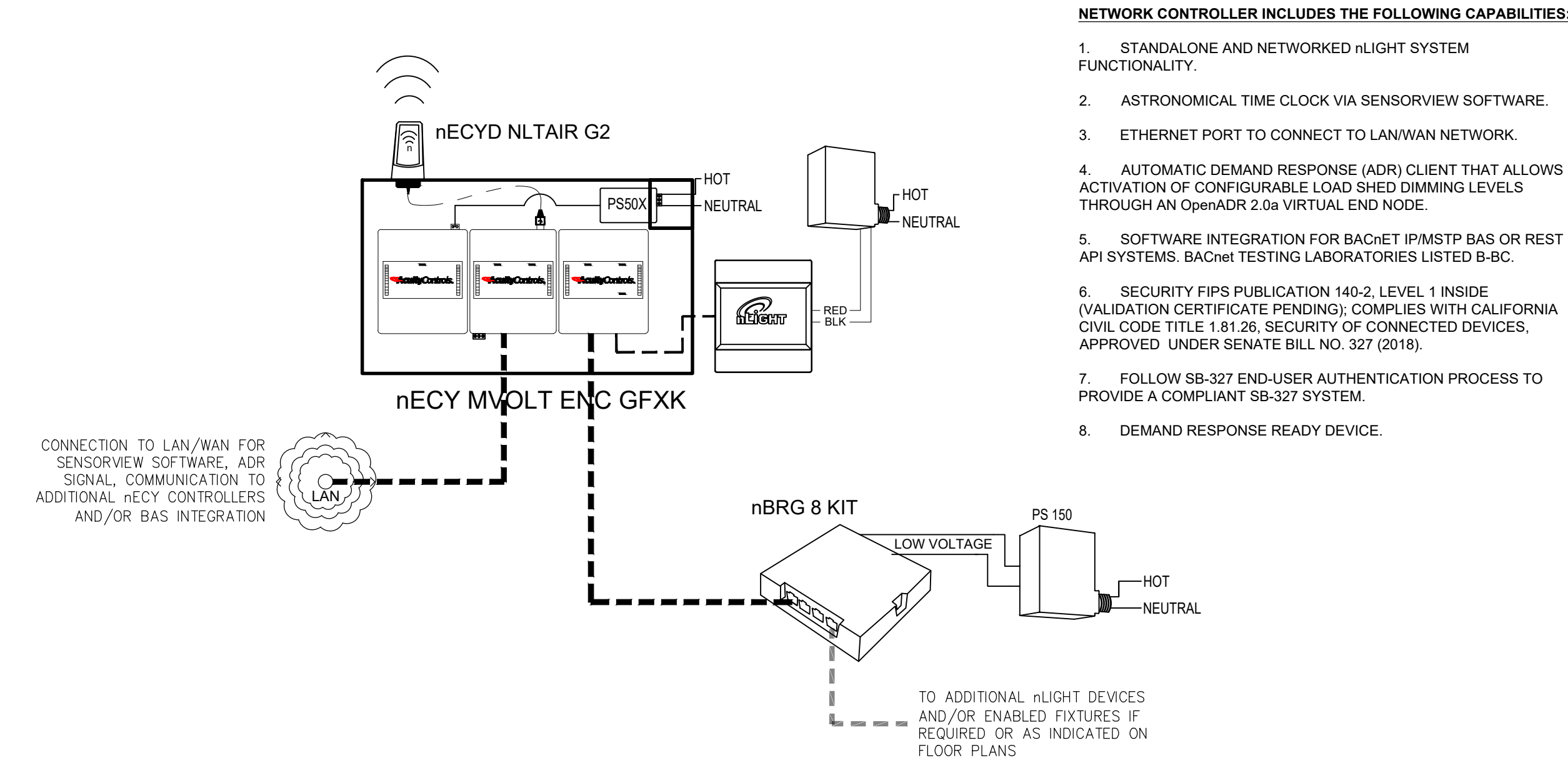


1 nLIGHT BACKBONE NETWORK DETAIL

N.T.S.



- NETWORK CONTROLLER INCLUDES THE FOLLOWING CAPABILITIES:**
- STANDALONE AND NETWORKED nLIGHT SYSTEM FUNCTIONALITY.
 - ASTRONOMICAL TIME CLOCK VIA SENSORVIEW SOFTWARE.
 - ETHERNET PORT TO CONNECT TO LAN/WAN NETWORK.
 - AUTOMATIC DEMAND RESPONSE (ADR) CLIENT THAT ALLOWS ACTIVATION OF CONFIGURABLE LOAD SHED DIMMING LEVELS THROUGH AN ONWALKER 2 IN VIRTUAL END NODE.
 - SOFTWARE INTEGRATION FOR BACHET IP/MSTP BAS OR REST API SYSTEMS. BACHET TESTING LABORATORIES LISTED B-C.
 - SECURITY FPS PUBLICATION 140-2, LEVEL 1 INSIDE (VALIDATION CERTIFICATE PENDING) COMPLIES WITH CALIFORNIA CIVIL CODE TITLE 1.81.26, SECURITY OF CONNECTED DEVICES, APPROVED UNDER SENATE BILL NO. 327 (2018).
 - FCLOW 68-327 END-USER AUTHENTICATION PROCESS TO PROVIDE A COMPLIANT SB-327 SYSTEM.
 - DEMAND RESPONSE READY DEVICE.

TO ADDITIONAL nLIGHT DEVICES AND/OR ENABLED FIXTURES IF REQUIRED OR AS INDICATED ON FLOOR PLANS

2 SEQUENCE OF OPERATION / BASIS OF DESIGN TABLE

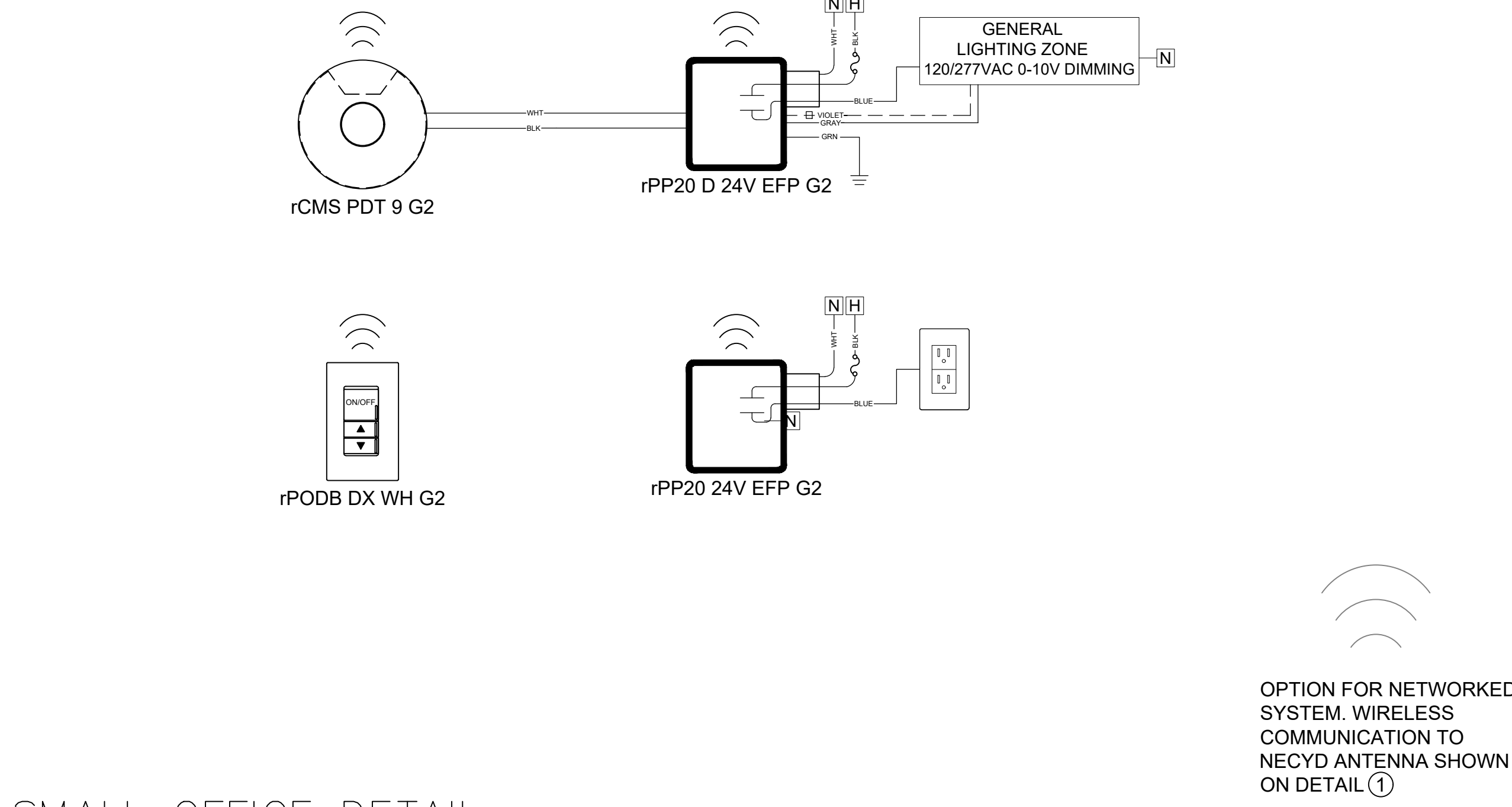
N.T.S.

