

2012 NORTH CAROLINA ENERGY CONSERVATION CODE
COMMERCIAL ENERGY EFFICIENCY - ELECTRICAL SUMMARY

501.1 METHOD OF COMPLIANCE NC SPECIFIC COMCHECK PROVIDED
 2012 NCECC CHAPTER 5 20% IMPROVEMENT OVER ASHRAE 90.1-2007
 NOT APPLICABLE BASED ON PROJECT SCOPE

501.2 APPLICATION COMPLIANCE
 506.2.1 EFFICIENT MECH EQUIPMENT 506.2.4 HI EFFICIENCY DOMESTIC HW
 506.2.2 REDUCED LTG DENSITY 506.2.5 ONSITE RENEWABLE ENERGY
 506.2.3 ENERGY RECOVERY SYSTEMS 506.2.6 DAYLIGHTING CONTROLS
 NOT APPLICABLE BASED ON PROJECT SCOPE

505.2 - INTERIOR LIGHTING CONTROLS (MANDATORY REQUIREMENTS):
 INTERIOR LIGHTING SYSTEMS ARE PROVIDED WITH CONTROLS AS REQUIRED PER SECTION 505.2, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE

505.3 - TANDEM WIRING (MANDATORY REQUIREMENTS):
 FLUORESCENT LUMINAIRES LOCATED WITHIN THE SAME AREA ARE TANDEM WIRED AS REQUIRED PER SECTION 505.3, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE

505.4 - EXIT SIGNS (MANDATORY REQUIREMENTS):
 INTERNALLY ILLUMINATED EXIT SIGNS DO NOT EXCEED 5 WATTS PER SIDE.
 NOT APPLICABLE

505.5 - INTERIOR LIGHTING POWER REQUIREMENTS (PRESCRIPTIVE) (NON-EXEMPT):
 NOT APPLICABLE PER 2012 NCECC 101.4.3, EXCEPTION 1.G.

505.5.1 - TOTAL CONNECTED INTERIOR LIGHTING POWER:
 3,216 WATTS SPECIFIED
 10% REDUCTION OF SPECIFIED VS. ALLOWED (APPLICABLE IF 506.2.2 IS SELECTED)

505.5.2 - TOTAL ALLOWABLE INTERIOR LIGHTING POWER:
 METHOD OF COMPLIANCE:
 BUILDING AREA METHOD SPACE-BY-SPACE METHOD
 2,537 WATTS ALLOWED

505.6.1 - EXTERIOR BUILDING GROUNDS LIGHTING:
 LAMPS OPERATING AT GREATER THAN 100 WATTS FOR EXTERIOR BUILDING GROUNDS LUMINAIRES HAVE A MINIMUM EFFICACY OF 60 LUMENS PER WATT, EXCEPT WHERE EXEMPT.
 NOT APPLICABLE

