ELECTRICAL ABBREVIATIONS

A	AMPERES
&	AND
ADA	AMERICANS DISABILITIES ACT
A.F.F.	ABOVE FINISHED FLOOR
AHU-(#)*	AIR HANDLING UNIT
AIC	AMPERES INTERRUPTING CAPABILITY
AMP	AMPERE
APPROX	APPROXIMATE, APPROXIMATELY
AS	AMMETER SWITCH
AUTO	AUTOMATIC, AUTOMATICALLY
AUX	AUXILIARY
BLDG	BUILDING
BP	BOOSTER PUMP
BR	BRIEFING ROOM
BSMT	BASEMENT
C	CONDUIT
C/L	CENTER LINE
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TV
CHP-(#)*	CHILLED WATER PUMP
CKT	CIRCUIT
CLG	CEILING
CO	CONTRACTING OFFICER
COMM	COMMUNICATION, COMMUNICATIONS
COND	CONDUCTOR
CONTR	CONTRACTOR
CP	COMPUTER PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CT	CURRENT TRANSFORMER
CTR	CENTER
CU	COPPER
DISC	DISCONNECT
DWG	DRAWING
EA	EACH
ELEC. CLO	ELECTRICAL CLOSET
EF-(#)*	EXHAUST FAN
EL	ELEVATOR MACHINE ROOM PANEL
ELECT	ELECTRICAL
ELEV	ELEVATOR
ELP	EMERGENCY LIGHTING PANEL
EMER	EMERGENCY
EMH	ELECTRIC MANHOLE
EMP	EMERGENCY MAIN DISTRIBUTION PANEL
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINEER, ENGINEERING
EP	EMERGENCY POWER PANEL
EQUIP	EQUIPMENT
EXH	EXHAUST
EXIST	EXISTING
FDR	FEEDER
FIXT	FIXTURE
FLEX	FLEXIBLE
FLR	FLOOR
FP	FIRE PUMP
FT	FOOT, FEET
G	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GNR	GENERATOR
GR	GENERATOR ROOM
HOA	HAND-OFF-AUTOMATIC SELECTOR
HP	HORSEPOWER
HT	HEIGHT
HU-(#)*	HUMIDIFIER
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HZ	HERTZ (CYCLES PER SECOND)
IC	INTERRUPTING CAPACITY
INCL	INCLUDE, INCLUDING
JB	JUNCTION BOX
KA	KILOAMP
KV	KILOVOLTS
KCM	THOUSAND CIRCULAR MILS
KVA	KILOVOLT-AMPERE
KW	KILOWATT
LEV	LEVEL
LP	LIGHTING PANEL
LTG	LIGHTING
M	METER
MAX	MAXIMUM
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MECH	MECHANICAL, MECHANICALLY
MFR	MANUFACTURER
MH	MANHOLE
MH=	MOUNTING HEIGHT EQUALS
MI	MINERAL INSULATED
MIN	MINIMUM
MISC	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MPDB	MODULAR POWER DISTRIBUTION BOX
MS	MANUAL STARTER
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
N.C.	NORMALLY CLOSED
NE	NORTHEAST
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRIC MANUFACTURERS' ASSOCIATION
NEUT	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO. #	NUMBER
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
NW	NORTHWEST
OPNG	OPENING
P	POLE
PF	POWER FACTOR
PH or ø	PHASE
PNL	PANEL
PP	POWER PANEL
PROJ	PROJECTOR
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
R	RISER
RF	RETURN AIR FAN
REBAR	REINFORCING BAR
REC	RECEPTACLE
RECT	RECTIFIER
REF	REFERENCE
REQD	REQUIRED
REV	REVISED; REVISION
RM	ROOM
RS	RAPID START
SCHED	SCHEDULE
SD	SMOKE DETECTOR
SLV	SLEEVE
SPEC	SPECIFICATION
SPKR	SPEAKER
ST	SHUNT TRIP
SUP	SUPPORT
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
TC	TELECOMMUNICATION CLOSET
TELECOM	TELECOMMUNICATIONS
TEMPR	TEMPORARY
T.TRANSF	TRANSFORMER
TV	TELEVISION
TW	TWISTED
TYP	TYPICAL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UH-(#)*	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
U.O.N	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT AMPERE
VS	VOLTMETER SWITCH
W	WATT (ELECTRICAL);
W	WIRE (i.e. WIRE NO.)
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XMTR	TRANSMITTER

* -(#) INDICATES AN IDENTIFICATION NUMBER FOR A SPECIFIC PIECE OF EQUIPMENT, SUCH AS AHU-4, AND IS NOT INCLUDED WHEN THE ABBREVIATION IS USED IN THE CONTEXT OF A GENERAL NOTE OR DESCRIPTION.

