adjust (able) (ing)	EXST	Existing	MDF	Medium Density Fiberboard	SLNT	Sealant
AFF	Above Finished Floor	EXT	Exterior	MDO	Medium Density Overlay	SND(/R)	Sanitary Napkin Dispenser (/Receptacle)
ALT	Alternate			MECH	Mechanical	SP	Space(s)
ALUM	Aluminum	FA	Fire Alarm	MEMB	Membrane	SPEC	Specification
ANOD	Anodized	FAAP	Fire Alarm Annunciator Panel	MFR	Manufacturer(r)	SPKR	Speaker
AP	Access Panel	FACP	Fire Alarm Control Panel	MH	Manhole	SQ	Square
APPROX	Approximate	FCM	Fiber Cement	MIN	Minimum	SS	Solid Surface
ARCH(L)	Architect (ural)	FD	Floor Drain	MIRR	Mirror	SST	Stainless Steel
AUTO	Automatic	FE(C)	Fire Extinguisher (Cabinet)	MISC	Miscellaneous	STD	Standard
AWP	Acoustical Wall Panel	FF	Finished Floor (Face)	MO	Masonry Opening	STL	Steel
		FHC	Fire Hose Cabinet	MS	Mechoshade	STND	Stained
BBT	Bio-Based Tile	FIN	Finish(ed)	MTD	Mount(ed)	STOR	Storage
BD	Board	FLR(G)	Floor(ing)	MTL	Metal	STRUCT	Structural
BITUM	Bituminous	FNDN	Foundation			SUSP	Suspended
BLDG	Building	FO	Face of, Finished Opening	N	North	SV	Sheet Vinyl
BOT	Bottom	FR	Fire Resistant	NAT	Natural	SYS	System
BOS	Bottom of Steel	FRP	Fiber Resistant Panel	NIC	Not in Contract		
B PL	Bearing Plate	FT	Foot	NOM	Nominal	T&G	Tongue and Groove
BSMT	Basement	FTG	Footing	NTS	Not to Scale	TB	Towel Bar
BTWN	Between	FUT	Future			TO	Top oF
				OA	Overall	TOC	Top of Concrete
CAB	Cabinet	GA	Gauge	OC	On Center	TOD	Top of Deck
CB	Catch Basin	GALV	Galvanized	OD	Outside Diameter	TOS	Top of Steel
CEM	Cement	GB	Grab Bar	OF/CI	Owner Furnished/Contractor Installed	TOW	Top of Wall
CG	Corner Guard	GC	General Contractor	OPNG	Opening	TPD	Toilet Paper Dispenser
CI	Cast Iron	GFRC	Glass Fiber Reinforced Concrete	OPP HD	Opposite Hand	TS	Transition Strip
CIP	Cast in Place	GFRG	Glass Fiber Reinforced Gypsum	OPP	Opposite		
CJ	Control Joint	GL	Glass, Glazing			UC	Undercut
CLG	Ceiling	GRAN	Granite	PCC	Precast Concrete	UTIL	Utility
CLO	Closet	GRAV	Gravel	PERIM	Perimeter		
CLR	Clear	GSK(D)	Gasket(ed)	PFT	Porcelain Floor Tile	VB	Vinyl Base
CMU	Concrete Masonry Unit	GT	Grout	PL	Plate	VCT	Vinyl Composition Tile
COL	Column	GWB	Gypsum Wall Board	PLAM	Plastic Laminate	VERT	Vertical
CO	Cleanout	GWT	Glass Wall Tile	PLBG	Plumbing	VEST	Vestibule
COMPR	Compress (ed)(ion)(ible)(or)	GYP	Gypsum	PLYWD	Plywood	VIF	Verify in Field
CONC	Concrete	GYP BD	Gypsum Board	PR	Pair		
CONT	Continuous			PT	Paint, Pressure Treated	W	West
COORD	Coordinate	HB	Hose Bib	PTN	Partition	WB	Wood Base
CORR	Corridor, Corrugated	HC	Hollow Core	PVC	Polyvinyl Chloride	WC	Wall Covering
CPT	Carpet	HDBD	Hardboard	PVMT	Pavement	WD	Wood
CSK	Countersunk	HDW	Hardware	PWT	Porcelain Wall Tile	WP	Working Point
CT	Ceramic Tile	HDWD	Hardwood			WPFG	Waterproofing
CTR	Center	HM	Hollow Metal	QS	Quartz Surface	WPS	Wall Protection System
CUH	Cabinet Unit Heater	HORIZ	Horizontal	QT	Quarry Tile	WT	Window Treatment
CU YD	Cubic Yard	HP	High Point	QTY	Quantity	WWF	Welded Wire Fabric
CWT	Ceramic Wall Tile	HT	Height				
		HTG	Heating	R	Riser, Radius	YD	Yard
DBL	Double	HVAC	Heating/Ventilating/Air Conditioning	RB	Resilient Base		
DEMO	Demolish(tion)	HYD	Hydrant	RBR	Rubber		
DET	Detail			RCP	Reflected Ceiling Plan		
DF	Drinking Fountain	ID	Inside Diameter	RCPTN	Reception		
DIA	Diameter	INCIN	Incinerator	RD	Roof Drain		
DIAG	Diagonal	INCL	Include(d) (ing)	RECPT	Receptor, Receptacle		
DIM	Dimension	INSUL	Insulate(ion)	RE	Refer (to)		
DISP	Dispenser, Disposer	INT	Interior	REFR	Refrigerator		
DMPF(G)	Dampproof(ing)	INV	Invert	REINF	Reinforced(d)(ing)		
DN	Down			REQD	Required		
DP	Drapery	JAN	Janitor	RESIL	Resilient		
DR	Door	JT	Joint	RETG	Retaining		
DWG	Drawing			REV	Revision		
DWR	Drawer	KD	Knock Down	RF	Resilient Flooring		
		KIT	Kitchen	RFG	Roofing		
E	East			RH	Right Hand		
EA	Each	LAM GL	Laminated Glass	RM	Room		
EJ	Expansion Joint	LAV	Lavatory	RO	Rough Opening		
EL	Elevation	LF	Linear Feet	RVL	Reveal		
ELEC	Electric	LH	Left Hand				
ELEV	Elevator	LL	Live Load	S	South		
EMER	Emergency	LP	Low Point	SAB	Sound Attenuation Batts		
ENCL	Enclosure	LT	Light	SAN	Sanitary		
ENGR	Engineer	LTG	Lighting	SC	Solid Core		
ENTR	Entry, Entrance	LVR	Louver	SD	Soap Dispenser		
		LVT	Luxury Vinyl Tile				



OWNER / CLIENT

OWASA

400 JONES FERRY ROAD
CARRBORO, NC 27510
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919.537.4343
c: Brad Barber, P.E.
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ELECTRICAL ENGINEER

LORING ENGINEERS

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ARCHITECT

ThoughtCraft Architects, LLC

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PROJECT DATA:

PARCEL NUMBER: 9778662060

LEGAL DESCRIPTION: N/S JONES FERRY ROAD

APPLICABLE CODES:

2018 NC EXISTING BUILDING CODE

1. SCOPE OF WORK

THIS PROJECT ENTAILS ADDING SECURITY FENCING AROUND THE ADMINISTRATIVE BUILDING THAT CONNECTS TO EXISTING FENCING. AN EIGHT-FOOT ORNAMENTAL FENCE WILL BE USED ALONG PUBLIC FACING SECTIONS THAT MATCHES THE EXISTING FENCE CURRENTLY LOCATED IN FRONT OF THE WATER TREATMENT PLANT FACING JONES FERRY. A NEW CHAIN-LINK WITH 3-STRAND BARB WIRE WITH RAZOR WIRE ON THE WESTERLY REAR SECTION WILL MATCH THE EXISTING ON THE SITE AND WILL BE NON-PUBLIC FACING. AT EACH NEW VEHICULAR GATE THERE WILL BE ACCESS CONTROL, INTERCOM, CAMERA AND A KNOX BOX. PER MEETING WITH FIRST RESPONDERS (TOWN OF CARRBORO, TOWN OF CHAPEL HILL, AND ORANGE COUNTY) ON OCTOBER 3, 2023, ACCESS WILL BE GRANTED THROUGH THESE GATES WITH THE USE OF LICENSE PLATE CAMERAS MOUNTED ON POLES. PEDESTRIAN GATES WILL BE EQUIPPED WITH ACCESS CONTROL ON THE EXTERIOR FACE WITH PANIC HARDWARE ON THE INTERIOR FACE FOR EGRESS. ONE EXISTING VEHICULAR GATE WILL BE REMOVED ALONG WITH SOME SPEED HUMPS.

G.C. TO CONTRACT WITH BROOKS NETWORK ENGINEERING FOR ALL NETWORKING ON THIS PROJECT. SEE PROJECT MANUAL FOR THEIR COST OF LABOR AND MATERIALS TO BE CARRIED AS A LINE ITEM ON THE BID SHEET.

ALTERNATE 1	THERMALLY MODIFIED WOOD - ASH
ALTERNATE 2	THERMALLY MODIFIED WOOD - PINE
ALTERNATE 3	SUPERIOR ALUMINUM PRODUCTS, ALUMINUM PRIVACY FENCE 7V

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH APPLICABLE CODES INCLUDING, BUT NOT LIMITED TO THE 2018 NC EXISTING BUILDING CODE.

2. DO NOT SCALE DRAWINGS. NOTIFY DESIGNER IMMEDIATELY OF ANY DISCREPANCIES.

3. THESE CONSTRUCTION DOCUMENTS ARE DIVIDED INTO SECTIONS FOR CONVENIENCE ONLY. CONTRACTORS, SUBS AND MATERIAL SUPPLIERS SHALL REFER TO ALL RELEVANT SECTIONS IN BIDDING AND PERFORMING THEIR WORK, AND SHALL BE RESPONSIBLE FOR ALL ASPECTS OF THE WORK REGARDLESS OF WHERE THE INFORMATION OCCURS.

4. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL VISIT THE SITE TO VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESULTS OF ANY ERRORS, DISCREPANCIES OR OMMISSIONS WHICH THE CONTRACTOR FAILED TO NOTIFY THE DESIGNER OF BEFORE CONSTRUCTION AND/OR FABRICATION OF THE WORK.

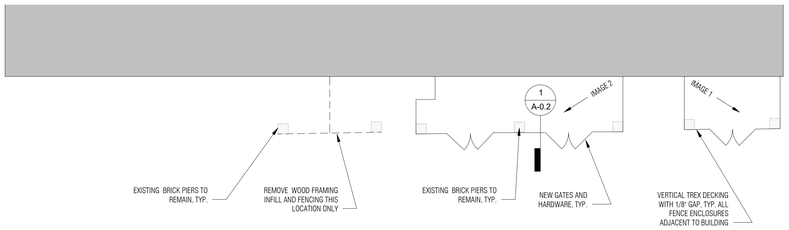
6. ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS. DIMENSIONS ARE TO FACE OF STUD OR CONCRETE UNLESS NOTED OTHERWISE ON DRAWINGS.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEANS AND METHODS OF THE WORK AND SITE SAFETY.

8. THE CONTRACTOR SHALL COORDINATE WITH OWASA FOR PARKING AND MATERIAL STORAGE LOCATIONS.

9. G.C. TO PROVIDE A WORKPLAN TO ENSURE BUILDING ACCESS AND EGRESS AT ALL ENTRY AND EXIT LOCATIONS OF THE BUILDING DURING CONSTRUCTION. SEE PROJECT MANUAL FOR COORDINATION WITH OWNER'S OPERATIONS.

10. G.C. IS RESPONSIBLE FOR ALL REQUIRED CONSTRUCTION PERMITS WITH THE TOWN OF CARRBORO.



2 ENLARGED FENCE ENCLOSURE PLAN
1/8" = 1'-0"

DEMOLITION GENERAL NOTES

1. THE DEMOLITION PLAN INDICATES GENERAL INTENT AND IS NOT INTENDED TO SHOW ALL ITEMS TO BE REMOVED OR RETAINED. THE GENERAL CONTRACTOR SHALL NOTIFY THE ARCHITECT OF UNANTICIPATED HIDDEN CONDITIONS ENCOUNTERED DURING DEMOLITION.

2. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPLACEMENT AND REPAIR OF ALL SYSTEMS AND BUILDING COMPONENTS DAMAGED DURING THE EXECUTION OF THE WORK. DAMAGE SHALL INCLUDE BUT NOT BE LIMITED TO DESTRUCTION OR DISPOSAL OF ITEMS INTENDED TO REMAIN OR BE SALVAGED.

