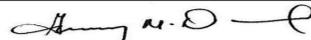


# 10 - ELECTRICAL INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE
E-001	ELECTRICAL INDEX OF DRAWINGS	E-602	PANELBOARD SCHEDULE AND ONE-LINE DIAGRAMS
E-002	SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES	E-700	ELECTRICAL SALTSLED DETAILS
E-003	LIGHT FIXTURE SCHEDULE	E-701	ELECTRICAL SALTSLED DETAILS 2
E-100	ELECTRICAL SITE PLAN	E-900	ELECTRICAL DETAILS-1
E-110	ONE LINE DIAGRAM	E-901	ELECTRICAL DETAILS-2
E-111	GENERATOR WIRING DIAGRAM	E-902	ELECTRICAL DETAILS-3
E-200	OFFICE CORE LIGHTING PLAN	E-903	ELECTRICAL DETAILS-4
E-201	BAY AREA LIGHTING PLAN	E-904	ELECTRICAL DETAILS-5
E-300	OFFICE CORE POWER AND LOW VOLTAGE PLAN		
E-301	BAY AREA POWER AND LOW VOLTAGE PLAN		
E-400	OFFICE CORE MECHANICAL POWER PLAN		
E-401	BAY AREA MECHANICAL POWER PLAN		
E-500	ELECTRICAL/MECHANICAL ROOM DETAILS		
E-510	PANEL SCHEDULES		
E-511	PANEL SCHEDULES		
E-530	FIRE ALARM DIAGRAM		
E-540	LIGHTNING PROTECTION PLAN		
E-541	LIGHTNING PROTECTION DETAILS		
E-600	MOTOR FUEL ISLAND CONDUIT		
E-601	FUEL ISLAND EQUIPMENT		

THE DESIGN APPEARS TO CONFORM TO APPLICABLE CRITERIA. APPROVAL IS NOT TO BE CONSTRUED TO MEAN THAT ALL ASPECTS OF THE DESIGN HAVE BEEN PERSONALLY CHECKED BY THE UNDERSIGNED.

TRANSPORTATION PRINCIPAL ENGINEER

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b>	 <b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION	SIGNATURE/BLOCK: <b>OFFICE OF ENGINEERING</b> APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b> DRAWING NO. <b>E-001</b> SHEET NO. <b>10.01</b>
Plotted Date: 5/22/2015				Filename: ...FD_MSH_ELE_103_0247_E-001.dgn						

**POWER SYMBOLS**

	400 AF 400 AT	MOLDED CASE CIRCUIT BREAKER 400A FRAME RATING 400A TRIP RATING
		GROUND CONNECTION
		METER PER LOCAL UTILITY REQUIREMENTS
		120/208V POWER/LIGHTING PANEL
		FIRE ALARM CONTROL PANEL
		SURGE PROTECTION DEVICE
	GFI	GROUND FAULT INTERRUPTER, QUADRUPLEX RECEPTACLE, 20A, 125V.
		DUPLEX RECEPTACLE, 20A, 125V
		SINGLE RECEPTACLE, 20A, 125V
	BHR	SINGLE BLOCK HEATER RECEPTACLE
	GFI	GROUND FAULT INTERRUPTER, DUPLEX RECEPTACLE, 20A, 125V.
		SPECIAL POWER OUTLET
		ELECTRICAL CORD REEL MOUNTED OVERHEAD
		FLUSH MOUNTED FLOOR DUPLEX RECEPTACLE, 20A, 125V
		UNDERGROUND GROUNDING LOOP
		UNDERGROUND CONDUIT
		CONDUIT UNDER PAVEMENT
	LP1-3	HOMERUN, LP1-3 DENOTES LIGHTING PANEL NO. 1, CIRCUIT #3
		EXISTING UTILITY POLE
		PROPOSED UTILITY POLE
	DS PB M WP GFI	EXHAUST FAN WITH WP GFI
		PROPELLER FAN, PLAN VIEW
	a	PROPELLER FAN SPEED CONTROL. "a" INDICATES FAN(S) CONTROLLED
		OVERHEAD DOOR OPERATOR
		PUSHBUTTON STATION
	M/2	MOTOR AMPERE RATING AND HORSEPOWER AS INDICATED
		COMBINATION MOTOR STARTER/ FUSED DISCONNECT
		DISCONNECT SWITCH, AMPERE RATING AS INDICATED
	F 30A	FUSED DISCONNECT SWITCH, AMPERE RATING AS INDICATED

NOTE: FUSING SHALL BE SIZED PER NEC

TYPE I CONCRETE HANDHOLE

TYPE II CONCRETE HANDHOLE

**COMMUNICATION SYMBOLS**

	SP	PUBLIC ADDRESS SPEAKER - CEILING MOUNTED
	S	PUBLIC ADDRESS SPEAKER - WALL MOUNTED
	H	PUBLIC ADDRESS HORN- WALL MOUNTED (WEATHER PROOF)
		COMMUNICATION OUTLET BOX (VOICE AND DATA)

**LIGHT FIXTURE SYMBOLS**

	PC	PHOTOCELL
	S	SWITCH BOX WITH SINGLE AUTO/MANUAL SWITCH
	B a	LIGHT FIXTURE (TYP.) FIXTURE "B" INDICATES FIXTURE TYPE, "LP2-3" INDICATES PANEL AND CIRCUIT NUMBER, AND CIRCUIT NUMBER, "a" INDICATES SWITCHING CIRCUIT.

**FIRE ALARM SYMBOLS**

	F	FIRE ALARM WITH STROBE LIGHT- SURFACE MOUNTED
	F	FIRE ALARM HORN WITH STROBE LIGHT- SURFACE MOUNTED
	F	FIRE ALARM WITH STROBE LIGHT- CEILING MOUNTED
	F	FIRE ALARM PULL STATION - SURFACE MOUNTED
	SD	SMOKE DETECTOR IONIZATION TYPE.
	2	DUCT MOUNTED SMOKE DETECTOR TO BE FURNISHED, WIRED, AND CONNECTED BY THE ELECTRICAL INSTALLER.
		DUCT SMOKE DETECTOR REMOTE TEST STATION TO BE FURNISHED, WIRED, AND CONNECTED BY THE ELECTRICAL INSTALLER.
	H	196° HEAT DETECTOR.
		FIRE ALARM BELL FOR SPRINKLER SYSTEM

**VIDEO MONITOR SYMBOLS**

		VIDEO CAMERA
		VIDEO MONITOR

**OCCUPANCY SENSORS**

DEVICE	DESCRIPTION
	1500 CEILING MOUNTED PIR, 1500 SQ FT
	500 CEILING MOUNTED ULTRASONIC, 500 SQ FT
	500 CEILING MOUNTED MULTI-TECHNOLOGY, 500 SQ FT
	1000 CEILING MOUNTED MULTI-TECHNOLOGY, 1000 SQ FT
	1000 CEILING MOUNTED ULTRASONIC, 1000 SQ FT
	2000 WALL MOUNTED PIR, 2000 SQ FT (i DENOTES CONTROLLED FIXTURES)
	i PIR BAY AREA SENSOR APPROXIMATELY 1000 SQ FT (i DENOTES CONTROLLED FIXTURES)
	w PIR WASHBAY WET LOCATION SENSOR APPROXIMATELY 1000 SQ FT
	1 POWER PACK FOR 120/230/277VAC SYSTEM (i DENOTES CONTROLLED FIXTURES)
	M S WALL SWITCH MULTI-TECHNOLOGY, SELF POWERED

**ABBREVIATIONS**

A	AMPERE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AUTO	AUTOMATIC
AIC	AMPS INTERRUPTING CAPACITY
ATC	AUTOMATIC TEMPERATURE CONTROLLER
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRING GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BLDG	BUILDING
BRK.	BREAKER
C	CONDUIT
CKT.	CIRCUIT
COL.	COLUMN
CT	CURRENT TRANSFORMER
CU	COPPER
DISC.	DISCONNECT
DF	DRINKING FOUNTAIN
DP1	FUEL POWER PANEL
DWG	DRAWING
EDH	ELECTRICAL DUCT HEATER
EF	EXHAUST FAN
ELEC.	ELECTRICAL
ERV	ROOF VENTILATOR, EXHAUST
EUH	ELECTRICAL UNIT HEATER
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FL	FLOOR
G.C.	GENERAL CONTRACTOR
GEN	GENERATOR
GFI	GROUND-FAULT INTERRUPTER
G, GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HT.	HEIGHT
HTR	HEATER
HZ	HERTZ
IN.	INCH
JB	JUNCTION BOX
kVA	KILOVOLT AMPERE
kW	KILOWATTS
LP	LIGHTING PANEL
MDP	MAIN DISTRIBUTION POWER PANEL
MECH	MECHANICAL
MH	METAL HALIDE
MTG. HT.	MOUNTING HEIGHT
NEC	NATIONAL ELECTRICAL CODE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
O.C.	ON CENTER
PB	PUSH BUTTON
PF	PADDLE FAN
PIR	PASSIVE INFRARED
P.V.C.	POLYVINYL CHLORIDE CONDUIT
PF	POWER FACTOR
PP	POWER PANEL
PNL	PANEL
RM	ROOM
REC	RECEPTACLE
RGSC	RIGID GALVANIZED STEEL CONDUIT
RP	RECEPTACLE PANEL
RTAC	ROOF TOP AIR CONDITIONER
SPD	SURGE PROTECTION DEVICE
SPECS	SPECIFICATIONS
S"x"	SWITCH, SINGLE POLE "x" INDICATES SWITCHING CIRCUIT SWITCH
SW	SWITCH
3PH	THREE PHASE
3P	THREE POLE
TYP.	TYPICAL
UH	UNIT HEATER
UPS	UNINTERRUPTABLE POWER SUPPLY
V	VOLT
W	WATT OR WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER

**SWITCH CONTROL SYMBOLS**

S <sub>TP</sub>	MANUAL STARTER WITH THERMAL PROTECTION AND PILOT LIGHT
Sk	KEY LOCK SWITCH, 3-WAY, "b" INDICATES SWITCHING CIRCUIT
Sf	FAN SPEED CONTROL SWITCH
Sa	SWITCH, SINGLE POLE, "a" INDICATES SWITCHING CIRCUIT
Sb	SWITCH, 3-WAY, "b" INDICATES SWITCHING CIRCUIT
Sb	SWITCH, 4-WAY, "b" INDICATING SWITCHING CIRCUIT

**GENERAL NOTES:**

- MINIMUM SIZE WIRE FOR POWER AND LIGHTING PANELS CIRCUITS SHALL BE #12 AWG. BRANCH CIRCUITS EXCEEDING 100 FEET IN LENGTH SHALL BE #10 AWG. WIRING SIZE SHALL BE ADJUSTED AS NECESSARY TO REFLECT AMPACITY DERATING DUE TO NUMBER OF LOADED CONDUCTORS SHARING A PARTICULAR RACEWAY. MINIMUM CONDUIT SIZE SHALL BE 3/4" AS OUTLINED IN SPECIFICATION SECTION 260533.
- INTERRUPTING CAPACITY OF ELECTRICAL EQUIPMENT SHALL BE EQUAL TO OR GREATER THAN THE AVAILABLE SHORT-CIRCUIT CURRENT AT ITS SUPPLY TERMINAL. BRANCH CIRCUIT BREAKERS SHALL NOT BE ADJUSTED BELOW VALUES INDICATED ON DRAWINGS.
- INSTALLERS SHALL, IN A WORKMANLIKE MANNER, PROVIDE COMPLETE OPERABLE SYSTEMS.
- INSTALLER SHALL COORDINATE ALL WORK WITH OTHER DIVISION TRADES, LOCATE FIXTURES, DEVICES, ETC, IN ORDER TO AVOID INTERFERENCE.
- ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUND CONDUCTOR INCLUDED WITH PHASE WIRING.
- COMMUNICATION OUTLETS SHALL BE INSTALLED AND WIRED IN ACCORDANCE WITH EIA/TIA-568 STANDARDS.
- ELECTRICAL INSTALLER SHALL BE RESPONSIBLE FOR THE POWER WIRING FOR THE ENERGY MANAGEMENT SYSTEM. THE ELECTRICAL INSTALLER SHALL COORDINATE WITH BAS/ATC INSTALLER. ALL POWER FOR BAS/ATC CONTROLS TO COME FROM SAME UPS THAT POWERS THE BAS/ATC HEAD END.
- CONDUIT ROUTING SHOWN ON THE PLANS ARE ONLY DIAGRAMMATIC IN NATURE.
- ALL CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTOR FROM ELECTRICAL PANELS.
- ALL CONDUITS AND BOXES IN OFFICE CORE AREA SHALL BE CONCEALED INCLUDING BOXES FOR TEMPERATURE SENSORS ASSOCIATED WITH BAS SYSTEM.
- ALL PANELBOARDS SHALL BE MOUNTED ON 3/4" FIRE RETARDANT PLYWOOD, TREATED ON ALL SIDES, AND PAINTED WITH TWO COATS OF BLACK ENAMEL ON ALL SIDES.
- INSTALL FIRE STOP AROUND ALL ELECTRICAL CONDUIT PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS.
- THE SPACE EQUAL TO THE WIDTH AND DEPTH OF SERVICE EQUIPMENT, SWITCHBOARDS, PANEL BOARDS, AND MOTOR CONTROL CENTERS EXTENDING UP FROM THE FLOOR TO A HEIGHT OF 6' ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE DEDICATED TO THE ELECTRICAL INSTALLATION. FOREIGN SYSTEMS (SUCH AS WATER PIPING) INSTALLED DIRECTLY ABOVE THE DEDICATED SPACE MUST INCLUDE PROTECTIVE EQUIPMENT THAT ENSURES THAT OCCURRENCES SUCH AS LEAKS, CONDENSATION, AND BREAKS DO NOT DAMAGE ELECTRICAL EQUIPMENT BELOW. SEE NEC ARTICLE 110.26 FOR FURTHER DETAILS.
- CONDUCTORS FOR ALL THE ELECTRICAL SYSTEMS SHALL BE RUN IN CONDUIT NO EXPOSED CONDUCTORS SHALL BE ALLOWED UNLESS WHERE SPECIFICALLY NOTED OTHERWISE.
- REFER TO DRAWING NO. E-900 FOR THE MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED.
- ALL WIRING IN BAYS AND SHOPS SHALL BE FED OVERHEAD IN CONDUIT (NO EXPOSED WIRING ALLOWED) - NO CONDUIT ALLOWED IN FLOOR SLAB, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL HANG ALL OVERHEAD CONDUITS IN BAYS WITH BEAM CLAMPS. ALL CONDUIT AND BOXES IN CMU WALLS SHALL BE CONCEALED. SEE DRAWING NO. E-900 FOR CONDUIT TYPE SPECIFIED FOR EACH LOCATION.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/ BLOCK:  <b>OFFICE OF ENGINEERING</b> APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
					THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.			DRAWING TITLE: <b>SYMBOLS, ABBREVIATIONS, AND GENERAL NOTES</b>		SHEET NO. <b>E-002</b> <b>10.02</b>	

