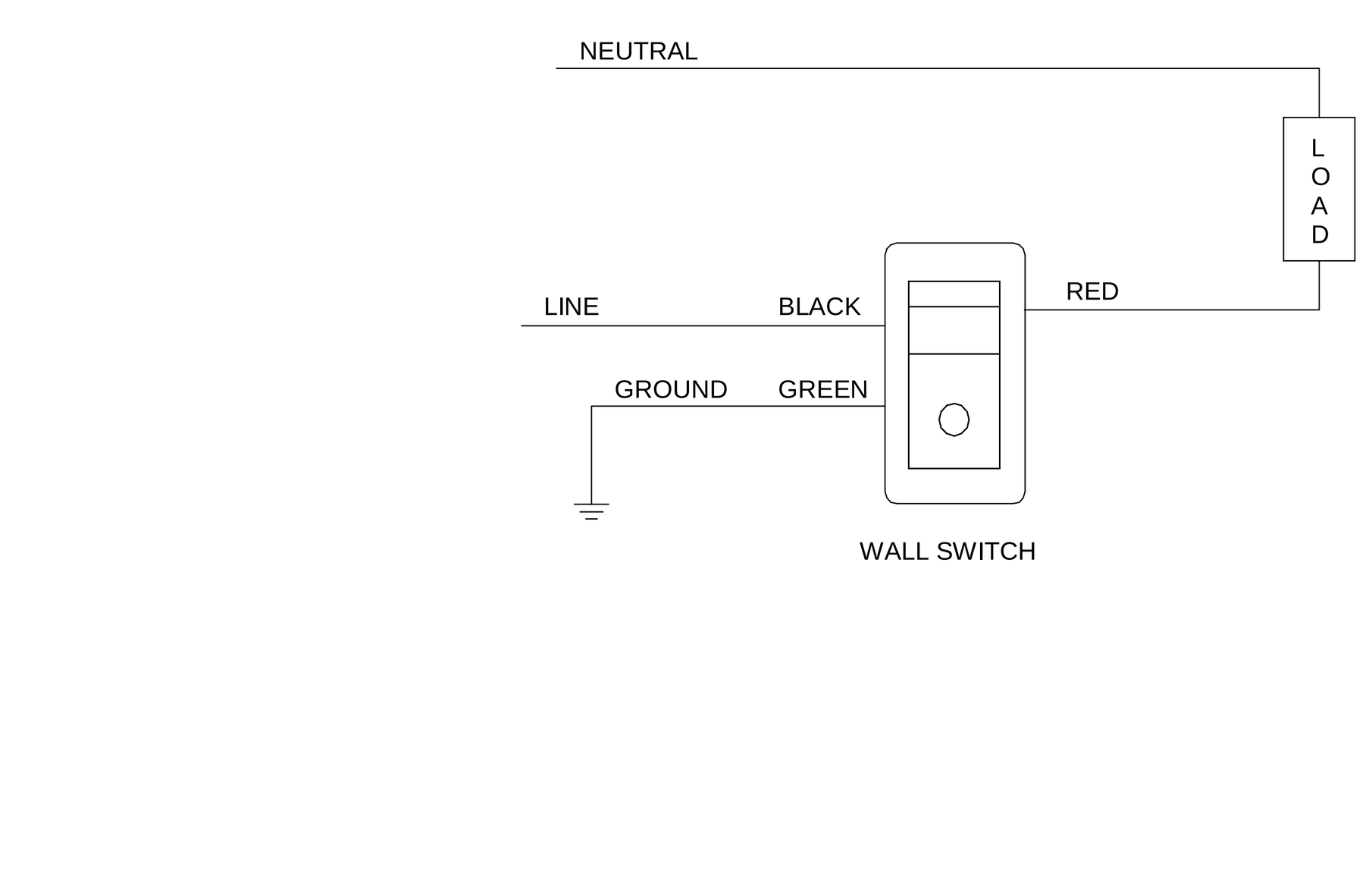
DRAWING IS FOR REFERENCE ONLY: PROVIDE ROOM CONTROLLERS, PHOTOSENSORS, SWITCHES, OCCUPANCY SENSORS, EMERGENCY CONTROLS, AND OTHER DEVICES AS REQUIRED TO CONTROL EACH SPECIFIC SPACE.



