GENERAL ELECTRICAL NOTES & SPECIFICATIONS

1. ALL WORK TO BE IN ACCORDANCE WITH FEDERAL, STATE, LOCAL AND THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE (NEC).

2. MINIMUM CONDUIT SIZE SHALL BE 3/4" U.N.O.

3. ALL FEEDERS AND BRANCH CIRCUITS (POWER, LIGHTING, SIGNAL, ETC.) SHALL HAVE GREEN INSULATED GROUND WIRE INSTALLED WITH CIRCUIT CONDUCTORS. DO NOT RELY SOLELY ON METAL RACEWAYS FOR EQUIPMENT GROUND.

4. SPLICING: 1) SOLID CONDUCTORS, #10 AWG & SMALLER, SHALL BE SPLICED BY TWISTING SECURELY AND USING IDEAL "WIRENUTS", 3M CO. "SCOTCHLOCK", OR THOMAS & BETTS CONNECTORS FOR BRANCH CIRCUIT SPLICES (#10 & #12) IN JUNCTION BOXES, OUTLET BOXES AND LIGHTING FIXTURES. "STA-KON" OR OTHER PERMANENT TYPE CRIMP CONNECTORS SHALL NOT BE USED FOR BRANCH CIRCUIT CONNECTIONS. 2) STRANDED CONDUCTORS, #8 AWG & LARGER, SHALL BE SPLICED BY APPROVED MECHANICAL CONNECTORS GUM RUBBER TAPE OR FRICTION TAPE. SOLDERLESS MECHANICAL CONNECTORS FOR SPLICES AND TAPS, PROVIDED WITH UL APPROVED INSULATING COVERS, MAY BE USED INSTEAD OF MECHANICAL CONNECTORS PLUS TAPE. CONDUCTORS, IN ALL CASES, SHALL BE CONTINUOUS FROM OUTLET TO OUTLET AND NO SPLICING SHALL BE MADE EXCEPT WITHIN OUTLET OR JUNCTION BOXES, TROUGHS AND GUTTERS.

5. DISCONNECTS, MOTOR CONTROLLERS, MOTOR RATED AND MOTOR SENTINEL SWITCHES, ETC. FOR HVAC EQUIPMENT SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. THE ELECTRICAL CONTRACTOR SHALL PROVIDE POWER WIRING TO THE LINE SIDE ONLY. THE MECHANICAL CONTRACTOR SHALL PROVIDE WIRING FROM THE LOAD SIDE OF THE DISCONNECTS, CONTROLLERS, ETC. INTO THE EQUIPMENT. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONTROL WIRING TO THEIR EQUIPMENT. DISCONNECTS FOR OTHER EQUIPMENT SHALL BE FURNISHED, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE NOTED. ALL DISCONNECTS SHALL BE RATED AS "HEAVY DUTY" AND FUSED OR NON-FUSED AS REQUIRED.

6. THE USE OF "LB's" SHALL BE LIMITED WHERE POSSIBLE. WHERE NECESSARY TO USE "LB's" IN SIZES ABOVE 2", MOGUL UNITS SHALL BE INSTALLED.

7. E.C. SHALL NOTIFY THE OFFICE OF THE LOCAL ELECTRICAL INSPECTOR TO SCHEDULE REQUIRED INSPECTIONS.

8. INTERIOR WIRING SHALL BE RUN CONCEALED IN RIGID GALVANIZED STEEL CONDUIT (OR INTERMEDIATE METALLIC CONDUIT). IN DRY LOCATIONS, AND WHERE DANGER OF PHYSICAL DAMAGE IS MINIMIZED, ELECTRIC METALLIC TUBING UP TO 2" TRADE SIZE MAY BE USED. RIGID OR IMC SHALL BE INSTALLED WHERE ROUTED IN OR UNDER POURED CONCRETE, IN EXTERIOR MASONRY WALLS, OR IN WET LOCATIONS WHERE SUBJECT TO SEVERE PHYSICAL DAMAGE OR WHERE CONDUIT TRADE SIZE IS 2-1/2 INCHES OR LARGER. CONDUIT TERMINATIONS: (1) IMC (INTERMEDIATE METAL CONDUIT) AND RMC (RIGID METAL CONDUIT) SHALL TERMINATE WITH EITHER A DOUBLE LOCKNUT/BUSHING SET, OR IN A THREADED HUB. (2) WHERE CONCENTRIC, ECCENTRIC OR OVER-SIZED KNOCKOUTS ARE ENCOUNTERED, A GROUNDING-TYPE INSULATED BUSHING SHALL BE PROVIDED. (3) EMT TERMINATIONS SHALL BE MADE UTILIZING STEEL-PLATED HEXAGONAL COMPRESSION CONNECTORS WITH INSULATED THROAT AND COMPRESSION COUPLINGS. NO POT METAL, SET SCREW OR INDENTED TYPE FITTINGS SHALL BE UTILIZED. INSULATED THROAT CONNECTORS WILL BE REQUIRED AT ALL CONDUIT TERMINATIONS OF 1" OR LESS. PLASTIC BUSHINGS ON NON-INSULATED THROAT CONNECTORS MAY BE USED ON SIZES ABOVE 1". (4) EMT TERMINATIONS SHALL BE "CONCRETE TIGHT" WHERE BURIED IN MASONRY OR CONCRETE. EMT FITTINGS, WHERE INSTALLED IN DAMP LOCATIONS, SHALL BE OF THE "RAINTIGHT" TYPE. WHERE CONDUITS OF ANY TYPE PASS OVER A BUILDING EXPANSION JOINT, A STANDARD "EXPANSION JOINT FITTING", COMPATIBLE WITH THE TYPE OF RACEWAY BEING USED, SHALL BE PROVIDED.

9. ALL CONDUCTORS SHALL BE COPPER. #10 AWG AND SMALLER SHALL BE SOLID. #8 AWG AND LARGER SHALL BE CLASS B STRANDED. MINIMUM WIRE SIZE SHALL BE #12. MAXIMUM WIRE SIZE SHALL BE 600KCM.

10. ALL INSULATION SHALL BE DUAL-RATED TYPE THHN/THWN OR TYPE XHHW.

11. OUTLET BOXES FOR LIGHTING AND APPLIANCE CIRCUITS, WHERE CONCEALED, SHALL BE STAMPED STEEL, GALVANIZED OR CADMIUM PLATED. FOR EXPOSED WORK, TYPE 'FS' OR 'FD' CAST BOXES SHALL BE USED. STAINLESS STEEL, BEVELED TYPE 302 COVER PLATES SHALL BE USED FOR ALL INTERIOR FLUSH MOUNTED DEVICES. FOR EXPOSED WORK, DEVICE PLATES SHALL BE MATCHING, OF THE SAME MANUFACTURER AS THE BOX, AND MATCHING THE OUTLINE OF THE BOX.

12. COLOR CODING OF CONDUCTORS SHALL BE BLACK-RED-BLUE FOR PHASES A-B-C RESPECTIVELY ON SYSTEMS OF LESS THAN 150 VOLTS TO GROUND. NEUTRAL SHALL BE WHITE. USE BROWN-ORANGE-YELLOW FOR PHASES A-B-C RESPECTIVELY ON SYSTEMS OF MORE THAN 150 VOLTS, BUT LESS THAN 300 VOLTS TO GROUND. NEUTRAL SHALL BE NATURAL GRAY. GREEN SHALL BE USED FOR THE EQUIPMENT GROUNDING CONDUCTOR ON BOTH SYSTEMS.

13. RECEPTACLE DEVICES SHALL BE 20 AMP, NEMA GROUNDING TYPE. SWITCHES SHALL BE 20 AMP, 120/277 VOLT. ALL DEVICES, SWITCHES AND RECEPTACLES, SHALL BE EQUIPPED WITH GREEN HEX HEAD GROUNDING SCREW. SWITCHES SHALL HAVE QUIET OPERATING MECHANISMS WITHOUT THE USE OF MERCURY. ALL RECEPTACLES SHALL BE PIG-TAILED WIRED SO THAT THE REMOVAL OF A DEVICE WILL NOT DISRUPT THE REMAINING CIRCUIT. SEE DETAIL ON DRAWINGS.

14. EXPOSED AND CONCEALED CONDUIT (EXCEPT IN SLAB) SHALL BE NEATLY INSTALLED PARALLEL TO, OR AT RIGHT ANGLES TO BEAMS, WALLS AND FLOORS OF THE BUILDING. ALL BENDS SHALL BE MADE WITH STANDARD CONDUIT ELBOWS OR CONDUIT BENT TO NOT LESS THAN THE SAME RADIUS THAN A STANDARD CONDUIT ELBOW. CONDUITS SHALL BE SUPPORTED AT INTERVALS NOT GREATER THAN 10 FEET AND WITHIN 3 FEET OF ANY BEND, CABINET, OUTLET OR JUNCTION BOX. CONDUITS SHALL BE SUPPORTED BY APPROVED PIPE STRAPS OR CLAMPS, SECURED BY MEANS OF TOGGLE BOLTS ON HOLLOW MASONRY; EXPANSION SHIELDS AND MACHINE SCREWS OR STANDARD PRE-SET INSERTS ON CONCRETE OR SOLID MASONRY, MACHINE SCREWS OR BOLTS ON METAL SURFACES, AND WOOD SCREWS ON WOOD CONSTRUCTION.

15. EMT MAY BE UTILIZED AS PERMITTED BY THE NEC, WITH THE FOLLOWING RESTRICTIONS. EMT SHALL NOT BE INSTALLED: (A) WHERE TUBING, COUPLINGS, ELBOWS AND FITTINGS WOULD BE IN DIRECT CONTACT WITH THE EARTH OR UNDERGROUND (IN/BELOW SLAB-ON-GRADE OR IN EARTH). (B) ANY LOCATION OUTDOORS. (C) WHERE EXPOSED TO SEVERE CORROSIVE INFLUENCE AND/OR SEVERE PHYSICAL DAMAGE. EMT FITTINGS SHALL BE ALL PLATED STEEL HEXAGONAL THREADED COMPRESSION TYPE. NO POT METAL, SET SCREW, OR INDENTER FITTINGS SHALL BE USED.

16. SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND CEILINGS. USE U.L. LISTED AND APPROVED FIRE RATED MATERIAL FOR SEALING AROUND PENETRATIONS THROUGH RATED WALLS, FLOORS AND CEILINGS. REFER TO PENETRATION DETAILS AND SPECIFICATIONS FOR MORE INFORMATION.

17. AT COMPLETION OF PROJECT, PROVIDE THE FOLLOWING: 1. INSTRUCT OWNER IN OPERATION OF ALL ELECTRICAL SYSTEMS. 2. ONE SET OF "AS-BUILT" DRAWINGS; 3. TURN OVER ALL OPERATION AND MAINTENANCE MANUALS FOR ELECTRICAL SYSTEMS AND EQUIPMENT TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO SUBMISSION TO THE OWNER.

18. SCHEDULE 40 PVC SHALL NOT BE USED EXPOSED OR CONCEALED IN GYPSUM WALLS, BUT MAY BE USED IN CMU WALLS. SCHEDULE 40 PVC MAY BE USED IN ELEVATED FLOOR SLABS AND FOUNDATION SLABS. MINIMUM CONCRETE COVER SHALL BE 3/4-INCH AT FINISHED OR FORMED SURFACE AND SHALL BE 3-INCHES AT CONCRETE SURFACE CAST AGAINST EARTH OR FOR SLABS PLACED ON-GRADE. GREATER AMOUNTS OF CONCRETE COVER SHALL BE USED IN AREAS SUBJECT TO DAMAGE. THE PLACEMENT OF CONDUIT IN THE FLOOR SLABS MUST BE THOROUGHLY COORDINATED WITH THE GENERAL CONTRACTOR SO AS NOT TO AFFECT THE STRUCTURAL INTEGRITY OF THE BUILDING.

19. UNDERGROUND RACEWAYS:
(1) RACEWAYS RUN EXTERNAL TO BUILDING FOUNDATION WALLS, WITH THE EXCEPTION OF BRANCH CIRCUIT RACEWAYS, SHALL BE ENCASED WITH A MINIMUM OF THREE (3) INCHES OF CONCRETE ON ALL SIDES.
A. ENCASED RACEWAYS MUST HAVE A MINIMUM COVER OF TWENTY-FOUR (24) INCHES.
B. ENCASED RACEWAYS SHALL BE OF A TYPE APPROVED BY THE NEC AS "SUITABLE FOR CONCRETE ENCASEMENT."
(2) BRANCH CIRCUIT RACEWAYS RUN UNDERGROUND EXTERNAL TO BUILDING FOUNDATION WALLS SHALL BE RUN IN RACEWAYS INSTALLED IN ACCORDANCE WITH THE NEC, AND SHALL BE OF A TYPE APPROVED BY THE NEC AS "SUITABLE FOR DIRECT BURIAL." MINIMUM RACEWAY SIZE SHALL BE 3/4 INCH.
(3) ALL UNDERGROUND RACEWAYS SHALL BE IDENTIFIED BY UNDERGROUND LINE MARKING TAPE LOCATED DIRECTLY ABOVE THE RACEWAY AT 6 TO 8 INCHES BELOW FINISHED GRADE. TAPE SHALL BE PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED, PLASTIC TAPE COMPOUNDED FOR DIRECT BURIAL NOT LESS THAN 6 INCHES WIDE AND 4 MILS THICK. PRINTED LEGEND SHALL BE INDICATIVE OF GENERAL TYPE OF UNDERGROUND LINE BELOW.
(4) RACEWAYS RUN UNDERGROUND INTERNAL TO BUILDING FOUNDATION WALLS SHALL BE OF A TYPE AND INSTALLED BY A METHOD APPROVED BY THE NEC.
(5) WHERE UNDERGROUND RACEWAYS ARE REQUIRED TO TURN UP INTO CABINETS, EQUIPMENT, ETC., AND ON TO POLES, THE ELBOW REQUIRED AND THE STUB-UP OUT OF THE SLAB OR EARTH SHALL BE OF RIGID STEEL.
(6) THE RACEWAY SYSTEM SHALL NOT BE RELIED ON FOR GROUNDING CONTINUITY.
(7) WHERE PASSING THROUGH A "BELOW GRADE" WALL FROM A CONDITIONED INTERIOR BUILDING SPACE, RACEWAYS SHALL BE SEALED UTILIZING FITTINGS SIMILAR AND EQUAL TO OZ/GEDNEY TYPE "FSK" THRU-WALL FITTING WITH "FSKA" MEMBRANE CLAMP ADAPTER IF REQUIRED.

