

ELECTRICAL SYMBOLS LEGEND	
LIGHTING PLAN	
	<p>1. SUBSCRIPT LETTER X INDICATES ASSOCIATION OF SWITCH. LETTER Y USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>2. SUBSCRIPT TEXT L#-## INDICATES ASSOCIATION OF CIRCUIT. TEXT L#-## USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>3. SUBSCRIPT TEXT RB# INDICATES ASSOCIATION OF LIGHT TYPE. TEXT RB# USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p>
	TRACK LIGHT
	THEATRICAL LIGHT
	RECESSED LINEAR LIGHT
	RECESSED STEP LIGHT
	WALL MOUNTED LINEAR LIGHT
	WALL MOUNTED SCONCE LIGHT
	DECOR TYPE WALL MOUNTED SCONCE LIGHT
	PENDANT DOME LIGHT
	SURFACE MOUNT DOME LIGHT
	EMERGENCY MINI INVERTER UNIT (REMOTE BATTERY)
	BATTERY LIGHT FIXTURE WITH DUAL AUXILIARY LIGHT HEADS
	ILLUMINATED EXIT SIGN WITH BATTERY BACKUP AND DUAL AUXILIARY LIGHT HEADS
	ILLUMINATED EXIT SIGN WITH BATTERY BACKUP WITH TWO SIDED DIRECTIONAL ARROWS AS SHOWN
	ILLUMINATED EXIT SIGN WITH BATTERY BACKUP WITH SINGLE SIDED DIRECTIONAL ARROWS AS SHOWN
	ILLUMINATED EXIT SIGN WITH BATTERY BACKUP WITH TWO SIDED DIRECTIONAL ARROWS AS SHOWN AND DUAL AUXILIARY LIGHT HEADS
	ILLUMINATED EXIT SIGN WITH BATTERY BACKUP WITH SINGLE SIDED DIRECTIONAL ARROWS AS SHOWN AND DUAL AUXILIARY LIGHT HEADS
	PENDANT INDUSTRIAL LIGHT
	PENDANT LINEAR LIGHT
	2'x4' GRID TROFFER
	2'x4' GRID TROFFER AS NIGHT LIGHT
	2'x4' GRID TROFFER WITH EMERGENCY BATTERY
	2'x2' GRID TROFFER
	2'x2' GRID TROFFER WITH EMERGENCY BATTERY
	RECESSED DOWNLIGHT
	RECESSED DOWNLIGHT WITH EMERGENCY BATTERY
	PENDANT LIGHT
	PENDANT LIGHT WITH EMERGENCY BATTERY
	POLE MOUNTED PARKING LOT FIXTURE
	WALL MOUNTED EXTERIOR FIXTURE

ABBREVIATIONS	
AF	AMP FUSE
WP	WEATHERPROOF (NEMA 3R)
PAL	PANEL
XFMR	TRANSFORMER
MDP	MAIN DISTRIBUTION PANEL
AIC	AMPS INTERRUPTING CAPACITY
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
FACP	FIRE ALARM CONTROL PANEL
AFF	ABOVE FINISHED FLOOR
RMC	RIGID METAL CONDUIT

ELECTRICAL SYMBOLS LEGEND (CONT.)	
SWITCHING / LIGHTING CONTROLS	
	<p>1. SUBSCRIPT LETTER X INDICATES ASSOCIATION OF SWITCH. LETTER Y USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>2. SUBSCRIPT TEXT L#-## INDICATES ASSOCIATION OF CIRCUIT. TEXT L#-## USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>3. SUBSCRIPT TEXT RB# INDICATES ASSOCIATION OF LIGHT TYPE. TEXT RB# USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p>
	<p>1. SUBSCRIPT LETTER X INDICATES ASSOCIATION OF SWITCH. LETTER Y USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>2. SUBSCRIPT TEXT #F INDICATES NUMBER OF BUTTON CONTROLS. TEXT #F USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p>
	SINGLE POLE SWITCH @ -48" UNLESS NOTED
	THREE WAY SWITCH @ -48" UNLESS NOTED
	FOUR WAY SWITCH @ -48" UNLESS NOTED
	KEYED SWITCH @ -48" UNLESS NOTED
	DIMMER SWITCH @ -48" UNLESS NOTED
	DIMMER SWITCH @ -48" UNLESS NOTED PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	RELAY SWITCH W/ 1 OR MORE BUTTONS FOR LIGHTS @ -48" UNLESS NOTED PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	RELAY DIMMER SWITCH FOR LIGHTS @ -48" UNLESS NOTED PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	OCCUPANCY SENSOR SWITCH @ -48" UNLESS NOTED PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	LOW VOLTAGE DIMMER SWITCH @ -48" UNLESS NOTED PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	ENTRY STATION LIGHT CONTROLLER PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	MASTER STATION LIGHT CONTROLLER PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	POWER PACK (TO PROVIDE POWER TO SENSORS AND LOW VOLTAGE SWITCHES) PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	CEILING MOUNT OCCUPANCY SENSOR PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	CEILING MOUNT DAYLIGHT SENSOR PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED
	EXTERIOR PHOTO DAYLIGHT SENSOR PROVIDED BY BOW SUPPLY WIRE & INSTALLATION BY CONTRACTOR UNLESS NOTED

ELECTRICAL SYMBOLS LEGEND (CONT.)	
ONE-LINE DIAGRAM	
	CIRCUIT BREAKER PROVIDED WITH SWITCHGEAR 3-POLE, 400 AMP INDICATED
	SPACE (3-POLE, 400 AMP) WITH MOUNTING PROVISIONS. PROVIDED WITH SWITCHGEAR
	ENCLOSED CIRCUIT BREAKER WITH SHUNT TRIP 3-POLE, 200 AMP INDICATED
	400 AMP PANELBOARD PROVIDED WITH SWITCHGEAR PACKAGE SEE PANEL SCHEDULES FOR ADDITIONAL REQUIREMENTS
	2 INCH CONDUIT WITH (4) NO. 3/8 AWG COPPER INSULATED (THWN) CONDUCTORS AND (1) NO. 6 AWG BARE COPPER EQUIPMENT GROUNDING CONDUCTOR (SIZED ACCORDING TO TABLE 250.122 OF NEC)
	CONDUIT-CLAD STEEL GROUND ROD, MINIMUM 3/4" DIAMETER BY 8 FT. LONG
	CONCRETE ENCASED ELECTRODE MINIMUM 20 FEET ENCASED IN CONCRETE FOOTING OR FOUNDATION ADJACENT TO MAIN ELECTRICAL SERVICE ACCORDING TO ARTICLE 250.52 (A)(3) OF NEC.
	GROUNDING TO METAL UNDERGROUND WATER PIPE ACCORDING TO 250.52 (A)(1) OF NEC.
	GROUNDING TO METAL FRAME OF BUILDING WITH ELECTRICAL PATH TO GROUND THROUGH CONCRETE FOUNDATION ACCORDING TO 250.52 (A)(2) OF NEC.
POWER PLAN	
	<p>1. SUBSCRIPT TEXT #P-## INDICATES ASSOCIATION OF CIRCUIT. TEXT #P-## USED FOR REFERENCE REFER TO PLANS FOR ACTUAL LETTERING ASSOCIATIONS).</p> <p>DUPLEX RECEPTACLE @ -18" UNLESS NOTED</p>
	DUPLEX RECEPTACLE W/ ISOLATED GROUND @ -18" UNLESS NOTED
	QUAD RECEPTACLE @ -18" UNLESS NOTED
	QUAD RECEPTACLE W/ ISOLATED GROUND @ -18" UNLESS NOTED
	SINGLE RECEPTACLE @ -18" UNLESS NOTED
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER - WATER PROOF COVER
	TAMPER RESISTANT DUPLEX RECEPTACLE @ -18" UNLESS NOTED
	RANGE RECEPTACLE
	FLUSH FLOOR MOUNTED DUPLEX RECEPTACLE
	FLUSH FLOOR MOUNTED QUAD RECEPTACLE
	10" X 10" AVL FLUSH FLOOR MOUNTED QUAD RECEPTACLE W/ ISOLATED GROUND SEE AVL SHEETS FOR FURTHER DESCRIPTION.
	10" X 10" DOUBLE WIDE AVL FLUSH FLOOR MOUNTED QUAD RECEPTACLE W/ ISOLATED GROUND. SEE AVL SHEETS FOR FURTHER DESCRIPTION.
	CEILING MOUNTED DUPLEX RECEPTACLE
	CEILING MOUNTED QUAD RECEPTACLE
	CEILING MOUNTED QUAD RECEPTACLE W/ ISOLATED GROUND
	DUPLEX RECEPTACLE MOUNTED -42" WITH GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX RECEPTACLE MOUNTED -42"
	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTER FOR ELECTRIC WATER COOLER. COORDINATE CONCEALMENT WITH EWC INSTALLER FOR MOUNTING REQUIREMENTS
	SINGLE POINT CONNECTION TO EQUIPMENT PROVIDED BY OTHERS
	SPECIAL PURPOSE OUTLET - NEMA TYPE OR AMPERAGE/PHASES AS NOTED. FIELD VERIFY
	UNDERGROUND JUNCTION BOX - REFER TO SECTION 16131 OF SPECIFICATIONS
	JUNCTION BOX - SIZE AS REQUIRED
	MANUAL MOTOR STARTER DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH (SIZE AS NOTED)
	FUSED DISCONNECT SWITCH (SIZE AS NOTED)
	DISCONNECT SWITCH WITH STARTER (SIZE AS NOTED)
	EXHAUST FAN
	DRY TYPE TRANSFORMER
	CONDUIT RUN CONCEALED IN WALL OR ABOVE CEILING
	CONDUIT RUN BELOW FLOOR OR GRADE
	DATA JACK
	PHONE JACK
	DATA & PHONE JACK

GENERAL ELECTRICAL NOTES

CONDUIT & WIRE SIZES
 ALL CONDUIT AND WIRE SIZES SHALL BE FOR 10 1/2", 2-1/2", 1-1/2" GND AND FOR 30 1/2", 3-1/2", 1-1/2" GND UP TO 65'. ALL CONDUIT AND WIRE SIZES SHALL BE FOR 10 1/2", 2-1/2", 1-1/2" GND AND FOR 30 1/2", 3-1/2", 1-1/2" GND FROM 65' UP TO 100'. ALL CONDUIT AND WIRE SIZES SHALL BE FOR 10 1/2", 2-1/2", 1-1/2" GND AND FOR 30 1/2", 3-1/2", 1-1/2" GND FROM 100' UP TO 150'. SERVICE ENTRANCE AND PANELS CONDUITS SHALL BE ALUMINUM CONDUCTORS TYPE THW/THHN BRANCH CIRCUIT CONDUCTORS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE COPPER TYPE THW/THHN. ALL UNDERGROUND CONDUITS SHALL BE SCHEDULE 40 PVC. ALL ABOVE GROUND CONDUITS SHALL BE EMT. CONDUIT EXPOSED TO POTENTIAL DAMAGE SHALL BE RMC.

ELECTRICAL SERVICE
 TURNSTAND INSTALL UNDERGROUND SERVICE AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL COORDINATE WITH SERVING AGENCY ON ALL ITEMS AND THE COMPLETE COST FOR SERVICE SHALL BE INCLUDED IN THE ELECTRICAL BID. ALL SERVICE ENTRANCE EQUIPMENT (PANELBOARDS, SWITCHBOARDS, ETC.) SHALL BE UL LISTED FOR USE AS SERVICE ENTRANCE EQUIPMENT.

ELECTRICAL DESIGN
 1. ALL SERVICE ENTRANCE EQUIPMENT (PANELBOARDS, SWITCHBOARDS, ETC.) SHALL BE UL LISTED FOR USE AS SERVICE ENTRANCE EQUIPMENT.
 2. ALL EQUIPMENT SHALL BE FULLY-RATED FOR SHORT CIRCUIT (FAULT) CAPACITY.
 3. BOND BUILDING STRUCTURAL STEEL, METALLIC WATER PIPES, AND CONCRETE-ENCASED ELECTRODES (REBAR) TO EACH OTHER AND TO THE ENCLOSURE GROUNDING BUS INSIDE THE ENCLOSURE CONTAINING THE SERVICE DISCONNECT SWITCH. THE CONCRETE INSTALLATION CONTRACTOR SHALL BE INSTRUCTED TO LEAVE AT LEAST 1 FT. OF REBAR EXPOSED AT THE SERVICE ENTRANCE PANEL FOR BONDING.
 4. STRUCTURAL STEEL COLUMNS SHALL BE BOUNDED TO EARTH USING AN APPROVED GROUNDING ELECTRODE AT EVERY OTHER COLUMN IN ACCORDANCE WITH THE 2011 NEC 250.52(A)(2).
 5. GROUND RODS, PLATES AND RINGS ARE NOT REQUIRED, NOR ARE UPER GROUNDS UNLESS REBAR IS NOT INSTALLED IN THE FOUNDATIONS. HOWEVER, IF ANY OF THESE ARE PRESENT THEY MUST BE BONDED TO THE REST OF THE GROUNDING SYSTEM AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
 6. FOR SEPARATELY-DERIVED SYSTEMS BOND THE TRANSFORMER SECONDARY NEUTRAL (GROUNDED CONDUCTOR) TO THE STRUCTURAL METAL AND THE NEAREST AVAILABLE POINT OF THE METAL WATER PIPING SYSTEMS IN THE AREA SERVED BY THE TRANSFORMER. THE METAL WATER PIPING SHALL BE BONDED TO THE STRUCTURAL METAL.
 7. FOR BOTH SERVICES AND SEPARATELY-DERIVED SYSTEMS THE GROUNDED (NEUTRAL) CONDUCTOR AND THE GROUNDING CONDUCTORS SHALL BE BONDED TOGETHER AT ONLY ONE POINT IN THE ENCLOSURE WHICH CONTAINS THE SERVICE DISCONNECTING MEANS (FOR SERVICES) OR THE TRANSFORMER SECONDARY OVERCURRENT DEVICE (FOR SEPARATELY DERIVED SYSTEMS). THE GROUNDING AND GROUNDING CONDUCTORS SHALL NOT BE BONDED TOGETHER AT ANY OTHER POINT INCLUDING DOWNSTREAM ELECTRICAL PANELS.
 8. ALL BONDING SHALL BE EFFECTED BY MEANS OF UL LISTED DEVICES SPECIFICALLY TESTED AND APPROVED FOR THE PURPOSE.
 9. TRANSFORMERS WHICH SERVE HARMONIC RICH LOADS SUCH AS DIMMING PANELS SHALL BE K13 RATED.
 10. ALL METALLIC CONDUIT JOINTS SHALL BE MADE UP WRENCH-TIGHT USING UL APPROVED DEVICES. IN ADDITION, ALL CONDUITS, METALLIC AND NON-METALLIC, SHALL HAVE A BONDING CONDUCTOR INSTALLED IN ACCORDANCE WITH EITHER NEC 250.66 OR 250.122 AS APPLICABLE.