**MAINTENANCE FACILITY LIGHTING FIXTURE SCHEDULE**

	NAME	SYMBOL	DESCRIPTION	VOLTS	LAMP TYPE	MOUNTING	BASIS OF DESIGN: MANUFACTURER & CATALOG NUMBER
<b>OFFICE CORE</b>	B		2'x 4' RECESSED LED TROFFER WITH 0 - 10V DIMMING CONTROL.	120V	LED	RECESSED	CREE ZR24 40L 40K 10V
	BE		SAME AS TYPE 'B' BUT WITH BATTERY BACKUP FOR EMERGENCY EGRESS LIGHTING.	120V	LED	RECESSED	CREE ZR24 40L 40K 10V EB14
	B2		2' x 2' RECESSED LED TROFFER WITH 0 - 10V DIMMING CONTROL.	120V	LED	RECESSED	CREE ZR22 32L 40K 10V
	B2E		SAME AS TYPE 'B2' BUT WITH BATTERY BACKUP FOR EMERGENCY EGRESS LIGHTING.	120V	LED	RECESSED	CREE ZR22 32L 40K 10V EB14
<b>BAY AREA</b>	A		4' HEAVY DUTY INDUSTRIAL LED LUMINAIRE	120V	LED	PENDANT	CREE WS4-59L-40K 10V FD SSL
	AE		SAME AS TYPE "A" BUT WITH BATTERY BACKUP FOR EMERGENCY LIGHTING. (EMERGENCY BACKUP BATTERY ORDERED SEPARATELY).	120V	LED	PENDANT	CREE WS4-59L-40K 10V FD SSL BATTERY: LIGHTALARMS LMIU-125
	C		4' HEAVY DUTY INDUSTRIAL LED LUMINAIRE W/ HIGH STRENGTH POLYMER HOUSING PENDANT MOUNTED OVER WORKBENCH.	120V	LED	PENDANT/ WALL	CREE CS14 40L HE 40K 10V SHIELD
	H		HIGH BAY LED LUMINAIRE PENDANT MOUNTED. IP65 RATED.	120V	LED	PENDANT	CREE CXB A HC M 40K 8 UL 10V L515P CXBA16N
	HE		SAME AS H BUT WITH A BATTERY BACKUP FOR EMERGENCY LIGHTING (EMERGENCY BATTERY BACKUP ORDERED SEPARATELY).	120V	LED	PENDANT	CREE CXB A HC M 40K 8 UL 10V L515P CXBA16N BATTERY: LIGHTALARMS LMIU-400
	J		HIGH BAY LED LUMINAIRE RATED IP66. INSTALLED FLUSH MOUNTED TO MAINTAIN RATING.	120V	LED	SEE NOTE NO 4	CREE CPY250 A DM D B US UL WH 40K DIM ML
<b>EGRESS</b>	JE		SAME AS J BUT WITH A BATTERY BACKUP FOR EMERGENCY LIGHTING (EMERGENCY BACKUP BATTERY ORDERED SEPARATELY).	120V	LED	SEE NOTE NO 4	CREE CPY250 A DM D B US UL WH 40K DIM ML BATTERY: LIGHTALARMS LMIU-250
	X		SINGLE FACE CAST EXIT SIGN WITH LED ILLUMINATION SYSTEM AND ENCLOSED EMERGENCY NI-CAD BATTERY PACK.	120V	LED-4.6W	WALL	LIGHTALARMS 8 GXE W R W (GPW WHERE REQUIRED)
	X2		SINGLE FACE CAST EXIT SIGN WITH LED ILLUMINATION SYSTEM AND ENCLOSED EMERGENCY NI-CAD BATTERY PACK.	120V	LED-4.6W	CEILING	LIGHTALARMS 8 GXE W R W (GPW WHERE REQUIRED)
	XW		NEMA 4 WEATHERPROOF SINGLE FACE CAST EXIT SIGN WITH LED ILLUMINATION SYSTEM AND ENCLOSED EMERGENCY NI-CAD BATTERY PACK.	120V	LED-4.6W	WALL	LIGHTALARMS 8 GXE W R W (VRC-4X)
<b>BTH.</b>	XA		SINGLE FACE CAST EXIT SIGN WITH LED ILLUMINATION SYSTEM AND ENCLOSED EMERGENCY NI-CAD BATTERY PACK. FACE INCLUDES UNIVERSAL WHEELCHAIR ACCESSIBLE SYMBOL	120V	LED-4.6W	WALL	EXIT SIGN WAREHOUSE CT702 WB WH
	I		4' LED MIRROR LIGHT LUMINAIRE.	120V	LED	WALL	TEXAS FLUORESCENTS BKA MW 48L S48W4500L DMV 40K
	I2		2' LED MIRROR LIGHT LUMINAIRE.	120V	LED	WALL	TEXAS FLUORESCENTS BKA MW 24L S24W2250L DMV 40K
<b>EXTERIOR</b>	SL		SHOWER LIGHT	120V	LED	WALL	FIXTURE TO BE SUPPLIED BY SHOWER INSTALLER WITH SHOWER STALL.
	D		LED FULL CUTOFF WALL-PACK LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING PAINTED WITH POWDER COAT FINISH AND IP65 RATING. TYPE 4 DISTRIBUTION	208V	LED	WALL	LITHONIA WST LED 2 10A700/40K SR4 MVOLT DF DDBXD
	DE		SAME AS TYPE "D" BUT WITH BATTERY BACKUP	208V	LED	WALL	LITHONIA WST LED 2 10A700/40K SR4 MVOLT DF ELCW DDBXD
	L1		LED COBRA - ROADWAY LUMINAIRE - WIDE ROADWAY DISTRIBUTION. IES TYPE II, FULL CUTOFF	208V	LED	POLE	CREE OSQ A NM 2ME A 40K US UL BZ DIM F ML (OSQ-DA MOUNTING)
	L2		LED COBRA - ROADWAY LUMINAIRE - FORWARD THROW DISTRIBUTION. IES TYPE III, FULL CUTOFF	208V	LED	POLE	CREE OSQ A NM 3ME A 40K US UL BZ DIM F ML (OSQ-DA MOUNTING)
	POLE L1,L2		20' MOUNTING HEIGHT ROUND TAPERED ALUMINUM POLE, 6063-T6 ALUMINUM ALLOY 7"x4"x.156", 6' SINGLE MEMBER BRACKET ARM, TB-117 TRANSFORMER BASE, BLACK ANODIZED FINISH, SINGLE FIXTURE BRACKET. POLE TO BE PREPPED FOR MOUNTING OUTDOOR WEATHERPROOF OCC SENSOR (1/2" COUPLING) FOR CONTROL OF TYPE L1 AND L2 FIXTURES BE MOUNTED ON ARM. SENSOR SHALL BE LOCATED 16 FT ABOVE BASE AND 0 DEGREE FROM HAND HOLE, OUTDOOR MOUNT MOTION SENSOR WITH 360 DEGREE COVERAGE.	----	LED		UNITED LIGHTING STANDARDS RTA-745202 UMB-16
<b>SALT SHED</b>	G1		FLAG POLE FIXTURE COMPACT FLOOD, LED, 208V, SPOT, KNUCKLE MOUNT, BLACK.	208V	LED	KNUCKLE MTD ON 24" STANCHION	HOLOPHANE ACP1 410A MVOLT 7 4K BZ NR
	SA		LED WET LOCATION CORROSION RESISTANT LUMINAIRE, PENDANT MTD., WITH SAFETY CHAIN ASSEMBLY & 3' CORD PRISMATIC GLASS CLOSED BOTTOM.	120V	LED	PENDANT	HOLOPHANE #PLED2 18L 4K AS UN 06 CRG L5 F1 09189
	SB		LED FULL CUTOFF WALL-PACK LUMINAIRE WITH DIE-CAST ALUMINUM HOUSING PAINTED WITH POWDER COAT FINISH AND IP65 RATING. FORWARD THROW DISTRIBUTION	120V	LED	WALL	LITHONIA CSXWLED 30C 700/40K TFTM MVOLT BBW SF DDBXD
	LO		HEAVY DUTY LUMINAIRE, LED WET LOCATION, WIDE DISTRIBUTION, ENERGY SAVINGS, FIXTURE BRACKET.	120V	LED	WALL	HOLOPHANE PMLD 3 4K 07A AS 44 1 K ZP F1 TL

**GENERAL NOTES:**

- ALL LED LIGHTING SHALL BE SUPPLIED WITH AVAILABLE POWER FEED ACCESSORIES FROM THE MANUFACTURER. PLENUM ACCESSORIES SHALL BE SUPPLIED AS REQUIRED TO COMPLY WITH LOCAL BUILDING CODE. CONSULT MANUFACTURER FOR CURRENT CATALOG NUMBERS.
- DESIGN IS BASED ON CATALOG NUMBERS LISTED. IF SUBMITTED FIXTURES ARE DIFFERENT, THE CONTRACTOR SHALL SUBMIT A PHOTOMETRIC LIGHT ANALYSIS AND POWER DENSITY ANALYSIS REPORT COMPLETE WITH FOOT CANDLE LEVELS AND LIGHT POWER DENSITIES FOR APPROVAL BY THE DESIGNER.
- PROVIDE WEATHERPROOF FIXTURES AND BATTERY BACKUP ACCESSORIES WHERE INDICATED ON THE PLANS. CATALOG NUMBERS ARE BASIS OF DESIGN ONLY AND ARE SUBJECT TO CHANGE TO COMPLY WITH THE PLAN AND SPECS.
- TYPE "J" FIXTURES SHALL BE INSTALLED PER MANUFACTURE'S RECOMMENDATIONS IN ORDER TO MAINTAIN THE IP66 RATING WHEN INSTALLED IN THE WASH BAY.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 5/22/2015

DESIGNER/DRAFTER:  
**SKW**

CHECKED BY:  
**MPW**



SIGNATURE/  
BLOCK:  
**OFFICE OF ENGINEERING**

APPROVED BY:

PROJECT TITLE:  
**OCCUM  
MAINTENANCE  
FACILITY**

TOWN:  
**OCCUM**

DRAWING TITLE:  
**LIGHT FIXTURE  
SCHEDULE**

PROJECT NO.  
**103-0247**

DRAWING NO.  
**E-003**

SHEET NO.  
**10.03**

**SITE PLAN NOTES:**

1. THE CONTRACTOR SHALL CONTACT NORWICH PUBLIC UTILITIES REPRESENTATIVE TO COORDINATE THE POWER UTILITY'S PORTION OF PROJECT WORK. (CONTACT TO BE GIVEN AT THE PRECONSTRUCTION MEETING). THE CONTRACTOR SHALL GIVE NORWICH PUBLIC UTILITIES A MINIMUM NOTICE OF FOUR WEEKS PRIOR TO REQUIRING THE INITIATION OF ANY WORK TO BE COMPLETED BY THE UTILITY'S FORCES. INSTALL CONDUIT ON THE LINE SIDE OF THE TRANSFORMER TO MEET NORWICH PUBLIC UTILITIES REQUIREMENTS.
2. THE CONTRACTOR SHALL FURNISH AND INSTALL A NORWICH PUBLIC UTILITIES APPROVED METER SOCKET.
3. SPARE CONDUIT TO THE FACILITY SHALL TERMINATE IN THE ELECTRICAL ROOM ADJACENT TO THE MDS WITH PULL ROPE.
4. SIZE OF EQUIPMENT NOT TO SCALE. SIZES SHOWN FOR CLARITY (TYP.)
5. TYPE "D", AND "DE", WALL PACKS MOUNTED ON THE EXTERIOR OF BAYS SHALL BE 18.5' AFG MEASURED TO THE CENTER OF THE FIXTURE. WALL PACKS MOUNTED ON THE EXTERIOR OF THE OFFICE CORE SHALL BE MOUNTED 13' AFG MEASURED TO THE CENTER OF THE FIXTURE.
6. SERVICE CONDUITS ENTERING THE SALT SHED SHALL BE ROUTED SURFACE MOUNTED NO MORE THAN 18" AFG BEFORE PENETRATING THE EXTERIOR WALL. SEE DETAIL NO. 4 ON DRAWING NO. E-901.
7. THE CONTRACTOR SHALL CONTACT FRONTIER REPRESENTATIVE TO COORDINATE THE UTILITY'S PORTION OF PROJECT WORK. THE CONTRACTOR SHALL GIVE THE UTILITY A MINIMUM NOTICE OF 4 WEEKS PRIOR TO REQUIRING THE INITIATION OF ANY WORK TO BE COMPLETED BY FRONTIER FIELD FORCES.
8. EXCAVATION FOR ELECTRICAL SYSTEMS ARE INCLUDED FOR PAYMENT IN THE MAJOR LUMP SUM ITEM. THERE WILL BE NO SEPARATE PAYMENT FOR EXCAVATION FOR THESE SYSTEMS.
9. ALL CONDUIT SWEEPS/STUB UPS PENETRATING PAVED AREAS OR CONCRETE WALKS SHALL BE PVC COATED RGSC. ALL OTHER AREAS SHALL USE RGSC SWEEPS/STUB UPS.
10. ALL UNDERGROUND COMMUNICATIONS CONDUCTORS (EG. FIRE ALARM CABLE, CAT 6, ETC) SHALL BE RATED FOR EXTERIOR UNDERGROUND USE.
11. EXISTING SERVICE SHALL BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE WITH NORWICH PUBLIC UTILITIES AND FRONTIER FOR SERVICE REMOVAL. BILLING AND ACCOUNT INFORMATION SHALL BE TRANSFERRED TO THE NEW SERVICE INSTALLATION.
12. SEE DETAIL ON DRAWING NO. E-901 FOR CONDUIT TRENCH DETAILS.
13. UTILITY CONDUITS SHALL BE EQUIPPED WITH EXPANSION COUPLINGS PER LOCAL UTILITY REQUIREMENTS.
14. PROVIDE TEMPORARY BLOCK HEATER RECEPTACLES IN THE LOCATIONS INDICATED. INSTALL A 120/240V 100 AMP 4 CIRCUIT LOAD BANK WITH 20 AMP CIRCUIT BREAKERS FOR BLOCK HEATER RECEPTACLES. LOAD BANK SHALL BE LOCATED ON THE ADJACENT WALL FROM THE EXISTING DISTRIBUTION PANEL. LOAD BANK SHALL FEED FROM THE EXISTING DISTRIBUTION PANEL CIRCUIT NO. 16,18. INTERCEPT POWER FEED FOR THE EXISTING BLOCK HEATER PANEL AND PROVIDE POWER TO FEED TEMPORARY BLOCK HEATER PANEL.
15. THE CONTRACTOR SHALL FURNISH AND INSTALL UTILITY APPROVED HANDHOLES FOR POWER, TELEPHONE, AND CABLE SERVICE. THE CONTRACTOR SHALL COORDINATE WITH NORWICH PUBLIC UTILITY, FRONTIER, AND COMCAST FOR EACH COMPANY'S APPROVED HANDHOLE REQUIREMENTS.

6 WAY CONDUIT IN TRENCH:  
 (1) 4" SCHEDULE 80 PVC GENERATOR TO ATS WITH 4-350 KCMIL AND 1#4 GND.  
 (1) 4" SCHEDULE 80 PVC GENERATOR TO ATS (SPARE)  
 (1) 1" SCHEDULE 80 PVC PP1-7, PP1-9, AND PP1-13 TO GENERATOR (RECEPTACLE, BLOCK HEATER & CHARGER) THREE SETS OF 2# 10 AWG. AND 1#10 GND.  
 (1) 1" SCHEDULE 80 PVC ANNUNCIATOR TO GENERATOR WITH CONDUCTORS PER MANUFACTURER  
 (1) 1" SCHEDULE 80 PVC ATS TO GENERATOR (STARTING SIGNAL) WITH CONDUCTORS PER MANUFACTURER  
 (1) 3/4" SCHEDULE 80 PVC TO GENERATOR (TANK MONITORING) WITH CONDUCTORS PER MANUFACTURER

2 WAY CONDUIT IN TRENCH:  
 (1) 4" SCHEDULE 80 PVC (POLE TO COMMUNICATIONS ROOM- FRONTIER) WITH PULL STRING  
 (1) 4" SCHEDULE 80 PVC (POLE TO COMMUNICATIONS ROOM- SPARE) WITH PULL STRING

5 WAY CONDUIT IN TRENCH:  
 (1) 4" SCHEDULE 80 PVC (POLE TO SERVICE METER- POWER) WITH PULL STRING  
 (1) 4" SCHEDULE 80 PVC (POLE TO SERVICE METER- SPARE) WITH PULL STRING  
 (1) 4" SCHEDULE 80 PVC (POLE TO ELECTRICAL ROOM- COMCAST) WITH PULL STRING  
 (1) 4" SCHEDULE 80 PVC (POLE TO COMMUNICATIONS ROOM- FRONTIER) WITH PULL STRING  
 (1) 4" SCHEDULE 80 PVC (POLE TO COMMUNICATIONS ROOM- SPARE) WITH PULL STRING

1 WAY CONDUIT IN TRENCH:  
 (1) 1" SCHEDULE 40 PVC POLE LIGHTING WITH 2# 10 AWG AND 1# 10 GND. (TYP. FOR POLE LIGHTING)

APPROXIMATE LOCATION OF PROPOSED FRONTIER POLE CAP SPARE CONDUITS 12" AFG NEXT TO POLE.

6 WAY CONDUIT IN TRENCH:  
 (1) 3" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- POWER)  
 (1) 3" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- SPARE POWER)  
 (1) 2" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- COMMUNICATION)  
 (1) 2" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- SPARE COMMUNICATION)  
 (1) 2" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- INTRINSICALLY SAFE)  
 (1) 2" SCHEDULE 80 PVC (MECHANICAL RM TO HANDHOLE- INTRINSICALLY SAFE SPARE)  
 REFER TO DRAWING NO. E-600 FOR ADDITIONAL DETAILS

INSTALL INTERIOR (NEMA 1) HIGH AND LOW VOLTAGE TROUGHS.

WALLPACK LP1-15,17 TYP.

SERVICE METER SEE SITE PLAN NOTE NO. 2.

1 WAY CONDUIT IN TRENCH:  
 (1) 4" SCHEDULE 80 PVC (POLE TO ELECTRICAL ROOM - COMCAST ) WITH PULL STRING

1 WAY CONDUIT IN TRENCH:  
 3/4" C FOR OIL WATER SEPERATOR TO TANK MONITORING SYSTEM (TMS). CONDUCTORS PER MANUFACTURER'S RECOMMENDATIONS.

PROVIDE UTILITY APPROVED HANDHOLES. SEE SITE PLAN NOTE NO. 15

FLAGPOLE LIGHTING. REFER TO DETAIL NO. 3 ON DRAWING NO. 902. MOUNT 3' FROM FLAG POLE OR PER MANUFACTURE'S RECOMMENDATIONS.

INSTALL PEDESTAL-MOUNTED, ADA COMPLIANT EMERGENCY PHONE, OVERFILL ALARM, AND EMERGENCY MUSHROOM PUSH BUTTON AS DETAILED ON DRAWING NO. E-602

VIDEO SURVEILLANCE CAMERA REFER TO DRAWING NO. E-903 (TYP.)