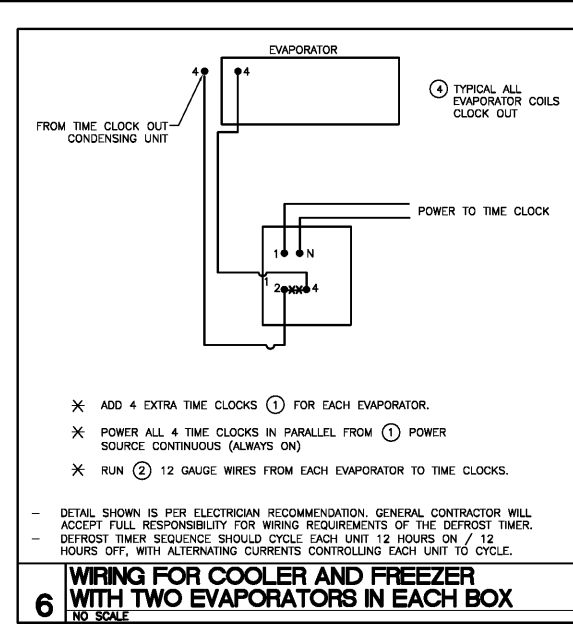
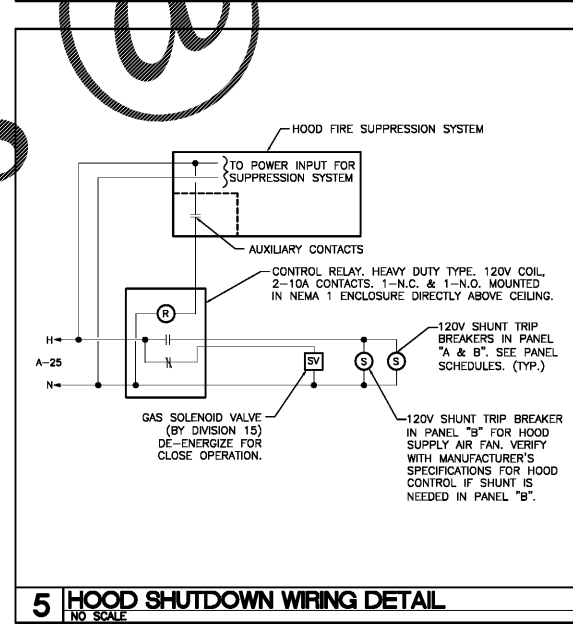
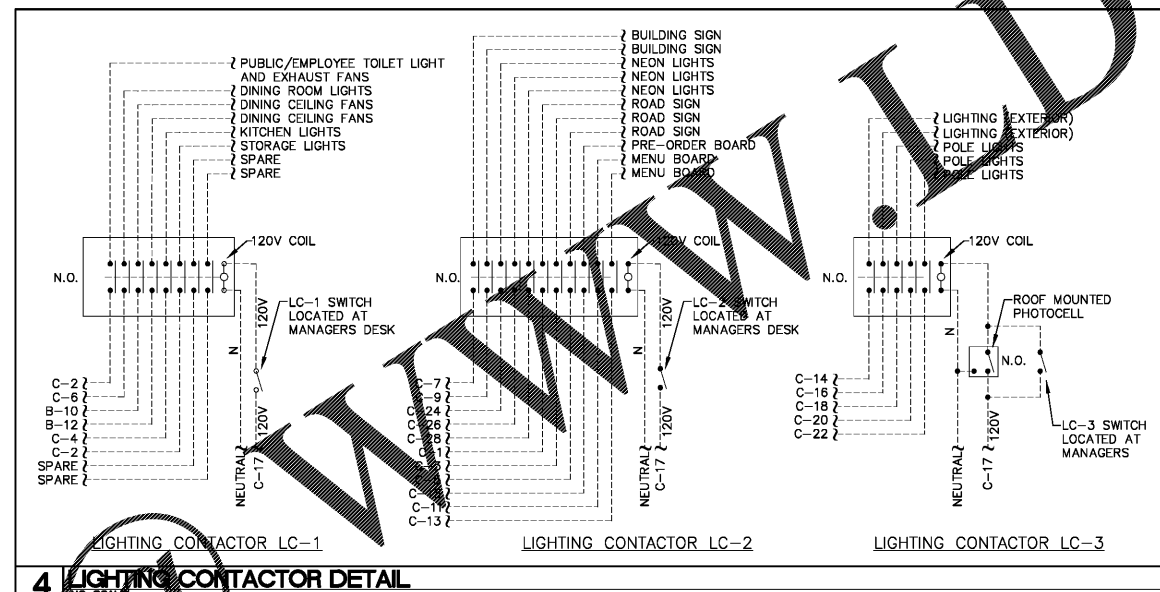
505.6.2 - EXTERIOR BUILDING LIGHTING POWER (NON-EXEMPT):
 NOT APPLICABLE

TOTAL CONNECTED EXTERIOR LIGHTING POWER:
 1,344 WATTS SPECIFIED

TOTAL ALLOWABLE EXTERIOR LIGHTING POWER:
 2,886 WATTS ALLOWED

505.6.3 - SHIELDING OF EXTERIOR BUILDING LIGHTING FIXTURES:
 ONLY FULLY SHIELDED EXTERIOR BUILDING LIGHTING FIXTURES ARE PROVIDED, EXCEPT WHERE EXEMPT.
 NATIVE EXTERIOR BUILDING LIGHTING FIXTURES ARE PROVIDED FOR GREATER ENERGY EFFICIENCY OVER FULLY SHIELDED EXTERIOR BUILDING LIGHTING FIXTURES.
 NOT APPLICABLE

505.7 - ELECTRICAL ENERGY CONSUMPTION (DWELLING UNITS):
 SEPARATE TENANT METERING TO DETERMINE ELECTRICAL ENERGY CONSUMPTION HAS BEEN PROVIDED FOR BUILDINGS HAVING INDIVIDUAL DWELLING UNITS.
 NOT APPLICABLE



SURGE PROTECTIVE DEVICE

A. SPD SHALL COMPLY WITH THE FOLLOWING STANDARDS:
 1. UNDERWRITERS LABORATORIES, INC. ANSI/UL 1449, THIRD EDITION-SURGE PROTECTIVE DEVICES.
 2. IEEE STANDARD C62.11-2012;C62.33-1982;C62.41-2002; AND C62.45-2002.
 3. IEEE STANDARD 1100-2005 8.6.1
 4. NATIONAL ELECTRICAL CODE ARTICLE 240-21 (EQUIPMENT COMPLYING WITH TAP CONDUCTOR RULES) AND ARTICLE 110-9 (INTERRUPTING CAPACITY)
 5. ISO 9501 CERTIFIED MANUFACTURER

B. SPECIFICATIONS FOR THE LIFE OF THE UNIT SHALL BE INCLUDED IN TERMS OF THE NUMBER OF "HITS" EACH UNIT CAN WITHSTAND IN THE LINE-TO-NEUTRAL MODE AT SPECIFIC SURGE CURRENT LEVELS BEFORE UNIT FAILURE UTILIZING THE CATEGORY C2 8X20 MICROSECOND CURRENT WAVEFORM TEST. THE SPD SHALL BE CAPABLE OF SURVIVING 20,000 REPETITIVE SURGE EVENTS BY ANSI/IEEE C62.41, CATEGORY Chigh (10KA) IMPULSES WITHOUT FAILURE OR DEGRADATION IN PERFORMANCE CHARACTERISTICS OF MORE THAN 10%.

