ABBREVIATIONS

@	AT	DIA.	DIAMETER	ILL.	ILLUMINATION	P.T.	POTENTIAL TRANSFORMER
A	AMPERE	DIC.	DICTATION	IMC	INTERMEDIATE METAL CONDUIT	PWR.	POWER
ABV.	ABOVE	DISC.	DISCONNECT	J.B.	JUNCTION BOX	RCVR	RECEIVER
AE.	AERIAL ELECTRIC	DIST.	DISTRIBUTION	KVA.	KILOVOLT AMPERE	RE.	EXISTING TO REMOVE
AF	AMP FRAME	DWG.	DRAWING	KW.	KILOWATT	REC.	RECEPTACLE
A.F.C.	ABOVE FINISHED CEILING	E	EMERGENCY	KWH.	KILOWATT HOUR	REQ.	REQUIRED
A.F.F.	ABOVE FINISHED FLOOR	EA.	EACH	L.A.	LIGHTNING ARRESTER	SEC.	SECONDARY
A.I.C.	AMPERE INTERRUPTING CAPACITY	E.C.	ELECTRICAL CONTRACTOR	LP	LIGHTNING PROTECTION	SPEC.	SPECIFICATION
A.W.C.	AMPERE WITHSTAND CAPACITY	EHH.	ELECTRICAL HANDHOLE	L.I.M.	LINE ISOLATION MONITOR	SS.	SUBSTATION
AI.	ALUMINUM	ELEC.	ELECTRICAL	L.O.	LUGS ONLY	S.T.	SHUNT TRIP
ALT.	ALTERNATE	ELEV.	ELEVATOR	LSIG*	LONG,SHORT,INSTATANIUS TIME & GROUND FAULT PICKUP.	STD.	STANDARD
AM	AMMETER	EMERG.	EMERGENCY			STR.	STARTER
AMP.	AMPERE	EMH.	ELECTRICAL MANHOLE	L.S.	LIMIT SWITCH	SW.	SWITCH
ANNUN.	ANNUNCIATOR	EMT.	ELECTRICAL METALLIC TUBING	LT.	LIGHT	SWGR.	SWITCHGEAR
ANT.	ANTENNA	ENCL.	ENCLOSURE	LTG.	LIGHTING	SYS.	SYSTEM
A.S.	AMMETER SWITCH	E.O.	ELECTRICALLY OPERATED	L.V.	LOW VOLTAGE	TEL.	TELEPHONE
A.T.	AMP TRIP	E.R.	EXISTING RELOCATED	MC	METAL-CLAD (CABLE)	TEMP.	TEMPERATURE
A.T.C.	AUTOMATIC TEMPERATURE CONTROL	EQUIP.	EQUIPMENT	M.C.B.	MAIN CIRCUIT BREAKER	THH.	TELEPHONE HAND HOLE
A.T.S.	AUTOMATIC TRANSFER SWITCH	E.W.C.	ELECTRIC WATER COOLER	M.C.C.	MOTOR CONTROL CENTER	TMH.	TELEPHONE MANHOLE
AUX.	AUXILIARY	EX.	EXISTING TO REMAIN	M.C.P.	MOTOR CONTROL PROTECTOR	TP.	TAMPERPROOF
B.D.	BUS DUCT	F.	FUSE(D)	MFR.	MANUFACTURER	TV.	TELEVISION
B.I.L.	BASIC IMPULSE LEVEL	F/A	FIRE ALARM	MH.	ELECTRICAL/TELECOMMUNICATION MANHOLE	TYP.	TYPICAL
BKBD.	BACKBOARD	F.A.T.B	FIRE ALARM TERMINAL BOX	MIN.	MINIMUM	U.C.	UNDERCOUNTER
BKR.	BREAKER	F.B.O.	FURNISHED BY OWNER	M.O.	MECHANICALLY OPERATED	U.E.	UNDERGROUND ELECTRIC
BLDG.	BUILDING	FDR.	FEEDER	M.S.P.	MOTOR STARTER PANEL	U/F	UNFUSED
BSMT.	BASEMENT	F.H.C.	FIRE HOSE CABINET	MTD.	MOUNTED	U.L.	UNDERWRITER'S LABORATORY
C.	CONDUIT	F.I.	FILM ILLUMINATOR	M.T.S.	MANUAL TRANSFER SWITCH	U.O.N.	UNLESS OTHERWISE NOTED
CAB.	CABINET	FL.	FLOOR	N.C.	NORMALLY CLOSED	U.T.	UNDERGROUND TELEPHONE
CB	CIRCUIT BREAKER	FLUOR.	FLUORESCENT	N.I.C.	NOT IN CONTRACT	U.V.	UNDER VOLTAGE
CBL.	CABLE	F.S.	FLOW SWITCH	N.O.	NORMALLY OPEN	V.	UNDERWRITERS' LABORATORY
CDT.	CONDUIT	FSD	FIRE SMOKE DAMPER	N.T.S.	NOT TO SCALE	VERT.	UNDERGROUND TELEPHONE
CKT.	CIRCUIT	FUT.	FUTURE	O.C.	ON CENTER	VM	VOLTMETER
CLG.	CEILING	GA.	GAUGE	O.C.B.	OIL CIRCUIT BREAKER	VS	VOLTMETER SWITCH
C.M.	CONSTRUCTION MANAGER	G.C.	GENERAL CONTRACTOR	O.C.P.	OVERCURRENT PROTECTION	W	WATT
CONN.	CONNECTION	G.F.I.	GROUND FAULT INTERRUPTER	O.S.&Y.	OPEN STEM AND YOKE	W	WIRE
CONST.	CONSTRUCTION	G.F.S.C.	GROUND FAULT SENSING RELAY COIL	P.	POLE	WP	WEATHERPROOF
CONT.	CONTINUOUS	GND.	GROUND	PB	PULL BOX	XFMR	TRANSFORMER
CONTR.	CONTRACTOR	HH.	HANDHOLE	P.C.	PLUMBING CONTRACTOR	XFR	TRANSFER
C.T.	CURRENT TRANSFORMER	H.I.D.	HIGH INTENSITY DISCHARGE	P.F.	POWER FACTOR	XMTR	TRANSMITTER
CU.	COPPER	HORZ.	HORIZONTAL	PH.	PHASE	XPDR	TRANSPONDER
DEMO.	DEMOLITION	H.P.	HORSEPOWER	P.L.	PILOT LIGHT	XP	EXPLOSION PROOF
D.C.	DIRECT CURRENT	HT.	HEIGHT	PNL.	PANEL	∅	PHASE
		H.V.	HIGH VOLTAGE	PRI.	PRIMARY		
		HVAC	HEATING, VENTILATING, AIR CONDITIONING	P.S.	PULL STATION		
		HWP	HOSPITAL GRADE RECEPTACLE WITH WEATHER PROOF COVER	P.S.I.	POUNDS PER SQUARE INCH		

GENERAL ELECTRICAL NOTES

1. THIS IS A STANDARD SYMBOL LIST. ALL DEVICE SYMBOLS AND ABBREVIATIONS MAY NOT NECESSARILY APPEAR ON THE FLOOR PLANS OR DETAIL SHEET. ONLY THOSE SYMBOLS INDICATED ON THE FLOOR PLANS ARE USED FOR THIS PROJECT. ALL OTHERS ARE TO BE CONSIDERED NOT USED AND SHOULD BE DISREGARDED.
2. REFER TO DIVISION 26 & 28 SPECIFICATIONS SECTIONS.
3. DIMENSIONS MARKED "+/-" ARE TO BE VERIFIED IN THE FIELD. THOSE MARKED N.T.S. ARE SHOWN NOT TO SCALE. ALL OTHERS ASSUMED TO BE CORRECT AND SHOULD BE CHECKED WITH OTHER TRADE DRAWINGS AND VERIFIED BY THE CONTRACTOR.
4. FOR EXACT LOCATION OF REMOVABLE PARTITIONS, FOR MOUNTING HEIGHT OF UNDER-COUNTER LIGHTING FIXTURES AND OTHER TASK LIGHTING, REFER TO ARCHITECTURAL DRAWINGS.
5. CONTRACTOR SHALL VERIFY ALL DOOR SWINGS BEFORE INSTALLING SWITCH BOXES. FOR EXACT LOCATION OF LIGHTING FIXTURES SEE REFLECTED CEILING PLAN DRAWINGS.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF SUSPENDED LIGHTING FIXTURES IN MECHANICAL AND STORAGE AREAS WITH OTHER TRADES.
7. FOR EXACT LOCATION AND RATING OF MECHANICAL EQUIPMENT (AC UNITS, FANS, PUMPS, ETC.) REFER TO RESPECTIVE TRADE'S DRAWINGS.
8. REFER TO DIVISION 22 & 23 SPECIFICATIONS FOR REQUIRED CONTROL WIRING OF EQUIPMENT.
9. THE ELECTRICAL CONTRACTOR SHALL PROVIDE EXPANSION FITTINGS IN ALL RACEWAYS CROSSING CONSTRUCTION OR EXPANSION JOINTS, REFER TO STRUCTURAL DRAWINGS FOR LOCATION OF JOINTS. FITTING SECTIONS SHALL BE MADE ELECTRICALLY CONTINUOUS BY EQUIPMENT BONDING JUMPERS OR OTHER ADEQUATE MEANS.
10. UNLESS INDICATED OTHERWISE ALL PANELS, CABINETS, AND THE LIKE, IN ELECTRIC CLOSETS OR EQUIPMENT ROOMS SHALL BE MOUNTED ON STRUCTURAL CHANNEL FRAMING AND FRAMED FLOOR-TO-CEILING AS REQUIRED, STRUCTURAL SLAB-TO-SLAB.
11. WIRE AND CONDUIT SIZE IN SCHEDULES AND AS SHOWN ON DRAWINGS ARE FOR REFERENCE ONLY. THE ELECTRICAL CONTRACTOR MAY INSTALL MULTIPLE CIRCUITS IN A SINGLE RACEWAY WHERE PRACTICABLE. PROVIDE WIRE AND CONDUIT SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
12. ALL ITEMS REMOVED SHALL BECOME PROPERTY OF THE OWNER AND SHALL BE DISPOSED OF AS PER THE OWNER'S INSTRUCTIONS, UNLESS INDICATED OTHERWISE. ALL ITEMS WHICH ARE NOT TO BE STORED ON SITE BY OWNER SHALL BE REMOVED FROM THE BUILDING IMMEDIATELY, AT CONTRACTORS EXPENSE.
13. USE OF THE OWNER'S ELEVATORS AND BUILDING CORRIDORS FOR HANDLING OF THE REMOVED EQUIPMENT AND MATERIALS SHALL BE AT THE DIRECTION OF THE OWNER AND SHALL BE COORDINATED WITH THEIR OPERATIONS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFEKEEPING OF THEIR OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT AND ENVIRONMENTAL CONDITIONS.
15. WHERE USED, THE TERM "PROVIDE" SHALL MEAN "FURNISH AND INSTALL."
16. ALL CIRCUITS SHALL BE PROVIDED WITH A SEPARATE NEUTRAL CONDUCTOR. SHARED NEUTRAL CONDUCTORS SHALL NOT BE PERMITTED
17. HORIZONTAL CROSS RUNS OF CONDUIT AND/OR CABLE IN PARTITIONS SHALL NOT BE PERMITTED, UNLESS ALLOWED IN SPECIFIC INSTANCES, BY THE ENGINEER.

EQUIPMENT NAMING CONVENTION

PP-N-4E-L1

- MULTIPLE PANELBOARD DESIGNATION AND/OR ROOM NUMBER (AS REQUIRED)
- BUILDING FLOOR NUMBER | SIDE
  - L: LOWER LEVEL
  - 1: FIRST FLOOR
  - 2: SECOND FLOOR
  - 3: THIRD FLOOR
  - 4: FOURTH FLOOR
  - M: MECHANICAL FLOOR
  - YARD: EXTERIOR UTILITY YARD
  - E: EAST
  - W: WEST
- POWER SYSTEM
  - N: NORMAL
  - E: EMERGENCY
  - ELS: EMERGENCY LIFE SAFETY
  - ELR: EMERGENCY LEGALLY REQUIRED STANDBY
  - EOS: EMERGENCY OPTIONAL STANDBY
  - UPS: UNINTERRUPTIBLE POWER SUPPLY
- EQUIPMENT TYPE
  - ATS: AUTOMATIC TRANSFER SWITCH
  - BD: BUSDUCT
  - BP: BUSPLUG
  - DISC: DISCONNECT
  - DP: DISTRIBUTION PANELBOARD
  - ECB: ENCLOSED CIRCUIT BREAKER
  - GEN: GENERATOR
  - HF: HARMONIC FILTER
  - LP: LIGHTING PANELBOARD
  - LCP: LIGHTING CONTROL PANEL
  - PP: POWER/RECEPTACLE PANELBOARD
  - SS: SWITCHBOARD
  - TX: TRANSFORMER
  - UPS: UNINTERRUPTIBLE POWER SUPPLY

FLOORBOX / POKETHRU SCHEDULE

TYPE		GANG QUANTITY					LEGRAND WIREMOLD SERIES
		POWER	DATA	A/V	BLANK	TOTAL	
FF	-	1	1	0	0	2	EFBFF
FO/FR/FS	1A	1	0	0	3	4	EFB4SS
	1B	1	1	0	2	4	EFB4SS
	1C	1	0	1	2	4	EFB4SS
	1D	1	1	1	1	4	EFB4SS
	1E	1	1	5	3	10	EFB10S
	2A	2	0	0	2	4	EFB4SS
	2B	2	1	0	1	4	EFB4SS
	2C	2	0	1	1	4	EFB4SS
	2D	2	1	1	2	6	EFB6S
	2E	2	1	5	2	10	EFB10S
	3EX	3	1	5	1	10	EFB10S-FC1122
	4A	4	0	0	2	6	EFB6S
	4B	4	1	0	1	6	EFB6S
	4BX	4	1	0	1	6	EFB6S-FC1122
	4C	4	0	1	1	6	EFB6S
	4D	4	1	1	2	8	EFB8S
	4E	4	1	5	0	10	EFB10S
	4EX	4	1	5	0	10	EFB10S-FC1122
	6A	6	0	0	2	8	EFB8S
	6B	6	1	0	1	8	EFB8S
	6C	6	0	1	1	8	EFB8S
	6D	6	1	1	2	10	EFB10S
P	1A	1	0	0	2	3	6AT
	1B	1	1	0	1	3	6AT
	1C	1	0	1	1	3	6AT
	1D	1	1	1	0	3	6AT
	1E	1	1	2	1	5	8AT
	2A	2	0	0	1	3	6AT
	2B	2	1	0	0	3	6AT
	2C	2	0	1	0	3	6AT
	2D	2	1	1	1	5	8AT
	2E	2	1	2	0	5	8AT
	2EX	2	1	4	0	7	10AT

NOTES:
FOR ON GRADE FLOORBOXES, ADD -OG SUFFIX
FOR FIRE RATED FLOORBOXES, ADD -FC SUFFIX

MOUNTING HEIGHTS

9" BELOW FINISH CEILING	WALL-MOUNTED CLOCKS, PROGRAM BELLS, FIRE ALARM GONGS AND ILLUMINATED FIRE SIGNALS (OR AS SHOWN ON ARCHITECTURAL DETAILS).
10'-0"	BATTERY LIGHTING UNITS AND REMOTE WALL MOUNTED LIGHT HEADS (OR 1'-0" BELOW FINISHED CEILING TO TOP OF UNIT).
8'-6"	PENDANT-HUNG INDUSTRIAL AND STRIP LIGHTING FIXTURES.
CENTERED ABOVE DOOR OR WINDOW OPENING	WARNING AND SIGNALING FIXTURES/SIGNS.
7'-6"	OR 6" BELOW FINISHED CEILING WHICHEVER IS LOWER. AUDIBLE FIRE ALARM SIGNAL DEVICES.
6'-8"	OR 6" BELOW FINISHED CEILING WHICHEVER IS LOWER. VISUAL FIRE ALARM SIGNAL DEVICES AND COMBINATION AUDIBLE/VISUAL FIRE ALARM SIGNALS.
6'-6"	TOP OF FLUSH AND SURFACE MOUNTED ELECTRICAL, LIGHTING OR POWER PANELBOARDS AND TELEPHONE CABINETS.
6'-3"	TOP OF BACK-MOUNTED WALL EXIT FIXTURES (NOT MOUNTED ABOVE DOORS).
6'-0"	TOP OF HIGHEST ELECTRICAL SAFETY DISCONNECT SWITCHES, MAGNETIC STARTERS, CONTACTORS.
4'-6"	WALL-MOUNTED TELEPHONES, PAY STATIONS (3'-6" AT HANDICAP LOCATIONS) AND TOILET ROOM RECEPTACLES.
4'-0"	WALL MOUNTED ELECTRICAL DEVICE LIGHTING SWITCHES, MANUAL MOTOR STARTERS, THERMOSTATS, FIRE ALARM PULL STATIONS, CARD READERS, AND WIREMOLD.
3'-6"	ELECTRICAL RECEPTACLES TELEPHONE OUTLETS
2'-0"	ELECTRICAL RECEPTACLES WITHIN MECHANICAL SPACES, ELECTRICAL AND ELEVATOR ROOMS.
18"	ELECTRICAL RECEPTACLES TELEPHONE OUTLETS TELEVISION OUTLETS COMPUTER OUTLETS
00"	FINISHED FLOOR

MOUNTING HEIGHT NOTES:

1. MOUNTING HEIGHTS TO CENTER OF OUTLETS UNLESS OTHERWISE NOTED. IN MASONRY CONSTRUCTION THE ABOVE MOUNTING HEIGHTS SHALL BE USED FOR REFERENCE TO NEAREST BLOCK OR BRICK COURSING.
2. MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS SPECIFICALLY NOTED OR DETAILED OTHERWISE ON THE DRAWING OR SPECIFICATIONS. ALL DEVICE MOUNTING SHALL BE COORDINATED WITH ARCHITECT'S ELEVATION DRAWINGS.
3. A • BESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED ABOVE A COUNTER OR CASEWORK. A ▪ BESIDE A DEVICE INDICATES THAT DEVICE IS MOUNTED BELOW COUNTER OR CASEWORK. COORDINATE WITH ARCHITECTURAL DETAILS AND CASEWORK CONTRACTOR.

CIRCUITING NOTES:

1. CONDUCTORS FOR POWER CIRCUITS SHALL BE MINIMUM #12 AWG.
2. WHERE CONDUCTOR RUNS ARE LONG, THEY SHALL BE SIZED FOR VOLTAGE DROP AS FOLLOWS:

   5.1. 20-AMP CIRCUITS:
   5.1.1.CONDUCTORS FOR 20A POWER CIRCUITS SHALL BE MINIMUM #12 AWG.

   5.2.1 120V, 1-PHASE, 20A CIRCUITS:
   5.2.1. CIRCUITS EXCEEDING 100 LINEAR FEET SHALL BE #10AWG, MINIMUM.
   5.2.2. CIRCUITS EXCEEDING 150 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.2.3. CIRCUITS EXCEEDING 250 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.3. 208V, 1-PHASE, 20A CIRCUITS:
   5.3.1. CIRCUITS EXCEEDING 170 LINEAR FEET SHALL BE #10AWG, MINIMUM.
   5.3.2. CIRCUITS EXCEEDING 275 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.3.3. CIRCUITS EXCEEDING 425 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.4. 208V, 3-PHASE, 20A CIRCUITS:
   5.4.1. CIRCUITS EXCEEDING 200 LINEAR FEET SHALL BE #10AWG, MINIMUM.
   5.4.2. CIRCUITS EXCEEDING 300 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.4.3. CIRCUITS EXCEEDING 500 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.5. FOR CIRCUITS SERVING MULTIPLE RECEPTACLES WHERE THE CIRCUIT LENGTH BETWEEN THE FIRST ELECTRICAL DEVICE AND THE LAST ELECTRICAL DEVICES IS 16 LINEAR FEET OR LESS, THE INCREASED WIRE SIZE MAY BE INSTALLED FOR THE HOMERUN FROM THE PANELBOARD AND #12AWG WIRES MAY BE INSTALLED FOR BETWEEN DEVICES.

   5.6. 30-AMP CIRCUITS:
   5.6.1. CONDUCTORS FOR 30A POWER CIRCUITS SHALL BE MINIMUM #10 AWG.
   5.7. 120V, 1-PHASE, 30A CIRCUITS:
   5.7.1. CIRCUITS EXCEEDING 125 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.7.2. CIRCUITS EXCEEDING 150 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.8. 208V, 1-PHASE, 30A CIRCUITS:
   5.8.1. CIRCUITS EXCEEDING 175 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.8.2. CIRCUITS EXCEEDING 250 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.9. 208V, 3-PHASE, 30A CIRCUITS:
   5.9.1. CIRCUITS EXCEEDING 200 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.9.2. CIRCUITS EXCEEDING 300 LINEAR FEET SHALL BE #6 AWG, MINIMUM.

   5.10. WHERE CIRCUITS ARE RE-SIZED TO COMPENSATE FOR VOLTAGE DROP, ALL PHASE AND NEUTRAL CONDUCTORS SHALL BE RESIZED SIMILARLY, AND THE GROUND CONDUCTOR SHALL BE RE-SIZED PER THE REQUIREMENTS OF NEC 250.122 (B).

   5.11. 277V, 1-PHASE, 20A CIRCUITS:
   5.11.1. CIRCUITS EXCEEDING 165 LINEAR FEET SHALL BE #10AWG, MINIMUM.
   5.11.2. CIRCUITS EXCEEDING 275 LINEAR FEET SHALL BE #8 AWG, MINIMUM.
   5.11.3. CIRCUITS EXCEEDING 420 LINEAR FEET SHALL BE #6 AWG, MINIMUM.
3. ALL EMERGENCY CIRCUITS SHALL BE INSTALLED IN CONDUIT, IN ACCORDANCE WITH NEC REQUIREMENTS.

ACCESS CONTROL AND CCTV SYMBOLS

- CR — CARD READER - SINGLE GANG BOX
- J — JUNCTION BOX - DOUBLE GANG BOX
- PS — POWER SUPPLY
- ML — MAGNETIC LOCK
- SS — DOOR CONTACT
- EL — ELECTRIC LOCKSET
- ELR — ELECTRIC LATCH RETRACTION
- RX — REQUEST TO EXIT SWITCH
- PT — POWER TRANSFER HINGE
- HO — MAGNETIC HOLD-OPEN DEVICE - SINGLE GANG BOX
- PP — AUTO-OPEN PUSH PLATE - SINGLE GANG BOX
- AO — AUTO-OPENER
- XXX — DOOR NUMBER
- A — 3/4" CONDUIT
- D — 18/2
- X-X — CCTV CAMERA; X-X = CAMERA ID NUMBER

TELECOM SYMBOLS

- CEILING MOUNTED DATA OUTLET - DOUBLE GANG JUNCTION BOX WITH SINGLE GANG OPENING, FACEPLATE WITH FOUR OPENINGS, AND TWO DATA JACKS.
  AP - WIRELESS ACCESS POINT
- VOICE/DATA COMBINATION - DOUBLE GANG JUNCTION BOX WITH SINGLE GANG OPENING, AND EMPTY 1-1/4" CONDUIT W/PULLSTRING, SEE SPECIFICATIONS. X = QUANTITY OF VOICE OR DATA JACKS IF OTHER THAN THREE.
- DATA - DOUBLE GANG JUNCTION BOX WITH SINGLE GANG OPENING, AND EMPTY 1-1/4" CONDUIT W/PULLSTRING, SEE SPECIFICATIONS X = QUANTITY OF DATA JACKS IF GREATER THAN ONE.
- RACEWAY MOUNTED DATA OUTLET - SINGLE DATA JACK INSTALLED IN A WIREMOLD 2A STYLE ADAPTER AND BEZEL
- TELEPHONE - SINGLE GANG JUNCTION BOX WITH SINGLE GANG OPENING, AND EMPTY 3/4" CONDUIT W/PULLSTRING, SEE SPECIFICATIONS
  PS - PAY STATION W - WALL
  WP - WEATHER PROOF
  HP - HANDICAPPED PHONE
- STANCHION MOUNTED CAMPUS EMERGENCY TELEPHONE - (2) EMPTY 1" PVC CONDUITS - ONE FOR POWER AND ONE FOR VOICE - W/PULLSTRING.
- POKE THRU TO BE PURCHASED BY ELECTRICAL CONTRACTOR - REFERENCE POWER SERIES DRAWINGS FOR TYPE - CABLE QUANTITIES AS NOTED ON FLOOR PLANS
- FBX — FLOOR BOX X - SEE CORRESPONDING SCHEDULE

FIRE ALARM SYMBOLS

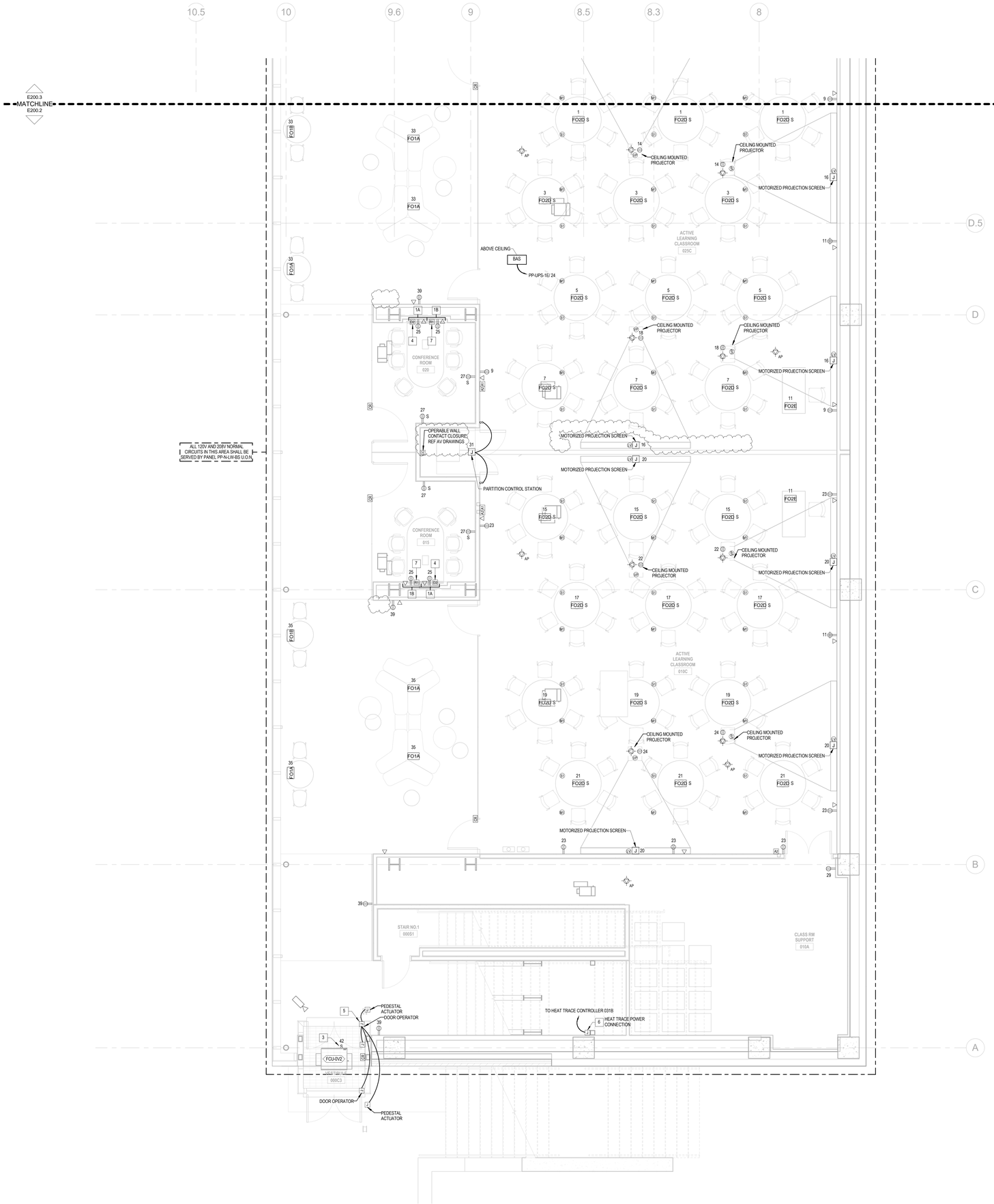
- WALL MOUNTED FIRE EVACUATION SPEAKER
- CEILING MOUNTED FIRE EVACUATION SPEAKER
- F — FIRE ALARM MANUAL PULL STATION
- FH — FIRE ALARM HORN
- FHS — FIRE ALARM HORN/STROBE
- FS — FIRE ALARM STROBE
- FSI — FIRE ALARM SIREN
- WALL MOUNTED FIRE EVACUATION SPEAKER AND STROBE
- FC — FIREMEN'S PHONE JACK
- ELECTRIC DOOR HOLDER
- FHS — ELECTRONIC PROGRAMMABLE ALARM WITH STROBE
- DS — AUTOMATIC DETECTOR [DETECTOR CONTROL FUNCTION]
  B - BEAM DETECTOR
  D - DUCT MOUNTED; SMOKE IONIZATION (INSTALLED BY DIV. 23 CONTRACTOR)
  F - THERMAL, FIXED TEMPERATURE
  FR - THERMAL, COMBINATION RATE OF RISE PLUS FIXED TEMPERATURE
  PE - SMOKE REFRACTION, PHOTO ELECTRIC
  R - THERMAL RATE OF RISE
  RT - DUCT DETECTOR REMOTE TEST STATION
  S - AREA SMOKE, IONIZATION
- REMOTE ANNUNCIATOR INDICATOR LED
- FVSS — ALARM INITIATING CONTACT [CONTACT CONTROL FUNCTION]
  EP - ELECTRIC PNEUMATIC SWITCH
  ETL - ELECTRIC THERMAL LINK
  FS - FLOW SWITCH "ALARM"
  FA - FIRST AID HOSE SYSTEM "ALARM"
  G - GAS ALARM PANEL
  GM - GAS MANIFOLD
  R - REFRIGERATION UNIT.
  OS&Y - ALARM CHECK VALVE "TROUBLE"
  TS - TAMPER SWITCH "TROUBLE"
- FIRE ALARM ADDRESSABLE RELAY [RELAY FUNCTION]
  C - CONTROL
  M - MONITOR
- ELECTRIC DAMPER WITH DIVISION 23 LOCKOUT DISCONNECT

AUDIOVISUAL SYSTEMS SYMOL LEGEND

SYMBOL	DESCRIPTION	BOX TYPE (H" x W" x D")	MOUNTING LOCATION
A1	ANTENNA BOX, FOR ALS	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT 8'-0" AFF
A2	ANTENNA BOX, FOR WIRELESS MICROPHONE	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT 8'-0" AFF
BP	CONTROL PANEL BACK BOX	3-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT SWITCH HEIGHT
CD	CEILING MOUNTED EQUIPMENT ENCLOSURE	FSR CB-22P	FLUSH MOUNT IN CEILING
CC	RETRACTABLE WALL CONTACT CLOSURE	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT RECEPTACLE HEIGHT
CP	CONTROL PANEL BACK BOX	2-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT SWITCH HEIGHT
D1	DISPLAY BACK BOX, TYPE 1	CHIEF PAC526 BACK BOX	FLUSH MOUNT IN WALL AT 5'-6" AFF TO CENTER OF BOX BEHIND DISPLAY
D2	DISPLAY BACK BOX, TYPE 2	CHIEF PAC526 BACK BOX	FLUSH MOUNT IN WALL AT 5'-0" AFF TO CENTER OF BOX BEHIND DISPLAY
D3	DISPLAY BACK BOX, TYPE 3	CHIEF PAC526 BACK BOX	FLUSH MOUNT IN WALL AT 4'-6" AFF TO CENTER OF BOX BEHIND DISPLAY
J1	JUNCTION BOX, TYPE 1	12" x 12" x 4" NEMA 1 ENCLOSURE WITH COVER	FLUSH MOUNT IN WALL AT 2'-0" AFF
J2	JUNCTION BOX, TYPE 2	12" x 12" x 4" NEMA 1 ENCLOSURE WITH COVER	FLUSH MOUNT IN WALL AT 2'-0" AFF
LV	LOW VOLTAGE MOTOR CONTROLLER	4" SQUARE METAL BOX WITH COVER	RECESSED INTO CEILING AS PART OF PROJECTION SCREEN CASE
M1	CEILING MICROPHONE BOX, TYPE 1	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN CEILING
R1	RECEPTACLE PANEL, TYPE 1	3-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT RECEPTACLE HEIGHT
R2	RECEPTACLE PANEL, TYPE 2	3-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT RECEPTACLE HEIGHT
R3	RECEPTACLE PANEL, TYPE 3	3-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL ABOVE COUNTER AT 3'-8" AFF
S1	CEILING LOUDSPEAKER, TYPE 1	CONDUIT STUB	CONDUIT STUB TO ABOVE ACCESSIBLE CEILING
S2	WALL MOUNTED LOUDSPEAKER	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT 8'-0" AFF
SS	VIDEO PROJECTION SCREEN SWITCH	1-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT SWITCH HEIGHT
T1	CABLE TROUGH	6" x 6" x 24" METAL TROUGH	MOUNTED AT 78" AFF ABOVE AV EQUIPMENT RACK
V1	VIDEO PROJECTOR CABLING BACK BOX	4" SQUARE METAL BOX WITH COVER	FLUSH MOUNT IN WALL IN VIDEO PROJECTOR NICHE
VP	VIDEO PROJECTOR CABLING BACK BOX	4" SQUARE METAL BOX WITH COVER	FLUSH MOUNT IN CEILING
RS1	DATA DROP FOR ROOM SCHEDULING PANEL ON GLAZING	CRESTRON TSS-752-MUMK MULLION KIT	MOUNT TO WINDOW MULLION AT SWITCH HEIGHT
RS2	DATA DROP FOR ROOM SCHEDULING PANEL ON WALL	2-GANG DEEP METAL BOX WITH COVER	FLUSH MOUNT IN WALL AT SWITCH HEIGHT
RS3	DATA DROP FOR ROOM SCHEDULING PANEL ON GLAZING	PROVIDE SURFACE MOUNT RACEWAY TO ROOM SCHEDULING PANEL	MOUNT TO WINDOW GLASS AT SWITCH HEIGHT

LIGHTING SYMBOLS

- LIGHTING FIXTURE NOMENCLATURE:
  A1 INDICATES LIGHTING FIXTURE TYPE
  1 INDICATES CIRCUIT DESIGNATION
  1ELS INDICATES CIRCUIT DESIGNATION ON EMERGENCY POWER
- 2 x 2 RECESSED OR SURFACE MOUNTED
- 2 x 4 RECESSED OR SURFACE MOUNTED
- RECESSED SLOT FIXTURE
- PENDANT MOUNTED LINEAR FIXTURE
- WALL MOUNTED LINEAR FIXTURE
- PERIMETER RECESSED LINEAR FIXTURE
- RECESSED DOWNLIGHT FIXTURE
- RECESSED ACCENT LIGHT
- RECESSED WALL WASH
- WALL OR SURFACE MOUNTED FIXTURE
- COVE LIGHTING
- TRACK LIGHTING SYSTEM
- SURFACE MOUNTED LINEAR STRIP, LINDER CABINET TASK LIGHT OR CASEWORK MOUNTED LIGHT
- PENDANT HUNG INDUSTRIAL STRIP
- ENCLOSED INDUSTRIAL FIXTURE
- EXIT FIXTURE - CEILING MOUNTED - FACES AND ARROWS AS INDICATED
- EXIT FIXTURE - WALL OR SURFACE MOUNTED - FACES AND ARROWS AS INDICATED
- E — FIXTURE ON EMERGENCY POWER
- EXTERIOR LUMINAIRE - POLE MOUNTED
- EXTERIOR LUMINAIRE - WALL MOUNTED
- EXTERIOR DIRECTIONAL FLOOD LUMINAIRE - POLE MOUNTED
- EXTERIOR DIRECTIONAL FLOOD LUMINAIRE - WALL MOUNTED
- EXTERIOR UPLIGHT LUMINAIRE - GROUND MOUNTED
- EXTERIOR AREA LIGHTING FIXTURE
- EXTERIOR WALKWAY LIGHTING FIXTURE
- S — SINGLE POLE, WALL SWITCH (SHOWN WITHOUT SUBSCRIPT) OTHER SWITCHES SHALL BE COORDINATED WITH SUBSCRIPT [SUBSCRIPT INDICATES TYPE OF SWITCH]
  3 - THREE WAY SWITCH
  4 - FOUR WAY SWITCH
  L - LOW VOLTAGE SWITCH
  D - LINE VOLTAGE DIMMING SWITCH
  PD - LOW VOLTAGE PRESET DIMMING SCENE CONTROLLER
  P - SWITCH WITH PILOT LIGHT
  K - KEY OPERATED MOMENTARY CONTACT
  LD - LOW VOLTAGE DIMMING SWITCH
  OR - WALL CONTROL OVERRIDE SWITCH
  M - MANUAL MOTOR STARTER
  MS - LOW VOLTAGE MASTER SWITCH
  MR - MOTOR RATED SWITCH
  V - VACANCY SENSOR SWITCH
  T - COUNTDOWN TIMER SWITCH
  VD - VACANCY SENSOR LOW VOLTAGE DIMMING SWITCH
- (XX) — CEILING MOUNTED OCCUPANCY SENSOR OCCUPANCY SENSOR TECHNOLOGY SHALL BE COORDINATED WITH SUBSCRIPT [SUBSCRIPT INDICATES TYPE OF SWITCH]
  A1 - IR TECHNOLOGY 180 DEGREE
  A2 - IR TECHNOLOGY 360 DEGREE
  A3 - IR TECHNOLOGY CORRIDOR
  A4 - IR TECHNOLOGY EXTENDED HEIGHT
  B1 - DUAL TECHNOLOGY 180 DEGREE
  B2 - DUAL TECHNOLOGY 360 DEGREE
  B3 - DUAL TECHNOLOGY CORRIDOR
  C1 - ULTRASONIC TECHNOLOGY 180 DEGREE
  C2 - ULTRASONIC TECHNOLOGY 360 DEGREE
  C3 - ULTRASONIC TECHNOLOGY CORR



1/4" = 1'-0" 1 LOWER LEVEL POWER PLAN PART 2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. COORDINATE LOCATION OF ALL WIRING DEVICES INSTALLED IN MILLWORK WITH MILLWORK CONTRACTOR.
3. COORDINATE LOCATIONS, MOUNTING HEIGHTS AND FINISHES OF ALL DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS PRIOR TO ROUGH-IN. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO ROUGH-IN.
4. COORDINATE LOCATIONS AND REQUIREMENTS OF ALL DISCONNECT SWITCHES AND POWER CONNECTIONS TO HVAC AND PLUMBING EQUIPMENT WITH DIVISION 22 AND 23 CONTRACTORS PRIOR TO ROUGH-IN.
5. COORDINATE ROUTING OF CONDUITS TO ROOF TOP EQUIPMENT WITH CONSTRUCTION MANAGER AND DIVISION 23 CONTRACTOR.
6. CONFIRM ALL OVER CURRENT PROTECTION DEVICE RATINGS WITH DIVISION 22 AND 23 EQUIPMENT SUBMITTALS PRIOR TO INSTALLATION.
7. PROVIDE (1) 1" CONDUIT WITH PULLSTRING FROM ALL AV BOXES AND (1) 1-1/4" CONDUIT WITH PULLSTRING FROM ALL TELE/DATA BOXES STUBBED UP WALL AND TO ACCESSIBLE CEILING LOCATION FOR ROUTING OF LOW VOLTAGE CABLES TO TELE/PHONE BOARD OR AV RACK, U.O.N.
8. PROVIDE 3/4" RACEWAY THROUGH MULLION FROM CARD READERS TO ABOVE ACCESSIBLE CEILING.
9. VERIFY FLOOR BOX AND POKE-THRU COVER PLATE STYLES AND FINISHES WITH ARCHITECT AND PROVIDE SUBMITTALS FOR ARCHITECTURAL/ENGINEERING REVIEW PRIOR TO PURCHASE. COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO ROUGH-IN.
10. LABORATORY EQUIPMENT RATED 120V/1PH, 20A WITH A FLEXIBLE CORD SHALL BE POWERED VIA INTEGRAL CASEWORK RECEPTACLES UNLESS NOTED OTHERWISE.
11. PROVIDE MINIMUM 3/4" EMT FROM ACCESSIBLE CEILING SPACE DOWN WALL TO ALL DEVICES ALONG 2ND/3RD/4TH LABORATORY SPINE (COLUMN LINE F) TO ALLOW FOR FUTURE REWIRING.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 NOT USED.

3 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

4 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

5 PROVIDE POWER CONNECTION TO DOOR OPERATOR AND ASSOCIATED ACTUATORS PER MANUFACTURER'S INSTRUCTIONS.

6 PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/E504.

7 PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE
WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS SHALL BE ESTABLISHED AND AGREED TO SUBSEQUENTLY AND BE SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS FOR THEIR USE TO THE EXTENT OF "CONDITIONS OF USE, ISSUED / AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PERFORMANCE OF THEIR CONTRACTS. ANY REUSE OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORATION OF THEIR REQUIRED SHOP DRAWINGS.

04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

LOWER LEVEL POWER PLAN PART 2

NUMBER:

E200.2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.

3 RELOCATE EXISTING EQUIPMENT DISCONNECT FROM CURRENT LOCATION TO NEW LOCATION SHOWN. VERIFY IF NEUTRAL WIRE IS REQUIRED PRIOR TO ROUGH-IN. PROVIDE ISOLATED GROUND WIRE, REF DETAIL 11/E503.

4 CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.

5 PROVIDE POWER CONNECTION AND DISCONNECT SWITCH, SIZED AS INDICATED ON SINGLE LINE DIAGRAM. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

6 FAUCET/FLUSH VALVES: PROVIDE FLUSH MOUNTED BOX IN WALL (SIZED AND LOCATED PER MANUFCTURER'S REQUIREMENTS) AND 3/4" HORIZONTAL RACEWAY TO ADJACENT BOX. PROVIDE POWER CONNECTION TO POWER KIT AT FIRST VALVE LOCATION. DIVISION 22 CONTRACTOR SHALL MAKE FINAL LOW VOLTAGE DAISY CHAIN CONNECTIONS TO ADJACENT VALVES.

7 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

8 PROVIDE POWER CONNECTION TO EQUIPMENT CONTROL PANEL AND TO REMOTE SUMP PUMP. COORDINATE EXACT LOCATIONS IN FIELD.

9 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING. REFER TO DETAIL 8/E504.

10 PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.

11 PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/E504.

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS AND SPECIFICATIONS IS GOVERNED BY THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE FOREGOING, FOR THE LIMITED PURPOSE OF MAKING IT CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT IN ELECTRONIC FORM DOES NOT RELIEVE RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
06/01/18	ISSUE NO. 19
04/26/18	RFI-451
04/04/18	ISSUE NO. 14
03/19/18	RFI-393
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

LOWER LEVEL POWER PLAN PART 3

NUMBER:

E200.3

1/4" = 1'-0" 1 LOWER LEVEL POWER PLAN PART 3

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. PROVIDE POWER CONNECTION TO EQUIPMENT CONTROL PANEL. COORDINATE EXACT LOCATION IN FIELD.
2. INSTALL DIVISION 22/23 FURNISHED VFD AND PROVIDE POWER CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
3. PROVIDE POWER CONNECTION AND DISCONNECT SWITCH, SIZED AS INDICATED ON SINGLE LINE DIAGRAM. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
4. PROVIDE POWER CONNECTION TO FIRE PUMP, REFER TO SHEET E302 FOR FURTHER INFORMATION.
5. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
6. FUME HOOD ALARM CIRCUIT.
7. CONNECT TRANSFORMER SECONDARY GROUND TO GROUNDING BUSBAR.
8. PROVIDE POWER CONNECTION AND DISCONNECT SWITCH, SIZED AS INDICATED.
9. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
10. PROVIDE POWER CONNECTION TO EQUIPMENT CONTROL PANEL AND TO REMOTE SUMP PUMP. COORDINATE EXACT LOCATIONS IN FIELD.

1/4" = 1'-0" 1 LOWER LEVEL POWER PLAN PART 4

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE
WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS OF USE SHALL BE UNDERSTOOD. THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. USE OF INFORMATION IN THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR SHALL IT RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

06/01/18	ISSUE NO. 19
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

LOWER LEVEL POWER PLAN PART 4

NUMBER:

E200.4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

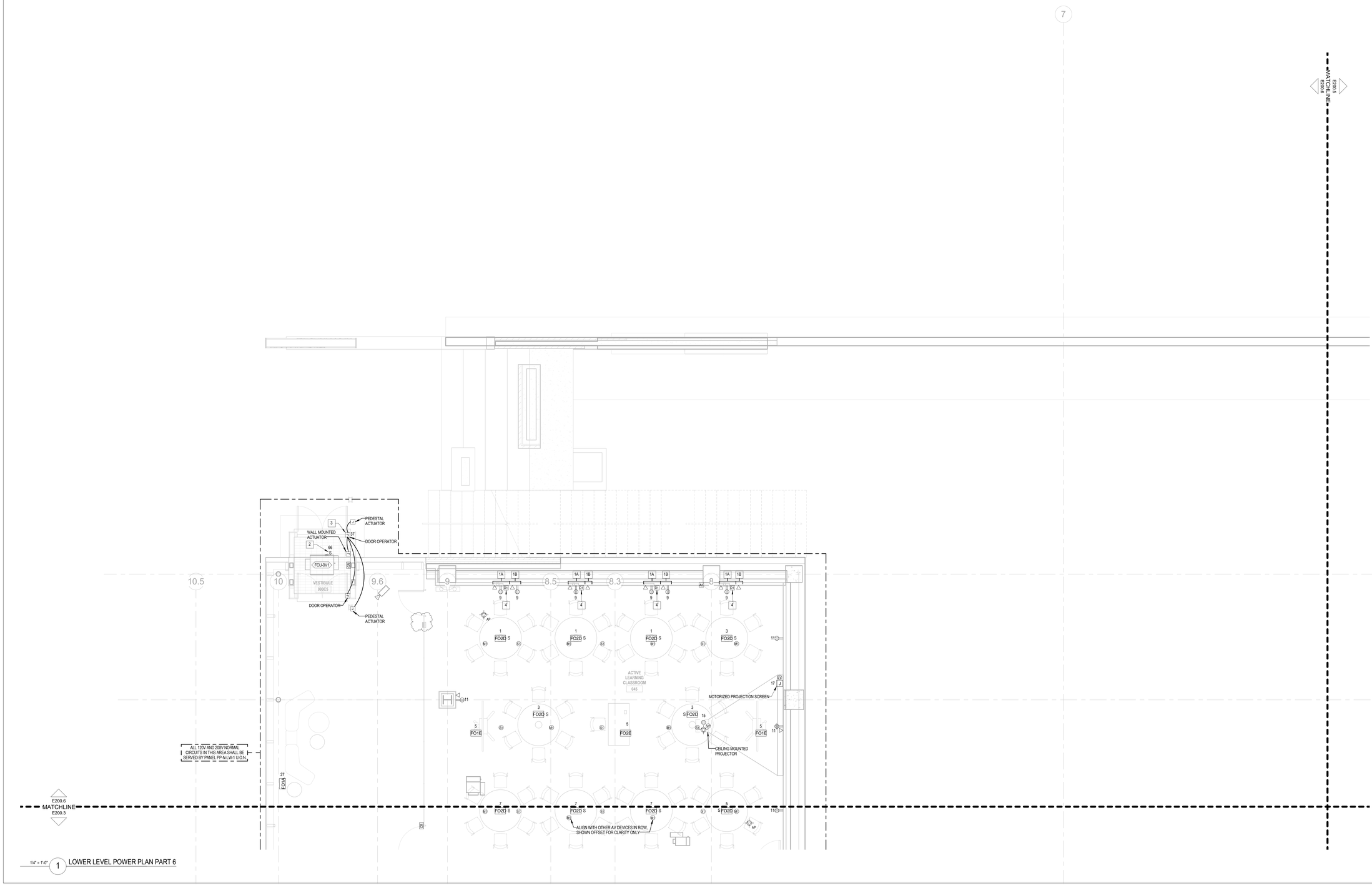
1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

3 PROVIDE POWER CONNECTION TO DOOR OPERATOR AND ASSOCIATED ACTUATORS PER MANUFACTURER'S INSTRUCTIONS.

4 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.



1/4" = 1'-0" 1 LOWER LEVEL POWER PLAN PART 6

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

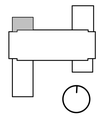
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

04/04/18	ISSUE NO. 14
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

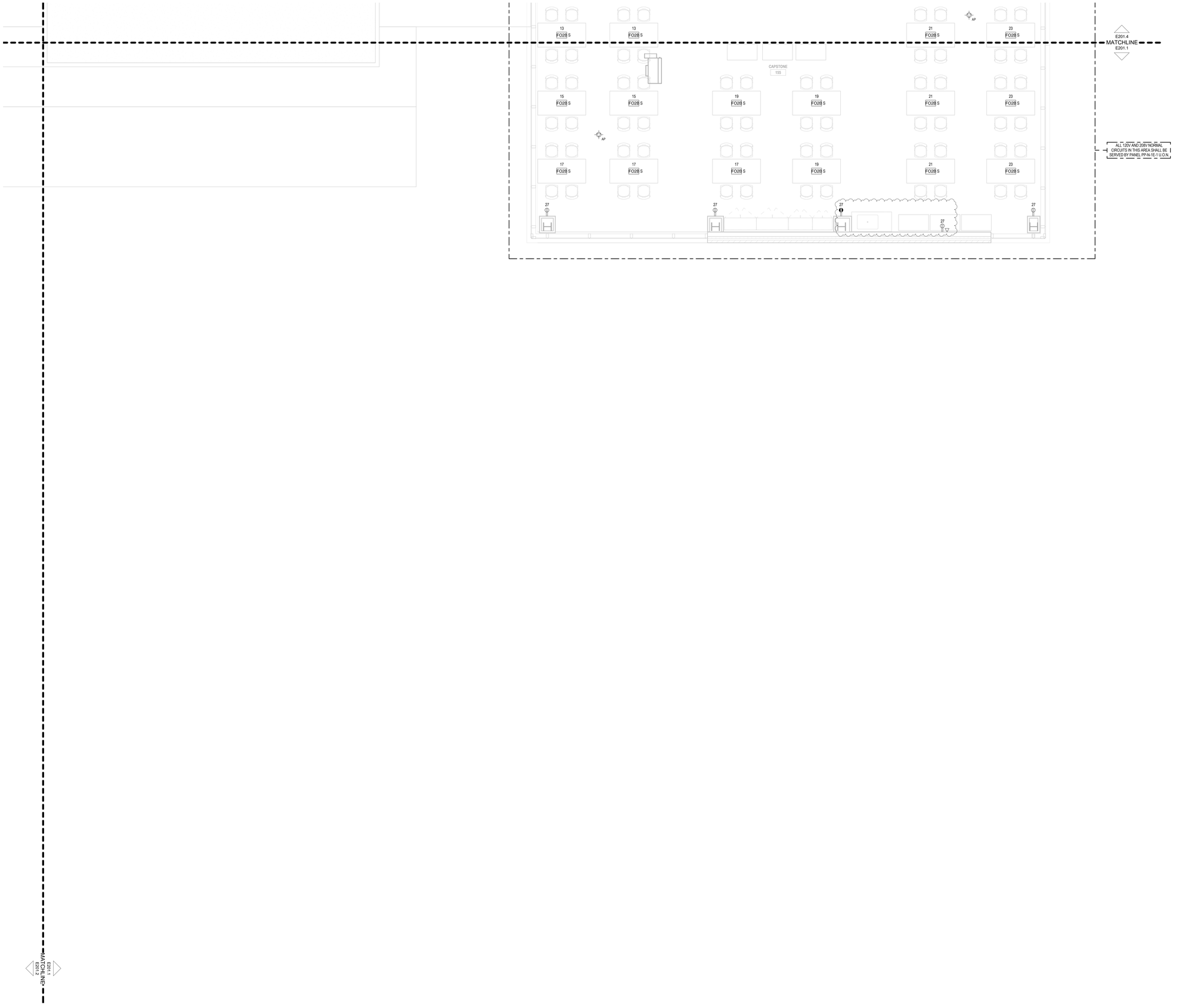
LOWER LEVEL POWER PLAN PART 6

NUMBER:

E200.6

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.



1/4" = 1'-0" 1 FIRST FLOOR POWER PLAN PART 1

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

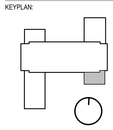
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT IN BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

E L E C T R I C A L

TITLE:

FIRST FLOOR POWER PLAN PART 1

NUMBER:

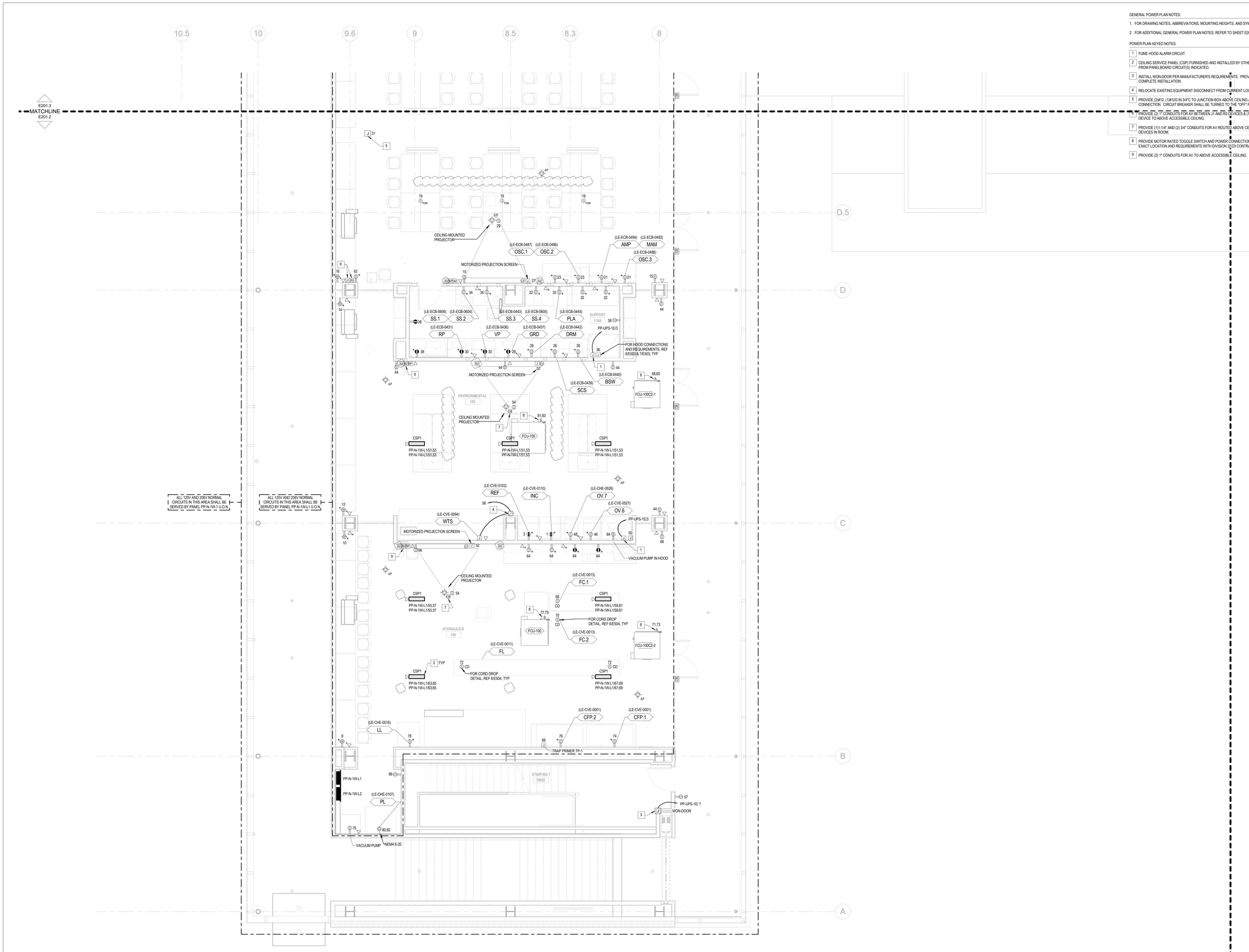
E201.1

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. FUME HOOD ALARM CIRCUIT.
2. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
3. INSTALL WON-DOOR PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
4. RELOCATE EXISTING EQUIPMENT DISCONNECT FROM CURRENT LOCATION TO NEW LOCATION SHOWN.
5. PROVIDE (2)#12, (1)#12G IN 3/4"C TO JUNCTION BOX ABOVE CEILING AND TERMINATE WITH WIRE NUTS FOR FUTURE CONNECTION. CIRCUIT BREAKER SHALL BE TURNED TO THE "OFF" POSITION WITH THE LOCKING DEVICE ENGAGED.
6. PROVIDE (2) 1" CONDUITS FOR AV BETWEEN J1 AND RJ DEVICES & (1)-1-1/4" AND (1)1" CONDUITS FOR AV FROM J1 DEVICE TO ABOVE ACCESSIBLE CEILING.
7. PROVIDE (1)1-1/4" AND (2) 3/4" CONDUITS FOR AV ROUTED ABOVE CEILING FROM PROJECTOR BOX TO ABOVE BP/R2 DEVICES IN ROOM.
8. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
9. PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.



1/4" = 1'-0" 1 FIRST FLOOR POWER PLAN PART 2

MATCHLINE E201.2

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS GOVERNED BY THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. THE CONTRACTOR MAY MAKE COPIES OF PORTIONS OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. NOTHING CONTAINED IN THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS OF THEIR RESPONSIBILITY FOR THE PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

04/04/18	ISSUE NO. 14
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

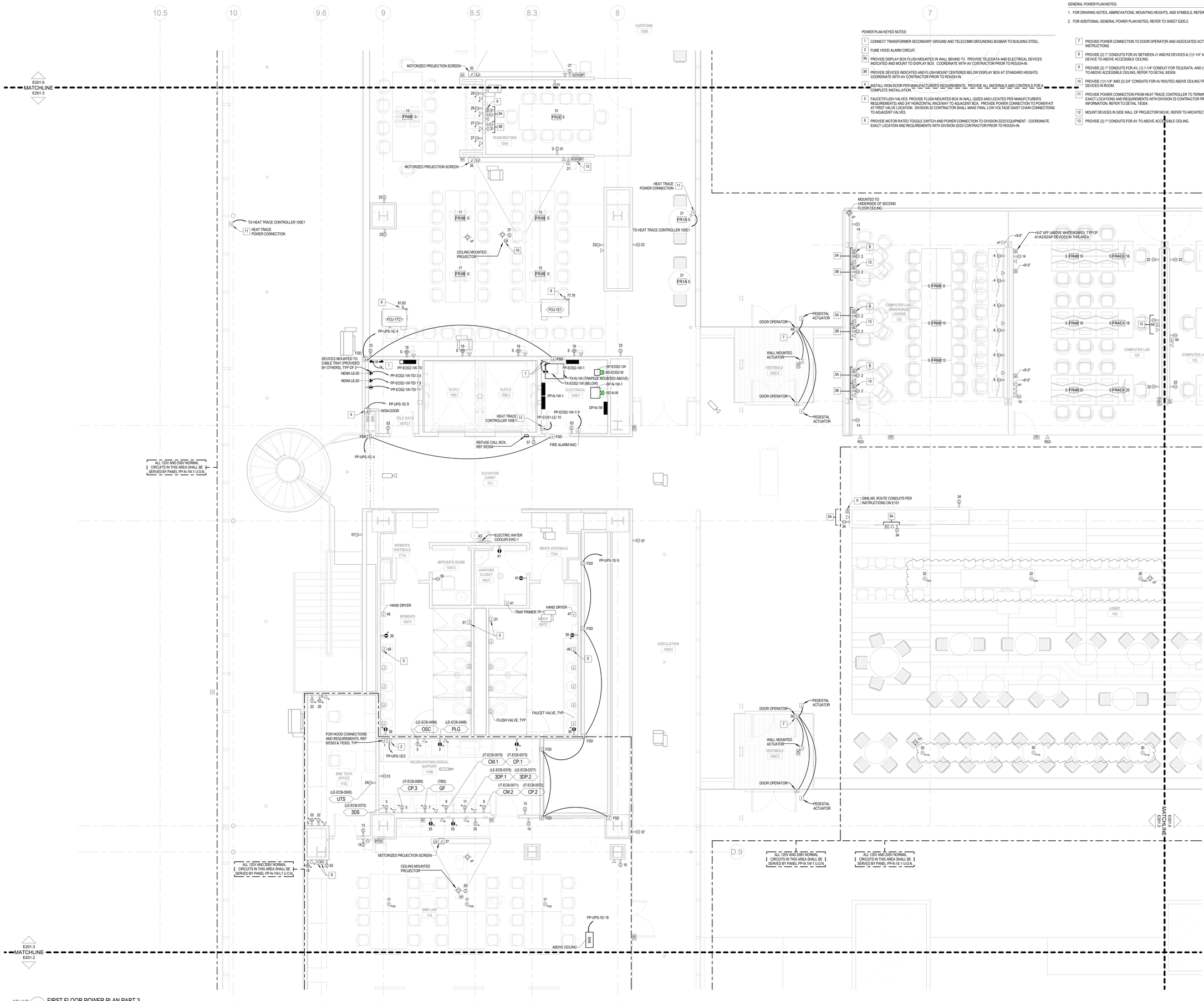
ELECTRICAL

TITLE:

FIRST FLOOR POWER PLAN PART 2

NUMBER:

E201.2



GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.
2. FUME HOOD ALARM CIRCUIT.
3A. PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
3B. PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
4. INSTALL WON-DOOR PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
5. FAUCET/FLUSH VALVES: PROVIDE FLUSH MOUNTED BOX IN WALL (SIZED AND LOCATED PER MANUFCTURER'S REQUIREMENTS) AND 3/4" HORIZONTAL RACEWAY TO ADJACENT BOX. PROVIDE POWER CONNECTION TO POWER KIT AT FIRST VALVE LOCATION. DIVISION 22 CONTRACTOR SHALL MAKE FINAL LOW VOLTAGE DAISY CHAIN CONNECTIONS TO ADJACENT VALVES.
6. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
7. PROVIDE POWER CONNECTION TO DOOR OPERATOR AND ASSOCIATED ACTUATORS PER MANUFACTURER'S INSTRUCTIONS.
8. PROVIDE (2) 1" CONDUITS FOR AV BETWEEN J1 AND R3 DEVICES & (1)1-1/4" AND (1)1" CONDUITS FOR AV FROM J1 DEVICE TO ABOVE ACCESSIBLE CEILING.
9. PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/ES04.
10. PROVIDE (1)1-1/4" AND (2) 3/4" CONDUITS FOR AV ROUTED ABOVE CEILING FROM PROJECTOR BOX TO ABOVE BP/R2 DEVICES IN ROOM.
11. PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/ES04.
12. MOUNT DEVICES IN SIDE WALL OF PROJECTOR NICHE, REFER TO ARCHITECTURAL DRAWINGS.
13. PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.

1/4" = 1'-0" 1 FIRST FLOOR POWER PLAN PART 3

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND OWNER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PREPARATION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE PREPARATION OF ANY OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

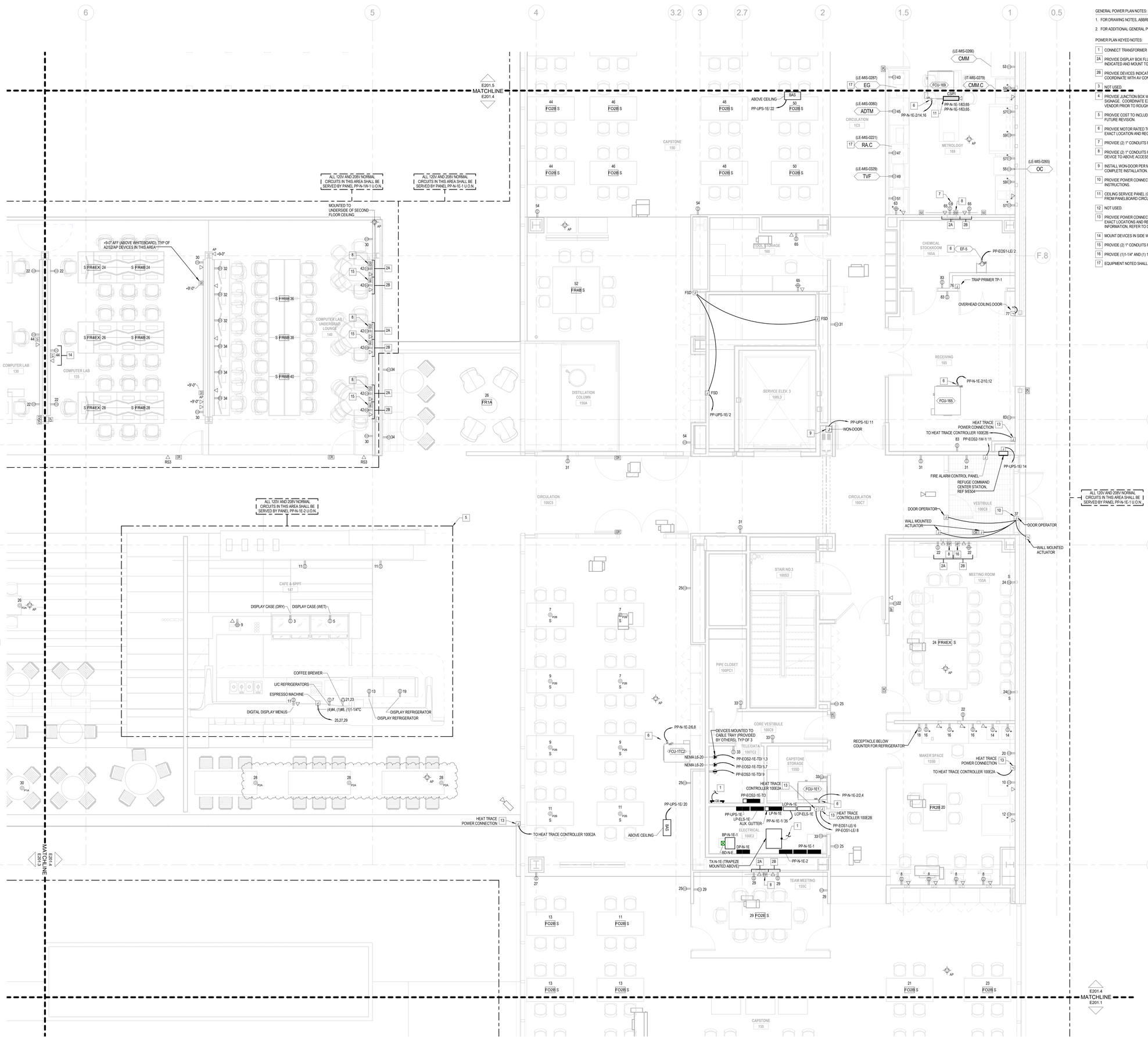
ELECTRICAL

TITLE:

FIRST FLOOR POWER PLAN PART 3

NUMBER:

E201.3

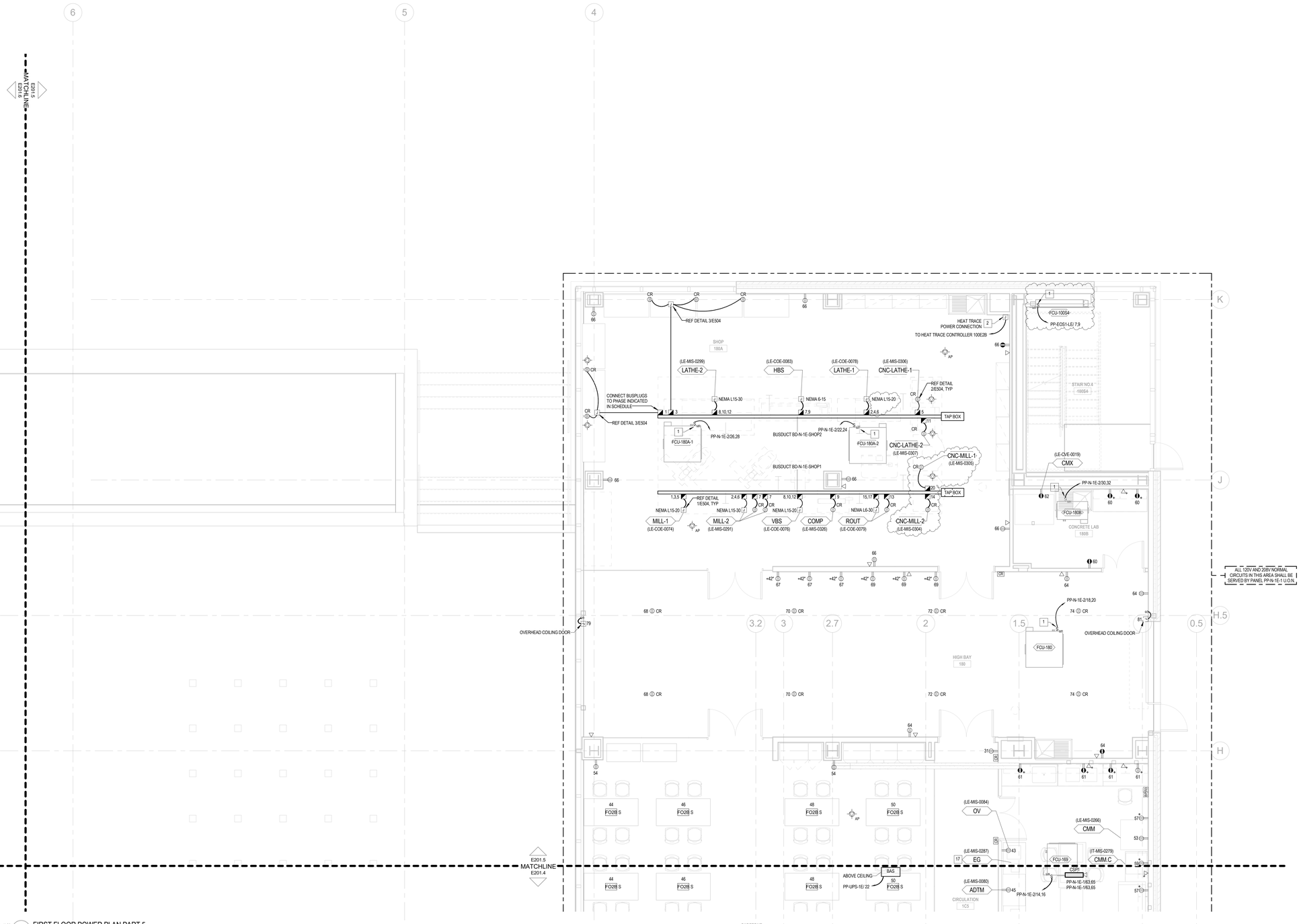

6
5
4
3.2
3
2.7
2
1.5
1
0.5
F.8
F.5
F.4
F.3
F
E
E201.5
MATCHLINE
E201.4
ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-1N-1 U.O.N.
ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-1E-1 U.O.N.
MOUNTED TO UNDERSIDE OF SECOND FLOOR CEILING
+9'-0" AFF (ABOVE WHITEBOARD), TYP OF A2/S2/AP DEVICES IN THIS AREA
COMPUTER LAB 130
COMPUTER LAB 135
COMPUTER LAB / UNDERGRAD LOUNGE 140
CAPSTONE 150
DISTILLATION COLUMN 150A
TOOL STORAGE 160
CHEMICAL STOCKROOM 165A
RECEIVING 165
METROLOGY 169
SERVICE ELEV. 3 100L3
CIRCULATION 100C5
CIRCULATION 100C7
VESTIBULE 100C8
CORE VESTIBULE 100C9
STAIR NO.3 100S3
PIPE CLOSET 100PC1
TELE/DATA 100TC2
ELECTRICAL 100E2
CAFE & SPPT 147
LOBBY 145
MEETING ROOM 155A
MAKER SPACE 155B
CAPSTONE STORAGE 155D
TEAM MEETING 155C
CAPSTONE 155
CMM
CMM.C
EG
ADTM
RA.C
TVF
OC
FCU-160
CSPI
PP-N-1E-1/63,65
PP-N-1E-2/14,16
ABOVE CEILING
BAS
PP-UPS-1E/ 22
FSD
PP-UPS-1E/ 2
PP-UPS-1E/ 11
WON-DOOR
PP-UPS-1E/ 20
EF-5
PP-EOS1-LE/ 2
TRAP PRIMER TP-1
OVERHEAD COILING DOOR
PP-N-1E-2/10,12
FCU-155
HEAT TRACE POWER CONNECTION
TO HEAT TRACE CONTROLLER 100E2B
PP-EOS2-1W-1/ 11
PP-UPS-1E/ 14
FIRE ALARM CONTROL PANEL
REFUGE COMMAND CENTER STATION, REF 9/ES04
DOOR OPERATOR
WALL MOUNTED ACTUATOR
DISPLAY CASE (DRY)
DISPLAY CASE (WET)
COFFEE BREWER
U/C REFRIGERATORS
ESPRESSO MACHINE
DIGITAL DISPLAY MENUS
DISPLAY REFRIGERATOR
RECEPTACLE BELOW COUNTER FOR REFRIGERATOR
HEAT TRACE POWER CONNECTION
TO HEAT TRACE CONTROLLER 100E2A
DEVICES MOUNTED TO CABLE TRAY (PROVIDED BY OTHERS), TYP OF 3
PP-N-1E-2/6,8
FCU-1TC2
NEMA L6-20
PP-EOS2-1E-TD/ 1,3
PP-EOS2-1E-TD/ 5,7
PP-EOS2-1E-TD/ 9
HEAT TRACE CONTROLLER 100E2A
FCU-1E1
PP-N-1E-2/2,4
PP-EOS2-1E-TD
LCP-N-1E
PP-UPS-1E/
LP-ELS-1E/
AUX. GUTTER
UP-N-1E
LCP-ELS-1E
PP-N-1E-1/ 35
PP-EOS1-LE/ 6
PP-EOS1-LE/ 8
HEAT TRACE CONTROLLER 100E2B
BP-N-1E-1
DP-N-1E
BD-N-E
PP-N-1E-1
PP-N-1E-2
TX-N-1E (TRAPEZE MOUNTED ABOVE)
ABOVE CEILING
TO HEAT TRACE CONTROLLER 100E2A
HEAT TRACE POWER CONNECTION
TO HEAT TRACE CONTROLLER 100E2B
FR4EX
FR4B
FR6B
FO2B S
FO2E S
FR1A
P1A
P2A
P3A
P4A
P5A
P6A
P7A
P8A
P9A
P10A
P11A
P12A
P13A
P14A
P15A
P16A
P17A
P18A
P19A
P20A
P21A
P22A
P23A
P24A
P25A
P26A
P27A
P28A
P29A
P30A
P31A
P32A
P33A
P34A
P35A
P36A
P37A
P38A
P39A
P40A

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
2. PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/E504.



E201.5
MATCHLINE
E201.4

1/4" = 1'-0" 1 FIRST FLOOR POWER PLAN PART 5

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND OWNER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE ACCURACY OF ANY OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMANCE OF THEIR REQUIRED SHOP DRAWINGS.

06/01/18	ISSUE NO. 19
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

FIRST FLOOR POWER PLAN PART 5

NUMBER:

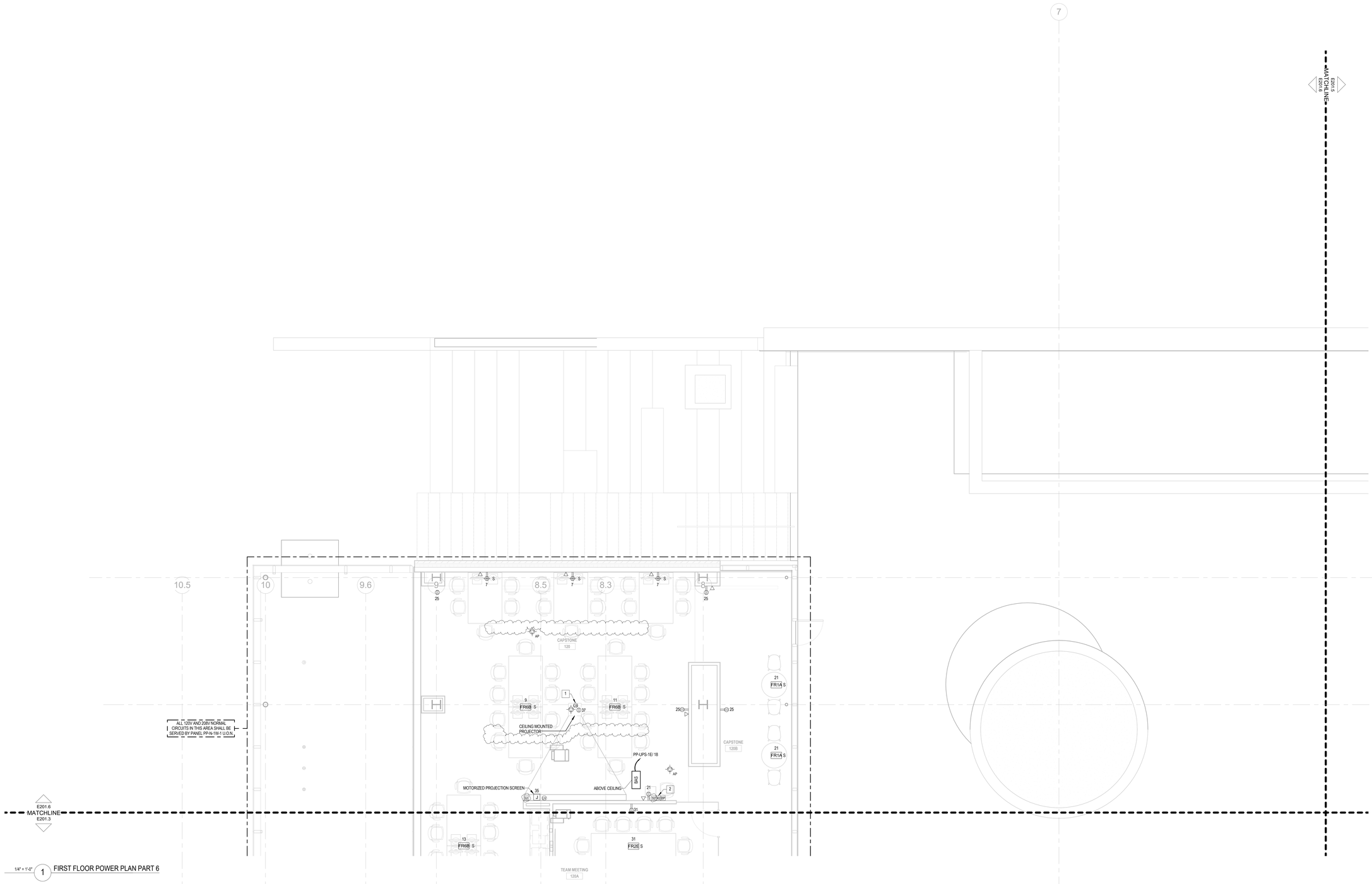
E201.5

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. PROVIDE (1)1-1/4" AND (2) 3/4" CONDUITS FOR AV ROUTED ABOVE CEILING FROM PROJECTOR BOX TO ABOVE BP/R3 DEVICES IN ROOM.
2. PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.



1/4" = 1'-0" 1 FIRST FLOOR POWER PLAN PART 6

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

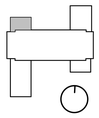
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

04/04/18	ISSUE NO. 14
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

FIRST FLOOR POWER PLAN PART 6

NUMBER:

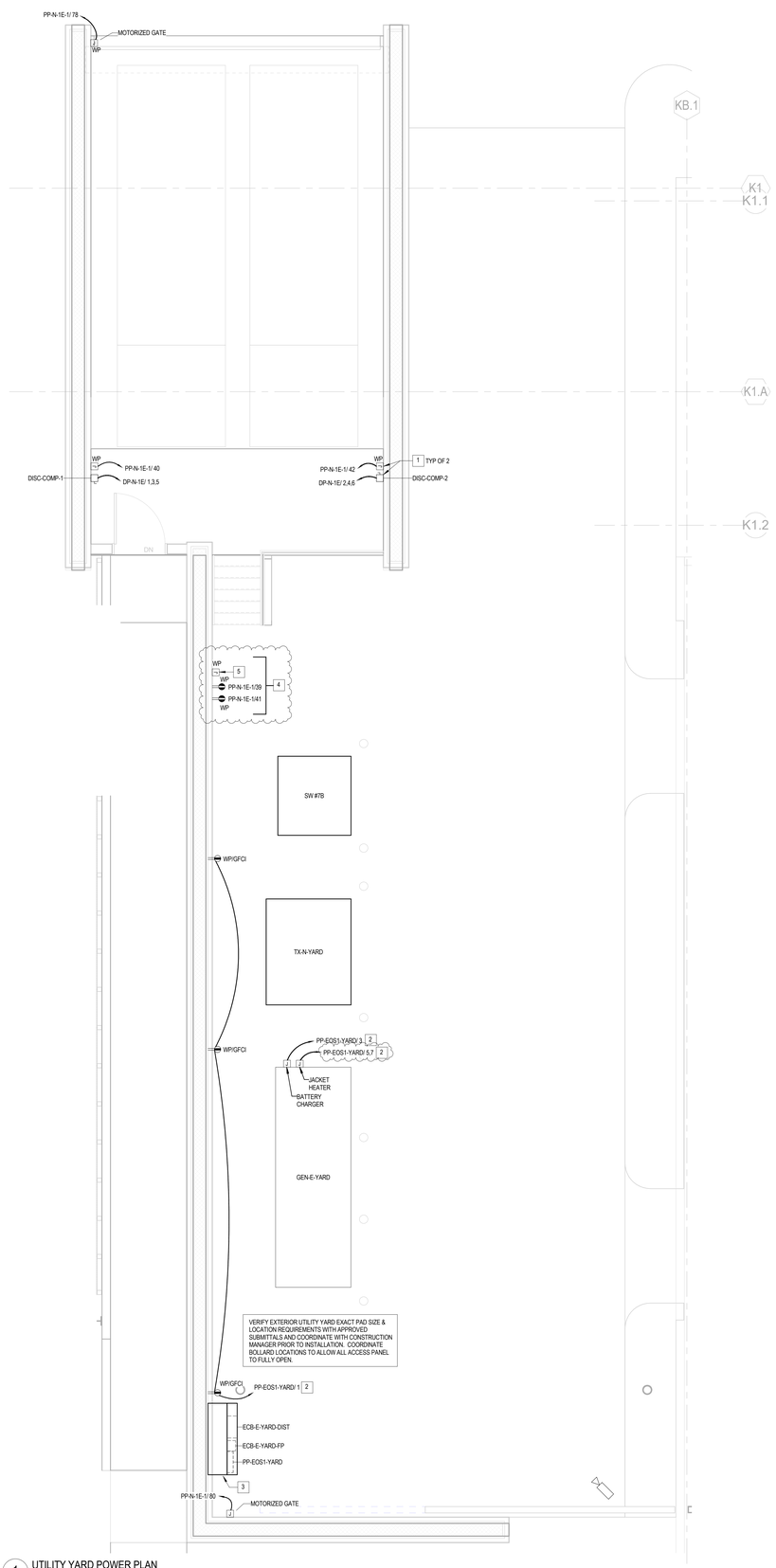
E201.6

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. PROVIDE POWER CONNECTION TO COMPACTOR MOTOR AND CONTROLS. COORDINATE EXACT LOCATION OF DISCONNECT SWITCH AND CONTROL PANEL PRIOR TO ROUGH-IN. FOR DISCONNECT SIZES, REFER TO SHEET E303.
2. ROUTE BRANCH CIRCUIT CONDUITS BELOW GRADE.
3. PROVIDE EQUIPMENT RACK FOR MOUNTING OF DISTRIBUTION EQUIPMENT. PROVIDE WEATHER PROOF WIREWAY AS INDICATED ON SHEET E302.
4. COORDINATE EXACT LOCATIONS OF CHARGING EQUIPMENT STATIONS WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN.
5. PROVIDE (4)#8, (1)#10G IN (1) 1" CONDUIT BELOW GRADE FROM JUNCTION BOX AND ROUTE TO WITHIN ELECTRICAL 100E2 FOR FUTURE FORKLIFT CHARGER.