20. DEMOLITION: THE ELECTRICAL CONTRACTOR SHALL PROVIDE DEMOLITION (REMOVAL AND ABANDONMENT OF ALL EXISTING ELECTRICAL ITEMS). THIS INCLUDES REMOVING PANELS, BOXES, CONDUIT, WIREMOLD, WIRING, LIGHTING FIXTURES, DEVICES, ETC. TO ACCOMMODATE NEW OR RENOVATED CONSTRUCTION. CONDUIT AND BOXES SHALL BE REMOVED WHERE PRACTICAL WITHOUT CREATING ADDITIONAL DEMOLITION/RESTITUTION WORK FOR OTHER TRADES. PROVIDE BLANK COVERS ON ALL UNUSED JUNCTION AND/OR OUTLET BOXES. THE OWNER SHALL HAVE FIRST RIGHT OF REFUSAL FOR ALL ITEMS THAT ARE REMOVED FROM THE BUILDING. ANY ITEMS THAT THE OWNER DOES NOT WISH TO KEEP SHALL BE COMPLETELY REMOVED FROM THE JOB SITE AND PROPERLY DISPOSED OF BY THE ELECTRICAL CONTRACTOR. COMPLY WITH THE MOST RECENT POLICES RELATED TO RECYCLING AND/OR DISPOSAL OF HAZARDOUS WASTES AS SET FORTH IN ENVIRONMENTAL PROTECTION AGENCY (EPA) FOR RESOURCE CONSERVATION AND RECOVERY ACT (RCRA).

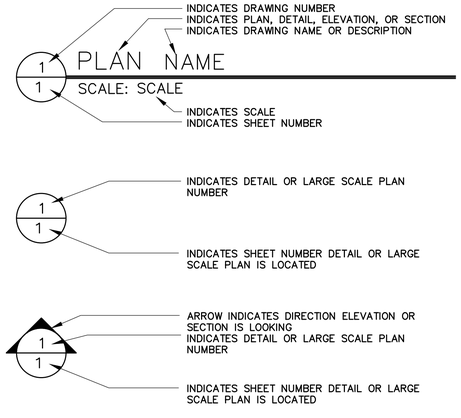
ALL UNUSED CONDUITS, BOXES, BRACKETS, HANGERS, ETC. SHALL BE COMPLETELY REMOVED IN ALL AREAS. SOME CONDUITS MAY BE REUSED IF: A. IN WORKING CONDITION (NOT KINKED OR OTHERWISE DAMAGED). B. PROPERLY SIZED TO ACCOMMODATE NEW CONDUCTORS. C. LOCATED SO THEY WILL NOT INTERFERE WITH NEW CONSTRUCTION AND/OR EQUIPMENT/ITEMS OF OTHER TRADES.

WHERE CONDUITS ARE REMOVED BACK TO WALLS, AND NO FURTHER REMOVAL CAN BE PERFORMED, THE CONDUITS SHALL BE FITTED WITH A CAP OR PLUG TO SEAL THE ENDS.

WHERE CONDUITS ARE REMOVED TO THE CONCRETE FLOOR, AND NO FURTHER REMOVAL CAN BE PERFORMED, THE CONDUIT SHALL BE REMOVED TO A POINT THAT IS A MINIMUM OF 2" BELOW FINISH FLOOR LEVEL AND PLUGGED OR SEALED TO PREVENT ENTRY OF FOREIGN MATTER. THIS WILL ALLOW THE FLOOR TO BE PATCHED BACK TO ORIGINAL CONDITION (AS MUCH AS POSSIBLE). COORDINATE THIS WORK WITH THE GENERAL CONTRACTOR TO VERIFY EXACTLY HOW FAR CONDUITS WILL NEED TO BE CUT BELOW THE FINISH FLOOR IN ORDER FOR THE GENERAL CONTRACTOR TO PROPERLY PATCH THE FLOOR.

21. EACH 120-VOLT BRANCH CIRCUIT SHALL BE EQUIPPED WITH A SEPARATE NEUTRAL. NO MULTI-WIRE BRANCH CIRCUITS (SHARED NEUTRALS) WILL BE ALLOWED.

22. IT IS THE INTENT THAT THE WORK SPECIFIED HEREIN SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE WORK, SHALL BE PROVIDED TO MAKE ALL SYSTEMS FULLY OPERATIONAL.



GENERAL DEMOLITION NOTES

1. IN GENERAL, THE DEMOLITION PLANS SHOWN ALL EXISTING EQUIPMENT TO BE REMOVED, HOWEVER, ELECTRICAL EQUIPMENT, WHETHER SHOWN ON THIS DRAWING OR NOT THAT IS LOCATED IN REMOVED WALL, FLOOR SHALL BE REMOVED UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. HE SHALL BE THOROUGHLY FAMILIARIZED HIMSELF WITH THESE CONDITIONS.
3. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE ALL EXISTING RECEPTACLES, ELECTRICAL EQUIPMENT, ETC., AFFECTED BY THE REMODELED AREA.
4. ALL FIRE ALARM DEVICES ARE TO BE REMOVED AND REINSTALLED. REWORK WIRING AS NEEDED. ALL UN-USED CONDUIT, WIRING SHALL BE REMOVED BACK TO THE SOURCE AND DISCARD. U.N.O.
5. ALL COMMUNICATION DEVICES ARE TO BE REMOVED. REMOVE CONDUIT AND WIRING BACK TO THE SOURCE AND DISCARD. U.N.O.
6. ALL ABANDONED OUTLETS INCLUDING RECEPTACLES, TELEPHONE, DATA, ETC., SHALL BE COVERED AND PATCHED TO MATCH THE FINISH OF SURROUNDING WALL OR CEILING TO THE SATISFACTION OF THE OWNER. COORDINATE WITH ARCHITECT AND G.C.

GENERAL CONSTRUCTION/CODE NOTES

1. LINK TRADE PERMITS WITH THE BUILDING PERMIT.
2. ALL PRE-WIRED EQUIPMENT SHALL BE LISTED BY STATE OF NC APPROVED 3RD PARTY AGENCY, [NEC 90.7;110.3(B)]
3. CLEARANCE REQUIRED AT ELECTRICAL EQUIPMENT, (NEC 110.26)
4. ALL GROUNDING AND BONDING REQUIRED TO COMPLY WITH NEC ARTICLE 250, (NEC 250.1)
5. FLEXIBLE CORDS SHALL NOT PASS THROUGH CEILINGS, WALLS OR FLOORS, (NEC 400.8)
6. ALL WIRING, INCLUDING LOW VOLTAGE, DATA, PHONE, FIRE ALARM, SECURITY, HVAC CONTROLS, AND POWER SHALL BE PERMITTED AND INSPECTED PER NC GENERAL STATUTES PER COUNTY, AND CITY ORDINANCE.
7. ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES, AND EQUIPMENT SHALL BE LABEL LISTED BY A NORTH CAROLINA APPROVED THIRD PARTY TESTING AGENCY.

ALLOWANCES

THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BASE BID A CONTINGENCY ALLOWANCE OF $10,000.00. ALL MONEY NOT APPROVED BY CHANGE ORDER SHALL BE REFUNDED TO THE OWNER.

ELECTRICAL DRAWING INDEX

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business est. 1964

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15886 01/16/25 CHRISTOPHER R. STROUP III

WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

DATE 01/16/2025
CES LICENSE NO. F-0238

SHEET TITLE: ELECTRICAL COVER SHEET
DRAWN BY: PN
APPROVED BY: CRS
PROJECT NO. 44108
REVISION
REVISION
REVISION

SHEET NUMBER E0.0

ELECTRICAL ABBREVIATIONS

ABBREV	DESCRIPTION
1P	ONE POLE
2P	TWO POLE
3P	THREE POLE
4P	FOUR POLE
A	AMPERE
AC	ALTERNATING CURRENT
AF	AMP FRAME
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CU	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EMER	EMERGENCY
EOL	END OF LINE
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
(E)	EXISTING
F	FLUSH
FA	FIRE ALARM
FBO	FURNISHED BY OTHERS
FC	FIRE PROTECTION CONTRACTOR
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FMC	FLEXIBLE METALLIC CONDUIT
FURN	FURNITURE
FWE	FURNISHED WITH EQUIPMENT
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFPE	GROUND FAULT PROTECTION EQUIP.
GND	GROUNDED
GRC	GALVANIZED RIGID CONDUIT
HP	HORSEPOWER
HV	HIGH VOLTAGE
HVAC	HEATING, VENTILATING, AIR CONDIT.
HW	HOT WATER
HZ	HERTZ (CYCLE) PER SECOND
IAM	INDIVIDUAL ADDRESSABLE MODULE
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
IPS	INTERRUPTIBLE POWER SUPPLY
IR	PASSIVE INFRARED
JB	JUNCTION BOX
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
KW	KILOWATT
LFMC	LIQUIDTIGHT FLEXIBLE METALLIC CONDUIT
LFNC	LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT
LTG	LIGHTING
LV	LOW VOLTAGE

ABBREV	DESCRIPTION
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MISC	MISCELLANEOUS
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
MTD	MOUNTED
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
#	NUMBER
NTS	NOT TO SCALE
P	POLE
PB	PULL BOX
PC	PLUMBING CONTRACTOR
PH	PHASE
PNL	PANEL(BOARD)
PIV	POST INDICATING VALVE
PP	POWER PANEL
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE CONDUIT
PWR	PWR
RE	REMOVE EXISTING
REC	RECESSED
RECP	RECEPTACLE
REF	REFRIGERATOR
RL	RELOCATE EXISTING
RM	ROOM
RMC	RIGID METAL CONDUIT
RTU	ROOFTOP UNIT
S	SURFACE MOUNTED
SCH	SCHEDULE
SEC	SECONDARY
SP	SPARE
SPKR	SPEAKER
SS	STAINLESS STEEL
SUSP	SUSPENDED
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TELECOM CABINET
TEL	TELEPHONE
TV	TELEVISION
TYP	TYPICAL
UC	UNDER COUNTER
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SOURCE
UTP	UNSHIELDED TWISTED PAIR
V	VOLT
Y	WYE
W	WATT
W/	WITH
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
+80	MOUNTING UNITS TO BOTTOM ABOVE FINISHED FLOOR OR GRADE

*WIRING & RACEWAY

SYMBOL	DESCRIPTION
	CONDUIT SLEEVE
	BASKET TYPE CABLE TRAY
	HOMERUN, 120/1ϕ OR 277V/1ϕ. VERIFY PRIOR TO ROUGH-IN
	HOMERUN, 208V/2ϕ WITH NEUTRAL. VERIFY PRIOR TO ROUGH-IN
	HOMERUN, 208/2ϕ OR 480V/2ϕ. VERIFY PRIOR TO ROUGH-IN
	HOMERUN 208/3ϕ OR 480V/3ϕ. VERIFY PRIOR TO ROUGH-IN
	MULTIPLE ARROWS INDICATES MULTIPLE BRANCH CIRCUITS
	20A, 277/1ϕ HOT WIRE.
	UNDERGROUND/UNDER CONCRETE SLAB BRANCH CIRCUIT
LV	LOW VOLTAGE WIRE (12V)
LS	LIFE SAFETY CIRCUIT

*LIGHTING

SYMBOL	DESCRIPTION
	RECESSED, SURFACE, OR WALL MOUNTED LIGHT FIXTURE CONNECTED TO NORMAL POWER BRANCH CIRCUIT. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	RECESSED, SURFACE, OR WALL MOUNTED LIGHT FIXTURE CONNECTED TO LIFE SAFETY BRANCH CIRCUIT. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	SUSPENDED, SURFACE OR WALL MOUNTED LIGHT FIXTURE CONNECTED TO BOTH NORMAL AND EMERGENCY POWER BRANCH CIRCUITS. SEE THE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	CEILING MOUNTED EXIT SIGN CONNECTED UNSWITCHED TO INDICATED BRANCH CIRCUIT. SHADED AREA INDICATES FACE WITH DIRECTION ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	WALL MOUNTED EXIT SIGN CONNECTED UNSWITCHED TO INDICATED BRANCH CIRCUIT. SHADED AREA INDICATES FACE WITH DIRECTION ARROWS AS SHOWN. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	EMERGENCY BATTERY UNIT WITH LUMINARIES HEADS. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	SINGLE, DOUBLE, AND QUAD POLE MOUNTED SITE LUMINARE. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	BOLLARD TYPE SITE LUMINARIES. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
	FAN/LIGHT COMBINATION. SEE LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

*SECURITY

SYMBOL	DESCRIPTION
C	SECURITY CAMERA. "WP" – WEATHER-PROOF EXTERIOR CAMERA.
B	DOORBELL.
ES	ELECTRIC DOOR STRIKE.
IC	INTERCOM UNIT.
MD	SECURITY MOTION DETECTOR.
ML	SECURITY DOOR ALARM MAGNETIC LOCK.
CR	SECURITY CARD READER. "WP" INDICATES WEATHER PROOF.
SCP	SECURITY CONTROL PANEL.
DC	SECURITY DOOR CONTACTS.
	SECURITY PUSH BUTTON.
K	SECURITY KEYPAD.
ID	SECURITY INFRA-RED DETECTOR.
UD	SECURITY ULTRASONIC DETECTOR.
DA	SECURITY DOOR ALARM.
P	SECURITY PANIC BAR.

