







































## **E##** ELECTRICAL KEY NOTES

- RECEIVING LIGHTS; MOUNT IN BETWEEN JOISTS ABOVE BOTTOM CHORD OF BAR JOISTS & PROVIDE WITH G.E. COVER GUARD LAMPS.
2. FUTURE GONDOLA POWER: PROVIDE EMPTY JUNCTION BOX WITH 1/2" CABLE CORED MOUNTED ON STRUCTURE ABOVE FOR FUTURE GONDOLA LIGHTING POWER DROP. STUB CONDUIT INTO CEILING SPACE OF RECEIVING AREA.
3. NOVAR PUSH-BUTTON OVERRIDE: INSTALL MANAGER'S NOVAR PUSH BUTTON TO BE USED BY NOVAR TO PROVIDE -JBOX, 1/2" CONDUIT TO 6" AFC WITH (1) 9 CONDUCTOR 18 GA CABLE TO NOVAR OPUS CONTROLLER.
4. RTUS: SEE EQUIPMENT SCHEDULE ON SHEET 02.0
5. EXTERIOR SIGNS: PROVIDE WATERPROOF -A-BOXES AND CONNECTIONS. PROVIDE EXACT LOCATION AND MOUNTING HEIGHT WITH SIGN MANUFACTURER AND PETSMACT CONSTRUCTION MANAGER. CONTRACTOR TO PROVIDE AND COORDINATE ACCESS FOR POWER TO SIGN.
6. BATTERY CHARGER: SEE DETAIL 4/E2/2
7. REMOTE CONTROLLED LIGHT SWITCH: PROVIDE TOGGLE DISCONNECT SWITCH FOR PUMP LABELS SWITCH "PUMP" WALL MOUNT SWITCH ADJACENT TO PUMP. COORDINATE WORK WITH MECHANICAL CONTRACTOR.
8. EMERGENCY FIXTURE: 2-HAND EMERGENCY LIGHT FIXTURE TO BE MOUNTED ON STRUCTURE ABOVE IN OPEN CEILING AREAS TO CREATE A PATH OF EGRESS.
9. WATER HEATER DISCONNECTS: PROVIDE 3/4"X2" DISCONNECTS AND 3/4" FLEXIBLE SEAL TIGHT CONNECTIONS TO WATER HEATER. SEE DETAIL 1.
10. TIMER SWITCH: SEE DETAIL 7/E2.1
11. FLEXIBLE POWER DROP: SEE DETAIL 3/E2.0. COORDINATE WITH FIXTURE INSTALLATION.
12. MECHANICAL EQUIPMENT: PROVIDE POWER & CONNECTION TO MECHANICAL EQUIPMENT. REFER TO MECHANICAL DETAILS. VERIFY REQUIREMENTS WITH MECHANICAL CONTRACTOR.
13. FISH RACK LIGHTING: PROVIDE A WP -JBOX AND CIRCUITRY FOR FISH RACK LIGHTING, PROVIDED BY OTHERS. PROVIDE FINAL CONNECTIONS.
14. DOOR SECURITY: SEE DETAIL 3/E2.1
15. DOOR HORN: PROVIDE HORN, CEILING MOUNT TO BOTTOM CHORD OF JOIST IN SALES AREA. WALL MOUNT OTHER AREAS AT HEIGHT INDICATED ON DRAWINGS. VERIFY LOCATION WITH PETSMACT. CONNECT TO FRONT PANEL OF DOOR LOCK AS SHOWN ON DRAWINGS (SEE KEY NOTE 20).
16. CHECKSTAND POWER POLE: SEE DETAILS 5/E2.1 AND 6/E2.1
17. DRYER RECEPTACLE: SEE DETAIL 7/E2.1
18. MASTER BLASTER DRYER RECEPTACLE: PROVIDE RECEPTACLE WITH 40 AMP 120V/208V AFF. PROVIDE 90-DEGREE CORNER TRACK CONNECTORS (TR24WH) FOR A CONTINUOUS TRACK SYSTEM. EC NOT TO CONNECT "JOINER WIRES": PROVIDE ANY ADDITIONAL CONNECTORS, KITS, ENDCAPS, OR LOCAPS AS REQUIRED FOR A COMPLETE TRACK SYSTEM.
19. LED ELECTRONIC DRIVER TRANSFORMER: PROVIDE SURFACE MOUNTED 75W DRIVER TRANSFORMER (TL60IE-75WH), 120V/12V.
20. SURFACE MONOPOLK LED LUMINAIRE: PROVIDE SURFACE MONOPOLK ADAPTER WITH INTEGRAL ELECTRONIC TRANSFORMER (TL1540U-WH) FOR 120V/12V LED LUMINAIRE. ATTACH UNISTRUT DIRECTLY TO TOP OF BOTTOM CHORD OF JOIST WITH APPROVED FASTENERS. ATTACH AT MINIMUM TWO JOINTS.
21. 10-STRAIGHT LV TRACK WITH ACCENT LED LUMINAIRES: PROVIDE 10-STRAIGHT LV TRACK WITH 10-STRAIGHT LV TRACK JOINT WITH WHITE FINISH. HANG SINGLE CIRCUIT TRACK (1) 6-F-T (LRWHV) (1) 4-F-T (LR4WHV) WITH STRAIGHT TRACK CONNECTOR (LR16FT-LT) LEVEL: 10'-0" AFF. BOTTOM OF TRACK. PENDANT MOUNT TRACK FROM UNISTRUT WITH JUNO CABLE FEED KIT #TLR6-144-WH. FIELD MODIFY CABLE LENGTH TO MATCH TRACK LENGTH. PROVIDE 90-DEGREE CORNER TRACK CONNECTORS (TR24WH) FOR A CONTINUOUS TRACK SYSTEM. EC NOT TO CONNECT "JOINER WIRES": PROVIDE ANY ADDITIONAL CONNECTORS, KITS, ENDCAPS, OR LOCAPS AS REQUIRED FOR A COMPLETE TRACK SYSTEM.
22. NATURAL'S AREA CIRCUIT: 120V-120V TRACK AND MONOPOLK LIGHTING TO BE CIRCUITED THRU EMS TO PANEL LA2.

## ELECTRICAL SYMBOLS LIST

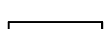


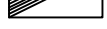




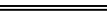
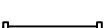

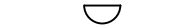


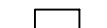

ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT

- |   |   |   |  |
|---|---|---|--|
|  | SINGLE RECEPTACLE: 20A HUBBELL HBL536V 18" TO CENTER UNO.   |  | MOTORIZED DAMPER.  |
|  | DUPLEX RECEPTACLE: 20A HUBBELL HBL5362W (NEMA 5-20R) 18" TO CENTER UNO, WHITE                                       |  | MOTOR CONTROLLER - PROVIDED BY EC. SI/E AS NOTED   |
|  | DUPLEX GFI RECEPTACLE: 20A HUBBELL GFR5362SGW 18" TO CENTER UNO, WHITE  |  | MOTOR CONTROLLER - FURNISHED WITH MOTOR  |
|  | FOURPLEX RECEPTACLE - (2) 20A DUPLEX 18" TO CENTER UNO  |  | MOTOR - SI/E AS INDICATED ON DWGS  |
|  | FOURPLEX GFI RECEPTACLE - (2) 20A DUPLEX 18" TO CENTER UNO  |  | DISCONNECT SWITCH - SI/E AND FUSES AS PER MANUFACTURER'S RECOMMENDATIONS (WP WHERE OUTSIDE)      |
|  | SPECIAL RECEPTACLE AS NOTED ON DRAWINGS 18" TO CENTER UNO   |  | H.P. RATED MANUAL MOTOR STARTER (WP WHERE OUTSIDE)   |
|  | COMPUTER RECEPTACLE AT 18" AFF TO CENTER UNO, HUBBELL #W5362 ORANGE   |  | SINGLE POLE SWITCH W/PILOT LIGHT AT 44" AFF OR AS NOTED. 20A, HUBBELL 1221-PLC/1221-PLC C7       |
|  | TELEPHONE BOX & WHITE COVER PLATE AT 18" AFF TO CENTER UNO. PROVIDE 3/4" CONDUIT WITH PULL STRING TO 6" A.F.C.      |  | PANELBOARD - MOUNT AT 6:38" TO TOP   |
|  | DATA BOX & WHITE COVER PLATE AT 18" AFF TO CENTER UNO. (1) 3/4" CONDUIT EXTENDED 6" AFC OR TO ROOF STRUCT           |  | TAMPER SWITCH  |
|  | DATA TELEPHONE BOX & WHITE COVER PLATE AT 18" AFF TO CENTER UNO. PROVIDE 3/4" CONDUIT WITH PULL STRING TO 6" A.F.C. |  | DOOR CONTACT. SEE DETAIL 3/E2.1  |
|  | JUNCTION BOX IN ACCESSIBLE LOCATION   |  | WEATHERPROOF (RAIN TIGHT)  |
|  | JUNCTION BOX MTD. IN JOIST AREA. CONDUITS CONNECTED BETWEEN SUCH BOXES SHALL BE ROUTED IN JOIST AREA                |  | SERVICE ENTRANCE SECTION   |
|  | CIRCUIT IN CONDUIT RUN BELOW SLAB   |  | ELECTRIC DRINKING FOUNTAIN   |
|  | CIRCUIT IN CONDUIT ON-CEILING IN WALLS OR ABOVE CEILING   |  | UNLESS NOTED OTHERWISE   |
|  | HOMERUN TO PANELBOARD OR AS NOTED   |  | CONDUIT  |
|  | PUSH-BUTTON - EDWARDS #C59, LOW VOLTAGE (24V), 1-PHASE, 4A - AC, FLUSH MOUNT AT 44" AFF                             |  | EXHAUST FAN - 150 WATT, 120V. UNLESS OTHERWISE NOTED   |
|  | NOVAR PUSH-BUTTON OVERRIDE - FURNISHED BY NOVAR, INSTALLED & WIRED BY EC  |  | GROUND FAULT CIRCUIT INTERRUPTER   |
|  | SPEAKER, BY OTHERS - NO CONDUIT STUD NEEDED   |  | ISOLATED GROUND  |
|  | HORN, BY OTHERS - NO CONDUIT STUD NEEDED  |  | SPRINKLER ALARM CONTROL PANEL  |
|  | DOOR BU...ER EDWARDS #1065-GS, 24V, 6 WATT, WITH LOUVERED COVER PLATE   |  | DUCT SMOKE DETECTOR  |
|  | DOOR HORN EDWARDS #H23A-GS, 24V, 4.8 WATT   |  | SENSOR - SEE MECHANICAL & ELECTRICAL SHEETS FOR EXACT LOCATIONS. SENSORS (GENERAL) AT 90" AFF.   |
|  | CONDUIT TURNING DOWN  |  | COMBINATION TEMPERATURE / HUMIDITY SENSOR - SEE MECHANICAL PLANS. SENSORS (GENERAL) AT 90" AFF.  |
|  | CONDUIT TURNING UP  |  | ADJUSTABLE THERMOSTAT - SEE MECHANICAL PLAN FOR EXACT LOCATIONS. SENSORS (GENERAL) AT 90" AFF.   |
|  | VOLUME CONTROL, BY OTHERS - PROVIDE SINGLE GANG BOX AT 48" AFF UNO & 1/2" CONDUIT TO CEILING SPACE                  |  | NOVAR HUMIDITY SENSOR - SEE MECHANICAL PLAN FOR EXACT LOCATION. SENSORS (GENERAL) AT 90" AFF.    |
|   |   |  | NOVAR TEMPERATURE SENSOR - SEE MECHANICAL PLAN FOR EXACT LOCATION. SENSORS (GENERAL) AT 90" AFF. |
|   |   |  | ABOVE FINISH CEILING   |

WEATHERPROOF COVERS: FOR DUPLEX RECEPTACLES HUBBELL MODEL No. WP826MP - VERTICAL MOUNT, HUBBELL MODEL No. WP826MHP - HORIZONTAL MOUNT, FOR SINGLE RECEPTACLES TAYMAC MODEL No. MM410C.

LIGHTING SYMBOLS:

ALL SYMBOLS MAY NOT APPLY TO THIS PROJECT.

- |   |  |     |   |
|---|--|-----|---|
|  | • 1x4 LED LIGHT.                           | \$  | • SINGLE POLE TOGGLE SWITCH MOUNTED AT 48" A.F.F. TO CENTER, UNO. HUBBELL #1221W 20A, 120/277V.         |
|  | • 1x4 NIGHT LED LIGHT.                     |     |   |
|  | • 2x4 LED LIGHT.                           | \$D | • SINGLE POLE DIMMER SWITCH MOUNTED AT 48" A.F.F. TO CENTER, UNO. LEVITON #8100C-20A, 120V, 1000W, UNO. |
|  | • 2x4 NIGHT LED LIGHT.                     | \$3 | • THREE WAY TOGGLE SWITCH MOUNTED AT 48" A.F.F. TO CENTER, UNO. HUBBELL #1223W, 20, 120/277V.           |
|  | • 8'0" LINEAR LED NIGHT LIGHT.             | ⬆   | • HORN AND SPEAKER - REFER TO E2 & ETD SYMBOLS LISTS FOR FURTHER INFORMATION                            |
|  | • 4'0" LINEAR NIGHT LED LIGHT.             | NL  | • NIGHT LIGHT WIRED TO BE UNSWITCHED FIXTURE.   |
|  | • 8'0" LINEAR LED LIGHT.                   | EM  | • EMERGENCY WIRED TO BE UNSWITCHED FIXTURE, UNO.  |
|  | • 4'0" LINEAR LED LIGHT.                   | \$M | • MOTION SENSOR WALL SWITCH-MAESTRO MODEL #MS-VSP6M2-DV-WH MOUNTED AT 48" A.F.F. TO CENTER OR AS NOTED. |
|  | • WALL MOUNTED LIGHTING.                   |     |   |
|  | • RECESSED LED DOWN LIGHT.                 |     |   |
|  | • EXTERIOR WALL MOUNTED FIXTURE.           |     |   |
|  | • EXIT SIGNS (PENDANT MOUNTED)             |     |   |
|  | • EXIT SIGNS (WALL / BULKHEAD MOUNTED)     |     |   |
|  | • CEILING OR WALL 2-HEAD EMERGENCY FIXTURE |     |   |
|  | • 2x2 LED LIGHT                            |     |   |
|  | • 2x2 NIGHT LED LIGHT                      |     |   |

## WALL DEVICES & COVER PLATE FINISHES

- ALL WALL DEVICES (RECEPTACLES, SWITCHES, DATA OUTLETS, ETC) AND COVER PLATES TO BE WHITE, EXCEPT
  - SALON TO HAVE GRAY RECEPTACLES (LEVITON #M163) WITH #MSTWL-A LEV-LOK WIRING DEVICE AND STAINLESS STEEL COVERPLATES.
  - MECHANICAL ROOMS AND SIMILAR AREAS WITH EXPOSED CONDUIT TO HAVE GALVANIZED STEEL COVER PLATES.
  - IG RECEPTACLES TO BE ORANGE.