1/4" = 1'-0" 1 UTILITY YARD POWER PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

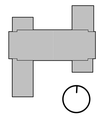
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

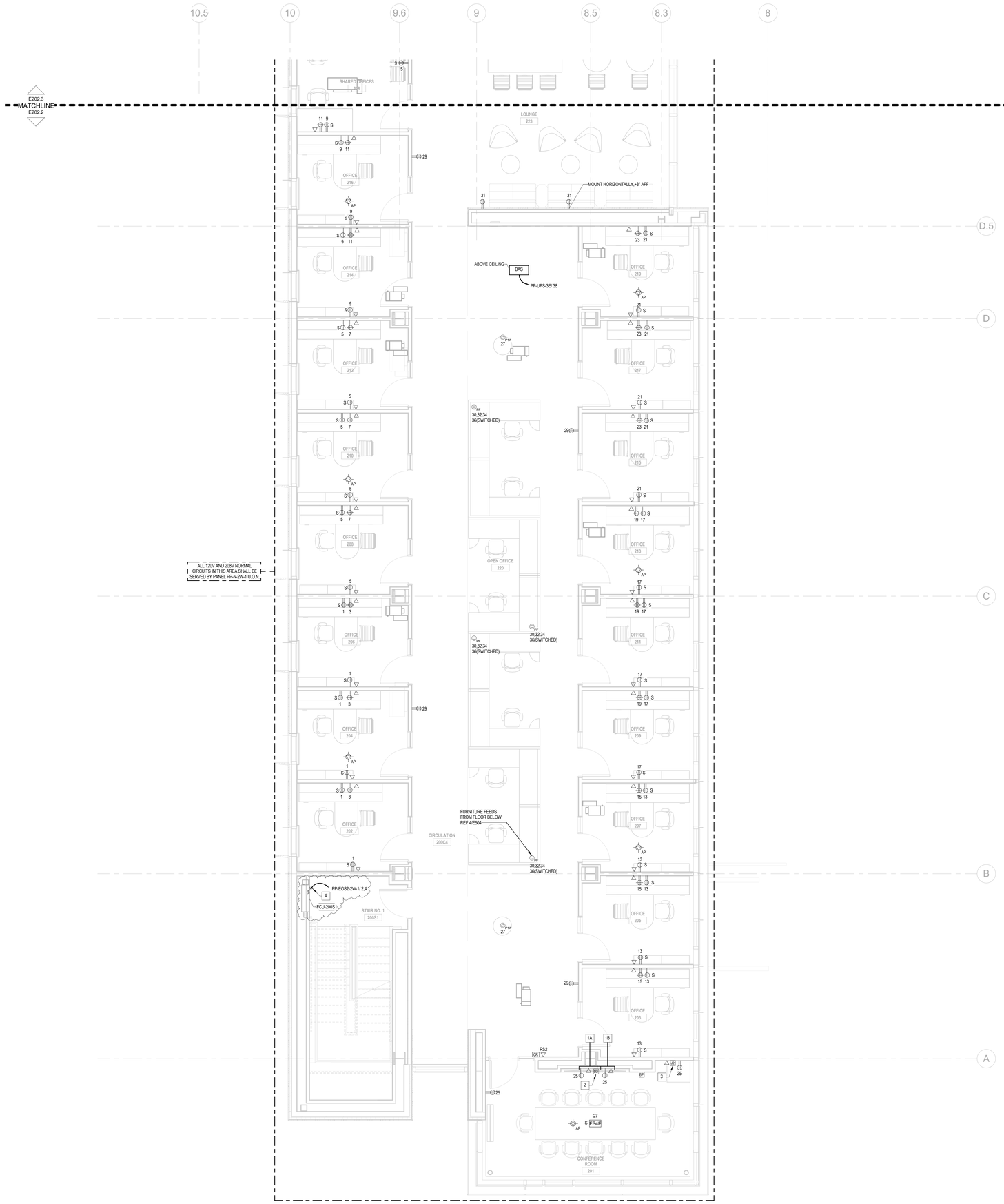
ELECTRICAL

TITLE:

UTILITY YARD POWER PLAN

NUMBER:

E201.7



1/4" = 1'-0" 1 SECOND FLOOR POWER PLAN PART 2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.

4 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

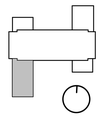
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THE DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

06/01/18	ISSUE NO. 19
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

E L E C T R I C A L

TITLE:

SECOND FLOOR POWER PLAN PART 2

NUMBER:

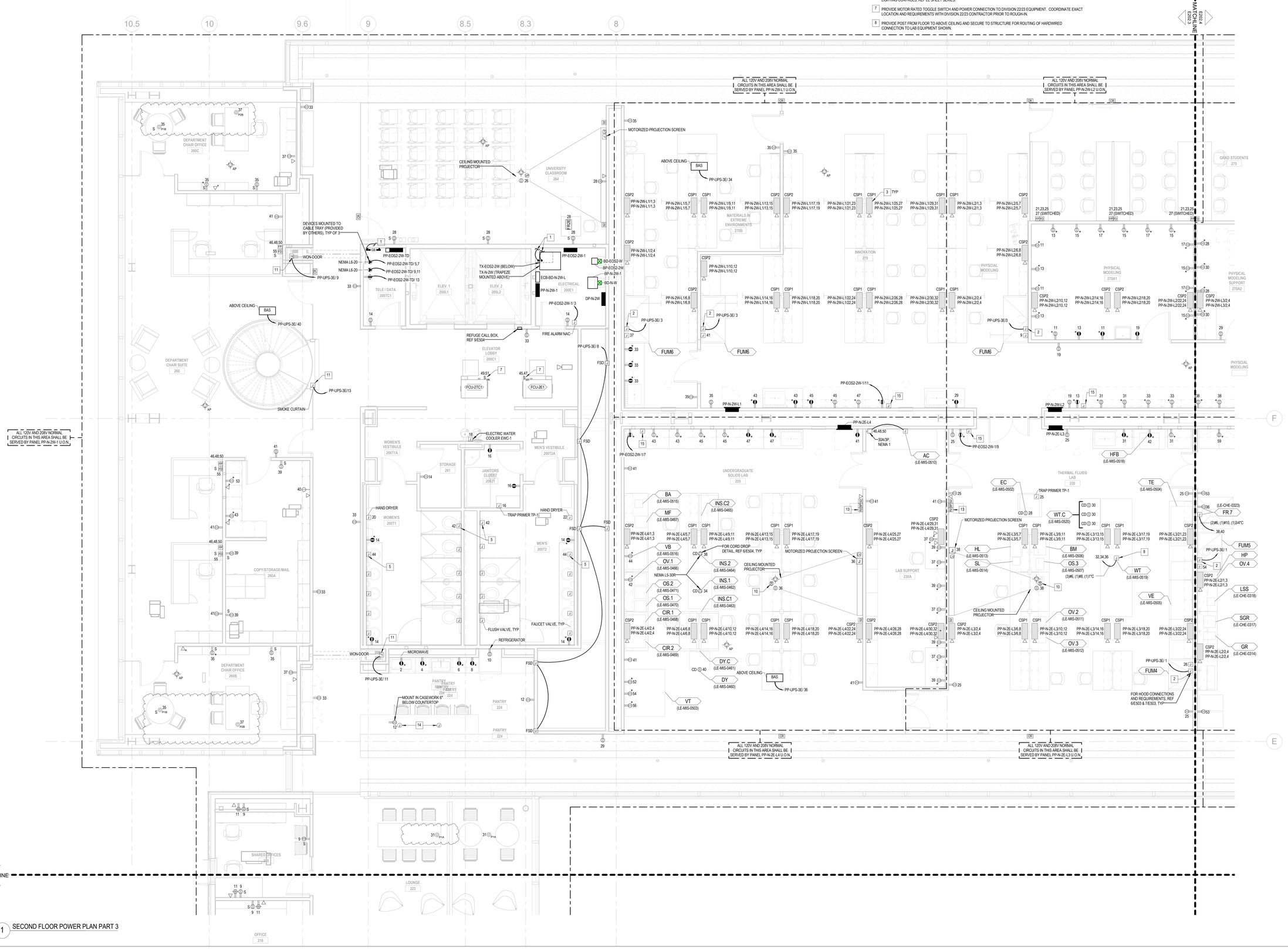
E202.2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.
2. FUME HOOD ALARM CIRCUIT.
3. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
4A. PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
4B. PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
5. FAUCET/FLUSH VALVES: PROVIDE FLUSH MOUNTED BOX IN WALL (SIZED AND LOCATED PER MANUFCTURER'S REQUIREMENTS) AND 3/4" HORIZONTAL RACEWAY TO ADJACENT BOX. PROVIDE POWER CONNECTION TO POWER KIT AT FIRST VALVE LOCATION. DIVISION 22 CONTRACTOR SHALL MAKE FINAL LOW VOLTAGE DAISY CHAIN CONNECTIONS TO ADJACENT VALVES.
6. SYSTEMS FURNITURE WIRING SHALL SHARE SAME CIRCUIT INDICATED. CONNECT SWITCHED PORTION OF CIRCUIT TO LIGHTING CONTROLS, REF EL SHEET SERIES.
7. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
8. PROVIDE POST FROM FLOOR TO ABOVE CEILING AND SECURE TO STRUCTURE FOR ROUTING OF HARDWIRED CONNECTION TO LAB EQUIPMENT SHOWN.
9. PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E5/A.
10. PROVIDE (1)1-1/4" AND (2) 3/4" CONDUITS FOR AV ROUTED ABOVE CEILING FROM PROJECTOR BOX TO ABOVE BP/P2 DEVICES IN ROOM.
11. INSTALL WON-DOOR OR SMOKE CURTAIN PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
12. PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.
13. PROVIDE (2) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.
14. PROVIDE DOUG MOCKET PCS73USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
15. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.



1/4" = 1'-0" 1 SECOND FLOOR POWER PLAN PART 3

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORM, THE USE OF IT AND ANY SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CLIENT. REFER TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THEM IN THE PREPARATION OF THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CONTENT OF SHOP DRAWINGS. SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/19/18	RFI-521
05/08/18	ISSUE NO. 17
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

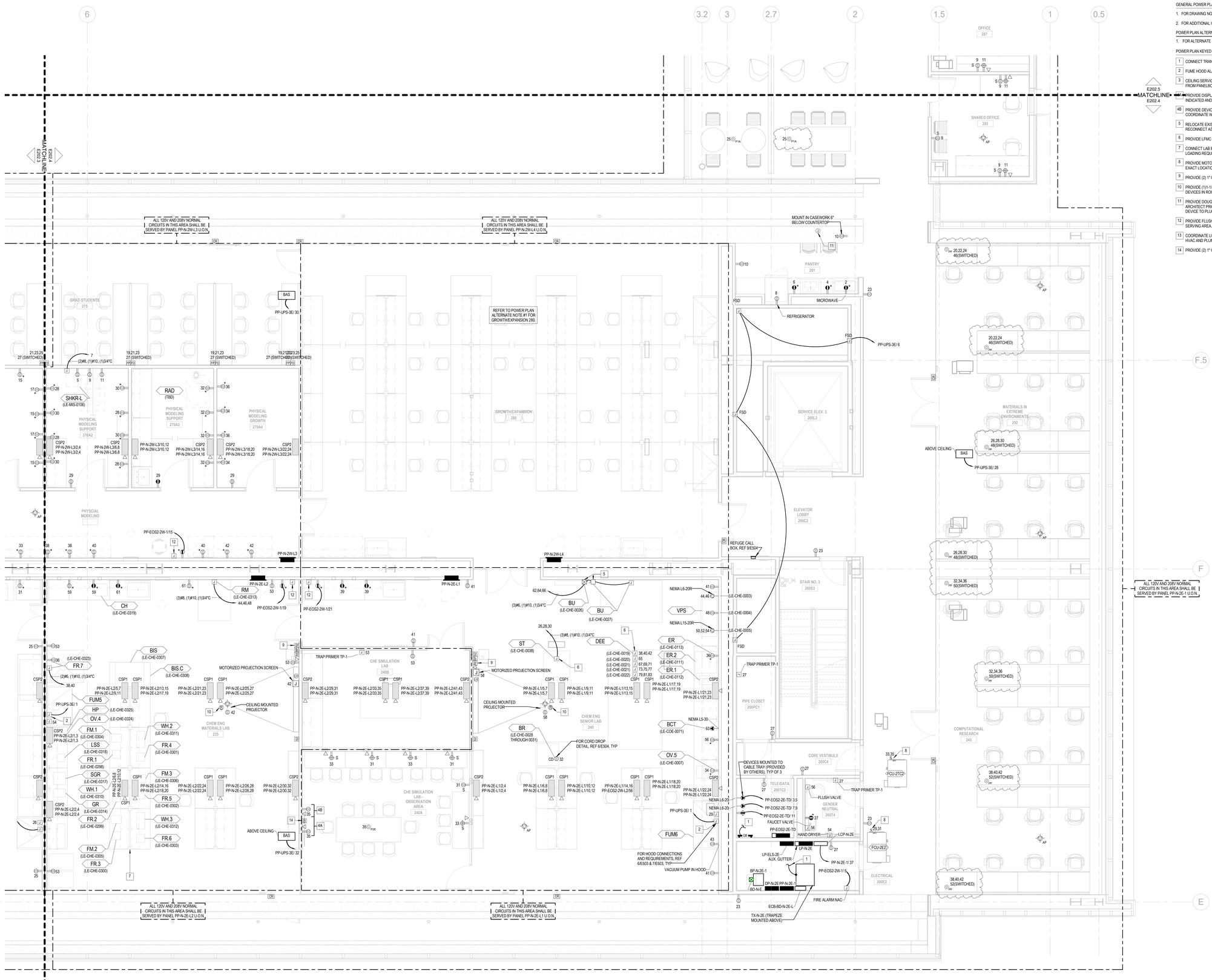
ELECTRICAL

TITLE:

SECOND FLOOR POWER PLAN PART 3

NUMBER:

E202.3



GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 1/E220.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.
2. FUME HOOD ALARM CIRCUIT.
3. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
4A. PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE-DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
4B. PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
5. RELOCATE EXISTING DISCONNECT AND STARTER FROM SWING SPACE TO NEW LOCATIONS SHOWN AND RECONNECT AS REQUIRED.
6. PROVIDE LFMC DROP FROM CEILING TO EQUIPMENT AS SHOWN. PROVIDE STRAIN RELIEF SIMILAR TO 6/E504.
7. CONNECT LAB EQUIPMENT TO BRANCH CIRCUITS EXACTLY AS IDENTIFIED ON PANELBOARD SCHEDULE DUE TO LOADING REQUIREMENTS.
8. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
9. PROVIDE (2) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.
10. PROVIDE (1)1-1/4" AND (2) 3/4" CONDUITS FOR AV ROUTED ABOVE CEILING FROM PROJECTOR BOX TO ABOVE BP/R2 DEVICES IN ROOM.
11. PROVIDE DOUG MOCKET PCS73/USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
12. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.
13. COORDINATE LOCATIONS AND REQUIREMENTS OF ALL DISCONNECT SWITCHES AND POWER CONNECTIONS TO HVAC AND PLUMBING EQUIPMENT WITH DIVISION 22 AND 23 CONTRACTORS PRIOR TO ROUGH IN.
14. PROVIDE (2) 1" CONDUITS FOR AV TO ABOVE ACCESSIBLE CEILING.

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING IS AGREED: USE OF INFORMATION CONTAINED IN THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO THE FOLLOWING ADDITIONAL CONDITIONS: THE OWNER OF THIS DOCUMENT, CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. USE OF INFORMATION IN THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SHOP DRAWINGS. THIS STATEMENT SHALL NOT RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
06/01/18	ISSUE NO. 19
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

SECOND FLOOR
POWER PLAN PART 4

NUMBER:

E202.4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

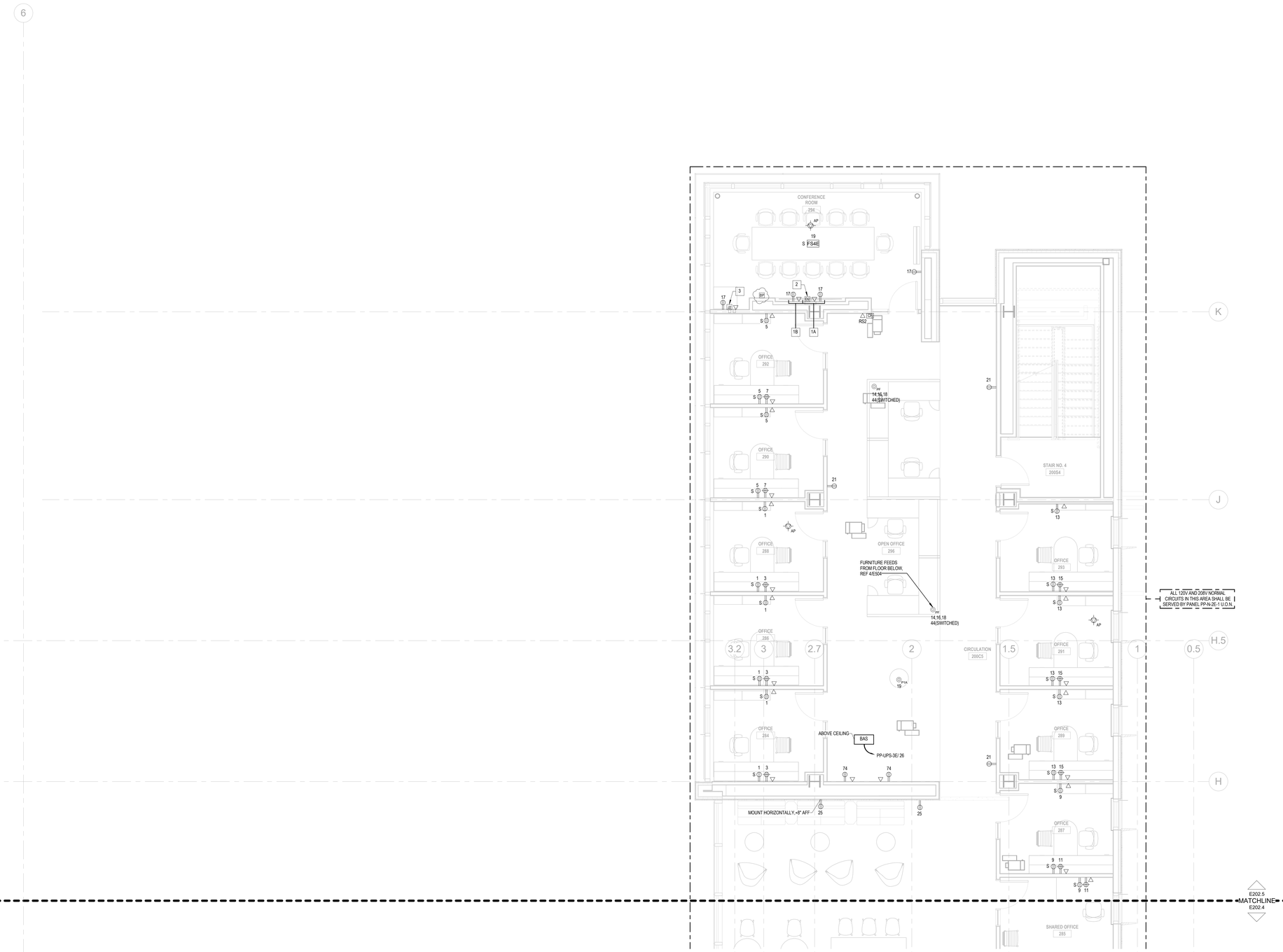
POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.



1/4" = 1'-0" 1 SECOND FLOOR POWER PLAN PART 5

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

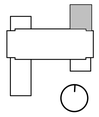
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THE DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE. SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPARATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

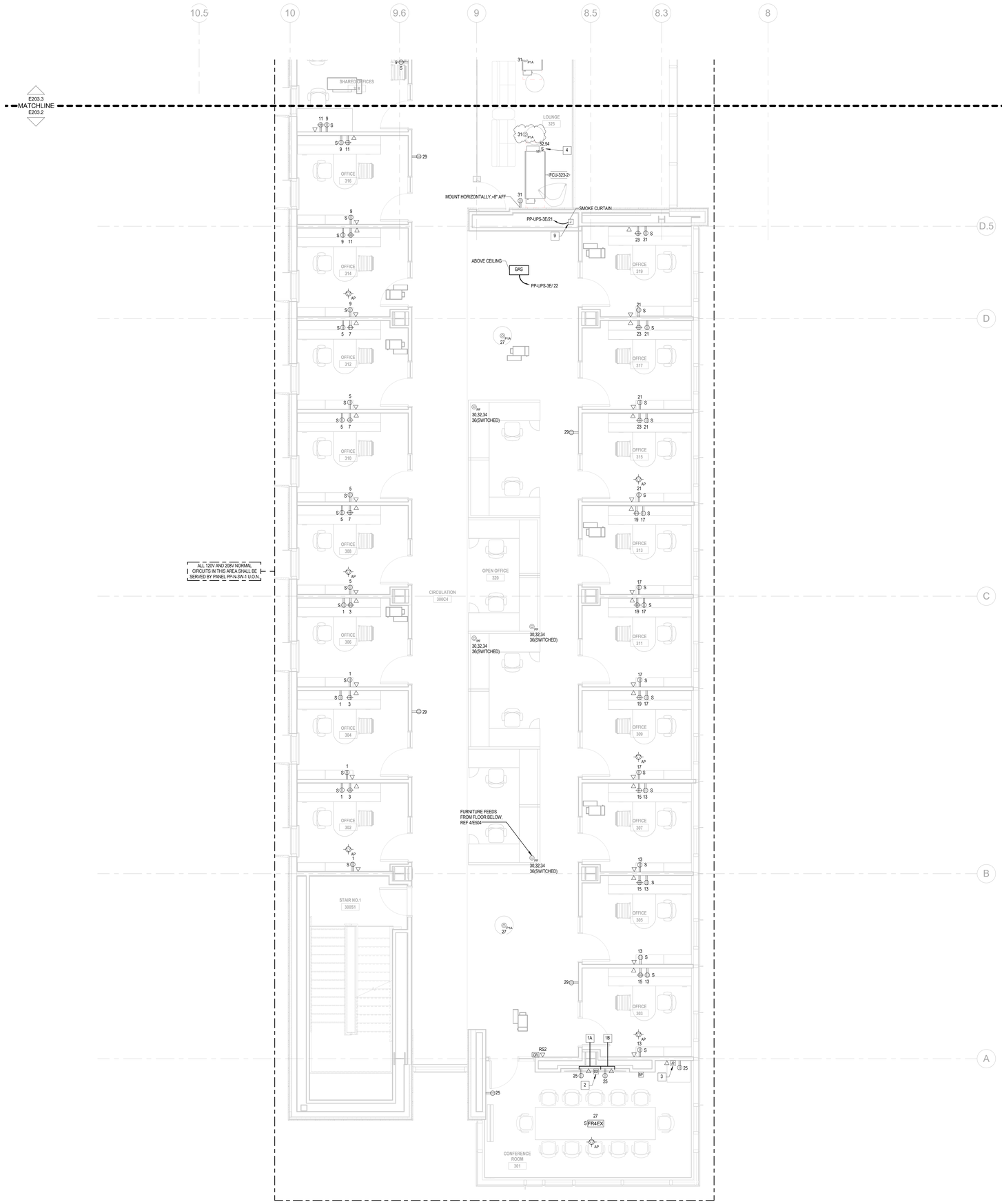
ELECTRICAL

TITLE:

SECOND FLOOR POWER PLAN PART 5

NUMBER:

E202.5



1/4" = 1'-0" 1 THIRD FLOOR POWER PLAN PART 2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.

4 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

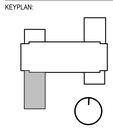
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO THE FOLLOWING CONDITIONS: CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE CONDITIONS OF THE AGREEMENT, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTORS' SHOP DRAWINGS NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

THIRD FLOOR POWER PLAN PART 2

NUMBER:

E203.2

GENERAL POWER PLAN NOTES:

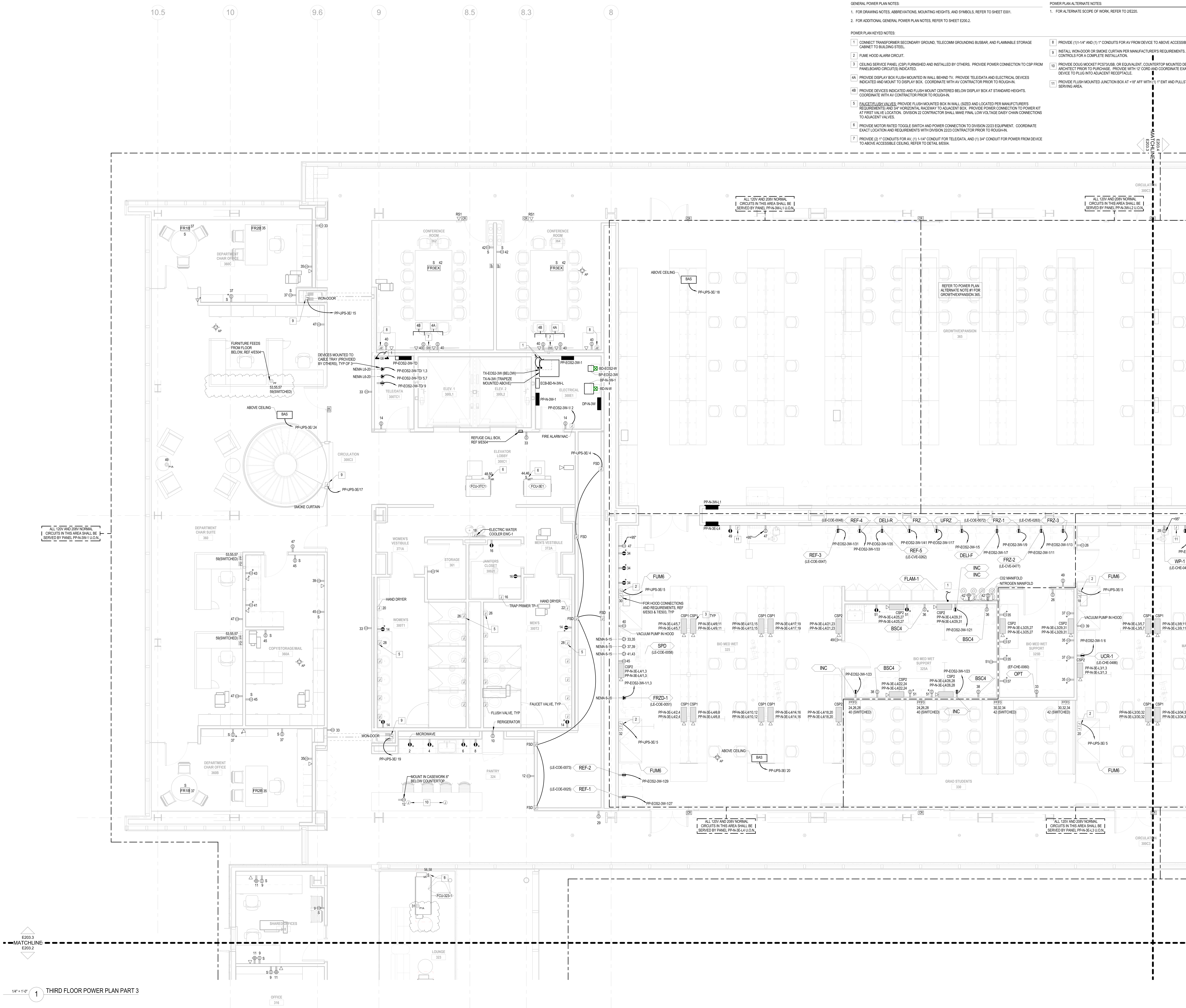
1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

- 1 CONNECT TRANSFORMER SECONDARY GROUND, TELECOMM GROUNDING BUSBAR, AND FLAMMABLE STORAGE CABINET TO BUILDING STEEL.
- 2 FUME HOOD ALARM CIRCUIT.
- 3 CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
- 4A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
- 4B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
- 5 FAUCET/FLUSH VALVES: PROVIDE FLUSH MOUNTED BOX IN WALL (SIZED AND LOCATED PER MANUFCTURER'S REQUIREMENTS) AND 3/4" HORIZONTAL RACEWAY TO ADJACENT BOX. PROVIDE POWER CONNECTION TO POWER KIT AT FIRST VALVE LOCATION. DIVISION 22 CONTRACTOR SHALL MAKE FINAL LOW VOLTAGE DAISY CHAIN CONNECTIONS TO ADJACENT VALVES.
- 6 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
- 7 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.
- 8 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.
- 9 INSTALL WON-DOOR OR SMOKE CURTAIN PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
- 10 PROVIDE DOUG MOCKET PCS73/USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
- 11 PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.

POWER PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 2/E220.



1/4" = 1'-0"
1 THIRD FLOOR POWER PLAN PART 3

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

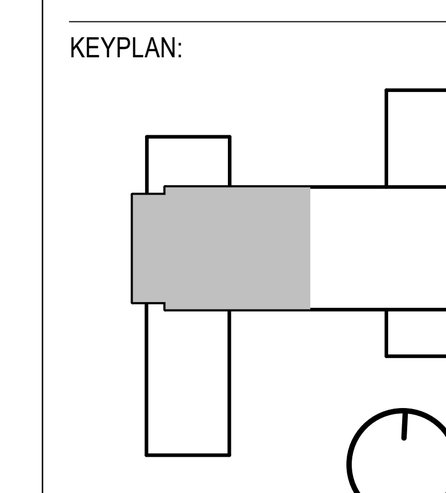
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
06/01/18	ISSUE NO. 19
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: 1/4" = 1'-0"

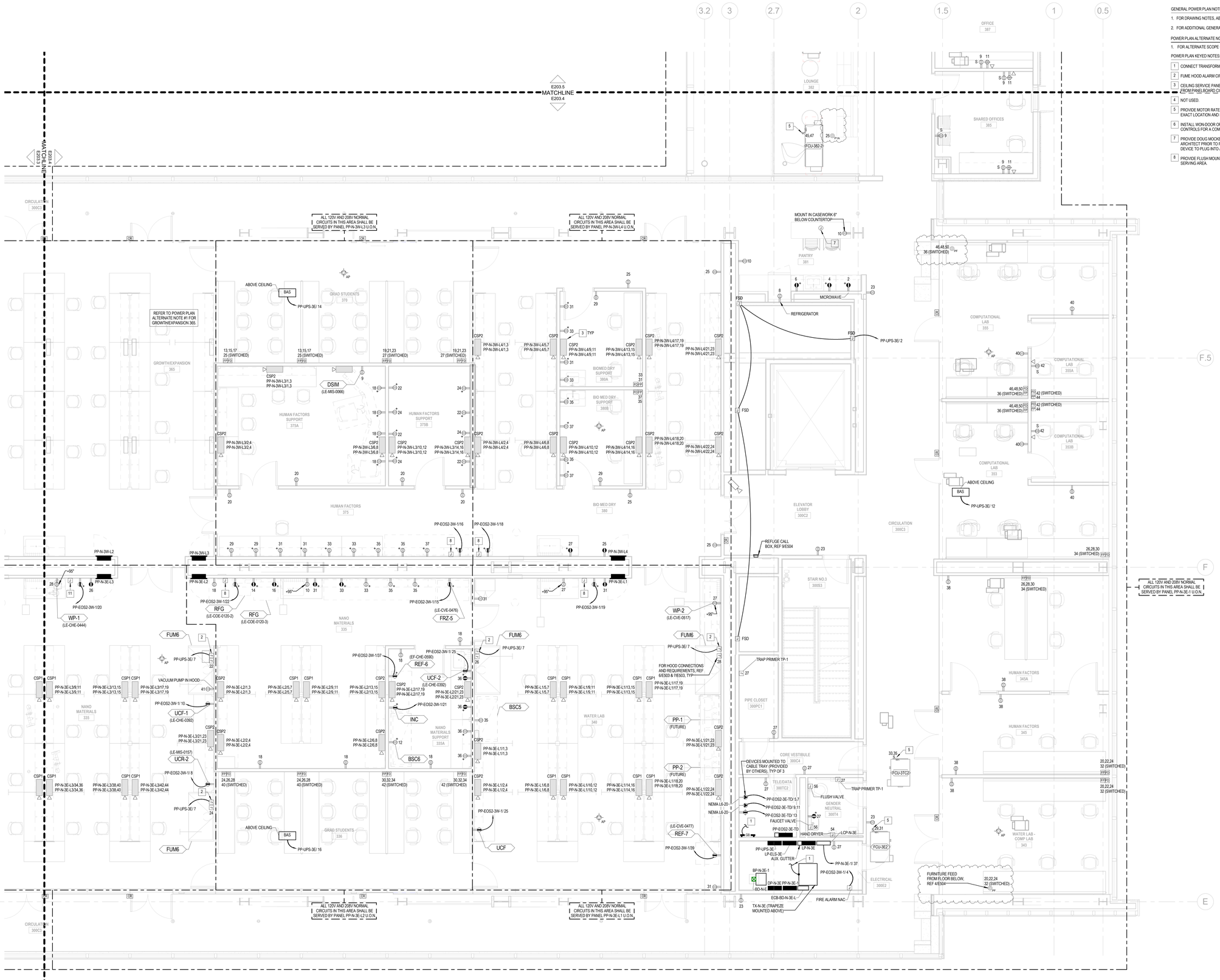
ELECTRICAL

TITLE:

THIRD FLOOR POWER PLAN PART 3

NUMBER:

E203.3



1/4" = 1'-0" 1 THIRD FLOOR POWER PLAN PART 4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 2/E220.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.
2. FUME HOOD ALARM CIRCUIT.
3. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
4. NOT USED.
5. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
6. INSTALL WON-DOOR OR SMOKE CURTAIN PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
7. PROVIDE DOUG MOCKET PCS73/USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
8. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS OF USE SHALL BE ACCEPTED. THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE USE OF INFORMATION IN THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMANCE OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
06/01/18	ISSUE NO. 19
05/25/18	RFI-506
04/17/18	ISSUE NO. 15
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

THIRD FLOOR POWER PLAN PART 4

NUMBER:

E203.4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

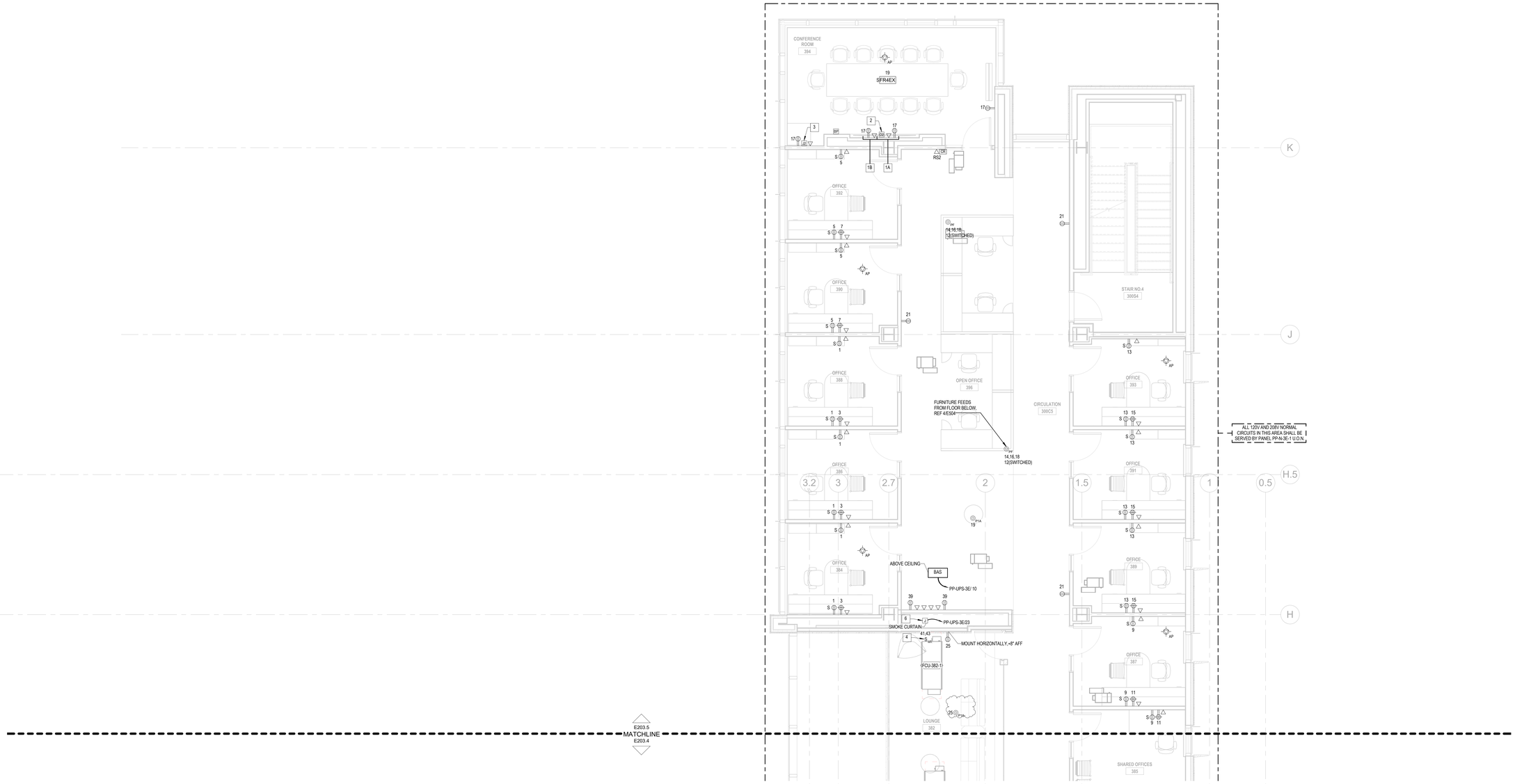
1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.

4 PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.



1/4" = 1'-0" 1 THIRD FLOOR POWER PLAN PART 5

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE. SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY EFFECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
04/17/18	ISSUE NO. 15
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

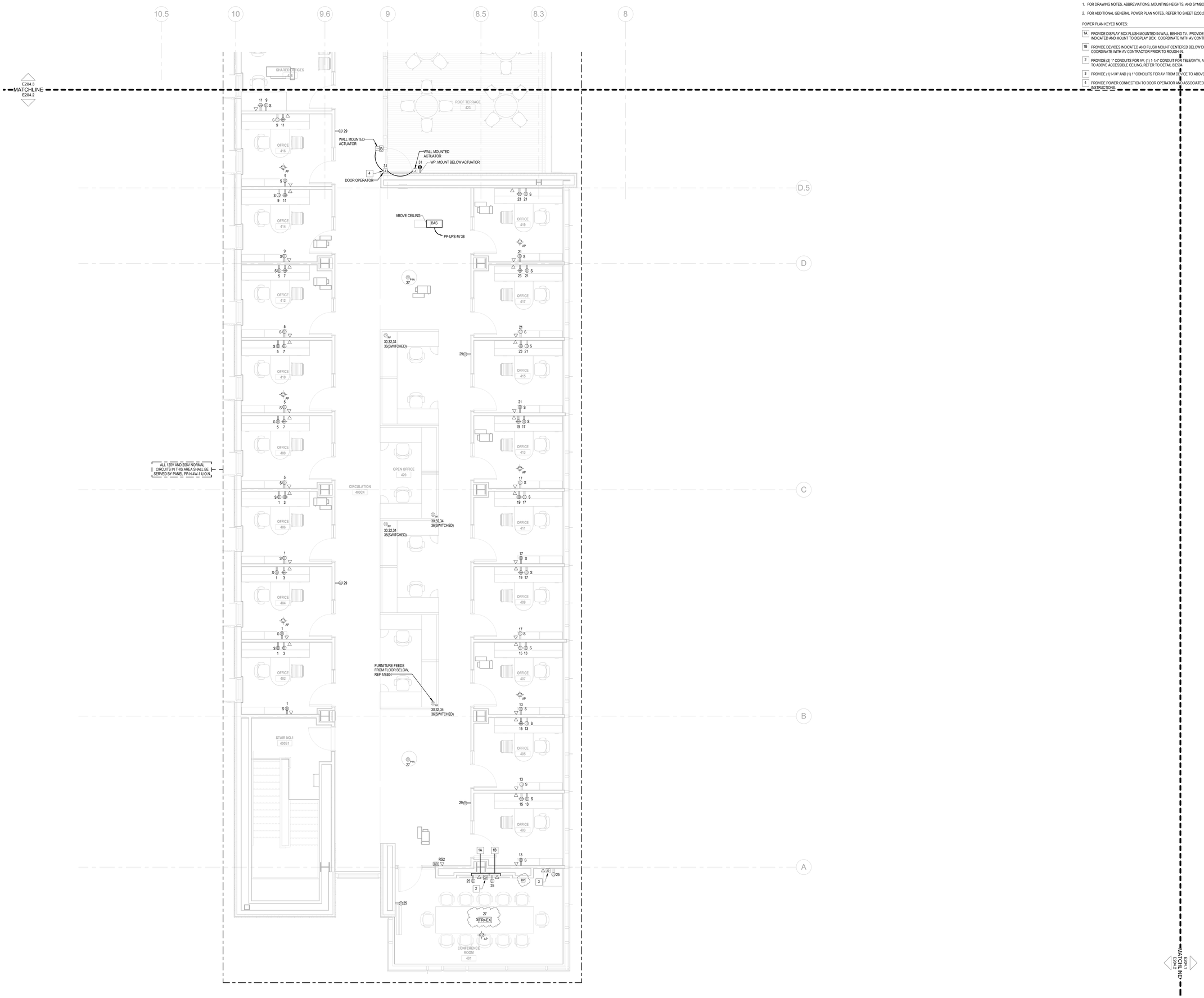
ELECTRICAL

TITLE:

THIRD FLOOR POWER PLAN PART 5

NUMBER:

E203.5



1/4" = 1'-0" 1 FOURTH FLOOR POWER PLAN PART 2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.

4 PROVIDE POWER CONNECTION TO DOOR OPERATOR AND ASSOCIATED ACTUATORS PER MANUFACTURER'S INSTRUCTIONS.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

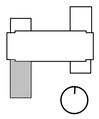
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

E L E C T R I C A L

TITLE:

FOURTH FLOOR POWER PLAN PART 2

NUMBER:

E204.2

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 1/E221.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND AND TELECOMM GROUNDING BUSBAR TO BUILDING STEEL.
2. NOT USED.
3. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
4A. PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
4B. PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.
5. FAUCET/FLUSH VALVES: PROVIDE FLUSH MOUNTED BOX IN WALL (SIZED AND LOCATED PER MANUFACTURER'S REQUIREMENTS) AND 3/4" HORIZONTAL RACEWAY TO ADJACENT BOX. PROVIDE POWER CONNECTION TO POWER KIT AT FIRST VALVE LOCATION. DIVISION 22 CONTRACTOR SHALL MAKE FINAL LOW VOLTAGE DAISY CHAIN CONNECTIONS TO ADJACENT VALVES.
6. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
7. PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E604.
8. PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.
9. INSTALL WON-DOOR PER MANUFACTURER'S REQUIREMENTS. PROVIDE ALL MATERIALS AND CONTROLS FOR A COMPLETE INSTALLATION.
10. PROVIDE DOUG MOCKET PCS73USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
11. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.

E204.6 MATCHLINE E204.3

E204.3 MATCHLINE E204.2

ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-4W-1 U.O.N.

ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-4W-L1 U.O.N.

ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-4E-L4 U.O.N.

ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-4E-L3 U.O.N.

CONFERENCE ROOM 463 — S FR2B 35 — 4A 4B 7 — 41 41 39 39 — DEVICES MOUNTED TO CABLE TRAY (PROVIDED BY OTHERS), TYP OF 3

CONFERENCE ROOM 462 — S 24 FR3EX — 4B 4A 7 — 26 26 26

CONFERENCE ROOM 464 — S 24 FR3EX — 4B 4A 7 — 26 26 26

RS1 RS1 — 1 8 26 — PP-EOS2-4W-TD — PP-EOS2-4W-TD/ 3,5 — PP-EOS2-4W-TD/ 7,9 — PP-EOS2-4W-TD/ 11 — NEMA L6-20 NEMA L6-20 — 33

TELE/ DATA 400TC1 — ELEV. 1 400L1 — ELEV. 2 400L2 — ELECTRICAL 400E1

PP-EOS2-4W-1 — TX-EOS2-4W (BELOW) — TX-N-4W (TRAPEZE MOUNTED ABOVE) — ECB-BD-N-4W-L — PP-N-4W-1 — PP-EOS2-4W-1/ 3 — 14 14 — BD-EOS2-W — BP-EOS2-4W — BP-N-4W-1 — BD-N-W — DP-N-4W

REFUGE CALL BOX, REF. 9/E504 — 33 — FIRE ALARM NAC

ABOVE CEILING — BAS — PP-UPS-M' 40 — 9 — WON-DOOR — PP-UPS-M' 2

FURNITURE FEEDS FROM FLOOR BELOW. REF 4/E504 — 55,57,59 61(SWITCHED)

STAIR NO. 2 400S2 — CENTER FOR ENTREPRENEURSHIP SUITE 460

ELEVATOR LOBBY 400C1 — 50,52 — 6 — 46,48 — PP-UPS-M' 10 — FSO — FCU-4TC1 — FCU-4E1

WOMEN'S VESTIBULE 400T1A — STORAGE 461 — JANITORS CLOSET 400J1 — MEN'S VESTIBULE 400T2A — 18 ELECTRIC WATER COOLER EWC-1 — 16

WOMEN'S 400T1 — MEN'S 400T2 — HAND DRYER — 20 — 22 — TRAP PRIMER TP-1 — 42 — 5 — 44 — 14 — FSD — FLUSH VALVE, TYP — RERIGERATOR — FAUCET VALVE, TYP — MICROWAVE — 2 4 6 8 — 10

MOUNT IN CASEWORK 6" BELOW COUNTERTOP — 12 — 10

PANTRY 424 — OFFICE 460B — S FR1B 37 — FR2B 35 — 47 — 37 37 — 35

SHARED OFFICES — 11 9 — S

ROOF TERRACE 423 — OFFICE 416

FUTURE EXPANSION 465 — REFER TO POWER PLAN ALTERNATE NOTE #1 FOR FUTURE EXPANSION 465.

ABOVE CEILING — BAS — PP-UPS-M' 34

ABOVE CEILING — BAS — PP-UPS-M' 36

PP-N-4W-L1 — PP-N-4E-L4 — 35 37 37 39 39 41 41 43 11 11 43 43 45 45 47 47 49 49 51 41 — PP-EOS2-4W-1/11 — PP-EOS2-4W-1/13

CSP1 CSP2 CSP3 — PP-N-4E-L4/1,3 PP-N-4E-L4/1,3 — PP-N-4E-L4/5,7 PP-N-4E-L4/5,7 — PP-N-4E-L4/9,11 PP-N-4E-L4/9,11 — PP-N-4E-L4/13,15 PP-N-4E-L4/13,15 — PP-N-4E-L4/17,19 PP-N-4E-L4/17,19 — PP-N-4E-L4/21,23 PP-N-4E-L4/21,23 — PP-N-4E-L4/25,27 PP-N-4E-L4/25,27 — PP-N-4E-L4/29,31 PP-N-4E-L4/29,31 — PP-N-4E-L3/1,3 PP-N-4E-L3/1,3 — PP-N-4E-L3/5,7 — PP-N-4E-L3/9,11 PP-N-4E-L3/9,11 — PP-N-4E-L3/13,15 PP-N-4E-L3/13,15 — PP-N-4E-L3/17,19 PP-N-4E-L3/17,19 — PP-N-4E-L3/21,23 PP-N-4E-L3/21,23 — PP-N-4E-L3/25,27 PP-N-4E-L3/25,27

SMART CITIES 425 — SMART CITIES 425A — SMART CITIES 430A — SMART CITIES 430

CSP1 CSP2 CSP3 — PP-N-4E-L4/2,4 PP-N-4E-L4/2,4 — PP-N-4E-L4/6,8 PP-N-4E-L4/6,8 — PP-N-4E-L4/10,12 PP-N-4E-L4/10,12 — PP-N-4E-L4/14,16 PP-N-4E-L4/14,16 — PP-N-4E-L4/18,20 PP-N-4E-L4/18,20 — PP-N-4E-L4/22,24 PP-N-4E-L4/22,24 — PP-N-4E-L4/26,28 PP-N-4E-L4/26,28 — PP-N-4E-L4/30,32 PP-N-4E-L4/30,32 — PP-N-4E-L3/2,4 PP-N-4E-L3/2,4 — PP-N-4E-L3/6,8 — PP-N-4E-L3/10,12 PP-N-4E-L3/10,12 PP-N-4E-L3/14 — PP-N-4E-L3/16,18 PP-N-4E-L3/16,18 PP-N-4E-L3/14 — PP-N-4E-L3/20,22 PP-N-4E-L3/20,22 PP-N-4E-L3/24 — PP-N-4E-L3/26,28 PP-N-4E-L3/26,28 PP-N-4E-L3/24 — PP-N-4E-L3/30,32 PP-N-4E-L3/30,32 PP-N-4E-L3/34

1/4" = 1'-0" 1 FOURTH FLOOR POWER PLAN PART 3

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORM, THE USE BY OWNER OR SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN OWNER AND BALLINGER RELATIVE TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THEM IN THE BIDDING AND CONSTRUCTION PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CONTENT OF SHOP DRAWINGS. SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
06/29/18	ISSUE NO. 21
06/01/18	ISSUE NO. 19
05/08/18	ISSUE NO. 17
04/04/18	ISSUE NO. 14
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

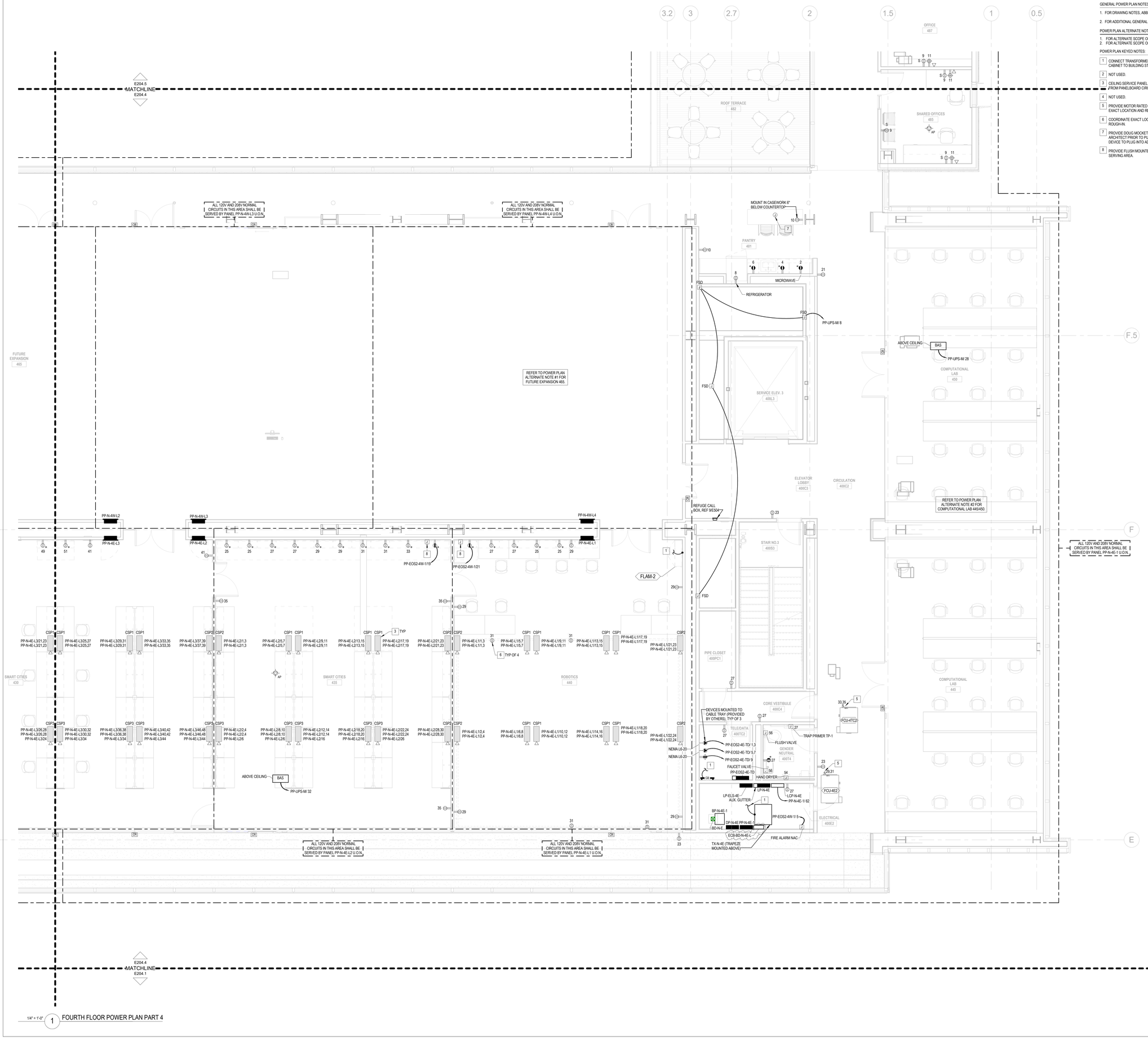
ELECTRICAL

TITLE:

FOURTH FLOOR POWER PLAN PART 3

NUMBER:

E204.3



1/4" = 1'-0" 1 FOURTH FLOOR POWER PLAN PART 4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 1/E221.
2. FOR ALTERNATE SCOPE OF WORK, REFER TO 3/E220.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND, TELECOMM GROUNDING BUSBAR, AND FLAMMABLE STORAGE CABINET TO BUILDING STEEL.
2. NOT USED.
3. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
4. NOT USED.
5. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 22/23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
6. COORDINATE EXACT LOCATION OF CEILING MOUNTED DEVICES WITH MANUFACTURER'S REQUIREMENTS PRIOR TO ROUGH-IN.
7. PROVIDE DOUG MOCKET PCS73/USB, OR EQUIVALENT, COUNTERTOP MOUNTED DEVICE. CONFIRM COLOR WITH ARCHITECT PRIOR TO PURCHASE. PROVIDE WITH 12' CORD AND COORDINATE EXACT LOCATION IN FIELD TO ALLOW DEVICE TO PLUG INTO ADJACENT RECEPTACLE.
8. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

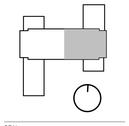
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE USE OF THIS DOCUMENT SHALL BE RESTRICTED TO THE SUCCESSFUL BIDDER AND SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. ANY USE MADE OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMANCE OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

FOURTH FLOOR POWER PLAN PART 4

NUMBER:

E204.4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1A PROVIDE DISPLAY BOX FLUSH MOUNTED IN WALL BEHIND TV. PROVIDE TELE/DATA AND ELECTRICAL DEVICES INDICATED AND MOUNT TO DISPLAY BOX. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

1B PROVIDE DEVICES INDICATED AND FLUSH MOUNT CENTERED BELOW DISPLAY BOX AT STANDARD HEIGHTS. COORDINATE WITH AV CONTRACTOR PRIOR TO ROUGH-IN.

2 PROVIDE (2) 1" CONDUITS FOR AV, (1) 1-1/4" CONDUIT FOR TELE/DATA, AND (1) 3/4" CONDUIT FOR POWER FROM DEVICE TO ABOVE ACCESSIBLE CEILING, REFER TO DETAIL 8/E504.

3 PROVIDE (1)1-1/4" AND (1) 1" CONDUITS FOR AV FROM DEVICE TO ABOVE ACCESSIBLE CEILING.

4 PROVIDE POWER CONNECTION TO DOOR OPERATOR AND ASSOCIATED ACTUATORS PER MANUFACTURER'S INSTRUCTIONS.



1/4" = 1'-0" 1 FOURTH FLOOR POWER PLAN PART 5

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

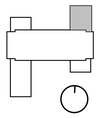
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

FOURTH FLOOR POWER PLAN PART 5

NUMBER:

E204.5

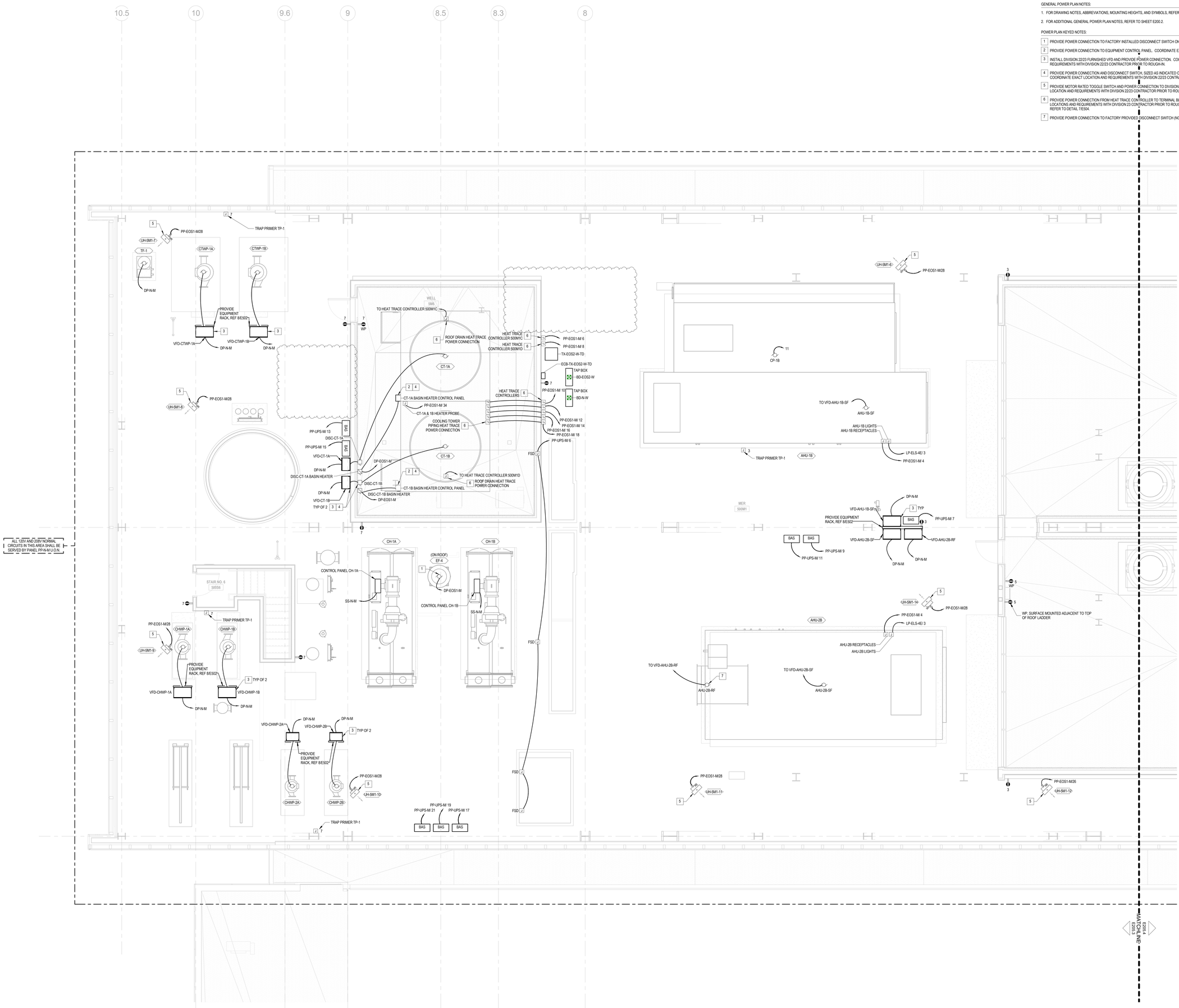
GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. PROVIDE POWER CONNECTION TO FACTORY INSTALLED DISCONNECT SWITCH ON DIVISION 23 EQUIPMENT.
2. PROVIDE POWER CONNECTION TO EQUIPMENT CONTROL PANEL. COORDINATE EXACT LOCATION IN FIELD.
3. INSTALL DIVISION 22/23 FURNISHED VFD AND PROVIDE POWER CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
4. PROVIDE POWER CONNECTION AND DISCONNECT SWITCH, SIZED AS INDICATED ON SINGLE LINE DIAGRAM. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
5. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
6. PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/ES04.
7. PROVIDE POWER CONNECTION TO FACTORY PROVIDED DISCONNECT SWITCH (NOT SHOWN).

ALL 120V AND 208V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-N-M U.O.N.



1/4" = 1'-0" 1 MECHANICAL FLOOR POWER PLAN PART 3

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO OTHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE OWNER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, BUT SUBJECT TO THIS STATEMENT. IN SUBMISSION OF DWG. DGN FILES FOR CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

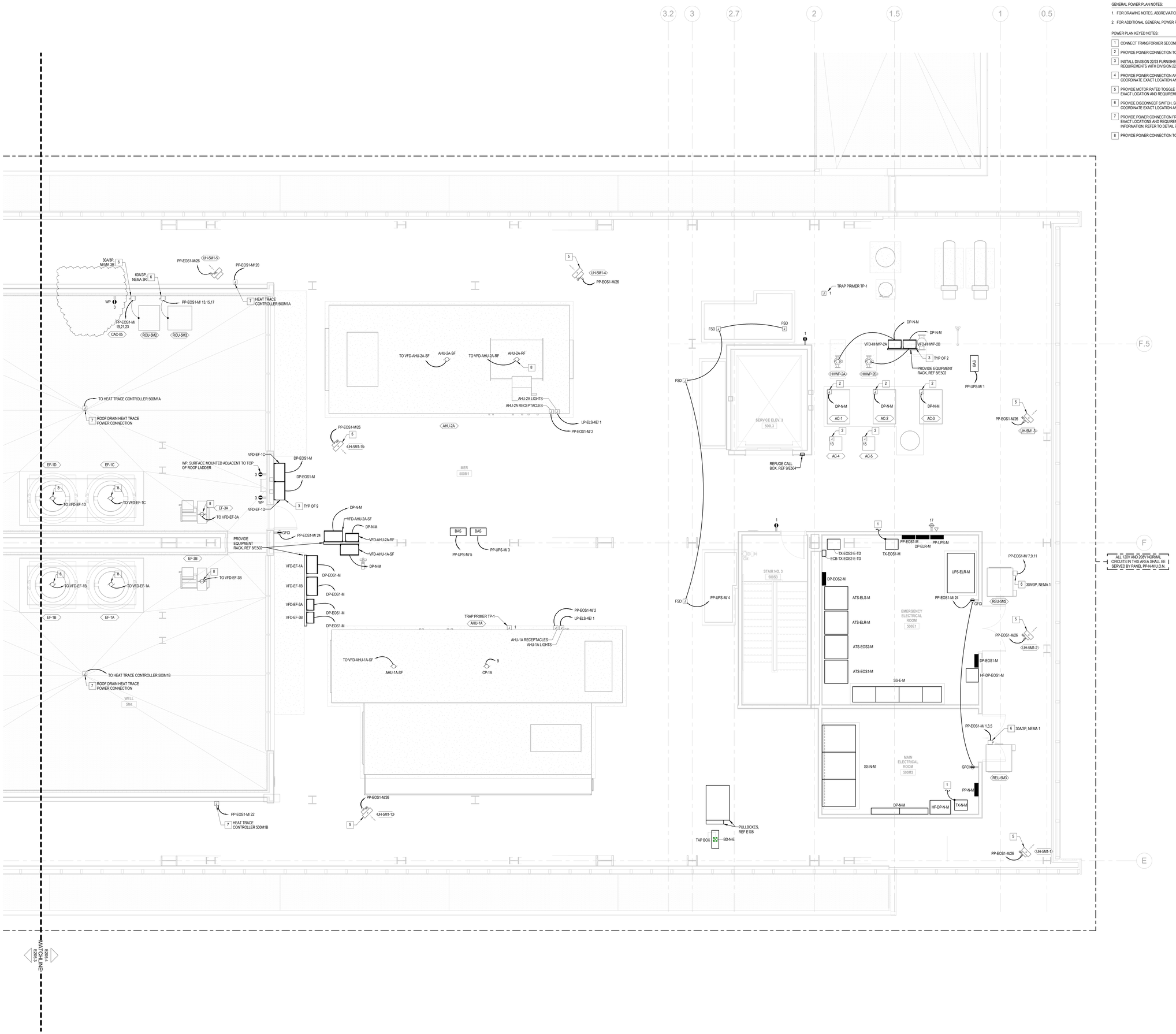
ELECTRICAL

TITLE:

MECHANICAL FLOOR POWER PLAN PART 3

NUMBER:

E205.3



1/4" = 1'-0" 1 MECHANICAL FLOOR POWER PLAN PART 4

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. CONNECT TRANSFORMER SECONDARY GROUND TO BUILDING STEEL.
2. PROVIDE POWER CONNECTION TO EQUIPMENT CONTROL PANEL. COORDINATE EXACT LOCATION IN FIELD.
3. INSTALL DIVISION 22/23 FURNISHED VFD AND PROVIDE POWER CONNECTION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
4. PROVIDE POWER CONNECTION AND DISCONNECT SWITCH, SIZED AS INDICATED ON SINGLE LINE DIAGRAM. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
5. PROVIDE MOTOR RATED TOGGLE SWITCH AND POWER CONNECTION TO DIVISION 23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
6. PROVIDE DISCONNECT SWITCH, SIZED AS INDICATED, AND POWER CONNECTION TO DIVISION 23 EQUIPMENT. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN.
7. PROVIDE POWER CONNECTION FROM HEAT TRACE CONTROLLER TO TERMINAL BLOCK AT PIPING. COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH DIVISION 22/23 CONTRACTOR PRIOR TO ROUGH-IN. FOR FURTHER INFORMATION, REFER TO DETAIL 7/E504.
8. PROVIDE POWER CONNECTION TO FACTORY PROVIDED DISCONNECT SWITCH (NOT SHOWN).

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

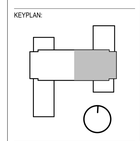
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS. NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

MECHANICAL FLOOR POWER PLAN PART 4

NUMBER:

E205.4

RESEARCH LABORATORY EQUIPMENT SCHEDULE - NEW

TAG	DESCRIPTION	LOCATION	VOLTS	PHASE	AMPS	VA	CONNECTION
ACID6	6' ACID CHEMICAL FUME HOOD	GLASSWASH 075	120	1	-	503	HARDWIRED
BSC4	4' BIOLOGICAL SAFETY CABINET	BIO MED WET SUPPORT 325A	120	1	-	503	5-20
BSC6	6' BIOLOGICAL SAFETY CABINET	NANO MAT. SUPPORT 335A	120	1	-	503	5-20
CFM	CONFOCAL MICROSCOPE (FUTURE)	IMAGING 060	TBD	TBD	TBD	TBD	TBD
DELI-F	DELI FREEZER	BIO MED WET 325	120	1	11.6	1392	5-20
DELI-R	DELI REFRIGERATOR	BIO MED WET 325	120	1	5.8	696	5-20
FLAM-1	FLAMMABLE STORAGE CABINET	BIO MED WET 325	-	-	-	-	-
FLAM-2	FLAMMABLE STORAGE WALL CABINET	ROBOTICS 440	-	-	-	-	-
FUM6	6' CHEMICAL FUME HOOD	MULTIPLE - REF PLANS	120	1	-	503	HARDWIRED
GWD1/2	GLASSWARE WASHER/DRYER	ANALYTICAL CORE 067	480	3	25.5	21,200	HARDWIRED
ICE	ICE FLAKER	ANALYTICAL CORE 067	120	1	-	854	5-20
INC	INCUBATOR	MULTIPLE - REF PLANS	120	1	3.6	432	5-20
RO	REVERSE OSMOSIS SYSTEM	ANALYTICAL CORE 067	120	1	-	503	5-20
ST1/ST2	STEAM STERILIZER - CONTROLS	ANALYTICAL CORE 067	120	1	2	240	HARDWIRED
ST1/ST2	STEAM STERILIZER - VACUUM PUMP	ANALYTICAL CORE 067	480	3	3	2500	HARDWIRED
UCF	UNDERCOUNTER FREEZER	WATER LAB 340	120	1	-	307	5-20
UFRZ	ULTRA-LOW FREEZER	BIO MED WET 325	120	1	-	600	5-20

RESEARCH LABORATORY EQUIPMENT SCHEDULE - EXISTING

TAG	HILL #	DESCRIPTION	LOCATION	VOLTS	PHASE	AMPS	VA	CONNECTION
AFM	LE-CHE-0377	ATOMIC FORCE MICROSCOPE	ANALYTICAL CORE 067	120	1	-	-	5-20
CFM	(NEW)	CONFOCAL MICROSCOPE	IMAGING 050					
CNC-LATHE-1	LE-MIS-0306	CNC TABLE TOP LALTHE	SHOP 180A	120	1	-	792	5-20
CNC-LATHE-2	LE-MIS-0307	CNC TABLE TOP LALTHE	SHOP 180A	120	1	-	792	5-20
CNC-MILL-1	LE-MIS-0305	CNC TABLE TOP MILL	SHOP 180A	120	1	-	792	5-20
CNC-MILL-2	LE-MIS-0304	CNC TABLE TOP MILL	SHOP 180A	120	1	-	792	5-20
COMP	LE-MIS-0326	TENSILE/COMPRESSION TESTER	SHOP 180A	120	1	-	600	5-20
DSIM	LE-MIS-0066	DRIVING SIMULATOR	HUMAN FACT. SUP. 375A	120	1	-	997	5-20
FESEM	LE-CHE-0282	VACUUM PUMP	CLOSET 050	120	1	7.8	936	5-20
FESEM	LE-CHE-0287	CHILLER	CLOSET 050	208	1	8.8	1830	L6-30
FESEM	LE-CHE-0288	ROTARY PUMP	CLOSET 050	120	1	6.4	768	5-20
FESEM	LE-CHE-0289	CRYO-XFER STATION	CLOSET 050	120	1	8	960	5-20
FESEM	LE-CHE-0290	STATION	IMAGING 060B	-	-	-	-	-
FESEM	LE-CHE-0291	MISCROSCOPE (FESEM)	IMAGING 060B	208	1	8	1664	2x L6-30
FESEM	LE-CHE-0292	COMPUTER STATION	IMAGING 060B	120	1	-	307	5-20
FESEM	LE-CHE-0293	OXFORD INSTRUMENTS	IMAGING 060B	120	1	-	997	5-20
FESEM	LE-CHE-0294	OXFORD INSTRUMENTS	IMAGING 060B	120	1	-	997	5-20
FRZ-1	LE-COE-0072	UPRIGHT FREEZER	BIO MED WET 325	120	1	-	701	5-20
FRZ-2	LE-CVE-0477	UPRIGHT FREEZER	BIO MED WET 325	120	1	-	701	5-20
FRZ-3	LE-CVE-0263	UPRIGHT FREEZER	BIO MED WET 325	120	1	2	240	5-20
FRZ-4	LE-CVE-0476	UPRIGHT FREEZER	NANO MATERIALS 335	120	1	-	701	5-20
FRZD-1	LE-COE-0051	FREEZE DRYER	BIO MED WET 325	208	1	9	624	6-20
GCMS	LE-CVE-0440	VACUUM PUMP	ANALYTICAL CORE 067	120	1	4.4	528	5-20
GCMS	LE-CVE-0441	GAS CHROMATOGRAPHY MASS SPECTR.	ANALYTICAL CORE 067	120	1	-	503	5-20
GCMS	LE-CVE-0443	GAS CHROMOTOGRAPH	ANALYTICAL CORE 067	120	1	-	503	5-20
GCMS	LE-CVE-0448	PURGE & TRAP	ANALYTICAL CORE 067	120	1	8	920	5-20
HBS	LE-COE-0083	HORIZONTAL BAND SAW	SHOP 180A	208	1	7		6-15
HSM	LE-CHE-0380	HYPERSPECTRAL MICROSCOPE	IMAGING 060	120	1	-	307	5-20
IOL	LE-CHE-0474	ION LASER	ANALYTICAL CORE 067	208	3	24	-	L14-30
LAM	LE-CHE-0095	LAMINAR FLOW HOOD	IMAGING PREP 048	120	1	-	503	5-20
LATHE-1	LE-COE-0078	MANUAL LATHE	SHOP 180A	208	1	8.6	3099	L15-20
LATHE-2	LE-MIS-0299	MANUAL LATHE	SHOP 180A	208	3	-	7025	L15-30
LSA	LE-CHE-0472	LIGHT SCATTERING APPARATUS	ANALYTICAL CORE 067	-	-	-	-	-
LSA-OPT	LE-CHE-0473	OPTICAL TABLE	ANALYTICAL CORE 067	-	-	-	-	-
MILL-1	LE-COE-0074	MANUAL MILL	SHOP 180A	208	3	-	2300	L15-20
MILL-2	LE-MIS-0291	MANUAL MILL	SHOP 180A	208	3	3.8	1370	L15-30, *
OPT	EF-CHE-0060	OPTICAL TABLE	BIO MED WET SUPPORT 325B	120	1	-	1080	5-20
PP-1/PP-2	FUTURE	PILOT PLANT SET UP	WATER LAB 340	TBD	TBD	TBD	TBD	TBD
RAD	TBD	RADIATION DETECTOR	PHYS. MODEL SUPPORT 220A3	TBD	TBD	TBD	TBD	TBD
REF-1	LE-COE-0025	UPRIGHT REFRIGERATOR	BIO MED WET 325	120	1	-	701	5-20
REF-2	LE-COE-0073	UPRIGHT REFRIGERATOR	BIO MED WET 325	120	1	-	701	5-20
REF-3	LE-COE-0047	UPRIGHT REFRIGERATOR	BIO MED WET 325	120	1	-	701	5-20
REF-4	LE-COE-0048	UPRIGHT REFRIGERATOR	BIO MED WET 325	120	1	-	701	5-20
REF-5	LE-CVE-0262	UPRIGHT REFRIGERATOR	BIO MED WET 325	120	1	-	701	5-20
REF-6	EF-CHE-0590	UPRIGHT REFRIGERATOR	NANO MATERIALS SUP. 335A	120	1	-	701	5-20
REF-7	LE-CVE-0477	UPRIGHT REFRIGERATOR	WATER LAB 340	120	1	-	701	5-20
RFG	LE-COE-0120-2	RF FIELD GENERATOR - CONTROLLER	NANO MATERIALS 335	120	1	-	1700	5-20
RFG	LE-COE-0120-3	RF FIELD GENERATOR - POWER/COOLING	NANO MATERIALS 335	120	1	5.9	708	5-20
ROUT	LE-COE-0079	ROUTER TABLE	SHOP 180A	208	1	-	3890	L6-30
SA	LE-COE-0064	SURFACE ANALYZER	IMAGING 060A	208	1	-	6760	HARDWIRED
SEM	LE-COE-0063	SCANNING ELECRON MISCROSCOPE	IMAGING 060A	-	-	-	-	-
SEM	LE-COE-0063-2	EDS SYSTEM	IMAGING 060A	120	1	-	997	5-20
SEM	LE-COE-0063-4	CHILLER	CLOSET 050	120	1	-	997	5-20
SEM	LE-COE-0063-7	TRANSFORMER	IMAGING 060A	120	1	-	3000	5-30
SHKR-L	LE-MIS-0106	SHAKER SET UP - LARGE	PHYS. MODEL SUPPORT 270A2	120	1	-	-	5-20
SPD	LE-COE-0058	SPRAY DRYER	BIO MED WET 325	208	1	-	2900	6-15
SPD	LE-COE-0058	SPRAY CHILLER	BIO MED WET 325	208	1	-	1400	6-15
SPD	LE-COE-0058	DEHUMIDIFIER	BIO MED WET 325	208	1	-	700	6-15
SPD	LE-COE-0058	MISC.	BIO MED WET 325	120	1	-	180	5-20
SPECT	LE-MIS-0155	SPECTROMETER	ANALYTICAL CORE 067	-	-	-	-	-
SPECT-PS	LE-MIS-0156	SPECTROMETER POWER SUPPLY	ANALYTICAL CORE 067	120	1	-	480	5-20
TEM	LE-COE-0001	TRANSMISSION ELECTRON MISCRO.	IMAGING 060B	-	-	-	-	-
TEM	LE-COE-0001-2	COMPUTER TOWER	IMAGING 060B	120	1	-	-	5-20
TEM	LE-COE-0001-3	TRANSFORMER	IMAGING 060B	208	1	-	7000	HARDWIRED
TEM	LE-COE-0001-4	MECHANICAL (ROTARY) PUMP	IMAGING 060B	120	1	-	997	5-20
TEM	LE-COE-0001-5	EDS DETECTOR	IMAGING 060B	120	1	-	997	5-20
TEM	LE-COE-0001-7	CHILLED WATER SYSTEM	CLOSET 050	208	1			HARDWIRED
UCF-1	LE-CHE-0392	UNDERCOUNTER FREEZER	NANO MATERIALS 335	120	1	-	701	5-20
UCF-2	LE-CHE-0392	UNDERCOUNTER FREEZER	NANO MAT. SUPPORT 335A	120	1	-	701	5-20
UCR-1	LE-CHE-0486	UNDERCOUNTER REFRIGERATOR	NANO MATERIALS 335	120	1	-	701	5-20
UCR-2	LE-MIS-0157	UNDERCOUNTER REFRIGERATOR	NANO MATERIALS 335	120	1	-	701	5-20
VBS	LE-COE-0076	VERTICAL BAND SAW	SHOP 180A	208	3	11	3963	L15-20
WP-1	LE-CHE-0444	WATER POLISHER	NANO MATERIALS 335	120	1	-	180	5-20
WP-2	LE-CVE-0517	WATER POLISHER	WATER LAB 340	120	1	-	180	5-20
XRD	LE-CHE-0168	X-RAY DIFFRACTOMETER	XRD 048A	208	3	20	7205	L15-30
XRD-C	LE-CHE-0169	CHILLER	XRD 048A	208	1	11.65	2423	L6-20