ROOM TYPE	OCCUPANCY SENSOR				PARTIAL OFF %	OCCUPANCY TIME DELAY (MINUTES)	TIME CLOCK		WALL SWITCH	DAYLIGHT SENSOR	OTHER	NOTES
	OCCUPANCY MODE (AUTO ON)	VACANCY MODE	DUAL TECHNOLOGY	OCCUPIED LEVEL (%)			SCHEDULE ON TIME	SCHEDULE OFF TIME				
BREAKROOMS/KITCHENS	X	X	X	100	7.5	10			X	X		
CLASSROOMS	X	X	X	70	7.5	10			X	X	X	
CONFERENCE ROOMS	X	X	X	70	7.5	10			X	X	X	X
COPY ROOMS	X	X	X	70	7.5	10			X	X	X	X
CORRIDORS/STAIRWELLS	X			100	7.5	50	10*		X	X	X	X
EXTERIOR				100				DUSK	DAWN			***
LABS	X	X	X	100	17.5	10	20		X	X	X	
MULTIPURPOSE ROOMS	X	X	X	70	7.5	10	10		X	X	X	
OPEN OFFICE AREAS	X	X	X	100	7.5	10	10		X	X	X	X
PARKING GARAGE	X			100	10	50	12.5					
RESTAURANTS/STORES				100	10			TBD	TBD	X	X	X
RESTROOMS	X	X	X	70	7.5	10	10		X	X	X	X
SMALL OFFICES < 250 SQ FT	X	X	X	70	7.5	10	10		X	X	X	X
STORAGE ROOMS > 100 SQ FT	X			100	7.5	10	10		X	X	X	
WAREHOUSES	X			100	10	50	12.5	TBD	TBD	X	X	

- NOTES:**
- DURING OPERATIONAL HOURS THE LIGHTING DIM LEVEL WILL GO TO 50% AFTER 7.5 MINUTES OF NO OCCUPANCY. OUTSIDE OF OPERATIONAL HOURS THE DIM LEVEL WILL GO TO 50% AFTER 7.5 MINUTES OF NO OCCUPANCY, AND THEN AFTER A TOTAL OF 10 MINUTES OF NO OCCUPANCY THE LIGHTS WILL TURN OFF. OWNER TO VERIFY TIME SCHEDULES.
 - 5 MINUTES BEFORE THE LIGHTING IS SCHEDULED TO TURN OFF, THE LIGHTS WILL TURN OFF FOR 1 SECOND AND THEN GO BACK TO ITS PREVIOUS DIMMING LEVEL. THIS BLINK WARNING PREVENTS FALSE OFFS AND GIVES AUTHORIZED PERSONNEL A WARNING TO PRESS WALL SWITCH TO ACTIVATE A 2-HOUR OVERRIDE. OWNER TO VERIFY TIME SCHEDULES.
 - AUTOMATIC SCHEDULING CONTROLS SHALL BE CAPABLE OF REDUCING THE LIGHTING BETWEEN 50% AND 90% AND HAVE A MINIMUM OF TWO NIGHTTIME PERIODS. DIMMING CONTROLLED AT FIXTURE LEVEL. USING nLIGHT AIR WIRELESS LIGHTING CONTROLS WILL NOT REQUIRE 0-10V DIMMING WIRES TO BE PULLED THROUGH THE LCP. PER SECTION 130.2(c)(2).

3 SMALL OFFICE DETAIL

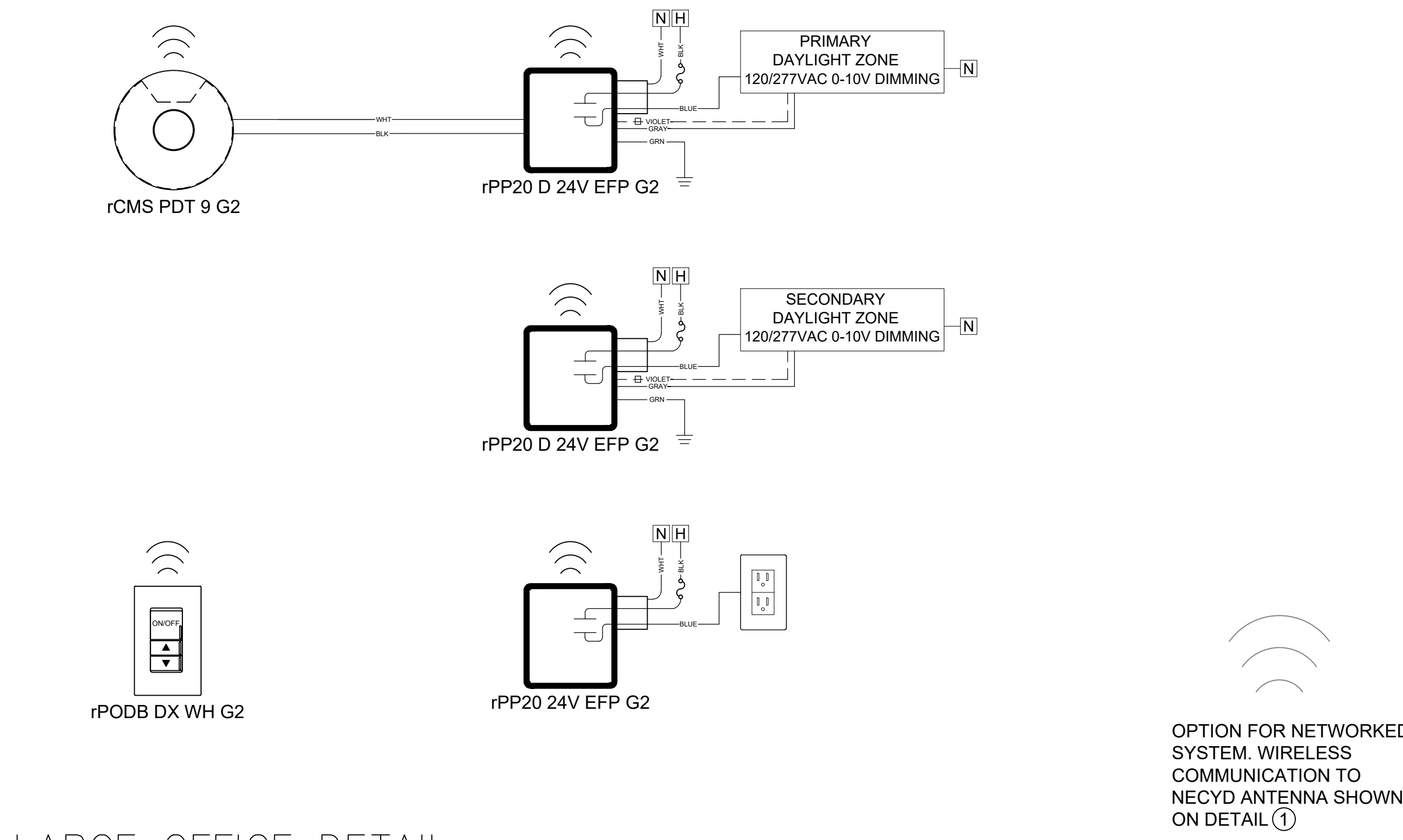
N.T.S.



OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO nCYD ANTENNA SHOWN ON DETAIL (1)

4 LARGE OFFICE DETAIL

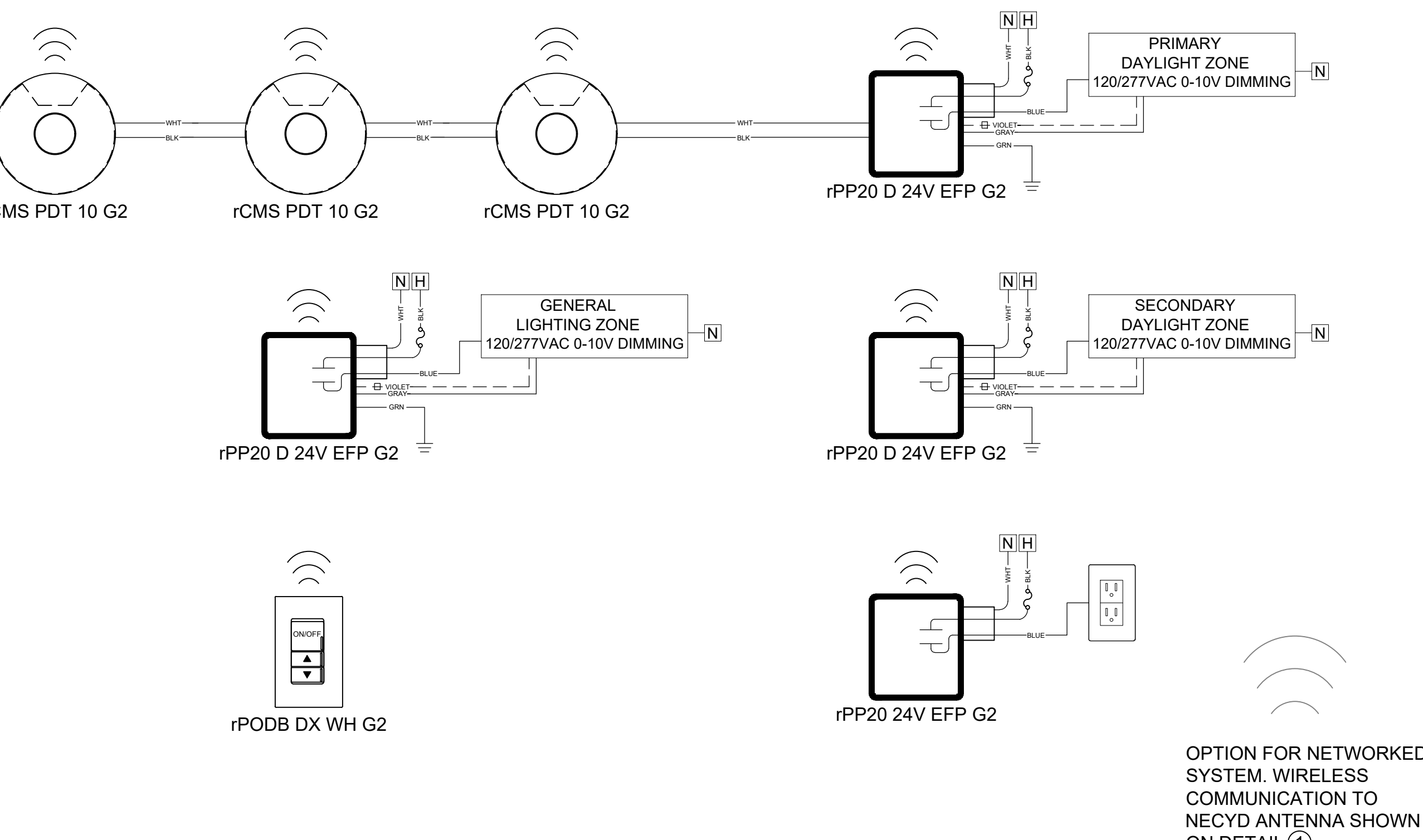
N.T.S.



OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO nCYD ANTENNA SHOWN ON DETAIL (1)

5 OPEN OFFICE DETAIL

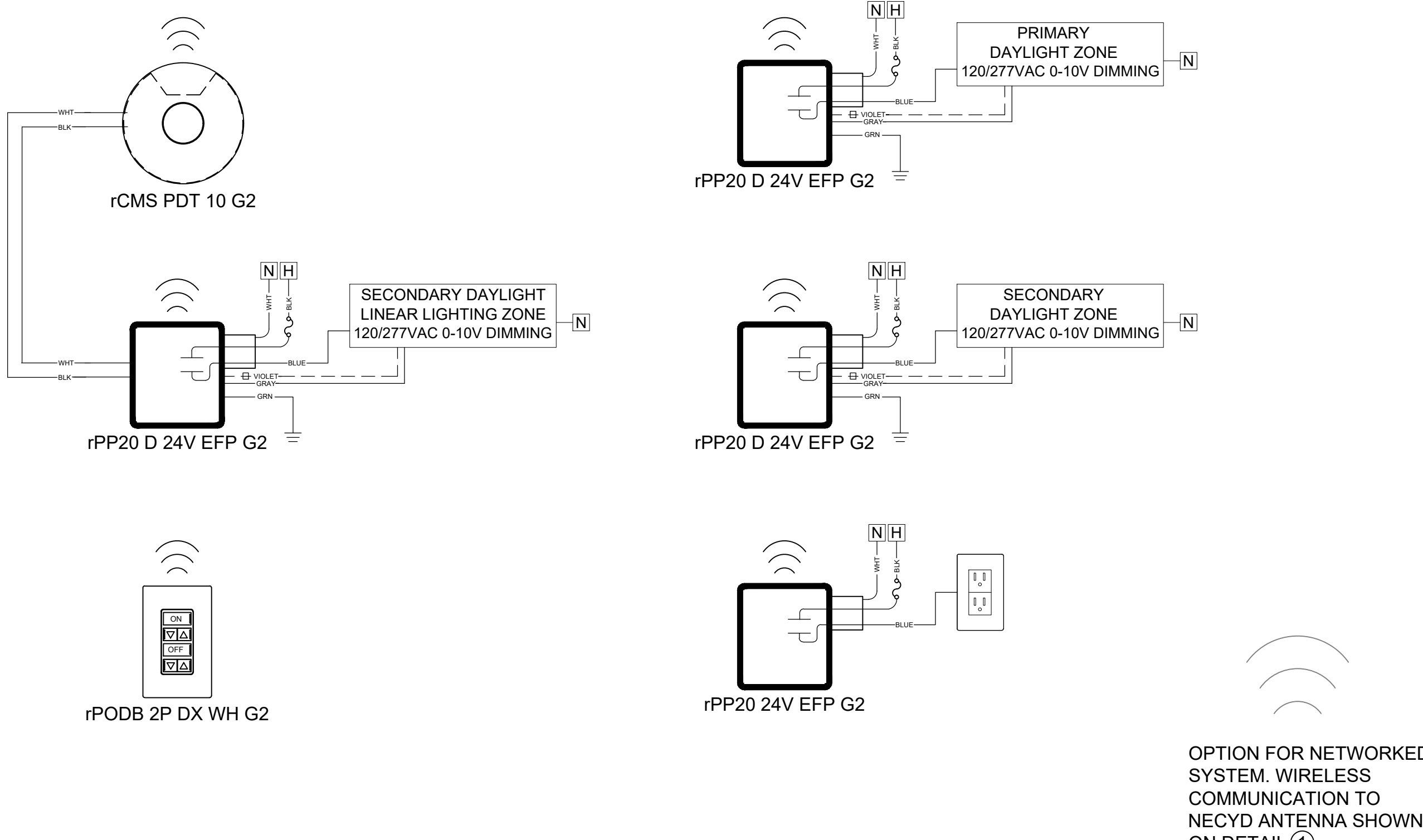
N.T.S.



OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO nCYD ANTENNA SHOWN ON DETAIL (1)

6 CONFERENCE DETAIL

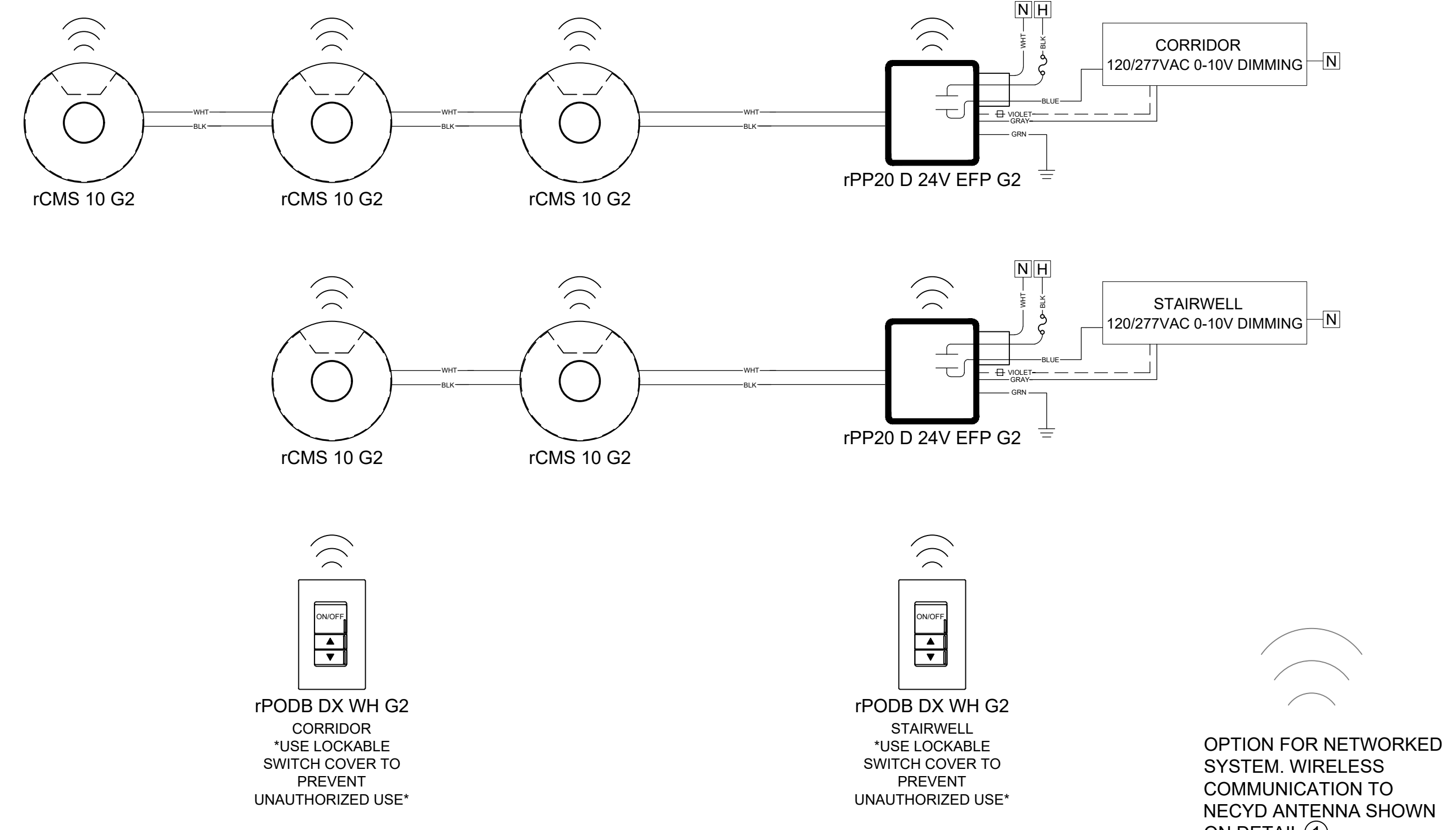
N.T.S.



OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO nCYD ANTENNA SHOWN ON DETAIL (1)

7 CORRIDOR/STAIRWELL DETAIL

N.T.S.



OPTION FOR NETWORKED SYSTEM. WIRELESS COMMUNICATION TO nCYD ANTENNA SHOWN ON DETAIL (1)

GENERAL NOTES:

- DETAILS AND DESIGN IS BASED ON AN nLIGHT LIGHTING CONTROLS SYSTEM.
- DETAILS ARE DIAGRAMMATIC AND FOR REFERENCE OF SYSTEM AND ROOM TYPE REQUIREMENTS TO MEET BASIS OF DESIGN. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR QUANTITIES AND DEVICES USED FOR EACH SPACE AND NETWORK.
- LIGHTING CONTROL SUBMITTALS FOR NETWORKED SYSTEM SHALL INCLUDE THE FOLLOWING DOCUMENTS (NOT LIMITED TO FOLLOWING):
 - SHOP DRAWINGS SHOWING QUANTITY AND LOCATION OF ALL DEVICES.
 - STANDALONE NETWORK SINGLE LINE DIAGRAM.
 - BASIS OF DESIGN PROGRAMMING OPERATION FOR EACH ROOM TYPE.
 - DEVICE CUTSHEETS.
- MANUFACTURER OR FACTORY REPRESENTATIVE TO INCLUDE STARTUP AND COMMISSIONING OF THE LIGHTING CONTROL SYSTEM. MUST INCLUDE A SITE VISIT FOR THE FOLLOWING:
 - A PRE-CONSTRUCTION MEETING TO CONFIRM DESIGN AND FIELD INSTALLATION REQUIREMENTS.
 - PROGRAMMING AND COMMISSIONING OF THE LIGHTING CONTROL SYSTEM TO MEET THE BASIS OF DESIGN AND TITLE 24 REQUIREMENTS.
 - MAINTENANCE / OWNER WALK THROUGH FOR MAKING FINAL ADJUSTMENTS TO PROGRAMMING.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL LIGHTING CONTROL DEVICES, CABLES, ACCESSORIES AS REQUIRED BY MANUFACTURER'S RECOMMENDATION TO PROVIDE A COMPLETE AND FULLY FUNCTIONAL COMPLIANT TITLE 24 SYSTEM.
- ALL DEVICES SHALL BE MOUNTED AND INSTALLED IN ACCESSIBLE CEILING LOCATIONS. CONTRACTOR WILL VERIFY BEST FIT LOCATIONS IN THE FIELD.
- CONTRACTOR TO VERIFY COMPATIBILITY BETWEEN DIMMING POWERPACKS AND INSTALLED FIXTURES.
- CONTACT SDLA FOR COMPLETE nLIGHT LIGHTING CONTROLS BOM. CONTROL@SDLG.COM - PHONE # 858-505-1055.

TITLE 24 COMPLIANCE:

- MANUAL AREA CONTROLS, SECTION 130.1(b)
- MULTI-LEVEL LIGHTING CONTROLS, SECTION 130.1(b)
- SHUT-OFF CONTROLS, SECTION 130.1(c)
- AUTOMATIC DAYLIGHTING CONTROLS, SECTION 130.1(d)
- DEMAND RESPONSE CONTROLS, SECTION 130.1(e) AND SECTION 130.2(a)
- CONTROLS INTERACTIONS, SECTION 130.1(f)
- CIRCUIT CONTROLS FOR 120-VOLT CONTROLLED RECEPTACLES, SECTION 130.2(b)
- INDOOR LIGHTING CONTROLS BASIS OF DESIGN (SEE SDLA BASIS OF DESIGN TO COMPLY WITH T24), SECTION 120.8(c)
- CONTACT SDLA FOR COMPLETE nLIGHT LIGHTING CONTROLS BOM. CONTROL@SDLG.COM - PHONE # 858-505-1055.