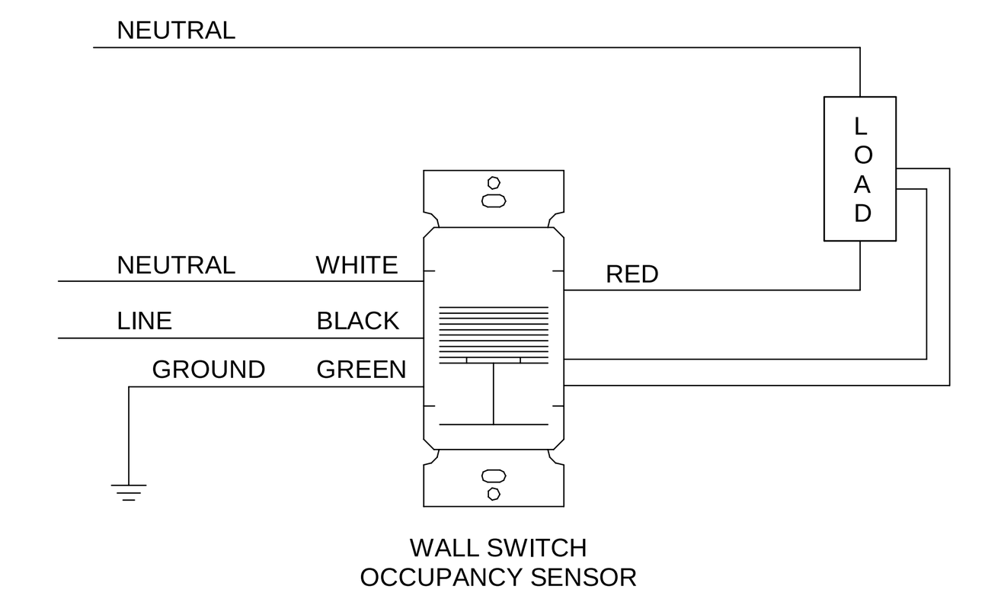
TYPICAL OF ELECTRICAL/MECHANICAL/TELECOM ROOMS

SWITCH CONTROLLED AREAS (LC1)

SMALL DIMMABLE ROOMS WHERE PLUG LOAD CONTROL IS NOT REQUIRED
ADJUST AND PROGRAM SYSTEM FOR SEQUENCE OF OPERATION:

1. THE OCCUPANCY SENSOR SWITCH BUTTON SHALL BE USED TO TURN LIGHTS ON.
2. LIGHTS WILL TURN OFF AFTER 20 MINUTES OF NO OCCUPANCY DETECTION.
3. SWITCHES MAY BE USED TO RAISE AND LOWER LIGHTING LEVEL.
4. ALTERNATIVELY, THE SENSOR MAY BE SET TO AUTOMATICALLY TURN ON TO CERTAIN % LIGHTING LEVEL.

DRAWING IS FOR REFERENCE ONLY: PROVIDE ROOM CONTROLLERS, PHOTOSENSORS, SWITCHES, OCCUPANCY SENSORS, EMERGENCY CONTROLS, AND OTHER DEVICES AS REQUIRED TO CONTROL EACH SPECIFIC SPACE.