TEACHING LABORATORY EQUIPMENT SCHEDULE - EXISTING

TAG	HILL #	DESCRIPTION	LOCATION	VOLTS	PHASE	AMPS	VA	CONNECTION
3DP.1	LE-ECB-0376	3D PRINTER	NEURO-PHYS. SUPPORT 110B	120	1	-	503	5-20
3DP.2	LE-ECB-0377	3D PRINTER	NEURO-PHYS. SUPPORT 110B	120	1	-	503	5-20
3DS	LE-ECB-0375	3D SCANNER	NEURO-PHYS. SUPPORT 110B	120	1	-	503	5-20
AC	LE-MIS-0510	AIR CONDITIONING LAB UNIT	LAB SUPPORT 230A	208	3	-	7080	HARDWIRED
ADTM	LE-MIS-0080	AUTOMATED DEFLECTION TEMP MEAS	METROLOGY 169	120	1	997	-	5-20
AMP	LE-ECB-0494	CURRENT AMPLIFIER	BME LAB 110	120	1	-	307	5-20
BA	LE-MIS-0515	BRIDGE AMPLIFIER METER	UNDERGRAD LAB 225	120	1	-	307	5-20
BCT	LE-COE-0071	BENCHTOP COOLING TOWER	CHEM ENG SENIOR LAB 240	120	1	-	1600	L5-30
BIS	LE-CHE-0307	BENCH INSTRON	CHEM ENG MAT LAB 235	120	1	6.25	700	5-20
BIS.C	LE-CHE-0308	BENCH INSTRON - COMPUTER	CHEM ENG MAT LAB 235	120	1	-	307	5-20
BM	LE-MIS-0506	BROOKFIELD MACHINE #2	THERMAL FLUIDS LAB 230	120	1	-	-	5-20
BR	LE-CHE-0028	CSTR - BATCH REACTOR	CHEM ENG SENIOR LAB 240	-	-	-	-	-
BR	LE-CHE-0029	CSTR - COMP CONTROLLED CHEM...	CHEM ENG SENIOR LAB 240	-	-	-	-	-
BR	LE-CHE-0030	CSTR - BATCH REACTOR DISCONTINUED	CHEM ENG SENIOR LAB 240	-	-	-	-	-
BR	LE-CHE-0031	CSTR - POWER SUPPLY	CHEM ENG SENIOR LAB 240	120	1	-	997	5-20
BSW	LE-ECB-0440	BAND SAW	SUPPORT 110A	120	1	-	503	5-20
BU	LE-CHE-0026	BLOWER - ELEC PANEL	CHEM ENG SENIOR LAB 240	240	3	50	-	HARDWIRED
BU	LE-CHE-0027	BLOWER - MOTOR	CHEM ENG SENIOR LAB 240	-	-	-	-	HARDWIRED
CFP.1	LE-CVE-0001(1 of 2)	CENTRIFUGAL PUMP	HYDRAULICS 100	120	1	9.8	1176	5-20
CFP.2	LE-CVE-0001(2 of 2)	CENTRIFUGAL PUMP	HYDRAULICS 100	120	1	9.8	1176	5-20
CH	LE-CHE-0319	CHAMBER	CHEM ENG MAT LAB 235	120	1	-	300	5-20
CIR.1/.2	LE-MIS-0468 - LE-MIS-0469	CIRCULAR POLARIZERS	UNDERGRAD LAB 225	120	1	-	97	5-20
CM.1	IT-ECB-0070	COMPUTER STATION	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
CM.2	IT-ECB-0071	COMPUTER STATION	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
CMM	LE-MIS-0266	HEXAGON	METROLOGY 169	120	1	-	503	5-20
CMM.C	IT-MIS-0279	HEXAGON - COMPUTER	METROLOGY 169	120	1	-	307	5-20
CMX	LE-CVE-0019	CONCRETE MIXER	CONCRETE LAB 180B	120	1	6.2	-	-
CP.1	IT-ECB-0073	COMPUTER	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
CP.2	IT-ECB-0072	COMPUTER	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
CP.3	IT-ECB-0069	COMPUTER	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
DEE	LE-CHE-0018	DOUBLE EFFECT EVAP	CHEM ENG SENIOR LAB 240	-	-	-	-	-
DEE	LE-CHE-0019	DEE - ELEC CONTROLLER	CHEM ENG SENIOR LAB 240	208	3	50	-	HARDWIRED
DEE	LE-CHE-0020	DEE - WATER PUMP 1	CHEM ENG SENIOR LAB 240	120	1	3.4	-	HARDWIRED
DEE	LE-CHE-0021	DEE - WATER PUMP 2 & 3	CHEM ENG SENIOR LAB 240	208	3	4.8	-	2x HARDWIRED
DEE	LE-CHE-0022	DEE - WATER PUMP 4	CHEM ENG SENIOR LAB 240	208	3	5.7	-	HARDWIRED
DRM	LE-ECB-0442	DREMEL WITH STAND	SUPPORT 110A	120	1	-	307	5-20
DY	LE-MIS-0460	DYNATUP	UNDERGRAD LAB 225	120	1	-	503	5-20
DY.C	LE-MIS-0461	DYNATUP COMPUTER STATION	UNDERGRAD LAB 225	120	1	-	-	5-20
EC	LE-MIS-0502	ENVIRONMENT CHAMBER	THERMAL FLUIDS LAB 230	120	1	-	1920	5-20
EG	LE-MIS-0287	ELECTRONIC GAGE	METROLOGY 169	120	1	-	307	5-20
ER	LE-CHE-0113	ENZYME REACTOR - POWER SUPPLY	CHEM ENG SENIOR LAB 240	120	1	-	997	5-20
ER.1	LE-CHE-0112	ENZYME REACTOR - COMPUTER CONT	CHEM ENG SENIOR LAB 240	120	1	-	307	5-20
ER.2	LE-CHE-0111	ENZYME REACTOR - EDIBON 2	CHEM ENG SENIOR LAB 240	-	-	-	-	-
FC.1	LE-CVE-0013(1 of 2)	FLUID CIRCUIT	HYDRAULICS 100	120	1	5.4	648	5-20
FC.2	LE-CVE-0013(2 of 2)	FLUID CIRCUIT	HYDRAULICS 100	120	1	5.4	648	5-20
FL	LE-CVE-0011	FLUME	HYDRAULICS 100	120	1	-	997	5-20
FM.1/.2/.3	LE-CHE-0304 - LE-CHE-0306	FURNACES MELT	CHEM ENG MAT LAB 235	120	1	-	1600	5-20
FR.1-FR.6	LE-CHE-0298 - LE-CHE-0303	FURNACES	CHEM ENG MAT LAB 235	120	1	-	1450	5-20
FR.7	LE-CHE-0323	FURNACE	CHEM ENG MAT LAB 235	230/120	?	-	-	-
GF	TBD	GLOWFORGE AIR FILTER	NEURO-PHYS. SUPPORT 110B	120	1	-	503	5-20
GR	LE-CHE-0314	GRINDER	CHEM ENG MAT LAB 235	120	1	2.1	252	5-20
GRD	LE-ECB-0437	BENCH GRINDER	SUPPORT 110A	120	1	-	600	5-20
HFB	LE-MIS-0518	HYDRAULICS FLOW BENCH	THERMAL FLUIDS LAB 230	120	1	-	997	5-20
HL	LE-MIS-0513	HEATING LAMPS	THERMAL FLUIDS LAB 230	120	1	-	97	5-20
HP	LE-CHE-0325	HOT PLATE	CHEM ENG MAT LAB 235	120	1	-	997	5-20
INC	LE-CVE-0110	INCUBATOR	ENVIRONMENTAL 105	120	1	-	432	5-20
INS.1	LE-MIS-0462	INSTRON #1 (LOADING DEVICE)	UNDERGRAD LAB 225	120	1	-	1400	L5-30
INS.2	LE-MIS-0464	INSTRON #2 (LOADING DEVICE)	UNDERGRAD LAB 225	120	1	-	1400	L5-30
INS.C1	LE-MIS-0463	INSTRON #1 (COMPUTER STATION)	UNDERGRAD LAB 225	120	1	-	307	5-20
INS.C2	LE-MIS-0465	INSTRON #2 (COMPUTER STATION)	UNDERGRAD LAB 225	120	1	-	307	5-20
LL	LE-CHE-0016	LIQUID LEVEL	HYDRAULICS 100	120	1	7.2	864	5-20
LSS	LE-CHE-0318	LOW SPEED SAW	CHEM ENG MAT LAB 235	120	1	-	503	5-20
MAM	LE-ECB-0493	MICROAMMETER	BME LAB 110	120	1	-	307	5-20
MF	LE-MIS-0467	MINI-FRIDGE	UNDERGRAD LAB 225	120	1	-	307	5-20
OC	LE-MIS-0265	SHADOWGRAPH OPT. COMPARITOR	METROLOGY 169	120	1	-	503	5-20
OS.1	LE-MIS-0470	OSCILLOSCOPE	UNDERGRAD LAB 225	120	1	-	97	5-20
OS.2	LE-MIS-0471	OSCILLOSCOPE	UNDERGRAD LAB 225	120	1	-	97	5-20
OS.3	LE-MIS-0507	OSCILLOSCOPE	THERMAL FLUIDS LAB 230	120	1	-	97	5-20
OSC	LE-ECB-0499	OSCILLOSCOPE	NEURO-PHYS. SUPPORT 110B	120	1	-	307	5-20
OSC.1	LE-ECB-0487	OSCILLOSCOPE	BME LAB 110	120	1	-	307	5-20
OSC.2	LE-ECB-0486	OSCILLOSCOPE	BME LAB 110	120	1	-	307	5-20
OSC.3	LE-ECB-0486	OSCILLOSCOPE	BME LAB 110	120	1	-	307	5-20
OV	LE-MIS-0084	OVEN	METROLOGY 169	120	1	-	650	5-20
OV.1	LE-MIS-0466	OVEN	UNDERGRAD LAB 225	120	1	-	650	5-20
OV.2/.3	LE-MIS-0511 - LE-MIS-0512	OVENS	THERMAL FLUIDS LAB 230	120	1	4.9	588	5-20
OV.4	LE-CHE-0324	OVEN	CHEM ENG MAT LAB 235	120	1	-	525	5-20
OV.5	LE-CHE-0007	OVEN	CHEM ENG SENIOR LAB 240	120	1	-	650	5-20
OV.6	LE-CVE-0527	OVEN	ENVIRONMENTAL 105	120	1	-	1500	5-20
OV.7	LE-CVE-0526	OVEN	ENVIRONMENTAL 105	120	1	-	1500	5-20
PL	LE-CHE-0107	PUMP LAB	HYDRAULICS 100	208	1	8.3	1726	6-20
PL	LE-ECB-0445	PLANER	SUPPORT 110A	120	1	-	503	5-20
PLG	LE-ECB-0498	POLYGRAPH DATA RECORDING SYSTEM	NEURO-PHYS. SUPPORT 110B	120	1	-	503	5-20
RA.C	LE-MIS-0221	PERTHOMETER COMPUTER STATION	METROLOGY 169	120	1	-	307	5-20
REF	LE-CVE-0103	REFRIGERATOR	ENVIRONMENTAL 105	120	1	-	701	5-20
RM	LE-CHE-0313	ROLLING MILL	CHEM ENG MAT LAB 235	240	?	30	-	HARDWIRED
RP	LE-ECB-0431	RESPIRATION PUMP	SUPPORT 110A	120	1	-	503	5-20
SCS	LE-ECB-0439	SCROLL SAW	SUPPORT 110A	120	1	-	503	5-20
SGR	LE-CHE-0317	STRIP GRINDER	CHEM ENG MAT LAB 235	120	1	-	503	5-20
SL	LE-MIS-0514	STROBE LIGHT	THERMAL FLUIDS LAB 230	120	1	-	97	5-20
SS.1	LE-ECB-0606	SOLDERING STATION	SUPPORT 110A	120	1	-	153	5-20
SS.2	LE-ECB-0604	SOLDERING STATION	SUPPORT 110A	120	1	-	153	5-20
SS.3	LE-ECB-0443	SOLDERING STATION	SUPPORT 110A	120	1	-	153	5-20
SS.4	LE-ECB-0605	SOLDERING STATION	SUPPORT 110A	120	1	-	153	5-20
ST	LE-CHE-0038	STIRRED TANK	CHEM ENG SENIOR LAB 240	230/460	3	7/3.5	2788	HARDWIRED
TE	LE-MIS-0504	BENCHTOP THERMAL EXP STATION	THERMAL FLUIDS LAB 230	120	1	-	-	5-20
TVF	LE-MIS-0329	TABLETOP VACUUM FORMER	METROLOGY 169	120	1	-	1430	5-20
UTS	LE-ECB-0500	ULTRASOUND	BME TECH OFFICE 110C	120	1	-	503	5-20
VB	LE-MIS-0516	VIBRATING BEAM EXPERIMENT	UNDERGRAD LAB 225	120	1	-	503	5-20
VE	LE-MIS-0505	VISCOMETER EXP STATION	THERMAL FLUIDS LAB 230	120	1	-	-	5-20
VP	LE-ECB-0436	VACUUM PUMP	SUPPORT 110A	120	1	-	503	5-20
VPS	LE-CHE-0003	VACUUM CLEANING - PROCESSING (VPS)	CHEM ENG SENIOR LAB 240	208	1	-	2704	L6-20
VPS	LE-CHE-0004	VPS - AIR COMP	CHEM ENG SENIOR LAB 240	120	1	10.5	1260	5-20
VPS	LE-CHE-0005	VPS - VACUUM	CHEM ENG SENIOR LAB 240	208	3	6.8	2450	L15-20
VT	LE-MIS-0503	VIBRATION TESTER	UNDERGRAD LAB 225	120	1	-	503	5-20
WH.1/.2/.3	LE-CHE-0310 - LE-CHE-0312	WILSON HARDNESS	CHEM ENG MAT LAB 235	120	1	-	370	5-20
WT	LE-MIS-0519	WIND TUNNEL	THERMAL FLUIDS LAB 230	208	3	46.2	16644	HARDWIRED
WT.C	LE-MIS-0520	WIND TUNNEL CONTROL STATION	THERMAL FLUIDS LAB 230	120	1	-	-	5-20
WTS	LE-CVE-0094	WATER TREATMENT SIMULATION	ENVIRONMENTAL 105	120	1	13.8	1656	HARDWIRED

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

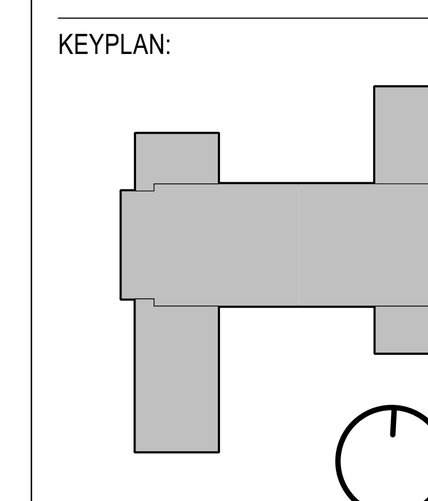
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

06/01/18 ISSUE NO. 19
08/24/17 ISSUE NO. 6
DRAWING ISSUE

PROJECT: 15085.00
SCALE:

ELECTRICAL

TITLE:

LABORATORY EQUIPMENT SCHEDULES

NUMBER:

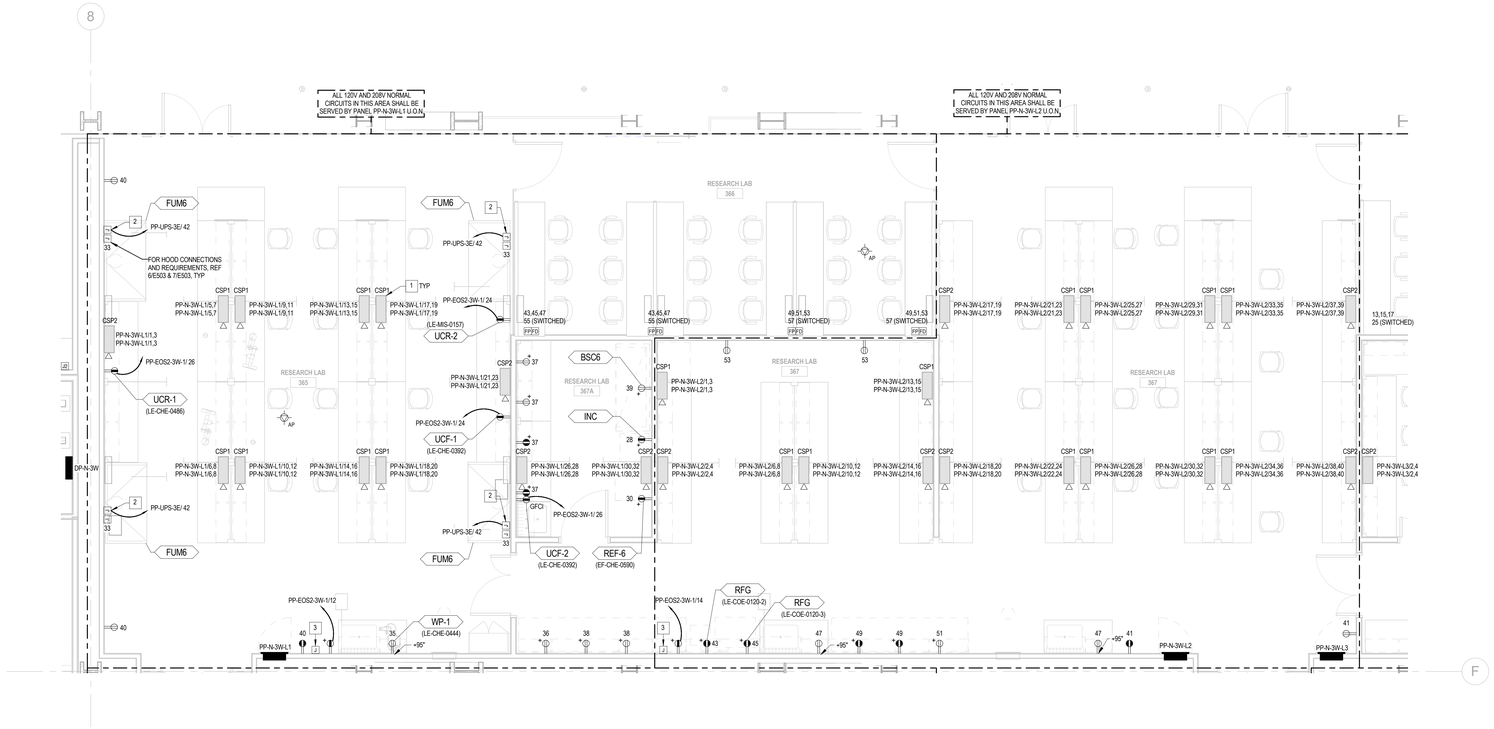
E210

GENERAL POWER PLAN NOTES:

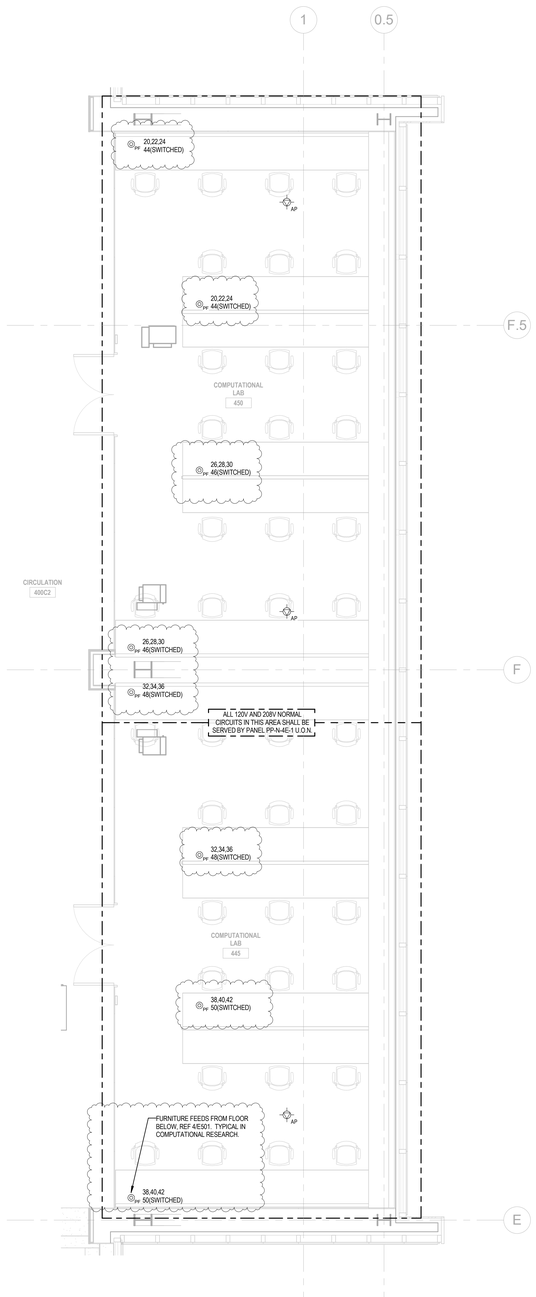
1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

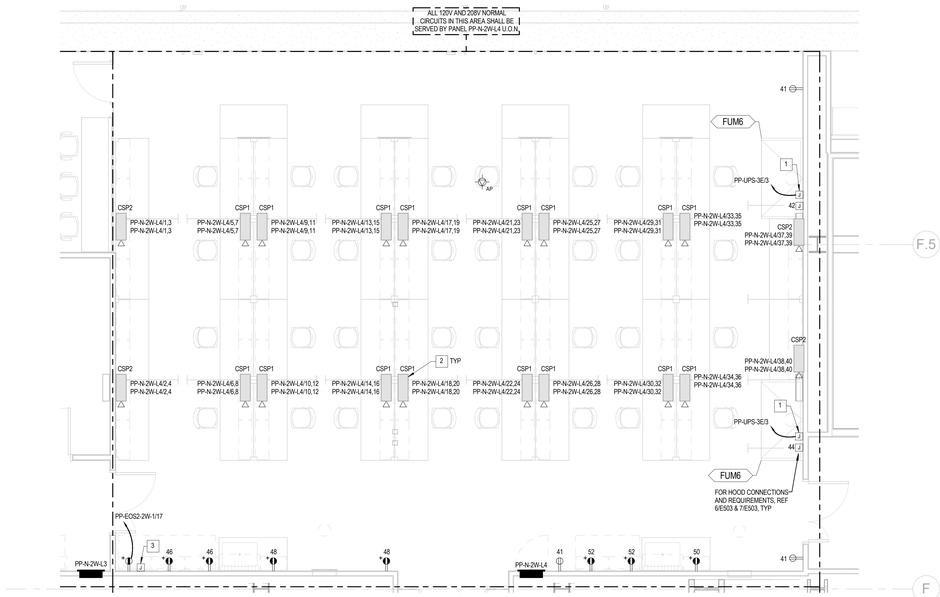
1. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
2. FUME HOOD ALARM CIRCUIT.
3. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.



1/4" = 1'-0" 2 THIRD FLOOR POWER PLAN - ALTERNATE



1/4" = 1'-0" 3 FOURTH FLOOR POWER PLAN - ALTERNATE



1/4" = 1'-0" 1 SECOND FLOOR POWER PLAN - ALTERNATE

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

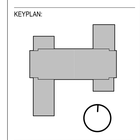
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE. SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMATION OF THEIR REQUIRED SHOP DRAWINGS.

07/18/18	RFI-521
08/24/17	ISSUE NO. 6

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

RESEARCH LAB ALTERNATE POWER PLANS

NUMBER:

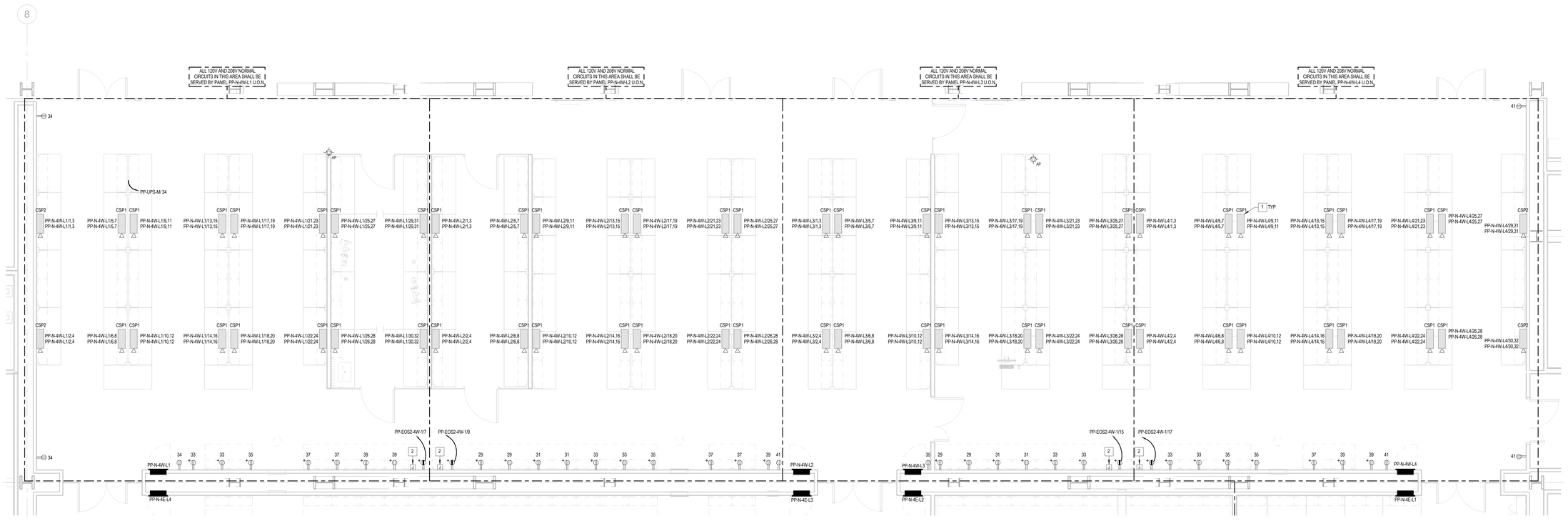
E220

GENERAL POWER PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, REFER TO SHEET E200.2.

POWER PLAN KEYED NOTES:

1. CEILING SERVICE PANEL (CSP) FURNISHED AND INSTALLED BY OTHERS. PROVIDE POWER CONNECTION TO CSP FROM PANELBOARD CIRCUIT(S) INDICATED.
2. PROVIDE FLUSH MOUNTED JUNCTION BOX AT +18" AFF WITH (1) 1" EMT AND PULLSTRING TO NORMAL POWER PANEL SERVING AREA.



1 Third Floor Power Plan - Alternate
1/4" = 1'-0"

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT SHALL BE GOVERNED BY THE TERMS OF AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR SHALL MAKE AVAILABLE A COPY OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT TO CONTRACTOR OR SUBCONTRACTOR IS NOT RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17 ISSUE NO. 6
DRAWING ISSUE

PROJECT: 15085.00
SCALE: 1/4" = 1'-0"

ELECTRICAL

TITLE:

RESEARCH LAB ALTERNATE POWER PLANS

NUMBER:

E221

Feeder Change per Issue # 8 to be implemented as it is needed to feed CAC Units. 480V and Feeder Changed in Issue # 8 to coincide with Issue #6 Mechanical Drawings

FEEDER IDENTIFICATION SCHEDULE

3 WIRE + GND (GENERAL)		3 WIRE + GND (MOTORS)		4 WIRE + GND (GENERAL)	
TAG	WIRE (Cu) & CONDUIT	TAG	WIRE (Cu) & CONDUIT	TAG	WIRE (Cu) & CONDUIT
3W20	(3)#12, (1)#12 G, (1) 3/4"C	3W15M	(3)#12, (1)#12 G, (1) 3/4"C	4W30	(4)#10, (1)#10G, (1)1-1/2"C
3W25	(3)#10, (1)#10 G, (1) 3/4"C	3W20M	(3)#12, (1)#12 G, (1) 3/4"C	4W50	(4)#6, (1)#10G, (1) 1"C
3W30	(3)#10, (1)#10 G, (1) 3/4"C	3W30M	(3)#10, (1)#10 G, (1) 3/4"C	4W50T	(4)#6, (1)#8G, (1) 1"C
3W40	(3)#8, (1)#10 G, (1) 3/4"C	3W50M	(3)#6, (1)#10 G, (1) 1"C	4W80S	(4)#3, (1) 1-1/4"C
3W50	(3)#6, (1)#10 G, (1) 3/4"C	3W60M	(3)#6, (1)#10 G, (1) 1"C	4W100	(4)#1, (1)#8 G, (1) 1-1/2"C
3W60	(3)#4, (1)#8 G, (1) 1"C	3W70M	(3)#4, (1)#8 G, (1) 1-1/4"C	4W100T	(4)#1, (1)#6 G, (1) 1-1/2"C
3W70	(3)#4, (1)#8 G, (1) 1"C	3W90M	(3)#2, (1)#8 G, (1) 1-1/4"C	4W125	(4)#1, (1)#6 G, (1) 1-1/2"C
3W80	(3)#3, (1)#8 G, (1) 1-1/4"C	3W125M	(3)#2, (1)#6 G, (1) 1-1/4"C	4W150	(4)#1/0, (1)#6 G, (1) 1-1/2"C
3W100	(3)#1, (1)#8 G, (1) 1-1/4"C	3W150M	(3)#2, (1)#6 G, (1) 1-1/4"C	4W150T	(4)#1/0, (1)#6 G, (1) 1-1/2"C
3W125	(3)#1, (1)#6 G, (1) 1-1/2"C	3W175M	(3)#2, (1)#6 G, (1) 1-1/4"C	4W175	(4)#2/0, (1)#6 G, (1) 2"C
3W200	(3)#3/0, (1)#6 G, (1) 2"C	3W200M	(3)#1, (1)#6 G, (1) 1-1/2"C	4W175T	(4)#2/0, (1)#4 G, (1) 2"C
3W225	(3)#4/0, (1)#4 G, (1)2"C	3W250M	(3)#2/0, (1)#4 G, (1) 2"C	4W200	(4)#3/0, (1)#6 G, (1) 2"C
3W250	(3)250KCMIL, (1)#4 G, (1) 2-1/2"C	3W400M	(3)#3/0, (1)#4G, (1) 2"C	4W225	(4)#4/0, (1)#4 G, (1) 2-1/2"C
3W300	(3)350KCMIL, (1)#4 G, (1)3"C	3W800M	2 SETS - [(3)#4/0, (1)#1/0G, (1) 2-1/2"C]	4W225IG	(4)#4/0, (1)#4 G, (1)#4 IG, (1) 2-1/2"C
3W400	2 SETS - [(3)#3/0, (1)#3G, (1) 2"C]			4W300	(4)350KCMIL, (1)#4 G, (1)3"C
3W600	2 SETS - [(3)350KCMIL, (1)#1/0 G, (1)3"C]			4W300T	(4)350KCMIL, (1)#2 G, (1)3"C
3W1200	4 SETS - [(3)350KCMIL, (1)#3/0 G, (1) 3"C]			4W400	2 SETS - [(4)#3/0, (1)#3 G, (1) 2"C]
3W1600	5 SETS - [(3)400KCMIL, (1)#4/0 G, (1) 3"C]			4W400T	2 SETS - [(4)#3/0, (1)#2 G, (1) 2"C]
				4W400IGT	2 SETS - [(4)#3/0, (1)#2 G, (1)#2 IG, (1) 2"C]
				4W600T	2 SETS - [(4)350KCMIL, (1)#1 G, (1) 3"C]
				4W800	3 SETS - [(4)300KCMIL, (1)#1/0 G, (1) 3"C]
				4W1000	3 SETS - [(4)400KCMIL, (1)#2/0 G, (1) 3"C]
				4W1000SP	3 SETS - [(4)400KCMIL, (1)#2/0 G, (1) 3"C] + (1)3"C SPARE
				4W1000V	4 SETS - [(4)500KCMIL, (1)#3/0 G, (1) 3"C]
				4W4000S	12 SETS - [(4)600KCMIL, (1) 3-1/2"C]
				4W4000V	12 SETS - [(4)600KCMIL, (1)750KCMIL G, (1) 4"C]

LEGEND:
IG - ISOLATED GROUND
M - MOTOR FEEDER
S - SERVICE
SP - SPARE CONDUIT
T - TRANSFORMER SECONDARY
V - UPSIZED FOR VOLTAGE DROP

DISTRIBUTION EQUIPMENT DIRECTORY

EQUIPMENT NAME	ROOM NAME	ROOM #	SHEET REFERENCE	SCHEDULE	SINGLE LINE
BUS DUCTS					
BD-EOS2-W	MER-ELEC ROOM	500M1-000E1	E105-E100	REF SINGLE LINE	E302
BD-N-1E-SHOP1	SHOP	180A	E101	E601.2	E303
BD-N-1E-SHOP2	SHOP	180A	E101	E601.2	E303
BD-N-2E-L	2ND LABS SOUTH	-	E102	REF SINGLE LINE	E303
BD-N-2W-L	2ND LABS NORTH	-	E102	REF SINGLE LINE	E303
BD-N-3E-L	3RD LABS SOUTH	-	E103	REF SINGLE LINE	E303
BD-N-3W-L	3RD LABS NORTH	-	E103	REF SINGLE LINE	E303
BD-N-4E-L	4TH LABS SOUTH	-	E104	REF SINGLE LINE	E303
BD-N-4W-L	4TH LABS NORTH	-	E104	REF SINGLE LINE	E303
BD-N-E	MER-MECHANICAL ROOM	500M1-000M7	E105-E100	REF SINGLE LINE	E303
BD-N-W	MER-ELEC ROOM	500M1-000E1	E105-E100	REF SINGLE LINE	E303
BUS PLUGS					
BP-EOS2-1W	ELECTRICAL	100E1	E101	REF SINGLE LINE	E302
BP-EOS2-2W	ELECTRICAL	200E1	E102	REF SINGLE LINE	E302
BP-EOS2-3W	ELECTRICAL	300E1	E103	REF SINGLE LINE	E302
BP-EOS2-4W	ELECTRICAL	400E1	E104	REF SINGLE LINE	E302
BP-EOS2-LW	ELECTRICAL	000E1	E100	REF SINGLE LINE	E302
BP-N-1E-1	ELECTRICAL	100E2	E101	REF SINGLE LINE	E303
BP-N-1W-1	ELECTRICAL	100E1	E101	REF SINGLE LINE	E303
BP-N-2E-1	ELECTRICAL	200E2	E102	REF SINGLE LINE	E303
BP-N-2E-L1	CHEM ENG SENIOR LAB	240	E102	REF SINGLE LINE	E303
BP-N-2E-L2	CHEM ENG MATERIALS LAB	235	E102	REF SINGLE LINE	E303
BP-N-2E-L3	THERMAL FLUIDS LAB	230	E102	REF SINGLE LINE	E303
BP-N-2E-L4	UNDERGRADUATE SOLIDS LAB	225	E102	REF SINGLE LINE	E303
BP-N-2W-1	ELECTRICAL	200E1	E102	REF SINGLE LINE	E303
BP-N-2W-L1	MATS. IN EXT. ENVIRONMENTS	270	E102	REF SINGLE LINE	E303
BP-N-2W-L2	PHYS. MODELING	273	E102	REF SINGLE LINE	E303
BP-N-2W-L3	PHYS. MODELING	273	E102	REF SINGLE LINE	E303
BP-N-2W-L4	GROWTH/EXP	280	E102	REF SINGLE LINE	E303
BP-N-3E-1	ELECTRICAL	300E2	E103	REF SINGLE LINE	E303
BP-N-3E-L1	WATER LAB	340	E103	REF SINGLE LINE	E303
BP-N-3E-L2	NANO MATERIALS	335	E103	REF SINGLE LINE	E303
BP-N-3E-L3	NANO MATERIALS	335	E103	REF SINGLE LINE	E303
BP-N-3E-L4	BIO MED WET	325	E103	REF SINGLE LINE	E303
BP-N-3W-1	ELECTRICAL	300E1	E103	REF SINGLE LINE	E303
BP-N-3W-L1	GROWTH/EXP	365	E103	REF SINGLE LINE	E303
BP-N-3W-L2	GROWTH/EXP	365	E103	REF SINGLE LINE	E303
BP-N-3W-L3	GROWTH/EXP	365	E103	REF SINGLE LINE	E303
BP-N-3W-L4	BIO MED DRY	380	E103	REF SINGLE LINE	E303
BP-N-4E-1	ELECTRICAL	400E2	E104	REF SINGLE LINE	E303
BP-N-4E-L1	ROBOTICS	440	E104	REF SINGLE LINE	E303
BP-N-4E-L2	SMART CITIES	430	E104	REF SINGLE LINE	E303
BP-N-4E-L3	SMART CITIES	430	E104	REF SINGLE LINE	E303
BP-N-4E-L4	SMART CITIES	425	E104	REF SINGLE LINE	E303
BP-N-4W-1	ELECTRICAL	400E1	E104	REF SINGLE LINE	E303
BP-N-4W-L1	FUTURE EXP	465	E104	REF SINGLE LINE	E303
BP-N-4W-L2	FUTURE EXP	465	E104	REF SINGLE LINE	E303
BP-N-4W-L3	FUTURE EXP	465	E104	REF SINGLE LINE	E303
BP-N-4W-L4	FUTURE EXP	465	E104	REF SINGLE LINE	E303
BP-N-LE-1	MECHANICAL ROOM	000M7	E100	REF SINGLE LINE	E303
BP-N-LW-1	ELECTRICAL	000E1	E100	REF SINGLE LINE	E303
ENCLOSED CIRCUIT BREAKERS					
ECB-BD-N-2E-L	ELECTRICAL	200E2	E102	REF SINGLE LINE	E303
ECB-BD-N-2W-L	ELECTRICAL	200E1	E102	REF SINGLE LINE	E303
ECB-BD-N-3E-L	ELECTRICAL	300E2	E103	REF SINGLE LINE	E303
ECB-BD-N-3W-L	ELECTRICAL	300E1	E103	REF SINGLE LINE	E303
ECB-BD-N-4E-L	ELECTRICAL	400E2	E104	REF SINGLE LINE	E303
ECB-BD-N-4W-L	ELECTRICAL	400E1	E104	REF SINGLE LINE	E303
ECB-PP-N-LW-CS	ELECTRICAL	000E1	E100	REF SINGLE LINE	E303
ECB-E-YARD-DIST	EXTERIOR UTILITY YARD	N/A	E100	REF SINGLE LINE	E302
ECB-E-YARD-FP	EXTERIOR UTILITY YARD	N/A	E100	REF SINGLE LINE	E302
ECB-TX-EOS2-E-TD	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
ECB-TX-EOS2-W-TD	MER	500M1	E105	REF SINGLE LINE	E302
MISCELLANEOUS					
ATS-ELR-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
ATS-ELS-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
ATS-EOS1-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
ATS-EOS2-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
ATS-FP	FIRE PUMP ROOM	000M3	E100	REF SINGLE LINE	E302
NOT USED					
NOT USED					
HF-DP-EOS1-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
HF-DP-N-M	MAIN ELECTRICAL RROM	500M3	E105	REF SINGLE LINE	E301
GEN-E-YARD	EXTERIOR UTILITY YARD	N/A	E100	REF SINGLE LINE	E302
UPS-ELR-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
LIGHTING CONTROL PANELS					
LCP-N-1E	ELECTRICAL	100E2	E101	EL501	EL301
LCP-N-2E	ELECTRICAL	200E2	E102	EL501	EL301
LCP-N-3E	ELECTRICAL	300E2	E103	EL501	EL301
LCP-N-4E	ELECTRICAL	400E2	E104	EL501	EL301
LCP-ELS-1E	ELECTRICAL	100E2	E101	EL501	EL301
LCP-N-KIRK	ELECTRICAL	113	EK100	EL501	EL301

EQUIPMENT NAME	ROOM NAME	ROOM #	SHEET REFERENCE	SCHEDULE	SINGLE LINE
PANELBOARDS					
DP-ELR-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
DP-EOS1-LE	ELEC ROOM	000E2	E100	REF SINGLE LINE	E302
DP-EOS1-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
DP-EOS2-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
DP-N-1E	ELECTRICAL	100E2	E101	E601.1	E303
DP-N-1W	ELECTRICAL	100E1	E101	E601.1	E303
DP-N-2E	ELECTRICAL	200E2	E102	E602.1	E303
DP-N-2W	ELECTRICAL	200E1	E102	E602.1	E303
DP-N-3E	ELECTRICAL	300E2	E103	E603.1	E303
DP-N-3W	ELECTRICAL	300E1	E103	E603.1	E303
DP-N-4E	ELECTRICAL	400E2	E104	E604.1	E303
DP-N-4W	ELECTRICAL	400E1	E104	E604.1	E303
DP-N-LE	ELEC ROOM	000E2	E100	E600.1	E303
DP-N-LW	ELECTRICAL	000E1	E100	E600.1	E303
DP-N-M	MAIN ELECTRICAL ROOM	500M3	E105	REF SINGLE LINE	E301
LP-ELS-1E	ELECTRICAL	100E2	E101	E601.1	E302
LP-ELS-2E	ELECTRICAL	200E2	E102	E602.1	E302
LP-ELS-3E	ELECTRICAL	300E2	E103	E603.1	E302
LP-ELS-4E	ELECTRICAL	400E2	E104	E604.1	E302
LP-N-1E	ELECTRICAL	100E2	E101	E601.1	E301
LP-N-2E	ELECTRICAL	200E2	E102	E602.1	E301
LP-N-3E	ELECTRICAL	300E2	E103	E603.1	E301
LP-N-4E	ELECTRICAL	400E2	E104	E604.1	E301
PP-EOS1-LE	ELEC ROOM	000E2	E100	E600.2	E302
PP-EOS1-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	E605.1	E302
PP-EOS1-YARD	EXTERIOR UTILITY YARD	N/A	E100	E600.2	E302
PP-EOS2-1E-TD	TELE DATA	100TC2	E101	E601.2	E302
PP-EOS2-1W-1	ELECTRICAL	100E1	E101	E601.1	E302
PP-EOS2-1W-TD	TELE DATA	100TC1	E101	E601.2	E302
PP-EOS2-2E-TD	TELE DATA	200TC2	E102	E602.2	E302
PP-EOS2-2W-1	ELECTRICAL	200E1	E102	E602.1	E302
PP-EOS2-2W-TD	TELE DATA	200TC1	E102	E602.2	E302
PP-EOS2-3E-TD	TELE DATA	300TC2	E103	E603.2	E302
PP-EOS2-3W-1	ELECTRICAL	300E1	E103	E603.1	E302
PP-EOS2-3W-TD	TELE DATA	300TC1	E103	E603.2	E302
PP-EOS2-4E-TD	TELE DATA	400TC2	E104	E604.2	E302
PP-EOS2-4W-1	ELECTRICAL	400E1	E104	E604.1	E302
PP-EOS2-4W-TD	TELE DATA	400TC1	E104	E604.2	E302
PP-EOS2-LW-1	ELECTRICAL	000E1	E100	E600.2	E302
PP-EOS2-LW-CR	CLEAN ROOM MECHANICAL	082A	E100	E600.2	E302
PP-EOS2-LW-CS	CENTRALIZED SERVERS	047	E100	E600.2	E302
PP-EOS2-LW-IM	IMAGING	060	E100	E600.2	E302
PP-EOS2-LW-TD	TELE DATA	000TC1	E100	E600.3	E302
PP-N-1E-1	ELECTRICAL	100E2	E101	E601.1	E303
PP-N-1E-2	ELECTRICAL	100E2	E101	E601.2	E303
PP-N-1W-1	ELECTRICAL	100E1	E101	E601.1	E303
PP-N-1W-L1	HYDRAULICS	100	E101	E601.2	E303
PP-N-1W-L2	HYDRAULICS	100	E101	E601.2	E303
PP-N-2E-1	ELECTRICAL	200E2	E102	E602.1	E303
PP-N-2E-L1	CHEM ENG SENIOR LAB	240	E102	E602.2	E303
PP-N-2E-L2	CHEM ENG MATERIALS LAB	235	E102	E602.2	E303
PP-N-2E-L3	THERMAL FLUIDS LAB	230	E102	E602.2	E303
PP-N-2E-L4	UNDERGRADUATE SOLIDS LAB	225	E102	E602.3	E303
PP-N-2W-1	ELECTRICAL	200E1	E102	E602.1	E303
PP-N-2W-L1	MATS. IN EXT. ENVIRONMENTS	270	E102	E602.3	E303
PP-N-2W-L2	PHYS. MODELING	273	E102	E602.3	E303
PP-N-2W-L3	PHYS. MODELING	273	E102	E602.4	E303
PP-N-2W-L4	GROWTH/EXP	280	E102	E602.4	E303
PP-N-3E-1	ELECTRICAL	300E2	E103	E603.1	E303
PP-N-3E-L1	WATER LAB	340	E103	E603.2	E303
PP-N-3E-L2	NANO MATERIALS	335	E103	E603.2	E303
PP-N-3E-L3	NANO MATERIALS	335	E103	E603.2	E303
PP-N-3E-L4	BIO MED WET	325	E103	E603.3	E303
PP-N-3W-1	ELECTRICAL	300E1	E103	E603.1	E303
PP-N-3W-L1	GROWTH/EXP	365	E103	E603.3	E303
PP-N-3W-L2	GROWTH/EXP	365	E103	E603.3	E303
PP-N-3W-L3	GROWTH/EXP	365	E103	E603.4	E303
PP-N-3W-L4	BIO MED DRY	380	E103	E603.4	E303
PP-N-4E-1	ELECTRICAL	400E2	E104	E604.1	E303
PP-N-4E-L1	ROBOTICS	440	E104	E604.2	E303
PP-N-4E-L2	SMART CITIES	430	E104	E604.2	E303
PP-N-4E-L3	SMART CITIES	430	E104	E604.2	E303
PP-N-4E-L4	SMART CITIES	425	E104	E604.3	E303
PP-N-4W-1	ELECTRICAL	400E1	E104	E604.1	E303
PP-N-4W-L1	FUTURE EXP	465	E104	E604.3	E303
PP-N-4W-L2	FUTURE EXP	465	E104	E604.3	E303
PP-N-4W-L3	FUTURE EXP	465	E104	E604.4	E303
PP-N-4W-L4	FUTURE EXP	465	E104	E604.4	E303
PP-N-LE-1	ELEC ROOM	000E2	E100	E600.1	E303
PP-N-LE-RS	RESEARCH SCALE UP	085	E100	E600.2	E303
PP-N-LW-1	ELECTRICAL	000E1	E100	E600.1	E303
PP-N-LW-2	ELECTRICAL	000E1	E100	E600.3	E303
PP-N-LW-BS	BUILDING SUPPORT	031B	E100	E600.1	E303
PP-N-LW-CS	CENTRALIZED SERVERS	047	E100	E600.1	E303
PP-N-M	MAIN ELECTRICAL ROOM	500M3	E105	E605.1	E301
PP-UPS-1E	ELECTRICAL	100E2	E101	E601.2	E302
PP-UPS-3E	ELECTRICAL	300E2	E103	E603.2	E302
PP-UPS-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	E605.1	E302
SWITCHBOARDS					
SS-E-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
SS-N-LE	ELEC ROOM	000E2	E100	REF SINGLE LINE	E301
SS-N-M	MAIN ELECTRICAL ROOM	500M3	E105	REF SINGLE LINE	E301
TRANSFORMERS					
TX-EOS1-M	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
TX-EOS1-LE	ELEC ROOM	000E2	E100	REF SINGLE LINE	E302
TX-EOS2-1W	ELECTRICAL	100E1	E101	REF SINGLE LINE	E302
TX-EOS2-2W	ELECTRICAL	200E1	E102	REF SINGLE LINE	E302
TX-EOS2-3W	ELECTRICAL	300E1	E103	REF SINGLE LINE	E302
TX-EOS2-4W	ELECTRICAL	400E1	E104	REF SINGLE LINE	E302
TX-EOS2-E-TD	EMERGENCY ELECTRICAL ROOM	500E1	E105	REF SINGLE LINE	E302
TX-EOS2-LW	ELECTRICAL	000E1	E100	REF SINGLE LINE	E302
TX-EOS2-W-TD	MER	500M1	E105	REF SINGLE LINE	E302
TX-N-1E	ELECTRICAL	100E2	E101	REF SINGLE LINE	E303
TX-N-1W	ELECTRICAL	100E1	E101	REF SINGLE LINE	E303
TX-N-2E	ELECTRICAL	200E2	E102	REF SINGLE LINE	E303
TX-N-2W	ELECTRICAL	200E1	E102	REF SINGLE LINE	E303
TX-N-3E	ELECTRICAL	300E2	E103	REF SINGLE LINE	E303
TX-N-3W	ELECTRICAL	300E1	E103	REF SINGLE LINE	E303
TX-N-4E	ELECTRICAL	400E2	E104	REF SINGLE LINE	E303
TX-N-4W	ELECTRICAL	400E1	E104	REF SINGLE LINE	E303
TX-N-LE	ELEC ROOM	000E2	E100	REF SINGLE LINE	E303
TX-N-LW	ELECTRICAL	000E1	E100	REF SINGLE LINE	E303
TX-N-M	MAIN ELECTRICAL ROOM	500M3	E105	REF SINGLE LINE	E301
TX-N-YARD	EXTERIOR UTILITY YARD	N/A	E100	REF SINGLE LINE	E301

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

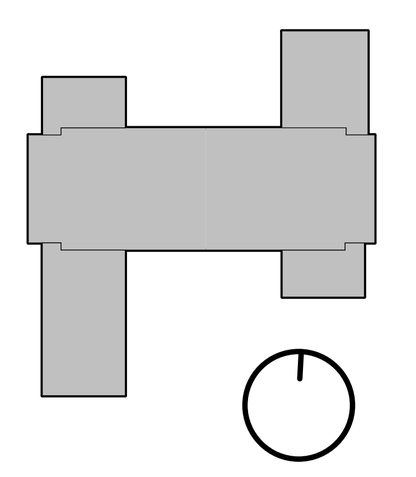
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE:

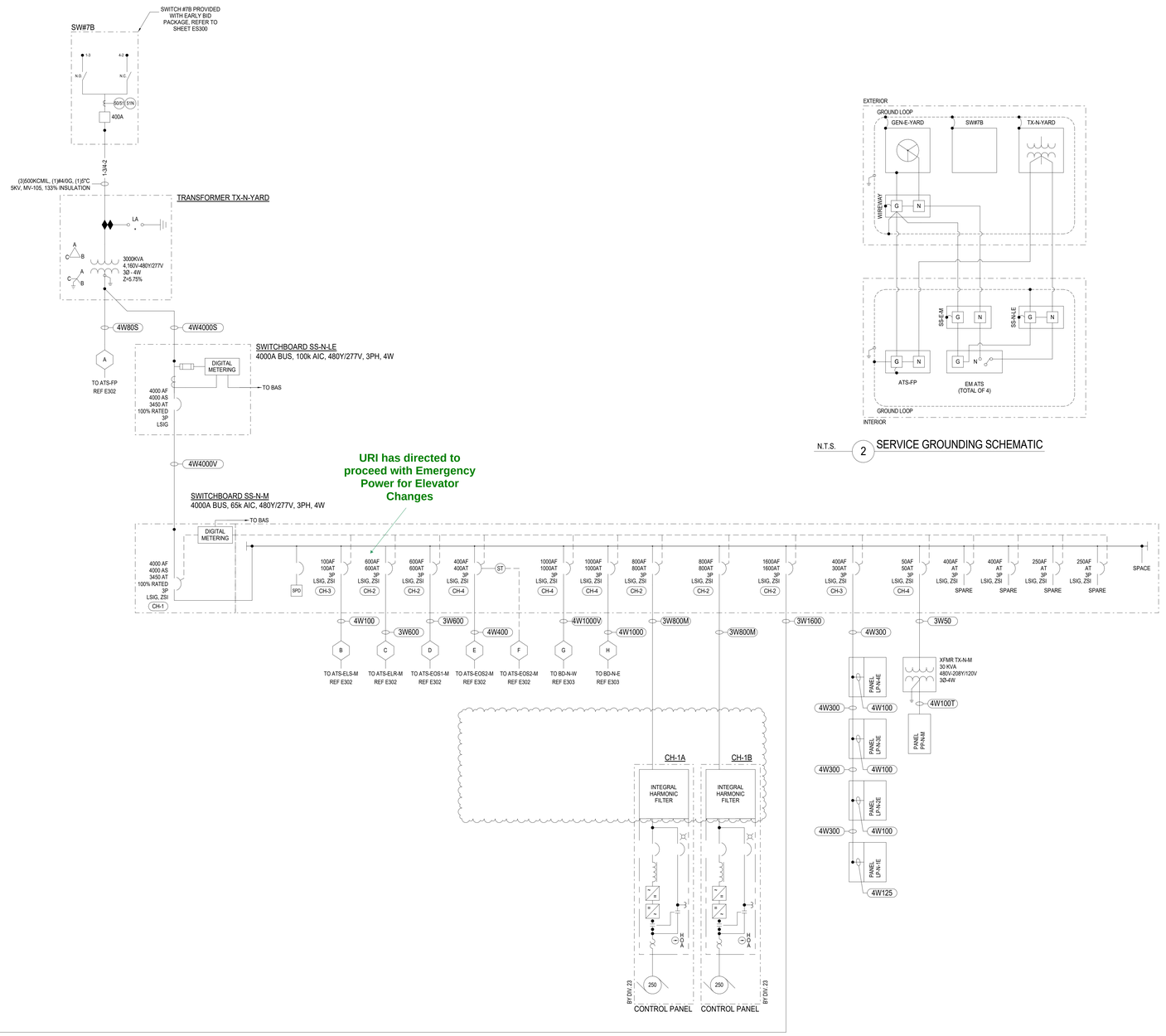
ELECTRICAL

TITLE:

GENERAL DISTRIBUTION INFORMATION

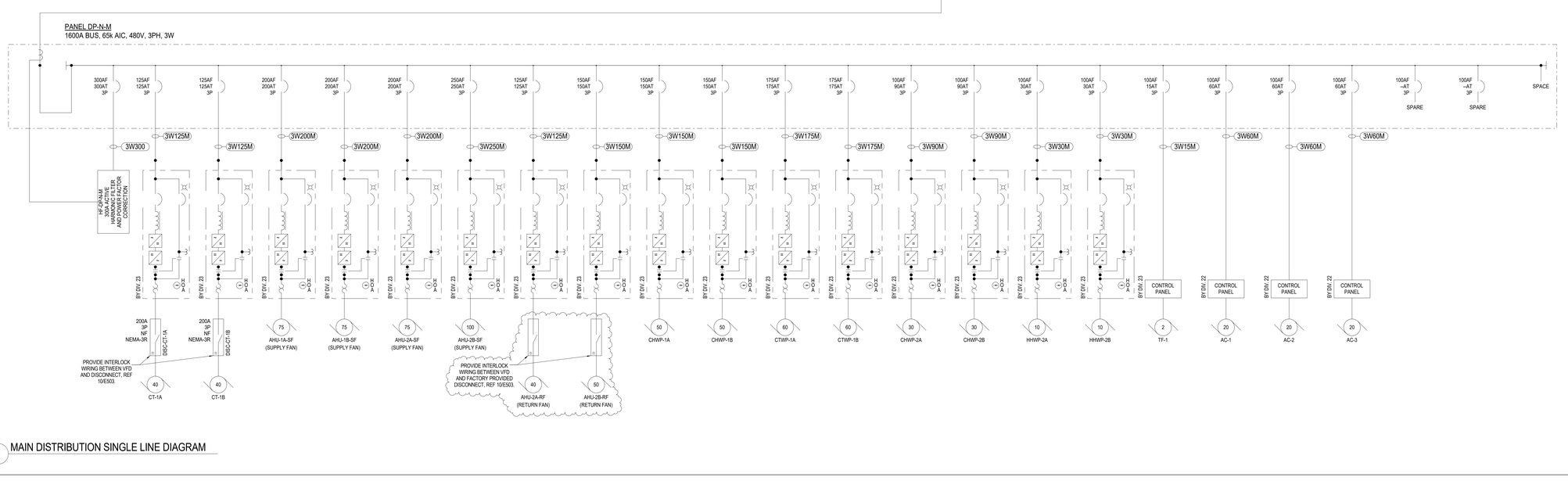
NUMBER:

E300



N.T.S. 2 SERVICE GROUNDING SCHEMATIC

SS-N-M ELECTRICAL ENERGY MONITORING	
CHANNEL	DESCRIPTION
CH-1	TOTAL ELECTRICAL ENERGY
CH-2	HVAC SYSTEMS
CH-3	LIGHTING
CH-4	RECEPTACLE CIRCUITS
PROVIDE ENERGY MEASUREMENT ON ALL OVERCURRENT PROTECTIVE DEVICES COMPLYING WITH ASHRAE STANDARD 90.1-2013. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION.	



N.T.S. 1 MAIN DISTRIBUTION SINGLE LINE DIAGRAM

GENERAL SINGLE-LINE DIAGRAM NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. THE ENTIRE INSTALLATION SHALL MEET ALL REQUIREMENTS OF THE LATEST APPLICABLE EDITION OF THE NEC AND LOCAL CODES. ALL EQUIPMENT SHALL BE LISTED AND BEAR THE LABEL OF AN APPROVED NATIONALLY RECOGNIZED TESTING LABORATORY.
3. OBTAIN A COPY AND REVIEW OWNER'S LATEST EDITION OF THEIR DESIGN AND CONSTRUCTION CRITERIA AND COMPLY WITH ALL REQUIREMENTS. WHERE CONFLICTS OCCUR BETWEEN THE CRITERIA DOCUMENTS AND THE CONSTRUCTION DOCUMENTS, THE MOST STRINGENT REQUIREMENTS WILL GOVERN.
4. PROVIDE ZONE SELECTIVE INTERLOCK (ZSI) WHERE NOTED.
5. PROVIDE LUGS ON SWITCHBOARDS, PANELBOARDS, AND CIRCUIT BREAKERS CAPABLE OF HANDLING NUMBER AND SIZE OF CONDUCTORS SHOWN ON DRAWINGS.
6. WHERE SPACES ARE SHOWN, NEW SWITCHBOARDS AND PANELBOARDS SHALL BE BUSSED AND EQUIPPED FOR FUTURE CIRCUIT BREAKERS.
7. FOR TRANSFORMER GROUNDING ELECTRODE CONDUCTOR, REFER TO SHEET EG301.
8. VFDS FURNISHED BY DIVISION 22/23 CONTRACTOR AND INSTALLED BY DIVISION 26 CONTRACTOR.

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE
WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO COPYRIGHT PROTECTION AS AN "ARCHITECTURAL WORK". THIS DOCUMENT, CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE CONDITIONS OF THE AGREEMENT, FOR THEIR CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR SHALL THE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFPRATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
10/26/17	ISSUE NO. 8
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.
ELECTRICAL

TITLE:

MAIN DISTRIBUTION SINGLE LINE DIAGRAM

NUMBER:

E301

EMERGENCY GENERATOR GEN-E-YARD
600 KW / 750 KVA ENGINE, UPSIZED 832KW ALTERNATOR
480Y/277V, 3PH, 4W

BUS CONNECTION ONLY, NO OVERCURRENT PROTECTION WITHIN GENERATOR.

1000AF 1000AT 3P

SPARE FOR CONNECTION TO LOAD BANK TESTING

CONTROL PANEL

EMERGENCY SHUT-OFF SWITCH FURNISHED LOOSE WITH GENERATOR. SURFACE MOUNT TO GENERATOR ENCLOSURE AND PROVIDE WIRING TO CONTROL PANEL PER MANUFACTURER'S REQUIREMENTS.

4W1000SP

WEATHERPROOF WIREWAY

ECB-E-YARD-FP
NEMA 3R
400 AF
400 AT
3P

ECB-E-YARD-DIST
NEMA 3R
1000 AF
1000 AT
3P
LSIA

3W80

4W1000SP

SWITCHBOARD SS-E-M
1000A BUS, 65k AIC, 480Y/277V, 3PH, 4W

PROVIDE SEPARATE VERITCAL SWITCHBOARD SECTIONS AS REQUIRED BY NEC

EMERGENCY LIFE SAFETY SYSTEM (ELS)

EMERGENCY LEGALLY REQUIRED STANDBY SYSTEM (ELR)

EMERGENCY OPTIONAL STANDBY SYSTEM (EOS)

1000AF 1000AT 3P LSIA

SPD

100AF 100AT 3P LSIA

600AF 600AT 3P LSIA

600AF 600AT 3P LSIA

400AF 400AT 3P LSIA

4W100

3W600

4W400

TO TX-N-YARD REF E301

TO SS-N-M REF E301

TO SS-N-M REF E301

TO SS-N-M REF E301

TO SS-N-M REF E301

TO SS-N-M REF E301

A

B

C

D

F

E

SPD

GENERATOR START
TO BAS
M

N

E

FIRE PUMP CONTROLLER/ AUTOMATIC TRANSFER SWITCH ATS-FP
400A, 3P, 60Hz
480V
35 KA WCR
OPEN TRANSITION

BYPASS ISOLATION SWITCH ATS-ELS-M
100A, 4P, 60Hz
480V
65 KA WCR
(ANY BREAKER)
OPEN TRANSITION

GENERATOR START
TO BAS
TO UPS
TO ELEVATOR CONTROLLER

BYPASS ISOLATION SWITCH ATS-ELR-M
600A, 3P, 60Hz
480V
65 KA WCR
(ANY BREAKER)
OPEN TRANSITION

BYPASS ISOLATION SWITCH ATS-EOS1-M
600A, 3P, 60Hz
480V
65 KA WCR
(ANY BREAKER)
OPEN TRANSITION

BYPASS ISOLATION SWITCH ATS-EOS2-M
400A, 4P, 60Hz
480V
65 KA WCR
(ANY BREAKER)
CLOSED TRANSITION

EXTENDED PARALLEL ALARM SAFETY CIRCUIT OUTPUT TO NORMAL FEEDER SHUNT TRIP

3W80

50
FIRE PUMP

4W100

PANEL LP-ELS-M-E

4W100

PANEL LP-ELS-N-E

4W100

PANEL LP-ELS-M-E

4W100

PANEL LP-ELS-N-E

PROVIDE LP-ELS-1E WITH INDIVIDUAL CTs ON EACH BREAKER FOR ENERGY MEASUREMENT

PANEL DP-ELR-M
600A BUS, 65k AIC, 480V, 3PH, 3W

600 AF 600 AT 3P LSI

100AF 80AT 3P

100AF 20AT 3P SPARE

100AF 20AT 3P SPARE

100AF 50AT 3P

100AF 50AT 3P

400AF 400AT 3P LSI

SPACE

3W80

3W50M

3W50M

3W400M

60AF 50AT 3P

60AF 50AT 3P

400AF 400AT 3P

ELEVATOR CONTROLLER

RECALL

ALTERNATE RECALL

FURNISHED BY ELEVATOR MFR

60 SERVICE ELEVATOR 3 MOTOR 1

60 SERVICE ELEVATOR 3 MOTOR 2

RECALL
ALTERNATE RECALL
ELEVATOR CONTROLLER
FURNISHED BY ELEVATOR MFR
15
ELEVATOR 1

ELEVATOR CONTROLLER
RECALL
ALTERNATE RECALL
FURNISHED BY ELEVATOR MFR
15
ELEVATOR 2

PANEL DP-EOS1-M
600A BUS, 65k AIC, 480V, 3PH, 3W

600 AF 600 AT 3P LSI

100AF 100AT 3P

250AF 225AT 3P LSI

100AF 50AT 3P

100AF 20AT 3P

100AF 20AT 3P

150AF 150AT 3P

150AF 150AT 3P

150AF 150AT 3P

150AF 150AT 3P

100AF 15AT 3P

100AF 15AT 3P

100AF 15AT 3P

SPACE

3W100

3W225

3W50

3W20

3W20

3W150M

3W150M

3W150M

3W150M

3W15M

3W15M

3W15M

HF-DP-EOS1-M
HARMONIC FILTER
HARMONIC FILTER AND POWER FACTOR CORRECTION

XFMR TX-EOS1-M
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

PANEL PP-EOS1-M

30AF 20AT 3P NEMA-3R

30AF 20AT 3P NEMA-3R

DISC-C1-1A BASIN HEATER

DISC-C1-1B BASIN HEATER

BY DIV. 23

CONTROL PANEL

12 KW
CT-1A BASIN HEATER

12 KW
CT-1B BASIN HEATER

BY DIV. 23

50
EF-1A

50
EF-1B

50
EF-1C

50
EF-1D

INTERLOCKED SO 1 OF 4 RUNS ON GENERATOR POWER

PROVIDE INTERLOCK WIRING BETWEEN VFD AND FACTORY PROVIDED DISCONNECT, REF 10/E503, TYP OF EF-1A/B/C/D AND EF-3A/B

1
EF-4

3
EF-3A

3
EF-3B

INTERLOCKED SO 1 OF 2 RUNS ON GENERATOR POWER

PANEL DP-EOS2-M
400A BUS, 65k AIC, 480V, 3PH, 4W

PROVIDE LOCK-OFF CLAMP ON CIRCUIT BREAKER FOR REMOTE TRANSFORMER MAINTENANCE

400 AF 400 AT 3P LSI

400AF 300AT 3P

100AF 70AT 3P

100AF 50AT 3P

SPACE

4W300

3W70

3W50

I

J

TO TX-EOS2-W-TD REF E302

TO TX-EOS2-E-TD REF E302

BUSDUCT BD-EOS2-W
400A BUS, 35k AIC, 480Y/277V, 3PH, 4W

BP-EOS2-4W
35k AIC
100 AF
50 AT
3P

3W50

XFMR TX-EOS2-4W
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

PANEL PP-EOS2-4W-1

BP-EOS2-3W
35k AIC
100 AF
50 AT
3P

3W50

XFMR TX-EOS2-3W
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

PANEL PP-EOS2-3W-1

BP-EOS2-2W
35k AIC
100 AF
50 AT
3P

3W50

XFMR TX-EOS2-2W
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

PANEL PP-EOS2-2W-1

BP-EOS2-1W
35k AIC
100 AF
50 AT
3P

3W50

XFMR TX-EOS2-1W
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

PANEL PP-EOS2-1W-1

BP-EOS2-LW
35k AIC
200 AF
200 AT
3P

3W200

XFMR TX-EOS2-LW
112.5 KVA
480V-208Y/120V
3Ø-4W

4W400IGT

FOR ISOLATED GROUNDING WIRING, REF 11/E503.

PANEL PP-EOS2-LW-1

4W100

PANEL PP-EOS2-LW-FA

4W100

PANEL PP-EOS2-LW-FS

4W225IG

PANEL PP-LW-M

TO DP-EOS2-M REF E302

TO DP-EOS2-M REF E302

I

XFMR TX-EOS2-W-TD
45 KVA
480V-208Y/120V
3Ø-4W

4W150T

ECB-TX-EOS2-W-TD
10k AIC
150 AF
150 AT
3P

4W150

PANEL PP-EOS2-4W-TD

4W150

4W50

PANEL PP-EOS2-3W-TD

4W150

4W50

PANEL PP-EOS2-2W-TD

4W150

4W50

PANEL PP-EOS2-1W-TD

4W150

4W50

PANEL PP-EOS2-LW-TD

4W100

J

XFMR TX-EOS2-E-TD
30 KVA
480V-208Y/120V
3Ø-4W

4W100T

ECB-TX-EOS2-E-TD
10k AIC
100 AF
100 AT
3P

4W100

PANEL PP-EOS2-4E-TD

4W50

4W100

PANEL PP-EOS2-3E-TD

4W50

4W100

PANEL PP-EOS2-2E-TD

4W50

4W100

PANEL PP-EOS2-1E-TD

4W50

UNINTERRUPTIBLE POWER SUPPLY UPS-ELR-M
40KVA RATED, 50KVA FRAME, 480V, 3PH, 3W INPUT, 208Y/120V, 3PH, 4W OUTPUT VIA INTEGRAL XFMR

EXTERNAL MAINTENANCE AND INTEGRATED DISTRIBUTION CABINET

TO BAS

TO ATS-ELR-M

UPS CABINET

50 KVA
480V-208Y/120V
3Ø-4W

175AF
175AT
LSI

BATTERY CABINET

4W175

PANEL PP-UPS-M

4W150

PANEL PP-UPS-3E

4W150

PANEL PP-UPS-1E

PANEL DP-EOS1-LE
225A BUS, 22k AIC, 480V, 3PH, 3W

250 AF
225 AT
3P
LSI

100AF
35AT
3P

100AF
15AT
3P

100AF
30AT
3P

100AF
30AT
3P

100AF
15AT
3P

100AF
15AT
3P

100AF
50AT
3P

100AF
50AT
3P

100AF
35AT
3P

100AF
25AT
3P

100AF
100AT
3P
SPARE

100AF
15AT
3P

100AF
15AT
3P

3W50M

3W15M

3W30M

3W30M

3W15M

3W15M

3W50M

3W50M

3W40

3W25

3W15

1/2
CAC-05

XFMR TX-EOS1-LE
15 KVA
480V-208Y/120V
3Ø-4W

4W50T

PANEL PP-EOS1-LE

4W30

PANEL PP-EOS1-1VMD

BY DIV. 23

BY DIV. 23

BY DIV. 23

BY DIV. 23

60A
3P

DISC-CAC-04

BY DIV. 22

CONTROL PANEL

5
BP-1

5
BP-1

5
BP-1

BY DIV. 23

CONTROL PANEL

2
SCP-1

2
SCP-1

10
PCWP-1A

10
PCWP-1B

INTERLOCKED SO 1 OF 2 RUNS ON GENERATOR POWER

BY DIV. 22

CONTROL PANEL

2
ESP-1
(ELEVATOR 1&2 SUMP PUMP)

BY DIV. 22

CONTROL PANEL

1
ESP-2
(SERVICE ELEVATOR 3 SUMP PUMP)

15
HHWP-1A

15
HHWP-1B

2
CAC-04

BY DIV. 21

JOCKEY PUMP CONTROLLER

1-1/2
JOCKEY PUMP

GENERAL SINGLE-LINE DIAGRAM NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL SINGLE-LINE DIAGRAM NOTES, REFER TO SHEET E301.

N.T.S. 1 EMERGENCY DISTRIBUTION SINGLE LINE DIAGRAM

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS OF USE SHALL BE DEEMED TO APPLY TO SUBSEQUENT USE BY, OR THE DISCLOSURE OF THIS DOCUMENT TO, THE ESTABLISHMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. USE OR DISCLOSURE OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: As indicated

ELECTRICAL

TITLE:

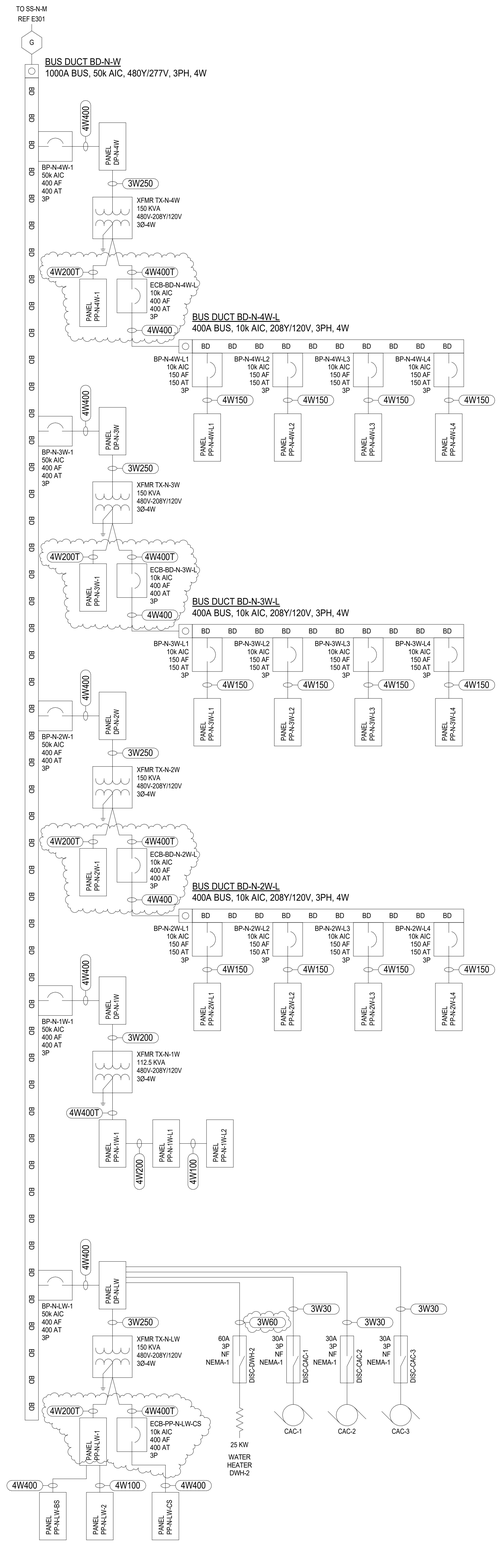
EMERGENCY DISTRIBUTION SINGLE LINE DIAGRAM

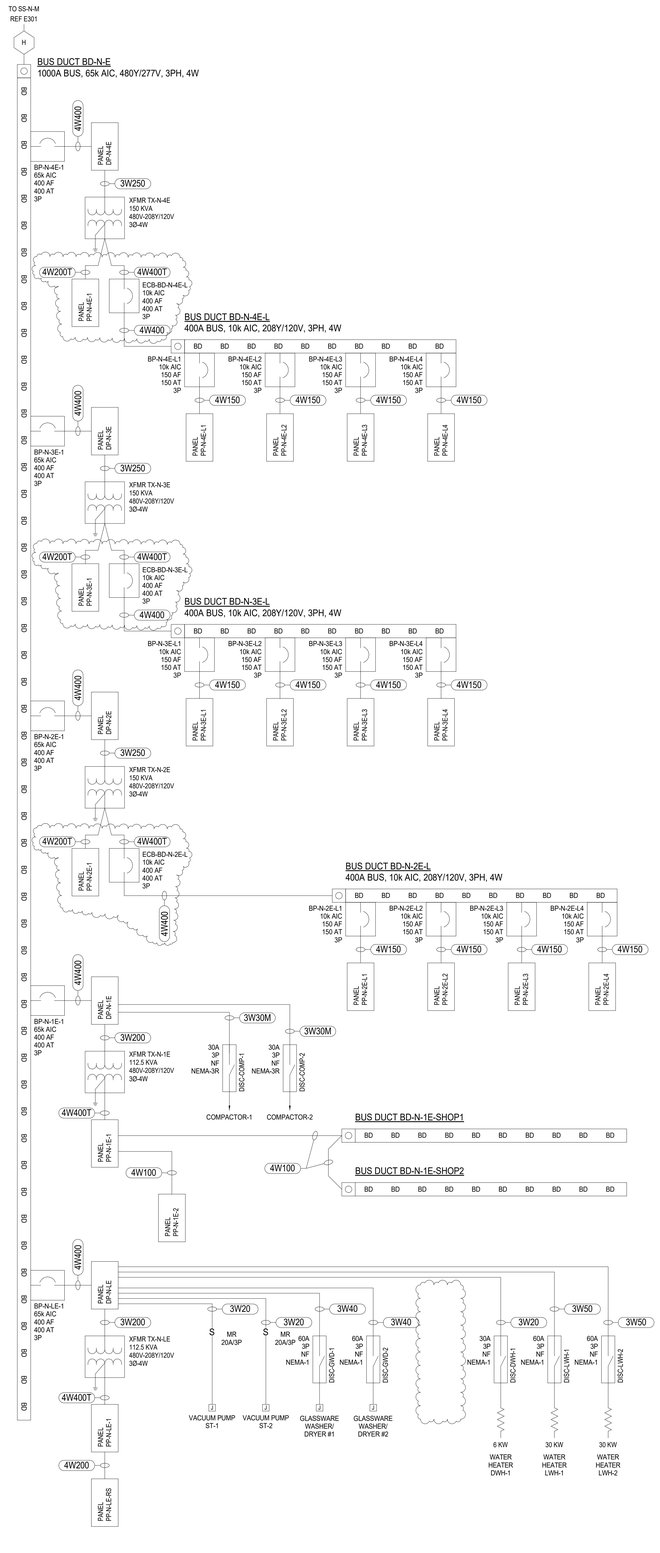
NUMBER:

E302

GENERAL SINGLE-LINE DIAGRAM NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL SINGLE-LINE DIAGRAM NOTES, REFER TO SHEET E301.





N.T.S. 1 NORMAL DISTRIBUTION SINGLE LINE DIAGRAM

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CLIENT. REFER TO BALLINGER'S COPYRIGHT AND OTHER RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE ACCURACY OF ANY SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: As indicated

ELECTRICAL

TITLE:

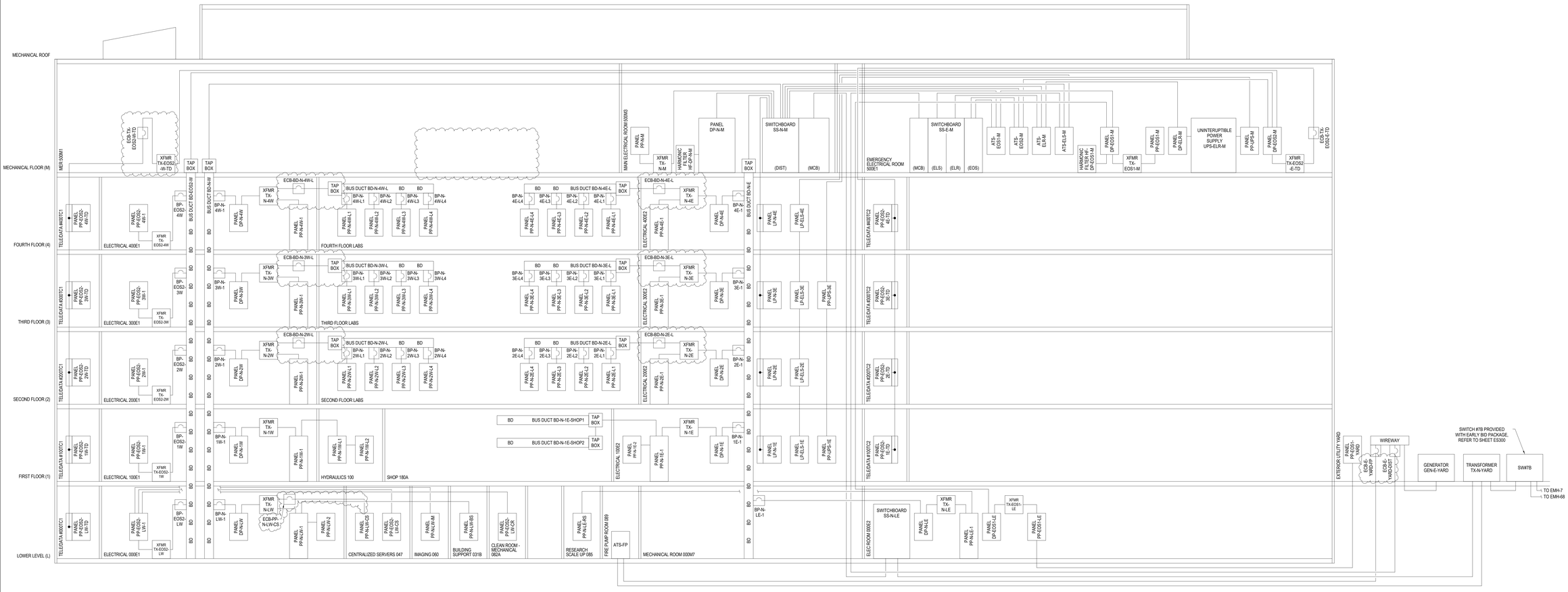
NORMAL DISTRIBUTION SINGLE LINE DIAGRAM

NUMBER:

E303

GENERAL DISTRIBUTION RISER DIAGRAM NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR EXACT LOCATION OF EQUIPMENT, REFER TO SHEET E100 AND E200 SERIES.
3. E.C. SHALL COORDINATE EXACT ROUTING AND CONDUIT ENTRIES INTO EQUIPMENT WITH OTHER TRADES AND MANUFACTURER(S) PRIOR TO INSTALLATION.
4. NOT ALL ELECTRICAL, MECHANICAL, PLUMBING, AND FIRE PROTECTION EQUIPMENT MAY NECESSARILY BE SHOWN ON THE DISTRIBUTION RISER DIAGRAM, REFER TO SHEET E100 AND E200 SERIES FOR ADDITIONAL INFORMATION.