PHASE ROTATION

PHASE ROTATION CONTRACTOR SHALL ASSURE AND BE RESPONSIBLE FOR PROPER PHASE ROTATION OF ALL MOTORS, COMPRESSORS AND OTHER THREE PHASE EQUIPMENT PRIOR TO ENERGIZING EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE AND COORDINATE PROPER PHASE ROTATION CONNECTIONS MADE BY THE SERVING UTILITY COMPANY PRIOR TO ENERGIZING MAIN SERVICE EQUIPMENT.

BALANCING

THE COMPLETE SYSTEM SHALL BE LOAD BALANCED WITHIN 10-15 PERCENT BETWEEN PHASES.
 TRENCHING AND BACKFILLING
 BURIAL DEPTH FOR UNDERGROUND CONDUIT ON SITE SHALL BE 24 INCHES MINIMUM REFERENCED TO FINAL GRADE. EXCAVATE TRENCHES TO MINIMUM 3 INCHES DEEPER THAN BOTTOM OF CONDUIT AND BACKFILL 3 INCHES WITH SCREENED SAND PRIOR TO INSTALLING CONDUIT. BACKFILL MINIMUM 3 INCHES OVER TOP OF CONDUIT WITH SCREENED SAND AND REMAINDER WITH 3/4 INCH MINUS ROAD MIX AND COMPACT WITH VIBRATING PLATE COMPACTOR. TRENCH WIDTH SHALL BE MINIMUM 24 INCHES AND SHALL EXTEND AT LEAST SIX INCHES BEYOND OUTER CONDUITS. REFER TO CIVIL SPECIFICATIONS AND CONFORM TO MORE STRINGENT REQUIREMENT FOR SIMILAR WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW AND EXISTING BURIED UTILITIES.

EXTERIOR OUTLETS

ALL OUTLETS INSTALLED OUTDOORS SHALL BE IN A WEATHERPROOF ENCLOSURE. THE INTEGRITY OF WHICH IS NOT AFFECTED WHEN THE RECEPTACLE IS IN USE (ATTACHMENT PLUG INSERTED). CROUSE-HINDS W/LS OR WLRD OR UL-APPROVED EQUAL.
MECHANICAL EQUIPMENT WIRING SYSTEM
 1. PROVIDE ALL POWER BRANCH CIRCUITS AND FINAL CONNECTIONS TO ALL MOTORS SPECIFIED UNDER MECHANICAL PORTION OF THESE SPECIFICATIONS. MOTORS SHALL BE FURNISHED AND SET IN PLACE BY MECHANICAL CONTRACTOR.
 2. INSTALL AND WIRE THROUGH ALL DEVICES SUCH AS MAGNETIC STARTERS, SPEED CONTROLLERS, RELAYS, LINE VOLTAGE THERMOSTATS, SWITCHES, ETC., FURNISHED BY OTHERS, WHICH DIRECTLY HANDLE THE FULL LOAD CURRENT OF THE MOTORS. LOCATE AS DIRECTED BY MECHANICAL CONTRACTOR.
 3. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPERATURE CONTROL WIRING FOR THIS PROJECT AND FOR ALL SUCH INTERLOCK AND CONTROL WIRING WHICH DOES NOT DIRECTLY HANDLE THE FULL LOAD CURRENT. REFER TO MECHANICAL DRAWINGS AND SPECIFICATIONS TO DETERMINE LOCATIONS FOR ALL POWER AND CONTROL OUTLETS AND NECESSARY WIRING REQUIRED INCLUDING GENERAL GFCI OUTLETS. IN GENERAL, GFCI OUTLETS WILL BE PROVIDED WITH MECHANICAL ROOF TOP UNITS. HOWEVER, VERIFY WITH MECHANICAL CONTRACTOR. CONTRACTOR SHALL VERIFY THAT BREAKERS USED FOR HVAC UNITS (INCLUDING ROOF-TOP UNITS) ARE HACR TYPE.
 4. ALL MOTORS SHALL COMPLY WITH NEC 430.102(B).
 5. THE ELECTRICAL CONTRACTOR SHALL RUN CONDUIT FOR ALL HVAC CONTROL WIRING. CONDUIT SHALL RUN FROM THERMOSTAT LOCATION TO ABOVE CEILING IN FINISHED AREAS AND TO MECHANICAL UNIT WHERE THERE IS NO CEILING. ELECTRICAL CONTRACTOR SHALL RUN ALL HVAC CONTROL WIRING. CONTROL WIRING SHALL BE PROVIDED BY CONTROL CONTRACTOR. MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND QUANTITY OF CONDUIT WITH ELECTRICAL CONTRACTOR.

DIRECTORY CARDS AND LABELING

PROVIDE LABELS AND NEATLY TYPED DIRECTORY CARDS FOR PANEL BOARDS AND LOAD CENTERS. DIRECTORY CARDS SHALL INDICATE THE GENERAL AREA AND TYPE OF ELECTRICAL LOAD SERVED BY EACH CIRCUIT. PROVIDE APPROPRIATE LABELS FOR THE PANEL COVERS.

PLENUM-RATED CABLES

PROVIDE UL-LISTED PLENUM RATED CABLE IN ENVIRONMENTAL AIR SPACE, INCLUDING CEILINGS.

FIRE/SMOKE DAMPERS

PROVIDE POWER CIRCUITS TO ALL FIRE/SMOKE DAMPERS INDICATED ON MECHANICAL AND FIRE ALARM DRAWINGS.

LOW VOLTAGE WIRING

ALL LOW VOLTAGE WIRING INCLUDING FIRE ALARM, SECURITY, TELEPHONE/DATA, CATV, THEATRICAL LIGHTING, WIRELESS MEDIA, SHALL BE FURNISHED AND INSTALLED BY LOW VOLTAGE CONTRACTOR. ALL CONDUITS AND RACEWAY SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.

FIRE ALARM

GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING FIRE ALARM CONTRACTOR. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR GENERATING WORKING DOCUMENTS ACCORDING TO NFPA & ALL LOCAL CODES AND SHALL BE RESPONSIBLE FOR PROPER SEALING AND SIGNING OF ALL FIRE ALARM DRAWINGS BY A LICENSED PROFESSIONAL FIRE PROTECTION ENGINEER. ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT REQUIREMENTS WITH FIRE ALARM CONTRACTOR. FIRE ALARM CONTRACTOR SHALL ALSO COORDINATE ALL WIRING REQUIREMENTS WITH LOW VOLTAGE CONTRACTOR.

SAFETY SWITCHES

UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS BOW SUPPLY (BOWS) WILL FURNISH THE FOLLOWING MATERIALS WHICH SHALL BE INSTALLED BY THE CONTRACTOR. ALL OTHER MATERIALS, EQUIPMENT AND SUPPLIES SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
 SAFETY SWITCHES ARE NOT REQUIRED FOR SELF-CONTAINED ROOF-TOP HVAC UNITS, NOR ARE POWER FUSES. ENCLOSED CIRCUIT BREAKERS SHOWN ON THE ONE LINE DIAGRAM FOR ELEVATORS AND DIMMER RACKS WILL BE FURNISHED BY BOWS. DISCONNECTING MEANS FOR WATER HEATERS AND OTHER EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR.

LIGHTING FIXTURES

THESE WILL BE FURNISHED BY BOWS ACCORDING TO THE FIXTURE SCHEDULE SHOWN ON E511.
PENDANT LIGHT FIXTURES
 DUE TO THE NEED TO CUSTOMIZE PENDANT FIXTURES IN THE FIELD, BOWS WILL FURNISH PENDANT FIXTURES WITH A PENDANT LENGTH TO BE PROVIDED BY THE CONTRACTOR. IF STEMS LONGER OR SHORTER ARE REQUIRED THEY SHALL BE FIELD ADJUSTED, CUT, TREADED, JOINED, FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR. ALL PENDANT STEMS SHALL BE MOUNTED USING AN UL-APPROVED HOOK OR SWIVEL DEVICE.

LIGHTING CONTROLS

LIGHTING CONTROL SYSTEM COMPONENTS TO BE PROVIDED BY BOWS AND INSTALLED BY CONTRACTOR (WIRE PROVIDED BY CONTRACTOR). SYSTEM INSTALLATION DRAWINGS SHALL BE PROVIDED BY BOW/MANUFACTURER.

LIGHT FIXTURE BALLASTS AND LENSES

ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF DEFECTIVE BALLASTS AND LENSES DURING THE WARRANTY PERIOD. ELECTRICAL CONTRACTOR TO WORK DIRECTLY WITH BALLAST AND LENS MANUFACTURERS FOR REPLACEMENTS.

AUDIO/VISUAL EQUIPMENT

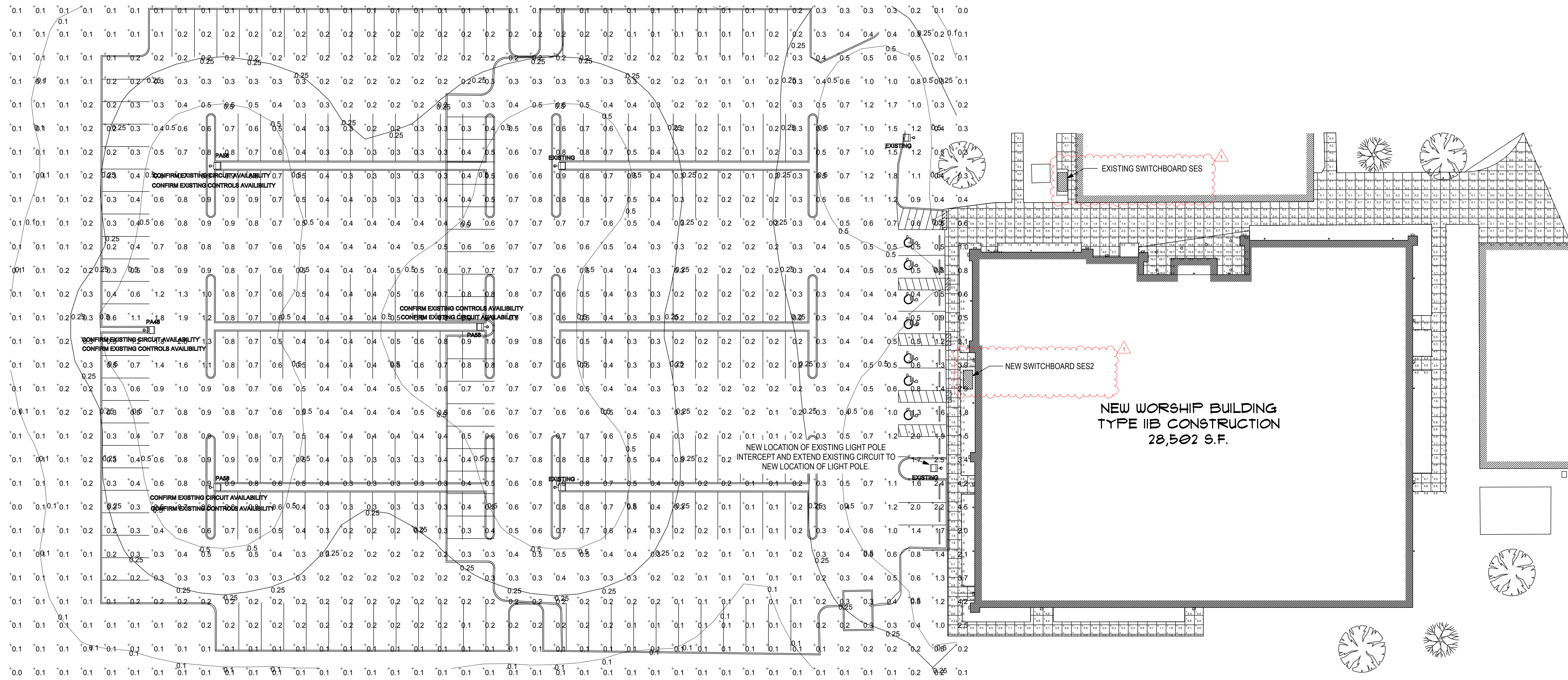
1. IF BOW/DCIA HAS CONTRACTED TO PROVIDE THE DESIGNS FOR THE AUDIO/VISUAL SYSTEMS ALL ASSOCIATED EQUIPMENT WILL BE FURNISHED BY BOWS AND DESIGN DRAWINGS WILL BE PROVIDED BY BOW/DCIA. IF THE OWNER HAS DECIDED TO SELECT OTHER PARTIES FOR AV DESIGNS THEN BOWS WILL FURNISH NO AV EQUIPMENT NOR ANY AV DESIGN DRAWINGS.
 2. VERIFY ALL HEIGHTS AND LOCATIONS OF ALL AVL POWER AND AVL EQUIPMENT WITH BOTH BOW ARCHITECTURAL AND BOW TECH DRAWINGS.
 3. CORRELATE ALL WIRING FROM POWER SOURCE TO FINAL CONNECTION OF AVL EQUIPMENT AS PER CONNECTION DETAILS ON BOW TECH DRAWINGS.