3. ALL REMOVED ITEMS SHALL BE LEGALLY DISPOSED OF UNLESS IDENTIFIED FOR REUSE.

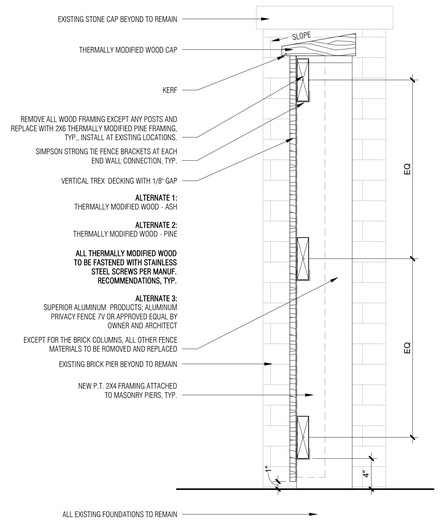
DEMOLITION PLAN LEGEND

EXISTING WALL TO REMAIN

EXISTING WALL TO BE REMOVED

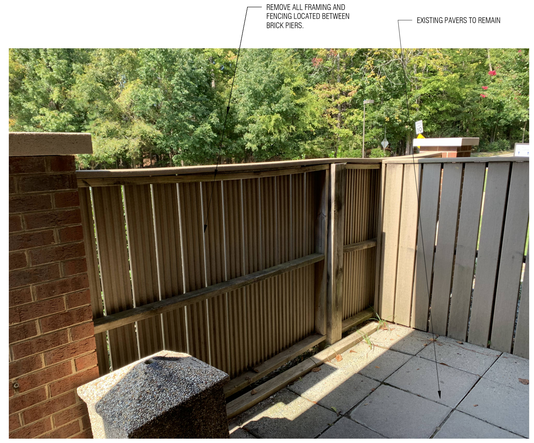
ITEM	QUANTITY	UNIT
8'-0" POWDER COATED BLACK CHAIN LINK FENCE W/3-STRAND BARB WIRE AND RAZOR WIRE	~450	LF
8'-0" TALL ALUMINUM ORNAMENTAL FENCING	~350	LF
24'-0" ALUMINUM SLIDING VEHICULAR GATES	2	
4'-0" ALUMINUM PEDESTRIAN GATES	3	
WEST ELEVATION FENCE ENCLOSURE	~75	LF

ALL QUANTITIES ARE APPROXIMATE TO BE FIELD VERIFIED BY G.C.



1 FENCE ENCLOSURE DETAILS AT WEST ELEVATION
1 1/2" = 1'-0"

WEST ELEVATION - FENCING SCOPE OF WORK



VIEW FROM INSIDE FENCE ENCLOSURES TO BE REMOVED AT WEST ELEVATION

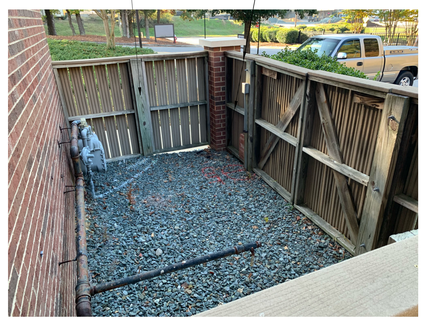


IMAGE 1

IMAGE 2

OWASA Security Fence & Gates
CIP # 280-18

CLIENT/OWNER
OWASA
BRAD BARBER
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ELECTRICAL ENGINEER
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CONSTRUCTION 11.06.23
ISSUE DATE

CONSTRUCTION DOCUMENTS

JASON W. HART REGISTERED ARCHITECT 12321 NORTH CAROLINA CHAPEL HILL, NC
11/06/2023

WEST ELEVATION FENCE REPAIR

A-0.2

SITE PLAN LEGEND

PANIC EXIT HARDWARE
CR

P1 PEDESTRIAN GATE WITH CARD ACCESS READER MOUNTED ON FENCE (STRIKE SIDE); PANIC EXIT HARDWARE MOUNTED ON INSIDE FACE, TYP. CARD ACCESS READER AND PANIC HARDWARE TO BE FURNISHED AND INSTALLED BY BROOKS NETWORK ENGINEERING.

SLIDING DIRECTION

NEW SLIDING ELECTRONIC VEHICULAR GATE WITH SPEED HUMP

DOUBLE SWING ELECTRONIC VEHICULAR GATE WITH SPEED HUMP EXISTING TO REMAIN

NEW 8'-0" TALL ORNAMENTAL FENCE TO MATCH EXISTING FENCING ALONG FRONT OF WATER TREATMENT PLANT

NEW 8'-0" TALL CHAINLINK POWDER COATED BLACK FENCE WITH 3-STRAND BARB WIRE AND RAZOR WIRE TO CONNECT TO AND MATCH EXISTING FENCE AT OPERATIONS CENTER.

EXISTING FENCING TO REMAIN

NEW BIKE RACKS TO MATCH EXISTING ON SITE IN COLOR AND STYLE. INSTALL NEW CONCRETE PAD AS REQUIRED.

LICENSE PLATE CAMERA MOUNTED TO POLE. CAMERA AND POLE TO BE FURNISHED AND INSTALLED BY BROOKS NETWORK ENGINEERING. INSTALL 4'-0" FROM EDGE OF CURB AS ALLOWED.

GATE CALL BOX, KEY PAD, CARD READER STATION WITH CAMERA, AND LIGHT TO BE FURNISHED AND INSTALLED BY BROOKS NETWORK ENGINEERING. LOCATE PEDESTAL 20'-0" FROM GATE AND 2'-0" FROM CURB. NOTE, ON ANGLED GATE (PLAN WEST) PROVIDE 25'-0" FROM THE GATE. ALL GATES TO OPEN VIA PROXIMITY SENSORS FROM WITHIN THE ENCLOSED AREA.

EXISTING STREET LIGHTS TO REMAIN

DEMOLITION LEGEND

EXISTING GATE TO BE REMOVED

TYPICAL PEDESTRIAN GATE PANIC HARDWARE

2 OVERALL SITE PLAN
1" = 100'-0"

1 PARTIAL SITE PLAN
1" = 30'-0"

GENERAL NOTES

1. FENCE LOCATIONS ARE FOR GRAPHIC REPRESENTATION. ACTUAL LOCATIONS WILL NEED TO BE VERIFIED IN THE FIELD. ALL LOCATIONS OF NEW FENCING AND PROPOSED UNDERGROUND CONDUIT TO BE FIELD PAINTED AFTER UNDERGROUND UTILITIES HAVE BEEN LOCATED.

2. ALL FENCING TO MATCH EXISTING IN HEIGHT, STYLE AND COLOR.

3. COORDINATE BOTH LOCATIONS OF LICENSE PLATE CAMERA POLES WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.

4. G.C. TO LOCATE CONDUIT RUNS AS INDICATED ON ELECTRICAL DRAWINGS WITH PAINT FOR ARCHITECT AND OWNER APPROVAL PRIOR TO INSTALLATION.

5. PEDESTAL LOCATIONS TO BE FIELD LOCATED WITH PROPSED FENCE LOCATIONS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION. PEDESTAL LOCATIONS TO BE PLACED 15'-0" FROM VEHICULAR GATES.

6. ALL PEDESTRIAN GATES TO SWING AND HINGE AS INDICATED.

7. SIZE, DEPTH, AND SPACING OF FENCE/GATE FOOTINGS TO BE VERIFIED BY INSTALLER AND COORDINATED BY G.C..

ITEM	QUANTITY	UNIT
8'-0" POWDER COATED BLACK CHAIN LINK FENCE W/3-STRAND BARB WIRE AND RAZOR WIRE	~450	LF
8'-0" TALL ALUMINUM ORNAMENTAL FENCING	~350	LF
24'-0" ALUMINUM SLIDING VEHICULAR GATES	2	
4'-0" ALUMINUM PEDESTRIAN GATES	3	
WEST ELEVATION FENCE ENCLOSURE	~75	LF

ALL QUANTITIES ARE APPROXIMATE TO BE FIELD VERIFIED BY G.C.

N

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REGISTERED ARCHITECT
12321
NORTH CAROLINA
CHAPEL HILL, NC
11/06/2023

SITE PLAN

A-0.1

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ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
▭	SURFACE-MOUNTED PANELBOARD
▭	RECESSED PANELBOARD
— — —	CONDUIT ROUTED BELOW GRADE
———	CONDUIT ROUTED ABOVE CEILING
○	CONDUIT VERTICAL UP
●	CONDUIT VERTICAL DOWN
30AS 15AF	FUSED DISCONNECT SWITCH, RATING AND FUSING NOTED. HORSEPOWER RATING AS REQUIRED BY MOTOR LOAD. 'WP' INDICATES WEATHERPROOF ENCLOSURE, OTHERWISE NEMA-1. RATING SAME OR HIGHER THEN UPSTREAM CIRCUIT PROTECTIVE DEVICE U.O.N.

ABBREVIATIONS

A	AMPERE
AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
A/C	AIR CONDITIONING
BT	BOOK THEFT
C	CONDUIT
CAB	CABINET
CAT	CATEGORY
CLG	CEILING
CB	CIRCUIT BREAKER
CKT(S)	CIRCUIT(S)
CM	CONTROL MODULE
COL	COLUMN
CSB	CABLE SUPPORT BOX
DEM	DEMOLISH - DISCONNECT AND REMOVE
DWG	DRAWING
DP	DISTRIBUTION PANEL (208/120V)
E	EXISTING TO REMAIN
EC	EMPTY CONDUIT
ELEC	ELECTRIC
EM	EMERGENCY
EMR	ELEVATOR MECHANICAL ROOM
EP	EXPLOSION PROOF
ER	EXISTING TO REMAIN
ETR	EXISTING TO BE RELOCATED
EXH	EXHAUST
EXIST	EXISTING
EWC	ELECTRIC WATER COOLER
FL	FLOOR
FO	FIBER OPTIC
FOPP	FIBER OPTIC PATCH PANEL
FASS	FIRE ALARM SERVICE SWITCH
FRE	FIBERGLASS REINFORCED EXPOXY CONDUIT
FP	FIRE PUMP
FPSS	FIRE PUMP SERVICE SWITCH
G	GUARD
GND	GROUND
GFI	GROUND FAULT INTERRUPTER
GRC	GALVANIZED RIGID CONDUIT
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
JB	JUNCTION BOX
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LDF	LOCAL DISTRIBUTION FRAME
LP	LIGHTING PANEL
LS	LOUDSPEAKER
LSS	LOCAL SOUND SYSTEM
LTG	LIGHTING
LVRC	LOW VOLTAGE RELAY CONTROL
MATV	MASTER TELEVISION
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MIC	MICROPHONE
MSB	MAIN SWITCHBOARD
MSSB	MAIN SERVICE SWITCHBOARD
MTD	MOUNTED
MDR	MAIN DISTRIBUTION ROOM
N	NEUTRAL
NIC	NOT IN CONTRACT
NC	NORMALLY CLOSED
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
P	POLE(S)
PB	PULL BOX
P&D	PLUMBING AND DRAINAGE
PNL	PANEL
PP	POWER PANEL
PR	PAIR
R	TO BE REMOVED
REL	RELOCATE
RC	REMOTE CONTROL
RGS	RIGID GALVANIZED STEEL CONDUIT
RP	RECEPTACLE PANEL
SOC	SCHOOL OPERATING CONSOLE
SP	SPARE
SSB	SOLID STATE BALLAST
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
TCC	TEMPERATURE CONTROLS CONTRACTOR
TC	TELECOMMUNICATION CLOSET
TEL	TELEPHONE
TGB	TELECOMMUNICATION GROUNDING BUS BAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUS BAR
TV	TELEVISION
TYP	TYPICAL
UG	UNDER GROUND
UON	UNLESS OTHERWISE NOTED
UTP	UNSHIELDED TWISTED-PAIR
V	VOLT
W	WATT
WP	WEATHERPROOF