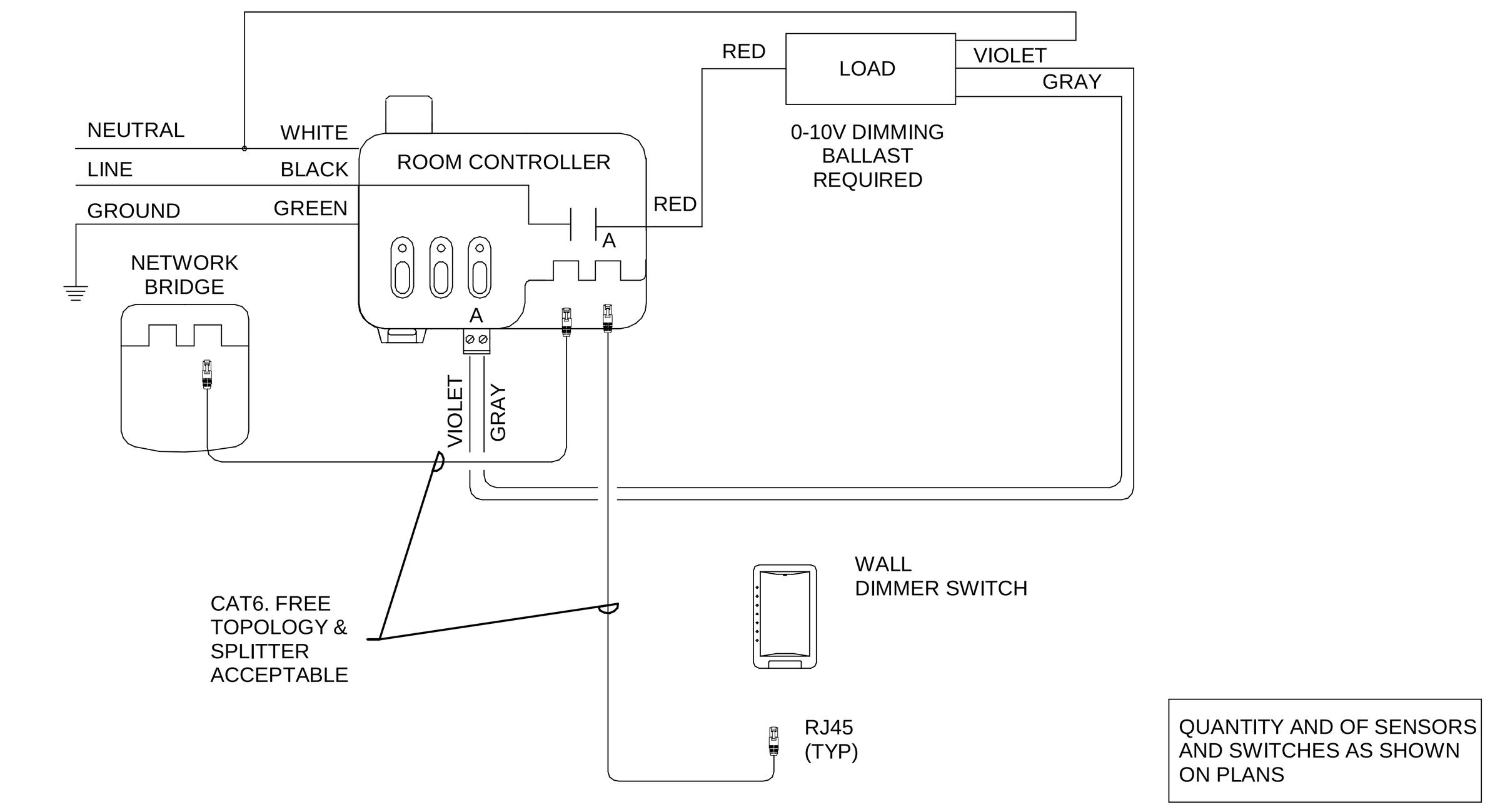
TYPICAL OF SMALL JANITOR CLOSETS/STORAGE

TYPICAL SMALL DIMMABLE ROOM (LC2)

ADJUST AND PROGRAM SYSTEM FOR SEQUENCE OF OPERATION:

1. THE OCCUPANCY SENSOR SWITCH SHALL BE USED TO TURN LIGHTS ON AND OFF AND ADJUST THE LIGHTING LEVEL.
2. THE OCCUPANCY SENSOR SHALL TURN LIGHTS OFF AFTER NO OCCUPANCY IS DETECTED FOR 20 MINUTES

DRAWING IS FOR REFERENCE ONLY: PROVIDE ROOM CONTROLLERS, PHOTOSENSORS, SWITCHES, OCCUPANCY SENSORS, EMERGENCY CONTROLS, AND OTHER DEVICES AS REQUIRED TO CONTROL EACH SPECIFIC SPACE.