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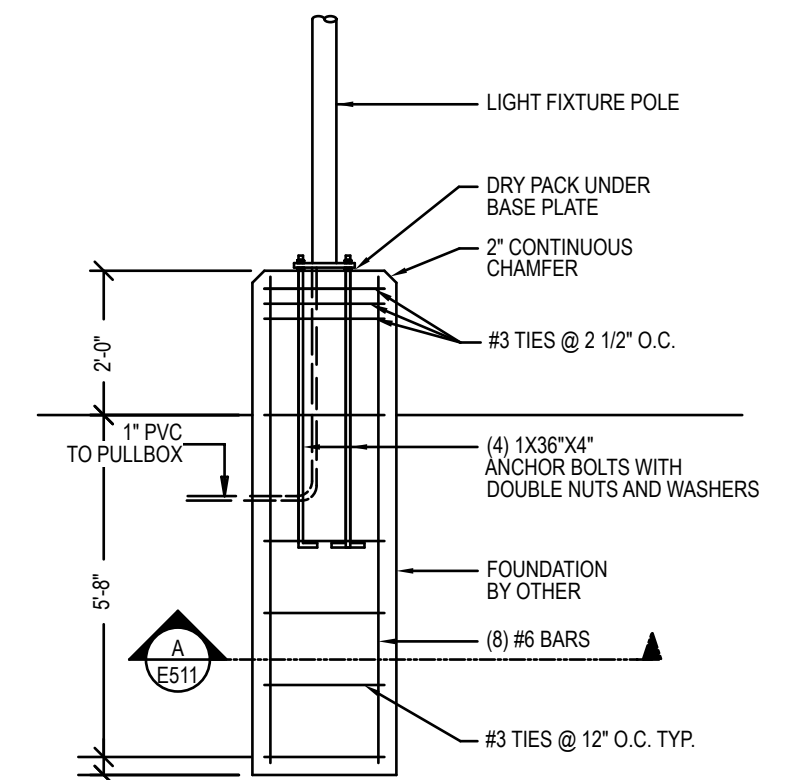
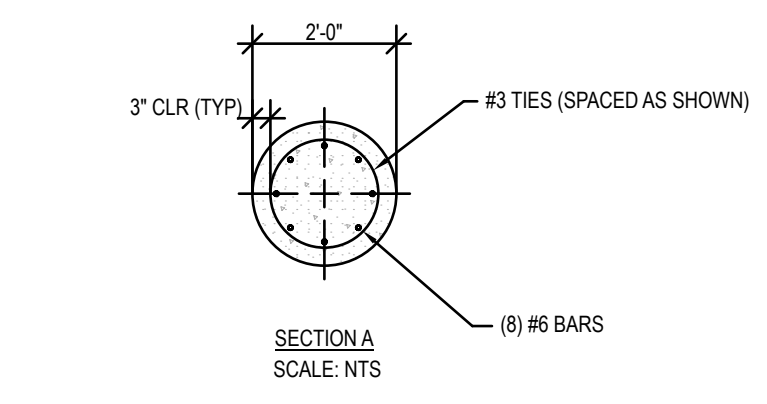
VILLAGE MEADOWS BAPTIST CHURCH
 14071 S EL CAMINO REAL
 SIERRA VISTA, ARIZONA 85635
 SIERRA VISTA, AZ

PROJECT: AC-289
 SHEET NUMBER: E001
 SHEET TITLE: GENERAL NOTES & SYMBOLS LEGEND
 ORIGINAL ISSUE: 2-09-14
 DO NOT SCALE DRAWING

PROFESSIONAL ENGINEER
 STATE OF ARIZONA
 NO. 10000
 SHANE D. SWENSON
 10/17/11
 ARIZONA U.S.A.
 Expires: 12/31/17



1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'



SITE ELECTRICAL KEYED NOTES
 1 OUTDOOR LIGHTING FIXTURES CONNECTED 208 VOLTS. CIRCUITS
 2 FC-208, 3-ROUND MINIMUM ROUTE THROUGH RELAY CONTROL PANEL
 3 PER BUILDING LIGHTING CONTROL SCHEMATIC SHOWN.

PROJECT: VILLAGE MEADOWS BAPTIST CHURCH
 1407 S EL CAMINO REAL
 SIERRA VISTA, ARIZONA 85635
 SIERRA VISTA, AZ

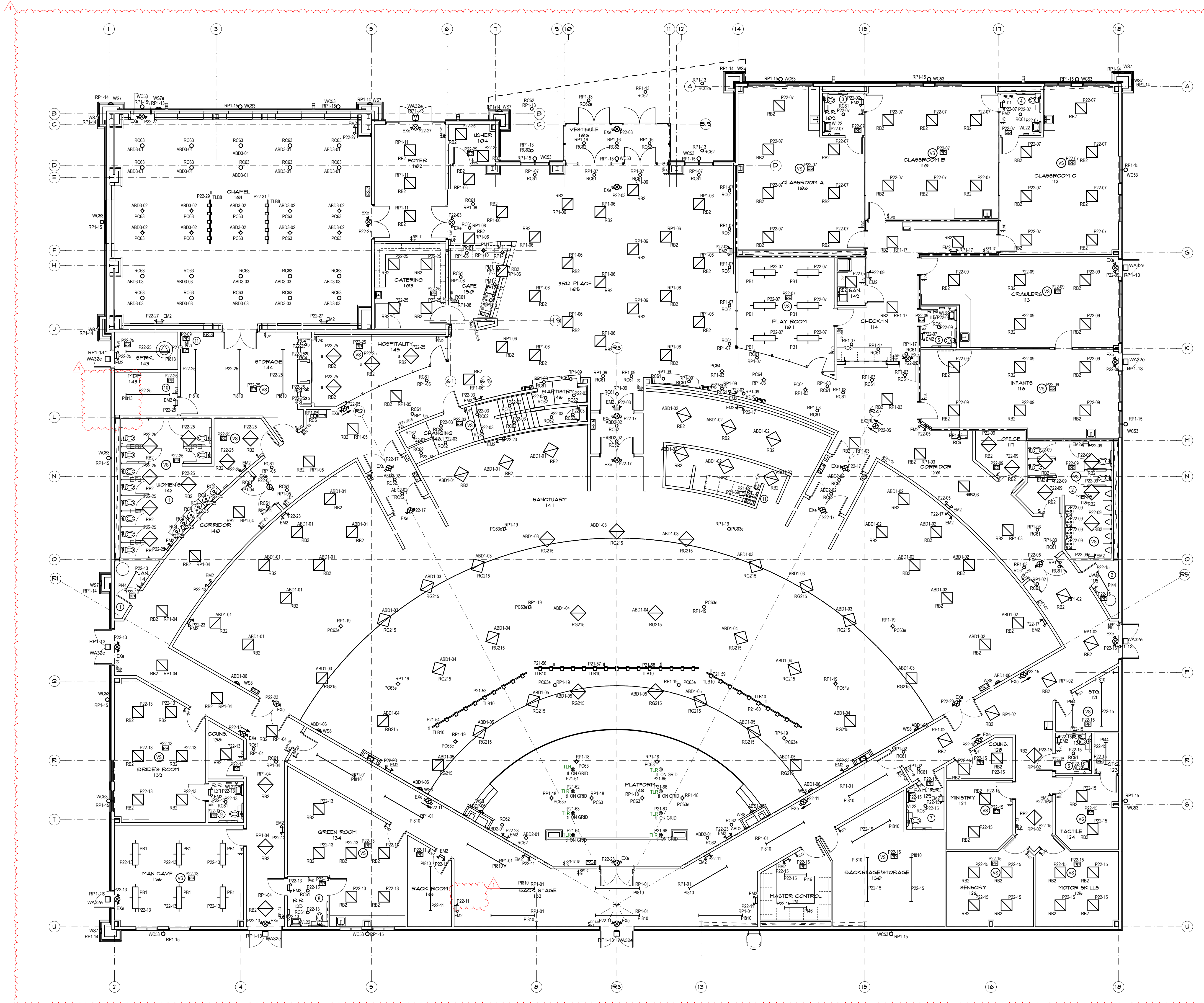
DATE: 02/11/2014
 TIME: 10:00 AM
 PROJECT: 1407 S EL CAMINO REAL

REVISIONS:

NO.	DATE	DESCRIPTION
0	11/19/14	ORIGINAL ISSUE
1	12/10/14	OWNER REVISIONS

BEAL: [Professional Engineer Seal]

SHEET TITLE: ELECTRICAL SITE PLAN
 SHEET NUMBER: 101
 PROJECT: AC-889
 ORIGINAL ISSUE: 2-08-14
 DO NOT SCALE DRAWING



1 FIRST FLOOR LIGHTING
SCALE 1/8" = 1'-0"

KEYNOTES

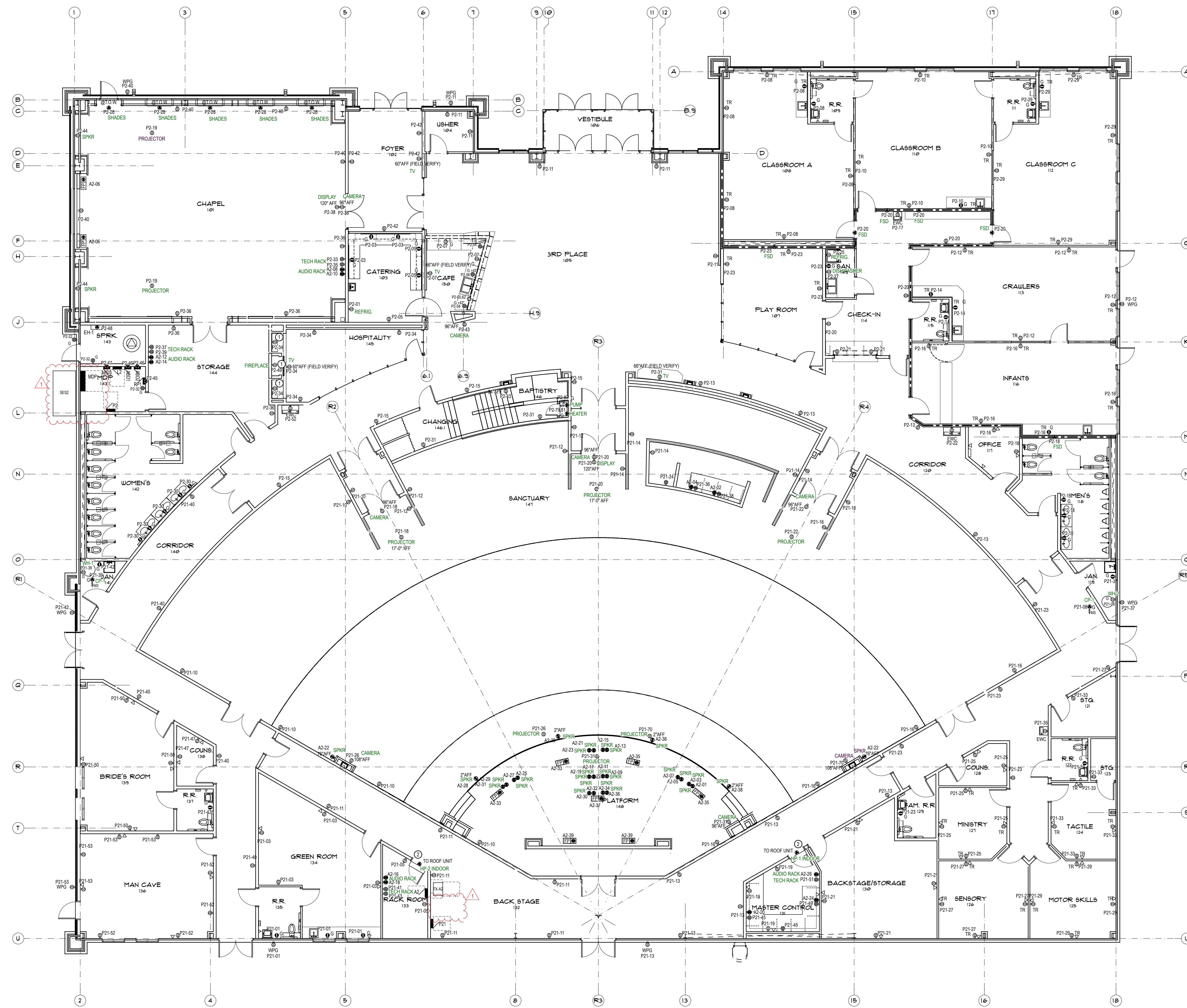
- 1 UP TO EXHAUST FAN EF-1. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 2 UP TO EXHAUST FAN EF-2. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 3 UP TO EXHAUST FAN EF-3. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 4 UP TO EXHAUST FAN EF-4. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 5 UP TO EXHAUST FAN EF-5. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 6 UP TO EXHAUST FAN EF-6. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 7 UP TO EXHAUST FAN EF-7. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 8 UP TO EXHAUST FAN EF-8. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 9 UP TO EXHAUST FAN EF-9. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 10 UP TO EXHAUST FAN EF-10. SEE ROOF POWER PLAN SHEET E123. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
- 11 SWITCH & POWER RACK FOR THEATRICAL LIGHT BAR. SEE DETAIL ON SHEET E511.