ELECTRICAL GENERAL NOTES

1. BEFORE SUBMITTING A BID PROPOSAL, THE CONTRACTOR SHALL:
   - A. VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH JOB CONDITIONS.
   - B. REVIEW A FULL SET OF BID DOCUMENTS TO BECOME AWARE OF THE TOTAL JOB BEFORE SUBMITTING A BID PRICE.
   - C. VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND INCLUDE IN BID PRICE ALL WORK REQUIRED TO ACCOMMODATE THE EXISTING INSTALLATION.
2. REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
   - A. EXACT LOCATION OF ALL ELECTRICAL OUTLETS AND LIGHTING FIXTURES.
   - B. FINAL LOCATION OF CEILING MOUNTED EQUIPMENT.
   - C. ELECTRIFIED WALL PANEL SYSTEMS.
   - D. ADDITIONAL ELECTRICAL REQUIREMENTS.
3. COORDINATE WITH OTHER TRADES TO DETERMINE THE EXACT LOCATION OF MOTORS, MOTOR TERMINAL BOXES, AND OTHER EQUIPMENT TO BE INSTALLED BY OTHER TRADES BEFORE CONDUIT WORK IS STARTED. REFER TO OTHER TRADES' DRAWINGS FOR LOCATIONS OF ALL EQUIPMENT.
4. CONTRACTOR SHALL PROVIDE AND CONNECT ALL RACEWAYS AND WIRING FROM EQUIPMENT, DEVICES AND LIGHTING FIXTURES TO ITS SOURCE OF POWER AND CONTROLS.
5. CONTRACTOR SHALL UTILIZE ALL EXISTING CONDUIT AND JUNCTION BOXES WHERE NEW DEVICES WILL BE INSTALLED INTO EXISTING LOCATIONS.
6. CONTRACTOR SHALL UTILIZE EXISTING LIGHTING HOMERUN RACEWAYS AND MODIFY AS REQUIRED TO ACCOMMODATE NEW LIGHTING LAYOUT.
7. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
8. ELECTRICAL CONTRACTOR SHALL VERIFY SWITCHES, RECEPTACLES AND PLATE FINISHES WITH THE ARCHITECT BEFORE PERFORMING HIS INSTALLATION. ALL COVERPLATES SHALL BE AS SPECIFIED BY ARCHITECT.
9. EXISTING ELECTRICAL EQUIPMENT AND PANELBOARDS SHALL BE MODIFIED AS REQUIRED TO ACCOMMODATE THE WORK OF THIS CONTRACT. REPLACE EXISTING CIRCUIT BREAKERS IN PANELS WITH IDENTICAL NEW BREAKERS AS REQUIRED AND PROVIDE UPDATED TYPEWRITTEN DIRECTORIES.
10. EXISTING EQUIPMENT AFFECTED BY THE WORK OF THIS CONTRACT SHALL BE COMPLETELY IDENTIFIED IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CONTRACT.
11. COORDINATE LOCATION OF OUTLETS AND SWITCHES WITH FURNITURE AND EQUIPMENT LAYOUTS AND WITH OWNER'S REPRESENTATIVE.
12. ANY EXISTING WORK DAMAGED AS A RESULT OF PERFORMING THE WORK OF THIS CONTRACT SHALL BE REPAIRED OR REPLACED AS REQUIRED. MATERIAL AND FINISH TO MATCH EXISTING TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.
13. ALL WORK REQUIRING ELECTRICAL SHUTDOWN WHICH WILL AFFECT OTHER FLOORS OF THE BUILDING OR EVEN AFFECT THE NORMAL CONTINUATION OF CONSTRUCTION WORK ON THESE FLOORS, SHALL BE DONE ON OVERTIME HOURS, AND SHALL NOT DISTURB CONTINUITY OF ELECTRICAL SERVICE TO EXISTING TENANTS ON THE AFFECTED FLOORS. COORDINATE SHUTDOWN REQUIREMENTS WITH BUILDING MANAGEMENT PROVIDING A MINIMUM OF ONE WEEK ADVANCE NOTICE.
14. ALL ELECTRICAL WORK IN ADJOINING AREAS WHICH IS REQUIRED TO FUNCTION BUT IS AFFECTED BY THIS WORK SHALL BE RECONNECTED AND RESTORED TO ITS PRESENT FUNCTION AS PART OF THE ELECTRICAL SYSTEM OF THE BUILDING(S).
15. WHERE MULTIPLE SWITCHES AND RECEPTACLES ARE INDICATED AT THE SAME LOCATION, THEY SHALL BE MOUNTED BEHIND A COMMON FACEPLATE.
16. MOUNTING HEIGHTS OF EQUIPMENT AND DEVICES SHALL BE AS INDICATED ON THE ARCHITECTURAL DRAWINGS. WHERE MOUNTING HEIGHTS ARE NOT GIVEN ON THE ARCHITECTURAL DRAWINGS, UTILIZE THE FOLLOWING MOUNTING HEIGHTS UNLESS OTHERWISE NOTED (ALL DIMENSIONS TO CENTERLINE OF BOX):
   - A. RECEPTACLES (WALL MOUNTED) - 18" AFF
   - B. RECEPTACLES (COUNTER HEIGHT) - HORIZONTAL 6" ABOVE COUNTER
   - C. FURNITURE FEEDS (WALL MOUNTED) - SAME HEIGHT AS RECEPTACLES
   - D. TELEPHONE/DATA OUTLETS - SAME HEIGHT AS RECEPTACLES (WALL MOUNTED)
   - E. WALL MOUNTED TELEPHONES - 48" AFF
   - F. LIGHTING SWITCHES AND CONTROLS - 48" AFF
   - G. LIGHTING FIXTURES (AREAS WITHOUT CEILINGS) - 9'-6" AFF
   - H. PANELBOARDS AND CABINETS - 78" TO TOP OF ENCLOSURE
17. WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITING REQUIREMENTS SHALL BE AS FOLLOWS:
   - A. IN ACCORDANCE WITH N.E.C. ARTICLE 210.4 (B), CONTRACTOR SHALL PROVIDE SEPARATE NEUTRAL CONDUCTORS FOR EACH PHASE CONDUCTOR OF SINGLE PHASE LIGHTING OR RECEPTACLE BRANCH CIRCUITS, OR PROVIDE MULTI-POLE CIRCUIT BREAKERS IN PANELBOARDS WHERE USING A COMMON NEUTRAL FOR TWO OR THREE, SINGLE PHASE CIRCUIT HOMERUNS.
   - B. LIGHTING FIXTURES - 2 #12, #12 GRD. - 3/4" C.
   - C. RECEPTACLES - 2#12, #12 GRD. - 3/4" C.
   - D. BRANCH CIRCUIT BREAKERS (277 VOLT) - 1P, 20A
   - E. BRANCH CIRCUIT BREAKERS (120 VOLT) - 1P, 20A
   - F. HOMERUNS TO PANELBOARDS SHALL CONTAIN NO MORE THAN (3) CIRCUITS.
   - G. 208/120 VOLT 480/277 VOLT WIRING SHALL BE RUN IN SEPARATE RACEWAY SYSTEMS.
   - H. EMERGENCY SERVICES SHALL BE RUN IN SEPARATE RACEWAYS FROM ALL OTHER SYSTEMS.
   - I. WHERE LIGHTING SWITCH INDICATIONS ARE NOT SHOWN, SWITCHES SHALL BE CONNECTED TO CONTROL ALL SWITCHED FIXTURES WITHIN THE CORRESPONDING SPACE.
18. WHERE CONDUIT AND WIRING CONNECTIONS ARE NOT SHOWN ON THE PLANS, MAKE CONNECTIONS AS FOLLOWS:
   - A. USE #10 AWG WIRE TO THE FIRST AND ANY OUTLET FOR BRANCH CIRCUIT RUNS MORE THAN 80 FEET FOR 120V AND 208V CIRCUITS, U.O.N.
   - B. USE #10 AWG WIRE TO THE FIRST AND ANY OUTLET FOR BRANCH CIRCUIT RUNS MORE THAN 150 FEET FOR 265V AND 460V CIRCUITS, U.O.N.
19. ALL BRANCH CIRCUIT WIRING SHALL BE RUN CONCEALED IN WALLS AND/OR ABOVE HUNG CEILING UNLESS OTHERWISE NOTED.
20. WIRING IN AIR PLENUM HUNG CEILINGS INSTALLED WITHOUT CONDUIT OR EMT SHALL BE TEFLON JACKETED.
21. NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS POWER WIRING.
22. CONTRACTOR TO DE-RATE CONDUCTORS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE WHEN INSTALLING MORE THAN THREE (3) CIRCUITS IN A 3/4"C HOMERUN.
23. FOR WIRING IN EXISTING PARTITIONS WHERE EMT INSTALLATION IS IMPRACTICAL, FLEXIBLE GALVANIZED STEEL CONDUIT SHALL BE ACCEPTED. COORDINATE EXACT SIZE WITH SPECIFIED CABLING REQUIREMENTS. MINIMUM SIZE USED SHALL BE 3/4".
24. PROVIDE DRAG LINES IN ALL EMPTY RACEWAYS.
25. ALL CONDUITS FOR BRANCH CIRCUITING AND/OR COMMUNICATIONS CABLING, INCLUDING THOSE RUN IN CEILING OF FLOOR BELOW SHALL BE IDENTIFIED AT EVERY 50 FEET OF LENGTH AND AT EACH OUTLET AND PULL BOX WITH PANEL AND CIRCUIT NUMBER OR SYSTEM NAME.
26. CONTRACTOR SHALL PROVIDE AN EMPTY CONDUIT SYSTEM WITH DRAG LINES AND OUTLET BOXES FOR INSTALLATION OF LOW TENSION WIRING SYSTEM. VERIFY EXACT REQUIREMENTS WITH SYSTEM VENDOR.
27. THE MINIMUM RATING OF DISCONNECT SWITCHES SHALL BE EQUAL TO OR GREATER THAN THE RATING OF THE PROTECTION DEVICE ON THE SUPPLY SIDE OF THE DISCONNECT SWITCH. MINIMUM DISCONNECT SWITCH SIZE SHALL BE 30 AMPERES.

ELECTRICAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL VISIT THE PREMISES AND COMPARE SAME WITH A FULL SET OF BID DOCUMENTS AND SPECIFICATIONS AND BECOME SATISFIED WITH THE CONDITIONS' EXISTING AT THE BUILDING BEFORE DELIVERY OF THE PROPOSAL. NO ADDITIONAL ALLOWANCE WILL BE MADE TO THE CONTRACTOR DUE TO THE NEGLECT OR FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.
2. NOTES AND GRAPHIC REPRESENTATIONS SHALL NOT LIMIT THE EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT THE SITE, CAREFULLY EXAMINE EXISTING CONDITIONS AND SHALL PERFORM ALL DEMOLITION REQUIRED TO ACHIEVE THE FINAL DESIGN INTENT AS REQUIRED BY THE CONTRACT DOCUMENTS. EXTENT OF ALL DEMOLITION WORK SHALL BE COORDINATED WITH THE ARCHITECT.
3. ALL WORK REQUIRED TO REMAIN IN SERVICE BUT INTERFERING WITH THE ALTERATIONS SHALL BE RELOCATED AND RECONNECTED USING MATERIALS AND STANDARDS OF THIS CONTRACT.
4. EQUIPMENT AND WIRING TO BE REMOVED SHALL BE DE-ENERGIZED PRIOR TO ANY DEMOLITION WORK. TEMPORARY LIGHTING SHALL BE PROVIDED ON THE ENTIRE FLOOR BEING DEMOLISHED UNTIL THE WORK IS COMPLETE.
5. ALL POWER CONDUCTORS, CONTROL WIRING AND CONDUIT ASSOCIATED WITH MECHANICAL EQUIPMENT SUCH AS FANS, AIR CONDITIONING UNITS, PUMPS, ETC. DESIGNATED FOR REMOVAL ON DEMOLITION DRAWINGS SHALL BE REMOVED BACK TO THE SOURCE OF POWER AND DISCONNECTED. ALL MOTOR STARTERS, DISCONNECT SWITCHES, CONTROL DEVICES, ETC. SHALL BE REMOVED. REFER TO OTHER TRADES' DRAWINGS FOR ADDITIONAL INFORMATION.
6. EQUIPMENT INDICATED TO BE REMOVED SHALL BE TAKEN FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPLICABLE LAWS AND ENVIRONMENTAL REGULATIONS. EQUIPMENT REQUIRED TO BE TURNED OVER TO THE OWNER SHALL BE PLACED IN A MUTUALLY ACCEPTABLE LOCATION.
7. THE WORK SHALL INCLUDE THE REMOVAL OF MATERIALS AS DIRECTED. PRIOR TO REMOVING EQUIPMENT AND MATERIALS FROM THE PROJECT SITE, THE BUILDING MANAGER SHALL INSPECT AND ADVISE WHICH ITEMS WILL BE RESTORED.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL FROM THE PREMISES ALL DEBRIS RESULTING FROM REMOVAL OF ELECTRICAL WORK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUGH PATCHING, REPAIRING AND FIREPROOFING ALL OPENINGS IN FLOORS OR WALLS AS REQUIRED AFTER REMOVAL OF ANY CONDUITS OR WIRE. FINISH PATCHING SHALL BE PERFORMED BY ANOTHER DIVISION.
10. THIS CONTRACTOR SHALL NOT DISCONNECT OR REMOVE ANY EXIT LIGHTS OR EMERGENCY LIGHTS LOCATED AT EXITS UNLESS OTHERWISE NOTED.
11. REMOVAL OF EXISTING EQUIPMENT SHALL BE COORDINATED WITH REMOVAL AND PARTITIONS.
12. DEMOLITION WORK SHALL INCLUDE THE FURNISHING OF ALL MATERIAL CUTTINGS, EXTENSIONS, CONNECTIONS, REPAIRING, ADAPTING AND OTHER WORK INCIDENTAL THERETO, TOGETHER WITH SUCH TEMPORARY CONNECTIONS AS MAY BE REQUIRED.
13. THIS CONTRACTOR SHALL PROVIDE ADEQUATE TEMPORARY LIGHT AND POWER TO INSURE THE SAFETY OF PERSONNEL AND POWER REQUIREMENTS OF THE VARIOUS TRADES.
14. WHERE PRESENT WORK IS DAMAGED IN THE EXECUTION OF THIS CONTRACT, OR WHERE OPENINGS ARE LEFT DUE TO THE REMOVAL OF PIPES, EQUIPMENT OR APPARATUS, THE SAME SHALL BE REPAIRED TO CORRESPOND IN MATERIALS, QUALITY, SHAPE AND FINISH WITH THAT OF SIMILAR AND ADJOINING WORK, UNLESS OTHERWISE REQUIRED.
15. CONTRACTOR SHALL ASSURE THAT THE LIGHTING AND POWER TO TOILETS REMAIN IN WORKING CONDITION.
16. WHERE REMOVAL OF EXISTING ELECTRICAL EQUIPMENT WILL RESULT IN OUTAGES IN AREAS NOT TO BE DEMOLISHED, THE CONTRACTOR SHALL COORDINATE IN ADVANCE AND OBTAIN THE APPROVAL OF THE BUILDING MANAGER. PROVIDE MINIMUM SEVEN (7) DAY ADVANCE NOTICE.
17. WHERE PORTIONS OF AN EXISTING BRANCH CIRCUIT ARE REMOVED, WIRING TO REMAIN DEVICES ON THE CIRCUIT SHALL BE RECONNECTED OR MODIFIED IN AN APPROVED MANNER AS REQUIRED TO MAINTAIN CONTINUITY OF THE AFFECTED BRANCH CIRCUIT AND OPERATION OF THE REMAINING DEVICES.
18. COORDINATE WITH OWNER WHICH FIXTURES, DEVICES AND EQUIPMENT, IF ANY, ARE TO BE REMOVED, KEPT INTACT AND RETURNED TO THE OWNER. IN GENERAL, ALL DEVICES, WIRING, RACEWAYS, BOXES, SUPPORTS AND OTHER APPURTENANCES WHICH ARE TO BE REMOVED SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED.
19. CONTRACTOR IS TO DISCONNECT AND REMOVE ONLY WIRING AND RACEWAY SERVING FLOOR AREAS OF DEMOLITION. DO NOT REMOVE ANY BASE BUILDING HOMERUN CONDUITS.
20. FEEDERS AND BRANCH CIRCUITS TO BE REMOVED - CONDUIT AND SUPPORTS SHALL BE REMOVED TO THE PANEL OF ORIGIN OR THE BOUNDARY OF THE PROJECT AREA. WIRING SHALL BE REMOVED TO THE PANEL OF ORIGIN. WHERE EMPTY CONDUITS REMAIN, INSTALL A PULL STRING AND IDENTIFY AT BOTH ENDS.
21. FEEDERS AND BRANCH CIRCUITS TO BE RE-USED - REMOVE CONDUIT AND WIRING TO LOCATIONS WHICH AVOID CONFLICTS WITH NEW WORK. INSTALL JUNCTION BOXES, TAPE OFF CONDUCTORS AND IDENTIFY WITH PANEL AND CIRCUIT NUMBER.
22. PROVIDE ADDITIONAL SUPPORT FOR ALL EXISTING CONDUITS, LOW VOLTAGE CABLING AND DEVICES TO REMAIN WHICH ARE AFFECTED BY DEMOLITION OF EXISTING CEILINGS AND PARTITIONS.
23. ALL EXISTING UNUSED CONDUIT AND WIRING SHALL BE DROPPED TO THE FLOOR BY THE ELECTRICIAN FOR REMOVAL FROM THE BUILDING BY THE DEMOLITION OR GENERAL CONTRACTOR.
24. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE TO TRACE AND RELOCATE ALL EXISTING FEEDERS AND BRANCH CIRCUIT WIRING WHICH PASSES THROUGH THE DEMOLITION AREA THAT SERVE EXISTING OCCUPIED SPACES TO REMAIN. COORDINATE WITH BUILDING MANAGEMENT PRIOR TO ANY SHUTDOWNS OR DISRUPTIONS THAT MAY BE REQUIRED TO ACCOMPLISH THIS WORK.
25. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ASCERTAINING THE FOLLOWING:
   - A. WHICH EXISTING CIRCUITS ARE CONNECTED TO CONSTANT CIRCUITS (NIGHT LIGHT, EXIT LIGHTS, ETC.)
   - B. WHICH EXISTING CONDUITS ARE CIRCUITS ARE CONNECTED TO EXISTING EQUIPMENT TO REMAIN (TOILETS, JANITOR'S CLOSET, SERVICE ELEVATOR, LOBBY AND RECEPTACLES IN CORE CORRIDORS) AND SHALL MAINTAIN CONTINUITY OF SERVICE TO SUCH EQUIPMENT BY EITHER NEW CIRCUITRY OR EXTENSION OF EXISTING CIRCUITRY.
26. UNLESS OTHERWISE NOTED, DISCONNECT AND REMOVE THE FOLLOWING:
   - A. EXISTING ELECTRICAL AND TELEPHONE FLOOR OUTLETS HOUSING THESE DEVICES. CONTRACTOR SHALL PATCH OPENINGS FLUSH WITH FLOOR WITH SUITABLE MATERIALS TO MATCH EXISTING.
   - B. EXISTING POWER AND COMMUNICATION/TELEPHONE WIRING FROM HUNG CEILING AND BELOW RAISED FLOOR.
   - C. EXISTING LIGHTING FIXTURES, RECEPTACLES, OUTLETS AND OTHER ELECTRICAL DEVICES IN WALLS TO BE DEMOLISHED OR WHERE IN CONFLICT WITH NEW CONSTRUCTION (ELECTRICAL DEVICES SHALL INCLUDE, BUT NOT BE LIMITED TO TEL/DATA OUTLETS, LIGHTING SWITCHES, RECEPTACLES, ETC.)
   - D. ALL CONDUIT AND WIRING BEING REMOVED SHALL BE REMOVED BACK TO SOURCE (PANELBOARD).
27. IN THE PROCESS OF REMOVING WIRING DEVICES, LIGHTING FIXTURES AND OTHER ELECTRICAL EQUIPMENT AND MATERIALS, THIS CONTRACTOR SHALL EXERCISE EXTREME CAUTION TO PREVENT DAMAGE TO ARCHITECTURAL SURFACES AND MATERIALS WHICH ARE TO REMAIN, INCLUDING WALLS, FLOORS, CEILINGS, WINDOWS, DOORS, MOLDINGS, STRUCTURAL MEMBERS, ETC. THE COST TO REPAIR OR REPLACE ANY MATERIAL DEEMED BY THE ARCHITECT TO HAVE BEEN UNDULY DAMAGED BY THIS CONTRACTOR DURING DEMOLITION OR CONSTRUCTION SHALL BE PAID BY THIS CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
28. PROVIDE BLANK COVER PLATES AT OPEN BOXES WHERE EXISTING RECEPTACLES OR ELECTRICAL DEVICES ARE REMOVED FROM ENCLOSURES, INDUCTION UNITS OR SURFACES NOT INDICATED TO BE REPAIRED OR REFINISHED.
29. ALL WORK SHALL BE PROPERLY IDENTIFIED AFTER DEMOLITION. UPDATE ALL PANEL SCHEDULES TO REFLECT EQUIPMENT AND CIRCUIT REMOVALS.
30. ALL PANELBOARDS AND ANY OTHER EQUIPMENT IN AREAS TO BE DEMOLISHED ARE TO REMAIN UNLESS OTHERWISE NOTED.

OWASA Security Fence & Gate

CLIENT/OWNER
OWASA
919.968.4421

ELECTRICAL ENGINEER
LORING ENGINEERS
919.355.5500

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029437 ENGINEER EDMUND H. MORGAN

11/7/2023

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ISSUE	DATE
CONSTRUCTION	11.06.23