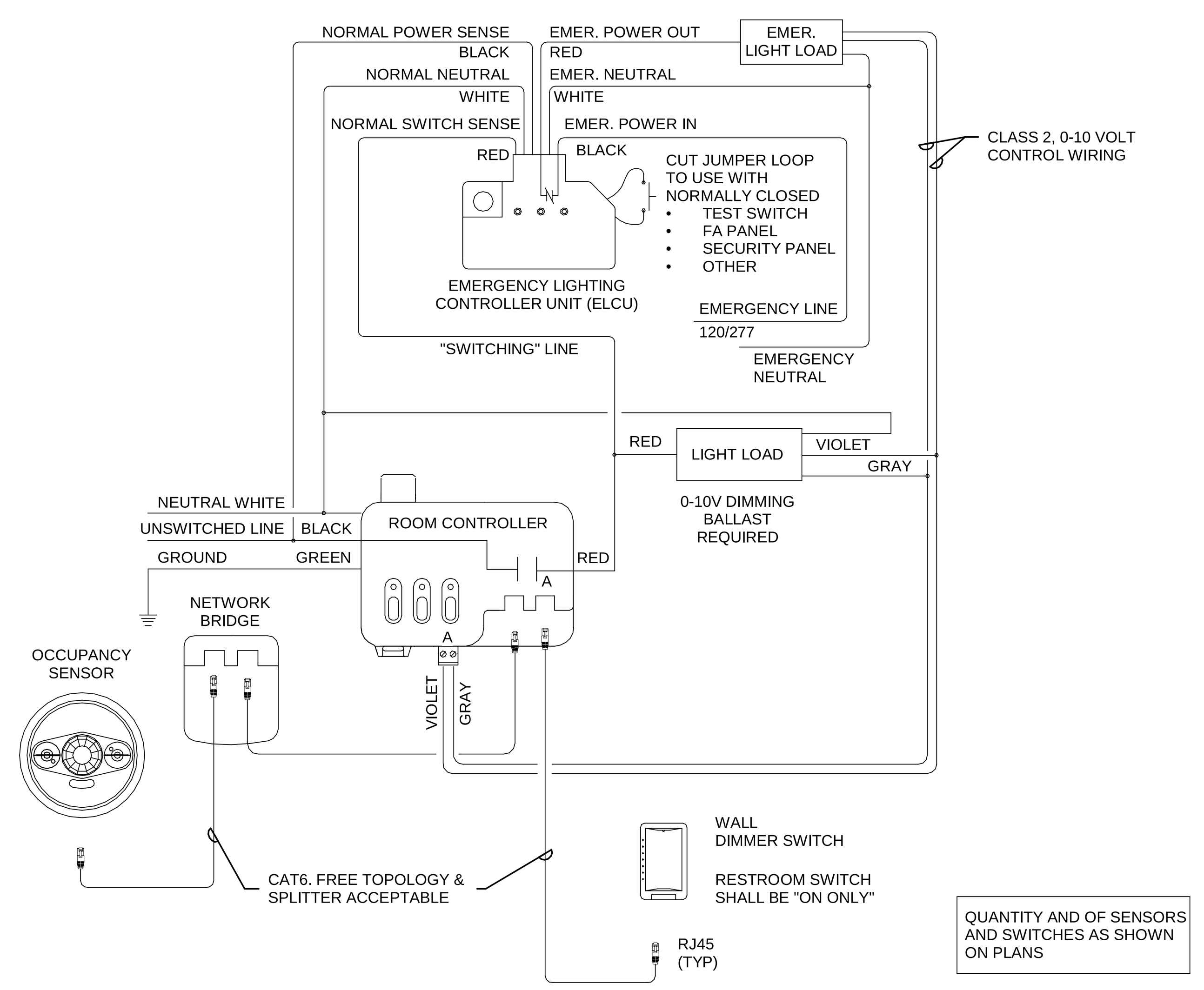
QUANTITY AND OF SENSORS AND SWITCHES AS SHOWN ON PLANS

TYPICAL DIMMED WALL SENSOR ROOM (LC3)

ADJUST AND PROGRAM SYSTEM FOR SEQUENCE OF OPERATION:

1. THE SWITCH SHALL BE USED TO TURN LIGHTS ON AND OFF AND ADJUST THE LIGHTING LEVEL. FOR RESTROOMS, INITIAL OCCUPANCY DETECTION SHALL TURN LIGHTS ON AND THE SWITCH SHALL BE PROGRAMMED TO BE "ON ONLY".
2. THE OCCUPANCY SENSOR SHALL TURN LIGHTS OFF AFTER NO OCCUPANCY IS DETECTED FOR 20 MINUTES.
3. IF EMERGENCY LIGHTING IS PRESENT, USE ELCU TO OPERATE EMERGENCY LIGHTING WITH NORMAL LIGHTING. UPON LOSS OF NORMAL POWER SENSE FEED, EMERGENCY LIGHTING WILL BE FORCED TO FULL OUTPUT.

DRAWING IS FOR REFERENCE ONLY: PROVIDE ROOM CONTROLLERS, PHOTOSENSORS, SWITCHES, OCCUPANCY SENSORS, EMERGENCY CONTROLS, AND OTHER DEVICES AS REQUIRED TO CONTROL EACH SPECIFIC SPACE.