CONCRETE HANDHOLE (3). REFER TO DRAWING NO. E-602 HANDHOLE SHALL MAINTAIN 25' MINIMUM FROM THE FUEL DISPENSERS  
 SEE DRAWING NO. E-600 FOR CONTINUATION OF CONDUIT AND CONDUCTORS

SEE DRAWING NO. E-600 FOR FUEL ISLAND DETAILS

3 WAY CONDUIT IN TRENCH:  
 (1) 3" SCHEDULE 80 PVC (BUILDING TO SALTSHEED- POWER) WITH 4#1 AWG AND 1#4 GND  
 (1) 3" SCHEDULE 80 PVC (BUILDING TO SALTSHEED- SPARE) WITH PULL STRING  
 (1) 1" SCHEDULE 80 PVC (BUILDING TO SALTSHEED- BAS SYSTEM) WITH PULL STRING

REFER TO DRAWING NO. E-700 FOR SALT SHED ELECTRICAL WORK

1 WAY CONDUIT IN TRENCH:  
 (1) 2" SCHEDULE 80 PVC SEE DRAWING NO. E-700 FOR ADDITIONAL INFORMATION

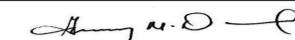
EXISTING LIQUID DEICING SYSTEM

INSTALL SURFACE MOUNTED CONDUIT AS REQUIRED

TEMPORARY BLOCK HEATER RECEPTACLE SEE SITE PLAN NOTE NO. 14

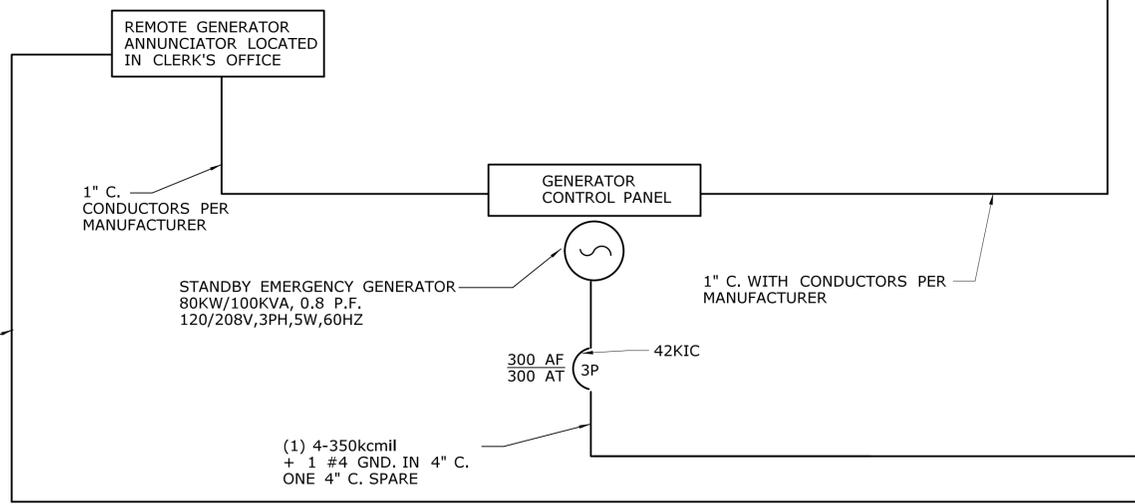
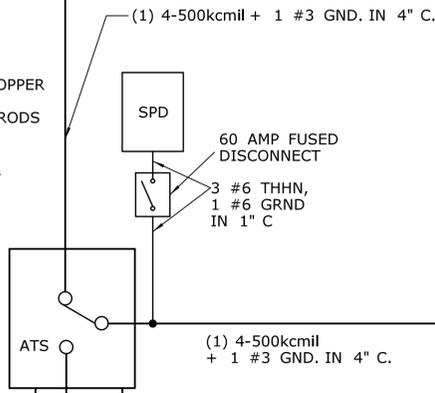
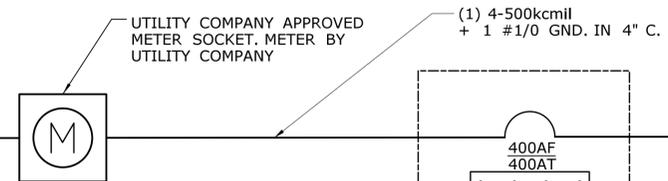
INSTALL A 120/240V 100 AMP 4 CIRCUIT LOAD BANK WITH 20 AMP CIRCUIT BREAKERS FOR BLOCK HEATER RECEPTACLES. SEE SITE PLAN NOTE NO. 14

TEMPORARY BLOCK HEATER RECEPTACLE SEE SITE PLAN NOTE NO. 14

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	SCALE IN FEET 0 40 80 SCALE 1"=40'	 <b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK:  APPROVED BY:	PROJECT TITLE: <b>OCCUM                  MAINTENANCE</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b> DRAWING NO. <b>E-100</b> SHEET NO. <b>10.04</b>
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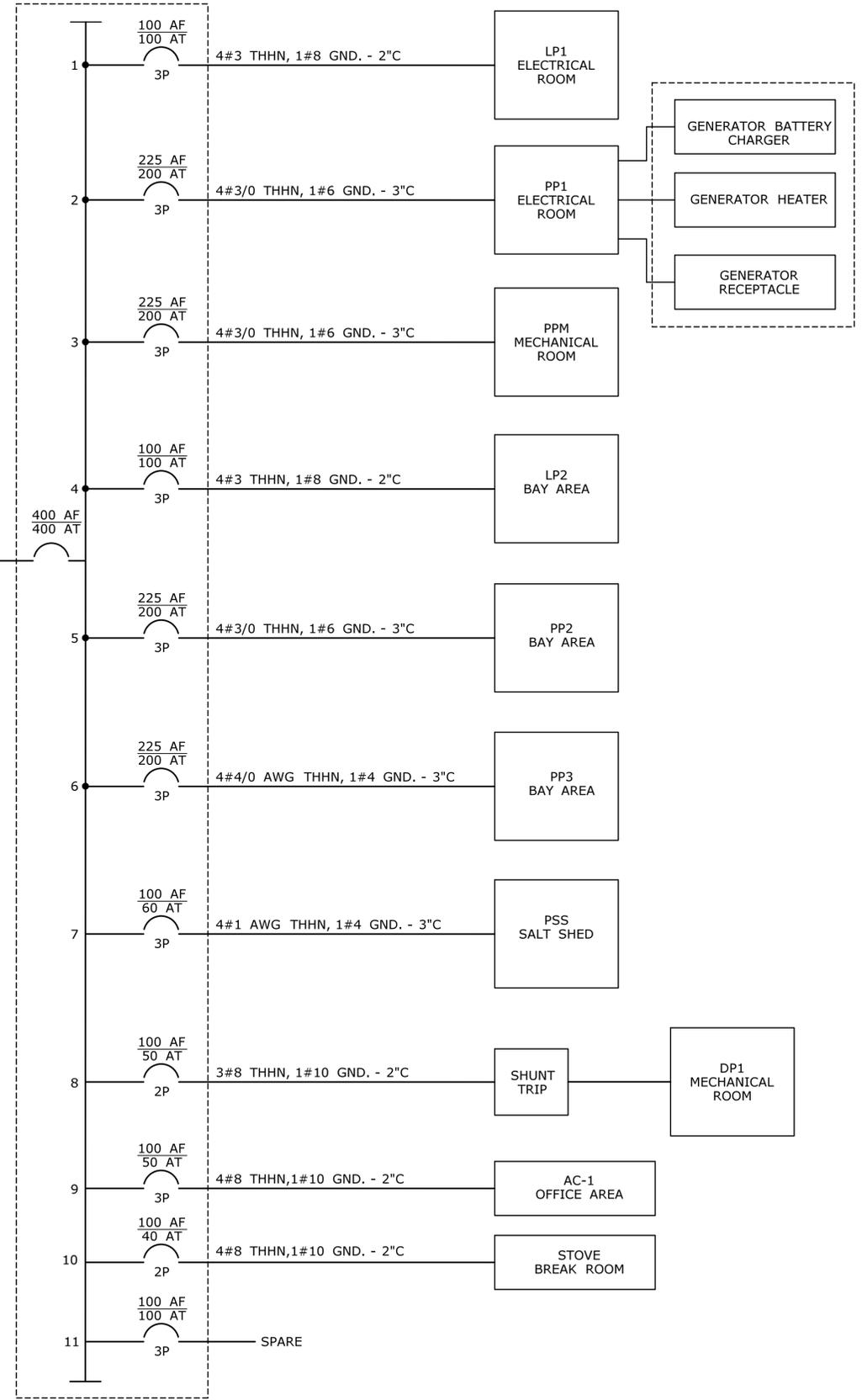
4" C (UTILITY COMPANY CONDUCTORS) IN TRENCH  
 4" C SPARE IN TRENCH  
 (SPARE SHALL TERMINATE IN ELE ROOM ADJACENT TO THE MDS)

PROPOSED FRONTIER POLE WITH UTILITY COMPANY SUPPLIED POLE MOUNTED TRANSFORMER RATED FOR 400A 120/208 VOLTS, 3 PHASE

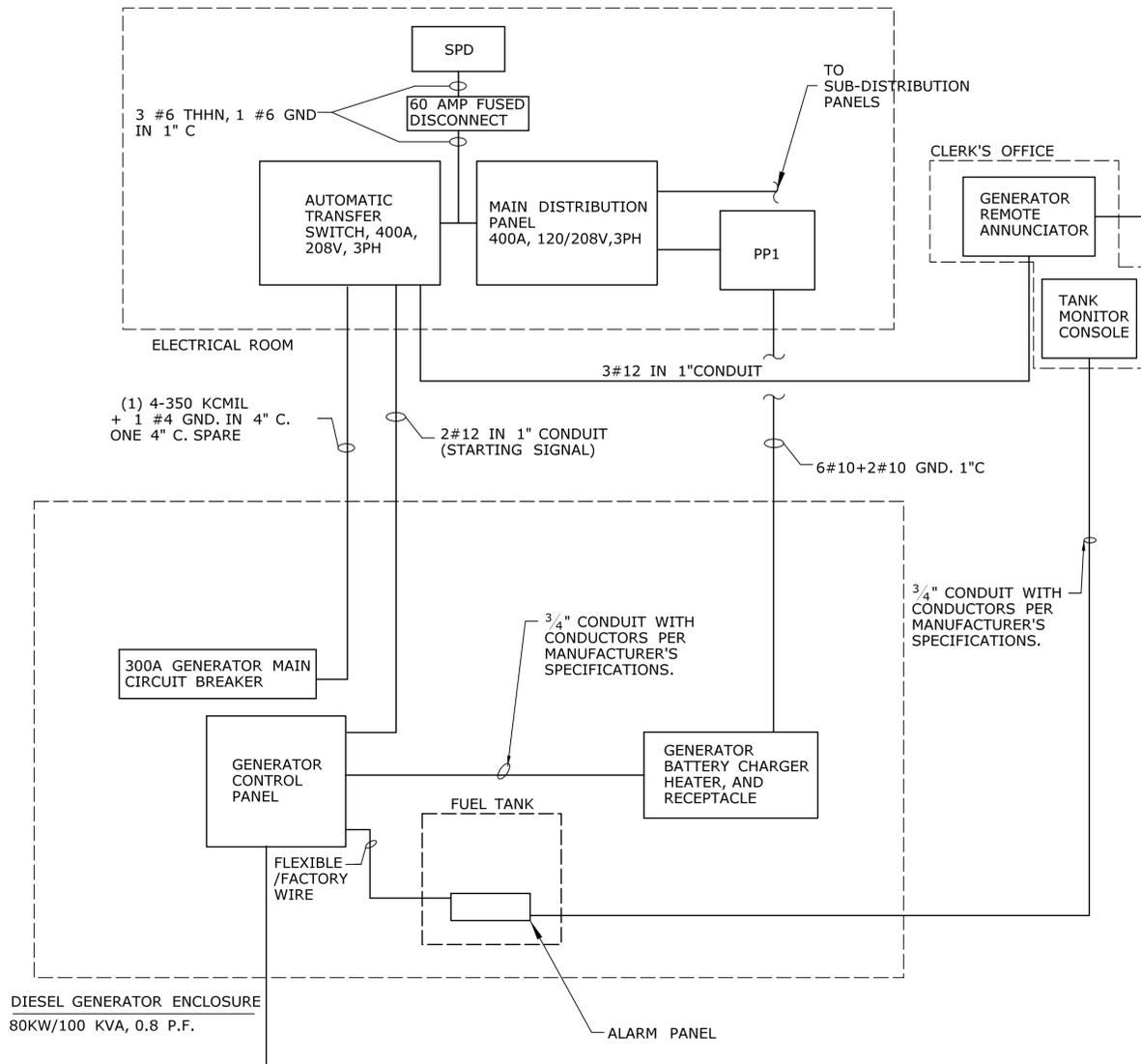


- NOTES:
- SPD SHALL BE INSTALLED ON THE LOAD SIDE OF THE ATS OVER CURRENT PROTECTION. REFER TO NEC ARTICLE 285. SPD SHALL BE AS REQUIRED BY UL96A AND LABELED FOR THE LIGHTNING PROTECTION SYSTEM BY UL.
  - NORWICH PUBLIC UTILITIES SHALL PROVIDE AND INSTALL CONDUCTORS FROM THE PROPOSED POLE TO THE METER SOCKET.
  - DUE TO VOLTAGE DROP SOME CONDUCTORS MAY NOT FIT THE CIRCUIT BREAKER LUGS. THE CONTRACTOR SHALL FURNISH AND INSTALL THE APPROPRIATE SPLICE KITS AND WIREWAYS TO SPLICE LARGER CONDUCTORS IN THE MDP AND APPROPRIATE PANELBOARD. SPLICING SHALL BE PERFORMED IN ACCORDANCE TO THE NEC.
  - WIREWAY MAY BE USED IN LEU OF CONDUIT IN THE ELECTRICAL ROOM FOR THE PURPOSE OF ENCLOSING CONDUCTORS.

MAIN DISTRIBUTION PANEL 400A, 3P, 208/120V 42KIC



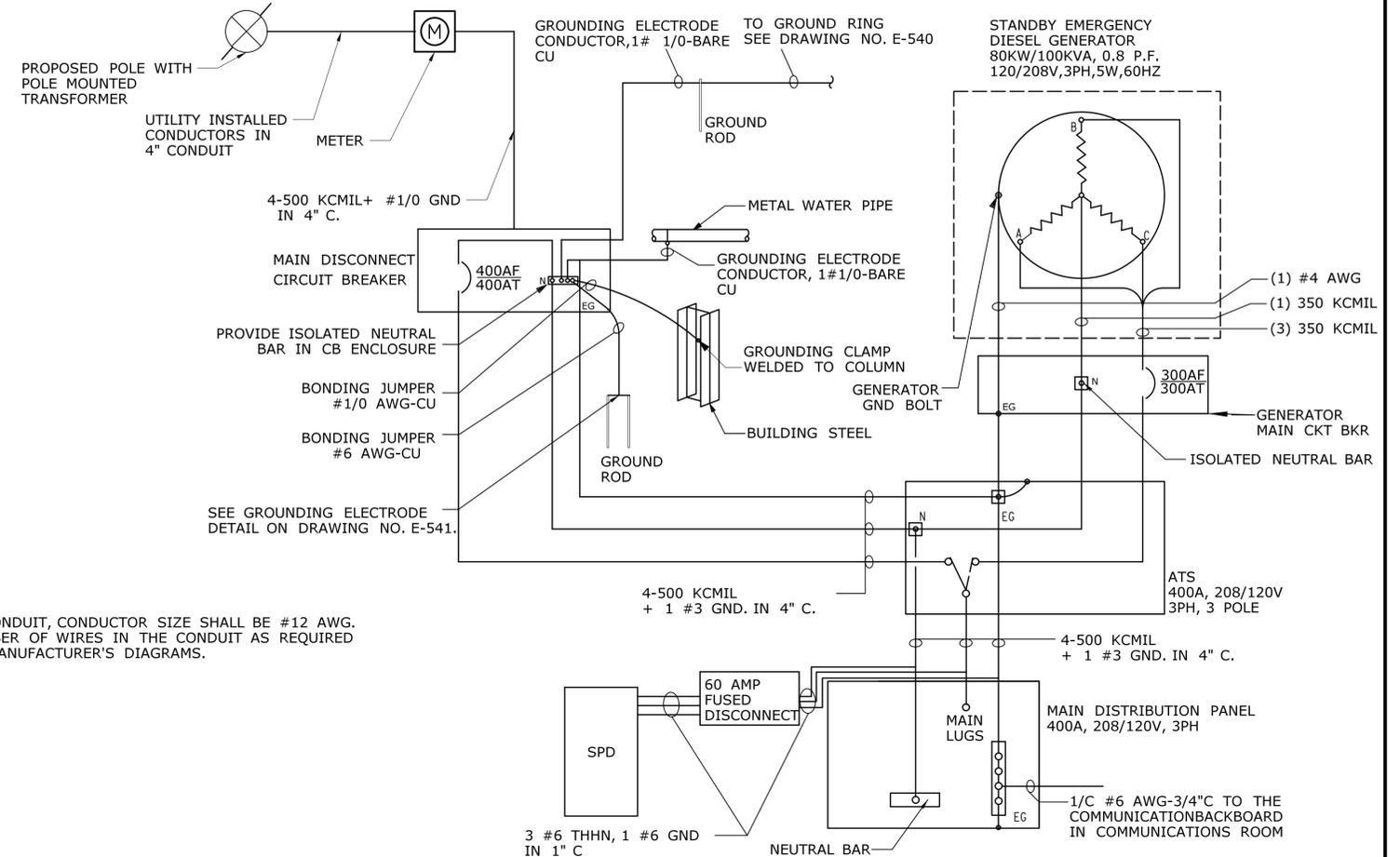
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CHECKED BY: <b>MPW</b>		APPROVED BY: 	DRAWING TITLE: <b>ONE LINE DIAGRAM</b>	DRAWING NO. <b>E-110</b>	SHEET NO. <b>10.05</b>
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	Filename: ...FD_MSH_ELE_103_0247_E-110.dgn	