N.T.S. 1 DISTRIBUTION RISER DIAGRAM

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS AND IN THE SPECIFICATIONS IS GOVERNED BY AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTORS MAY MAKE COPIES OF THE CONTRACT DOCUMENTS AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT TO CONTRACTORS OR SUBCONTRACTORS IS NOT RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

DISTRIBUTION RISER DIAGRAM

NUMBER:

E311

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: DP-N-LE

Location: ELEC ROOM 000E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-E **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 65,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - GLASS WASH 075 <ST1> VACUUM PUMP	20	3	Equip		833	833										
3	--	--	--	--				833	833								
5	--	--	--	--						833	833						
7	PWR - GLASS WASH 075 <GWD> GLASSWARE WASHER/DRYER #1	40	3	Equip		7067	7067										
9	--	--	--	--				7067	7067								
11	--	--	--	--						7067	7067						
13	PWR - MECH. RM. 000M7 WATER HEATER LWH-1	50	3	Equip		10000	10000										
15	--	--	--	--				10000	10000								
17	--	--	--	--						10000	10000						
19	PWR - MECH. RM. 000M7 WATER HEATER DWH-1	15	3	Equip		2000						LO					
21	--	--	--	--			2000										
23	--	--	--	--						2000							
25	Space	--	--	--		0	0						--	--	--	Space	
27	Space	--	--	--				0	0				--	--	--	Space	
29	Space	--	--	--						0	0		--	--	--	Space	
31	Space	--	--	--		0	0						--	--	--	Space	
33	Space	--	--	--				0	0				--	--	--	Space	
35	Space	--	--	--						0	0		--	--	--	Space	
37	Unusable Space	--	--	--		0	19589						HVAC; Recpt; Equip	3	200	PANEL PP-N-LE-1 VIA XFMR TX-N-LE	
39	Unusable Space	--	--	--				0	19633				--	--	--	--	
41	Unusable Space	--	--	--						0	21231		--	--	--	--	
					Total Load:	57389 VA		57433 VA		59031 VA							
					Total Amps:	207 A		207 A		213 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	17447 VA	85.00%	14830 VA	**Total Conn. Load:**	173852 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	111693 VA
Recpt	19800 VA	75.25%	14900 VA	**Total Conn. Current:**	209 A
Equip	136605 VA	60.00%	81963 VA	**Total Est. Demand Current:**	134 A

Branch Panel: DP-N-LW

Location: ELECTRICAL 000E1 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-W **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 42,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - SUPPORT 031A WATER HEATER DWH-2	60	3	Equip		8333	5653						HVAC	3	30	HVAC - SERVER 047 CAC-01	
3	--	--	--	--				8333	5653				--	--	--	--	
5	--	--	--	--						8333	5653		--	--	--	--	
7	HVAC - SERVER 047 CAC-02	30	3	HVAC		5653	5653						HVAC	3	30	HVAC - SERVER 047 CAC-03	
9	--	--	--	--				5653	5653				--	--	--	--	
11	--	--	--	--						5653	5653		--	--	--	--	
13	Space	--	--	--		0	0						--	--	--	Space	
15	Space	--	--	--				0	0				--	--	--	Space	
17	Space	--	--	--						0	0		--	--	--	Space	
19	Space	--	--	--		0	0						--	--	--	Space	
21	Space	--	--	--				0	0				--	--	--	Space	
23	Space	--	--	--						0	0		--	--	--	Space	
25	Space	--	--	--		0	0						--	--	--	Space	
27	Space	--	--	--				0	0				--	--	--	Space	
29	Space	--	--	--						0	0		--	--	--	Space	
31	Space	--	--	--		0	0						--	--	--	Space	
33	Space	--	--	--				0	0				--	--	--	Space	
35	Space	--	--	--						0	0		--	--	--	Space	
37	Unusable Space	--	--	--		0	23218						HVAC; Recpt; Equip	3	250	PANEL PP-N-LW-1 VIA XFMR TX-N-LW	
39	Unusable Space	--	--	--				0	24352				--	--	--	--	
41	Unusable Space	--	--	--						0	20218		--	--	--	--	
					Total Load:	48511 VA		49645 VA		45511 VA							
					Total Amps:	177 A		181 A		164 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	53242 VA	85.00%	45256 VA	**Total Conn. Load:**	143667 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	89443 VA
Recpt	50680 VA	59.87%	30340 VA	**Total Conn. Current:**	173 A
Equip	39745 VA	60.00%	23847 VA	**Total Est. Demand Current:**	120 A

Branch Panel: PP-N-LW-BS

Location: BUILDING SPT 031B **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-N-LW-1 **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - CLASSROOM 025 FLOOR	20	1	Recpt		1080	360						Recpt	1	20	REC - A/V CLOSET 031C	
3	REC - CLASSROOM 025 FLOOR	20	1	Recpt				1080	1200			GF	Equip	1	20	PWR - VENDING AREA 0C5	
5	REC - CLASSROOM 025 FLOOR	20	1	Recpt						1080	1200	GF	Equip	1	20	PWR - VENDING AREA 0C5	
7	REC - CLASSROOM 025 FLOOR	20	1	Recpt		1080	1200					GF	Equip	1	20	PWR - VENDING AREA 0C5	
9	REC - CLASSROOM 025 WALL	20	1	Recpt				1080	0				--	1	20	Spare	
11	REC - CLASSROOM 010, 025 WALL/FLOOR	20	1	Recpt						1440	0		--	1	20	Spare	
13	REC - VENDING OC5, OC5A, A/V 025A, CLASS 025B, MTG 030	20	1	Recpt; Equip		1270	1000						Equip	1	20	PWR - CLASSROOM 025C PROJECTORS	
15	REC - CLASSROOM 010 FLOOR	20	1	Recpt				1080	200				Equip	1	20	PWR - CLASSROOM 025C PROJ. SCREEN	
17	REC - CLASSROOM 010 FLOOR	20	1	Recpt						1080	1000		Equip	1	20	PWR - CLASSROOM 025C PROJECTORS	
19	REC - CLASSROOM 010 FLOOR	20	1	Recpt		1080	200						Equip	1	20	PWR - CLASSROOM 010C PROJ. SCREEN	
21	REC - CLASSROOM 010 FLOOR	20	1	Recpt				1080	1000				Equip	1	20	PWR - CLASSROOM 010C PROJECTORS	
23	REC - CLASSROOM 010 WALL	20	1	Recpt						1080	1000		Equip	1	20	PWR - CLASSROOM 010C PROJECTORS	
25	REC - CONF. ROOM 005, 015, 020	20	1	Recpt		720	501					LK	Equip	1	20	PWR - VESTIBULE 000C3 DOOR OPERATOR (SOUTH)	
27	REC - CONF. ROOM 015, 020	20	1	Recpt				720	360				Recpt	1	20	REC - BUILDING SUPPORT 031B EQUIPMENT CHARGING	
29	REC - CONF. ROOM 005, STORAGE 010A, 010B	20	1	Recpt						180	360		Recpt	1	20	REC - BUILDING SUPPORT 031B EQUIPMENT CHARGING	
31	PWR - ACTIVE LEARNING 010, 025 PARTITION STATION CONTROL	20	1	Recpt; Equip		1000	360						Recpt	1	20	REC - BUILDING SUPPORT 031B EQUIPMENT CHARGING	
33	REC - CIRCULATION 0C4 FLOOR	20	1	Recpt				720	950				Recpt; Equip	1	20	REC - BUILDING SUPPORT 031B GENERAL	
35	REC - CIRCULATION 0C4 FLOOR	20	1	Recpt						720	0		--	1	20	Spare	
37	Spare	20	1	--		0	0						--	1	20	Spare	
39	REC - CIRCULATION 0C4 WALL	20	1	Recpt				1080	0				--	1	20	Spare	
41	Spare	20	1	--						0	58		HVAC	1	15	HVAC - VESTIBULE 000C3 FCU-0V2	
					Total Load:	9851 VA		10550 VA		9198 VA							
					Total Amps:	83 A		89 A		77 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	58 VA	85.00%	49 VA	**Total Conn. Load:**	29599 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	20694 VA
Recpt	20800 VA	74.04%	15400 VA	**Total Conn. Current:**	82 A
Equip	8741 VA	60.00%	5245 VA	**Total Est. Demand Current:**	57 A

Branch Panel: PP-N-LE-1

Location: ELEC ROOM 000E2 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-LE **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 400A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	11256						Recpt; Equip	3	200	PANEL PP-N-LE-RS	
3	REC - STOCK 084, STORAGE 090, SUPPORT 094	20	1	Recpt				540	10517				--	--	--	--	
5	REC - BLDG MGMT OFFICE 082	20	1	Recpt						540	11034		--	--	--	--	
7	Spare	20	1	--		0	1596						Equip	1	20	PWR - CAFE SUPPORT 094 DISHWASHER	
9	REC - CIRCULATION 0C3	20	1	Recpt				540	1104				Equip	1	20	REC - CAFE SUPPORT 094 REFRIGERATOR	
11	REC - MECHANICAL ROOM 000M7 + TRAP PRIMER TP-1	20	1	Recpt; Equip						960	1104		Equip	1	20	REC - CAFE SUPPORT 094 REFRIGERATOR	
13	HVAC - MECHANICAL ROOM 000M7 FCU-0E2	20	2	HVAC		915	0						--	1	20	Spare	
15	--	--	--	--				915	1144				Equip	2	15	PWR - CAFE SUPPORT 094 ICE MACHINE	
17	HVAC - MECHANICAL ROOM 000M7 FCU-0M1-1	15	2	HVAC						562	1144		--	--	--	--	
19	--	--	--	--		562	526						Equip	1	20	PWR - MECHANICAL ROOM 000M7 CP-3,4,5,6	
21	HVAC - MECHANICAL ROOM 000M7 FCU-0M1-2	15	2	HVAC				562	1000				Equip	1	20	PWR - MECHANICAL ROOM 000M7 LWH-1 & 2 CONTROLS	
23	--	--	--	--						562	0		--	1	20	Spare	
25	HVAC - MECHANICAL ROOM 000M7 FCU-0M1-3	15	2	HVAC		562	0						--	1	20	Spare	
27	--	--	--	--				562	0				--	1	20	Spare	
29	HVAC - FIRE PUMP ROOM 000M3 FCU-FG8	30	1	HVAC						1656	0		--	1	20	Spare	
31	Spare	20	1	--		0	0						--	1	20	Spare	
33	Spare	20	1	--				0	0				--	1	20	Spare	
35	HVAC - MATLS MGMT / STOCKROOM 082 FCU-082	20	2	HVAC						920	0		--	1	20	Spare	
37	--	--	--	--		920	0						--	1	20	Spare	
39	HVAC - GLASSWASH 075 FCU-075	20	2	HVAC				562	0				--	1	20	Spare	
41	--	--	--	--						562	0		--	1	20	Spare	
43	HVAC - DISTILLATION COLUMN 087 FCU-087	15	2	HVAC		562	0						--	1	20	Spare	
45	--	--	--	--				562	0				--	1	20	Spare	
47	HVAC - GENERAL STORAGE 090 FCU-090	15	2	HVAC						562	0		--	1	20	Spare	
49	--	--	--	--		562	0						--	1	20	Spare	
51	HVAC - CAFE SUPPORT 094 FCU-094	15	2	HVAC				562	0				--	1	20	Spare	
53	--	--	--	--						562	0		--	1	20	Spare	
55	HVAC - CIRCULATION 000C2 FPB-125	15	1	HVAC		1065	0						--	1	20	Spare	
57	HVAC - CIRCULATION 000C2 FPB-130	15	1	HVAC				1065	0				--	1	20	Spare	
59	HVAC - CIRCULATION 000C2 FPB-135	15	1	HVAC						1065	0		--	1	20	Spare	
61	HVAC - CIRCULATION 000C6 FPB-140	15	1	HVAC		1065	0						--	1	20	Spare	
63	Spare	20	1	--				0	0				--	1	20	Spare	
65	Spare	20	1	--						0	0		--	1	20	Spare	
67	Spare	20	1	--		0	0						--	1	20	Spare	
69	Spare	20	1	--				0	0				--	1	20	Spare	
71	Spare	20	1	--						0	0		--	1	20	Spare	
73	Spare	20	1	--		0	0						--	1	20	Spare	
75	Spare	20	1	--				0	0				--	1	20	Spare	
77	Spare	20	1	--						0	0		--	1	20	Spare	
79	Spare	20	1	--		0	0						--	1	20	Spare	
81	Spare	20	1	--				0	0				--	1	20	Spare	
83	Spare	20	1	--						0	0		--	1	20	Spare	
					Total Load:	19589 VA		19633 VA		21231 VA							
					Total Amps:	163 A		164 A		177 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	17447 VA	85.00%	14830 VA	**Total Conn. Load:**	60452 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	43653 VA
Recpt	19800 VA	75.25%	14900 VA	**Total Conn. Current:**	168 A
Equip	23205 VA	60.00%	13923 VA	**Total Est. Demand Current:**	121 A

Branch Panel: PP-N-LW-1

Location: ELECTRICAL 000E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-LW **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 200A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - CLASSROOM 045 FLOOR	20	1	Recpt		1080	9851						HVAC; Recpt; Equip	3	100	PP-N-LW-BS	
3	REC - CLASSROOM 045 FLOOR	20	1	Recpt				1080	10550				--	--	--	--	
5	REC - CLASSROOM 045 FLOOR	20	1	Recpt						1080	9198		--	--	--	--	
7	REC - CLASSROOM 045 FLOOR	20	1	Recpt		1080	1400					LK	Equip	1	20	PWR - WOMEN'S 0T1 HAND DRYER	
9	REC - CLASSROOM 045 WALL	20	1	Recpt				1080	1400			LK	Equip	1	20	PWR - MEN'S 0T2 HAND DRYER	
11	REC - CLASSROOM 045, A/V 045A WALL	20	1	Recpt						900	600	GF	Equip	1	20	PWR - CIRC. 0C1 WATER COOLER EWC-1	
13	REC - CLASSROOM 045 WALL	20	1	Recpt		1080	540						Recpt	1	20	REC - JANITORS CLOSET 0J1 + TRAP PRIMER TP-1 + RECIRC PUMP CP-1,2	
15	PWR - CLASSROOM 045 PROJECTOR	20	1	Equip				500	720				Recpt	1	20	REC - WOMEN'S 0T1, MEN'S 0T2	
17	PWR - CLASSROOM 045 PROJ. SCREEN	20	1	Equip						50	250		Equip	1	20	PWR - FLUSH VALVE WOMEN'S 0T1, MEN'S 0T2	
19	REC - CLASSROOM 040 WALL	20	1	Recpt		1080	250						Equip	1	20	PWR - FAUCET VALVE WOMEN'S 0T1, MEN'S 0T2	
21	REC - CLASSROOM 040 WALL/FLOOR	20	1	Recpt				900	720				Recpt	1	20	REC - CIRCULATION 0C2	
23	PWR - CLASSROOM 040 PROJECTOR	20	1	Equip						500	360		Recpt	1	20	REC - A/V CLOSET 045A	
25	PWR - CLASSROOM 040 PROJ. SCREEN	20	1	Equip		50	0						--	1	20	Spare	
27	REC - CIRCULATION 0C4 FLOOR	20	1	Recpt				540	0				--	1	20	Spare	
29	REC - ELEC 0E1, TELE DATA 0TC1, CIRCULATION 0C1, 0C4	20	1	Recpt						720	0		--	1	20	Spare	
31	REC - LAB TECH OFFICES 051 DUPLEX	20	1	Recpt		900	0						--	1	20	Spare	
33	REC - LAB TECH OFFICES 051 QUAD	20	1	Recpt				360	720				Recpt	1	20	REC - FUTURE CORE LAB 070	
35	REC - FUTURE CORE LAB 055	20	1	Recpt						1080	720		Recpt	1	20	REC - LAB CLOSET GAS MANIFOLDS	
37	PWR - VESTIBULE 000C3 DOOR OPERATOR	20	1	Equip	LK	501	0						--	1	20	Spare	
39	Spare	20	1	--				0	0				--	1	20	Spare	
41	Spare	20	1	--						0	0		--	1	20	Spare	
43	REC - IMAGING PREP 048 CSP	20	2	Recpt		360	540						Recpt	1	20	REC - IMAGING 050 GENERAL	
45	--	--	--	--				360	720				Recpt	1	20	REC - IMAGING 050 WALL GENERAL (NORTH)	
47	REC - IMAGING PREP 048 CSP	20	2	Recpt						360	720		Recpt	1	20	REC - IMAGING 050 WALL GENERAL (NORTH)	
49	--	--	--	--		360	1260						Recpt	1	20	REC - IMAGING 050 WALL GENERAL (SOUTH)	
51	REC - IMAGING PREP 048 CSP	20	2	Recpt				360	1080				Recpt	1	20	REC - IMAGING 050 WALL GENERAL (SOUTH)	
53	--	--	--	--						360	360		Recpt	1	20	REC - IMAGING 060A/B CSP	
55	REC - IMAGING PREP 048 CSP	20	2	Recpt		360	503						Equip	1	20	REC - IMAGING PREP 048 LAM (LE-CHE-0095)	
57	--	--	--	--				360	720				Recpt	1	20	REC - IMAGING PREP 048 WALL GENERAL	
59	REC - XRD 048A CSP	20	2	Recpt						360	1080		Recpt	1	20	REC - IMAGING PREP 048 WALL GENERAL	
61	--	--	--	--		360	540						Recpt	1	20	REC - XRD 048A WALL GENERAL	
63	Spare	20	1	--				0	720				Recpt	1	20	REC - XRD 048A WALL GENERAL	
65	PWR - CIRCULATION 000C4 BUILDING DIRECTORY	20	1	Recpt						180	58		HVAC	1	15	HVAC - VESTIBULE 000C5 FCU-0V1	
67	Spare	20	1	--		0	562						HVAC	2	15	HVAC - ELEVATOR LOBBY 000C1 FCU-0TC1	
69	Spare	20	1	--				0	562				--	--	--	--	
71	Spare	20	1	--						0	562		HVAC	2	15	HVAC - ELEVATOR LOBBY 000C1 FCU-0E1	
73	PP-N-LW-2	100	3	Other		0	562						--	--	--	--	
75	--	--	--	--				0	0				--	1	20	Spare	
77	--	--	--	--						0	0		--	1	20	Spare	
79	Spare	20	1	--		0	0						--	1	20	Spare	
81	Spare	20	1	--				0	0				--	1	20	Spare	
83	Spare	20	1	--						0	0		--	1	20	Spare	
					Total Load:	23218 VA		23452 VA		19498 VA							
					Total Amps:	198 A		200 A		162 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2362 VA	85.00%	2008 VA	**Total Conn. Load:**	66167 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	40385 VA
Recpt	49060 VA	60.19%	29530 VA	**Total Conn. Current:**	184 A
Equip	14745 VA	60.00%	8847 VA	**Total Est. Demand Current:**	112 A

Branch Panel: PP-N-LW-CS

Location: CENT SERVER 047 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-LW **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 400A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	
3	Space	--	--	--				0	0				--	--	--	Space	
5	Space	--	--	--						0	0		--	--	--	Space	
7	Space	--	--	--		0	0						--	--	--	Space	
9	Space	--	--	--				0	0				--	--	--	Space	
11	Space	--	--	--						0	0		--	--	--	Space	
13	Space	--	--	--		0	0						--	--	--	Space	
15	Space	--	--	--				0	0				--	--	--	Space	
17	Space	--	--	--						0	0		--	--	--	Space	
19	Space	--	--	--		0	0						--	--	--	Space	
21	Space	--	--	--				0	0				--	--	--	Space	
23	Space	--	--	--						0	0		--	--	--	Space	
25	Space	--	--	--		0	0						--	--	--	Space	
27	Space	--	--	--				0	0				--	--	--	Space	
29	Space	--	--	--						0	0		--	--	--	Space	
31	Space	--	--	--		0	0						--	--	--	Space	
33	Space	--	--	--				0	0				--	--	--	Space	
35	Space	--	--	--						0	0		--	--	--	Space	
37	Space	--	--	--		0	0						--	--	--	Space	
39	Space	--	--	--				0	0				--	--	--	Space	
41	Space	--	--	--						0	0		--	--	--	Space	
43	Space	--	--	--		0	0						--	--	--	Space	
45	Space	--	--	--				0	0				--	--	--	Space	
47	Space	--	--	--						0	0		--	--	--	Space	
49	Space	--	--	--		0	0						--	--	--	Space	
51	Space	--	--	--				0	0				--	--	--	Space	
53	Space	--	--	--						0	0		--	--	--	Space	
55	Space	--	--	--		0	0						--	--	--	Space	
57	Space	--	--	--				0	0				--	--	--	Space	
59	Space	--	--	--						0	0		--	--	--	Space	
61	Space	--	--	--		0	0						--	--	--	Space	
63	Space	--	--	--				0	0				--	--	--	Space	
65	Space	--	--	--						0	0		--	--	--	Space	
67	Space	--	--	--		0	0						--	--	--	Space	
69	Space	--	--	--				0	0				--	--	--	Space	
71	Space	--	--	--						0	0		--	--	--	Space	
73	Space	--	--	--		0	0						--	--	--	Space	
75	Space	--	--	--				0	0				--	--	--	Space	
77	Space	--	--	--						0	0		--	--	--	Space	
79	Space	--	--	--		0	0						--	--	20	Spare	
81	Space	--	--	--				0	900				Recpt	1	20	REC - SERVER 047 WALL	
83	Space	--	--	--						0	720		Recpt	1	20	REC - SERVER 047 RACEWAY	
					Total Load:	0 VA		900 VA		720 VA							
					Total Amps:	0 A		8 A		7 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	1620 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	1620 VA
Recpt	1620 VA	100.00%	1620 VA	**Total Conn. Current:**	4 A
Equip	0 VA	0.00%	0

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-LE-RS

Location: RESEARCH 085 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-N-LE-1 **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** **Wires:** 4 **MCB Rating:** 200A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - ANALYTICAL CORE 067 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - ANALYTICAL CORE 067 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - ANALYTICAL CORE 067 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - ANALYTICAL CORE 067 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - ANALYTICAL CORE 067 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - ANALYTICAL CORE 067 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - ANALYTICAL CORE 067 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - ANALYTICAL CORE 067 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	PWR - ANALYTICAL CORE 067 LSA/LSA-OPTIIOL (LE-CHE-0472/0473/0474)	30	3	Equip						2882	250	LK	Equip	1	20	PWR - ANALYTICAL CORE 067 HOOD	18
19	--	--	--	--		2882	900						Recpt	1	20	REC - ANALYTICAL CORE 067 GENERAL	20
21	--	--	--	--				2882	720				Recpt	1	20	REC - ANALYTICAL CORE 067 GENERA	22
23	Spare	20	1	--						0	1006		Equip	1	20	PWR - ANALYTICAL CORE 067 AFM (LE-CHE-0377)	24
25	PWR - ANALYTICAL CORE 067 <GCMS> VACUUM PUMP (LE-CVE-0440)	20	1	Equip		528	480						Equip	1	20	PWR - ANALYTICAL CORE 067 SPECT-PS (LE-MIS-0156)	26
27	PWR - ANALYTICAL CORE 067 <GCMS> GAS CHROM (LE-CVE-0441)	20	1	Equip				503	0				--	1	20	Spare	28
29	PWR - ANALYTICAL CORE 067 <GCMS> GAS CHROM (LE-CVE-0443)	20	1	Equip						503	0		--	1	20	Spare	30
31	PWR - ANALYTICAL CORE 067 <GCMS> PURGE & TRAP (LE-CVE-0444)	20	1	Equip		503	0						--	1	20	Spare	32
33	REC - ANALYTICAL CORE 067 GENERAL	20	1	Recpt				540	0				--	1	20	Spare	34
35	REC - GLASSWASH 075 EAST GENERAL	20	1	Recpt						720	0		--	1	20	Spare	36
37	REC - GLASSWASH 075 EAST GENERAL	20	1	Recpt		900	0						--	1	20	Spare	38
39	REC - GLASSWASH 075 GENERAL + TRAP PRIMER TP-2	20	1	Recpt; Equip				195	0				--	1	20	Spare	40
41	PWR - GLASSWASH 075 <ST1> CONTROLS	20	1	Equip						240	0		--	1	20	Spare	42
43	PWR - GLASSWASH 075 <ST2> CONTROLS	20	1	Equip		240	360						Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	44
45	PWR - GLASSWASH 075 ICE FLAKER	20	1	Equip	GF			854	360				--	--	--	--	46
47	PWR - GLASSWASH 075 HOOD	20	1	Equip	LK					250	360		Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	48
49	PWR - GLASSWASH 075 RO SYSTEM	20	1	Equip		503	360						--	--	--	--	50
51	PWR - GLASSWASH 075 RO SYSTEM	20	1	Equip				503	360				Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	52
53	PWR - GLASSWASH 075 RO SYSTEM	20	1	Equip						503	360		--	--	--	--	54
55	Spare	20	1	--		0	360						Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	56
57	Spare	20	1	--				0	360				--	--	--	--	58
59	Spare	20	1	--						0	360		Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	60
61	Spare	20	1	--		0	360						--	--	--	--	62
63	Spare	20	1	--				0	360				Recpt	2	20	REC - RESEARCH SCALE UP 085 CSP	64
65	Spare	20	1	--						0	360		--	--	--	--	66
67	Spare	20	1	--		0	720						Recpt	1	20	REC - RESEARCH SCALE UP 085 WEST GENERAL	68
69	Spare	20	1	--				0	720				Recpt	1	20	REC - RESEARCH SCALE UP 085 WEST GENERAL	70
71	Spare	20	1	--						0	720		Recpt	1	20	REC - RESEARCH SCALE UP 085 EAST GENERAL	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	1080		Recpt	1	20	REC - CORE 067, RESEARH 085, DIST. COLUMN 087 GENERAL	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	11256 VA		10517 VA		11034 VA							
					Total Amps:	94 A		88 A		93 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 32807 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 22956 VA
Recpt	17280 VA	78.94%	13640 VA	**Total Conn. Current:** 91 A
Equip	15527 VA	60.00%	9316 VA	**Total Est. Demand Current:** 64 A

Branch Panel: PP-EOS1-LE

Location: ELEC ROOM 000E2 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 100A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS1-LE **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 50A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PANEL PP-EOS1-YARD	30	3	Recpt; Equip		1665	192						HVAC	1	15	HVAC - CHEM STOCKRM 165A EF-5	2
3	--	--	--	--				1200	501				Equip	1	20	PWR - MECHANICAL ROOM 000M7 WATER SOFTENER	4
5	--	--	--	--						1125	2060	GFEP	HVAC	1	30	HVAC - 1ST FLOOR HEAT TRACE EAST/SOUTH	6
7	HVAC - STAIR NO. 4 100S4 FCU-100S4	15	2	HVAC		80	200					GFEP	HVAC	1	20	HVAC - 1ST FLOOR HEAT TRACE EAST OVERFLOW DRAINGS	8
9	--	--	--	--				80	2060			GFEP	HVAC	1	20	HVAC - 1ST FLOOR HEAT TRACE WEST/NORTH	10
11	RECLTG - ELEVATOR 1 & 2 PIT	20	1	Recpt	LO					360	100	GFEP	HVAC	1	20	HVAC - LL HEAT TRACE SOUTH	12
13	Spare	20	1	--		0	180					LO	Recpt	1	20	REC/LTG - ELEVATOR CONTROL ROOM 0EC1	14
15	PWR - ELEVATOR 3 CAB FANS	20	1	Equip	LO			200	400			LO	Equip	1	20	ELEVATOR 1 & 2 CAB FANS	16
17	LTG - ELEVATOR 3 CAB LIGHTS	20	1	Light	LO					200	400	LO	Light	1	20	ELEVATOR 1 2 CAB LIGHTS	18
19	RECLTG - ELEVATOR 3 PIT	20	1	Recpt	LO	180	0						--	1	20	Spare	20
21	LTG/REC - EMR 0MZ	20	1	Recpt	LO			180	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
					Total Load:	2497 VA		4621 VA		4245 VA							
					Total Amps:	21 A		41 A		38 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	4772 VA	85.00%	4056 VA	**Total Conn. Load:** 11363 VA
Light	600 VA	125.00%	750 VA	**Total Est. Demand:** 8977 VA
Recpt	1440 VA	100.00%	1440 VA	**Total Conn. Current:** 32 A
Equip	4551 VA	60.00%	2731 VA	**Total Est. Demand Current:** 25 A

Branch Panel: PP-EOS1-YARD

Location: EXT. UTILITY YARD **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 100A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-EOS1-LE **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 3R **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 30A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - UTILITY YARD	20	1	Recpt		540	0						--	1	20	Spare	2
3	PWR - BATTERY CHARGER	20	1	Equip	LO			1200	0				--	1	20	Spare	4
5	PWR - JACKET HEATER	15	2	Equip	LO					1125	0		--	1	20	Spare	6
7	--	--	--	--		1125	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
					Total Load:	1665 VA		1200 VA		1125 VA							
					Total Amps:	14 A		10 A		9 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 3990 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 2610 VA
Recpt	540 VA	100.00%	540 VA	**Total Conn. Current:** 11 A
Equip	3450 VA	60.00%	2070 VA	**Total Est. Demand Current:** 7 A

Branch Panel: PP-EOS2-LW-1

Location: ELECTRICAL 000E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS2-LW **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 400A **Feed Thru Lug:** - **Isolated Grn Bus:** X

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PANEL - PP-EOS-LW-CS	100	3	Other		0	0						Other	3	100	PANEL - PP-EOS-LW-CR	2
3	--	--	--	--				0	0				--	--	--	--	4
5	--	--	--	--						0	0		--	--	--	--	6
7	REC - MECHANICAL ROOM 000M7 GENERAL	20	1	Recpt		1080	0						--	1	20	Spare	8
9	PWR - FIRE ALARM NAC ELECTRICAL 0E1 (WEST)	20	1	Equip	FA			1000	0				--	1	20	Spare	10
11	PWR - FIRE ALARM NAC ELECTRICAL 0E2 (EAST)	20	1	Equip	FA					1000	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Unusable Space	--	--	--		0	19849					IG	HVAC; Recpt; Equip	3	225	PANEL PP-N-LW-IM	38
39	Unusable Space	--	--	--				0	17713				--	--	--	--	40
41	Unusable Space	--	--	--						0	18700		--	--	--	--	42
					Total Load:	20929 VA		18713 VA		19700 VA							
					Total Amps:	176 A		156 A		165 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	750 VA	85.00%	638 VA	**Total Conn. Load:** 59342 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 39469 VA
Recpt	13237 VA	87.77%	11619 VA	**Total Conn. Current:** 165 A
Equip	45355 VA	60.00%	27213 VA	**Total Est. Demand Current:** 110 A

Branch Panel: PP-EOS2-LW-CR

Location: CLEAN ROOM 082A **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 100A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-EOS2-LW-1 **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	Spare	20	1	--				0	0				--	1	20	Spare	4
5	Spare	20	1	--						0	0		--	1	20	Spare	6
7	Spare	20	1	--		0	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	0 VA		0 VA		0 VA							
					Total Amps:	0 A		0 A		0 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 0 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 0 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:** 0 A

Branch Panel: PP-EOS2-LW-CS

Location: CENT SERVER 047 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-EOS2-LW-1 **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Space	--	--	--		0	0						--	--	--	Space	38
39	Space	--	--	--				0	0				--	--	--	Space	40
41	Space	--	--	--						0	0		--	--	--	Space	42
					Total Load:	0 VA		0 VA		0 VA							
					Total Amps:	0 A		0 A		0 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 0 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 0 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 0 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:** 0 A

Branch Panel: PP-EOS2-LW-IM

Location: IMAGING 060 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: PP-EOS2-LW-1 **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 225A **Feed Thru Lug:** - **Isolated Grn Bus:** X

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - IMAGING 060 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - IMAGING 060B CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - IMAGING 060 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - IMAGING 060B CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - IMAGING 060 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - IMAGING 060B CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - IMAGING 060 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - IMAGING 060A CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	PWR - IMAGING 060B <FESEM> MISCROSCOPE (LE-CHE-0291)	30	2	Equip	IG					832	360		Recpt	2	20	REC - IMAGING 060A CSP	18
19	--	--	--	--		832	360						--	--	--	--	20
21	PWR - IMAGING 060B <FESEM> OXFORD INSTRUMENTS (LE-CHE-0293)	20	1	Equip	IG					997	360		Recpt	2	20	REC - IMAGING 060A CSP	22
23	PWR - IMAGING 060B <FESEM> OXFORD INSTRUMENTS (LE-CHE-0294)	20	1	Equip	IG								--	--	--	--	24
25	PWR - IMAGING 060A <SEM> TRANSFORMER (LE-CHE-0063-7)	30	1	Equip	IG	3000	360						Recpt	2	20	REC - IMAGING 060A CSP	26
27	PWR - IMAGING 060A <SEM> EDS SYSTEM (LE-CHE-0063-2)	20	1	Equip	IG					997	360		--	--	--	--	28
29	PWR - IMAGING 060A <SA> SURFACE ANALYZER (LE-COE-0064)	50	2	Equip	IG								Recpt	2	20	REC - IMAGING 060A CSP	30
31	--	--	--	--		3380	360						--	--	--	--	32
33	PWR - IMAGING 060B <TEM> TRANSFORMER (LE-COE-0001-3)	50	2	Equip	IG			3500	375				HVAC	2	15	HVAC - CIRCULATION 000C2 - FCU-0C1 & FCU-0C2	34
35	--	--	--	--						3500	375		--	--	--	--	36
37	PWR - IMAGING 060B <TEM> MECHANICAL PUMP (LE-COE-0001-4)	20	1	Equip		997	2080						Equip	2	25	PWR - CLOSET 052 <TEM> CHILLER (LE-CHE-0001-7)	38
39	PWR-IMAGING 060B <TEM> EDS DETECTOR (LE-CHE-0166)	20	1	Recpt	IG			997	2080				--	--	--	--	40
41	PWR - XRD 048A <XRD> X-RAY DIFFRACTOMETER (LE-CHE-0168)	30	3	Equip	IG					2402	915		Equip	2	15	PWR - CLOSET 050 <FESEM> CHILLER (LE-CHE-0287)	42
43	--	--	--	--		2402	915						--	--	--	--	44
45	--	--	--	--				2402	936				Equip	1	20	PWR - CLOSET 050 <FESEM> VACUUM PUMP (LE-CHE-0292)	46
47	REC - IMAGING 060B <TEM>, <FESEM> COMPUTERS	20	1	Recpt						720	768		Equip	1	20	PWR - CLOSET 050 <FESEM> ROTARY PUMP (LE-CHE-0288)	48
49	PWR - IMAGING 060B <FESEM> MICROSCOPE (LE-CHE-0291)	30	2	Equip	IG	832	960						Equip	1	20	PWR - CLOSET 050 <FESEM> CRYO-XFER STATION (LE-CHE-0289)	50
51	--	--	--	--				832	997				Equip	1	20	PWR - CLOSET 050 <SEM> CHILLER (LE-COE-0063-4)	52
53	Spare	20	1	--						0	1212		Equip	2	15	PWR - XRD 048A <XRD> CHILLER (LE-CHE-0169)	54
55	Spare	20	1	--		0	1212						--	--	--	--	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-EOS2-LW-TD

Location: TELE DATA 000TC1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-W-TD | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 100A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - TELE DATA 000TC1 MDF	20	1	Equip		1200	0						--	1	20	Spare	2
3	PWR - TELE DATA 000TC1 MDF	20	2	Equip				1040	0				--	1	20	Spare	4
5	--	--	--	--						1040	0		--	1	20	Spare	6
7	PWR - TELE DATA 000TC1 MDF	20	2	Equip		1040	0						--	1	20	Spare	8
9	--	--	--	--				1040	0				--	1	20	Spare	10
11	PWR - TELE DATA 000TC1 MDF	20	1	Equip						1200	0		--	1	20	Spare	12
13	PWR - TELE DATA 000TC1 MDF	20	2	Equip		1040	0						--	1	20	Spare	14
15	--	--	--	--				1040	0				--	1	20	Spare	16
17	PWR - TELE DATA 000TC1 MDF	20	2	Equip						1040	0		--	1	20	Spare	18
19	--	--	--	--		1040	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	4320 VA		3120 VA		3280 VA							
					Total Amps:	36 A		26 A		28 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	10720 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	6432 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	30 A
Equip	10720 VA	60.00%	6432 VA	**Total Est. Demand Current:**	18 A

Branch Panel: PP-N-LW-2

Location: ELEC ROOM 000E1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 100A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: PP-N-LW-1 | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	Spare	20	1	--				0	0				--	1	20	Spare	4
5	Spare	20	1	--						0	0		--	1	20	Spare	6
7	Spare	20	1	--		0	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	0 VA		0 VA		0 VA							
					Total Amps:	0 A		0 A		0 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	0 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	0 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	0 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	0 A

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

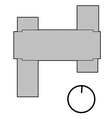
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR FOR THE PURPOSE OF BIDDING, THE USE AND SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN SAID DOCUMENT. "ALL RIGHTS TO THE USE OF THE INFORMATION OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A REFERENCE FOR THE PURPOSE OF BIDDING AND THE PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CORRECTNESS OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17 ISSUE NO. 6
DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

LOWER LEVEL PANELBOARD SCHEDULES

NUMBER:

E600.3

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: DP-N-1E

Location: ELECTRICAL 100E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-E **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 65,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - EXTERIOR UTILITY YARD COMPACTOR-1	30	3	Equip		3880	3880						Equip	3	30	PWR - EXTERIOR UTILITY YARD COMPACTOR-2	2
3	--	--	--	--				3880	3880				--	--	--	--	4
5	--	--	--	--						3880	3880		--	--	--	--	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	40860						HVAC; Recpt; Light; Equip; L	3	200	PANEL PP-N-1E-1 VIA XFMR TX-N-1E	38
39	Unusable Space	--	--	--				0	41933				--	--	--	--	40
41	Unusable Space	--	--	--						0	41625		--	--	--	--	42
					Total Load:	48820 VA		49693 VA		49385 VA							
					Total Amps:	176 A		180 A		179 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	13226 VA	85.00%	11242 VA	**Total Conn. Load:**	147697 VA
Light	2504 VA	125.00%	3131 VA	**Total Est. Demand:**	94206 VA
Recpt	43910 VA	61.39%	26955 VA	**Total Conn. Current:**	178 A
Equip	87990 VA	60.00%	52794 VA	**Total Est. Demand Current:**	113 A

Branch Panel: DP-N-1W

Location: ELECTRICAL 100E1 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-W **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 42,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	34257						HVAC; Recpt; Light; Equip	3	200	PANEL PP-N-1W-1 VIA XFMR TX-N-1W	38
39	Unusable Space	--	--	--				0	32897				--	--	--	--	40
41	Unusable Space	--	--	--						0	35083		--	--	--	--	42
					Total Load:	34257 VA		32897 VA		35083 VA							
					Total Amps:	124 A		119 A		127 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	9566 VA	85.00%	8131 VA	**Total Conn. Load:**	102236 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	63009 VA
Recpt	57240 VA	58.74%	33620 VA	**Total Conn. Current:**	123 A
Equip	35430 VA	60.00%	21258 VA	**Total Est. Demand Current:**	76 A

Branch Panel: LP-N-1E

Location: ELECTRICAL 100E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 225A **Aux Gutter:** X **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: SS-N-M **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 42,000A **Wires:** 4 **MCB Rating:** 125A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - SITE NORTH FLOODS	20	1	Other; Light		324	3634						Light; Lighting	1	20	LTG - LOWER LEVEL EAST	2
3	LTG - LOWER LEVEL CENTER	20	1	Light				3895	2528				Light	1	20	LTG - LOWER LEVEL NORTHWEST WING	4
5	LTG - LOWER LEVEL SOUTHWEST WING	20	1	Light						2323	3790		Light	1	20	LTG - FIRST FLOOR NORTHEAST WING	6
7	LTG - FIRST FLOOR EAST LOBBY	20	1	Light		3572	2278						Light	1	20	LTG - SOUTEAST CAPSTONE	8
9	LTG - FIRST FLOOR COMPUTER LABS WEST	20	1	Light				3044	3044				Light	1	20	LTG - COMPUTER LABS EAST	10
11	LTG - FIRST FLOOR MAIN LOBBY OUTSIDE	20	1	Light						815	2848		Light	1	20	LTG - FIRST FLOOR MAIN LOBBY	12
13	LTG - FIRST FLOOR NORTHWEST CAPSTONE	20	1	Light		2951	2459						Other	1	20	LTG - WEST CORRIDOR	14
15	LTG - FIRST FLOOR SOUTHWEST WING LABS	20	1	Light				3318	2802				Other; Light	1	20	LTG - WEST CORRIDOR	16
17	LTG - FIRST FLOOR LOBBY CAFE	20	1	Light						1000	1325		Light	1	20	LTG - WEST ELEVATOR LOBBY	18
19	LTG - FIRST FLOOR SPIRAL STAIRS	20	1	Light; L		570	0						--	1	20	Spare	20
21	LTG - UNIVERSITY CLSRM 040 COVE	20	1	L				782	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	15789 VA		19412 VA		12101 VA							
					Total Amps:	59 A		72 A		44 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	47880 VA
Light	44076 VA	125.00%	55094 VA	**Total Est. Demand:**	59206 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	58 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	71 A

Branch Panel: PP-N-1E-1

Location: ELECTRICAL 100E2 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-1E **Sections:** 2 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 400A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	BUS DUCTS - BD-N-1E-SHOP1 & BD-N-1ESHOP2	100	3	Recpt; Equip		8963	12162						HVAC; Recpt; Equip	3	100	PANEL - PP-N-1E-2	2
3	--	--	--	--				10356	12488				--	--	--	--	4
5	--	--	--	--						9011	13268		--	--	--	--	6
7	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt		1080	720						Recpt	1	20	REC - MAKER SPACE 155B COMPUTERS	8
9	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt				1080	997				Equip	1	20	PWR - MAKER SPACE 155B LASER ENGRAVER	10
11	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt						1080	997		Equip	1	20	PWR - MAKER SPACE 155B LARGE 3D PRINTER	12
13	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt		1080	1000						Equip	1	20	PWR - MAKER SPACE 155B SMALL 3D PRINTERS	14
15	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt				720	540				Recpt	1	20	REC - MAKER SPACE 155B RACEWAY	16
17	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt						1080	600		Equip	1	20	PWR - MAKER SPACE 155B UIC FRIDGE	18
19	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt		1080	540						Recpt	1	20	REC - MAKER SPACE 155B GENERAL/FLOOR	20
21	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt				1080	720				Recpt	1	20	REC - MEETING ROOM 155A	22
23	REC - CAPTSTONE 155 FLOOR BOX	20	1	Recpt						1080	1080		Recpt	1	20	REC - MEETING ROOM 155A (SWITCHED)	24
25	REC - CAPTSTONE 155 WALL	20	1	Recpt		900	540						Recpt	1	20	REC - LOBBY 145 FLOOR BOX	26
27	REC - CAPTSTONE 155 WALL	20	1	Recpt				1080	1080				Recpt	1	20	REC - LOBBY 145 FLOOR BOX	28
29	REC - TEAM MEETING 155C	20	1	Recpt						1080	540		Recpt	1	20	REC - LOBBY 145 FLOOR BOX	30
31	REC - CIRCULATION 1C2, 1C4, 1C5, VESTIBULE 1V3	20	1	Recpt		1080	720						Recpt	1	20	REC - LOBBY 145 FLOOR BOX	32
33	REC - PIPE 1PC1, TELE/DATA 1TC2, ELEC 1E2, VESTIBULE 1V4	20	1	Recpt				900	900				Recpt	1	20	REC - LOBBY 145 WALL	34
35	PWR - ELECTRICAL 100E2 LCP-1E	20	1	Equip	LO					500	0		--	1	20	Spare	36
37	PWR - VESTIBULE 100C8 DOOR OPERATOR (EAST CORRIDOR)	20	1	Equip	LK	501	854						Light	1	20	LTG - SPIRAL STAIR TRACKHEADS	38
39	REC - SNOW BLOWER CHARGER	20	1	Recpt				180	603			LK	Equip	1	20	PWR - COMPACTOR-1 CONTROLS	40
41	REC - SNOW BLOWER CHARGER	20	1	Recpt						180	603	LK	Equip	1	20	PWR - COMPACTOR-2 CONTROLS	42
43	PWR - METROLOGY 169 <OV> OVEN (LE-MIS-0084)	20	1	Equip		650	1080						Recpt	1	20	REC - CAPSTONE 150 FLOOR BOX	44
45	PWR - METROLOGY 169 <ADTM> AUTOMATIC DEFL. TEMP. (LE-MIS-0080)	20	1	Equip				997	1080				Recpt	1	20	REC - CAPSTONE 150 FLOOR BOX	46
47	REC - METROLOGY 169 FUTURE	20	1	Recpt						1430	1080		Recpt	1	20	REC - CAPSTONE 150 FLOOR BOX	48
49	PWR - METROLOGY 169 <TVF> TABLETOP VACUUM (LE-CHE-0329)	20	1	Equip		1430	1080						Recpt	1	20	REC - CAPSTONE 150 FLOOR BOX	50
51	REC - METROLOGY 169 FUTURE	20	1	Recpt				180	720				Recpt	1	20	REC - CAPSTONE 150 FLOOR BOX	52
53	PWR - METROLOGY 169 <CMM> HEXAGON (LE-CHE-0206)	20	1	Equip						503	900		Recpt	1	20	REC - CAPSTONE 150 WALL	54
55	PWR - METROLOGY 169 <OC> SHADOWGRAPH (LE-CHE-0265)	20	1	Equip		503	517						Light; L	1	20	LTG - EXTERIOR RAILING LIGHTING WEST	56
57	REC - METROLOGY 169 RACEWAY EAST	20	1	Recpt				720	1200			LK	Light	1	20	EXTERIOR SIGNAGE	58
59	REC - METROLOGY 169 RACEWAY EAST	20	1	Recpt						540	540		Recpt	1	20	REC - CONCRETE LAB 180B	60
61	REC - METROLOGY 169 RACEWAY NORTH	20	1	Recpt		720	648						Equip	1	15	PWR - CONCRETE LAB 180B MIXER	62
63	REC - METROLOGY 169 RACEWAY WEST	20	1	Recpt				1080	720				Recpt	1	20	REC - HIGHBAY 180	64
65	REC - TOOL STORAGE 160, METROLOGY 169 WALL	20	1	Recpt						900	1260		Recpt	1	20	REC - SHOP 180A	66
67	Recpt HIGH BAY 180	20	1	Recpt		540	360						Recpt	1	20	REC - HIGHBAY 180 CORD REELS	68
69	Recpt HIGH BAY 180	20	1	Recpt				540	360				Recpt	1	20	REC - HIGHBAY 180 CORD REELS	70
71	Spare	20	1	--						0	360		Recpt	1	20	REC - HIGHBAY 180 CORD REELS	72
73	REC - METROLOGY 169 CSP	20	2	Recpt		360	360						Recpt	1	20	REC - HIGHBAY 180 CORD REELS	74
75	--	--	--	--				360	15				Equip	1	20	Other	76
77	PWR - RECEIVING 165 OVERHEAD DOOR	20	1	Equip	LK					696	696	LK	Equip	1	20	PWR - COMPACTOR MOTORIZED GATE	78
79	PWR - HIGH BAY 180 OVERHEAD DOOR (EAST)	20	1	Equip	LK	696	696					LK	Equip	1	20	PWR - EXTERIOR UTILITY YARD MOTORIZED GATE	80
81	PWR - HIGH BAY 180 OVERHEAD DOOR (WEST)	20	1	Equip	LK			696	540				Recpt	1	20	REC - SITE SOUTH PLANTER	82
83	REC - RECEIVING 165	20	1	Recpt						720	900		Recpt; Light	1	20	REC - SITE NORTH PLANTER	84
					Total Load:	40860 VA		41933 VA		41625 VA							
					Total Amps:	341 A		350 A		348 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	13226 VA	85.00%	11242 VA	**Total Conn. Load:**	124417 VA
Light	2504 VA	125.00%	3131 VA	**Total Est. Demand:**	80237 VA
Recpt	43910 VA	61.39%	26955 VA	**Total Conn. Current:**	345 A
Equip	64710 VA	60.00%	38826 VA	**Total Est. Demand Current:**	223 A

Branch Panel: PP-N-1W-1

Location: ELECTRICAL 100E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-1W **Sections:** 2 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 400A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PANEL PP-N-1W-L1	200	3	HVAC; Recpt; Equip			17844	1080					Recpt	1	20	REC - COMP LAB 130, 135 WALL	2
3	--	--	--	--				18445	540				Recpt	1	20	REC - COMP LAB 125 RACEWAY	4
5	--	--	--	--						19314	540		Recpt	1	20	REC - COMP LAB 125 RACEWAY	6
7	REC - CAPSTONE 120 NORTH COMP WALL	20	1	Recpt		1080	1080						Recpt	1	20	REC - COMP LAB 125 FLOOR	8
9	REC - CAPSTONE 120 NORTH FLOOR	20	1	Recpt				1080	1080				Recpt	1	20	REC - COMP LAB 125 FLOOR	10
11	REC - CAPSTONE 120 NORTH FLOOR	20	1	Recpt						1080	1080		Recpt	1	20	REC - COMP LAB 125 FLOOR	12
13	REC - CAPSTONE 120 WEST FLOOR	20	1	Recpt		1080	720						Recpt	1	20	REC - COMP LAB 125, 130 WALL	14
15	REC - CAPSTONE 120 SOUTH FLOOR	20	1	Recpt				1080	1440				Recpt	1	20	REC - COMP LAB 130 FLOOR	16
17	REC - CAPSTONE 120 SOUTH FLOOR	20	1	Recpt						1080	1440		Recpt	1	20	REC - COMP LAB 130 FLOOR	18
19	REC - CAPSTONE 120 SOUTH COMP WALL	20	1	Recpt		1440	1440						Recpt	1	20	REC - COMP LAB 130 FLOOR	20
21	REC - CAPSTONE 120A EAST FLOOR	20	1	Recpt				1080	720				Recpt	1	20	REC - COMP LAB 130, 135 WALL	22
23	REC - CAPSTONE 120 SOUTH GENERAL	20	1	Recpt						1080	1440		Recpt	1	20	REC - COMP LAB 135 FLOOR	24
25	REC - CAPSTONE 120 NORTH GENERAL	20	1	Recpt		720	1440						Recpt	1	20	REC - COMP LAB 135 FLOOR	26
27	REC - CAPSTONE 120 ABOVE COUNTER	20	1	Recpt				360	1440				Recpt	1	20	REC - COMP LAB 135 FLOOR	28
29	REC - CAPSTONE 120 ABOVE COUNTER	20	1	Recpt						360	720		Recpt	1	20	REC - COMP LAB 135, 140 WALL	30
31	REC - TEAM MTG 120A FLOOR/WALL	20	1	Recpt		1080	540						Recpt	1	20	REC - COMP LAB 140 RACEWAY	32
33	Spare	20	1	--				0	540				Recpt	1	20	REC - COMP LAB 140 RACEWAY	34
35	PWR - CAPSTONE 120 MOTOR. SCREEN	20	1	Equip						400	1080		Recpt	1	20	REC - COMP LAB 140 FLOOR	36
37	PWR - CAPSTONE 120 PROJECTORS	20	1	Equip		1000	1080						Recpt	1	20	REC - COMP LAB 140 FLOOR	38
39	REC - WOMEN'S 1T1, MEN'S 1T2, LACTATION 1T3	20	1	Recpt				900	1080				Recpt	1	20	REC - COMP LAB 140 FLOOR	40
41	REC - JANITORS CLOSET 1J1 + TRAP PRIMER TP-1	20	1	Recpt; Equip	GF					375	1080		Recpt	1	20	REC - COMP LAB 140 WALL	42
43	PWR - ELEV LOBBY 1C1 WATER COOLER EWC-1	20	1	Equip	LK	600	360						Recpt	1	20	PWR - COMP LAB 130, 135 PROJECTORS	44
45	PWR - WOMEN'S 1T1 HAND DRYER	20	1	Equip	LK			1400	0				--	1	20	Spare	46
47	PWR - MEN'S 1T2 HAND DRYER	20	1	Equip						1400	501	LK	Equip	1	20	PWR - VESTIBULE 100C4 DOOR OPERATOR (LOBBY NORTH)	48
49	PWR - FAUCET VALVE WOMEN'S 1T1, MEN'S 1T2	20	1	Equip		250	501					LK	Equip	1	20	PWR - VESTIBULE 100C3 DOOR OPERATOR (LOBBY SOUTH)	50
51	PWR - FLUSH VALVE WOMEN'S 1T1, MEN'S 1T2	20	1	Equip				250	0				--	1	20	Spare	52
53	REC - ELECTRICAL 1E1, TELE/DATA 1TC1	20	1	Recpt						360	540		Recpt	1	20	REC - SITE	54
55	Spare	20	1	--		0	360						Recpt; Light	1	20	REC - SITE	56
57	REC - CIRCULATION 1C1, 1C3	20	1	Recpt				900	0				--	1	20	Spare	58
59	PWR - GREENHOUSE/E ALUMNI TRAFFIC GATE	20	1	Equip						90	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	HVAC - ELEVATOR LOBBY 1C1 FCU-1E1	15	2	HVAC						562	0		--	1	20	Spare	78
79	--	--	--	--		562	0						--	1	20	Spare	80
81	HVAC - ELEVATOR LOBBY 1C1 FCU-1TC1	15	2	HVAC				562	0				--	1	20	Spare	82
83	--	--	--	--						562	0		--	1	20	Spare	84
					Total Load:	34257 VA		32897 VA		35083 VA							
					Total Amps:	287 A		274 A		294 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	9566 VA	85.00%	8131 VA	**Total Conn. Load:**	102236 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	63009 VA
Recpt	57240 VA	58.74%	33620 VA	**Total Conn. Current:**	284 A
Equip	35430 VA	60.00%	21258 VA	**Total Est. Demand Current:**	175 A

Branch Panel: LP-ELS-1E

Location: ELECTRICAL 100E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: LP-ELS-2E **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 14,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - SITE POLES SOUTHWEST	20	1	Light		1266	582						Light	1	20	LTG - LOWER AND FIRST LEVEL STAIRS	2
3	LTG - SITE POLES NORTHEAST	20	1	Light				1772	90				Light	1	20	LTG - LOWER LEVEL EXIT SIGNS	4
5	LTG - SITE POLES WEST (ALTERNATE #2A)	20	1	Light						696	131		Light	1	20	LTG - FIRST FLOOR EXIT SIGNS	6
7	EM LTG - LOWER LEVEL	20	1	Light		3226	0						--	1	20	Spare	8
9	EM LTG - FIRST FLOOR EAST	20	1	Light				2111	0				--	1	20	Spare	10
11	EM LTG - FIRST FLOOR WEST	20	1	Light						3318	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-EOS2-1E-TD

Location: TELE DATA 100TC2 **Supply From:** TX-EOS2-E-TD **Enclosure:** Type 1
Mounting: Surface **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MCB **MCB Rating:** 50A
Aux Gutter: X **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - TELE DATA 100TC2 IDF (EAST)	20	2	Equip		1040	0						--	1	20	Spare	2
3	--	--	--	--				1040	0				--	1	20	Spare	4
5	PWR - TELE DATA 100TC2 IDF (EAST)	20	2	Equip						1040	0		--	1	20	Spare	6
7	--	--	--	--		1040	0						--	1	20	Spare	8
9	PWR - TELE DATA 100TC2 IDF (EAST)	20	1	Equip				1200	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	2080 VA		2240 VA		1040 VA							
					Total Amps:	19 A		20 A		9 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:**	9 A

Branch Panel: PP-N-1E-2

Location: ELECTRICAL 100E2 **Supply From:** PP-N-1E-1 **Enclosure:** Type 1
Mounting: Surface **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	562						HVAC	2	15	HVAC - CAPSTONE 155 FCU-1E2	2
3	PWR - CAFE 147 DRY DISPLAY REFRIG	20	1	Equip	GF			840	562				--	--	--	--	4
5	PWR - CAFE 147 COLD DISPLAY REFRIG	20	1	Equip	GF					1440	562		HVAC	2	15	HVAC - CAPSTONE 155 FCU-1TC2	6
7	REC - CAFE 147 U/C REFRIG STORAGE	20	1	Equip	GF	1104	562						--	--	--	--	8
9	REC - CAFE 147 REGISTER	20	1	Recpt	GF			360	915				HVAC	2	20	HVAC - RECEIVING 165	10
11	REC - CAFE MENU/CONVENIENCE	20	1	Recpt						540	915		--	--	--	--	12
13	REC - CAFE 147 TALL DISPLAY REFRIG	20	1	Equip	GF	1104	915						HVAC	2	20	HVAC - METROLOGY 169 FCU-169	14
15	Spare	20	1	--				0	915				--	--	--	--	16
17	Spare	20	1	--						0	915		HVAC	2	20	HVAC - HIGH BAY 180 FCU-180	18
19	REC - CAFE 147 TALL DISPLAY REFRIG	20	1	Equip	GF	1104	915						--	--	--	--	20
21	PWR - CAFE 147 ESPRESSO MACHINE	30	2	Equip				3000	915				HVAC	2	20	HVAC - SHOP 180A FCU180A-A	22
23	--	--	--	--						3000	915		--	--	--	--	24
25	PWR - CAFE 147 COFFEE BREWER	50	3	Equip		4067	915						HVAC	2	20	HVAC - SHOP 180A FCU180A-B	26
27	--	--	--	--				4067	915				--	--	--	--	28
29	--	--	--	--						4067	915		HVAC	2	20	HVAC - CONCRETE LAB 180B FCU-180B	30
31	Spare	20	1	--		0	915						--	--	--	--	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	12162 VA		12488 VA		13268 VA							
					Total Amps:	101 A		104 A		111 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	13226 VA	85.00%	11242 VA	**Total Conn. Load:**	37918 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	26417 VA
Recpt	900 VA	100.00%	900 VA	**Total Conn. Current:**	105 A
Equip	23792 VA	60.00%	14275 VA	**Total Est. Demand Current:**	73 A

Branch Panel: BD-N-1E-SHOP1

Location: SHOP 180A **Supply From:** BD-SHOP **Enclosure:** Type 1
Mounting: Surface **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 100A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - SHOP 180A <MILL-1> MANUAL MILL (LE-COE-0074)	20	3	Equip		767	457						Equip	3	30	PWR - SHOP 180A <MILL-2> MANUAL MILL (LE-MIS-0291)	2
3	--	--	--	--				767	457				--	--	--	--	4
5	--	--	--	--						767	457		--	--	--	--	6
7	REC - SHOP 180A <MILL-2> MANUAL MILL (LE-MIS-0291)	20	1	Recpt		360	1321						Equip	3	20	PWR - SHOP 180A <VBS> VERTICAL BANDSAW (LE-MIS-0291)	8
9	PWR - SHOP 180A <COMP> TENSILE / COMPRESSION TESTER (LE-MIS-0326)	20	1	Equip				600	1321				--	--	--	--	10
11	Space	--	--	--						0	1321		--	--	--	--	12
13	REC - SHOP 180A <ROUT> ROUTER TABLE (LE-COE-0079)	20	1	Recpt		180	792						Equip	1	20	PWR - SHOP 180A <CNC-MILL-2> CNC TABLETOP MILL (LE-MIS-0304)	14
15	REC - SHOP 180A <ROUT> ROUTER TABLE (LE-COE-0079)	30	2	Equip				1945	0				--	--	--	--	16
17	--	--	--	--						1945	0		--	--	--	--	18
19	Space	--	--	--		0	792						Equip	1	20	PWR - SHOP 180A <CNC-MILL-1> CNC TABLETOP MILL (LE-MIS-0305)	20
21	Space	--	--	--				0	0				--	--	--	--	22
23	Space	--	--	--						0	0		--	--	--	--	24
25	Space	--	--	--		0	0						--	--	--	--	26
27	Space	--	--	--				0	0				--	--	--	--	28
29	Space	--	--	--						0	0		--	--	--	--	30
31	Space	--	--	--		0	0						--	--	--	--	32
33	Space	--	--	--				0	0				--	--	--	--	34
35	Space	--	--	--						0	0		--	--	--	--	36
37	Space	--	--	--		0	0						--	--	--	--	38
39	Space	--	--	--				0	0				--	--	--	--	40
41	Space	--	--	--						0	0		--	--	--	--	42
					Total Load:	4668 VA		5089 VA		4489 VA							
					Total Amps:	39 A		43 A		37 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	14247 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	8764 VA
Recpt	540 VA	100.00%	540 VA	**Total Conn. Current:**	40 A
Equip	13707 VA	60.00%	8224 VA	**Total Est. Demand Current:**	24 A

Branch Panel: PP-EOS2-1W-TD

Location: TELE DATA 100TC1 **Supply From:** TX-EOS2-W-TD **Enclosure:** Type 1
Mounting: Surface **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MCB **MCB Rating:** 50A
Aux Gutter: X **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	PWR - TELE DATA 100TC1 IDF (WEST)	20	2	Equip				1040	0				--	1	20	Spare	4
5	--	--	--	--						1040	0		--	1	20	Spare	6
7	PWR - TELE DATA 100TC1 IDF (WEST)	20	2	Equip		1040	0						--	1	20	Spare	8
9	--	--	--	--				1040	0				--	1	20	Spare	10
11	PWR - TELE DATA 100TC1 IDF (WEST)	20	1	Equip						1200	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	1040 VA		2080 VA		2240 VA							
					Total Amps:	9 A		19 A		20 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:**	9 A

Branch Panel: PP-N-1W-L1

Location: HYDRAULICS 100 **Supply From:** PP-N-1W-1 **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MCB **MCB Rating:** 200A
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - NEURO-PHYS SUPP 110B HOOD	20	1	Equip	LO	250	0						Other	3	100	PP-N-1W-L2	2
3	PWR - NEURO-PHYS SUPP 110B <OSCPLCI> (LE-ECB-0486/0499)	20	1	Equip				990	0				--	--	--	--	4
5	PWR - NEURO-PHYS SUPP 110B <SDSCP.3> (LE-ECB-0375/T-ECB-0069)	20	1	Equip						683	0		--	--	--	--	6
7	PWR - NEURO-PHYS SUPP 110B <GF> GLOWFORGE	20	1	Equip		701	720						Recpt	1	20	REC - HYDRAULICS 100 TABLETOP	8
9	PWR - NEURO-PHYS SUPP 110B <3DP.1/.2> 3D PRINT (LE-ECB-0376/0377)	20	1	Equip				360	720				Recpt	1	20	REC - HYDRAULICS 100 TABLETOP	10
11	Recpt NEURO-PHYSIOLOGICAL SUPPORT 110B	20	1	Equip						1006	720		Recpt	1	20	REC - ENVIRONMENTAL 105 TABLETOP	12
13	REC - NEURO 110B, BME OFC 110C GENERAL	20	1	Recpt		540	720						Recpt	1	20	REC - ENVIRONMENTAL 105 TABLETOP	14
15	REC - BME LAB 110 WALL	20	1	Recpt				900	720				Recpt	1	20	REC - BME LAB 115 TABLETOP	16
17	REC - BME LAB 110 NORTH FLOOR	20	1	Recpt						1080	720		Recpt	1	20	REC - BME LAB 115 TABLETOP	18
19	REC - BME LAB 110 SOUTH FLOOR	20	1	Recpt		1080	1440						Recpt	1	20	REC - BME TECH OFC 110C TABLETOP	20
21	PWR - BME LAB 110 <OSC.3/AMP/MAM> (LE-ECB-0486/0493/0494)	20	1	Equip				921	1440				Recpt	1	20	REC - BME TECH OFC 110C TABLETOP	22
23	PWR - BME LAB 115 <OSC.1/.2> OSCILLOSCOPE (LE-ECB-0486/0487)	20	1	Equip						794	503		Equip	1	20	REC - BME TECH OFC 110C <UTS> ULTRASOUND (LE-ECB-0500)	24
25	REC - BME LAB 110 NORTH RACEWAY	20	1	Recpt		540	1006						Equip	1	20	PWR - SUPPORT 110A <BSW/SCS> BANDSAW/SCRLSAW (LE-ECB-0440/0439)	26
27	PWR - BME LAB 110 MOTOR. SCREEN	20	1	Equip				400	907				Equip	1	20	PWR - SUPPORT 110A <DREMGRD> DREMEL/GRINDER (LE-ECB-0442/0437)	28
29	PWR - BME LAB 110 PROJECTORS	20	1	Equip						1000	1006		Equip	1	20	PWR - SUPPORT 110A <VYRIP> VAC PUMP/RESP PUMP (LE-ECB-0436/0431)	30
31	PWR - BME LAB 110 FUTURE SKYFOLD PARTITION	20	1	Equip	LK	501	1043						Equip	1	20	PWR - SUPPORT 110A <PL> PLANER (LE-ECB-0445)	32
33	Spare	20	1	--				0	614				Equip	1	20	PWR - SUPPORT 110A <SS.1-4> SOLDERING (LE-ECB-0443/0604-0605)	34
35	Spare	20	1	--						0	250	LO	Equip	1	20	PWR - SUPPORT 110A HOOD	36
37	Spare	20	1	--		0	540						Recpt; Equip	1	20	REC - SUPPORT 110A GENERAL	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	900						Recpt	1	20	REC - ENVIRONMENTAL 105 GENERAL	44
45	Spare	20	1	--				0	1500				Equip	1	20	PWR - ENVIRONMENTAL 105 <0V.6> OVEN (LE-CVE-0527)	46
47	Spare	20	1	--						0	1500		Equip	1	20	PWR - ENVIRONMENTAL 105 <0V.7> OVEN (LE-CVE-0526)	48
49	Spare	20	1	--		0	250					LO	Equip	1	20	PWR - ENVIRONMENTAL 105 HOOD	50
51	REC - ENVIRONMENTAL 105 CSP	20	2	Recpt				1080	400				Equip	1	20	PWR - HYDRAUL. 100/ENVIRON. 105 MOTORIZED SCREEN	52
53	--	--	--	--						1080	1000		Equip	1	20	PWR - HYDRAUL. 100/ENVIRON. 105 PROJECTORS	54
55	REC - HYDRAULICS 100 CSP	20	2	Recpt		360	1656						Equip	1	20	PWR - ENVIRONMENTAL 105 <WTS> OVEN (LE-CVE-0094)	56
57	--	--	--	--				360	915				HVAC	2	20	HVAC - ENVIRONMENTAL 105 FCU-100C2-1	58
59	REC - HYDRAULICS 100 CSP	20	2	Recpt						360	915		--	--	--	--	60
61	--	--	--	--		360	360						Recpt	1	20	REC - BME LAB 115 AV EQUIPMENT	62
63	REC - HYDRAULICS 100 CSP	20	2	Recpt				360	720				Recpt	1	20	REC - HYDRAULICS 100 RACEWAY	64
65	--	--	--	--						360	555		Recpt; Equip	1	20	REC - HYDRAULICS 100 WALL	66
67	REC - HYDRAULICS 100 CSP	20	2	Recpt		360	648						Equip	1	20	PWR - HYDRAULICS 100 <FC.1> FLUID CIRCUIT (LE-CVE-0013)	68
69	--	--	--	--				360	648				Equip	1	20	PWR - HYDRAULICS 100 <FC.2> FLUID CIRCUIT (LE-CVE-0013)	70
71	HVAC - HYDRAULICS 100 FCU-100C2-2	20	2	HVAC						915	997		Equip	1	20	PWR - HYDRAULICS 100 <FL> FLUME (LE-CVE-0011)	72
73	--	--	--	--		915	1176						Equip	1	20	PWR - HYDRAULICS 100 <CP.1> CENTRIFUGAL PUMP (LE-CVE-0001)	74
75	PWR - HYDRAULICS 100 VACUUM PUMP	20	1	Equip				1176	1176				Equip	1	20	PWR - HYDRAULICS 100 <CP.2> CENTRIFUGAL PUMP (LE-CVE-0001)	76
77	HVAC - ENVIRONMENTAL 100 FCU-100	20	2	HVAC						915	864		Equip	1	20	PWR - HYDRAULICS 100 <LL> LIQUID LEVEL (LE-CHE-0016)	78
79	--	--	--	--		915	863						Equip	2	20	PWR - HYDRAULICS 100 PUMP LAB (LE-CHE-0107)	80
81	HVAC - HYDRAULICS 105 FCU-105	20	2	HVAC				915	863				--	--	--	--	82
83	--	--	--	--						915	1176		Equip	1	20	PWR - ENVIRONMENTAL 105 VACUUM PUMP	84
					Total Load:	17844 VA		18445 VA		19314 VA							
					Total Amps:	149 A		154 A		162 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	7320 VA	85.00%	6222 VA	**Total Conn. Load:**	55603 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	38266 VA
Recpt	19260 VA	75.96%	14630 VA	**Total Conn. Current:**	154 A
Equip	29023 VA	60.00%	17414 VA	**Total Est. Demand Current:**	106 A

Branch Panel: BD-N-1E-SHOP2

Location: SHOP 180A **Supply From:** BD-SHOP **Enclosure:** Type 1
Mounting: Surface **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 100A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - SHOP 180A WEST CORD REELS	20	1	Recpt		360	1629						Equip	3	20	PWR - SHOP 180A <LATHE-1> MANUAL LATHE (LE-MIS-0078)	2
3	REC - SHOP 180A WEST CORD REELS	20	1	Recpt; Equip				540	1629				--	--	--	--	4
5	PWR - SHOP 180A <CNC-LATHE-1> CNC TABLETOP LATHE (LE-MIS-0306)	20	1	Equip						792	1629		--	--	--	--	6
7	PWR - SHOP 180A <HBS> HORIZONTAL BAND SAW (LE-COE-0083)	15	2	Equip		895	2938						Equip	3	20	PWR - SHOP 180A <LATHE-2> MANUAL LATHE (LE-MIS-0299)	8
9	--	--	--	--				895	2938				--	--	--	--	10
11	PWR - SHOP 180A <CNC-LATHE-2> CNC TABLETOP LATHE (LE-MIS-0307)	20	1	Equip						792	2938		--	--	--	--	12
13	Space	--	--	--		0	0						--	--	--	--	14
15	Space	--	--	--				0	0				--	--	--	--	16
17	Space	--	--	--						0	0		--	--	--	--	18
19	Space	--	--	--		0	0						--	--	--	--	20
21	Space	--	--	--				0	0				--	--	--	--	22
23	Space	--	--	--						0	0		--	--	--	--	24
25	Space	--	--	--		0	0						--	--	--	--	26
27	Space	--	--	--				0	0				--	--	--	--	28
29	Space	--	--	--						0	0		--	--	--	--	30
31	Space	--	--	--		0	0						--	--	--	--	32
33	Space	--	--	--				0	0				--	--	--	--	34
35	Space	--	--	--						0	0		--	--	--	--	36
37	Space	--	--	--		0	0						--	--	--	--	38
39	Space	--	--	--				0	0				--	--	--	--	40
41	Space	--	--	--						0	0		--	--	--	--	42
					Total Load:	5822 VA		6002 VA		6151 VA							
					Total Amps:	49 A		50 A		51 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	17975 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	11145 VA
Recpt	900 VA	100.00%	900 VA	**Total Conn. Current:**	50 A
Equip	17075 VA	60.00%	10245 VA	**Total Est. Demand Current:**	31 A

Branch Panel: PP-N-1W-L2

Location: HYDRAULICS 100 **Supply From:** PP-N-1W-L1 **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 100A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	Spare	20	1	--				0	0				--	1	20	Spare	4
5	Spare	20	1	--						0	0		--	1	20	Spare	6
7	Spare	20	1	--		0	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: DP-N-2E

Location: ELECTRICAL 200E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 400A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-E | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 65,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	66314						HVAC; Recpt; Equip	3	250	PANEL PP-N-2E-1 VIA XFMR TX-N-2E	38
39	Unusable Space	--	--	--				0	63294				--	--	--	--	40
41	Unusable Space	--	--	--						0	59588		--	--	--	--	42
					Total Load:	66314 VA		63294 VA		59588 VA							
					Total Amps:	241 A		231 A		215 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	189196 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	111311 VA
Recpt	77680 VA	56.44%	43840 VA	**Total Conn. Current:**	228 A
Equip	109270 VA	60.00%	65562 VA	**Total Est. Demand Current:**	134 A

Branch Panel: DP-N-2W

Location: ELECTRICAL 200E1 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 400A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 42,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	37332						HVAC; Other; Recpt; Equip	3	250	PANEL PP-N-2W-1 VIA XFMR TX-N-2W	38
39	Unusable Space	--	--	--				0	36789				--	--	--	--	40
41	Unusable Space	--	--	--						0	33454		--	--	--	--	42
					Total Load:	37332 VA		36789 VA		33454 VA							
					Total Amps:	137 A		135 A		121 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	107574 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	61592 VA
Recpt	91620 VA	55.46%	50810 VA	**Total Conn. Current:**	129 A
Equip	12088 VA	60.00%	7253 VA	**Total Est. Demand Current:**	74 A

Branch Panel: LP-N-2E

Location: ELECTRICAL 200E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: SS-N-M | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 42,000A | **Wires:** 4 | **MCB Rating:** 100A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - SOUTHWEST WING	20	1	Light		3141	3380						Light	1	20	LTG - EAST WING	2
3	LTG - NORTHWEST LAB SPACE	20	1	Light				3026	3382				Light	1	20	LTG - NORTHEAST LAB SPACE	4
5	LTG - SOUTHWEST LAB SPACE	20	1	Light						2990	3346		Light	1	20	LTG - SOUTHEAST LAB SPACE	6
7	LTG - NORTH CORRIDOR	20	1	Light		2501	3026						Light	1	20	LTG - SOUTH CORRIDOR	8
9	LTG - CENTER FOR ENTREPRENEURSHIP	20	1	Light				822	0				--	1	20	Spare	10
11	LTG - DEPARTMENT SUITE	20	1	Other; Light						1330	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15									0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	12048 VA		7230 VA		7667 VA							
					Total Amps:	44 A		26 A		28 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	27131 VA
Light	27131 VA	125.00%	33913 VA	**Total Est. Demand:**	33913 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	33 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	41 A

Branch Panel: PP-N-2E-1

Location: ELECTRICAL 200E2 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-N-2E | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 200A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 284, 286, 288 DUPLEX	20	1	Recpt		1080	1000						Equip	1	20	PWR - PANTRY 281 COUNTER	2
3	REC - OFFICE 284, 286, 288 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 281 COUNTER	4
5	REC - OFFICE 290, 292 DUPLEX	20	1	Recpt						720	180		Recpt	1	20	PWR - PANTRY 281 COUNTER	6
7	REC - OFFICE 290, 292 QUAD	20	1	Recpt		720	800					GF	Equip	1	20	PWR - PANTRY 281 REFRIGERATOR	8
9	REC - OFFICE 285, 287 DUPLEX	20	1	Recpt				900	360				Recpt	1	20	PWR - PANTRY 281 GENERAL/CASEWORK	10
11	REC - OFFICE 285, 287 QUAD	20	1	Recpt						1080	0		--	1	20	Spare	12
13	REC - OFFICE 289, 291, 293 DUPLEX	20	1	Recpt		1080	720						Recpt	3	20	REC - OPEN OFFICE 296 SYS. FURNITURE	14
15	REC - OFFICE 289, 291, 293 QUAD	20	1	Recpt				1080	720				--	--	--	--	16
17	REC - CONF. ROOM 294 WALL	20	1	Recpt						900	720		--	--	--	--	18
19	REC - CONF. ROOM 294, OFC. 296 FLOOR	20	1	Recpt		900	900						Recpt	3	20	REC - MATERIALS COMP. LAB 250 SYSTEMS FURNITURE	20
21	REC - CIRC. 2C3 NORTHEAST, 2C5	20	1	Recpt				540	900				--	--	--	--	22
23	REC - CIRC. 2C3 EAST, SOUTHEAST	20	1	Recpt						720	900		--	--	--	--	24
25	REC - LOUNGE 282	20	1	Recpt		720	900						Recpt	3	20	REC - MATERIALS COMP. LAB 250 SYSTEMS FURNITURE	26
27	REC - ELEC 2E2, TELEDATA 2TC2, PIPE 2PC1, VESTIBULE 2V1, RESTROOM 274	20	1	Recpt; Equip				930	900				--	--	--	--	28
29	HVAC - CIRCULATION 200C3 FCU-2E2	15	2	HVAC						562	900		--	--	--	--	30
31	--	--	--	--		562	900						Recpt	3	20	REC - GROWTH/EXPANSION 245 SYSTEMS FURNITURE	32
33	HVAC - CIRCULATION 200C3 FCU-2TC2	15	2	HVAC				562	900				--	--	--	--	34
35	--	--	--	--						562	900		--	--	--	--	36
37	PWR - ELECTRICAL 200E2 LCP-2E	20	1	Equip	LO	500	900						Recpt	3	20	REC - GROWTH/EXPANSION 245 SYSTEMS FURNITURE	38
39	Spare	20	1	--				0	900				--	--	--	--	40
41	Spare	20	1	--						0	900		--	--	--	--	42
43	Spare	20	1	--		0	720						Recpt	1	20	REC - OPEN OFFICE 296 SYS. FURNITURE (SWITCHED)	44
45	Spare	20	1	--				0	900				Recpt	1	20	REC - MATERIALS COMP. LAB 250 SYSTEMS FURNITURE (SWITCHED)	46
47	Spare	20	1	--						0	900		Recpt	1	20	REC - MATERIALS COMP. LAB 250 SYSTEMS FURNITURE (SWITCHED)	48
49	Spare	20	1	--		0	900						Recpt	1	20	REC - GROWTH/EXPANSION 245 SYSTEMS FURNITURE (SWITCHED)	50
51	Spare	20	1	--				0	900				Recpt	1	20	REC - GROWTH/EXPANSION 245 SYSTEMS FURNITURE (SWITCHED)	52
53	Spare	20	1	--						0	1400	LK	Equip	1	20	PWR - GENDER NEUTRAL 200T4 HAND DRYER	54
55	Spare	20	1	--		0	50						Equip	1	20	PWR - FAUCET/FLUSH VALVES RESTROOM 274	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	360						Recpt	1	20	REC - CIRCULATION 2CS GENERAL	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	13712 VA		11752 VA		11343 VA							
					Total Amps:	115 A		98 A		95 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	36806 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	24567 VA
Recpt	30780 VA	66.24%	20390 VA	**Total Conn. Current:**	102 A
Equip	3780 VA	60.00%	2268 VA	**Total Est. Demand Current:**	68 A

Branch Panel: PP-N-2W-1

Location: ELECTRICAL 200E1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-N-2W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 200A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 202, 204, 206 DUPLEX	20	1	Recpt		1080	1000						Equip	1	20	PWR - PANTRY 224 COUNTER	2
3	REC - OFFICE 202, 204, 206 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 224 COUNTER	4
5	REC - OFFICE 208, 210, 212 DUPLEX	20	1	Recpt						1080	180		Recpt	1	20	PWR - PANTRY 224 COUNTER	6
7	REC - OFFICE 208, 210, 212 QUAD	20	1	Recpt		1080	180						Recpt	1	20	PWR - PANTRY 224 COUNTER	8
9	REC - OFFICE 214, 216, 218 DUPLEX	20	1	Recpt				1260	800			GF	Equip	1	20	PWR - PANTRY 224 REFRIGERATOR	10
11	REC - OFFICE 214, 216, 218 QUAD	20	1	Recpt						1440	360		Recpt	1	20	REC - PANTRY 224 GENERAL/CASEWORK	12
13	REC - OFFICE 203, 205, 207 DUPLEX	20	1	Recpt		1080	1260						Recpt	1	20	REC - WOMEN'S 2T1, MEN'S 2T2, LACT. 2T3, ELEC 2E1, TELEDATA 2TC1	14
15	REC - OFFICE 203, 205, 207 QUAD	20	1	Recpt				1080	375				Recpt; Equip	1	20	REC - JANITORS CLOSET 2J1 + TRAP PRIMER TP-1	16
17	REC - OFFICE 209, 211, 213 DUPLEX	20	1	Recpt						1080	600	GF	Equip	1	20	PWR - ELEV. LOBBY 200C1 WATER COOLER EWC-1	18
19	REC - OFFICE 209, 211, 213 QUAD	20	1	Recpt		1080	1400					LK	Equip	1	20	PWR - WOMEN'S 2T1 HAND DRYER	20
21	REC - OFFICE 215, 217, 219 DUPLEX	20	1	Recpt				1080	1400			LK	Equip	1	20	PWR - MEN'S 2T2 HAND DRYER	22
23	REC - OFFICE 215, 217, 219 QUAD	20	1	Recpt						1080	0		--	1	20	Spare	24
25	REC - CONF. ROOM 201 WALL	20	1	Recpt		900	500						Equip	1	20	PWR - UNIV. CLASS. 264 PROJECTOR	26
27	REC - CONF. ROOM 201, OFC. 220 FLOOR	20	1	Recpt				1080	1260				Recpt	1	20	REC - UNIVERSITY CLASSROOM 264	28
29	REC - CIRC. 2C4, 2C3 SOUTHEAST	20	1	Recpt						900	1440		Recpt	3	20	REC - OPEN OFFICE 220 SYS. FURNITURE	30
31	REC - LOUNGE 223	20	1	Recpt		720	1440						--	--	--	--	32
33	REC - CIRC. 2C3 EAST, NORTHWEST	20	1	Recpt				1260	1440				--	--	--	--	34
35	REC - DEPARTMENT CHAIR OFFICE 260B, 260C DUPLEX (SWITCHED)	20	1	Other; Recpt						1080	1440		Recpt	1	20	REC - OPEN OFFICE 220 SYS. FURNITURE (SWITCHED)	36
37	REC - DEPARTMENT CHAIR OFFICE 260B, 260C DUPLEX	20	1	Other; Recpt		1080	0						--	1	20	Spare	38
39	REC - COPY/STORAGE/MAIL 260A DUPLEX (SWITCHED)	20	1	Recpt				540	180				Recpt	1	20	REC - COPY/STORAGE/MAIL 260A SIMPLEX	40
41	REC - DEPARTMENT CHAIR SUITE 260 DUPLEX	20	1	Recpt						720	250		Equip	1	20	PWR - FLUSH VALVE WOMEN'S 2T1, MEN'S 2T2	42
43	REC - COPY/STORAGE/MAIL 260A DUPLEX	20	1	Recpt		180	250						Equip	1	20	PWR - FAUCET VALVE WOMEN'S 2T1, MEN'S 2T2	44
45	HVAC - ELEVATOR LOBBY 200C1 FCU-2E1	15	2	HVAC				562	540				Recpt	3	20	REC - DEPARTMENT CHAIR SUITE 260 FURNITURE FEED	46
47	--	--	--	--						562	540		--	--	--	--	48
49	HVAC - ELEVATOR LOBBY 200C1 FCU-2TC1	15	2	HVAC		562	540						--	--	--	--	50
51	--	--	--	--				562	0				--	1	20	Spare	52
53	REC - COPY/STORAGE/MAIL 260A DUPLEX	20	1	Recpt						180	0		--	1	20	Spare	54
55	REC - DEPARTMENT CHAIR SUITE 260 FURNITURE FEED (SWITCHED)	20	1	Other		540	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	14872 VA		14678 VA		12932 VA							
					Total Amps:	126 A		125 A		108 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	42481 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	25458 VA
Recpt	32400 VA	65.43%	21200 VA	**Total Conn. Current:**	118 A
Equip	6215 VA	60.00%	3729 VA	**Total Est. Demand Current:**	79 A

Branch Panel: LP-ELS-2E

Location: ELECTRICAL 200E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: LP-ELS-3E | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 14,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** X | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - SECOND FLOOR STAIRS	20	1	Light		599	0						--	1	20	Spare	2
3	EM LTG - SECOND FLOOR CORRIDORS	20	1	Light				2057	0				--	1	20	Spare	4
5	EM LTG - SECOND FLOOR LAB SPACES	20	1	Light						2136	0		--	1	20	Spare	6
7	LTG - SECOND FLOOR EXIT SIGNS	20	1	Light		140	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	FEED THRU LUG TO PANEL LP-ELS-1E	0	3	Light		4955	0						--	1	20	Spare	38
39	--	--	--	--				3874	0				--	1	20	Spare	40
41	--	--	--	--						4218	0		--	1	20	Spare	42
					Total Load:	5693 VA		5930 VA		6354 VA							
					Total Amps:	21 A		22 A		23 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	18278 VA
Light	18278 VA	125.00%	22847 VA	**Total Est. Demand:**	22847 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	22 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	27 A

Branch Panel: PP-EOS2-2W-1

Location: ELECTRICAL 200E1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-2W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 100A | **Feed Thru Lug:** X | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	40						HVAC	2	15	HVAC - STAIR NO. 1 200ST1 FCU-200 S1	2
3	PWR - FIRE ALARM NAC ELECTRICAL 2E1 (WEST)	20	1	Equip	FA			1000	40				--	--	--	--	4
5	PWR - FIRE ALARM NAC ELECTRICAL 2E2 (

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-2E-L1

Location: CHEM ENG LAB 240 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-2E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	360						Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	2
3	Spare	20	1	--				0	360				--	--	--	--	4
5	REC - CHEM ENG SENIOR LAB 240 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - CHEM ENG SENIOR LAB 240 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - CHEM ENG SENIOR LAB 240 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - CHEM ENG SENIOR LAB 240 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - CHEM ENG SENIOR LAB 240 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - CHEM ENG SENIOR LAB 240 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	Spare	20	1	--		0	929					LK	Equip	3	15	PWR - CHEM ENG SENIOR LAB 240 <ST> STIRRED TANK (LE-CHE-0036)	26
27	Spare	20	1	--				0	929				--	--	--	--	28
29	REC - CHEM ENG SENIOR LAB 240 HOOD	20	1	Equip	LO					250	929		--	--	--	--	30
31	REC - CHEM SIM LAB 240A RACEWAY	20	1	Recpt		540	997						Equip	1	20	PWR - CHEM ENG SENIOR LAB 240 <ER> CSTR POWER SUPPLY (LE-CHE-0031)	32
33	REC - CHEM SIM LAB 240A RACEWAY	20	1	Recpt				540	650				Equip	1	20	PWR - CHEM ENG SENIOR LAB 240 <ER> POWER SUPPLY (LE-CHE-0113)	34
35	REC - CHE SIM LAB 240A, 240B WALL	20	1	Recpt						720	997		Equip	1	20	PWR - CHEM ENG SENIOR LAB 240 <ER> POWER SUPPLY (LE-CHE-0113)	36
37	Spare	20	1	--		0	3122					LK	Equip	3	40	PWR - CHEM ENG SENIOR LAB 240 <DEE> DOUBLE EFFECT EVAP (LE-CHE-0018)	38
39	REC - CHEM ENG SENIOR LAB 240 SPINE	20	1	Recpt				360	3122				--	--	--	--	40
41	REC - CHEM ENG SENIOR LAB 240 WALL	20	1	Recpt						720	3122		--	--	--	--	42
43	PWR - CHEM ENG SENIOR LAB 240 VACUUM PUMP	20	1	Equip		1176	1352						Equip	2	20	REC - CHEM ENG SENIOR LAB 240 <VPS> AIR COMPRESSOR (LE-CHE-003)	44
45	Spare	20	1	--				0	1352				--	--	--	--	46
47	Spare	20	1	--						0	1260		Equip	1	20	REC - CHEM ENG SENIOR LAB 240 <VPS> VACUUM PROC SYSTEM (LE-CHE-004)	48
49	Spare	20	1	--		0	817						Equip	3	15	PWR - CHEM ENG SENIOR LAB 240 <VPS> VACUUM (LE-CHE-0005)	50
51	Spare	20	1	--				0	817				--	--	--	--	52
53	Spare	20	1	--						0	817		--	--	--	--	54
55	Spare	20	1	--		0	180						Recpt	1	20	REC - CHEM ENG SENIOR LAB 240	56
57	Spare	20	1	--				0	700				Equip	1	20	PWR - CHEM ENG SENIOR LAB 240 PROJECTOR/SCREEN	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	2906						Equip	3	50	PWR - CHEM ENG SENIOR LAB 240 <BU> BLOWER UNIT (LE-CHE-0027)	62
63	PWR - CHEM ENG SENIOR LAB 240 <BCT>BNCHTP CL. TWR (LE-COE-0071)	30	1	Equip				2080	2906				--	--	--	--	64
65	PWR - CHEM ENG SENIOR LAB 240 <DEE> DOUBLE EFFECT EVAP (LE-CHE-0020)	15	1	Equip	LK					408	2906		--	--	--	--	66
67	PWR - CHEM ENG SENIOR LAB 240 <DEE> DOUBLE EFFECT EVAP (LE-CHE-0021)	15	3	Equip	LK	577	0						--	1	20	Spare	68
69	-	--	--	--				577	0				--	1	20	Spare	70
71	-	--	--	--						577	0		--	1	20	Spare	72
73	PWR - CHEM ENG SENIOR LAB 240 <DEE> DOUBLE EFFECT EVAP (LE-CHE-0021)	20	3	Equip	LK	577	0						--	1	20	Spare	74
75	-	--	--	--				577	0				--	1	20	Spare	76
77	-	--	--	--						577	0		--	1	20	Spare	78
79	PWR - CHEM ENG SENIOR LAB 240 <DEE> DOUBLE EFFECT EVAP (LE-CHE-0022)	15	3	Equip	LK	685	0						--	1	20	Spare	80
81	-	--	--	--				685	0				--	1	20	Spare	82
83	-	--	--	--						685	0		--	1	20	Spare	84
					Total Load:	16377 VA		17814 VA		16847 VA							
					Total Amps:	136 A		149 A		141 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 51039 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 34525 VA
Recpt	10980 VA	95.54%	10490 VA	**Total Conn. Current:** 142 A
Equip	40059 VA	60.00%	24035 VA	**Total Est. Demand Current:** 96 A