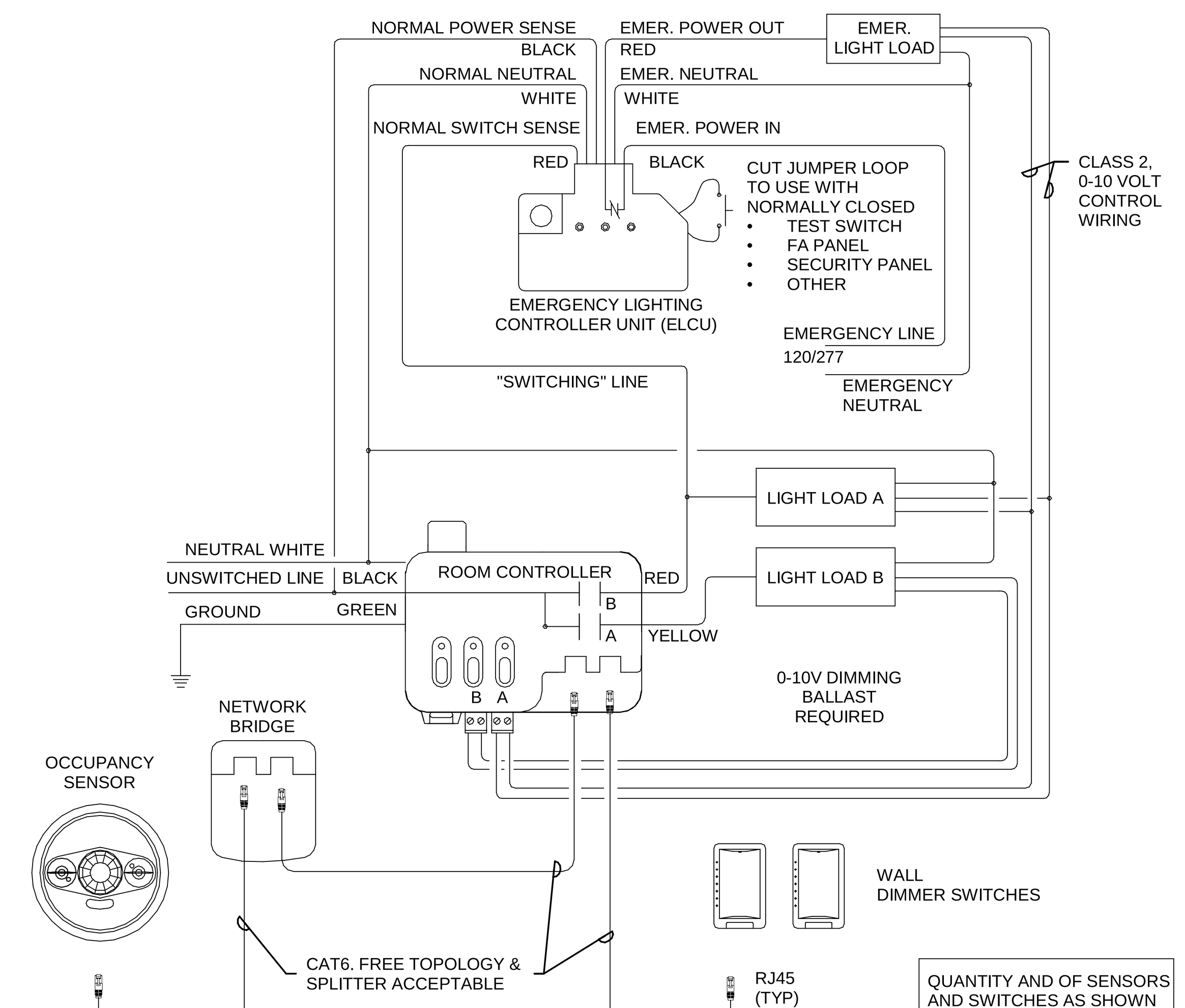
QUANTITY AND OF SENSORS AND SWITCHES AS SHOWN ON PLANS

TYPICAL 1 ZONE DIMMED ROOM (LC4)

ADJUST AND PROGRAM SYSTEM FOR SEQUENCE OF OPERATION:

1. THE DIMMER SWITCH SHALL TURN LIGHTS ON AND OFF AND ADJUST LEVELS.
2. THE OCCUPANCY/VACANCY SENSOR SHALL TURN LIGHTS OFF AFTER 20 MINUTES OF NO OCCUPANCY DETECTION.
3. IF EMERGENCY LIGHTING IS PRESENT, USE ELCU TO OPERATE EMERGENCY LIGHTING WITH NORMAL LIGHTING. UPON LOSS OF NORMAL POWER SENSE FEED, EMERGENCY LIGHTING WILL BE FORCED TO FULL OUTPUT.

DRAWING IS FOR REFERENCE ONLY: PROVIDE ROOM CONTROLLERS, SWITCHES, OCCUPANCY SENSORS, EMERGENCY CONTROLS, AND OTHER DEVICES AS REQUIRED TO CONTROL EACH SPECIFIC SPACE.