*ELECTRICAL EQUIPMENT

SYMBOL	DESCRIPTION
xxA	DISCONNECT SWITCH, UNFUSED TYPE, SIZE AS INDICATED ON DRAWINGS. "xxA" INDICATES AMPERAGE.
xxAF / yyAT F	DISCONNECT SWITCH, FUSED TYPE, SIZE AS INDICATED ON DRAWINGS. "xxAF" INDICATES FRAME SIZE. "xxAT" INDICATES TRIP SIZE.
xxAF / yyAT CB	ENCLOSED CIRCUIT BREAKER, SIZE AS INDICATED ON DRAWINGS. "xxAF" INDICATES FRAME SIZE. "xxAT" INDICATES TRIP SIZE.
RV NEMA x	MAGNETIC MOTOR STARTER. "RV" INDICATES REDUCED VOLTAGE. STARTER SIZE AS INDICATED.
NEMA x / xxA–xP	COMBINATION MAGNETIC STARTER AND DISCONNECT SWITCH. STARTER SIZE AND FUSE RATING AS INDICATED.
CP	EQUIPMENT CONTROL PANEL
	EMERGENCY POWER SHUNT TRIP
	PUSHBUTTON
	ON/OFF PUSHBUTTON
	THREE FUNCTION PUSHBUTTON SWITCH (UP/DOWN/STOP)
HOA	HAND/OFF/AUTOMATIC SELECTOR SWITCH

*ELECTRICAL SITE UTILITIES

SYMBOL	DESCRIPTION
UF	UNDERGROUND FEEDER.
UT	UNDERGROUND TELEPHONE.
UFA	UNDERGROUND FIRE ALARM.
UTV	UNDERGROUND TELEVISION (CATV).
E	ABOVE GROUND POLE MOUNTED ELECTRICAL.
T	ABOVE GROUND POLE MOUNTED TELEPHONE.
F	ABOVE GROUND POLE MOUNTED FIRE ALARM.
TV	ABOVE GROUND POLE MOUNTED TELEVISION (CATV).
MH	MANHOLE.
HH	HANDHOLE.
P Pxxxx	UTILITY POLE. "Pxxxx" INDICATES POLE NUMBER.

*IT SYMBOLS

SYMBOL	DESCRIPTION
DATA	I.T. RACK
AMP	SOUND SYSTEM AMPLIFIER
MIXER	SOUND SYSTEM MIXER
ALS	ASSISTED LISTENING SYSTEM
RESCUE	RESCUE SYSTEM
	FIRE SERVICE OR EMERGENCY TELEPHONE ACCESSIBLE
IC	INTERCOM SUBSTATION
B	DOOR BUZZER AND DOOR BELL
S S	SPEAKER FOR INTERCOM SYSTEM(CEILING/WALL MOUNT)
M	RECESSED FLOOR BOX WITH MICROPHONE CONNECTION
MIC	DESKTOP MICROPHONE
WAP	WIRELESS ACCESS POINT
	LIGHTWEIGHT LOUDSPEAKER
	OMNIDIRECTIONAL 2'x2' CEILING SPEAKER ARRAY

*SWITCHES

SYMBOL	DESCRIPTION
$	120/277 VOLT, 20 AMP, SINGLE-POLE, FEDERAL SPECIFICATION GRADE SWITCH. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR TO CENTER UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. SUBSCRIPTS INDICATION: (D) DIMMER, (P) PILOT LIGHT, (OS) DUAL TECHNOLOGY OCCUPANCY SENSOR.
$#S# $#S#	TWO 120/277 VOLT, 20 AMP, SINGLE-POLE, FEDERAL SPECIFICATION GRADE SWITCHES. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR TO CENTER UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. ONE SWITCH SHALL CONTROL INSIDE LAMPS IN EACH FIXTURE. THE OTHER SWITCH SHALL CONTROL OUTSIDE LAMPS IN EACH FIXTURE. 2-POLE, SINGLE THROW SWITCH. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR TO CENTER UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS.
$3	120/277 VOLT, 20 AMP, THREE WAY, FEDERAL SPECIFICATION GRADE SWITCH. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR TO CENTER UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS.
$4	120/277 VOLT, 20 AMP, FOUR WAY, FEDERAL SPECIFICATION GRADE SWITCH. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS.
$K	120/277 VOLT, 20 AMP, KEY OPERATED, FEDERAL SPECIFICATION GRADE SWITCH. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR TO CENTER UNLESS OTHER NOTED OR REQUIRED BY SITE CONDITIONS.
$M	MOTOR RATED CONTACT SWITCH WITH POLES AS REQUIRED. MOUNT FLUSH VERTICALLY 46" ABOVE FINISHED FLOOR OR WITHIN SITE OF MOTOR U.O.N. OR REQUIRED BY SITE CONDITIONS.

*RECEPTACLES

SYMBOL	DESCRIPTION
	125 VOLT, 20 AMP, 3 WIRE, GROUNDING TYPE, FEDERAL SPECIFICATION GRADE, DUPLEX RECEPTACLE. TAMPER RESISTANT. MOUNT FLUSH IN 4"X4"X2-1/8" GALVANIZED BOX. MOUNT VERTICALLY 16" ABOVE FINISHED FLOOR TO THE BOTTOM UNLESS OTHERWISE NOTED.
	125 VOLT, 20 AMP, 3 WIRE, GROUNDING TYPE, FEDERAL SPECIFICATION GRADE, DOUBLE DUPLEX RECEPTACLE. TAMPER RESISTANT. MOUNT FLUSH IN 4"X4"X2-1/8" GALVANIZED BOX. MOUNT VERTICALLY 16" ABOVE FINISHED FLOOR TO THE BOTTOM UNLESS OTHERWISE NOTED.
	125 VOLT, 20 AMP, 3 WIRE, GROUNDING TYPE, FEDERAL SPECIFICATION GRADE, DUPLEX AND DOUBLE DUPLEX RECEPTACLE. TAMPER RESISTANT. MOUNT FLUSH IN 4"X4"X2-1/8" GALVANIZED BOX. FLOOR MOUNT RECESSED WITH FLOOR BOX COVER UNLESS OTHERWISE NOTED. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION.
	125V, 250V, 277V, 480V OR 600, 2 3 OR 4 WIRES, GROUNDING TYPE, FEDERAL SPECIFICATION GRADE, SPECIAL NEMA RECEPTACLE. MOUNT FLUSH IN 4"X4"X2-1/8" GALVANIZED BOX. WALL MOUNT RECESSED. REFER TO FLOOR PLANS FOR SPECIFIC NEMA PLUG TYPE.
	100V TO 250V, 4 WIRES CORD AND PLAY, GROUNDING TYPE, FEDERAL SPECIFICATION GRADE, SPECIAL NEMA RECEPTACLE. MOUNT FLUSH IN 4"X4"X2-1/8" GALVANIZED BOX. WALL MOUNT RECESSED. REFER TO FLOOR PLANS FOR SPECIFIC NEMA PLUG TYPE.
	STUB UP CONDUIT (SIZE AS SCHEDULED) FOR DIRECT CONNECTIONS. REFER TO PANEL SCHEDULES FOR CONDUIT SIZES.

*COMMUNICATIONS

SYMBOL	DESCRIPTION
	TELEPHONE OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING.
	TELEPHONE OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 46" ABOVE FINISHED FLOOR, OR 6" ABOVE DESK, COUNTERTOP, OR BACKSPLASH UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING.
#	DATA OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING. #: INDICATES NUMBER OF DROPS.
	DATA OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 46" ABOVE FINISHED FLOOR, OR 6" ABOVE DESK, COUNTERTOP, OR BACKSPLASH UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING.
	COMBINATION TELEPHONE/DATA OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING.
	COMBINATION TELEPHONE/DATA OUTLET. MOUNT IN 4"X4"X2-1/8" GALVANIZED BOX FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES, CENTER VERTICALLY 46" ABOVE FINISHED FLOOR, OR 6" ABOVE DESK, COUNTERTOP, OR BACKSPLASH UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. PROVIDE WITH 3/4"C TO ABOVE ACCESSIBLE CEILING.

***ALL SYMBOLS AND ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT**

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business est. 1964

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15886 01/16/2025 CHRISTOPHER R. STROUPE III

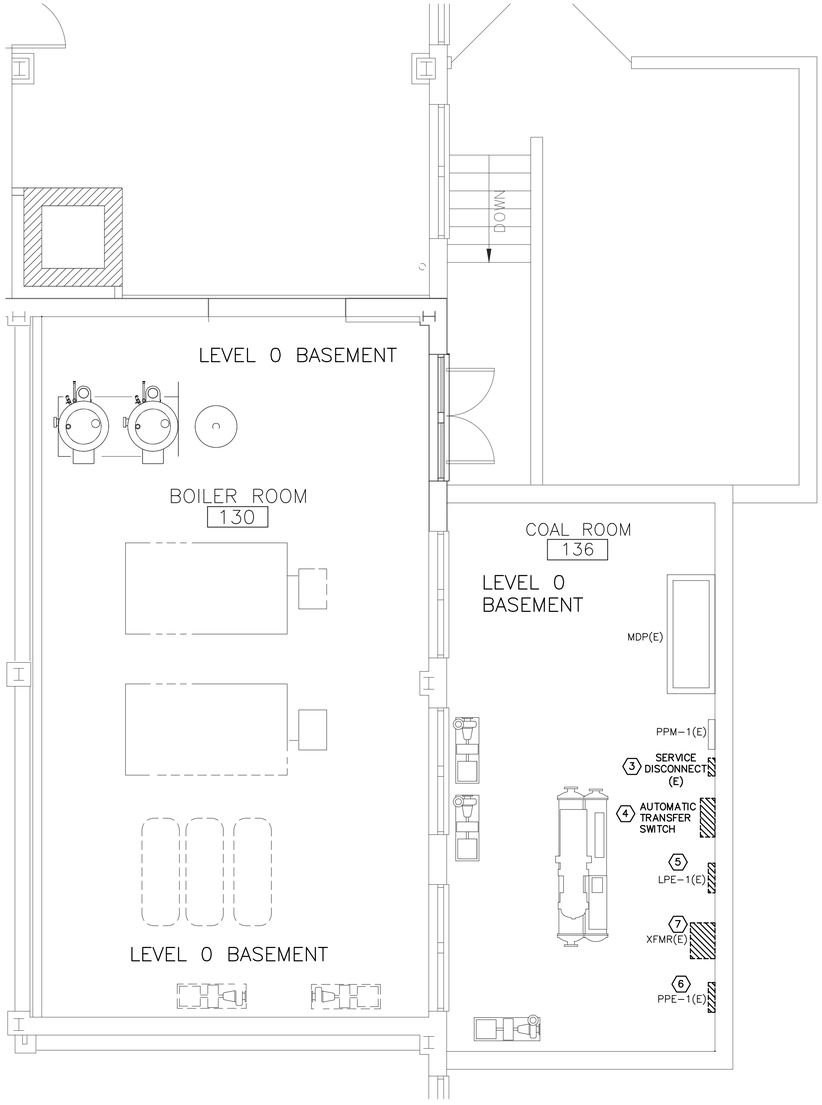
WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

DATE 01/16/2025

CES LICENSE NO. F-0238

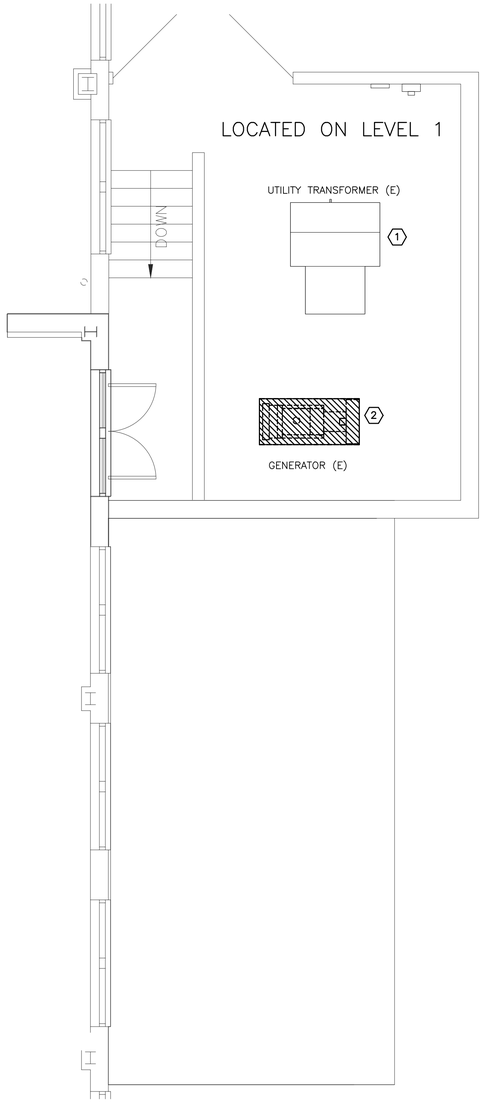
SHEET TITLE: ELECTRICAL SYMBOL LEGEND AND ABBREVIATIONS
DRAWN BY: PN
APPROVED BY: CRS
PROJECT NO.: 44108
REVISION
REVISION
REVISION

SHEET NUMBER: E0.1



1 ED1.0 ELECTRICAL DEMOLITION LEVEL 0 BASEMENT PLAN

SCALE: 1/4"=1'-0"



1 ED1.0 ELECTRICAL DEMOLITION LEVEL 1 PLAN

SCALE: 1/4"=1'-0"

ELECTRICAL DEMOLITION NOTES

A. BRANCH CIRCUITING INDICATED ON PLANS AND SCHEDULES IS BASED UPON EXISTING PLANS AND SITE OBSERVATION, CONTRACTOR TO FIELD VERIFY.

B. PROVIDE TYPED CIRCUIT BOARD DIRECTORIES TO REFLECT AS-CONSTRUCTED CONDITIONS. FIELD VERIFY DURING CONSTRUCTION AND REVISE ACCORDINGLY.

C. PROVIDE NECESSARY DEMOLITION TO FACILITATE NEW CONSTRUCTION WORK ASSOCIATED WITH THIS PROJECT. COORDINATE OUTAGES WITH OWNER MINIMUM 72 HOURS IN ADVANCE. OWNER RETAINS RIGHT TO FIRST SALVAGE. PROVIDE DISPOSAL OF REMOVED MATERIAL. MAINTAIN CIRCUIT CONTINUITY AS REQUIRED.