SYSTEM OPERATIONS TRAINING OPTIONS, PER SECTION 120.8(h):

- 2-HOUR ONSITE OR REMOTE TRAINING.
- 2-DAY IN PERSON OR REMOTE TRAINING @ SDLA AT CUSTOMER LOCATION, OR VIDEOCONFERENCING SOFTWARE.
- VIDEO TRAINING GIVEN TO EVERYONE WHO PARTICIPATES IN THE 2-DAY IN PERSON OR REMOTE TRAINING.
- CONTACT SDLA FOR TRAINING. CONTROL@SDLG.COM - PHONE # 858-505-1055.

nLIGHT REST API SPECIFICATIONS:

- ACTUITY BRANDS SYSTEM - nLIGHT CONTROLLER SHALL BE COMPATIBLE WITH REST API OVER AN ENCRYPTED HTTPS CONNECTION. READ AND WRITE CONNECTION SHALL BE SECURABLE WITH A USERNAME/PASSWORD PAIR. PASSWORDS TO HAVE ADJUSTABLE COMPLEXITY TO COMPLY WITH CUSTOMER PASSWORD REQUIREMENTS.
- WRITE ACCESS OF END DEVICES CONNECTED TO THE SYSTEM CONTROLLER SHALL BE MADE AVAILABLE THROUGH:
 - WRITE ACCESS SHALL INCLUDE COMMAND OF DEVICE-RELAY-STATE, DEVICE-DIM-LEVEL, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL.
 - GROUPING OF DEVICES FOR GROUP-RELAY-STATE AND GROUP-DIM-LEVEL WRITE ACCESS SHALL BE AUTOMATICALLY GENERATED BY THE SYSTEM CONTROLLER AND SHALL NOT REQUIRE CREATION BY THIRD PARTY SYSTEMS.
 - GROUP-RELAY-STATE AND GROUP-DIM-LEVEL RESPONSE TO REST API SHALL BE AVAILABLE WITHOUT REQUIRING MULTIPLE-POST COMMANDS.
 - READ ACCESS OF END DEVICES (EMBEDDED nLIGHT FIXTURES) CONNECTED TO THE SYSTEM CONTROLLER SHALL BE MADE AVAILABLE THROUGH:
 - READ ACCESS SHALL INCLUDE DEVICE-ONLINE/OFFLINE STATUS, DEVICE-OCCUPANCY-STATE, MEASURED LIGHT-LEVEL, DEVICE-RELAY-STATE, DEVICE-DIM-LEVEL, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL.
 - GROUP OF DEVICES FOR GROUP-OCCUPANCY-STATE, GROUP-RELAY-STATE, AND GROUP-DIM-LEVEL READ ACCESS SHALL BE AUTOMATICALLY GENERATED BY THE SYSTEM CONTROLLER AND SHALL NOT REQUIRE CREATION BY THIRD PARTY SYSTEMS.
 - CONTACT SDLA FOR SETUP OF REST API. CONTROL@SDLG.COM - PHONE # 858-505-1055.

LIGHTING CONTROLS LEGEND AND DESCRIPTIONS

- OS - EXTENDED RANGE 30° SENSOR-CEILING MOUNT, LOW VOLTAGE, PASSIVE DUAL TECHNOLOGY (PDT) DETECTION TECHNOLOGY SHALL BE SELECTABLE AS FOLLOWS: PIMICROPHONICS/BOTH OS - rCM PDT 10 R/B
- DS - AUTOMATIC DIMMING CONTROL, PHOTOCELL - CEILING MOUNT, LOW VOLTAGE DS - rCM ADCX R/B
- DP - 16 AMP (120/277V) POWERRELAY PACK WITH 0-10V DIMMING CONTROL, CHASE NIPPLE MOUNTING DP - rPP16 D EFP SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL
- PL - 20 AMP (120V) RELAY PACK FOR PLUG LOAD CONTROL, CHASE NIPPLE MOUNTING PL - rPP20 R SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL
- PCD - 5 AMP (120/277V) POWERRELAY PACK PHASE DIMMING CONTROL, CHASE NIPPLE MOUNTING (277V NOT AVAILABLE WITH EVI) PCD - rSPS PCD 2W, 3W, 4W, 5W, 100 SUBSCRIPT REFERENCES CIRCUIT/ZONE OF CONTROL
- S1 - LOW VOLTAGE ON/OFF TOGGLE SWITCH WITH DIMMING 1-ZONE = S1 - rPDOM 1X
- S2 - 2-ZONE = S2 - rPDOM 2P DX
- S4 - 4-ZONE = S4 - rPDOM 4P DX SUBSCRIPT REFERENCES ZONE OF CONTROL
- S52 - LOW VOLTAGE SCENE SELECTOR WITH DIMMING 2-SCENE = S52 - rPDOM 4S DX
- S54 - 4-SCENE = S54 - rPDOM 4S DX SUBSCRIPT REFERENCES ZONE OF CONTROL
- SFX - LOW VOLTAGE GRAPHIC TOUCHSCREEN CONTROLLER, INCLUDES 16-ZONES AND 16-SCENES WITH DIMMING GFKX - rPDD GFKX SUBSCRIPT REFERENCES ZONE OF CONTROL
- WS - LOW VOLTAGE WALL SWITCH OCCUPANCY SENSOR WITH ON/OFF/RAISE/LOWER, PASSIVE DUAL TECHNOLOGY (PDT) WS - rWSX PDT LV DX SUBSCRIPT REFERENCES ZONE OF CONTROL

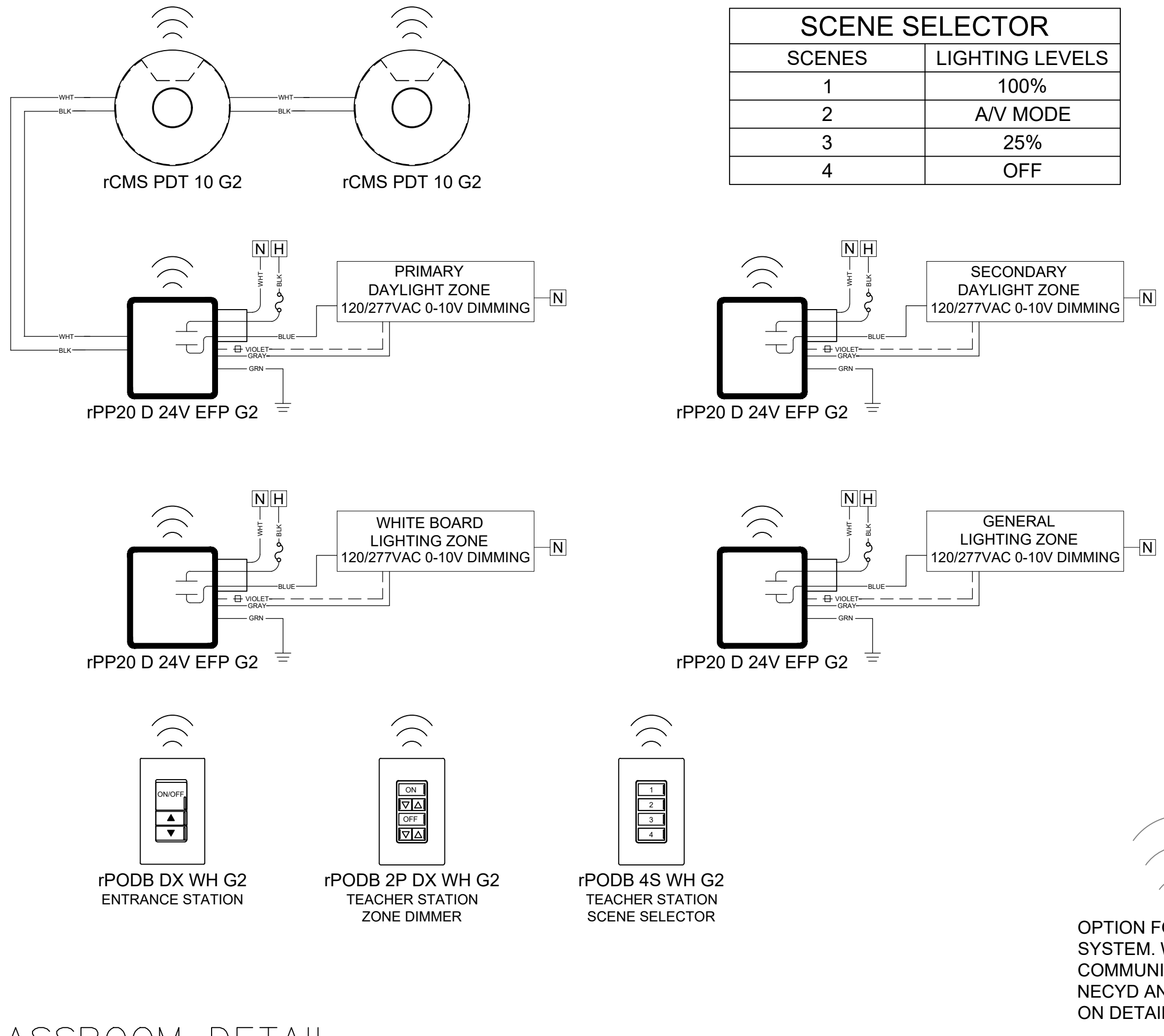
SB-327 SPECIFICATION REQUIREMENTS:

- SENATE BILL NO. 327 - LIGHTING CONTROLS MUST COMPLY WITH CALIFORNIA CIVIL CODE 1.81.26
- GENERATION OF AUTHENTICATION - THE DEVICE MUST CONTAIN A SECURITY FEATURE THAT REQUIRES A USER TO GENERATE A NEW MEANS OF AUTHENTICATION BEFORE ACCESS IS GRANTED TO THE DEVICE FOR THE FIRST TIME.
- AUTHENTICATION - METHOD OF VERIFYING OF A USER, PROCESS, OR DEVICE TO ACCESS RESOURCES IN A INFORMATION SYSTEM.
- SECURITY FEATURE - A FEATURE OF A DEVICE DESIGNED TO PROVIDE SECURITY FOR THAT DEVICE U.S. GOVERNMENT STANDARD OF FEDERAL INFORMATION PROCESSING STANDARD (FIPS) 140-2, LEVEL 1 COMPLIANT.

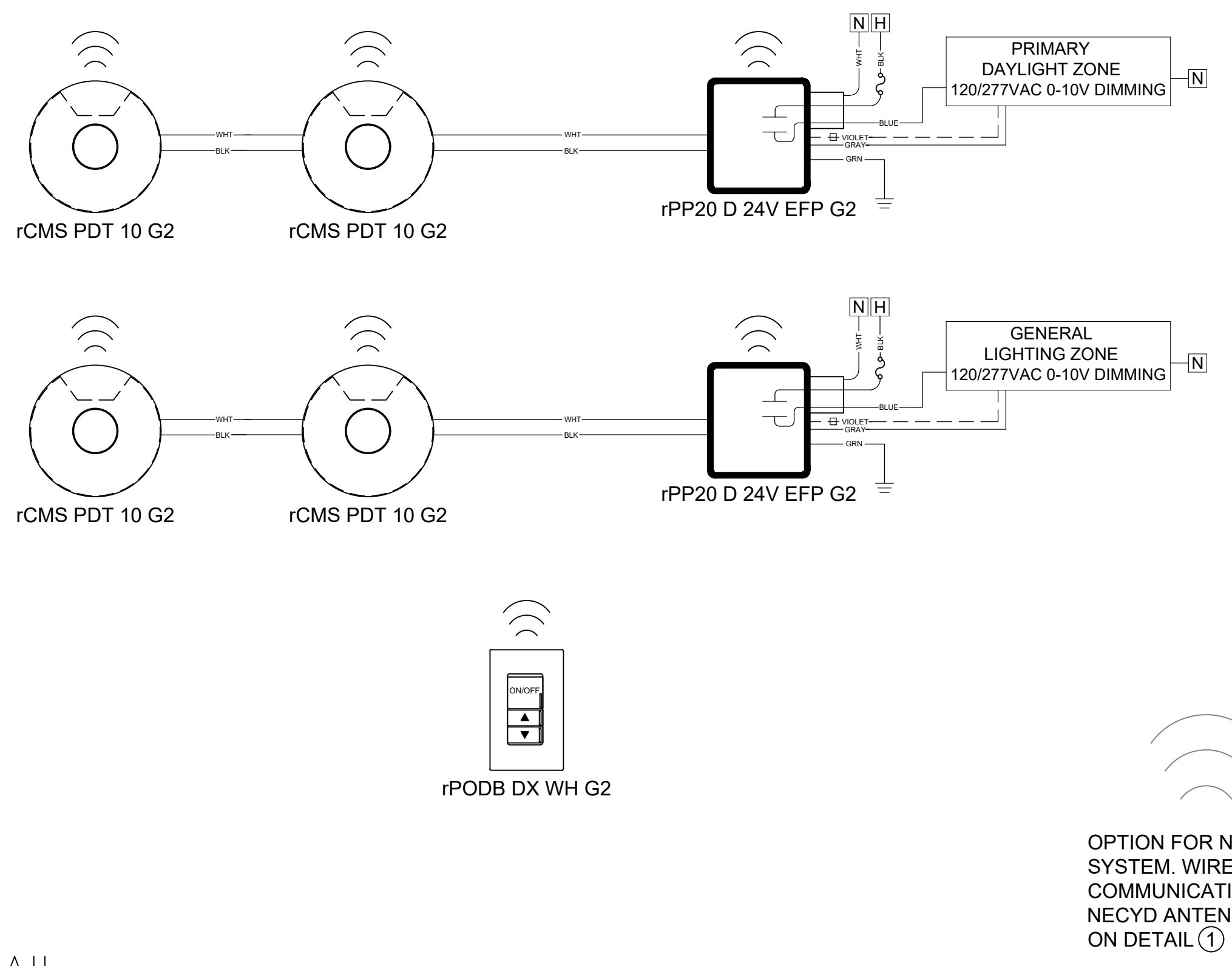
SB-327 AUTHENTICATION PROCESS:

- REQUIRES 3 POINTS OF CONTACT - FACILITIES DEPARTMENT, OWNER'S REP, AND IT DEPARTMENT (EMAIL AND CONTACT PHONE #).
 - REQUIRES 2 DATES FOR SCHEDULING.
 - INTEGRATION REQUIREMENTS (IP ADDRESS, SUBNET MASK, AND GATEWAY).
 - CONTACT SDLA FOR AUTHENTICATION SETUP. CONTROL@SDLG.COM - PHONE # 858-505-1055.
- BUILDING MANAGEMENT SYSTEMS INTEGRATION SPECIFICATIONS:**
- BACHET TESTING LABORATORIES (BTL) LISTED AS A BACHET BUILDING CONTROLLER (B4C):
 - OPTIONAL AUTOMATIC DEMAND RESPONSE CLIENT OPTION ALLOWS ACTIVATION OF CONFIGURABLE LOAD SHED DIMMING LEVELS THROUGH AN ONWALKER 2 IN VIRTUAL END NODE. REQUIRES OUTBOUND IP CONNECTION TO UTILITY GRAS.
 - ENHANCED SECURITY PROVIDED BY BOTH:
 - HTTPS SERVER
 - U.S. GOVERNMENT SECURITY STANDARD OF FEDERAL INFORMATION PROCESSING STANDARD (FIPS) PUBLICATION 140-2, LEVEL 1, INSIDE (VALIDATION CERTIFICATE PENDING).
 - CONTACT SDLA FOR INTEGRATION WITH BMS. CONTROL@SDLG.COM - PHONE # 858-505-1055.