QUANTITY AND OF SENSORS AND SWITCHES AS SHOWN ON PLANS

TYPICAL 2 ZONE DIMMED ROOM (LC5)

LIGHTING RELAY PANEL GENERAL NOTES

A. LOW VOLTAGE TERMINATIONS, SYSTEM EMERGIZATION, PROGRAMMING AND TRAINING PROVIDED BY FACTORY SERVICE TECHNICIAN. SUBMIT REQUEST FOR TECHNICIAN 21 DAYS IN ADVANCE.

B. FOR NETWORK RUNS OVER 300', FIBER OPTIC MAY BE REQUIRED, OR AN INTERIM SWITCH WILL NEED TO BE INSTALLED. CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL NETWORK CABLE DISTANCE RUNS AND FOR NOTIFYING THE MANUFACTURER OF ADDITIONAL EQUIPMENT NEEDED FOR FIBER OR INTERIM SWITCHES. CONTRACTOR IS RESPONSIBLE FOR ALL FIBER TERMINATIONS.

C. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING BETWEEN THE FIXTURE MANUFACTURER(S) AND THE LIGHTING CONTROLS SUPPLIER TO ENSURE THAT ALL CONTROLLERS, CABLING, REPEATERS, TERMINATORS, POWER SUPPLIES, AND ANY OTHER COMPONENTS NEEDED FOR A COMPLETE AND WORKING SYSTEM ARE INCLUDED.

D. THE ELECTRICAL CONTRACTOR WILL VERIFY BALLAST AND DRIVER TYPES FOR ALL FIXTURES AND PROVIDE THAT INFORMATION TO THE LIGHTING CONTROLS MANUFACTURER. FOR NEW OR UNKNOWN FIXUTRE/DRIVER COMBINATIONS, IT MAY BE NECESSARY TO SEND A SAMPLE TO THE CONTROLS MANUFACTURER SO THAT THE OPTIMAL DIMMING CONFIGURATION MAY BE DETERMINED.

E. REFER TO PANEL SCHEDULES FOR FINAL DETERMINATION OF RELAYS AND QUANTITIES.

OCCUPANCY SENSOR GENERAL NOTES

A. ALL SENSOR LOCATIONS SHOWN ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.

B. ULTRASONIC CEILING MOUNT SENSORS SHOULD BE A MINIMUM OF (6) FEET FROM HVAC SUPPLY AND RETURN GRILLES.

C. ADJUST ALL SENSORS TO COMPENSATE FOR PENDANT MOUNTED LIGHT FIXTURES AND MOUNT AT SIMILAR HEIGHT ABOVE FINISHED FLOOR.

D. ADJUST SENSITIVITY AND TIME DELAY SETTINGS FOR ALL NON-ADAPTIVE SENSORS. FOLLOW MANUFACTURER'S RECOMMENDED PLACEMENT.

E. ALL SENSORS LOCATED IN PUBLIC TOILETS SHOULD BE ADJUSTED FOR MINIMUM 30 MINUTE DELAY ON SHUT-OFF.

F. CONTRACTOR MUST FIELD VERIFY REQUIRED NUMBER OF OCCUPANCY SENSOR RELAYS (ROOM CONTROLLERS). PROVIDE ONE RELAY FOR EACH CONTROLLED AREA. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR QUANTITY OF SENSORS THAT MAY BE CONTROLLED BY ONE ROOM CONTROLLER.

G. PROVIDE AUXILIARY CONTROLLERS AS REQUIRED IF SENSORS EXCEED CONTROLLER LIMITATION.

H. SENSORS MOUNTED OVER DOORWAYS SHOULD BE LOCATED 1'-0" INSIDE THRESHOLD.

I. INSTALL CEILING MOUNTED SENSORS CENTERED IN THE CEILING TILE.

J. CONTRACTOR TO SUBMIT FACTORY LAYOUT OF ALL SENSORS AND AUXILIARY DEVICES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM.

K. AREAS CONTROLLED BY THE NETWORKED CONTROLS SHALL HAVE NETWORKED SENSORS.

L. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL POWER PACKS NECESSARY REGARDLESS OF WHETHER THEY ARE INDICATED ON THE DRAWINGS.

LIGHTING CONTROL SCHEME

A. ALL CLASS II DIV 1 AREAS (WHERE TYPE "A1" OR "A1E" FIXTURES ARE LOCATED), ARE CONTROLLED BY A LIGHTING CONTROL PANEL IF OVERRIDE SWITCH IS NOT PRESENT. THE LIGHTING FIXTURES ARE CONNECTED TO A LOW VOLTAGE RELAY THAT CONVERTS A CONTACT CLOSURE TO A DIGITAL SIGNAL. THE DIGITAL SIGNAL USES CAT5e CABLE GOING BACK TO A LIGHTING CONTROL PANEL (LCP). THE LCP HAS A TIME CLOCK FOR SCHEDULING ON/OFF AND DIM IF NEEDED.