## ELECTRICAL GENERAL NOTES:

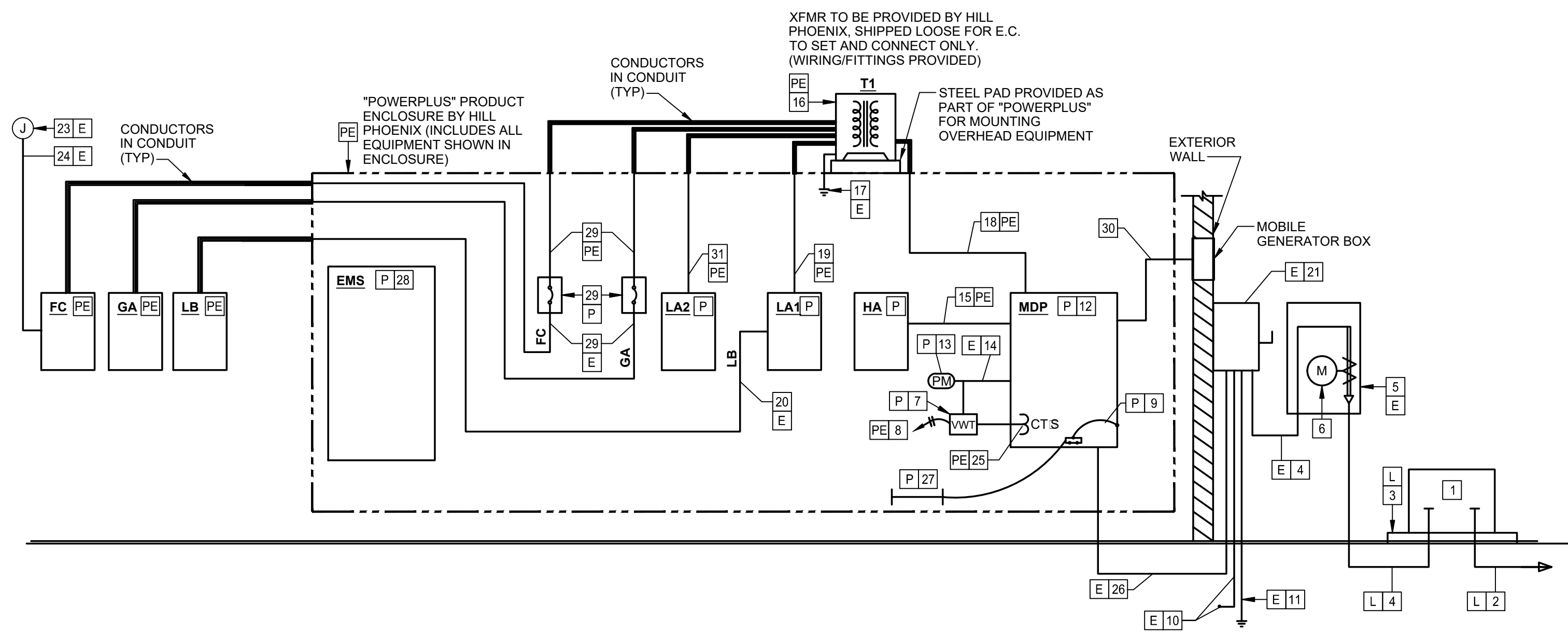
- |  |   |
|--|---|
| 1. ALL LED AND/OR FLUORESCENT LAMPS NOT INCLUDED WITH FIXTURES ARE FURNISHED BY THE GENERAL CONTRACTOR THROUGH ARA'S SCHEDULING DEPARTMENT.  | 11. GENERAL CONTRACTORS SHALL CONTACT F.E. MORAN INC. ALARM FOR NATIONAL ACCOUNT BID PRICING ON FIRE AND BURGLAR ALARM SYSTEMS AND NOTIFICATIONS.   |
| 2. PROVIDE FIXTURE SAFETY CHAINS WHERE REQUIRED.   | 12. PROVIDE (2) PULL STRINGS IN EACH EMPLY CONDUIT FOR DATA & PHONE BOXES.  |
| 3. ALL LAY-IN FIXTURES SHALL BE FURNISHED WITH "FIXTURE SUPPORT CLIPS" PER NEC SECTION 410.  | 13. REFER TO "EM" SHEETS FOR SENSOR MOUNTING.   |
| 4. OFFSET LIGHT FIXTURES AS NEEDED TO CLEAR STRUCTURAL OBSTRUCTIONS AND/OR HANDRAILS.  | 14. SEE ARCHITECTURAL ELEVATION DRAWINGS FOR EXACT PLACEMENT OF OUTLETS.  |
| 5. ALL LIGHT SWITCHES SHALL BE LOCATED AS CLOSE AS POSSIBLE TO ADJACENT DOOR FRAMES AT A.D.A. HEIGHTS. COORDINATE LOCATIONS WITH ALL FIXTURES/EQUIPMENT.   | 15. E.C. TO VERIFY EXACT MOUNTING SITE PRIOR TO ROUGH-IN OF BOXES FOR PHONE AND DATA.   |
| 6. ALL LIGHTING SHALL BE CIRCUITED AS SHOWN TO ALLOW MULTI-LEVEL SWITCHING FOR ENERGY MANAGEMENT. SEE SHEET EM2.   | 16. WHERE CONDENSATION, DEVICE BOXES, ETC., ARE SURFACE MOUNTED, SEAL ALL PENETRATIONS WITH SIKKA SIKAPLEX 1A POLYURETHANE SEALANT.   |
| 7. CONDUIT AND PIPING SHALL BE ROUTED PARALLEL WITH WALLS IN MAIN CORRIDORS AND AREAS WHERE GROUPED TOGETHER WHERE PRACTICAL & HOLD AS HIGH AS POSSIBLE AND SUSPEND TIGHT TO THE TOP CORD OF JOIST.  | 17. NOT USED.   |
| 8. PROVIDE ZERO DEGREE BALLASTS FOR FIXTURES LOCATED OUTSIDE.  | 18. SEE SHEET #E0.1 FOR ONE LINE DIAGRAM KEYED NOTES.   |
| 9. ALL ELECTRICAL WIRING MUST RUN OVERHEAD (UNO) UNLESS REQUIRED TO RUN UNDERGROUND. ANY EXCEPTIONS MUST BE APPROVED BY PETSMAST CONSTRUCTION MANAGER.   | 19. PROVIDE CONDUIT FOR LOW VOLTAGE WIRING WHEN REQUIRED BY CODE. TERMINATE PHONE & DATA WIRING AT PETSMAST SERVER ROOM.  |
| 10. SNAP SWITCHES THAT ARE GROUPED OR GANGED IN AN ENCLOSURE WITH OTHER SNAP SWITCHES OF SIMILAR DEVICES SHALL HAVE THE VOLTAGE BETWEEN THE ADJACENT DEVICES EXCEEDS 300 VOLTS. MUST HAVE A PERMANENT BARRIER INSTALLED BETWEEN THE ADJACENT DEVICES FOR THE NEXT. | 20. ALARM PACKAGE: THE ALARM PACKAGE WILL REQUIRE AN AVERAGE OF 15 CONDUIT DROPS WITH BOXES, AND 35 BACK BOXES (ONLY) FOR THE ENTIRE PROJECT. THE E-CY QUANTITY IS SUBJECT TO CHANGES IN LOCAL REQUIREMENTS AND FINAL STORE DESIGN. ALL CEILING MOUNTED ALARM & INTRUSION DEVICES WILL REQUIRE A BACK BOX PROVIDED BY THE E-CY QUANTITY. SEE PETSMAST SCHEDULE FOR ACCOUNT VENDOR - F.E. MORAN, INC. ALARM (866) 472-6450 - SEE ARCHITECTURAL DRAWING D2 OF PRODUCT SCHEDULE. |

**SYMBOL LEGEND:**

- |    |   |
|----|---|
| P  | FURNISHED BY HILL PHOENIX WITHIN "POWERPLUS" PRODUCT WITH EQUIPMENT INSTALLED AND FACTORY WIRED. NOTE: EC SHALL WALL MOUNT AND RE-TORQUE ALL CONNECTIONS. |
| E  | PROVIDED BY EC  |
| PE | FURNISHED BY HILL PHOENIX, INSTALLED BY EC  |
| L  | PROVIDED BY LANDLORD  |

## ELECTRICAL CONTRACTOR NOTE:

1. EC SHALL BE RESPONSIBLE FOR THE PURCHASE OF HILL- PHOENIX X "POWERLUX" PRODUCT AND LOOSE PANELS INDICATED. EC SHALL FURNISH THE FOLLOWING ORDER INFORMATION TO AN AMPLIFY OF 6 WEEKS PRIOR TO DELIVERY REQUIREMENTS (TO GUARANTEE A MANUFACTURING SLIP IN THE SCHEDULE TO MEET REQUIRED DELIVERY DATE) COMPANY NAME, ADDRESS, PHONE NUMBER, FAX, E-MAIL AND PHONE NUMBER. TEL: 1-800-518-6630 EXT. 321 FAX: 707/708-2852 OR VIA E-MAIL, [edr1@hpx.com](mailto:edr1@hpx.com) OR [tel.hpxm.com](mailto:tel.hpxm.com) FOR PURCHASING/DELIVERY/PRODUCT COORDINATION REQUIREMENTS. NOTE: CONTACT HILL-PHOENIX 2 WEEKS PRIOR TO DELIVERY DATE TO OBTAIN SPECIFIC PRODUCT DRAWINGS (FINAL EQUIPMENT LOCATIONS - STUB-UP COORDINATION).
2. EC RESPONSIBLE TO REQUEST ALL PRE-REQUIRED FEEDBACK/RATINGS FROM THE TERMINAL SUPPLY ON DELIVERY OF "POWERLUX" PRODUCT
3. EC RESPONSIBLE FOR OFF LOADING AND SETTING PRE-FABRICATED "POWERLUX" PRODUCT WHEN IT ARRIVES ON SITE. REFER TO THE SPECIFICATIONS DESIGN REQUIREMENTS (NOTES 2 & 3) FOR ADDITIONAL INFORMATION.
4. EC IS RESPONSIBLE TO OBTAIN QUOTES FROM HILL-PHOENIX, GRAYBAR ELECTRICAL, AND NOVACI CONTRACTORS.
5. ALL ELECTRICAL CONDUITS/WIRING MUST RUN UP/OVERHEAD (UNO) AND BE SECURED TO STRUCTURE. ALL ELECTRICAL CONNECTIONS MUST BE APPROVED BY PETSMACT CONSTRUCTION MANAGER.
6. EC IS RESPONSIBLE TO GIVE HILL-PHOENIX 6 A WEEKS WRITTEN REQUEST OF THE REQUIRED ON-SITE DATE. USE SPECIFIC DATE AND TIME FOR FURNISHING OF THE PRODUCT.
7. EC TO CONTACT HILL-PHOENIX TO OBTAIN SITE SPECIFIC DRAWINGS. DRAWINGS IN PLANS ARE FOR ESTIMATING PURPOSES ONLY. HILL-PHOENIX WILL PROVIDE A SET OF "AS-BUILT" DRAWINGS TO THE SUBMITTER. IF, SO ACCURATE ROUGH-IN COORDINATION CAN BE COMPLETED.
8. EC IS RESPONSIBLE TO DETERMINE IF AN EXTERIOR MEANS OF DISCONNECT IS REQUIRED. IF SO, PLEASE REFER TO THE OPTIONS AVAILABLE FOR HILL-PHOENIX. HILL-PHOENIX WILL PROVIDE THE PRICE ADDER FOR A SHUNT TRIP OR FUSIBLE DISCONNECT.



ONE LINE DIAGRAM KEYED NOTES:

- |  |   |
|--|---|
| 1. SERVICE: POWER COMPANY TRANSFORMER. VERIFY AVAILABLE FAULT CURRENT WITH UTILITY COMPANY.  | 17. TRANSFORMER GROUND, #1/0 CU. GROUND TO BUILDING STEEL.  |
| 2. PRIMARY SERVICE: CONDUIT SI: E PER UTILITY COMPANY. PRIMARY FEED, COORDINATE ROUTING AND REQUIREMENTS WITH POWER CO. PRIOR TO BID.                    | 18. TRANSFORMER FEEDER: (3) #4/0 KMHV (XHHW) CU., (1) #4 CU. GROUND, 2-1/2" C.  |
| 3. TRANSFORMER PAD: # MINIMUM CONCRETE. VERIFY EXACT REQUIREMENTS WITH UTILITY COMPANY. PRIOR TO BID.  | 19. 150A "1A" FEEDER: (#4/10 (XHHW) CU., (1) #6 CU. GROUND, (1) #1/2" CU. GROUND, (IN 2" C. OUTSIDE OF HIL-PHOENIX ENCLOSURE).  |
| 4. 600A SERVICE (2) 3-1/2" C. EACH WITH (4) #350 (XHHW). VERIFY EXACT REQUIREMENTS WITH UTILITY COMPANY. PRIOR TO BID.                                   | 20. 60A "LB" FEEDER: (4) #6 (XHHW) CU. (1) #8 CU. GROUND, (1) #1/2" CU. GROUND, (IN 1-1/2" C. OUTSIDE OF HIL-PHOENIX ENCLOSURE).  |
| 5. CT CABINET, EXTERIOR CT CABINET (PROVIDE PER UTILITY COMPANY REQUIREMENTS).   | 21. SERVICE ENTRANCE DISCONNECT: SERVICE ENTRANCE RATED 600A-3P-480V W/ FUSED DISCONNECT.   |
| 6. UTILITY METER: UTILITY COMPANY METER. COORDINATE WITH UTILITY COMPANY.  | 22. NOT USED.   |
| 7. ENERGY MONITORING METER: VERIS WATT TRANSducer x PHASE LOSS MONITOR KW PULSE METER PROVIDED. INSTALLED & WIRED BY HIL PHOENIX IN POWERPLUS ENCLOSURE. | 23. J-BOX: FOR AQUARIUM EQUIPMENT BY OTHERS.  |
| 8. NOVAP CONTROLLER: TO NOVAP OPCU XCUB 110S CONTROLLER.   | 24. 60A AQUARIUM FEEDER: (3) #6 (XHHW), (1) #1/0 GROUND, 1" C.  |
| 9. MAIN BONDING JUMPER: PROVIDE #2/0 CU.   | 25. METER WIRING: ROUTE SERVICE FEEDERS THRU CT S FOR VERIS WATT TRANSducer PULSE METER READINGS.   |
| 10. GROUND BOND: PROVIDE #2/0 CU. BOND TO COLD WATER MAIN AND BUILDING STEEL. EXTEND SYSTEM GROUND TO SPRINKLER.   | 26. 600A SERVICE WATT WITH GROUND: 2-SETS (4) 350 (XHHW), 1#1/0 CU GROUND, 2-3/12" C.   |
| 11. GROUND ROD: PROVIDE (2) - #1/0 CU GROUND RODS. EMT/PTCDS (IN CONCRETE FOOTING) PER NEC 250.52 (3).   | 27. ISOLATED GROUND: TERMINATE CONDUCTORS ON POWERWALL GROUND BUS.  |
| 12. MDP: SEE MDP SCHEDULE.   | 28. EMS NOVAMISC CONTROL EQUIPMENT FURNISHED, INSTALLED AND WIRED BY HIL PHOENIX INTERNAL TO POWER PLUS PRODUCT. EQUIPMENT TO INCLUDE: OPCU, LTC CONTACTORS, CONTROL POWER TRANSFORMERS, RELAYS/BASIS & COMPUTER SHELF. REFER TO ENERGY MANAGEMENT DRAWINGS EMI, E02, & E22 FOR ADDITIONAL INFORMATION. |
| 13. PHASE LOSS MONITOR: PROVIDED BY HIL PHOENIX - INSTALLED WITHIN THE PREFABRICATED "POWERPLUS" PRODUCT. (1) 2 CONDUCTOR 18 GA. TO SAVVY CONTROLLER.    | 29. 125A/3P CIRCUIT BREAKER & FEEDER: 208V, 10K AIC, 3P/1P CIRCUIT BREAKER. PROVIDE TO REMOVE LOAD, LOAD MAKE AS INDICATED. FEEDER SHALL BE (4) #1/0 (XHHW) CU., (1) #6 CU. GROUND, (1) #1/2" CU. GROUND, (IN 2" GROUND OUTSIDE OF HIL PHOENIX ENCLOSURE).  |
| 14. PHASE LOSS FEEDER: (3/4"12 THIN CU. 1/2" SEE SHEET E02 FOR CONNECTION REQUIREMENT. CONDUCTOR LENGTH SHALL BE 12 MINIMUM.                             | 30. GENERATOR CONNECTION: FOR TEMPORARY CONNECTION TO GENERATOR (NOT IN CONTRACT).  |
| 15. 100A "HA" FEEDER: (4) #3 (XHHW) CU., (1) #8 CU. GROUND.  | 31. 100A "12" FEEDER: (4) #3 (XHHW) CU., (1) #8 CU. GROUND.   |
| 16. DISTRIBUTION TRANSFORMER: 150 KVA XFMR, PRI: 480V DELTA, SEC: 120/208 VWS 150% RSC. PROVIDE TP-1 ONE-STEP EFFICIENT TRANSFORMER.                     |   |

MINIMUM WIRE & CONDUIT SIZES FOR CIRCUIT BREAKERS AND FUSES			
AMPS	FEEDER S.I.E	GROUND	CONDUIT
15	#12	#12	3/4"
20	#12	#12	3/4"
25	#10	#10	3/4"
30	#10	#10	3/4"
35	#8	#10	3/4"
40	#8	#10	3/4"
45	#8	#10	3/4"
50	#8	#10	3/4"
60	#6	#10	3/4"
70	#4	#8	1"
80	#4	#8	1"
90	#3	#8	1-1/4"
100	#3	#8	1-1/4"

PROVIDE THE FOLLOWING QUANTITIES:  
1 POLE CIRCUIT - 1 HOT, 1 NEUTRAL, 1 GROUND  
2 POLE CIRCUIT - 2 HOT, 1 GROUND  
3 POLE CIRCUIT - 3 HOT, 1 GROUND  
1 POLE IG CIRCUIT - 1 HOT, 1 NEUTRAL, 1 GROUND, 1 ISOLATED GROUND.