Branch Panel: PP-N-2E-L2

Location: CHEM ENG LAB 235 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-2E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - CHEM ENG MAT LAB 235 CSP <HP/OV.4/LSS> (LE-CHE-0324/25/18)	20	2	Equip		997	503						Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <SGR/GR> GRINDERS (LE-CHE-0317/14)	2
3	--	--	--	--				997	503				--	--	--	--	4
5	REC - CHEM ENG MAT LAB 235 CSP	20	2	Recpt						360	934		Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <WH.1/FR.2> HRD/FRN (LE-CHE-0299/0310)	6
7	--	--	--	--		360	934						--	--	--	--	8
9	PWR - CHEM ENG MAT LAB 235 CSP <FM.1/FR.1> FRNACE (LE-CHE-0304/0298)	20	2	Recpt				360	1500				Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <FM.2/FR.3> FRNACE (LE-CHE-0300/05)	10
11	--	--	--	--						360	1500		--	--	--	--	12
13	REC - CHEM ENG MAT LAB 235 CSP <BIS.C> BENCH INST. (LE-CHE-0307/8)	20	2	Equip		500	1500						Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <FM.3/FR.5> FRNACE (LE-CHE-0306/02)	14
15	--	--	--	--				500	1500				--	--	--	--	16
17	PWR - CHEM ENG MAT LAB 235 CSP <WH.2/FR.4> HRD/FRN (LE-CHE-0311/01)	20	2	Equip						434	934		Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <WH.3/FR.6> HRD/FRN (LE-CHE-0312/03)	18
19	--	--	--	--		434	934						--	--	--	--	20
21	REC - CHEM ENG MAT LAB 235 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - CHEM ENG MAT LAB 235 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - CHEM ENG MAT LAB 235 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - CHEM ENG MAT LAB 235 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - CHEM SIM LAB 240B CSP	20	2	Recpt						360	360		Recpt	2	20	REC - CHEM ENG MAT LAB 235 CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - CHEM SIM LAB 240B CSP	20	2	Recpt				360	0				--	1	20	Spare	34
35	--	--	--	--						360	500		Equip	1	20	REC - CHEM ENG MAT LAB 235 <FR.7> FURNACE CONTROLS (LE-CHE-0323)	36
37	REC - CHEM SIM LAB 240B CSP	20	2	Recpt		360	4000					LK	Equip	2	50	PWR - CHEM ENG MAT LAB 235 <FR.7> FURNACE (LE-CHE-0323)	38
39	--	--	--	--				360	4000				--	--	--	--	40
41	REC - CHEM SIM LAB 240B CSP	20	2	Recpt						360	700		Equip	1	20	PWR - CHEM ENG MAT LAB 235 PROJECTOR/SCREEN	42
43	--	--	--	--		360	2906					LK	Equip	3	40	REC - CHEM ENG MAT LAB 235 ROLLING MILL (LE-CHE-0313)	44
45	Spare	20	1	--				0	2906				--	--	--	--	46
47	Spare	20	1	--						0	2906		--	--	--	--	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	REC - CHEM ENG MAT LAB 235 GENERAL	20	1	Recpt, Equip						915	250	LO	Equip	1	20	REC - CHEM ENG MAT LAB 235 HOOD	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	REC - CHEM ENG MAT LAB 235 SPINE	20	1	Recpt						360	0		--	1	20	Spare	60
61	REC - CHEM ENG MAT LAB 235 SPINE	20	1	Recpt		360	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	15587 VA		14426 VA		12312 VA							
					Total Amps:	133 A		123 A		103 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 42324 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 29210 VA
Recpt	9540 VA	100.00%	9540 VA	**Total Conn. Current:** 117 A
Equip	32784 VA	60.00%	19670 VA	**Total Est. Demand Current:** 81 A

Branch Panel: PP-N-2E-L3

Location: THERM. FLUIDS 230 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-2E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	360						Recpt	2	20	REC - THERMAL FLUIDS LAB 230 CSP	2
3	Spare	20	1	--				0	360				--	--	--	--	4
5	REC - THERMAL FLUIDS LAB 230 CSP <HL/SL> LAMP/LIGHT (LE-MIS-0513/0514)	20	2	Recpt						360	360		Recpt	2	20	REC - THERMAL FLUIDS LAB 230 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - THERMAL FLUIDS LAB 230 CSP <BM/OS.3> BRK/OSC (LE-MIS-0506/0507)	20	2	Recpt				360	588				Equip	2	20	PWR - CHEM ENG MAT LAB 235 CSP <FM.2/FR.3> FRNACE (LE-CHE-0300/05)	10
11	--	--	--	--						360	588		--	--	--	--	12
13	REC - THERMAL FLUIDS LAB 230 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - THERMAL FLUIDS LAB 230 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - THERMAL FLUIDS LAB 230 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - THERMAL FLUIDS LAB 230 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - THERMAL FLUIDS LAB 230 CSP <TE> THERMAL EXP (LE-MIS-0504)	20	2	Recpt						360	360		Recpt	2	20	REC - THERMAL FLUIDS LAB 230 CSP <VE> VISCOMETER EXP (LE-MIS-0505)	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - THERMAL FLUIDS LAB 230 GENERAL	20	1	Recpt, Equip		1095	250					LO	Equip	1	20	PWR - THERMAL FLUIDS LAB 230 HOOD	26
27	Spare	20	1	--				0	1920				Equip	1	20	PWR - THERMAL FLUIDS LAB 230 ENVIRONMENT CHAMBER (LE-MIS-0602)	28
29	Spare	20	1	--						0	540		Recpt	1	20	REC - THERMAL FLUIDS LAB 230 <WT.C> WIND TUNNEL CONTROLS (LE-MIS-0520)	30
31	REC - THERMAL FLUIDS LAB 230 SPINE	20	1	Recpt		360	5548						Equip	3	90	PWR - THERMAL FLUIDS LAB 230 <WT> WIND TUNNEL (LE-MIS-0519)	32
33	Spare	20	1	--				0	5548				--	--	--	--	34
35	Spare	20	1	--						0	5548		--	--	--	--	36
37	Spare	20	1	--		0	700						Equip	1	20	PWR - THERMAL FLUIDS LAB 230 PROJECTOR/SCREEN	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	997		Equip	1	20	PWR - THERMAL FLUIDS LAB 230 <HFB> HYDRAULICS FLOW BENCH (LE-MIS-0518)	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	10473 VA		10216 VA		10193 VA							
					Total Amps:	87 A		85 A		85 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 30882 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 22201 VA
Recpt	9180 VA	100.00%	9180 VA	**Total Conn. Current:** 86 A
Equip	21702 VA	60.00%	13021 VA	**Total Est. Demand Current:** 62 A

Branch Panel: PP-EOS2-2E-TD

Location: TELE DATA 200TC2 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-E-TD | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 50A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	PWR - TELE / DATA 200TC2 IDF (EAST)	20	2	Equip				1040	0				--	1	20	Spare	4
5	--	--	--	--						1040	0		--	1	20	Spare	6
7	PWR - TELE / DATA 200TC2 IDF (EAST)	20	2	Equip		1040	0						--	1	20	Spare	8
9	--	--	--	--				1040	0				--	1	20	Spare	10
11	PWR - TELE / DATA 200TC2 IDF (EAST)	20	1	Equip						1200	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	1040 VA		2080 VA		2240 VA							
					Total Amps:	9 A		19 A		20 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:** 9 A

Branch Panel: PP-EOS2-2W-TD

Location: TELE DATA 200TC1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-W-TD | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 50A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	Spare	20	1	--				0	0				--	1	20	Spare	4
5	PWR - TELE / DATA 200TC1 IDF (WEST)	20	2	Equip						1040	0		--	1	20	Spare	6
7	--	--	--	--		1040	0						--	1	20	Spare	8
9	PWR - TELE / DATA 200TC1 IDF (WEST)	20	2	Equip				1040	0				--	1	20	Spare	10
11	--	--	--	--						1040	0		--	1	20	Spare	12
13	PWR - TELE / DATA 200TC1 IDF (WEST)	20	1	Equip		1200	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	2240 VA		1040 VA		2080 VA							
					Total Amps:	20 A		9 A		19 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:** 9 A

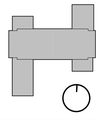
THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS AND SPECIFICATIONS IS GOVERNED BY THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE TERMS OF THE AGREEMENT, SOLELY FOR USE AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT IN ELECTRONIC FORM DOES NOT MAKE BALLINGER RESPONS

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-2E-L4

Location: SOLIDS LAB 225 **Supply From:** BD-N-2E-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - UNDERGRAD SOLIDS LAB 225 CSP <BA/MF> (LE-MIS-0515/0467)	20	2	Recpt		360	360						Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP <OS.1/.2/CR.1/.2> (LE-MIS-0468/69/70/71)	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - UNDERGRAD SOLIDS LAB 225 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - UNDERGRAD SOLIDS LAB 225 CSP FOR <INS.C2> (LE-MIS-0465)	20	2	Recpt				360	360				Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP <DY.C>/<INS.C1> (LE-MIS-0461/0463)	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - UNDERGRAD SOLIDS LAB 225 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - UNDERGRAD SOLIDS LAB 225 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	Spare	20	1	--				0	360				Recpt	2	20	REC - UNDERGRAD SOLIDS LAB 225 CSP	22
23	Spare	20	1	--						0	360		--	--	--	--	24
25	REC - LAB SUPPORT 230A CSP	20	2	Recpt		360	360						Recpt	2	20	REC - LAB SUPPORT 230A CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - LAB SUPPORT 230A CSP	20	2	Recpt						360	360		Recpt	2	20	REC - LAB SUPPORT 230A CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	Spare	20	1	--				0	1400				Recpt	1	25	PWR - UNDERGRAD SOLIDS LAB 225 <INS.1> INSTRON 1 (LE-MIS-0462)	34
35	Spare	20	1	--						0	700		Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 PROJECTOR/SCREEN	36
37	REC - LAB SUPPORT 225B RACEWAY	20	1	Recpt		720	1400						Recpt	1	25	PWR - UNDERGRAD SOLIDS LAB 225 <INS.2> INSTRON 2 (LE-MIS-0464)	38
39	REC - LAB SUPPORT 225B RACEWAY	20	1	Recpt				720	503				Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <DY> DYNATUP (LE-MIS-0460)	40
41	REC - SOLIDS LAB 225, SUPPORT 230A WALL	20	1	Recpt						1080	650		Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <OV.1> OVEN (LE-MIS-0466)	42
43	REC - UNDERGRAD SOLIDS LAB 225 SPINE	20	1	Recpt		360	503						Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <VB> VIBRATING BEAM (LE-MIS-0516)	44
45	REC - UNDERGRAD SOLIDS LAB 225 SPINE	20	1	Recpt				360	2360				Equip	3	30	PWR - LAB SUPPORT 230A <AC> AIR COND LAB UNIT (LE-MIS-0510)	46
47	REC - UNDERGRAD SOLIDS LAB 225 SPINE	20	1	Recpt						360	2360		--	--	--	--	48
49	Spare	20	1	--		0	2360						--	--	--	--	50
51	Spare	20	1	--				0	503				Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <VT> SUPPORT EQUIP (LE-MIS-0503)	52
53	Spare	20	1	--						0	503		Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <VT> VIBRATION TEST (LE-MIS-0503)	54
55	Spare	20	1	--		0	503						Equip	1	20	PWR - UNDERGRAD SOLIDS LAB 225 <VT> SUPPORT EQUIP (LE-MIS-0503)	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	10166 VA		9086 VA		8893 VA							
					Total Amps:	85 A		76 A		74 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	28145 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	20167 VA
Recpt	17200 VA	79.07%	13600 VA	**Total Conn. Current:**	78 A
Equip	10945 VA	60.00%	6567 VA	**Total Est. Demand Current:**	56 A

Branch Panel: PP-N-2W-L1

Location: PHYS. MODELING 273 **Supply From:** BD-N-2W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - MATERIALS 265 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - MATERIALS 265 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - MATERIALS 265 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - MATERIALS 265 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - MATERIALS 265 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - MATERIALS 270 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - MATERIALS 265 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - MATERIALS 270 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - INNOVATION 272 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - INNOVATION 272 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - INNOVATION 272 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - INNOVATION 272 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - INNOVATION 272 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - INNOVATION 272 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - INNOVATION 272 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - INNOVATION 272 CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - MATERIALS 265 WEST COUNTER	20	1	Recpt				540	0				--	1	20	Spare	34
35	REC - LAB 265, 270, 273 GENERAL	20	1	Recpt						900	0		--	1	20	Spare	36
37	PWR - MATERIALS 270B HOOD	20	1	Equip	LO	250	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	PWR - MATERIALS 270 HOOD	20	1	Equip	LO					250	0		--	1	20	Spare	42
43	REC - MATERIALS 270 SPINE	20	1	Recpt		360	0						--	1	20	Spare	44
45	REC - MATERIALS 270 SPINE	20	1	Recpt				360	0				--	1	20	Spare	46
47	REC - MATERIALS 270 SPINE	20	1	Recpt						180	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	4930 VA		4500 VA		4930 VA							
					Total Amps:	42 A		38 A		42 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	14360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	12230 VA
Recpt	13860 VA	86.08%	11930 VA	**Total Conn. Current:**	40 A
Equip	500 VA	60.00%	300 VA	**Total Est. Demand Current:**	34 A

Branch Panel: PP-N-2W-L2

Location: PHYS. MODELING 273 **Supply From:** BD-N-2W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - PHYSICAL MODELING 273 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - PHYSICAL MODELING 273 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - PHYSICAL MODELING 273 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - PHYSICAL MODELING 273 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	PWR - MODELING 273 HOOD	20	1	Equip	LO			250	360				Recpt	2	20	REC - PHYSICAL MODELING 274D CSP	10
11	REC - PHYS. MODELING 270A1 GENERAL	20	1	Recpt						720	360		--	--	--	--	12
13	REC - PHYS. MODELING 270A1 GENERAL	20	1	Recpt		720	360					GF	Recpt	2	20	REC - PHYSICAL MODELING 274D CSP	14
15	REC - PHYS. MODELING 270A1 GENERAL	20	1	Recpt				900	360				--	--	--	--	16
17	REC - PHYS. MODELING 270A1 GENERAL	20	1	Recpt						720	360	GF	Recpt	2	20	REC - PHYSICAL MODELING 274D CSP	18
19	REC - PHYS. MODELING 273 GENERAL	20	1	Recpt		540	360						--	--	--	--	20
21	REC - GRAD STUDENTS 275 WEST SYSTEMS FURNITURE	20	3	Recpt				1320	360				Recpt	2	20	REC - PHYSICAL MODELING 274D CSP	22
23	--	--	--	--						1320	360		--	--	--	--	24
25	--	--	--	--		1320	0						--	1	20	Spare	26
27	REC - GRAD STUDENTS 275 WEST SYSTEMS FURNITURE (SWITCHED)	20	1	Recpt				1440	0				--	1	20	Spare	28
29	REC - PHYS. MODELING 273 SPINE	20	1	Recpt						180	0		--	1	20	Spare	30
31	REC - PHYS. MODELING 273 SPINE	20	1	Recpt		360	0						--	1	20	Spare	32
33	REC - PHYS. MODELING 273 SPINE	20	1	Recpt				360	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5100 VA		6070 VA		4740 VA							
					Total Amps:	43 A		51 A		40 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	15910 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	12980 VA
Recpt	15660 VA	81.93%	12830 VA	**Total Conn. Current:**	44 A
Equip	250 VA	60.00%	150 VA	**Total Est. Demand Current:**	36 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

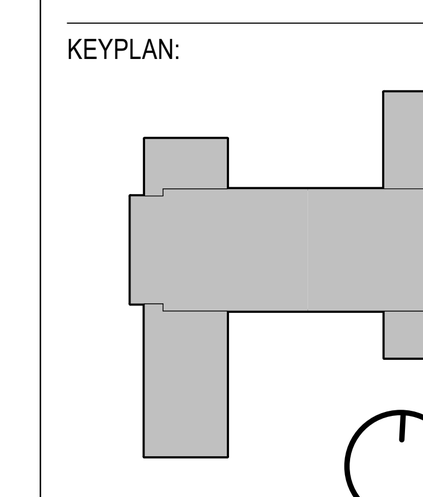
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00
SCALE: N.T.S.

E L E C T R I C A L

TITLE:

SECOND FLOOR PANELBOARD SCHEDULES

NUMBER:

E602.3

PANELBOARD NOTES:	
FA -	RED LOCK-ON CLAMP
GFI -	GFI BREAKER, 5mA
GFEP -	GFEP BREAKER, 30mA
HT -	HANDLE-TIE
LO -	LOCK-ON CLAMP
LK -	LOCK-OFF CLAMP
SLD -	FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-2W-L3

Location: PHYS. MODELING 273 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-2W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	360						Recpt	2	20	REC - PHYS. MODELING SPT. 274C CSP	2
3	Spare	20	1	--				0	360				--	--	--	--	4
5	PWR - PHYS. MODELING SUPPORT 270A2 <SHKR-L> SUPPORT EQUIPMENT	20	1	Equip						501	360		Recpt	2	20	REC - PHYS. MODELING SPT. 274C CSP	6
7	PWR - PHYS. MODELING SUPPORT 270A2 <SHKR-L> LARGE SHAKER	35	1	Equip		3120	360						--	--	--	--	8
9	PWR - PHYS. MODELING SUPPORT 270A2 <SHKR-L> SUPPORT EQUIPMENT	20	1	Equip				501	360				Recpt	2	20	REC - PHYS. MODELING SPT. 274B CSP	10
11	PWR - PHYS. MODELING SUPPORT 270A2 <SHKR-L> SUPPORT EQUIPMENT	20	1	Equip						501	360		--	--	--	--	12
13	Spare	20	1	--		0	360						Recpt	2	20	REC - PHYS. MODELING SPT. 274B CSP	14
15	Spare	20	1	--				0	360				--	--	--	--	16
17	Spare	20	1	--						0	360		Recpt	2	20	REC - PHYS. MODELING GR. 274B CSP	18
19	REC - GRAD STUDENTS 275 EAST SYSTEMS FURNITURE	20	3	Recpt		1080	360						--	--	--	--	20
21	--	--	--	--				1080	0				--	1	20	Spare	22
23	--	--	--	--						1080	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	REC - GRAD STUDENTS 275 EAST SYSTEMS FURNITURE (SWITCHED)	20	1	Recpt				1080	720				Recpt	1	20	REC - PHYS. MODELING SUPPORT 270A2 GENERAL	28
29	REC - PHYS. 270A2/A3/A4, 273 GENERAL	20	1	Recpt						540	720		Recpt	1	20	REC - PHYS. MODELING SUPPORT 270A2 GENERAL	30
31	Spare	20	1	--		0	720						Recpt	1	20	REC - PHYS. MODELING SUPPORT 270A3 GENERAL	32
33	Spare	20	1	--				0	360				Recpt	1	20	REC - PHYS. MODELING SUPPORT 270A4 GENERAL	34
35	Spare	20	1	--						0	360		Recpt	1	20	REC - PHYS. MODELING SUPPORT 270A4 GENERAL	36
37	Spare	20	1	--		0	360						Recpt	1	20	REC - PHYS. MODELING 273 SPINE	38
39	Spare	20	1	--				0	360				Recpt	1	20	REC - PHYS. MODELING 273 SPINE	40
41	Spare	20	1	--						0	360		Recpt	1	20	REC - PHYS. MODELING 273 SPINE	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	6720 VA		5181 VA		5142 VA							
					Total Amps:	56 A		43 A		43 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	17043 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	13984 VA
Recpt	12420 VA	90.26%	11210 VA	**Total Conn. Current:**	47 A
Equip	4623 VA	60.00%	2774 VA	**Total Est. Demand Current:**	39 A

Branch Panel: PP-N-2W-L4

Location: GROWTH/EXP 280 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-2W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	34
35	--	--	--	--						360	360		--	--	--	--	36
37	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - GROWTH/EXPANSION 280 CSP (ALTERNATE)	38
39	--	--	--	--				360	360				--	--	--	--	40
41	REC - GROWTH/EXPANSION 280 EAST GENERAL	20	1	Recpt						540	250	LO	Equip	1	20	PWR - GROWTH/EXPANSION 280 HOOD	42
43	Spare	20	1	--		0	250					LO	Equip	1	20	PWR - GROWTH/EXPANSION 280 HOOD	44
45	Spare	20	1	--				0	360				Recpt	1	20	REC - GROWTH/EXPANSION 280 SPINE	46
47	Spare	20	1	--						0	360		Recpt	1	20	REC - GROWTH/EXPANSION 280 SPINE	48
49	Spare	20	1	--		0	180						Recpt	1	20	REC - GROWTH/EXPANSION 280 SPINE	50
51	Spare	20	1	--				0	360				Recpt	1	20	REC - GROWTH/EXPANSION 280 SPINE	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5470 VA		5760 VA		5470 VA							
					Total Amps:	46 A		48 A		46 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	16700 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	13400 VA
Recpt	16200 VA	80.86%	13100 VA	**Total Conn. Current:**	46 A
Equip	500 VA	60.00%	300 VA	**Total Est. Demand Current:**	37 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

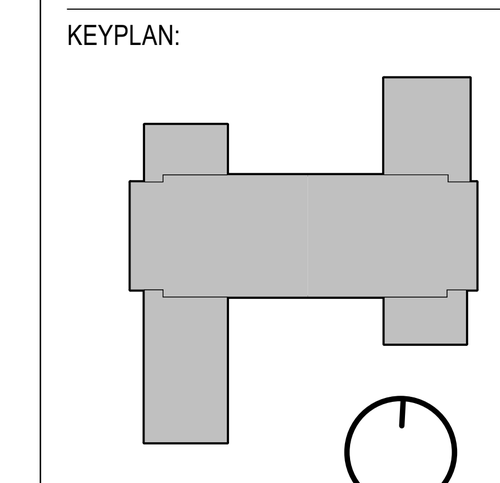
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G   I S S U E

PROJECT: 15085.00
SCALE: N.T.S.

E L E C T R I C A L

TITLE:

SECOND FLOOR PANELBOARD SCHEDULES

NUMBER:

E602.4

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: DP-N-3E

Location: ELECTRICAL 300E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-E **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 65,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	36031						HVAC; Recpt; Equip	3	250	PANEL PP-N-3E-1 VIA XFMR TX-N-3E	38
39	Unusable Space	--	--	--				0	35260				--	--	--	--	40
41	Unusable Space	--	--	--						0	36447		--	--	--	--	42
					Total Load:	36031 VA		35260 VA		36447 VA							
					Total Amps:	131 A		127 A		132 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	107737 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	61852 VA
Recpt	83520 VA	55.99%	46760 VA	**Total Conn. Current:**	130 A
Equip	21971 VA	60.00%	13183 VA	**Total Est. Demand Current:**	74 A

Branch Panel: DP-N-3W

Location: ELECTRICAL 300E1 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 400A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-W **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 42,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	38734						HVAC; Recpt; Equip	3	250	PANEL PP-N-3W-1 VIA XFMR TX-N-3W	38
39	Unusable Space	--	--	--				0	38953				--	--	--	--	40
41	Unusable Space	--	--	--						0	33615		--	--	--	--	42
					Total Load:	38734 VA		38953 VA		33615 VA							
					Total Amps:	143 A		143 A		121 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3418 VA	85.00%	2905 VA	**Total Conn. Load:**	111301 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	63099 VA
Recpt	95363 VA	55.24%	52682 VA	**Total Conn. Current:**	134 A
Equip	12520 VA	60.00%	7512 VA	**Total Est. Demand Current:**	76 A

Branch Panel: LP-N-3E

Location: ELECTRICAL 300E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 225A **Aux Gutter:** X **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: SS-N-M **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 42,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - SOUTHWEST WING	20	1	Light		3363	3239						Light	1	20	LTG - EAST WING	2
3	LTG - NORTHWEST LAB SPACE	20	1	Light				3204	3168				Light	1	20	LTG - NORTHEAST LAB SPACE	4
5	LTG - SOUTHWEST LAB SPACE	20	1	Light						2563	3845		Light	1	20	LTG - SOUTHEAST LAB SPACE	6
7	LTG - NORTH CORRIDOR	20	1	Light		3410	2953						Light	1	20	LTG - SOUTH CORRIDOR	8
9	LTG - DEPARTMENT CHAIR SUITE	20	1	Light				2288	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	12965 VA		8660 VA		6408 VA							
					Total Amps:	48 A		33 A		23 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	28283 VA
Light	28283 VA	125.00%	35354 VA	**Total Est. Demand:**	35354 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	34 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	43 A

Branch Panel: PP-N-3E-1

Location: ELECTRICAL 300E2 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-3E **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 200A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 384, 386, 388 DUPLEX	20	1	Recpt		1080	1000						Equip	1	20	PWR - PANTRY 381 COUNTER	2
3	REC - OFFICE 384, 386, 388 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 381 COUNTER	4
5	REC - OFFICE 390, 392 DUPLEX	20	1	Recpt						720	180		Recpt	1	20	PWR - PANTRY 381 COUNTER	6
7	REC - OFFICE 390, 392 QUAD	20	1	Recpt		720	800					GF	Equip	1	20	PWR - PANTRY 381 REFRIGERATOR	8
9	REC - OFFICE 385, 387 DUPLEX	20	1	Recpt				900	360				Recpt	1	20	PWR - PANTRY 381 GENERAL/CASEWORK	10
11	REC - OFFICE 385, 387 QUAD	20	1	Recpt						1080	720		Recpt	1	20	REC - OPEN OFFICE 396 SYS. FURNITURE (SWITCHED)	12
13	REC - OFFICE 389, 391, 393 DUPLEX	20	1	Recpt		1080	720						Recpt	3	20	REC - OPEN OFFICE 396 SYS. FURNITURE	14
15	REC - OFFICE 389, 391, 393 QUAD	20	1	Recpt				1080	720				--	--	--	--	16
17	REC - CONF. ROOM 394 WALL	20	1	Recpt						900	720		--	--	--	--	18
19	REC - CONF. ROOM 394, CIRC. 3C5 FLOOR	20	1	Recpt		540	720						Recpt	3	20	REC - WATER LAB 343, HUMAN FACTORS 345 SYSTEMS FURNITURE	20
21	REC - CIRC. 3C3 NORTHEAST, 3C5	20	1	Recpt				540	720				--	--	--	--	22
23	REC - CIRC. 3C3 EAST, SOUTHEAST	20	1	Recpt						720	720		--	--	--	--	24
25	Recpt	20	1	Recpt		540	720						Recpt	3	20	REC - HUMAN FACTORS 345A, COMP. LAB 353 SYSTEMS FURNITURE	26
27	REC - ELEC 3E2, TELEDATA 3TC2, PIPE 3PC1, VESTIBULE 3V1, RESTROOM 3T4	20	1	Recpt; Equip				915	720				--	--	--	--	28
29	HVAC - CIRCULATION 300C3 FCU-3E2	15	2	HVAC						562	720		--	--	--	--	30
31	--	--	--	--		562	1080						Recpt	1	20	REC - WATER LAB 343, HUMAN FACTORS 345 SYSTEMS FURNITURE (SWITCHED)	32
33	HVAC - CIRCULATION 300C3 FCU-3TC2	15	2	HVAC				562	720				Recpt	1	20	REC - HUMAN FACTORS 345A, COMP. LAB 353 SYS. FURNITURE (SWITCHED)	34
35	--	--	--	--						562	720		Recpt	1	20	REC - COMPUTER LAB 353/355 SYSTEMS FURNITURE (SWITCHED)	36
37	PWR - ELECTRICAL 300E2 LCP-3E	20	1	Equip	LO	500	900						Recpt	1	20	REC - COMP LAB 343, HUMAN FACTORS 345/345A GENERAL	38
39	REC - CIRCULATION 3C5 WALL	20	1	Recpt				360	720				Recpt	1	20	REC - COMP LAB 353/355 GENERAL	40
41	HVAC - LOUNGE 382 FCU-382-1	15	2	Equip						293	720		Recpt	1	20	REC - COMP LAB 353B, 355A DUPLEX	42
43	--	--	--	--		293	720						Recpt	1	20	REC - COMP LAB 353B, 355A QUAD	44
45	HVAC - LOUNGE 382 FCU-382-2	15	2	Equip				293	720				Recpt	3	20	REC - COMPUTER LAB 353/355 SYSTEMS FURNITURE	46
47	--	--	--	--						293	720		--	--	--	--	48
49	Spare	20	1	--		0	720						--	--	--	--	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	1400	LK	Equip	1	20	PWR - RESTROOM 300T4 HAND DRYER	54
55	Spare	20	1	--		0	50						Equip	1	20	PWR - FAUCET/FLUSH VALVES RESTROOM 3T4	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	12745 VA		10590 VA		11749 VA							
					Total Amps:	108 A		88 A		99 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	35083 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	23821 VA
Recpt	27900 VA	67.92%	18950 VA	**Total Conn. Current:**	97 A
Equip	4937 VA	60.00%	2962 VA	**Total Est. Demand Current:**	66 A

Branch Panel: PP-N-3W-1

Location: ELECTRICAL 300E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-3W **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 200A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 302, 304, 306 DUPLEX	20	1	Recpt		1080	1000						Equip	1	20	PWR - PANTRY 324 COUNTER	2
3	REC - OFFICE 302, 304, 306 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 324 COUNTER	4
5	REC - OFFICE 308, 310, 312 DUPLEX	20	1	Recpt						1080	180		Recpt	1	20	PWR - PANTRY 324 COUNTER	6
7	REC - OFFICE 308, 310, 312 QUAD	20	1	Recpt		1080	180						Recpt	1	20	PWR - PANTRY 324 COUNTER	8
9	REC - OFFICE 314, 316, 318 DUPLEX	20	1	Recpt				1260	800			GF	Equip	1	20	PWR - PANTRY 324 REFRIGERATOR	10
11	REC - OFFICE 314, 316, 318 QUAD	20	1	Recpt						1440	360		Recpt	1	20	PWR - PANTRY 324 GENERAL/CASEWORK	12
13	REC - OFFICE 303, 305, 307 DUPLEX	20	1	Recpt		1080	1440						Recpt	1	20	REC - WOMEN'S 3T1, MEN'S 3T2, LACT. 3T3, ELEC 3E1, TELEDATA 3TC1	14
15	REC - OFFICE 303, 305, 307 QUAD	20	1	Recpt				1080	375				Recpt; Equip	1	20	REC - JANITORS CLOSET 3J1 + TRAP PRIMER TP-1	16
17	REC - OFFICE 309, 311, 313 DUPLEX	20	1	Recpt						1080	600	GF	Equip	1	20	PWR - ELEV LOBBY 300C1 WATER COOLER EWC-1	18
19	REC - OFFICE 309, 311, 313 QUAD	20	1	Recpt		1080	1400					LK	Equip	1	20	PWR - WOMEN'S 3T1 HAND DRYER	20
21	REC - OFFICE 315, 317, 319 DUPLEX	20	1	Recpt				1080	1400			LK	Equip	1	20	PWR - MEN'S 3T2 HAND DRYER	22
23	REC - OFFICE 315, 317, 319 QUAD	20	1	Recpt						1080	0		--	1	20	Spare	24
25	REC - CONF. ROOM 301 WALL	20	1	Recpt		900	250						Equip	1	20	PWR - FLUSH VALVE WOMEN'S 3T1, MEN'S 3T2	26
27	REC - CONF. ROOM 301, CIRC. 3C4 FLOOR	20	1	Recpt				720	250				Equip	1	20	PWR - FAUCET VALVE WOMEN'S 3T1, MEN'S 3T2	28
29	REC - CIRC. 3C4, 3C3 SOUTHEAST	20	1	Recpt						900	1440		Recpt	3	20	REC - OPEN OFFICE 320 SYS. FURNITURE	30
31	Recpt	20	1	Recpt		540	1440						--	--	--	--	32
33	REC - CIRC. 3C3 EAST, NORTHWEST	20	1	Recpt				900	1440				--	--	--	--	34
35	REC - DEPT. CHAIR OFFICE 360A/B FLOOR	20	1	Recpt						1080	1440		Recpt	1	20	REC - OPEN OFFICE 320 SYS. FURNITURE (SWITCHED)	36
37	REC - DEPT. CHAIR OFFICE 360A/B WALL	20	1	Recpt		1080	0						--	1	20	Spare	38
39	PWR - COPY/STORAGE 360A PRINTER	20	1	Equip				1200	1260				Recpt	1	20	REC - CONF. ROOM 362, 364 WALL	40
41	PWR - COPY/STORAGE 360A PRINTER	20	1	Equip						600	1080		Recpt	1	20	REC - CONF. ROOM 362, 364 FLOOR	42
43	PWR - COPY/STORAGE 360A PRINTER	20	1	Equip		600	562						HVAC	2	15	HVAC - ELEVATOR LOBBY 300C1 FCU-3E1	44
45	REC - COPY/STORAGE 360A	20	1	Recpt				720	562				--	--	--	--	46
47	REC - DEPT. CHAIR SUITE 360 WALL	20	1	Recpt						720	562		HVAC	2	15	HVAC - ELEVATOR LOBBY 300C1 FCU-3TC1	48
49	REC - DEPT. CHAIR SUITE 360 FLOOR	20	1	Recpt		180	562						--	--	--	--	50
51	Spare	20	1	--				0	293				HVAC	2	15	HVAC - LOUNGE 323 FCU-323-1	52
53	REC - DEPT. CHAIR SUITE 360 SYS. FURNITURE	20	3	Recpt						720	293		--	--	--	--	54
55	--	--	--	--		720	293						HVAC	2	15	HVAC - LOUNGE 323 FCU-323-2	56
57	--	--	--	--				720	293				--	--	--	--	58
59	REC - DEPT. CHAIR SUITE 360 SYS. FURNITURE (SWITCHED)	20	1	Recpt						720	0		--	1	20	Spare	60
61							0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	15466 VA		15613 VA		15375 VA							
					Total Amps:	129 A		130 A		128 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3418 VA	85.00%	2905 VA	**Total Conn. Load:**	46453 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	30234 VA
Recpt	34920 VA	64.32%	22460 VA	**Total Conn. Current:**	129 A
Equip	8115 VA	60.00%	4869 VA	**Total Est. Demand Current:**	84 A

Branch Panel: LP-ELS-3E

Location: ELECTRICAL 300E2 **Mounting:** Surface **Voltage:** 480/277 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: LP-ELS-4E **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 14,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** X **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	EM LTG - THIRD FLOOR CORRIDORS EMERGENCY	20	1	Light		2161	0						--	1	20	Spare	2
3	EM LTG - THIRD FLOOR LAB SPACES	20	1	Light				2118	0				--	1	20	Spare	4
5	LTG - THIRD FLOOR STAIRS	20	1	Light						656	0		--	1	20	Spare	6
7	LTG - THIRD FLOOR EXIT SIGNS	20	1	Light		149	0						--	1	20	Spare	8
9	Spare	20	1	--				0	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	FEED THRU LUG TO PANEL LP-ELS-2E	0	3	Light		5685	0						--	1	20	Spare	38
39	--	--	--	--				5932	0				--	1	20	Spare	40
41	--	--	--	--						6348	0		--	1	20	Spare	42
					Total Load:	7994 VA		8050 VA		7004 VA							
					Total Amps:	29 A		30 A		25 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	23411 VA
Light	23411 VA	125.00%	29264 VA	**Total Est. Demand:**	29264 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	28 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	35 A

Branch Panel: PP-EOS2-3W-1

Location: ELECTRICAL 300E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS2-3W **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** X **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - BIO MED WET 325 <FRZD-1> (LE-COE-0051)	20	2	Equip		350	1000					FA	Equip	1	20	PWR - FIRE ALARM NAC ELECTRICAL 3E1 (WEST)	2
3	--	--	--	--				350	1000			FA	Equip	1	20	PWR - FIRE ALARM NAC ELECTRICAL 3E2 (EAST)	4
5	PWR - BIO MED WET 325 <UFRZ>	20	1	Equip						600	307		Equip	1	20	PWR

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-3E-L1

Location: WATER LAB 340 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-3E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - WATER LAB 340 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - WATER LAB 340 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - WATER LAB 340 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - WATER LAB 340 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - WATER LAB 340 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - WATER LAB 340 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - WATER LAB 340 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - WATER LAB 340 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - WATER LAB 340 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - WATER LAB 340 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - WATER LAB 340 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - WATER LAB 340 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	Spare	20	1	--		0	250					LO	Equip	1	20	PWR - WATER LAB 340 HOOD	26
27	PWR - WATER LAB 340 RO SYSTEM	20	1	Equip	GF			360	250			LO	Equip	1	20	PWR - WATER LAB 340 HOOD	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	REC - WATER LAB 340 GENERAL	20	1	Recpt		540	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	PWR - WATER LAB 340 DFH6 (LE-XXX-####)	20	1	Equip						503	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	3670 VA		3490 VA		3383 VA							
					Total Amps:	31 A		29 A		28 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 10543 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 9998 VA
Recpt	9180 VA	100.00%	9180 VA	**Total Conn. Current:** 29 A
Equip	1363 VA	60.00%	818 VA	**Total Est. Demand Current:** 28 A

Branch Panel: PP-N-3E-L2

Location: NANO MATERIALS 335 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-3E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - NANO MATERIALS 335 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - NANO MATERIALS 335 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - NANO MATERIALS 335 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - NANO MATERIALS 335 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - NANO MATERIALS 335 CSP	20	2	Recpt				360	180			GF	Equip	1	20	PWR - NANO MATERIALS 335 RO SYSTEM	10
11	--	--	--	--						360	503		Equip	1	20	PWR - NANO MATERIALS SUP. 335A BSC	12
13	REC - NANO MATERIALS 335 CSP	20	2	Recpt		360	1700					GF	Equip	1	20	REC - NANO MATERIALS 335 <RFG> RF FIELD GEN CTRL (LE-COE-0120-2)	14
15	--	--	--	--				360	708			GF	Equip	1	20	REC - NANO MATERIALS 335 <RFG> RF FIELD GEN PWRCOOL (LE-COE-0120-3)	16
17	REC - NANO MAT. SUPPORT 335B CSP	20	2	Recpt						360	1080		Recpt	1	20	REC - NANO MATERIALS 335 GENERAL	18
19	--	--	--	--		360	0						--	1	20	Spare	20
21	REC - NANO MAT. SUPPORT 335B CSP	20	2	Recpt	GF			360	0				--	1	20	Spare	22
23	--	--	--	--						360	780		Recpt	3	20	REC - GRAD STUDENTS 336 WEST SYSTEMS FURNITURE	24
25	Spare	20	1	--		0	780						--	--	--	--	26
27	Spare	20	1	--				0	780				--	--	--	--	28
29	Spare	20	1	--						0	780		Recpt	3	20	REC - GRAD STUDENTS 336 EAST SYSTEMS FURNITURE	30
31	REC - NANO MATERIALS 335 SPINE	20	1	Recpt		180	780						--	--	--	--	32
33	REC - NANO MATERIALS 335 SPINE	20	1	Recpt				360	780				--	--	--	--	34
35	REC - NANO MATERIALS 335 SPINE	20	1	Recpt						360	720		Recpt	1	20	REC - NANA MATERIALS SUP. 336A GENERAL	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	900				Recpt	1	20	REC - GRAD STUDENTS 336 WEST SYSTEMS FURNITURE (SWITCHED)	40
41	Spare	20	1	--						0	900		Recpt	1	20	REC - GRAD STUDENTS 336 EAST SYSTEMS FURNITURE (SWITCHED)	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5600 VA		5508 VA		6923 VA							
					Total Amps:	47 A		46 A		58 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 18031 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 14325 VA
Recpt	14940 VA	83.47%	12470 VA	**Total Conn. Current:** 50 A
Equip	3091 VA	60.00%	1855 VA	**Total Est. Demand Current:** 40 A

Branch Panel: PP-N-3E-L3

Location: NANO MATERIALS 335 | **Mounting:** Recessed | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-3E-L | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - NANO MATERIALS 335 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - NANO MATERIALS 335 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - NANO MATERIALS 335 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - NANO MATERIALS 335 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - NANO MATERIALS 335 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - NANO MATERIALS 335 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - NANO MATERIALS 335 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - NANO MATERIALS 335 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - NANO MATERIALS 335 CSP	20	2	Recpt						360	250	LO	Equip	1	20	PWR - NANO MATERIALS 335 HOOD	18
19	--	--	--	--		360	250					LO	Equip	1	20	PWR - NANO MATERIALS 335 HOOD	20
21	REC - NANO MATERIALS 335 CSP	20	2	Recpt				360	250			LO	Equip	1	20	PWR - NANO MATERIALS 335 HOOD	22
23	--	--	--	--						360	250	LO	Equip	1	20	PWR - NANO MATERIALS 335 HOOD	24
25	REC - BIO MED WET SUPPORT 325B CSP	20	2	Recpt		360	540						Recpt	1	20	REC - NANO MATERIALS 335 GENERAL	26
27	--	--	--	--				360	180			GF	Equip	1	20	PWR - NANO MATERIALS 335 RO SYSTEM	28
29	REC - BIO MED WET SUPPORT 325B CSP	20	2	Recpt						360	780		Recpt	3	20	REC - GRAD STUDENTS 330 WEST SYSTEMS FURNITURE	30
31	--	--	--	--		360	780						--	--	--	--	32
33	REC - BIO MED WET SUPPORT 325B OPT (EF-CHE-0060)	20	1	Recpt				1080	780				--	--	--	--	34
35	REC - BIO MED WET SUPPORT 325B GENERAL	20	1	Recpt						720	780		Recpt	3	20	REC - GRAD STUDENTS 330 EAST SYSTEMS FURNITURE	36
37	REC - BIO MED WET SUPPORT 325B GENERAL	20	1	Recpt		720	780						--	--	--	--	38
39	PWR - NANO MATERIALS 335 VACUUM PUMP	20	1	Equip				1176	780				--	--	--	--	40
41	PWR - NANO MATERIALS 335 VACUUM PUMP	20	1	Equip						1176	900		Recpt	1	20	REC - GRAD STUDENTS 330 WEST SYSTEMS FURNITURE (SWITCHED)	42
43	Spare	20	1	--		0	900						Recpt	1	20	REC - GRAD STUDENTS 330 EAST SYSTEMS FURNITURE (SWITCHED)	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	7210 VA		7126 VA		7376 VA							
					Total Amps:	60 A		59 A		62 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 21712 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 16209 VA
Recpt	18180 VA	77.50%	14090 VA	**Total Conn. Current:** 60 A
Equip	3532 VA	60.00%	2119 VA	**Total Est. Demand Current:** 45 A

Branch Panel: PP-EOS2-3E-TD

Location: TELE DATA 300TC2 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-E-TD | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 50A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	Spare	20	1	--				0	0				--	1	20	Spare	4
5	PWR - TELE / DATA 300TC2 IDF (EAST)	20	2	Equip						1040	0		--	1	20	Spare	6
7	--	--	--	--		1040	0						--	1	20	Spare	8
9	PWR - TELE / DATA 300TC2 IDF (EAST)	20	2	Equip				1040	0				--	1	20	Spare	10
11	--	--	--	--						1040	0		--	1	20	Spare	12
13	PWR - TELE / DATA 300TC2 IDF (EAST)	20	1	Equip		1200	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	2240 VA		1040 VA		2080 VA							
					Total Amps:	20 A		9 A		19 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:** 9 A

Branch Panel: PP-EOS2-3W-TD

Location: TELE DATA 300TC1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-W-TD | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 50A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - TELE / DATA 300TC1 IDF (WEST)	20	2	Equip		1040	0						--	1	20	Spare	2
3	--	--	--	--				1040	0				--	1	20	Spare	4
5	PWR - TELE / DATA 300TC1 IDF (WEST)	20	2	Equip						1040	0		--	1	20	Spare	6
7	--	--	--	--		1040	0						--	1	20	Spare	8
9	PWR - TELE / DATA 300TC1 IDF (WEST)	20	1	Equip				1200	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	2080 VA		2240 VA		1040 VA							
					Total Amps:	19 A		20 A		9 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:** 5360 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:** 3216 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:** 15 A
Equip	5360 VA	60.00%	3216 VA	**Total Est. Demand Current:** 9 A

Branch Panel: PP-UPS-3E

Location: ELECTRICAL 300E2 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: PP-UPS-M | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** X | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - LAB 230, 235, 240 HOOD ALARMS	20	1	Equip	LO	150	200					LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (3RD FLOOR EAST)	2
3	PWR - LAB 265, 270, 280 HOOD ALARMS (ALTERNATE)	20	1	Equip	LO			250	300			LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (3RD FLOOR WEST)	4
5	PWR - LAB 325, 335 HOOD ALARMS	20	1	Equip	LO					200	200	LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (2ND FLOOR EAST)	6
7	PWR - LAB 335, 340 HOOD ALARMS	20	1	Equip	LO	200	300					LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (2ND FLOOR WEST)	8
9	PWR - CIRCULATION 200C3 WON-DOOR (2ND NORTH)	20	1	Equip	LO			1200	1000			LO	Equip	1	20	PWR - BAS PANEL (3RD NE OFFICE WING)	10
11	PWR - CIRCULATION 200C3 WON-DOOR (2ND SOUTH)	20	1	Equip	LO					1200	1000	LO	Equip	1	20	PWR - BAS PANEL (3RD EAST COMP LAB)	12
13	PWR - SPIRAL STAIR SMOKE CURTAIN (2ND)	20	1	Equip	LO	696	1000					LO	Equip	1	20	PWR - BAS PANEL (3RD NE LAB)	14
15	PWR - CIRCULATION 300C3 WON-DOOR (3RD NORTH)	20	1	Equip	LO			1200	1000			LO	Equip	1	20	PWR - BAS PANEL (3RD SE LAB)	16
17	PWR - SPIRAL STAIR SMOKE CURTAIN (3RD)	20	1	Equip	LO					696	1000	LO	Equip	1	20	PWR - BAS PANEL (3RD NW LAB) (ALTERNATE)	18
19	PWR - CIRCULATION 300C3 WON-DOOR (3RD SOUTH)	20	1	Equip	LO	1200	1000					LO	Equip	1	20	PWR - BAS PANEL (3RD SW LAB)	20
21	PWR - LOUNGE 323 SMOKE CURTAIN (3RD SOUTHWEST)	20	1	Equip	LO			696	1000			LO	Equip	1	20	PWR - BAS PANEL (3RD SW OFFICE WING)	22
23	PWR - LOUNGE 382 SMOKE CURTAIN (3RD NORTHEAST)	20	1	Equip	LO					696	1000	LO	Equip	1	20	PWR - BAS PANEL (3RD DEPT. SUITE)	24
25	Spare	20	1	--	LO	0	1000					LO	Equip	1	20	PWR - BAS PANEL (2ND NE OFFICE WING)	26
27	Spare	20	1	--	LO			0	1000			LO	Equip	1	20	PWR - BAS PANEL (2ND EAST COMP LAB)	28
29	Spare	20	1	--	LO					0	1000	LO	Equip	1	20	PWR - BAS PANEL (2ND NE LAB)

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-3E-L4

Location: BIO MED WET 325 **Supply From:** BD-N-3E-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - BIO MED WET 325 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - BIO MED WET 325 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - BIO MED WET 325 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - BIO MED WET 325 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - BIO MED WET 325 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - BIO MED WET 325 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - BIO MED WET 325 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - BIO MED WET 325 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - BIO MED WET 325 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - BIO MED WET 325 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - BIO MED WET 325 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - RESEARCH SUPPORT 325A CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - BIO MED WET SUPPORT 325A CSP	20	2	Recpt		360	360						Recpt	2	20	REC - RESEARCH SUPPORT 325A CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - BIO MED WET SUPPORT 325A CSP	20	2	Recpt						360	250	LO	Equip	1	20	PWR - BIO MED WET 325 HOOD	30
31	--	--	--	--		360	250					LO	Equip	1	20	PWR - BIO MED WET 325 HOOD	32
33	PWR - BIO MED WET 325 SPD SPRAY DRYER (LE-COE-0058)	15	2	Equip				1450	540				Recpt	1	20	REC - BIO MED WET 325 GENERAL	34
35	--	--	--	--						1450	1006		Equip	1	20	PWR - BIO MED WET SUPPORT 325A BSC4 NORTH	36
37	PWR - BIO MED WET 325 SPD SPRAY CHILLING (LE-COE-0058)	15	2	Equip		700	1006						Equip	1	20	PWR - BIO MED WET SUPPORT 325A BSC4 SOUTH	38
39	--	--	--	--				700	1176				Equip	1	20	PWR - BIO MED WET 325 VACUUM PUMP	40
41	PWR - BIO MED WET 325 SPD DEHUMIDIFER (LE-COE-0058)	15	2	Equip						350	360		Recpt	1	20	REC - BIOMED WET 325 LAB GAS MANIFOLDS	42
43	--	--	--	--		350	0						--	1	20	Spare	44
45	REC - BIO MED WET 325 SPD (LE-COE-0058)	20	1	Recpt				180	0				--	1	20	Spare	46
47	PWR - BIO MED WET 325 RO SYSTEM	20	1	Equip	GF					360	0		--	1	20	Spare	48
49	REC - BIO MED WET 325 GENERAL	20	1	Recpt		540	0						--	1	20	Spare	50
51	REC - BIO MED WET SUPPORT 325A GENERAL	20	1	Recpt				900	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	6806 VA		8546 VA		7016 VA							
					Total Amps:	57 A		71 A		59 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	22368 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	17089 VA
Recpt	13320 VA	87.54%	11660 VA	Total Conn. Current:	62 A
Equip	9048 VA	60.00%	5429 VA	Total Est. Demand Current:	47 A

Branch Panel: PP-N-3W-L1

Location: GROWTH/EXP 365 **Supply From:** BD-N-3W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	0						--	1	20	Spare	2
3	--	--	--	--				360	0				--	1	20	Spare	4
5	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt				360	0				--	1	20	Spare	22
23	--	--	--	--						360	0		--	1	20	Spare	24
25	Spare	20	1	--		0	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	26
27	Spare	20	1	--				0	360				--	--	--	--	28
29	Spare	20	1	--						0	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	30
31	Spare	20	1	--		0	360						--	--	--	--	32
33	PWR - RESEARCH LAB 365 HOOD (ALTERNATE)	20	1	Equip	LO			1000	0				--	1	20	Spare	34
35	REC - RESEARCH LAB 365 SPINE (ALTERNATE)	20	1	Recpt	GFI					180	180		Recpt	1	20	REC - FUTURE EXPANSION 365 SPINE (ALTERNATE)	36
37	REC - RESEARCH LAB 367A (ALTERNATE)	20	1	Recpt		720	360						Recpt	1	20	REC - FUTURE EXPANSION 365 SPINE (ALTERNATE)	38
39	REC - RESEARCH LAB 367A BIO SAFETY CABINET (ALTERNATE)	20	1	Recpt				503	540				Recpt	1	20	REC - FUTURE EXPANSION 365 GENERAL (ALTERNATE)	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	REC - RESEARCH LAB 366 EAST SYSTEMS FURNITURE (ALTERNATE)	20	3	Recpt		780	0						--	1	20	Spare	44
45	--	--	--	--				780	0				--	1	20	Spare	46
47	--	--	--	--						780	0		--	1	20	Spare	48
49	REC - RESEARCH LAB 366 WEST SYSTEMS FURNITURE (ALTERNATE)	20	3	Recpt		780	0						--	1	20	Spare	50
51	--	--	--	--				780	0				--	1	20	Spare	52
53	--	--	--	--						780	0		--	1	20	Spare	54
55	REC - RESEARCH LAB 366 EAST SYSTEMS FURNITURE SW. (ALTERNATE)	20	1	Recpt		900	0						--	1	20	Spare	56
57	REC - RESEARCH LAB 366 WEST SYSTEMS FURNITURE SW. (ALTERNATE)	20	1	Recpt				900	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	6780 VA		7023 VA		4800 VA							
					Total Amps:	59 A		61 A		40 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	18603 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	14402 VA
Recpt	17603 VA	78.40%	13802 VA	Total Conn. Current:	52 A
Equip	1000 VA	60.00%	600 VA	Total Est. Demand Current:	40 A

Branch Panel: PP-N-3W-L2

Location: GROWTH/EXP 365 **Supply From:** BD-N-3W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	2
3	--	--	--	--				360	360				--	--	--	--	4
5	Spare	20	1	--						0	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	6
7	Spare	20	1	--		0	360						--	--	--	--	8
9	Spare	20	1	--				0	360				Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	10
11	Spare	20	1	--						0	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	34
35	--	--	--	--						360	360		--	--	--	--	36
37	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 365 CSP (ALTERNATE)	38
39	--	--	--	--				360	360				--	--	--	--	40
41	REC - FUTURE EXPANSION 365 GENERAL (ALTERNATE)	20	1	Recpt						360	0		--	1	20	Spare	42
43	REC - RESEARCH LAB 367 <RFG> RF FIELD GEN PWR/COOL (LE-COE-0120-3)	20	1	Equip		708	0						--	1	20	Spare	44
45	REC - NANO MATERIALS 335 <RFG> RF FIELD GEN PWR/COOL (LE-COE-0120-3)	20	1	Equip				1700	0				--	1	20	Spare	46
47	REC - RESEARCH LAB 367 RO WATER (ALTERNATE)	20	1	Recpt	GFI					360	0		--	1	20	Spare	48
49	REC - FUTURE EXPANSION 365 SPINE (ALTERNATE)	20	1	Recpt		360	0						--	1	20	Spare	50
51	REC - FUTURE EXPANSION 365 SPINE (ALTERNATE)	20	1	Recpt				180	0				--	1	20	Spare	52
53	REC - RESEARCH LAB 367 (ALTERNATE)	20	1	Recpt						360	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5748 VA		6560 VA		4680 VA							
					Total Amps:	49 A		56 A		39 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	16988 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	13735 VA
Recpt	14580 VA	84.29%	12290 VA	Total Conn. Current:	47 A
Equip	2408 VA	60.00%	1445 VA	Total Est. Demand Current:	38 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

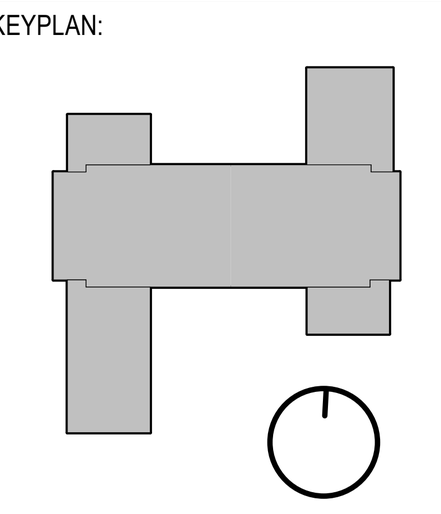
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.

ELECTRICAL

TITLE:

THIRD FLOOR PANELBOARD SCHEDULES

NUMBER:

E603.3

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-3W-L3

Location: GROWTH/EXP 365 **Supply From:** BD-N-3W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - HUMAN FACT. SUPPORT 375A CSP	20	2	Recpt		360	360						Recpt	2	20	REC - HUMAN FACT. SUPPORT 375A CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - HUMAN FACT. SUPPORT 375A CSP	20	2	Recpt						360	360		Recpt	2	20	REC - HUMAN FACT. SUPPORT 375A CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	PWR - HUMAN FACT. SUPPORT 37B DSIM (LE-MIS-0066)	20	1	Equip				997	360				Recpt	2	20	REC - HUMAN FACT. SUPPORT 375B CSP	10
11	Spare	20	1	--						0	360		--	--	--	--	12
13	REC - HUMAN FACTORS 370 WEST SYSTEMS FURNITURE	20	3	Recpt		780	360						Recpt	2	20	REC - HUMAN FACT. SUPPORT 375B CSP	14
15	--	--	--	--				780	360				--	--	--	--	16
17	--	--	--	--						780	720		Recpt	1	20	REC - HUMAN FACTORS 375, 375A, 375B GENERAL	18
19	REC - HUMAN FACTORS 370 EAST SYSTEMS FURNITURE	20	3	Recpt		780	720						Recpt	1	20	REC - HUMAN FACTORS 375 WALL GENERAL	20
21	--	--	--	--				780	720				Recpt	1	20	REC - HUMAN FACT. SUPPORT 375B GENERAL	22
23	--	--	--	--						780	720		Recpt	1	20	REC - HUMAN FACT. SUPPORT 375B GENERAL	24
25	REC - HUMAN FACTORS 370 WEST SYSTEMS FURNITURE (SWITCHED)	20	1	Recpt		900	0						--	1	20	Spare	26
27	REC - HUMAN FACTORS 370 EAST SYSTEMS FURNITURE (SWITCHED)	20	1	Recpt				900	0				--	1	20	Spare	28
29	REC - HUMAN FACTORS 375 SPINE	20	1	Recpt						360	0		--	1	20	Spare	30
31	REC - HUMAN FACTORS 375 SPINE	20	1	Recpt		360	0						--	1	20	Spare	32
33	REC - HUMAN FACTORS 375 SPINE	20	1	Recpt				360	0				--	1	20	Spare	34
35	REC - HUMAN FACTORS 375 SPINE	20	1	Recpt						360	0		--	1	20	Spare	36
37	REC - HUMAN FACTORS 375 SPINE	20	1	Recpt		180	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5520 VA		5977 VA		4800 VA							
					Total Amps:	47 A		51 A		40 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	16297 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	13248 VA
Recpt	15300 VA	82.68%	12650 VA	Total Conn. Current:	45 A
Equip	997 VA	60.00%	598 VA	Total Est. Demand Current:	37 A

Branch Panel: PP-N-3W-L4

Location: BIO MED DRY 380 **Supply From:** BD-N-3W-L **Enclosure:** Type 1
Mounting: Recessed **Sections:** 1 **ISC Rating:** 10,000A
Voltage: 120/208 Wye **Phases:** 3 **Wires:** 4
Bus Rating: 225A **MLO/MCB** MLO **MCB Rating:** -
Aux Gutter: - **Double Lugged:** - **Feed Thru Lug:** -
Neutral Bus: X **Ground Bus:** X **Isolated Grn Bus:** -
Neutral Rating: 100%

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - BIOMED DRY 380 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - BIOMED DRY 380 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - BIOMED DRY 380 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - BIOMED DRY 380 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - BIOMED DRY 380 CSP	20	2	Recpt	GF			360	360			GF	Recpt	2	20	REC - BIOMED DRY 380 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - BIOMED DRY 380 CSP	20	2	Recpt	GF	360	360					GF	Recpt	2	20	REC - BIOMED DRY 380 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - BIOMED DRY 380 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - BIOMED DRY 380 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - BIOMED DRY 380 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - BIOMED DRY 380 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - BIOMED DRY 380 GENERAL	20	1	Recpt		900	0						--	1	20	Spare	26
27	REC - BIOMED DRY 380 SPINE	20	1	Recpt				180	0				--	1	20	Spare	28
29	REC - BIOMED DRY SUPPORT 380A/B GENERAL	20	1	Recpt	GF					360	0		--	1	20	Spare	30
31	REC - BIOMED DRY SUPPORT 380A WALL	20	1	Recpt	GF	720	0						--	1	20	Spare	32
33	REC - BIOMED DRY SUPPORT 380A WALL	20	1	Recpt	GF			720	0				--	1	20	Spare	34
35	REC - BIOMED DRY SUPPORT 380B WALL	20	1	Recpt	GF					720	0		--	1	20	Spare	36
37	REC - BIOMED DRY SUPPORT 380B WALL	20	1	Recpt	GF	720	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	5220 VA		3780 VA		3960 VA							
					Total Amps:	44 A		32 A		33 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	12960 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	11480 VA
Recpt	12960 VA	88.58%	11480 VA	Total Conn. Current:	36 A
Equip	0 VA	0.00%	0 VA	Total Est. Demand Current:	32 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

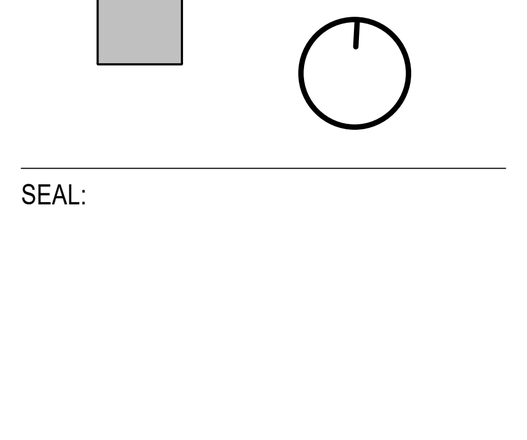
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

04/17/18	ISSUE NO. 15
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.

ELECTRICAL

TITLE:

THIRD FLOOR PANELBOARD SCHEDULES

NUMBER:

E603.4

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: DP-N-4E

Location: ELECTRICAL 400E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 400A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-E | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 65,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	30992						HVAC; Recpt; Equip	3	250	PANEL PP-N-4E-1 VIA XFMR TX-N-4E	38
39	Unusable Space	--	--	--				0	29917				--	--	--	--	40
41	Unusable Space	--	--	--						0	30024		--	--	--	--	42
					Total Load:	30992 VA		29917 VA		30024 VA							
					Total Amps:	112 A		108 A		108 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	90932 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	51679 VA
Recpt	84420 VA	55.92%	47210 VA	**Total Conn. Current:**	109 A
Equip	4266 VA	60.00%	2560 VA	**Total Est. Demand Current:**	62 A

Branch Panel: DP-N-4W

Location: ELECTRICAL 400E1 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 400A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: BD-N-W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 42,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Space	--	--	--		0	0						--	--	--	Space	2
3	Space	--	--	--				0	0				--	--	--	Space	4
5	Space	--	--	--						0	0		--	--	--	Space	6
7	Space	--	--	--		0	0						--	--	--	Space	8
9	Space	--	--	--				0	0				--	--	--	Space	10
11	Space	--	--	--						0	0		--	--	--	Space	12
13	Space	--	--	--		0	0						--	--	--	Space	14
15	Space	--	--	--				0	0				--	--	--	Space	16
17	Space	--	--	--						0	0		--	--	--	Space	18
19	Space	--	--	--		0	0						--	--	--	Space	20
21	Space	--	--	--				0	0				--	--	--	Space	22
23	Space	--	--	--						0	0		--	--	--	Space	24
25	Space	--	--	--		0	0						--	--	--	Space	26
27	Space	--	--	--				0	0				--	--	--	Space	28
29	Space	--	--	--						0	0		--	--	--	Space	30
31	Space	--	--	--		0	0						--	--	--	Space	32
33	Space	--	--	--				0	0				--	--	--	Space	34
35	Space	--	--	--						0	0		--	--	--	Space	36
37	Unusable Space	--	--	--		0	33453						HVAC; Other; Recpt; Equip	3	250	PANEL PP-N-4W-1 VIA XFMR TX-N-4W	38
39	Unusable Space	--	--	--				0	30338				--	--	--	--	40
41	Unusable Space	--	--	--						0	29852		--	--	--	--	42
					Total Load:	33453 VA		30338 VA		29852 VA							
					Total Amps:	121 A		110 A		108 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	93642 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	54079 VA
Recpt	83880 VA	55.96%	46940 VA	**Total Conn. Current:**	113 A
Equip	5716 VA	60.00%	3430 VA	**Total Est. Demand Current:**	65 A

Branch Panel: LP-N-4E

Location: ELECTRICAL 400E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 225A | **Aux Gutter:** X | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: SS-N-M | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 42,000A | **Wires:** 4 | **MCB Rating:** 100A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - MECHANICAL FLOOR EAST	20	1	Light		2668	2355						Light	1	20	LTG - MECHANICAL FLOOR WEST	2
3	LTG - SOUTHWEST WING	20	1	Light				3025	3514				Light	1	20	LTG - EAST WING	4
5	LTG - NORTHWEST LAB SPACE	20	1	Light						3845	2563		Light	1	20	LTG - NORTHEAST LAB SPACE	6
7	LTG - SOUTHWEST LAB SPACE	20	1	Light		3845	2563						Light	1	20	LTG - SOUTHEAST LAB SPACE	8
9	LTG - NORTH CORRIDOR	20	1	Light				2839	2815				Light	1	20	LTG - SOUTH CORRIDOR	10
11	LTG - DEPARTMENT CHAIR SUITE	20	1	Light						2103	0		--	1	20	Spare	12
13							0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	11431 VA		12193 VA		8511 VA							
					Total Amps:	43 A		46 A		31 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	32312 VA
Light	32312 VA	125.00%	40390 VA	**Total Est. Demand:**	40390 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	39 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	49 A

Branch Panel: PP-N-4E-1

Location: ELECTRICAL 400E2 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-N-4E | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 200A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 484, 486, 488 DUPLEX	20	1	Recpt		1080	1000						Equip	1	20	PWR - PANTRY 481 COUNTER	2
3	REC - OFFICE 484, 486, 488 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 481 COUNTER	4
5	REC - OFFICE 490, 492 DUPLEX	20	1	Recpt						720	180		Recpt	1	20	PWR - PANTRY 481 COUNTER	6
7	REC - OFFICE 490, 492 QUAD	20	1	Recpt		720	800					GF	Equip	1	20	PWR - PANTRY 481 REFRIGERATOR	8
9	REC - OFFICE 485, 487 DUPLEX	20	1	Recpt				900	360				Recpt	1	20	PWR - PANTRY 481 GENERAL/CASEWORK	10
11	REC - OFFICE 485, 487 QUAD	20	1	Recpt						1080	0		--	1	20	Spare	12
13	REC - OFFICE 489, 491, 493 DUPLEX	20	1	Recpt		1080	720						Recpt	3	20	REC - OPEN OFFICE 496 SYS. FURNITURE	14
15	REC - OFFICE 489, 491, 493 QUAD	20	1	Recpt				1080	720				--	--	--	--	16
17	REC - CONF. ROOM 494 WALL	20	1	Recpt						900	720		--	--	--	--	18
19	REC - CONF. ROOM 494, CIRC. 4C5 FLOOR	20	1	Recpt		540	900						Recpt	3	20	REC - COMP. LAB 450 SYS. FURNITURE	20
21	REC - CIRC. 4C3 NORTHEAST, 4C5	20	1	Recpt				720	900				--	--	--	--	22
23	REC - CIRC. 4C3 EAST, SOUTHEAST	20	1	Recpt						540	900		--	--	--	--	24
25	Spare	20	1	--		0	900						Recpt	3	20	REC - COMP. LAB 450 SYS. FURNITURE	26
27	REC - ELEC 4E2, TELEDATA 4TC2, PIPE 4PC1, VESTIBULE 4V1, RESTROOM 4T4	20	1	Recpt; Equip				915	900				--	--	--	--	28
29	HVAC - CIRCULATION 400C2	15	2	HVAC						562	900		--	--	--	--	30
31	--	--	--	--		562	900						Recpt	3	20	REC - COMP. LAB 445 SYS. FURNITURE	32
33	HVAC - CIRCULATION 400C2	15	2	HVAC				562	900				--	--	--	--	34
35	--	--	--	--						562	900		--	--	--	--	36
37	Spare	20	1	--		0	900						Recpt	3	20	REC - COMP. LAB 445 SYS. FURNITURE	38
39	Spare	20	1	--				0	900				--	--	--	--	40
41	Spare	20	1	--						0	900		--	--	--	--	42
43	Spare	20	1	--		0	720						Recpt	1	20	REC - OPEN OFFICE 496 SYS. FURNITURE (SWITCHED)	44
45	Spare	20	1	--				0	900				Recpt	1	20	REC - COMP. LAB 450 SYS. FURNITURE (SWITCHED)	46
47	Spare	20	1	--						0	900		Recpt	1	20	REC - COMP. LAB 450 SYS. FURNITURE (SWITCHED)	48
49	Spare	20	1	--		0	900						Recpt	1	20	REC - COMP. LAB 445 SYS. FURNITURE (SWITCHED)	50
51	Spare	20	1	--				0	900				Recpt	1	20	REC - COMP. LAB 445 SYS. FURNITURE (SWITCHED)	52
53	Spare	20	1	--						0	1400	LK	Equip	1	20	PWR - RESTROOM 400T4 HAND DRYER	54
55	Spare	20	1	--		0	50						Equip	1	20	PWR - FAUCET/FLUSH VALVES RESTROOM 4T4	56
57	Spare	20	1	--				0	360			LO	Recpt	1	20	REC - CIRCULATION 4C5 WALL	58
59	Spare	20	1	--						0	681	LK	Recpt; Equip	1	20	PWR - ROOF TERRACE 482 DOOR OPERATOR	60
61	Spare	20	1	--		0	500					LO	Equip	1	20	PWR - ELECTRICAL 400E2 LCP-4E	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	12272 VA		12277 VA		11844 VA							
					Total Amps:	103 A		103 A		99 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	36392 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	24409 VA
Recpt	29880 VA	66.73%	19940 VA	**Total Conn. Current:**	101 A
Equip	4266 VA	60.00%	2560 VA	**Total Est. Demand Current:**	68 A

Branch Panel: PP-N-4W-1

Location: ELECTRICAL 400E1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-N-4W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 200A | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - OFFICE 402, 404, 406 DUPLEX	20	1	Recpt		1080	500						Equip	1	20	PWR - PANTRY 424 COUNTER	2
3	REC - OFFICE 402, 404, 406 QUAD	20	1	Recpt				1080	180				Recpt	1	20	PWR - PANTRY 424 COUNTER	4
5	REC - OFFICE 408, 410, 412 DUPLEX	20	1	Recpt						1080	180		Recpt	1	20	PWR - PANTRY 424 COUNTER	6
7	REC - OFFICE 408, 410, 412 QUAD	20	1	Recpt		1080	180						Recpt	1	20	PWR - PANTRY 424 COUNTER	8
9	REC - OFFICE 414, 416, 418 DUPLEX	20	1	Recpt				1260	800			GF	Equip	1	20	PWR - PANTRY 424 REFRIGERATOR	10
11	REC - OFFICE 414, 416, 418 QUAD	20	1	Recpt						1440	360		Recpt	1	20	REC - PANTRY 424 GENERAL/CASEWORK	12
13	REC - OFFICE 403, 405, 407 DUPLEX	20	1	Recpt		1080	1080						Recpt	1	20	REC - WOMEN'S 4T1, MEN'S 4T2, LACT. 4T3, ELEC 4E1, TELEDATA 4TC1	14
15	REC - OFFICE 403, 405, 407 QUAD	20	1	Recpt				1080	375				Recpt; Equip	1	20	REC - JANITORS CLOSET 4J1 + TRAP PRIMER TP-1	16
17	REC - OFFICE 409, 411, 413 DUPLEX	20	1	Recpt						1080	600	GF	Equip	1	20	PWR - ELEV LOBBY 400C1 WATER COOLER EWC-1	18
19	REC - OFFICE 409, 411, 413 QUAD	20	1	Recpt		1080	1400					LK	Equip	1	20	PWR - WOMEN'S 4T1 HAND DRYER	20
21	REC - OFFICE 415, 417, 419 DUPLEX	20	1	Recpt				1080	1400			LK	Equip	1	20	PWR - MEN'S 4T2 HAND DRYER	22
23	REC - OFFICE 415, 417, 419 QUAD	20	1	Recpt						1080	1080		Recpt	1	20	REC - CONF. ROOM 462, 464 FLOOR	24
25	REC - CONF. ROOM 401 WALL	20	1	Recpt		900	1260						Recpt	1	20	REC - CONF. ROOM 462, 464 WALL	26
27	REC - CONF. ROOM 401, CIRC. 4C4 FLOOR	20	1	Recpt				720	0				--	1	20	Spare	28
29	REC - CIRC. 4C4, 4C3 SOUTHEAST	20	1	Recpt						900	1440		Recpt	3	20	REC - OPEN OFFICE 420 SYS. FURNITURE	30
31	PWR - ROOF TERRACE 423 DOOR OPERATOR	20	1	Recpt; Equip	LK	681	1440						--	--	--	--	32
33	REC - CIRC. 4C3 EAST, NORTHWEST	20	1	Recpt				540	1440				--	--	--	--	34
35	REC - CONFERENCE ROOM 463. OFFICE 460B DUPLEX	20	1	Recpt						900	1440		Recpt	1	20	REC - OPEN OFFICE 420 SYS. FURNITURE (SWITCHED)	36
37	REC - DEPT. CHAIR OFFICE 460B WALL DUPLEX (SWITCHED)	20	1	Recpt		720	0						--	1	20	Spare	38
39	REC - CONFERENCE ROOM 463, 460 DUPLEX	20	1	Recpt				540	0				--	1	20	Spare	40
41	REC - CONFERENCE ROOM 463 DUPLEX	20	1	Recpt						540	250		Equip	1	20	PWR - FLUSH VALVE WOMEN'S 4T1, MEN'S 4T2	42
43	REC - CENTER FOR ENTREPRENEURSHIP 460 POKE THRU	20	1	Other		1080	250						Equip	1	20	PWR - FAUCET VALVE WOMEN'S 4T1, MEN'S 4T2	44
45	REC - DEPARTMENT CHAIR OFFICE 460C	20	1	Other				720	562				HVAC	2	15	HVAC - ELEVATOR LOBBY 400C1 FCU-4E1	46
47	REC - CENTER FOR ENTREPRENEURSHIP 460 DUPLEX	20	1	Recpt						900	562		--	--	--	--	48
49	REC - DEPT. CHAIR SUITE 460 FLOOR	20	1	Recpt		180	562						HVAC	2	15	HVAC - ELEVATOR LOBBY 400C1 FCU-4TC1	50
51	Spare	20	1	--				0	562				--	--	--	--	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	REC - DEPT. CHAIR SUITE 460 SYS. FURNITURE	20	3	Recpt		720	0						--	1	20	Spare	56
57	--	--	--	--				720	0				--	1	20	Spare	58
59	--	--	--	--						720	0		--	1	20	Spare	60
61	REC - DEPT. CHAIR SUITE 460 SYS. FURNITURE (SWITCHED)	20	1	Recpt		720	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	15993 VA		13058 VA		14552 VA							
					Total Amps:	135 A		109 A		123 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	2246 VA	85.00%	1909 VA	**Total Conn. Load:**	43602 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	29059 VA
Recpt	33840 VA	64.78%	21920 VA	**Total Conn. Current:**	121 A
Equip	5716 VA	60.00%	3430 VA	**Total Est. Demand Current:**	81 A

Branch Panel: LP-ELS-4E

Location: ELECTRICAL 400E2 | **Mounting:** Surface | **Voltage:** 480/277 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: SS-N-M | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 14,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** X | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	LTG - AHU 1A/1B	20	1	Light		400	616						Light	1	20	LTG - FOURTH AND MECHANICAL FLOOR STAIRS	2
3	LTG - AHU 2A/2B	20	1	Light				400	95				Light	1	20	LTG - MECHANICAL FLOOR EXIT SIGNS	4
5	LTG - MECHANICAL FLOOR OUTSIDE LIGHTS	20	1	Light						237	144		Light	1	20	LTG - FOURTH FLOOR EXIT SIGNS	6
7	EM LTG - MECHANICAL FLOOR	20	1	Light		1611	2448						Light	1	20	EM LTG - FOURTH FLOOR CORRIDORS	8
9	EM LTG - FOURTH FLOOR LAB SPACES	20	1	Light				2136	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	FEED THRU LUG TO PANEL LP-ELS-3E	0	3	Light		8007	0						--	1	20	Spare	38
39	--	--	--	--				8004	0				--	1	20	Spare	40
41	--	--	--	--						6989	0		--	1	20	Spare	42
					Total Load:	13082 VA		10534 VA		7369 VA							
					Total Amps:	49 A		40 A		27 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	31513 VA
Light	31513 VA	125.00%	39391 VA	**Total Est. Demand:**	39391 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	38 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	47 A

Branch Panel: PP-EOS2-4W-1

Location: ELECTRICAL 400E1 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: TX-EOS2-4W | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MCB | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 10,000A | **Wires:** 4 | **MCB Rating:** 100A | **Feed Thru Lug:** X | **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	Spare	20	1	--		0	0						--	1	20	Spare	2
3	PWR - FIRE ALARM NAC ELECTRICAL 4E1 (WEST)	20	1	Equip	FA			1000	0				--	1	20	Spare

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-4E-L1

Location: ROBOTICS 440 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4E-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - ROBOTICS 440 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - ROBOTICS 440 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - ROBOTICS 440 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - ROBOTICS 440 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - ROBOTICS 440 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - ROBOTICS 440 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - ROBOTICS 440 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - ROBOTICS 440 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - ROBOTICS 440 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - ROBOTICS 440 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - ROBOTICS 440 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - ROBOTICS 440 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - ROBOTICS 440 SPINE	20	1	Recpt		360	0						--	1	20	Spare	26
27	REC - ROBOTICS 440 SPINE	20	1	Recpt				360	0				--	1	20	Spare	28
29	REC - ROBOTICS 440 GENERAL	20	1	Recpt						900	0		--	1	20	Spare	30
31	REC - ROBOTICS 440 MOTION CAPTURE TRACK	20	1	Recpt		720	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	3960 VA		3240 VA		3780 VA							
					Total Amps:	34 A		27 A		32 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	10980 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	10490 VA
Recpt	10980 VA	95.54%	10490 VA	Total Conn. Current:	30 A
Equip	0 VA	0.00%	0 VA	Total Est. Demand Current:	29 A

Branch Panel: PP-N-4E-L2

Location: SMART CITIES 430 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4E-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - SMART CITIES 435 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - SMART CITIES 435 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - SMART CITIES 435 CSP	20	2	Recpt						360	360		Recpt	1	20	REC - SMART CITIES 435 CSP	6
7	--	--	--	--		360	360						Recpt	2	20	REC - SMART CITIES 435 CSP	8
9	REC - SMART CITIES 435 CSP	20	2	Recpt				360	360				--	--	--	--	10
11	--	--	--	--						360	360		Recpt	2	20	REC - SMART CITIES 435 CSP	12
13	REC - SMART CITIES 435 CSP	20	2	Recpt		360	360						--	--	--	--	14
15	--	--	--	--				360	360				Recpt	1	20	REC - SMART CITIES 435 CSP	16
17	REC - SMART CITIES 435 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 435 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - SMART CITIES 435 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 435 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - SMART CITIES 435 SPINE	20	1	Recpt		360	180						Recpt	1	20	REC - SMART CITIES 435 CSP	26
27	REC - SMART CITIES 435 SPINE	20	1	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 435 CSP	28
29	REC - SMART CITIES 435 SPINE	20	1	Recpt						360	360		--	--	--	--	30
31	REC - SMART CITIES 435 SPINE	20	1	Recpt		360	0						--	1	20	Spare	32
33	REC - SMART CITIES 435 SPINE	20	1	Recpt				180	0				--	1	20	Spare	34
35	REC - SMART CITIES 435 NORTH GENERAL	20	1	Recpt						540	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	3780 VA		3780 VA		4140 VA							
					Total Amps:	32 A		32 A		35 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	11700 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	10850 VA
Recpt	11700 VA	92.74%	10850 VA	Total Conn. Current:	32 A
Equip	0 VA	0.00%	0 VA	Total Est. Demand Current:	30 A

Branch Panel: PP-N-4E-L3

Location: SMART CITIES 430 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4E-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - SMART CITIES 430A CSP	20	2	Recpt		360	360						Recpt	2	20	REC - SMART CITIES 430A CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - SMART CITIES 430A CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 430A CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - SMART CITIES 430 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 430 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - SMART CITIES 430 CSP	20	2	Recpt		360	360						Recpt	1	20	REC - SMART CITIES 430 CSP	14
15	--	--	--	--				360	360				Recpt	2	20	REC - SMART CITIES 430 CSP	16
17	REC - SMART CITIES 430 CSP	20	2	Recpt						360	360		--	--	--	--	18
19	--	--	--	--		360	360						Recpt	2	20	REC - SMART CITIES 430 CSP	20
21	REC - SMART CITIES 430 CSP	20	2	Recpt				360	360				--	--	--	--	22
23	--	--	--	--						360	360		Recpt	1	20	REC - SMART CITIES 430 CSP	24
25	REC - SMART CITIES 430 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - SMART CITIES 430 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - SMART CITIES 430 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 430 CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - SMART CITIES 430 CSP	20	2	Recpt				360	360				Recpt	1	20	REC - SMART CITIES 430 CSP	34
35	--	--	--	--						360	360		Recpt	2	20	REC - SMART CITIES 430 CSP	36
37	REC - SMART CITIES 430 CSP	20	2	Recpt		360	360						--	--	--	--	38
39	--	--	--	--				360	360				Recpt	2	20	REC - SMART CITIES 430 CSP	40
41	REC - SMART CITIES 430 SPINE	20	1	Recpt						360	360		--	--	--	--	42
43	REC - SMART CITIES 430 SPINE	20	1	Recpt		360	360						Recpt	1	20	REC - SMART CITIES 430 CSP	44
45	REC - SMART CITIES 430 SPINE	20	1	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 430 CSP	46
47	REC - SMART CITIES 430 SPINE	20	1	Recpt						360	360		--	--	--	--	48
49	REC - SMART CITIES 430 SPINE	20	1	Recpt		360	0						--	1	20	Spare	50
51	REC - SMART CITIES 430 SPINE	20	1	Recpt				180	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	6120 VA		5940 VA		5760 VA							
					Total Amps:	51 A		50 A		48 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	17820 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	13910 VA
Recpt	17820 VA	78.06%	13910 VA	Total Conn. Current:	49 A
Equip	0 VA	0.00%	0 VA	Total Est. Demand Current:	39 A

Branch Panel: PP-EOS2-4E-TD

Location: TELE DATA 400TC2 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** X **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS2-E-TD **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 50A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - TELE / DATA 400TC2 IDF (EAST)	20	2	Equip		1040	0						--	1	20	Spare	2
3	--	--	--	--				1040	0				--	1	20	Spare	4
5	PWR - TELE / DATA 400TC2 IDF (EAST)	20	2	Equip						1040	0		--	1	20	Spare	6
7	--	--	--	--		1040	0						--	1	20	Spare	8
9	PWR - TELE / DATA 400TC2 IDF (EAST)	20	1	Equip				1200	0				--	1	20	Spare	10
11	Spare	20	1	--						0	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	2080 VA		2240 VA		1040 VA							
					Total Amps:	19 A		20 A		9 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	5360 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	3216 VA
Recpt	0 VA	0.00%	0 VA	Total Conn. Current:	15 A
Equip	5360 VA	60.00%	3216 VA	Total Est. Demand Current:	9 A

Branch Panel: PP-EOS2-4W-TD

Location: TELE DATA 400TC1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** X **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS2-W-TD **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 50A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1							0						--	1	20	Spare	2
3	PWR - TELE / DATA 400TC1 IDF (WEST)	20	2	Equip				1040	0				--	1	20	Spare	4
5	--	--	--	--						1040	0		--	1	20	Spare	6
7	PWR - TELE / DATA 400TC1 IDF (WEST)	20	2	Equip		1040	0						--	1	20	Spare	8
9	--	--	--	--				1040	0				--	1	20	Spare	10
11	PWR - TELE / DATA 400TC1 IDF (WEST)	20	1	Equip						1200	0		--	1	20	Spare	12
13	Spare	20	1	--		0	0						--	1	20	Spare	14
15	Spare	20	1	--				0	0				--	1	20	Spare	16
17	Spare	20	1	--						0	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	1040 VA		2080 VA		2240 VA							
					Total Amps:	9 A		19 A		20 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	Total Conn. Load:	5360 VA
Light	0 VA	0.00%	0 VA	Total Est. Demand:	3216 VA
Recpt	0 VA	0.00%	0 VA	Total Conn. Current:	15 A
Equip	5360 VA	60.00%	3216 VA	Total Est. Demand Current:	9 A

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

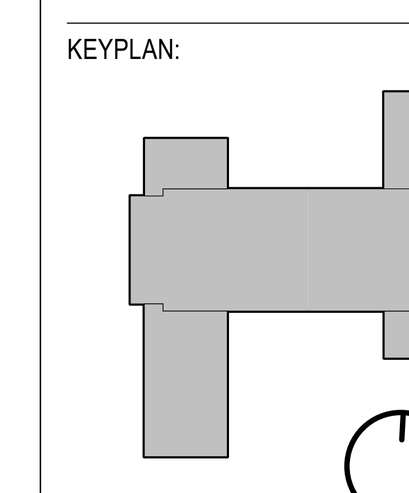
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.