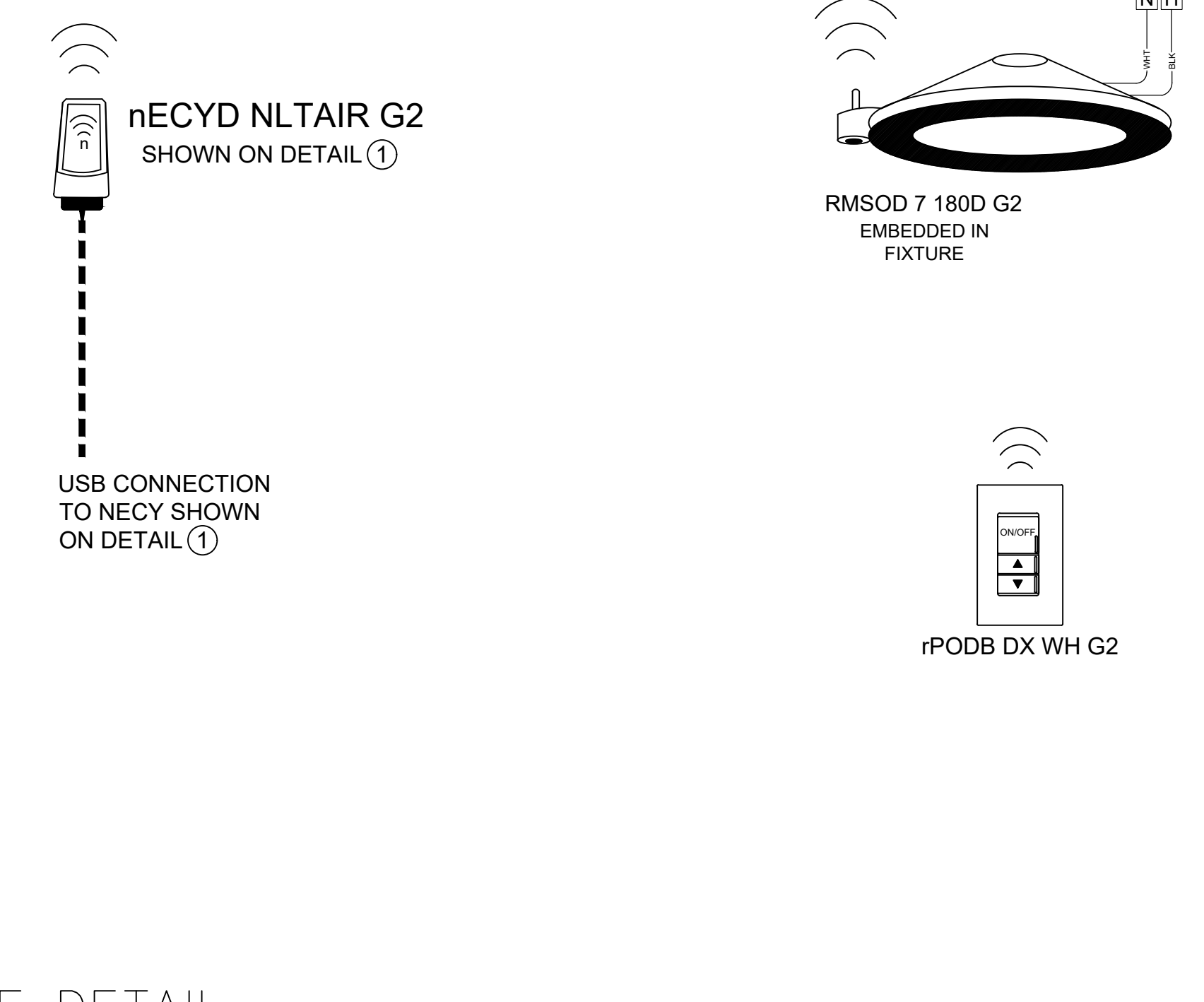
SCENE SELECTOR	
SCENES	LIGHTING LEVELS
1	100%
2	A/V MODE
3	25%
4	OFF



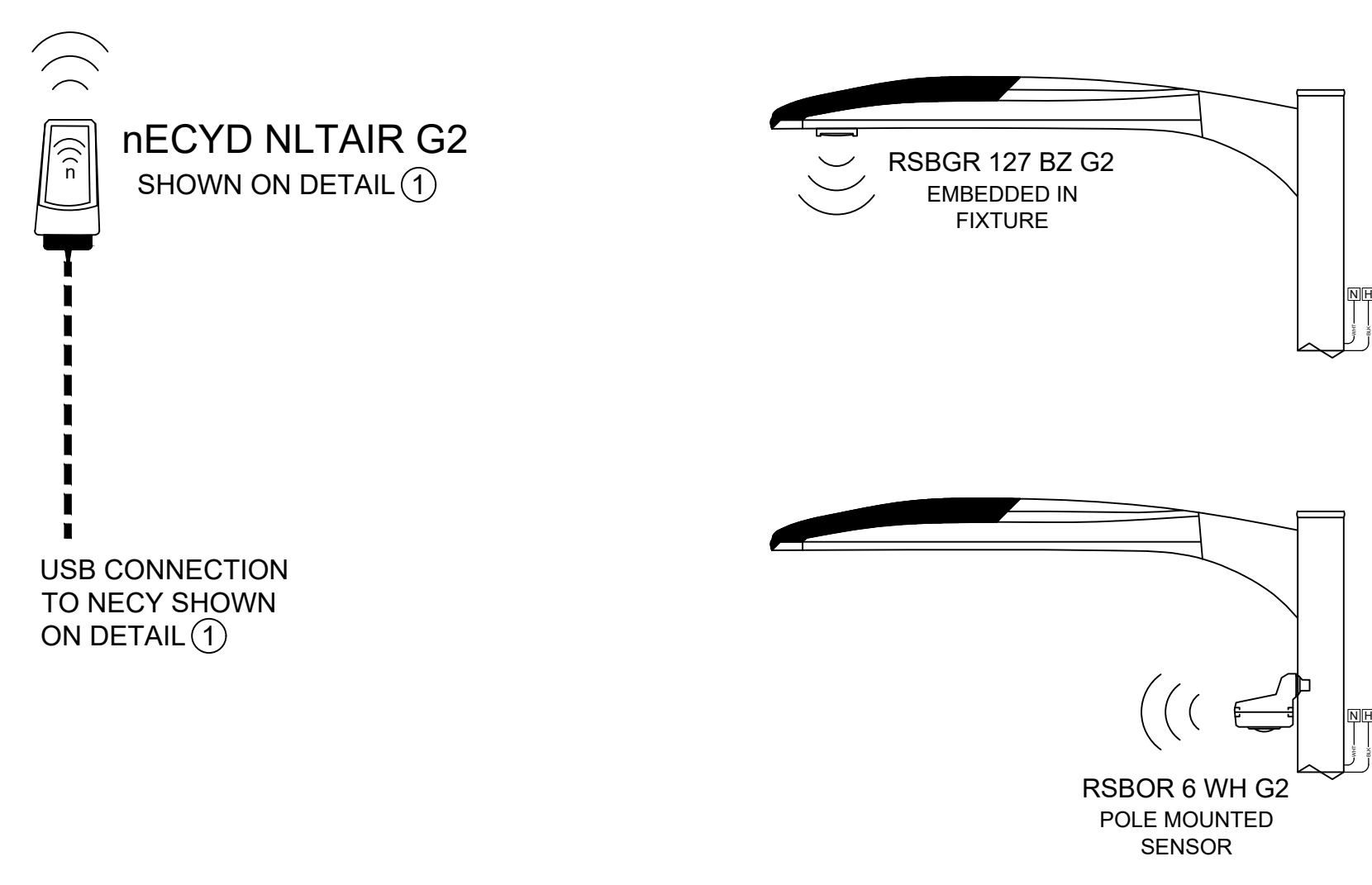
8 CLASSROOM DETAIL
N.T.S.