REV	DATE	DESCRIPTION
0	7-29-2014	ORIGINAL ISSUE
1	7-29-2014	OWNER REVISIONS

VILLAGE MEADOWS
BAPTIST CHURCH
1407 S EL CAMINO REAL
SIERRA VISTA, ARIZONA 85635
SIERRA VISTA, AZ

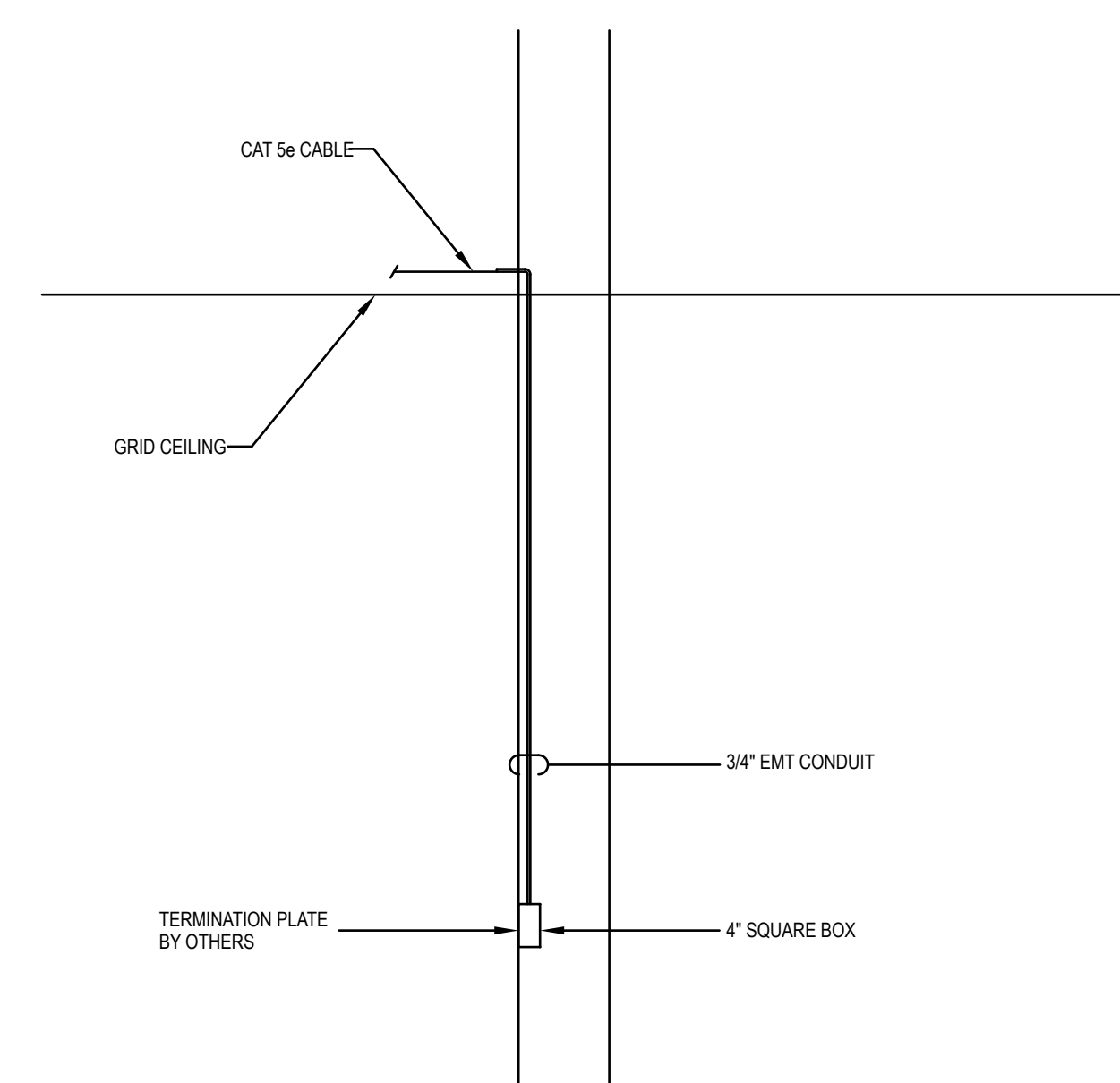
PROJECT:

SHEET TITLE: LIGHTING PLAN
SHEET NUMBER:
PROJECT: AC-889
DO NOT SCALE DRAWING



1 FIRST FLOOR POWER
SCALE: 1/8" = 1'-0"

- GENERAL NOTES**
- ELECTRICAL CONTRACTOR TO RUN CONTROL WIRE AND CONDUIT FOR ALL THERMOSTAT OR TEMP SENSORS, HUMIDISTATS, AND CARBON DIOXIDE DETECTORS. COORDINATE LOCATIONS WITH MECHANICAL.
- KEYNOTES**
- FIELD VERIFY FINAL HEIGHT OF OUTLETS WITH BUILT-IN CABINETS.
 - INDOOR UNIT POWERED BY OUTDOOR UNIT. SEE SHEET E123.



2 LOW VOLTAGE STUB-UP DETAIL
SCALE: 3/16" = 1'-0"

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B&W Construction
a design and construction partnership

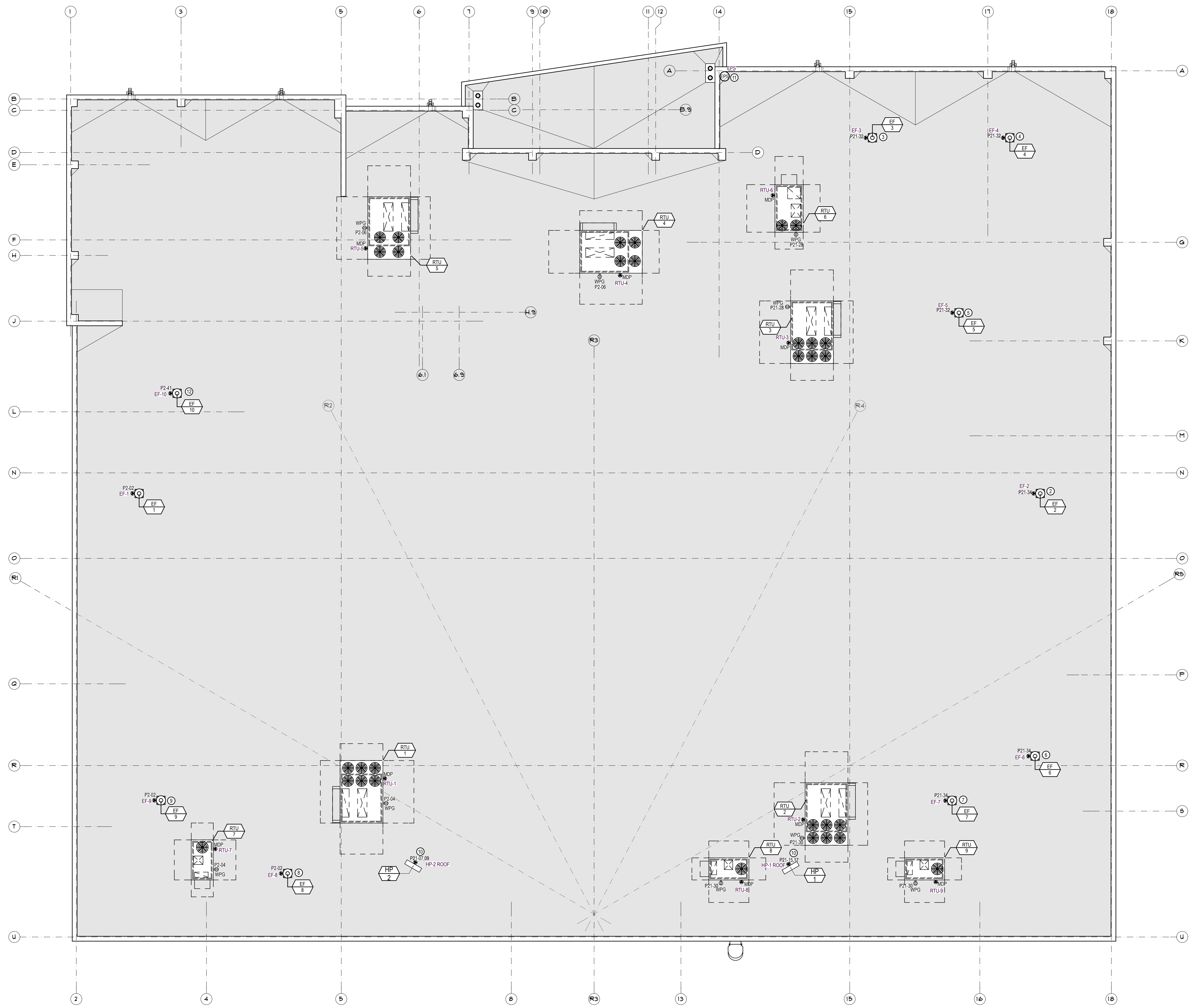
REV	DATE	DESCRIPTION
0	P-1916	ORIGINAL ISSUE
1	7-29-2017	GENERAL REVISIONS

PROJECT:
VILLAGE MEADOWS
BAPTIST CHURCH
1407 S EL CAMINO REAL
SIERRA VISTA, ARIZONA 85635
SIERRA VISTA, AZ

REAL: [Professional Engineer Seal for Shamed E. Swenson, License No. 10000, Expires 12/31/2017]

PROJECT: DANE, COOK ARCHITECT | 1308 W. WASHINGTON BLVD., COCHISE, AZ 85601 | PH: 480-855-3331 | WWW.DANEANDCOOK.COM

SHEET TITLE: POWER PLAN
SHEET NUMBER: E121
PROJECT: AC-889
ORIGINAL ISSUE: 2-09-14
DO NOT SCALE DRAWING



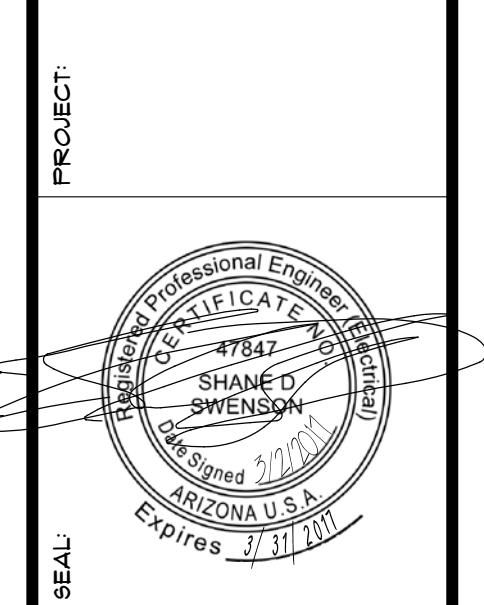
1 ROOF POWER
SCALE: 1/8" = 1'-0"

GENERAL NOTES
 1. ELECTRICAL CONTRACTOR TO RUN CONTROL WIRE AND CONDUIT FOR ALL THERMOSTAT OR TEMP SENSORS, HUMIDISTATS, AND CARBON DIOXIDE DETECTORS. COORDINATE LOCATIONS WITH MECHANICAL.

- KEYNOTES
1. DOWN TO SWITCH IN JAN 141 & WOMENS 142. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 2. DOWN TO SWITCH IN MENS 118 & JAN 119. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 3. DOWN TO SWITCH IN RR 109. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 4. DOWN TO SWITCH IN RR 111. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 5. DOWN TO SWITCH IN RR 115. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 6. DOWN TO SWITCH IN RR 122. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 7. DOWN TO SWITCH IN FAM RR 129. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 8. DOWN TO SWITCH IN RR 135. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 9. DOWN TO SWITCH IN RR 137. SEE LIGHTING PLAN SHEET E111. ALSO SEE DETAILS ON SHEET E511 FOR SWITCHING.
 10. INDOOR UNIT POWERED BY OUTDOOR UNIT. SEE SHEET E121.
 11. EXTERNAL DAYLIGHT SENSOR CONNECTED TO RELAY PANEL.
 12. DOWN TO THERMOSTAT IN MDP143.1. SEE LIGHTING PLAN SHEET E111.