PHASE

SCALE: NOT TO SCALE

DATE DRAWN 09/21/22

ELECTRICAL SYMBOL LIST, NOTES, AND ABBREVIATIONS

E-001

ELECTRICAL SPECIFICATIONS

1. **CODES AND STANDARDS**
   - A. ALL WORK SHALL BE SYSTEMATICALLY, CAREFULLY AND NEATLY PERFORMED AND SHALL CONFORM TO THE FOLLOWING STANDARDS:
     - 1) THE 2018 NORTH CAROLINA BUILDING CODE, 2020 NORTH CAROLINA ELECTRICAL CODE, AND 2018 NORTH CAROLINA ENERGY CONSERVATION CODE.
     - 2) UNDERWRITERS' LABORATORIES, INC.
     - 3) OSHA AND ALL AGENCIES HAVING JURISDICTION.
     - 4) BUILDING MANAGEMENT COMPANY STANDARDS FOR BUILDING ALTERATIONS AND CONSTRUCTION.
2. **WORK SCOPE**
   - A. THE SCOPE OF WORK SHALL CONSIST OF THE FOLLOWING:
     - 1) FURNISHING, INSTALLING AND CONNECTING ALL PANELBOARDS, FEEDERS, POWER OUTLETS, LIGHT FIXTURES, SWITCHES, CONTROLS, CONDUITS, AND WIRING.
     - 2) FURNISHING AND INSTALLING NEW TELEPHONE/ COMMUNICATION OUTLETS AND RACEWAY.
     - 3) FURNISHING AND INSTALLING NEW CIRCUIT BREAKERS.
     - 4) OTHER WORK SHOWN ON DRAWING AND INDICATED IN SPECIFICATIONS.
   - B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND APPROVALS AND SHALL PAY ALL ASSOCIATED COSTS AND FEES.
   - C. VERIFY ALL EXISTING CONDITIONS IN THE FIELD AND INCLUDE IN THE BID PRICE ALL WORK REQUIRED TO ACCOMMODATE THE EXISTING INSTALLATION.
   - D. ELECTRICAL CONNECTIONS TO EQUIPMENT OR MOTORS FURNISHED BY THE OWNER AND/OR OTHER TRADES.
3. **SUBMITTALS**
   - A. SUBMIT THE FOLLOWING INFORMATION AS APPLICABLE AND AS REQUIRED FOR ALL WORK SPECIFIED UNDER THIS DIVISION:
     - 1) MANUFACTURERS' PRODUCT DATA SHEETS AND SAMPLES WHERE REQUIRED.
     - 2) SHOP DRAWINGS INCLUDING DIMENSIONED EQUIPMENT LAYOUTS,
     - 3) POINT-TO-POINT WIRING DIAGRAMS AND SEQUENCES OF OPERATION.
     - 4) REPRODUCIBLE DRAWINGS, PDF, OR AUTOCAD FILES.
     - 5) OPERATION AND MAINTENANCE MANUALS.
     - 6) CERTIFIED FACTORY AND FIELD TEST REPORTS.
     - 7) MANUFACTURERS' CERTIFICATIONS, WARRANTIES AND SPARE PARTS.
   - B. SUBSTITUTIONS TO SPECIFIED ITEMS MUST COMPLY WITH ALL SPECIFICATION REQUIREMENTS AND WILL ONLY BE PERMITTED WHERE SUBMITTED AND APPROVED IN WRITING.
4. **AS-BUILT DRAWINGS**
   - A. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING ANY DEVIATION FROM THE ORIGINAL ELECTRICAL DESIGN. THE REVISED DRAWING SHALL BE STAMPED "AS-BUILT" WITH THE DATE AND CONTRACTOR'S SIGNATURE. ONE (1) SET OF PRINTS AND A COMPACT DISK CONTAINING AUTOCAD FILES SHALL BE DELIVERED TO THE ENGINEER BEFORE FINAL PAYMENT IS MADE. AFTER REVIEW AND APPROVAL OF AS-BUILT, THE CONTRACTOR SHALL DELIVER 3 PRINTS AND A COMPACT DISK OF AS-BUILT DRAWINGS TO BUILDING MANAGEMENT. IF THE ORIGNIAL FILE IS REQUIEST FROM THE ENGINEER, A MEDIA RELEASE FROM SHALL BE SIGNED BY THE CONTRACTOR PRIOR TO ISSUANCE OF DOCUMENTS.
   - B. FURNISH TO THE ARCHITECT THREE (3) BOUND AND INDEXED COPIES OF OPERATIONS, AND MAINTENANCE DATA MANUALS FOR THE INSTALLATION. THE MANUAL SHALL PROVIDE COMPREHENSIVE DETAILED INFORMATION ON THE APPROVED INSTALLATION, OPERATION AND USE, MAINTENANCE AND PARTS LIST.
5. **QUALITY ASSURANCE**
   - A. MATERIALS, EQUIPMENT, AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF ALL APPLICABLE LOCAL CODES AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE BUILDING STANDARDS AND THE REQUIREMENTS OF THE LOCAL UTILITY COMPANY.
   - B. MATERIALS, EQUIPMENT, AND INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF THE APPLICABLE REFERENCE STANDARDS PUBLISHED BY THE NFPA, UL, ANSI, IEEE AND NEMA.
   - C. THE CONTRACTOR SHALL HAVE COMPLETED AT LEAST TWO PROJECTS OF SIZE AND COMPLEXITY SIMILAR TO THOSE REQUIRED UNDER THIS CONTRACT. ALL WORKERS SHALL BE SKILLED IN THEIR RESPECTIVE TRADE.
   - D. ALL WORK SHALL BE WARRANTED IN WRITING TO BE FREE FROM DEFECTS IN MATERIALS AND/OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER. WARRANTY SHALL INCLUDE ALL COSTS OF PARTS, LABOR, TRAVEL AND LIVING EXPENSES REQUIRED TO REPAIR OR REPLACE DEFECTIVE ITEMS.
6. **BASIC MATERIALS AND METHODS**
   - A. COORDINATE ALL WORK WITH THE WORK OF OTHER TRADES PRIOR TO INSTALLATION. ASSIST IN THE PREPARATION OF COORDINATION DRAWINGS AS REQUIRED PER THESE DOCUMENTS.
   - B. ALL SHUTDOWN OF BUILDING POWER, FIRE ALARM AND SIGNAL SYSTEMS SHALL BE COORDINATED WITH BUILDING MANAGEMENT. WORK TO ACCOMMODATE OFF-HOUR SHUTDOWNS SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
   - C. CUT AND PATCH NON-STRUCTURAL SURFACES AS REQUIRED. REPAIRS SHALL MATCH ORIGINAL FINISH. PENETRATIONS OF FIRE-RATED PARTITIONS SHALL BE SEALED WITH APPROVED MATERIAL TO PROVIDE THE SAME RATING AS THE PARTITION. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS.
   - D. PROVIDE EXPANSION FITTINGS WHERE RACEWAYS CROSS BUILDING EXPANSION JOINTS.
   - E. EQUIPMENT, DEVICES AND ENCLOSURES SHALL BE RATED NEMA 1 FOR INTERIOR LOCATIONS, NEMA 3R FOR DAMP LOCATIONS, AND NEMA 4 FOR WET LOCATIONS.
   - F. PROVIDE 4" HIGH SEALED CONCRETE HOUSEKEEPING PADS BELOW ALL FLOOR MOUNTED EQUIPMENT AND AROUND ALL CONDUITS PENETRATING FLOORS OF MECHANICAL EQUIPMENT ROOMS.
7. **DELIVERY, STORAGE AND HANDLING**
   - A. ALL EQUIPMENT SHALL BE DELIVERED IN MANUFACTURER'S ORIGINAL PROTECTIVE PACKAGING AND STORED IN A CLEAN, DRY PLACE PROTECTED FROM WEATHER, FUMES, WATER, DUST AND PHYSICAL DAMAGE. TOUCH UP DAMAGED FINISHES TO MATCH THE ORIGINAL FINISH.
8. **SUMMARY**
   - A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, AND SERVICES REQUIRED FOR COMPLETE INSTALLATION OF ALL WORK INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.
   - B. OBTAIN ALL PERMITS AND APPROVALS REQUIRED BY AUTHORITIES HAVING JURISDICTION AND PAY THE ASSOCIATED PRINTING AND FILING COSTS.
   - C. VERIFY EXISTING CONDITIONS IN FIELD AND INCLUDE IN THE BID PRICE ALL WORK REQUIRED TO ACCOMMODATE THE EXISTING INSTALLATION.
   - D. PROVIDE TEMPORARY LIGHT AND POWER SYSTEM (AS PART OF THE CONTRACT) ADEQUATE FOR THE REQUIREMENTS OF ALL TRADES DURING CONSTRUCTION. TEMPORARY SYSTEM SHALL BE DISCONNECTED AND REMOVED WHEN PERMANENT SERVICE IS IN OPERATION.
9. **INSPECTIONS**
   - A. ALL MATERIALS AND EQUIPMENT DELIVERED TO THE SITE SHALL BE INSPECTED. MATERIAL AND EQUIPMENT THAT IS DEFECTIVE OR FAILS TO CONFORM TO THE REQUIREMENT OF THESE SPECIFICATIONS SHALL BE REMOVED IMMEDIATELY FROM THE CONSTRUCTION SITE AND REPLACED WITH NEW MATERIAL AND EQUIPMENT SATISFACTORY TO THE ENGINEER.
   - B. ARRANGE FOR ALL INSPECTIONS WITH AUTHORITIES HAVING JURISDICTION AND REQUIRED FEES.
   - C. MATERIAL AND EQUIPMENT DESIGNATED FOR "INSPECTION" UNDER THE PROVISIONS OF THE BUILDING CODE SHALL BE INSPECTED, TESTED, AND WITNESSED BY, OR UNDER THE SUPERVISION OF AN ACCREDITED INSPECTOR, EMPLOYED BY THE OWNER, WHO SHALL BE RESPONSIBLE FOR FILING PROPERLY EXECUTED BUILDING DEPARTMENT FORMS.
   - D. ALL STAGES OF THE INSTALLATION WILL BE INSPECTED BY THE OWNER AND/OR OWNERS REPRESENTATIVE FOR COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS AND SPECIFICATIONS. ANY PORTION OF THE CONSTRUCTION NOT MEETING THOSE REQUIREMENTS TO THE SATISFACTION OF THE ENGINEER SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.
   - E. PROVIDE PROPER EQUIPMENT AND REASONABLE ASSISTANCE AS THE OWNER AND/OR OWNERS REPRESENTATIVE MAY REQUIRE TO FACILITATE ACCESS AND INSPECTION AT THE CONSTRUCTION SITE.
10. **RACEWAYS**
    - A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL CONFORM TO UL 6. FITTINGS SHALL BE THREADED.
    - B. ELECTRICAL METALLIC TUBING (EMT) SHALL CONFORM TO UL 797. FITTINGS SHALL BE GLAND AND RING COMPRESSION TYPE.
    - C. FLEXIBLE METALLIC CONDUIT SHALL CONFORM TO UL 1. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL CONFORM TO UL 360.
    - D. ALL CONDUIT FITTINGS AND CONNECTORS SHALL BE UL LISTED, STEEL TYPE WITH INSULATED THROATS. BUSHINGS SHALL BE PROVIDED AT ALL CONDUIT TERMINATIONS. BUSHINGS LARGER THAN 1" SHALL BE GROUNDING TYPE. PVC BUSHINGS MAY BE UTILIZED ONLY FOR 3/4" BRANCH CIRCUIT CONDUITS TERMINATING AT PANELBOARDS.
    - E. MINIMUM RACEWAY SIZE SHALL BE 3/4". RACEWAYS SHALL BE RUN PARALLEL TO BUILDING STRUCTURAL LINES. RACEWAYS SHALL NOT BE RUN HORIZONTALLY BELOW 8'-0" AFF IN PARTITIONS. ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200LB TEST NYLON DRAG LINE.
    - F. ALL WIRING BETWEEN JUNCTION BOXES AND FOR CIRCUIT HOMERUNS BETWEEN FIRST OUTLET SERVED BY THE BRANCH CIRCUIT AND THE PANELBOARD SHALL BE RUN IN EMT OR RGS AS REQUIRED.
    - G. RACEWAY UTILIZATION SHALL BE AS FOLLOWS:
      - 1) RIGID GALVANIZED STEEL (RGS) - IN CONCRETE SLABS; EXPOSED IN ALL MECHANICAL EQUIPMENT ROOMS; FIRE ALARM SYSTEMS.
      - 2) ELECTRICAL METALLIC TUBING (EMT) - INTERIOR CONCEALED AND EXPOSED LOCATIONS; EXPOSED IN MECHANICAL ROOMS ABOVE 8'-0" AFF; INTERIOR COMMUNICATIONS WIRING.
      - 3) FLEXIBLE METALLIC CONDUIT - FINAL CONNECTIONS TO TRANSFORMERS (MAXIMUM LENGTH 3'-0") AND LIGHTING FIXTURES IN INTERIOR LOCATIONS (MIN. LENGTH 1'-6", MAXIMUM LENGTH 6'-0"); WHERE APPROVED BY THE ENGINEER.
      - 4) LIQUID TIGHT FLEXIBLE CONDUIT - FINAL CONNECTIONS TO MOTORS AND MECHANICAL EQUIPMENT.
      - 5) METAL CLAD CABLE (MC) - FINAL CONNECTIONS ONLY FROM JUNCTION BOXES ABOVE CEILINGS TO RECEPTACLES (MAXIMUM LENGTH 20'-0"). NOT TO BE USED FOR HOMERUNS OR FEEDERS TO MECHANICAL EQUIPMENT. MC CABLE SHALL NOT BE UTILIZED IN EXPOSED AREAS.
    - H. ALL CONDUIT AND TUBING SHALL BE CUT SQUARE AND REAMED AT THE ENDS.
    - I. CONDUIT AND TUBING RUNS SHALL BE MECHANICALLY AND ELECTRICALLY CONTINUOUS FROM SERVICE STARTING TO ALL OUTLETS AND EQUIPMENT. CONDUIT SHALL ENTER AND BE SECURELY CONNECTED TO A CABINET, JUNCTION BOX, PULLBOX OR OUTLET BOX BY MEANS OF LOCKNUTS ON THE OUTSIDE AND INSIDE AND AN INSULATED BUSHING ON THE INSIDE. IN TUBING OR FLEXIBLE METAL CONDUIT THE ONE COMPRESSION LOCKNUT SHALL BE MADE WRENCH-TIGHT. ALL LOCKNUTS SHALL BE THE BONDING TYPE WITH SHARP EDGES FOR DIGGING INTO THE METAL WALL OF AN ENCLOSURE AND SHALL BE INSTALLED IN A MANNER THAT WILL ASSURE A LOCKING AND ELECTRICALLY CONTINUOUS INSTALLATION. LOCKNUTS AND BUSHINGS ARE NOT REQUIRED WHERE CONDUITS ARE SCREWED INTO TAPPED CONNECTIONS.
    - J. ALL VERTICAL RUNS OF CONDUIT OR TUBING TERMINATING IN THE BOTTOMS OF WALL BOXES OR CABINETS, OR SIMILAR LOCATIONS, SHALL BE PROTECTED FROM THE ENTRANCE OF FOREIGN MATERIAL PRIOR TO THE INSTALLATION OF CONDUCTORS.
    - K. UNLESS OTHERWISE SPECIFIED, ALL CONDUIT AND TUBING SHALL BE INSTALLED CONCEALED. IN GENERAL, ALL CONDUIT AND TUBING SHALL BE RUN IN HUNG CEILINGS AND FURRED SPACES WHERE THEY EXIST. WHERE CONDUIT IS RUN EXPOSED IT SHALL BE SECURELY SUPPORTED WITH ZINC COATED MALLEABLE IRON PIPE STRAPS OR OTHER APPROVED MEANS. ALL CONDUITS SHALL BE SUPPORTED FROM STRUCTURAL MEMBERS.
    - L. EVERY CONDUIT SYSTEM SHALL BE INSTALLED COMPLETE BEFORE ANY CONDUCTORS ARE DRAWN IN. WIRE PULLING LUBRICANTS, WHEN UTILIZED, SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF UL, APPLICABLE TO THE SPECIFIC CONDUCTOR OR CABLE INSULATION AND RACEWAY MATERIAL.
    - M. WHERE REQUIRED BY THE ENGINEER, EXTRA DEEP OR EXTRA SHALLOW OUTLET BOXES SHALL BE USED TO FACILITATE THE INSTALLATION OF THE CONDUIT SYSTEM.
11. **BOXES**
    - A. OUTLET, PULL, AND JUNCTION BOXES SHALL BE FABRICATED FROM STEEL AND CONFORM TO UL 50, UL 514 AND NEMA OS1. BOXES FOR INTERIOR LOCATIONS SHALL BE CODE GAUGE, GALVANIZED SHEET STEEL. BOXES FOR MECHANICAL ROOMS SHALL BE CAST STEEL WITH GASKETED COVERS.
    - B. EXPOSED INTERIOR OUTLET BOXES SHALL BE FABRICATED FROM CAST IRON AND SHALL CONTAIN SUITABLE KNOCKOUTS. BARRIERS SHALL BE FURNASHED AS REQUIRED BY CODE AND TO SEPARATE SWITCHES FOR 277 VOLT CIRCUITS ON DIFFIRERENT PHASES.
    - C. BOXES SHALL CONTAIN SUITABLE KNOCKOUTS. BARRIERS SHALL BE FURNISHED AS REQUIRED BY CODE AND TO SEPARATE SWITCHES FOR 277 VOLT CIRCUITS ON DIFFERENT PHASES.
    - D. BOXES SHALL BE SIZED AS REQUIRED BY CODE FOR NUMBER AND GAUGE OF CONDUCTORS THEREIN. UNLESS NOTED TO BE SMALLER, THE MINIMUM BOX SHALL BE 4" SQUARE BY 1-1/2" DEEP. COVERS GREATER THAN 50LB SHALL BE DIVIDED INTO MULTIPLE SECTIONS.
    - E. WIREWAYS AND AUXILIARY GUTTERS SHALL BE TWO-PIECE STEEL CONSTRUCTION WITH ANSI 61 GRAY ENAMEL FINISH. COVERS SHALL BE COMBINATION HINGED AND SCREW-ON TYPE. HOUSINGS SHALL HAVE REGULARLY SPACED KNOCKOUTS FOR CONDUIT ENTRY. WIREWAYS SHALL BE MANUFACTURED BY SQUARE D OR APPROVED EQUAL. PROVIDE ALL END PIECES, CONNECTORS AND REQUIRED ACCESSORIES.
12. **FASTENERS**
    - A. PROVIDE INSERTS, EXPANSION SHIELD LUGS, ANCHORS, BOLTS WITH NUTS AND WASHERS, SHIMS OR ANY OTHER TYPE OF FASTENING DEVICES REQUIRED TO FASTEN PANELS OR OTHER EQUIPMENT TO FLOORS, WALLS, OR CEILINGS. UNLESS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE CONTRACT DRAWINGS, ALL FASTENERS SHALL BE HOT-DIPPED GALVANIZED, OF SIZES AND TYPES RECOMMENDED BY THE EQUIPMENT MANUFACTURER AND AS APPROVED BY THE ENGINEER.
13. **WIRES, CABLES, SPLICES AND TERMINATIONS**
    - A. POWER AND CONTROL WIRING SHALL BE COPPER, MINIMUM 98% CONDUCTIVITY, WITH TYPE THHN/THWN INSULATION RATED 600 VOLTS. MINIMUM WIRE SIZE SHALL BE #12 AWG. CONDUCTORS SHALL BE SOLID FOR WIRE SIZED #10 AWG AND SMALLER AND STRANDED FOR WIRE SIZES #8 AWG AND LARGER.
    - B. METAL CLAD CABLE SHALL BE 90°C RATED CODE TYPE ACTHH WITH A SEPARATE GREEN INSULATED GROUND CONDUCTOR IN ACCORDANCE WITH UL 4. JACKET SHALL BE GALVANIZED STEEL ARMOR.
    - C. CONDUCTORS SHALL BE COLOR CODED AS FOLLOWS:

208/120V	PHASE	480/277V
BLACK	A	BROWN
RED	B	ORANGE
BLUE	C	YELLOW
WHITE	NEUTRAL	GRAY OR WHITE WITH TRACER
GREEN	GROUND	GREEN
WHITE WITH TRACER	NEUTRAL FOR GFI CIRCUIT	-

    - D. CONDUCTOR SIZES SHALL BE INCREASED WHERE REQUIRED BY CODE AND/OR THE ENGINEER TO COMPENSATE FOR VOLTAGE DROP AND HIGH AMBIENT TEMPERATURE.
    - E. LOW VOLTAGE WIRING RUN EXPOSED IN AIR HANDLING PLENUMS SHALL BE PLENUM RATED.
    - F. SPLICES FOR WIRE SIZES #10 AWG AND SMALLER SHALL BE MADE WITH SPRING CONNECTORS AND TAPE. SPLICES FOR WIRE SIZES #8 AWG AND LARGER SHALL BE HYDRAULIC COMPRESSION TYPE WITH PRE-MOLDED COVER AND TAPE.
    - G. TERMINATIONS OF POWER AND CONTROL WIRING SHALL BE COMPRESSION TYPE, WITH TWO-HOLE LUGS FOR WIRE SIZES #8 AWG AND LARGER. MECHANICAL LUGS MAY ONLY BE UTILIZED FOR TERMINATIONS AT BRANCH CIRCUIT PANELBOARDS.
    - H. SPLICES AND TAPS OF ALUMINUM CONDUCTORS WITH COPPER SPLICE/TAP CONDUCTORS SHALL BE MADE WITH MECHANICAL LUGS UL LISTED AS DUAL RATED FOR COPPER AND ALUMINUM CONDUCTORS, SIMILAR TO ILSCO SERIES IPC OR APPROVED EQUAL.
14. **MOLDED CASE CIRCUIT BREAKERS**
    - A. PROVIDE NEW CIRCUIT BREAKERS FOR NEW AND EXISTING PANELS AS SCHEDULED ON THE DRAWINGS.
    - B. ELECTRICAL CONTRACTOR MAY REUSE CIRCUIT BREAKERS IN EXISTING PANELS PROVIDED THAT THEY ARE IN GOOD OPERATING ORDER AND IN COMPLIANCE WITH THE REQUIREMENTS LISTED BELOW.
    - C. GENERAL CHARACTERISTICS OF MOLDED CASE CIRCUIT BREAKERS SHALL BE:
      - 1) SINGLE, 2, OR 3 POLE, AS NOTED.
      - 2) THERMAL-MAGNETIC TYPE.
      - 3) MECHANISM: QUICK-MAKE, QUICK-BREAK, TRIP-FREE TYPE.
      - 4) CONTACTS: NON-WELDING.
      - 5) AUTOMATIC TRIPPING: CLEARLY INDICATED BY HANDLE AUTOMATICALLY ASSUMING POSITION DISTINCTIVE FROM NORMAL "ON" AND "OFF" POSITIONS.
      - 6) PROVIDE SHUNT TRIP OR GFI TYPE CIRCUIT BREAKERS WHERE INDICATED ON THE PANEL SCHEDULES.
      - 7) BOLT-ON TYPE.
      - 8) CIRCUIT BREAKERS FOR UNSWITCHED LIGHTING CIRCUITS SHALL BE RATED FOR SWITCHING DUTY.
      - 9) CIRCUIT BREAKERS FOR HVACR EQUIPMENT SHALL BE "HACR" TYPE.
      - 10) MAIN CIRCUIT BREAKERS SHALL BE MOUNTED SEPARATELY FROM BRANCH BREAKERS AT TOP OR BOTTOM.
    - D. ALL CIRCUIT BREAKERS SHALL HAVE INTERRUPTING CAPACITIES ADEQUATE FOR THEIR LOCATIONS. UNLESS INDICATED OTHERWISE, THE INTERRUPTING CAPACITY OF ANY CIRCUIT BREAKER SHALL BE GREATER THAN THE LET-THROUGH CURRENT OF THE PROTECTIVE DEVICE NEXT AHEAD OF IT IN THE DISTRIBUTION SYSTEM. CONTRACTOR SHALL VERIFY THE REQUIRED INTERRUPTING CAPACITIES OF NEW BREAKERS PRIOR TO ORDERING.
    - E. ALL CIRCUIT BREAKERS SHALL BE UL LISTED FOR USE IN THE PANEL TO WHICH THEY ARE INSTALLED.
15. **SAFETY SWITCHES**
    - A. SAFETY DISCONNECT SWITCHES SHALL BE 250V OR 600V AS REQUIRED, HEAVY DUTY, HORSEPOWER RATED, QUICK-MAKE, QUICK-BREAK DESIGN IN NEMA 1 ENCLOSURE. ENCLOSURES EXPOSED TO WET OR RAIN CONDITIONS SHALL BE IN NEMA 3R ENCLOSURE.
    - B. PROVIDE INTERLOCKS TO PREVENT OPENING THE COVER WITH THE SWITCH IN THE "ON" POSITION OR CLOSING OF THE SWITCH WITH THE DOOR OPEN, EXCEPT THAT THE INTERLOCK SHALL BE TOOL RELEASABLE BY A QUALIFIED PERSON FOR INSPECTION OF THE CONTACTS OF MECHANISM.
    - C. PROVIDE FOR PADLOCKING HANDLE IN THE OFF POSITION.
    - D. PROVIDE NEUTRAL ASSEMBLY WHERE SCHEDULED.
    - E. SWITCHES SHALL BE CAPABLE OF WITHSTANDING THE AVAILABLE FAULT OR LET THROUGH CURRENT BEFORE THE FUSE OPERATES WITHOUT DAMAGE OR CHANGE IN RATING. THE SHORT CIRCUIT INTERRUPTING RATING OF THE FUSE SWITCH COMBINATION SHALL BE 100,000 RMS SYMMETRICAL AMPERES AND 12 TIMES THE CONTINUOUS CURRENT RATING WHEN UNFUSED AT RATED VOLTAGE.
    - F. FUSE CLIPS SHALL BE OF THE REJECTION TYPE, SHALL ACCOMMODATE DUAL ELEMENT, CURRENT LIMITING FUSES ONLY AND SHALL BE SIZED TO ACCEPT FUSES OF THE PROPER AMPERE RATING.
    - G. PROVIDE GROUND LUG IN EACH SWITCH.
16. **FUSES**
    - A. FUSES SHALL BE UL LISTED, TIME DELAY, CURRENT LIMITING AND HAVE AN INTERRUPTING CAPACITY OF AT LEAST 200,000 AMPERES RMS SYMMETRICAL.
    - B. THE TIME-CURRENT CHARACTERISTICS AND RATINGS SHALL BE SUCH THAT POSITIVE SELECTIVE COORDINATION IS ASSURED.
    - C. FUSE VOLTAGE RATINGS SHALL BE 600V OR 250V AS REQUIRED.
    - D. CLASS RK1 (TIME DELAY) FUSES, REJECTION TYPE.
      - 1) BUSSMANN TYPE LPN-RK (250V) OR TYPE LPS-RK (600V)
      - 2) FERRAZ-SHAWMUT A2D (250V) OR A6D (600V)
      - 3) LITTLEFUSE TYPE LLN-RK (250V) OR LLS-RK (600V)
    - E. CLASS L (TIME DELAY)
      - 1) BUSSMANN TYPE KRP-C
      - 2) LITTLEFUSE TYPE KLP-C
      - 3) FERRAZ-SHAWMUT A4BQ
    - F. CLASS CC (TIME DELAY) FUSES, REJECTION TYPE
      - 1) BUSSMANN TYPE LP-CC
      - 2) FERRAZ-SHAWMUT ATDR
      - 3) LITTLEFUSE TYPE KLDR
17. **GROUNDING**
    - A. THE DISTRIBUTION SYSTEM SHALL BE COMPLETELY AND PROPERLY GROUNDED USING APPROVED FITTINGS. SEPARATE INSULATED GROUND CONDUCTORS SHALL BE RUN WITH ALL FEEDERS WHERE INDICATED, RECEPTACLE BRANCH CIRCUITS AND FLEXIBLE CONNECTIONS TO LIGHTING FIXTURES AND EQUIPMENT.
    - B. METAL RACEWAYS, METAL ENCLOSURES OF ELECTRICAL DEVICES AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED IN AN APPROVED MANNER. PROPER HARDWARE REQUIRED FOR A COMPLETE GROUNDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR.
    - C. WYE-CONNECTED TRANSFORMER SECONDARY SHALL BE GROUNDED TO BUILDING STEEL, COLD WATER PIPING OR A DRIVEN GROUND ROD IN ACCORDANCE WITH CODE REQUIREMENTS FOR DERIVED SYSTEMS.
    - D. CONDUITS TERMINATING AT CABLE TRAYS SHALL BE BONDED TO THE TRAY WITH A #6 BARE COPPER JUMPER.
18. **SPLICES AND TERMINATIONS**
    - A. NO SPLICES OR JOINTS WILL BE PERMITTED IN EITHER FEEDER OR BRANCHES EXCEPT AT OUTLETS OR ACCESSIBLE TERMINAL, SPLICE OR JUNCTION BOXES.
    - B. ALL MATERIALS REQUIRED FOR MAKING SPLICES AND/OR TERMINATIONS SHALL BE SUPPLIED IN COMPLETE KITS NOT OLDER THAN 6 MONTHS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR ENSURING THAT ALL MATERIALS FURNISHED WILL NOT ADVERSELY AFFECT THE PHYSICAL OR ELECTRICAL PROPERTIES OF OTHER MATERIALS FURNISHED OR OF THE WIRE OR CABLE ITSELF.
    - C. WHERE THE CONTRACTOR MAKES CONNECTIONS TO EXISTING WIRES, HE SHALL OPEN AND DISCONNECT THE EXISTING SPLICES FROM SUCH WIRES AND INSTALL NEW SPLICES TO INCLUDE THE EXISTING WIRES AS REQUIRED.
    - D. ALL SPLICES FOR WIRE SIZES #10 AWG AND SMALLER SHALL BE MADE WITH INSULATED SPRING CONNECTOR APPLIED TO TWISTED CONDUCTORS. TWO HALF LAPPED LAYERS OF VINYL TAPE EXTENDING A DISTANCE OF NOT LESS THAN ONE INCH FROM THE CONNECTOR SHALL BE APPLIED. SPLICES OTHER THAN THE AFOREMENTIONED WILL BE PERMITTED AT THE DISCRETION OF THE ENGINEER.
    - E. ALL SPLICES FOR WIRE SIZES #8 AWG AND LARGER SHALL BE MADE WITH COMPRESSION TYPE CONNECTORS WITH PRE-MOLDED COVER OVER WHICH TWO HALF LAPPED LAYERS OF VINYL TAPE EXTENDING A DISTANCE OF NOT LESS THAN ONE (1) INCH FROM THE CONNECTOR SHALL BE APPLIED.
19. **IDENTIFICATION OF WORK**
    - A. ALL PANELBOARDS, EQUIPMENT AND CABINETS SPECIFIED HEREIN SHALL BE CLEARLY IDENTIFIED WITH THE EQUIPMENT DESIGNATION, VOLTAGE AND AMPERE RATING, FUSE RATING, EQUIPMENT SERVED AND ORIGIN OF THE INCOMING FEED. IDENTIFICATION SHALL BE WHITE ON BLACK PLASTIC NAMEPLATE WITH 1/2" MINIMUM LETTERING ATTACHED BY SCREWS.
    - B. FACEPLATES OF SWITCHES FOR EQUIPMENT SUCH AS REMOTE FANS AND MOTORIZED SCREENS SHALL BE IDENTIFIED WITH THE NAME OF THE DEVICE CONTROLLED AND FACEPLATES OF RECEPTACLES SHALL BE IDENTIFIED WITH THE NAME OF THE PANEL AND CIRCUIT IT IS SERVED WITH. IDENTIFICATION SHALL BE BY INDELIBLE MARKER IN CONCEALED LOCATIONS AND ADHESIVE LABELS IN EXPOSED LOCATIONS. EMERGENCY DEVICES SHALL BE IDENTIFIED IN RED.