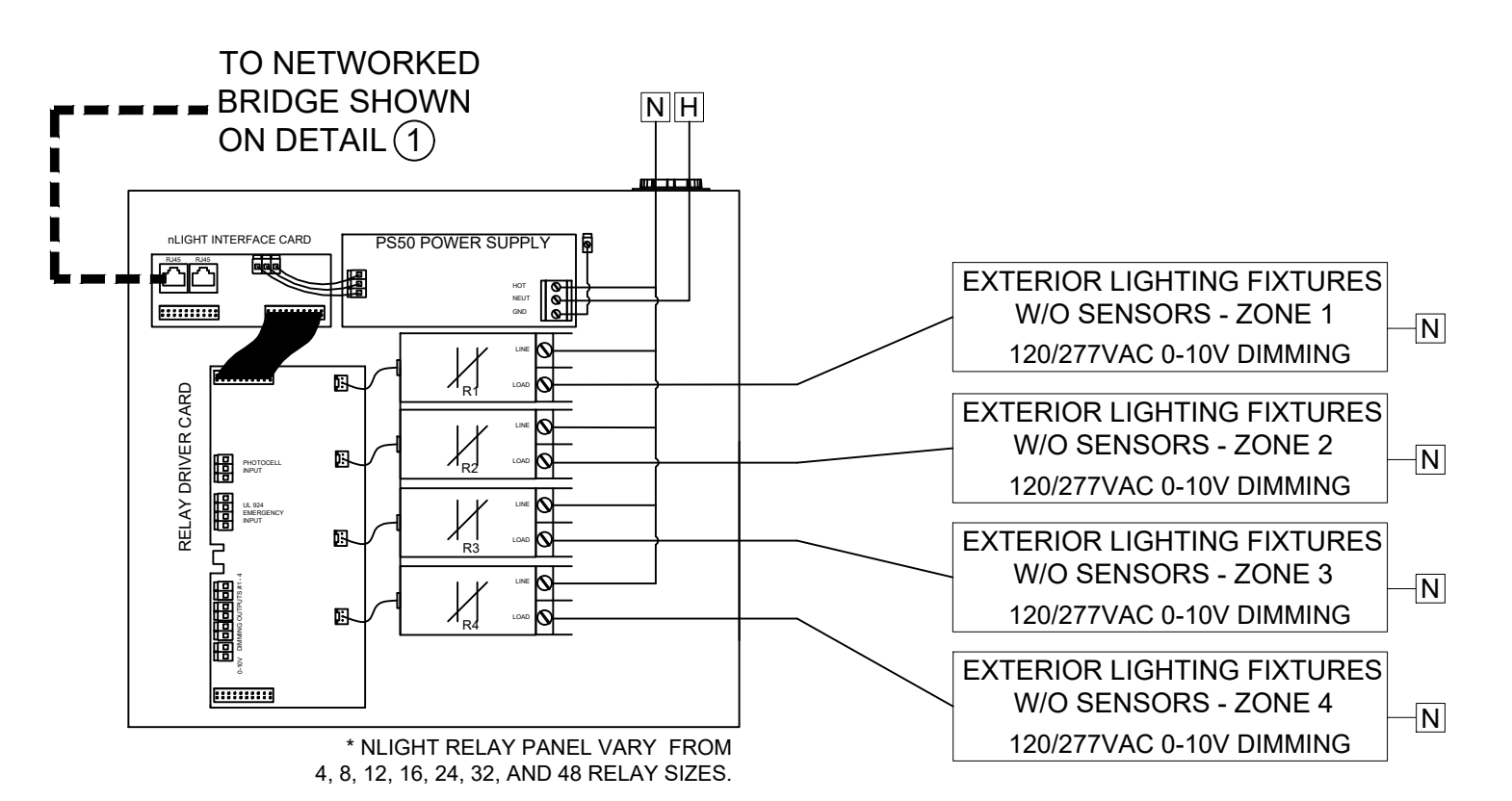
9 LAB DETAIL
N.T.S.



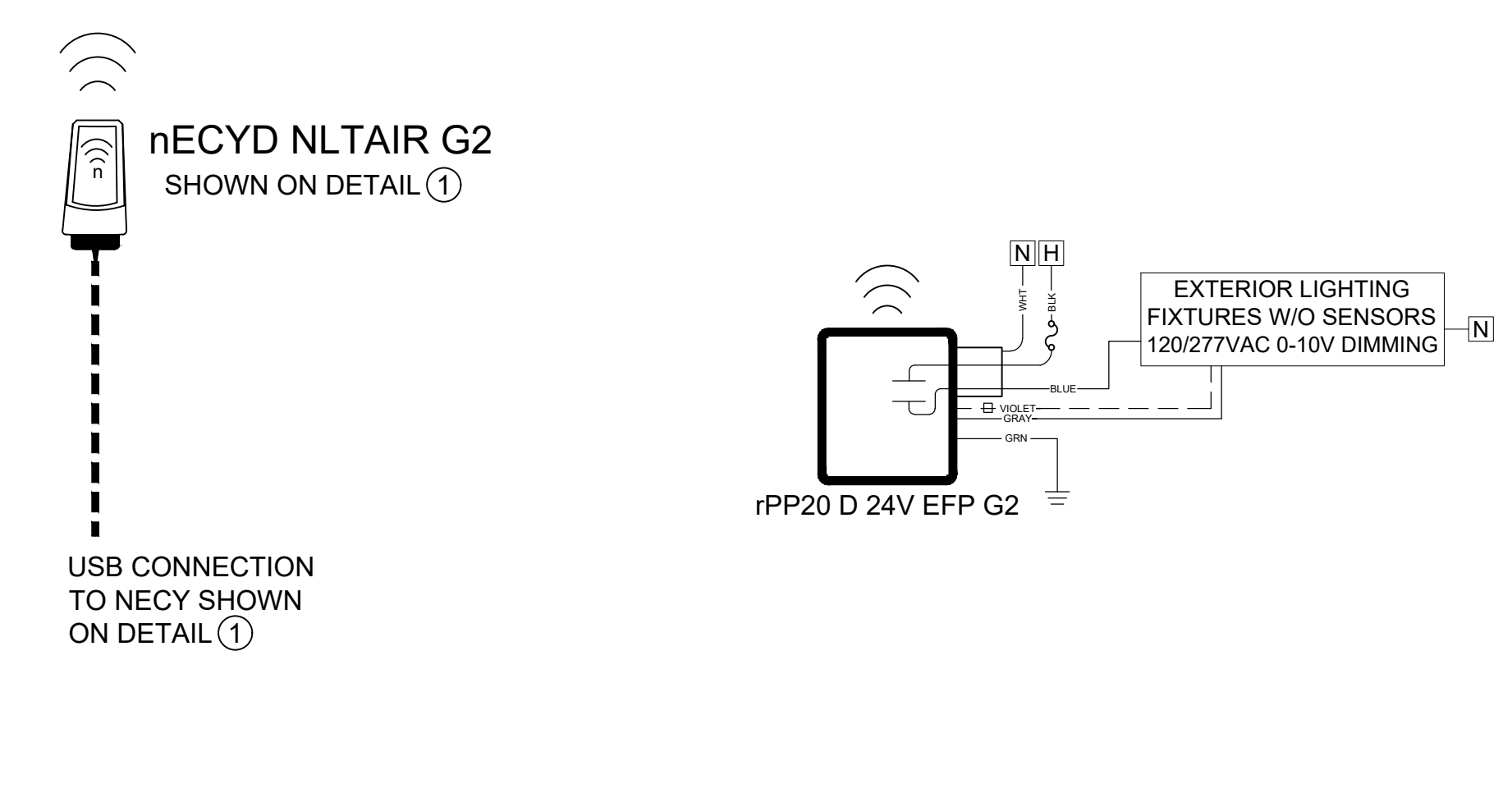
10 GARAGE DETAIL
N.T.S.



11 EXTERIOR DETAIL A
N.T.S.



12 EXTERIOR DETAIL B
N.T.S.



13 EXTERIOR DETAIL C
N.T.S.