REV	DATE	DESCRIPTION
0	P-2014	ORIGINAL ISSUE
1	7-29-2017	GENERAL REVISIONS

PROJECT:
VILLAGE MEADOWS BAPTIST CHURCH
 14071 S EL CAMINO REAL
 SIERRA VISTA, ARIZONA 85625
 SIERRA VISTA, AZ
 DANE, COOK ARCHITECT | 1308 WASHINGTON BLVD., SUITE 200 | PH: 480-955-3331 | WWW.DANEARCHITECT.COM



SHEET TITLE
ROOF POWER PLAN

SHEET NUMBER
E123

PROJECT: AC-289 ORIGINAL ISSUE: 2-28-14
 DO NOT SCALE DRAWING

BGW SUPPLY PROVIDE FIXTURES

CALL-OUT	DESCRIPTION	LAMP DATA					VOLTAGE	NOTES
		WATTS	TYPE	COLOR TEMP	CRI	LUMENS		
PA48	POLE MOUNT AREA/SITE LED	74 W	LED	4000 K	70	7264	UNV	
PA58	POLE MOUNT AREA/SITE LED	74 W	LED	4000 K	70	8328	UNV	
PS25	POLE							CONFIRM FINISH
WA32e	LED EXTERIOR WALL MOUNT AREA LIGHT	19 W	LED	4000 K	70	2066	UNV	
PB1	LED PENDANT	36 W	LED	4000 K	84	3300	UNV	
RB2	LED RECESSED	38 W	LED	4000 K	84	3300	UNV	
PC33	LED PENDANT	31 W	LED	4000 K	90	3000	UNV	CONFIRM PENDANT LENGTH, COLOR AND VOLTAGE
PC33a	LED PENDANT	31 W	LED	4000 K	90	3000	UNV	CONFIRM PENDANT LENGTH, COLOR AND VOLTAGE
PC64	LED PENDANT	41 W	LED	4000 K	90	4000	UNV	CONFIRM PENDANT LENGTH, COLOR AND VOLTAGE
RC4	LED RECESSED	11 W	LED	4000 K	90	850	120 V	CONFIRM MODEL TO BE 120 VOLTAGE BEFORE PURCHASE
RC6	LED RECESSED	11 W	LED	4000 K	90	850	120 V	
RC61	LED RECESSED	16 W	LED	4000 K	90	1250	120 V	
RC62	LED RECESSED	25 W	LED	4000 K	90	2000	120 V	
RC62a	LED RECESSED	25 W	LED	4000 K	90	2000	120 V	
RC63	LED RECESSED	37 W	LED	4000 K	90	3000	120 V	
WC33	LED WALL	12 W	LED	4000 K	80	1020	UNV	
RG215	LED RECESSED	136 W	LED	4100 K	80	14864	UNV	CONFIRM COLOR AND SHIELDING
PH4	LED PENDANT	43 W	LED	4000 K	80	4676	UNV	
PH6	LED PENDANT	63 W	LED	4000 K	80	6574	UNV	
PH10	LED PENDANT	83 W	LED	4000 K	80	9579	UNV	
PH13	LED PENDANT	124 W	LED	4000 K	80	13580	UNV	
WL22	LED WALL	20 W	LED	4000 K	83	2328	UNV	
PM1	LED PENDANT	10 W	LED	4000 K	80	520	120 V	CONFIRM SHADE
WS7	LED WALL	13 W	LED	4000 K	80	2000	120 V	** CONFIRM FINISH & DIFFUSER
WS7e	LED WALL	13 W	LED	4000 K	80	2000	120 V	** CONFIRM FINISH & DIFFUSER
WS8	LED WALL	16 W	LED	4000 K	80	3224	120 V	** CONFIRM FINISH & DIFFUSER
EM2	EMERGENCY LIGHT	3 W					UNV	
EX6	EXIT	4 W					UNV	
EX2RL	EXIT	2 W	LED				UNV	
TLB8	THEATRICAL LIGHTING BAR	1,920 W					120 V	
TLB10	THEATRICAL LIGHTING BAR	1,920 W					120 V	

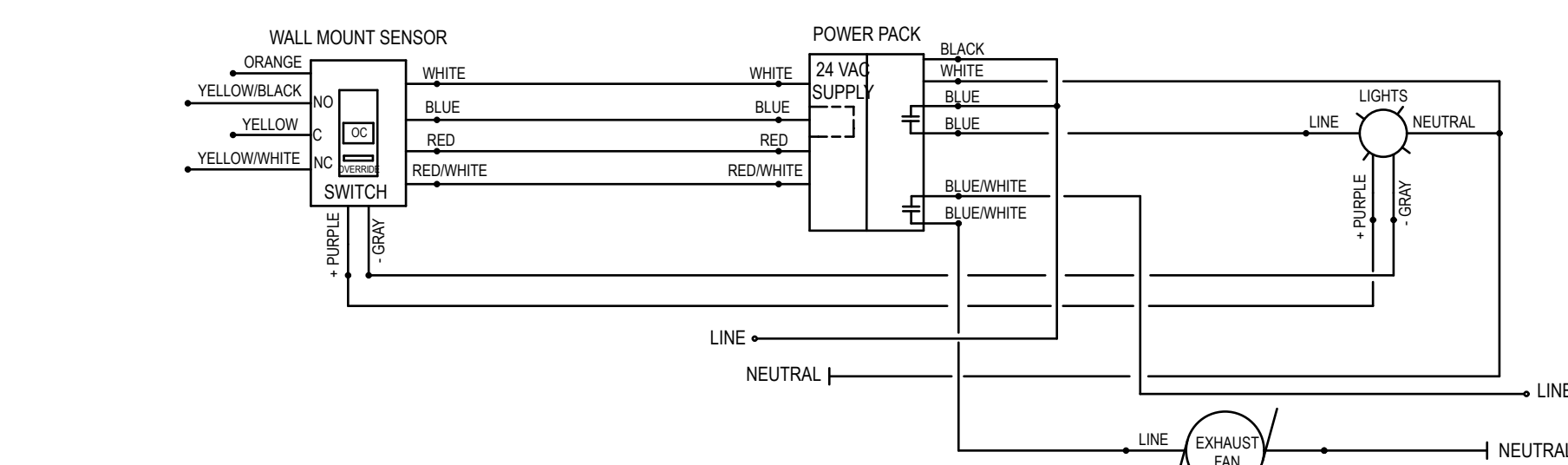
BGW SUPPLY PROVIDE CONTROLS

CALL-OUT	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
PP	POWER PACK	DOUGLAS	WP-02021MA-PP20-D
VS	CEILING SENSOR	DOUGLAS	WVRXDD2-02021MA-DPR-L
SVS	WALL SENSOR	DOUGLAS	WOSXDD2-02021MA-DPR-LV
SLV0	WALL SWITCH	DOUGLAS	WRD-02021MA-S701
SLV1	WALL SWITCH	DOUGLAS	WRD-02021MA-S711
SR1	WALL SWITCH	DOUGLAS	WR-02021MA-S711
SR2	WALL SWITCH	DOUGLAS	WR-02021MA-S712
SR3	WALL SWITCH	DOUGLAS	WR-02021MA-S713
EPS	EXTERIOR SENSOR	DOUGLAS	WPS-02021MA-S527B
RPL	RELAY PANEL	DOUGLAS	WLCP-02021MA-24WST-S3
LC20	LIGHTING CONTACTOR	EATON	ECL03CIACA

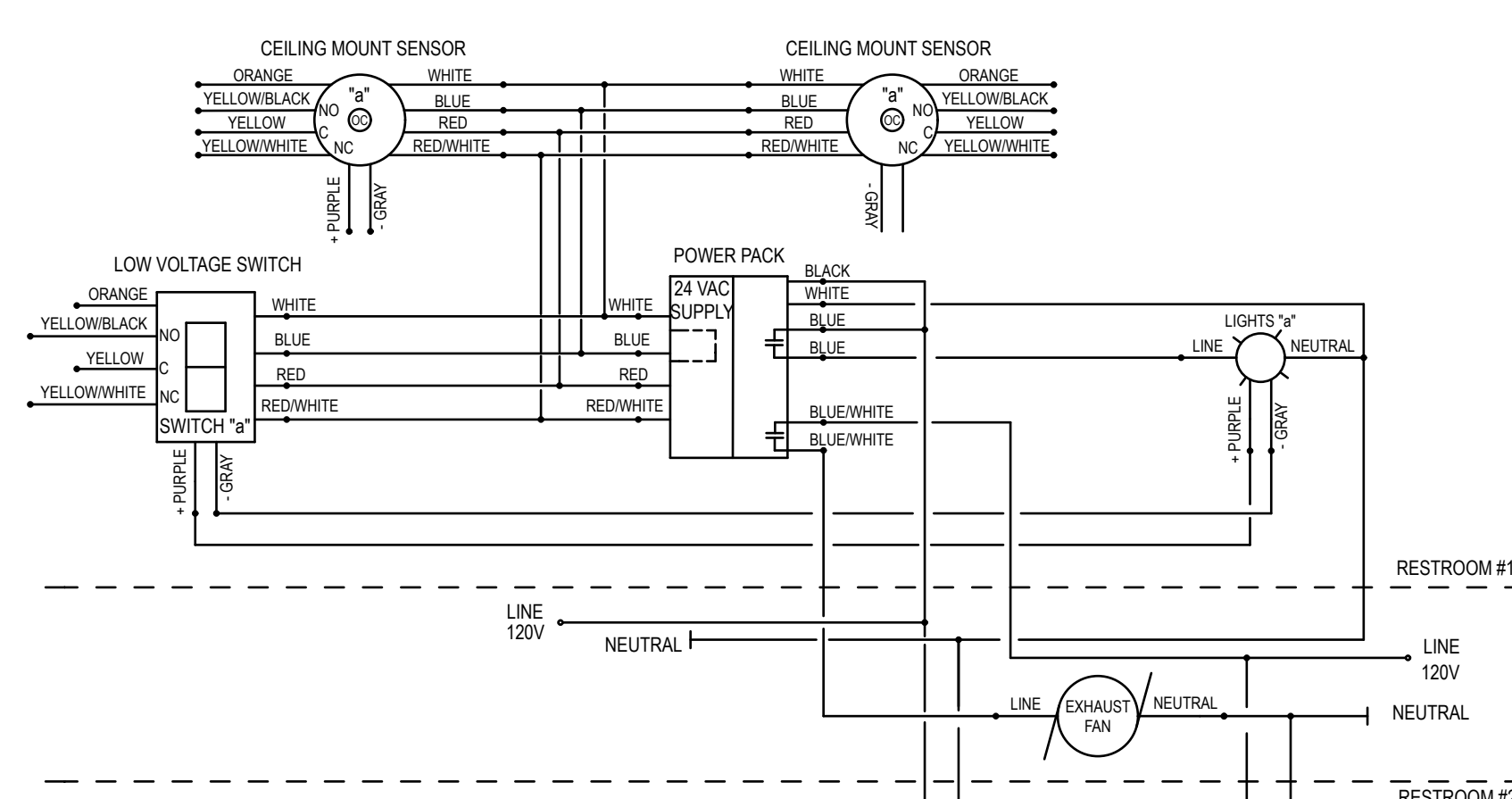
**RELAY PANEL SCHEDULE: RP1
277V NORMAL SUPPLY CIRCUIT: P2-45**

RELAY	LOAD DESCRIPTION	CIRCUIT	O/P NUMBER	LOCAL SWITCH	GROUP SWITCH	TIMER CONTROL	PHOTOCELL CONTROL	ASTRO CONTROL
01	BACK STAGE 132	P22-11		Y	N	Y	N	Y
02	CORRIDOR 120	P22-15		Y	N	Y	N	Y
03	CORRIDOR	P22-05		Y	N	Y	N	Y
04	CORRIDOR 140	P22-13		Y	N	Y	N	Y
05	CORRIDOR	P22-05		Y	N	Y	N	Y
06	CORRIDOR	P22-03		Y	N	Y	N	Y
07	CORRIDOR	P22-03		Y	N	Y	N	Y
08	CORRIDOR	P22-03		Y	N	Y	N	Y
09	CORRIDOR	P22-03		Y	N	Y	N	Y
10	CORRIDOR	P22-03		Y	N	Y	N	Y
11	FOYER 102	P22-27		Y	N	Y	N	Y
12	SPARE							
13	EXTERIOR	P22-02		N	N	Y	Y	Y
14	EXTERIOR	P22-02		N	N	Y	Y	Y
15	EXTERIOR	P22-02		N	N	Y	Y	Y
16	CORRIDOR	P22-03		Y	N	Y	N	Y
17	CHECK-IN 114	P22-09		Y	N	Y	N	Y
18	PLATFORM 148	P22-23		Y	N	Y	N	Y
19	SANCTUARY 147	P22-21		Y	N	Y	N	Y
20	SPARE							
21	SPARE							
22	SPARE							
23	SPARE							
24	SPARE							

