

ABBREVIATIONS

ASDP	4" SQUARE BY 2 1/8" DEEP BOX
ADA	AMERICAN WITH DISABILITIES ACT
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AWG	AMERICAN WIRE GAUGE
AMP, A	AMPERE
A.I.C.	AMPERES INTERRUPTING CAPACITY (SYMMETRICAL)
AFAT	AMP FRAME, AMP TRIP
AHJ	AUTHORITY HAVING JURISDICTION
ASAF	AMP SWITCH, AMP FUSE
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
BDP	BUILDING DISTRIBUTION FRAME
BR	BRANCH
BLDG	BUILDING
CEC	CALIFORNIA ELECTRICAL CODE
CIRC., CKT.	CIRCUIT
CB	CIRCUIT BREAKER
CSFD	COMBINATION SMOKE FIRE DAMPER
C	CONDUIT
C.O.	CONDUIT ONLY, COMPLETE WITH PULLSTRING
CONN	CONNECTED
CPT	CONTROL POWER TRANSFORMER
CLCB	CURRENT LIMITING CIRCUIT BREAKER
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
D	DEMOLISH
DIA	DIAMETER
DISC	DISCONNECT
DIST	DISTRIBUTION
E	EXISTING EQUIP. TO REMAIN
E.C.	ELECTRICAL CONTRACTOR
EMS	ENERGY MANAGEMENT CONTROL SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ENT	ELECTRICAL NONMETALLIC TUBING
EWC	ELECTRIC WATER COOLER
E.P.O.	EMERGENCY POWER OFF
E-O	END-OF-LINE CIRCUIT TERMINATOR
EF	EXHAUST FAN
EG	EQUIPMENT GROUND (GREEN)
EP	EXPLOSION PROOF
ER*	EXISTING EQUIP. TO BE RELOCATED
ERT*	NEW LOCATION FOR RELOCATED EQUIP. (* CORRESPONDS TO PREVIOUS LOCATION)
FT or *	FEET
FA	FIRE ALARM
FLA	FULL LOAD AMPS
GD	GARBAGE DISPOSAL
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GEC	GROUNDING ELECTRODE CONDUCTOR
GRD	GROUND
HACR	HEATING AIR CONDITIONING REFRIGERATION HAND-OFF-AUTO
HVAC	HEATING, VENTILATING AND AIR CONDITIONING
H.W.D., L.	HEIGHT, WIDTH, DEPTH, LENGTH
HD	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
IN. or "	INCHES
IG	ISOLATED GROUND
IDF	INTERMEDIATE DISTRIBUTION FRAME
JBOX	JUNCTION BOX
K	DEGREE KELVIN
KMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOUR
LCL	LONG CONTINUOUS LOAD
L.F.	LINEAR FEET
L.TG, LTS	LIGHTING
LPS	LOW PRESSURE SODIUM
MAX.	MAXIMUM
MDF	MAIN DISTRIBUTION FRAME
MOCP	MAXIMUM OVERCURRENT PROTECTION
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUGS ONLY
M.C.	MECHANICAL CONTRACTOR
M	METER
MM	METER MAIN
MV	MERCURY VAPOR
MH	METAL HALIDE
MIN.	MINIMUM
MCA	MINIMUM CIRCUIT AMPS
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MOTOR CIRCUIT PROTECTOR
MFR.	MANUFACTURER
MTD	MOUNTED
MW	MICROWAVE
N	NEW EQUIP.
NATS	NON AUTOMATIC DISCONNECT
N.E.C.	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS' ASSOCIATION
NC	NORMALLY CLOSED
NO	NORMALLY OPENED
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NL	NIGHT LIGHT
NO. or #	NUMBER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
%Z	PERCENT IMPEDANCE
PH. or -	PHASE
P.C.	PHOTOCELL
P.C.	PLUMBING CONTRACTOR
P	POLE
PVC	POLY VINYL CHLORIDE
PDJ	POWER DISTRIBUTION UNIT
PRIMARY	OVER 600 VOLTS
PROVIDE	FURNISH, INSTALL AND CONNECT.
PT	POTENTIAL TRANSFORMER
PA	PUBLIC ADDRESS
REC. RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
SCC	SHORT CIRCUIT CURRENT
SCS	STRUCTURED CABLEING SYSTEM
SFD	SMOKE FIRE DAMPER
SECONDARY	600 VOLTS AND LESS
SMACNA	SHEET METAL & AIR COND. CONTRACTORS' NATIONAL ASSOCIATION
SQ.	SQUARE
TD	TIMECLOCK
TELEDATA	TELEPHONE AND DATA
TV	TELEVISION
T.V.S.S.	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP.	TYPICAL
U.G.P.S.	UNDERGROUND PULL SECTION
U.P.S.	UNLESS OTHERWISE NOTED
U.P.S.	UNINTERRUPTABLE POWER SYSTEM
VAV	VARIABLE AIR VOLUME
V	VOLTS
VA	VOLT AMPERES
VD	VOLTAGE DROP
WP	WEATHERPROOF
W	WIRE
XFMR	TRANSFORMER
XX	EXISTING EQUIP. TO BE DEMOD

TELEPHONE/DATA SYMBOLS

NOTE: ELECTRICAL CONTRACTOR TO REFERENCE LOW VOLTAGE TELEPHONE/DATA, SECURITY, AND A/V PLAN FOR ADDITIONAL LOW VOLTAGE DEVICE LOCATIONS, ROUGH-IN REQUIREMENTS, CONDUIT/INFRASTRUCTURE REQUIREMENTS, AND ALL OTHER REQUIREMENTS FOR COMPLETE AND OPERATIONAL SYSTEM. SEE SHEET TO 10

SIGNAL SYSTEM SYMBOLS

NOTE: ELECTRICAL CONTRACTOR TO REFERENCE LOW VOLTAGE TELEPHONE/DATA, SECURITY, AND A/V PLAN FOR ADDITIONAL LOW VOLTAGE DEVICE LOCATIONS, ROUGH-IN REQUIREMENTS, CONDUIT/INFRASTRUCTURE REQUIREMENTS, AND ALL OTHER REQUIREMENTS FOR COMPLETE AND OPERATIONAL SYSTEM. SEE SHEET TO 10

FLOOR BOX / SPECIALTY WALL BOX SYMBOLS

- SINGLE SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE SPECIFICATIONS FOR MORE INFORMATION.
- TWO SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE SPECIFICATIONS FOR MORE INFORMATION.
- THREE SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE SPECIFICATIONS FOR MORE INFORMATION.
- FOUR SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE SPECIFICATIONS FOR MORE INFORMATION.
- SIX SERVICE IN FLOOR BOX. PROVIDE DEVICES PER PLAN. SEE SPECIFICATIONS FOR MORE INFORMATION.

ANNOTATIONS

- MECHANICAL EQUIPMENT CALLOUT. "AC" INDICATES UNIT TYPE AND "2" INDICATES UNIT NUMBER. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION AND ELECTRICAL REQUIREMENTS.
- DETAIL CALLOUT. "3" INDICATES DETAIL NUMBER "E-1" INDICATES SHEET NUMBER.
- FEEDER SIZE DESIGNATION
- LIGHTING FIXTURE DESIGNATION
- PLAN NOTE REFERENCE, REFER TO NOTES ON SHEET, OR AS DIRECTED.
- REVISION REFERENCE.
- WYE CONFIGURATION
- GROUND
- DELTA CONFIGURATION

BRANCH CIRCUIT SYMBOLS

- HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. HASH MARKS INDICATE NUMBER OF CONDUCTORS IN CONDUIT RUN. #12 AWG MINIMUM UNLESS OTHERWISE NOTED.
- HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS WITH SEPARATE NEUTRALS. "X" INDICATES SEPARATE NEUTRALS.
- HOME RUN TO PANEL. LETTER DESIGNATES PANEL, NUMBERS INDICATE CIRCUITS. "+" INDICATES SEPARATE #10 NEUTRAL THROUGHOUT BRANCH CIRCUIT. HASH MARK "*" INDICATES AN ISOLATED GROUND CONDUCTOR.
- CONCEALED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM. (2) #12 AWG CONDUCTORS MINIMUM
- CONCEALED CONDUIT OR BRANCH CIRCUIT ROUTED IN FLOOR SLAB OR CONCRETE. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPORT AS REQUIRED. 1/2" CONDUIT (2) #12 AWG CONDUCTORS MINIMUM.
- CONDUIT OR BRANCH CIRCUIT CONCEALED BELOW GRADE. 3/4" CONDUIT MINIMUM WITH (2) 12 AWG CONDUCTORS MINIMUM AND A CODE SIZED EQUIPMENT GROUND.
- SURFACE MOUNTED CONDUIT OR BRANCH CIRCUIT UNLESS OTHERWISE NOTED. 1/2" CONDUIT MINIMUM. (2) #12 AWG CONDUCTORS MINIMUM. CONDUIT SHALL BE PAINT TO MATCH ADJACENT SURFACE. COORDINATE COLOR WITH ARCHITECT/INTERIORS.
- TANDEM WIRING CONNECTION.
- CONDUIT STUB OUT, CAP, MARK AND RECORD ON AS-BUILT DRAWINGS.
- CONDUIT CONTINUATION.
- FLEXIBLE CONNECTION AS REQUIRED. NUMBER OF CONDUCTORS AS REQUIRED. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN.
- CONDUIT/BRANCH CIRCUIT/FEEDER CONTINUATION DOWN WALL TO FLOOR BELOW.
- CONDUIT/BRANCH CIRCUIT/FEEDER CONTINUATION UP WALL TO FLOOR ABOVE.
- FLUSH MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.
- SURFACE MOUNTED, LOCKABLE TERMINAL CABINET WITH TERMINAL STRIPS AS REQUIRED.
- TELEPHONE TERMINAL BACKBOARD SIZED AS NOTED, REFER TO SYSTEM GROUND DETAIL.

LIGHTING SYMBOLS

- DECORATIVE PENDANT. "A" INDICATES BALLAST SPECIFICATION. SEE
- SURFACE MOUNTED FLUORESCENT STRIP LIGHTING FIXTURE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- CHAIN HUNG FLUORESCENT STRIP LIGHTING FIXTURE. MOUNTING HEIGHT TO BE AS INDICATED ON FIXTURE SCHEDULE. "EM" AND/OR SHADED CONNECTION POINT INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT). "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- DECORATIVE SURFACE MOUNTED FLUORESCENT LIGHTING FIXTURE.
- SURFACE MOUNTED FLUORESCENT WRAPAROUND TYPE LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- RECESSED FLUORESCENT LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- RECESSED DIRECT/INDIRECT LIGHT FIXTURE.
- RECESSED LINEAR LED/FLUORESCENT LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- PENDANT LINEAR LED/FLUORESCENT LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- RECESSED LINEAR LED/FLUORESCENT ASYMMETRICAL LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- RECESSED OR SURFACED MOUNTED DOWN LIGHTING FIXTURE. "NL" INDICATES FIXTURE ON NIGHT LIGHT CIRCUIT.
- RECESSED WALLWASHER LIGHTING FIXTURE.
- RECESSED ADJUSTABLE WALLWASHER LIGHTING FIXTURE.
- SURFACE MOUNTED DOWNLIGHT.
- WALL MOUNTED LIGHTING FIXTURE.
- SINGLE OR TWO CKT. LIGHTING TRACK AS SPEC'D IN LTG. FIXTURE SCHEDULE.
- SURFACE MOUNTED ADJUSTABLE LINEAR WALLWASHER
- CONCEALED LINEAR LIGHT STRIP.
- CONCEALED LIGHT STRIP.
- RECESSED MULTI-LAMP ADJUSTABLE DOWNLIGHT.
- WALL STEP LIGHTING FIXTURE.
- BOLLARD TYPE LIGHTING FIXTURE. PROVIDE CONCRETE FOOTING PER MFGRS. REQUIREMENTS.
- LANDSCAPE FLOOD LIGHTING FIXTURE.
- POLE MOUNTED H.I.D. LIGHTING FIXTURE.
- ILLUMINATED EXIT SIGN WITH NUMBER OF FACES AND DIRECTION OF EGRESS ARROWS AS INDICATED.
- LOW LEVEL EXIT SIGN AS SPECIFIED ON LIGHTING FIXTURE SCHEDULE.
- EGRESS EMERGENCY BATTERY PACK LIGHT FIXTURE (BUOYE).
- "EM" AND/OR SHADED CONNECTION INDICATES FIXTURE WITH EMERGENCY BATTERY PACK (MINIMUM 1100 LUMEN OUTPUT) OR FIXTURE ON EMERGENCY INVERTER.

OCCUPANCY SENSORS

- WALL MOUNTED OCCUPANCY SENSOR. MOUNTING HEIGHT PER ADA MOUNTING DETAIL, THIS SHEET - UON OR REQUIRED.
- WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR. MOUNTING HEIGHT PER ADA MOUNTING DETAIL, THIS SHEET - UON OR REQUIRED.
- WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR. LETTERS "ab" INDICATES DUAL RELAY SENSOR. MOUNTING HEIGHT PER ADA MOUNTING DETAIL, THIS SHEET - UON OR REQUIRED.
- CEILING MOUNTED OCCUPANCY SENSOR. PROVIDE WITH POWER PACK AND RELAYS FOR PLUG LOAD AND HVAC CONTROL. "s" INDICATES SATELLITE SENSOR.
- AUTOMATIC CONTINUOUS DIMMING DAYLIGHTING CONTROLLER USED TO DIM LIGHTS WHEN SUFFICIENT NATURAL LIGHT IS PRESENT. AVERAGE FOOTCANDLE LEVELS MAINTAINED SHALL BE PER IES RECOMMENDED ILLUMINANCE.
- LOW VOLTAGE (LV) WIRING BETWEEN OCCUPANCY, DAYLIGHT SENSORS, AND/OR LV SWITCHES. QUANTITY AND SPECIFICATIONS OF WIRE PER MANUFACTURER REQUIREMENTS.
- VACANCY SENSOR (MANUAL ON), MOUNTING HEIGHT PER ADA MOUNTING DETAIL, THIS SHEET - UON OR REQUIRED. LETTERS "ab" INDICATES DUAL RELAY SENSOR. BOTH SWITCH LEGS TO BE CONFIGURED IN A "MANUAL ON" CONFIGURATION.
- MANUAL ON/OFF, DIMMING AND 4-BUTTON SCENE SELECT CONTROL STATION. SEE CONTROL DETAIL.
- SWITCHED RECEPTACLE PER TITLE 24 ENERGY CODE. PROVIDE RELAY TO SWITCH 1/2 RECEPTACLE - CONTROL BY OCCUPANCY SENSOR. PROVIDE PERMANENT MARKING ON FACE OF SWITCHED RECEPTACLE.
- LIGHTING CONTROL. SEE SHEET E0-42 AND E0-43 FOR MORE DETAILS.

PULLBOX, SIZED PER N.E.C. OR AS NOTED.

RECESSED COMBINATION POWER OUTLET FOR IN FLOOR BOX PER PLAN FOR FLEXIBLE CONNECTION TO FURNITURE SYSTEM. VERIFY CONNECTION REQUIREMENTS WITH MANUFACTURER PRIOR TO ROUGH-IN. MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.

POWER OUTLET OUTLET, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS. FOR FLEXIBLE CONNECTION TO FURNITURE SYSTEM PROVIDE THE FOLLOWING:

- IN A NON-RATED INSULATED WALL, OR NON-RATED UNINSULATED WALL, PROVIDE A 2-GANG NUD RING OR CADDY #RBS SERIES BOX MOUNTING BRACKET (EQUAL BY B-LINE OR RAYCO) WITH (2) 1-1/4" O. WITH PULL STRING TO ACCESSIBLE CEILING. PROVIDE 1-1/4" BUSHINGS AT CONDUIT ENDS. REFER TO ARCHITECTURAL PLANS FOR WALL CONSTRUCTION/TYPE AND CEILING CONDITIONS.

- IN A RATED WALL, PROVIDE (1) 4SDP BOX WITH (2) 1-1/4" O. AND (1) 4SDP BOX WITH (1) 1-1/4" O. WITH PULL STRINGS IN EACH CONDUIT TO ACCESSIBLE CEILING. PROVIDE 1-1/4" BUSHINGS AT CONDUIT ENDS. UTILIZE CADDY #RBS SERIES BOX MOUNTING BRACKET TO MAINTAIN BOX ALIGNMENT. (EQUAL BY B-LINE OR RAYCO) UTILIZE FIRESTOPPING SYSTEM PADS RATED FOR USE ON THE INSIDE OR OUTSIDE OF THE BOX (B11 OR EQUAL) AS REQUIRED TO MAINTAIN RATING OF WALL OR MEMBRANE. REFER TO ARCHITECTURAL PLANS FOR WALL CONSTRUCTION/TYPE AND CEILING CONDITIONS.

POWER SYMBOLS

- DUPLEX RECEPTACLE - MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED.
- DOUBLE DUPLEX RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED.
- DUPLEX, GFCI RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
- DOUBLE DUPLEX, GFCI RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
- SIMPLEX RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED.
- SIMPLEX RECEPTACLE, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS OR AS NOTED. REFER TO PLAN NOTES.
- DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
- DOUBLE DUPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
- SIMPLEX RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
- SPECIAL RECEPTACLE FLUSH IN CEILING - MOUNT FLUSH IN FLOOR WHEN INDICATED IN A FLOOR BOX SYMBOL.
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.
- DOUBLE DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.
- DUPLEX, GFCI RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
- DOUBLE DUPLEX, GFCI RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED. WP INDICATES WEATHERPROOF, REFER TO THE GENERAL PRODUCT SPECIFICATIONS.
- SIMPLEX RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.
- SPECIAL RECEPTACLE MOUNTED ABOVE COUNTER, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS - UON OR REQUIRED.
- JUNCTION BOX, MOUNTING HEIGHT AS NOTED. 4SDP MINIMUM OR AS REQUIRED BY N.E.C.
- ELECTRICAL CONNECTION TO INTERACTIVE MARKER-BOARD. COORDINATE CONNECTION TYPE AND REQUIREMENTS WITH MANUFACTURER'S INSTRUCTIONS. VERIFY MOUNTING TYPE, LOCATION AND HEIGHT WITH ARCHITECT AND DISTRICT EQUIPMENT INSTALLER PRIOR TO ROUGH-IN OF ELECTRICAL.
- SURFACE MOUNTED MULTI-OUTLET ASSEMBLY. REFER TO GENERAL PRODUCT SPECIFICATIONS, PROVIDE ALL COMPONENTS NECESSARY FOR A COMPLETE INSTALLATION.
- THERMOSTAT OUTLET BOX, PROVIDE 1/2" O. TO RESPECTIVE MECHANICAL UNIT.
- EXHAUST FAN, OR MOTOR LOAD. REFER TO MECHANICAL, PLUMBING OR KITCHEN DRAWINGS FOR SPECIFIC LOAD REQUIREMENTS OR AS NOTED.
- FLUSH MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
- SURFACE MOUNTED ELECTRICAL PANELBOARD OR LOAD CENTER. REFER TO PANEL SCHEDULE.
- DISTRIBUTION SWITCHBOARD. REFER TO SINGLE LINE DIAGRAM.
- TRANSFORMER, REFER TO SINGLE LINE DIAGRAM.
- FUSED DISCONNECT SWITCH, HP RATED, OR COMBINATION MOTOR STARTER/DISCONNECT SWITCH WITH FUSES PER EQUIPMENT MANUFACTURER AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT AND STARTER SIZES.
- MOTOR STARTER COMBINATION SWITCH WITH HOA SELECTOR SWITCH, ON "RUNNING LIGHT" RESET AND OVERLOAD PROTECTION.
- NON-FUSED DISCONNECT SWITCH, HP RATED AND WEATHERPROOF AS REQUIRED. PROVIDE FINAL CONNECTION TO UNIT EQUIPMENT. SEE MOTORIZED EQUIPMENT SCHEDULE FOR DISCONNECT SIZES.
- UTILITY COMPANY METER, PROVIDE "CT's" AND "PT's" AS REQUIRED, REFER TO SINGLE LINE DIAGRAM.
- CIRCUIT BREAKER, LINE 1 REPRESENTS FRAME SIZE/RATING, LINE 2 REPRESENTS TRIP SIZING/RATING, LINE 3 REPRESENTS NUMBER OF POLES AND LINE 4 REPRESENTS MISCELLANEOUS BREAKER INFO. (SEE BELOW):
- SHUNT = PROVIDE SHUNT TRIP MECHANISM.
HACR = PROVIDE HACR-RATED BREAKER.
GFP = GROUND FAULT PROTECTION
CLCB = CURRENT LIMITING CIRCUIT BREAKER
SS = PROVIDE SOLID STATE CIRCUIT BREAKER
- FUSIBLE SWITCH: LINE 1 REPRESENTS SWITCH SIZE/RATING, LINE 2 REPRESENTS NUMBER OF POLES, LINE 3 REPRESENTS FUSE SIZE/RATING, LINE 4 REPRESENTS FUSE TYPE, LINE 5 REPRESENTS MISCELLANEOUS FUSE INFO. (SEE BELOW):
- SHUNT = PROVIDE SHUNT TRIP MECHANISM.
GFP = GROUND FAULT PROTECTION
CLF = CURRENT LIMITING FUSE
- FUSIBLE SWITCH: LINE 1 REPRESENTS SWITCH SIZE/RATING, LINE 2 REPRESENTS NUMBER OF POLES, LINE 3 REPRESENTS FUSE SIZING/RATING, LINE 4 REPRESENTS FUSE TYPE, LINE 5 REPRESENTS MISCELLANEOUS FUSE INFO. (SEE BELOW):
- SHUNT = PROVIDE SHUNT TRIP MECHANISM.
GFP = GROUND FAULT PROTECTION
CLF = CURRENT LIMITING FUSE
- GROUND CONNECTION, SIZE AS INDICATED OR AS REQUIRED.
- SINGLE POLE SWITCHES, MOUNTING HEIGHT PER ADA DEVICE MOUNTING REQUIREMENTS. SUBSCRIPTS AT SYMBOL INDICATE THE FOLLOWING:
- 2 - DOUBLE POLE K - KEY OPERATED
3 - THREE WAY LV - LOW VOLTAGE
4 - FOUR WAY M - MOTOR STARTING
D - LOW VOLTAGE DIMMER P - PILOT LIGHT
R - REMOTE CONTROL

NOTE: ALL WALL SWITCHES CONTROLLING EMERGENCY CIRCUITS SHALL BE ENGRAVED WITH "EMERGENCY"

1. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION & ELEVATION OF ALL LIGHTING FIXTURES AND ALL DEVICES. ALL WALL-MOUNTED DEVICE HEIGHTS SHALL BE VERIFIED WITH THE ARCHITECT PRIOR TO ROUGH-IN. IF ANY WALL MOUNTED DEVICES ARE PLACED WITHOUT VERIFICATION FROM THE ARCHITECT, CONTRACTOR SHALL RELOCATE FIXTURE TO APPROVED LOCATION AT NO ADDITIONAL COST.
2. VERIFY EXIST CEILING CONSTRUCTION WITH ARCHITECTURAL REFLECTED CEILING PLAN AND PROVIDE LIGHTING FIXTURES WITH ALL NECESSARY MOUNTING HARDWARE.
3. ALL RECESSED FIXTURES SHALL BE PROVIDED WITH ALL REQUIRED STRUCTURAL SUPPORTS AS REQUIRED BY THE CURRENTLY ADOPTED ISSUE OF THE UNIFORM BUILDING CODE, AS WELL AS ANY LOCAL CODES.
4. ALL COVE MOUNTED FIXTURES SHALL EXTEND THE FULL LENGTH OF THE COVE. CONTRACTOR TO FIELD MEASURE COVE LENGTH AND ORDER QUANTITY OF FIXTURES AS REQUIRED.
5. ALL DIMMING BRANCH CIRCUITS SHALL BE PROVIDED WITH A DEDICATED NEUTRAL CONDUCTOR FOR EACH ZONE/CANAL.
6. ALL FLUORESCENT DIMMING CIRCUITS SHALL BE PROVIDED WITH A LINE VOLTAGE CONDUCTORS (NEUTRAL, DIMMER, DIMMER HOT, SWITCHED HOT) OR LINE VOLTAGE CONDUCTORS/ CONTROL CONDUCTORS AS REQUIRED BY THE CONTRACTOR/BALLAST TYPE.
7. ALL EMERGENCY BATTERY PACK FIXTURES SHALL BE PROVIDED WITH A CONSTANT HOT CONNECTION TO THE CHARGING LEAD. SEE GENERAL LIGHTING FIXTURE SCHEDULE NOTES FOR MORE INFORMATION.
8. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXIT SIGN CHEVRONS AND NUMBER OF FACES PER EXIT SIGN. ANY DISCREPANCIES BETWEEN EXIST CEINGS SHOWN ON THE ELECTRICAL AND ARCHITECTURAL PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE OPENED PRIOR TO ORDERING EXIT SIGNS.
9. WHEN EXISTED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
 - ALL BRANCH CIRCUITS SHALL BE IN ENT.
 - ALL BRANCH CIRCUITS SHALL BE ROUTED NEATLY TRAINED AND IN PARALLEL TO STRUCTURES OR DUCT WORK. THE TERM "TRAINED" MEANS ALL PARALLEL CONDUITS SHALL MAINTAIN THE SAME SPATIAL RELATIONSHIP WITH EACH OTHER FOR ENTIRE RUN TO INCLUDE RAILINGS, BENDS AND SWEEPS.

SHOP DRAWINGS SHOWING LOCATION AND PLACEMENT OF ALL CONDUITS.

- SPECIFICALLY NOTED ON STRUCTURAL DRAWINGS.

1. ALL RECEPTACLES ON COMMON WALLS SHALL BE SEPARATE BOXES AND OFFSET 24" MINIMUM.
2. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE PROTECTED FROM THE SPREAD OF FIRE WITH AN APPROVED FIRESTOP SYSTEM EQUAL OR GREATER THAN THE FIRE RATING OF THE WALL.
3. COORDINATE ALL MOUNTING DIMENSIONS FOR ELECTRICAL DEVICES AND SWITCHES WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
4. ALL FURNITURE FEED LOCATIONS TO BE VERIFIED WITH ARCHITECT AND FURNITURE VENDOR PRIOR TO ROUGH IN.
5. ALL FURNITURE WHIPS SHALL BE TRIMMED TO REDUCE EXCESS WHIP LENGTH.
6. WHEN EXPOSED CEILINGS OR OPEN GRID CONDITIONS OCCUR, THE CONTRACTOR WILL NEED TO PROVIDE THE FOLLOWING ITEMS:
 - ALL BRANCH CIRCUITS SHALL BE IN EMT.
 - ALL BRANCH CIRCUITS SHALL BE ROUTED NEATLY AND IN PARALLEL TO STRUCTURES OR DUCT WORK.
 - VISUALLY OBJECTIONABLE BRANCH CIRCUITS WILL BE REROUTED AT THE REQUEST OF THE ARCHITECT AT NO ADDITIONAL COST.
7. EXPOSED CABLE/CONDUCTORS INSTALLED IN A PLENUM SPACE SHALL CONFORM TO NEC, OR CEC WHERE ADOPTED, ARTICLE 300 22(C).
8. PROVIDE G.F.C.I. (TYPE RECEPTACLE(S) WITHIN 6 FEET OF ANY SINK.
9. CONTRACTOR TO INCLUDE AN ALLOWANCE TO CORE AND SEAL PENETRATIONS THROUGH STRUCTURAL CONCRETE WALLS. COORDINATE LOCATIONS AND REQUIREMENTS WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS.
10. COORDINATE ALL PENETRATIONS WITH STRUCTURAL PLANS AND DETAILS. NO PENETRATIONS ARE PERMITTED UNLESS SPECIFICALLY NOTED ON STRUCTURAL DRAWINGS.

1. ELECTRICAL CONTRACTOR SHALL REFER TO MECHANICAL/PLUMBING AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND CHARACTERISTICS OF ALL EQUIPMENT LISTED IN SCHEDULE. ANY MODIFICATIONS AND/OR ADDITIONAL WORK NECESSARY SHALL BE INCLUDED IN THE BASE BID.
2. ELECTRICAL CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL CONNECTION POINTS WITH THE EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE LOCAL REMOTE DISCONNECTING MEANS FOR ALL ELECTRIC HEATING EQUIPMENT IF REQUIRED BY THE LOCAL ELECTRICAL CODE.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE THE ROUTING OF CONDUIT/WIRING TO ROOF-MOUNTED EQUIPMENT WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN. WHERE ROOF-MOUNTED EQUIPMENT IS MANUFACTURED TO BE FED FROM THE MECHANICAL/PLUMBING AREA, THE ROOF PENETRATIONS FOR WIRING CONNECTIONS SHALL NOT BE PERMITTED. ALL WIRING SHALL BE BELOW THE ROOF IN AN ACCESSIBLE CEILING SPACE LOCATION.
5. ALL ROOF MOUNTED EQUIPMENT SHALL BE NEMA 3P RATED.

1. CONDUITS SHALL, (a) CONTAIN NO PROXIOUS SECTIONS LONGER THAN 30M (98 FT.), AND, (b) CONTAIN NO MORE THAN (2) 90° BENDS OR (1) REVERSE BEND WITHOUT INSTALLING A PULBUX. CONDUITS IN PLACE OF PULBUXES ARE UNACCEPTABLE.
2. CONDUITS SHALL CONTAIN PLASTIC OR NYLON PULL TAPE RATED AT 200 LBS. WITH A MINIMUM OF 5 FEET OF EXTRA PULL TAPE COILED AT EACH END.
3. CONDUIT BEND RADIUS SHALL BE (a) A MINIMUM OF 8 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS 2" IN DIAMETER OR LESS, AND, (b) 10 TIMES THE INTERNAL CONDUIT DIAMETER FOR CONDUITS MORE THAN 2" IN DIAMETER.
4. TERMINATE CONDUITS AND SLEEVES THAT PROTRUDE THROUGH STRUCTURAL FLOORS 2'-3" ABOVE THE FLOOR SURFACE.
5. INSTALL BUSHINGS AND BELL ENDS AS REQUIRED ON ALL CONDUITS.
6. FLEX CONDUIT IS GENERALLY UNACCEPTABLE FOR USE AS A COMMUNICATIONS CONDUIT EXCEPT AT SEISMIC JOINTS AND AS APPROVED IN WRITING BY THE ENGINEER.
7. ALL UNDER SLAB OR IN-SLAB CONDUITS SHALL BE INSTALLED IN A MANNER THAT PREVENTS WATER INFILTRATION OF THE CONDUIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROUND WATER, RAIN WATER OR CONSTRUCTION WATER IS PREVENTED FROM ENTERING AND/OR REMOVED FROM THE CONDUITS PRIOR TO PLACEMENT OF COMMUNICATIONS CABLES. SEE SITE UTILITY PLAN FOR ADDITIONAL UNDERGROUND COMMUNICATIONS CONDUIT SEALING REQUIREMENTS.