D. IT IS THE INTENT OF THESE DIAGRAMMATIC DRAWINGS TO PROVIDE THE PROJECT SCOPE INCLUDING, BUT NOT LIMITED TO PHASED DEMOLITION AND NEW CONSTRUCTION. EXISTING INFORMATION INDICATED ON THESE PLANS DOES NOT REPRESENT ALL EXISTING CONDITIONS. THIS CONTRACTOR SHALL BECOME FAMILIAR WITH EXISTING CONDITIONS, SCOPE OF PHASING, AND PROJECT INTENT PRIOR TO BID SUBMISSION. NO EXTRA WILL BE ALLOWED DUE TO THE LACK OF KNOWLEDGE OF EXISTING CONDITIONS TO COORDINATE RELOCATION OF ELECTRICAL SYSTEMS AS REQUIRED.

E. PROVIDE CUTTING, PATCHING, AND RESTORATION OF FINISHES NECESSARY FOR WORK SURFACES DAMAGED BY THIS WORK AND SPACES AROUND CONDUITS PASSING THROUGH FLOORS AND WALLS SHALL BE NEATLY PATCHED AND FINISHED TO MATCH NEW/EXISTING. STRUCTURAL MEMBERS SHALL NOT BE CUT OR PENETRATED IN ANY MANNER. THE SPACES AROUND THE CONDUITS SHALL BE SEALED TO PREVENT ENTRANCE OF MOISTURE. PROVIDE FIRE STOPPING PER UL APPROVED METHODS.

F. REMOVE ABANDONED WIRING COMPLETELY. AT CONTRACTORS OPTION, UTILIZE EXISTING ABANDONED RACEWAY TO EXTENT AVAILABLE. EXPOSED ABANDONED RACEWAY SHALL BE REMOVED.

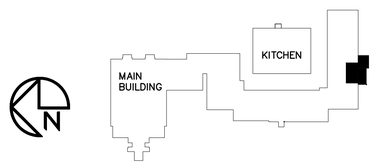
G. COORDINATE WORK IN PHASES WITH OWNER TO FACILITATE DEMOLITION AND NEW CONSTRUCTION.

H. REMOVE ELECTRICAL RELATED EQUIPMENT (E.G., JUNCTION BOXES, RECEPTACLES, SWITCHES, DEVICES, ETC.) AFFECTED/ABANDONED AS A RESULT OF DEMOLITION AND NEW CONSTRUCTION.

ELECTRICAL DEMOLITION KEY NOTES

1. EXISTING 750kVA 480Y/277 UTILITY TRANSFORMER TO REMAIN.
2. EXISTING 60KW GAS GENERATOR TO BE DISCONNECTED (POWER, CONTROL, GAS) AND REMOVE FROM SERVICE YARD. GENERATOR TO BE TAKEN TO WSFCS SERVICE YARD. VERIFY LOCATION WITH OWNER. REMOVE ALL CONDUIT, WIRING AND WIRING BACK TO ATS AND POWER PANEL.
3. DISCONNECT AND REMOVE EXISTING AUTOMATIC TRANSFER SWITCH DISCONNECT. REMOVE WIRING BACK TO ATS.
4. DISCONNECT AND REMOVE EXISTING AUTOMATIC TRANSFER SWITCH. REMOVE WIRING BACK TO THE SOURCE.
5. DISCONNECT AND REMOVE EXISTING EMERGENCY PANEL LPE-1. REMOVE WIRING BACK TO THE SOURCE.
6. DISCONNECT AND REMOVE EXISTING EMERGENCY PANEL PPE-1. REMOVE WIRING BACK TO THE SOURCE.
7. DISCONNECT AND REMOVE EXISTING 15kVA TRANSFORMER. REMOVE WIRING FROM PANELS. REMOVE EXISTING HOUSEKEEPPING CONCRETE PAD.

KEYPLAN
N.T.S.



CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING ▪ MECHANICAL ▪ ELECTRICAL
Phone: 336.724.0139 ▪ 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business
est. 1964

NORTH CAROLINA PROFESSIONAL SEAL 15886 01/16/25 ENGINEER CHRISTOPHER R. STROUPE, III

WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

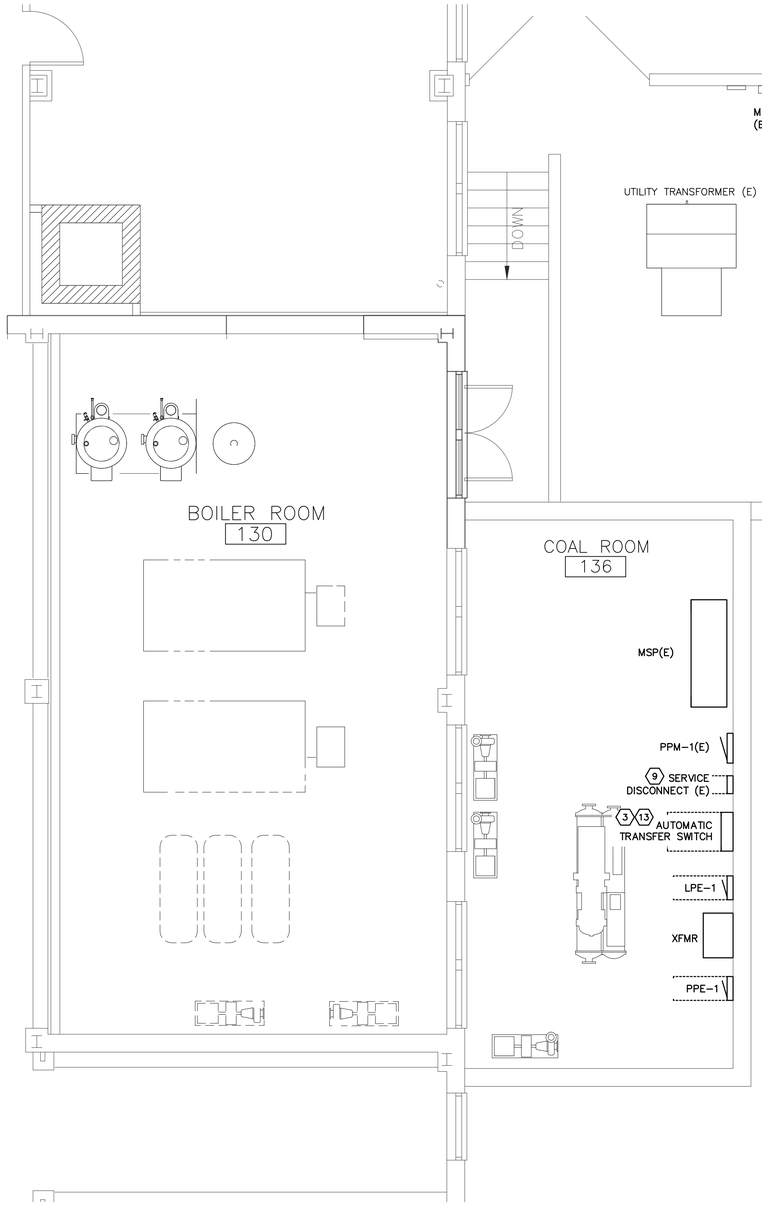
DATE 01/16/2025

CES LICENSE NO. F-0238

SHEET TITLE: ELECTRICAL DEMOLITION PLAN

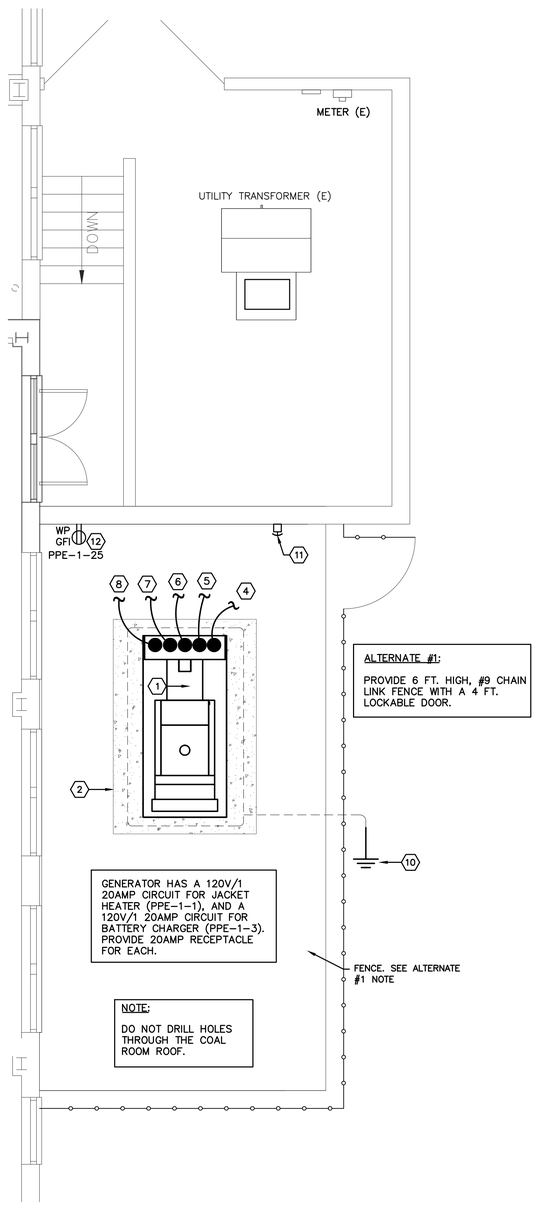
DRAWN BY: PN | APPROVED BY: CRS | PROJECT NO. 44105 | REVISION | REVISION | REVISION

SHEET NUMBER ED1.0



2 E2.0 ELECTRICAL NEW WORK LEVEL 0 BASEMENT ENLARGED PLAN

SCALE: 1/4"=1'-0"



1 E2.0 ELECTRICAL NEW WORK LEVEL 1 EXTERIOR ENLARGED PLAN

SCALE: 1/4"=1'-0"

ELECTRICAL GENERAL NOTES

A. E.C. SHALL NOTIFY OWNER ONE WEEK IN ADVANCE OF ANY POWER INTERRUPTION. COORDINATE ALL WORK WITH OWNER.

B. IT IS THE INTENT THAT THE WORK DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE PROJECT, SHALL BE PROVIDED.

C. THE CONTRACTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. THEY SHALL BE THOROUGHLY FAMILIARIZED WITH THESE CONDITIONS.

D. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE EXISTING ELECTRICAL DEVICES, EQUIPMENT, WIRE, CONDUITS, ETC. (WHETHER SHOWN OR NOT SHOWN) WHENEVER IS NECESSARY DURING THE DEMOLITION PHASE.

E. PROVIDE AND INSTALL 1" CONDUIT WITH CONTROL CONDUCTORS FROM THE GENERATOR TO THE REMOTE ANNUNCIATOR IN THE MAIN OFFICE. CONTROL CONDUCTORS SHALL BE PER THE MANUFACTURER'S RECOMMENDATION.

F. PROVIDE AND INSTALL 1" CONDUIT WITH CONTROL CONDUCTORS FROM THE GENERATOR TO THE AUTOMATIC TRANSFER SWITCHES. CONTROL CONDUCTORS SHALL BE PER THE MANUFACTURER'S RECOMMENDATION.

G. EC SHALL PROVIDE CONCRETE PAD PER MANUFACTURER'S GUIDELINES AND STRUCTURAL ENGINEER. PAD AND GENERATOR SHALL BE SEISMICALLY CERTIFIED AND ANCHORED PER IBC/ASCE 7. COORDINATE PAD WITH THE GENERAL CONTRACTOR.

H. DO NOT DRILL HOLES THROUGH THE COAL ROOM ROOF.

I. PROVIDE GAS PIPING AND CONNECT TO EXISTING GAS LINE TO GENERATOR AS MANUFACTURER'S RECOMMENDATIONS. SEE MECHANICAL DRAWING SHEET M1.0 FOR FURTHER INFORMATION.

J. ALL CONDUCTORS (BRANCH CIRCUIT AND FEEDER) SHALL BE COPPER WITH INSULATION RATING OF 600 VOLT UNLESS OTHERWISE NOTED OR APPROVED. CONDUCTOR SIZES ARE BASED ON INSULATION TEMPERATURE RATING OF 60 DEGREE C FOR CIRCUITS RATED 100 AMPS OR LESS AND 75 DEGREE C FOR CIRCUITS RATED OVER 100 AMPS. INSULATION MAY BE TYPE THHN/THWN (90 DEGREE C) PROTECTED AT 60 OR 75 DEGREE C UNLESS TEMPERATURE RATINGS OF TERMINATIONS REQUIRE OR PERMIT A DIFFERENT PROTECTION RATING. NO. 10 AWG AND SMALLER SHALL BE SOLID (NOTE: STRANDED SHALL BE USED IN APPLICATIONS WHERE A HIGH DEGREE OF VIBRATION IS ENCOUNTERED AT TERMINATIONS OR IN OTHER SPECIAL APPLICATIONS AS MAY BE REQUIRED). NO. 8 AWG AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG EXCEPT NO. 14 AWG MAY BE USED FOR CONTROL OR ALARM CIRCUITS.

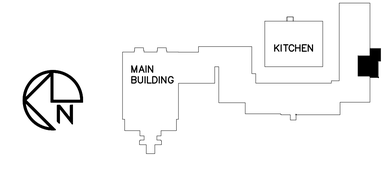
K. ALL EXISTING LOADS IN EXISTING PANELS TO BE REMOVED SHALL BE RECONNECTED TO THE NEW PANEL AS SHOWN IN SHEET E3.1. E.C. TO PROVIDE ADDITIONAL CABLE AND CONDUIT AS SCHEDULED.