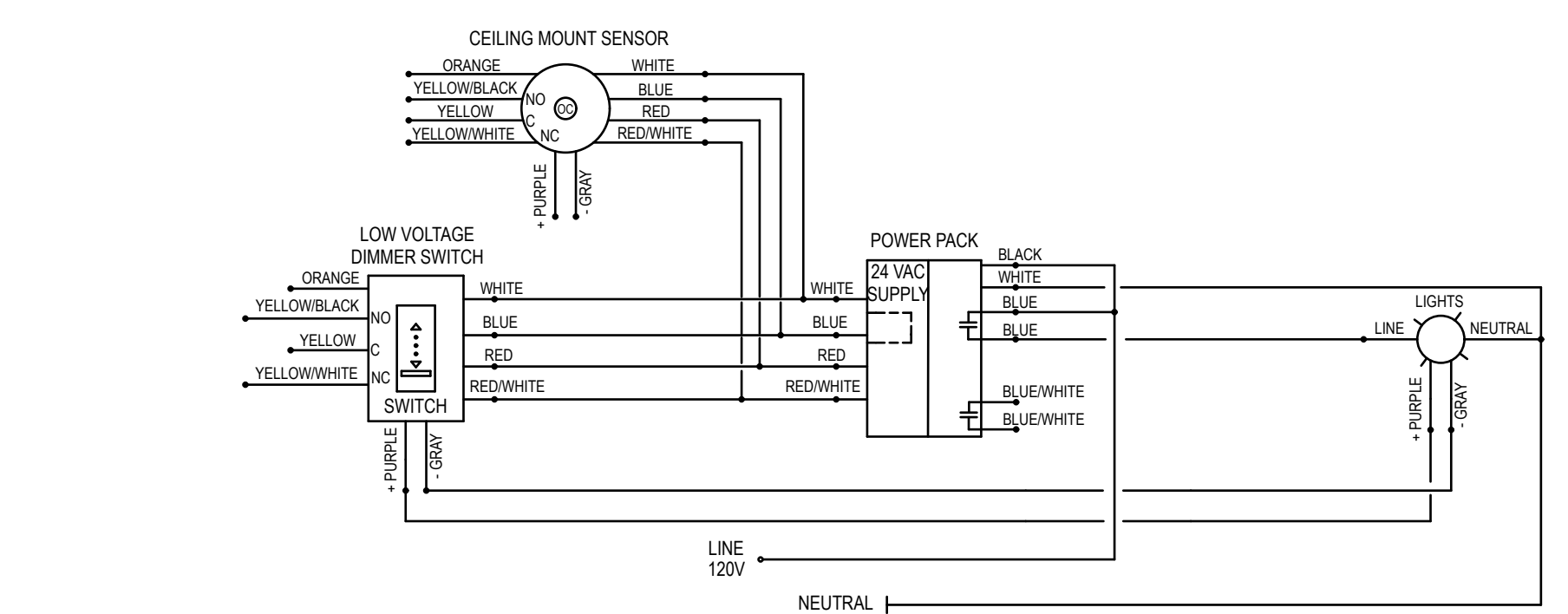
PROVIDED BY BGW SUPPLY INSTALLED BY ELECTRICAL CONTRACTOR



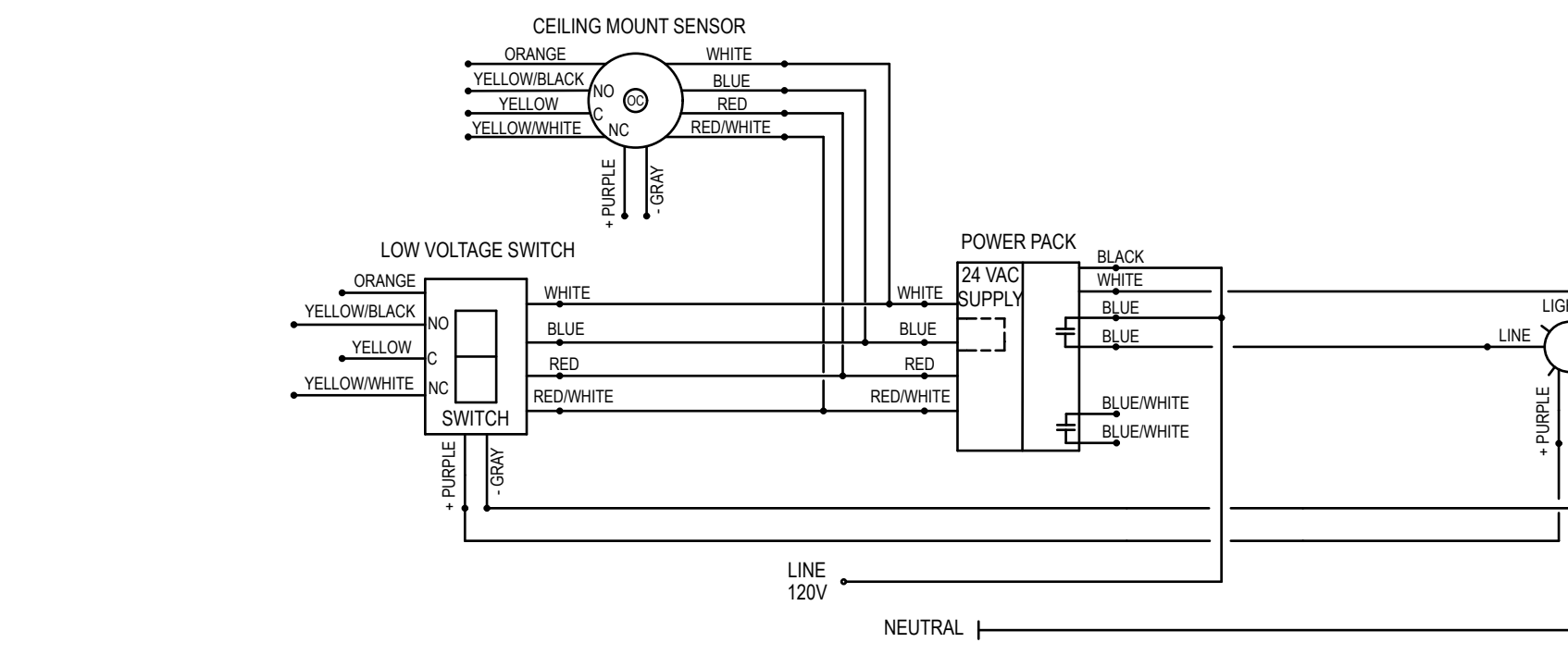
2 COMBINED SWITCHING-1 ROOM, 1 FAN, 1 L.V. SWITCH W/ WALL SENSOR



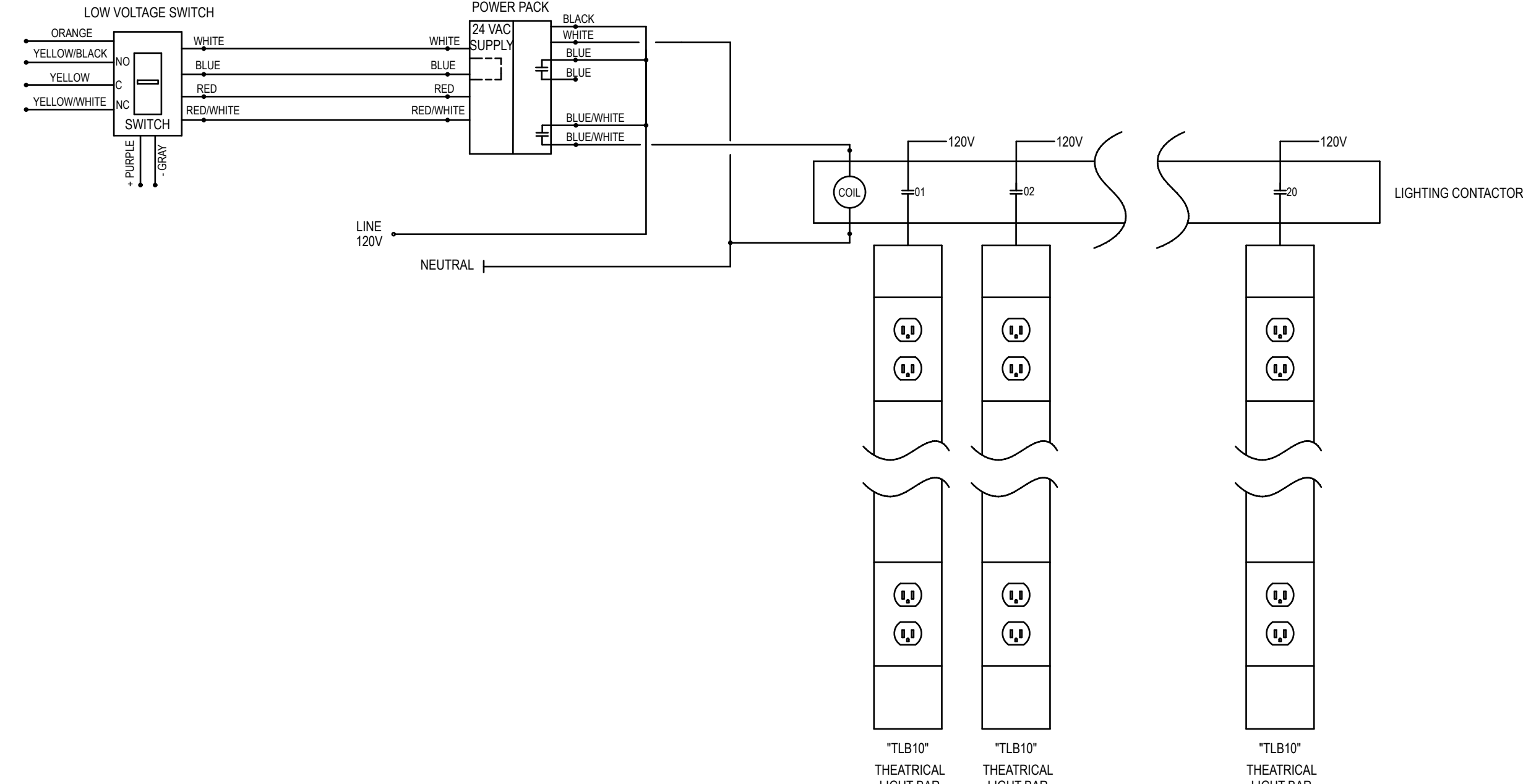
3 COMBINED SWITCHING-2 ROOMS, 2 CEIL SENSORS & 1 LV SWITCH, 1 LV SWITCH W/ WALL SENSOR



5 SENSOR SWITCHING-1 ROOM, 1 CEIL. SENSOR, & 1 L.V. DIMMER SWITCH



6 SENSOR SWITCHING-1 ROOM, 1 CEIL. SENSOR, & 1 L.V. SWITCH

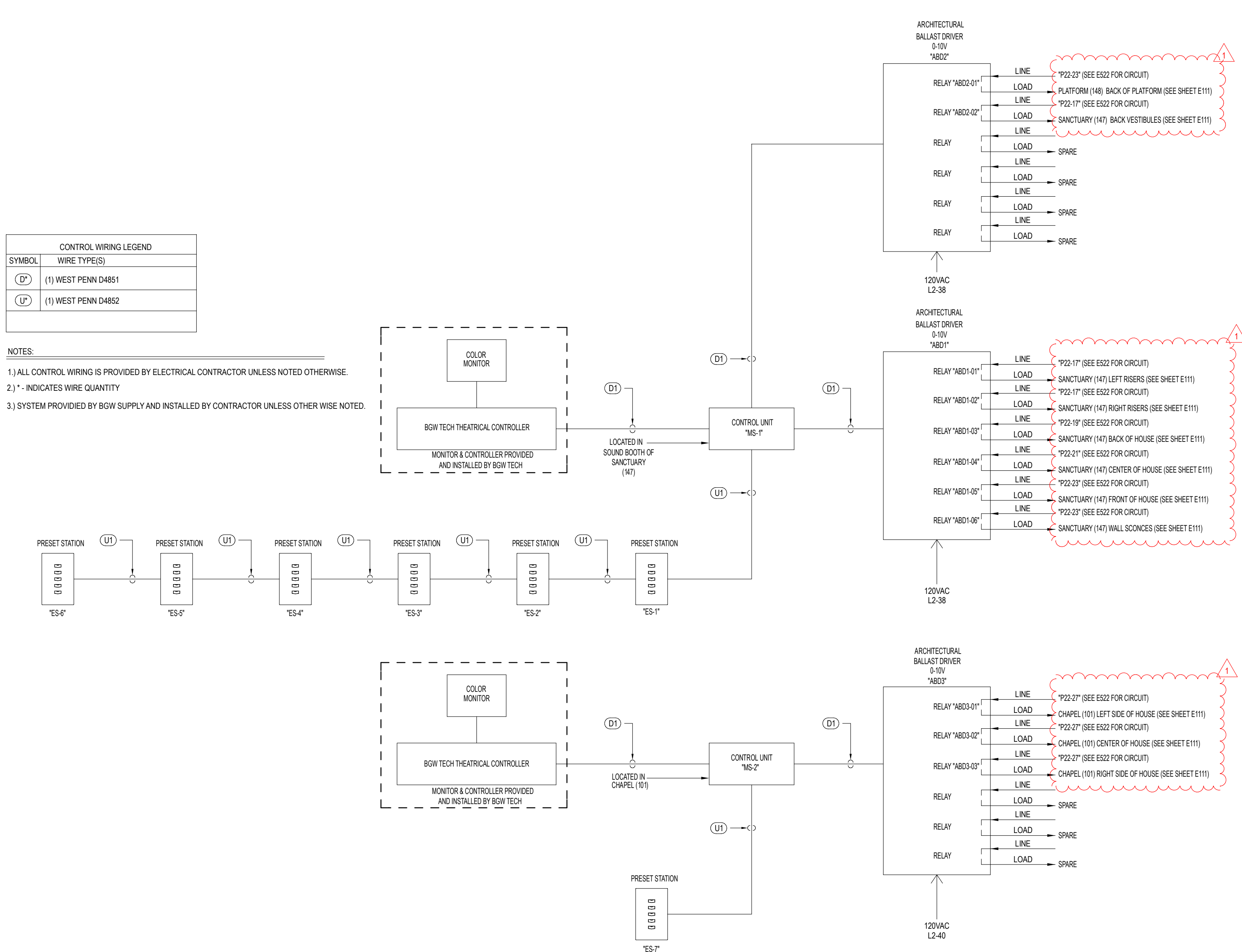


4 THEATRICAL LIGHT BAR SWITCHING

CONTROL WIRING LEGEND

SYMBOL	WIRE TYPE(S)
(D)	(1) WEST PENN D4851
(U)	(1) WEST PENN D4852

- NOTES:
- 1) ALL CONTROL WIRING IS PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.
 - 2) *- INDICATES WIRE QUANTITY
 - 3) SYSTEM PROVIDED BY BGW SUPPLY AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.