GENERAL NOTES

1. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, NFPA AND ALL OTHER LOCAL CODES.
2. ALL WORK SHALL BE ACCOMPLISHED WITHIN THE INTENT OF THE BASE BUILDING CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
3. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE PRIOR TO BID AND DETERMINE CONDITIONS WHICH MAY AFFECT HIS BID. ANY ITEMS NOT FULLY UNDERSTOOD SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER PRIOR TO BIDDING.
4. CONTRACTOR SHALL VERIFY ALL EQUIPMENT REQUIREMENTS BEFORE INSTALLING CONDUIT AND/OR CONDUCTOR FROM POWER SOURCE TO EQUIPMENT TERMINATION.
5. THE CONTRACTOR MUST ASSURE EQUIPMENT GROUNDING SYSTEM CONTINUITY AND SHALL BE CONTINUOUSLY IDENTIFIED THROUGHOUT THE SYSTEM TO AVOID ERROR.
6. CONTRACTOR SHALL PROVIDE NEW TYPED PANELBOARD DIRECTORIES FOR ALL PANELBOARDS AFFECTED BY THIS WORK.
7. GROUNDING OF ALL PANELBOARD, BOXES AND EQUIPMENT SHALL SHALL CONFORM TO THE LATEST APPLICABLE EDITION OF THE NEC. CONTINUITY OF METAL RACEWAYS SHALL BE INSURED BY THE USE OF DOUBLE LOCKNUTS. GROUNDING CONNECTOR SHALL BE OF PRESSURE TYPE SIMILAR AND EQUAL TO BURNDY OR O-Z.
8. ALL CONDUCTORS SHALL BE COPPER WITH INSULATION RATED 75'C TYPE THHN, THWN OR THW.
9. ALL WIRE AND/OR CABLE RUNNING IN ABOVE CEILING IN RETURN AIR PLENUMS SHALL BE UL LISTED FOR SUCH USE.
10. ALL MATERIALS SHALL BE UL APPROVED.
11. ALL CONNECTORS AND/OR COUPLERS SHALL BE STEEL. CAST IRON FITTINGS ARE NOT ACCEPTABLE.
12. FURNISH ALL LABOR, MATERIAL, SERVICES AND SKILLED SUPERVISION NECESSARY FOR THE CONSTRUCTION, ERECTION, INSTALLATIONS, CONNECTION, TESTING AND ADJUSTMENT OF ALL CIRCUIT AND ELECTRICAL EQUIPMENT SPECIFIED HEREIN, SHOWN OR NOTED ON THE DRAWINGS AND DELIVERY TO THE GOVERNMENT COMPLETE IN ALL RESPECTS READY FOR USE.
13. ALL ELECTRICAL WORK SHALL BE NEW EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
14. ALL CUTTING AND PATCHING SHALL BE PERFORMED IN A WORKMANLIKE MANNER ACCEPTABLE TO THE GOVERNMENT.
15. ALL ELECTRICAL WORK, INCLUDING SERVICE EQUIPMENT, SHALL BE CONDUCTED ON DE-ENERGIZED SYSTEMS AND COMPONENTS. WHERE CONTINUOUS SERVICE IS REQUIRED TO EXISTING EQUIPMENT, AN ALTERNATIVE MEANS OF SERVICE SHALL BE PROVIDED AND INSTALLED UNTIL THE REQUIRED NEW AND/OR ALTERED WORK HAS BEEN COMPLETED.
16. THE WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF THE TRANSMITTER OPERATION. COORDINATE WITH STATION MANAGER.
17. ALL PENETRATIONS OF SMOKETIGHT PARTITIONS & BARRIERS MUST BE SEALED WITH CODE-APPROVED FIRESTOPPING MATERIALS.
18. PROVIDE GROUNDING TYPE EXPANSION FITTINGS OR OTHER APPROVED METHODS TO ALLOW FOR EXPANSION, CONTRACTION, AND DEFLECTION WHERE CONDUITS CROSS EXPANSION JOINTS.
19. ALL PENETRATIONS OF FLOORS, WALLS, AND CEILING SHALL BE FIRE STOPPED TO FULL THICKNESS OF PENETRATION WITH APPROVED FIRE STOPPING MATERIAL OF EQUAL OR GREATER FIRE RESISTANCE.
20. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN COMPLIANCE WITH THE LATEST APPLICABLE EDITION OF THE NEC.
21. DRAWINGS ARE BASED ON EXISTING PLANS AND FIELD INVESTIGATION WITHOUT DEMOLITION. CONTRACTOR SHALL VISIT THE EXISTING BUILDING AND FAMILIARIZE WITH THE EXISTING CONDITIONS AND SHALL EXAMINE ALL RELATED DRAWINGS TO AVOID CONFLICT.
22. FOLLOW MANUFACTURER RECOMMENDATION FOR PROPER INSTALLATION OF ALL MATERIALS.
23. ALL CONDUIT SHALL BE EMT UNLESS OTHERWISE NOTED.