8.

CONDUIT SIZE	WIDTH	LENGTH	DEPTH	WIDTH INCREASE PER ADDITIONAL CONDUIT
1"	4"	16"	3"	2"
2"	8"	36"	4"	5"
3"	12"	48"	5"	6"
4"	15"	60"	8"	8"

9. CONDUIT(S) SHALL EXIT A PULLBOX ON THE WALL OPPOSITE THE WALL ENTERED.
10. PROVIDE LABELING OF EACH CONDUIT PER GENERAL ELECTRICAL SPECIFICATIONS.
11. PROVIDE INTERNAL/EXTERNAL GAS AND WATER TIGHT MECHANICAL SEALING/PLUGGING OF EACH BUILDING ENTRY CONDUIT AS SPECIFIED ELSEWHERE IN THE DRAWINGS AND SPECIFICATIONS.
12. COORDINATE ALL MOUNTING DIMENSIONS FOR ELECTRICAL DEVICES AND SWITCHES WITH ARCHITECTURAL INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
13. COORDINATE ALL PENETRATIONS WITH STRUCTURAL PLANS AND DETAILS. NO PENETRATIONS ARE PERMITTED UNLESS SPECIFICALLY NOTED ON STRUCTURAL DRAWINGS.

35. ANY EXISTING BUILDING STRUCTURES OR SURFACES DAMAGED BY DEMOLITION OR DURING INSTALLATION ACTIVITIES SHALL BE REPAIRED, PATCHED, AND/OR REFINISHED TO THE SATISFACTION OF THE OWNER.

36. ALL EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE DEMOLISHED SHALL BE REMOVED ENTIRELY AND ALL AFFECTED SURFACES OR STRUCTURES SHALL BE REPAIRED, REPLACED, AND/OR REFINISHED TO MATCH THE ADJACENT SURFACES OR DAMAGED ITEM(S).

37. FOR CLARITY ONLY RECONSTRUCTION OR NEW WORK RELATED ELEMENTS AND SELECT EXISTING FACILITIES SPECIFICALLY REQUIRING COORDINATION WITH ANY NEW WORK:

38. ALL CONDUITS, BOXES, SURFACE MOUNTED RACEWAYS, SUPPORT DEVICES, AND ASSOCIATED FITTINGS SHALL BE MOUNTED IN CONCEALED LOCATIONS ABOVE CEILINGS, DUCTS, TRUSSES, BEAMS, ETC. IN AREAS WHERE A CONCEALED MOUNTING LOCATION IS NOT AVAILABLE EQUIPMENT SHALL BE PAINTED TO MATCH THE ADJACENT SURFACES.

39. ANY PENETRATIONS BY CONDUITS OR OTHER ELECTRICAL EQUIPMENT THROUGH A FIRE RATED WALL - WHETHER EXISTING OR NEW - SHALL MAINTAIN THE APPROPRIATE FIRE RATING BY SEALING THE PENETRATION WITH THE APPROPRIATE UL-LISTED FIRE-STOP MATERIAL/SYSTEM.

40. ELECTRICAL CONTRACTOR SHALL PREPARE AND SUBMIT THE FOLLOWING CALIFORNIA ENERGY COMMISSION 1-24 CERTIFICATE OF ACCEPTANCE LTG-1-A, PARTS 1, 2, & 3 LIGHTING CONTROL LTG-2-A; AND AUTOMATIC DAYLIGHTING CONTROL LTG-3-A; THEY ARE TO BE SUBMITTED PRIOR TO ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

41. LEED COMMISSIONING NOTE: ELECTRICAL CONTRACTOR TO COORDINATE AND PROVIDE ASSISTANCE FOR COMPLETE COMMISSIONING OF ALL SYSTEMS IDENTIFIED IN COMMISSIONING AGENT'S DOCUMENTS, INCLUDING BUT NOT LIMITED TO LIGHTING CONTROLS, ELECTRONIC METERING, ETC.

1. ALL INFORMATION REFERENCED IS PRELIMINARY IN NATURE AND DOES NOT REPRESENT FINAL DESIGN DOCUMENTS. ALL INFORMATION AND REQUIREMENTS RELATIVE TO UTILITY INFRASTRUCTURE SHALL BE COORDINATED, VERIFIED, AND INSTALLED PER FINAL UTILITY COMPANY DESIGN DOCUMENTS.
2. ROUTING OF ALL CONDUIT SHALL BE COORDINATED IN THE FIELD AND CONFIRMED BY ENGINEER AND ARCHITECT.
3. COORDINATE ALL CONDUIT ROUTING, ELECTRICAL DEVICE LOCATIONS, PULL BOX LOCATIONS, ETC. WITH LANDSCAPE PLANTING PLANS TO AVOID CONFLICTS WITH TREES, SHRUBS, ETC.
4. ALL CONDUCTOR AND CABLE RUNS ARE TO BE CONTINUOUS. NO CONDUCTORS OR LOW VOLTAGE CABLEING TO BE INSTALLED AS PART OF INCREMENT ONE. ALL CONDUCTORS AND LOW VOLTAGE CABLEING TO BE INSTALLED AS PART OF INCREMENT TWO AND TERMINATED INSIDE OF THE BUILDING.
5. ALL CONDUIT SHALL BE PROVIDED WITH PROPERLY SIZED PULL STRING PER UTILITY COMPANY STANDARDS.
6. ALL EQUIPMENT MOUNTED OUTDOORS SHALL BE INSTALLED IN A WEATHERPROOF NEMA 3R ENCLOSURE.
7. SEE ARCHITECTURE/LANDSCAPE ARCHITECTURAL PLANS FOR EXACT LOCATIONS OF FIXTURES, PULLBOXES, MANHOLES, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH-IN TO ENSURE THAT SUCH ITEMS ARE NOT PLACED IN CRITICAL LANDSCAPE PLANTING/HARDSCAPE AREAS.
8. PROVIDE CONCRETE ENCASEMENT FOR ALL TRENCHES WITH MORE THAN THREE (3) CONDUITS. ENCASE PER UTILITY COMPANY REQUIREMENTS.
9. CONTRACTOR TO ABANDON BUT NOT DEMOLISH ALL CONDUITS IN FAIRMONT.

1. THE ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. DO NOT SCALE THE ELECTRICAL DRAWINGS TO DETERMINE THE LOCATION OF EQUIPMENT OR OUTLETS. SEE ARCHITECTURAL PLANS, WHERE PROVIDED ON PROJECT, FOR EXTENT OF DEMOLITION.
2. THE EXISTING CONDITIONS SHOWN ARE FROM AVAILABLE RECORD DRAWINGS AND SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ACTUAL EXISTING CONDITIONS AT SITE PRIOR TO SUBMITTING BID. ALL DEMOLITION, ALTERATION, EXTENSION, RELOCATION OR REHABILITATION WORK SHALL BE IN ACCORD WITH THE BID. NO ADDITIONAL ALLOWANCE OR CHARGE ORDERS WILL BE ACCEPTED.
3. CONTRACTOR IS RESPONSIBLE TO RELOCATE OR REMOVE FROM WALLS, CEILINGS, FLOOR SPACES, ETC. ANY EXISTING CONDUITS, WIRES, BOXES, FITTINGS, FIXTURES OR OTHER ELECTRICAL EQUIPMENT WHICH INTERFERES WITH PLANNED REMODEL WORK. PROVIDE CIRCUIT CONTINUATION REQUIRED FOR ALL EXISTING OUTLETS, FIXTURES, EQUIPMENT, ETC. SCHEDULED TO REMAIN.
4. NOTIFY THE ENGINEER IMMEDIATELY WHEREVER EXISTING EQUIPMENT IS ENCOUNTERED WHICH MUST BE RELOCATED DUE TO THE NEW CONSTRUCTION, OR NOT INDICATED ON "AS-BUILT" DRAWINGS OR WAS BURIED UNDERGROUND OR EMBEDDED IN STRUCTURE WALLS.
5. CAREFULLY PROTECT ALL WALLS, TRIM, FLOORS, EQUIPMENT, UTILITY LINES AND MATERIALS. WHEN WORKING ON FINISHED SURFACES, LIMIT DAMAGE TO THE SMALLER AREA IF POSSIBLE AND RESTORE TO THE ORIGINAL CONDITION ALL SURFACES WHICH ARE DAMAGED BECAUSE OF THE INSTALLATION OF THIS WORK.
6. EQUIPMENT, MATERIALS AND SUPPLIES TEMPORARILY REMOVED FOR PROTECTION SHALL BE REPLACED IN ORIGINAL LOCATIONS. ANY MATERIALS DAMAGED SHALL BE REPLACED WITH NEW MATERIALS OF LIKE KIND AND QUALITY.
7. DEMOLITION WORK SHALL BE DONE IN A MANNER WHICH WILL NOT CAUSE UNNECESSARY INCONVENIENCE OR DANGER TO USERS OF THE PREMISES AND ADJACENT SITE, AND NOT INTERFERE WITH ITS OPERATION. ANY DEMOLITION WORK TO BE PERFORMED MUST BE PLANNED IN ADVANCE.
8. DO ALL DRILLING, CUTTING, ETC. REQUIRED TO DEMOLISH ELECTRICAL WORK AS INDICATED OR PROVIDE BLANK COVER PLATE ON ALL OUTLETS EXPOSED BY REMOVAL OF FIXTURE OF DEVICES.
9. RESEAL ALL PENETRATIONS OR OPENING THROUGH WALLS, CEILING, FLOORS, ETC., TO MAINTAIN THE RATING OF STRUCTURE.
10. CONTRACTOR SHALL VERIFY EXISTING CONDUIT/CONDUCTOR RUNS ON CIVIL DEMOLITION PLAN, SHEET C1.1. REMOVE AS REQUIRED AND REMOVE ALL UNUSED CONDUIT/CONDUCTORS. REMOVE CONDUIT BACK TO SCOPE OF WORK LIMIT LINE AT CENTER OF FEDERAL TAG AND LABEL CONDUIT. DOCUMENT DETAILED DIMENSIONS ON AS-BUILT. REMOVE CONDUCTORS BACK TO SOURCE (VERIFY WITH OWNER). UNUSED CONDUIT IN INACCESSIBLE LOCATIONS (WALLS TO REMAIN) CAN BE ABANDONED IN PLACE.
11. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDUIT/WIRING RUNS, REMOVE AS REQUIRED AND REMOVED ALL UNUSED CONDUIT/WIRING. UNUSED CONDUIT IN INACCESSIBLE LOCATIONS (WALLS TO REMAIN) CAN BE ABANDONED IN PLACE. REMOVE ALL WIRING.
12. CONTRACTOR TO VERIFY CIRCUIT NUMBER AND LOADS FOR ALL EXISTING EQUIPMENT PRIOR TO INSTALLATION OF NEW OR RELOCATED ELECTRICAL EQUIPMENT. REASSIGN CIRCUITS AND LOADS ACCORDINGLY. PROVIDE COMPLETE "AS-BUILT" DRAWINGS AND TYPEWRITTEN DIRECTORIES FOR PANELS.
13. WHERE NECESSARY TO SHUT OFF UTILITY SERVICES OR CAUSE INTERRUPTION TO POWER OR SIGNAL SYSTEMS WHILE A BUILDING IS OCCUPIED OR THAT EFFECT ADJACENT BUILDINGS, SCHEDULE OUTAGES OR INTERRUPTIONS WITH THE OWNER, BUILDING OCCUPANTS AND/OR ADJACENT BUILDING OWNER(S) AND OCCUPANTS PRIOR TO CONDUCTING OUTAGE(S) OR INTERRUPTIONS.

1. THE ELECTRICAL CONTRACTOR (EC) SHALL INCLUDE AND PROVIDE IN BID ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL INSTALLATION OF ALL ELECTRICAL SYSTEMS.
2. EC SHALL COORDINATE AND OBTAIN ALL APPROVALS, PERMITS, AND DOCUMENTS FROM REGULATORY AGENCIES AND UTILITY COMPANIES.
3. ALL CONDUIT RACEWAY SYSTEMS ARE TO BE INSTALLED AS FOLLOWS:
 - a. RIGID GALVANIZED STEEL IS TO BE INSTALLED IN ALL AREAS WHICH ARE EXPOSED TO WEATHER AND/OR PHYSICAL DAMAGE.
 - b. FLEXIBLE METALLIC CONDUIT IS PERMITTED FOR SHORT CONNECTIONS TO LIGHT FIXTURES (6'-0" MAX), FLEXIBLE CONDUIT SHALL ALSO BE INSTALLED FOR EQUIPMENT REQUIRING VIBRATION ISOLATION AND HORIZONTAL RUNS IN WOODEN STUD WALLS.
 - c. ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION TYPE FITTINGS SHALL BE USED FOR BUILDING INTERIOR WORK.
 - d. PVC CONDUIT SHALL BE USED FOR UNDERGROUND CONDUITS, ROUTE CODE SIZED GROUND WIRE INSIDE OF CONDUIT. CONDUIT RISERS AND STUBS ABOVE GRADE SHALL BE I.M.C. WITH HALF-FLAPPED TAPE COVERING OR PVC COATING.
4. UNLESS OTHERWISE NOTED OR REFERENCED ON THE DRAWINGS ALL NEW ELECTRICAL WIRING IS TO BE 600V RATED COPPER WITH TYPE "THHN/THWN" INSULATION.
5. ALL MOUNTING HEIGHTS REFERENCED ON DRAWINGS ARE MEASURED FROM FINISHED FLOOR UNLESS OTHERWISE REFERENCED OR INDICATED ON THE DRAWINGS.
6. ALL ELECTRICAL EQUIPMENT LOCATIONS (LIGHTING, RECEPTACLE, FLOOR BOX, ETC.) ARE TO BE VERIFIED WITH THE ARCHITECT AND/OR EQUIPMENT SUPPLIER PRIOR TO BEGINNING ANY ROUGH-IN.
7. ALL LIGHTING FIXTURES SHALL BE MOUNTED AND SUPPORTED IN ACCORDANCE WITH OSHA STANDARDS, AND ALL STATE, LOCAL, SEISMIC, AND NATIONAL ELECTRIC CODES.

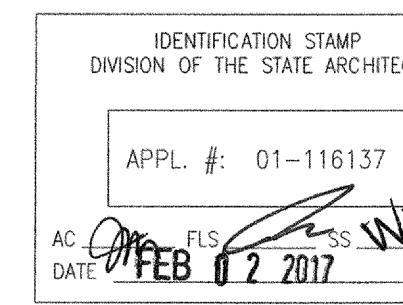
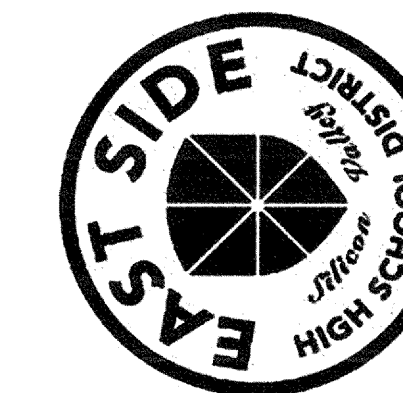
1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY OR MOVABLE EQUIPMENT THAT IS PERMANENTLY ATTACHED (e.g. HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER.
3. MOVABLE EQUIPMENT WHICH IS STATIONED IN ONE PLACE FOR MORE THAN 8 HOURS AND HEAVIER THAN 400 POUNDS ARE REQUIRED TO BE ANCHORED WITH TEMPORARY ATTACHMENTS.

- FOR THOSE ELEMENTS THAT DO NOT REQUIRE DETAILS ON THE APPROVED DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD AND THE DSA DISTRICT STRUCTURAL ENGINEER. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH ABOVE REQUIREMENTS.

THE BRACING AND ATTACHMENTS TO THE STRUCTURE SHALL BE DETAILED ON THE APPROVED DRAWINGS OR THEY SHALL COMPLY WITH ONE OF THE OSPHD PRE-APPROVAL OF MANUFACTURER'S CERTIFICATE (OPM) AS MODIFIED TO SATISFY ANCHORAGE REQUIREMENTS OF ACI 318-11, APPENDIX D.

- COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF HANGING AND BRACING OF THE PIPE, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS.
- THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.
- THE DRAWINGS INCLUDED IN THIS DOCUMENT SET ARE DIAGRAMMATIC, THEY ARE REPRESENTATIVE OF THE ENGINEER OF RECORDS DESIGN INTENT FOR ALL ELECTRICAL DEVICES/EQUIPMENT AND THE INDIVIDUAL POWER FEEDS THAT ARE TO BE CONNECTED TO. THE SELECTED EC SHALL BE RESPONSIBLE FOR PROVIDING ALL J-BOXES, CONDUIT, WIRING, CABLEING, ETC. AS REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION.
- ALL ELECTRICAL EQUIPMENT (PANELS, RECEPTACLES, J-BOXES, ETC.) SHALL BE WEATHERPROOF AND/OR INSTALLED IN A NEMA 3R ENCLOSURE WHERE APPLICABLE OR INSTALLED OUTDOORS.
- ALL ELECTRICAL WORK SHALL BE PERFORMED ACCORDING TO STATE, LOCAL, NATIONAL, AND DISTRICT STANDARDS AND CODES. COORDINATE SPECIFIC REQUIREMENTS WITH DISTRICT STANDARDS AND AUTHORITY HAVING JURISDICTION.
- ALL ELECTRICAL EQUIPMENT SHALL BE NEW AND IS TO BE CLEARLY LABEL/IDENTIFIED AS UNDERWRITER LABORATORIES (UL) COMPLIANT UNLESS OTHERWISE NOTED OR REFERENCED IN THE DRAWINGS OR SPECIFICATIONS.
- EC IS RESPONSIBLE FOR SECURING ALL REQUIRED BUILDING PERMITS AND SHALL INCLUDE THE COST TO SECURE BUILDING PERMITS IN ITS FINAL BID.
- UNLESS OTHERWISE WRITTEN, STATED, OR REFERENCED IN DRAWINGS OR SPECIFICATIONS CONTRACTOR SHALL GUARANTEE THE COMPLETE ELECTRICAL INSTALLATION FOR A PERIOD OF 1-YEAR.
- ALL ELECTRICAL DISTRIBUTION EQUIPMENT (PANELS, DISTRIBUTION BOARDS, TRANSFORMERS, ETC.), FEEDERS (CONDUIT, CONDUCTOR SIZE, AND QUANTITY), MECHANICAL EQUIPMENT, ELEVATORS, VARIABLE FREQUENCY DRIVES (VFDs), ETC. MAY ONLY BE REFERENCED ON THE SINGLE-LINE DRAWING AND NOT INDIVIDUAL PLAN SHEETS. EC SHALL REVIEW AND VERIFY ALL INFORMATION REFERENCED ON THE SINGLE-LINE DRAWING.
- EC SHALL BE RESPONSIBLE FOR ALL ACQUIRED SAW-CUTTING, CORE DRILLING, PATCHING, REFINISHING, ETC. AS REQUIRED FOR INSTALLATION OF ELECTRICAL EQUIPMENT AND SYSTEMS. ANY PENETRATIONS OR OPENINGS MADE IN WALLS OR STRUCTURES SHALL BE PATCHED AND/OR SEALED AS REQUIRED TO MAINTAIN THE INTEGRITY AND/OR RATING OF THE WALL OR STRUCTURE.
- EC SHALL VISIT THE SITE PRIOR TO SUBMISSION OF THEIR FINAL BID TO VERIFY ALL EXISTING SITE CONDITIONS WHICH MAY AFFECT THE COMPLETION OF THE ELECTRICAL INSTALLATION. ALL METHODS AND REQUIREMENTS FOR AN INSTALLATION SHALL BE DETERMINED PRIOR TO BID DATE. ELECTRICAL EC SHALL NOTIFY THE ENGINEER OF RECORD OF ANY REQUIRED MODIFICATIONS WHICH ARE NOT REFERENCED ON THESE ELECTRICAL PLANS. SUBMITTAL OF THE EC'S BID DEMONSTRATES THE CONTRACTOR'S AWARENESS OF ALL SITE CONDITIONS AND REQUIRED WORK TO BE PERFORMED.
- ALL CEILINGS AND CEILING SYSTEMS AS A RULE ARE CONSIDERED TO BE INACCESSIBLE. ALL ELECTRICAL DEVICES AND EQUIPMENT INSTALLED ABOVE CEILINGS ARE TO BE MOUNTED IN A LOCATION WHICH IS ACCESSIBLE. IN AREAS WHERE ACCESS IS NOT AVAILABLE, THE CONTRACTOR SHALL PROVIDE ACCESS TO THE AREA. WHERE ACCESS IS NOT AVAILABLE, EC SHALL INSTALL AN ADEQUATELY SIZED, CODE COMPLIANT ACCESS PANEL AS REQUIRED BY CURRENT CODES. LOCATION OF THE REQUIRED ACCESS PANEL SHALL BE COORDINATE WITH THE ARCHITECT AND INTERIOR DESIGNER PRIOR TO ROUGH-IN.
- EC IS RESPONSIBLE FOR COMPLETING ALL FINAL ELECTRICAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT AND SHALL PROVIDE ALL MOTOR START SWITCHES, DISCONNECTS, ETC. AS REQUIRED.
- ALL ELECTRICAL EQUIPMENT CONNECTIONS, MOUNTING LOCATIONS, ELECTRICAL REQUIREMENTS, ETC. ARE TO BE COORDINATED AND VERIFIED PRIOR TO COMMENCEMENT OF ELECTRICAL ROUGH-IN.
- EC TO SUBMIT SHOP DRAWINGS FOR THE APPROVAL OF THE ELECTRICAL ENGINEER OF RECORD FOR ALL ELECTRICAL EQUIPMENT AND MATERIALS TO BE UTILIZED IN THE ELECTRICAL INSTALLATION. ALL APPROVALS BY THE ENGINEER OF RECORD MUST BE SECURED PRIOR TO COMPLETION OF ANY PURCHASE ORDERS OR ROUGH-IN WORK.
- THESE ELECTRICAL DRAWINGS AND ASSOCIATED SPECIFICATIONS ARE TO BE CONSIDERED CONTRACT DOCUMENTS FOR AGENCY REVIEW/APPRAVAL AND EC BIDDING PURPOSES.
- THE COMPLETE ELECTRICAL SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH NEC/CEC ARTICLE 250. ALL POWER AND LIGHTING CIRCUITS SHALL BE INSTALLED WITH A MINIMUM #12AWG CU GROUND WIRE UNLESS OTHERWISE NOTED OR REFERENCED.

REGISTERED PROFESSIONAL ENGINEER
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REN.
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OAK GROVE HIGH SCHOOL - LIBRARY REMODEL & SITE IMPROVEMENTS

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Subtotal	Date
100% SCHEMATIC DESIGN	3/14/2016
100% DESIGN DEVELOPMENT	5/10/2016
50% CD ESTIMATE	6/9/2016
85% CD ESTIMATE	7/22/2016
DSA SUBMITTAL	8/26/2016
BID SET	01/25/2017
DSA APPROVAL	02/02/2017

Job. No.	152
Date	02/02/2017
Checked by	Ch
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ELECTRICAL LEA
SHEET

GENERAL NOTES - LIGHTING FIXTURE/SCHEDULE:

1. ALL LIGHTING FIXTURES SHALL BE LABELED WITH THE APPROPRIATE UL LABEL (DAMP, WET, ETC) AS REQUIRED BY CODES AND LOCAL ORDINANCES.
2. SHOP DRAWING SUBMITTALS SHALL INCLUDE ALL FIXTURES, LAMPS, AND BALLAST INFORMATION. ANY SHOP DRAWINGS WHICH ARE SUBMITTED WITHOUT ANY ONE OF THESE ITEMS WILL BE REJECTED AS INCOMPLETE AND WILL BE REQUIRED TO BE RESUBMITTED WITH THE REQUIRED INFORMATION.
3. ALL LIGHTING FIXTURE SPECIFIC INFORMATION (TYPE, LAMPING, BALLAST, COLOR, MOUNTING, ETC) HAS BEEN SPECIFIED WITH THE CONSIDERATION OF SPECIFIC PERFORMANCE AND AESTHETIC REQUIREMENTS. ANY SUBSTITUTION OF THE SPECIFIED FIXTURES IS SUBJECT TO THE ARCHITECT AND ENGINEER OF RECORD'S FINAL APPROVAL AND ARE SUBJECT TO THE FOLLOWING CRITERIA:
- a. SUBMIT AN OPERABLE SAMPLE WITH THE SPECIFIED LAMP/BALLAST COMBINATION AND A 120V CORD AND PLUG.
- b. SITE LIGHTING FIXTURES - PROVIDE A COMPLETE PHOTOMETRIC REPORT WHICH INCLUDES THE FOLLOWING INFORMATION ON THE SITE PLAN WHICH CLEARLY IDENTIFIES THE LOCATION OF EACH FIXTURE. THE REPORT SHALL INCLUDE ALL INPUT DATA UTILIZED IN THE CALCULATION (LAMP/BALLAST TYPE, LAMP LUMENS, LIGHT LOSS FACTOR, ETC.). IN SITUATIONS WHERE SUBSTITUTIONS AFFECT FIXTURES EQUIPPED WITH EMERGENCY BATTERY PACKS, OR OTHER EMERGENCY SOURCES OF POWER, PROVIDE ADDITIONAL PHOTOMETRIC REPORT(S) WHICH CLEARLY IDENTIFY A MINIMUM 1.0 FOOT-CANDLES ALONG THE PATH(S) OF EGRESS - THIS REPORT SHALL ALSO INCLUDE ALL INPUT DATA UTILIZED IN THE CALCULATIONS (FOR FIXTURES UTILIZING AN EMERGENCY BATTERY PACK INCLUDE THE LUMEN RATING AND QUANTITY OF LAMPS FOR THE EMERGENCY BATTERY PACK). SEE BELOW FOR PHOTOMETRIC PLAN GUIDELINES:
- 1) POINT BY POINT SPACING IS NOT TO EXCEED 10'-0" IN ANY DIRECTION.
- 2) PHOTOMETRIC STUDY IS TO BE BASED ON A MAINTAINED FOOT-CANDLE LEVEL USING MEAN LAMP LUMENS AND THE SAME LIGHT LOSS FACTORS USED IN THE ORIGINAL DESIGN CALCULATIONS PERFORMED BY THE ENGINEER OF RECORD.
- 3) ASSOCIATED REPORT TO INCLUDE AN ENERGY COST MODEL, WHICH IDENTIFIES ADDITIONAL ENERGY OR ENERGY COSTS FOR A 10-YEAR PERIOD AS COMPARED TO THE SPECIFIED ITEM. ALL ADDITIONAL EXPENSES WILL BE SUBTRACTED FROM THE CONTRACT COST.
- c. INTERIOR LIGHTING FIXTURES - SPECIFIC INTERIOR FIXTURES AS DETERMINED BY THE ENGINEER OF RECORD WILL REQUIRE SUPPLEMENTAL PHOTOMETRIC REPORTS CONFIRMING SUBSTITUTE FIXTURE LIGHT LEVELS EQUAL OR EXCEED DESIGNED LIGHT LEVELS IN SPACES IDENTIFIED. IF THE SUBSTITUTED FIXTURE IS AN EMERGENCY FIXTURE A PHOTOMETRIC REPORT SHALL BE SUBMITTED FOR ALL PATHS OF EGRESS WHICH CLEARLY IDENTIFIES 1.0 MINIMUM FOOT-CANDLES ALONG THE PATH. IN ADDITION, TEST SWITCH MOUNTING (INTEGRAL OR REMOTE) SHALL MATCH THE MOUNTING AS SPECIFIED ON THE DESIGN DOCUMENTS - CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED COVER PLATES, TRIMS, REFLECTORS, ETC NECESSARY FOR THE SPECIFIC TEST SWITCH MOUNTING. ALL REPORTS SHALL INCLUDE INPUT DATA UTILIZED IN THE CALCULATIONS (FOR FIXTURES UTILIZING AN EMERGENCY BATTERY PACK INCLUDE THE LUMEN RATING AND QUANTITY OF LAMPS FOR THE EMERGENCY BATTERY PACK).
- 1) PHOTOMETRIC STUDY IS TO BE BASED ON A MAINTAINED FOOT-CANDLE LEVEL USING MEAN LAMP LUMENS AND THE SAME LIGHT LOSS FACTORS USED IN THE ORIGINAL DESIGN CALCULATIONS PERFORMED BY THE ENGINEER OF RECORD.
- d. MANUFACTURER'S CATALOG CUT SHEET WHICH INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING INFORMATION: 1) LAMP TYPES AND QUANTITIES; 2) BALLAST OPTIONS; 3) VOLTAGES; 4) EPA RATING (WHERE APPLICABLE); 5) FIXTURE DIMENSIONS; 6) EMERGENCY BATTERY PACK AND TEST SWITCH OPTIONS (WHERE APPLICABLE); AND 6) FIXTURE FINISHES.
- e. FOR ALL SITE LIGHTING FIXTURES PROVIDE POLE SPECIFICATIONS WITH SUPPLEMENTAL DOCUMENTATION IDENTIFYING POLE SIZE IS RATED ACCORDINGLY BASED ON FIXTURE(S) EPA AND A WIND RATING FOR THE PROJECT ZONE.
- f. A SIGNED COPY OF THE "SUBSTITUTION COMPLIANCE FORM" LOCATED IN THE DIVISION 1 SPECIFICATION WHICH STATES THAT IF THE PROPOSED SUBSTITUTION TO THE SPECIFIED FIXTURE, THE PROJECT SCHEDULE WILL NOT BE NEGATIVELY AFFECTED. IF THE COMPLETION OF THE PROJECT IS DELAYED DUE TO THE PROPOSED SUBSTITUTION THEN THE ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR ANY AND ALL ESTABLISHED LIQUIDATED DAMAGES.
- g. CONTRACTOR TO PROVIDE ARCHITECT AND ENGINEER OF RECORD WITH ALL SUBSTITUTE INFORMATION REFERENCED ABOVE NO LATER THAN TWO WORKING WEEKS PRIOR TO THE BID DEADLINE.