NOTES	MOUNT: FLUSH      120/208						3-PHASE, 4W		PANEL		FLO		CAPACITY: 200A				INT CAP: 10KA				NOTES
	LOCATION: FISH EQUIPMENT 108							LUGS:		MCO		DEMAND LOAD: 81A				AV. FAULT: 7.0KA					
	CKT	LTG	REC	HVAC	MISC	NP		DESCRIPTION	AMP	POLE	AMP	POLE	DESCRIPTION	LTG	REC	HVAC	MISC	NP	CKT		
	1		0.54				REC FISH DEPARTMENT	20	1	A	20	1	SPARE						2		
	3			0.8			POWER DROP	20	1	B	20	1	AQUARIUMS				1.50	4	CC		
	5		0.54				REC REFRIGERATOR	20	1	C	20	1	EXHAUST FAN 3			0.87		6			
	7		0.75				REC FISH DEPARTMENT	20	1	A	20	1	POWER DROP						8		
	9		1.00				REC FISH DEPARTMENT	20	1	B	20	1	POWER DROP					0.80	10		
	11		1.00				FILTRATION SYSTEM	20	1	C	20	1	POWER DROP HABITAT					0.80	12		
	13		0.80				POWER DROP	20	1	A	20	1	POWER DROP					0.80	14		
	15		0.80				POWER DROP	20	1	B	20	1	L.TG RSH TANKS			0.9			16	CC	
	17		0.80				POWER DROP	20	1	C	20	1	L.TG RSH TANKS			0.9			18	CC	
	19		0.80				POWER DROP HABITAT	20	1	A	20	2	EUH-2						0.75	20	
	21			1.50			EUH-1	20	2	C									0.75	22	
	23			1.50									REC TURTLE TANK			0.7					
	25						SPARE	20	1	A	20	1	MOTOR DAMPER 1&2				0.04		26		
	27		5.31				SUB-FEED AQUARIUM EQUIP	60	2	C	20	1	SPARE						28		
	29		5.31				EQUIP	60	2	C	20	1	DIGITAL BOARDS					1.00	30	CC	
	31						SPARE	20	1	A	20	1	REC FREEZER			1.2			32		
	33						SPARE	20	1	B	20	1	SPARE						34		
	35						SPARE	20	1	C	20	1	SPARE						36		
	37						PROVISIONS	C	20	1	A	20	1	SPARE						38	
	39						PROVISIONS	B	20	1	B	20	1	SPARE						40	
	41						PROVISIONS	C	20	1	C	20	1	SPARE						42	
							LOAD TYPE	DEMAND					DEMAND FORMULA						TOTAL LOAD		
							LIGHTING	1.3 KVA			2.4 KVA		LOAD X 125% NEC 210.19 CONTINUOUS				CONNECTED)	DEMAND			
							% RECEIPTACLE	5.7 KVA			5.7 KVA		10KVA + 50% REMAINDER NEC 220.44				33.3 KVA	29.1 KVA			
							A	6.5 KVA	19%		HVAC	0.9 KVA	0.7 KVA	LOAD X 80% (USED MCA IN CALCULATION)				92.5A	80.8A		
							B	13.4 KVA	40%		MISC	20.3 KVA	20.3 KVA	LOAD X 100% NEC 210.19 NON-CONT.							
							C	13.5 KVA	40%		NP	4.5 KVA	0.0 KVA	0 NONCOINCIDENTAL LOADS NEC 220.60				Franklin Load.XLSM			
NOTES:																					
A. ALUMINUM BUSSING, COPPER GROUND																					
B. PROVIDE WITH ISOLATED GROUND BUS																					
C. NOTES: GF-GFCI CIRCUIT BREAKER; HL-HANDLE LOCK-ON DEVICE; CC-CIRCUIT VIA CONTACTOR																					

EQUIPMENT SCHEDULE									
PLAN MARK	EQUIPMENT SERVED	LOAD	VOLT PHASE	FED BY	DISC BY	MCA	MOC PD	FEEDER	REMARKS
RTU 1	ROOF TOP UNIT	11.64KVA	480/3	MDP	MC	14.0A	15A	(3)#12, #12G 1/2"	CIRCUIT VIA "BOTTOM POWER ENTRY" KIT. COORDINATE WORK WITH RTU INSTALLER (TYPICAL)
RTU 2	ROOF TOP UNIT	11.64KVA	480/3	MDP	MC	14.0A	15A	(3)#12, #12G 1/2"	(TYPICAL)
RTU 3	ROOF TOP UNIT	11.64KVA	480/3	MDP	MC	14.0A	15A	(3)#12, #12G 1/2"	(TYPICAL)
RTU 4	ROOF TOP UNIT	18.29KVA	480/3	MDP	MC	22.0A	25A	(3)#10, #10G 1/2"	(TYPICAL)
RTU 5	ROOF TOP UNIT	9.98KVA	480/3	MDP	MC	12.0A	15A	(3)#12, #12G 1/2"	(TYPICAL)
RTU 6	ROOF TOP UNIT	18.29KVA	480/3	MDP	MC	22.0A	25A	(3)#10, #10G 1/2"	(TYPICAL)
RTU 7	ROOF TOP UNIT	18.29KVA	480/3	MDP	MC	22.0A	25A	(3)#10, #10G 1/2"	(TYPICAL)
RTU 8	ROOF TOP UNIT	12.47KVA	480/3	MDP	MC	15.0A	20A	(3)#12, #12G 1/2"	(TYPICAL)
RTU 9	ROOF TOP UNIT	11.64KVA	480/3	MDP	MC	14.0A	15A	(3)#12, #12G 1/2"	(TYPICAL)
WH-1	WATER HEATER	12.00KVA	480/1	HA	EC	25.0A	30A	(2)#10, #10G 1/2"	SEE 2/E2.1
WH-2	WATER HEATER	12.00KVA	480/1	HA	EC	25.0A	30A	(2)#10, #10G 1/2"	SEE 2/E2.1

[illegible][illegible]

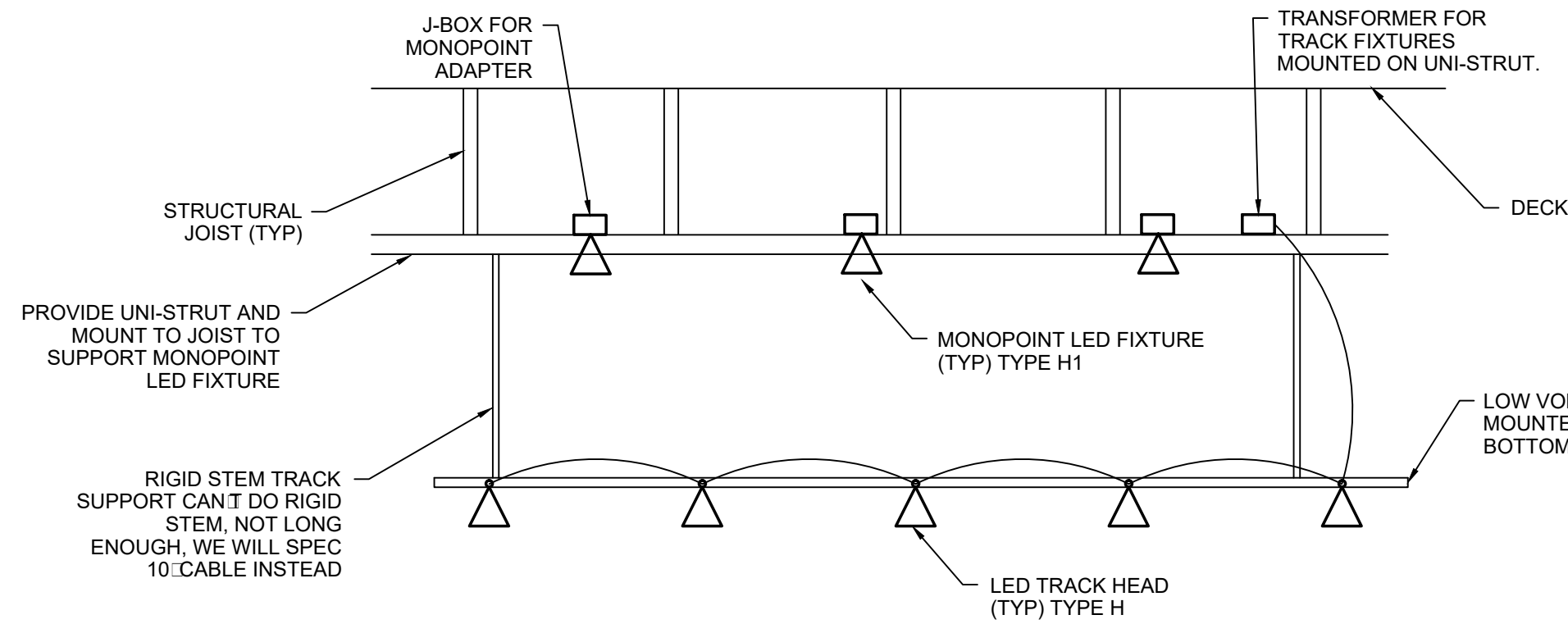
NOTES	MOUNT: FLUSH			120/208	3-PHASE, 4W		PANEL		LB		CAPACITY: 60A		INT CAP: 10KA			NOTES			
	LOCATION: OFFICE 103						LUGS:		MLO		DEMAND LOAD: 43A		AV. FAULT: 7.9KA						
	CKT	LTS	REC	HVAC	MISC	NP	DESCRIPTION	AMP	POLE	A	AMP	POLE	DESCRIPTION	LTS	REC	HVAC	MISC	NP	CKT
HL	1	0.36					REC IG CHECKSTAND 1	20	1	A	20	1	SPARE						1
HL	3	0.36					REC IG CHECKSTAND 2	20	1	B	20	1	SPARE						4
HL	3	0.36					REC IG CHECKSTAND 3	20	1	C	20	1	REC CASH WRAP	1.08					6
	7					1.2	AUTOMATIC DOORS	20	1	A	20	1	HOLDING ROOM 1	0.72					5
HL	9	0.40					REC MUSAK EQUIP	20	1	B	20	1	REC COMPTCOP, OFF						10
	11						SPARE	20	1	C	20	1	REC EXTERIOR BLDG	0.36					12
	13						REC SALES AREA	20	1	A	20	1	REC TAG MACHINE	0.36					14
	15	0.72					REC ROOFT RTU	20	1	B	20	1	REC IG EQUIP	0.36					16
	17						SPARE	20	1	C	20	1	HOLDING ROOM 2	0.72					18
	19	0.72					REC IG OFFICE COMP	20	1	A	20	1	REC BIRD DETERRENT	0.50					20
	21	0.18					REC VAULT	20	1	B	20	1	RP-1 PUMP			1.2			22
	23	0.36					REC IG VAULT	20	1	C	20	1	EXHAUST FAN 1			0.87			24
	25			1.6			DEHUMIDIFIER DHU-1	20	1	A	20	1	SPARE						25
	27			1.6			DEHUMIDIFIER DHU-2	20	1	B	20	1	SPARE						28
	29						SPARE	20	1	C	20	1	SPARE						30
PHASE BALANCE		LOAD TYPE		CONNECTED		DEMAND		DEMAND FORMULA		TOTAL LOAD									
⊖	LOAD	%	RECEPTACLE	0.0 KVA		0.0 KVA		LOAD X 125% NEC 210.19 CONTINUOUS		CONNECTED		DEMAND							
A	6.2 KVA	40%	HVAC	9.0 KVA		0.9 KVA		10KVA + 50% REMAINDER NEC 220.44		15.5 KVA		15.5KVA							
B	5.6 KVA	36%	MISC	5.6 KVA		5.6 KVA		LOAD X 80% (USED MCA IN CALCULATION)		43.0A		42.5A							
C	3.8 KVA	24%	NP	0.0 KVA		0.0 KVA		0 NONCONCIDENTAL LOADS NEC 220.60		Franklin LOAD.XLSM									
NOTES:																			
A. ALUMINUM BUSSING RATED AT 60A, COPPER GROUND																			
B. PROVIDE WITH ISOLATED GROUND DEVICE																			
C. NOTES: GF-GFCI CIRCUIT BREAKER, HL-HANDLE LOCK-ON DEVICE, CC-CIRCUIT VIA CONTACTOR																			