DEMOLITION NOTES

1. ALL EXISTING EXPOSED CONDUITS THAT WILL NOT BE REUSED SHALL BE REMOVED COMPLETELY. PACKED CONDUIT PENETRATIONS ON BOTH SURFACES OF THE WALL OR FLOOR OPENING RESULTING FROM THE DEMOLITION WORK WITH FIRESTOPPING SEALANT. FLUSH SEALANT TO THE WALL OR FLOOR SURFACE.
2. PROVIDE ALL ELECTRICAL DEMOLITION WORK NECESSARY TO INSTALL NEW WORK. REROUTE AND RECONNECT CIRCUITS THAT REMAIN IN USE, AND INTERFERE WITH NEW CONSTRUCTION.
3. ALL MATERIALS REMOVED UNDER DEMOLITION SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND REMOVED EXPEDITIOUSLY FROM THE SITE.
4. WHERE EXISTING DEVICES AND/OR EQUIPMENT ARE TO REMAIN, MAINTAIN ELECTRICAL CONTINUITY. WHERE CIRCUITING TO THE EXISTING DEVICES AND/OR EQUIPMENT IS DISCONNECTED BY WORK IN ADJACENT SPACE, RECONNECT THE REMAINING DEVICES AND/OR EQUIPMENT TO NEW DEVICES AND/OR EQUIPMENT OR AN EXISTING CIRCUIT AS INDICATED ON THE DRAWING.
5. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS INDICATED IN THE DRAWINGS BEFORE THE EXECUTION OF THIS CONTRACT. VERIFY THE EXISTING POWER DISTRIBUTION SYSTEM PRIOR TO EXECUTION OF DEMOLITION WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES WITH THESE DRAWINGS TO THE CONTRACTING OFFICER IMMEDIATELY.

ELECTRICAL SYMBOLS

- 60A — SWITCH ("_ _A" INDICATES AMPERE RATING)
- GROUND
- DRAWOUT POWER CIRCUIT BREAKER
- 30A — CIRCUIT BREAKER (i.e.,"30 A" INDICATES CONTINUOUS CURRENT RATING.)
- DRAWOUT FUSE
- DRAWOUT FUSED SWITCH
- 400A — FUSED SWITCH ("400A" INDICATES CURRENT RATING)
- 52 — DRAWOUT VACUUM BREAKER
- A — AMMETER
- V — VOLT METER
- $_a — SWITCH ("a" INDICATES CIRCUIT)
- FLUORESCENT INDUSTRIAL TYPE LUMINARIES, SUSPENDED MOUNTING.
- FLUORESCENT INDUSTRIAL TYPE LUMINARIES, SUSPENDED MOUNTING. INCLUDE EMERGENCY BATTERY BACK-UP UNIT.
- DASHED LINE INDICATES DEMOLITION
- TRANSFORMER A-PRIMARY VOLTAGE B-SECONDARY VOLTAGE C-KVA RATING
- 5KV, 600A 3-WAY DOUBLE THROW OIL SWITCH
- 5KV, 600A SINGLE THROW OIL SWITCH
- CR — CONTACT RELAY
- DC — DOOR CONTACT
- K — KEY INTERLOCK
- 50/51 — INSTANTANEOUS/TIME OVERCURRENT RELAY
- M — METER
- G — EXISTING GENERATOR
- DM — THREE PHASE DIGITAL MULTIMETER
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSION

DRAWING INDEX

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E-002	ELECTRICAL NOTES AND SYMBOLS
ED-101	PARTIAL FLOOR PLAN-DEMOLITION
ED-601	EXISTING LOW VOLTAGE SWITCHBOARD ELEVATION
E-101	PARTIAL FLOOR PLAN-NEW WORK
E-501	EXISTING SINGLE LINE DIAGRAM
E-502	EXISTING & NEW PARTIAL SINGLE LINE DIAGRAM
E-601	NEW LOW VOLTAGE SWITCHBOARD ELEVATION

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PROJECT INFORMATION:

LOW VOLTAGE SWITCHBOARDS REPLACEMENT

GREENVILLE, NC TRANSMITTING STATION SITE B

Task Order 14
100% CONTRACT DRAWINGS

KEYPLAN:

NO.	DATE	DESCRIPTION
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SHEET TITLE:

ELECTRICAL NOTES AND SYMBOLS

SHEET NUMBER: 2 OF: 9

DRAWING NUMBER:

E-002

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