4. CATALOG NUMBERS AS REFERENCED ON THE FIXTURE SCHEDULE PROVIDE GENERAL FIXTURE INFORMATION. CONTRACTOR SHALL REVIEW LIGHTING PLANS AND SPECIFICATIONS TO VERIFY ALL FIXTURE ASSOCIATED DESIGN INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND PIECES REQUIRED FOR A COMPLETE AND OPERATIONAL INSTALLATION. ANY DISCREPANCIES BETWEEN DESCRIPTIONS, SPECIFICATIONS, AND CATALOG NUMBERS ARE TO BE PRESENTED TO THE ENGINEER OF RECORD PRIOR TO COMPLETION OF THE BID PROCESS FOR CLARIFICATION.
5. ALL COLOR SPECIFIC INFORMATION WHICH RELATES TO LIGHTING FIXTURES AND/OR THEIR RELATED PARTS ARE TO BE REVIEWED AND COMMENTED ON BY THE ARCHITECT. FIXTURES WHICH REQUIRE A CUSTOM COLOR WILL HAVE A CUSTOM COLOR PAINT WHICH WILL BE INCLUDED IN THE ARCHITECT'S SHOP DRAWING REVIEW COMMENTS.
6. ALL LIGHTING EQUIPMENT LOCATIONS ARE TO BE COORDINATED WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING AND INSTALLING.
7. ALL FIXTURES TO BE MOUNTED IN FIRE RATED CEILING ARE TO BE PROVIDED AND INSTALLED WITH AN APPROVED FIRE RATED ENCLOSURE.
8. ALL FLUORESCENT LIGHTING FIXTURES ARE TO BE SEASONED IN ORDER TO MAXIMIZE LAMP LIFE. CONTINUOUSLY ILLUMINATE LAMPS FOR A NO LESS THAN 30-HOURS UNLESS OTHERWISE SPECIFIED OR REFERENCED BY MANUFACTURER DATA. CONTRACTOR TO RE-LAMP AND REPLACE ALL MALFUNCTIONING LAMPS AND BALLASTS.
9. ENSURE COMPATIBILITY OF ALL DIMMING SYSTEM AND INDIVIDUAL LIGHTING CONTROLS WITH LAMPS, BALLASTS, AND FIXTURES. ALL COMPONENTS ARE TO BE FACTORY CERTIFIED COMPATIBLE FOR A FULL RANGE OF DIMMING.
10. LIGHTING FIXTURE CLEARANCES FROM COMBUSTIBLE MATERIALS ARE TO BE A MINIMUM OF 1/2" (OTHER THAN AT POINTS OF SUPPORT) AND 3" FROM INSULATION FOR NON-IC RATED RECESSED LIGHTING FIXTURES.
11. ALL FLUORESCENT LIGHTING FIXTURES TO BE MOUNTED IN A SUSPENDED CEILING ARE TO BE SUPPORTED BY T-BAR CLIPS AND (2) 1/2" SUPPORT WIRES ATTACHED TO THE BUILDING FRAME. IN ADDITION, LIGHTING FIXTURES ARE TO BE SECURED TO THE CEILING GRID WITH (4) SHEET METAL SCREWS (1" AT EACH CORNER OF THE FIXTURE) - SCREWS SHALL BE NEITHER VISIBLE NOR IMPEDE THE INSTALLATION OF CEILING TILES.
12. ALL LIGHTING FIXTURES WHICH ARE TO BE MOUNTED IN FOOD SERVICE AREAS SHALL BE PROVIDED WITH THE FOLLOWING CHARACTERISTICS: DOOR TO FRAME GASKETS; LENS TO FRAME GASKETS; INVERTED LENS; AND A FOOD SERVICE RATING.

13. APPROVED LAMP MANUFACTURERS ARE AS FOLLOWS: OSRAM-SYLVANIA; GE; PHILIPS; AND VENTURE (MIL ONLY). BELOW ARE FLUORESCENT LAMP COLOR TEMPERATURE GUIDELINES TO BE USED UNLESS OTHERWISE NOTED OR SPECIFIED:
- 3500° FOR ALL OPEN AND PRIVATE OFFICE ENVIRONMENTS
 - 3500° FOR ALL SUPPORT AREAS (ELEC/MECH ROOMS, JANITORS CLOSETS, ETC.)
 - 3000° FOR ALL LOBBIES, CORRIDORS, AND FRONT OF HOUSE AREAS
14. ALL FLUORESCENT FIXTURES MUST BE SUPPLIED WITH "QUICK DISCONNECT" SAFETY BALLASTS WHICH ARE UL AND CSA CERTIFIED IN ACCORDANCE WITH NEC 410.73(G) AND CEC 30-308(4).
15. ALL BALLASTS FOR FLUORESCENT AND HID FIXTURES ARE TO BE ELECTRONIC WHEN AVAILABLE. PROVIDE END OF LIFE SHUT DOWN FOR ALL COMPACT FLUORESCENT LAMPS. ADDITIONALLY, ALL BALLASTS ARE TO BE PROVIDED WITH THE REQUIRED UL AND CBM LABELS AND MUST CONFORM TO T-24 STANDARDS AND REQUIREMENTS FOR PERFORMANCE AND EFFICIENCY.
16. ALL FIXTURES, TRIMS, AND LAMPS SHALL BE CLEANED AND FREE FROM DIRT, DUST, LABEL/ADHESIVE, AND FINGER PRINTS.
17. FIXTURES REFERENCED ON THE PLANS TO BE WIRED IN TANDEM (MASTERS/ATELITE) ARE TO BE INSTALLED FOLLOWING THE GUIDELINES REFERENCED BELOW:

- a. FIXTURES ARE TO BE PROVIDED WITH MULTIPLE BALLASTS AS REQUIRED. FIXTURES TO BE PROVIDED WITH FACTORY SPECIFIED AND INSTALLED WIRING HARNESS OF LENGTHS SPECIFIED ON THE PLANS. ALL AREAS WITH TANDEM FIXTURES ARE TO BE PROVIDED WITH THE REQUIRED QUANTITY AND TYPE OF CONTROL DEVICES AS INDICATED ON PLANS.
- b. 3-LAMP FIXTURES TO BE TANDEM WIRED WITH ELECTRONIC BALLAST CONFIGURATIONS AS FOLLOWS:
- 1) "M" REFERENCES A MASTER FIXTURE WHICH IS TO PROVIDED WITH (1) 4-LAMP BALLAST WHICH CONTROLS THE OUTBOARD LAMPS; AND (1) 2-LAMP BALLAST WHICH CONTROLS THE INBOARD LAMPS - OF BOTH THE MASTER ("M") AND THE SATELLITE ("S") FIXTURES.
- 2) "S" REFERENCES A SATELLITE FIXTURE WHICH IS CONNECTED TO THE MASTER ("M") FIXTURE VIA FACTORY PROVIDED WIRING HARNESS OR WHIP.
- 3) "O" REFERENCES AN ODD FIXTURE WHICH IS TO BE PROVIDED WITH (1) 2-LAMP BALLAST WHICH CONTROLS THE OUTBOARD LAMPS; AND (1) 1-LAMP BALLAST WHICH CONTROLS THE INBOARD LAMP.
- 4) FIXTURES DESIGNATED AS "EMERGENCY" ARE TO BE PROVIDED WITH THE APPROPRIATE EMERGENCY BATTERY PACK (SEE EMERGENCY BATTERY PACK SPECIFICATIONS) AND ARE TO BE FED WITH SPECIFIED SWITCH LEGS, AS WELL AS A CONSTANT HOT CIRCUIT. EM BATTERY PACK IS TO BE MOUNTED IN THE MASTER FIXTURE.
- 5) CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE APPROPRIATE LAMP AND BALLAST TYPE AND QUANTITY BASED ON THE FIXTURE SPECIFICATION AND SWITCHING CONFIGURATIONS.

18. EMERGENCY LIGHTING FIXTURES AND BATTERY PACKS ARE TO BE PROVIDED BASED ON FOLLOWING THE CRITERIA:
- a. FIXTURES SPECIFIED WITH INTEGRAL EMERGENCY BATTERY PACKS ARE TO BE FED USING THE FOLLOWING GUIDELINES:
- 1a. 1" - FOR EMERGENCY FIXTURES SPECIFIED WITH AN EMERGENCY BATTERY PACK REPRESENTS A FIXTURE WITH A NORMAL BALLAST TO BE CONNECTED TO SWITCH LEG "a" AND AN EMERGENCY BALLAST TO BE CONNECTED TO A CONSTANT HOT LEG "1" (CONSTANT HOT CIRCUITS ARE TO BE TAPPED AHEAD OF ANY TIME-CLOCK/PHOTO-CELL CONTROLLED DEVICES).

- 1" - REPRESENTS ONE OF THE FOLLOWING FIXTURE TYPES WHICH ARE TO BE CONNECTED TO A CONSTANT HOT CIRCUIT "1": a) NORMAL FIXTURE DESIGNATED AS A NIGHT LIGHT (NL); b) EXIT SIGNS; AND/OR c) AN EMERGENCY FIXTURE EQUIPPED WITH AN EMERGENCY BATTERY PACK WHICH ALSO SPECIFIED TO BE A NIGHT LIGHT. (ALL CONSTANT HOT CIRCUITS ARE TO BE TAPPED AHEAD OF ANY TIME-CLOCK/PHOTO-CELL CONTROLLED DEVICES)

- b. EMERGENCY BATTERY PACKS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:

FLUORESCENT LINEAR T8 LAMPS: (STANDARD OUTPUT)			
8'-0" T8	1-LAMP	1400 LUMENS	BODINE #B50 OR EQUAL
4'-0" T8	1-LAMP	1350 LUMENS	BODINE #B50 OR EQUAL
4'-0" T8	2-LAMP	1350 LUMENS	BODINE #B50 OR EQUAL
3'-0" T8	1-LAMP	1250 LUMENS	BODINE #B50 OR EQUAL
3'-0" T8	2-LAMP	1100 LUMENS	BODINE #B50 OR EQUAL
2'-0" T8	1-LAMP	1050 LUMENS	BODINE #B50 OR EQUAL
2'-0" T8	2-LAMP	950 LUMENS	BODINE #B50 OR EQUAL
FLUORESCENT LINEAR T8 LAMPS: (SUPER SAVER)			
4'-0" T8	1-LAMP	1250 LUMENS	BODINE #B50 OR EQUAL
4'-0" T8	2-LAMP	1100 LUMENS	BODINE #B50 OR EQUAL
FLUORESCENT LINEAR T5/5HO LAMPS:			
4'-0" T5HO	1-LAMP	1250 LUMENS	BODINE #LP600 OR EQUAL
3'-0" T5HO	1-LAMP	1125 LUMENS	BODINE #LP600 OR EQUAL
2'-0" T5HO	1-LAMP	725 LUMENS	BODINE #LP600 OR EQUAL
4'-0" T5	1-LAMP	1325 LUMENS	BODINE #LP600 OR EQUAL
3'-0" T5	1-LAMP	1025 LUMENS	BODINE #LP600 OR EQUAL
2'-0" T5	1-LAMP	750 LUMENS	BODINE #LP600 OR EQUAL
COMPACT FLUORESCENT LAMPS:			
13W CFL	1-LAMP	700 LUMENS	BODINE #B84CQ OR EQUAL
18W CFL	1-LAMP	900 LUMENS	BODINE #B84CQ OR EQUAL
26W CFL	1-LAMP	700 LUMENS	BODINE #B84CQ OR EQUAL
32W CFL	1-LAMP	1250 LUMENS	BODINE #B84CQ OR EQUAL
42W CFL	1-LAMP	1250 LUMENS	BODINE #B84CQ OR EQUAL
57W CFL	1-LAMP	1150 LUMENS	BODINE #B75C OR EQUAL
70W CFL	1-LAMP	1300 LUMENS	BODINE #B75C OR EQUAL

GENERAL NOTES - LIGHTING FIXTURE/SCHEDULE (CONT.):

- LED LAMPS:
- BODINE #BSL23 OR #BSL722 OR EQUAL IF AVAILABLE
- NOTE: ALL LED FIXTURES EQUIPPED WITH EMERGENCY BATTERY PACKS SHALL HAVE THE BATTERY PACKS FACTORY INSTALLED AND TESTED AT THE FIXTURE MANUFACTURER'S FACILITY TO ENSURE UL LISTING OF THE FIXTURE IS MAINTAINED. FIELD INSTALLATION OF LED EMERGENCY BATTERY PACKS IS STRICTLY PROHIBITED. NOTIFY ENGINEER OF RECORD SHOULD SPECIFIED FIXTURE NOT HAVE ADEQUATE SPACE TO ACCOMMODATE THE EMERGENCY BATTERY PACK. CONTRACTOR TO MODIFY BASE BID TO INCLUDE ALL NECESSARY EQUIPMENT FOR A COMPLETE AND OPERATIONAL, ADEQUATELY SIZED MINIATURE INVERTER SYSTEM TO BE MOUNTED IN NEAREST ELECTRICAL ROOM IN THE EVENT THE BATTERY PACK CAN NOT BE INSTALLED IN THE FIXTURE.
- NOTE: ALL BATTERY PACKS ARE TO BE FACTORY INSTALLED IN FIXTURE ASSEMBLIES WHEN APPLICABLE. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING FIXTURE MANUFACTURERS TO VERIFY SPECIFIED (OR APPROVED SUBSTITUTE) FIXTURE HAS ADEQUATE SPACE WITHIN THE FIXTURE TO MOUNT THE EMERGENCY BATTERY PACK. IF IT IS DETERMINED THE BATTERY PACK CANNOT BE MOUNTED IN THE FIXTURE THEN CONTRACTOR SHALL INCLUDE ALL COSTS REQUIRED FOR REMOTE MOUNTING THE EMERGENCY BATTERY PACK ABOVE NEAREST ACCESSIBLE CEILING. ENSURE DISTANCE FROM FIXTURE TO REMOTE BATTERY PACK LOCATION DOES NOT EXCEED THE MANUFACTURER'S RECOMMENDED DISTANCES. COORDINATE ALL ACCESS PANELS WITH ARCHITECT OF RECORD PRIOR TO INSTALL.
- c. ALL LIGHTING FIXTURES WITH EMERGENCY BATTERY PACKS ARE TO BE PROVIDED WITH INTEGRAL TEST SWITCHES AND CHARGE LIGHTS UNLESS OTHERWISE NOTED OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ). IN THE EVENT INTEGRAL TEST SWITCHES ARE NOT ALLOWED NOTIFY ENGINEER OF RECORD PRIOR TO INSTALLATION OR REMOTE TEST SWITCHES. TEST SWITCHES TO BE INSTALLED IN FIXTURES WITH A MINIMUM OF 18" OF ADDITIONAL WIRING TO ALLOW FOR GENERAL FIXTURE MAINTENANCE.
19. INSTALL ALL EXIT SIGNS IN ACCORDANCE WITH THE LOCAL AHJ AND FIRE AUTHORITY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED PARTS, PIECES, AND MOUNTING HARDWARE FOR EXIT SIGNS, AS WELL AS, ENSURING THE EXIT SIGNS ARE MOUNTED IN AN APPROVED VISIBLE LOCATION. VERIFY ALL REQUIRED CHEVRONS, MIRRORS, AND FACES AS REFERENCED ON THE ARCHITECTURAL REFLECTED CEILING PLAN. NOTIFY ARCHITECT AND ENGINEER OF RECORD OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL AND ELECTRICAL DRAWINGS PRIOR TO ORDERING OF EQUIPMENT.
20. TRACK LIGHTING FIXTURE SPECIFICATIONS ARE TO BE COORDINATED, VERIFIED AND CONFIRMED WITH EQUIPMENT MANUFACTURER AND/OR DISTRIBUTOR PRIOR TO ORDERING AND INSTALLING. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PARTS AND PIECES FOR A COMPLETE, FUNCTIONAL AND OPERATIONAL INSTALLATION. TRACK LENGTHS ARE AS SPECIFIED ON THE FIXTURE SCHEDULE.

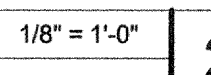
GENERAL NOTES - LIGHTING FIXTURE/SCHEDULE (CONT.):

21. CONTRACTOR SHALL INSTALL ALL LIGHTING FIXTURES PER LOCAL AND NATIONAL BUILDING, ELECTRICAL AND SEISMIC CODES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL REQUIRED MOUNTING HARDWARE AND BRACING MATERIALS FOR COMPLETE AND CODE COMPLIANT INSTALLATION. COORDINATE REQUIREMENTS WITH AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
22. CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND QUANTITIES WITH THE ARCHITECTURAL REFLECTED CEILING PLANS. IN ADDITION, CONTRACTOR SHALL ALSO COORDINATE ANY FIXTURE SPECIFIC DIMENSIONS WITH ARCHITECTURAL RCP. NOTIFY ARCHITECT AND ENGINEER OF RECORD OF ANY DISCREPANCIES PRIOR TO FINALIZING FIXTURE ORDER WITH THE DISTRIBUTOR.
23. CONTRACTOR TO INCLUDE IN BASE BID A MINIMUM OF 2-HOURS FOR A ONE TIME AIMING AND ADJUSTMENT TIME OF ALL MULTI-HEAD AND DIRECTIONAL FIXTURE ASSEMBLIES. AIMING AND ADJUSTMENT TO BE SCHEDULED FOR AT NIGHT AND AFTER HOURS WITH THE ARCHITECT, ENGINEER, AND OWNER PRESENT. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AN APPROPRIATE TIME PRIOR TO ORDERING THE FINAL PUNCH WALK FOR THE PROJECT.
24. HIGH INTENSITY DISCHARGE (HID) BALLAST REQUIREMENTS ARE TO FOLLOW THE GUIDELINES REFERENCED BELOW:
- a. ALL HID BALLASTS ARE TO BE HIGH POWER FACTOR ENCAPSULATED CORE & COIL, CORE & COIL, OR F-CAN TYPE. FOR FIXTURES WITH 175W AND LOWER BALLASTS ARE TO BE PROVIDED WITH A CLASS "A" OR BETTER SOUND RATING; FOR FIXTURES WITH 175W TO 400W BALLASTS ARE TO HAVE A CLASS "B" SOUND RATING. ALL HID BALLASTS ARE TO HAVE A ZERO DEGREE MINIMUM START TEMPERATURE. ALL FIXTURES WITH METAL HALIDE LAMPS RATED AT 150W OR LESS SHALL BE PROVIDED WITH ELECTRONIC HID BALLASTS. ALL FIXTURES WITH LAMPS RATED FROM 175W TO 500W ARE TO BE PROVIDED WITH PULSE START METAL HALIDE BALLASTS PER SECTION 1602, CCR TITLE 20 EFFICIENCY STANDARD.
- b. IGNITER SELECTION FOR REMOTE HID BALLASTS ARE TO BE COORDINATED WITH THE FIXTURE MANUFACTURERS ON A PER FIXTURE BASIS AND ARE TO BE DETERMINED USING THE DISTANCE REQUIREMENTS FOR EACH FIXTURE. IN INSTANCES WHERE DISTANCE LIMITATIONS FOR ELECTRONIC HID BALLASTS EXCEED OPERATING REQUIREMENTS THE USE OF MAGNETIC BALLASTS IS PERMITTED FOR FIXTURE WATTAGES OF 150W OR LESS.
25. SUPPLEMENTARY OVERCURRENT PROTECTION PANEL FOR TRACK LIGHTING SYSTEMS TO BE PROMINENTLY LABELED AS FOLLOWS:

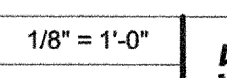
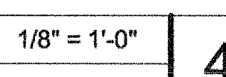
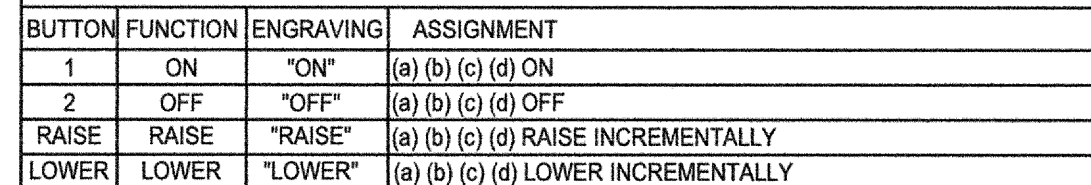
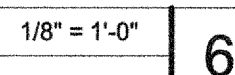
NOTICE: THIS PANEL FOR TRACK LIGHTING ENERGY CODE COMPLIANCE ONLY. THE OVERCURRENT PROTECTION DEVICES IN THIS PANEL SHALL ONLY BE REPLACED WITH THE SAME OR LOWER AMPERAGE. NO OTHER OVERCURRENT PROTECTIVE DEVICE SHALL BE ADDED TO THIS PANEL. ADDING TO, OR REPLACEMENT OF EXISTING OVERCURRENT PROTECTIVE DEVICES) WITH HIGHER CONTINUOUS AMPERE RATING, WILL VOID THE PANEL LISTING AND REQUIRE RESUBMITAL AND RE-CERTIFICATION OF CALIFORNIA TITLE 24, PART 6 COMPLIANCE DOCUMENTATION.