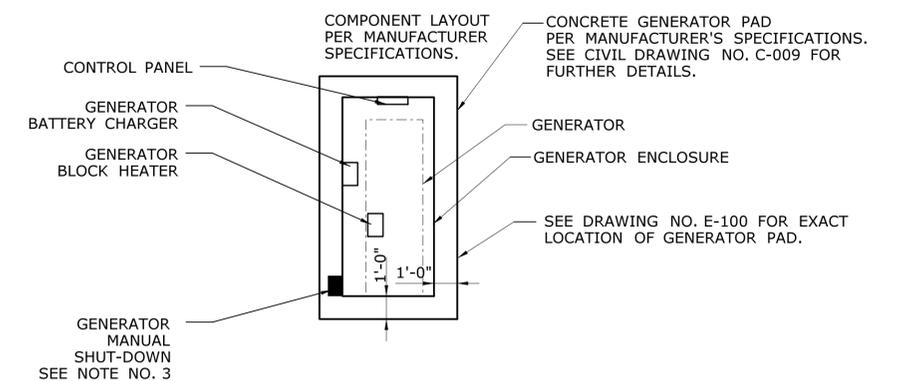
**DIESEL GENERATOR ELECTRICAL SYSTEMS INTERCONNECTION DIAGRAM** 1  
NOT TO SCALE E-111

**DRAWING NOTES:**

1. CONTRACTOR SHALL INSTALL BRANCH FEEDERS FROM PP1 PANEL (PP1-7, PP1-9, AND PP1-13) TO GENERATOR AUXILIARY EQUIPMENT AS SPECIFIED INCLUDING BATTERY CHARGER, AND ENGINE HEATER, RECEPTACLE. CONDUCTOR AND CONDUIT SIZE SHALL COMPLY WITH NEC REQUIREMENTS.
2. ALL CONDUIT WITHIN GENERATOR ENCLOSURE SHALL BE MINIMUM 3/4 INCH.
3. THE CONTRACTOR SHALL PROVIDE MANUAL SHUTDOWN LOCATED EXTERNAL TO THE WEATHER PROOF ENCLOSURE AND SHOULD BE APPROPRIATELY IDENTIFIED.
4. SEE DRAWING NOS. E-100 AND E-602 FOR FURTHER DETAILS ON TANK MONITORING SYSTEM.
5. THE GENERATOR PAD SIZE SHALL BE AS SPECIFIED BY THE GENERATOR MANUFACTURER. THE GENERATOR DIESEL TANK SIZE SHALL BE MINIMUM 332 GALLONS FOR 48-HOUR OPERATION.



**POWER SERVICE & STANDBY DIESEL GENERATOR GROUNDING** 2  
NOT TO SCALE E-111



**STANDARD ENCLOSURE GENERATOR LAYOUT** 3  
NOT TO SCALE E-111

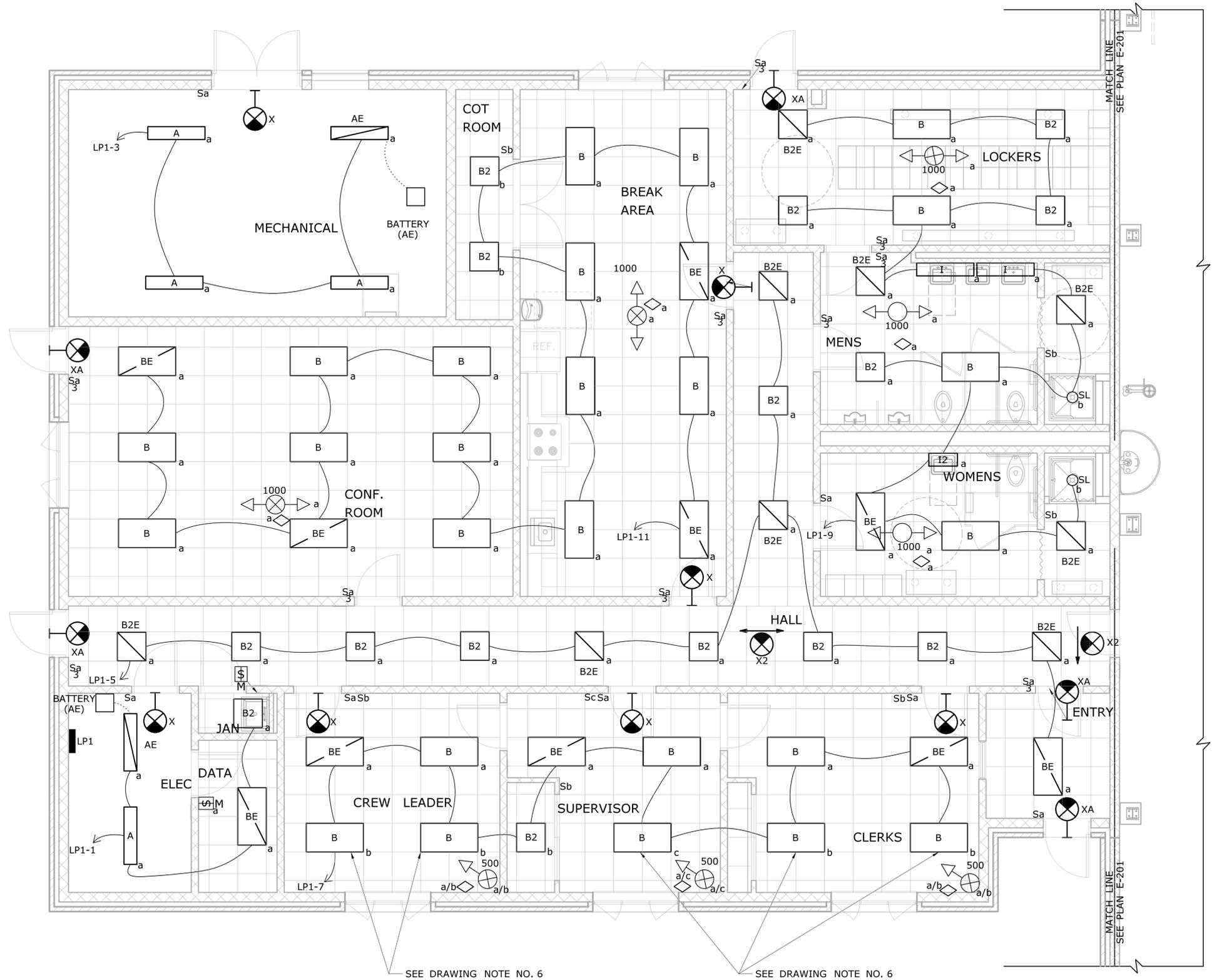
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/BLOCK: <b>OFFICE OF ENGINEERING</b>	APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
										DRAWING TITLE: <b>GENERATOR WIRING DIAGRAM</b>	SHEET NO. <b>10.06</b>	

**OCCUPANCY SENSOR NOTES:**

1. ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.
2. ULTRASONIC/MULTI- TECHNOLOGY CEILING MOUNT SENSORS SHALL BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON- ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.
4. THE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING THE REQUIRED NUMBER OF POWER PACKS:
  - A. ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT.
  - B. EACH POWER PACK SUPPLY CAPACITY IS 150mA. REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR MAXIMUM NUMBER OF SENSORS CONNECTED TO POWER PACK.
  - C. IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS SHALL BE USED IN CONJUNCTION WITH A POWER PACK.
5. SENSORS MOUNTED OVER DOORWAYS SHALL BE PLACED ONE (1) FOOT INSIDE THRESHOLD.
6. OCCUPANCY SENSOR LOCATIONS SUBJECT TO CHANGE TO OPTIMIZE PERFORMANCE.

**DRAWING NOTES:**

1. ALL CONCEALED CONDUIT IN OFFICE CORE SHALL BE EMT, EXCEPT FULLY RATED MC (METAL CLAD) CABLE SHALL BE USED TO CONNECT LIGHTING FIXTURES FROM JUNCTION BOXES ABOVE SUSPENDED CEILING. SEE DETAIL NO. 2 ON DRAWING NO. E-900.
2. REFER TO DRAWING NO. E-003 FOR LIGHTING FIXTURE SCHEDULE AND DRAWING NO. E-002 FOR LIGHTING FIXTURE, OCCUPANCY SENSORS, AND SWITCH CONTROL SYMBOLS. REFER TO DRAWING NO. E-900 FOR MOUNTING HEIGHT DETAILS.
3. INSTALL LED FIXTURES TYPE "BE" AND "B2E" WITH EMERGENCY BACK UP BATTERY IN LOCATIONS SHOWN ON THIS PAGE. PROVIDE MARKING ON EXTERIOR OF FIXTURE TO MAKE READILY APPARENT FROM GROUND LEVEL (PROVIDE A RED DOT OR DISTINCT MARKING APPROVED BY ENGINEER).
4. EXIT SIGNS SHALL BE POWERED BY THE CLOSEST INTERIOR LIGHTING CIRCUIT. EXIT SIGNS SHALL BE UNSWITCHED (WIRED BEFORE THE SWITCH).
5. COORDINATE FINAL LOCATION OF TYPE "A" FIXTURES WITH ENGINEER AS TO AVOID CONFLICT WITH MECHANICAL EQUIPMENT.
6. FIXTURES SHALL BE ON THEIR OWN SWITCH FOR THE PURPOSE OF DAYLIGHT HARVESTING. FIXTURES SHALL REMAIN OCCUPANCY CONTROLLED.



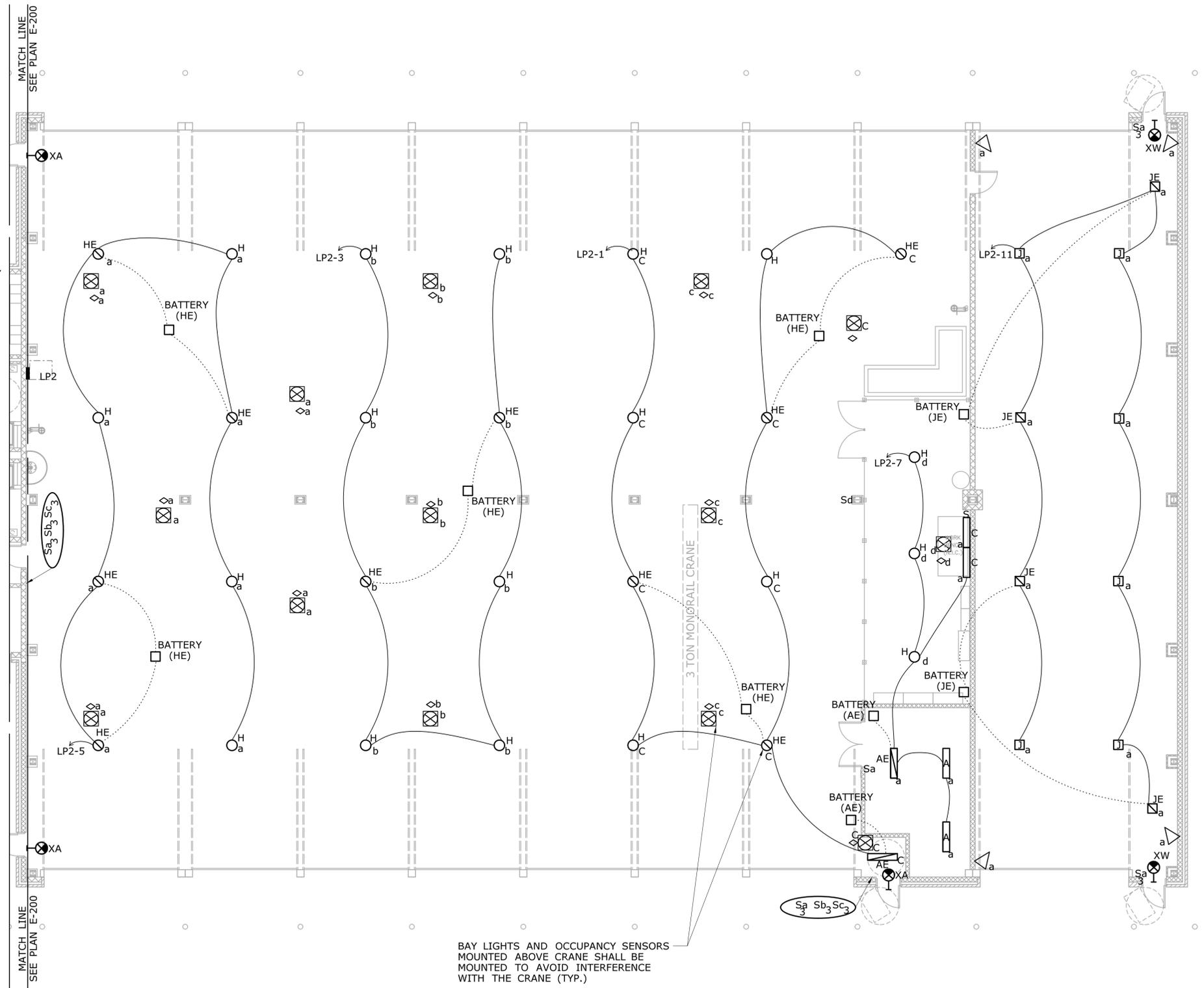
SEE DRAWING NOTE NO. 6

SEE DRAWING NOTE NO. 6

REV. DATE      REVISION DESCRIPTION      SHEET NO.		THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b> SCALE: 1/4" = 1'-0"		STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		SIGNATURE/BLOCK: <b>OFFICE OF ENGINEERING</b> APPROVED BY: <i>[Signature]</i>		PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>		TOWN: <b>OCCUM</b>		PROJECT NO. <b>103-0247</b> DRAWING NO. <b>E-200</b> SHEET NO. <b>10.07</b>	
Plotted Date: 6/11/2015		Filename: ...FD_MSH_ELE_103_0247_E-200.dgn		DRAWING TITLE: <b>OFFICE CORE LIGHTING PLAN</b>											

**DRAWING NOTES:**

1. SEE SITE PLAN E-100 FOR EXTERIOR LIGHTING INFORMATION.
2. EXIT SIGNS SHALL BE POWER BY THE CLOSEST INTERIOR LIGHTING CIRCUIT. EXIT SIGNS SHALL BE UNSWITCHED (WIRED BEFORE THE SWITCH).
3. REFER TO DRAWING NO. E-200 FOR OCCUPANCY SENSOR NOTES.
4. REFER TO DRAWING NO. E-003 FOR LIGHTING FIXTURE SCHEDULE AND DRAWING NO. E-002 FOR LIGHTING FIXTURE, OCCUPANCY SENSORS, AND SWITCH CONTROL SYMBOLS. REFER TO DRAWING NO. E-900 FOR MOUNTING HEIGHT DETAILS.
5. PROVIDE MARKINGS ON EXTERIOR OF EMERGENCY LIGHT FIXTURES TO MAKE READILY APPARENT FROM GROUND LEVEL (PROVIDE A RED DOT OR DISTINCT MARKING APPROVED BY ENGINEER).
6. FIXTURES LOCATED NEAR OVERHEAD DOORS SHALL BE MOUNTED TO AVOID INTERFERENCE WITH DOOR OPERATION, INSTALL FIXTURES TO AVOID BEING BLOCKED BY THE DOOR WHILE DOOR IS IN THE OPEN POSITION IN ORDER TO PROVIDE UNBLOCKED LIGHT SOURCE.
7. BATTERY PACKS FOR THE EMERGENCY FIXTURES INSTALLED IN THE WASH BAY AREA SHALL BE WALL MOUNTED IN THE BAY AREA.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/22/2015