L. REFER TO MECHANICAL DRAWING(S) FOR GENERATOR NATURAL GAS CONNECTIONS.

KEY NOTES

1. PROVIDE 150KW GAS GENERATOR, 480/277V, 3ϕ, 4 WIRE, WITH WEATHER PROOF HOUSING. INSTALL ON TOP OF COAL ROOM. WIRING AS SHOWN ON SHEET E2.2. INSTALL NEW WIRING FOR ANNUNCIATOR AND CONTROL PER MANUFACTURER'S RECOMMENDATION. SEE GENERATOR SPECIFICATION ON SHEET E3.0 FOR MORE INFORMATION.
2. PROVIDE A 4" GENERATOR CONCRETE HOUSE KEEPING PAD ON EXISTING SLAB ABOVE COAL ROOM. CONCRETE PAD SHALL COMPLY WITH IBC/ASCE 7. APPROXIMATELY 8'x12' (PER MANUFACTURER) WITH A SINGLE MAT OF REBAR WITH #4 REBAR 12" ON CENTER IN BOTH DIRECTIONS, 4000PSI CONCRETE (SEE DETAIL E4.1). PROVIDE (18) #4 REBAR DOWEL, EPOXY INTO ROOF OF ROOM. DO NOT DRILL HOLE IN ROOF. PROVIDE WIRING TO GENERATOR AS SHOW ON SHEET E2.2.
3. PROVIDE AND INSTALL NEW AUTOMATIC TRANSFER SWITCH ATS 225 AMP, 4-POLE, 4 WIRE 277/480V, NEMA 1. SEE SHEET E3.0 FOR MORE INFORMATION.
4. PROVIDE 3/4" CONDUIT WITH 2#10 & 1#10G FROM NEW PANEL PPE-1 TO GENERATOR FOR 120V POWER FOR BATTERY CHARGER (PPE-1-3). PROVIDE 1P 20AMP BREAKER.
5. PROVIDE 3/4" CONDUIT WITH 2#10 & 1#10G FROM NEW PANEL PPE-2 TO GENERATOR FOR 120V POWER FOR JACKET HEATER (PPE-1-1). PROVIDE 1P 20AMP BREAKER.
6. PROVIDE AND INSTALL 1" CONDUIT WITH CONTROL CONDUCTORS FROM GENERATOR TO THE REMOTE POWER COMMAND IN THE MAIN OFFICE. CONTROL CONDUCTORS SHALL BE PER MANUFACTURER'S RECOMMENDATION.
7. PROVIDE AND INSTALL 1" CONDUIT WITH CONTROL CONDUCTORS FROM GENERATOR TO THE AUTOMATIC TRANSFER SWITCH IN THE COAL ROOM. CONTROL CONDUCTORS SHALL BE PER MANUFACTURER'S RECOMMENDATION (4)#10 & #10G.
8. PROVIDE 2-1/2" CONDUIT WITH (4) #4/0 & #4G FROM GENERATOR 225 AMP CIRCUIT BREAKER TO DISCONNECT. MAKE SEALTIGHT FLEX CONNECTION AT GENERATOR. MAKE ALL TERMINATIONS AT GENERATOR-DISCONNECT-ATS. SEE RISER DIAGRAM.
9. INSTALL AND PROVIDE NEW 400 AMP FUSED DISCONNECT, 3 PHASE, 4 WIRE, 480V, NEMA 1, HEAVY DUTY. FUSED AT 225 AMP. VERIFY LOCATION IN FIELD. COORDINATE LOCATION PRIOR TO ROUGH-IN.
10. E.C. TO PROVIDE AND INSTALL (2) 3/4" X 10' COPPER GROUND ROD WITH INSPECTION WELLS. E.C. TO CONNECT WITH #2 CU GROUND WIRE.
11. REMOTE EMERGENCY STOP BUTTON (EM-STOP). WEATHER PROOF, HEAVY DUTY COVER. PROVIDE EMT 3/4"CONDUIT BACK TO GENERATOR CONTROL PANEL AND CONNECT. EM STOP PROVIDED BY GENERATOR CONTRACTOR. EM-STOP SHALL BE LOCATED PER NEC 445.19(A)(1) AND (A)(2). COORDINATE LOCATION PRIOR TO ROUGH IN.
12. PROVIDE 20AMP GFCI/WEATHER PROOF WITH HEAVY DUTY IN-USE COVER RECEPTACLE. VERIFY LOCATION IN FIELD PRIOR TO ROUGH-IN.
13. PROVIDE 2 1/2" CONDUIT WITH (4) #4/0 AND #4 FROM SWITCHBOARD NEW 225 AMP CIRCUIT BREAKER TO ATS. MAKE ALL TERMINATIONS AT EXISTING MSP-DISCONNECT-ATS. SEE RISER DIAGRAM SHEET E3.0.

KEYPLAN
N.T.S.



CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING ▪ MECHANICAL ▪ ELECTRICAL
Phone: 336.724.0139 ▪ 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business
est. 1964

NORTH CAROLINA PROFESSIONAL SEAL 15886 01/16/2025 ENGINEER CHRISTOPHER R. STROUPE, III

WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

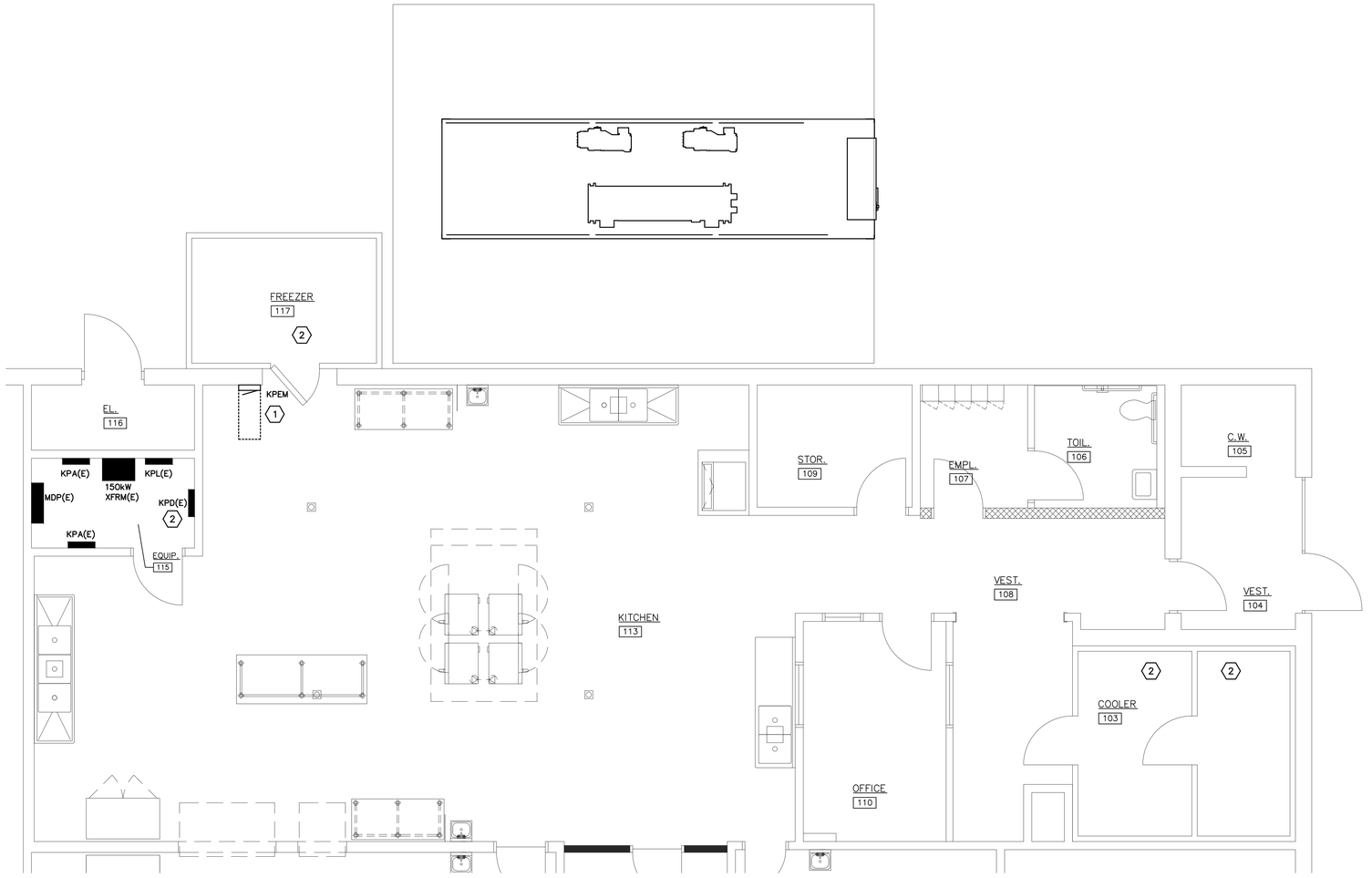
DATE
01/16/2025

CES LICENSE NO. F-0238

SHEET TITLE
ELECTRICAL POWER COAL ROOM AND EXTERIOR PLAN

PROJECT NO. 44108
APPROVED BY CRS
DRAWN BY PN
REVISION
REVISION
REVISION
REVISION

SHEET NUMBER
E2.0



1 E2.1 ELECTRICAL POWER
LEVEL 1 PARTIAL KITCHEN PLAN
SCALE: 1/4"=1'-0"

ELECTRICAL GENERAL NOTES

A. E.C. SHALL NOTIFY OWNER ONE WEEK IN ADVANCE OF ANY POWER INTERRUPTION. COORDINATE ALL WORK WITH OWNER.

B. IT IS THE INTENT THAT THE WORK DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE PROJECT, SHALL BE PROVIDED.

C. THE CONTRACTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. THEY SHALL BE THOROUGHLY FAMILIARIZED WITH THESE CONDITIONS.

D. E.C. TO HAVE A PRIVATE LOCATE CO. TO LOCATE ALL UNDERGROUND UTILITY IN THIS AREA

E. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE EXISTING ELECTRICAL DEVICES, EQUIPMENT, WIRE, CONDUITS, ETC. (WHETHER SHOWN OR NOT SHOWN) WHENEVER IS NECESSARY DURING THE DEMOLITION PHASE.

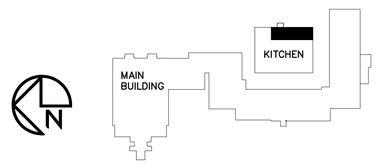
F. ALL CONDUCTORS (BRANCH CIRCUIT AND FEEDER) SHALL BE COPPER WITH INSULATION RATING OF 600 VOLT UNLESS OTHERWISE NOTED OR APPROVED. CONDUCTOR SIZES ARE BASED ON INSULATION TEMPERATURE RATING OF 60 DEGREE C FOR CIRCUITS RATED 100 AMPS OR LESS AND 75 DEGREE C FOR CIRCUITS RATED OVER 100 AMPS. INSULATION MAY BE TYPE THHN/THWN (90 DEGREE C) PROTECTED AT 60 OR 75 DEGREE C UNLESS TEMPERATURE RATINGS OF TERMINATIONS REQUIRE OR PERMIT A DIFFERENT PROTECTION RATING. NO. 10 AWG AND SMALLER SHALL BE SOLID (NOTE: STRANDED SHALL BE USED IN APPLICATIONS WHERE A HIGH DEGREE OF VIBRATION IS ENCOUNTERED AT TERMINATIONS OR IN OTHER SPECIAL APPLICATIONS AS MAY BE REQUIRED). NO. 8 AWG AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG EXCEPT NO. 14 AWG MAY BE USED FOR CONTROL OR ALARM CIRCUITS.

KEY NOTES

(1) PROVIDE NEW KITCHEN EMERGENCY PANEL 100A 208Y/120 VOLT, 3 PHASE, 4 WIRES, NEMA 1 RATED, MAIN BREAKER. PROVIDE WIRE AND CONDUIT SIZE AS SCHEDULED. PROVIDE NEW 100A AMP FEEDER CIRCUIT BREAKER. MAKE SEALTIGHT FLEX CONNECTION AT GENERATOR. MAKE ALL TERMINATION AT GENERATOR–DISCONNECT–ATS. SEE RISER DIAGRAM ON SHEET E3.0.

(2) DISCONNECT POWER FROM EXISTING NORMAL PANEL "KPD". DISCONNECT EXISTING FREEZERS AND COOLER LOADS FROM EXISTING NORMAL POWER AND TRANSFER AND RECONNECT THEM TO NEW KITCHEN EMERGENCY PANEL "KEM". PROVIDE ADDITIONAL WIRE AND CONDUIT AS NEEDED. SEE SHEET E3.1 PANEL SCHEDULES FOR FURTHER INFORMATION.

KEYPLAN
N.T.S.



CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business
est. 1964

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15886 01/16/25 CHRISTOPHER R. STROUPE, III

WINSTON–SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston–Salem, North Carolina

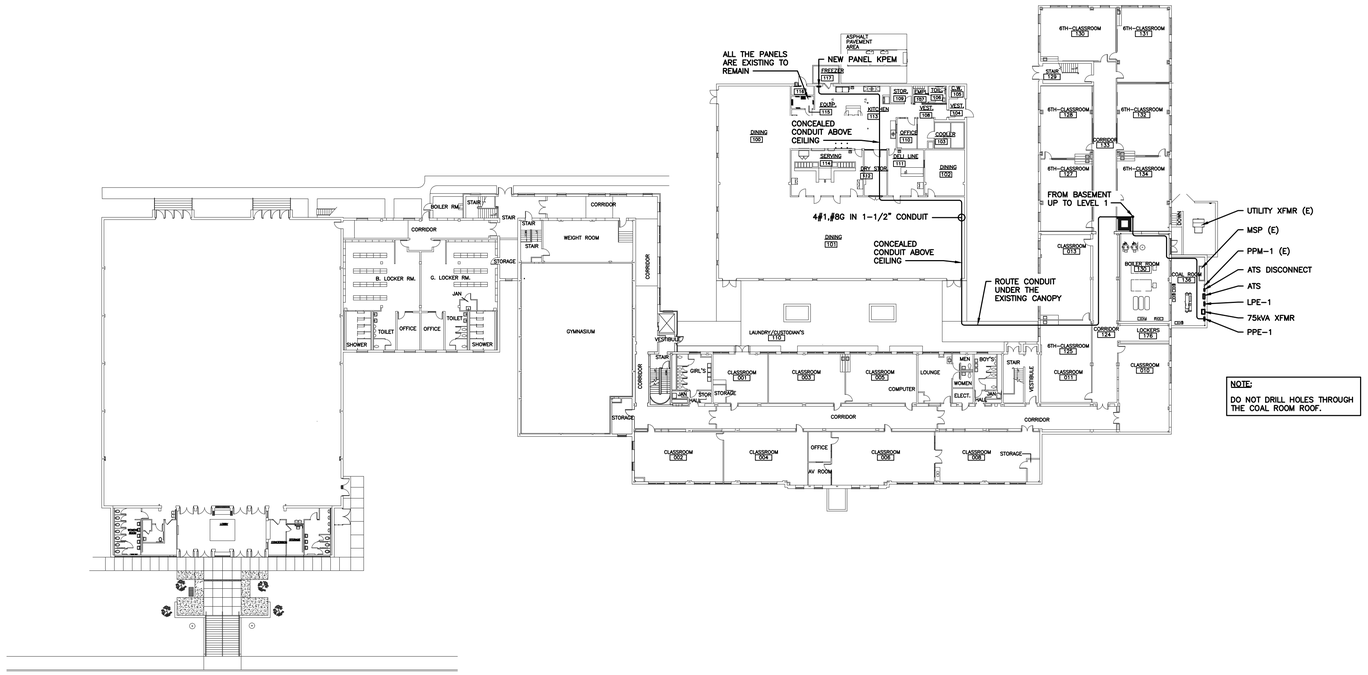
DATE
01/16/2025

CES LICENSE NO. F–0238

SHEET TITLE
ELECTRICAL POWER
KITCHEN PLAN

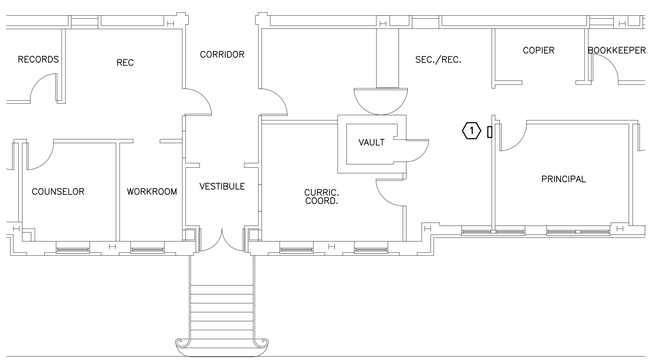
DRAWN BY PN | APPROVED BY CRS | PROJECT NO. 44108 | REVISION | REVISION | REVISION