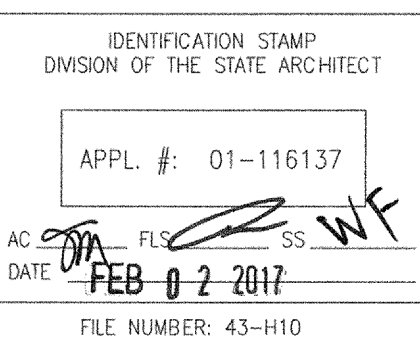
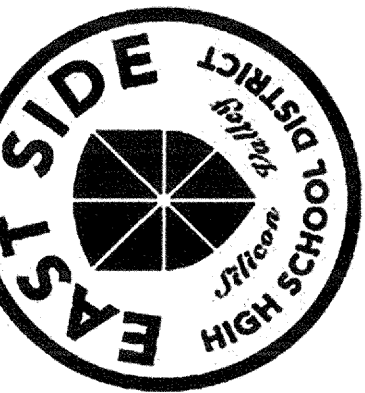
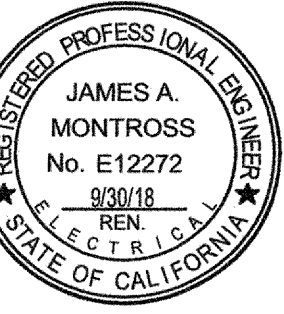
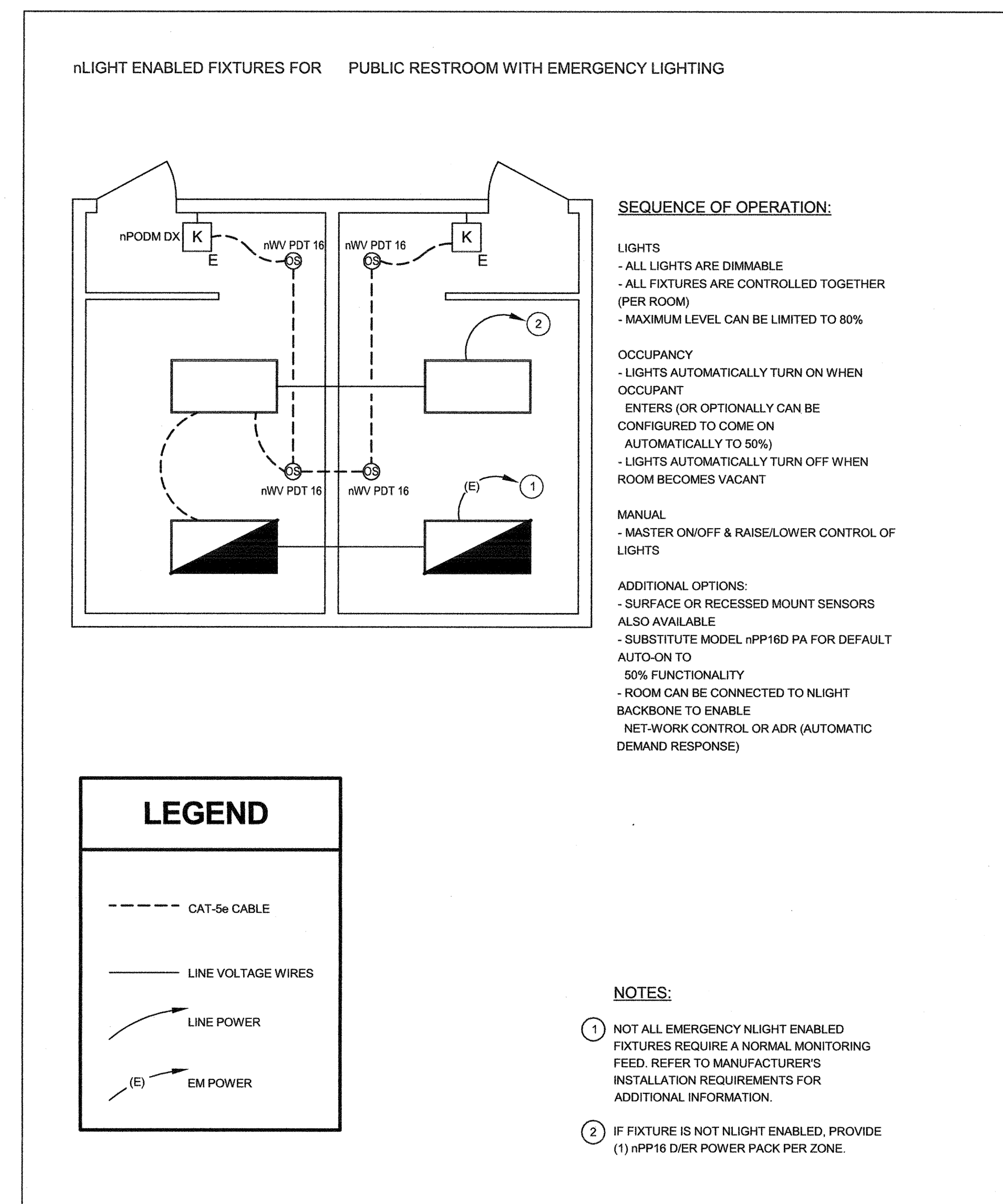
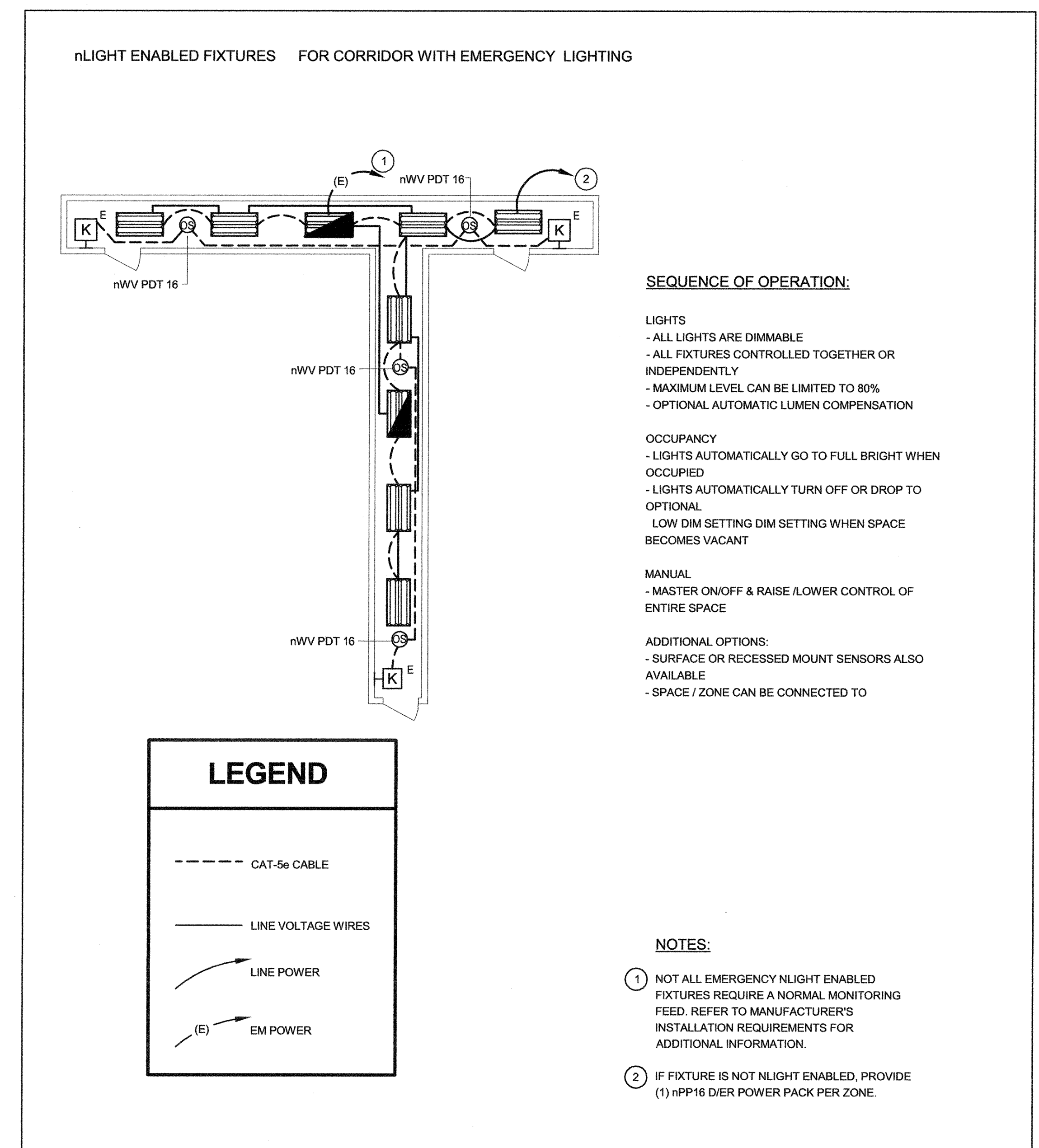
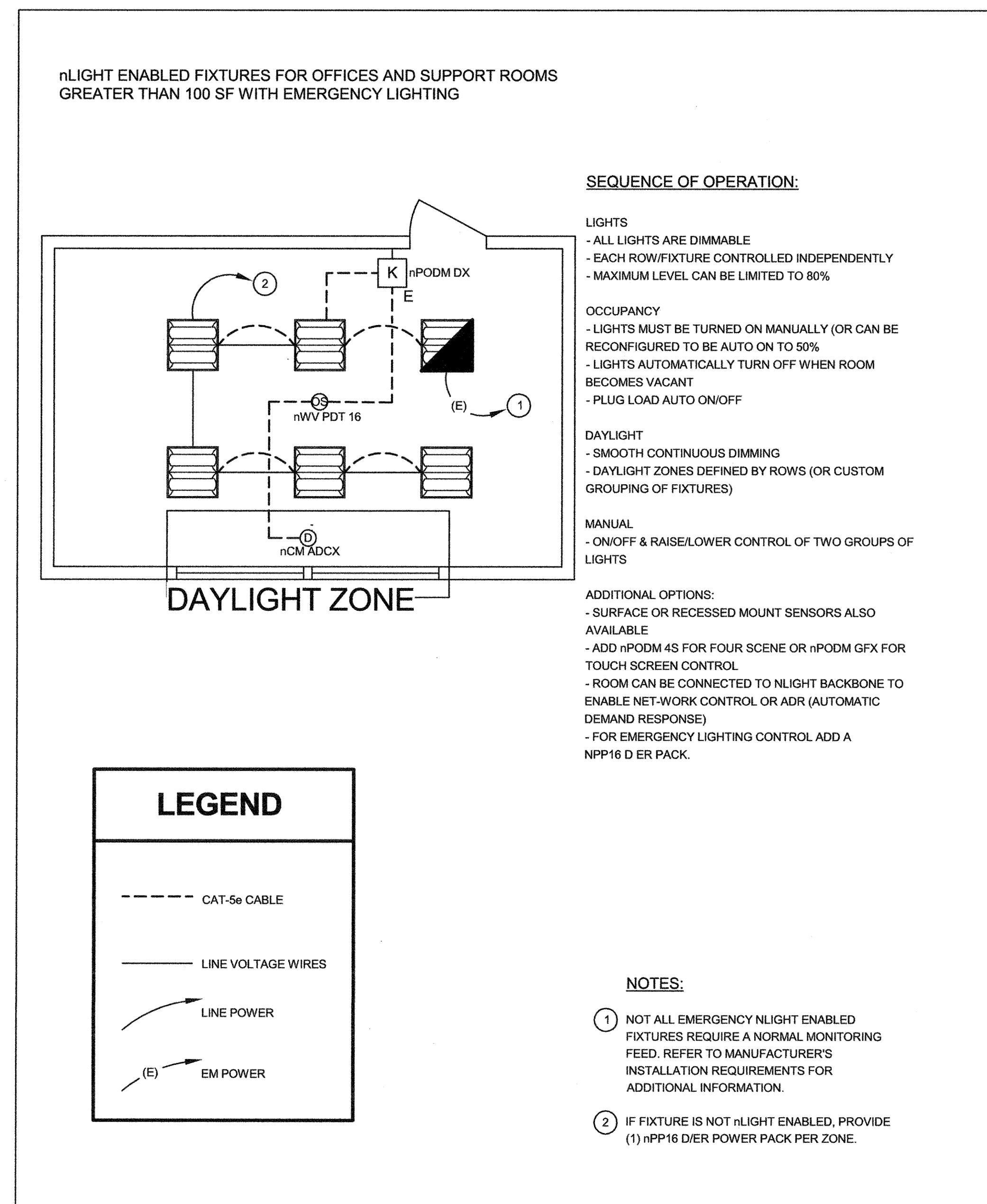
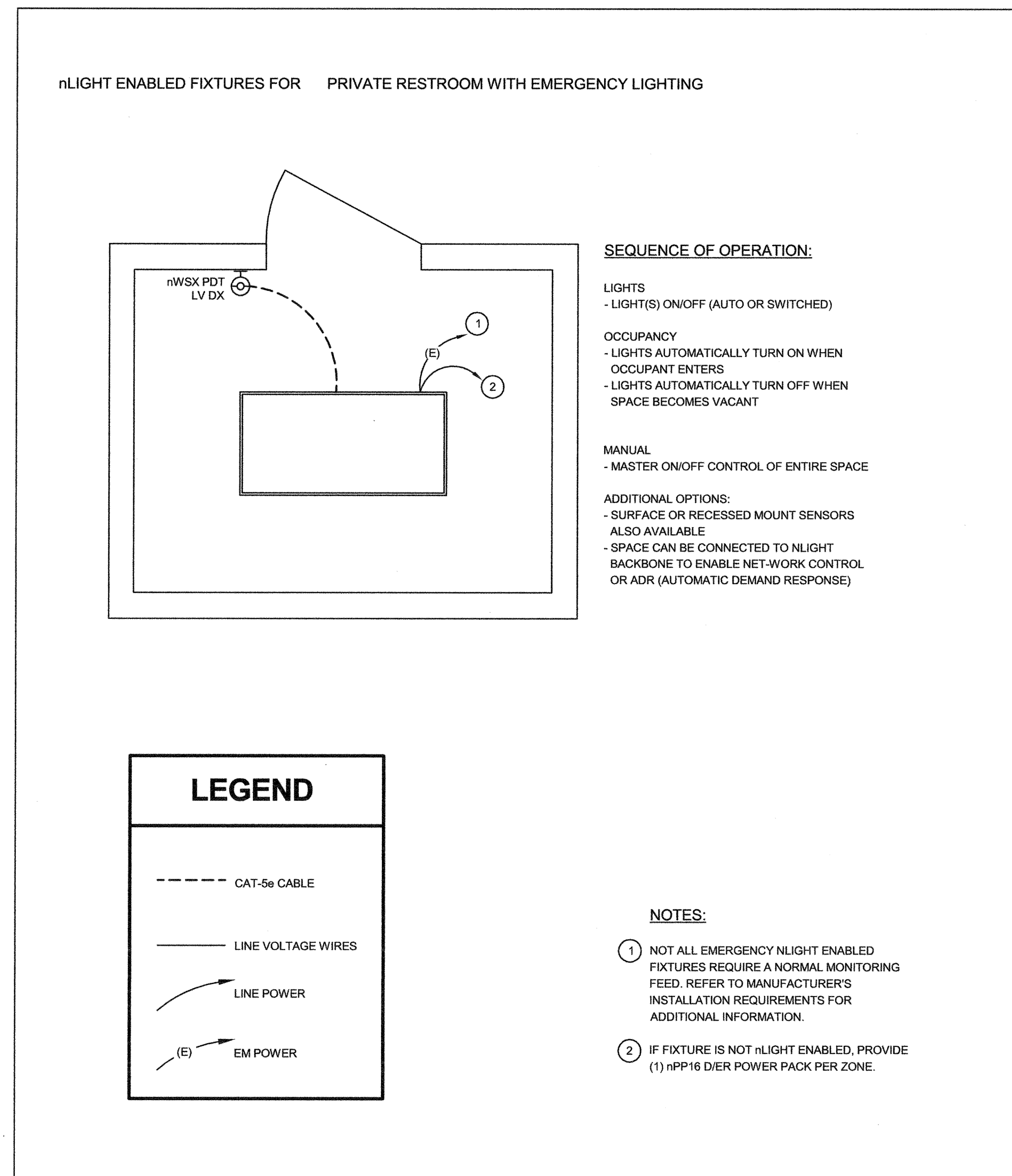
LIGHTING FIXTURE SCHEDULE 1

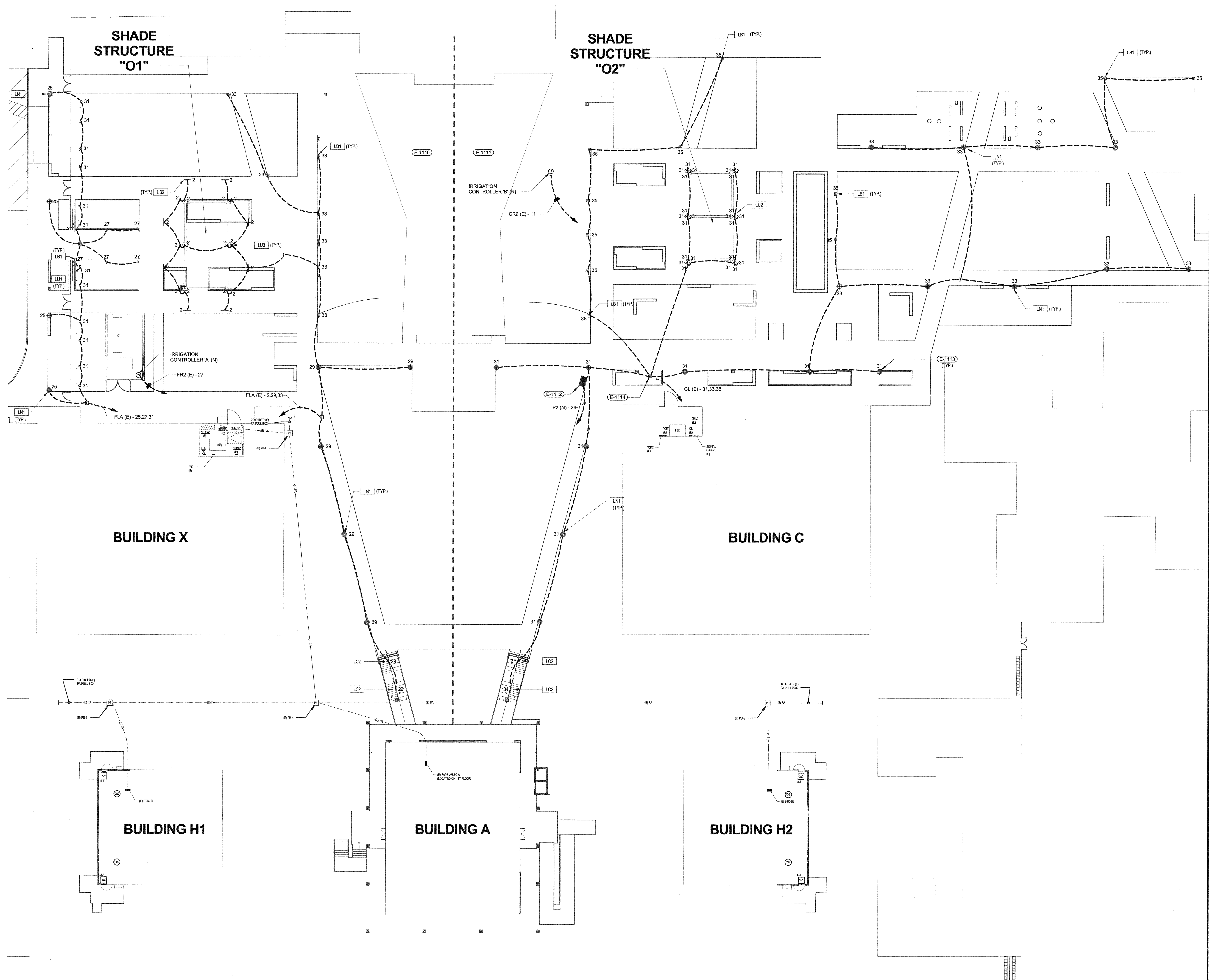
Type	Name	Description	Electrical			Source				Condition	Mounting Detail	Mounting Height (AFF)	Manufacturer				Finish	Location
			Apparent Load	Voltage	Driver	Type	Lumens	CCT	CRI				Name	Model Number	Equal 1	Equal 2		
DP1	Decorative Pendant (Small)	"Maratelli" cylinder pendant with die-cast metal band connecting separate upper and lower hand-blown glass shades; plus "Freejack 4 Square Flush Canopy LED".	6 VA	277 V	Integral Electronic XFMR	LED	330L	3000K	80	Interior	1/E4.01	9' 0"	TECH LIGHTING	#700-FJMAN-02CL-BL-SD-LED + #700F-J4SQ-S-LED277	None Known	None Known	Clear/Clear, Black/Satin Nickel	Library 201
LB1	Bollard	"VRB1" vandal-resistant domed round bollard with 360 degree downlighting, Type V distribution, universal voltage, flack finish.	25 VA	277 V	Integral	LED	811L	3000K	75+	Exterior	N/A	N/A	KIM LIGHTING	#VRB1-20L-3K-UV-BL-No Option	(Campus Standard)	(Campus Standard)	Black	Site (Secondary Pathways)
LC1	4' Concealed Undercabinet Light	"LipLEDs" with frosted lens, dry location, 4' length; plus connectors as required.	16 VA	277 V	Remote 277VACV XFMR	LED	75 L/FT	3500K	90+	Interior	11/L5.02	4' 6"	CALI LIGHTING	#LELD200-FL-4WDM-LED-3.5K-DRY-4" + Remote 277VACV Transformer & Connectors As Required	PHILIPS "Integrate"	OPTIC ARTS "FLXDC44" + "CHS-S-1208-C"	White	Toilet 210 Alcove
LC2	Concealed Illuminated Handrail	"Lumenrail Light Stick", 5.45W/FT, 120 degree beam angle, matte symmetric lens option, see plans for lengths; plus Connectors & Remote Drivers As Required	0 VA	277 V	Remote	LED	237 L/FT	3500K	88	Exterior	N/A	N/A	WAGNER	#LULIS-35K-60-120-MS-[See Plans For Lengths] + Connectors & Remote Drivers As Required	ETI "LEDRail"	is Lighting "Luxrail"	TBD	Exterior Stairs to Student Center
LN1	14' Pedestrian Post Top	"Astro 1" series, Type II distribution optics, single mounting, LQ4500 light engine, 16' power cord length, finish to be determined, no options; plus 14' tapered aluminum pole, finish to be determined, die-cast base cover.	50 VA	277 V	Integral	LED	4659	3500K	80+	Exterior	8/L5.02	N/A	SELLUX	#AST1-R2-14-LQ4500-35-16-[Finish]-277 + #AT [Pole Diameter]-14-[Finish]-BC [Base Cover Size]	None	None Known	TBD	Site (Primary Pathways)
LP2-6	6' Pendant Mounted Linear Direct/Indirect	"Beam 4 LED" pendant direct/indirect, B3 version, mid flex LED light engine, custom up/down nominal lumen output, spotless lens shielding, 6' system length, universal voltage, 1 circuit, cable mounted from structure (length to be determined). (NOTE: Provide EM battery packs where indicated on plans.)	62 VA	277 V	Integral 0-10V Dimming	LED	200L/F Up, 1000L/FT Down	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-20-1000-80-35-SO-S8-[Finish]-UNV-D-1-CTS [Cable Length]-B1	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LP2-8	8' Pendant Mounted Linear Direct/Indirect	Same as LP2-6 above, except 8' in length. (NOTE: Provide EM battery packs where indicated on plans.)	72 VA	277 V	Integral 0-10V Dimming	LED	200L/F Up, 1000L/FT Down	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-20-1000-80-35-SO-S8-[Finish]-UNV-D-1-CTS [Cable Length]-B1	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LP2-10	10' Pendant Mounted Linear Direct/Indirect	Same as LP2-6 above, except 10' in length. (NOTE: Provide EM battery packs where indicated on plans.)	90 VA	277 V	Integral 0-10V Dimming	LED	200L/F Up, 1000L/FT Down	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-20-1000-80-35-SO-S10-[Finish]-UNV-D-1-CTS [Cable Length]-B1	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LP2-16	16' Pendant Mounted Linear Direct/Indirect	Same as LP2-6 above, except 16' in length.	144 VA	277 V	Integral 0-10V Dimming	LED	200L/F Up, 1000L/FT Down	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-20-1000-80-35-SO-S16-[Finish]-UNV-D-1-CTS [Cable Length]	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LP3-28	28' Pendant Mounted Linear Direct	"Beam 4 LED" pendant direct, B3 version, mid flex LED light engine, spotless lens shielding, 28' system length, universal voltage, 1 circuit, cable mounted from structure (length to be determined). (NOTE: Provide EM battery packs where indicated on plans.)	274 VA	277 V	Integral 0-10V Dimming	LED	1000L/FT	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-1000-80-35-SO-S28-[Finish]-UNV-D-1-CTS [Cable Length]-B1	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LP3-34	34' Pendant Mounted Linear Direct	"Beam 4 LED" pendant direct, B3 version, mid flex LED light engine, spotless lens shielding, 34' system length, universal voltage, 1 circuit, cable mounted from structure (length to be determined). (NOTE: Provide EM battery packs where indicated on plans.)	323 VA	277 V	Integral 0-10V Dimming	LED	1000L/FT	3500K	80	Interior	1/E4.01	8' 10"	AXIS	#BB0LED-B3-MF-1000-80-35-SO-S34-[Finish]-UNV-D-1-CTS [Cable Length]-B2	FOCAL POINT "Seem 4 LED"	FINELITE #HP-4 LED*	TBD	Student Center 200
LR1	2x2 Recessed Direct/Indirect	"Whisper LED", normal output, soft-white acrylic center and side shielding.	31 VA	277 V	Integral 0-10V Dimming	LED	3500L	3500K	80+	Interior	4/E4.01	N/A	MARK LIGHTING	#WHSL-22-N-35-ENC1-277-SWC-SWO	FOCAL POINT "Seem 4 LED"	FINELITE "HPR LED"	White	Offices, Conf Rooms, Passage 1
LR2-4	4' Recessed Linear Wallwash	"Slot 4 LED Recessed", linear length optimized plan, 4' total run length, flush lens style, ceiling trim to be determined, wallwash distribution, no secondary light source, nLight enabled.	32 VA	277 V	Integral 0-10V 1% Dimming	LED	800L/FT	3500K	80	Interior	6/E4.02	N/A	MARK LIGHTING	#SL4L-L0P-4FT-FLP-[Ceiling Trim]-80CRI-35K-800LM-FW-MIN1-277-N LIGHT	FOCAL POINT "SEEM 4 LED Asymmetric"		White	Stacks in Alcoves
LR2-20	20' Recessed Linear Wallwash	"Slot 4 LED Recessed", linear length optimized plan, 14' total run length, flush lens style, ceiling trim to be determined, wallwash distribution, no secondary light source, nLight enabled.	112 VA	277 V	Integral 0-10V 1% Dimming	LED	800L/FT	3500K	80	Interior	6/E4.02	N/A	MARK LIGHTING	#SL4L-L0P-14FT-FLP-[Ceiling Trim]-80CRI-35K-800LM-FW-MIN1-277-N LIGHT	FOCAL POINT "SEEM 4 LED Asymmetric"		White	Library 201
LR3	1x4 Recessed Heavy Duty Lensed Troffer	"VRTL LED" 1" wide vandal resistant troffer, grid trim type, 48" long, 3000 nominal lumens, white inset CRS door frame, frosted acrylic lens with 1/4" thick polycarbonate lens, multi-volt, EM battery pack per plans, nLight dimming pack controls.	27 VA	277 V	Integral 0-10V Dimming	LED	2906L	3500K	80	Interior	4/E4.01	N/A	LITHONIA	#VRTL-G-148-3000LM-ICW-A125FL-MVO LT-EZ1-35K-80CRI-IP50[IP50]-hP880EZ-WH	None Known	None Known	White	1st Floor Restrooms
LR4	Recessed Square Downlight (4")	"Evo" series, square type, clear aperture/trim color, self-flanged trim style, semi-specular finish, multi-volt, white painted flange, nLight controls. (NOTE: Provide EM battery pack with remote test switch where indicated on plans.)	17 VA	277 V	Integral 0-10V Dimming	LED	1509	3500K	85	Interior	6/E4.02	N/A	GOTHAM	#EVO-SO-3510-4AR-LSS-MVOL-EZ10-[E L]-TRW-NP880EZ	PORTFOLIO "LDSQ4A"	LIGHTOLIER "Calculte"	Clear, Semi-specular, White	Alcove, Corridor, Toilet 210
LS1-2	2' Surface Mounted Strip Light	"ZL2N", 24" length, medium diffuse diffuser, multi-volt.	32 VA	277 V	Integral 0-10V Dimming	LED	2092	3500K	83	Interior	5/E4.02	7' 5"	LITHONIA	#ZL2N-L24-2000LM-MDD-MVOL-35K-80C-R-WH	METALLUX "SNLED"	COLUMBIA "LCL"	White	Conf 2 Closet
LS1-4	4' Surface Mounted Strip Light	"ZL2N", 48" length, medium diffuse diffuser, multi-volt.	41 VA	277 V	Integral 0-10V Dimming	LED	2952	3500K	83	Interior	5/E4.02	7' 10"	LITHONIA	#ZL2N-L48-3000LM-MDD-MVOL-35K-80C-R-WH	METALLUX "SNLED"	COLUMBIA "LCL"	White	Electrical, Custodian
LS2	4' Surface Mounted Linear (Wet Location)	"Wet Beam 4 LED" wall direct, B3 version, mid flex LED light engine, satin lens, 4' length, custom finish to match canopy structure (RAL# to be determined), universal voltage, 1 circuit, and feed.	22 VA	277 V	Integral 0-10V Dimming	LED	500L/FT	3500K	90	Exterior	N/A	N/A	AXIS	#WBWLED-B3-MF-500-80-35-S-4-C[RAL#]-UNV-D-1-EF	FOCAL POINT "Seem 4 Wet Location"	SELUX "M125 LED"	Custom (RAL# TBD)	Arrival Pavilion, Gathering Pavilion
LU1	Ingrade Uplight (Flood)	"HP2" series with flush facelate and aluminum construction, OptiLock technology, integral transformer housing, flood optics, finish to be determined, honeycomb baffle, accessory holder option.	18 VA	277 V	Integral	LED	1300L	3000K	80+	Exterior	4/L5.02	N/A	B-K LIGHTING	#HP2-LED-TR-x31-FL-[Finish]-11-MT-AH	TARGETTI "Kepler Mini Zoom"	ERCO "Tesis"	TBD	Entry Trees
LU2	Ingrade Uplight (Wide Flood)	"HP2" series with flush facelate and aluminum construction, OptiLock technology, integral transformer housing, wide flood optics, finish to be determined, honeycomb baffle, accessory holder option.	18 VA	277 V	Integral	LED	1300L	3000K	80+	Exterior	4/L5.02	N/A	B-K LIGHTING	#HP2-LED-TR-x31-WFL-[Finish]-10-MT-AH	TARGETTI "Kepler Mini Zoom"	ERCO "Tesis"	TBD	East Canopy
LU3	Ingrade Uplight (Narrow Flood)	"HP2" series with flush facelate and aluminum construction, OptiLock technology, integral transformer housing, narrow flood optics, finish to be determined, honeycomb baffle, accessory holder option.	18 VA	277 V	Integral	LED	1300L	3000K	80+	Exterior	4/L5.02	N/A	B-K LIGHTING	#HP2-LED-TR-x31-NFL-[Finish]-11-MT-AH	TARGETTI "Kepler Mini Zoom"	ERCO "Tesis"	TBD	West Canopy (Columns)
LW1-18	18'-8" Wall Mounted Adjustable Linear Wallwasher	"Commalite" with 18" cantilevered stem and 2" box canopy, 18'-8" exact length, low output LED lamping, high transmission lens, standard natural "Ultimate" aluminum finish, universal voltage, no additional options.	151 VA	277 V	Integral 0-10V Dimming	LED	687 L/FT	3500K	80	Interior	4/E4.02	6' 6"	ARCHITECTURAL LIGHTING WORKS	#CMLSM18-2-18' 8" (Exact Length Required)-LOW/3500K-0/10V/10%-LENS-A-L-UNV	VODE "WingRail"	None Known	Aluminum	Student Center 200 (Magazines)
LW1-31	31' Wall Mounted Adjustable Linear Wallwasher	"Commalite" with 12" cantilevered stem and 2" box canopy, 31'-0" exact length, low output LED lamping, high transmission lens, standard natural "Ultimate" aluminum finish, universal voltage, no additional options. (NOTE: Provide EM battery pack where indicated on plans.)	251 VA	277 V	Integral 0-10V Dimming	LED	687 L/FT	3500K	80	Interior	4/E4.02	7' 0"	ARCHITECTURAL LIGHTING WORKS	#CMLSM12-21-31" (Exact Length Required)-LOW/3500K-0/10V/10%-LENS-A-L-UNV-EMB85	VODE "WingRail"	None Known	Aluminum	Student Center 200
XW1	Wall (Mullion) Mounted Exit Sign	"ES Surface", self-powered, single face, nickel cadmium battery, surface mounting, trim finish to be confirmed, letters/background to be confirmed, no chevron, modified wall (mullion) mounting.	5 VA	277 V	n/a	LED	n/a	n/a	n/a	Interior	3/E4.02	8' 8"	COOPER SURE-LITES	#EST-1-70-[Custom Trim Finish]-Lettters/Background-W [Modified for Mullion Mounting]	LITHONIA "LRP"	PHILIPS "XLUX"	TBD	Throughout



1/8" = 1'-0"	3
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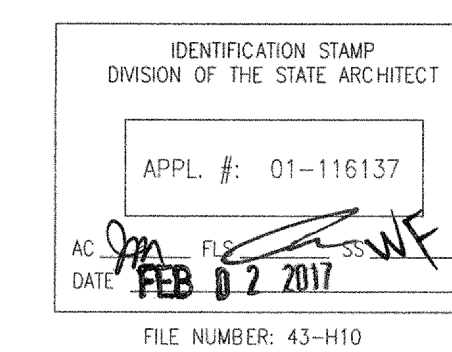
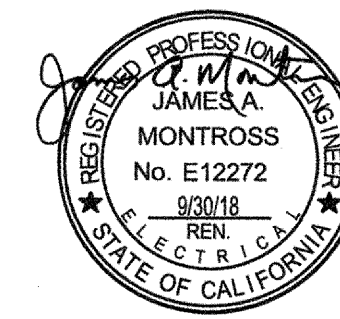


KEYNOTES

- E-1110 EXTERIOR LIGHTS ON THIS SIDE OF MATCHLINE ARE POWER FROM BUILDING X
E-1111 EXTERIOR LIGHTS ON THIS SIDE OF MATCHLINE ARE POWER FROM BUILDING C
E-1112 PROVIDE ELECTRICAL FOR TOP ENTRY PEDESTAL MOUNT IRRIGATION
CONTROLLER ATOP VIT CONC PAD.
E-1113 LIGHTING CONTROLLED EXISTING EXTERIOR LIGHTING CONTROL CABINET IN
BUILDING A.
E-1114 PROVIDE MCCAIN INSERTS IN ELECTRICAL PULL BOXES.