B. THE AREAS WITH TYPE "B1" AND "B1E" FIXTURES ARE NON-HAZARDOUS CLASSIFICATION AND ARE CONTROLLED BY THE LCP IF OVERRIDE SWITCH IS NOT PRESENT. THE LIGHTING FIXTURES ARE CONNECTED TO A LOW VOLTAGE RELAY THAT CONVERTS A CONTACT CLOSURE TO A DIGITAL SIGNAL. THE DIGITAL SIGNAL USES CAT5e CABLE GOING BACK TO A LIGHTING CONTROL PANEL (LCP). THE LCP HAS A TIME CLOCK FOR SCHEDULING ON/OFF AND DIM IF NEEDED.

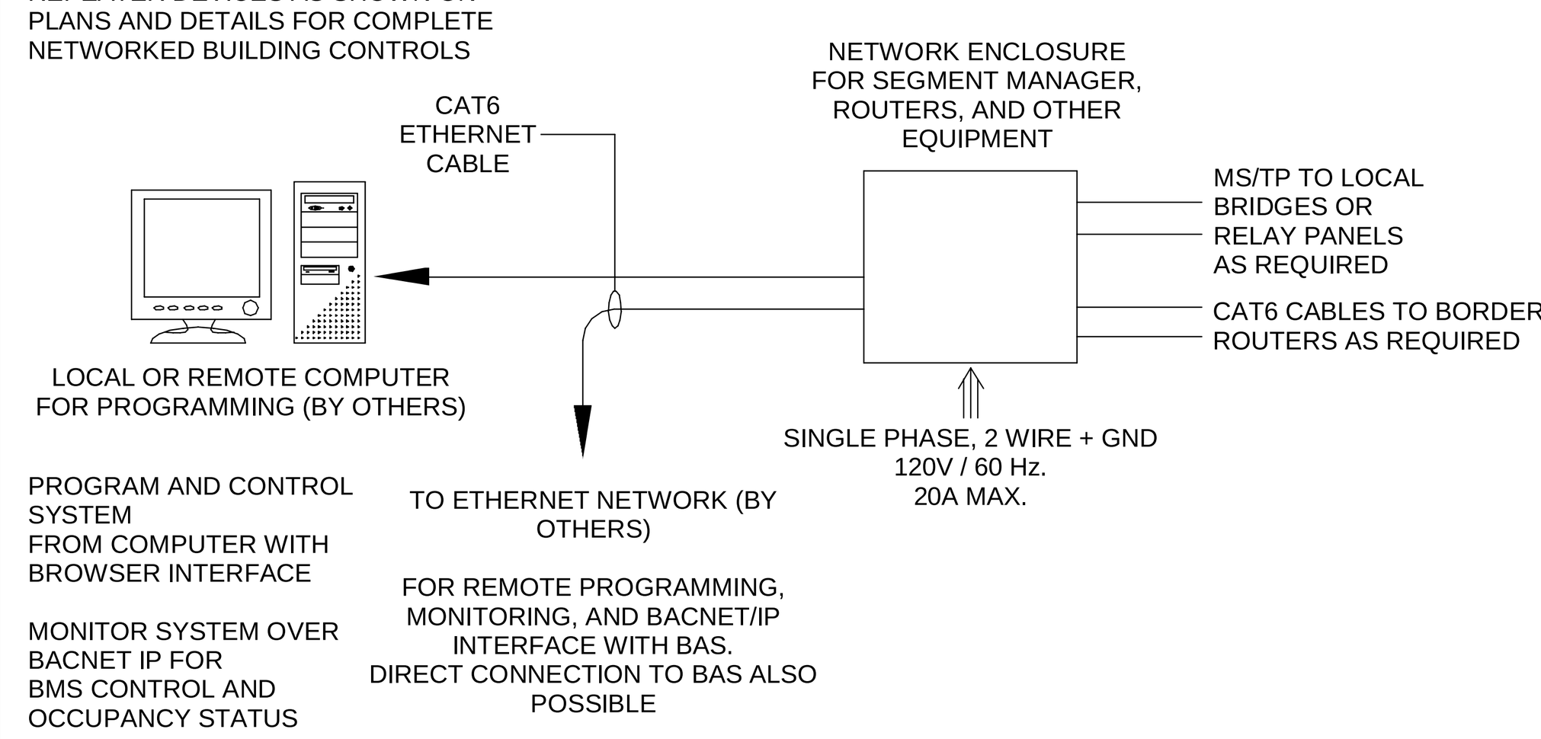
C. OUTDOOR COVERED CANOPY AREA IS DESIGNATED WITH IN THE FIXTURES PROVIDING DAYLIGHT CONTROL. THEY CAN ALSO BE PLACED ON A TIME SCHEDULE.