SHEET NUMBER
E2.1



1 E2.2 ELECTRICAL WIRE ROUTING OVERALL PLAN

SCALE: 1/32" = 1'-0"



2 E2.2 ELECTRICAL ADMIN AREA LEVEL 1 – ENLARGED PLAN

SCALE: 1/8"=1'-0"

ELECTRICAL GENERAL NOTES

A. E.C. SHALL NOTIFY OWNER ONE WEEK IN ADVANCE OF ANY POWER INTERRUPTION. COORDINATE ALL WORK WITH OWNER.

B. IT IS THE INTENT THAT THE WORK DESCRIBED HEREIN AND SHOWN ON THE DRAWINGS SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, BUT NECESSARY TO FULLY COMPLETE THE PROJECT, SHALL BE PROVIDED.

C. THE CONTRACTOR SHALL VISIT THE SITE SPECIFICALLY INCLUDING ALL AREAS INDICATED ON THE DRAWINGS. THEY SHALL BE THOROUGHLY FAMILIARIZED WITH THESE CONDITIONS.

D. E.C. TO HAVE A PRIVATE LOCATE CO. TO LOCATE ALL UNDERGROUND UTILITY IN THIS AREA

E. IT SHALL BE THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO DISCONNECT AND REMOVE EXISTING ELECTRICAL DEVICES, EQUIPMENT, WIRE, CONDUITS, ETC. (WHETHER SHOWN OR NOT SHOWN) WHENEVER IS NECESSARY DURING THE DEMOLITION PHASE.

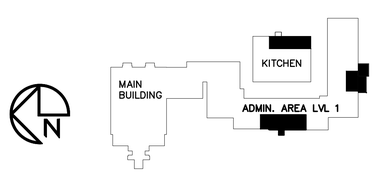
F. ALL CONDUCTORS (BRANCH CIRCUIT AND FEEDER) SHALL BE COPPER WITH INSULATION RATING OF 600 VOLT UNLESS OTHERWISE NOTED OR APPROVED. CONDUCTOR SIZES ARE BASED ON INSULATION TEMPERATURE RATING OF 60 DEGREE C FOR CIRCUITS RATED 100 AMPS OR LESS AND 75 DEGREE C FOR CIRCUITS RATED OVER 100 AMPS. INSULATION MAY BE TYPE THHN/THWN (90 DEGREE C) PROTECTED AT 60 OR 75 DEGREE C UNLESS TEMPERATURE RATINGS OF TERMINATIONS REQUIRE OR PERMIT A DIFFERENT PROTECTION RATING. NO. 10 AWG AND SMALLER SHALL BE SOLID (NOTE: STRANDED SHALL BE USED IN APPLICATIONS WHERE A HIGH DEGREE OF VIBRATION IS ENCOUNTERED AT TERMINATIONS OR IN OTHER SPECIAL APPLICATIONS AS MAY BE REQUIRED). NO. 8 AWG AND LARGER SHALL BE STRANDED. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG EXCEPT NO. 14 AWG MAY BE USED FOR CONTROL OR ALARM CIRCUITS.

G. ALL EXTERIOR CONDUIT SHALL BE IMC. REFER TO FOR MORE

ELECTRICAL WIRING ROUTING KEY NOTES

(1) PROVIDE REMOTE GENERATOR ANNUNCIATOR IN OFFICE. INSTALL CONDUIT AND WIRING PER MANUFACTURE. PROVIDE 1" CONDUIT FROM GENERATOR TO REMOTE ANNUNCIATOR IN OFFICE ROOM. PROVIDE CONTROL WIRES PER MANUFACTURE. VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN.

KEYPLAN
N.T.S.



CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business est. 1984

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15886 01/16/2025 CHRISTOPHER R. STROUPE, III ENGINEER

WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

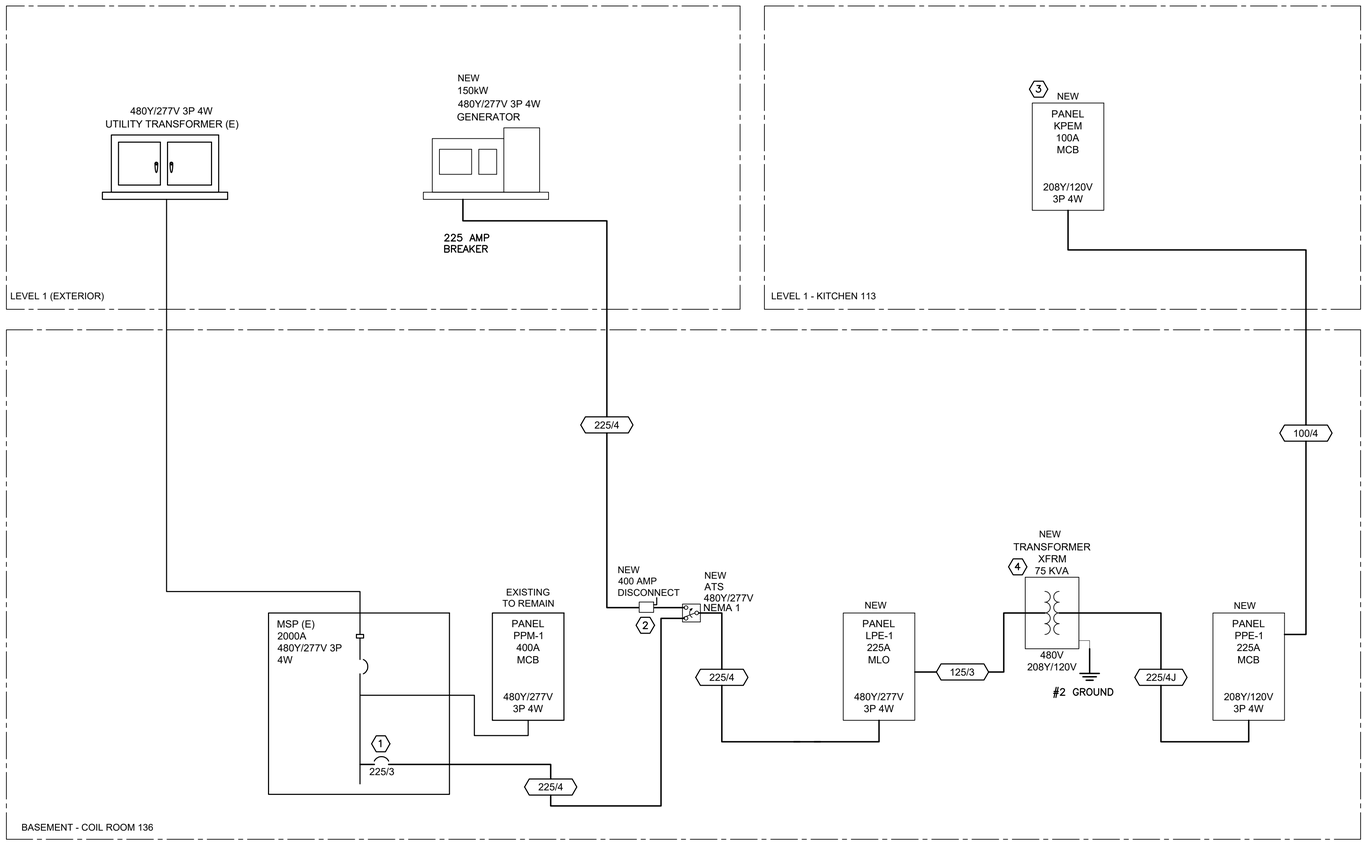
DATE 01/16/2025

CES LICENSE NO. F-0238

SHEET TITLE: ELECTRICAL POWER WIRE ROUTING PLAN

DRAWN BY: PN | APPROVED BY: CRS | PROJECT NO.: 44108 | REVISION | REVISION | REVISION

SHEET NUMBER E2.2



KEY NOTES

1. PROVIDE NEW 225A AMP CIRCUIT BREAKER (GE CAT# SFLA36ATO225) AT EXISTING MSP GE SWTCHBOARD. PROVIDE ALL BUS AND HARDWARE. MAKE ALL TERMINATION FROM MSP(E) TO NEW ATS. SEE RISER DIAGRAM AND PANEL SCHEDULE FOR FURTHER INFORMATION.
2. PROVIDE NEW 400 AMP FUSED DISCONNECT, 3 PHASE, 4 WIRE, 480V, NEMA 1, HEAVY DUTY. FUSED AT 225 AMP.
3. NEW EMERGENCY KITCHEN PANEL. EXISTING FREEZERS AND COOLER BRANCH CIRCUITS SHALL BE TRANSFER FROM NORMAL POWER PANEL TO THIS NEW PANEL. PROVIDE ADDITIONAL WIRE AND CONDUIT AS NEEDED.
4. PROVIDE (1) ONE 75KVA DRY TRANSFORMER 480/3P, 208Y/120, 3P, 4W MOD: EX75T3HBCU SQUARE D OR APPROVED EQUAL. PROVIDE 8" HOUSE KEEPING CONCRETE PAD. FOLLOW MANUFACTURER RECOMMENDATIONS.

RISER DIAGRAM GENERAL NOTES

A. ALL NEW FEEDERS SHALL BE COPPER.

B. ALL NEW ABOVE GROUND FEEDER AND BRANCH CIRCUITS CONDUITS INSTALLED INSIDE THE BUILDING SHALL BE PERMITTED AS EMT.

C. E.C. SHALL VERIFY NEW CIRCUIT BREAKER IN EXISTING MDS ARE SAME SIZE BRAND AND TYPE AS EXISTING CIRCUIT BREAKERS FEEDING THE EXISTING LOADS. SOME OF THE EXISTING CIRCUIT BREAKER MAXIMUM AMPERAGE WERE APPROXIMATED SINCE THEY ARE UNREADABLE.

D. EXISTING LOAD DESCRIPTION IN THE NEW PANEL SCHEDULES ARE AS PER SHOWN IN FIELD. E.C. SHALL VERIFY EXISTING LOADS AND CIRCUIT BREAKER PRIOR TO ROUGH–IN. E.C. SHALL RETYPE EXISTING LOAD DESCRIPTION IN NEW PANEL DIRECTORY AFTER EXISTING LOADS HAS BEEN FIELD VERIFIED.

E. NO NEW LOADS HAS BEEN ADDED TO EXISTING PANELBOARDS THROUGHOUT THIS BUILDING.

F. E.C. SHALL DISCONNECT ALL EXISTING BRANCH CIRCUITS AND RECONNECT THEM TO NEW CIRCUIT BREAKERS IN NEW PANEBOARDS. PANELBOARD'S NAME SHALL BE PRESERVED.

G. E.C. SHALL RETYPE EXISTING LOAD DESCRIPTION IN EXISTING PANEL THAT HAS BEEN MOVED TO NEW PANEL AS "SPARE".

H. PANELBOARDS BUS/NEUTRAL MATERIAL SHALL BE COPPER, SURFACE MOUNTING, FEED TOP, MINIMUM 22,000 AIC, COPPER EQUIPMENT GROUND BUS, NEMA 1, BOLT–ON BUS CONNECTIONS, HINGED FRONT AND, METAL DIRECTORY CARD HOLDER.