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



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**OFFICE OF ENGINEERING**

APPROVED BY:  
*[Signature]*

PROJECT TITLE:  
**OCCUM  
MAINTENANCE  
FACILITY**

TOWN:  
**OCCUM**

DRAWING TITLE:  
**BAY AREA  
LIGHTING PLAN**

PROJECT NO.  
**103-0247**

DRAWING NO.  
**E-201**

SHEET NO.  
**10.08**

**DRAWING NOTES:**

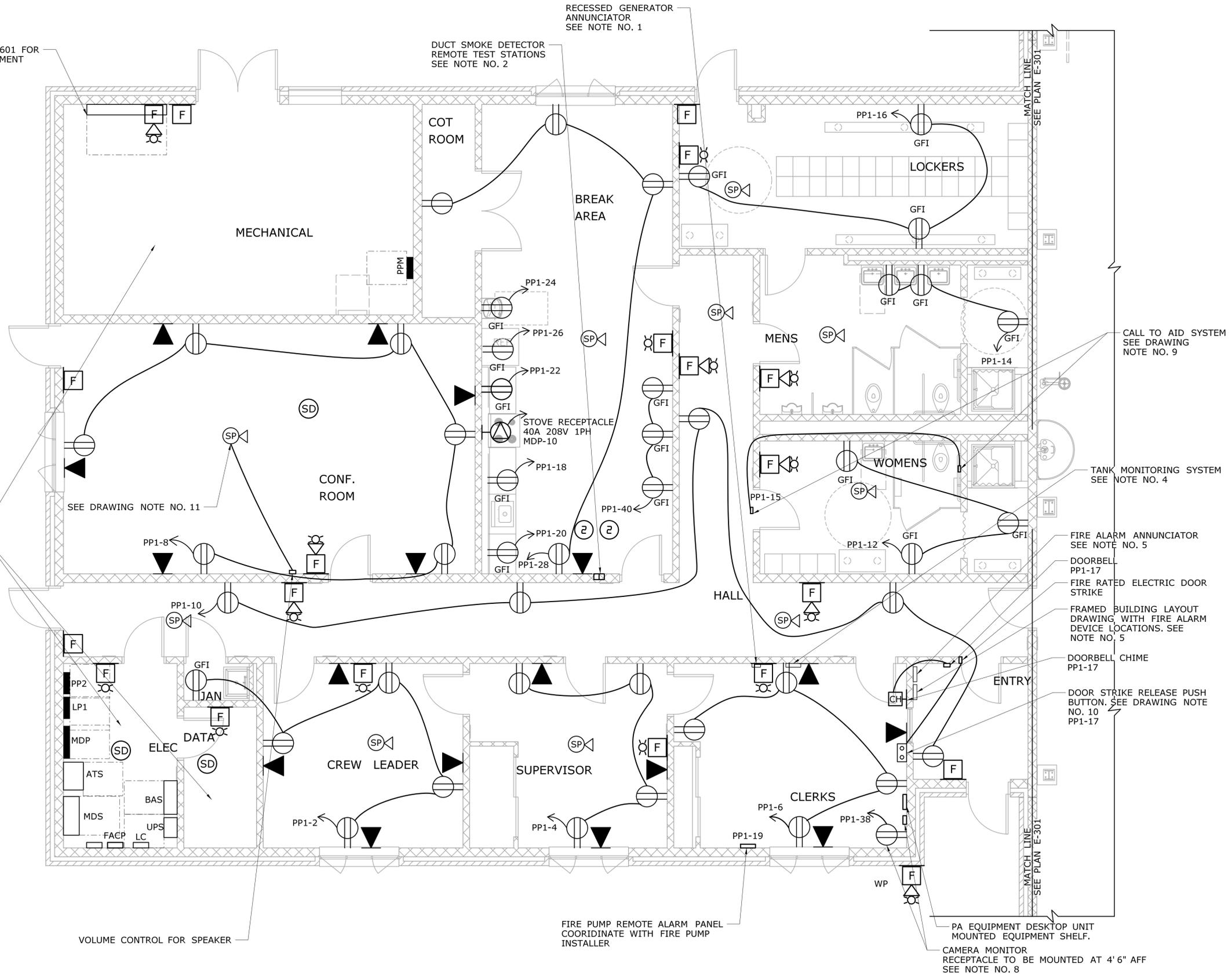
1. REMOTE GENERATOR ANNUNCIATOR SHALL BE FLUSH MOUNTED.
2. DUCT MOUNTED SMOKE DETECTORS TO BE INSTALLED BY MECHANICAL INSTALLER, AND FURNISHED, WIRED, AND CONNECTED BY THE ELECTRICAL INSTALLER. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL INSTALLATION AND EXACT LOCATION INFORMATION.
3. CONTRACTOR SHALL RUN ALL PHONE AND DATA CABLE AS REQUIRED ON PLANS OR AS DIRECTED BY ENGINEER. CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS UNDER CONNDOT INFORMATION SYSTEMS SUPERVISION.
4. SEE DRAWING NO. E-601 FOR ADDITIONAL INFORMATION ON THE TANK MONITORING SYSTEM.
5. MOUNT FRAMED BUILDING LAYOUT DRAWING WITH FIRE ALARM DEVICE LOCATIONS CLEARLY INDICATED ADJACENT TO SURFACE MOUNTED FIRE ALARM ANNUNCIATOR PANEL. FIRE ALARM INSTALLER SHALL SUPPLY SUBJECT DRAWING.
6. REFER TO DRAWING NO. E-900 FOR THE MOUNTING HEIGHT OF ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED.
7. ALL CONDUCTORS FOR THE FIRE ALARM SHALL BE INSTALLED IN CONDUIT.
8. VIDEO MONITOR SHALL BE INSTALLED IN THE CLERK'S OFFICE. VIDEO CAMERA SHALL BE LOCATED TO MONITOR FUEL ISLAND. SEE DRAWING NO. E-903 FOR COMPLETE INSTALLATION DETAILS. VIDEO MONITOR BRACKET SHALL BE INSTALLED 5' 6" AFF MEASURED TO THE CENTER OF THE BRACKET. INSTALL NVR SHELF MOUNTED BELOW VIDEO MONITOR.
9. INSTALL CALL TO AID SYSTEM IN THE BATHROOM. INSTALL PULL CORD SWITCH IN BATHROOM AS SHOWN AND THE LIGHT STROBE/HORN ABOVE THE BATHROOM DOOR ON THE HALL SIDE. REFER TO DETAIL NO. 1 ON DRAWING NO. E-900 FOR MOUNTING HEIGHT INFORMATION.
10. INSTALL DOOR STRIKE RELEASE PUSH BUTTON INSIDE THE CLERKS OFFICE, CONVENIENT TO THE CLERK'S DESK AND IN DIRECT SIGHT LINE OF THE VISITOR CHECK-IN WINDOW. PROVIDE AND INSTALL ALL NECESSARY WIRING, AND COMPLETE ALL CONNECTIONS IN ACCORDANCE WITH DOOR STRIKE MANUFACTURER'S RECOMMENDATIONS. DOOR STRIKE SHALL CONTROL DOOR NO. 100A.
11. PUBLIC ADDRESS SPEAKER WITH ON/OFF CAPABILITIES.

SEE DRAWING NO. E-500 FOR ADDITIONAL MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOM DETAILS.

REFER TO DRAWING NO. E-601 FOR FUEL ISLAND POWER EQUIPMENT

DUCT SMOKE DETECTOR REMOTE TEST STATIONS SEE NOTE NO. 2

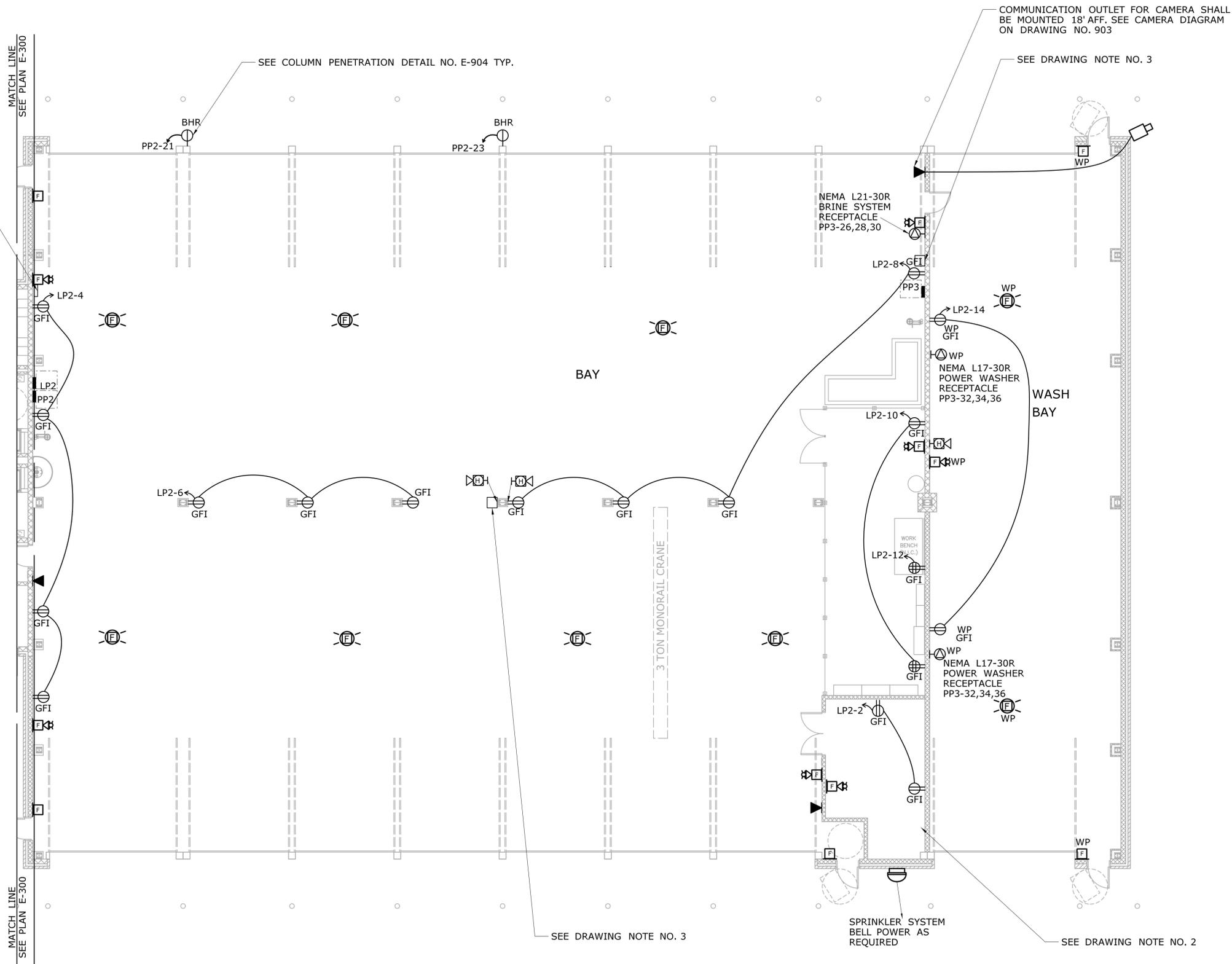
RECESSED GENERATOR ANNUNCIATOR SEE NOTE NO. 1



THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b>	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/ BLOCK:  APPROVED BY:	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
SCALE: 1/4" = 1'-0"	Plotted Date: 6/10/2015	FILENAME: ...FD_MSH_ELE_103_0247_E-300.dgn		SHEET NO. <b>E-300</b>	DRAWING TITLE: <b>OFFICE CORE POWER AND LOW VOLTAGE PLAN</b>	SHEET NO. <b>10.09</b>	

**DRAWING NOTES:**

1. REFER TO DRAWING NO. E-900 FOR THE MOUNTING HEIGHT OF ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED.
2. SEE DRAWING FP-005 FOR LOCATIONS AND DETAILS ON SPRINKLER FLOW, TAMPER, AND PRESSURE SWITCHES.
3. INSTALL 2 GANG DEVICE BOX FOR FUTURE EQUIPMENT. INSTALL 1" C WITH NYLON PULL CORD TO THE DEVICE BOX FROM PANEL PP-3.
4. ALL ENCLOSURES AND BOXES IN WASH BAY SHALL BE NEMA 4X RATED, SUITABLE FOR WET CONDITIONS.
5. INSTALL BLOCK HEATER RECEPTACLES WITH GFI CIRCUIT BREAKER. BLOCK HEATER RECEPTACLES SHALL BE CONNECTED TO RELAY SWITCHES THAT ACTIVATES THE RECEPTACLE WHEN THE TEMPERATURE DROPS TO A PREDETERMINED LEVEL. BLOCK HEATER RELAY SWITCH SHALL BE CONNECTED TO THE BAS.



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APPROVED BY:  
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PROJECT TITLE:  
**OCCUM MAINTENANCE FACILITY**

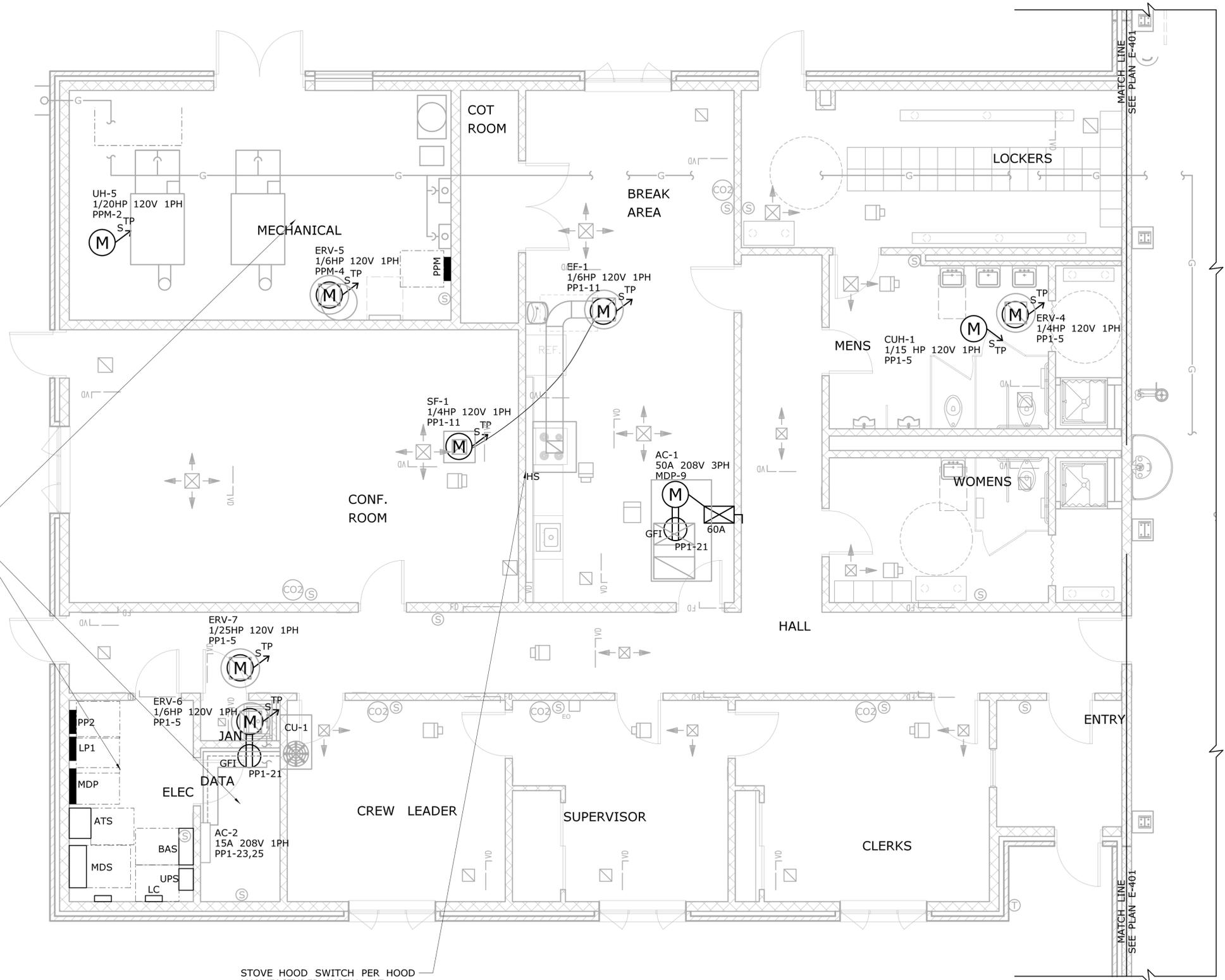
TOWN:  
**OCCUM**  
DRAWING TITLE:  
**BAY AREA POWER AND LOW VOLTAGE PLAN**

PROJECT NO.  
**103-0247**  
DRAWING NO.  
**E-301**  
SHEET NO.  
**10.10**

**DRAWING NOTES:**

1. SEE MECHANICAL SHEETS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
2. SAFETY DISCONNECT SWITCHES FOR ROOF FANS SHALL BE PROVIDED BY FAN MANUFACTURER IN ACCORDANCE TO SPECIFICATION NO. 233423.
3. REFER TO DRAWING NO. E-900 FOR THE MOUNTING HEIGHT OF ALL ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED.

SEE DRAWING NO. E-500 FOR ADDITIONAL MECHANICAL, ELECTRICAL, AND COMMUNICATION ROOM DETAILS.