**GENERAL NOTE:**

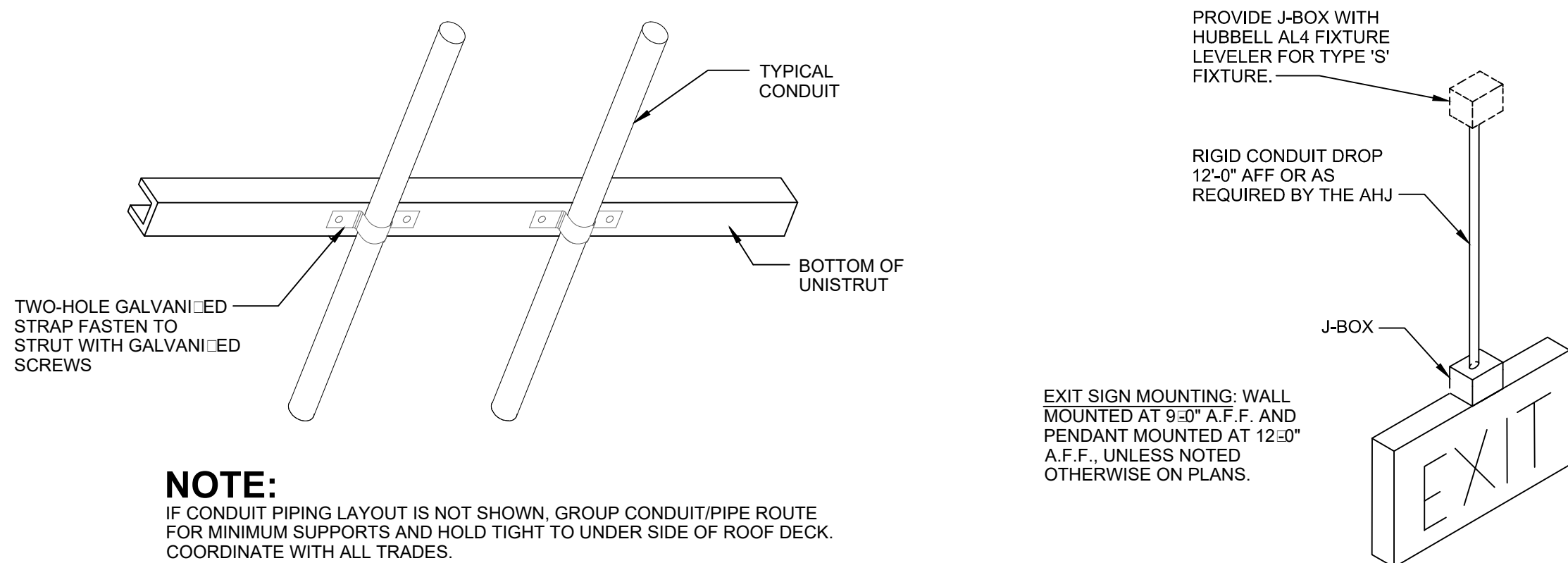
ELECTRICAL CONTRACTOR SHALL EITHER PROVIDE MULTI-POLE CIRCUIT BREAKERS OR HANDLE TIES FOR ALL CIRCUIT BREAKERS IN PANELBOARDS WITH MULTI-WIRE CIRCUITS, PER SECTION 210.4(B), IN ACCORDANCE WITH 2008 N.E.C. AND LATER. ELECTRICAL CONTRACTOR SHALL EXECUTE MEANS AND METHODS IN ACCORDANCE WITH APPLICABLE SECTION(S) OF N.E.C. AND THE LOCAL AUTHORITY HAVING JURISDICTION. ALL 277-VOLT LED LIGHTS SHALL HAVE DEDICATED NEUTRALS, SHARING NEUTRALS IS NOT ALLOWED.



LIGHT FIXTURE SCHEDULE						
TYPE	MANUFAC.	CATALOG #	VOLT	LAMP TYPE	WATTS	REMARKS
A08	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-8-STD-W	120	LED	84	6.4" WD X 8" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A32	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-32-STD-W	120	LED	336	6.4" WD X 32" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A52	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-52-STD-W	120	LED	546	6.4" WD X 52" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A84	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-84-STD-W	120	LED	882	6.4" WD X 84" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A92	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-92-STD-W	120	LED	966	6.4" WD X 92" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A120	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-120-STD-W	120	LED	1260	6.4" WD X 120" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
A132	COOPER	R-L-WL-2L35-1D-UNV-SU-JB-132-STD-W	120	LED	1386	6.4" WD X 132" LONG LED LINEAR LIGHT FIXTURE, THREE-SIDED FROSTED PRISMATIC LENS. SEE NOTE 2.4.
BA	LITHONIA	2GTL-2-40L-LP835	277	LED	40	2" X 2" LENSED LED LIGHT TROFFER
BC	LITHONIA	2GTL-2-20L-LP835	277	LED	20	2" X 2" LENSED LED LIGHT TROFFER
EM	LITHONIA	ELMLT-LP06VS-LTP	277	LED	6	EMERGENCY BATTERY UNIT WITH 2- LAMP HEADS.
G	LITHONIA	L2N-L46-5000LM-MDD-120-35K-80CRI-WH	277	LED	67	4-30" LENSED LED STRIP FIXTURE. REFER TO KEY NOTE 1 ON SHEET E0.1
H	JUNO	TRACKHEAD: TL261L-35K-S-WH-TIR-2-NFL TRACK: TL8WH TRACKHEAD DRIVER: TL601E-75	120	LED	12.6	TRACK MOUNTED ADJUSTABLE FIXTURE (CONIX II LED SPOT).
H1	JUNO	TRACKHEAD: TL261L-35K-N-WH-TIR-2-NFL TRACK: TL8WH TRACKHEAD DRIVER: TL601E-75	120	LED	12.6	MONOPOINT ADJUSTABLE FIXTURE (CONIX II LED SPOT).
L	LITHONIA	TWR1LED-140K-MVOLT	277	LED	33	LED WALL PACK AT 15'-0" AFF, UNLESS NOTED OTHERWISE. LAMP FACTORY INSTALLED.
M	LITHONIA	LDN6-35/15-LOGAR-277	277	LED	26	7" LED DOWN LIGHT
S	LITHONIA	LQM-S-W-R-120/277-ELN	277	LED	1	EXIT SIGN WITH BATTERY PACK. SEE DETAIL 4/E1.0.
W	LITHONIA	ELM1272-RD-TD	277	LED	-	EMERGENCY BATTERY UNIT W/O LAMP HEADS TO PROVIDE BATTERY POWER FOR EXTERIOR REMOTE HEADS.
X	LITHONIA	ELA-T-6CS-WP-M12	277	(2) 5.4W LAMPS, FURNISHED W/FIXTURE	8	REMOTE LAMP HEADS FOR EXTERIOR EMERGENCY LIGHTING. CONTRACTOR SHALL PROVIDE MANUFACTURER RECOMMENDED WIRE SIZE BETWEEN BATTERY POWER PACK AND REMOTE HEADS FOR VOLTAGE DROP.
1. CONTRACTOR SHALL CONTACT LIGHTING DISTRIBUTOR, GRAYBAR ELECTRIC FOR ORDERING INFORMATION. THIS IS A REQUIRED VENDOR, SEE REQUIRED VENDOR LIST ON SHEET F2.0 FOR CONTACT INFORMATION.						
2. SEE PLAN FOR LENGTH AND QUANTITY OF LINEAR FIXTURES PER ROW. (42-WATTS PER 4-FT LENGTH).						
3. ELECTRICAL CONTRACTOR TO VERIFY ALL QUANTITIES OF LIGHT FIXTURES PRIOR TO ORDERING FIXTURES.						
4. FURNISH FIXTURE WITH ALL NECESSARY JOINERS, CONNECTORS, ENDCAPS, ETC FOR A COMPLETE AND CONTINUOUS FIXTURE LENGTH RUN.						

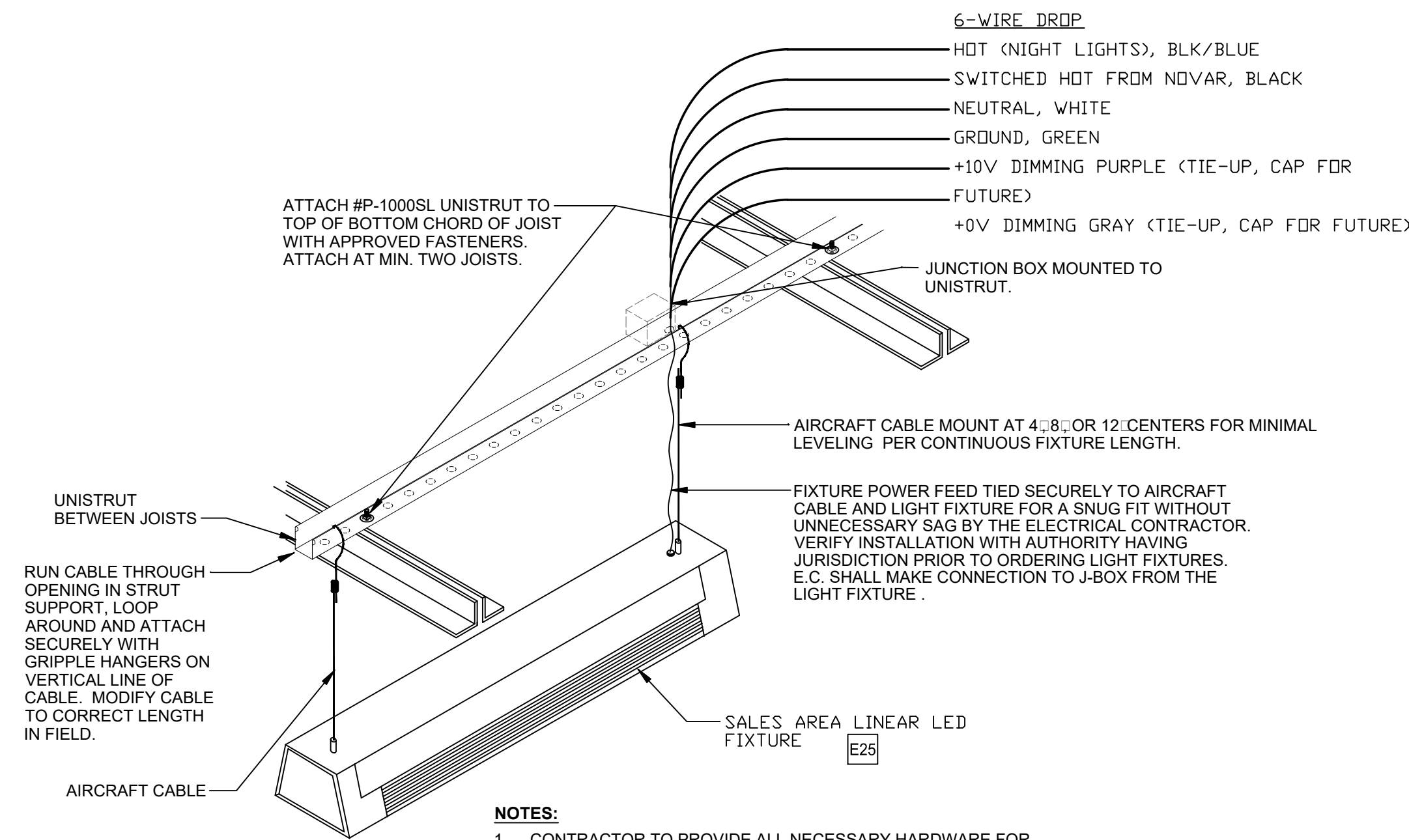


5 NATURALS TRACK LIGHTING  
E1.0 SCALE □ N.T.S.

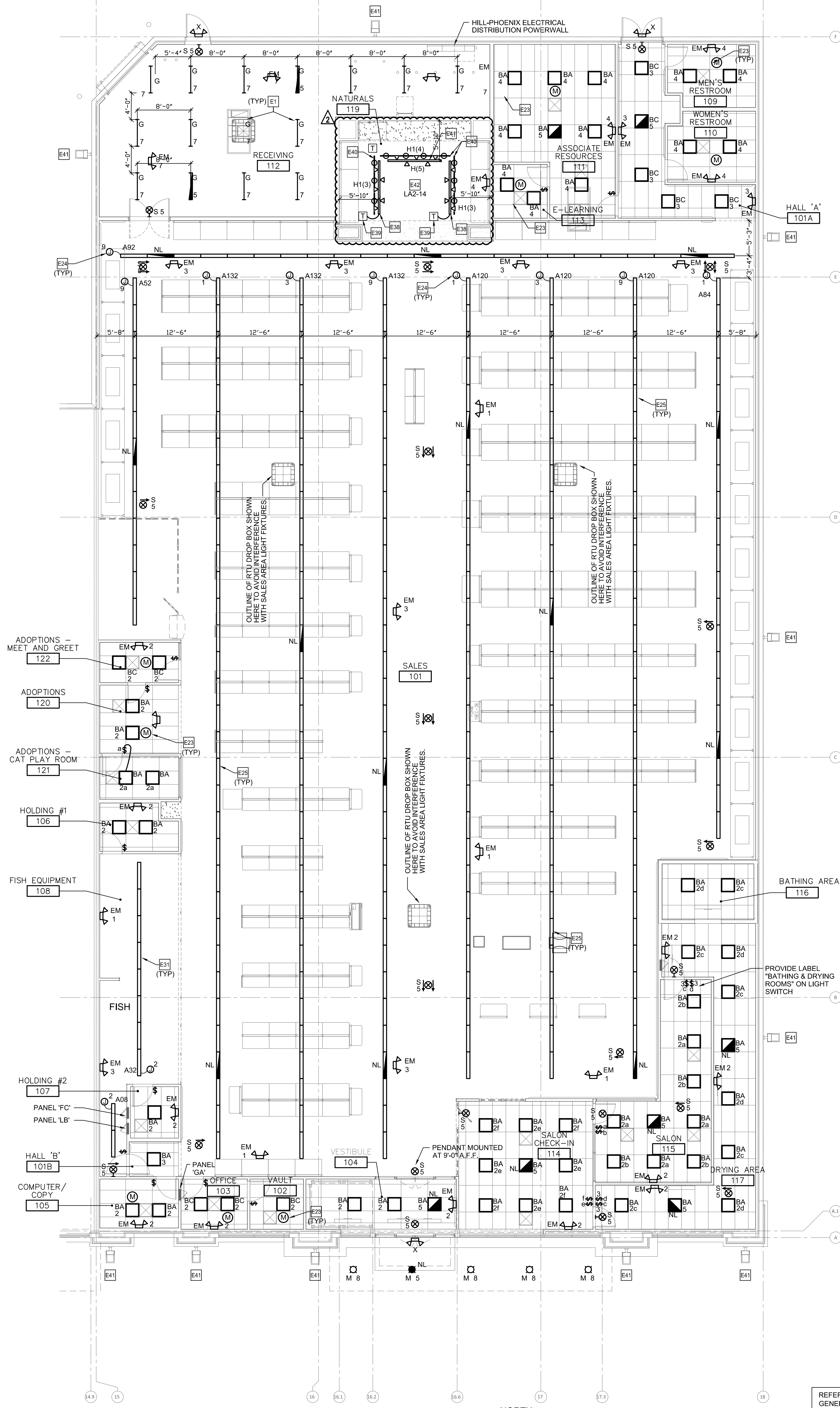


2 CONDUIT/PIPE SUPPORT  
E1.0 SCALE □ N.T.S.

4 PENDANT MOUNT EXIT SIGN  
E1.0 SCALE □ N.T.S.



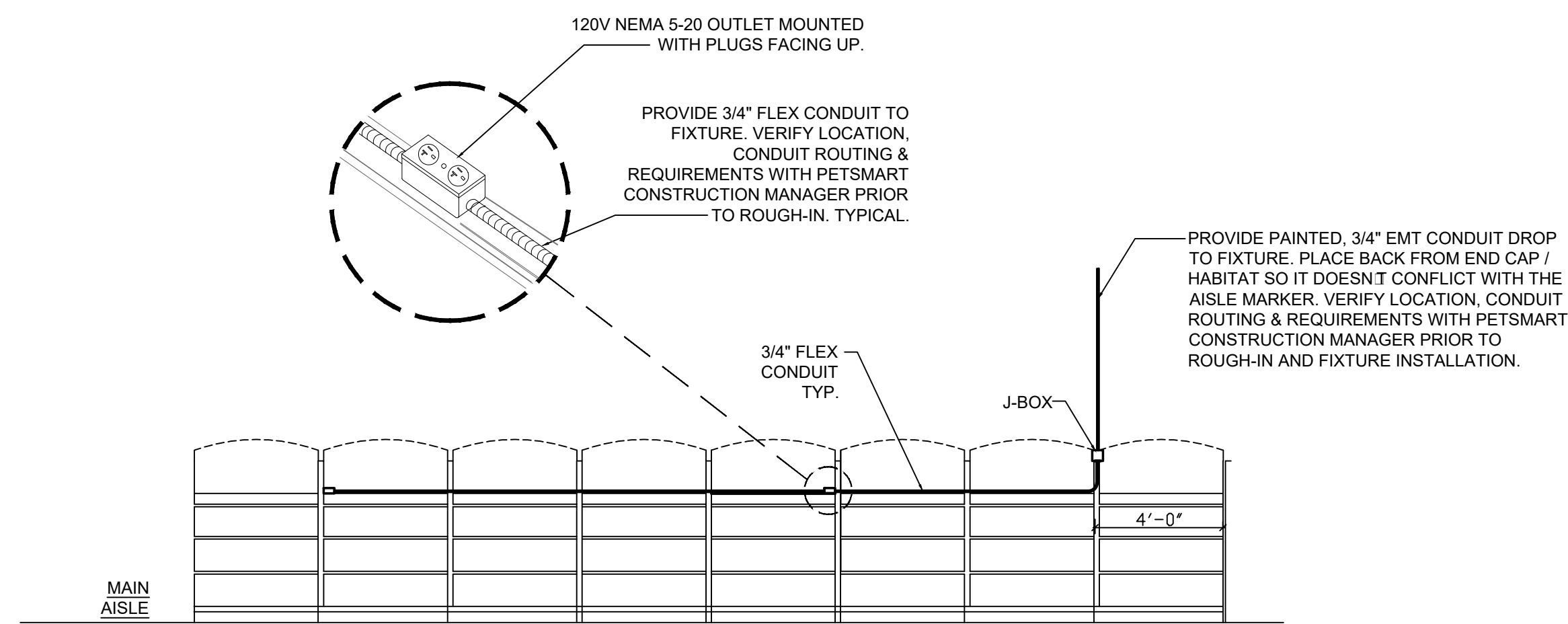
3 LIGHT FIXTURE MOUNTING DETAIL  
E1.0 SCALE □ N.T.S.