I. ALL EXTERIOR CONDUIT TO BE IMC.

FEEDER SCHEDULE

ID	FEEDER AMPS	CONDUIT AND FEEDER
100/4	100	4#1,#8G,1-1/2"C
125/3	125	3#1/0,#6G,1-1/2"C
225/4	225	4#4/0,#4G,2-1/2"C
225/4J	225	4#4/0,#2G,2-1/2"C

SIZING METHOD: COPPER, 60°C #12 THROUGH #1, 75°C 1/0 AND ABOVE

ELECTRICAL EQUIPMENT SPECIFICATION

- ONE (1) 150 kW FACTORY ASSEMBLED NATURAL GAS FIRED GENERATOR, RATED 480Y/277 VOLTS WITH NEMA 3R RATED OUTDOOR ENCLOSURE WITH THE MOST CRITICAL SILENCER SYSTEM OFFERED BY THE MANUFACTURER AS A STANDARD TYPE EQUIPMENT. CONTROLS TO BE DIGITAL BASED WITH DIGITAL GOVERNOR AND DIGITAL VOLTAGE REGULATOR.
- SUPPLIER TO PROVIDE FACTORY TESTING AND ON SITE STARTUP AUTHORIZED BY THE EQUIPMENT SUPPLIER
- THE GENERATOR MANUFACTURER SHALL WARRANT ALL EQUIPMENT PROVIDED UNDER THIS SPECIFICATION SO THERE IS ONE SOURCE FOR WARRANTY AND PRODUCT SERVICE.
- THE GENERATOR SHALL OPERATE AT 1800 RPM
- PROVIDE QUANTITY (1) 225 AMP, 3 POLE, 16,960 KAIC RATED CIRCUIT BREAKER INTEGRAL TO GENERATOR.
- THE GENERATOR SET SHALL BE RATED 150kW, AT 0.8 PF STAND–BY/LIFE SAFETY/CRITICAL RATING BASED ON SITE CONDITION OF: ALTITUDE 1960, AMBIENT TEMPERATURE OF UP TO 104 DEGREES FAHRENHEIT.
- THE ALTERNATOR SHALL PROVIDE A CLEAN AC WAVEFORM, WITH NOT MORE THAN 5% TOTAL HARMONIC DISTORTION AT FULL LINEAR.
- THE GENERATOR SET SHALL BE CERTIFIED BY THE ENGINE MANUFACTURER TO BE SUITABLE FOR USE AT THE INSTALLED LOCATION AND RATING.
- A REMOTE LED STATUS ANNUNCIATOR PANEL SHALL BE FURNISHED WITH THE GENERATOR SYSTEM.
- THE GENERATOR SHALL BE PROVIDED WITH AN OUTDOOR ENCLOSURE. THE PACKAGE SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE FOR ALL WIRING MATERIALS AND COMPONENT SPACING. HOUSING SHALL PROVIDE AMPLE AIR FLOW FOR THE GENERATOR SET OPERATION AT RATED LOAD AND AN AMBIENT TEMPERATURE OF 104 DEGREES FAHRENHEIT.
- PROVIDE (1) ONE 225 AMPERE, 3 POLE AUTOMATIC TRANSFER SWITCH, MOUNTED IN AN NEMA 1.
- THE AUTOMATIC TRANSFER SWITCH SHALL MEET ALL REQUIREMENTS OF NFPA 70, NFPA 110, AND NEMA ICS10–1993.
- THE TRANSFER SWITCH SHALL BE RATED TO CARRY 100 PERCENT OF RATED CURRENT CONTINUOUSLY IN THE ENCLOSURE SUPPLIED.
- THE TRANSFER SWITCH SHALL HAVE AN INTERRUPTING RATING OF 65,000 KAIC.
- THE CONTROL SYSTEM FOR THE AUTOMATIC TRANSFER SWITCH SHALL BE CONFIGURABLE TO PERFORM A COMPLETE TEST OF THE GENERATOR SYSTEM WITH OR WITHOUT THE TRANSFER SWITCH LOAD CONNECTED. AN AUTOMATED GENERATOR EXERCISE TEST SHALL BE BUILT INTO THE AUTOMATIC TRANSFER SWITCH WITH PROGRAMMABLE TESTING TIMES AND DURATION.
- THE GENERATOR AND ASSOCIATED EQUIPMENT SHALL BE WARRANTED FOR A PERIOD OF NOT LESS THAN 5 YEARS FROM THE DATE OF COMMISSIONING AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP.
- THE WARRANTY SHALL BE COMPREHENSIVE, NO DEDUCTIONS SHALL BE ALLOWED FOR TRAVEL TIME, SERVICE HOURS, REPAIR PARTS, ETC.
- ACCEPTED MANUFACTURERS ARE AS FOLLOWS:
  - O GENERAC
  - O CATERPILLAR
  - O CUMMINS
  - O KOHLER

MSP

ROOM COAL ROOM 136
MOUNTING FLOOR
FED FROM UTILITY
NOTE **EXISTING**

VOLTS 480Y/277V 3P 4W
BUS AMPS 2000
NEUTRAL 100%

AIC 65,000
MAIN BKR 2000
LUGS STANDARD

ENCLOSURE TYPE NEMA 1
PANEL TYPE BREAKER

	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C
	1	50/2	ELEVATOR(E)	–	0			2	–/2	SPACE		0		
	3	|				0		4	|			0	
	5	400/3	LP1–1(E)	–			0	6	400/3	PPM–1(E)	–			0
	7	|			0			8	|		0		
	9	|				0		10	|			0	
	11	225/3	CAFETERIA(E)	–			0	12	400/3	LPB–1(E)	–			0
	13	|			0			14	|		0		
	15	|				0		16	|			0	
1	17	225/3	LPE–1 VIA ATS	–			0	18	225/3	LPB–1(E)	–			0
	19	|			0			20	|		0		
	21	|				0		22	|			0	
	23	225/3	LP3–1(E)	–			0	24	225/3	LP2–1(E)	–			0
	25	|			0			26	|		0		
	27	|				0		28	|			0	
	29	–/1	SPACE				0	30	–/1	SPACE				0
	31	–/1	SPACE		0			32	–/1	SPACE		0		
										TOTAL CONNECTED KVA BY PHASE		0	0	0
										TOTAL CONNECTED AMPS BY PHASE		0	0	0

CONN KVA	CALC KVA		CALC KVA
		TOTAL LOAD	0
		BALANCED 3-PHASE LOAD	0 A

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING ▪ MECHANICAL ▪ ELECTRICAL
Phone: 336.724.0139 ▪ 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business
est. 1964

NORTH CAROLINA PROFESSIONAL SEAL 15686 01/16/2025 ENGINEER CHRISTOPHER R. STROUPE, III

WINSTON–SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston–Salem, North Carolina

DATE 01/16/2025

CES LICENSE NO. F–0238

SHEET TITLE: ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES
DRAWN BY: PN
APPROVED BY: CRS
PROJECT NO.: 44108
REVISION
REVISION
REVISION

SHEET NUMBER E3.0

PPM–1

ROOM COAL ROOM 136 | VOLTS 480Y/277V 3P 4W | AIC 65,000 | ENCLOSURE TYPE 1
MOUNTING SURFACE | BUS AMPS 400 | MAIN BKR 400 | PANEL TYPE BREAKER
FED FROM MSP (E) | NEUTRAL 100% | LUGS STANDARD
NOTE **EXISTING**

CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	100/3	SPARE	–	0			2	60/3	COOLING TOWER PUMP(E)	–	0		
3	|				0		4	|				0	
5	|					0	6	|					0
7	90/3	CHILLER WATER PUMP(E)	–	0			8	20/3	WATER HEATER(E)	–	0		
9	|				0		10	|				0	
11	|					0	12	|					0
13	40/3	CHILLED OFFICE(E)	–	0			14	15/3	CHILLED WATER PUMP OFFICE(E)	–	0		
15	|				0		16	|				0	
17	|					0	18	|					0
19	15/3	SPARE	–	0			20	20/1	SPARE	–	0		
21	|				0		22	–/1	SPACE	–		0	
23	|					0	24	–/1	SPACE				0
									TOTAL CONNECTED KVA BY PHASE		0	0	0
									TOTAL CONNECTED AMPS BY PHASE		0	0	0

	CONN KVA	CALC KVA			CALC KVA
				TOTAL LOAD	0
				BALANCED 3-PHASE LOAD	0 A

LPE–1

ROOM COAL ROOM 136 | VOLTS 480Y/277V 3P 4W | AIC 65,000 | ENCLOSURE TYPE NEMA 1
MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR MLO | PANEL TYPE MLO
FED FROM ATS | NEUTRAL 100% | LUGS STANDARD
NOTE RECONNECT ALL EXISTING WIRING BACH INTO THIS NEW PANEL.

CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	40/3	HWP#2(E)	–	0			2	40/3	HWP#1(E)	–	0		
3	|				0		4	|				0	
5	|					0	6	|					0
7	125/3	75KVA XFMR	3#1/0,#6G,1–1/2"C	0.09			8	15/3	BOILER#1(E)	–	0		
9	|				0.09		10	|				0	
11	|					0	12	|					0
13	15/3	SPARE	–	0			14	15/3	BOILER#2(E)	–	0		
15	|				0		16	|				0	
17	|					0	18	|					0
19	15/3	SPARE	–	0			20	20/1	SPARE	–	0		
21	|				0		22	20/1	EMERGENCY LTS. 3RD FLOOR(E)	–		0	
23	|					0	24	20/1	EMERGENCY LTS. 2ND FLOOR(E)	–			0
25	20/1	HEAT TAPE, TOWER MAKEUP WATER(E)	–	0			26	20/1	EMERGENCY LTS. BOILER ROOM(E)	–	0		
27	20/1	SPARE	–		0		28	30/1	EMERGENCY LTS. 1ST FLOOR(E)	–		0	
29	20/1	SPARE	–			0	30	30/1	EMERGENCY LTS. BASEMENT(E)	–			0
31	–/1	SPACE		0			32	20/1	SPARE	–	0		
33	–/1	SPACE			0		34	20/1	SPARE	–		0	
35	–/1	SPACE				0	36	–/1	SPACE				0
37	–/1	SPACE		0			38	–/1	SPACE		0		
39	–/1	SPACE			0		40	–/1	SPACE			0	
41	–/1	SPACE				0	42	–/1	SPACE				0
									TOTAL CONNECTED KVA BY PHASE		0.09	0.09	0
									TOTAL CONNECTED AMPS BY PHASE		0.38	0.38	0

	CONN KVA	CALC KVA			CALC KVA
RECEPTACLES	0.18	0.18	(50%>10)	TOTAL LOAD	0.18
				BALANCED 3-PHASE LOAD	0.22 A

PPE–1

ROOM COIL ROOM – 136 | VOLTS 208Y/120V 3P 4W | AIC 22,000 | ENCLOSURE TYPE NEMA 1
MOUNTING SURFACE | BUS AMPS 225 | MAIN BKR 225 | PANEL TYPE BREAKER
FED FROM XFRM | NEUTRAL 100% | LUGS STANDARD
NOTE RECONNECT ALL EXISTING WIRING BACH INTO THIS NEW PANEL.

CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	20/1	EMERG. GEN. MANIFOLD HEATER	–	0			2	20/1	EXISTING LOAD	–	0		
3	20/1	EMERG. GEN. BATTERY CHARGER	–		0		4	20/1	REC. INTERCOM SYSTEM(E)	–		0	
5	20/1	SPARE	–			0	6	20/1	TELE–COM, HEAD–IN(E)	–			0
7	20/1	CAFETERIA BOILER(E)	–	0			8	20/1	INTERCOM SYSTEM(E)	–	0		
9	20/1	BOYS GYM BOILER & DDC(E)	–		0		10	20/1	HEAT TAPE(E)	–		0	
11	20/1	BOYS GYM COND. PUMP(E)	–			0	12	20/1	REC. IN BOILER ROOM(E)	–			0
13	20/1	CHILLER HEAT TRACE(E)	–	0			14	20/1	JUNCTION FOR CONTROLER BOILER ROOM(E)	–	0		
15	20/1	REF. EXHAUST FAN(E)	–		0		16	20/1	CIRCULATING PUMP, BLD; LOOP(E)	–		0	
17	20/1	COND. PUMP (CAFETERIA BOILER)(E)	–			0	18	20/1	CIRCULATING PUMP, HWH(E)	–			0
19	45/3	CHILLED WATER PUMP(E)	–	0			20	20/1	SPARE	–	0		
21	|				0		22	20/1	SPARE	–		0	
23	|					0	24	20/1	SPARE	–			0
25	20/1	REC. EXTERIOR GENSET	2#12,#12G,3/4"C	0.18			26	20/1	SPARE	–	0		
27	20/1	SPACE			0		28	20/1	SPARE	–		0	
29	20/1	SPACE				0	30	–/1	SPACE				0
31	20/1	SPACE		0			32	–/1	SPACE		0		
33	20/1	SPACE			0		34	–/1	SPACE			0	
35	20/1	SPACE				0	36	–/1	SPACE				0
37	100/3	PANEL KPEM	4#1,#8G,1–1/2"C	0			38	–/1	SPACE		0		
39	|				0		40	–/1	SPACE			0	
41	|					0	42	–/1	SPACE				0
									TOTAL CONNECTED KVA BY PHASE		0.18	0	0
									TOTAL CONNECTED AMPS BY PHASE		1.5	0	0

	CONN KVA	CALC KVA			CALC KVA
RECEPTACLES	0.18	0.18	(50%>10)	TOTAL LOAD	0.18
				BALANCED 3-PHASE LOAD	0.5 A

KPEM

ROOM KITCHEN 113 | VOLTS 208Y/120V 3P 4W | AIC 22,000 | ENCLOSURE TYPE NEMA 1
MOUNTING SURFACE | BUS AMPS 100 | MAIN BKR 100 | PANEL TYPE BREAKER
FED FROM PPE–1 | NEUTRAL 100% | LUGS STANDARD
NOTE **E.C. SHALL VERIFY CIRCUIT BREAKER SIZE FOR ALL CONNECTED LOADS PRIOR PURCHASING.**

CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C	CKT #	CKT BKR	CIRCUIT DESCRIPTION	CONDUCTORS/CONDUIT	LOAD KVA A	LOAD KVA B	LOAD KVA C
1	25/3	FREEZER(E)	–	0			2	20/3	COOLER(E)	–	0		
3	|				0		4	|				0	
5	|					0	6	|					0
7	20/2	FREEZER(E)	–	0			8	20/1	COOLER LIGHTS(E)	–	0		
9	|				0		10	20/1	COOLER LIGHTS/FAN/DOOR(E)	–		0	
11	20/2	FREEZER EVAP.(E)	–			0	12	20/2	COOLER EVAP.(E)	–			0
13	|			0			14	|			0		
15	20/2	FREEZER EVAP.(E)	–		0		16	20/1	COOLER HEAT TAPE(E)	–		0	
17	|					0	18	20/1	FREEZER HEAT TAPE(E)	–			0
19	20/1	FREEZER LIGHTS/FAN/DOOR(E)	–	0			20	20/1	FREEZER HEAT TAPE(E)	–	0		
21	20/1	FREEZER LIGHTS/FAN/DOOR(E)	–		0		22	20/1	SPARE	–		0	
23	20/1	SPARE	–			0	24	20/1	SPARE	–			0
25	20/1	SPARE	–	0			26	20/1	SPARE	–	0		
27	20/1	SPARE	–		0		28	20/1	SPARE	–		0	
29	20/1	SPARE	–			0	30	20/1	SPARE	–			0
31	20/1	SPARE	–	0			32	20/1	SPARE	–	0		
33	20/1	SPARE	–		0		34	–/1	SPACE			0	
35	–/1	SPACE				0	36	–/1	SPACE				0
37	–/1	SPACE		0			38	–/1	SPACE		0		
39	–/1	SPACE			0		40	–/1	SPACE			0	
41	–/1	SPACE				0	42	–/1	SPACE				0
									TOTAL CONNECTED KVA BY PHASE		0	0	0
									TOTAL CONNECTED AMPS BY PHASE		0	0	0

CONN KVA	CALC KVA		CALC KVA
		TOTAL LOAD	0
		BALANCED 3-PHASE LOAD	0 A

NOTE:

NO NEW LOADS HAS BEEN ADDED TO EXISTING POWER SYSTEM THROUGHOUT THIS BUILDING.