LPA 

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OAK GROVE HIGH SCHOOL - LIBRARY REMODEL & SITE IMPROVEMENTS

285 Blossom Hill Road,
San Jose, CA 95123

Developed for
East Side Union High School District[illegible][illegible]

Submitted	Date
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Date	02/02/20
Checked by	Check
Scale	As indicated

SITE LIGHTING GENERAL NOTES

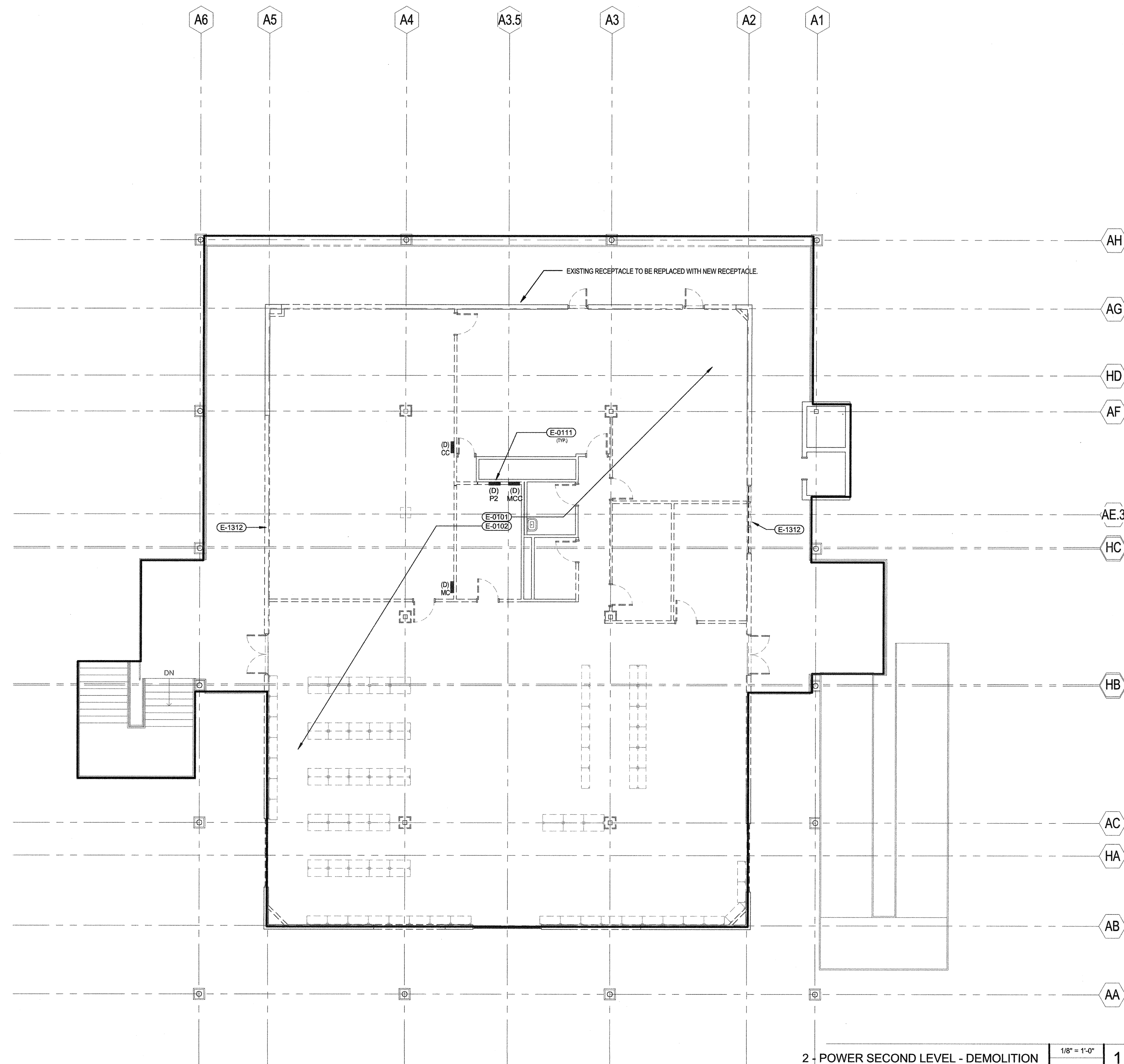
1. ROUTING OF ALL CONDUIT SHALL BE COORDINATED IN THE FIELD AND CONFIRMED BY ENGINEER AND ARCHITECT.
2. COORDINATE ALL CONDUIT ROUTING, ELECTRICAL DEVICE LOCATIONS, PULL BOX LOCATIONS, ETC. WITH LANDSCAPE PLANTING PLANS TO AVOID CONFLICTS WITH TREES, SHRUBS, ETC.
3. ALL CONDUCTOR AND CABLE RUNS ARE TO BE CONTINUOUS. NO CONDUCTORS OR LOW VOLTAGE CABLEING TO BE INSTALLED AS PART OF MORE THAN ONE CONDUIT. ALL CONDUCTORS AND LOW VOLTAGE CABLEING TO BE INSTALLED AS PART OF INCREMENT TWO AND TERMINATED INSIDE OF THE BUILDING.
4. ALL CONDUIT SHALL BE PROVIDED WITH PROPERLY SIZED PULL STRING PER UTILITY COMPANY STANDARDS.
5. ALL EQUIPMENT MOUNTED OUTDOORS SHALL BE INSTALLED IN A WEATHERPROOF NEMA 3K ENCLOSURE.
6. SEE ARCHITECTURAL LANDSCAPE ARCHITECTURAL PLANS FOR EXACT LOCATION OF STRUCTURES, LIGHT FIXTURES, HANGERS, OTHER ELECTRICAL DEVICES, ETC. COORDINATE ALL UNDERGROUND STRUCTURES AND CONDUIT ROUTING WITH LANDSCAPE ARCHITECT PRIOR TO ROUGH-IN TO ENSURE THAT SUCH DEVICES ARE NOT PLACED IN CRITICAL LANDSCAPE PLANTING/HARDSCAPE AREAS.
7. PROVIDE CONCREE ENCASEMENT FOR ALL TRENCHES WITH MORE THAN THREE (3) CONDUITS. ENCASE PER UTILITY COMPANY REQUIREMENTS.
8. FOR BIDDING FOLLOW BLD PACKAGE SITE PLAN.

SITE ELECTRICAL PLAN

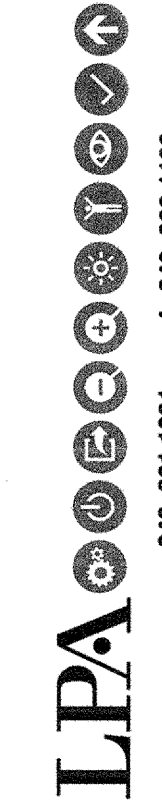
E1.11

E-0101	DISCONNECT AND REMOVE ALL LIGHTING, RECEPTACLES, DEVICES INCLUDING CONDUIT AND WIRE BACK TO SOURCE. THE SPACE SHALL BE COMPLETELY CLEARED OF ALL ELECTRICAL ELEMENTS, UON.
E-0102	DISCONNECT AND REMOVE BRANCH CIRCUIT WIRE/CONDUITBOARD FEEDER WIRE AND CONDUIT AND ALL BRANCH CIRCUITS WIRE/CONDUIT.
E-0111	INSTALLATION CHANGE OVER OF POWER SHOULD HAPPEN DURING OFF-HOURS.
E-1312	EXISTING OUTLET AT EXTERIOR WALL TO REMOVE

CONTRACTOR TO ENSURE CONTINUOUS OPERATION OF HVAC ROOFTOP UNITS AC1-AC4 AND EXHAUSTS (REF1). PROVIDE TEMPORARY POWER CONNECTIONS, IF NECESSARY DURING PHASE OF CONSTRUCTION ON 2ND FLOOR.

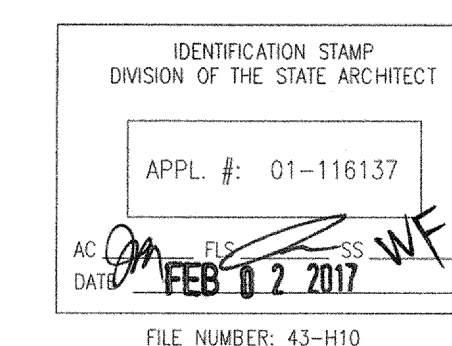
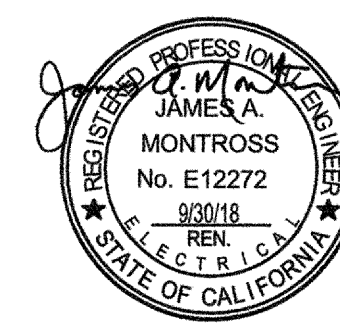


2 - POWER SECOND LEVEL - DEMOLITION	1/8" = 1'-0"	1
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Developed for
East Side Union High School District

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Submitted	Date
100% SCHEMATIC DESIGN	3/14/2016
100% DESIGN DEVELOPMENT	5/10/2016
60% CD ESTIMATE	6/9/2016
85% CD ESTIMATE	7/22/2016
DSA SUBMITTAL	8/26/2016
HAID SET	01/25/2017
DSA APPROVAL	02/02/2017

Job. No.	15248
Date	02/02/20
Checked by	Check
Scale	1/8" = 1'-0"

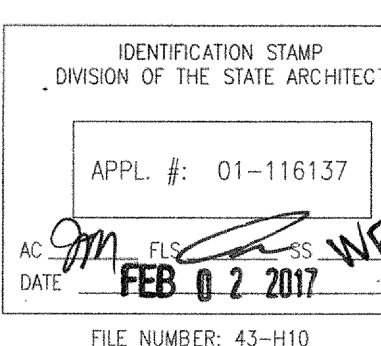
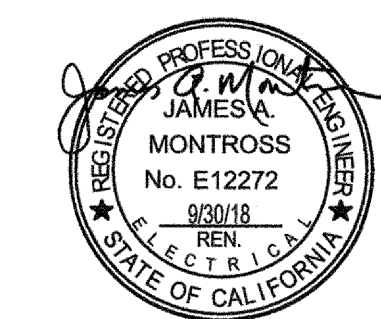
DEMOLITION POWER
PLAN - 2ND FLOOR

ED2.22

LPA

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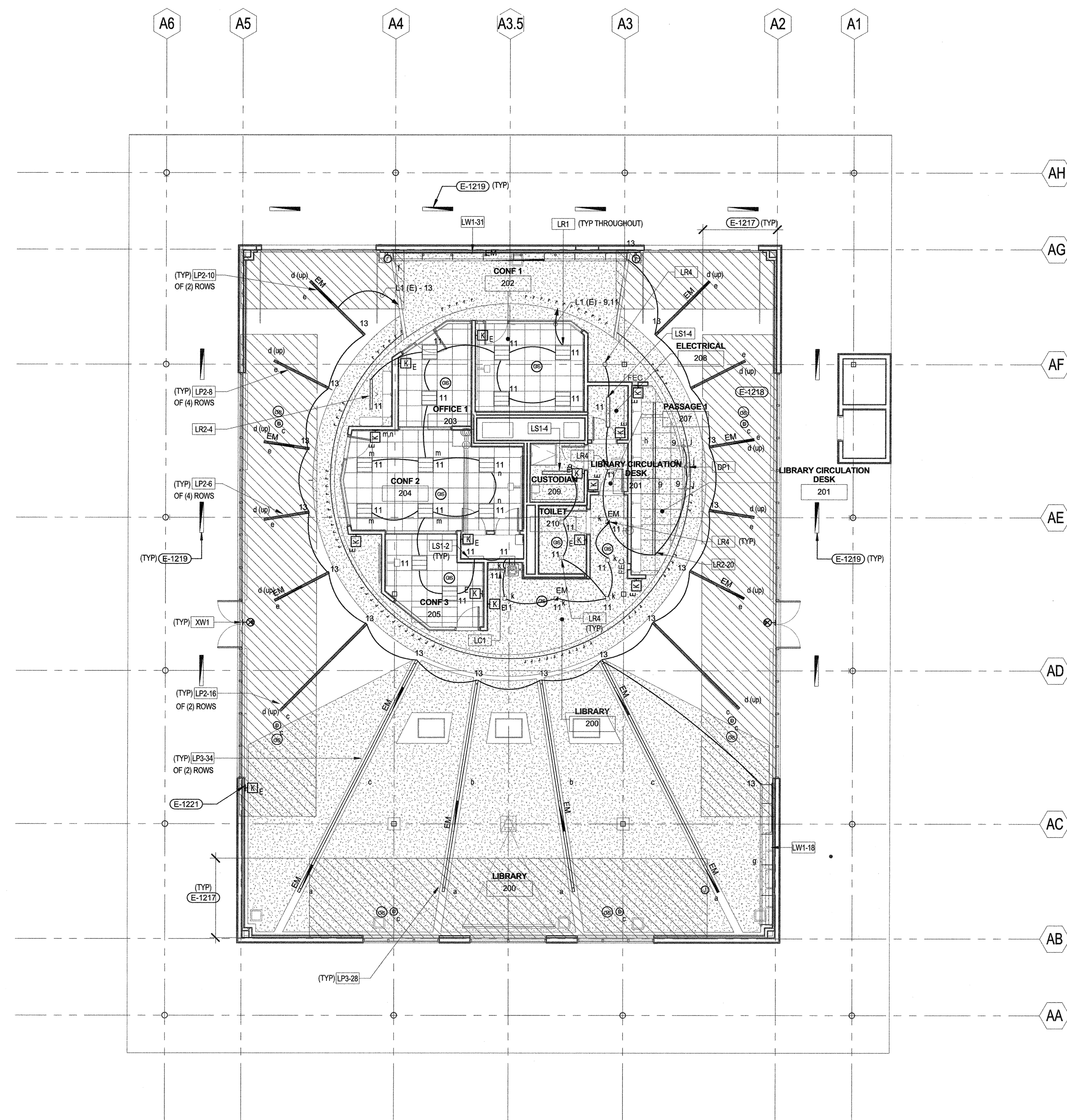
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Job. No.	1524810
Date	02/02/2017
Checked by	C checker
Scale	1/8" = 1'-0"

LIGHTING PLAN - 2ND
FLOOR BLDG. A

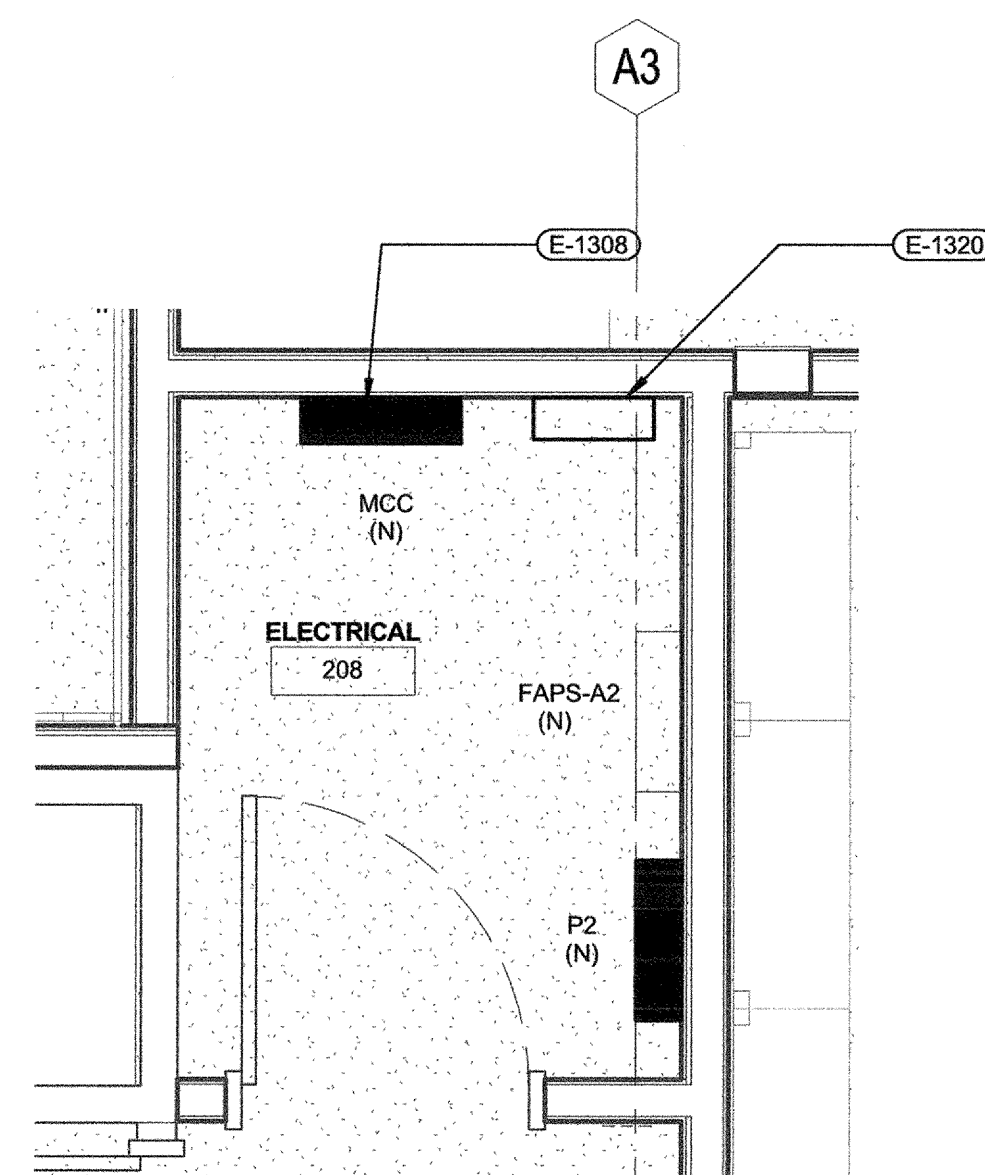
E2.12



2 - LIGHTING SECOND LEVEL	1/8" = 1'-0"	1
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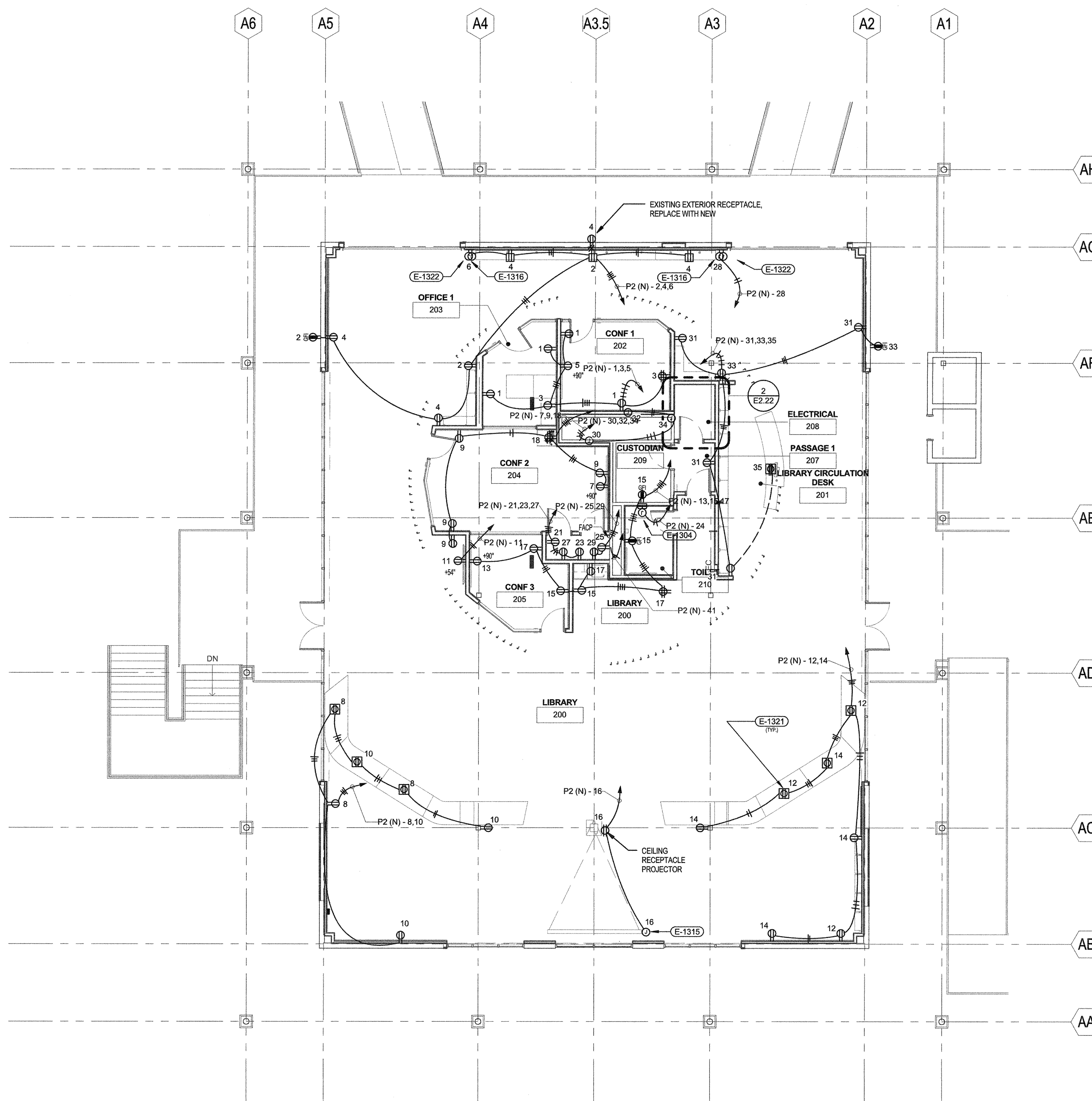
- E-1217 DAYLIT ZONE: PROVIDE AUTOMATIC DIMMING FOR FIXTURES WITHIN DAYLIT ZONE, IN RESPONSE TO AVAILABLE DAYLIGHT. ADJUST PHOTO CELL TO MAINTAIN LIGHT LEVEL
- E-1218 NOT USED
- E-1219 CLEAN AND RELAMP EXISTING RECESSED 1'x4' LIGHT FIXTURE (WITH 2-32W T8 LAMP, 3000K COLOR TEMPERATURE). REPLACE ACRYLIC PRISMATIC LENS AS REQUIRED
- E-1221 INSTALL A BANK OF 10 ON/OFF/RAISE/LOWER KEYPADS, TO INDIVIDUALLY CONTROL ZONES A THROUGH H, J, K & M.

E-1304 PROVIDE JUNCTION BOX FOR HAND DRYER.
E-1308 RECONNECT EXISTING 1ST FLOOR LOADS TO PANEL.
E-1315 PROVIDE JUNCTION BOX TO MOTORIZED PROJECTOR SCREEN
E-1316 PROVIDE JUNCTION BOX TO ROLL UP DOOR. MOUNT +9'.
E-1320 EXISTING EXTERIOR LIGHTING CONTROL CABINET.
E-1321 RECEPTACLE FLOOR BOX (IM# 15-0006414)
E-1322 PROVIDE A KEY-LOCKED CONTROLLER FOR GARAGE DOOR.



1/2" = 1'-0"

2



1/8" = 1'-0"

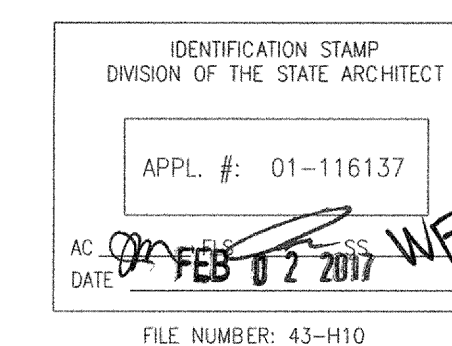
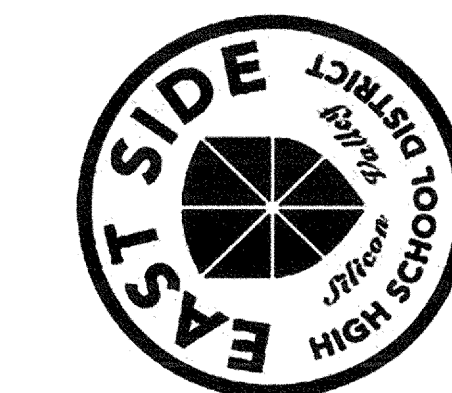
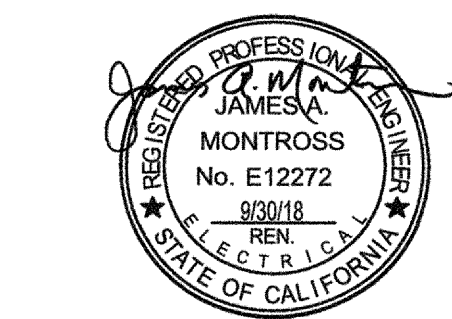
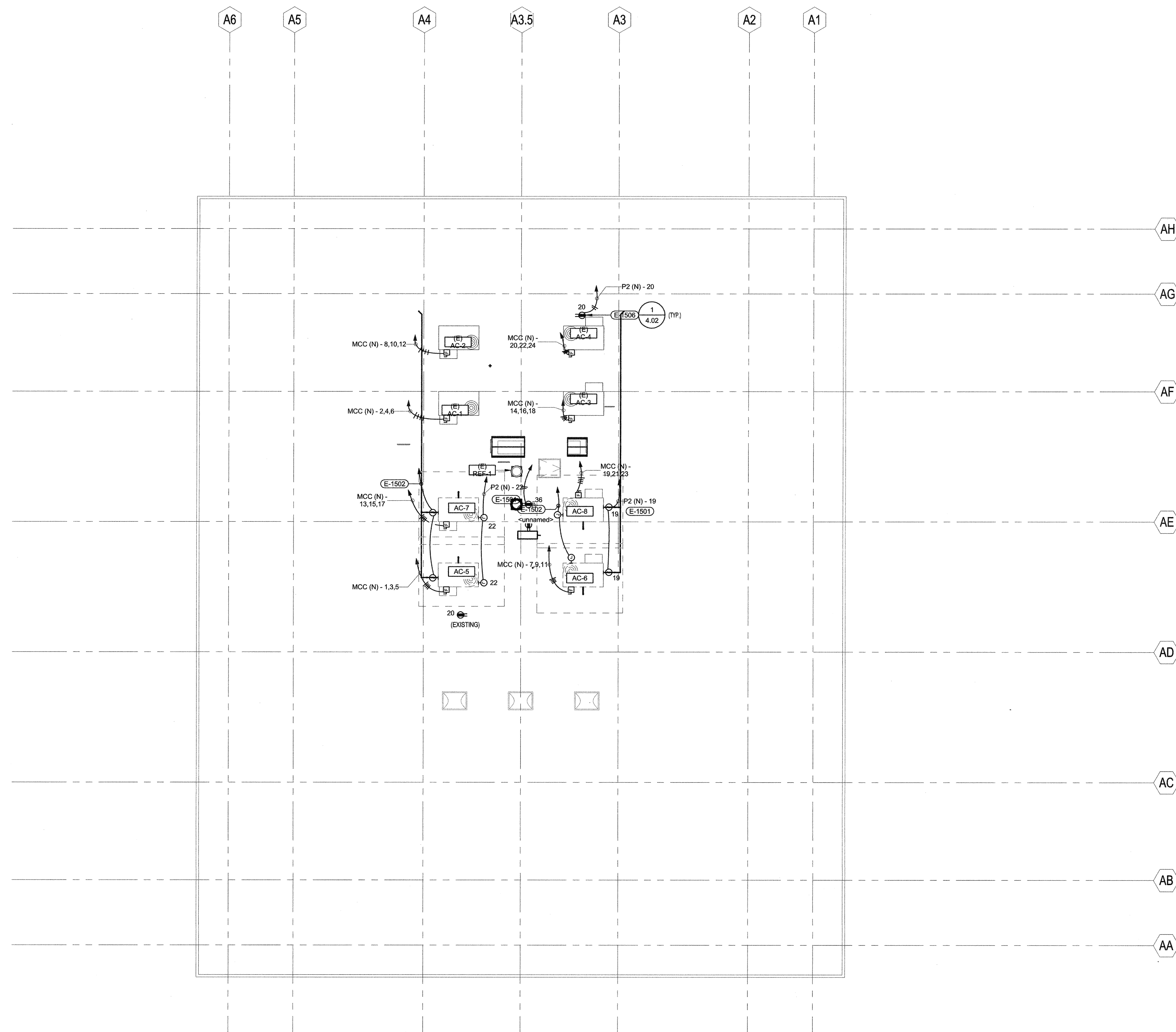
1

E-1501 USE EXISTING CONDUIT TO CONNECT CIRCUIT TO CONTROL POWER AT PANEL
VERIFY EXACT LOCATION WITH MECHANICAL DRAWINGS.

E-1502 PROVIDE 3/4" C.O. WITH PULL STRINGS TO EMS PANEL FOR CONTROL CIRCUIT.
CONCEAL CONDUIT BELOW ROOF AND STUB UP AT EQUIPMENT/EMS PANEL.

E-1506 EXISTING RECEPTACLE TO REMAIN IN SERVICE WP RECEPTACLE.