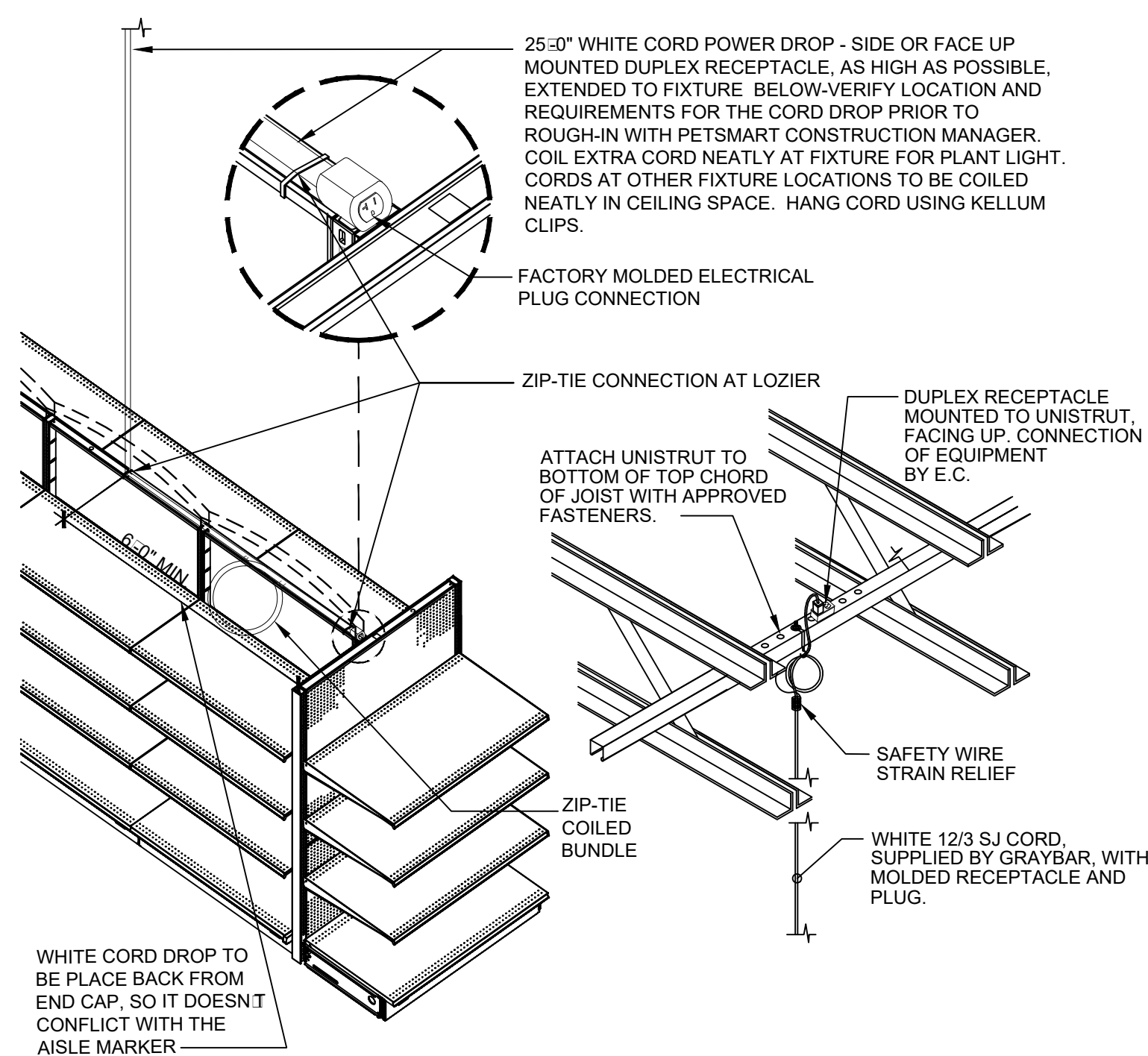
1 LIGHTING FLOOR PLAN  
E1.0 SCALE □ 1/8" □ 1'-0"

NOTE:  
ALL LIGHTING ON THIS DRAWING  
IS CIRCUITED TO PANEL HA,  
UNLESS OTHERWISE NOTED.

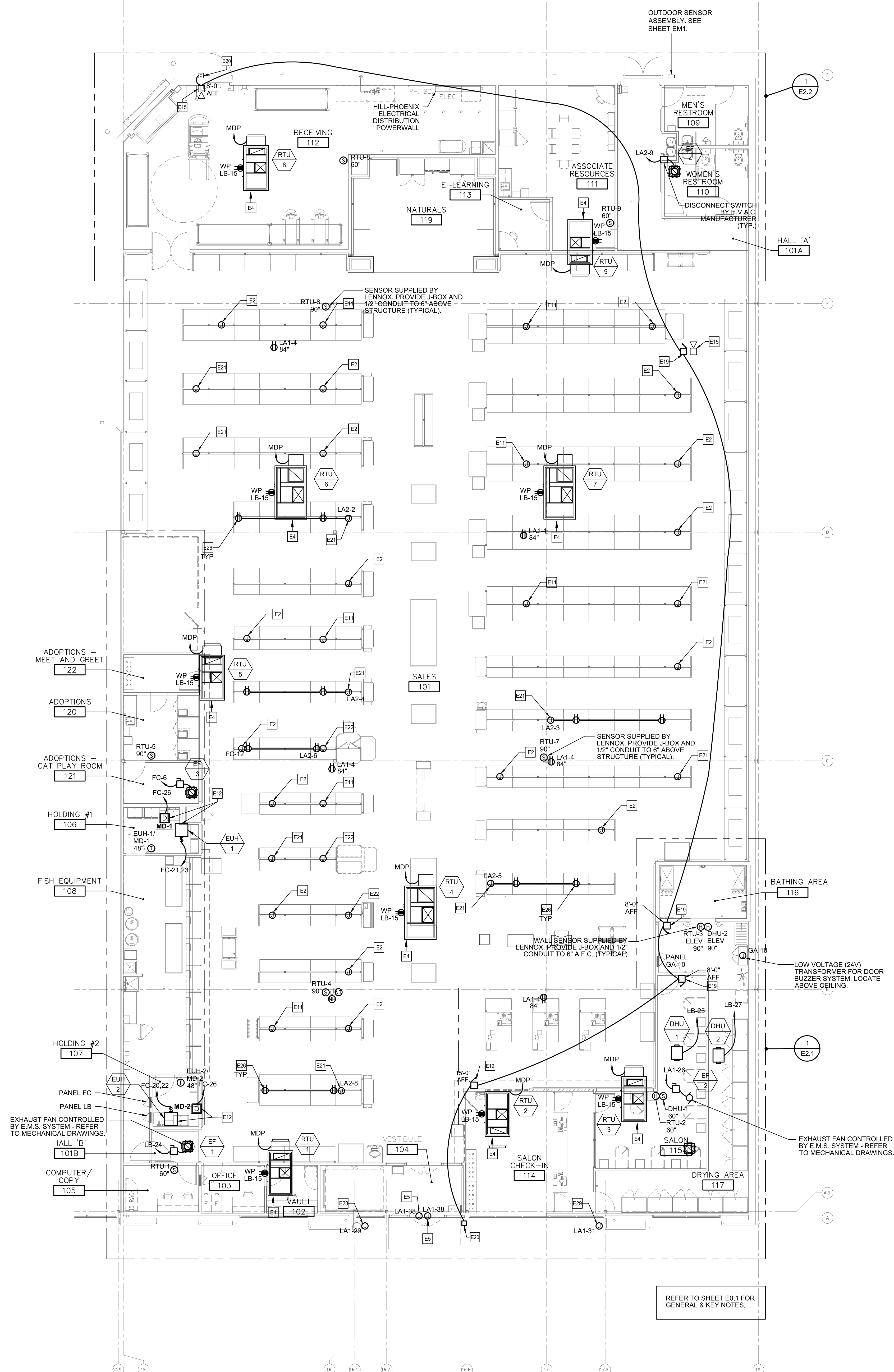




E21 5 SHELF LIGHTING RIGID POWER DROP  
E2.0 SCALE = N.T.S.



E11 3 FLEXIBLE POWER DROP  
E2.0 SCALE = N.T.S.



1 POWER FLOOR PLAN  
E2.0 SCALE = 1/8" = 1'-0"



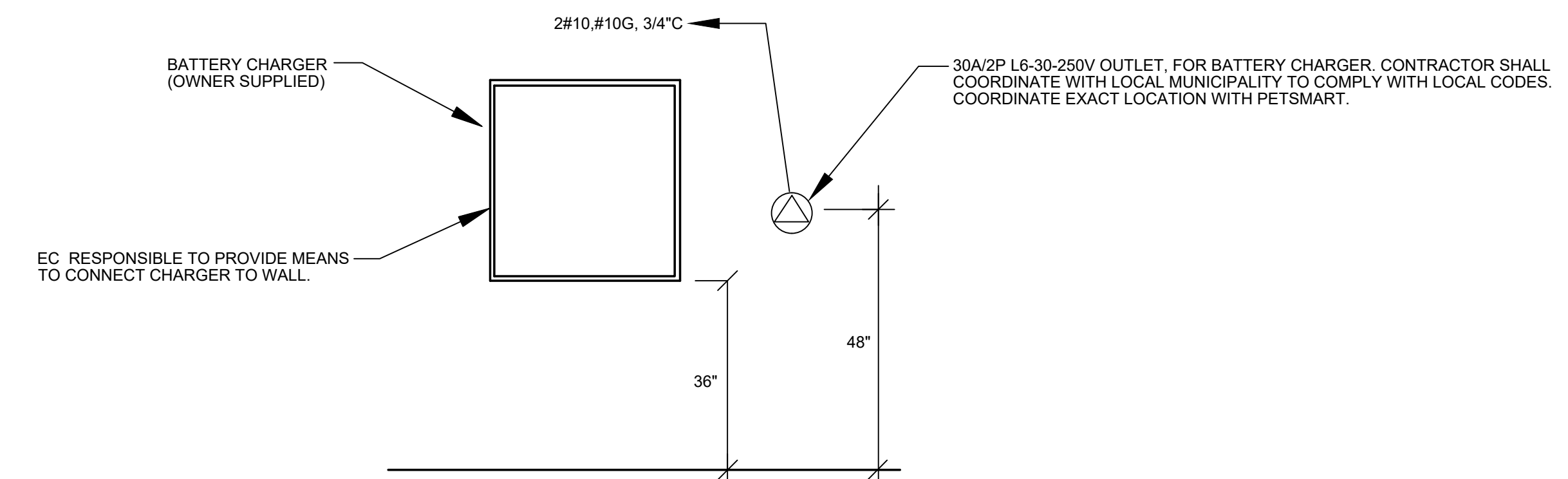
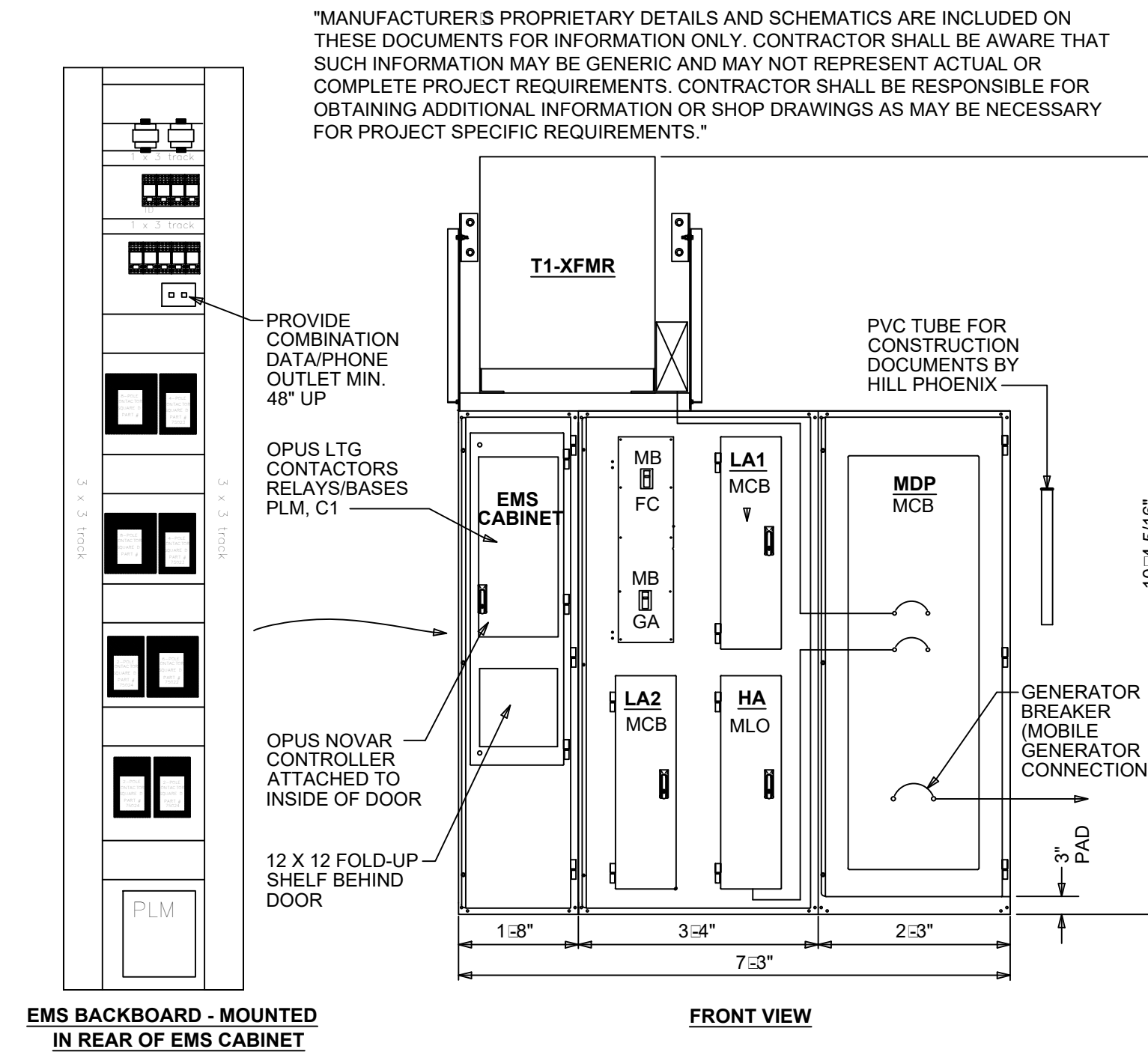
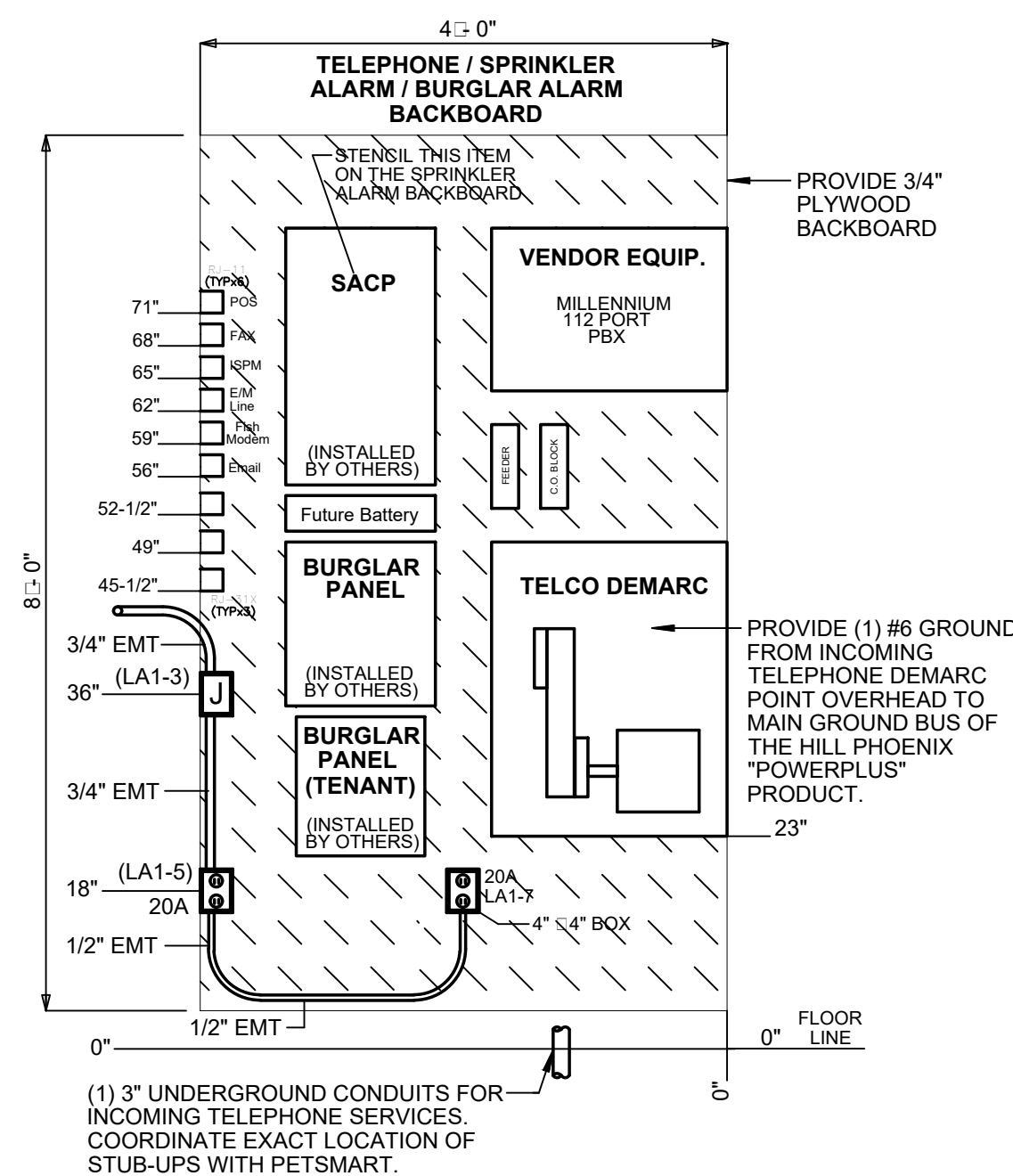
No:	ISSUE:	DATE:	08.22.2016	
			REVIEW SET	PERMIT SET