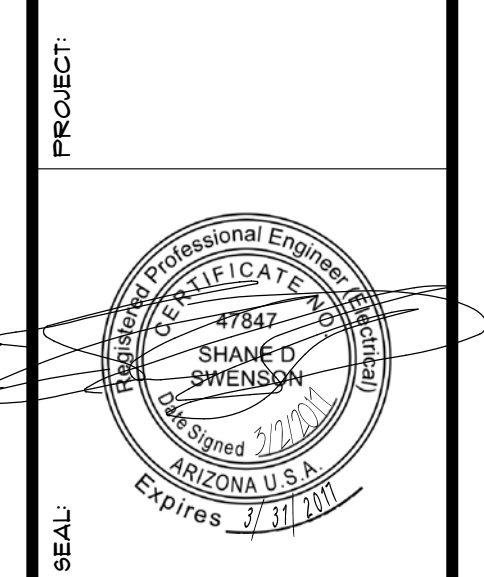
1 LIGHTRONICS RISER DIAGRAM

Cochise Tech & Development
a design and construction partnership

REV	DATE	DESCRIPTION
0	P-2014	OWNER REVISIONS
1	7-29-2011	OWNER REVISIONS

**VILLAGE MEADOWS
BAPTIST CHURCH**
1407 S EL CAMINO REAL
SIERRA VISTA, ARIZONA 85635
SIERRA VISTA, AZ

DAVE COOK ARCHITECT | 1308 W. WASHINGTON BLVD., COCHISE UT 85601 | PH: 480-983-9331 | WWW.DAVECOOKARCHITECT.COM

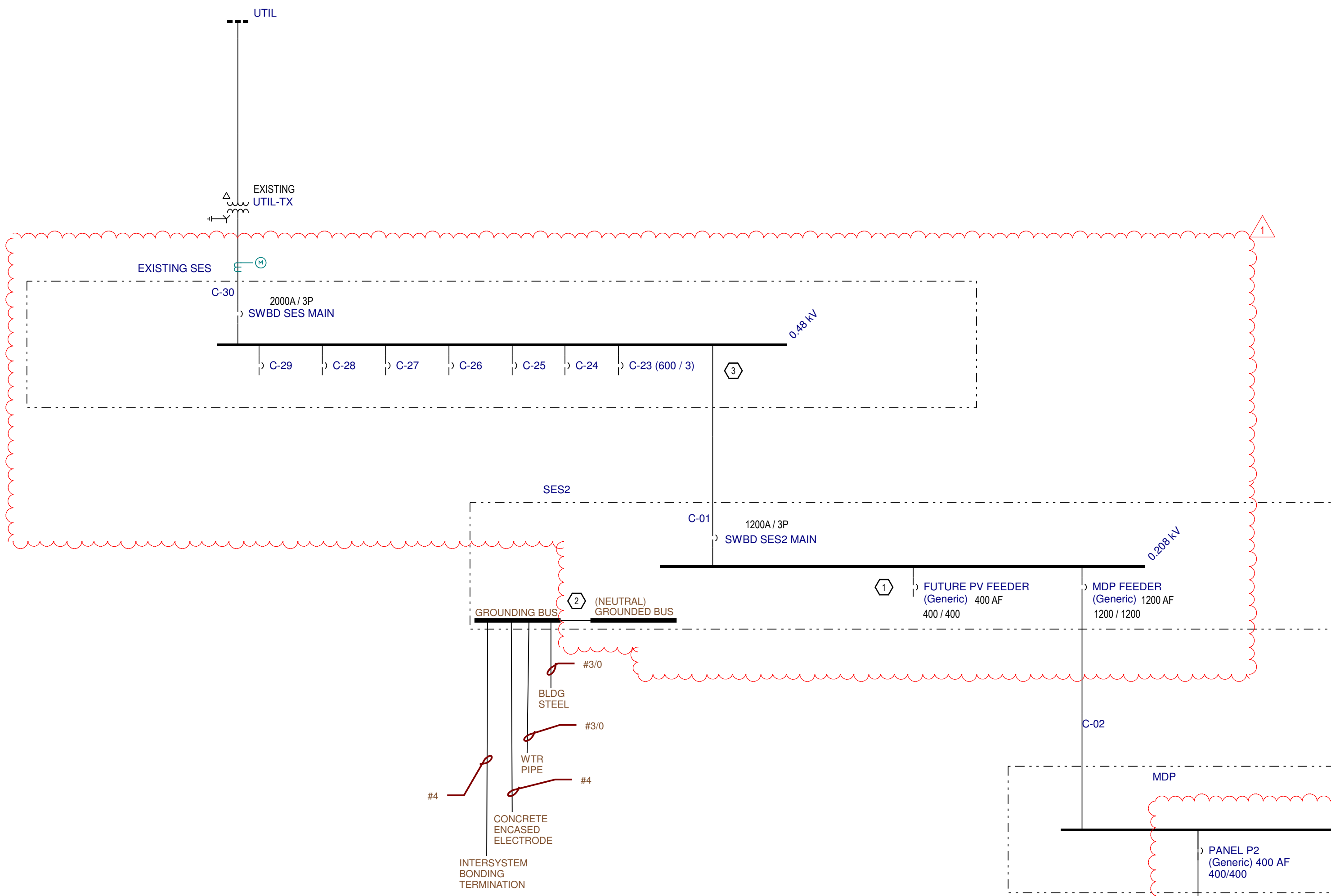


SHEET TITLE
LIGHT FIXTURE SCHEDULE & DETAILS

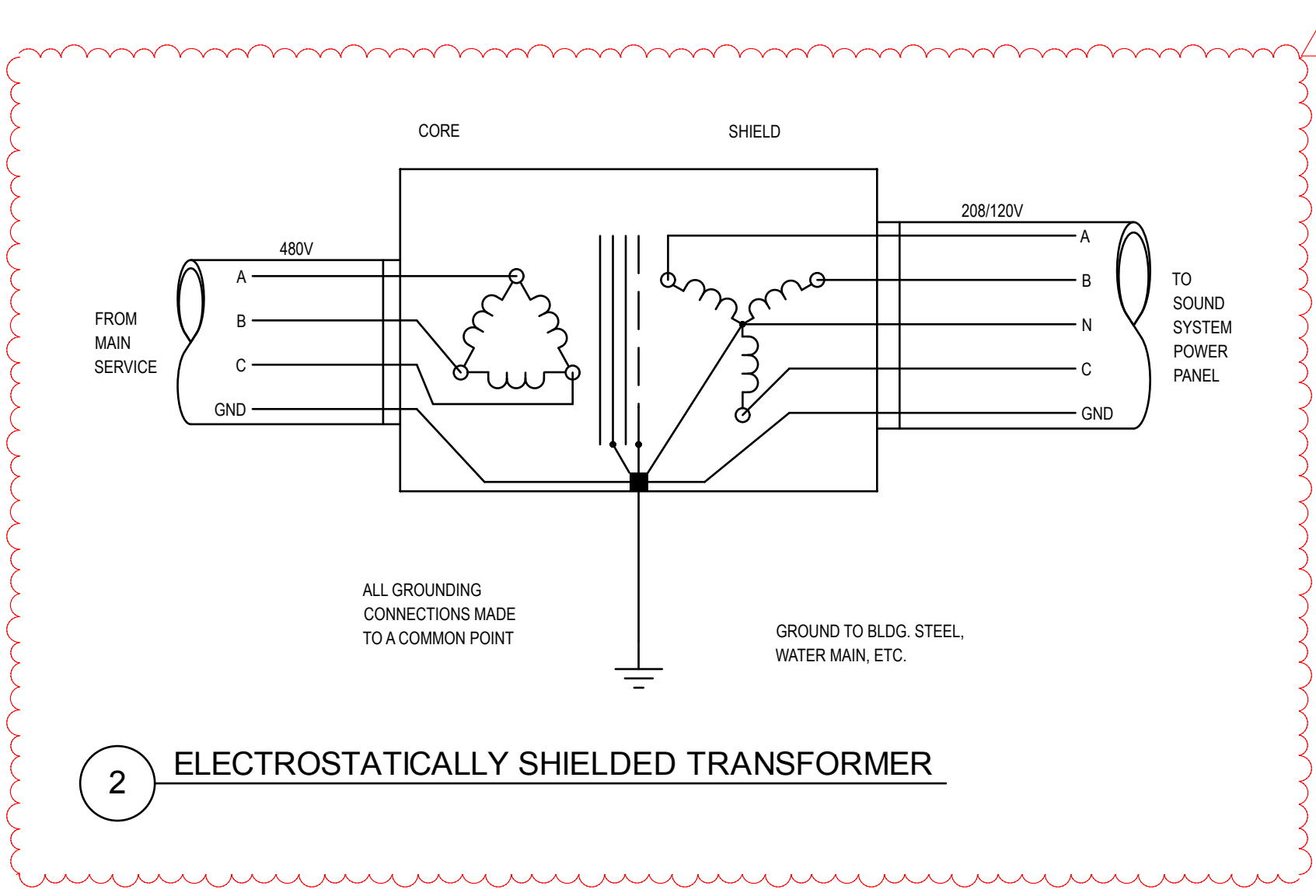
SHEET NUMBER
E511

DO NOT SCALE DRAWING

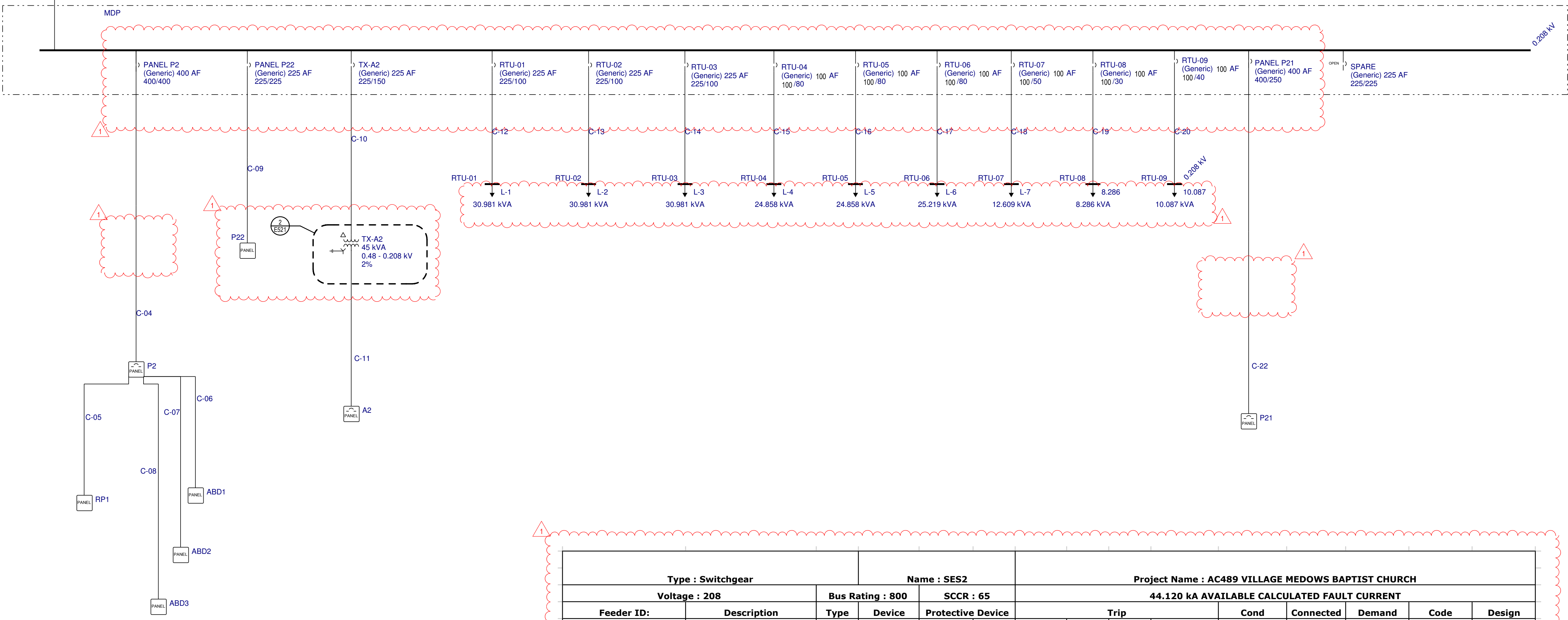
PROJECT: AC-889 ORIGINAL ISSUE: 2-0814



1 ONE-LINE DIAGRAM



2 ELECTROSTATICALLY SHIELDED TRANSFORMER



Type : Switchgear		Name : SES2		Project Name : AC489 VILLAGE MEDOWS BAPTIST CHURCH												
Voltage : 208		Bus Rating : 800		SCCR : 65		44.120 kA AVAILABLE CALCULATED FAULT CURRENT										
Feeder ID:	Description	Type	Device	Protective Device		Trip				Conduct	Connected	Demand	Code	Design		
				Rating (A)	Mfr	Style	Mfr	Style	Sensor						Plug	Rating (A)
FUTURE PV	PV INCOMING	Feeder	400	(Generic)	400AF	(Generic)	STD				400					
C-01	PANEL MDP	Feeder	1200	(Generic)	1200AF	(Generic)	STD				1200	1240	1113	1113	960	1200
SES TO SES2	INCOMING	Feeder										1620	1113	1113	960	1200