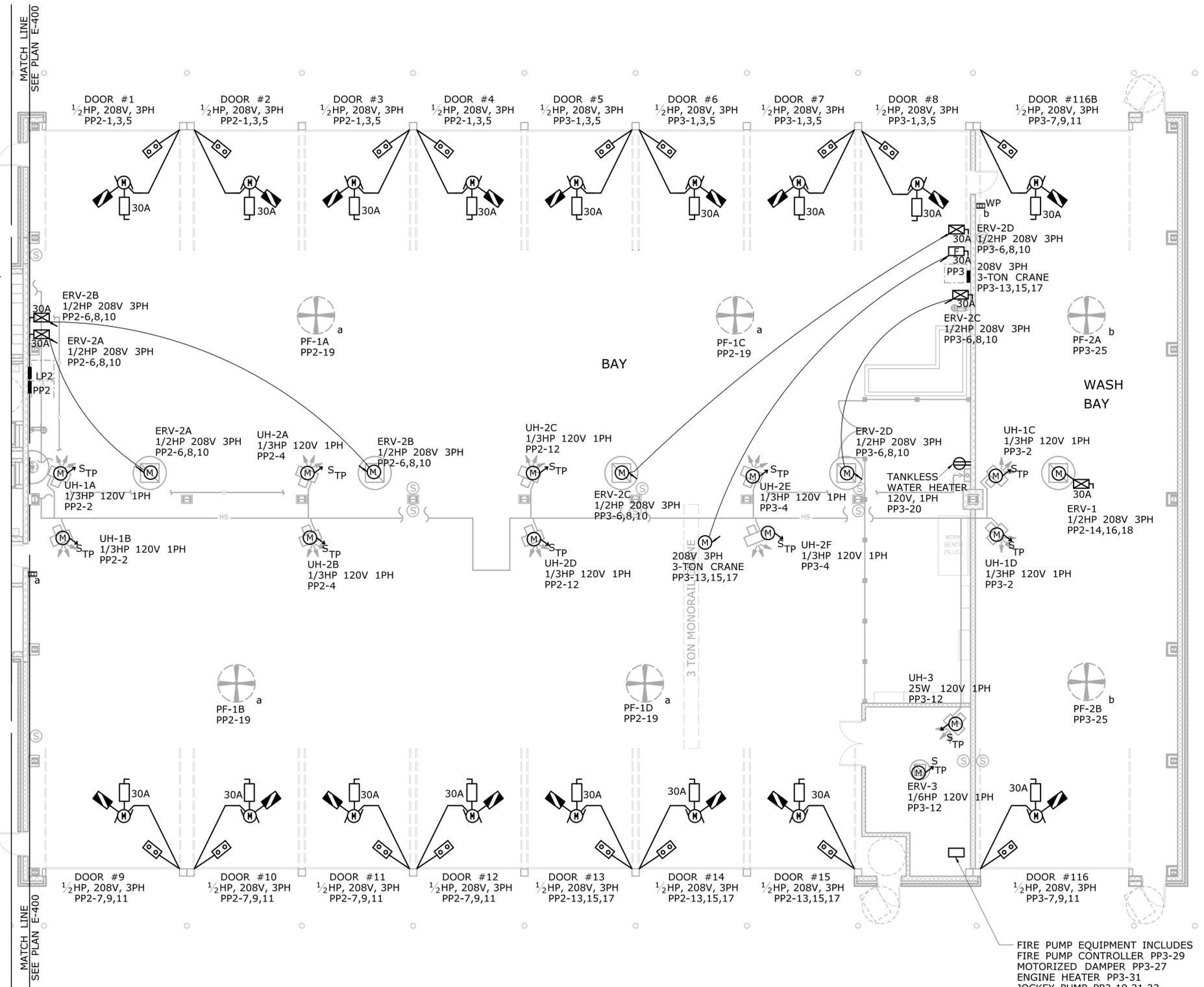


STOVE HOOD SWITCH PER HOOD MANUFACTURER. INSTALL AT 48" AFF MEASURED TO THE CENTER. INSTALL STAINLESS STEEL WALL PLATE.

REV. DATE REVISION DESCRIPTION SHEET NO.		THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b> SCALE: 1/4" = 1'-0"		<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/BLOCK: <b>OFFICE OF ENGINEERING</b> APPROVED BY: <i>[Signature]</i>		PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>		TOWN: <b>OCCUM</b>		PROJECT NO. <b>103-0247</b> DRAWING NO. <b>E-400</b> SHEET NO. <b>10.11</b>	
Plotted Date: 5/22/2015		Filename: ...FD_MSH_ELE_103_0247_E-400.dgn		<b>OFFICE CORE MECHANICAL POWER PLAN</b>											

**DRAWING NOTES:**

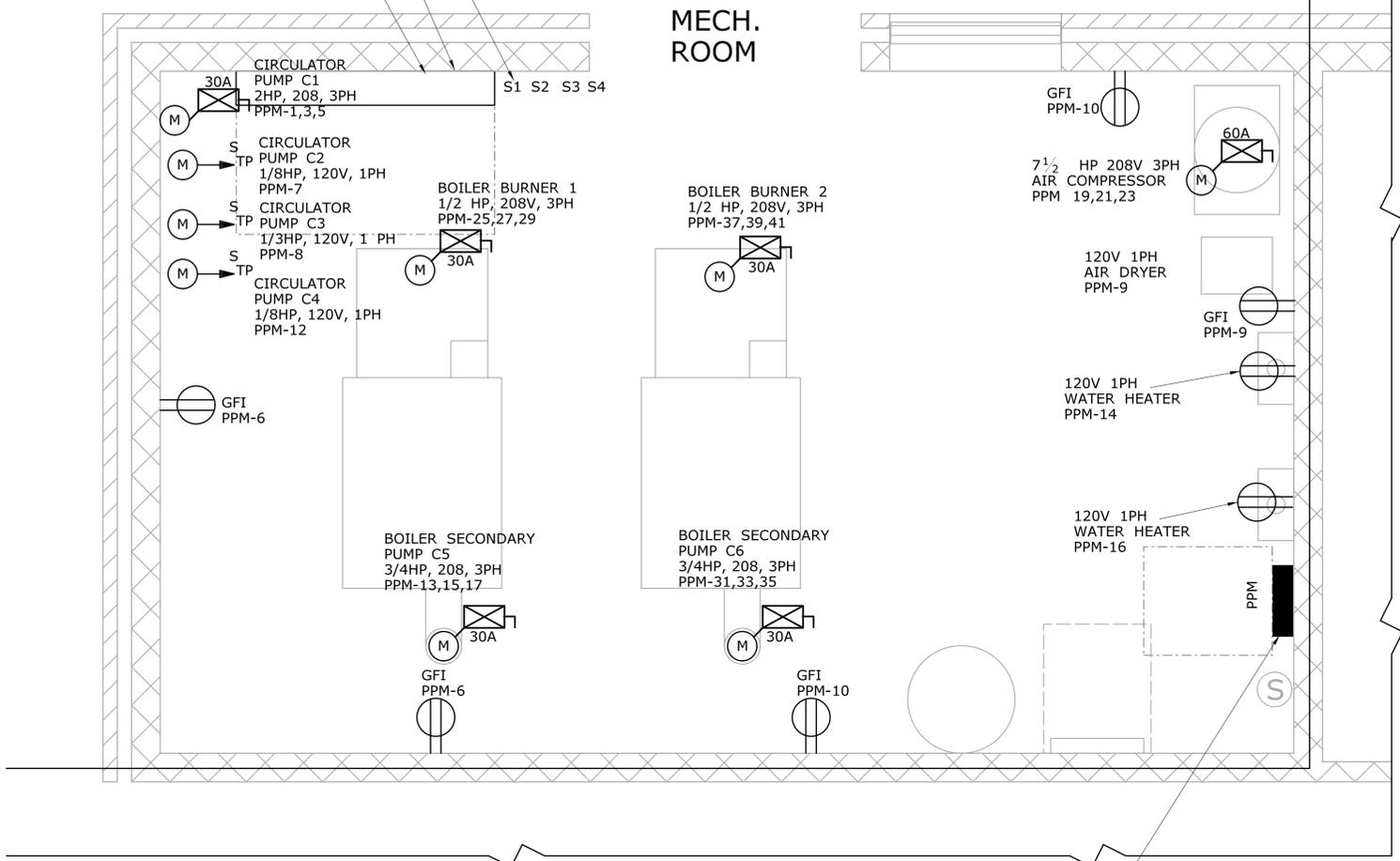
- SEE MECHANICAL SHEETS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
- SAFETY DISCONNECT SWITCHES FOR ROOF FANS SHALL BE PROVIDED BY FAN MANUFACTURER IN ACCORDANCE TO SPECIFICATION NO. 233423.
- CONTRACTOR SHALL INSULATE BEHIND DOOR OPERATOR PUSH BUTTONS WHEN MOUNTED ON COLUMNS.
- ALL CONTROL WIRING, PUSH-BUTTONS, DOOR CONTACTS ETC. FOR MOTORIZED OVERHEAD DOORS SHALL BE INSTALLED AND WIRED PER MANUFACTURER'S SPECIFICATIONS.
- REFER TO DRAWING NO. E-900 FOR THE MOUNTING HEIGHT OF ELECTRICAL EQUIPMENT UNLESS OTHERWISE NOTED.
- OVERHEAD DOOR MOTOR SIZE SUBJECT TO CHANGE PER DOOR MANUFACTURE'S SPECIFICATIONS.
- ALL DOOR OPERATOR MOTORS SHALL BE INSTALLED SIDE MOUNTED OVER DOOR CONTROL.
- SIZE AND EXACT LOCATION OF FIRE PUMP EQUIPMENT SHALL BE FIELD DETERMINED BY THE FIRE PROTECTION CONTRACTOR. PROVIDE AND INSTALL CONTROLLER PER NFPA 20 REQUIREMENTS. THE CONTROLLER SHALL BE INSTALLED ADJACENT TO THE ENGINE IT CONTROLS. PROVIDE TWO INTERNAL BATTERY CHARGING UNITS WITHIN THE CONTROLLER IN ACCORDANCE TO NFPA 20 9-5.4, AUDIBLE ALARM IN ACCORDANCE TO NFPA 20 9-4.1.3, AND MANUAL SHUT-DOWN IN ACCORDANCE TO NFPA 20 9-6.16.
- CONDUCTORS FOR THE FIRE PUMP CONTROLLER AND COMPONENTS SHALL BE PER MANUFACTURER'S REQUIREMENTS.
- FURNISH AND INSTALL A JOCKEY PUMP. PROVIDE A NEMA TYPE 2 CONTROLLER FOR JOCKEY PUMP. THE CONTROLLER SHALL BE INSTALLED ADJACENT TO AND AS CLOSE AS PRACTICAL TO THE JOCKEY PUMP. THE CONTROLLER SHALL BE RATED FOR THE APPROPRIATE HORSEPOWER RATING. FURNISH AND PROVIDE A 3-POLE BREAKER TO SUPPLY POWER TO THE JOCKEY PUMP. FURNISH AND INSTALL A FUSIBLE DISCONNECT SWITCH.
- THE CONTRACTOR SHALL PROVIDE ALL CONNECTIONS FOR THE FIRE PUMP SYSTEM AND COMPONENTS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM.



FIRE PUMP EQUIPMENT INCLUDES  
 FIRE PUMP CONTROLLER PP3-29  
 MOTORIZED DAMPER PP3-27  
 ENGINE HEATER PP3-31  
 JOCKEY PUMP PP3-19,21,23  
 SEE DRAWING NOTE NOS. 9,10,11  
 COORDINATE LOCATION OF  
 EQUIPMENT WITH THE DIESEL  
 FIRE PUMP INSTALLER

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b>	<b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/ BLOCK:  <b>OFFICE OF ENGINEERING</b>	PROJECT TITLE: <b>OCCUM</b> <b>MAINTENANCE</b> <b>FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
REV. DATE REVISION DESCRIPTION SHEET NO.	SCALE: 1/8" = 1'-0" Plotted Date: 6/10/2015	APPROVED BY: 		DRAWING TITLE: <b>BAY AREA MECHANICAL</b> <b>POWER PLAN</b>	SHEET NO. <b>10.12</b>		

S1, S2, S3 SEE MECHANICAL ROOM NOTE 5  
 REFER TO DRAWING NO. E-601 FOR FUEL ISLAND POWER EQUIPMENT  
 PANEL DP1 SEE NOTE NO. 6



PANEL PPM SEE MECHANICAL ROOM NOTE NO. 6

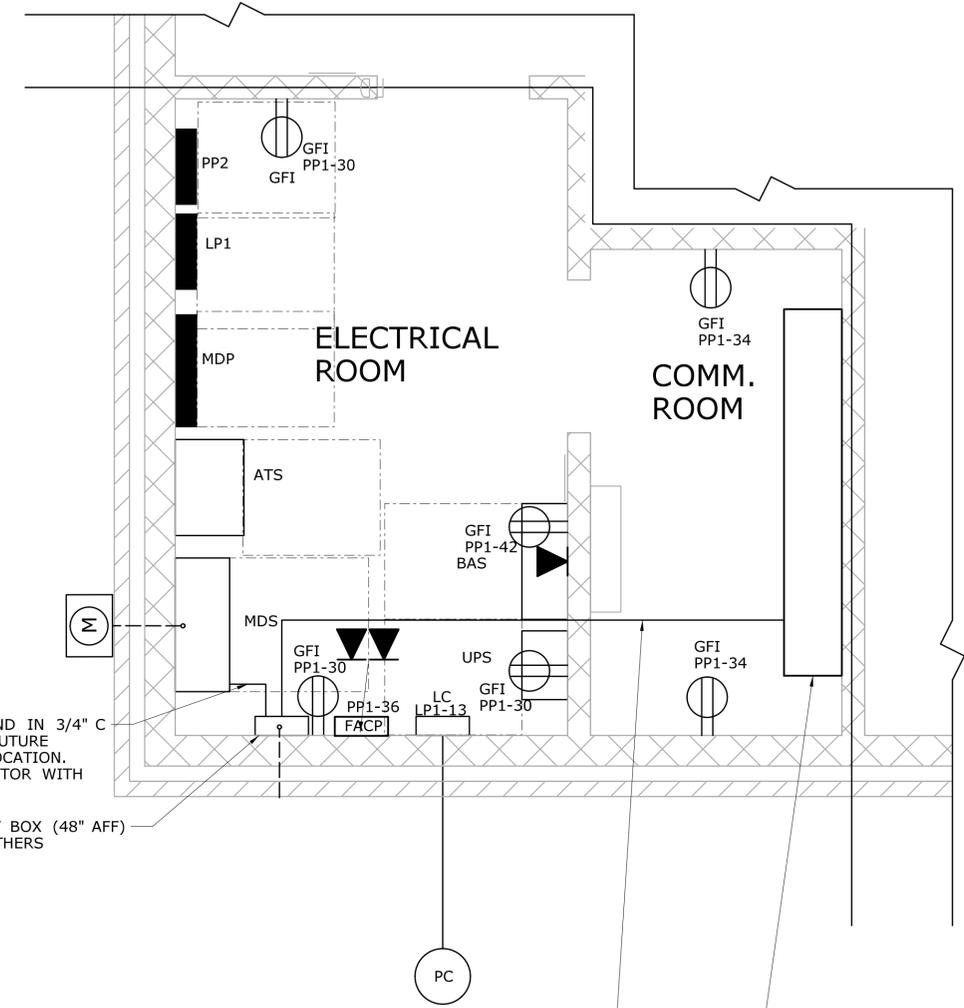
**MECHANICAL ROOM NOTES:**

- SEE MECHANICAL SHEETS FOR EXACT LOCATION OF ALL MECHANICAL EQUIPMENT.
- SEE DRAWING NO. E-200 FOR LIGHT FIXTURE LOCATIONS.
- PROVIDE HAND/OFF/AUTO SWITCHES FOR ALL 3 PHASE MOTOR STARTERS.
- SUBMITTED EQUIPMENT SHALL BE PROVIDED WITH DISCONNECTING MEANS AS REQUIRED.
- INSTALL EMERGENCY SHUT OFF SWITCHES FOR THE BOILERS AND WATER HEATER.  
 POWER OFF SWITCHES:  
 S1 BOILER 1  
 S2 BOILER 2  
 S3 WATER HEATER  
 S4 WATER HEATER
- THE CONTRACTOR SHALL SUPPLY AND INSTALL A PROTECTIVE SHIELD ABOVE ELECTRICAL PANELBOARDS INSTALLED IN THE MECHANICAL ROOM IN ORDER TO PROTECT IT SHOULD ANY OF THE EXISTING PIPES DEVELOP A LEAK. THE SHIELDS SHALL BE CONSTRUCTED OF SHEET METAL AND BE MADE 30" WIDE X 10" DEEP. INSTALL SHIELD BETWEEN THE POTENTIAL PIPING AND PANELBOARD. CENTER SHIELD ABOVE THE ELECTRICAL PANELBOARD.

**ELECTRICAL/COMM ROOM NOTES:**

- FIRE RETARDANT PLYWOOD SHALL BE INSTALLED IN ALL ELECTRICAL AND COMM ROOM WALLS FROM 2' TO 8' AFF.
- THE CONTRACTOR SHALL FURNISH AND INSTALL #6 AWG. GND. CONDUCTOR IN 3/4" RMC CONDUIT FROM MDP GROUND BAR TO COMMUNICATION BACKBOARD. REFER TO DRAWING NO. E-111.
- INSTALL TWO (2) RJ31X TELEPHONE RECEPTACLES IN THE PROXIMITY OF THE DIALER FOR FIRE ALARM DEDICATED PHONE LINES.
- INSTALL CONTROL FOR SITE LIGHTING. CONTACTOR SWITCH SHALL BE TWO POSITION TYPE ("MANUAL" AND "AUTO"). ATTACH PHOTO EYE TO EXTERIOR OF BUILDING ABOVE THE ROOF LINE WITHOUT PENETRATING ROOF. PHOTO EYE SHALL FACE NORTH.