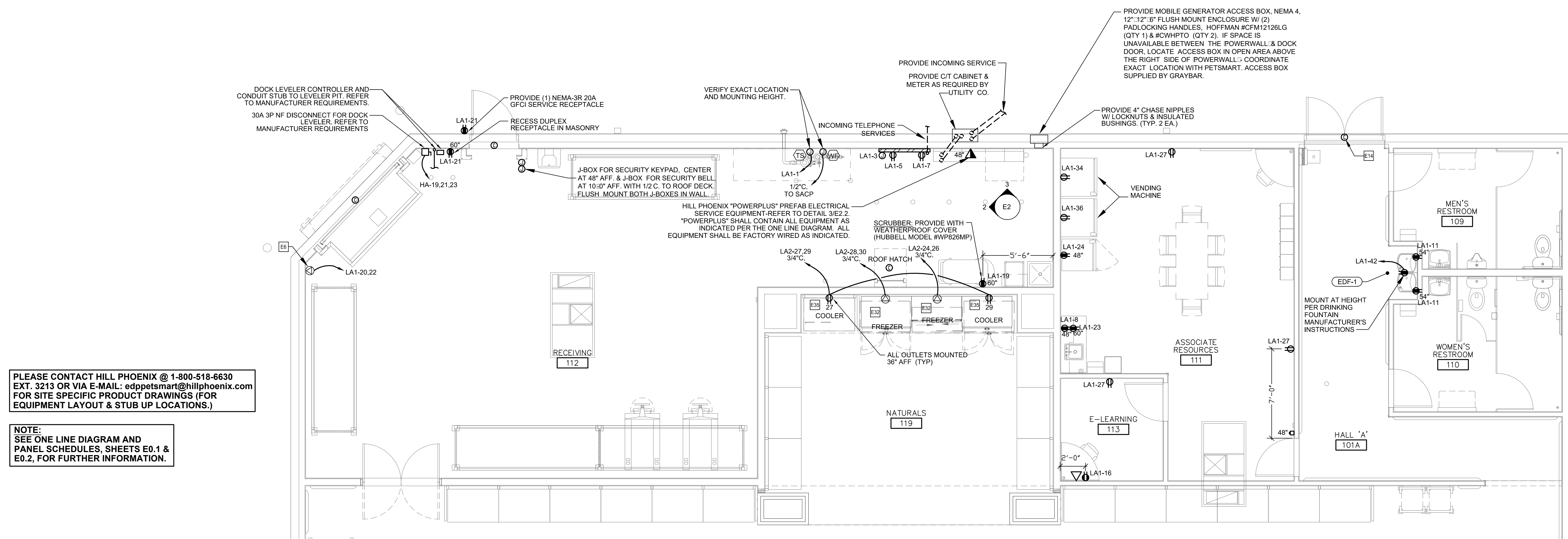




2 ELEVATION TELEPHONE BACKBOARD  
E2.2 SCALE 1/4" = 1'-0"

3 ELEVATION POWER WALL  
E2.2 SCALE □ N.T.S. (RIGHT HAND ONLY)

## 4 BATTERY CHARGER ELEVATION

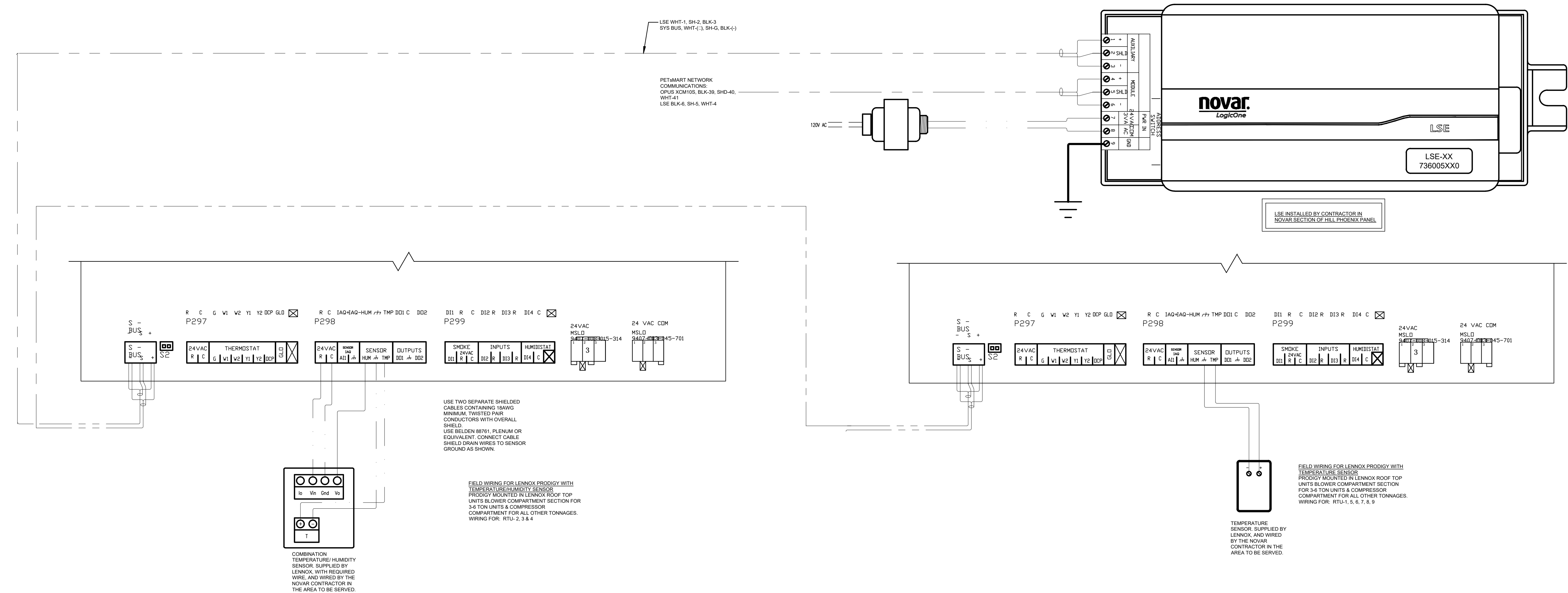


1 RECEIVING & SUPPORT AREA POWER PLAN  
E2.2 SCALE □ 1/4" □ 1=0"

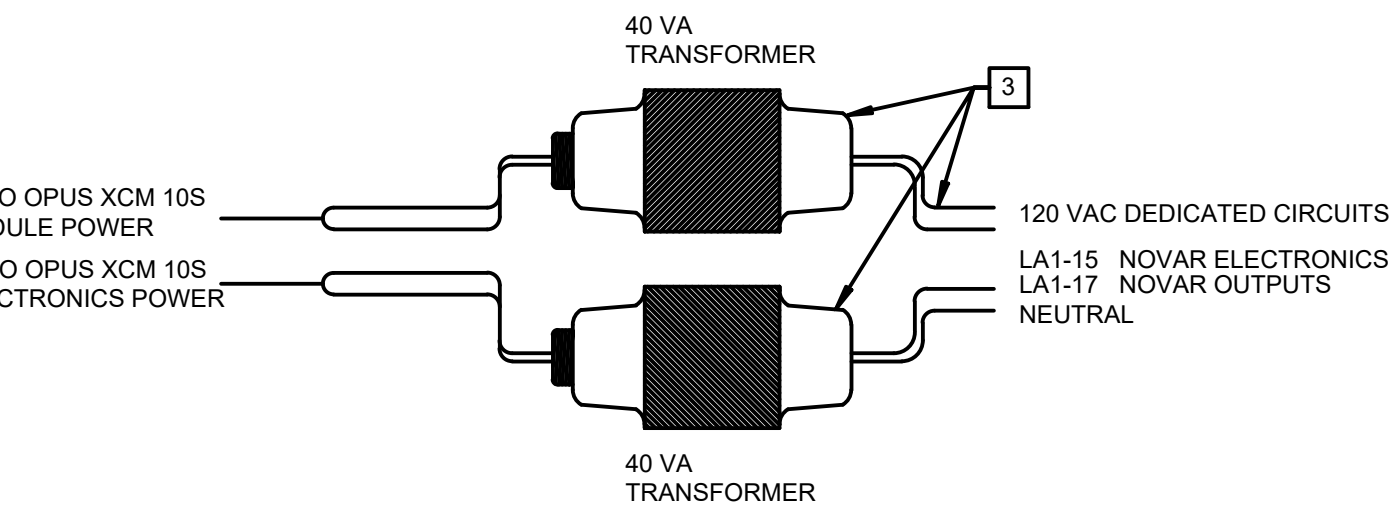


REFER TO SHEET E0.1 FOR  
GENERAL & KEY NOTES.