C. THE PER PHASE KILOAMPS (KA) RATINGS FOR EACH SPD DEVICE SHALL BE INCLUDED ON THE SUBMITTALS. THE MINIMUM KA RATINGS FOR THE FOLLOWING SHALL APPLY:
 1. DISTRIBUTION 120-160KA (SSI # SLDxxx-56)

D. SUBMIT TEST RESULTS (GRAPHS) FOR THE APPROPRIATE IEEE TESTS FOR ALL MODELS SUBMITTED SHOWING ACTUAL LET THROUGH VOLTAGES (USING 6" LEAD LENGTH AS MEASURED FROM THE POINT WHERE THE CONNECTION CONDUCTORS EXIT THE SPD ENCLOSURE)
 1. LEAD LENGTH MUST BE SPECIFIED AS WELL AS ALL APPLICABLE TEST PARAMETERS NECESSARY TO PERFORM A COMPLETE EVALUATION OF TEST RESULTS.

E. UNITS SHALL CONSIST OF PARALLEL CONNECTIONS ONLY. SERIES ELEMENTS ARE NOT ACCEPTABLE.

F. THE TRANSIENT SUPPRESSION DEVICE MUST BE UL LISTED UNDER THE UL 1449, 3RD EDITION, AS A COMPLETE ENTITY. LISTED UL LET THROUGH VOLTAGE RATING MUST BE CLEARLY STATED.

G. UNIT SHALL EMPLOY METAL OXIDE VARISTORS AS THE PRIMARY SUPPRESSION TECHNOLOGY.

H. SYSTEM VOLTAGES:
 1. 208Y/120V, 3Ø, 4 WIRE

I. BASIS OF DESIGN PRODUCT IS SURGE SUPPRESSION INCORPORATED. EQUAL PRODUCTS MAY BE CONSIDERED BY ONE OF THE FOLLOWING MANUFACTURERS LISTED BELOW
 1. LIEBERT
 2. CURRENT TECHNOLOGY
 3. SQUARE-D BY SCHNEIDER ELECTRIC
 4. APT

J. ADDITIONAL FEATURES
 1. LED INDICATORS SHALL BE UTILIZED TO INDICATE FAILURE OF PROTECTION MODULES.
 2. ALL UNITS SHALL BE ENCLOSED IN A WALL MOUNTABLE HEAVY DUTY ENCLOSURE EQUIVALENT TO A NEMA 1 RATING FOR INTERIOR INSTALLATIONS. ALL EXTERIOR UNITS SHALL BE ENCLOSED IN A WALL MOUNTABLE HEAVY DUTY ENCLOSURE EQUIVALENT TO A NEMA 12.
 3. 15 YEAR UNCONDITIONAL WARRANTY.

K. UNITS SHALL BE INSTALLED OF THE SAME VOLTAGE RATING AS THE INTENDED PROTECTED EQUIPMENT.

L. INSTALL UNITS WITH SHORTEST POSSIBLE LEAD LENGTH (MAXIMUM OF 18" FOR TYPE 1 UNITS, MAXIMUM OF 6" FOR TYPE 2 UNITS). WHERE CONDUIT IS NECESSARY TO INSTALL LEAD CONNECTION CONDUCTORS, LEADS SHALL BE INSTALLED IN RIGID NON-METALLIC CONDUIT AND SHALL NOT CONTAIN UNNECESSARY BENDS OR LOOPS

M. INSTALL ALL TYPE 1 UNITS ON OR IMMEDIATELY ADJACENT TO THE DISTRIBUTION SECTION OF THE SERVICE GEAR ENCLOSURES WHERE THE CONNECTION LEAD LENGTH CAN BE KEPT AS SHORT AS POSSIBLE BUT ALSO SO THAT THE INSTALLATION WILL NOT INTERFERE WITH REMOVAL OF SERVICE GEAR PANELS. PROVIDE A DEDICATED 30A,3-POLE CIRCUIT BREAKER IN SERVICE GEAR FOR CONNECTION TO EACH UNIT.

N. SPD SHALL INCLUDE A SHORT CIRCUIT RATING AT ABOVE THE FAULT CURRENT AVAILABLE AT THE SERVICE ENTRANCE POINT.

5 SPD SPECIFICATIONS
NO SCALE

ELECTRICAL SHEET INDEX

PLAN NUMBER	PLAN NAME
E1-0	ELECTRICAL DETAILS
E2-0	ELECTRICAL SCHEDULES
E3-0	ELECTRICAL SPECIFICATIONS
E4-0	FLOOR PLAN - LIGHTING
E5-0	FLOOR PLAN - POWER
E6-0	ROOF PLAN - POWER

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North Carolina License Number: C-8914



8/04/17

COOK OUT
2546 Chimney Rock Road
Hendersonville, NC

Mk	Date	Description

ELECTRICAL DETAILS

Date: 08-04-17
 Drawn By: LRM
 Check By: JG
 Job No.: 17-0081-000
 Sheet:

E1-0

Order Plans