ELECTRICAL

TITLE:

FOURTH FLOOR PANELBOARD SCHEDULES

NUMBER:

E604.2

PANELBOARD NOTES:

- FA - RED LOCK-ON CLAMP
- GFI - GFI BREAKER, 5mA
- GFEP - GFEP BREAKER, 30mA
- HT - HANDLE-TIE
- LO - LOCK-ON CLAMP
- LK - LOCK-OFF CLAMP
- SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-4E-L4

Location: SMART CITIES 425 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4E-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - SMART CITIES 425 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - SMART CITIES 425 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - SMART CITIES 425 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 425 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - SMART CITIES 425 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 425 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - SMART CITIES 425 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - SMART CITIES 425 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - SMART CITIES 425 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 425 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - SMART CITIES 425 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - SMART CITIES 425 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - SMART CITIES 425A CSP	20	2	Recpt	GF	360	360						Recpt	2	20	REC - SMART CITIES 425A CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - SMART CITIES 425A CSP	20	2	Recpt						360	360		Recpt	2	20	REC - SMART CITIES 425A CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - SMART CITIES 425 AIR TABLE	20	1	Recpt				720	0				--	1	20	Spare	34
35	REC - SMART CITIES 425 GENERAL	20	1	Recpt						540	0		--	1	20	Spare	36
37	REC - SMART CITIES 425 SPINE	20	1	Recpt		360	0						--	1	20	Spare	38
39	REC - SMART CITIES 425 SPINE	20	1	Recpt				360	0				--	1	20	Spare	40
41	REC - SMART CITIES 425 SPINE	20	1	Recpt						360	0		--	1	20	Spare	42
43	REC - SMART CITIES 425 SPINE	20	1	Recpt		180	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	4860 VA		4680 VA		4500 VA							
					Total Amps:	41 A		39 A		38 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	14040 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	12020 VA
Recpt	14040 VA	85.61%	12020 VA	**Total Conn. Current:**	39 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	33 A

Branch Panel: PP-N-4W-L1

Location: FUTURE EXP 465 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	6
7	--	--	--	--		360	360						--	--	--	--	8
9	Recpt RESEARCH 480A (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	540				Recpt	1	20	REC - FUTURE EXPANSION 465 WEST WALL GENERAL	34
35	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt						180	0		--	1	20	Spare	36
37	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt		360	0						--	1	20	Spare	38
39	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	4680 VA		4860 VA		3780 VA							
					Total Amps:	40 A		42 A		32 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	13320 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	11660 VA
Recpt	13320 VA	87.54%	11660 VA	**Total Conn. Current:**	37 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	32 A

Branch Panel: PP-N-4W-L2

Location: FUTURE EXP 465 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP (ALTERNATE)	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - FUTURE EXPANSION 465 SPINE (ALTERNATE)	20	1	Recpt						360	0		--	1	20	Spare	30
31	REC - FUTURE EXPANSION 465 SPINE (ALTERNATE)	20	1	Recpt		360	0						--	1	20	Spare	32
33	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	0				--	1	20	Spare	34
35	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt						180	0		--	1	20	Spare	36
37	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt		360	0						--	1	20	Spare	38
39	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				180	0				--	1	20	Spare	40
41	REC - FUTURE EXPANSION 465 GENERAL	20	1	Recpt						180	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	4320 VA		4140 VA		3600 VA							
					Total Amps:	37 A		35 A		30 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	12060 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	11030 VA
Recpt	12060 VA	91.46%	11030 VA	**Total Conn. Current:**	33 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	31 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

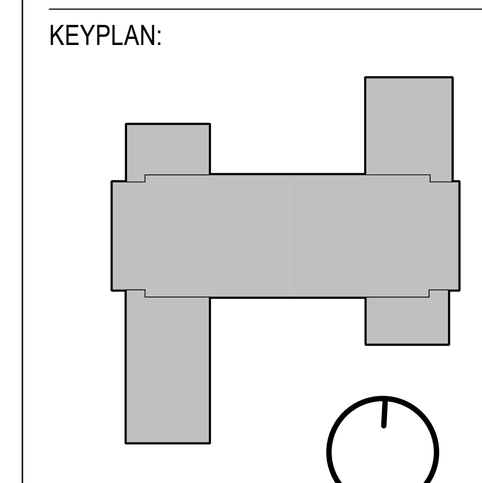
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00
SCALE: N.T.S.

E L E C T R I C A L

TITLE:

FOURTH FLOOR PANELBOARD SCHEDULES

NUMBER:

E604.3

PANELBOARD NOTES:
FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-4W-L3

Location: FUTURE EXP 465 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt						360	0		--	1	20	Spare	30
31	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt		360	0						--	1	20	Spare	32
33	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	0				--	1	20	Spare	34
35	REC - FUTURE EXPANSION 465 GENERAL	20	1	Recpt						180	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	3960 VA		3960 VA		3420 VA							
					Total Amps:	34 A		34 A		29 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	11340 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	10670 VA
Recpt	11340 VA	94.09%	10670 VA	**Total Conn. Current:**	31 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	30 A

Branch Panel: PP-N-4W-L4

Location: FUTURE EXP 465 **Mounting:** Recessed **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: BD-N-4W-L **Sections:** 1 **Phases:** 3 **MLO/MCB** MLO **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** - **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	2
3	--	--	--	--				360	360				--	--	--	--	4
5	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	6
7	--	--	--	--		360	360						--	--	--	--	8
9	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	10
11	--	--	--	--						360	360		--	--	--	--	12
13	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	14
15	--	--	--	--				360	360				--	--	--	--	16
17	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	18
19	--	--	--	--		360	360						--	--	--	--	20
21	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt				360	360				Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	22
23	--	--	--	--						360	360		--	--	--	--	24
25	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt		360	360						Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	26
27	--	--	--	--				360	360				--	--	--	--	28
29	REC - FUTURE EXPANSION 465 CSP	20	2	Recpt						360	360		Recpt	2	20	REC - FUTURE EXPANSION 465 CSP	30
31	--	--	--	--		360	360						--	--	--	--	32
33	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	0				--	1	20	Spare	34
35	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt						360	0		--	1	20	Spare	36
37	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt		180	0						--	1	20	Spare	38
39	REC - FUTURE EXPANSION 465 SPINE	20	1	Recpt				360	0				--	1	20	Spare	40
41	REC - FUTURE EXPANSION 465 GENERAL	20	1	Recpt						540	0		--	1	20	Spare	42
43	Spare	20	1	--		0	0						--	1	20	Spare	44
45	Spare	20	1	--				0	0				--	1	20	Spare	46
47	Spare	20	1	--						0	0		--	1	20	Spare	48
49	Spare	20	1	--		0	0						--	1	20	Spare	50
51	Spare	20	1	--				0	0				--	1	20	Spare	52
53	Spare	20	1	--						0	0		--	1	20	Spare	54
55	Spare	20	1	--		0	0						--	1	20	Spare	56
57	Spare	20	1	--				0	0				--	1	20	Spare	58
59	Spare	20	1	--						0	0		--	1	20	Spare	60
61	Spare	20	1	--		0	0						--	1	20	Spare	62
63	Spare	20	1	--				0	0				--	1	20	Spare	64
65	Spare	20	1	--						0	0		--	1	20	Spare	66
67	Spare	20	1	--		0	0						--	1	20	Spare	68
69	Spare	20	1	--				0	0				--	1	20	Spare	70
71	Spare	20	1	--						0	0		--	1	20	Spare	72
73	Spare	20	1	--		0	0						--	1	20	Spare	74
75	Spare	20	1	--				0	0				--	1	20	Spare	76
77	Spare	20	1	--						0	0		--	1	20	Spare	78
79	Spare	20	1	--		0	0						--	1	20	Spare	80
81	Spare	20	1	--				0	0				--	1	20	Spare	82
83	Spare	20	1	--						0	0		--	1	20	Spare	84
					Total Load:	4500 VA		4320 VA		4500 VA							
					Total Amps:	38 A		36 A		38 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	13320 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	11660 VA
Recpt	13320 VA	87.54%	11660 VA	**Total Conn. Current:**	37 A
Equip	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	32 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17 ISSUE NO. 6
07/31/17 ISSUE NO. 5
DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.

ELECTRICAL

TITLE:

FOURTH FLOOR PANELBOARD SCHEDULES

NUMBER:

E604.4

PANELBOARD NOTES:

FA - RED LOCK-ON CLAMP
GFI - GFI BREAKER, 5mA
GFEP - GFEP BREAKER, 30mA
HT - HANDLE-TIE
LO - LOCK-ON CLAMP
LK - LOCK-OFF CLAMP
SLD - FOR WIRE SIZE, REFER TO SINGLE-LINE DIAGRAM

Branch Panel: PP-N-M

Location: MAIN ELEC RM 500M3 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 100A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-N-M **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	REC - MECHANICAL FLOOR EAST	20	1	Recpt; Equip		390	0						--	1	20	Spare	2
3	REC - MECHANICAL FLOOR MID-NORTH	20	1	Recpt; Equip				1095	0				--	1	20	Spare	4
5	REC - MECHANICAL FLOOR MID-SOUTH	20	1	Recpt						360	0		--	1	20	Spare	6
7	REC - MECHANICAL FLOOR WEST	20	1	Recpt; Equip		1125	0						--	1	20	Spare	8
9	HVAC - CP-1A (AHU-1A)	35	1	HVAC				1656	0				--	1	20	Spare	10
11	HVAC - CP-1B (AHU-1B)	35	1	HVAC						1656	0		--	1	20	Spare	12
13	HVAC - AC-4	20	1	Equip		301	0						--	1	20	Spare	14
15	HVAC - AC-5	20	1	Equip				301	0				--	1	20	Spare	16
17	REC - MAINTENANCE DESK	20	1	Recpt						360	0		--	1	20	Spare	18
19	Spare	20	1	--		0	0						--	1	20	Spare	20
21	Spare	20	1	--				0	0				--	1	20	Spare	22
23	Spare	20	1	--						0	0		--	1	20	Spare	24
25	Spare	20	1	--		0	0						--	1	20	Spare	26
27	Spare	20	1	--				0	0				--	1	20	Spare	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	0				--	1	20	Spare	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	1816 VA		3052 VA		2376 VA							
					Total Amps:	15 A		26 A		21 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3312 VA	85.00%	2815 VA	**Total Conn. Load:**	7244 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	6470 VA
Recpt	3240 VA	100.00%	3240 VA	**Total Conn. Current:**	20 A
Equip	692 VA	60.00%	415 VA	**Total Est. Demand Current:**	18 A

Branch Panel: PP-UPS-M

Location: EM ELEC ROOM 500E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 225A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: UPS-ELR-M **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 175A **Feed Thru Lug:** X **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	PWR - BAS PANEL (MER 500M1 HHWP-2A/B)	20	1	Equip	LO	1000	1200					LO	Equip	1	20	PWR - CIRCULATION 400C3 WON-DOOR (4TH NORTH)	2
3	PWR - BAS PANEL (MER 500M1 AHU-1A)	20	1	Equip	LO			1000	200			LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (MECH. FLOOR EAST)	4
5	PWR - BAS PANEL (MER 500M1 AHU-2A)	20	1	Equip	LO					1000	200	LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (MECH. FLOOR WEST)	6
7	PWR - BAS PANEL (MER 500M1 EF-1A/B/C/D)	20	1	Equip	LO	1000	200					LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (4TH FLOOR EAST)	8
9	PWR - BAS PANEL (MER 500M1 AHU-1B)	20	1	Equip	LO			1000	300			LO	Equip	1	15	PWR - FIRE SMOKE DAMPERS (4TH FLOOR WEST)	10
11	PWR - BAS PANEL (MER 500M1 AHU-2B)	20	1	Equip	LO					1000	0	LO	--	1	20	Spare	12
13	PWR - BAS PANEL (MER 500M1 CTWP-1A/B)	20	1	Equip	LO	1000	0					LO	--	1	20	Spare	14
15	PWR - BAS PANEL (MER 500M1 CT-1A/B)	20	1	Equip	LO			1000	0			LO	--	1	20	Spare	16
17	PWR - BAS PANEL (MER 500M1 CH-1A/B)	20	1	Equip	LO					1000	0	LO	--	1	20	Spare	18
19	PWR - BAS PANEL (MER 500M1 CHWP-2A/B)	20	1	Equip	LO	1000	0					LO	--	1	20	Spare	20
21	PWR - BAS PANEL (MER 500M1 CHWP-1A/B)	20	1	Equip	LO			1000	0			LO	--	1	20	Spare	22
23	Spare	20	1	--	LO					0	0	LO	--	1	20	Spare	24
25	Spare	20	1	--	LO	0	1000					LO	Equip	1	20	PWR - BAS PANEL (4TH NE OFFICE WING)	26
27	Spare	20	1	--	LO			0	1000			LO	Equip	1	20	PWR - BAS PANEL (4TH EAST COMP LAB) (ALTERNATE)	28
29	Spare	20	1	--	LO					0	0	LO	--	1	20	SPARE	30
31	Spare	20	1	--	LO	0	1000					LO	Equip	1	20	PWR - BAS PANEL (4TH SE LAB)	32
33	Spare	20	1	--	LO			0	1000			LO	Equip	1	20	PWR - BAS PANEL (4TH NW LAB) (ALTERNATE)	34
35	Spare	20	1	--	LO					0	1000	LO	Equip	1	20	PWR - BAS PANEL (4TH SW LAB)	36
37	FEED THRU LUG TO PANEL PP-UPS-3E (NO BREAKER)	0	3	Equip		12446	1000					LO	Equip	1	20	PWR - BAS PANEL (4TH SW OFFICE WING)	38
39	--	--	--	--				14396	1000			LO	Equip	1	20	PWR - BAS PANEL (4TH DEPT. SUITE)	40
41	--	--	--	--						12942	0	LO	--	1	20	Spare	42
					Total Load:	20846 VA		21896 VA		17142 VA							
					Total Amps:	178 A		187 A		143 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA	**Total Conn. Load:**	59884 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	35930 VA
Recpt	0 VA	0.00%	0 VA	**Total Conn. Current:**	166 A
Equip	59884 VA	60.00%	35930 VA	**Total Est. Demand Current:**	100 A

Branch Panel: PP-EOS1-M

Location: EM ELEC ROOM 500E1 **Mounting:** Surface **Voltage:** 120/208 Wye **Bus Rating:** 100A **Aux Gutter:** - **Neutral Bus:** X **Neutral Rating:** 100%
Supply From: TX-EOS1-M **Sections:** 1 **Phases:** 3 **MLO/MCB** MCB **Double Lugged:** - **Ground Bus:** X
Enclosure: Type 1 **ISC Rating:** 10,000A **Wires:** 4 **MCB Rating:** 100A **Feed Thru Lug:** - **Isolated Grn Bus:** -

	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	HVAC - MER 500M1 REU-5M3	15	3	HVAC		720	720						Recpt	1	20	REC - AHU1-1A/1B INTERNAL	2
3	--	--	--	--				720	720				Recpt	1	20	REC - AHU-1B/2B INTERNAL	4
5	--	--	--	--						720	1000	GFEP	Equip	1	20	PWR - ROOF WELL WEST DRAIN HEAT TRACE	6
7	HVAC - MER 500M1 REU-5M2	15	3	HVAC		720	1000					GFEP	Equip	1	20	PWR - ROOF WELL WEST DRAIN HEAT TRACE	8
9	--	--	--	--				720	1000			GFEP	Equip	1	20	PWR - ROOF WELL WEST COOLING TOWER PIPING HEAT TRACE	10
11	--	--	--	--						720	1000	GFEP	Equip	1	20	PWR - ROOF WELL WEST COOLING TOWER PIPING HEAT TRACE	12
13	HVAC - WELL 5M4 RCU-5M3	35	3	HVAC		1873	1000					GFEP	Equip	1	20	PWR - ROOF WELL WEST COOLING TOWER PIPING HEAT TRACE	14
15	--	--	--	--				1873	1000			GFEP	Equip	1	20	PWR - ROOF WELL WEST COOLING TOWER PIPING HEAT TRACE	16
17	--	--	--	--						1873	1000	GFEP	Equip	1	20	PWR - ROOF WELL WEST COOLING TOWER PIPING HEAT TRACE	18
19	HVAC - WELL 5M4 RCU-5M2	20	3	HVAC		1249	1000					GFEP	Equip	1	20	PWR - ROOF WELL EAST DRAIN HEAT TRACE	20
21	--	--	--	--				1249	2000			GFEP	Equip	1	20	PWR - ROOF WELL EAST DRAIN HEAT TRACE	22
23	--	--	--	--						1249	540		Recpt	1	20	REC - ELEC ROOMS 500E1/500M3	24
25	Spare	20	1	--		0	400						HVAC	1	20	PWR - EAST UNIT HEATERS	26
27	Spare	20	1	--				0	350				HVAC	1	20	PWR - WEST UNIT HEATERS	28
29	Spare	20	1	--						0	0		--	1	20	Spare	30
31	Spare	20	1	--		0	0						--	1	20	Spare	32
33	Spare	20	1	--				0	480				HVAC	1	20	HVAC - CT-1A/1B HEATER PROBE	34
35	Spare	20	1	--						0	0		--	1	20	Spare	36
37	Spare	20	1	--		0	0						--	1	20	Spare	38
39	Spare	20	1	--				0	0				--	1	20	Spare	40
41	Spare	20	1	--						0	0		--	1	20	Spare	42
					Total Load:	8683 VA		10113 VA		8103 VA							
					Total Amps:	73 A		85 A		68 A							

Comments

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	14919 VA	85.00%	12681 VA	**Total Conn. Load:**	26899 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	20661 VA
Recpt	1980 VA	100.00%	1980 VA	**Total Conn. Current:**	75 A
Equip	10000 VA	60.00%	6000 VA	**Total Est. Demand Current:**	57 A

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

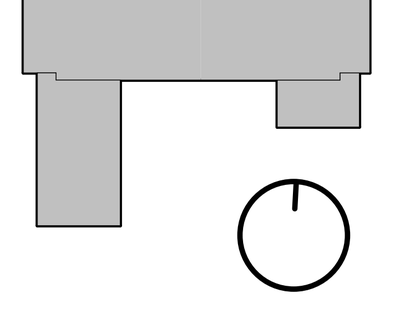
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

D R A W I N G I S S U E

PROJECT: 15085.00
SCALE: N.T.S.

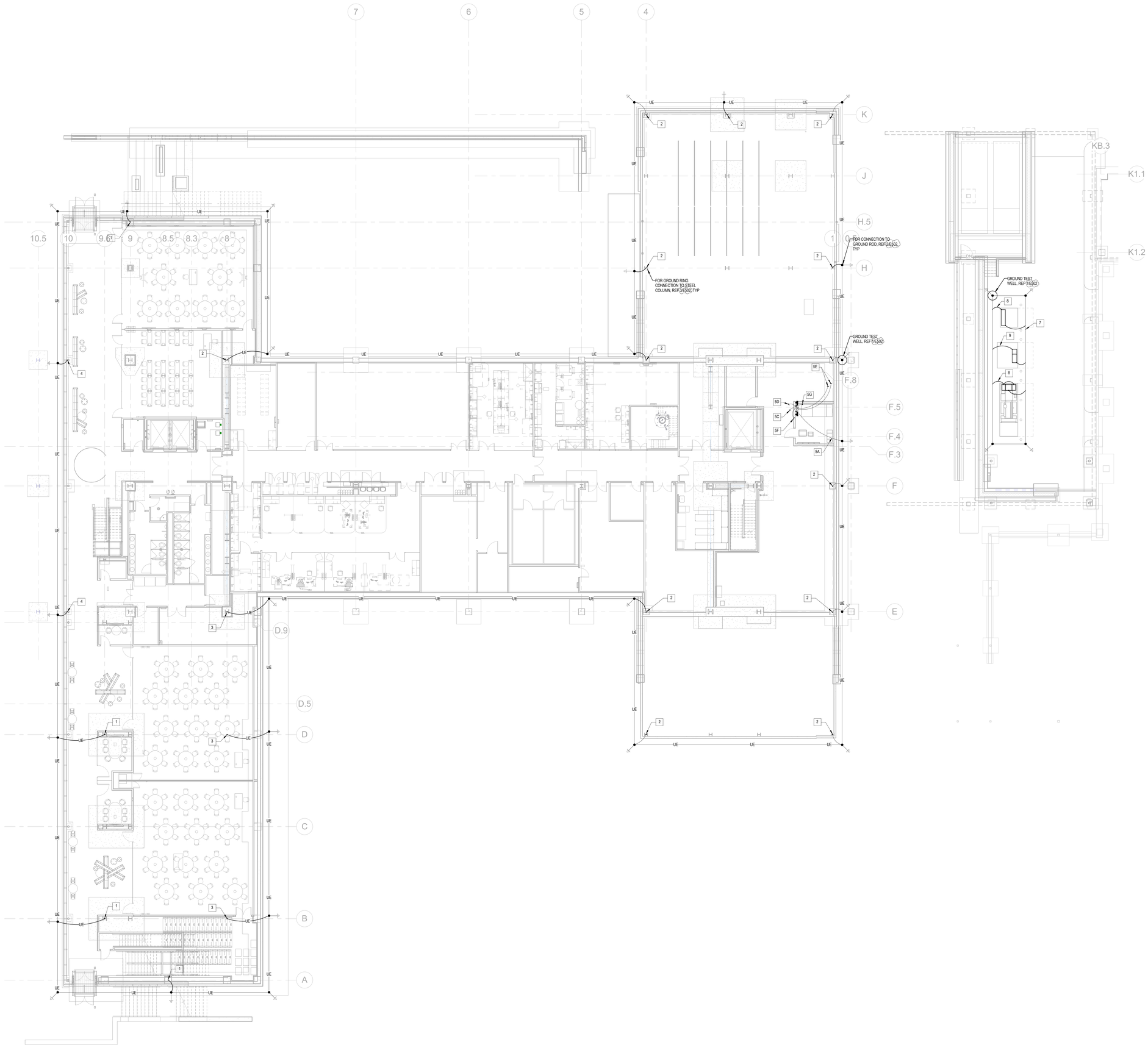
E L E C T R I C A L

TITLE:

MECHANICAL FLOOR PANELBOARD SCHEDULES

NUMBER:

E605.1



3/32" = 1'-0" 1 LOWER LEVEL GROUNDING PLAN

GENERAL GROUNDING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR CONDUIT ROUTING FROM GROUND RING TO COLUMNS, REFER TO SHEETS E100 AND E101.
3. FOR ELECTRICAL/TELE/DATA ROOM GROUNDING REFER TO E200 SHEET SERIES.
4. FOR CONDUIT AND WIRE SIZES, REFER TO SHEET EG301.
5. PROVIDE LIGHTING PROTECTION SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 780, UL96, AND UL96A.
6. PROVIDE UL MASTER LABEL FOR THE LIGHTNING PROTECTION SYSTEM. PROVIDE ALL MATERIALS AND LABOR REQUIRED FOR LIGHTING PROTECTION SYSTEM TO QUALIFY FOR UL MASTER LABEL. THIS DRAWING IS DIAGRAMMATIC AND MAY NOT DEPICT ALL CONNECTIONS REQUIRED FOR LIGHTNING PROTECTION SYSTEM. CONTRACTOR SHALL REVIEW AND COORDINATE WITH ALL DISCIPLINES' DRAWINGS FOR METAL BODIES NOT SHOWN ON THIS DRAWING THAT SHALL BE BONDED TO THE LIGHTING PROTECTION SYSTEM.
7. ALL METAL BODIES SUCH AS METAL FLASHING, LOUVERS, DOOR FRAMES, VENT PIPES, ETC. WITHIN 6' OF CONDUCTORS FOR LIGHTNING PROTECTION SYSTEM SHALL BE BONDED TO THE LIGHTNING PROTECTION SYSTEM.

GROUNDING PLAN KEYED NOTES:

1. ROUTE TO STEEL COLUMN INDICATED ON LOWER LEVEL.
2. ROUTE TO STEEL COLUMN INDICATED ON FIRST FLOOR.
3. ROUTE CONCEALED ABOVE LOWER LEVEL CEILING TO STEEL COLUMN INDICATED ON FIRST FLOOR.
4. ROUTE EXPOSED FROM LOWER LEVEL FLOOR PENETRATION ALONG HIDDEN SIDE OF CONCRETE COLUMN SHOWN UP TO STEEL COLUMN INDICATED ON SECOND FLOOR.
5. CONNECT MAIN ELECTRICAL GROUNDING BUSBAR TO:
   - A: GROUND RING
   - B: NOT USED
   - C: CONCRETE ENCASED ELECTRODE IN BUILDING FOOTER (UFER)
   - D: METAL PIPING
   - E: SPRINKLER AND DOMESTIC WATER SERVICE
   - F: BUILDING STEEL
   - G: MAIN SWITCHBOARD
6. NOT USED.
7. DO NOT CONNECT ELECTRICAL SERVICE YARD GROUND RING TO BUILDING GROUND RING.
8. PROVIDE (2) CONNECTIONS FROM EQUIPMENT TO GROUND RING AS SHOWN.
9. PROVIDE CONNECTION FROM PRIMARY AND SECONDARY TRANSFORMER COMPARTMENTS TO GROUND RING AS SHOWN.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS SHALL BE UNDERSTOOD AND THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. ANY USE OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS. NOR SHALL IT RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: 3/32" = 1'-0"

ELECTRICAL

TITLE:

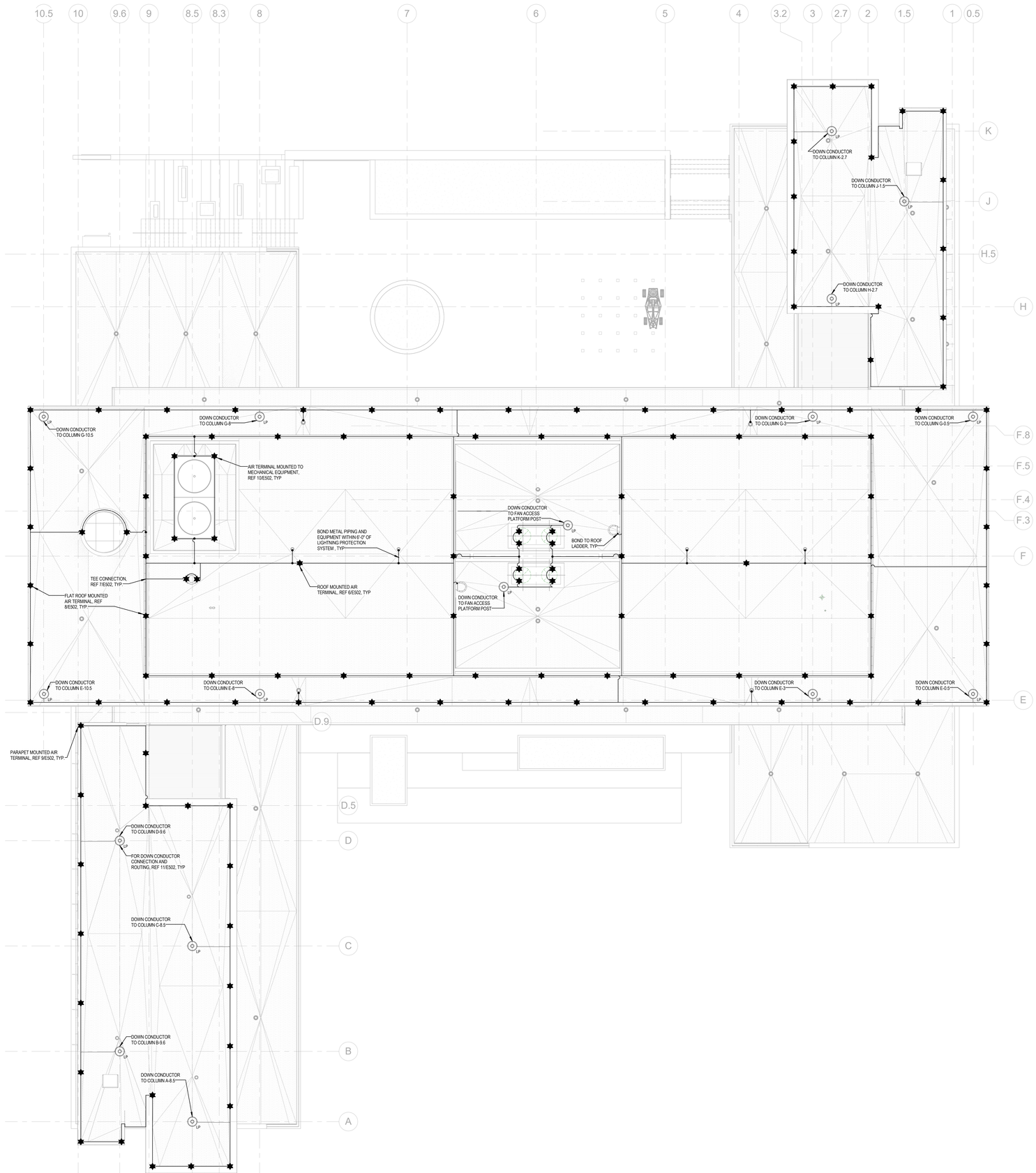
LOWER LEVEL GROUNDING PLAN

NUMBER:

EG100

GENERAL GROUNDING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL GROUNDING PLAN NOTES, REFER TO SHEET EG100.



3/32" = 1'-0" 1 ROOF GROUNDING PLAN

ISSUED FOR CONSTRUCTION- ISSUE NO. 5 - 07/31/17

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORM, THE USE OF AND SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER RIGHTS. ANY USE OF THE INFORMATION CONTAINED ON THE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THE CONTRACTOR AND ITS AID IN THE PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE ACCURACY OF SHOP DRAWINGS. SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/31/17 ISSUE NO. 5
DRAWING ISSUE

PROJECT: 15085.00

SCALE: 3/32" = 1'-0"

ELECTRICAL

TITLE:

ROOF GROUNDING PLAN

NUMBER:

EG106

GROUNDING CONDUCTOR IDENTIFICATION SCHEDULE

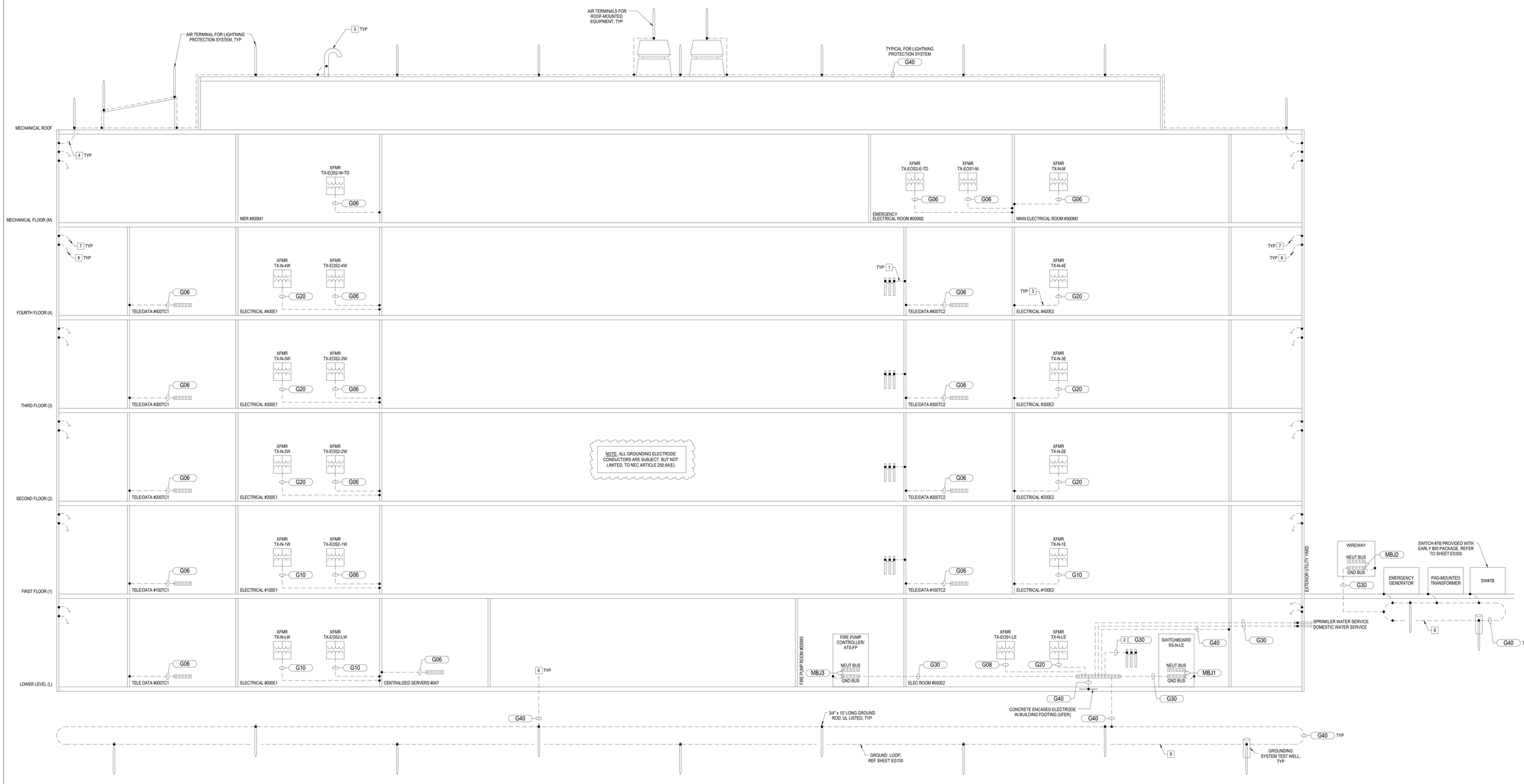
TAG	WIRE (Cu) & CONDUIT
G08	(1)#8, (1) 3/4"C
G06	(1)#6, (1) 3/4"C
G04	(1)#4, (1) 3/4"C
G02	(1)#2, (1) 3/4"C
G10	(1)#1/0, (1) 1"C
G20	(1)#2/0, (1) 1"C
G30	(1)#3/0, (1) 1"C
G40	(1)#4/0, (1) 1"C
MBJ1	(1)#900 KCMIL
MBJ2	(1)#3/0
MBJ3	(1)#8

GENERAL GROUNDING RISER DIAGRAM NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. EXACT QUANTITIES AND LOCATIONS OF AIR TERMINALS, BONDED ROOF-MOUNTED EQUIPMENT, GROUND RODS, AND GROUNDING SYSTEM TEST WELLS ARE NOT NECESSARILY SHOWN ON GROUNDING RISER DIAGRAM. FOR EXACT QUANTITIES AND LOCATIONS, REFER TO SHEETS EG100 AND EG106.

GROUNDING RISER DIAGRAM KEYED NOTES:

1. BOND ALL METAL PIPING TO THE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NEC 250.104(B) AND 250.104(D).
2. BOND ALL METAL PIPING TO THE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NEC 250.104(D).
3. BOND ALL SEPARATELY DERIVED SYSTEMS TO THE GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NEC 250.104(D).
4. BOND LIGHTNING PROTECTION TO BUILDING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF NEC 250.106.
5. BOND METAL PIPES AND ROOF-MOUNTED EQUIPMENT TO LIGHTNING PROTECTION SYSTEM.
6. BOND GROUND RING TO BUILDING STEEL IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 780.
7. BOND METAL MULLIONS TO LIGHTNING PROTECTION SYSTEM. BOND SHALL BE MADE ABOVE CEILING TO CONCEAL THE WORK. PROVIDE A MECHANICAL GROUNDING LUG TO CONNECT THE BONDING JUMPER TO THE MULLION.
8. BOND METAL STUD FRAMING WITHIN 6'-0" OF LIGHTNING PROTECTION SYSTEM. BOND SHALL BE MADE ABOVE CEILING TO CONCEAL THE WORK. PROVIDE A MECHANICAL GROUNDING LUG TO CONNECT THE BONDING JUMPER TO THE METAL STUDS.
9. DO NOT CONNECT GROUND LOOPS TOGETHER.



THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS AND SPECIFICATIONS IS GOVERNED BY THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. ANY REUSE OF THE DRAWINGS AND SPECIFICATIONS OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT TO SUBCONTRACTORS SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMANCE OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

GROUNDING RISER DIAGRAM

NUMBER:

EG301

PANELBOARD NOTES:	
EX -	EXISTING CIRCUIT BREAKER
FA -	RED LOCK-ON CLAMP
GFI -	GFI BREAKER, 5mA
GFEP -	GFEP BREAKER, 30mA
HT -	HANDLE-TIE
LO -	LOCK-ON CLAMP
LK -	LOCK-OFF CLAMP
RE -	REUSE EXISTING CIRCUIT BREAKER
RP -	ROUTE CIRCUIT VIA LIGHTING CONTROL PANEL

Branch Panel: PP-2 (EXISTING)

Location: ELEC RM 113 | **Mounting:** Surface | **Voltage:** 120/208 Wye | **Bus Rating:** 225A | **Aux Gutter:** - | **Neutral Bus:** X | **Neutral Rating:** 100%
Supply From: | **Sections:** 1 | **Phases:** 3 | **MLO/MCB** MLO | **Double Lugged:** - | **Ground Bus:** X
Enclosure: Type 1 | **ISC Rating:** 22,000A | **Wires:** 4 | **MCB Rating:** - | **Feed Thru Lug:** - | **Isolated Grn Bus:** -

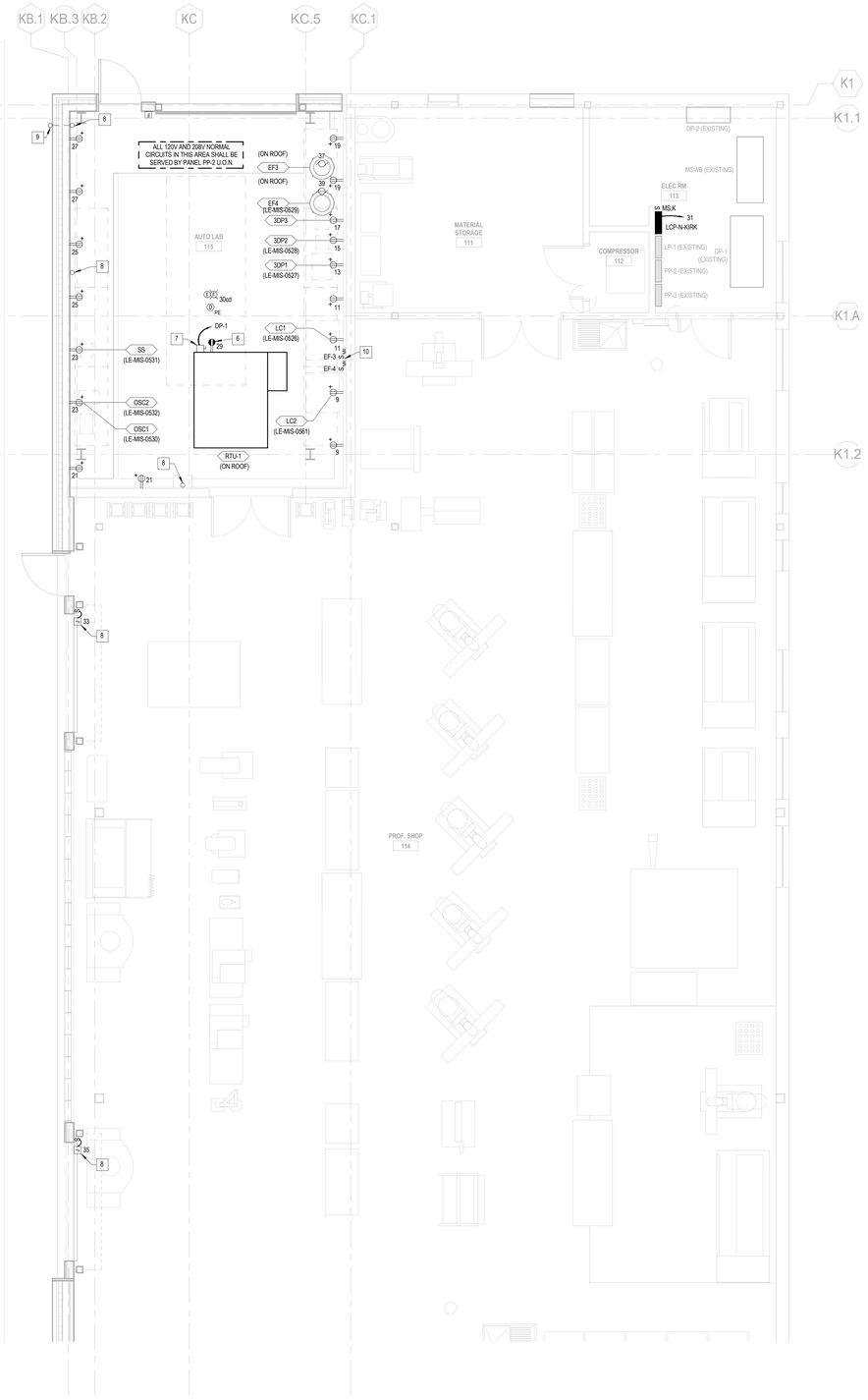
	Circuit Description	Trip Rating	Poles	Load Class	Notes	A		B		C		Notes	Load Class	Poles	Trip Rating	Circuit Description	
1	*TRAP PRIMER RM112 COMPRESSOR*	20	1	Recpt	EX	500	500					EX	Recpt	1	20	*BAS PANEL*	2
3	*LE-MIS-0322*	20	1	Recpt	EX			1920	900			EX	Recpt	1	20	*RECPT ELEC RM 113, MATERIAL STORAGE 111*	4
5	*ELEC RM 113*	20	1	Recpt	EX					900	1800	EX	Equip	1	20	*LE-MIS-0358 EQUIPMENT RM 111*	6
7	*RECPT PROF SHOP SOUTH WALL AND CORRIDOR*	20	1	Equip	EX	540	1080					EX	Other	1	20	*OFFICE REC*	8
9	REC - AUTO LAB <LC2> LASER CUTTER (LE-MIS-0561)	20	1	Recpt; Equip	RE			681	1000			EX	Other	1	20	*BATTERY UNIT*	10
11	REC - AUTO LAB <LC1> LASER CUTTER (LE-MIS-0526)	20	1	Recpt; Equip	RE					681	500	EX	Other	1	20	*FIRE ALARM*	12
13	REC - AUTO LAB <3DP1> 3D PRINTER (LE-MIS-0527)	20	1	Equip	RE	501	90					RE	Equip	1	20	PWR - E ALUMNI TRAFFIC GATE	14
15	REC - AUTO LAB <3DP2> 3D PRINTER (LE-MIS-0528)	20	1	Equip	RE			501	0			EX	--	1	20	*Spare*	16
17	REC - AUTO LAB <3DP3> 3D PRINTER (LE-MIS-0529)	20	1	Equip	RE					501	0	EX	--	1	20	*Spare*	18
19	REC - AUTO LAB	20	1	Recpt	RE	360	0					EX	--	1	20	*Spare*	20
21	REC - AUTO LAB	20	1	Recpt	RE			360	0			EX	--	1	20	*Spare*	22
23	REC - AUTO LAB <OSC1/2> OSCILLOSCOPE, <SS> SOLDER STATION	20	1	Recpt; Equip	RE					1115	0	EX	--	1	20	*Spare*	24
25	REC - AUTO LAB	20	1	Recpt	RE	360	0					EX	--	1	20	*Spare*	26
27	REC - AUTO LAB	20	1	Recpt	RE			360	0			EX	--	1	20	*Spare*	28
29	REC - RTU-1 CONVENIENCE	20	1	Recpt	RE					180	0	EX	--	1	20	*Spare*	30
31	PWR - LIGHTING CONTROL PANEL	20	1	Equip	RE	500	0					EX	--	1	20	*Spare*	32
33	PWR - PROF. SHOP 114 OVERHEAD DOOR (NORTHWEST)	20	1	Equip	RE,LK			696	0			EX	--	1	20	*Spare*	34
35	PWR - PROF. SHOP 114 OVERHEAD DOOR (SOUTHWEST)	20	1	Equip	RE,LK					696	0	EX	--	1	20	*Spare*	36
37	PWR - EF-3	20	1	HVAC	RE	864	0					EX	--	1	20	*Spare*	38
39	PWR - EF-4	20	1	HVAC	RE			864	0			EX	--	1	20	*Spare*	40
41	*Spare*	20	1	--	EX					0	0	EX	--	1	20	*Spare*	42
					Total Load:	5295 VA		7282 VA		6373 VA							
					Total Amps:	44 A		62 A		54 A							

Comments

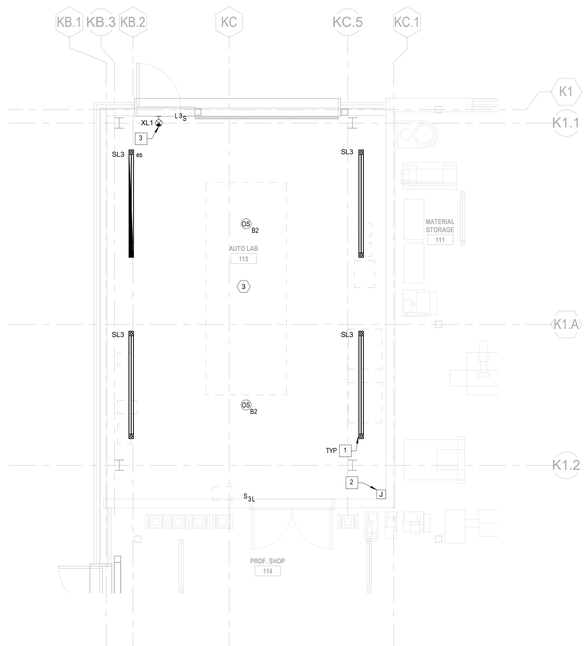
Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	1728 VA	85.00%	1469 VA	**Total Conn. Load:**	18950 VA
Light	0 VA	0.00%	0 VA	**Total Est. Demand:**	15760 VA
Recpt	7314 VA	100.00%	7314 VA	**Total Conn. Current:**	53 A
Equip	7328 VA	60.00%	4397 VA	**Total Est. Demand Current:**	44 A

KIRK HALL EQUIPMENT SCHEDULE

TAG	HILL#	DESCRIPTION	LOCATION	VOLTS	PHASE	AMPS	VA	CONNECTION
LC1	LE-MIS-0526	LASER CUTTER	AUTO LAB 115	120	1	-	501	5
3DP1	LE-MIS-0527	3D PRINTER	AUTO LAB 115	120	1	-	501	5
3DP2	LE-MIS-0528	3D PRINTER	AUTO LAB 115	120	1	-	501	5
3DP3	LE-MIS-0529	3D PRINTER	AUTO LAB 115	120	1	-	501	5
OSC1	LE-MIS-0530	OSCILLOSCOPE	AUTO LAB 115	120	1	-	307	5
SS	LE-MIS-0531	SOLDERING STATION	AUTO LAB 115	120	1	-	501	5
OSC2	LE-MIS-0532	OSCILLOSCOPE	AUTO LAB 115	120	1	-	307	5
LC2	LE-MIS-0561	LASER CUTTER	AUTO LAB 115	120	1	-	501	5



1/4" = 1'-0" 1 KIRK HALL - POWER AND FIRE ALARM PLAN



1/4" = 1'-0" 2 KIRK HALL - LIGHTING PLAN

GENERAL ELECTRICAL PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL POWER PLAN NOTES, LIGHTING PLAN NOTES, AND FIRE ALARM PLAN NOTES, REFER TO SHEET E200.2, EL100, AND EY100.
3. ALL 120V NORMAL CIRCUITS IN THIS AREA SHALL BE SERVED BY PANEL PP-2.
4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT 'AS-BUILT' CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. CAREFULLY COORDINATE WORK WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
5. PROVIDE UPDATED TYPE-WRITTEN PANELBOARD SCHEDULES AT ALL EXISTING PANELBOARDS AFFECTED BY WORK. SCHEDULES SHALL REFLECT AS-BUILT CONDITIONS. TRACE ALL EXISTING CIRCUITS TO VERIFY AND UPDATE SCHEDULES. INDIVIDUAL CIRCUIT DESCRIPTIONS SHALL BE UNIQUE PER ELECTRICAL CODE REQUIREMENTS.
6. CONNECT NEW LIGHTING FIXTURES TO CLOSEST EXISTING LIGHTING CIRCUIT WITH SPARE AMPACITY POWERED BY PANEL 'LP-1'. CONNECT NEW EMERGENCY LIGHTING FIXTURES TO CLOSEST EXISTING EMERGENCY LIGHTING CIRCUIT WITH SPARE AMPACITY POWERED BY PANEL 'EL-K'.

ELECTRICAL PLAN KEYED NOTES:

1. CONNECT TO ADJACENT 120V NORMAL LIGHTING CIRCUIT. EC SHALL VERIFY CIRCUIT CAN ACCOMMODATE ADDITIONAL LOAD PRIOR TO ROUGH-IN.
2. PROVIDE UL924 LISTED AUTOMATIC LOAD CONTROL RELAY (ALCR) AND CONNECT TO ADJACENT 120V LIGHTING CIRCUIT AND 120V EMERGENCY LIGHTING CIRCUIT.
3. CONNECT TO ADJACENT 120V EMERGENCY LIGHTING CIRCUIT . EC SHALL VERIFY CIRCUIT CAN ACCOMMODATE ADDITIONAL LOAD PRIOR TO ROUGH-IN.
4. PHOTOCELL FOR KIRK EXTERIOR AND UTILTY YARD NEW LIGHTING. LOCATE IN UNOBSTRUCTED LOCATION ON ROOF OF KIRK BUILDING FACING NORTH. REFER TO CONTROL DIAGRAM ON SHEET EL301 FOR FURTHER INFORMATION.
5. NOT USED
6. PROVIDE POWER CONNECTION TO FACTORY PROVIDED CONVENIENCE RECEPTACLE ON DIVISION 23 EQUIPMENT.
7. PROVIDE 40A/3P CIRCUIT BREAKER RATED 35,000 AIC IN EXISTING SWITCHBOARD DP-1 WITH (3)#8, (1)#10G, 3/4"C TO INTEGRAL DISCONNECT ON DIVISION 23 EQUIPMENT.
8. PROVIDE (1) 1" CONDUIT FROM PANEL PP-2 ROUTED OVERHEAD TO AREA SHOWN FOR FUTURE CONNECTION. PROVIDE BUSHING ON END OF CONDUIT AND PULLSTRING.
9. PROVIDE (1) 1" CONDUIT BELOW GRADE AND STUBBED UP TO +1'-0" ABOVE FINISHED GRADE. CAP CONDUIT FOR FUTURE USE.
10. PROVIDE MOTOR RATED TOGGLE SWITCH FOR FAN CONTROL AND POWER CONNECTION TO FACTORY PROVIDED DISCONNECT ON DIVISION 23 EQUIPMENT.

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE RECIPIENT AGREES THAT THE INFORMATION CONTAINED IN THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO THE FOLLOWING CONDITIONS: OWNER MAY MAKE COPIES OF THE DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE FOR THE PURPOSE OF PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE PREPARATION OF SHOP DRAWINGS BY THE OWNER OR SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

05/25/18	ISSUE NO. 18
04/27/18	RFI-450
09/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: As indicated

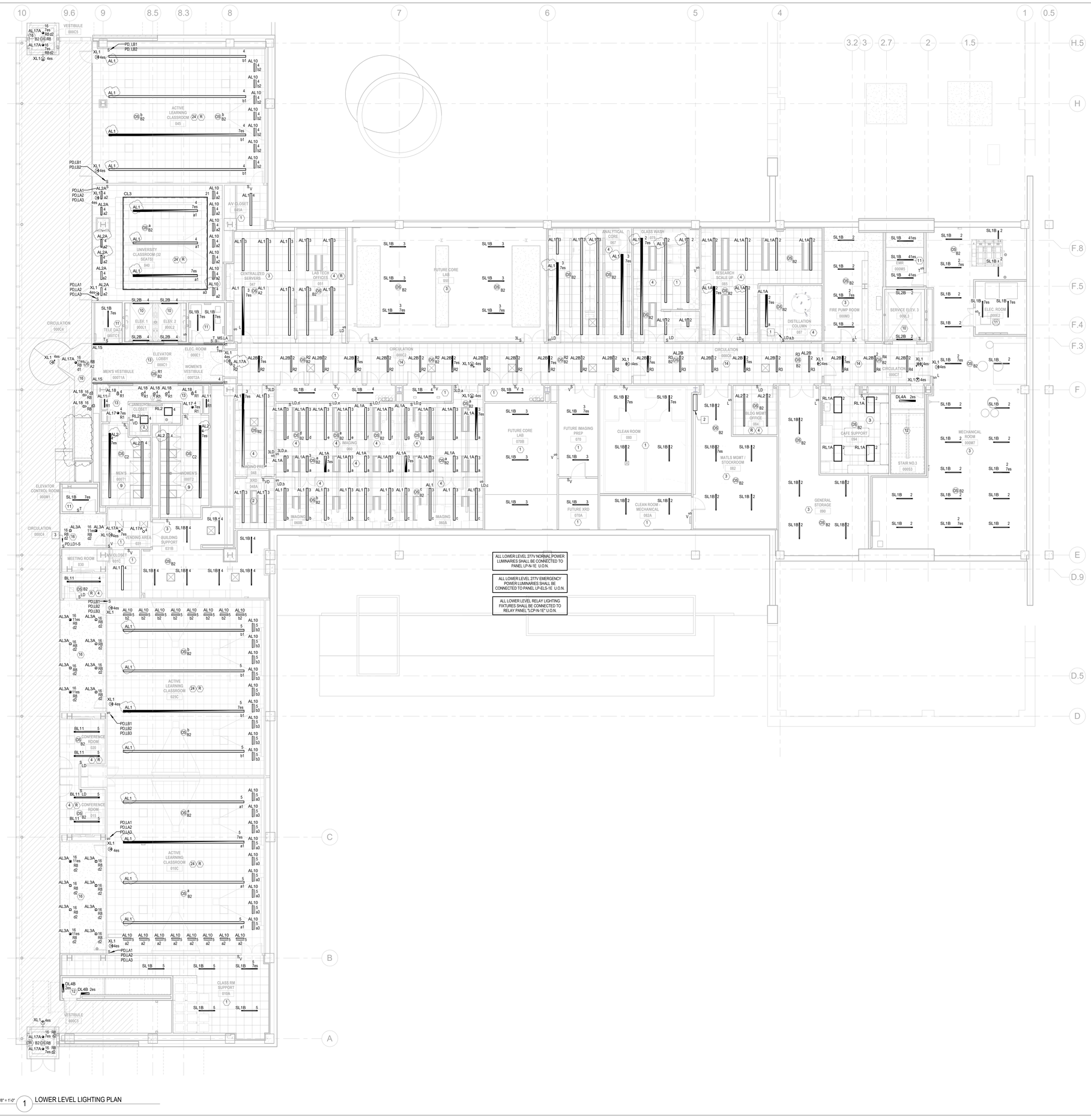
ELECTRICAL

TITLE:

KIRK HALL
ELECTRICAL PLAN

NUMBER:

EK100



1/8" = 1'-0" 1 LOWER LEVEL LIGHTING PLAN

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR LIGHTING CONTROL DIAGRAM AND DETAILS, REFER TO SHEET EL301.
3. FOR LIGHTING CONTROL SCHEDULES, REFER TO SHEET EL501.
4. FOR LIGHTING FIXTURE SCHEDULE, REFER TO SHEET EL600.
5. FOR EXACT LOCATIONS OF 'TASK AND CASEWORK LIGHTING, REFER TO ARCHITECTURAL SHEETS.
6. PROVIDE ALL OCCUPANCY SENSOR RELAYS AND POWER PACKS AS REQUIRED TO PROVIDE A COMPLETE AND OPERATING SYSTEM.
7. EMERGENCY EGRESS LIGHTING WITHIN EACH SPACE HAS BEEN CALCULATED BY THE DESIGN PROFESSIONAL TO MEET 1.0 FOOT-CANDLE AVERAGE, 0.1 FOOT-CANDLE MINIMUM AND A 40:1 MAXIMUM/MINIMUM RATIO ALONG THE ARCHITECT'S PATH OF EGRESS.
8. PROVIDE NEUTRAL CONDUCTOR TO EACH WALL LIGHT SWITCH LOCATION. IF NEUTRAL TERMINATON IS NOT REQUIRED, CAP CONDUCTOR AND TAG AS "NEUTRAL FOR FUTURE USE."
9. PROVIDE LOW VOLTAGE CONDUCTORS AS REQUIRED FOR LOW VOLTAGE DIMMING.
10. COORDINATE LOCATIONS, MOUNTING HEIGHTS AND FINISHES OF ALL WIRING DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS PRIOR TO ROUGH-IN. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO ROUGH-IN.
11. PROVIDE AUTOMATIC LOAD CONTROL RELAY (ALC) FOR EACH CONTROL ZONE. REFER TO SEQUENCE OF OPERATION SCHEDULE ON SHEET EL301 FOR FURTHER INFORMATION. ALCR SHALL BE MOUNTED CONCEALED ABOVE ACCESSIBLE CEILING IN EACH AREA CONTROLLED. IN AREAS WITH INACCESSIBLE CEILINGS, LOCATE ALC IN NEAREAST ROOM WITH ACCESSIBLE CEILING.

LIGHTING PLAN KEYED NOTES:

1. CONTROLS FOR LOWER LEVEL AND FIRST FLOOR DISTILLATION COLUMN.
2. PROVIDE DRIVER ENCLOSURE(S) FOR FIRST FLOOR COMP LABS, REFER TO 4/EL301
3. PRESET DIMMING SWITCH FOR CIRCULATION #000C4 LIGHTING, REFER TO 2/EL301

THE UNIVERSITY OF RHODE ISLAND
NEW ENGINEERING BUILDING
KINGSTON, RI
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER
833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE
WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORMAT, THE USE OF AND SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CONTRACTOR TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THOSE SUBCONTRACTORS IN THE PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CORRECTNESS OF ANY OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

07/02/18	RFI-514
06/29/18	ISSUE NO. 21
03/19/18	RFI-393
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

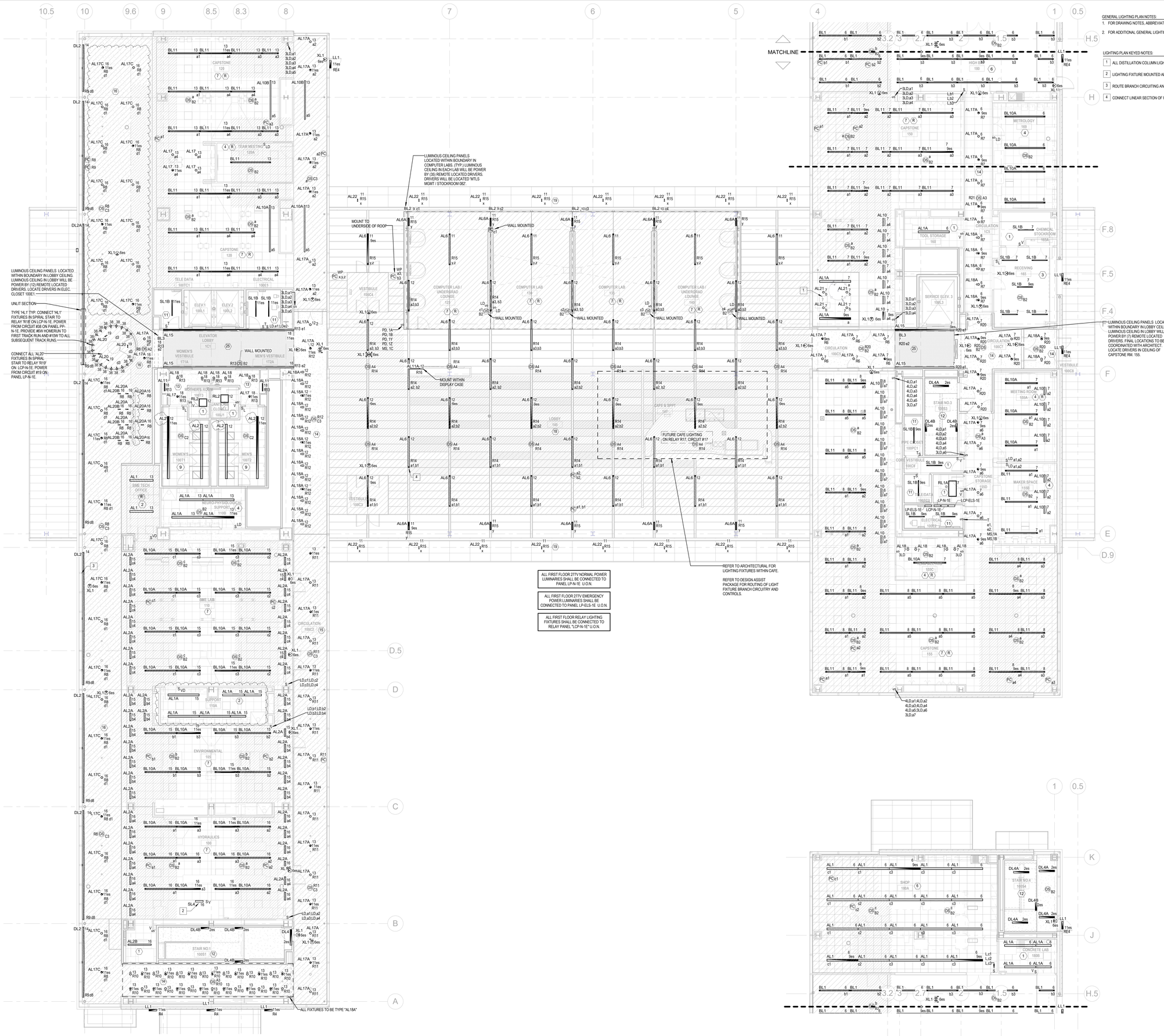
ELECTRICAL

TITLE:

LOWER LEVEL LIGHTING PLAN

NUMBER:

EL100



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

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.

LIGHTING PLAN KEYED NOTES:

1. ALL DISTILLATION COLUMN LIGHTING CONTROLS LOCATED ON THE LOWER LEVEL.
2. LIGHTING FIXTURE MOUNTED ABOVE CEILING FOR EQUIPMENT ACCESS.
3. ROUTE BRANCH CIRCUITING AND CONTROLS WITHIN MULLION. TYPICAL FOR ALL 'DL2' FIRST FLOOR FIXTURES.
4. CONNECT LINEAR SECTION OF FIXTURE TO SWITCH 'a' AND DOWNLIGHTS TO SWITCH 'b'.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

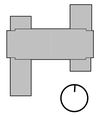
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE. SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS. NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPETRATION OF THEIR REQUIRED SHOP DRAWINGS.

07/02/18	RFI-514
01/19/18	ISSUE NO. 11
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

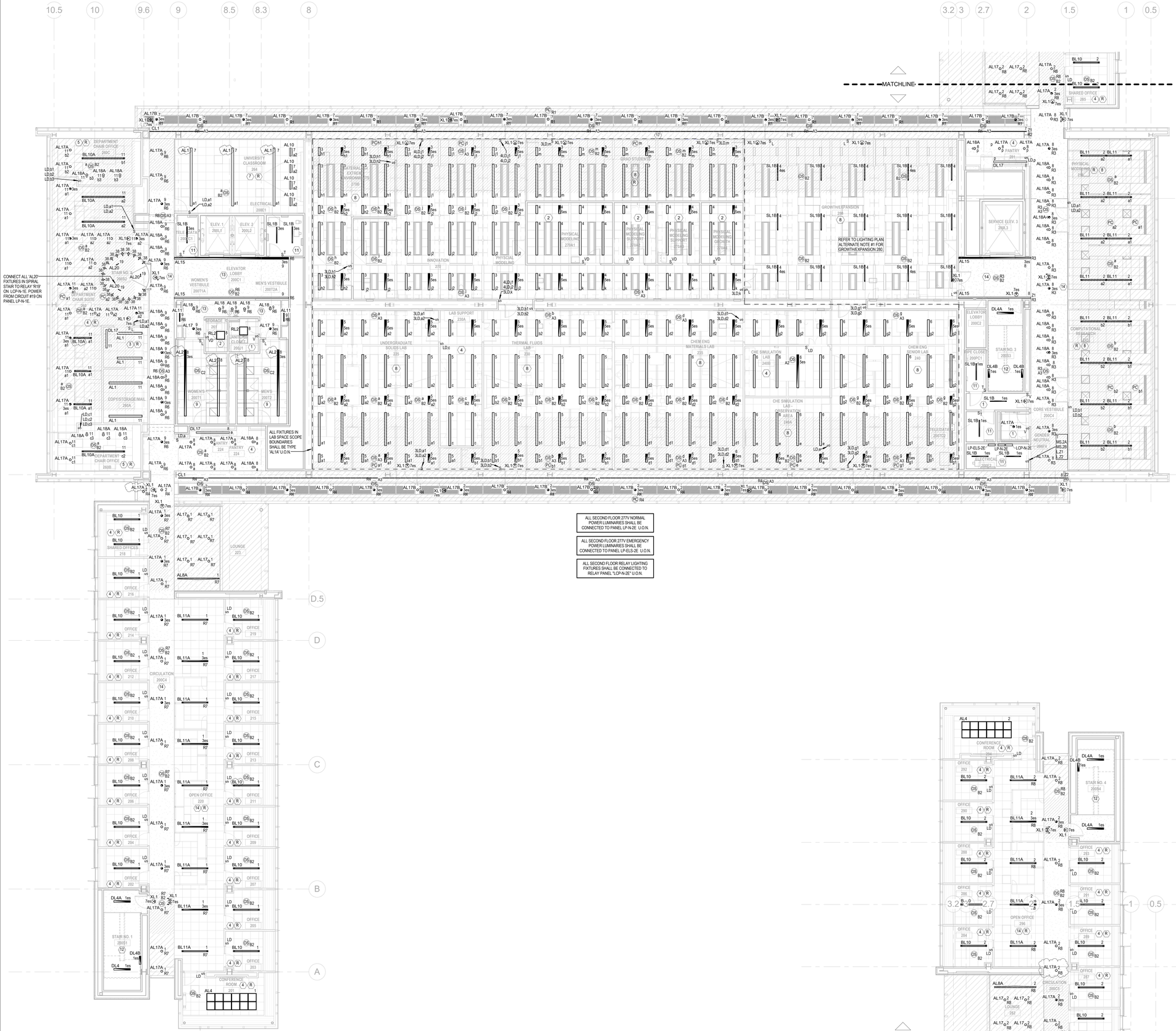
FIRST FLOOR LIGHTING PLAN

NUMBER:

EL101

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.



ALL SECOND FLOOR 277V NORMAL POWER LUMINARIES SHALL BE CONNECTED TO PANEL LP-N-2E U.O.N.

ALL SECOND FLOOR 277V EMERGENCY POWER LUMINARIES SHALL BE CONNECTED TO PANEL LP-ELS-2E U.O.N.

ALL SECOND FLOOR RELAY LIGHTING FIXTURES SHALL BE CONNECTED TO RELAY PANEL "LCP-N-2E" U.O.N.

1/8" = 1'-0" 1 SECOND FLOOR LIGHTING PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

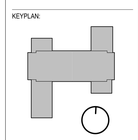
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PERPENDICULAR SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPENDICULAR OF THEIR REQUIRED SHOP DRAWINGS.

07/02/18	RFI-514
05/08/18	ISSUE NO. 17
04/05/18	RFI-423
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

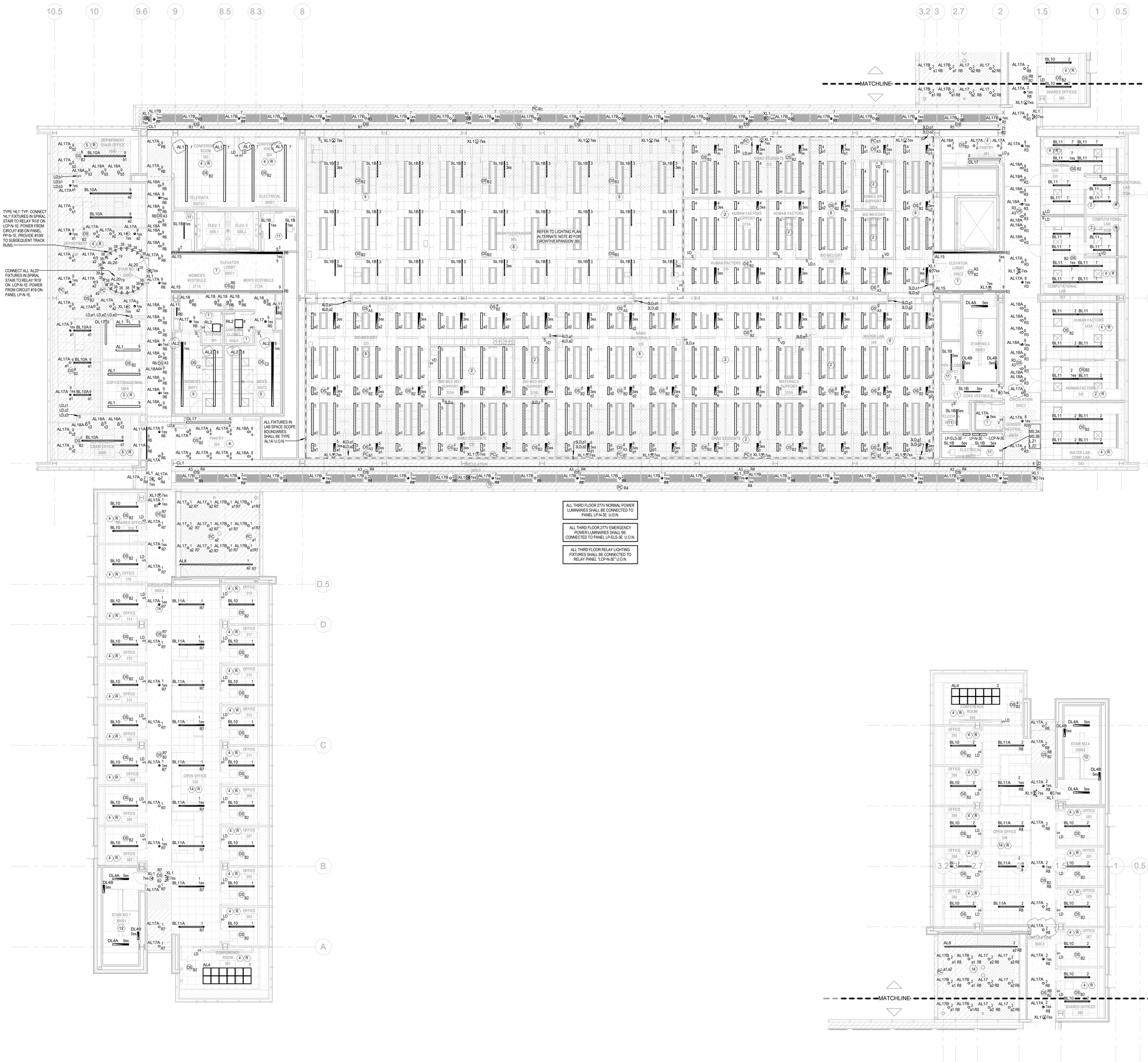
SECOND FLOOR LIGHTING PLAN

NUMBER:

EL102

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.



1/8" = 1'-0" 1 THIRD FLOOR LIGHTING PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE PARTIES AND SUBJECT TO AND NO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE CONDITIONS OF THIS NOTICE, FOR THE SOLE PURPOSE OF CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT IN ELECTRONIC FORM DOES NOT ENLARGE OR MODIFY BALLINGER'S RESPONSIBILITY IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORATION OF THEIR REQUIRED SHOP DRAWINGS.

07/02/18	RFI-514
04/17/18	ISSUE NO. 15
04/05/18	RFI-423
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

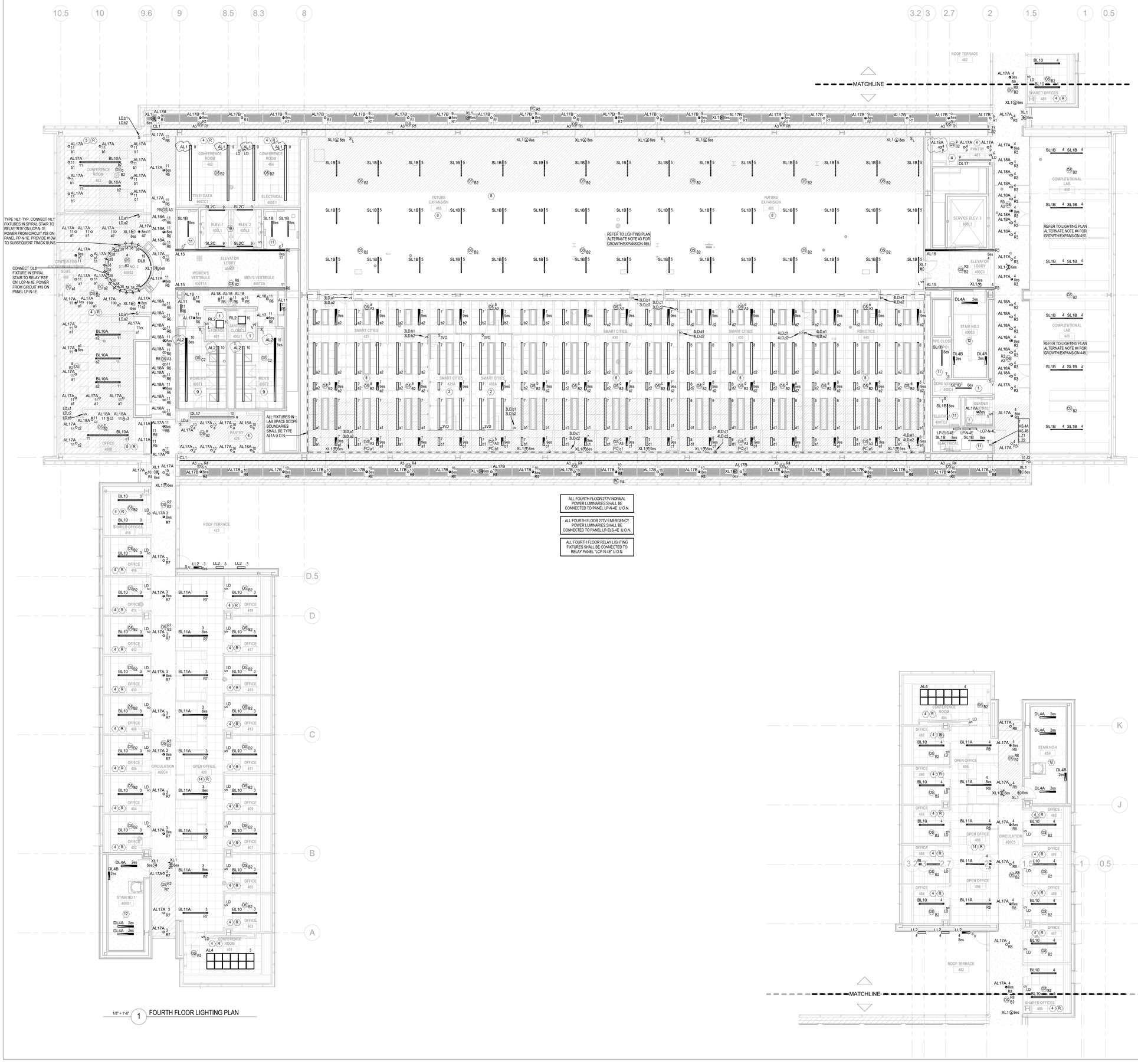
THIRD FLOOR LIGHTING PLAN

NUMBER:

EL103

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.



1/8" = 1'-0" 1 FOURTH FLOOR LIGHTING PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING CONDITIONS SHALL APPLY: THE USE OF THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO ANY FURTHER RESTRICTIONS IMPOSED BY BALLINGER. THE DOCUMENT, CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE USE OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE DOCUMENT, AND CONTRACTOR SHALL NOT RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

07/02/18	RFI-514
06/01/18	ISSUE NO. 19
05/08/18	ISSUE NO. 17
04/05/18	RFI-423
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

FOURTH FLOOR LIGHTING PLAN

NUMBER:

EL104

GENERAL LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.

LIGHTING PLAN KEYED NOTES:

1. PROVIDE (12) ADDITIONAL TYPE 'SL1B' FIXTURES AND LABOR TO ILLUMINATE THROUGHOUT FLOOR AFTER ALL UTILITIES AND EQUIPMENT ARE INSTALLED. COORDINATE LOCATIONS WITH CONSTRUCTION MANAGER.



ALL MECHANICAL FLOOR 277V NORMAL POWER LUMINARIES SHALL BE CONNECTED TO PANEL LP-N-4E U.O.N.

ALL MECHANICAL FLOOR 277V EMERGENCY POWER LUMINARIES SHALL BE CONNECTED TO PANEL LP-ELS-4E U.O.N.

1/8" = 1'-0" 1 MECHANICAL FLOOR LIGHTING PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

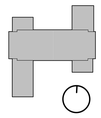
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER INTELLECTUAL PROPERTY IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
03/29/18	RFI-405
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

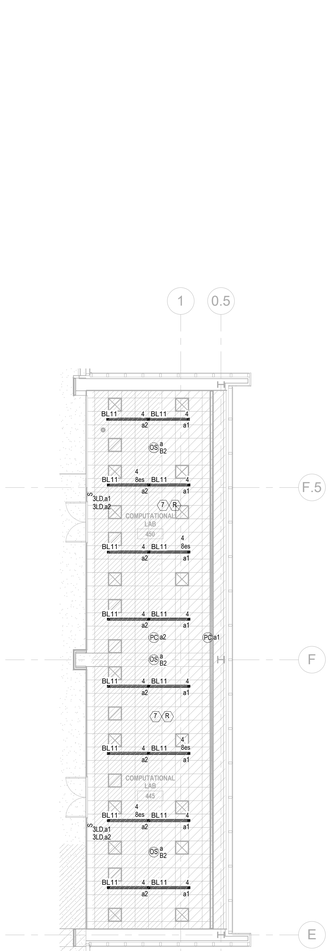
MECHANICAL FLOOR LIGHTING PLAN

NUMBER:

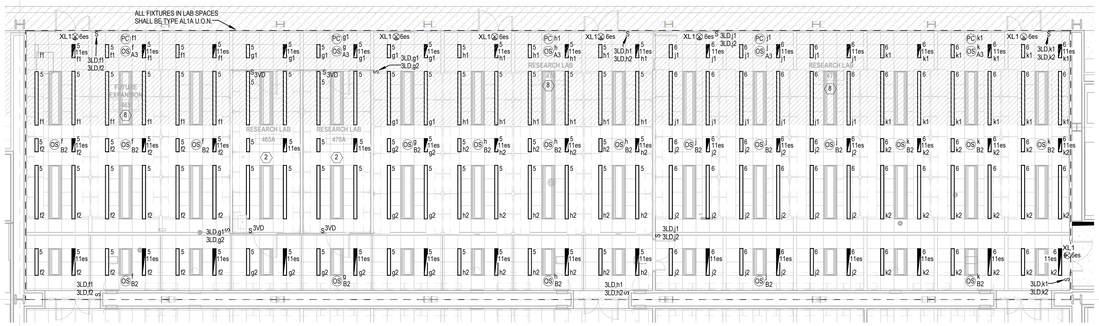
EL105

GENERAL LIGHTING PLAN NOTES:

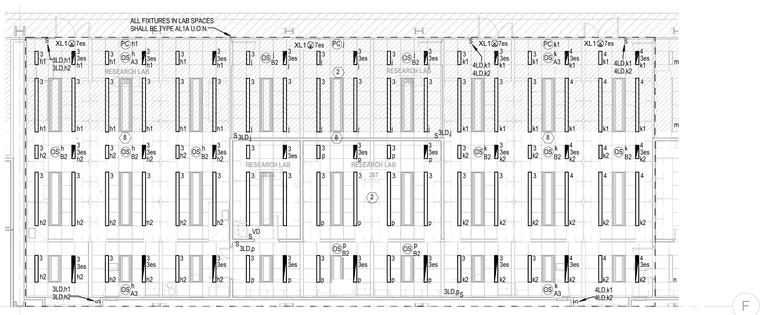
1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL LIGHTING PLAN NOTES, REFER TO SHEET EL100.