26 - ROOFTOP PACKAGED GAS-HEAT UNIT SCHEDULE							
TAG	UNIT		ELECTRICAL			DISCON NECT	CONDUIT T/WIRE
	MODEL NO.	VOLT.	PHAS E	MC A	MOCp		
AC-5	48LCL05GA2AG-0A0A0	480 V	3	13 A	15 A		
AC-6	48LCL05GA2AG-0A0A0	480 V	3	13 A	15 A		
AC-7	48LCL05GA2AG-0A0A0	480 V	3	12 A	15 A		
AC-8	48LCL05GA2AG-0A0A0	480 V	3	12 A	15 A		



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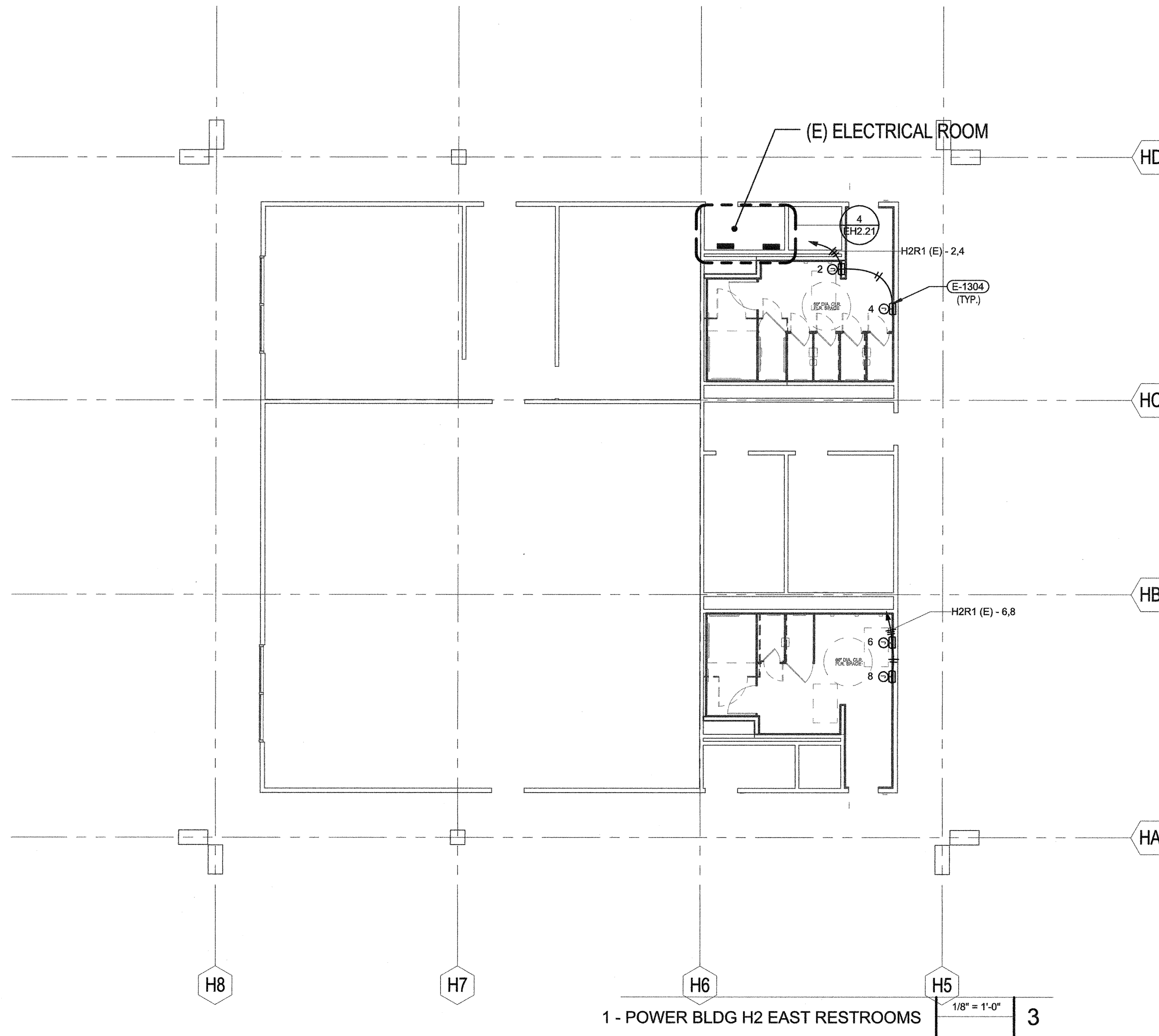
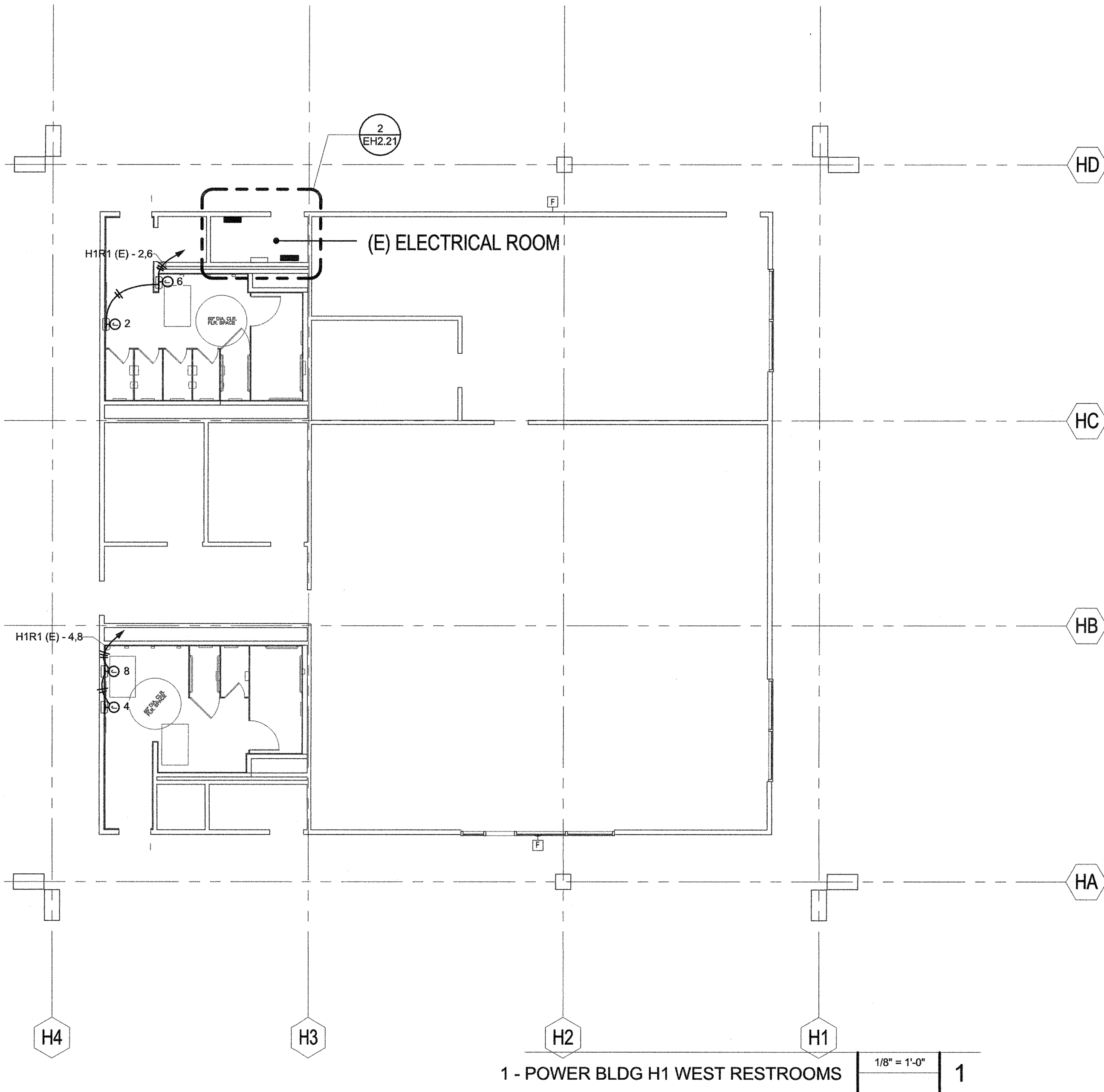
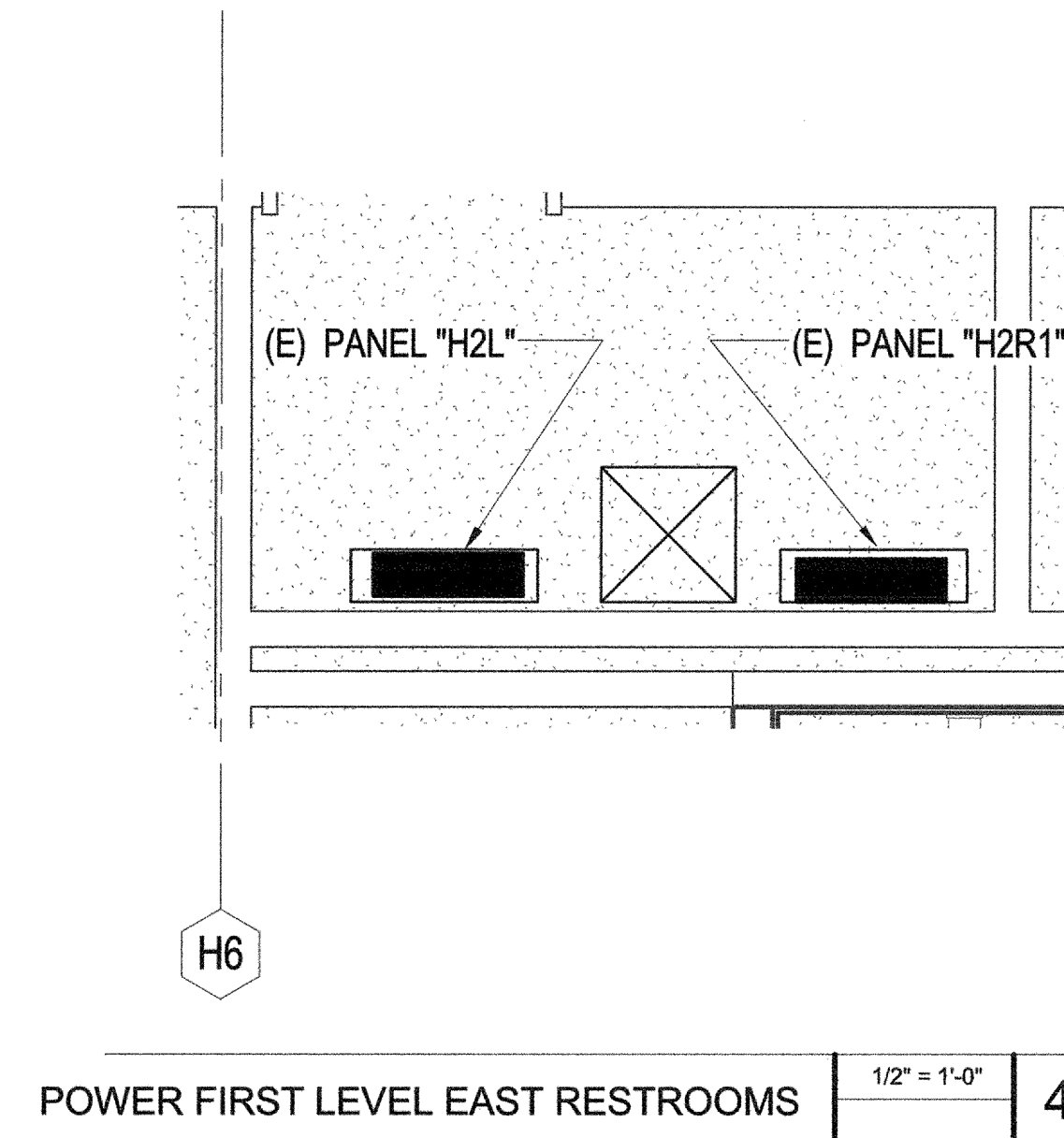
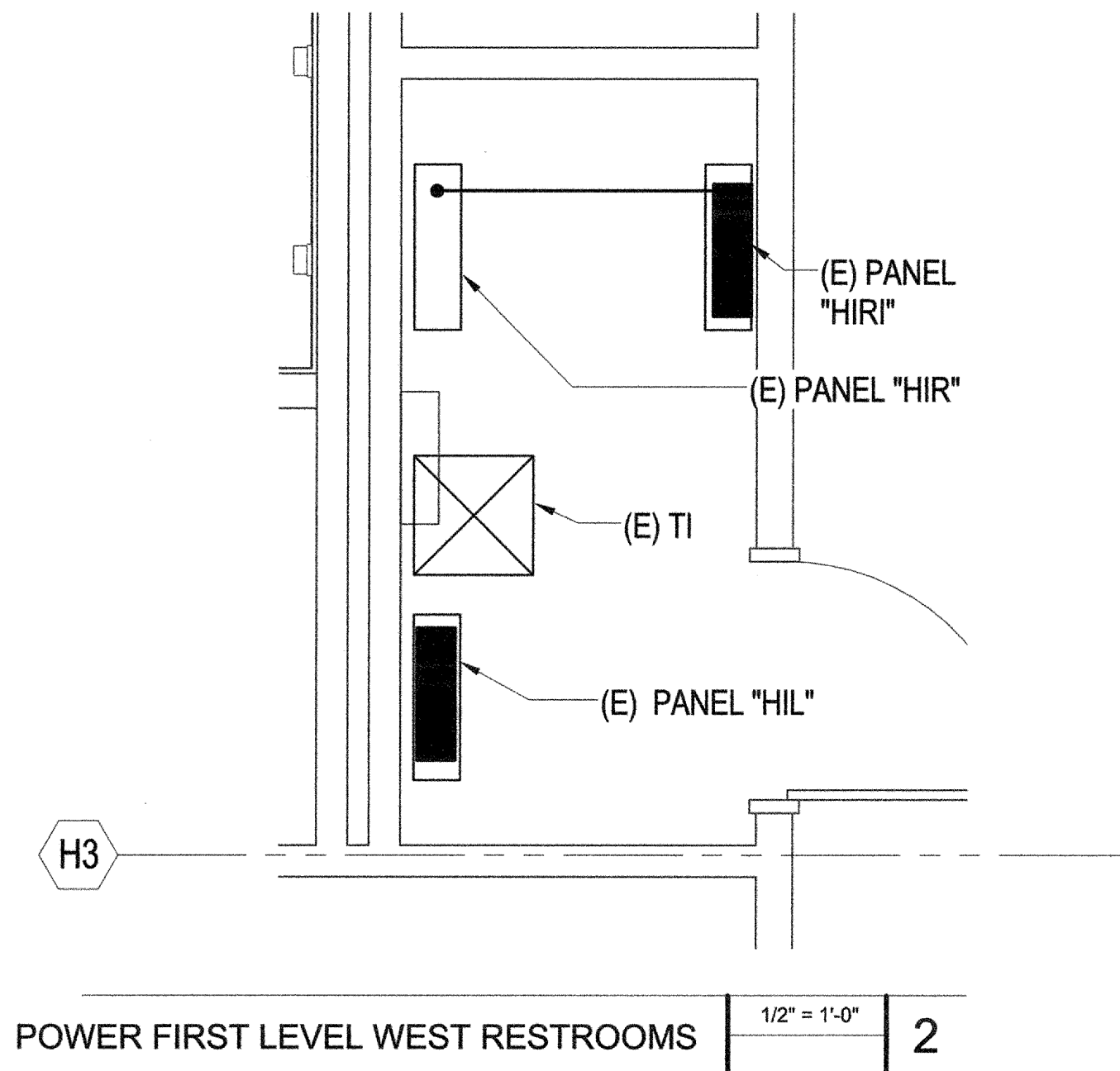
Developed for
East Side Union High School District

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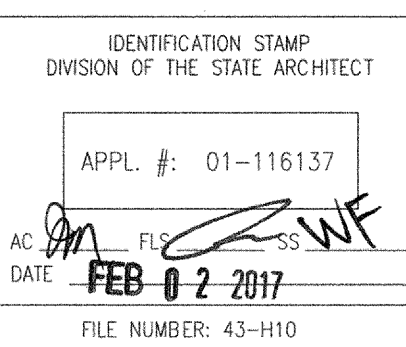


GENERAL NOTES

RE-INSTALL SALVAGED EXISTING FA DEVICES AT SAME LOCATION. TEST WORKING CONDITION.

KEYNOTES

E-1304 PROVIDE JUNCTION BOX FOR HAND DRYER.



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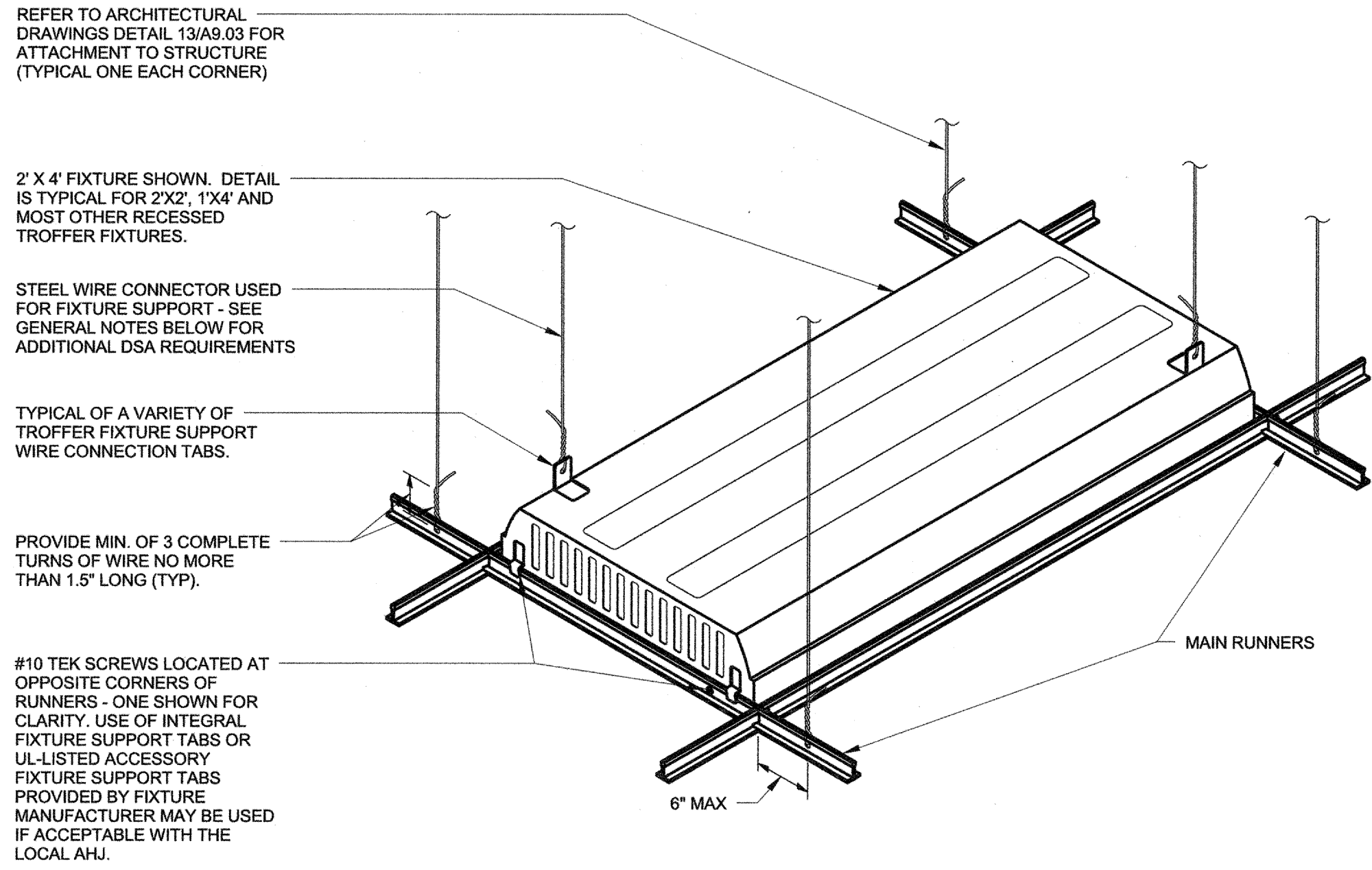
The architect and engineer shall be responsible for the design and construction of the project. The architect shall be responsible for the design and construction of the building and site improvements. The engineer shall be responsible for the design and construction of the mechanical, electrical, and plumbing systems. The architect and engineer shall be responsible for the design and construction of the project in accordance with the applicable codes and standards. The architect and engineer shall be responsible for the design and construction of the project in accordance with the applicable codes and standards. The architect and engineer shall be responsible for the design and construction of the project in accordance with the applicable codes and standards.

Revision	Date

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Checked by
Scale As indicated

POWER PLAN - BLDG.
H1, H2 RESTROOMS



GENERAL NOTES:

1. INSTALLATION SHALL COMPLY WITH LATEST PUBLISHED EDITION OF THE "INTERPRETATION OR REGULATION MANUAL" IR 25-5 AS ISSUED BY THE DIVISION OF THE STATE ARCHITECT.
2. ATTACHMENT TO CEILING / STRUCTURE SHALL NOT AFFECT ASSEMBLY RATING.
3. FIXTURES @ LESS THAN 56 LBS: INSTALL 2#12 GA. SAFETY WIRES (SLACK), ONE ON EACH END OF FIXTURE DIAGONALLY OPPOSED AND CONNECTED TO STRUCTURE ABOVE.
4. FIXTURES @ 56 LBS OR GREATER: INSTALL 4#12 GA SUPPORT WIRES (TAUT), ONE ON EACH CORNER OF FIXTURE CONNECTED TO STRUCTURE. WIRES SHALL SUPPORT (4) TIMES THE WEIGHT OF THE FIXTURE.
5. FIXTURES @ LESS THAN 56 LBS AND 4'x4' MIN IN SIZE: INSTALL 4#12 GA. SAFETY WIRES (SLACK) AT EACH CORNER OF THE FIXTURE.

FIXTURE SUPPORT

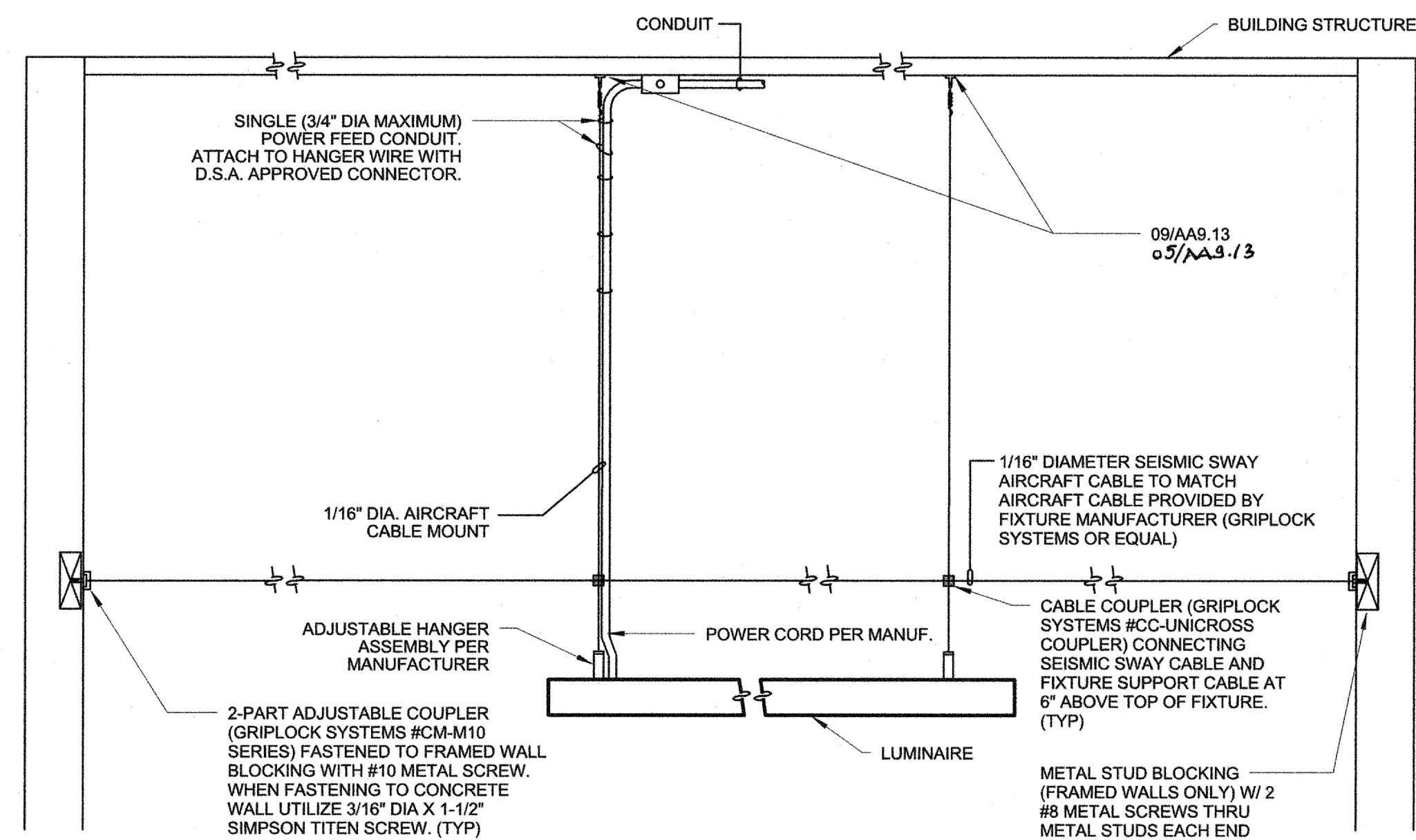
1" = 1'-0" 6

NOTES:

1. PROVIDE ALL COMPONENTS NECESSARY AND APPROVED FOR A COMPLETE CODE-COMPLIANT AIRCRAFT CABLE SEISMIC BRACING SYSTEM TO LIMIT MOVEMENT OF CABLE HUNG FIXTURES. CABLE BRACING SYSTEM SHALL NOT BE DRAWN TAUT TO AVOID DAMAGING THE BRACING SYSTEM DURING WALL MOVEMENT CAUSED BY EARTHQUAKES. ADJUST TENSION PER BRACING SYSTEM MFR RECOMMENDATIONS.
2. SUSPENSION SYSTEMS FOR LIGHT FIXTURES WHICH HAVE PASSED SHAKING TABLE TESTS APPROVED BY D.S.A. OR WHICH, AS INSTALLED, ARE FREE TO SWING A MINIMUM OF 45° FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS SHALL BE ASSUMED TO COMPLY WITH THE LATERAL FORCE REQUIREMENTS OF 2007 C.B.C. SECTION 1614A & CHAPTER 13, ASCE 7-05. UNLESS THE CABLE-TYPE, FREE-SWINGING SUSPENSION SYSTEMS SHALL HAVE A SAFETY WIRE OR CABLE ATTACHED TO THE FIXTURE AND STRUCTURE AT EACH SUPPORT CAPABLE OF SUPPORTING (4) FOUR TIMES THE SUPPORTED LOAD MINIMUM.
3. SUPPORT TYPICAL FOR FEED & NON FEED POINT (WITHOUT J-BOX AND FLEX)
4. SHOULD A CONFLICT OCCUR BETWEEN FIXTURE SUPPORT DETAIL AND HVAC DUCT ROUTING, EC SHALL INCLUDE ALL COSTS IN BASE BID TO PROVIDE A UNISTRUT "TRAPEZE" WITH 3/8" DIA THREADED ROD HANGERS AROUND THE HVAC DUCT OR OTHER OBSTRUCTION. TRAPEZE SHALL BE SUBMITTED TO PROJECT STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OR OF ORDERING TRAPEZE MATERIAL.

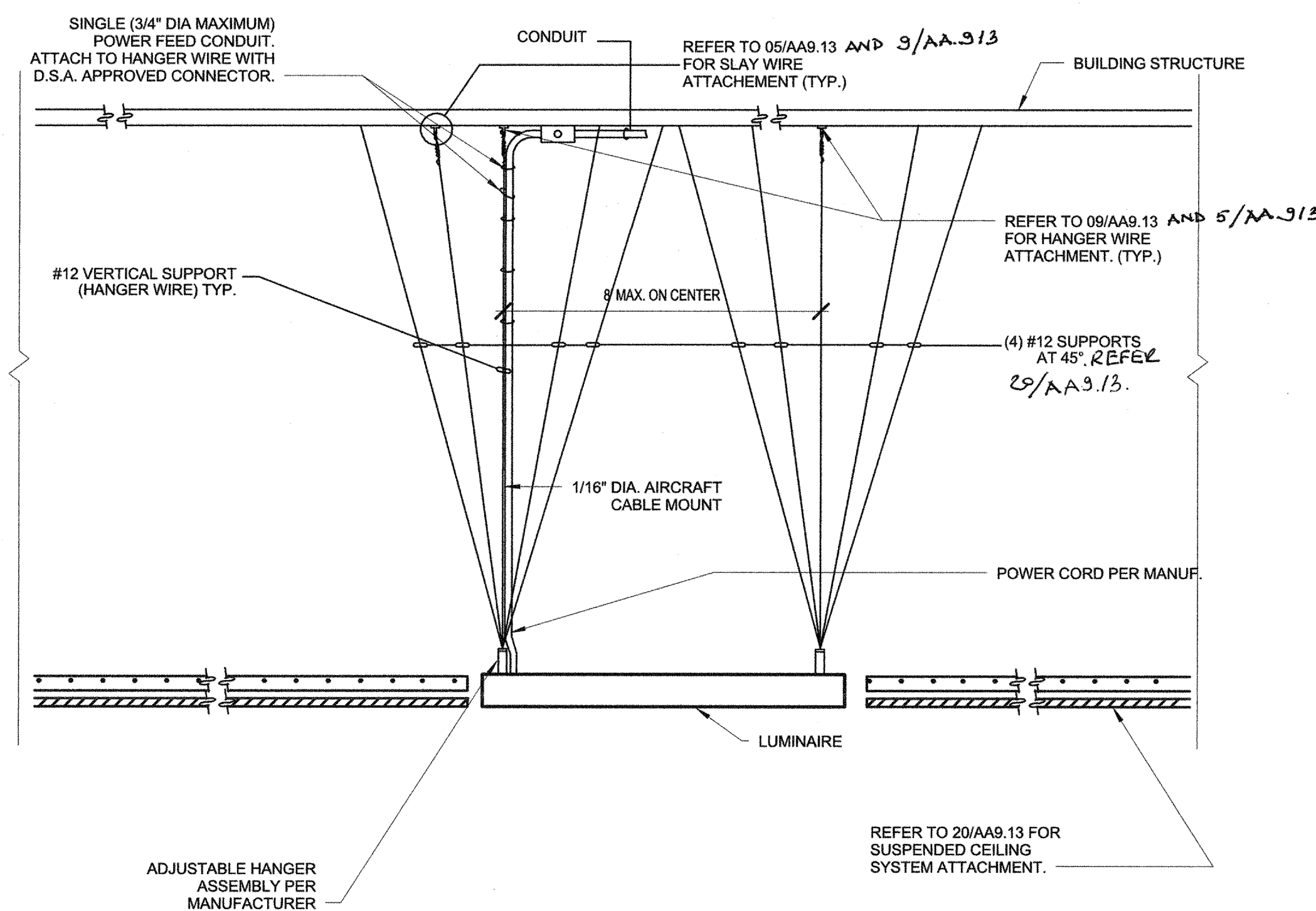
NOTES:

1. PROVIDE ALL COMPONENTS NECESSARY AND APPROVED FOR A COMPLETE CODE-COMPLIANT AIRCRAFT CABLE SEISMIC BRACING SYSTEM TO LIMIT MOVEMENT OF CABLE HUNG FIXTURES. CABLE BRACING SYSTEM SHALL NOT BE DRAWN TAUT TO AVOID DAMAGING THE BRACING SYSTEM DURING WALL MOVEMENT CAUSED BY EARTHQUAKES. ADJUST TENSION PER BRACING SYSTEM MFR RECOMMENDATIONS.
2. SUSPENSION SYSTEMS FOR LIGHT FIXTURES WHICH HAVE PASSED SHAKING TABLE TESTS APPROVED BY D.S.A. OR WHICH, AS INSTALLED, ARE FREE TO SWING A MINIMUM OF 45° FROM THE VERTICAL IN ALL DIRECTIONS WITHOUT CONTACTING OBSTRUCTIONS SHALL BE ASSUMED TO COMPLY WITH THE LATERAL FORCE REQUIREMENTS OF 2007 C.B.C. SECTION 1614A & CHAPTER 13, ASCE 7-05. UNLESS THE CABLE-TYPE, FREE-SWINGING SUSPENSION SYSTEMS SHALL HAVE A SAFETY WIRE OR CABLE ATTACHED TO THE FIXTURE AND STRUCTURE AT EACH SUPPORT CAPABLE OF SUPPORTING (4) FOUR TIMES THE SUPPORTED LOAD MINIMUM.
3. SUPPORT TYPICAL FOR FEED & NON FEED POINT (WITHOUT J-BOX AND FLEX)
4. SHOULD A CONFLICT OCCUR BETWEEN FIXTURE SUPPORT DETAIL AND HVAC DUCT ROUTING, EC SHALL INCLUDE ALL COSTS IN BASE BID TO PROVIDE A UNISTRUT "TRAPEZE" WITH 3/8" DIA THREADED ROD HANGERS AROUND THE HVAC DUCT OR OTHER OBSTRUCTION. TRAPEZE SHALL BE SUBMITTED TO PROJECT STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION OR OF ORDERING TRAPEZE MATERIAL.