D. OFFICE SPACE, RESTROOMS, LOCKER, AND BREAK ROOMS ARE STAND-ALONE SENSOR CONTROLLED WITH OVERRIDE SWITCHES. THEY ARE NOT CONNECTED TO THE LCP SO THEY DO NOT HAVE A TIME SCHEDULE.

E. THE ELECTRICAL, MECHANICAL, AND TELECOM ROOMS DO NOT HAVE ANY CONTROLS OTHER THAN A STANDARD ON/OFF TOGGLE SWITCH.

TYPICAL NETWORK DETAILS

INCLUDE RELAY PANELS, ROOM BRIDGES, NETWORK ENCLOSURES, SEGMENT MANAGERS, ROUTERS AND REPEATER DEVICES AS SHOWN ON PLANS AND DETAILS FOR COMPLETE NETWORKED BUILDING CONTROLS

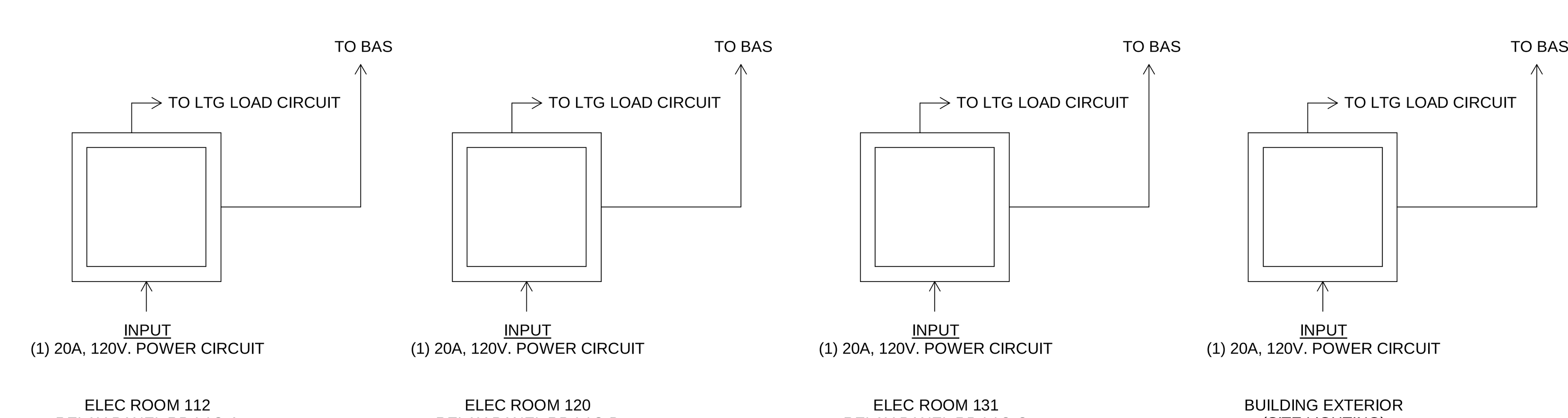


PROGRAM AND CONTROL SYSTEM FROM COMPUTER WITH BROWSER INTERFACE

MONITOR SYSTEM OVER BACNET IP FOR BMS CONTROL AND OCCUPANCY STATUS

FOR REMOTE PROGRAMMING, MONITORING, AND BACNET/IP INTERFACE WITH BAS. DIRECT CONNECTION TO BAS ALSO POSSIBLE

LIGHTING RELAY PANELS



NABHOLZ

ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 12803 — 10/3/2024

Jacobs
1999 Bryan Street Suite 3500 Dallas, TX 75201
Tel: 214-638-0145 Fax: 214-638-0447

NO.	DATE	REVISION	BY	APVD
1	10/03/2024	ADDENDUM 01 - EXPANSION	CJA	AM
2	Date 9	Rev 1	CJA	AM
0	09/18/2024	100% ISSUED FOR CONSTRUCTION - EXPANSION	CJA	AM

DSGN CJA | DR | CHK ML | APVD BM | AM

GMLRS
Camden OSD
Calhoun County, Arkansas
Aerojet Rocketdyne

ELECTRICAL
DETAILS - LIGHTING

SHEET NO
E-501

SCALE	As indicated
DATE	09/18/2024
PROJ	D3754502
DWG	

18