PROVIDE 1-#6 GND IN 3/4" C FROM MDS TO FUTURE COMCAST BOX LOCATION. PROVIDE CONDUCTOR WITH 3' SLACK  
 FUTURE COMCAST BOX (48" AFF) INSTALLED BY OTHERS



2" C FROM FUTURE COMCAST BOX LOCATION TO COMMUNICATION BACKBOARD

REFER TO DRAWING NO. E-901 FOR COMMUNICATION DETAILS

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>SKW</b> CHECKED BY: <b>MPW</b>		SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b> APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
REV. DATE REVISION DESCRIPTION SHEET NO.	Plotted Date: 5/22/2015	SCALE: 1/2" = 1'-0"		FILENAME: ...FD_MSH_ELE_103_0247_E-500.dgn	DRAWING TITLE: <b>ELECTRICAL/MECHANICAL ROOM DETAILS</b>	SHEET NO. <b>10.13</b>	

**MAINTENANCE FACILITY POWER PANEL "LP1"**

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC			LA	LB	LC		
1	ELECTRICAL/DATA LT	215			20				SPARE	2	
3	MECHANICAL		272		20				SPARE	4	
5	HALLWAY LT			464	20				SPARE	6	
7	CREW/SUPERVISOR/CLERK	519			20				SPARE	8	
9	WOMEN/MENS/LOCKER LT		708		20				SPARE	10	
11	BREAK ROOM/CONFERENCE LT			818	20				SPARE	12	
13	LIGHTING CONTACTOR	180			20				SPARE	14	
15	WALL PACKS		305		20				SPARE	16	
17				305	20				SPARE	18	
19	POLE LIGHTING	202			20				SPARE	20	
21			202		20				SPARE	22	
23	SPARE				20				SPARE	24	
25	SPARE				20				SPARE	26	
27	SPARE				20				SPARE	28	
29	SPARE				20				SPARE	30	
31	SPARE				20				SPARE	32	
33	SPARE				20				SPARE	34	
35	SPARE				20				SPARE	36	
37	SPARE				20				SPARE	38	
39	SPARE				20				SPARE	40	
41	SPARE				20				SPARE	42	

SERVICE CHARACTERISTICS		
A	B	C
1.12	1.49	1.59
9.3	12.4	13.2
4.190		
TOTAL LOAD IN KVA		

42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
100 AMP MAIN BUS  
MAIN LUGS ONLY  
22 KAIC MIN.  
SURFACE MOUNTING

ENCLOSURE : NEMA 1  
LOCATION: ELEC. ROOM  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

**MAINTENANCE FACILITY POWER PANEL "LP2"**

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC			LA	LB	LC		
1	MAINTENANCE BAYS LT	1505			20				SPRINKLER REC	2	
3	MAINTENANCE BAYS LT		1280		20			720	MAINT BAYS REC	4	
5	MAINTENANCE BAYS LT			1280	20			720	MAINT BAYS REC	6	
7	MAINTENANCE BAYS LT	820			20			540	MAINT BAYS REC	8	
9	SPARE				20			540	MAINT BAYS REC	10	
11	WASH BAYS LT			1220	20			360	MAINT BAYS REC	12	
13	SPARE				20			360	WASH BAY REC	14	
15	SPARE				20				SPARE	16	
17	SPARE				20				SPARE	18	
19	SPARE				20				SPARE	20	
21	SPARE				20				SPARE	22	
23	SPARE				20				SPARE	24	
25	SPARE				20				SPARE	26	
27	SPARE				20				SPARE	28	
29	SPARE				20				SPARE	30	
31	SPARE				20				SPARE	32	
33	SPARE				20				SPARE	34	
35	SPARE				20				SPARE	36	
37	SPARE				20				SPARE	38	
39	SPARE				20				SPARE	40	
41	SPARE				20				SPARE	42	

SERVICE CHARACTERISTICS		
A	B	C
3.59	2.54	3.58
29.9	21.2	29.8
9.705		
TOTAL LOAD IN KVA		

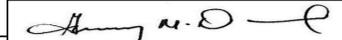
42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
100 AMP MAIN BUS  
100 AMP MAIN BREAKER  
22 KAIC MIN.  
SURFACE MOUNTING

ENCLOSURE : NEMA 1  
LOCATION: BAY AREA  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

GENERAL NOTES:

- BREAKER SIZES SUBJECT TO CHANGE UPON THE SUBMITTAL AND ACCEPTANCE OF "OR EQUAL" EQUIPMENT SUBMITTED BY THE CONTRACTOR. CIRCUIT BREAKERS SHALL BE RESIZED TO MEET EQUIPMENT MANUFACTURERS SPECIFICATIONS OF SPECIFIC EQUIPMENT THAT DOES NOT MEET THE DESIGN SPECIFICATION. ADJUSTMENT OF BREAKER SIZES SHALL BE COORDINATED WITH AND APPROVED BY THE DESIGNER. CHANGES IN BREAKER SIZE AS A RESULT OF "OR EQUAL" EQUIPMENT SUPPLIED BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.

DESIGNER/DRAFTER: <b>SKW</b>	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/ BLOCK: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
CHECKED BY: <b>MPW</b>		SCALE: NO SCALE	APPROVED BY:	DRAWING TITLE: <b>PANELBOARD SCHEDULE</b>	DRAWING NO. <b>E-510</b>
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	Filename: ...FD_MSH_ELE_103_0247_E510.dgn	

MAINTENANCE FACILITY POWER PANEL "PPM"

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	200A	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC				LA	LB	LC		
1		901			20	200	200			UH-5	2	
3	C1		901		20		528			ERV-5	4	
5				901	20			360		MECH. ROOM REC.	6	
7	C2	380			20		864			C3	8	
9	AIR DRYER		790		20			360		MECH. ROOM REC.	10	
11	SPARE				20			380		C4	12	
13		420			20		180			WATER HEATER	14	
15	BOILER SECONDARY C5		420		20			180		WATER HEATER	16	
17				420	20					SPARE	18	
19		2906			20					SPARE	20	
21	AIR COMPRESSOR		2906		30					SPARE	22	
23				2906	20					SPARE	24	
25		288			20					SPARE	26	
27	BOILER BURNER 1		288		20					SPARE	28	
29				288	20					SPARE	30	
31		420			20					SPARE	32	
33	BOILER SECONDARY C6		420		20					SPARE	34	
35				420	20					SPARE	36	
37		288			20					SPARE	38	
39	BOILER BURNER 2		288		20					SPARE	40	
41				288	20					SPARE	42	

SERVICE CHARACTERISTICS

42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
200 AMP MAIN BUS  
200 AMP MAIN BREAKER  
22 KAIC MIN.  
SURFACE MOUNTING

A	B	C	KVA
6.85	7.08	5.96	
57.1	59.0	49.7	AMPS
19.891			TOTAL LOAD IN KVA

ENCLOSURE : NEMA 1  
LOCATION: MECHANICAL ROOM  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

MAINTENANCE FACILITY POWER PANEL "PP1"

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	200A	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC				LA	LB	LC		
1	SPARE				20					CREW LEADER REC	2	
3	VOICE/DATA SWITCHGEAR		540		20					SUPERVISOR REC	4	
5	ERV-6, ERV-4, ERV-7, CUH-1			1524	20				720	CLERKS REC	6	
7	GENERATOR BATTERY	600			20			1080		CONFERENCE REC	8	
9	GENERATOR HEATER		1000		20				900	HALL/VEST REC	10	
11	EF-1, SF-1			1224	20				540	WOMENS BATH REC	12	
13	GENERATOR RECEPTACLE	180			20			540		MENS BATHROOM REC	14	
15	CALL TO AID SYSTEM		180		20				540	LOCKER RM REC	16	
17	DOOR STRIKE/DOOR BELL			180	20				180	COUNTERTOP	18	
19	FIRE PUMP ALARM PANEL	180			20			180		COUNTERTOP	20	
21	HVAC REC		360		20				180	MICROWAVE	22	
23	AC-2			1560	20				180	WATER COOLER	24	
25		1560			20			180		REFRIGERATOR	26	
27	SPARE				20				720	BREAK ROOM	28	
29	SPARE				20				540	ELECTRICAL	30	
31	SPARE				20			180		VOICE/DATA SWITCHGEAR	32	
33	SPARE				20				360	COMM ROOM REC	34	
35	SPARE				20				180	FACP	36	
37	SPARE				20			180		CCTV REC	38	
39	SPARE				20				540	VENDING MACHINE	40	
41	SPARE				20				180	BAS REC	42	

SERVICE CHARACTERISTICS

42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
200 AMP MAIN BUS  
200 AMP MAIN BREAKER  
22 KAIC MIN.  
SURFACE MOUNTING

A	B	C	KVA
5.76	6.04	7.01	
48.0	50.3	58.4	AMPS
18.808			TOTAL LOAD IN KVA

ENCLOSURE : NEMA 1  
LOCATION: ELEC. ROOM  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

GENERAL NOTES:

- BREAKER SIZES SUBJECT TO CHANGE UPON THE SUBMITTAL AND ACCEPTANCE OF "OR EQUAL" EQUIPMENT SUBMITTED BY THE CONTRACTOR. CIRCUIT BREAKERS SHALL BE RESIZED TO MEET EQUIPMENT MANUFACTURERS SPECIFICATIONS OF SPECIFIC EQUIPMENT THAT DOES NOT MEET THE DESIGN SPECIFICATION. ADJUSTMENT OF BREAKER SIZES SHALL BE COORDINATED WITH AND APPROVED BY THE DESIGNER. CHANGES IN BREAKER SIZE AS A RESULT OF "OR EQUAL" EQUIPMENT SUPPLIED BY THE CONTRACTOR SHALL BE AT THE CONTRACTOR'S EXPENSE.

MAINTENANCE FACILITY POWER PANEL "PP2"

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	200A	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC				LA	LB	LC		
1		1153			20	20	1728			UH-1A, UH-1B	2	
3	BAY DOORS 1, 2,3,4		1153		20			1728		UH-2A, UH-2B	4	
5				1153	20				576		6	
7		1153			20			576		ERV-2A, ERV-2B	8	
9	BAY DOORS 9,10,11,12		1153		20			576			10	
11				1153	20				1728	UH-2C, UH-2D	12	
13		864			20					SPARE	14	
15	BAY DOORS 13,14,15		864		20					SPARE	16	
17				864	20					SPARE	18	
19	PADDLE FANS	480			20					SPARE	20	
* 21	BLOCK HEATER REC		1500		20					SPARE	22	
* 23	BLOCK HEATER REC			1500	30					SPARE	24	
25	SPARE				20					SPARE	26	
27	SPARE				20					SPARE	28	
29	SPARE				20					SPARE	30	
31	SPARE				20					SPARE	32	
33	SPARE				20					SPARE	34	
35	SPARE				20					SPARE	36	
37	SPARE				20					SPARE	38	
39	SPARE				20					SPARE	40	
41	SPARE				20					SPARE	42	

SERVICE CHARACTERISTICS

42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
200 AMP MAIN BUS  
200 AMP MAIN BREAKER  
22 KAIC MIN.  
SURFACE MOUNTING

A	B	C	KVA
5.95	6.97	6.97	
49.6	58.1	58.1	AMPS
19.902			TOTAL LOAD IN KVA

\* GFI CIRCUIT BREAKER

ENCLOSURE : NEMA 1  
LOCATION: BAY AREA  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

MAINTENANCE FACILITY POWER PANEL "PP3"

CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	200A	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC				LA	LB	LC		
1		1153			20	20	1056			UH-1C, UH1D	2	
3	BAY DOORS 5,6,7,8		1153		20			1056		UH-2E, UH-2F	4	
5				1185	20				576		6	
7		576			20			576		ERV-2C, ERV-2D	8	
9	BAY DOORS 116,116B		576		20			576			10	
11				576	20				553	UH-3, ERV-3	12	
13		2006			20			288			14	
15	CRANE		2006		30			288		ERV-1	16	
17				2006	20				288		18	
19		551			20			180		TANKLESS WATER HEATER	20	
21	JOCKEY PUMP		551		20					SPARE	22	
23				551	20					SPARE	24	
25	PADDLE FANS	240			20			3002			26	
27	MOTORIZED DAMPER		200		20			3002		BRINE SYSTEM	28	
29	FIRE PUMP CONTROLLER			1560	20				3002		30	
31	ENGINE HEATER	1500			20			2906			32	
33	SPARE				20				2906	POWER WASHER REC	34	
35	SPARE				20				2906		36	
37	SPARE				20					SPARE	38	
39	SPARE				20					SPARE	40	
41	SPARE				30					SPARE	42	

SERVICE CHARACTERISTICS

42-CIRCUIT PANEL  
120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL  
60 CYCLE, WITH GROUND BUS  
200 AMP MAIN BUS  
200 AMP MAIN BREAKER  
22 KAIC MIN.  
SURFACE MOUNTING

A	B	C	KVA
14.03	12.31	13.20	
117.0	102.6	110.0	AMPS
39.551			TOTAL LOAD IN KVA

\* GFI CIRCUIT BREAKER

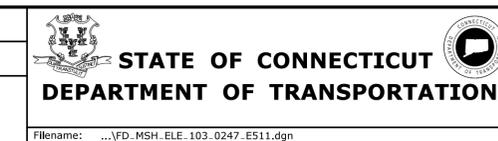
ENCLOSURE : NEMA 1  
LOCATION: BAY AREA  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER:  
**SKW**  
CHECKED BY:  
**MPW**  
SCALE: NO SCALE



SIGNATURE/BLOCK:  
**OFFICE OF ENGINEERING**  
APPROVED BY:  
*[Signature]*

PROJECT TITLE:  
**OCCUM MAINTENANCE FACILITY**

TOWN:  
**OCCUM**  
DRAWING TITLE:  
**PANELBOARD SCHEDULES**

PROJECT NO.  
**103-0247**  
DRAWING NO.  
**E-511**  
SHEET NO.  
**10.15**



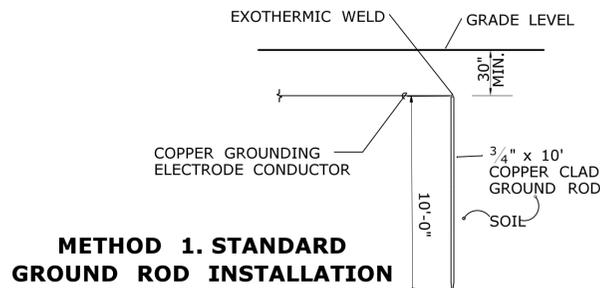


**DRAWING NOTES:**

1. STRIKE TERMINATION DEVICES (AIR TERMINALS) SPACING SHALL BE MAXIMUM OF 20 FEET ON ROOF.
2. AIR TERMINALS SHALL BE 3/8" IN DIAMETER, WITH SAFETY TIPS, MADE OF COPPER OR COPPER ALLOYS THAT ARE RESISTANT TO CORROSION, AND HAVE A HEIGHT SO TIPS ARE A MINIMUM OF 10 INCHES ABOVE THE OBJECT OR AREA IT IS TO PROTECT.
3. COPPER LIGHTNING PROTECTION MATERIALS ARE NOT TO BE INSTALLED ON ALUMINUM SURFACES.
4. AIR TERMINALS SHALL BE SECURED BY ATTACHING TO THE OBJECT TO BE PROTECTED OR BY USING BRACES THAT ARE PERMANENTLY AND RIGIDLY ATTACHED TO THE BUILDING.
5. NO BEND OF A CONDUCTOR SHALL FORM AN INCLUDED ANGLE OF LESS THAN 90 DEGREES, NOR SHALL IT HAVE A RADIUS OF BEND LESS THAN 8 INCHES.
6. THE TOTAL NUMBER OF DOWN CONDUCTORS FOR A FLAT SLOPING ROOF SHALL HAVE A DOWN CONDUCTOR FOR EVERY 100 FT. OF PERIMETER OR FRACTION THEREOF.
7. DOWN CONDUCTORS LOCATED AT LOCATIONS SUBJECT TO PHYSICAL DAMAGE OR DISPLACEMENT SHALL BE PROTECTED. ALL DOWN CONDUCTORS INSIDE THE BUILDING SHALL BE INSTALLED IN CONDUIT. FOR THE BUILDING GROUND SYSTEM, THE CONTRACTOR SHALL INSTALL EMT CONDUIT ON CONDUIT RUNS INSTALLED OVER 10 FT AFF AND RGSC ON RUNS INSTALLED UNDER 10 FT AFF. FOR THE LIGHTNING PROTECTION SYSTEM, THE CONTRACTOR SHALL INSTALL PVC SCHEDULE 40 CONDUIT ON CONDUIT RUNS INSTALLED OVER 10 FT AFF AND PVC SCHEDULE 80 ON RUNS INSTALLED UNDER 10 FT AFF.
8. THE DOWN CONDUCTOR SHALL BE PROTECTED FOR A MINIMUM DISTANCE OF 6 FT. ABOVE GRADE LEVEL.
9. CONDUCTORS SHALL BE FASTENED TO STRUCTURE UPON WHICH THEY ARE PLACED AT INTERVALS NOT EXCEEDING 3 FT. CONDUCTOR FASTENINGS SHALL NOT BE SUBJECT TO BREAKAGE AND SHALL BE OF THE SAME MATERIAL AS THE CONDUCTOR OR OF A MATERIAL EQUALLY RESISTANT TO CORROSION AS THAT OF THE CONDUCTOR.
10. EACH DOWN CONDUCTOR SHALL TERMINATE AT A GROUND TERMINAL DEDICATED TO THE LIGHTNING PROTECTION SYSTEM.
11. THE GROUND RODS SHALL BE COPPER, AND SHALL BE 10 FEET LONG BY 3/4" DIAMETER.
12. ELECTRICAL SYSTEM GROUNDING ELECTRODES SHALL NOT BE USED IN LIEU OF LIGHTNING GROUND ELECTRODES; THIS PROVISION SHALL NOT PROHIBIT THE REQUIRED BONDING TOGETHER OF GROUNDING ELECTRODES OF DIFFERENT SYSTEMS.
13. THE DOWN CONDUCTOR(S) SHALL BE ATTACHED PERMANENTLY TO THE GROUNDING ELECTRODE SYSTEM BY BOLTING, BRAZING, WELDING, OR HIGH-COMPRESSION CONNECTORS LISTED FOR THE PURPOSE, AND CLAMPS SHALL BE SUITED FOR DIRECT BURIAL.
14. ALL GROUNDING MEDIA IN OR ON A STRUCTURE SHALL BE INTERCONNECTED TO PROVIDE A COMMON GROUND POTENTIAL. THIS INTERCONNECTION SHALL INCLUDE LIGHTNING PROTECTION, ELECTRIC SERVICE, AS WELL AS UNDERGROUND METALLIC PIPING SYSTEMS. THE GROUNDING ELECTRODE SYSTEM OF THE LIGHTNING PROTECTION SYSTEM SHALL BE BONDED TO THE ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM.
15. COORDINATE INSTALLATION OF COPPER GROUND RODS WITH THE BUILDING'S STRUCTURE AND PAVEMENT CONSTRUCTION.
16. AIR TERMINALS FOR THE MECHANICAL EQUIPMENT SHALL BE INSTALLED IN THE PROXIMITY OF THE MECHANICAL EQUIPMENT AND SHALL BE CONNECTED TO THE EQUIPMENT WITH APPROVED CONNECTIONS FOR JOINING ALUMINUM AND COPPER MATERIALS.
17. ALL DOWN LEAD CONDUCTORS SHALL BE CONCEALED IN STRUCTURE. DOWN LEAD CONDUCTORS CONCEALED IN CONDUIT SHALL NOT COUNT AS CONCEALED.
18. CONDUCTORS SUPPORTS ON THE ROOF SHALL BE PROVIDED PER NFPA 780 SECTION 4.9.6.
19. BOND DRAINS WITHIN 6' OF THE LIGHTNING PROTECTION SYSTEM.