CABLE MOUNTED FIXTURE AT EXPOSED DECK

N.T.S. 1

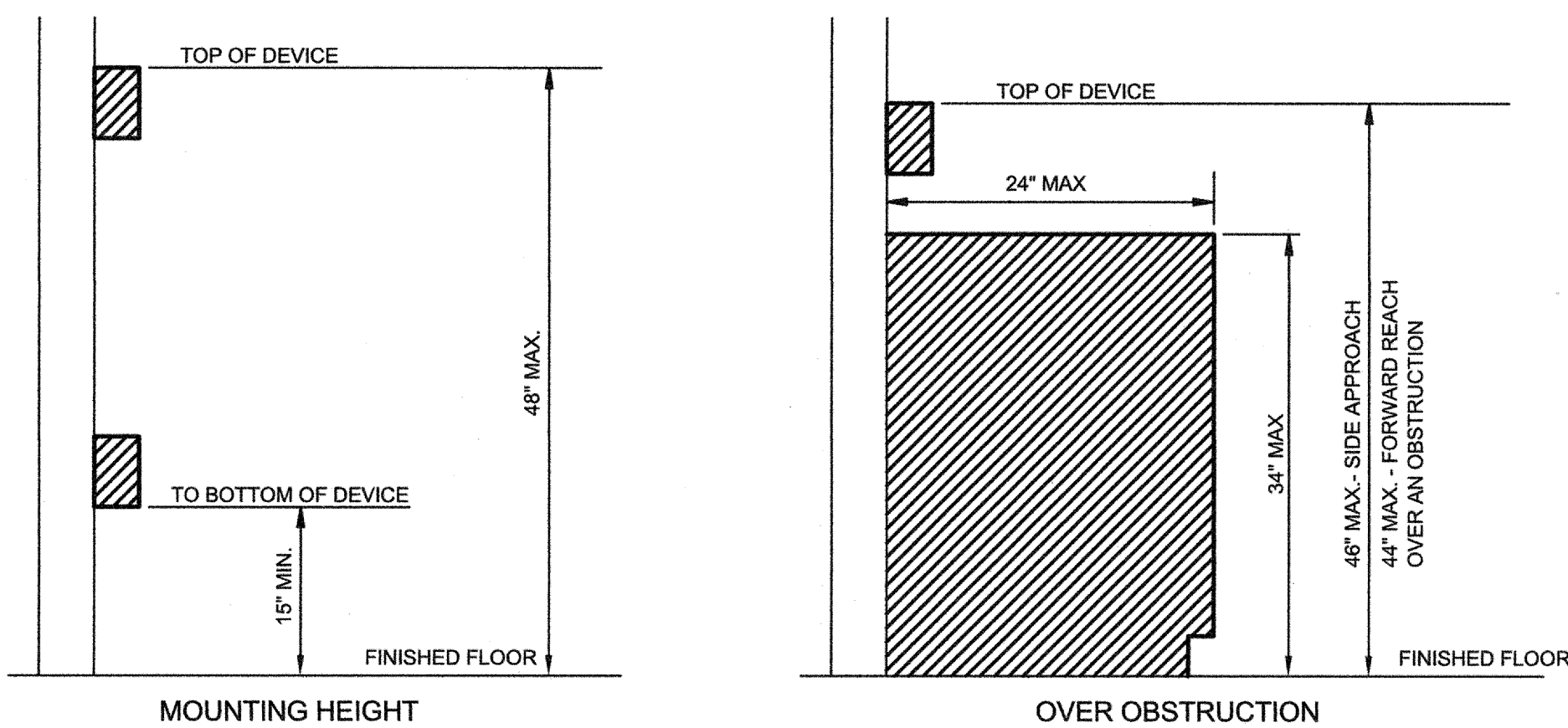


CABLE MOUNTED FIXTURE AT SUSPENDED CEILING PANEL

N.T.S. 2

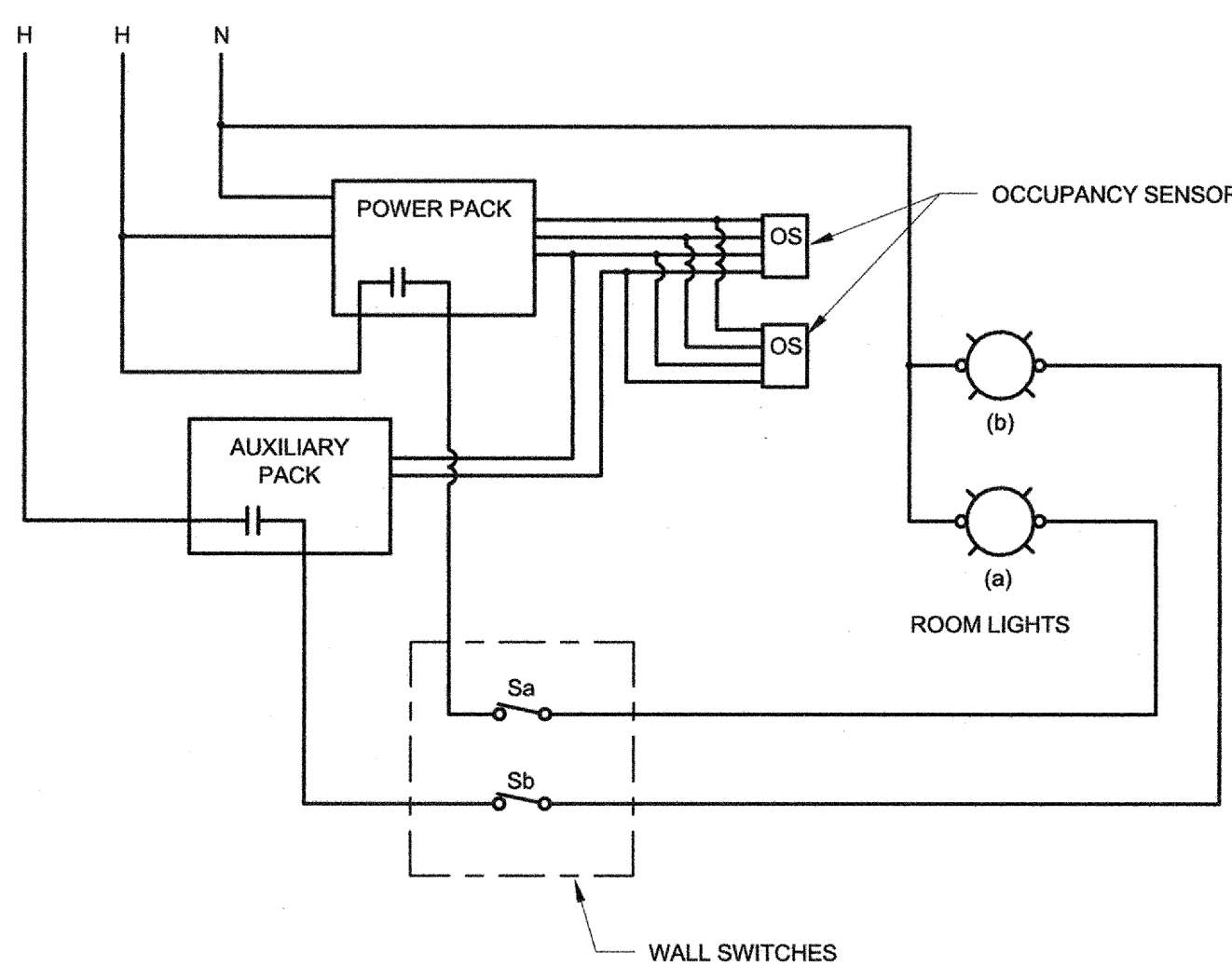
NOTES FOR DETAIL 1 & 2

1. PROVIDE CABLE SUPPORT @ 8'-0" O.C. MAX AND (2) MIN AT EN SEGMENT.
2. CONNECT EACH SEGMENT WITH A JOINER PER MFR.



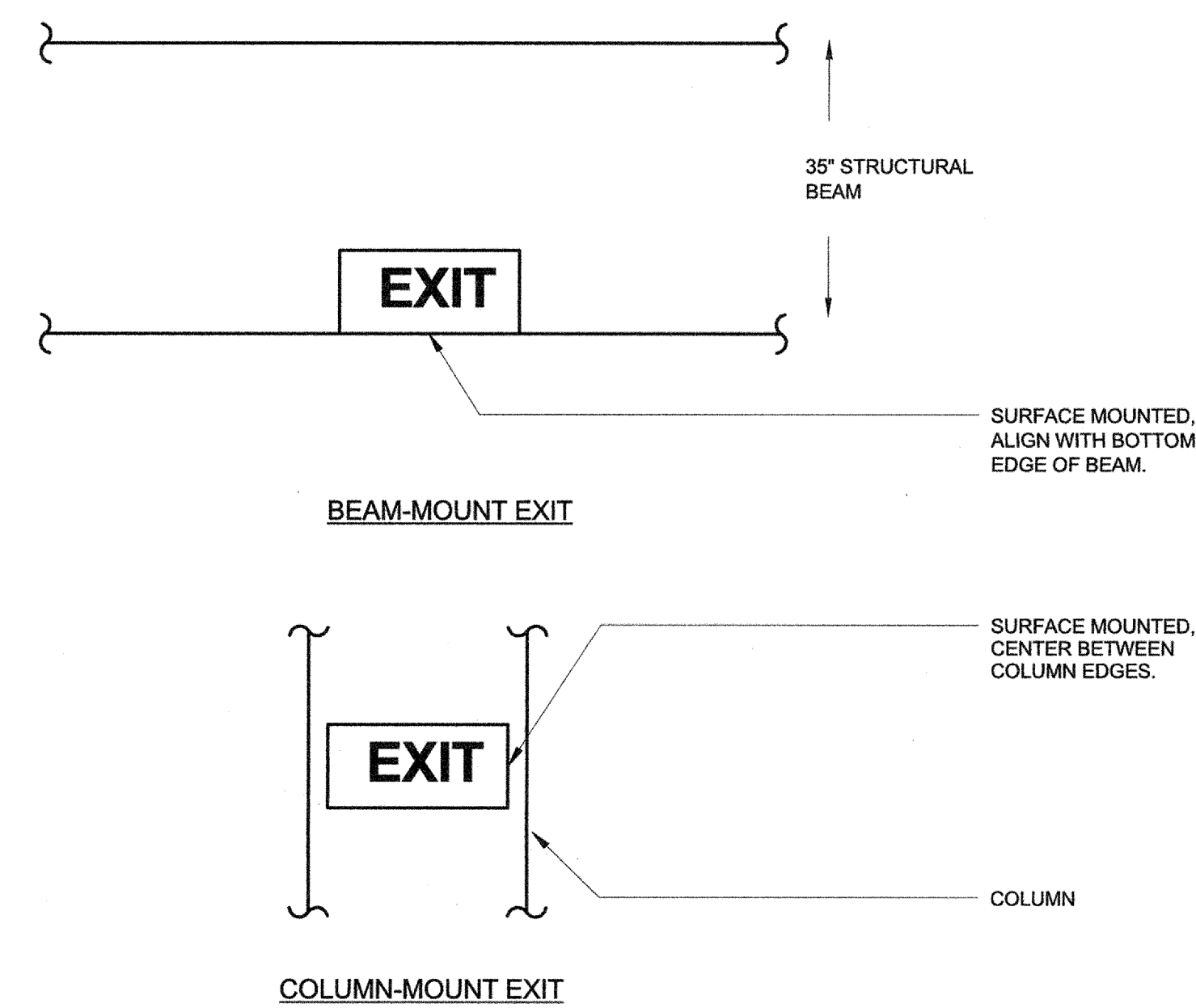
ADA DEVICE MOUNTING

12" = 1'-0" 5



DUAL CIRCUIT LIGHTING CONTROL DIAGRAM

1" = 1'-0" 4



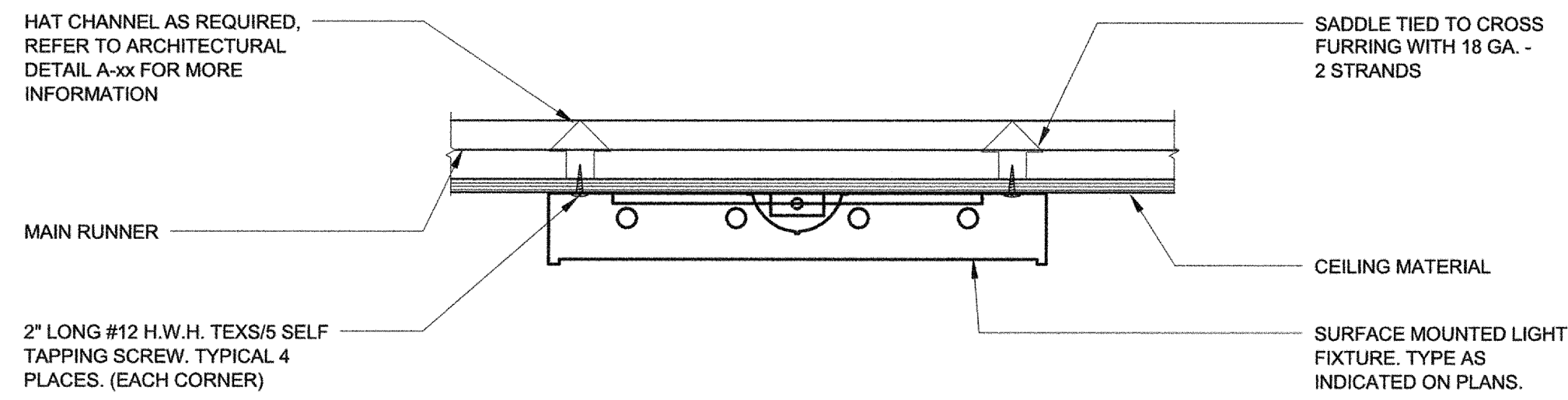
EXIT SIGN MOUNTING

1" = 1'-0" 3

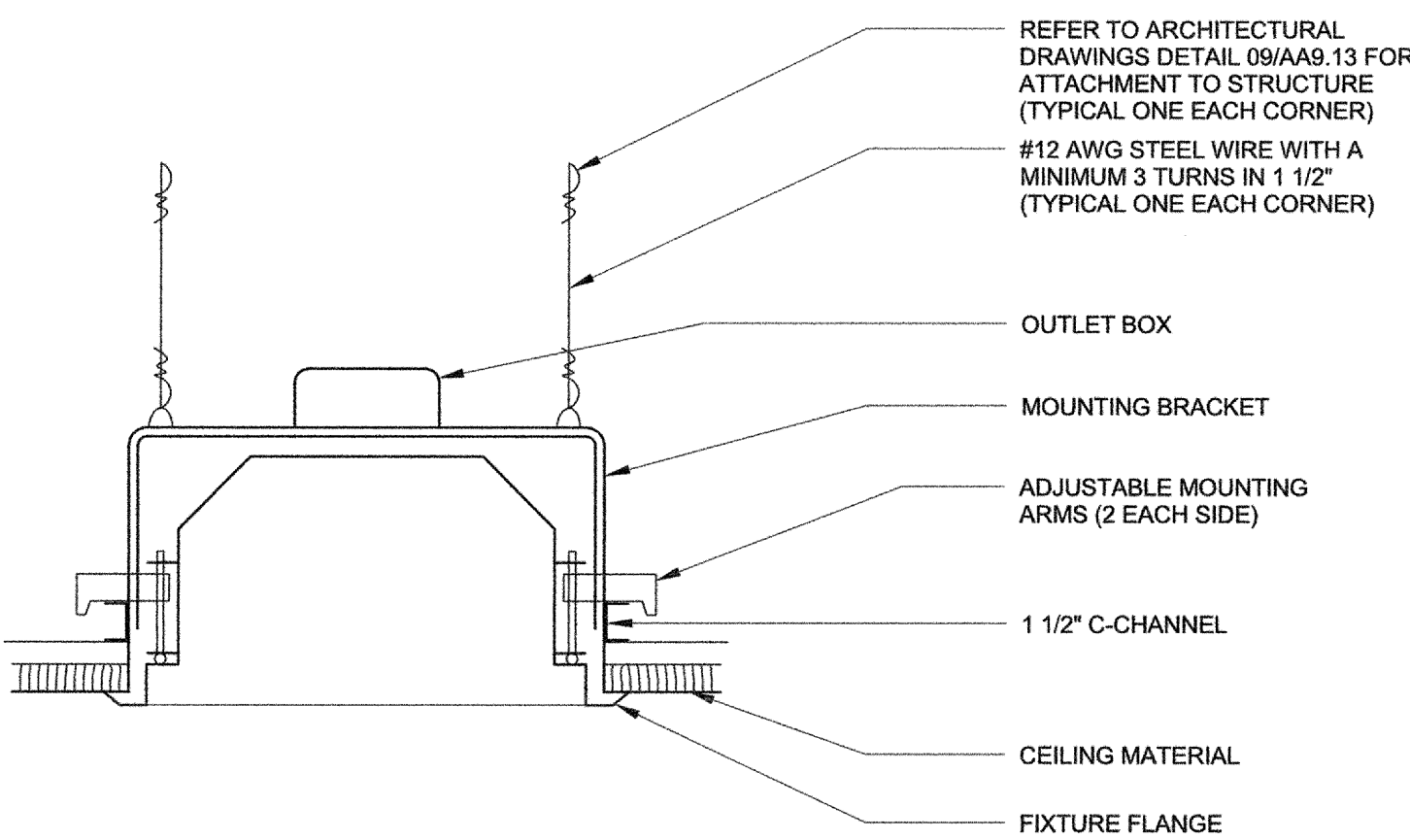
Revision	Date

Submittal	Date
100% SCHEMATIC DESIGN	3/14/2016
100% DESIGN DEVELOPMENT	5/10/2016
50% CD ESTIMATE	6/19/2016
85% CD ESTIMATE	7/22/2016
DSA SUBMITTAL	8/26/2016
BID SET	01/23/2017
DSA APPROVAL	02/02/2017

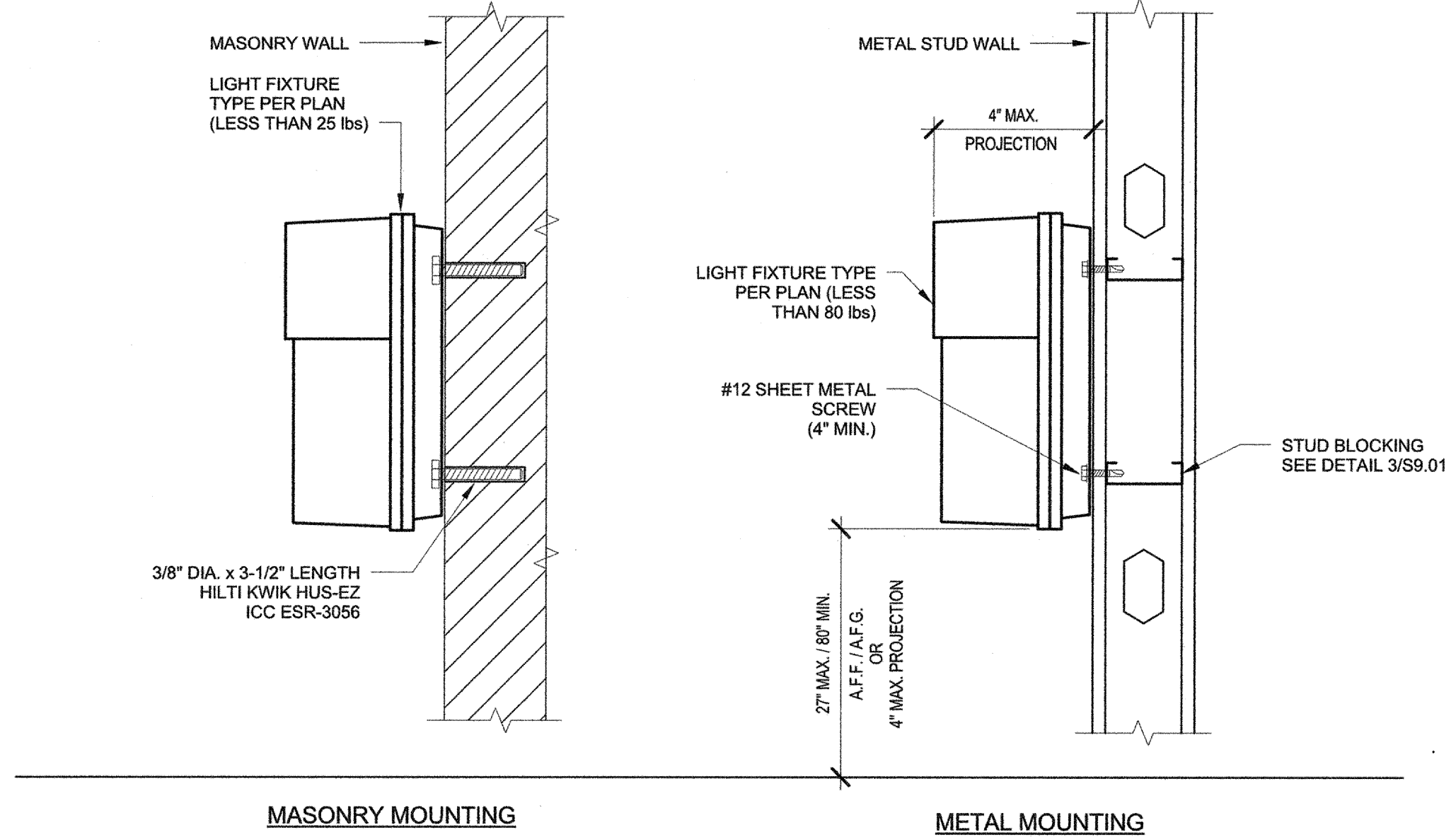
Job. No.	1524810
Date	02/02/2017
Checked by	Checker
Scale	As indicated



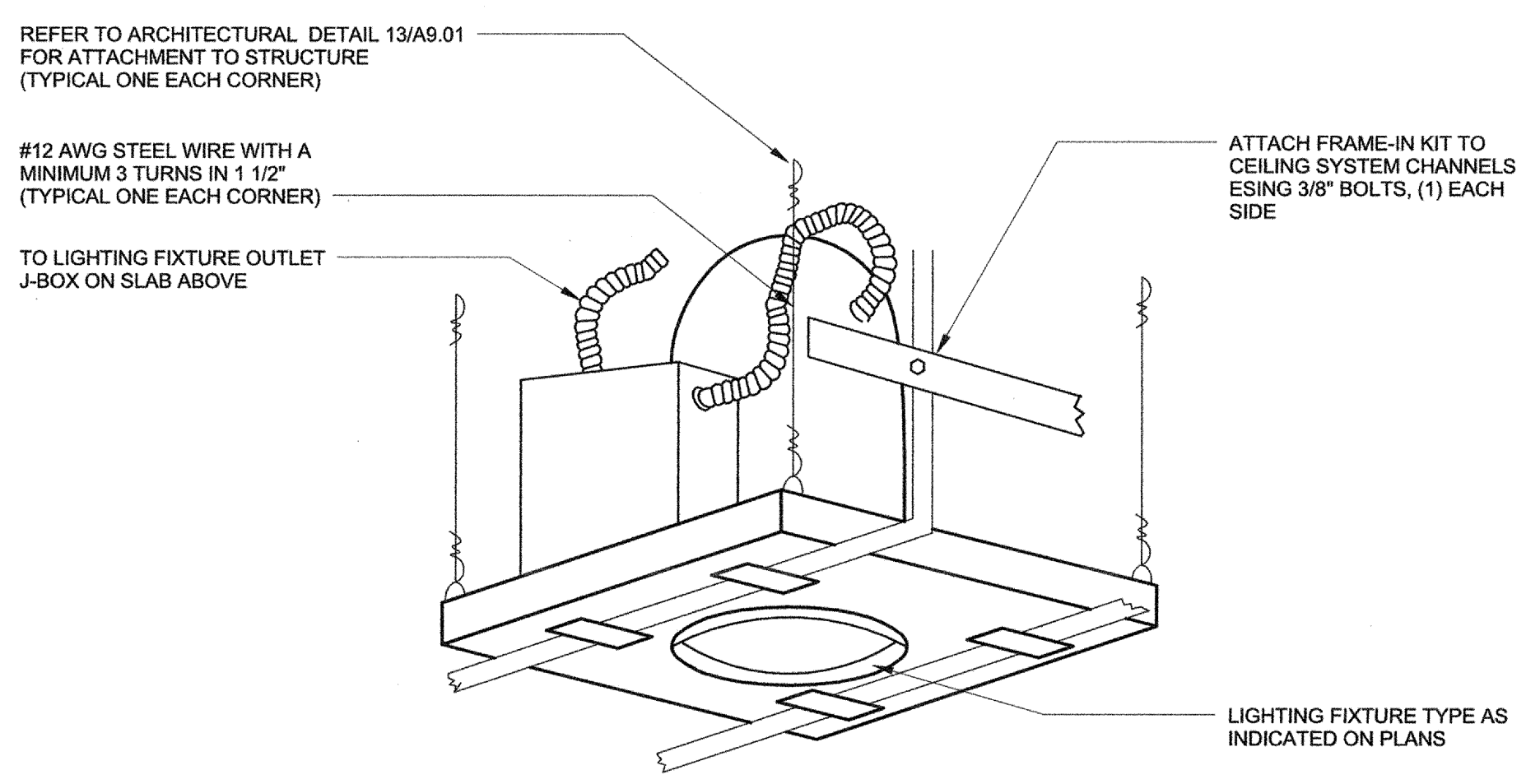
SURFACE MOUNTED LIGHT FIXTURE | 1" = 1'-0" | 5



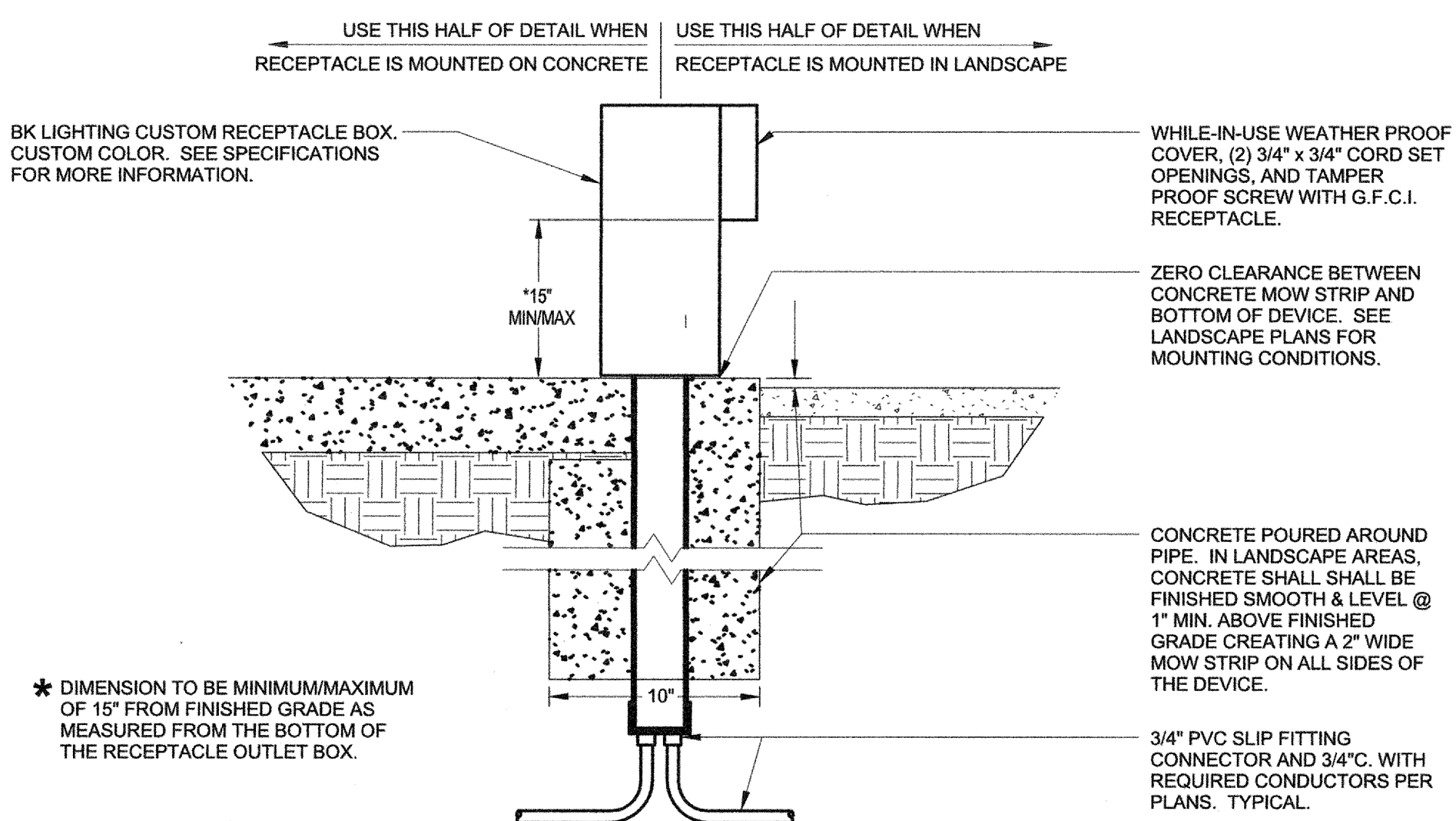
RECESSED MOUNTED FIXTURE - HARD CEILING | 1" = 1'-0" | 6