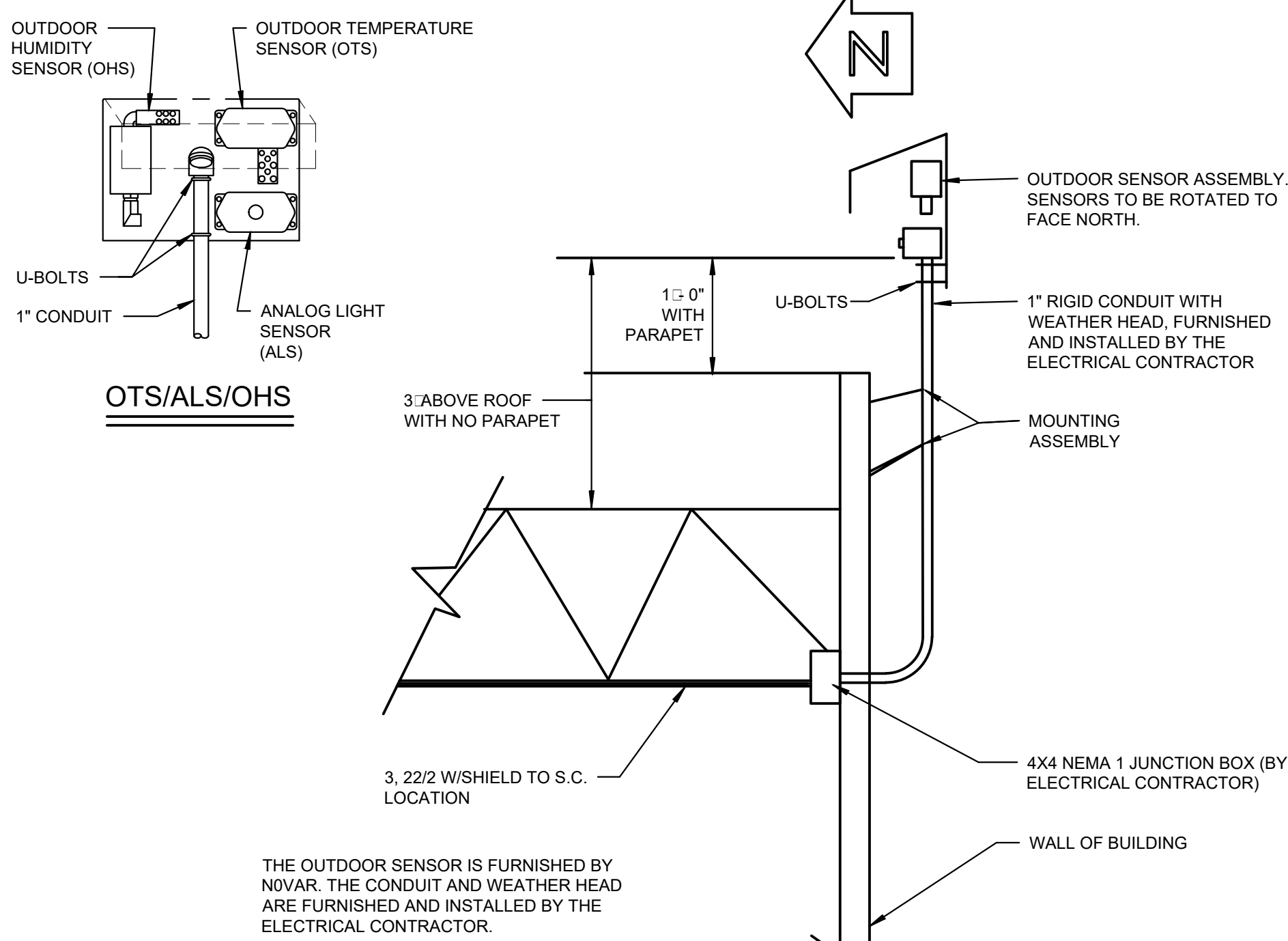




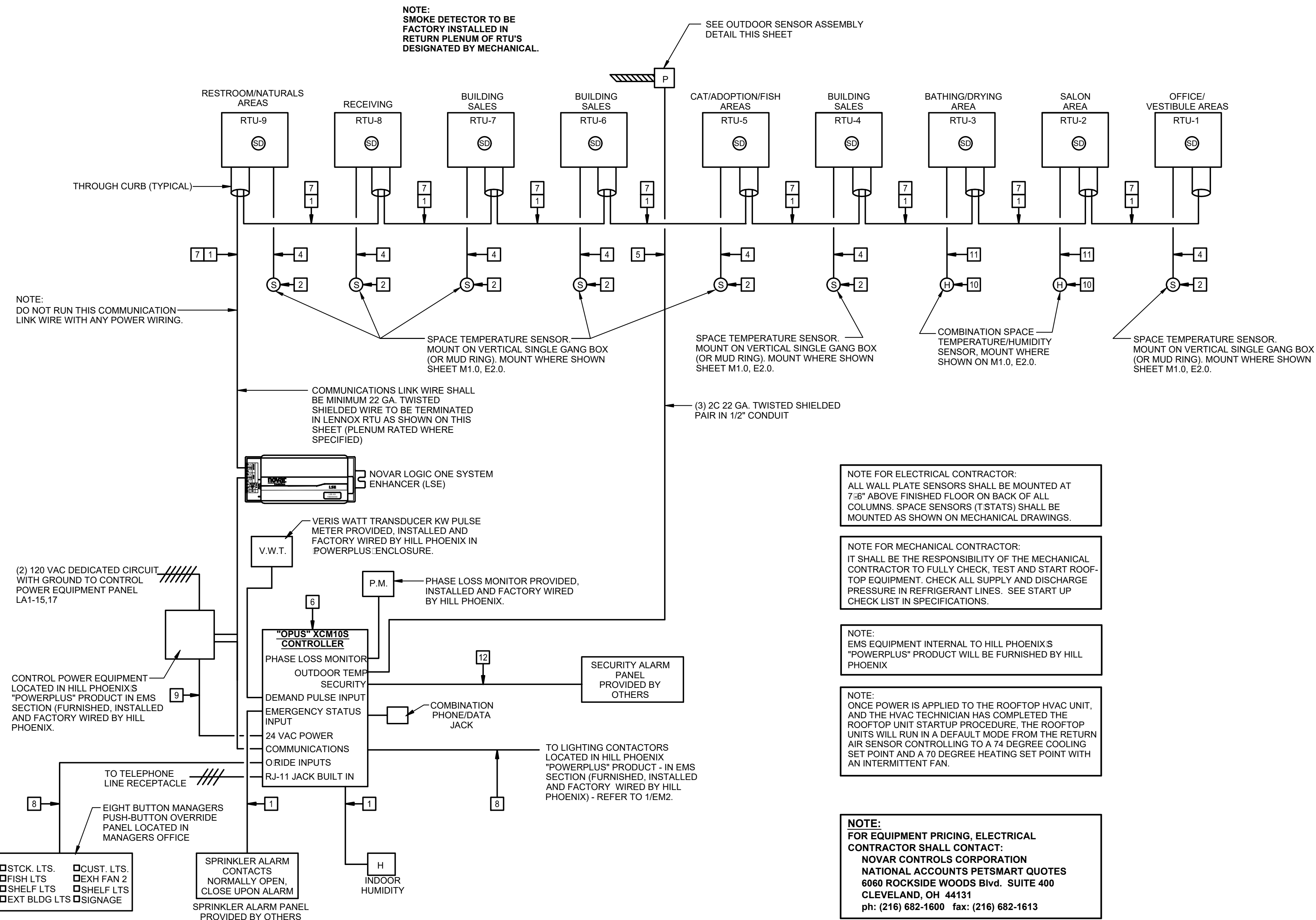
3 FIELD WIRING FOR LENNOX/LOGIC  
W/ COMBINATION SENSOR & NOVAR LSE  
EM1 SCALE □ N.T.S.



4 CONTROL POWER WIRING DIAGRAM  
EM1 SCALE □ N.T.S.



2 OUTDOOR SENSOR ASSEMBLY  
EM1 SCALE □ N.T.S.



1 ONE LINE DIAGRAM FOR COMM. LINK & SYSTEM INTERFACE  
EM1 SCALE □ N.T.S.

## KEYED NOTES:

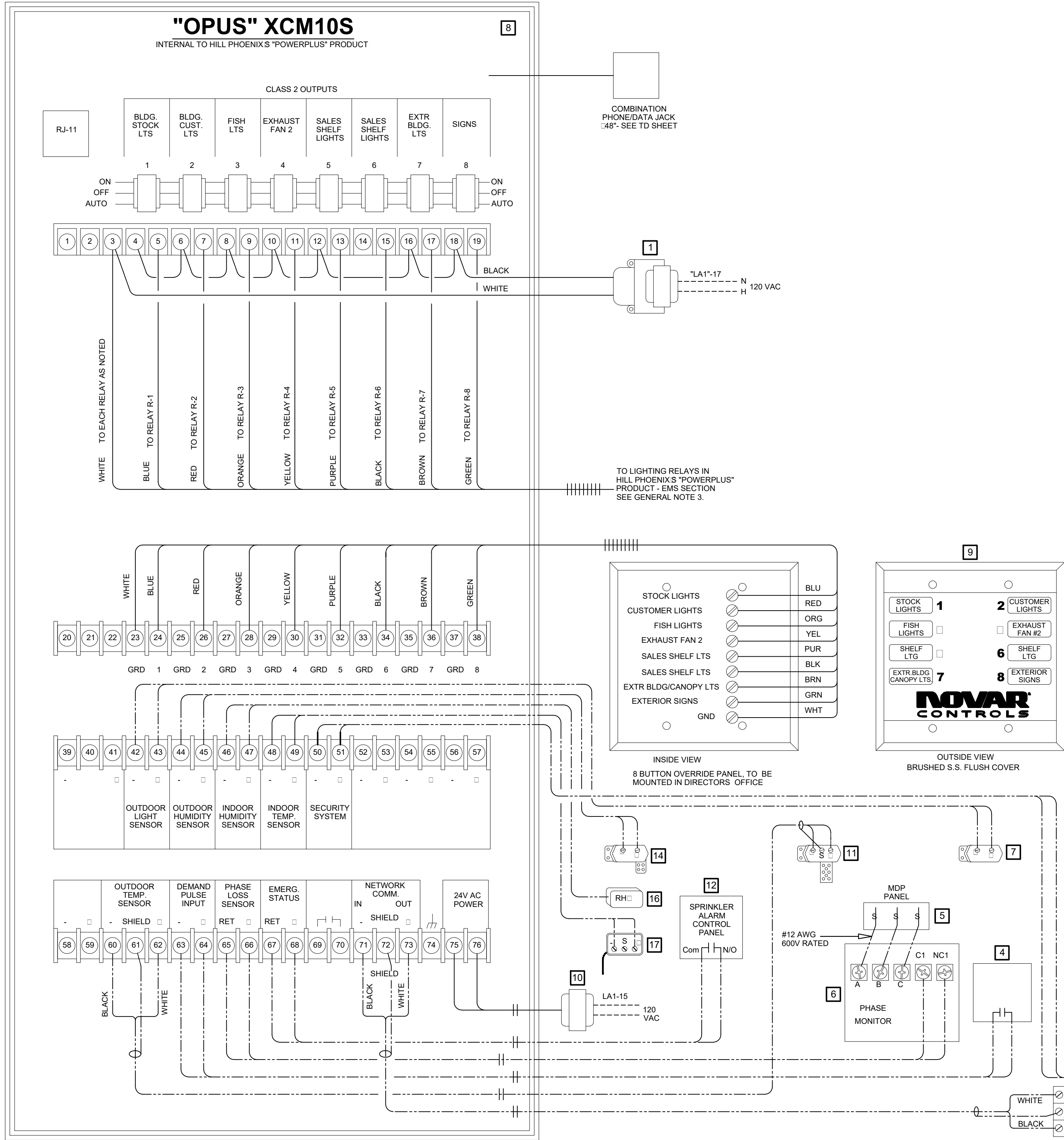
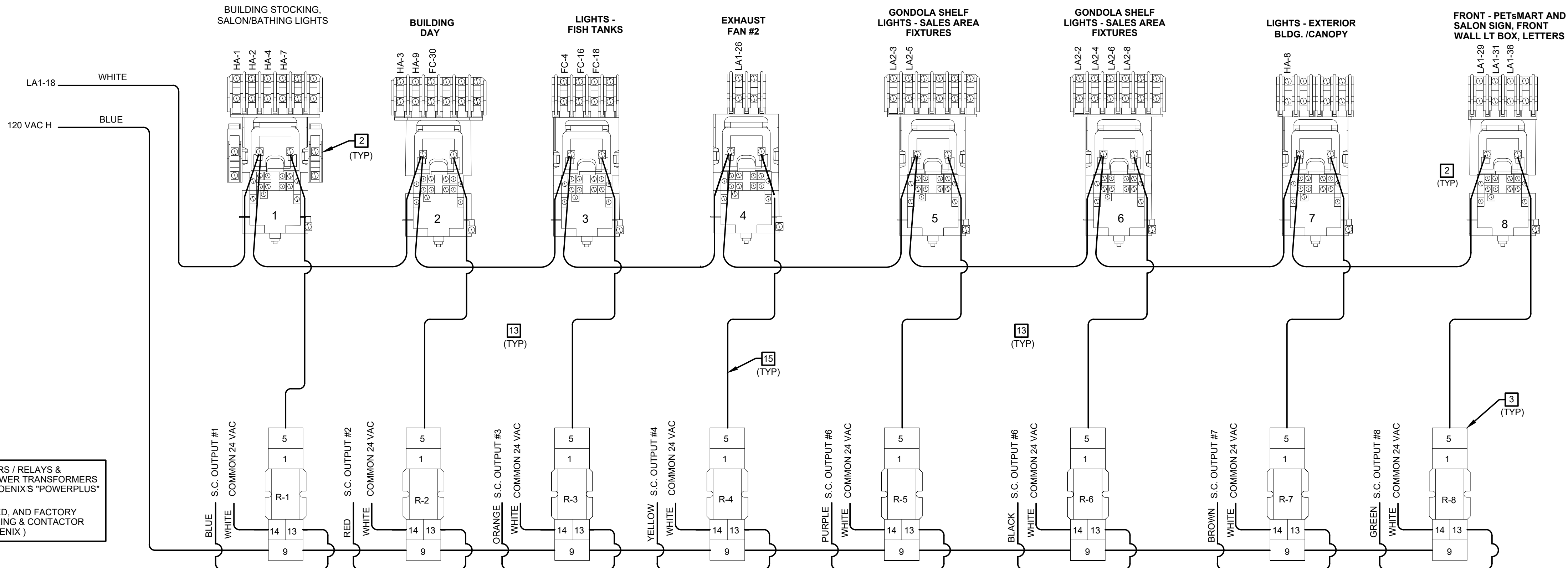
- (1) 2C 22 GA. TWISTED SHIELDED WIRE, USE PLENUM RATED WIRE IN CONCEALED SPACE ABOVE CEILINGS
- WTS-2051 SENSOR SUPPLIED BY LENNOX.
- SUPPLIED, WIRED AND ASSEMBLED BY HILL PHOENIX
- (1) 2C 22 GA. TWISTED SHIELDED PAIR (SENSOR MOUNTED ON VERTICAL SINGLE GANG BOX.)
- (3) 2C 22 GA. TWISTED SHIELDED PAIR (MINIMUM)
- NOVAR "OPUS" XCM10S CONTROLLER (INTERNAL TO HILL PHOENIX'S "POWERPLUS" PRODUCT)
- COMMUNICATION LINK
- (1) 9C 18 GA.
- 4C 18 GA.
- COMBINATION TEMPERATURE / HUMIDITY SENSOR SUPPLIED BY LENNOX. INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR - SEE SHEET M1.
- (3) 2C 18GA. TWISTED SHIELDED PAIR (SENSOR MOUNTED ON VERTICAL SINGLE GANG BOX.)
- (1) 2C 18 GA. TWISTED SHIELDED WIRE, USE PLENUM RATED WIRE IN CONCEALED SPACE ABOVE CEILINGS

## GENERAL NOTES:

- ALL EMS EQUIPMENT (WITH EXCEPTION TO THE EQUIPMENT INTERNAL TO THE HILL PHOENIX "POWERPLUS" PRODUCT) SHALL BE PURCHASED BY ELECTRICAL CONTRACTOR FROM NOVAR CONTROLS CORP. (NO EXCEPTIONS). CONTACT NOVAR CONTROLS CORP. NATIONAL ACCOUNTS OFFICE FOR PRICING (216) 682-1600.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR SUPPLYING ALL CONDUIT, WIRE, PULL BOXES, AND JUNCTION BOXES REQUIRED FOR A COMPLETE INSTALLATION. ALL CABLE FOR INSTALLATION SHALL BE WHITE IN COLOR.
- ALL WORK SHALL CONFORM WITH THE LOCAL STATE AND NATIONAL ELECTRICAL CODES. ELECTRICAL CONTRACTOR SHALL PAY FOR ALL INSPECTIONS AND PERMITS.
- WHEN LOCAL CODES PERMIT, WIRING SHALL BE RUN OPEN, SECURED AT REGULAR INTERVALS.
- ALL WIRING AND/OR CONDUIT SHALL BE CONCEALED U.N.O.
- ELECTRICAL CONTRACTOR SHALL FURNISH ALL POWER WIRING TO EMS EQUIPMENT.
- ALL POWER WIRING SHALL BE FIRST GRADE COPPER WITH 600 VOLT INSULATION AND SHALL BE 14 GA. THWN.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE TO MOUNT AND WIRE ALL ENERGY MANAGEMENT EQUIPMENT AS PER DRAWINGS.
- ALL EMS TERMINATIONS SHALL BE DONE BY ELECTRICAL CONTRACTOR AS SHOWN.
- ELECTRICAL CONTRACTOR SHALL LABEL ALL WIRES AND CABLES ON BOTH ENDS AS SHOWN ON PLANS.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A TRUE EARTH GROUND TO ALL EMS EQUIPMENT AS SHOWN ON THESE DRAWINGS.
- ELECTRICAL CONTRACTOR SHALL CONTACT NOVAR CONTROLS CORP. FOR ANY QUESTIONS ON EMS SYSTEM DRAWINGS OR INSTALLATION.
- WHEN THE ELECTRICAL CONTRACTOR HAS COMPLETED INSTALLATION OF THE EMS SYSTEM, AND COMPLETED THE INSTALLATION CHECKLIST THEY SHALL BE RESPONSIBLE FOR COORDINATION WITH NOVAR CONTROLS TO ESTABLISH START-UP DATE FOR EMS SYSTEM. CONTACT (216) 682-1600, SEE SPECIFICATION SECTION 01010.