    - C. EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF TERMINATION AT THE OPPOSITE END.
    - D. BALLAST COMPARTMENTS FOR FIXTURES OPERATING AT GREATER THAN 120 VOLTS SHALL BE IDENTIFIED WITH A BRIGHT ORANGE ADHESIVE WARNING LABEL INDICATING VOLTAGE.
    - E. ALL WIRES SHALL BE IDENTIFIED BY PANEL AND CIRCUIT NUMBER AT ALL TERMINATION AND SPLICE POINTS BY THE USE OF BRADY B-500 VINYL CLOTH TAPE OR EQUIVALENT METHOD.
    - F. ALL JUNCTION BOXES SHALL BE IDENTIFIED WITH PANEL AND CIRCUIT NUMBERS OF ALL CIRCUITS OR NAME OF COMMUNICATIONS SYSTEM CABLING CONTAINED WITHIN. JUNCTION BOXES IN EXPOSED LOCATIONS SHALL BE CLEARLY MARKED WITH IDENTIFYING LABELS. JUNCTION BOXES IN CONCEALED LOCATIONS SHALL BE MARKED WITH A BOLD, INDELIBLE MARKING PEN. LETTERING SHALL BE NEATLY AND LEGIBLY PRINTED, JUNCTION BOXES ON EMERGENCY SERVICE SHALL BE PAINTED RED AND LABELED AS EMERGENCY.
    - G. CONDUIT RUNS FOR BRANCH CIRCUITING AND/OR COMMUNICATIONS CABLING SHALL BE IDENTIFIED AT EVERY 50 FEET OF LENGTH AND AT EACH OUTLET AND PULL BOX WITH CIRCUIT NUMBER OR SYSTEM NAME.
20. **CUTTING AND PATCHING**
    - A. ALL CUTTING AND PATCHING REQUIRED FOR EQUIPMENT INCLUDED IN THESE SPECIFICATIONS SHALL BE DONE BY THIS CONTRACTOR.
    - B. THIS CONTRACTOR SHALL NOT DO ANY CUTTING THAT MAY IMPAIR THE STRENGTH OF BUILDING CONSTRUCTION. NO HOLES ARE TO BE DRILLED INTO ANY STRUCTURAL MEMBERS. CLAMPS OR OTHER APPROVED HOLDING DEVICES ARE TO BE USED.
    - C. ALL CUTTING OF EXISTING FLOORS, CEILINGS AND WALLS SHALL BE PERFORMED IN A MANNER SO AS TO MINIMIZE DAMAGE TO ADJACENT MATERIALS. PATCHING OF ALL SURFACES SHALL BE PERFORMED IN A MANNER APPROVED BY THE ARCHITECT TO INSURE COMPLETE MATCHING WITH ADJACENT FINISHES AFTER FINAL TREATMENT OF SURFACES.
21. **CORE DRILLING**
    - A. CONTRACTOR SHALL SUBMIT PROPOSED FLOOR CORE LOCATIONS FOR POKE THRU DEVICES TO THE BASE BUILDING STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO STARTING.
    - B. ALL DRILLING OF THE CONCRETE SLAB IS PERMITTED DURING OVERTIME HOURS ONLY. COORDINATE ALL DRILLING WORK WITH BUILDING MANAGEMENT PRIOR TO CONSTRUCTION.
    - C. FOR REMOVED OR ABANDONED FLOOR OUTLETS, THE CONCRETE SLAB SHALL BE FILLED WITH NON-SHRINK GROUT AND PROPERLY PINNED/BONDED TO THE EXISTING SLAB. THE FILLED HOLE SHALL BE ADJUSTED TO GRADE LEVEL.
    - D. CONTRACTOR SHALL USE A BAR LOCATOR TO DETERMINE IF REBARS INTERFERE WITH PROPOSED HOLE. IF THERE IS INTERFERENCE, THE CORE HOLE SHALL BE SHIFTED TO A NEW LOCATION ACCEPTABLE TO THE TENANT, STRUCTURAL ENGINEER, AND ARCHITECT.
    - E. WHEN AN EXISTING HOLE IS TO BE REACTIVATED, INSPECT TO SEE IF REBARS HAVE BEEN CUT. IF REBARS HAVE BEEN CUT, INFORM THE GENERAL CONTRACTOR TO PROCEED TO REPAIR REBARS. PROCEED WITH A NEW CORE HOLE AS DESCRIBED ABOVE.
    - F. PRIOR TO ANY FLOOR OR CEILING PENETRATION BEING CONDUCTED, THE FLOOR SHALL BE X-RAYED TO CONFIRM THAT MODIFICATIONS WILL NOT IMPACT THE STRUCTURAL INTEGRITY OF THE BUILDING. RESULTS AND PRPOSED INSTALLATION SHALL BE REVIEWED AND APPROVED BY BUILDING MANAGEMENT, BUILDING APPROVED STRUCTURAL ENGINEER, AND OWNERSHIP PRIOR TO PENETRATIONS BEING MADE.
22. **SEALING OF PENETRATIONS**
    - A. ALL PENETRATIONS OF WALLS, FLOORS, CEILINGS, OR FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED IN AN APPROVED UL LISTED MANNER TO PROVIDE SAME RATING AS FLOOR, WALL, OR CEILING ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF FIRE RATED PARTITIONS.
23. **HANGERS AND SUPPORTS**
    - A. THREADED RODS SHALL BE FULLY GALVANIZED, MINIMUM 3/8" DIAMETER. MODULAR CHANNEL SUPPORTS SHALL BE GALVANIZED STEEL. SUPPORT CLIPS AND FASTENERS SHALL BE LISTED AND APPROVED FOR THE APPLICATION. STRAPS AND CLAMPS SHALL BE MALLEABLE IRON.
    - B. SUPPORTS SHALL BE SIZED TO ACCOMMODATE THE LOAD REQUIRED PLUS 200 POUNDS. ALL WORK SHALL BE SUPPORTED INDEPENDENTLY OF THE WORK OF OTHER TRADES, INCLUDING CEILING SYSTEM SUPPORTS.
    - C. PANELS AND EQUIPMENT LOCATED ON OTHER THAN MASONRY WALLS SHALL BE MOUNTED WITH MODULAR CHANNEL SUPPORTS SECURED TO THE BUILDING STRUCTURE.
    - D. APPROVED SEISMIC RESTRAINTS RATED TO RESIST 1/2G OF FORCE SHALL BE FURNISHED FOR ALL ELECTRICAL WORK WHERE REQUIRED BY LOCAL BUILDING CODES AND THE AUTHORITIES HAVING JURISDICTION.
24. **POWER INTERRUPTION NOTE**
    - A. ELECTRICAL POWER MUST BE SHUT OFF PRIOR TO THE CONTRACTOR PERFORMING ANY WORK IN RACEWAYS WITH LIVE ELECTRICAL CIRCUITS OR ANY OTHER LIVE ELECTRICAL CIRCUITS OR EQUIPMENT. ANY POWER INTERRUPTION SHALL BE COORDINATED WITH THE OWNER AND BUILDING OPERATING PERSONNEL, PROVIDING A MINIMUM OF SEVEN (7) DAYS ADVANCE NOTICE.
    - B. TAPS INTO LIVE RISERS ARE NOT PERMITTED.
25. **FINAL CLEANUP AND FIELD TESTS**
    - A. AFTER COMPLETION OF THE ENTIRE ELECTRICAL INSTALLATION:
      - 1) THE CONTRACTOR, PRIOR TO FINAL ACCEPTANCE, SHALL CLEAN ALL PANELS, SWITCHES, CABINETS, DEVICES PLATES, FIXTURES AND OTHER ITEMS FURNISHED UNDER THIS CONTRACT AND SHALL ENSURE THAT ALL PANELBOARD DIRECTORIES ARE IN PLACE AND COMPLETED OR REVISED AS REQUIRED BY THE WORK, AND THAT ALL IDENTIFICATION AND MARKING OF EQUIPMENT, CABLES, RECEPTACLES, JUNCTION BOXES, AND OTHER ITEMS IS COMPLETED.
      - 2) THE CONTRACTOR SHALL REPAIR OR REPLACE, AS DIRECTED BY THE ENGINEER, ANY ITEM DAMAGED DUE TO INSTALLATION OR RELOCATION OF EQUIPMENT OR DEVICES AT NO ADDITIONAL COST TO THE OWNER.
    - B. IN ADDITION TO OTHER TESTS WHICH MAY BE REQUIRED BY OTHER DIVISIONS, PERFORM FIELD TESTS TO DEMONSTRATE THE PROPER FUNCTIONING OF THE ELECTRICAL INSTALLATION. SUBMIT REPORT TO THE ENGINNER FOR REVIEW. REQUIRED FIELD TESTS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
      - 1) OPERATION OF ALL ELECTRICAL EQUIPMENT FOR A PERIOD OF 24 HOURS WITHOUT INTERRUPTION.
      - 2) 1,000 VOLT MEGOHMMETER TEST FOR ALL WIRES AND CABLES OVER 100 AMPS. CONTRACTOR SHALL FURNISH A TEST REPORT TO THE ENGINEER INDICATING TEST METHOD USED AND RESULTS.
    - C. ALL DEFECTIVE FIXTURES CABLES OR OTHER EQUIPMENT ENCOUNTERED DURING THE COURSE OF TESTING SHALL BE PROMPTLY REPLACED AND RETESTED TO THE SATISFACTION OF THE ENGINEER.
    - D. ELECTRIC WIRING TO FIRE ALARM SYSTEMS FOR INSTALLATION AND RELOCATION OF FIRE ALARM DEVICES SHALL BE APPROVED BY THE FIRE DEPARTMENT. CONTRACTOR MUST FILE FORM(S) (APPLICATION FOR ELECTRICAL INSPECTION) WITH THE FIRE DEPARTMENT. A WRITE-OFF MUST BE GIVEN TO THE BUILDING MANAGER AT THE COMPLETION OF JOB.
26. **UNIT PRICE NOTES**
    - A. CONTRACTOR IS TO SUBMIT UNIT PRICES FOR THE FOLLOWING LISTED ITEMS:
      - 1) ALL CONDUITS REQUIRED FOR THIS JOB
      - 2) ALL RECEPTACLES, WALL AND WORKSTATION MOUNTED
      - 3) ALL LIGHT FIXTURES
      - 4) ALL SWITCHES
      - 5) TELEPHONE OUTLETS
27. **PROJECT CLOSEOUT**
    - A. AFTER COMPLETION OF PROJECT AND PRIOR TO REQUESTING FINAL PAYMENT, THE CONTRACTOR SHALL GIVE WRITTEN NOTICE THAT THE FOLLOWING ITEMS HAVE BEEN COMPLETED:
      - 1) REQUIRED AGENCY APPROVAL AND SIGN OFF.
      - 2) FINAL CLEANING AND ADJUSTMENT OF LIGHTING FIXTURES AND EQUIPMENT.
      - 3) RESOLUTION OF OUTSTANDING SUBMITTALS AND PUNCH LIST ITEMS.
      - 4) AS-BUILT DRAWINGS AND BEEN ACCEPTED BY THE DESIGN TEAM.
      - 5) TURNOVER OF SPARE LAMPS, KEYS, AND ANY REQUIRED SPARE PARTS OR TOOLS.
      - 6) SYSTEM STARTUP, TESTING, AND ADJUSTMENT.
      - 7) MANUFACTURER'S CERTIFICATIONS, WARRANTIES AND OPERATING AND MANTENIENCE MANUALS.
      - 8) DEMONSTRATIONS, TRAINING, AND OWNER INSTRUCTION.