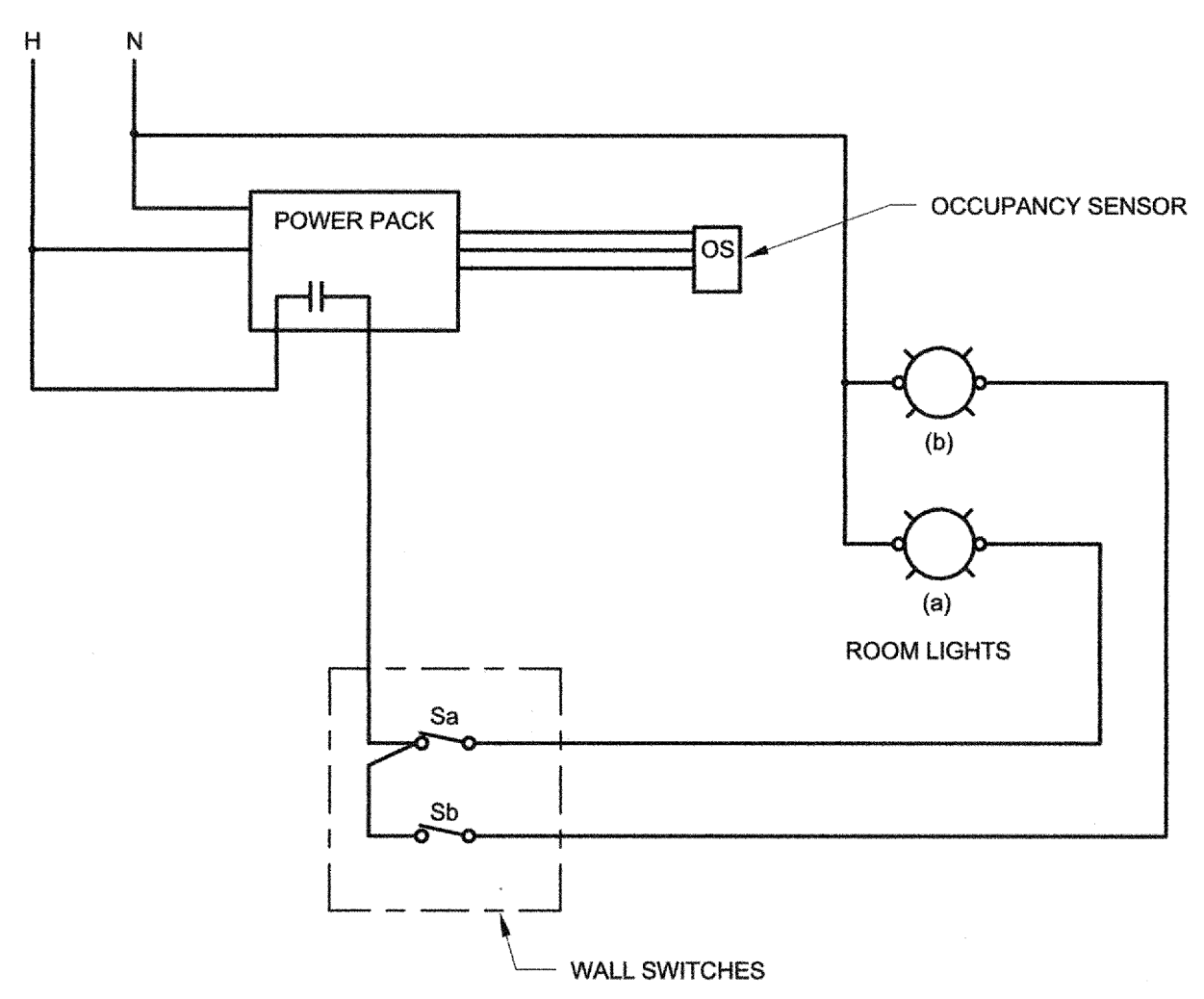
WALL MOUNTED LIGHT FIXTURE | 1" = 1'-0" | 4



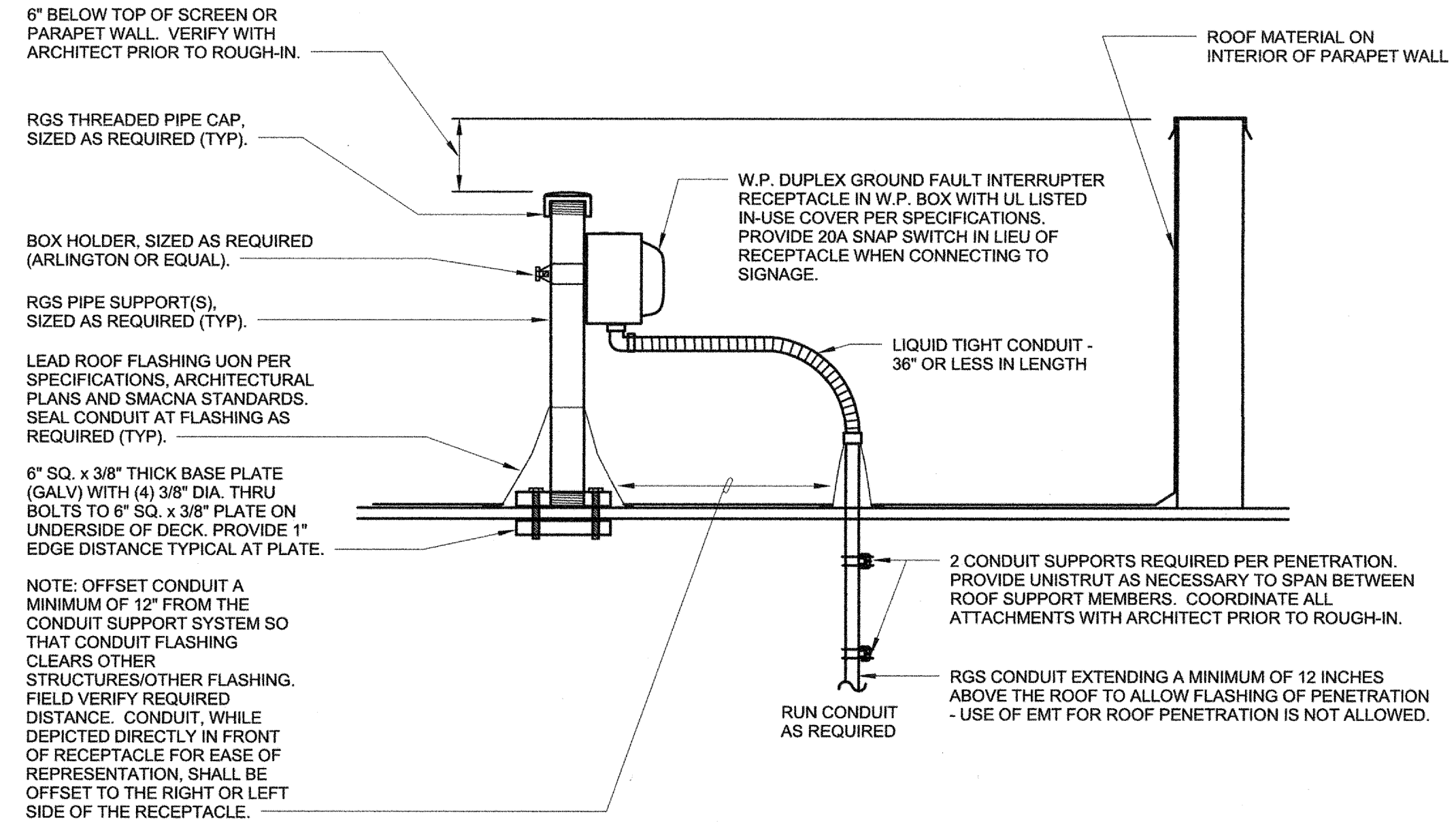
RECESSED MOUNTED DOWNLIGHT | 1" = 1'-0" | 3



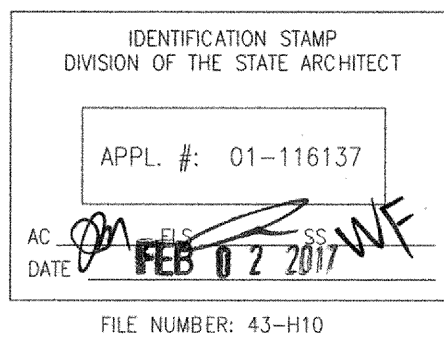
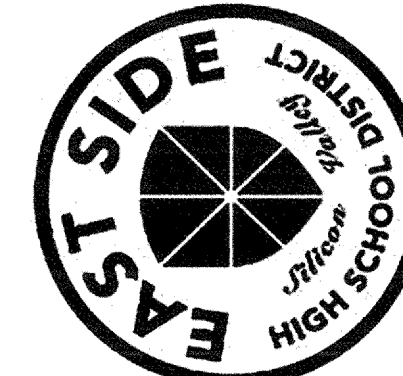
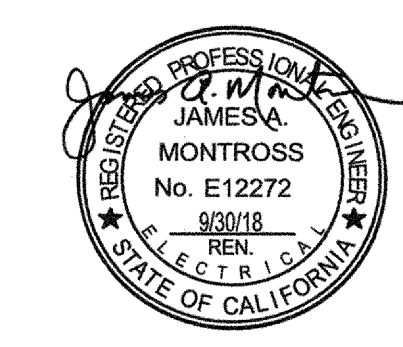
SITE POWER/DATA RECEPTACLE | 1" = 1'-0" | 10



SINGLE CIRCUIT LIGHTING CONTROL DIAGRAM | 1" = 1'-0" | 7



HOLIDAY / STAND ALONE / SIGN DISCONNECT SWITCH / RECEPTACLE MOUNTING DETAIL | N.T.S. | 1



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 285 Blossom Hill Road,
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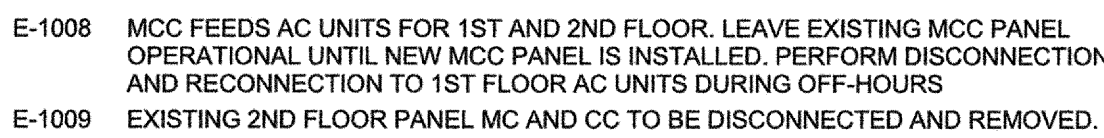
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Revision	Date

Submitted	Date
100% SCHEMATIC DESIGN	3/14/2016
100% DESIGN DEVELOPMENT	5/10/2016
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50% CD ESTIMATE	7/22/2016
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DSA APPROVAL	02/02/2017

Job No.	1524810
Date	02/02/2017
Checked by	Checker
Scale	N.T.S.

E-1008	MCC FEEDS AC UNITS FOR 1ST AND 2ND FLOOR. LEAVE EXISTING MCC PANEL OPERATIONAL UNTIL NEW MCC PANEL IS INSTALLED. PERFORM DISCONNECTION AND RECONNECTION TO 1ST FLOOR AC UNITS DURING OFF-HOURS
E-1009	EXISTING 2ND FLOOR PANEL MC AND CC TO BE DISCONNECTED AND REMOVED.



1. ALL EQUIPMENT TO BE SQUARED OR EQUAL BY SIEMENS, CUTLER-HAMMER, G.E. OR RSC-SIERRA.
2. ALL ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH SPECIFIED AND APPROPRIATE UL LISTING BASED ON THE ENVIRONMENT IN WHICH THE EQUIPMENT WILL BE USED.
3. ALL ELECTRICAL EQUIPMENT SHALL BE PROVIDED WITH AND BRACED FOR REQUIRED FAULT CURRENT RATING BASED ON THEIR VOLTAGE AND LOCATION WITHIN THE SYSTEM. SHOP DRAWINGS TO INCLUDE FAULT CURRENT CALCULATIONS FOR ALL ELECTRICAL EQUIPMENT. NO SERIES RATING SHALL BE ALLOWED - UNLESS OTHERWISE NOTED, REFERENCED, OR INSTANCES.
4. IN SITUATIONS WHERE SERIES RATING IS PERMITTED, ALL SERIES RATED EQUIPMENT SHALL HAVE BEEN INVESTIGATED BY UL IN COMBINATION WITH THE END USER. EQUIPMENT AND ALL EQUIPMENT IN WHICH THESE DEVICES ARE USED, BE MARKED IN ACCORDANCE WITH NEC (EG - WHERE APPLIED) AND EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD TO INDICATE A SERIES COMBINATION RATING, WHICH SHALL BE READILY VISIBLE AND STATE THE FOLLOWING:

- CAUTION - SERIES COMBINATION SYSTEM RATED
85,000,000 AMPERES. USE ONLY IDENTIFIED
REPLACEMENT COMPONENTS.
- WHERE 85,000,000 AMPERES REPRESENTS REQUIRED SYSTEMS RATING, SEE
SPECIFICATIONS FOR PLACARD REQUIREMENTS.
5. ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75
DEGREE CELSIUS CONDUCTORS.
6. ELECTRICAL EQUIPMENT SUBMITTALS SHALL BE ACCOMPANIED BY A 1/4" = 1'-0"
SCALE DRAWING WHICH REFERENCES ALL ELECTRICAL EQUIPMENT AND
EQUIPMENT DRAWING. SUBMITTALS SHALL ALSO BE ACCOMPANIED BY PAGE B
PROVIDED IN ELECTRICAL ROOMS TO ACCOMMODATE THE INSTALLATION OF
EQUIPMENT. SUBMITTALS SHALL BE PROVIDED FOR ALL ELECTRICAL
EQUIPMENT. ALL SUBMITTALS NOT ACCOMPANIED BY SCALE DRAWING WILL
BE REJECTED AS INCOMPLETE.
7. GROUND ALL ELECTRICAL EQUIPMENT, BRANCH CIRCUITS, FEEDERS, PANEL
AND DISTRIBUTION BOARDS, ELECTRICAL SERVICES, ETC. PER ADOPTED NEC
ARTICLE 250.
8. FEEDER SPECIFICATIONS ARE BASED ON USE OF COPPER CONDUCTORS AND
SHALL BE PROVIDED WITH A CODE SIZED COPPER GROUNDING CONDUCTOR.
9. ALL MAIN SWITCHBOARDS, PANELBOARDS, DISTRIBUTION BOARDS, ETC.
SHALL BE PROVIDED WITH A COPPER BUSS RATED AT SPECIFIED AMPACITY.
ALL SWITCHBOARDS, DISTRIBUTION BOARDS SHALL ALSO BE PROVIDED WITH
PANELBOARDS SHALL BE PROVIDED WITH BOLT-ON BREAKERS, DEADFRONT
BREAKERS, OR DEADFRONT CIRCUIT BREAKERS. FACTORY INSTALLED MAIN CIRCUIT
BREAKERS (IF APPLICABLE), AND PANEL DIRECTORY PER THESE DOCUMENTS.
10. ALL ELECTRICAL EQUIPMENT (I.E. SWITCHGEAR, TRANSFORMERS,
DISTRIBUTION BOARDS, PANELBOARDS, DISCONNECT SWITCHES, ETC.) SHALL
BE PROVIDED WITH A PHENOLIC NAMEPLATE WITH ENGRAVED WHITE LETTERS
AND ALL OTHER INFORMATION REQUIRED BY THE MANUFACTURER.

NAMEPLATES SHALL BE SIZED BASED ON FOLLOWING.

SWITCHBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS
* LINE 1 = 1/2" LETTERS, LINES 2, 3, & 4 = 1/4" LETTERS

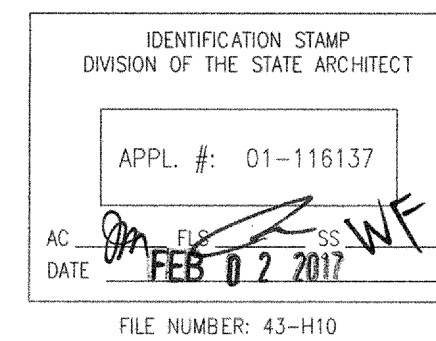
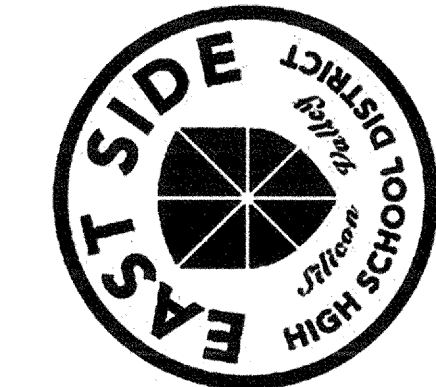
PANELBOARDS, MOTOR CONTROL CENTERS, DISCONNECTS, ETC:

NAMEPLATE COLORS SHALL BE AS FOLLOWS

BLACK = NORMAL POWER
RED = LIFE SAFETY/EMERGENCY POWER
BLUE = STANDBY POWER
GREEN = INVERTOR POWER

ALL NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) MACHINE SCREWS. NO SELF ADHESIVE NAMEPLATES ARE ALLOWED.

1. ELECTRICAL DESIGN COMPUTES VOLTAGE DROP BASED ON FEEDER LENGTHS REFERENCED ON SINGLE-LINE DIAGRAM. EC TO NOTIFY ENGINEER OF RECORD IN EVENT FIELD CONDITIONS CAUSE A SUBSTANTIAL INCREASE IN OVERALL FEEDER LENGTH.
2. ALL MOTOR RELATED CIRCUITS ARE TO BE PROVIDED WITH PROTECTIVE RELAYS FOR PHASE FAILURE AND UNDER-VOLTAGE.
3. ELECTRICAL CONTRACTOR TO INCLUDE IN BID ALL ASSOCIATED COSTS FOR THIRD PARTY TESTING OF ELECTRICAL EQUIPMENT, GROUND FAULT, CONDUCTORS, ETC..



OAK GROVE HIGH SCHOOL - LIBRARY REMODEL & SITE IMPROVEMENTS

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Developed for

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Submittal	Date
100% SCHEMATIC DESIGN	3/14/2016
100% DESIGN DEVELOPMENT	5/10/2016
50% CD ESTIMATE	6/9/2016
85% CD ESTIMATE	7/22/2016
DSA SUBMITTAL	8/26/2016
BID SET	01/25/2017
DSA APPROVAL	02/02/2017

Job. No.	152481
Date	02/02/201
Checked by	J
Scale	N.T.S

SINGLE LINE DIAGRAM AND LOAD/FEEDER SCHEDULE

E5.00

Branch Panel: H2R1 (E)

Location: ELEC 16
Supply From: Mounting: SURFACE Enclosure: NEMA1
Volts: 120/208V
Phases: 3
Wires: 4
A.I.C. Rating: Mains Type: Bus Rating: MCB Rating:

Notes:

CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT
1	(E) CKT	20 A	1	1000 VA	2300 VA		1	30 A	(E) Hand Dryer GIRLS' RR 12	2
3	(E) CKT	20 A	1	30 A	(E) Hand Dryer GIRLS' RR 12		1	30 A	(E) Hand Dryer GIRLS' RR 12	4
5	(E) CKT	20 A	1	30 A	(E) Hand Dryer BOYS' RR 15		1	30 A	(E) Hand Dryer BOYS' RR 15	6
7	(E) LAVATORY	20 A	1	360 VA	2300 VA		1	30 A	(E) Hand Dryer BOYS' RR 15	8
9	(E) LAVATORY	20 A	1						Space	10
11	Space	20 A	1						Space	12
13	Space	--	--	0 VA	0 VA				Space	14
15	Space	--	--		0 VA	0 VA			Space	16
17	Space	--	--	0 VA	0 VA				Space	18
19	Space	--	--	0 VA	0 VA				Space	20
21	Space	--	--		0 VA	0 VA			Space	22
23	Space	--	--			0 VA	0 VA		Space	24
25	Space	--	--	0 VA	0 VA				Space	26
27	Space	--	--			0 VA	0 VA		Space	28
29	Space	--	--			0 VA	0 VA		Space	30
31	Space	--	--	0 VA	0 VA				Space	32
33	Space	--	--			0 VA	0 VA		Space	34
35	Space	--	--			0 VA	0 VA		Space	36
37	Space	--	--	0 VA	0 VA				Space	38
39	Space	--	--			0 VA	0 VA		Space	40
41	Space	--	--			0 VA	0 VA		Space	42
Total...				5960 VA	3660 VA	3300 VA				
Total...				50 A	31 A	28 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 12920 VA
				Total Est. Demand: 12920 VA
				Total Conn. Current: 36 A
				Total Est. Demand... 36 A

Notes:

Branch Panel: CR2 (E)

Location: Mounting: SURFACE Enclosure: NEMA1
Volts: 120/208V
Phases: 3
Wires: 4
A.I.C. Rating: Mains Type: Bus Rating: MCB Rating:

Notes:

CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT	
1	RECEPTACLES-FOOD LAB (E)	20A	1	180 VA	180 VA		1	20A	DISHWASHER (E)	2	
3	RECEPTACLES-FOOD LAB (E)	20A	1		180 VA	180 VA	1	20A	DISPOSAL & RECEPTACLES (E)	4	
5	RECEPTACLES-FOOD LAB (E)	20A	1			180 VA	180 VA	1	RECEPTACLES (E)	6	
7	RECEPTACLES-FOOD LAB (E)	20A	1	180 VA	180 VA		1	20A	COOK TOP	8	
9	RECEPTACLES-FOOD LAB (E)	20A	1					1	20A	COOK TOP	10
11	IRRIGATION CONTROLLER ⅆ (N)	20A	1			200 VA	0 VA	1	20A	Space	12
13	RANGE (E)	50A	1	180 VA	0 VA			1	20A	Space	14
15	RANGE (E)	50A	1		180 VA	180 VA		1	20A	2-1/8 HP EXHAUST FANS	16
17	RANGE (E)	50A	1			180 VA	180 VA	1	50A	RANGE (E)	18
19	RANGE (E)	50A	1	180 VA	180 VA			1	50A	RANGE (E)	20
21	RANGE (E)	50A	1		180 VA	180 VA		1	50A	RANGE (E)	22
23	RANGE (E)	50A	1			180 VA	180 VA	1	50A	RANGE (E)	24
25	RANGE (E)	50A	1	180 VA	180 VA			1	50A	RANGE (E)	26
27	RANGE (E)	50A	1		180 VA	180 VA		1	50A	RANGE (E)	28
29	Space	--	--				0 VA	0 VA	--	Space	30
31	Space	--	--	0 VA	0 VA			--	Space	32	
33	Space	--	--		0 VA	0 VA		--	Space	34	
35	Space	--	--			0 VA	0 VA	--	Space	36	
37	Space	--	--	0 VA	0 VA			--	Space	38	
39	Space	--	--		0 VA	0 VA		--	Space	40	
41	Space	--	--				0 VA	0 VA	--	Space	42
Total...				1620 VA	1800 VA	1280 VA					
Total...				14 A	15 A	11 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 4700 VA
				Total Est. Demand: 4700 VA
				Total Conn. Current: 13 A
				Total Est. Demand... 13 A

Notes:

Branch Panel: FR2 (E)

Location: Mounting: SURFACE Enclosure: NEMA1
Volts: 120/208V
Phases: 3
Wires: 4
A.I.C. Rating: Mains Type: Bus Rating: MCB Rating:

Notes:

CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT
1	RECEPTACLE-BIOLOGY (E)	20 A	1	180 VA	180 VA		1	20 A	RECEPTACLE GENERAL SCIENCE (E)	2
3	RECEPTACLE-BIOLOGY (E)	20 A	1		180 VA	180 VA	1	20 A	RECEPTACLE GENERAL SCIENCE (E)	4
5	J BOXES-BIOLOGY (E)	20 A	1			180 VA	180 VA	1	J BOXES-GENERAL SCIENCE (E)	6
7	J BOXES-BIOLOGY (E)	20 A	1	180 VA	180 VA		1	20 A	J BOXES-GENERAL SCIENCE (E)	8
9	J BOXES-BIOLOGY (E)	20 A	1		180 VA	180 VA	1	20 A	J BOXES-GENERAL SCIENCE (E)	10
11	1/4 ID FAN & 1/12 IP CIRCUIT PUMP (E)	20 A	1			180 VA	180 VA	1	J BOXES-GENERAL SCIENCE (E)	12
13	RECEPTACLE-GENERAL SCIENCE (E)	20 A	1	180 VA	180 VA		1	20 A	J BOXES-GENERAL SCIENCE (E)	14
15	RECEPTACLE-GENERAL SCIENCE (E)	20 A	1		180 VA	180 VA	1	20 A	J BOXES-PHYSICS (E)	16
17	J BOXES-GENERAL SCIENCE (E)	20 A	1			180 VA	180 VA	1	J BOXES-PHYSICS (E)	18
19	J BOXES-GENERAL SCIENCE (E)	20 A	1	180 VA	180 VA		1	20 A	J BOXES-PHYSICS (E)	20
21	J BOXES-GENERAL SCIENCE (E)	20 A	1		180 VA	180 VA	1	20 A	RECEPTACLE- PHYSICS (E)	22
23	J BOXES-GENERAL SCIENCE (E)	20 A	1			180 VA	180 VA	1	RECEPTACLE- PHYSICS (E)	24
25	J BOXES-GENERAL SCIENCE (E)	20 A	1	180 VA	180 VA		1	20 A	ELECTRICAL EQUIPMENT ROOM (E)	26
27	IRRIGATION CONTROLLER (N)	20 A	1		200 VA	0 VA	1	20 A	Space	28
29	Space	--	--			0 VA	0 VA	--	Space	30
31	Space	--	--	0 VA	0 VA			--	Space	32
33	Space	--	--		0 VA	0 VA		--	Space	34
35	Space	--	--			0 VA	0 VA	--	Space	36
37	Space	--	--	0 VA	0 VA			--	Space	38
39	Space	--	--		0 VA	0 VA		--	Space	40
41	Space	--	--			0 VA	0 VA	--	Space	42
Total...				1800 VA	1640 VA	1440 VA				
Total...				15 A	14 A	12 A				

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 4880 VA
				Total Est. Demand: 4880 VA
				Total Conn. Current: 14 A
				Total Est. Demand... 14 A

Notes:

Branch Panel: CL (E)

Location: Mounting: SURFACE Enclosure: NEMA 1
Volts: 277/480V
Phases: 3
Wires: 4
A.I.C. Rating: Mains Type: Bus Rating: MCB Rating:

Notes:

CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT	
1	Lighting Classrooms (E)	20 A	1	500 VA	500 VA		1	20 A	Lighting Classrooms (E)	2	
3	Lighting Classrooms (E)	20 A	1		500 VA	500 VA		1	20 A	Lighting Classrooms (E)	4
5	Lighting Classrooms (E)	20 A	1			500 VA	500 VA	1	20 A	Lighting Classrooms (E)	6
7	Lighting Classrooms (E)	20 A	1	500 VA	500 VA			1	20 A	Lighting Classrooms (E)	8
9	Lighting Classrooms (E)	20 A	1		500 VA	500 VA		1	20 A	Lighting Classrooms (E)	10
11	Lighting Classrooms (E)	20 A	1			500 VA	500 VA	1	20 A	Lighting Classrooms (E)	12
13	Lighting Classrooms (E)	20 A	1	500 VA	500 VA			1	20 A	Lighting Corridor (E)	14
15	Lighting Classrooms (E)	20 A	1		500 VA	500 VA		1	20 A	Lighting Exterior (E)	16
17	Lighting Classrooms (E)	20 A	1			500 VA	0 VA	1	20 A	Space	18
19	AC Unit (E)	20 A	3	2000 VA	2000 VA			3	20 A	AC Unit (E)	20
21	--	--	--		2000 VA	2000 VA		--	--	--	22
23	--	--	--			2000 VA	2000 VA	--	--	--	24
25	AC Unit (E)	20 A	3	2000 VA	2000 VA			3	20 A	AC Unit (E)	26
27	--	--	--		2000 VA	2000 VA		--	--	--	28
29	--	--	--			2000 VA	2000 VA	--	--	--	30
31	Site Lighting	20 A	1	1752 VA	2000 VA			3	20 A	Panel "CR1" (E)	32
33	Site Lighting	20 A	1		1485 VA	2000 VA					34
35	Site Lighting	20 A	1			275 VA	2000 VA				36
37	Space	20 A	1	0 VA	0 VA			1	20 A	Space	38
39	Space	20 A	1			0 VA	0 VA	1	20 A	Space	40
41	Space	20 A	1			0 VA	0 VA	1	20 A	Space	42
Total...				14752 VA	14485 VA	12775 VA					
Total...				54 A	53 A	46 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 42012 VA
				Total Est. Demand: 42782 VA
				Total Conn. Current: 51 A
				Total Est. Demand... 51 A

Notes:

Branch Panel: FLA (E)

Location: Mounting: SURFACE Enclosure: NEMA 1
Volts: 277/480V
Phases: 3
Wires: 4
A.I.C. Rating: Mains Type: Bus Rating: MCB Rating:

Notes:

CKT	Circuit Description	Trip	P	A	B	C	P	Trip	Circuit Description	CKT
1	Ext Signs (E)	20 A	1	1000 VA	392 VA		1	20 A	Lighting	2
3	Night Lights (E)	20 A	1			650 VA				4
5	F3, F11, F12, F13 (E)	20 A	1			2700 VA				6
7	F4 (E)	20 A	1	1800 VA						8
9	F5 (E)	20 A	1			1750 VA				10
11	F2 (E)	20 A	1			1750 VA				12
13	F1 (E)	20 A	1	1800 VA						14
15	F8 (E)	20 A	1			2200 VA				16
17	F8 (E)	20 A	1			2200 VA				18
19	F5 (E)	20 A	1	1750 VA						20
21	F6 (E)	20 A	1			1750 VA				22
23	F7 (E)	20 A	1			1750 VA				24
25	Site Lighting	20 A	1	660 VA						26
27	Site Lighting	20 A	1			150 VA				28
29	Site Lighting	20 A	1			625 VA				30
31	Site Lighting	20 A	1	216 VA						32
33	Site Lighting	20 A	1			175 VA				34
35	Space	20 A	1			0 VA				36
37	Space	20 A	1	0 VA						38
39	Space	20 A	1			0 VA				40
41	Space	20 A	1			0 VA				42
Total...				7218 VA	26 A	6975 VA	25 A	9225 VA	33 A	
Total...				26 A						

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals
				Total Conn. Load: 23418 VA
				Total Est. Demand: 23671 VA
				Total Conn. Current: 28 A
				Total Est. Demand... 29 A

Notes:

Branch Panel: H1R1 (E)

Location: Mounting: SURFACE Enclosure: NEMA1
Volts: 120/2