LIGHTING CONTACTORS / RELAYS & BASES / CONTROL POWER TRANSFORMERS INTERNAL TO HILL PHOENIX'S "POWERPLUS" PRODUCT.  
(FURNISHED, INSTALLED, AND FACTORY WIRED - CONTROL WIRING & CONTACTOR LINE CKT- BY HILL PHOENIX)



2 "OPUS" XCM10S CONTROLLER  
EM2 SCALE: N.T.S.

## KEYED NOTES:

- 40 VA TRANSFORMER TO SUPPLY POWER TO CONTROL RELAYS LOCATED IN HILL PHOENIX'S "POWERPLUS" - EMS SECTION.
- CONTACTOR BY HILL PHOENIX, NUMBER OF POLES NORMALLY CLOSED AS DETAILED PER LIGHTING CONTACTOR ONE-LINE (TYP.)
- IDEC SPDT 24 VAC RELAY AND BASE MOUNTING BY HILL PHOENIX.
- VERIS WATT TRANSDUCER PULSE METER MODEL H8153 PROVIDED AND INSTALLED BY HILL PHOENIX.
- HILL PHOENIX TO PROVIDE CIRCUIT BREAKER IN PANEL, MDP-FOR PHASE LOSS MONITOR.
- PHASE MONITOR PROVIDED, INSTALLED AND FACTORY WIRED IN HILL PHOENIX'S "POWERPLUS" PRODUCT - IN EMS SECTION.
- OLS, OUTDOOR LIGHT SENSOR - SEE SHEET EM2
- OPUS XCM10S BASE AND CONTROL POWER EQUIPMENT PROVIDED, INSTALLED AND FACTORY WIRED IN HILL PHOENIX'S "POWERPLUS" PRODUCT - SEE EM2 FOR LAYOUT.
- (B) BUTTON OVERRIDE PANEL LOCATED IN MANAGERS OFFICE, SEE E2.1
- FURNISHED BY ROOFTOP UNIT MANUFACTURER, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- OTS, OUTDOOR TEMPERATURE SENSOR - SEE SHEET EM2
- NOVAR TO ACCEPT SINGLE "GENERAL" EMERGENCY INPUT FROM S.A.C.P., NO RTU SHUT DOWN TO BE SOFTWARE DRIVEN ON SMOKE DETECTION - UNITS MUST HAVE HARD WIRED SMOKE DETECTORS. CHECKPOINT IS TO PROVIDE A SPDT RELAY MODULE MOUNTED NEXT TO THE S.A.C.P. ON A DOUBLE-GANG BOX FOR CONNECTION TO THE NOVAR SYSTEM BY THE E.C. THIS RELAY MODULE WILL BE LABELED NOVAR TO PREVENT CONFUSION WITH OTHER MODULES THAT MAY BE MOUNTED NEARBY. THE E.C. WILL BE RESPONSIBLE FOR INSTALLING CONDUIT & TWO CONDUCTORS BETWEEN THE MODULE (Com & NO) AND THE NOVAR EMERGENCY STATUS INPUT.
- ALL CONTACTORS, RELAYS & LOW VOLTAGE WIRING PROVIDED, INSTALLED AND FACTORY WIRED BY HILL PHOENIX'S IN THE "POWERPLUS" PRODUCT.
- OHS, OUTDOOR HUMIDITY SENSOR - SEE SHEET EM2.
- ALL INTERNAL CONTROL WIRING SHALL BE RUN IN NEAT-AND-WORKMAN-LIKE MANNER, LABEL ALL WIRES WITH NUMBERS.
- ZONE HUMIDITY SENSOR - SEE SHEET EM2.
- INDOOR TEMPERATURE SENSOR - COORDINATE WITH NOVAR CONTRACTOR.
- SECURITY PANEL: ELECTRICAL CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING CONDUIT & TWO CONDUCTORS BETWEEN THE MODULE AND THE NOVAR STATUS INPUT.

## GENERAL NOTES:

- ENERGY MANAGEMENT COMPONENTS ARE FURNISHED BY NOVAR CONTROLS (WITH THE EXCEPTION OF EQUIPMENT INTERNAL TO HILL PHOENIX'S "POWERPLUS" PRODUCT)
- ALL WIRING AND TERMINATIONS SHOWN ARE BY THE ELECTRICAL CONTRACTOR.
- ALL LOW VOLTAGE WIRING EXTERNAL TO THE ENCLOSURE MAY BE OPEN CABLE (PLENUM CABLE WHEN REQUIRED) IF LOCAL CODES PERMIT.
- ALL COMPONENTS SHOWN EXTERNAL TO "OPUS XCM10S" ENCLOSURE ARE MOUNTED AND WIRED BY THE ELECTRICAL CONTRACTOR (WITH THE EXCEPTION OF EQUIPMENT INTERNAL TO HILL PHOENIX'S "POWERPLUS" PRODUCT).
- ALL COMPONENTS SHOWN INTERNAL TO HILL PHOENIX'S "POWERPLUS" - EMS SECTION IS MOUNTED AND WIRED BY HILL PHOENIX.
- LOW VOLTAGE CONDUCTORS SHALL MAINTAIN A MINIMUM 1/4" CLEARANCE FROM POWER CONDUCTORS.

## R1 THRU R8 CONTROLLERS AND CONTROL TIMES:

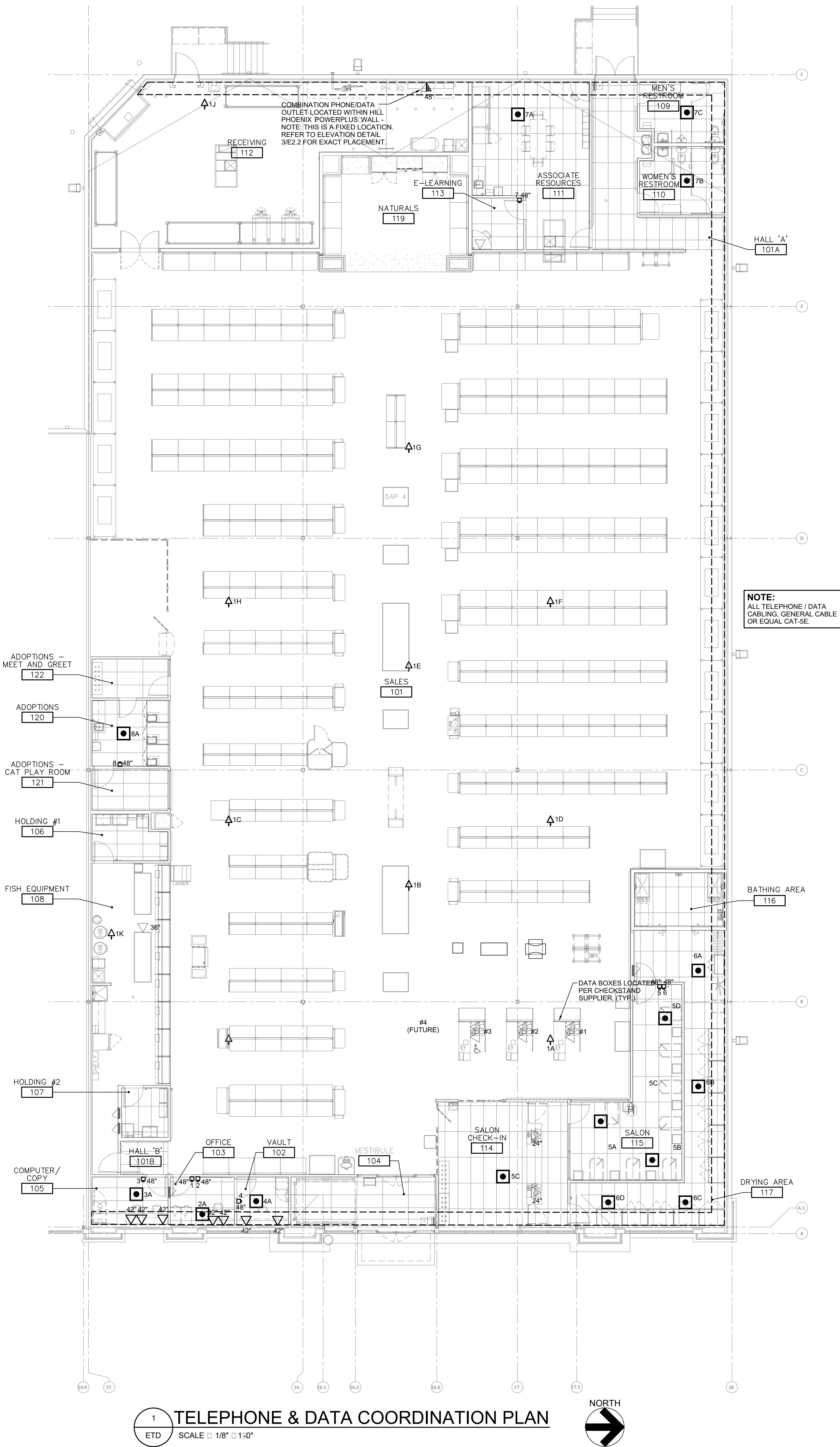
- R1 BUILDING STOCKING LIGHTS, BATHING/SALON, OFFICE LIGHTS.  
OPERATING HOURS FROM 6:00 AM TILL 11:59 PM
- R2 BUILDING DAY (CUSTOMER LIGHTS)  
ON 15 MIN. BEFORE STORES OPENING  
AND OFF 30 MIN. AFTER STORE CLOSURES.
- R3 FISH LIGHTS  
7:00 AM TILL 10:00 PM
- R4 EXHAUST FAN #2  
OPERATING HOURS FROM 6:00 AM TILL 10:15 PM
- R5 BUILDING DAY (SHELF LIGHTS)  
ON 15 MIN. BEFORE STORES OPENING  
AND OFF 30 MIN. AFTER STORE CLOSURES.
- R6 BUILDING DAY (SHELF LIGHTS)  
ON 15 MIN. BEFORE STORES OPENING  
AND OFF 30 MIN. AFTER STORE CLOSURES.
- R7 BUILDING EXTERIOR LIGHTS  
OPERATING HOURS FROM DUSK TILL DAWN.  
FROM PHOTOCELL
- R8 PETSMART SIGNAGE & SALON SIGNAGE  
OPERATING HOURS FROM DUSK TILL 12:01 AM AND 5:00 AM TILL DAWN.

## WIRE LEGEND:

- LOW VOLTAGE (:25 VAC):
- MINIMUM 22 GA. TWISTED SHIELDED PAIR (PLENUM RATED AS REQUIRED BY CODE)
  - 18 GA.
  - 18 GA. 9C CONDUCTOR
  - LINE VOLTAGE (:25 VAC):



Sep 16, 2016 - 1:58pm - USER: Damian W. Jobs (petsmart) CESO Franklin, IN (MEVPetsmart - Franklin, IN - Electrical.dwg)



1 TELEPHONE & DATA COORDINATION PLAN  
ETD SCALE 1/8" = 1'-0"



**CABLING:**  
(ALL CABLING AND CONDUIT TO BE WHITE)  
14 Standard voice cables  
12 E-Tra King voice cables  
12 Pre wire voice cables  
1 Cable for Music (music source located in computer/copy room)  
8 Horn/speaker cable loops  
8 Volume control cables  
All telephone cabling to be CAT 5E cable coiled at Hill Phoenix "Powerplus" product. Each wall jack shall be hooked up and tested.  
**TELCO TESTING AND EQUIPMENT:**  
Test all lines for continuity.

**PAGING OUTLINE**  
**PAGING EQUIPMENT LIST:**  
All equipment by "Valcom" 24 volt paging equipment consisting of:  
(1) V - 2001 - A - 3 one page controller  
(1) 2:2 layin ceiling speaker  
(6) V - 1080W - one way full horn  
(7) V - 1092 - wall mount volume control  
**Location of Eight Volume Controls/ Cabling Loops**  
**Manager Office:**  
Two volume controls mounted side by side (share same cable).  
1) Controls all (10) horns, 1A - 1L.  
2) Controls speaker in manager's office 2A.  
**Computer/Copy Room:**  
3) Controls Speaker in Computer/Copy, 3A  
**Vault:**  
4) Controls Speaker in Vault 4A.  
**Salon:**  
Two volume controls mounted side by side in Salon (share same cable).  
5) Controls Speakers 5A, 5B, 5C & 5D in Salon  
6) Controls Speakers 6A, 6B, 6C, 6D & 6E in Drying Room  
**Associate Resources:**  
7) Controls Speakers in Associate Resources and Toilet Rooms, 7A, 7B and 7C  
**Adoptions:**  
8) Controls Speakers in Adoptions, 8A  
**Paging Installation Requirements:**  
1. Always check with Construction Manager.  
2. Use only white jacketed speaker cable/chains.  
3. All cables are to be run and concealed in the angle of the bar joist and neatly wire-tied to bar joist, and not draped along braces. Sagging wires are not allowed.  
4. Horns in high ceiling area must be mounted above the bottom of the joist, so they are not in the way of fork lifts. The two horns along the back wall, need to be mounted 6'-10" from back wall & also in the bottom of the joist.  
**Cash Register:**  
1) Horn run from cash register #4 to Hill Phoenix "Powerplus" product.  
**CAT-5E Cable:**  
1) Horn run from manager office to Hill Phoenix "Powerplus" product ID as manager office.

**INSTALLATION PHASES**  
**PHASE I**  
Phase I will consist of confirming with construction manager location of all equipment and phones. Verify all cabling and placement of all phones which the site is ready for.  
**PHASE II**  
Trim out all wall jacks.

**NOTE:**  
1. PROVIDE PLENUM CABLE WHERE REQUIRED BY CODE.  
2. MUZAK & DATA EQUIPMENT IS SUPPLIED AND INSTALLED BY PETSMART.  
3. ALL MUZAK, TELEPHONE / DATA CABLING IS SUPPLIED & INSTALLED BY PETSMART.  
4. G.C. TO COORDINATE PHONE AND MUZAK INSTALLATION AND SET-UP.

**SYMBOL LEGEND**  
▽ DATA/PHONE LINE MOUNTED AT "X" A.F.F.  
□ VOLUME CONTROL AT 48" A.F.F. (U.N.O.) ..... AT - AT10  
● 2:2 LAYIN CEILING SPEAKER  
◁ LOUDSPEAKER ..... AT - AP1ST  
--- ALLOWABLE AREA OF ALL CONDUIT RUNS OVERHEAD



TELEPHONE DATA PLAN  
STORE #3060  
1010 N. MORTON STREET  
FRANKLIN, IN



No:	ISSUE:	DATE:	08/22/2016		09/16/2016					
			REVIEW SET	PERMIT SET						