OWASA Security
Fence & Gate

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11/7/2023

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ISSUE	DATE
CONSTRUCTION	11.06.23

PHASE

SCALE: NOT TO SCALE
DATE DRAWN 10/31/23

ELECTRICAL SPECIFICATIONS

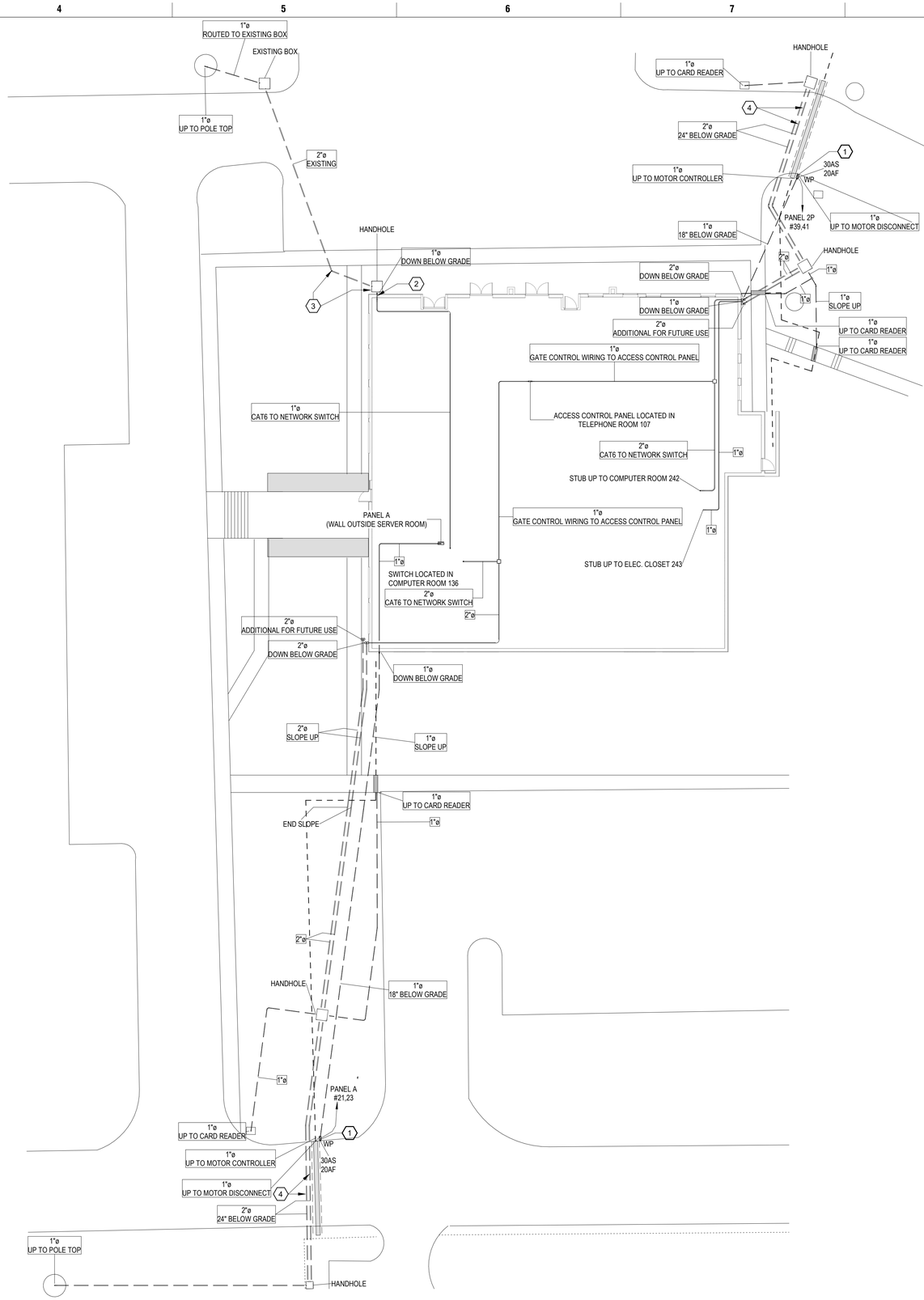
E-002

GENERAL NOTES

1. REFER TO DRAWING E-001 FOR ELECTRICAL NOTES AND SYMBOLS.
2. FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL POWER, TELEPHONE AND DATA OUTLETS SEE ARCHITECTURAL DRAWINGS. CIRCUIT NUMBERS INDICATED ARE FOR IDENTIFICATION PURPOSES ONLY.
3. CONTRACTOR SHALL VERIFY THE EXACT CIRCUIT NUMBER IN THE FIELD, WHEN BRANCH CIRCUITS ARE INDICATED TO BE CONNECTED TO EXISTING PANELBOARDS. REFER TO PANELBOARD DESIGNATION LEGEND ON THIS DRAWING FOR PANELBOARD ABBREVIATIONS AND CORRESPONDING PANELBOARD NAMES.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUITS, WIRING, AND JUNCTION BOXES TO ENERGIZE EQUIPMENT INDICATED.
5. ALL BRANCH WIRING SHALL BE CONCEALED IN WALLS AND ABOVE HUNG CEILING, U.O.N.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK. CONTRACTOR TO FURNISH AND INSTALL ALL NECESSARY WIRES, CONDUIT, AND JUNCTION BOXES REQUIRED TO KEEP CONTINUITY.
7. CONDUIT ROUTING SHOWN FOR DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING IN THE FIELD AND WITH OTHER TRADES. PRIOR TO INSTALLATION, APPROVAL FOR ALL CONDUIT ROUTING IN THE SLAB OF THE FLOOR SHALL BE OBTAINED FROM THE BASE BUILDING STRUCTURAL ENGINEER AND BUILDING MANAGEMENT.
8. COORDINATE WITH OTHER CONTRACTORS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED AND/OR WIRED UNDER THIS SECTION.

KEYNOTES

1. COORDINATE CONDUIT ROUTING AND CONNECTION TO GATE OPERATOR (HYSECURITY SLIDEDRIVER) WITH GATE INSTALLATION CONTRACTOR. REFER TO HYSECURITY INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION.
2. CONDUIT SHOULD PENETRATE WALL BETWEEN 1' AND 2' ABOVE GRADE. CONFIRM EXACT LOCATION WITH BUILDING MANGEMENT PRIOR TO INSTALLATION.
3. MODIFY AND EXTEND CONDUIT ROUTING TO RELOCATE EXISTING STUB UP TO HANDHOLE LOCATION AS SHOWN ON PLANS. COORDINATE EXACT LOCATION WITH BUILDING MANAGEMENT PRIOR TO RELOCATION.
4. CONDUITS ROUTED UNDERNEATH ROADWAY SHALL BE LOCATED BENEATH SPEED HUMP. ROUTING SHALL BE COORDINATED TO LIMIT THE CUTTING AND PATCHING OF PAVEMENT. COORDINATE ROUTING WITH BUILDING MANAGEMENT AND OTHER TRADES PRIOR TO INSTALLATION.



1 POWER - LEVEL 1
1/16" = 1'-0"

N

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11/7/2023

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CONSTRUCTION 11.06.23
ISSUE DATE

PHASE

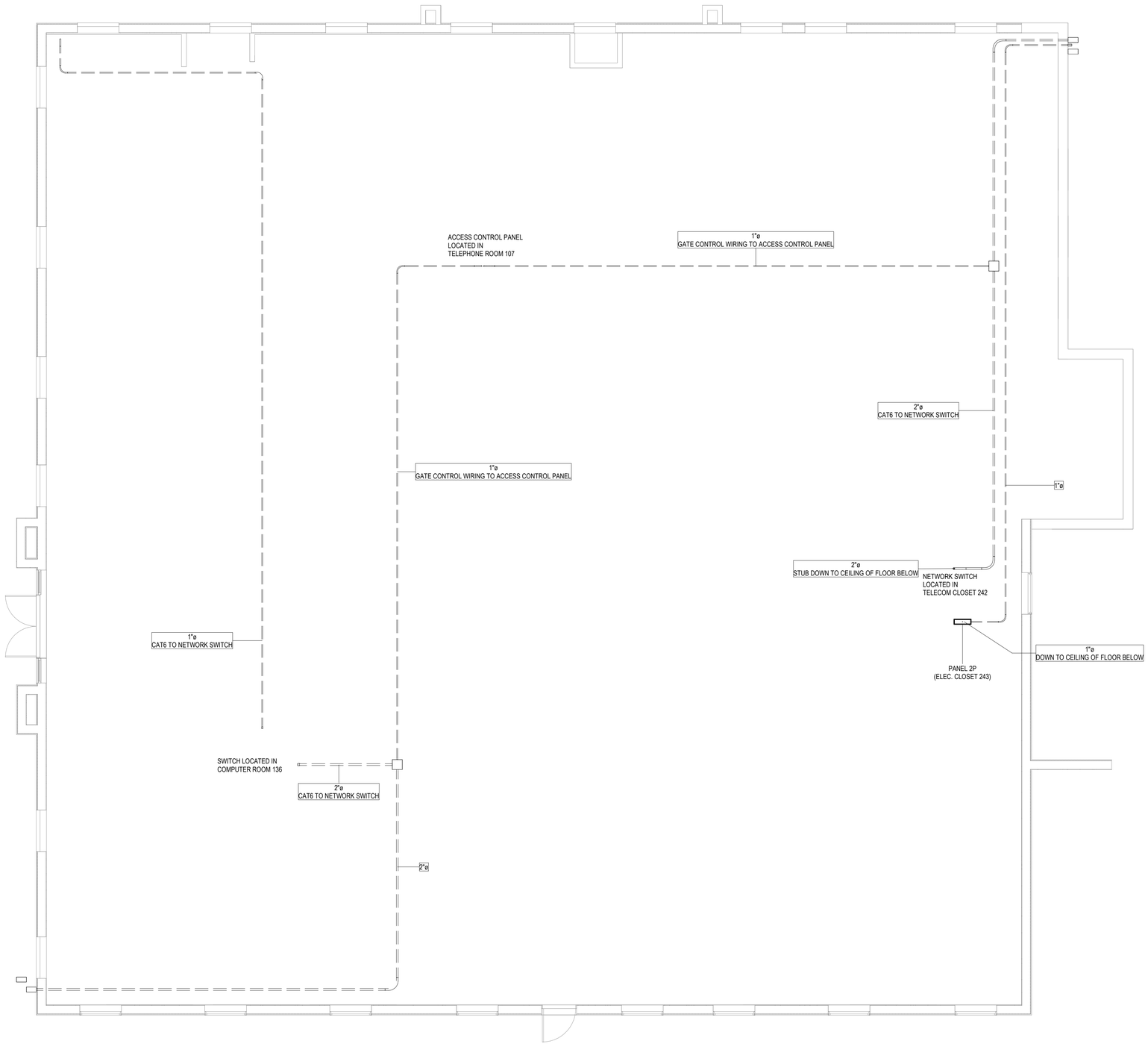
SCALE: 1/16" = 1'-0"
DATE DRAWN 09/21/22

LEVEL 1 POWER PLAN

E-301

GENERAL NOTES

1. REFER TO DRAWING E-001 FOR ELECTRICAL NOTES AND SYMBOLS.
2. FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL POWER, TELEPHONE AND DATA OUTLETS SEE ARCHITECTURAL DRAWINGS. CIRCUIT NUMBERS INDICATED ARE FOR IDENTIFICATION PURPOSES ONLY.
3. CONTRACTOR SHALL VERIFY THE EXACT CIRCUIT NUMBER IN THE FIELD, WHEN BRANCH CIRCUITS ARE INDICATED TO BE CONNECTED TO EXISTING PANELBOARDS. REFER TO PANELBOARD DESIGNATION LEGEND ON THIS DRAWING FOR PANELBOARD ABBREVIATIONS AND CORRESPONDING PANELBOARD NAMES.
4. CONTRACTOR SHALL FURNISH AND INSTALL ALL REQUIRED CONDUITS, WIRING, AND JUNCTION BOXES TO ENERGIZE EQUIPMENT INDICATED.
5. ALL BRANCH WIRING SHALL BE CONCEALED IN WALLS AND ABOVE HUNG CEILING, U.O.N.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY TO ALL EXISTING CIRCUITRY TO REMAIN WHICH ARE AFFECTED BY THE SCOPE OF WORK. CONTRACTOR TO FURNISH AND INSTALL ALL NECESSARY WIRES, CONDUIT, AND JUNCTION BOXES REQUIRED TO KEEP CONTINUITY.
7. CONDUIT ROUTING SHOWN FOR DIAGRAMMATIC PURPOSES ONLY. CONTRACTOR SHALL COORDINATE EXACT CONDUIT ROUTING IN THE FIELD AND WITH OTHER TRADES. PRIOR TO INSTALLATION, APPROVAL FOR ALL CONDUIT ROUTING IN THE SLAB OF THE FLOOR SHALL BE OBTAINED FROM THE BASE BUILDING STRUCTURAL ENGINEER AND BUILDING MANAGEMENT.
8. COORDINATE WITH OTHER CONTRACTORS FOR EQUIPMENT TO BE SUPPLIED BY OTHER TRADES AND INSTALLED AND/OR WIRED UNDER THIS SECTION.



1 POWER - LEVEL 2
3/16" = 1'-0"

N

OWASA Security Fence & Gate

CLIENT/OWNER
OWASA
919.968.4421

ELECTRICAL ENGINEER
LORING ENGINEERS
919.355.5500

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029437 ENGINEER EDMUND H. MORGAN
11/7/2023

THOUGHTCRAFT ARCHITECTS
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Boston, MA | 617.848.2602

ISSUE DATE

PHASE

SCALE: 3/16" = 1'-0"
DATE DRAWN 10/11/23

LEVEL 2 POWER PLAN

E-302