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business est. 1964

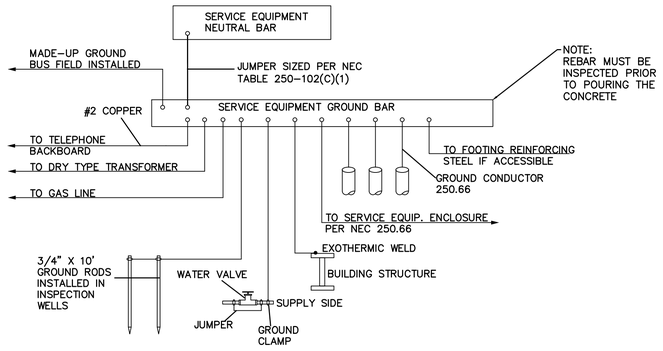
NORTH CAROLINA PROFESSIONAL SEAL 15886 01/16/25 ENGINEER CHRISTOPHER R. STROUPE, III

WINSTON–SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston–Salem, North Carolina

DATE 01/16/2025
CES LICENSE NO. F–0238

SHEET TITLE: ELECTRICAL PANEL SCHEDULES
DRAWN BY: PN | APPROVED BY: CRS | PROJECT NO. 44108 | REVISION | REVISION | REVISION

SHEET NUMBER E3.1



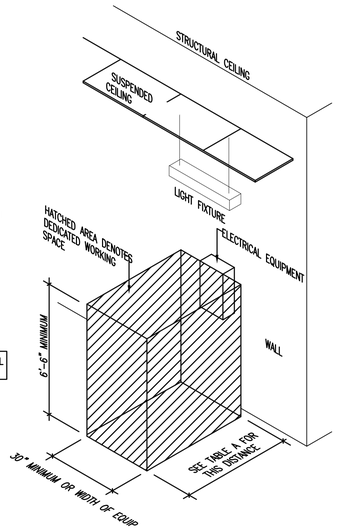
1 E4.0 **DETAIL -** SERVICE EQUIPMENT GROUND BAR
SCALE: N.T.S.

TABLE A – WORKING SPACE REQUIREMENTS				
VOLTAGE TO GROUND (NOMINAL)	MINIMUM CLEAR DISTANCE (INCHES)			
	CONDITION	1	2	3
0–150 VOLTS		36	36	36
151–600 VOLTS		36	42	48

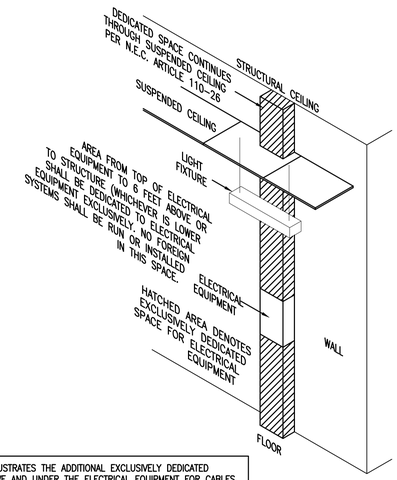
WHERE "CONDITIONS" ARE AS FOLLOWS:

1. EXPOSED LIVE PARTS ON ONE SIDE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES EFFECTIVELY GUARDED BY SUITABLE WOOD OR OTHER INSULATING MATERIALS. INSULATED WIRE OR INSULATED BUS BARS OPERATING AT NOT OVER 300 VOLTS SHALL NOT BE CONSIDERED LIVE PARTS.
2. EXPOSED LIVE PARTS ON ONE SIDE AND GROUNDED PARTS ON THE OTHER SIDE.
3. EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORK SPACE (NOT GUARDED AS PROVIDED IN CONDITION 1) WITH THE OPERATOR BETWEEN.

NOTE: THIS FIGURE ILLUSTRATES THE WORKING SPACE IN FRONT OF THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-26 OF THE NATIONAL ELECTRICAL CODE.

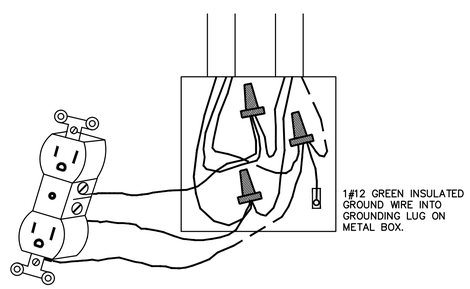


2 E4.0 **DETAIL -** ELECTRICAL EQUIPMENT MINIMUM WORKING
SCALE: N.T.S.



NOTE: THIS DETAIL ILLUSTRATES THE ADDITIONAL EXCLUSIVELY DEDICATED SPACE REQUIRED ABOVE AND UNDER THE ELECTRICAL EQUIPMENT FOR CABLES, RACEWAYS, ETC. TO AND FROM THE ELECTRICAL EQUIPMENT REQUIRED BY SECTION 110-26 OF THE NATIONAL ELECTRICAL CODE.

3 E4.0 **DETAIL -** ELECTRICAL RACEWAY MINIMUM WORKING SPACE
SCALE: N.T.S.

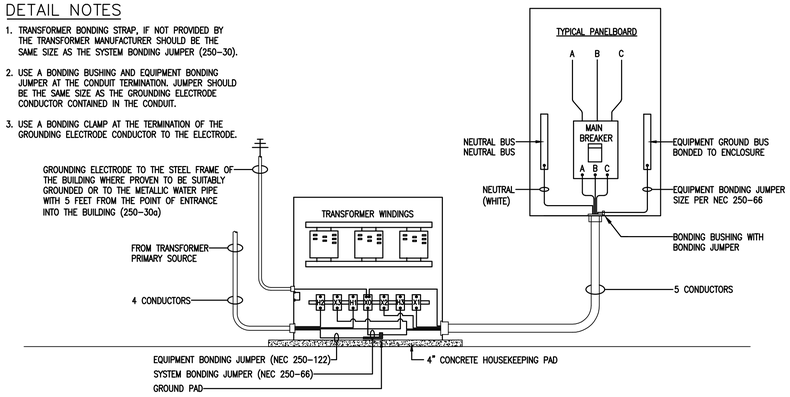


NOTE: ALL DEVICES SHALL BE PIGTAILED. DO NOT FEED THROUGH DEVICES UNLESS OTHERWISE NOTED OR APPROVED.

4 E4.0 **DETAIL -** TYPICAL BOX RECEPTACLE CONNECTION
SCALE: N.T.S.

DETAIL NOTES

1. TRANSFORMER BONDING STRAP, IF NOT PROVIDED BY THE TRANSFORMER MANUFACTURER SHOULD BE THE SAME SIZE AS THE SYSTEM BONDING JUMPER (250-30).
2. USE A BONDING BUSHING AND EQUIPMENT BONDING JUMPER AT THE CONDUIT TERMINATION. JUMPER SHOULD BE THE SAME SIZE AS THE GROUNDING ELECTRODE CONDUCTOR CONTAINED IN THE CONDUIT.
3. USE A BONDING CLAMP AT THE TERMINATION OF THE GROUNDING ELECTRODE CONDUCTOR TO THE ELECTRODE.



5 E4.0 **DETAIL -** DRY TYPE TRANSFORMER GROUNDING
SCALE: N.T.S.

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING ▪ MECHANICAL ▪ ELECTRICAL
Phone: 336.724.0139 ▪ 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business est. 1964

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 15886 01/16/2025 CHRISTOPHER R. STROUPE, III

WINSTON-SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston-Salem, North Carolina

DATE 01/16/2025
CES LICENSE NO. F-0238

SHEET TITLE: ELECTRICAL DETAILS
DRAWN BY: PN | APPROVED BY: CRS | PROJECT NO.: 44108
REVISION | REVISION | REVISION

SHEET NUMBER: E4.0

DRY–TYPE TRANSFORMER

T1 112.5 KVA 480::120/208 FED FROM PANEL XX INSTALLED: 2025

LINE 1: EQUIP. TAG/NAME
LINE 2: RATING (KVA)
LINE 3: VOLTAGE CONFIGURATION
LINE 4: FEEDER SOURCE
LINE 5: FOUR–DIGIT YEAR INSTALLED

TRANSFORMER NAMEPLATE NOTES:

1. MATERIAL SHALL BE CORE–ENGRAVED BAKELITE
2. COLOR SCHEME:
   120/208 VOLT SYSTEMS – BLUE SURFACE WITH WHITE CORE
   277/480 VOLT SYSTEMS – BLACK SURFACE WITH WHITE CORE
   EMERGENCY SYSTEMS – RED SURFACE WITH WHITE CORE
3. LETTERING SHALL BE 1/4" HIGH.
4. FASTEN WITH STAINLESS STEEL SCREWS OR POP RIVETS.

ELECTRICAL PANEL

PANEL MP 400A, 277/480V, 3PH, 4W FEEDS FROM PANEL MSP IN CAROLINA BUILDING INSTALLED: 2025

LINE 1: PANEL TAG/NAME
LINE 2: AMPS, SYSTEM VOLTAGE, PHASE, WIRE
LINE 3: FEEDER SOURCE
LINE 4: FEEDER SOURCE (IF NEEDED)
LINE 5: FOUR–DIGIT YEAR INSTALLED

PANEL NAMEPLATE NOTES:

1. MATERIAL SHALL BE CORE–ENGRAVED BAKELITE
2. COLOR SCHEME:
   120/208 VOLT SYSTEMS – BLUE SURFACE WITH WHITE CORE
   277/480 VOLT SYSTEMS – BLACK SURFACE WITH WHITE CORE
   EMERGENCY SYSTEMS – RED SURFACE WITH WHITE CORE
3. LETTERING SHALL BE 1/4" HIGH.
4. FASTEN WITH STAINLESS STEEL SCREWS OR POP RIVETS.

LIGHTING CONTACTOR

LIGHTING CONTACTOR LCP–1 INSTALLED: 2025

LINE 1: EQUIP. DESCRIPTION
LINE 2: EQUIP. DESCRIPTION
LINE 3: EQUIP. TAG/NAME
LINE 4: FOUR–DIGIT YEAR INSTALLED

LIGHTING CONTACTOR NAMEPLATE NOTES:

1. MATERIAL SHALL BE CORE–ENGRAVED BAKELITE
2. COLOR SCHEME:
   120/208 VOLT SYSTEMS – BLUE SURFACE WITH WHITE CORE
   277/480 VOLT SYSTEMS – BLACK SURFACE WITH WHITE CORE
   EMERGENCY SYSTEMS – RED SURFACE WITH WHITE CORE
3. LETTERING SHALL BE 1/4" HIGH.
4. FASTEN WITH STAINLESS STEEL SCREWS OR POP RIVETS.

SAFETY DISCONNECT

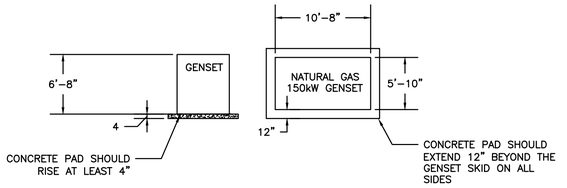
SWHP–1 480V BHP–1,3,5

LINE 1: EQUIP. TAG/NAME
LINE 2: SYSTEM VOLTAGE
LINE 3: FEEDER SOURCE
LINE 4: FEEDER SOURCE (IF NEEDED)

DISCONNECT NAMEPLATE NOTES:

1. MATERIAL SHALL BE CORE–ENGRAVED BAKELITE
2. COLOR SCHEME:
   120/208 VOLT SYSTEMS – BLUE SURFACE WITH WHITE CORE
   277/480 VOLT SYSTEMS – BLACK SURFACE WITH WHITE CORE
   EMERGENCY SYSTEMS – RED SURFACE WITH WHITE CORE
3. LETTERING SHALL BE 1/4" HIGH.
4. FASTEN WITH STAINLESS STEEL SCREWS OR POP RIVETS.

1 / E4.1 **DETAIL** - TYPICAL ELECTRICAL EQUIPMENT LABELS
SCALE: N.T.S.



NOTES:

a. DIMENSIONS GIVEN BY SALE REP. AND THEY ARE APPROXIMATED.
b. INSTALLATION SHALL COMPLY LATEST IBC CODE.
c. FINAL DIMENSION AND WEIGH OF GENSET SHALL BE PROVIDED BY MANUFACTURER.

2 / E4.1 **DETAIL** - TYPICAL GENSET CONCRETE HOUSEKEEPING PAD
SCALE: N.T.S.

CONSULTANT ENGINEERING SERVICE, INC.
PLUMBING • MECHANICAL • ELECTRICAL
Phone: 336.724.0139 • 1111 S Marshall Street, Suite 250, Winston Salem, NC 27101
A Woman Owned Business
est. 1984

NORTH CAROLINA PROFESSIONAL SEAL 15886 01/16/2025 ENGINEER CHRISTOPHER R. STROUP, III

WINSTON–SALEM PREP. ACADEMY
GENERATOR REPLACEMENT
1215 N Cameron Av.
Winston–Salem, North Carolina

DATE 01/16/2025
CES LICENSE NO. F–0238

SHEET TITLE: ELECTRICAL DETAILS
DRAWN BY: PN | APPROVED BY: CRS | PROJECT NO. 44108
REVISION | REVISION | REVISION

SHEET NUMBER: E4.1