Type : Panelboard		Name : MDP		Project Name : AC489 VILLAGE MEDOWS BAPTIST CHURCH												
Voltage : 208		Bus Rating : 1200		SCCR : 65												
Feeder ID:	Description	Type	Device	Protective Device		Trip				Conduct	Connected	Demand	Code	Design		
				Rating (A)	Mfr	Style	Mfr	Style	Sensor						Plug	Rating (A)
C-02	INCOMING	Feeder										124	1113	1113	960	1200
PANEL P2	PANEL P2	Feeder	400	(Generic)	400 AF	(Generic)	Std				400	410	117.7	117.7	147.1	147.1
PANEL P22	PANEL P22	Feeder	225	(Generic)	225 AF	(Generic)	Std				225	230	30.6	30.6	38.3	38.3
TX-A2	PANEL A2	Feeder	150	(Generic)	225 AF	(Generic)	Std				150	155	51.5	51.5	64.4	64.4
RTU-01	HVAC UNIT RTU-01	Feeder	100	(Generic)	225 AF	(Generic)	Std				100	100	86.0	86.0	107.5	107.5
RTU-02	HVAC UNIT RTU-02	Feeder	100	(Generic)	225 AF	(Generic)	Std				100	100	86.0	86.0	107.5	107.5
RTU-03	HVAC UNIT RTU-03	Feeder	100	(Generic)	225 AF	(Generic)	Std				100	100	86.0	86.0	107.5	107.5
RTU-04	HVAC UNIT RTU-04	Feeder	80	(Generic)	100 AF	(Generic)	Std				80	85	69.0	69.0	86.3	86.3
RTU-05	HVAC UNIT RTU-05	Feeder	80	(Generic)	100 AF	(Generic)	Std				80	85	69.0	69.0	86.3	86.3
RTU-06	HVAC UNIT RTU-06	Feeder	80	(Generic)	100 AF	(Generic)	Std				80	85	70.0	70.0	87.5	87.5
RTU-07	HVAC UNIT RTU-07	Feeder	50	(Generic)	100 AF	(Generic)	Std				50	50	35.0	35.0	43.8	43.8
RTU-08	HVAC UNIT RTU-08	Feeder	30	(Generic)	100 AF	(Generic)	Std				30	35	23.0	23.0	28.6	28.6
RTU-09	HVAC UNIT RTU-09	Feeder	40	(Generic)	100 AF	(Generic)	Std				40	35	28.0	28.0	35	35
PANEL P21	PANEL P21	Feeder	250	(Generic)	400 AF	(Generic)	Std				250	250	84.4	84.4	85	85
SPARE	SPARE	Feeder	225	(Generic)	225 AF	(Generic)	Std				225		0.0	0.0	0.0	0.0

Cables	From Bus ID	To Bus ID	No/Ph	Size	Insulation	Material	Conduit Size	Conduit Num	Grid Num	Grid Size	Grid Mtg	Grid Inset	Neutral Num	Neutral Size	Neutral Mtg	Neutral Inset
C-01	EXISTING SES	SES2	6	400	THWN	Aluminum	3.5	6	6	350	Aluminum	THWN	6	400	Aluminum	Yes
C-02	SES2	MDP	4	500	THWN	Aluminum	3.5	4	4	250	Aluminum	THWN	4	500	Aluminum	Yes
C-04	MDP	P2	2	250	THWN	Aluminum	3	2	2	1	Aluminum	THWN	2	250	Aluminum	Yes
C-05	P2	RP1	1	12	THWN	Copper	0.75	1	1	12	Copper	THHN	1	12	Copper	Yes
C-06	P2	ABD1	1	12	THWN	Copper	0.75	1	1	12	Copper	THHN	1	12	Copper	Yes
C-07	P2	ABD2	1	12	THWN	Copper	0.75	1	1	12	Copper	THHN	1	12	Copper	Yes
C-08	P2	ABD3	1	12	THWN	Copper	0.75	1	1	12	Copper	THHN	1	12	Copper	Yes
C-09	MDP	P22	1	300	THWN	Aluminum	3	1	2	2	Aluminum	THWN	1	300	Aluminum	Yes
C-10	MDP	TX-A2 PRI	1	300	THWN	Aluminum	2	1	4	6	Aluminum	THWN	0			
C-11	TX-A2 SEC	A2	1	300	THWN	Aluminum	2	1	1	4	Aluminum	THWN	1	300	Aluminum	Yes
C-12	MDP	RTU-01	1	3	THWN	Copper	1.5	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-13	MDP	RTU-02	1	3	THWN	Copper	1.5	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-14	MDP	RTU-03	1	3	THWN	Copper	1.5	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-15	MDP	RTU-04	1	4	THWN	Copper	1.25	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-16	MDP	RTU-05	1	4	THWN	Copper	1.25	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-17	MDP	RTU-06	1	4	THWN	Copper	1.25	1	1	8	Copper	THWN	0	Other	Copper	Yes
C-18	MDP	RTU-07	1	8	THWN	Copper	1	1	1	10	Copper	THWN	0	Other	Copper	Yes
C-19	MDP	RTU-08	1	10	THWN	Copper	0.75	1	1	10	Copper	THWN	0	Other	Copper	Yes
C-20	MDP	RTU-09	1	10	THWN	Copper	0.75	1	1	10	Copper	THWN	0	Other	Copper	Yes
C-22	MDP	P21	1	350	THWN	Aluminum	4	1	1	1/0	Aluminum	THWN	1	350	Aluminum	Yes
C-30	UTIL-TX SEC	EXISTING SES	1	350	THWN	Copper		1	1	4/0	Copper		0	Other	Copper	Yes

5 CONDUIT & WIRE SCHEDULE

- ONE-LINE KEYED NOTES
- PROVIDE ONE SPARE CONDUCTOR TO ALLOW FOR FUTURE PV INTERGRATION.
 - DO NOT BOND NEUTRAL AND GROUND AT THIS LOCATION.
 - PROVIDE NEW BREAKER & REQUIRED BONDING IN EXISTING SWITCHBOARD.

- ONE LINE NOTES:
- All service entrance equipment (panels, switchboards, etc.) shall be UL listed or use as service entrance equipment.
 - All equipment may be series-rated for short circuit (fault) capacity.
 - Bond building structural steel, metallic water pipes, and concrete-encased electrodes (rebar) to each other and to the enclosure grounding bus inside the enclosure containing the service disconnect switch. The concrete installation contractor shall be instructed to leave at least 1 ft. of rebar exposed at the service entrance panel for bonding.
 - Ground rods, plates and rings are not required, nor are Ufer grounds unless rebar is not installed in the foundations. However, if any of these are present they must be bonded to the rest of the grounding system as required by the National Electrical Code.
 - For separately-derived systems bond the transformer secondary neutral (grounded conductor) to the structural metal and the nearest available point of the metal water piping systems in the area served by the transformer. The metal water piping shall be bonded to the structural metal.
 - For both services and separately-derived systems the grounded (neutral) conductor and the grounding conductors shall be bonded together at only one point in the enclosure which contains the service disconnecting means (for services) or the transformer secondary overcurrent device (for separately-derived systems). The grounded and grounding conductors shall not be bonded together at any other point including downstream electrical panels.
 - All bonding shall be effected by means of UL listed devices specifically tested and approved for the purpose.
 - Transformers which serve harmonic rich loads such as dimming panels shall be K13 rated.
 - All metallic conduit joints shall be made up wrench-tight using UL approved devices. In addition, all conduit, metallic and non-metallic, shall have a bonding conductor installed in accordance with either NEC 250.105 or 250.122 as applicable.
 - Switchboards design basis was Cutler-Hammer and it is up to contractor to make any adjustments required to accommodate other manufacturers.



VILLAGE MEADOWS BAPTIST CHURCH
1407 S EL CAMINO REAL
SIERRA VISTA, ARIZONA 85635
SIERRA VISTA, AZ

PROJECT: AC489

DATE: 08/20/2014

DESIGNER: DANIEL COOK ARCHITECT

PROJECT: AC489

DATE: 08/20/2014

DESIGNER: DANIEL COOK ARCHITECT

SHEET TITLE: ONE LINE DIAGRAM

SHEET NUMBER: E521

DO NOT SCALE DRAWING

PANEL P02											
400A MAIN LUGS											
REQ. NO.	DESCRIPTION	VA	COLLECTOR	A	B	C	D	COLLECTOR	VA	DESCRIPTION	REQ. NO.
201	FIBER CABLES 140	1400	3	1710	4	1710	4	1710	4	EXT. FIBER & FIBER	201
201	REC 105	600	3	600	4	600	4	600	4	ROOF TOP UNIT PHOTO TRUCK	201
201	REC 105	600	5	600	5	600	5	600	5	ROOF TOP UNIT PHOTO TRUCK	201
201	SPARE									REC 105	201
201	REC 105 TV	600	7	2205	6	1260	6	1260	6	REC 105 B 109	201
201	SPARE									REC 105	201
201	REC 104 & 106	1080	11	360	12	360	12	360	12	REC 103	201
201	REC 104 & 107	720	13	1260	12	1260	12	1260	12	REC 103 & 110	201
201	REC 105 & 106	720	15	1260	12	1260	12	1260	12	REC 103 & 110	201
201	WATER COOKER	600	17	1260	18	1260	18	1260	18	REC 108	201
201	PROJECTOR 101	1200	19	2400	20	1200	20	1200	20	REC 108 & 109	201
201	REC 114	300	21	600	22	600	22	600	22	WATER COOKER	201
201	REC 114	600	21	600	24	2400	24	2400	24	THEATRICAL LIGHT BAR 101	201
201	REFRIGERATOR 149	1400	25	2800	26	1400	26	1400	26	THEATRICAL LIGHT BAR 101	201
201	DISPENSER 148	1400	27	2800	28	1400	28	1400	28	THEATRICAL LIGHT BAR 101	201
201	REC 111 & 112	1080	29	360	30	360	30	360	30	REC 142	201
201	REC 104 & 105	1440	31	2880	32	1440	32	1440	32	REC 104 & 105	201
201	TECH RACK 101	1200	33	2400	34	1200	34	1200	34	REC 110	201
201	TECH RACK 102	1200	35	2400	36	1200	36	1200	36	REC 110 & 114	201
201	TECH RACK 144	1200	37	2400	38	1200	38	1200	38	CAMERA & DISPLAY 101	201
201	TECH RACK 144	1200	39	2400	40	1200	40	1200	40	REC 110	201
201	REC 117	300	41	2100	42	1140	42	1140	42	REC 117	201
201	CAMERA TOP TECH REC 148	600	43	2100	44	1140	44	1140	44	REC 117	201
201	REC 118	600	45	2100	46	1140	46	1140	46	REC 118	201
201	REC 118	600	47	2100	48	1140	48	1140	48	REC 118	201
201	REC 118	600	49	2100	50	1140	50	1140	50	REC 118	201
201	REC 118	600	51	2100	52	1140	52	1140	52	REC 118	201
201	REC 118	600	53	2100	54	1140	54	1140	54	REC 118	201
201	REC 118	600	55	2100	56	1140	56	1140	56	REC 118	201
201	REC 118	600	57	2100	58	1140	58	1140	58	REC 118	201
201	REC 118	600	59	2100	60	1140	60	1140	60	REC 118	201
201	REC 118	600	61	2100	62	1140	62	1140	62	REC 118	201
201	REC 118	600	63	2100	64	1140	64	1140	64	REC 118	201
201	REC 118	600	65	2100	66	1140	66	1140	66	REC 118	201
201	REC 118	600	67	2100	68	1140	68	1140	68	REC 118	201
201	REC 118	600	69	2100	70	1140	70	1140	70	REC 118	201
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201	REC 118	600	95	2100	96	1140	96	1140	96	REC 118	201
201	REC 118	600	97	2100	98	1140	98	1140	98	REC 118	201
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201	REC 118	600	101	2100	102	1140	102	1140	102	REC 118	201
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201	REC 118	600	107	2100	108	1140	108	1140	108	REC 118	201
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201	REC 118	600	219	2100	220	1140	220	1140	220	REC 118	201
201	REC 118	600	221	2100	222	1140	222	1140	222	REC 118	201
201	REC 118	600	223	2100	224	1140	224	1140	224	REC 118	201
201	REC 118	600	225	2100	226	1140	226	1140	226	REC 118	201
201	REC 118	600	227	2100							