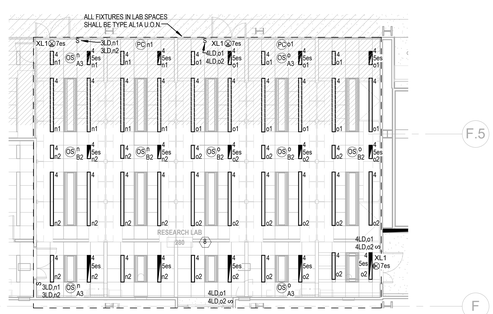
1/8" = 1'-0" 4 FOURTH FLOOR LIGHTING PLAN - ALTERNATE



1/8" = 1'-0" 3 FOURTH FLOOR LIGHTING PLAN - ALTERNATE



1/8" = 1'-0" 2 THIRD FLOOR LIGHTING PLAN - ALTERNATE



1/8" = 1'-0" 1 SECOND FLOOR LIGHTING PLAN - ALTERNATE

THE
UNIVERSITY
OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

EARLY BID PACKAGE
FOUNDATIONS

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORMAT, THE OWNER'S AND SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S CONTRACTUAL AND OTHER RIGHTS. ANY CONTRACTOR OR SUBCONTRACTOR GIVEN ACCESS TO THIS DOCUMENT IS AVAILABLE IT TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A REFERENCE FOR THE PURPOSE OF PREPARING AND PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE ACCURACY OF SHOP DRAWINGS. SUBCONTRACTORS SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17 ISSUE NO: 6
DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

RESEARCH LAB
ALTERNATE LIGHTING
PLANS

NUMBER:

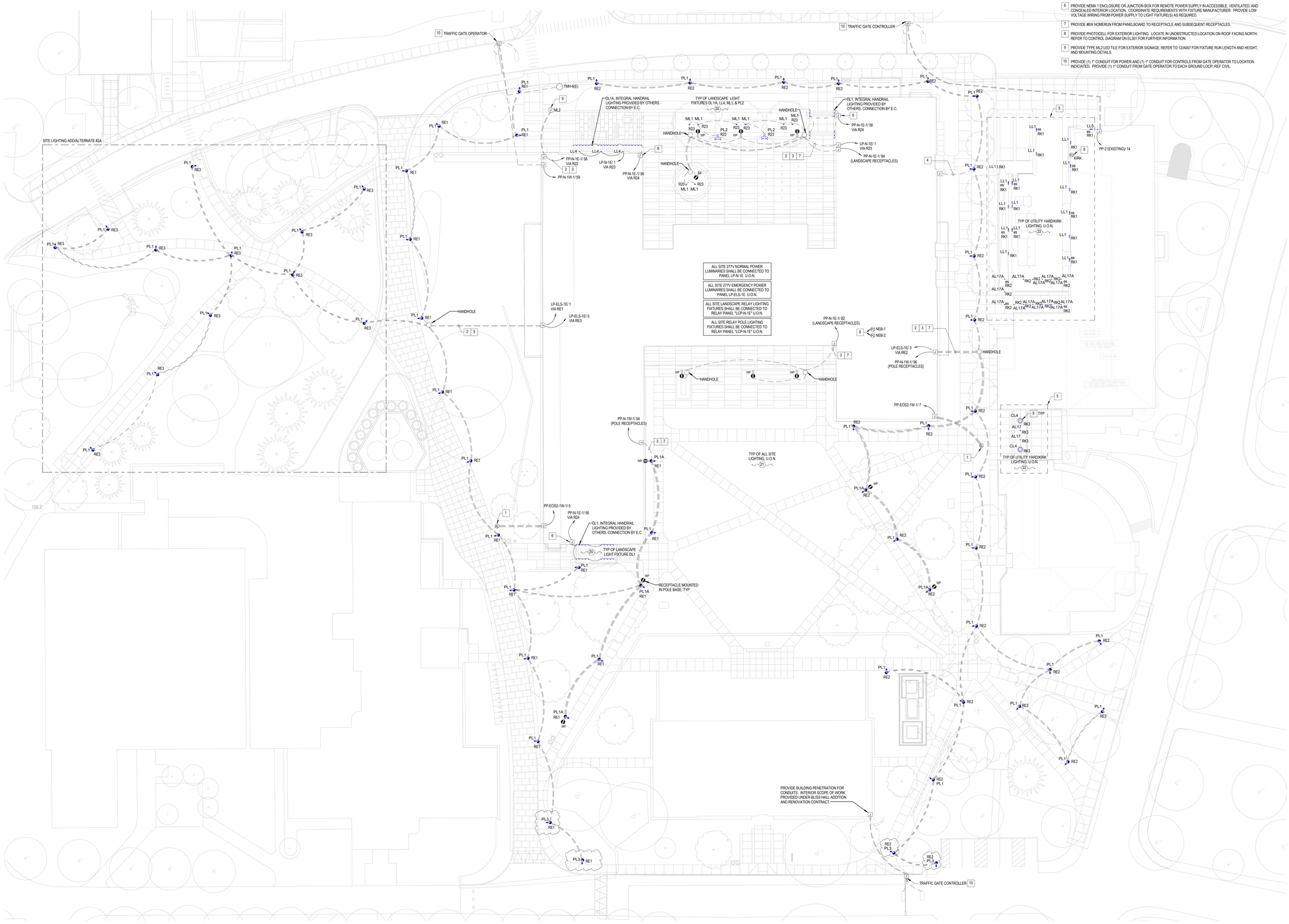
EL110

GENERAL SITE LIGHTING PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR LIGHTING CONTROL DIAGRAM AND DETAILS, REFER TO SHEET EL301.
3. FOR LIGHTING CONTROL SCHEDULES, REFER TO SHEET EL501.
4. FOR LIGHTING FIXTURE SCHEDULE, REFER TO SHEET EL600.
5. COORDINATE LOCATIONS, MOUNTING HEIGHTS AND FINISHES OF ALL WIRING DEVICES WITH ARCHITECTURAL PLANS, ELEVATIONS AND DETAILS PRIOR TO ROUGH-IN. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO ROUGH-IN.
6. CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING OF THE EXISTING CONSTRUCTION WORK WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH, AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK.
7. FIELD COORDINATE ALL TRENCHING/EXCAVATION LOCATIONS AND DEPTHS TO ENSURE THAT ANY EXISTING SITE UTILITIES ARE NOT DAMAGED DURING WORK. ANY DAMAGE INCURRED SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.
8. LOW VOLTAGE OR SPARE INTERIOR CONDUITS SHALL EXTEND TO +1'-0" ABOVE FINISHED CEILING OR TO +8'-0" A.F.F. IN AREAS OF EXPOSED STRUCTURE. TERMINATE CONDUIT END WITH BUSHING AND PROVIDE PULL STRING IN SPARE CONDUITS. COORDINATE EXACT LOCATION OF SITE PENETRATIONS WITH CONSTRUCTION MANAGER AND ARCHITECT PRIOR TO ROUGH-IN.
9. PROVIDE LOW VOLTAGE CONDUCTORS AS REQUIRED FOR LOW VOLTAGE DIMMING.

SITE LIGHTING KEYED NOTES:

1. BLUE LIGHT: PROVIDE (1) 3/4" CONDUIT FOR POWER, (1) 1-1/4" CONDUIT FOR COMMUNICATIONS, (1) 1-1/4 CONDUIT FOR FUTURE CAMERA. REFER TO DETAIL 12/ES03.
2. PROVIDE #10W HOMERUN FROM PANELBOARD TO HANDHOLE AND #12W FROM HANDHOLE TO LIGHT FIXTURES AND TO SUBSEQUENT LIGHT FIXTURES.
3. PROVIDE (1) 3/4" CONDUIT FOR SITE LIGHTING AND (1) 3/4" CONDUIT FOR CONTROLS. PROVIDE (1) 3/4" CONDUIT FOR SITE RECEPTACLES AS REQUIRED. TYPICAL OF ENTIRE RUN.
4. PROVIDE (1) 1-1/4" CONDUIT FOR CAMERAS FROM ACCESSIBLE INTERIOR BUILDING LOCATION TO POLE BASE.
5. PROVIDE 120V CIRCUIT WITH #12W TO EXISTING NORMAL LIGHTING PANEL 'LP-1' LOCATED IN KIRK ELEC. RM. 113, REF SHEET EK100. PROVIDE 20A/1P CIRCUIT BREAKER IF NO SPARES EXIST. PROVIDE 120V CIRCUIT WITH #12W TO EXISTING EMERGENCY LIGHTING CIRCUIT WITHIN KIRK WITH AVAILABLE CAPACITY. ROUTE THROUGH RELAY PANEL AND AUTOMATIC LOAD CONTROL RELAY, REFER TO CONTROL SCHEDULES FOR FURTHER INFORMATION. LIGHTING FIXTURES IN BOUNDED AREA SHALL BE PROVIDED WITH DRIVERS CAPABLE OF OPERATION AT 120 VOLTS.
6. PROVIDE NEMA 1 ENCLOSURE OR JUNCTION BOX FOR REMOTE POWER SUPPLY IN ACCESSIBLE, VENTILATED, AND CONCEALED INTERIOR LOCATION. COORDINATE REQUIREMENTS WITH FIXTURE MANUFACTURER. PROVIDE LOW VOLTAGE WIRING FROM POWER SUPPLY TO LIGHT FIXTURE(S) AS REQUIRED.
7. PROVIDE #6W HOMERUN FROM PANELBOARD TO RECEPTACLE AND SUBSEQUENT RECEPTACLES.
8. PROVIDE PHOTOCELL FOR EXTERIOR LIGHTING. LOCATE IN UNOBSTRUCTED LOCATION ON ROOF FACING NORTH. REFER TO CONTROL DIAGRAM ON EL301 FOR FURTHER INFORMATION.
9. PROVIDE TYPE ML2 LED TILE FOR EXTERIOR SIGNAGE. REFER TO 12/A557 FOR FIXTURE RUN LENGTH AND HEIGHT, AND MOUNTING DETAILS.
10. PROVIDE (1) 1" CONDUIT FOR POWER AND (1) 1" CONDUIT FOR CONTROLS FROM GATE OPERATOR TO LOCATION INDICATED. PROVIDE (1) 1" CONDUIT FROM GATE OPERATOR TO EACH GROUND LOOP, REF CIVIL.



1" = 20'-0" 1 SITE LIGHTING

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING SHALL APPLY: THE USE OF THIS DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. DISTRIBUTION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE CONSTRUCTION DOCUMENTS PREPARED BY OTHERS. SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

08/13/18	RFI-525
08/02/18	ISSUE NO. 20.1
05/25/18	ISSUE NO. 18
04/24/18	ISSUE NO. 16
03/05/18	RFI-358
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: As indicated

ELECTRICAL

TITLE:

SITE LIGHTING

NUMBER:

EL200

LIGHTING CONTROL SEQUENCE OF OPERATIONS SCHEDULE

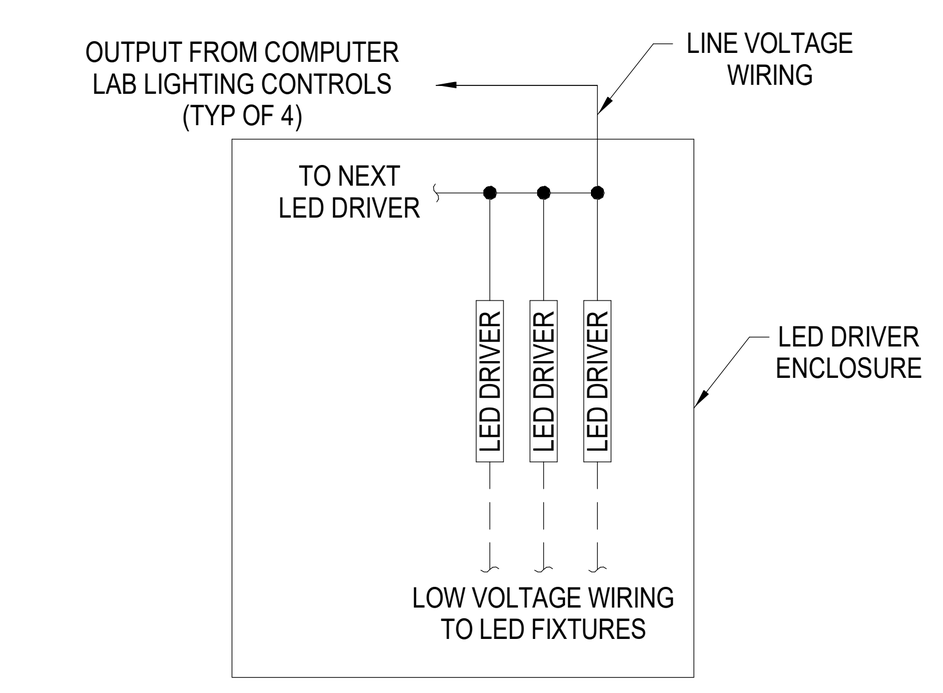
SOO #	CONTROL DESCRIPTION	AREAS CONTROLLED	DAYTIME (OPERATING HOURS)	NIGHTTIME (OFF-PEAK HOURS)	DIMMING	NOTES
1	GENERAL WALL SENSOR	SMALL STORAGE/JANITOR/ SMALL RESTROOM	WALL VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA INTEGRAL SWITCH OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	-	1
2	GENERAL WALL SENSOR WITH DIMMING	PRIVATE ROOMS/SMALL ENCLOSED LABS	WALL VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA INTEGRAL SWITCH OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	MANUAL VIA INTEGRAL RAISE/LOWER CONTROL	1
3	GENERAL CEILING SENSOR(S)	CENTRAL SERVER/LARGE STORAGE/RECEIVING/ MECHANICAL/FIRE PUMP	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCH OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	-	1,2
4	GENERAL CEILING SENSOR(S) WITH DIMMING	ENCLOSED OFFICE/ LARGE ENCLOSED LABS	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCH OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	MANUAL VIA RAISE/LOWER CONTROL INTEGRATED WITH MANUAL-ON CONTROL	1,3
5	MULTI-ZONE SPACE WITH CEILING SENSOR(S) AND DIMMING	CLASSROOM/CONFERENCE	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCHES OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	MANUAL VIA RAISE/LOWER CONTROL INTEGRATED WITH MANUAL-ON CONTROL	1,2,4
6	MULIT-ZONE SPACE WITH CEILING SENSOR(S) AND DAYLIGHTING	HIGH BAY/SHOP	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCHES OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL	1,3,4
7	MULTI-ZONE SPACE WITH CEILING SENSOR(S), DIMMING, AND DAYLIGHTING	CAPSTONE/COMPUTER CLASSROOMS/1ST FLOOR LABS	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCHES OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL OVERRIDE OF DAYLIGHT SENSOR VIA RAISE/LOWER CONTROL INTEGRATED WITH MANUAL-ON CONTROL	1,3,4
8	SINGLE-ZONE SPACE WITH CEILING SENSOR(S), DIMMING, AND DAYLIGHTING	2ND/3RD/4TH FLOOR OPEN/ COMPUTER LABS	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCHES OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL OVERRIDE OF DAYLIGHT SENSOR VIA RAISE/LOWER CONTROL INTEGRATED WITH MANUAL-ON CONTROL	1,3,4
9	GENERAL CEILING SENSOR WITH AUTOMATIC CONTROL	MEN'S/WOMEN'S RESTROOMS	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATICALLY OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	-	1
10	LINE VOLTAGE WALL SWITCH	ELEVATOR PIT/SHAFT	ON - MANUAL VIA SWITCH OFF - MANUAL VIA SWITCH	SAME AS DAYTIME	-	-
11	DIGITAL WALL TIMER SWITCH	SMALL ELECTRICAL/EMR/ TELE-DATA	ON - MANUAL VIA INTEGRAL SWITCH OFF - AUTOMATICALLY VIA 20 MINUTE TIMER	SAME AS DAYTIME	-	-
12	INTEGRAL FIXTURE OCCUPANCY SENSOR	STAIRWELL	OCCUPIED - AUTOMATICALLY ON TO 100% OUTPUT NOT OCCUPIED - AUTOMATICALLY ON TO 30% OUTPUT	SAME AS DAYTIME	AUTOMATIC VIA INTEGRAL OCCUPANCY SENSOR	-
13	CUSTOM	ELEVATOR LOBBY/RESTROOM VESTIBULE	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	-	1
14	GENERAL CORRIDOR	CIRCULATION	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	-	1
15	GENERAL CORRIDOR WITH DAYLIGHTING	CIRCULATION	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL	1
16	CUSTOM	CIRCULATION #000C4	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL OVERRIDE OF DAYLIGHT SENSOR VIA REMOTE PRESET DIMMING SCENE CONTROLLER	1
17	MULTI-ZONE CORRIDOR WITH DAYLIGHTING	CIRCULATION	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL VIA REMOTE RAISE/LOWER CONTROL INTEGRATED WITH MANUAL-ON CONTROL FOR CL1 FIXTURES ONLY	1
18	CUSTOM	LOBBY #145 - INTERIOR	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL VIA REMOTE PRESET DIMMING SCENE CONTROLLER	1,4
19	CUSTOM	LOBBY #145 - EXTERIOR	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE	1) DAYLIGHT SENSOR SHALL AUTOMATICALLY DIM FIXTURES ON ASSOCIATED ZONE BASED ON AMBIENT LIGHT LEVEL 2) MANUAL VIA REMOTE PRESET DIMMING SCENE CONTROLLER	1,4
20	EXTERIOR	NEB LANDSCAPE LIGHTING	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH LOW AMBIENT LIGHT LEVEL FROM PHOTOCELL 'NEB-1'. OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH HIGH AMBIENT LIGHT LEVEL FROM PHOTOCELL 'NEB-1'.	RELAY PANEL: OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE.	-	-
21	EXTERIOR EMERGENCY WITH DIMMING	NEB SITE/PERIMETER LIGHTING	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH LOW AMBIENT LIGHT LEVEL FROM PHOTOCELL 'NEB-2'. OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH HIGH AMBIENT LIGHT LEVEL FROM PHOTOCELL 'NEB-2'.	RELAY PANEL: OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE.	PHOTOCELL SHALL AUTOMATICALLY REDUCE LIGHTING POWER BY 30% DURING NIGHTTIME HOURS	-
22	EXTERIOR WITH DIMMING	KIRK SITE/PERIMETER LIGHTING	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH LOW AMBIENT LIGHT LEVEL FROM PHOTOCELL 'KIRK'. OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE WITH HIGH AMBIENT LIGHT LEVEL FROM PHOTOCELL 'KIRK'.	RELAY PANEL: OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE.	PHOTOCELL SHALL AUTOMATICALLY REDUCE LIGHTING POWER BY 30% DURING NIGHTTIME HOURS	1
23	INTEGRAL FIXTURE OCCUPANCY SENSOR AND AMBIENT LIGHT SENSOR	ROOF WELL	OCCUPIED: ON - AUTOMATICALLY IF AMBIENT LIGHT IS <= 1 FC OFF - AUTOMATICALLY OFF IF AMBIENT LIGHT IS > 1 FC NOT OCCUPIED: OFF	SAME AS DAYTIME	-	-
24	MULTI-ZONE SPACE WITH CEILING SENSOR(S) AND PRESET DIMMING	ACTIVE LEARNING CLASSROOM #010C, #025C, #045	CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - MANUAL VIA LOW VOLTAGE WALL SWITCHES OFF - AUTOMATICALLY WITHIN 20 MINUTES	SAME AS DAYTIME	MANUAL VIA PRESET DIMMING SCENE CONTROLLER	1,2,4
25	CUSTOM	ELEVATOR LOBBY 1C1	RELAY PANEL: ON - AUTOMATICALLY VIA PROGRAMMED SCHEDULE OR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH	RELAY PANEL: ON - 2HR MANUAL OVERRIDE VIA REMOTE LOW VOLTAGE SWITCH OFF - AUTOMATICALLY VIA PROGRAMMED SCHEDULE CEILING VACANCY SENSOR - UPON DETECTION OF OCCUPANCY: ON - AUTOMATIC OVERRIDE OF INDICATED RELAY OFF - AUTOMATICALLY WITHIN 20 MINUTES	MANUAL VIA REMOTE RAISE/LOWER CONTROL	1
R	CONTROLLED RECEPTACLES	OFFICE/CLASSROOM/ CONFERENCE	ON - AUTOMATICALLY VIA VACANCY SENSOR WITHIN AREA OFF - AUTOMATICALLY VIA VACANCY SENSOR WITHIN AREA	SAME AS DAYTIME	-	-

NOTES:

1	WHERE INDICATED ON DRAWINGS, PROVIDE UL 924 LISTED AUTOMATIC LOAD CONTROL RELAY (ALC) TO BYPASS CONTROLS AND PROVIDE 100% OUTPUT VIA EMERGENCY CIRCUIT INDICATED.
2	PROVIDE ADDITIONAL REMOTE LOW VOLTAGE SWITCH WHERE REQUIRED FOR 3 OR 4-WAY CONTROL.
3	PROVIDE ADDITIONAL REMOTE LOW VOLTAGE SWITCH WITH RAISE/LOWER WHERE REQUIRED FOR 3 OR 4-WAY CONTROL.
4	CEILING SENSOR(S) SHALL PROVIDE OVERALL CONTROL FOR ALL ZONES WITHIN AREA. PROVIDE A SEPARATE SWITCH FOR EACH INDIVIDUAL ZONE AS INDICATED ON DRAWINGS.

REMOTE LED DRIVER DETAIL NOTES:

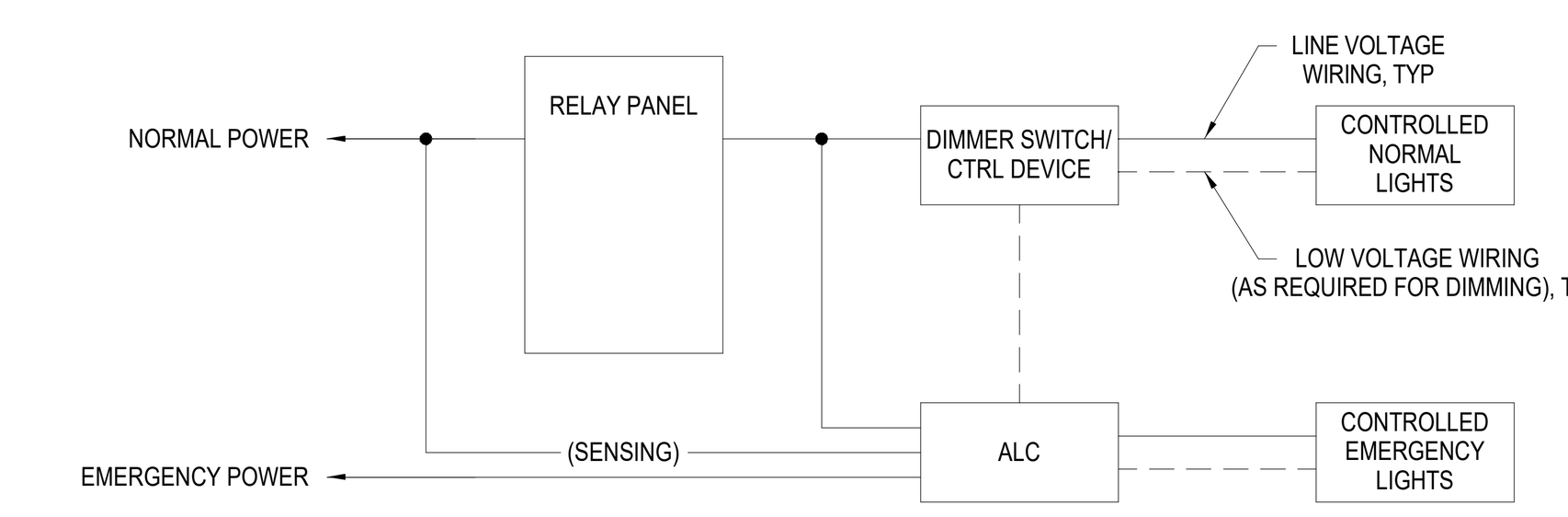
1. PROVIDE NEMA 1 VENTILATED ENCLOSURE SIZED PER MANUFACTURER'S REQUIREMENTS FOR SPACING OF LED DRIVERS. VENTILATION SHALL ENSURE THAT INTERNAL TEMPERATURE DOES NOT EXCEED LED DRIVER RATING.
2. LINE VOLTAGE WIRING WITHIN LED DRIVER SHALL BE #12 AWG MINIMUM.
3. LOW VOLTAGE WIRING SHALL BE SIZED TO PROVIDE MAXIMUM 5% VOLTAGE DROP AT LED FIXTURE UNDER FULL LOAD.



N.T.S. 4 REMOTE LED DRIVER DETAIL

ALC RELAY DETAIL NOTES:

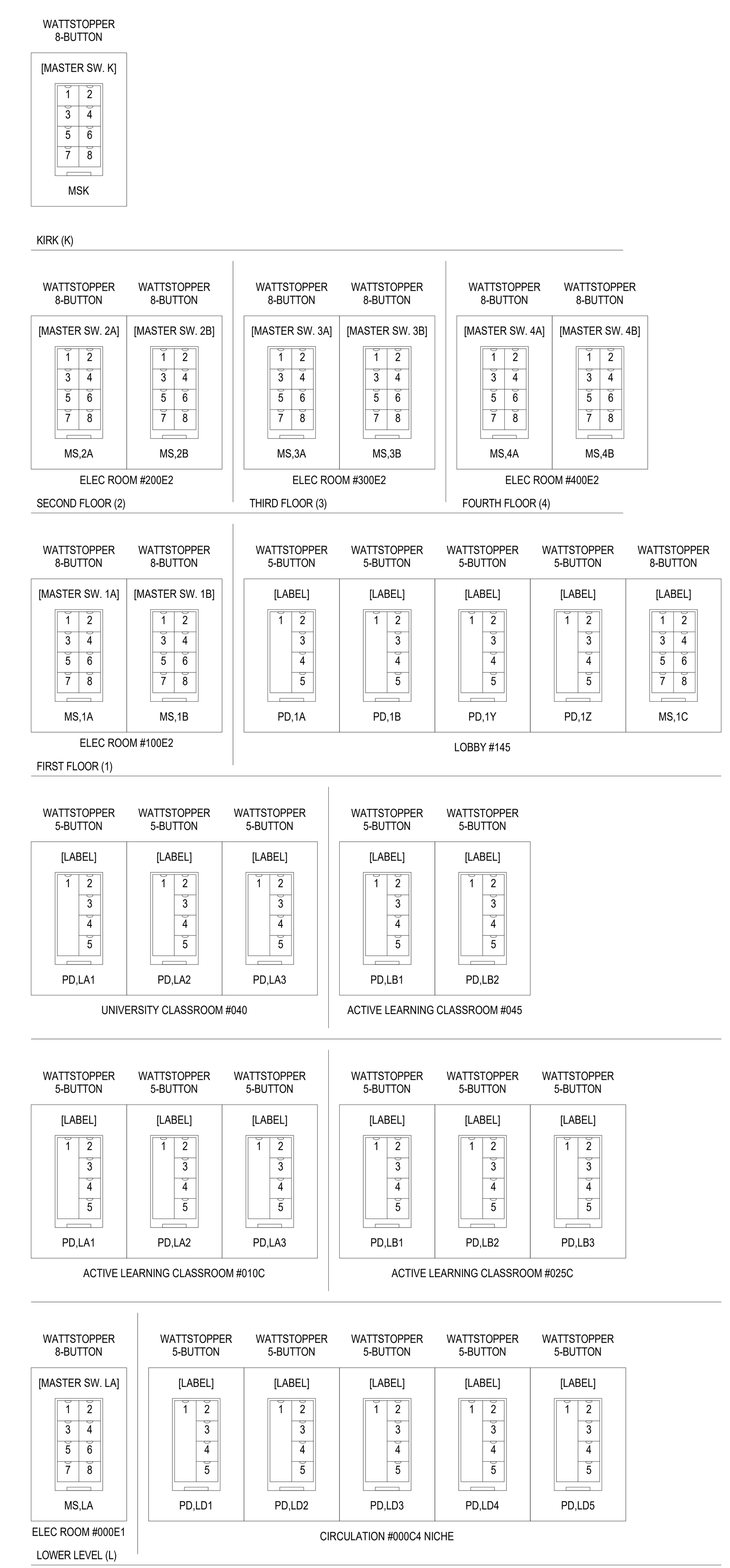
1. PROVIDE ALC RELAY FOR EMERGENCY CIRCUITS THAT ARE CONNECTED TO A CONTROL DEVICE. MANUFACTURER (BASIS OF DESIGN): WATTSTOPPER ELCU SERIES.
2. REFER TO MANUFACTURER'S REQUIREMENTS AND PUBLISHED WIRING DIAGRAMS/CONTROL SUBMITTAL FOR FULL SCOPE OF WORK .
3. AN ALC USED ON DIMMABLE FIXTURES SHALL BYPASS DIMMING CONTROLS AND PROVIDE 100% OUTPUT DURING EMERGENCY MODE.



N.T.S. 3 AUTOMATIC LOAD CONTROL (ALC) RELAY DETAIL

GENERAL SWITCHBANK DETAIL NOTES:

1. LOCATE AND GANG SWITCHES AS INDICATED BELOW. MODIFY IN FIELD AS REQUIRED FOR PHYSICAL SPACE LIMITATIONS OR WORKING CLEARANCES AND COORDINATE WITH OTHER TRADES.
2. LABELING SHALL BE FACTORY PROVIDED PER SPECIFICATIONS.
3. ALL SWITCHES SHALL BE PROVIDED WITH INTEGRAL LED LIGHT TO INDICATE ON/OFF STATUS.



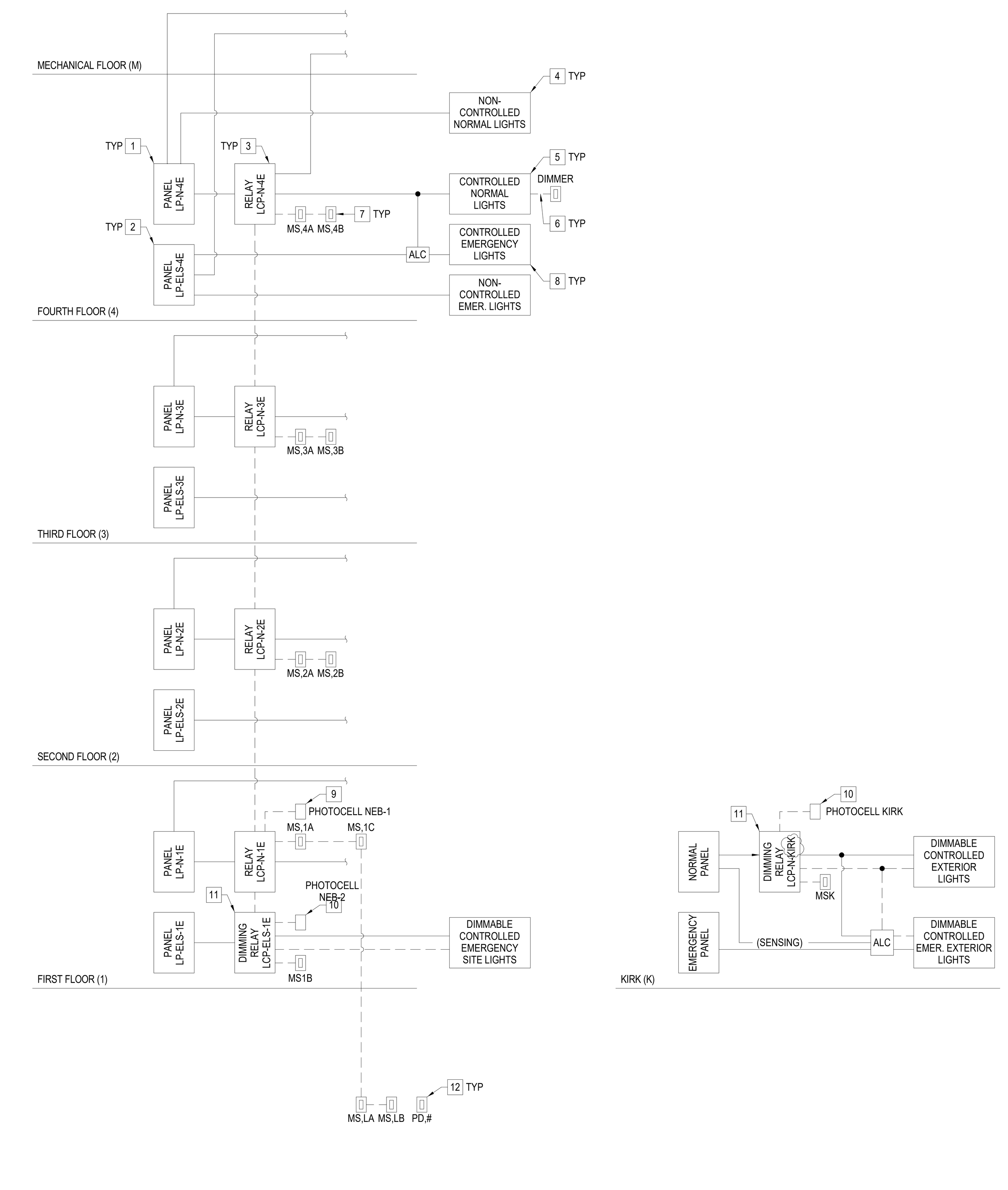
N.T.S. 2 SWITCHBANK DETAIL

GENERAL LIGHTING CONTROL DIAGRAM NOTES:

1. LIGHTING CONTROL DIAGRAM IS DIAGRAMMATIC AND REPRESENTS THE GENERAL CONTROL INTENT USING WATTSTOPPER AS BASIS OF DESIGN. REFER TO MANUFACTURER'S REQUIREMENTS AND PUBLISHED WIRING DIAGRAMS/CONTROL SUBMITTAL FOR ENTIRE SCOPE OF WORK. PROVIDE ALL PARTS REQUIRED FOR A FULLY FUNCTION SYSTEM.
2. THE RELAY LIGHTING CONTROL PANEL'S TIME CLOCK SHALL BE ASTRONOMIC AND PROGRAMMABLE WITH 365 DAY/HOLIDAY SCHEDULING AND 24 HOUR BATTER BACK-UP. RELAYS SHALL BE NORMALLY CLOSED, MECHANICALLY HELD, SINGLE POLE, RATED 20AMPS.

KEYED NOTES:

1. NORMAL LIGHTING PANELBOARD.
2. EMERGENCY LIGHTING PANELBOARD.
3. NETWORKABLE RELAY LIGHTING CONTROL PANEL BY WATTSTOPPER, LCMP SERIES, OR EQUIVALENT. REFER TO RELAY PANEL SCHEDULES ON SHEET EL501 FOR PROGRAMMING.
4. PROVIDE NON-CONTROLLED BRANCH CIRCUITS PER PANELBOARD SCHEDULES.
5. PROVIDE CONTROLLED BRANCH CIRCUITS PER PANELBOARD AND RELAY LIGHTING CONTROL PANEL SCHEDULES.
6. PROVIDE LOW VOLTAGE WIRING (AS REQUIRED FOR DIMMING) TO CONTROL DEVICES.
7. DIGITAL LIGHTING CONTROL SWITCH(ES). REFER TO SHEET 2/EL301 AND 2/EL501 FOR FURTHER INFORMATION.
8. FOR ADDITIONAL WIRING REQUIREMENTS, REFER TO DETAIL 3 ON THIS SHEET.
9. PHOTOCELL FOR ON/OFF CONTROL OF EXTERIOR LIGHT FIXTURES.
10. PHOTOCELL FOR ON/OFF & DIMMING CONTROL OF EXTERIOR LIGHT FIXTURES .
11. NETWORKABLE DIMMING RELAY LIGHTING CONTROL PANEL BY WATTSTOPPER, LCAP SERIES, OR EQUIVALENT. REFER TO RELAY PANEL SCHEDULES ON SHEET EL501 FOR PROGRAMMING.
12. PRESET DIMMING SCENE CONTROLLER. NOT CONNECTED TO RELAY PANELS.



N.T.S. 1 LIGHTING CONTROL DIAGRAM

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

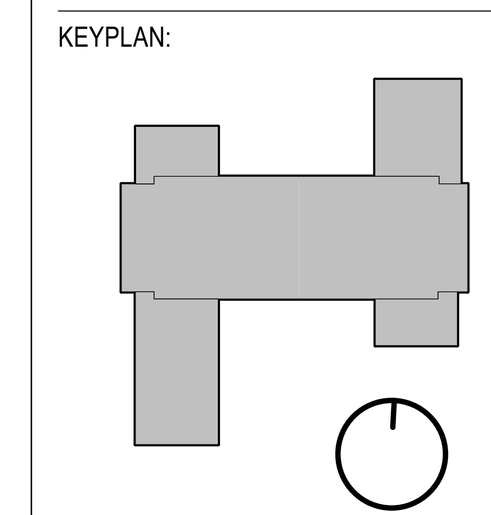
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

LIGHTING CONTROL DIAGRAM AND DETAILS

NUMBER:

EL301

8-BUTTON MASTER CONTROL SWITCH 'MS,LA' SCHEDULE			
ELEC ROOM #000E1			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-1E: R1	ELEVATOR LOBBY/RR VEST 000C1 GENERAL	ELEV LOB
2	LCP-N-1E: R2	CIRC. 000C2 GENERAL	CORR 1
3	LCP-N-1E: R3	CIRC. 000C6 GENERAL	CORR 2
4	LCP-N-1E: R4	CIRC. 000C7 GENERAL	CORR 3
5	LCP-N-1E: R8	CIRC. 000C4 WEST GENERAL	CORR 4G
6	LCP-N-1E: R9	CIRC. 000C4 WEST UPLIGHTS	CORR 4U
7	LCP-N-1E: R10	CIRC. 000C4 SOUTH GENERAL	CORR 5
8	LCP-N-1E: R1-4, 8-10	CIRCULATION ON/OFF	SPARE

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LD1' SCHEDULE			
CIRCULATION #000C4 NICHE			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	d1	80% DIMMING	80%
3	d1	60% DIMMING	60%
4	d1	40% DIMMING	40%
5	d1	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LD2' SCHEDULE			
CIRCULATION #000C4 NICHE			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	d2	80% DIMMING	80%
3	d2	60% DIMMING	60%
4	d2	40% DIMMING	40%
5	d2	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LD3' SCHEDULE			
CIRCULATION #000C4 NICHE			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	d3	80% DIMMING	80%
3	d3	60% DIMMING	60%
4	d3	40% DIMMING	40%
5	d3	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LD4' SCHEDULE			
CIRCULATION #000C4 NICHE			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	d4	80% DIMMING	80%
3	d4	60% DIMMING	60%
4	d4	40% DIMMING	40%
5	d4	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LD5' SCHEDULE			
CIRCULATION #000C4 NICHE			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	d5	80% DIMMING	80%
3	d5	60% DIMMING	60%
4	d5	40% DIMMING	40%
5	d5	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA1' SCHEDULE			
UNIVERSITY CLASSROOM #040			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a1	80% DIMMING	80%
3	a1	60% DIMMING	60%
4	a1	40% DIMMING	40%
5	a1	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA2' SCHEDULE			
UNIVERSITY CLASSROOM #040			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a2	80% DIMMING	80%
3	a2	60% DIMMING	60%
4	a2	40% DIMMING	40%
5	a2	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA3' SCHEDULE			
UNIVERSITY CLASSROOM #040			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a3	80% DIMMING	80%
3	a3	60% DIMMING	60%
4	a3	40% DIMMING	40%
5	a3	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LB1' SCHEDULE			
ACTIVE LEARNING CLASSROOM #045			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	b1	80% DIMMING	80%
3	b1	60% DIMMING	60%
4	b1	40% DIMMING	40%
5	b1	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LB2' SCHEDULE			
ACTIVE LEARNING CLASSROOM #045			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	b2	80% DIMMING	80%
3	b2	60% DIMMING	60%
4	b2	40% DIMMING	40%
5	b2	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA1' SCHEDULE			
ACTIVE LEARNING CLASSROOM #010C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a1	80% DIMMING	80%
3	a1	60% DIMMING	60%
4	a1	40% DIMMING	40%
5	a1	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA2' SCHEDULE			
ACTIVE LEARNING CLASSROOM #010C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a2	80% DIMMING	80%
3	a2	60% DIMMING	60%
4	a2	40% DIMMING	40%
5	a2	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LA3' SCHEDULE			
ACTIVE LEARNING CLASSROOM #010C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a3	80% DIMMING	80%
3	a3	60% DIMMING	60%
4	a3	40% DIMMING	40%
5	a3	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LB1' SCHEDULE			
ACTIVE LEARNING CLASSROOM #025C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a1	80% DIMMING	80%
3	a1	60% DIMMING	60%
4	a1	40% DIMMING	40%
5	a1	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LB2' SCHEDULE			
ACTIVE LEARNING CLASSROOM #025C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a2	80% DIMMING	80%
3	a2	60% DIMMING	60%
4	a2	40% DIMMING	40%
5	a2	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,LB3' SCHEDULE			
ACTIVE LEARNING CLASSROOM #025C			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a3	80% DIMMING	80%
3	a3	60% DIMMING	60%
4	a3	40% DIMMING	40%
5	a3	20% DIMMING	20%

8-BUTTON MASTER CONTROL SWITCH 'MS,1A' SCHEDULE			
ELEC ROOM #100E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-1E: R11	CIRC. 100C2 SOUTH GENERAL	CIRC S
2	LCP-N-1E: R12	CIRC. 100C2 NORTH GENERAL	CIRC N
3	LCP-N-1E: R13	ELEVATOR LOBBY 1C1 GENERAL	ELEV LOB
4	LCP-N-1E: R6	CIRC. 100C5/C7, VESTIBULE 100C8 GENERAL	CIRC E1
5	LCP-N-1E: R7	CIRC. 1C5 GENERAL	CIRC E2
6	LCP-N-1E: R18,R19	STAIR NO. 2	SPRL STR
7	-	SPARE	
8	LCP-N-1E: R6,7,11-13	CORRIDOR ON/OFF	CORRIDOR

8-BUTTON MASTER CONTROL SWITCH 'MS,1B' SCHEDULE			
ELEC ROOM #100E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-ELS-1E: RE1	SITE POLES SOUTH/WEST	SITE S/W
2	LCP-ELS-1E: RE2	SITE POLES NORTH/EAST	SITE N/E
3	LCP-ELS-1E: RE3	SITE POLES WEST (ALTERNATE #2A)	SITE W
4	LCP-ELS-1E: RE4	WALLPACKS	WALLPACK
5	-	SPARE	
6	-	SPARE	
7	-	SPARE	
8	-	SPARE	

8-BUTTON MASTER CONTROL SWITCH 'MS,1C' SCHEDULE			
LOBBY #145			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-1E: R14	LOBBY 145 GENERAL INTERIOR	LOBB INT
2	LCP-N-1E: R15	LOBBY 145 GENERAL EXTERIOR	LOBB EXT
3	LCP-N-1E: R16	LOBBY 145 SPECIALTY	LOBB SPC
4	LCP-N-1E: R17	CAFÉ 147	CAFÉ
5	LCP-N-1E: R22	BUILDING SIGNAGE	SIGNAGE
6	LCP-N-1E: R23	LANDSCAPE LIGHTING	LANDSCAP
7	LCP-N-1E: R24	HANDRAIL LIGHTING	HANDRAIL
8	-	SPARE	

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,1A' SCHEDULE			
LOBBY #145			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	a1,a2,a3	80% DIMMING	80%
3	a1,a2,a3	60% DIMMING	60%
4	a1,a2,a3	40% DIMMING	40%
5	a1,a2,a3	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,1B' SCHEDULE			
LOBBY #145			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	b1,b2,b3	80% DIMMING	80%
3	b1,b2,b3	60% DIMMING	60%
4	b1,b2,b3	40% DIMMING	40%
5	b1,b2,b3	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,1Y' SCHEDULE			
LOBBY #145			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	y	80% DIMMING	80%
3	y	60% DIMMING	60%
4	y	40% DIMMING	40%
5	y	20% DIMMING	20%

5-BUTTON PRESET DIMMING SCENE CONTROLLER SWITCH 'PD,1Z' SCHEDULE			
LOBBY #145			
BUTTON	ZONE CONTROLLED	DESCRIPTION	FIELD LABEL
1	ALL	ALL ON/OFF, RAISE/LOWER	RSE/LWR
2	z	80% DIMMING	80%
3	z	60% DIMMING	60%
4	z	40% DIMMING	40%
5	z	20% DIMMING	20%

8-BUTTON MASTER CONTROL SWITCH 'MS,2A' SCHEDULE			
ELEC ROOM #200E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-2E: R1	CIRC. 200C3 NORTH GENERAL	N CORR 1
2	LCP-N-2E: R2	CIRC. 200C3 NORTH LINEAR LED	N CORR 2
3	LCP-N-2E: R3	CIRC. 200C3 EAST, ELEV. LOBBY 200C2 GENERAL	E CORR 1
4	LCP-N-2E: R4	CIRC. 200C3 SOUTH GENERAL	S CORR 1
5	LCP-N-2E: R5	CIRC. 200C3 SOUTH LINEAR LED	S CORR 2
6	LCP-N-2E: R6	CIRC. 200C3 WEST, ELEV. LOBBY 200C1 GENERAL	W CORR 1
7	LCP-N-2E: R7	CIRC. 200C4, OPEN OFFICE 220 GENERAL	NE OFC
8	LCP-N-2E: R8	CIRC. 200C5, OPEN OFFICE 296 GENERAL	SE OFC

8-BUTTON MASTER CONTROL SWITCH 'MS,2B' SCHEDULE			
ELEC ROOM #200E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-2E: R1-R6	CORRIDOR ON/OFF	CORRIDOR
2	LCP-N-2E: R7-R8	CIRCULATION ON/OFF	CIRCULAT
3		SPARE	
4		SPARE	
5		SPARE	
6		SPARE	
7		SPARE	
8		SPARE	

8-BUTTON MASTER CONTROL SWITCH 'MS,3A' SCHEDULE			
ELEC ROOM #300E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-3E: R1	CIRC. 300C3 NORTH GENERAL	N CORR 1
2	LCP-N-3E: R2	CIRC. 300C3 NORTH LINEAR LED	N CORR 2
3	LCP-N-3E: R3	CIRC. 300C3 EAST, ELEV. LOBBY 300C2 GENERAL	E CORR 1
4	LCP-N-3E: R4	CIRC. 300C3 SOUTH GENERAL	S CORR 1
5	LCP-N-3E: R5	CIRC. 300C3 SOUTH LINEAR LED	S CORR 2
6	LCP-N-3E: R6	CIRC. 300C3 WEST, ELEV. LOBBY 300C1 GENERAL	W CORR 1
7	LCP-N-3E: R7	CIRC. 300C4, OPEN OFFICE 320 GENERAL	NE OFC
8	LCP-N-3E: R8	CIRC. 300C5, OPEN OFFICE 396 GENERAL	SE OFC

8-BUTTON MASTER CONTROL SWITCH 'MS,3B' SCHEDULE			
ELEC ROOM #300E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-3E: R1-R6	CORRIDOR ON/OFF	CORRIDOR
2	LCP-N-3E: R7-R8	CIRCULATION ON/OFF	CIRCULAT
3		SPARE	
4		SPARE	
5		SPARE	
6		SPARE	
7		SPARE	
8		SPARE	

8-BUTTON MASTER CONTROL SWITCH 'MS,4A' SCHEDULE			
ELEC ROOM #400E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-4E: R1	CIRC. 400C3 NORTH GENERAL	N CORR 1
2	LCP-N-4E: R2	CIRC. 400C3 NORTH LINEAR LED	N CORR 2
3	LCP-N-4E: R3	CIRC. 400C3 EAST, ELEV. LOBBY 400C2 GENERAL	E CORR 1
4	LCP-N-4E: R4	CIRC. 400C3 SOUTH GENERAL	S CORR 1
5	LCP-N-4E: R5	CIRC. 400C3 SOUTH LINEAR LED	S CORR 2
6	LCP-N-4E: R6	CIRC. 400C3 WEST, ELEV. LOBBY 400C1 GENERAL	W CORR 1
7	LCP-N-4E: R7	CIRC. 400C4, OPEN OFFICE 420 GENERAL	NE OFC
8	LCP-N-4E: R8	CIRC. 400C5, OPEN OFFICE 496 GENERAL	SE OFC

8-BUTTON MASTER CONTROL SWITCH 'MS,4B' SCHEDULE			
ELEC ROOM #400E2			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-4E: R1-R6	CORRIDOR ON/OFF	CORRIDOR
2	LCP-N-4E: R7-R8	CIRCULATION ON/OFF	CIRCULAT
3		SPARE	
4		SPARE	
5		SPARE	
6		SPARE	
7		SPARE	
8		SPARE	

8-BUTTON MASTER CONTROL SWITCH 'MS,K' SCHEDULE			
ELEC ROOM #113 (KIRK)			
BUTTON	RELAY(S) CONTROLLED	DESCRIPTION	FIELD LABEL
1	LCP-N-KIRK: RK1	EXTERIOR UTILITY YARD WALLPACKS	SITE
2	LCP-N-KIRK: RK2	EXTERIOR UTILITY YARD DOWNLIGHTS	
3	LCP-N-KIRK: RK3	KIRK BRIDGE	
4	-	SPARE	
5	-	SPARE	
6	-	SPARE	
7	-	SPARE	
8	-	SPARE	

N.T.S. 2 SWITCHBANK SCHEDULES

DIMMING RELAY LCP-ELS-1E SCHEDULE				
RELAY #	CIRCUIT #	DESCRIPTION	DIMMING MODULE	SCENE
RE1	LP-ELS-1E/1	SITE POLES SOUTH/WEST	0-10V	A
RE2	LP-ELS-1E/3	SITE POLES NORTH/EAST	0-10V	A
RE3	LP-ELS-1E/5	SITE POLES WEST (ALTERNATE #2A)	0-10V	A
RE4	LP-ELS-1E/11	WALLPACKS	0-10V	B
RE5	-	SPARE	-	-
RE6	-	SPARE	-	-
RE7	-	SPARE	-	-
RE8	-	SPARE	-	-
SCENE SUMMARY				
A	SITE POLES			
B	WALLPACKS			

RELAY LCP-N-1E SCHEDULE			
RELAY #	CIRCUIT #	DESCRIPTION	SCENE
R1	LP-N-1E/4	ELEVATOR LOBBY/RR VEST 000C1 GENERAL	A
R2	LP-N-1E/2	CIRC. 000C2 GENERAL	A
R3	LP-N-1E/2	CIRC. 000C6 GENERAL	A
R4	LP-N-1E/2	CIRC. 000C7 GENERAL	A
R5	-	SPARE	
R6	LP-N-1E/7	CIRC. 100C5/C7, VESTIBULE 100C8 GENERAL	C
R7	LP-N-1E/6	CIRC. 1C5 GENERAL	C
R8	LP-N-1E/16	CIRC. 000C4 WEST GENERAL	A
R9	LP-N-1E/14	CIRC. 000C4 WEST UPLIGHTS	B
R10	LP-N-1E/13	CIRC. 000C4 SOUTH GENERAL	A
R11	LP-N-1E/13	CIRC. 100C2 SOUTH GENERAL	C
R12	LP-N-1E/12	CIRC. 100C2 NORTH GENERAL	C
R13	LP-N-1E/18	ELEVATOR LOBBY 1C1 GENERAL	C
R14	LP-N-1E/12	LOBBY 145 GENERAL	D
R15	LP-N-1E/11	LOBBY 145 EXTERIOR	E
R16	LP-N-1E/12	LOBBY 145 SPECIALTY	F
R17	LP-N-1E/17	CAFÉ 147	H
R18	PP-N-1E/38	STAIR NO. 2 TRACK LIGHTS	G
R19	LP-N-1E/19	STAIR NO. 2 DOWNLIGHTS	G
R20	-	SPARE	
R21	-	SPARE	
R22	PP-N-1E-1/58	BUILDING SIGNAGE	I
R23	LP-N-1E/1	LANDSCAPE LIGHTING	J
R24	PP-N-1E-1/56	HANDRAIL LIGHTS	K
SCENE SUMMARY			
A	LL CIRCULATION GENERAL		
B	LL CIRCULATION SPECIALTY		
C	1ST CIRCULATION GENERAL		
D	1ST LOBBY GENERAL		
E	1ST LOBBY EXTERIOR		
F	1ST LOBBY SPECIALTY		
G	STAIR NO. 2 LIGHTS		
H	CAFÉ		
I	BUILDING SIGNAGE		
J	LANDSCAPING		
K	HANDRAIL		
-			

RELAY LCP-N-2E SCHEDULE			
RELAY #	CIRCUIT #	DESCRIPTION	SCENE
R1	LP-N-2E/7	CIRC. 200C3 NORTH GENERAL	A
R2	LP-N-2E/7	CIRC. 200C3 NORTH LINEAR LED	B
R3	LP-N-2E/2	CIRC. 200C3 EAST, ELEV. LOBBY 200C2 GENERAL	A
R4	LP-N-2E/8	CIRC. 200C3 SOUTH GENERAL	A
R5	LP-N-2E/8	CIRC. 200C3 SOUTH LINEAR LED	B
R6	LP-N-2E/9	CIRC. 200C3 WEST, ELEV. LOBBY 200C1 GENERAL	A
R7	LP-N-2E/1	CIRC. 200C4, OPEN OFFICE 220 GENERAL	C
R8	LP-N-2E/2	CIRC. 200C5, OPEN OFFICE 296 GENERAL	C
R9	-	SPARE	-
R10	-	SPARE	-
R11	-	SPARE	-
R12	-	SPRAE	-
SCENE SUMMARY			
A	CIRCULATION GENERAL		
B	CIRCULATION LINEAR LED		
C	OFFICE WING CIRCULATION GENERAL		

RELAY LCP-N-3E SCHEDULE			
RELAY #	CIRCUIT #	DESCRIPTION	SCENE
R1	LP-N-3E/7	CIRC. 300C3 NORTH GENERAL	A
R2	LP-N-3E/7	CIRC. 300C3 NORTH LINEAR LED	B
R3	LP-N-3E/2	CIRC. 300C3 EAST, ELEV. LOBBY 300C2 GENERAL	A
R4	LP-N-3E/8	CIRC. 300C3 SOUTH GENERAL	A
R5	LP-N-3E/8	CIRC. 300C3 SOUTH LINEAR LED	B
R6	LP-N-3E/9	CIRC. 300C3 WEST, ELEV. LOBBY 300C1 GENERAL	A
R7	LP-N-3E/1	CIRC. 300C4, OPEN OFFICE 320 GENERAL	C
R8	LP-N-3E/2	CIRC. 300C5, OPEN OFFICE 396 GENERAL	C
R9	#	SPARE	-
R10	#	SPARE	-
R11	#	SPARE	-
R12	#	SPRAE	-
SCENE SUMMARY			
A	CIRCULATION GENERAL		
B	CIRCULATION LINEAR LED		
C	OFFICE WING CIRCULATION GENERAL		

RELAY LCP-N-4E SCHEDULE			
RELAY #	CIRCUIT #	DESCRIPTION	SCENE
R1	LP-N-4E/9	CIRC. 400C3 NORTH GENERAL	A
R2	LP-N-4E/9	CIRC. 400C3 NORTH LINEAR LED	B
R3	LP-N-4E/4	CIRC. 400C3 EAST, ELEV. LOBBY 400C2 GENERAL	A
R4	LP-N-4E/10	CIRC. 400C3 SOUTH GENERAL	A
R5	LP-N-4E/10	CIRC. 400C3 SOUTH LINEAR LED	B
R6	LP-N-4E/11	CIRC. 400C3 WEST, ELEV. LOBBY 400C1 GENERAL	A
R7	LP-N-4E/3	CIRC. 400C4, OPEN OFFICE 420 GENERAL	C
R8	LP-N-4E/4	CIRC. 400C5, OPEN OFFICE 496 GENERAL	C
R9	#	SPARE	-
R10	#	SPARE	-
R11	#	SPARE	-
R12	#	SPRAE	-
SCENE SUMMARY			
A	CIRCULATION GENERAL		
B	CIRCULATION LINEAR LED		
C	OFFICE WING CIRCULATION GENERAL		

DIMMING RELAY LCP-N-KIRK SCHEDULE				
RELAY #	CIRCUIT #	DESCRIPTION	DIMMING MODULE	SCENE
RK1	-	EXTERIOR UTILITY YARD WALLPACKS	0-10V	A
RK2	-	EXTERIOR UTILITY YARD DOWNLIGHTS	0-10V	A
RK3	-	KIRK BRIDGE	0-10V	A
RK4	-	SPARE	-	-
RK5	-	SPARE	-	-
RK6	-	SPARE	-	-
RK7	-	SPARE	-	-
RK8	-	SPARE	-	-
SCENE SUMMARY				
A	SITE LIGHTING			

N.T.S. 1 RELAY PANEL SCHEDULES

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

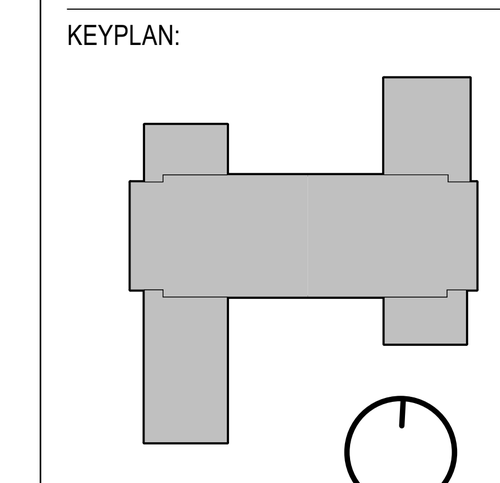
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00
SCALE: N.T.S.

ELECTRICAL

TITLE:

LIGHTING CONTROL SCHEDULES

NUMBER:

EL501

GENERAL NOTES

1 ALL LIGHTING FIXTURES, LAMPS AND RELATED DEVICES FURNISHED UNDER THIS CONTRACT SHALL CARRY THE APPROVAL LABEL OF UL OR ETL FOR THE SPECIFIC APPLICATION IN WHICH THEY ARE USED.

2 THE STATEMENT "FINISH TO BE SELECTED BY DESIGN PROFESSIONAL" SHALL BE INTERPRETED TO MEAN THAT THE FINISH OF THE LUMINAIRE SHALL MATCH THE APPEARANCE OF A PAINT CHIP, COLOR NUMBER, OR METAL SWATCH FURNISHED BY THE DESIGN PROFESSIONAL DURING THE SUBMITTAL REVIEW PROCESS.

3 UNLESS OTHERWISE NOTED, HIGH WATTAGE H.I.D. LAMP BALLASTS SHALL BE CWA TYPE; LOW WATTAGE H.I.D. LAMP BALLASTS SHALL BE ELECTRONIC TYPE.

4 WHITE L.E.D.'S SHALL MEET, AT A MINIMUM, CHROMATICITY STANDARDS SET BY ANSI/NEMA/ANSLG C79.377-2015. L.E.D. LUMEN MAINTENANCE SHALL BE MEASURED IN ACCORDANCE WITH IESNA LM-80 STANDARDS. PHOTOMETRIC TESTING FOR SOLID STATE LUMINAIRES SHALL BE IN ACCORDANCE WITH IESNA LM-79 STANDARDS.

5 UNLESS OTHERWISE NOTED, LAMP DESIGNATIONS ARE FOR LAMPS BY OSRAM/SYLVANIA. LAMPS OF EQUIVALENT CHARACTERISTICS WITH EQUAL OR BETTER PERFORMANCE FROM GENERAL ELECTRIC, PHILIPS LIGHTING COMPANY AND VENTURE LIGHTING ARE ACCEPTABLE ALTERNATIVES.

6 CONTRACTOR SHALL CONFIRM FIXTURE VOLTAGES, CEILING TRIMS, AND MOUNTING HARDWARE ARE COMPATIBLE WITH THEIR APPLICATION AS DETERMINED BY THE DESIGN PROFESSIONAL PRIOR TO ORDERING FIXTURES.

7 CONTRACTOR SHALL SELECT, FURNISH AND INSTALL THE CORRECT SIZE OF SECONDARY WIRING FROM REMOTE TRANSFORMERS AND/OR REMOTE BALLASTS AS REQUIRED TO KEEP VOLTAGE DROP IN THE SECONDARY WIRING BELOW 3% OF RATED VOLTAGE.

8 ALL CERAMIC METAL HALIDE AND L.E.D. LAMPS SHALL BE BURNED CONTINUOUSLY FOR 100 HOURS PRIOR TO FOCUSING OF FIXTURES AND COMMISSIONING OF CONTROL SYSTEMS.

9 CONTRACTOR SHALL PROVIDE LABOR AND EQUIPMENT FOR FOCUSING OF ADJUSTABLE FIXTURES AND PRESETTING OF LIGHTING CONTROL SYSTEMS. FOCUSING AND PRESETTING SHALL BE DONE IN THE PRESENCE OF THE DESIGN PROFESSIONAL. CONTRACTOR SHALL FOCUS LIGHTING AFTER DARK IF DIRECTED BY THE OWNER'S REPRESENTATIVE. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL PROVIDE AT LEAST ONE DAY OF A FACTORY-TRAINED AND CERTIFIED TECHNICIAN TO PROVIDE WARRANTY START UP AND PROGRAMMING FOR ALL LIGHTING CONTROL SYSTEMS AND PROGRAMMABLE LIGHTING FIXTURES.

10 CONTRACTOR SHALL PROVIDE THE FOLLOWING WITH THEIR BID:
A. THE UNIT PRICE, WITHOUT LAMP, FOR EACH LIGHTING FIXTURE TYPE LISTED WITHIN THE LIGHTING FIXTURE SCHEDULE. THE UNIT PRICE SHALL BE FOR ONE OF THE LISTED MANUFACTURER'S FOR THAT PARTICULAR FIXTURE. THE MANUFACTURER SHALL BE IDENTIFIED. SUBSTITUTIONS FOR FIXTURES PROVIDED BY MANUFACTURERS NOT LISTED IN THE SCHEDULE ARE NOT ACCEPTABLE. SEE BELOW FOR REQUIREMENTS ASSOCIATED WITH SUBMITTING LIGHTING FIXTURE SUBSTITUTIONS.
B.THE TOTAL QUANTITY OF EACH FIXTURE TYPE WITH THE EXTENDED COST FOR THAT QUANTITY.
C.THE UNIT PRICE, TYPE, AND QUANTITY OF LAMPS.

11 WITHIN 21 DAYS OF CONTRACT AWARD, THE CONTRACTOR SHALL FURNISH SUBMITTALS FOR ALL SPECIFIED LIGHTING FIXTURES FOR REVIEW BY THE DESIGN PROFESSIONAL. THE SUBMITTALS SHALL INCLUDE LUMINAIRE CATALOG CUTS, SUBMITTAL SHEETS, OR MANUFACTURERS SHOP DRAWINGS INDICATING THE FOLLOWING:
A. MANUFACTURER'S NAME AND COMPLETE CATALOG NUMBER
B. FIXTURE TYPE, DIMENSIONS AND FINISHES
C. FIXTURE PHOTOMETRIC TEST DATA FROM AN INDEPENDENT TEST LABORATORY
D. FIXTURE ACCESSORIES, COMPONENTS, AND HARDWARE WHEN SPECIFIED
E. LAMP TYPE, QUANTITY, WATTAGE, LUMEN OUTPUT, RATED LIFE, COLOR TEMPERATURE, COLOR RENDERING INDEX AND BEAM SPREAD AS APPLICABLE
F. BALLAST TYPE AND FIXTURE VOLTAGE
SUBMITTALS FOR LIGHTING FIXTURES MOUNTED WITHIN ARCHITECTURAL COVES OR CASEWORK, VARIABLE LENGTH FIXTURES, AND FOR NON-STANDARD, OR CUSTOM FIXTURES, SHALL ALSO INCLUDE SCALED DRAWINGS SHOWING THE LAYOUT AND DIMENSIONS OF ALL FIXTURE COMPONENTS AND ACCESSORIES, THE METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS.

12 LIGHTING FIXTURE SUBSTITUTION REQUESTS MUST BE SENT TO AND RECEIVED BY THE LIGHTING DESIGNER FOR REVIEW 14 DAYS PRIOR TO BID DATE. FAILURE TO SUBMIT WITHIN THIS DEADLINE SHALL CONSTITUTE A GUARANTEE THAT THE SPECIFIED FIXTURES WILL BE SUPPLIED. THE SUBMITTAL SHALL INCLUDE THE FOLLOWING:
A. SIX HARD COPIES OF THE SUBMITTALS REQUIRED ABOVE FOR BOTH THE SPECIFIED FIXTURE AND THE PROPOSED SUBSTITUTION.
B. ONE NON-RETURNABLE WORKING SAMPLE OF THE PROPOSED SUBSTITUTE FIXTURE WITH CORD & PLUG CONNECTION FOR 120 VOLT OPERATION, AND SPECIFIED LAMP(S).
C. CONTRACTOR'S STATEMENT INDICATING THE EFFECT OF THE SUBSTITUTION ON THE CONSTRUCTION SCHEDULE COMPARED TO THE SCHEDULE WITHOUT THE APPROVAL OF THE PROPOSED SUBSTITUTION.
D. CONTRACTOR'S CERTIFICATION STATING THAT THE PROPOSED SUBSTITUTION CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS IN EVERY RESPECT AND IS APPROPRIATE FOR THE APPLICATIONS INDICATED IN THE DOCUMENTS.
E. CONTRACTOR'S CERTIFICATION STATING THAT ANY MODIFICATIONS TO ANY BUILDING SYSTEM OR EQUIPMENT THAT MAY RESULT FROM THE PROPOSED LIGHTING FIXTURE SUBSTITUTION WILL BE DESIGNED AND CONSTRUCTED AT THE CONTRACTOR'S EXPENSE.
F. CONTRACTOR'S WAIVER OF RIGHTS TO ADDITIONAL PAYMENT OR TIME THAT MAY BECOME NECESSARY SHOULD THE PROPOSED SUBSTITUTION FAIL TO PERFORM IN A MANNER THAT MATCHES THE SPECIFIED FIXTURE.
G. CONTRACTOR-NET UNIT PRICE FOR THE SPECIFIED FIXTURE AND FOR THE PROPOSED SUBSTITUTE FIXTURE.

DEFINITIONS:

1 CORRELATED COLOR TEMPERATURE (CCT): THE ABSOLUTE TEMPERATURE, MEASURED IN DEGREES KELVIN, OF A BLACKBODY RADIATOR HAVING CHROMATICITY RESEMBLING THAT OF AN ELECTRIC LIGHT SOURCE. FOR LED SOURCES CCT SHALL NOT DEVIATE FROM THE REFERENCE COLOR TEMPERATURE BY NO MORE THAN THREE MACADAM ELLIPSES, AS DEFINED BY NEMA/ANSI/ANSLG C38.377-2011.

2 COLOR RENDERING INDEX (CRI): MEASURE OF COLOR SHIFT OBJECTS UNDERGO WHEN ILLUMINATED BY AN ELECTRIC LIGHT SOURCE AS COMPARED WITH THE COLOR OF THE SAME OBJECTS ILLUMINATED BY A REFERENCE SOURCE AT THE SAME COLOR TEMPERATURE. CRI VALUES FOR ELECTRIC LIGHT SOURCES RANGE FROM APPROXIMATELY 20 (LOW PRESSURE SODIUM) TO 99 (HALOGEN). CRI VALUES FOR LED SOURCES SHALL BE MEASURED AFTER 6000 HOURS AND SHALL NOT DEVIATE MORE THAN 3 POINTS FROM THE RATED VALUE.

3 LED LIGHT ENGINE: THE COMBINED LED LIGHT SOURCE AND ITS ASSOCIATED ELECTRONIC DRIVER. THE LED LIGHT ENGINE MAY HAVE AN INTEGRAL DRIVER OR THE DRIVER MAY BE HOUSED IN A SEPARATE ENCLOSURE.

4 LED DRIVER: CONTROL DEVICE THAT MAINTAINS CONSTANT AMOUNT OF CURRENT TO THE LED LIGHT SOURCE. LED DRIVERS GENERALLY OPERATE AT 12VDC OR 24VDC. SOME DRIVERS ARE DESIGNED TO ACCEPT BRANCH CIRCUIT VOLTAGE RANGING FROM 120VAC THROUGH 277VAC OR MAY REQUIRE A SEPARATE TRANSFORMER.

5 TRANSFORMER: ELECTROMAGNETIC OR ELECTRONIC DEVICE THAT STEPS DOWN PRIMARY VOLTAGE TO A LOWER SECONDARY VOLTAGE. GENERALLY SECONDARY VOLTAGE WILL BE 12V OR 24V

6 DIMMING: THE REDUCTION OF LIGHT INTENSITY OF A LIGHT SOURCE. ALL SOURCES SHALL HAVE A SMOOTH, FLICKER-FREE AND CONTINUOUS DIMMING CURVE AS NOTED IN LUMINAIRE DESCRIPTION. LED SOURCES MAY BE DIMMED BY EITHER CONSTANT CURRENT REDUCTION (CCR) OR BY PULSE WIDTH MODULATION (PWM) DIMMING FOR CONSTANT CURRENT DRIVERS.

7 RATED LUMEN MAINTENANCE LIFE: THE ELAPSED OPERATING TIME OVER WHICH AN LED LIGHT SOURCE WILL MAINTAIN THE PERCENTAGE OF ITS INITIAL LUMEN OUTPUT
L70: TIME, IN HOURS, TO 70% LUMEN MAINTENANCE
L50: TIME, IN HOURS, TO 50% LUMEN MAINTENANCE

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMPS QUANTITY	LAMPS TYPE	INPUT WATTS	INPUT VA	VOLTAGE	DIMMING TYPE	ALTERNATE MANUFACTURERS	MOUNTING	DLC/ ENERGY STAR	REMARKS
AL1	LINEAR LED SLOT LIGHT, NOMINAL 6 INCH WIDE X 4 INCH DEEP STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, PROVIDE LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, SATIN ACRYLIC LENS WITH 1 INCH REGRESS, PROVIDE CEILING MOUNTING HARDWARE FOR GRID CEILING, INTEGRAL 0-10V LED DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 700 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SL6L-LOP-[LENGTH]-RLP-TG-80CRI-35K-600LMF-MIN1-277-ZT	-	LEDS BY MANUFACTURER	6.0 / FT	6.7 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	DLC	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL1A	SAME AS TYPE AL1 EXCEPT NOMINAL 900 INITIAL DELIVERED LUMEN OUTPUT.	MARK LIGHTING	SL6L-LOP-[LENGTH]-RLP-TG-80CRI-35K-900LMF-MIN1-277-ZT	-	LEDS BY MANUFACTURER	8.0 / FT	8.9 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	DLC	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL2	LINEAR LED SLOT LIGHT, NOMINAL 4 INCH WIDE X 4 INCH DEEP STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, PROVIDE LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, SATIN ACRYLIC LENS WITH 1 INCH REGRESS, PROVIDE CEILING MOUNTING HARDWARE FOR GRID CEILING, INTEGRAL 0-10V LED DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 600 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SL4L-LOP-[LENGTH]-RLP-TG-80CRI-35K-600LMF-MIN1-277-ZT	-	LEDS BY MANUFACTURER	6.0 / FT	6.6 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	DLC	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL2A	SAM E AS TYPE AL2, EXCEPT 2 FEET LONG, AND PROVIDE NOMINAL 1400 DELIVERED LUMENS.	MARK LIGHTING	SL4L-LOP-2FT-RLP-TG-80CRI-35K-800LMF-MIN1-277-ZT	-	LEDS BY MANUFACTURER	16 / FT	17.7 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	DLC	
AL2B	SAM E AS TYPE AL2, EXCEPT PROVIDE NOMINAL 700 DELIVERED LUMENS PER FOOT.	MARK LIGHTING	SL4L-LOP-[LENGTH]-RLP-TG-80CRI-35K-800LMF-MIN1-277-ZT	-	LEDS BY MANUFACTURER	6.0 / FT	6.6 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	DLC	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL3A	1-LIGHT LED ADJUSTABLE LUMINAIRE, NOMINAL 5 INCH SQUARE APERTURE, NOMINAL 13 INCH LONG X 9-1/2 INCH WIDE X 7-1/2 INCH DEEP STEEL HOUSING WITH ALUMINUM TRIM FLANGE, HORIZONTAL 360 DEGREE ROTATION, LOCKABLE VERTICAL TILT UP TO 30 DEGREES, PROVIDE 50-DEGREE BEAM OPTICS, OVERALL FINISH OF INTERIOR HOUSING TO BE WHITE, TRIM, AND LUMINAIRE HEADS TO BE WHITE, PROVIDE INTEGRAL 0-10V LED DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 950 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	INTENSE LIGHTING	TRIM: MXG2RTR1-L0-35-50-W-W-D101 HOUSING: IP2-4FK-1-D101-27	-	LEDS BY MANUFACTURER	10.0	11.1	277	0-10V	3G AMERLUX	RECESSED	-	
AL4	SEMI-RECESSED 2X2 LUMINAIRE WITH 4-INCH DROPPED FROSTED ACRYLIC LENS, OVERALL WHITE PAINT FINISH, PROVIDE INTEGRAL LED DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 2,000 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	FOCAL POINT	FNVL-22-AC4-LL1-35K-1C-UNV-L3D-[MOUNTING]-WH	-	LEDS BY MANUFACTURER	28.0	31.1	277	TBD	AXIS	RECESSED	-	
AL5	DELETED	-	-	-	-	-	-	-	-	-	-	-	
AL6	LINEAR LED SLOT LIGHT, NOMINAL 5 INCH WIDE X 8 FOOT LONG X 4 INCH DEEP EXTRUDED ALUMINUM HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, FLUSH SATIN ACRYLIC LENS, TWO (2) DOWNLIGHT MODULES LOCATED AT START AND END OF FIXTURE LENGTH WITH 40 DEGREE BEAM SPREAD OPTIC, PROVIDE (2) INTEGRAL 0-10V LED DRIVERS CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT, LINEAR LIGHT SOURCE AND DOWNLIGHT MODULES TO BE ON SEPARATE CIRCUITS, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, PROVIDE CEILING MOUNTING HARDWARE AS REQUIRED FOR SPECIFIED CEILING. LED REQUIREMENTS FOR LINEAR SOURCE: NOMINAL 1,000 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY. LED REQUIREMENTS FOR DOWNLIGHT MODULE: NOMINAL 1,800 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	LUMENWERX	VIA5RF-HLO-LED-80-1000-35-8-UNV-D1-1-TRIMLESS DECOUSTIC-CF#-2COB40-80-1800-35-D1	-	LEDS BY MANUFACTURER	60.0	67.0	277	0-10V	AXIS ARCHITECTURAL LIGHTING WORKS	RECESSED	DLC	CONTRACTOR TO PROVIDE SCALED DRAWINGS OF FIXTURE LAYOUTS FOR REVIEW BY DESIGN PROFESSIONAL PRIOR TO RELEASE OF ORDER. DRAWINGS TO INCLUDE ALL LAMP ARRANGEMENTS AND A COMPLETE BILL OF MATERIALS
AL6A	SAME AS TYPE AL6, EXCEPT NO INTEGRAL DOWNLIGHTS AND 2 FEET LONG.	LUMENWERX	VIA5RF-HLO-LED-80-1000-35-2FT-UNV-D1-1-TRIMLESS DECOUSTIC-CF#	-	LEDS BY MANUFACTURER	18.0	20.0	277	0-10V	AXIS ARCHITECTURAL LIGHTING WORKS	RECESSED	DLC	
AL8	RECESSED LINEAR LED WALLWASHER, NOMINAL 4 INCH WIDE X 18 FOOT LONG X 4-1/2 INCH DEEP STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, SNAP-IN SATIN ACRYLIC FLUSH LENS, PROVIDE WALL WASH OPTIC, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 12,600 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SL4L-LOP-18FT-FLP-FL-80CRI-35K-800LMF-WW-MIN1-277-ZT	-	LEDS BY MANUFACTURER	144.0	160.0	277	0-10V	NEO-RAY FINELITE	RECESSED	DLC	
AL8A	SAME AS TYPE AL8, EXCEPT 8 FEET LONG AND 3,200 INITIAL DELIVERED LUMENS.	MARK LIGHTING	SL4L-LOP-8FT-FLP-[CEILING TRIM]-80CRI-35K-400LMF-WW-MIN1-277-ZT	-	LEDS BY MANUFACTURER	32.0	35.6	277	0-10V	NEO-RAY FINELITE	RECESSED	DLC	
AL10	RECESSED LINEAR LED WALLWASHER, NOMINAL 2 INCH WIDE X 2 FOOT LONG X 4-1/2 INCH DEEP STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, SNAP-IN SATIN FLUSH ACRYLIC LENS, PROVIDE WALL WASH OPTIC, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 300 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SL2L-LOP-2FT-FLP-[CEILING]-80CRI-35K-400LMF-WW-MIN1-277-ZT	-	LEDS BY MANUFACTURER	4.0 / FT	4.4 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	-	
AL10B	SAME AS TYPE AL10, EXCEPT PROVIDE LENGTHS AS INDICATED IN ARCHITECTURAL DRAWINGS.	MARK LIGHTING	SL2L-LOP-[LENGTH]-FLP-[CEILING]-80CRI-35K-400LMF-WW-MIN1-277 -ZT	-	LEDS BY MANUFACTURER	4.0 / FT	4.4 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	-	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL11	LINEAR LED SLOT LIGHT, NOMINAL 2 INCH WIDE X 4-1/2 INCH DEEP STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, PROVIDE LENGTHS AS INDICATED IN ARCHITECTURAL DRAWINGS, SNAP-IN SATIN FLUSH ACRYLIC LENS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 300 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SL2L-LOP-[LENGTH]-FLP-[CEILING TRIM]-80CRI-35K-400LMF-MIN1-277V-ZT	-	LEDS BY MANUFACTURER	4.0 / FT	4.4 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	-	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL11A	SAME AS TYPE AL11, EXCEPT PROVIDE MILLWORK TRIM AND WALLWASH OPTIC.	NEO RAY	S122-DR-LO-35-FES-[LENGTH]-1-U-HCD-3-W	-	LEDS BY MANUFACTURER	4.0 / FT	4.4 / FT	277	0-10V	ZUMTOBEL NEO-RAY	RECESSED	-	

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

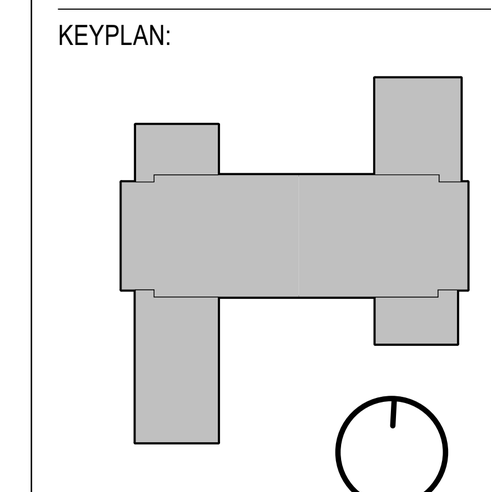
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

LIGHTING FIXTURE SCHEDULE

NUMBER:

EL600

AL15	RECESSED LED PERIMETER SLOT LIGHT, NOMINAL 4 INCH WIDE X LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, STEEL HOUSING WITH EXTRUDED ALUMINUM TRIM FLANGE, SNAP-IN FROSTED ACRYLIC LENS WITH 3 INCH REGRESS, HIGH REFLECTANCE WHITE PAINTED REFLECTOR, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 2% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 450 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	MARK LIGHTING	SPRL-[LENGTH]-[CEILING]-N-35-AD-277-FA-NX	-	LEDS BY MANUFACTURER	6.5 / FT	7.2 / FT	277	0-10V	NEO-RAY FINELITE	RECESSED	-	PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LED LAMP AND POWER SUPPLIES, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
AL17	RECESSED 4 INCH DIAMETER LED DOWNLIGHT, NOMINAL 16 INCH WIDE X 6-1/2 INCH DEEP STEEL HOUSING, SEMI-SPECULAR CLEAR ALZAK REFLECTOR, 1.0 SPACING TO MOUNTING HEIGHT RATIO, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. U.L. WET LOCATION-LISTED. LED REQUIREMENTS: NOMINAL 750 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	GOTHAM	EVO-35/07-4AR-MWD-LSS-MVOLT-EZ1	-	LEDS BY MANUFACTURER	10.3	11.4	120/277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL17A	SAME AS TYPE AL17 EXCEPT WITH NOMINAL 1000 INITIAL DELIVERED LUMEN OUTPUT.	GOTHAM	EVO-35/10-4AR-MWD-LSS-MVOLT-EZ1	-	LEDS BY MANUFACTURER	12.8	14.2	277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL17B	SAME AS TYPE AL17 EXCEPT WITH NOMINAL 1500 INITIAL DELIVERED LUMEN OUTPUT.	GOTHAM	EVO-35/15-4AR-MWD-LSS-MVOLT-EZ1	-	LEDS BY MANUFACTURER	17.3	19.2	277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL17C	SAME AS TYPE AL17 EXCEPT WITH NOMINAL 2500 INITIAL DELIVERED LUMEN OUTPUT.	GOTHAM	EVO-35/25-4AR-MWD-LSS-MVOLT-EZ1	-	LEDS BY MANUFACTURER	28.9	32.1	277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL18	RECESSED 4 INCH DIAMETER LED WALLWASHER, NOMINAL 16 INCH WIDE X 6-1/2 INCH DEEP STEEL HOUSING, SEMI-SPECULAR CLEAR ALZAK KICKER REFLECTOR, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 750 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	GOTHAM	EVO-WW-35/07-4AR-LSS-MVOLT-EZ1	-	LEDS BY MANUFACTURER	10.3	11.4	277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL18A	SAME AS TYPE AL18, EXCEPT WITH NOMINAL 1000 INITIAL DELIVERED LUMEN OUTPUT.	GOTHAM	EVO-WW-35/10-4AR-LSS-MVOLT-EZ10	-	LEDS BY MANUFACTURER	14.0	15.6	277	0-10V	LIGHTOLIER - CALCULITE SERIES	RECESSED	-	
AL19	RECSSED 4 INCH DIAMETER LED DOWNLIGHT, NOMINAL 6 INCH TALL ALUMINUM HOUSING, ALUMINUM REFLECTOR WITH MAXIMUM 1/2 INCH WIDE TRIM FLANGE, PROVIDE 60-DEGREE BEAM OPTICS, OVERALL FINISH TO BE WHITE, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 1,000 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	INTERLUX	E95708-T-60	-	LEDS BY MANUFACTURER	15.0	16.7	277	0-10V	LUMENPULSE AMERLUX - EVOKE SERIES	RECESSED	-	
AL19A	SAME AS TYPE AL19, EXCEPT 30-DEGREE BEAM OPTICS.	INTERLUX	E95708-T-30	-	LEDS BY MANUFACTURER	15.0	16.7	277	0-10V	LUMENPULSE AMERLUX - EVOKE SERIES	RECESSED	-	
AL20	RECESSED 2 INCH DIAMETER LED ADJUSTABLE ACCENT, NOMINAL 2-1/2 INCH WIDE X 4-1/2 INCH DEEP ALUMINUM HOUSING, SEMI-SPECULAR CLEAR ALZAK REFLECTOR AND TRIM FLANGE, HORIZONTAL 365 DEGREE ROTATION, LOCKABLE VERTICAL TILT UP TO 40 DEGREES, PROVIDE 45-DEGREE BEAM OPTICS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 500 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	GOTHAM	ICO ADJ-35/05-2AR-LSS-45D-MVOLT-UGZ	-	LEDS BY MANUFACTURER	7.0	7.8	277	0-10V	PRESCOLITE - ARCHITEKTUR SERIES ALPHABET LIGHTING - NU2RA SERIES	RECESSED	-	
AL20A	SAME AS TYPE AL20, EXCEPT PROVIDE 1000 INITIAL DELIVERED LUMENS.	ALPHABET	624-RA-XTM19-10LM-35K-83-S55-277-DIM 10-NC-[TRIM COLOR]-BK	-	LEDS BY MANUFACTURER	13	14.4	277	0-10V	PRESCOLITE - ARCHITEKTUR SERIES GOTHAM - INCITO SERIES	RECESSED	-	
AL20B	SAME AS TYPE AL20, EXCEPT PROVIDE 1000 INITIAL DELIVERED LUMENS AND 35 DEGREE BEAM OPTICS.	ALPHABET	624-RA-XTM19-10LM-35K-83-S35-277-DIM 10-NC-[TRIM COLOR]-BK	-	LEDS BY MANUFACTURER	13	14.4	277	0-10V	PRESCOLITE - ARCHITEKTUR SERIES GOTHAM - INCITO SERIES	RECESSED	-	
AL21	RECESSED 4 INCH DIAMETER LED DOWNLIGHT, NOMINAL 11 INCH WIDE X 8 INCH DEEP STEEL HOUSING, SEMI-SPECULAR CLEAR ALZAK REFLECTOR, PROVIDE 20-DEGREE BEAM OPTICS, PROVIDE BLUE LENS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 10% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 4,000 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	GOTHAM	ICO-40/40-4AR-LSS-20D-277-EZ10-[MOD TO BLUE LENS]	-	LEDS BY MANUFACTURER	43	47.8	277	0-10V	NO APPROVED EQUALS	RECESSED	-	
AL22	RECESSED 2 INCH SQUARE LED ADJUSTABLE ACCENT, NOMINAL 2-1/2 INCH WIDE X 4-1/2 INCH DEEP ALUMINUM HOUSING WITH 9 INCH X 14-1/2 INCH STRUCTURAL REINFORCEMENT PAN, SEMI-SPECULAR CLEAR ALZAK REFLECTOR AND TRIM FLANGE, HORIZONTAL 365 DEGREE ROTATION, LOCKABLE VERTICAL TILT UP TO 40 DEGREES, PROVIDE 30-DEGREE BEAM OPTICS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 1,000 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	GOTHAM	ICO-SQADJ-35/10-2AR-LSS-30D-MVOLT-UGZ-NCH	-	LEDS BY MANUFACTURER	13	14.5	277	0-10V	AMERLUX - EVOKE SERIES ZUMTOBEL	RECESSED	-	
BL1	LINEAR LED INDUSTRIAL PENDANT, NOMINAL 4 INCH WIDE X 3 INCH TALL X LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, STEEL HOUSING WITH ENDCAPS, FROSTED ACRYLIC LENS, OVERALL WHITE PAINT FINISH, BOTTOM OF PENDANT SUSPENDED 16'-0" ABOVE FINISHED FLOOR, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT WITH INTEGRAL DAYLIGHTING AND OCCUPANCY SENSOR. LED REQUIREMENTS: NOMINAL 4100 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	PHILIPS DAY-BRITE	FSI-[LENGTH]-40L-835-UNV-DIM-DAYOCC + DACHXX-1D-SC	-	LEDS BY MANUFACTURER	7.8 / FT	8.6 / FT	277	0-10V	LITHONIA - Z SERIES GE - LUMINATION SERIES	SUSPENDED	DLC	
BL2	LIGHTING TILE FIXTURES PROVIDED THROUGH SPECIFICATION SECTION 095443 LED FLEXIBLE SHEET FOR INTEGRATION WITH STRETCHED FABRIC CEILING SYSTEMS, NOMINAL 12 INCH SQUARE FLEXIBLE CIRCUIT BOARD, LED SPACING TO BE NOMINAL 1-1/3 INCH ON CENTER, REMOTE 0-10V DIMMING DRIVER. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS. CONTRACTOR TO PROVIDE POWER TO LIGHTING TILES AND INSTALL POWER SUPPLIES PER MANUFACTURER RECOMMENDATIONS. REFER TO SPECIFICATION SECTION FOR DETAILS. LED REQUIREMENTS: NOMINAL 300 INITIAL DELIVERED LUMENS PER SQUARE FOOT, 3500K CCT, MINIMUM 80 CRI, 75,000 HOURS TO L80, 5 YEAR WARRANTY.	COOLEDGE	-	-	LEDS BY MANUFACTURER	3 / SQ FT	3.3 / SQ FT	277	0-10V	NO APPROVED EQUALS	SURFACE	-	

THE
UNIVERSITY
OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

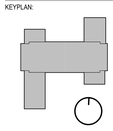
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR FOR REVIEW PURPOSES, ITS USE AND SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER RIGHTS IN ELECTRONIC FILES OF THIS DOCUMENT. ANY RELIANCE ON ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THEM IN THE PREPARATION OF SHOP DRAWINGS, THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR ANY ERRORS OR OMISSIONS IN THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

LIGHTING FIXTURE SCHEDULE

NUMBER:

EL601

BL3	LED FLEXIBLE SHEET FOR MOUNTING BEHIND COMPOSITE PANEL CEILING, NOMINAL 12 INCH SQUARE FLEXIBLE CIRCUIT BOARD, LED SPACING TO BE NOMINAL 1-1/3 INCH ON CENTER, REMOTE 0-10V DIMMING DRIVER. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS. CONTRACTOR SHALL PROVIDE QUANTITY OF LUMINAIRES AND DRIVERS AS REQUIRED FOR FULLY LUMINOUS LIGHT BOX AND ALL MOUNTING AND ELECTRICAL ACCESSORIES AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONING SYSTEM. CONTRACTOR TO PROVIDE WITH THEIR SUBMITTAL SCALED DRAWINGS INDICATING LAYOUT OF LED PANELS AND ALL POWER SUPPLIES, MOUNTING HARDWARE, LEADER AND CONNECTING CABLES AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL PRIOR TO RELEASE OF ORDER. LED REQUIREMENTS: NOMINAL 300 INITIAL DELIVERED LUMENS PER SQUARE FOOT, 3500K CCT, MINIMUM 80 CRI, 75,000 HOURS TO L80, 5 YEAR WARRANTY.	COOLEDGE	TILE-INT-300-35-[FINISH]-EPSD	-	LEDS BY MANUFACTURER	3 / SQ FT	3.3 / SQ FT	277	0-10V	NO APPROVED EQUALS	SURFACE	-	
BL4	DELETED	-	-	-	-	-	-	-	-	-	-	-	-
BL10	LINEAR LED DIRECT/INDIRECT PENDANT, NOMINAL 4-1/2 INCH WIDE X 4-1/2 INCH TALL X 6 FOOT LONG EXTRUDED ALUMINUM HOUSING, SATIN ACRYLIC LENS, PROVIDE 48 INCH ADJUSTABLE AIRCRAFT CABLE, BOTTOM OF PENDANT SUSPENDED 8'-0" ABOVE FINISHED FLOOR, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL. INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 1,200 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	PRUDENTIAL	BIO-LIN-LED35-MO-6'-[FINISH]-SAL-D1-CW-SC-UNV-CA48-X1-DM01	-	LEDS BY MANUFACTURER	14.0 / FT	15.6 / FT	277	0-10V	AXIS - BEAM 4 SURROUNDLITE SERIES LITECONTROL - MOD 4 SERIES	SUSPENDED	-	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING POINTS AND RUN CONFIGURATION.
BL10A	SAME AS TYPE BL10, EXCEPT PROVIDE LENGTHS AS INDICATED ON ARCHITECTURAL DRAWINGS, AND PROVIDE 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT.	PRUDENTIAL	BIO-LIN-LED35-MO-[LENGTH]-[FINISH]-SAL-D1-CW-SC-UNV-CA48-X1-DM01	-	LEDS BY MANUFACTURER	14.0 / FT	15.6 / FT	277	0-10V	AXIS - BEAM 4 SURROUNDLITE SERIES LITECONTROL - MOD 4 SERIES	SUSPENDED	-	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING POINTS AND RUN CONFIGURATION.
BL11	LINEAR LED DIRECT/INDIRECT PENDANT, NOMINAL 4-1/2 INCH WIDE X 4-1/2 INCH TALL X LENGTHS AS INDICATED ON ARCHITECTURAL DRAWINGS, EXTRUDED ALUMINUM HOUSING, SATIN ACRYLIC LENS, PROVIDE 48 INCH ADJUSTABLE AIRCRAFT CABLE, BOTTOM OF PENDANT SUSPENDED 8'-0" ABOVE FINISHED FLOOR, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL. INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 600 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	PRUDENTIAL	BIO-LIN-LED35-LO-[LENGTH]-[FINISH]-SAL-D1-CW-SC-UNV-CA48-X1-DM01	-	LEDS BY MANUFACTURER	9.0 / FT	10.0 / FT	277	0-10V	AXIS - BEAM 4 SURROUNDLITE SERIES LITECONTROL - MOD 4 SERIES	SUSPENDED	-	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING POINTS AND RUN CONFIGURATION.
BL11A	SAME AS TYPE BL11, EXCEPT 6 FEET LONG, AND PROVIDE 0-10V DRIVER CAPABLE OF DIMMING TO 10% OF LIGHT OUTPUT.	PRUDENTIAL	BIO-LIN-LED35-LO-6'-[FINISH]-SAL-D1-CW-SC-UNV-CA48-X1-DM10	-	LEDS BY MANUFACTURER	9.0 / FT	10.0 / FT	277	0-10V	AXIS - BEAM 4 SURROUNDLITE SERIES LITECONTROL - MOD 4 SERIES	SUSPENDED	-	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING POINTS AND RUN CONFIGURATION.
CL1	LINEAR LED ASYMMETRIC COVE LIGHT, NOMINAL 1-1/2 INCH WIDE X 2 INCH TALL X LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, EXTRUDED ALUMINUM HOUSING, POLYCARBONATE LENS WITH ASYMMETRIC DISTRIBUTION, SNAP-IN MOUNTING BRACKETS, ADJUSTABLE VERTICAL TILT IN 15 DEGREE INCREMENTS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 600 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ECOSENSE	LUMINAIRE: L50-I-[LENGTH]-08-35-80-MULT-ASYM ACCESSORIES: CBL-3P-L-UNV-[XX] + LDCM-PL-120-277-010V-GR + MNT-L-TRKCLP-[XX]	-	LEDS BY MANUFACTURER	8.0 / FT	8.9 / FT	277	ELV	ELLIPTIPAR PRUDENTIAL	SURFACE	ENERGY STAR OR DLC	PROVIDE POWER LEADS AND CONNECTING LEADS AS REQUIRED FOR FULLY-OPERATIONAL AND CODE-COMPLIANT INSTALLATION, FIXTURE TO BE MOUNTED TO CEILING INSIDE ARCHITECTURAL COVE AIMED STRAIGHT DOWN. END OF FIXTURE RUN TO BE MAXIMUM 6 INCHES FROM END OF COVE.
CL2	LINEAR LED GRAZER LUMINAIRE, NOMINAL 1-1/2 INCH WIDE X 2 INCH TALL X LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, EXTRUDED ALUMINUM HOUSING, SNAP-IN FROSTED POLYCARBONATE LENS WITH 9-DEGREE X 9-DEGREE OPTICAL DISTRIBUTION, SNAP-IN MOUNTING BRACKETS, ADJUSTABLE VERTICAL TILT IN 15-DEGREE INCREMENTS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 700 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ECOSENSE	LUMINAIRE: L50-I-[LENGTH]-08-35-80-MULT-9X9 ACCESSORIES: CBL-3P-L-UNV-XX + MNT-L-FAB + LENS-L50-FROST-12-XX + LDCM-PL-120-277-010V-GR	-	LEDS BY MANUFACTURER	8.0 / FT	8.9 / FT	277	ELV	INSIGHT - PILOT SERIES	SURFACE	ENERGY STAR OR DLC	
CL3	LED LINEAR COVE LIGHT, NOMINAL 3-1/2 INCH WIDE X MAXIMUM 1-1/2 INCH HIGH EXTRUDED ALUMINUM HOUSING, OVERALL WHITE PAINT FINISH, PROVIDE FIXTURE QUANTITIES AND LENGTHS AS REQUIRED FOR CONTINUOUS LINE OF LIGHT AS INDICATED ON DRAWINGS, INTEGRAL 0-10V DIMMING DRIVER CAPABLE OF DIMMING TO 1% LUMEN OUTPUT. PROVIDE POWER LEADS AND CONNECTING LEADS AS REQUIRED FOR FULLY-OPERATIONAL AND CODE-COMPLIANT INSTALLATION. END OF FIXTURE RUN TO BE MINIMUM 1 INCH AND MAXIMUM 2 INCHES FROM END OF COVE. FIXTURE HOUSING TO BE COMPATIBLE WITH ARMSTRONG AXIOM CEILING SYSTEM. LED REQUIREMENTS: NOMINAL 700 INITIAL DELIVERED LUMENS PER FOOT, 3500K CCT, MINIMUM 80 CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	AXIS	CCH-SL-700-80-35-[COVE OPENING FT]-W-UNV-DP-1-AC	-	LEDS BY MANUFACTURER	7.9 / FT	8.8 / FT	277	0-10V	LITECONTROL - 17L-CW SERIES VODE - ZIPWAVE SERIES	COVE	-	-
CL4	FLEXIBLE DIRECT VIEW LINEAR LED, NOMINAL 1/2 INCH WIDE X 1 INCH HIGH UV RESISTANT FLEXIBLE PVC, FIELD-CUTTABLE TO EVERY 4 INCHES, PROVIDE ALUMINUM MOUNTING CLIPS AT INTERVALS PER THE MANUFACTURER'S RECOMMENDATIONS, PROVIDE REMOTE 24V POWER SUPPLY IN ACCESSIBLE LOCATION THAT SHALL BE COORDINATED WITH ARCHITECT. LED REQUIREMENTS: NOMINAL 200 DELIVERED LUMENS PER FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	LED LINEAR	LUMINAIRE: SKYLLA-W8-3500K-[LENGTH]-SV-IP67 ACCESSORIES: 13000011-01 + 150009X + 1500010X POWER SUPPLY: HLG-100H-24	-	LEDS BY MANUFACTURER	4.6	5.7	120	-	OPTIC ARTS - FLEX NEON SERIES TIVOLI - FLEXLUM SERIES	SURFACE	-	ELECTRICAL CONTRACTOR TO PROVIDE QUANTITY OF REMOTE TRANSFORMERS SIZED AS REQUIRED FOR A COMPLETE, FULLY-FUNCTIONAL SYSTEM. ALL SECONDARY WIRING TO BE CONCEALED AND SIZED AS REQUIRED TO LIMIT VOLTAGE DROP PER MANUFACTURER'S SPECIFICATIONS. TRANSFORMER LOCATIONS TO BE COORDINATED WITH DESIGN PROFESSIONAL.
CL5	LINEAR LED GRAZER MOUNTED IN DOWNLIGHT POSITION, NOMINAL 1-1/2 INCH WIDE X 2 INCH TALL X 13 FOOT LONG EXTRUDED ALUMINUM HOUSING MADE UP OF 12 INCH AND 48 INCH FIXTURE LENGTHS, CLEAR POLYCARBONATE LENS WITH 9-DEGREE X 9-DEGREE BEAM OPTICS, SNAP-IN MOUNTING BRACKETS, ADJUSTABLE VERTICAL TILT IN 15 DEGREE INCREMENTS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 900 INITIAL DELIVERED LUMENS PER LINEAR FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ECOSENSE	LUMINAIRE: L50-I-[LENGTH]-12-35-80-MULT-9X9 ACCESSORIES: CBL-3P-L-UNV-XX + MNT-L-FAB + LENS-L50-CLEAR-XX + LDCM-PL-120-277-010V-GR CONTROLLER: LDCM-PL-120-277-010V-GR	-	LEDS BY MANUFACTURER	12.0 / FT	13.3 / FT	120/277	0-10V	INSIGHT - PILOT SERIES	SURFACE	ENERGY STAR OR DLC	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

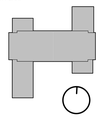
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CLIENT AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BY IMPLICATION OR OTHERWISE ANY CONTRACTUAL RELATIONSHIP WITH SUBCONTRACTORS OR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: N.T.S.

ELECTRICAL

TITLE:

LIGHTING FIXTURE SCHEDULE

NUMBER:

EL602

CL5A	SAME AS TYPE CL5, EXCEPT MOUNTED IN THE UPLIGHT POSITION.	ECOSENSE	LUMINAIRE: L50-I-[LENGTH]-12-35-80-MULT-9X9 ACCESSORIES: CBL-3P-L-UNV-XX + MNT-L-FAB + LENS-L50-CLEAR-XX + LDCM-PL-120-277-010V-GR CONTROLLER: LDCM-PL-120-277-010V-GR	-	LEDS BY MANUFACTURER	12.0 / FT	13.3 / FT	120/277	0-10V	INSIGHT - PILOT SERIES	SURFACE	ENERGY STAR OR DLC	REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS.
DL1	HANDRAIL LIGHTING FIXTURES. ELECTRICAL CONTRACTOR TO PROVIDE LUMINAIRE, POWER TO HANDRAIL AND INSTALL POWER SUPPLIES PER MANUFACTURER RECOMMENDATIONS. LED REQUIREMENTS: NOMINAL 120 INITIAL DELIVERED LUMENS PER MODULE, 3000K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	KLIK SYSTEMS	LUMINAIRE: KLIKLED LEDPOD-ASYMMETRICAL-120-1.4-350-3-89-3000K POWER SUPPLY: 350MA 24V CONVERTER	-	LEDS BY MANUFACTURER	1.4 PER MODULE	1.6 PER MODULE	120	0-10V	ALPHABET LIGHTING	HANDRAIL	-	
DL1A	SAME AS TYPE DL1, EXCEPT PROVIDE SYMMETRICAL BEAM DISTRIBUTION.	KLIK SYSTEMS	LUMINAIRE: KLIKLED LEDPOD-SYMMETRICAL-120-1.4-350-3-89-3000K PWR SUPPLY:350MA 24V CONVERTER	-	LEDS BY MANUFACTURER	1.4 PER MODULE	1.6 PER MODULE	-		ALPHABET LIGHTING	HANDRAIL	-	
DL2	MULLION MOUNTED LINEAR LED ASYMMETRIC UPLIGHT, NOMINAL 3-1/2 INCH WIDE X 2 INCH TALL X LENGTHS AS SHOWN ON ARCHITECTURAL DRAWINGS, EXTRUDED ALUMINUM, ACRYLIC LENS WITH ASYMMETRIC DISTRIBUTION, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL. PROVIDE 1/2 INCH DEEP MULLION MOUNTING BLOCKS, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 800 INITIAL DELIVERED LUMENS PER FOOT, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	A-LIGHT	D4-[LENGTH]-LH-35-U-N-D-M5-[FINISH]-D	-	LEDS BY MANUFACTURER	10.0 / FT	11.1 / FT	277	0-10V	NO ACCEPTABLE EQUALS	MULLION	-	REFER TO ARCHITECTURAL DRAWINGS FOR RUN LENGTH CONFIGURATIONS AND MOUNTING HEIGHTS. PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LAMPS, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
DL2A	SAME AS TYPE DL2, EXCEPT CONTINUOUS RUN LENGTHS WITH UNLIT SECTIONS, UNLIT SECTIONS TO HAVE SOLID EXTRUDED ALUMINUM TOP.	A-LIGHT	D4-M14'-LH-35-U-N-D-M5-[FINISH]-D-[MODIFIED WITH UNLIT SECTIONS]	-	-	10.0 / FT	11.1 / FT	277	0-10V	NO ACCEPTABLE EQUALS	MULLION	-	REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR RUN LENGTH CONFIGURATIONS AND FOR UNLIT SECTIONS. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR MOUNTING HEIGHTS. PRIOR TO RELEASE OF ORDER, CONTRACTOR TO PROVIDE THE FOLLOWING WITH THEIR SHOP DRAWINGS: SCALED PLANS AND SECTION DETAILS SHOWING LOCATION AND QUANTITY OF LAMPS, DETAILS SHOWING METHOD OF INSTALLATION, AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL.
DL3	DECORATIVE WALL MOUNTED ADA-COMPLIANT SCONCE, NOMINAL 5 INCHES WIDE X 24 INCHES TALL X 2-1/2 INCH DEEP CAST ALUMINUM FRAME, EDGE-LIT MATTE POLYCARBONATE DIFFUSER, WALL BACKLIGHT, FULLY GASKETED, OVERALL FINISH AND DECORATIVE OUTER LENS TO BE SELECTED BY DESIGN PROFESSIONAL, INTEGRAL 0-10V DRIVER CAPABLE OF DIMMING TO 5% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 900 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	KENALL	LPS5-V-[OUTER LENS]-[FINISH]-18L35K-DCC-DV	-	LEDS BY MANUFACTURER	23.0	25.6	277	0-10V	SHAPER VISIONEERING	WALL	-	
DL4	LED LENSED STRIPLIGHT, NOMINAL 5 INCH DEEP X 3-1/2 INCH DEEP X 4-FOOT LONG EXTRUDED ALUMINUM HOUSING, FLAT END CAPS, NOMINAL 0.156" THICK HIGH-IMPACT FROSTED POLYCARBONATE LENS, LENS FULLY GASKETED TO LUMINAIRE HOUSING, PROVIDE TAMPER-RESISTANT CAPTIVE DIFFUSER FASTENERS, OVERALL WHITE PAINTED FINISH, PROVIDE INTEGRAL MOTION SENSOR, INTEGRAL LED DRIVER CAPABLE OF DIMMING TO 1% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 4,700 INITIAL DELIVERED LUMENS, 3500K CCT, 80+ CRI, ESTIMATED 50,000 HOUR LIFE TO L70, 5-YEAR WARRANTY.	KENALL	MLHA5-48-F-[FINISH]-PP-45L35K-DCC-1-DV-MS	-	LEDS BY MANUFACTURER	49.0	51.6	277	0-10V	VISIONEERING PRUDENTIAL	WALL	DLC	
DL4A	SAME AS TYPE DL4, EXCEPT MOUNTED TO CEILING.	KENALL	MLHA5-48-F-[FINISH]-PP-45L35K-DCC-1-DV-MS	-	LEDS BY MANUFACTURER	45.0	50.0	277	0-10V	VISIONEERING PRUDENTIAL	SURFACE	DLC	
DL4B	SAME AS TYPE DL4, EXCEPT 2 FEET LONG.	KENALL	MLHA5-24-F-[FINISH]-PP-25L35K-DCC-1-DV-MS	-	LEDS BY MANUFACTURER	25.0	28.7	277	0-10V	VISIONEERING PRUDENTIAL	WALL	DLC	
DL7	DELETED	-	-	-	-	-	-	-	-	-	-	-	-
DL8	LED DIRECT/INDIRECT RING PENDANT, NOMINAL 3 INCH APERTURE X 6 INCH TALL EXTRUDED ALUMINUM HOUSING, PROVIDE MODIFIED OUTER DIAMETER OF 134 INCHES, WHITE ACRYLIC LENS ON TOP AND BOTTOM OF RING, PROVIDE MODIFIED WALL-MOUNT BRACKETS ATTACHED TO OUTER PORTION OF RING, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, INTEGRAL LED DRIVER CAPABLE OF DIMMING TO 10% OF LIGHT OUTPUT. LED REQUIREMENTS: NOMINAL 800 INITIAL DELIVERED LUMENS PER FOOT, 3500K CCT, 80+ CRI, ESTIMATED 50,000 HOUR LIFE TO L70, 5-YEAR WARRANTY.	OCL	TW1-[MOD TO SURFACE MOUNT]-[MOD TO 11FT-2INCH DIAMETER]-GW-[FINISH]-LED1-35K-UNV-DM0	-	LEDS BY MANUFACTURER	400.0	444.4	277	0-10V	NO APPROVED EQUALS	WALL	-	REFER TO ARCHITECTURAL DRAWINGS FOR DETAILS
DL17	LINEAR LED UNDERCABINET LIGHT, 1-1/2 INCH TALL X 7 INCH WIDE, LENGTHS AS SHOWN ON DRAWINGS, ACRYLIC LENS, OVERALL WHITE PAINT FINISH, INTEGRAL OCCUPANCY SENSOR, INTEGRAL LED DRIVER. LED REQUIREMENTS: NOMINAL 400 INITIAL DELIVERED LUMENS PER FOOT, 3500K CCT, 80+ CRI, ESTIMATED 50,000 HOUR LIFE TO L70, 5-YEAR WARRANTY.	KENALL	AUCLED-S-MW-11L35K/16L35K/20L35K-24/36/48-277-MS	-	LEDS BY MANUFACTURER	6.0 / FT	6.7 / FT	277	N/A	LEGION DAY-BRITE	UNDERCABINET	-	
HL1	LED TRACKHEAD, NOMINAL 3 INCH DIAMETER X 5 INCH TALL ALUMINUM HOUSING WITH SIDE MOUNTED LED DRIVER, 360° HORIZONTAL ROTATION AND 90° VERTICAL TILT, PROVIDE OVAL FLOOD BEAM DISTRIBUTION LENS, PROVIDE CEILING MOUNTING HARDWARE FOR MONOPOINT MOUNTING, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL. LED REQUIREMENTS: NOMINAL 500 DELIVERED LUMENS, 3500K CCT, MINIMUM 80 CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ERCO	79669.023 + 70854.000 + 79037.023	-	LEDS BY MANUFACTURER	8	8.9	120	PWM	NO APPROVED EQUALS	TRACK	-	
LL1	LED FULL CUTOFF LINEAR SCONCE, NOMINAL 4 INCH HIGH X 24 INCH WIDE X 5 INCH DEEP MARINE GRADE ALUMINUM HOUSING, INTERNALLY-WELDED, WATERPROOF LAMP HOUSING, SAFETY GLASS DIFFUSER, PROVIDE DIRECT ATTACHMENT SMALL OPENING JUNCTION BOX FOR MOUNTING TO CURTAIN WALL MULLION. OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL. U.L. LISTED FOR WET LOCATIONS. FIXTURES TO BE MOUNTED ABOVE DOORS ON MULLIONS. LED REQUIREMENTS: NOMINAL 600 INITIAL DELIVERED LUMENS, 4000K CCT, MINIMUM 80 CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	BEGA	44417-[FINISH] + 19537	-	LEDS BY MANUFACTURER	23	25.6	120/277	0-10V	SISTEMALUX	WALL	-	

Issue 10 direction from URI does not include this revision. Revision is to remain on drawings and a resolution is to follow

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

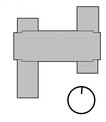
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND THE ARCHITECT AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE CONDITIONS OF THIS NOTICE, FOR THE CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT TO SUBCONTRACTORS SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THEIR SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFERATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE:

ELECTRICAL

TITLE:

LIGHTING FIXTURE SCHEDULE

NUMBER:

EL603

LL3	LED STEP LIGHT, NOMINAL 6-1/2 INCH WIDE X 3 INCH HIGH X 3 INCH RECESSED DEPTH, MARINE-GRADE ALUMINUM HOUSING, ALUMINUM FACEPLATE TRIM, 1/8 INCH THICK REGRESSED CLEAR TEMPERED GLASS LENS, FULLY GASKETED FOR WEATHER TIGHT OPERATION, PROVIDE CONCRETE POUR COVER AS REQUIRED, INTEGRAL LED DRIVER, U.L. WET LOCATION LISTED. LED REQUIREMENTS: NOMINAL 150 INITIAL DELIVERED LUMENS, 3000K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	BEGA	22 382-[FINISH]	-	LEDS BY MANUFACTURER	5.6	6.2	120/277	-	WE-EF	WALL	-	
LL4	LED WALL-MOUNTED FLOODLIGHT, NOMINAL 2 INCH DIAMETER X 4-1/2 INCH LONG ALUMINUM HOUSING WITH 1 INCH REGRESSED SOFT FOCUS GLASS LENS AND 20-DEGREE BEAM OPTICS, PROVIDE HONEYCOMB LOUVER, MOUNT TO NOMINAL 2 INCH DIAMETER X 3 INCH HIGH ANCHOR BASE, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHT INFORMATION, U.L. WET LOCATION LISTED. CONTRACTOR TO PROVIDE (1) MAGNETIC LOW VOLTAGE TRANSFORMER SIZED AS REQUIRED TO POWER ALL LL4 LUMINAIRES. LOCATION OF TRANSFORMER TO BE IN CEILING OF ADJACENT BUILDING IN ACCESSIBLE LOCATION. LED REQUIREMENTS: NOMINAL 900 INITIAL DELIVERED LUMENS, 3000K CCT, 2,600 CENTERBEAM CANDLEPOWER, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	BK LIGHTING	LUMINAIRE: AR-LED-RM-X53-SP-[PREMIUM FINISH]-12-B-3 POWER SUPPLY: TR60-277	-	LEDS BY MANUFACTURER	41	46	277	-	NO APPROVED EQUALS	WALL	-	
LL5	LED FULL CUT-OFF WALLPACK, NOMINAL 16-1/2 INCH LONG X 9 INCH DEEP X 7 INCH TALL DIE-CAST ALUMINUM HOUSING, CLEAR LENS WITH TYPE IV FORWARD THROW DISTRIBUTION OPTICS, INTEGRAL LED DRIVER, FULLY GASKETED DOOR, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT, U.L. WET LOCATION LISTED. LED REQUIREMENTS: NOMINAL 2,300 INITIAL DELIVERED LUMENS, 3000K CCT WITH COLOR VARIATION NOT TO EXCEED 3 STEP MACADAM ELLIPSE, 80+ CRI, L70 RATED LIFE OF 50,000 HOURS, AND 5-YEAR LIMITED WARRANTY.	MCGRAW-EDISON	IST-AF-350-LED-E1-T4FT-[COLOR]-8030	-	LEDS BY MANUFACTURER	20	25	120	-	LITHONIA GARDCO	WALL	-	
ML1	LED GROUND-MOUNTED FLOODLIGHT, NOMINAL 3 INCH DIAMETER X 8 INCH LONG ALUMINUM HOUSING WITH 1 INCH REGRESSED SOFT FOCUS GLASS LENS WITH 35-DEGREE BEAM OPTICS, PROVIDE HONEYCOMB LOUVER, MOUNT TO NOMINAL 3-1/2 INCH WIDE X 17-1/2 INCH HIGH GROUND PIPE WITH INTEGRAL JUNCTION BOX, PROVIDE 6- INCH DIAMETER STABILITY FLANGE, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, MOUNTING HEIGHT TO BE DETERMINED IN FIELD WITH DESIGN PROFESSIONAL, U.L. WET LOCATION LISTED. LED REQUIREMENTS: NOMINAL 800 INITIAL DELIVERED LUMENS, 3000K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	BK LIGHTING	DE-LED-X59-FL-[PREMIUM FINISH]-12-11-B + PPII-J12-D12INC-B-MT-SF	-	LEDS BY MANUFACTURER	12.0	13.3	277	-	ECOSENSE VISION 3	GROUND	-	
ML2	LED FLEXIBLE SHEET FOR MOUNTING WITHIN LAMINATE GLASS PANEL SIGNAGE, NOMINAL 12 INCH SQUARE FLEXIBLE CIRCUIT BOARD, LED SPACING TO BE NOMINAL 1-1/3 INCH ON CENTER, REMOTE 0-10V DIMMING DRIVER. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS. CONTRACTOR SHALL PROVIDE QUANTITY OF LUMINAIRES AND DRIVERS AS REQUIRED FOR FULLY LUMINOUS LIGHT BOX AND ALL MOUNTING AND ELECTRICAL ACCESSORIES AS REQUIRED FOR A COMPLETE AND FULLY FUNCTIONING SYSTEM. CONTRACTOR TO PROVIDE WITH THEIR SUBMITTAL SCALED DRAWINGS INDICATING LAYOUT OF LED PANELS AND ALL POWER SUPPLIES, MOUNTING HARDWARE, LEADER AND CONNECTING CABLES AND A COMPLETE BILL OF MATERIALS FOR REVIEW BY DESIGN PROFESSIONAL PRIOR TO RELEASE OF ORDER. LED REQUIREMENTS: NOMINAL 600 INITIAL DELIVERED LUMENS PER SQUARE FOOT, 3000K CCT, MINIMUM 80 CRI, 50,000 HOURS TO L80, 5 YEAR WARRANTY.	COOLEDGE	TILE-EXT-600-30 + EPSD-090-1CH-58V-010	-	LEDS BY MANUFACTURER	5.1 PER SQUARE FOOT	5.5 PER SQUARE FOOT	120/277	0-10V		GROUND	-	
PL1	LED DECORATIVE PEDESTRIAN-SCALE LIGHT POLE, NOMINAL 29-1/2 INCH HIGH X 12 INCH DIAMETER CYLINDRICAL HOUSING, FULLY GASKETED CLEAR ACRYLIC OUTER LENS, 31-1/2 INCH DIAMETER ALUMINUM HOOD WITH OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, IES TYPE III OPTICAL DISTRIBUTION. INTEGRAL 0-10V DRIVER, U.L. WET LOCATION-LISTED. LUMINAIRE MOUNTS TO NOMINAL 4 INCH DIAMETER X 12 FOOT HIGH ALUMINUM POLE, ABLE TO WITHSTAND 90 MPH WINDS, EPA OF 11.4., POLE SHALL HAVE SINGLE PIECE BASE COVER, LED REQUIREMENTS: NOMINAL 3,000 INITIAL DELIVERED LUMENS, 3000K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ARCHITECTURAL AREA LIGHTING	HEAD: SP1-STR-Y3-3K-550-[HOOD FINISH]-[COLOR] POLE: PR4-4R12-226-12-[COLOR]	-	LEDS BY MANUFACTURER	57.0	63.3	277	0-10V	NO ACCEPTABLE EQUALS - UNIVERSITY STANDARD POLE	POST TOP	-	
PL1A	SAME AS TYPE PL1, EXCEPT PROVIDE GFCI OUTLET AT BASE OF POLE.	ARCHITECTURAL AREA LIGHTING	HEAD: SP1-STR-Y3-3K-550-[HOOD FINISH]-[COLOR]-[GFCI OUTLET] POLE: PR4-4R12-226-12-[COLOR]	-	LEDS BY MANUFACTURER	57.0	63.3	277	0-10V	NO ACCEPTABLE EQUALS - UNIVERSITY STANDARD POLE	POST TOP	-	
PL2	POLE MOUNTED LED AREA LIGHTS, NOMINAL 6 INCH DIAMETER X 11 INCH LONG ALUMINUM FLOODLIGHT HOUSING, SAFETY GLASS LENS WITH 40-DEGREE BEAM OPTIC, SNOOT WITH 2-INCH REGRESS, 300-DEGREE HORIZONTAL ROTATION, 130-DEGREE VERTICAL TILT, PROVIDE 2-INCH X 3-1/2 INCH CLAMPING ATTACHMENT PLATE FOR SECURING LUMINAIRE HEAD TO POLE, OVERALL FINISH TO BE SELECTED BY DESIGN PROFESSIONAL, INTEGRAL ELECTRONIC BALLAST, U.L. WET LOCATION-LISTED. QUANTITY OF (2) LUMINAIRE HEADS SHALL BE MOUNTED AT 180 DEGREES FROM EACH OTHER LOCATED AT TOP OF 16-FOOT TALL TAPERED ALUMINUM POLE, 5 INCH DIAMETER BASE TAPERING TO 3 INCH DIAMETER TOP, ABLE TO WITHSTAND 90 MPH WINDS WITH 1.3 GUST FACTOR, FINISH TO MATCH LUMINAIRES, COORDINATE POLE BASE DETAIL WITH STRUCTURAL ENGINEER. PROVIDE TAPERED SQUARE BASE COVER. LED REQUIREMENTS: NOMINAL 3,700 INITIAL DELIVERED LUMENS PER LUMINAIRE HEAD, 3000K CCT, 80+ CRI, 4100 CENTERBEAM CANDLEPOWER, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	ERCO VALMONT	HEAD: (2 HEADS) 34406.023 + (2 BRACKETS) 34953.000 POLE: R-150830504T4-D2-[COLOR TO MATCH HEADS]-2T	-	LEDS BY MANUFACTURER	82.0	91.1	277	N/A	BEGA	POLE	-	
PL3	LED DECORATIVE PEDESTRIAN-SCALE LIGHT POLE, NOMINAL 34 INCH HIGH X 20 INCH WIDE OCTAGONAL ALUMINUM ALLOW HOUSING, WHITE ACRYLIC OUTER LENS, IES TYPE III LIGHT DISTRIBUTION, OVERALL BLACK FINISH, INTEGRAL LED DRIVER, U.L. WET LOCATION-LISTED. PROVIDE 3-1/2 INCH DIAMETER X 18 INCH HIGH ALUMINUM POST CAPITAL WITH DECORATIVE FLORAL POST TOP, MOUNTED TO TOP OF POLE. PROVIDE FLUTED ALUMINUM ALLOY POLE, NOMINAL 6 INCH AT TOP, TAPERING TO 20 INCH DIAMETER AT BASE, 13 FOOT HIGH, POLE SHALL HAVE SINGLE PIECE BASE COVER WITH ACCESS DOOR, OVERALL BLACK FINISH. LED REQUIREMENTS: 4000K CCT, 80+ CRI, 50,000 HOURS TO L70, 5 YEAR WARRANTY.	SPRING CITY ELECTRICAL MANUFACTURING CO.	HEAD: ALMSVH-LE040-EV7-X2-40-CR3-Y-WHP-K-CB + ACTNWF-08-32.00 POLE: _PSNRT-20-13	-	LEDS BY MANUFACTURER	40	44	277	N/A	NO ACCEPTABLE EQUALS - UNIVERSITY STANDARD POLE	POLE		
EX1	SURFACE MOUNTED EXTERIOR WALL SCONCE	LITHONIA	WST LED P1 40K VW 277 PIR1FC3V	-	LEDs BY MANUFACTURER	13.0	14.4	277	N/A	COOPER	SURFACE		
RL1A	RECESSED LED TROFFER 2'X4' 4000 LUMEN PACKAGE	LITHONIA	2GTL 4 40L A19 277 SLD LP835	-	LEDs BY MANUFACTURER	39.0	43.3	277	N/A	COOPER	RECESSED		
RL2	RECESSED LED TROFFER 2'X2' 2000 LUMEN PACKAGE	LITHONIA	2GTL 2 20L A19 277 SLD LP835	-	LEDs BY MANUFACTURER	20.0	22.2	277	N/A	COOPER	RECESSED		
SL1B	PENDANT LINEAR LED 5000 LUMEN PACKAGE	LITHONIA	ZL1D L48 5000LM FST 277 35K 90CRI MB ZACVH	-	LEDs BY MANUFACTURER	42.0	46.6	277	N/A	COOPER	PENDANT		
SL1BE	PENDANT LINEAR LED 5000 LUMEN PACKAGE	LITHONIA	ZL1D L48 5000LM FST 277 35K 90CRI MB E7W ZACVH	-	LEDs BY MANUFACTURER	42.0	46.6	277	N/A	COOPER	PENDANT		PROVIDE WITH BATTERY BACKUP BALLAST CAPABLE OF 700 LUMENS IN EMERGENCY MODE FOR 90 MINUTES
SL2B	SURFACE MOUNT LINEAR LED 5000 LUMEN PACKAGE	LITHONIA	ZL1D L48 5000LM FST 277 35K 90CRI MB ZLANGBKT	-	LEDs BY MANUFACTURER	42.0	46.6	277	N/A	COOPER	SURFACE		
SL2C	SURFACE MOUNT LINEAR LED 7000 LUMEN PACKAGE	LITHONIA	ZL1D L48 7000LM FST 277 35K 90CRI MB ZLANGBKT	-	LEDs BY MANUFACTURER	67.0	74.5	277	N/A	COOPER	SURFACE		
SL3	4" SQ. x 8'-0" LONG LINEAR WITH 50% DIRECT/50% INDIRECT OPTICS AND DIFFUSING LENS	PEERLESS	SQM4 LSL 8FT MSL4 80CRI 35K I900LMF 800LMF DARK ZT XXX SCT F2/48A C100	-	LEDs BY MANUFACTURER	20.0 / FT	22.2	120	N/A	ZUMTOBEL SE'LUX	PENDANT		MOUNT BOTTOM OF FIXTURE 9'-0" A.F.F. COORDINATE FINAL LOCATIONS WITH OTHER DICIPLINES.
SL4	SURFACE MOUNT LINEAR LED 1500 LUMEN PACKAGE	LITHONIA	ZL1D L24 1500LM FST 277 35K 90CRI MB ZLANGBKT	-	LEDs BY MANUFACTURER	18.0	20	277	N/A	COOPER	SURFACE		
XL1	CLEAR PLASTIC LED EXIT SIGN. PROVIDE MOUNTING, ARROWS, AND FACES AS INDICATED ON DRAWINGS	SURE-LIGHTS	ES6 - [AS INDICATED ON DRAWINGS] -WH	-	LEDs BY MANUFACTURER	4.5	5.0	277	N/A	-	AS INDICATED ON DRAWINGS		
XL2	EXTERIOR LED EXIT SIGN. BACKMOUNT	LIGHTING SERVICES INC.	LV-S-W-1-R-277	-	LEDs BY MANUFACTURER	4.5	5.0	277	N/A	-	SURFACE		

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

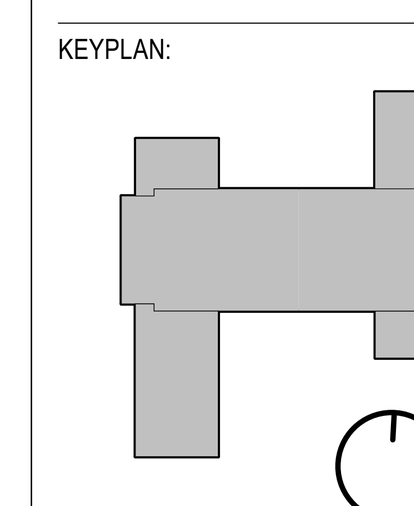
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPERATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/13/18	RFI-525
05/14/18	RFI-502
04/24/18	ISSUE NO. 16
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6

D R A W I N G I S S U E

PROJECT: 15085.00

SCALE:

E L E C T R I C A L

TITLE:

LIGHTING FIXTURE SCHEDULE

NUMBER:

EL604



1/8" = 1'-0" 1 LOWER LEVEL FIRE ALARM PLAN

GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FIRE ALARM SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH NFPA 70 AND NFPA 72. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.
3. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. PERFORM REQUIRED CALCULATIONS AND COORDINATE WITH OTHER TRADES. DEVIATIONS FROM ENGINEER'S LAYOUT WILL NOT BE CONSIDERED UNLESS A FORMALLY SUBMITTED RFI IS RECEIVED AND APPROVED.
4. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION OR TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
5. PROVIDE AUDIBLE AND VISIBLE NOTIFICATION APPLIANCES AS INDICATED ON THE DRAWINGS. ALL VISIBLE NOTIFICATION APPLIANCES SHALL BE 15/75 CANDELA UNLESS NOTED OTHERWISE.
6. DO NOT INSTALL SMOKE DETECTORS IN A DIRECT AIR FLOW NOR CLOSER THAN 3 FEET (1 METER) FROM AN AIR SUPPLY DIFFUSER OR RETURN AIR OPENING.
7. PROVIDE DUCT DETECTION AND SHUTDOWN FOR AIR DISTRIBUTION SYSTEMS EXCEEDING 2000 CFM. DUCT SMOKE DETECTION SHALL TRANSMIT A SUPERVISORY SIGNAL TO THE FACP.
8. FORWARD COMPLETED FIRE ALARM CERTIFICATE OF COMPLETION TO THE OWNER.
9. REFER TO DIVISION 28 SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

FIRE ALARM PLAN KEYED NOTES:

1. FIRE ALARM DEVICES IN AREAS OF EXPOSED CEILING SHALL BE MOUNTED TO UNDERSIDE OF BEAM (DENOTED <UB>) OR WITHIN BEAM POCKET (DENOTED <BP>). REFER TO STRUCTURAL DRAWINGS FOR FURTHER INFORMATION.
2. PROVIDE EXTERNALLY MOUNTED 60-HOUR BATTERY BACKUP ABOVE FIRE ALARM NAC. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE OWNER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT IN SUBSECTION OF DOC. DOES IS FOR CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE ACCURACY OF ANY OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
03/19/18	RFI-393
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

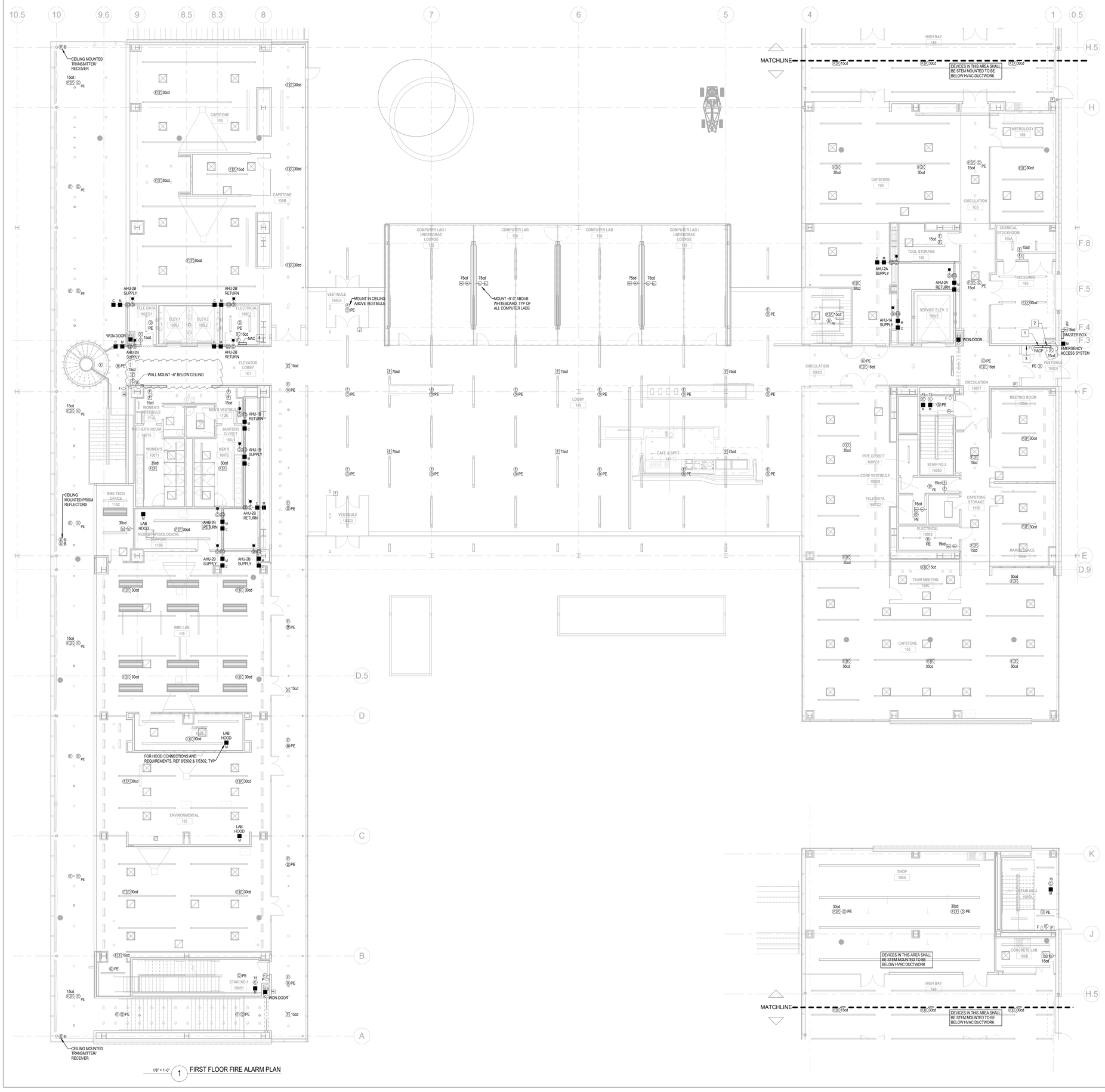
ELECTRICAL

TITLE:

LOWER LEVEL FIRE ALARM PLAN

NUMBER:

EY100



1/8" = 1'-0" 1 FIRST FLOOR FIRE ALARM PLAN

GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.

FIRE ALARM PLAN KEYED NOTES:

1. PROVIDE THE FOLLOWING LABEL ABOVE FIRE ALARM CONTROL PANEL. LABEL SHALL BE CUSTOM DIGITALLY PRINTED AND HIGH-DURABILITY. LETTERING SHALL BE A MINIMUM OF 1/4" WHITE BACKGROUND WITH RED LETTERING:

   URI EMERGENCY DISPATCH
   TELEPHONE: (401) 874-2121

2. REMOTE ANNUNCIATOR PANEL FURNISHED WITH GENERATOR AND INSTALLED BY DIVISION 26 CONTRACTOR. DIVISION 26 CONTRACTOR SHALL CONNECT TO FIRE ALARM CONTROL PANEL.
3. PROVIDE FIRE ALARM SYSTEM DIRECTORY OR ZONE MAP. THE MAP SHALL BE MOUNTED IN A LOCATION DEEMED PROPER BY THE AHJ.
4. PROVIDE EXTERNALLY MOUNTED 60-HOUR BATTERY BACKUP ABOVE FIRE ALARM NAC. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE FOLLOWING IS THE ONLY PERMISSIBLE USE: USE OF THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO STATUTORY PROTECTIONS AFFORDED TO AN ARCHITECTURAL DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE FOR CONSTRUCTION OF THE WORK AND REVIEW/ISSUE OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE CONSTRUCTION. THE CONTRACTOR SHALL NOT RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMATION OF THEIR REQUIRED SHOP DRAWINGS.

1/19/17	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

FIRST FLOOR FIRE ALARM PLAN

NUMBER:

EY101

GENERAL FIRE ALARM PLAN NOTES:

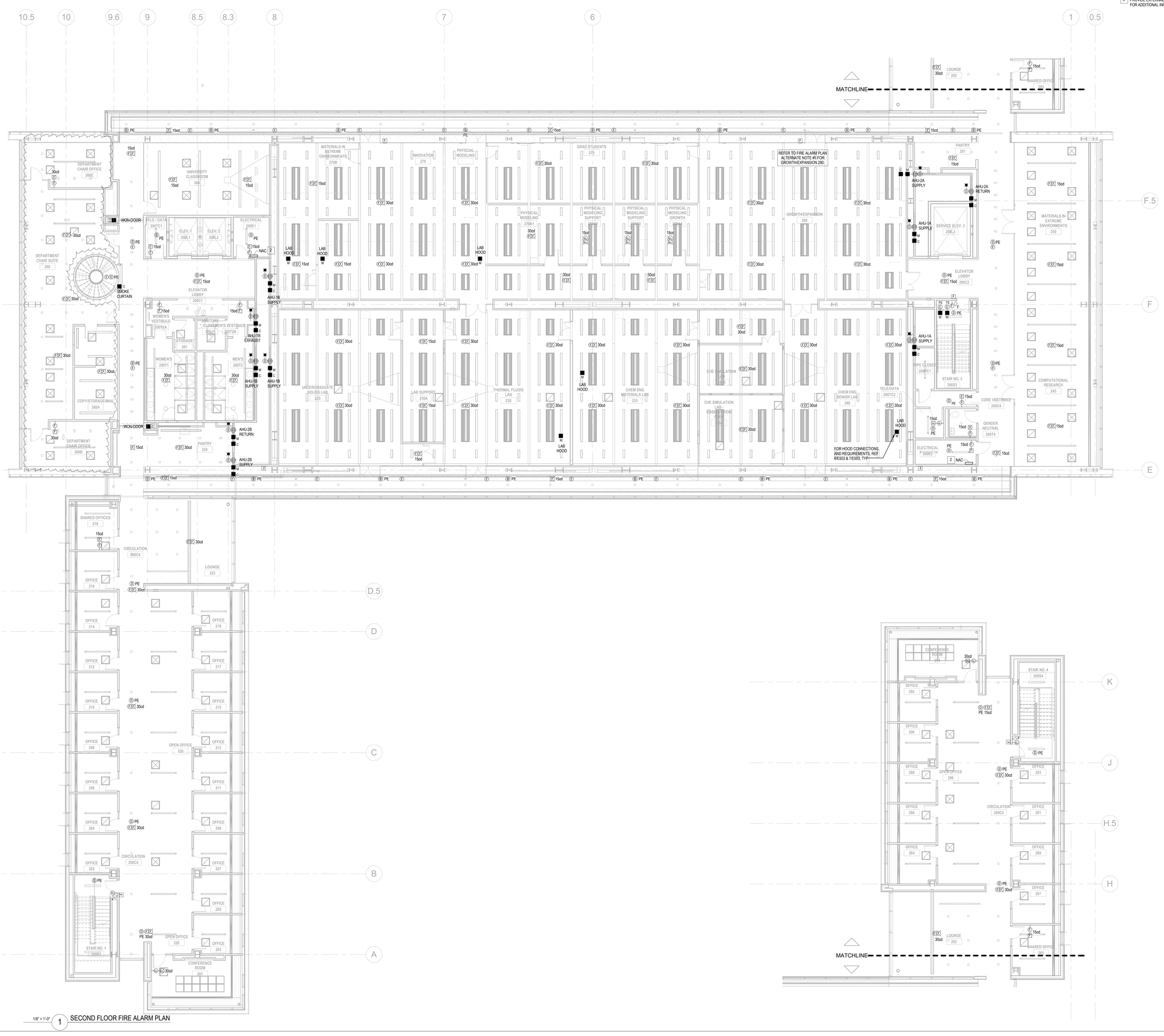
1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.

FIRE ALARM PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 1/EY110.

FIRE ALARM PLAN KEYED NOTES:

1. NOT USED.
2. PROVIDE EXTERNALLY MOUNTED 60-HOUR BATTERY BACKUP ABOVE FIRE ALARM NAC. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.



1/8" = 1'-0" 1 SECOND FLOOR FIRE ALARM PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORMAT, THE USE OF THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CONTRACTOR AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUBCONTRACTORS FOR THE PURPOSE OF PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CONTENT OF SHOP DRAWINGS. SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

05/08/18	ISSUE NO. 17
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

SECOND FLOOR FIRE ALARM PLAN

NUMBER:

EY102

GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.

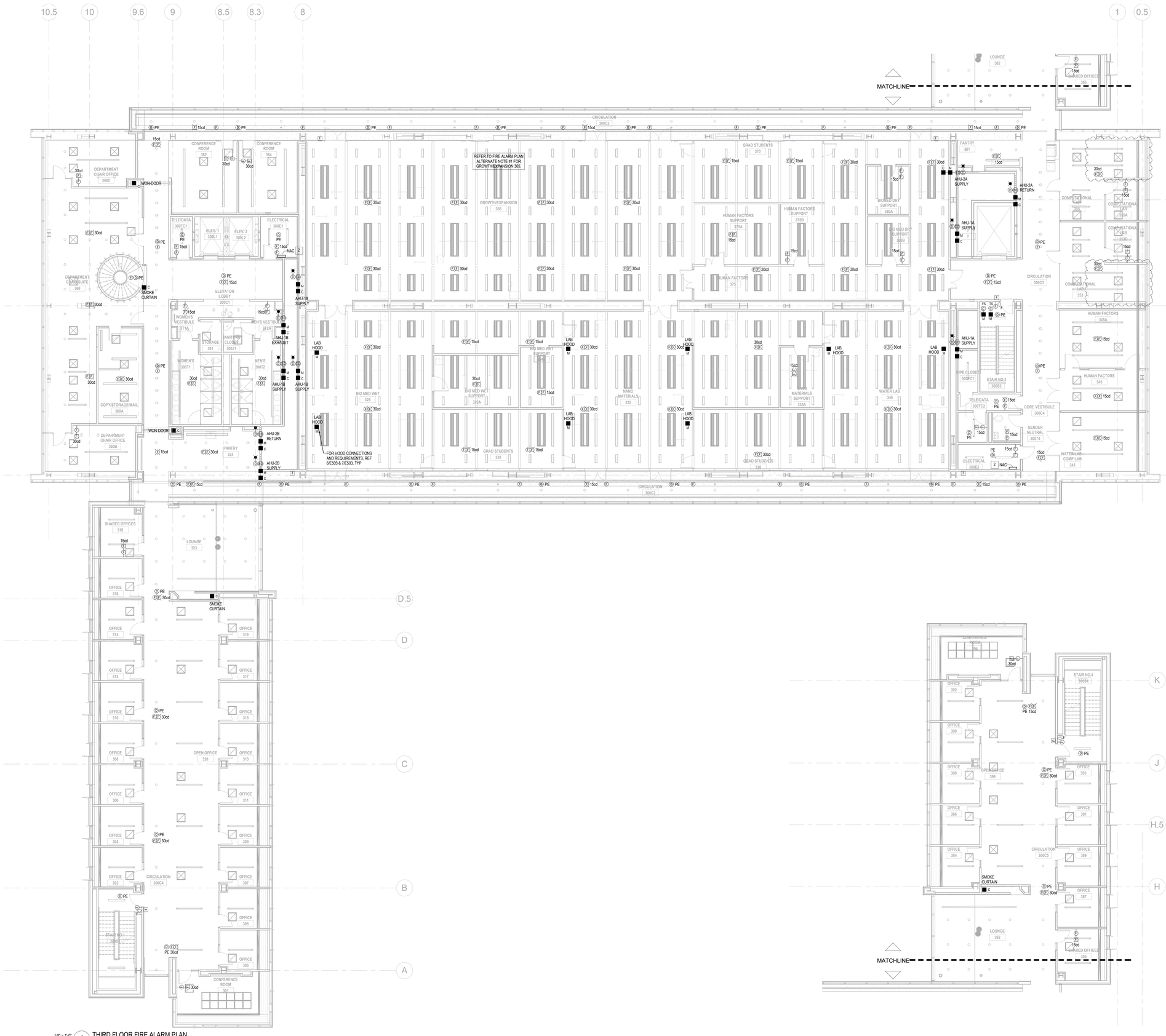
FIRE ALARM PLAN ALTERNATE NOTES:

1. FOR ALTERNATE SCOPE OF WORK, REFER TO 2/EY110.

FIRE ALARM PLAN KEYED NOTES:

1 NOT USED.

2 PROVIDE EXTERNALLY MOUNTED 60-HOUR BATTERY BACKUP ABOVE FIRE ALARM NAC. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.



1/8" = 1'-0" 1 THIRD FLOOR FIRE ALARM PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DRAWINGS IS GOVERNED BY THE TERMS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. BALLINGER MAKES THE CONTENTS OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT TO A SUBCONTRACTOR DOES NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORMATION OF THEIR REQUIRED SHOP DRAWINGS.

04/17/18	ISSUE NO. 15
01/19/18	ISSUE NO. 10
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

THIRD FLOOR FIRE ALARM PLAN

NUMBER:

EY103

GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.

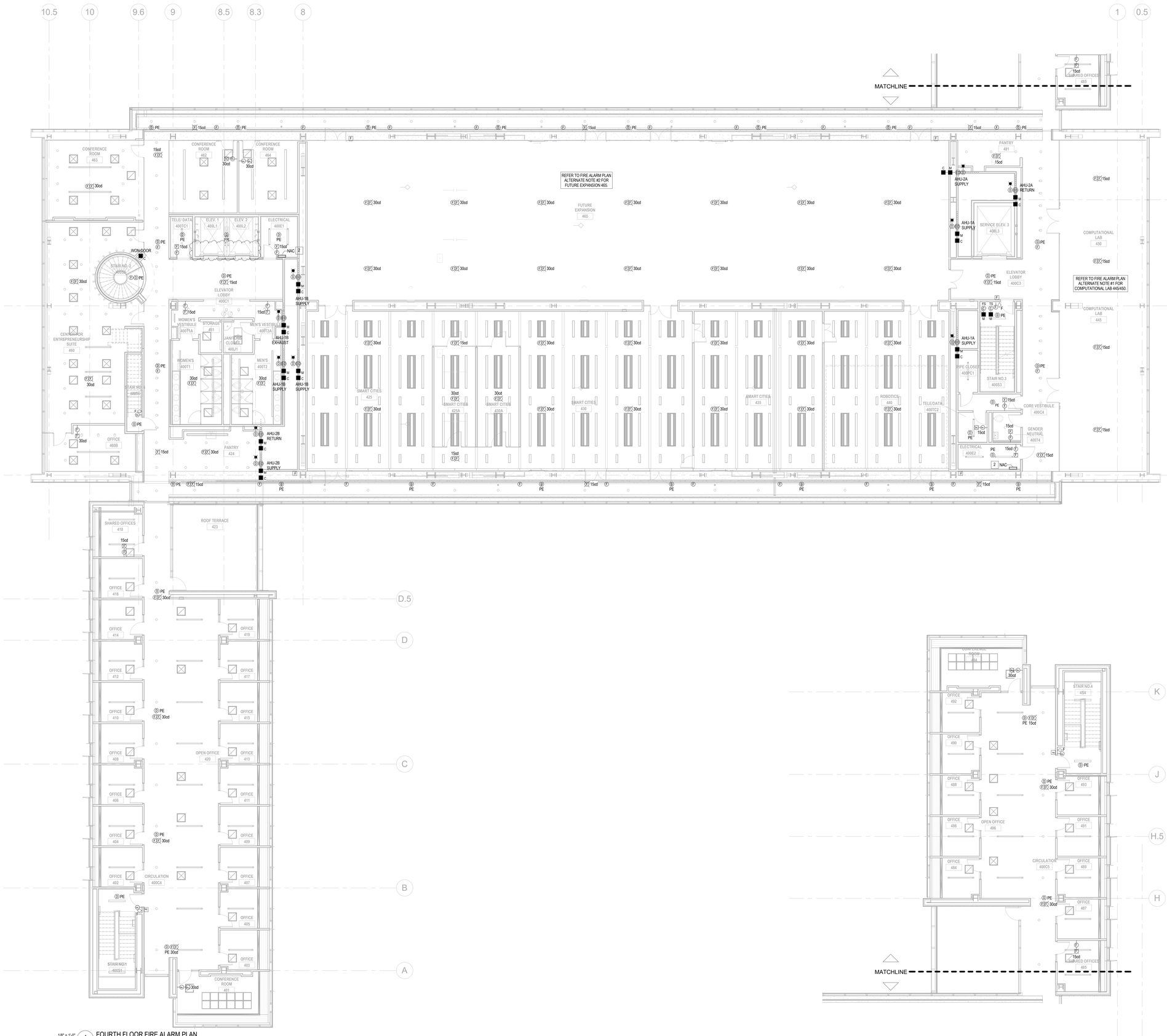
FIRE ALARM PLAN ALTERNATE NOTES:

1. BASE AND ALTERNATE SCOPE OF WORK FOR THIS AREA ARE IDENTICAL.
2. FOR ALTERNATE SCOPE OF WORK, REFER TO 3/EY110.

FIRE ALARM PLAN KEYED NOTES:

1 NOT USED.

2 PROVIDE EXTERNALLY MOUNTED 60-HOUR BATTERY BACKUP ABOVE FIRE ALARM NAC. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION



1/8" = 1'-0" 1 FOURTH FLOOR FIRE ALARM PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR IN ELECTRONIC FORM, THE USE OF THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THIS DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN BALLINGER AND THE CLIENT AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO THEM IN THE PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE FOR THE CONTENT OF SHOP DRAWINGS. SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PREPARATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
05/08/18	ISSUE NO. 17
01/19/18	ISSUE NO. 10
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

FOURTH FLOOR FIRE ALARM PLAN

NUMBER:

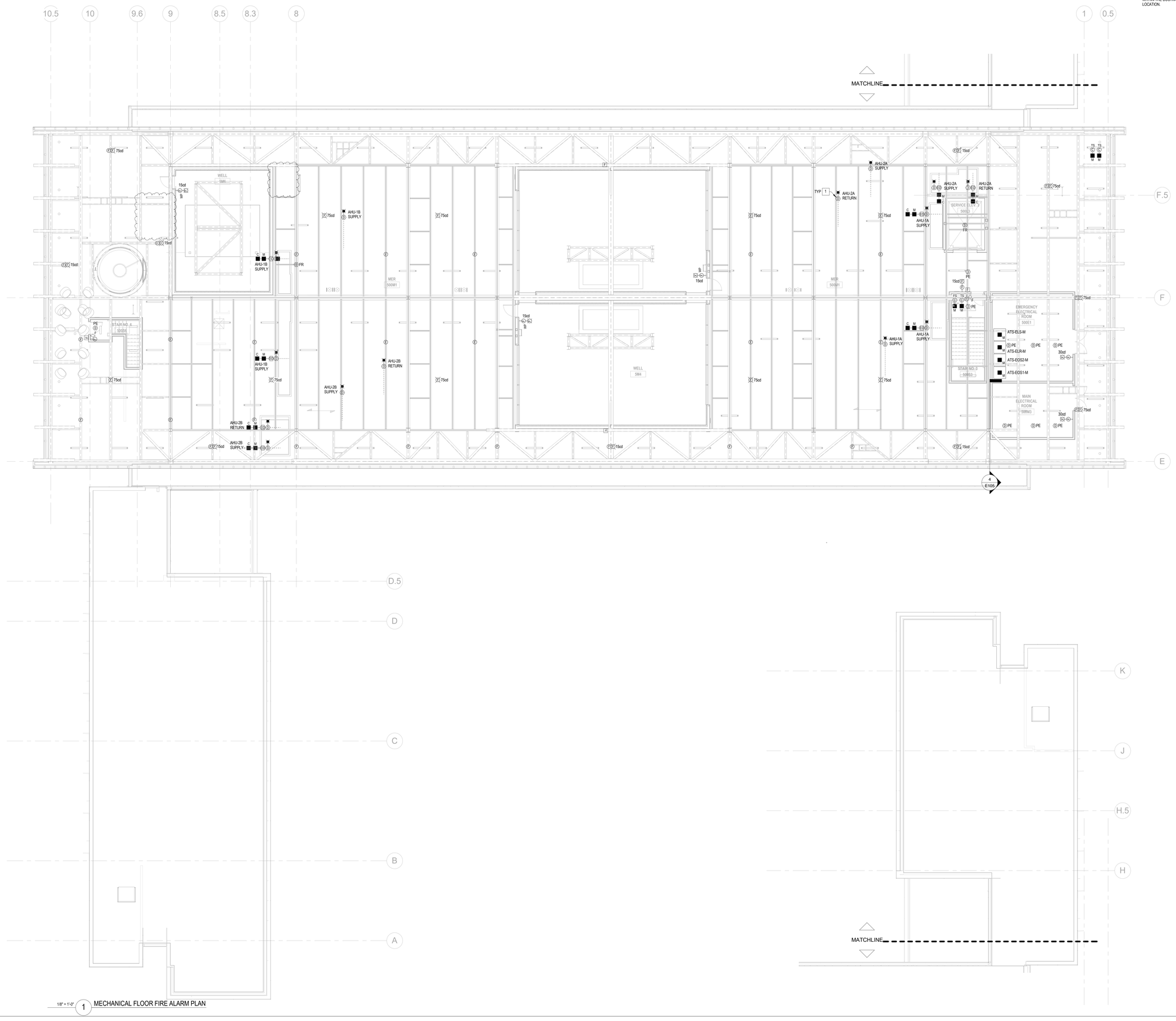
EY104

GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING ABBREVIATIONS, NOTES, AND SYMBOLS, REFER TO SHEET E001.
2. FOR GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.
3. MOUNT FIRE ALARM DEVICES TO UNDERSIDE OF BEAM OR WITHIN BEAM POCKET AS SHOWN.
4. FOR AIR HANDLING UNIT AND DUCTWORK LAYOUT, REFER TO MECHANICAL SHEETS.

FIRE ALARM PLAN KEYED NOTES:

1 E.C. SHALL PROVIDE WIRING, FAN SHUTDOWN RELAYS, AND FINAL CONNECTIONS TO ALL DUCT SMOKE DETECTORS FOR HVAC UNITS. DIVISION 23 CONTRACTOR TO FURNISH AND INSTALL DUCT DETECTORS AND SAMPLING TUBES WITHIN THE DUCTWORK. PROVIDE REMOTE TEST STATIONS FOR SMOKE DETECTORS IN A READILY ACCESSIBLE LOCATION.



1/8" = 1'-0" 1 MECHANICAL FLOOR FIRE ALARM PLAN

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

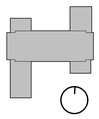
PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPETRATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

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

ELECTRICAL

TITLE:

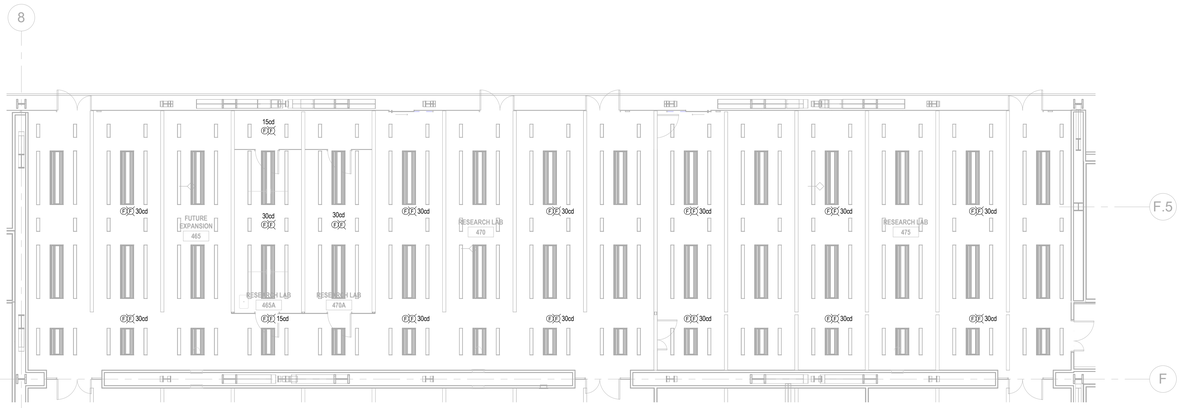
MECHANICAL FLOOR FIRE ALARM PLAN

NUMBER:

EY105

GENERAL FIRE ALARM PLAN NOTES:

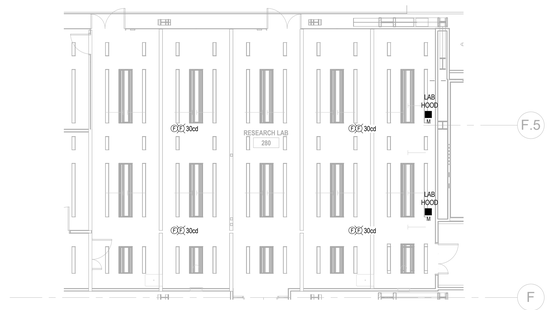
1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.



1/8" = 1'-0" 3 FOURTH FLOOR FIRE ALARM PLAN - ALTERNATE



1/8" = 1'-0" 2 THIRD FLOOR FIRE ALARM PLAN - ALTERNATE



1/8" = 1'-0" 1 SECOND FLOOR FIRE ALARM PLAN - ALTERNATE

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING

KINGSTON, RI

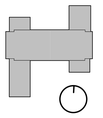
PROJECT NO: KC.G.ENGR.2015.002

B A L L I N G E R

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:



SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER AND TO BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT. CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THIS STATEMENT OF CONDITIONS OF USE, SOLELY AS A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT BY BALLINGER SHALL NOT MAKE BALLINGER RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THE SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERPERATION OF THEIR REQUIRED SHOP DRAWINGS.

08/24/17 ISSUE NO. 6

D R A W I N G I S S U E

PROJECT: 15085.00

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

E L E C T R I C A L

TITLE:

RESEARCH LAB ALTERNATE FIRE ALARM PLANS

NUMBER:

EY110

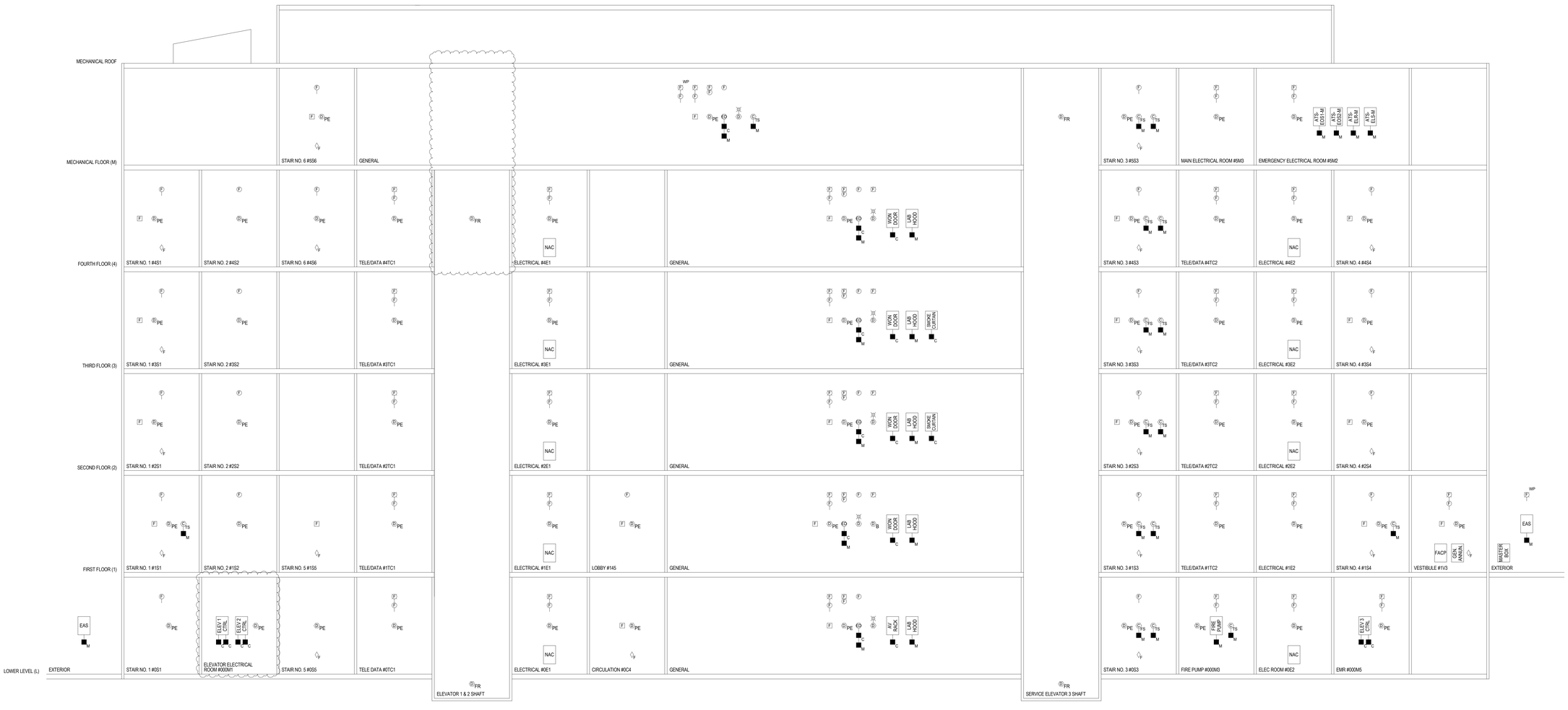
GENERAL FIRE ALARM PLAN NOTES:

1. FOR DRAWING NOTES, ABBREVIATIONS, MOUNTING HEIGHTS, AND SYMBOLS, REFER TO SHEET E001.
2. FOR ADDITIONAL GENERAL FIRE ALARM PLAN NOTES, REFER TO SHEET EY100.

	SYSTEM OUTPUTS															
SYSTEM INPUTS	REPORT TO FIRE ALARM CONTROL PANEL (FACP)	AUDIO/VISUAL ALARM SIGNAL AT FACP	AUDIO/VISUAL SUPERVISORY SIGNAL AT FACP	ACTIVATE INTERIOR AUDIBLE/VISUAL NOTIFICATION	ACTIVATE EXTERIOR AUDIBLE/VISUAL NOTIFICATION	SILENCE AV SYSTEM RACKS	RECORD EVENT IN MEMORY	ELEVATOR DESIGNATED FLOOR RECALL	ELEVATOR ALTERNATE FLOOR RECALL	SHUT DOWN LABORATORY AIR HANDLING UNITS AHU-1A & AHU-1B	SHUT DOWN OFFICE AIR HANDLING UNITS AHU-3A & AHU-3B	CLOSE ASSOCIATED SMOKE DAMPER	AUDIBLE AND VISUAL TROUBLE SIGNAL	DISPLAY EXACT LOCATION OF DEVICE ON ANNUNCIATOR	RELEASE SMOKE CURTAINS	RELEASE WOW DOORS
MANUAL PULL STATION	X	X	-	X	X	X	X	X	-	-	X	-	-	X	-	-
SMOKE DETECTOR - GENERAL	X	X	-	X	X	X	X	X	-	-	X	-	-	X	-	-
SMOKE DETECTOR - SUPPLY & RETURN DUCT	X	-	X	-	X	X	X	X	-	-	X	X	-	X	-	-
SMOKE DETECTOR - AIR HANDLING UNIT	X	-	X	-	X	X	X	X	-	X	X	X	-	X	-	-
SMOKE DETECTOR - DESIGNATED FLOOR ELEVATOR LOBBY	X	X	-	X	X	X	X	-	X	-	X	-	-	X	-	-
SMOKE DETECTOR - ALL NON-DESIGNATED FLOOR ELEVATOR LOBBIES	X	X	-	X	X	X	X	X	-	-	X	-	-	X	-	-
SMOKE DETECTOR - ELEVATOR MACHINE ROOM	X	X	-	X	X	X	X	X	-	-	X	-	-	X	-	-
HEAT DETECTOR - ELEVATOR HOISTWAY	X	X	-	X	X	X	X	X	-	-	X	-	-	-	-	-
HEAT DETECTOR - ELEVATOR PIT *	X	X	-	X	X	X	X	X	-	-	X	-	-	-	-	-
HEAT DETECTOR - GENERAL	X	X	-	X	X	X	X	X	-	-	X	-	-	X	-	-
WATER FLOW SWITCH	X	-	-	X	X	X	X	X	-	-	X	-	-	X	-	-
VALVE TAMPER SWITCH	X	-	X	-	-	-	X	-	-	-	-	-	-	X	-	-
FIRE SUPPRESSION SYSTEM DISCHARGE SIGNAL	X	X	-	X	X	X	X	-	-	-	-	-	-	-	X	-
FIRE SUPPRESSION SYSTEM TROUBLE SIGNAL	-	X	-	-	-	-	X	-	-	-	-	-	X	X	-	-
ANY CIRCUIT OR DEVICE TROUBLE SIGNAL	-	X	-	-	-	-	X	-	-	-	-	-	X	X	-	-
ATRIUM OR OPEN CORRIDOR SMOKE/BEAM DETECTORS	X	-	X	X	X	X	X	-	-	-	-	X	-	-	X	X
TYPICAL ATS STATUS	-	-	X	-	-	-	X	-	-	-	-	-	-	X	-	-

* NOTE: UPON HEAT DETECTION IN ELEVATOR PIT, ELEVATOR SHALL NOT RETURN TO LOWER LEVEL

N.T.S. 2 FIRE ALARM INPUT/OUTPUT MATRIX



N.T.S. 1 FIRE ALARM RISER DIAGRAM

THE UNIVERSITY OF RHODE ISLAND

NEW ENGINEERING BUILDING
KINGSTON, RI

PROJECT NO: KC.G.ENGR.2015.002

BALLINGER

833 CHESTNUT ST, SUITE 1400
PHILADELPHIA, PA 19107
T 215 446 0900
F 215 446 0901
BALLINGER.COM

CONSULTANTS:

KEYPLAN:

SEAL:

CONDITION OF USE

WHEN THIS DOCUMENT IS SUPPLIED TO EITHER OWNER OR CONTRACTOR, IN EITHER PAPER OR ELECTRONIC FORM, THE SUBSEQUENT USE OF THE INFORMATION CONTAINED ON THE DOCUMENT IS SUBJECT TO THE TERMS AND CONDITIONS OF THE AGREEMENT BETWEEN THE OWNER AND BALLINGER. THE INFORMATION CONTAINED IN THIS DOCUMENT IS TO BE USED BY THE OWNER AND CONTRACTOR FOR INFORMATION AND REFERENCE IN CONNECTION WITH THE OWNER'S USE AND OCCUPANCY OF THE PROJECT. BALLINGER'S COPYRIGHT AND OTHER SUCH RIGHTS IN THIS DOCUMENT, CONTRACTOR MAY MAKE ELECTRONIC FILES OF THIS DOCUMENT AVAILABLE TO SUBCONTRACTORS, SUBJECT TO THE TERMS AND CONDITIONS OF THE AGREEMENT, FOR A CONVENIENCE TO SUCH SUBCONTRACTORS IN THEIR PREPARATION OF SHOP DRAWINGS. THE PROVISION OF THIS DOCUMENT IN ELECTRONIC FORM DOES NOT RELIEVE RESPONSIBLE IN ANY WAY FOR ANY ASPECT OF THEIR SUBCONTRACTOR'S SHOP DRAWINGS, NOR RELIEVE SUBCONTRACTORS FROM FULL RESPONSIBILITY FOR PERFORATION OF THEIR REQUIRED SHOP DRAWINGS.

06/29/18	ISSUE NO. 21
10/26/17	ISSUE NO. 8
08/24/17	ISSUE NO. 6
07/31/17	ISSUE NO. 5

DRAWING ISSUE

PROJECT: 15085.00

SCALE: As indicated

ELECTRICAL

TITLE:

FIRE ALARM DETAILS

NUMBER:

EY301