**GROUND ROD INSTALLATION NOTES:**

1. THE STEEL FRAMEWORK OF THE BUILDING SHALL BE GROUNDED WITH A DRIVEN GROUND ROD AT LOCATIONS SHOWN ON DRAWING NO. E-540.
2. INSTALL GROUND RING 3 FEET FROM FOUNDATION WALL AND 30 INCHES MINIMUM BELOW FINAL GRADE. COORDINATE WORK WITH PAVING AND STRUCTURAL WORK.
3. ALL GROUND CONDUCTORS SHALL BE CONCEALED.
4. THE STEEL FRAMEWORK (COLUMNS) OF THE BUILDING SHALL BE GROUNDED WITH A DRIVEN GROUND ROD AT DISTANCES NOT MORE THAN 60 FEET APART AT LOCATIONS SHOWN ON DRAWING NO. E-540.
5. IF ROCK IS ENCOUNTERED GROUNDING SHALL BE ACCOMPLISHED BY ONE OF THE TWO METHODS INDICATED IN DETAIL NO. 2.

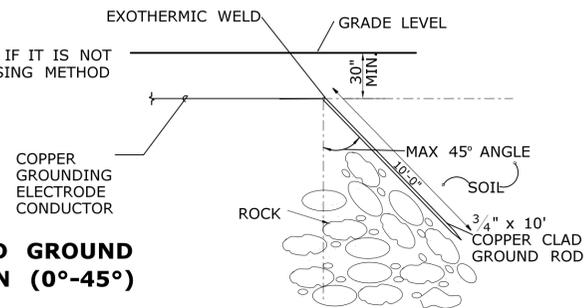


**METHOD 1. STANDARD GROUND ROD INSTALLATION**

**GROUNDING ELECTRODE DETAIL 1**  
SCALE: NTS

**E-541**

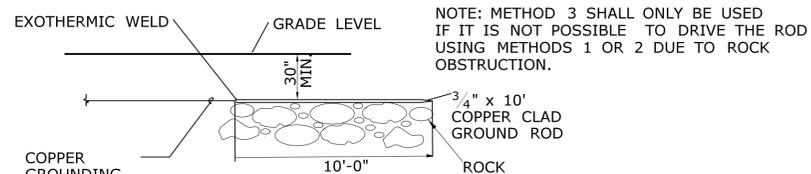
NOTE: METHOD 2 SHALL BE USED IF IT IS NOT POSSIBLE TO DRIVE THE ROD USING METHOD 1 DUE TO ROCK OBSTRUCTION.



**METHOD 2. ANGLED GROUND ROD INSTALLATION (0°-45°)**

**GROUNDING IN ROCK AREA DETAIL 2**  
SCALE: NTS

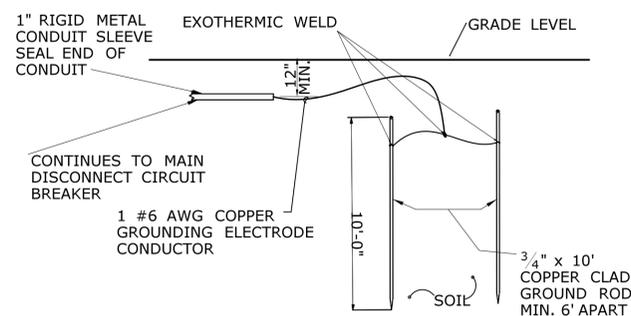
**E-541**



**METHOD 3. HORIZONTAL GROUND ROD INSTALLATION (45°-90°)**

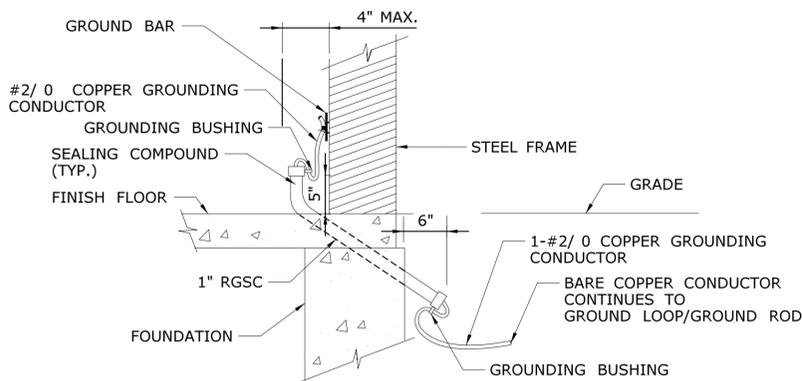
**GROUNDING IN ROCK AREA DETAIL 2**  
SCALE: NTS

**E-541**



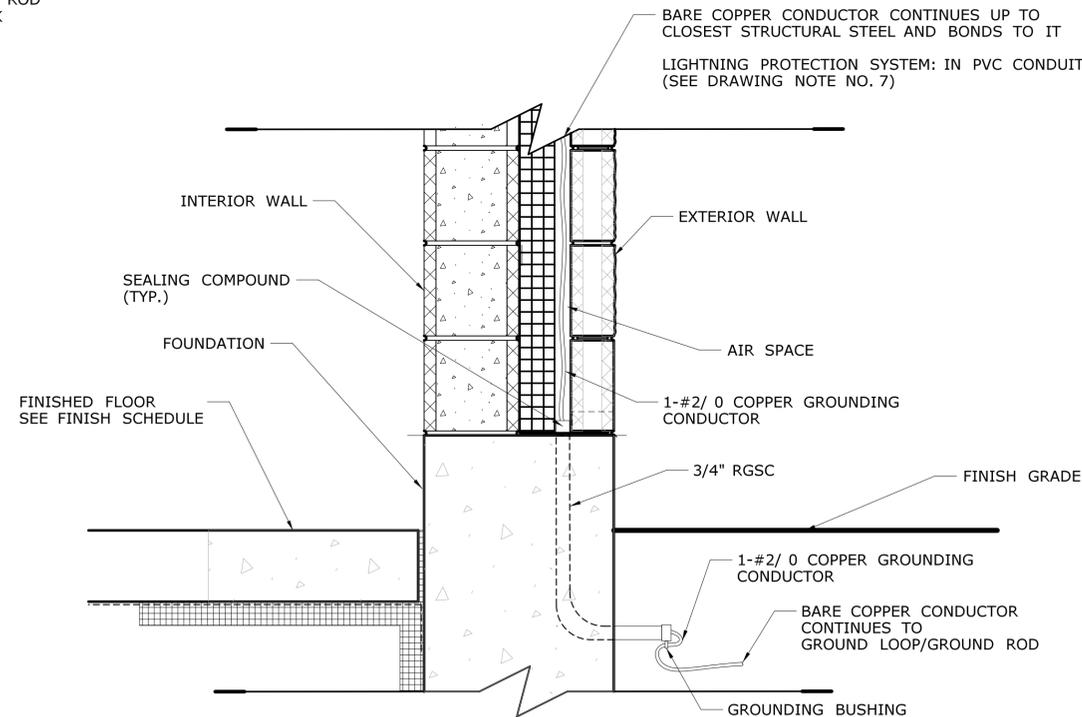
**GROUNDING ELECTRODE DETAIL 3**  
SCALE: NTS

**E-541**



**BAY AREA GROUNDING PENETRATION DETAIL 4**  
SCALE: NTS

**E-541**



**OFFICE AREA GROUNDING PENETRATION DETAIL 5**  
SCALE: NTS

**E-541**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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DESIGNER/DRAFTER:  
**SKW**  
CHECKED BY:  
**MPW**  
SCALE AS NOTED

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 8/12/2015

STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

Filename: ...FD\_MSH\_ELE\_103\_0247\_E541.dgn

SIGNATURE/BLOCK:  
**OFFICE OF ENGINEERING**  
APPROVED BY:  
*[Signature]*

PROJECT TITLE:  
**OCCUM MAINTENANCE FACILITY**

TOWN:  
**OCCUM**  
DRAWING TITLE:  
**LIGHTNING PROTECTION DETAILS**

PROJECT NO.  
**103-0247**  
DRAWING NO.  
**E-541**  
SHEET NO.  
**10.18**

**LEGEND**

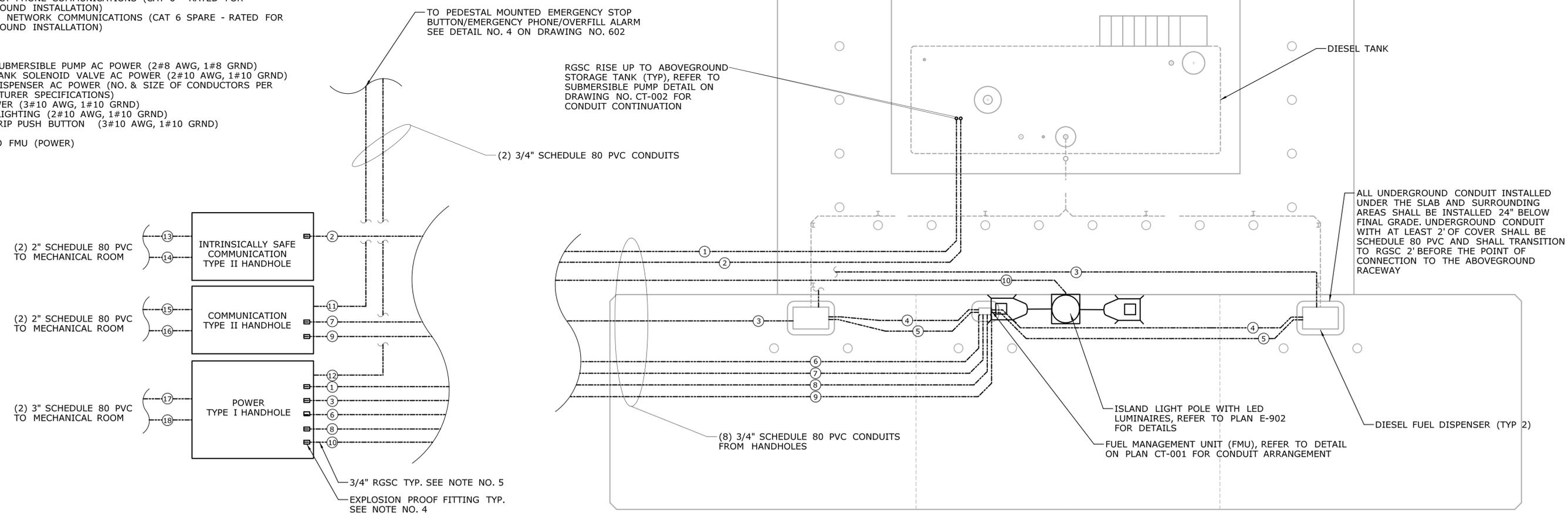
- ① DIESEL SUBMERSIBLE PUMP AC POWER (2#8 AWG, 1#8 GRND)  
DIESEL TANK SOLENOID VALVE AC POWER (2#10 AWG, 1#10 GRND)
- ② IN-TANK PROBE CONDUCTORS FROM TANK MONITORING SYSTEM TO DIESEL TANK (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- ③ DIESEL DISPENSER AC POWER (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- ④ DIESEL DISPENSER PULSER CONTROL FROM FMU (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- ⑤ DIESEL DISPENSER AC POWER CONTROL FROM FMU (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- ⑥ FMU POWER (3#10 AWG, 1#10 GRND)
- ⑦ FMU AND TANK MONITORING SYSTEM COMMUNICATIONS (4-CONDUCTOR SHIELDED #24 OR AS PER MANUFACTURER SPECIFICATIONS).  
FMU AND NETWORK COMMUNICATIONS (CAT 6 - RATED FOR UNDERGROUND INSTALLATION)
- ⑧ SPARE TO FMU (POWER)
- ⑨ FMU AND NETWORK COMMUNICATIONS (CAT 6 SPARE - RATED FOR UNDERGROUND INSTALLATION)
- ⑩ ISLAND LIGHTING (2#10 AWG, 1#10 GRND)
- ⑪ OVERFILL ALARM FOR UNLEADED AND DIESEL TANKS (NO. & SIZE OF CONDUCTORS PER MANUFACTURER'S SPECIFICATIONS)  
EMERGENCY PHONE COMMUNICATIONS (CAT 6 - RATED FOR UNDERGROUND INSTALLATION)
- ⑫ SHUNT TRIP PUSH BUTTON (3#10 AWG, 1#10 GRND)

**NOTES:**

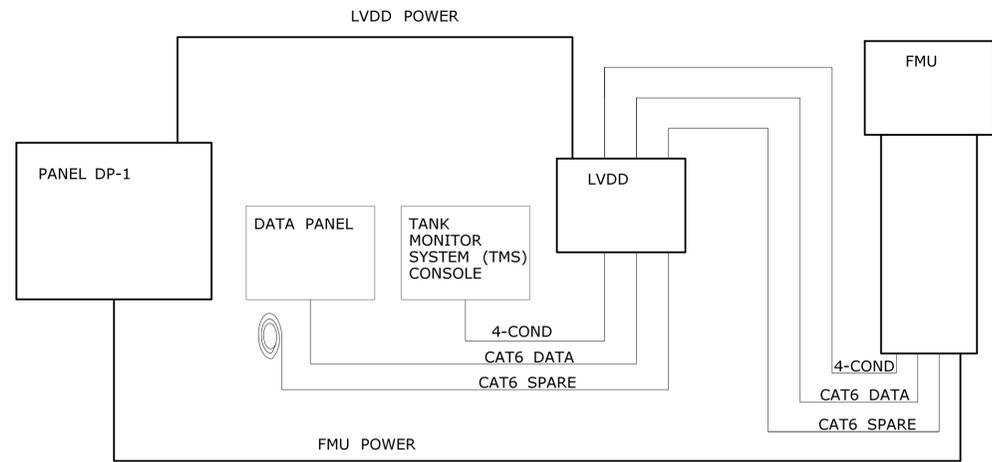
- 1. ALL CONDUITS SHALL BE PROVIDED WITH EXPLOSION PROOF FITTINGS AND SEALED AS REQUIRED IN ACCORDANCE WITH NFPA 70. RIGID CONDUIT EXTENSIONS ABOVE GROUND WITHIN 20 FEET PROXIMITY OF FUELING SHALL BE TERMINATED AT 18 INCHES MINIMUM ABOVE GRADE WITH E.Y. FITTINGS. THIS INCLUDES THE CONDUITS THAT ENTER THE FUEL MASTER.
- 2. REFER TO PLAN CT-002 FOR MOTOR FUEL TANK AND PLAN CT-001 FOR MOTOR FUEL ISLAND DETAILS.
- 3. REFER TO ITEM NO. 132160 "INSTALLATION OF NEW FUEL FACILITY" FOR GROUNDING AND BONDING.
- 4. INSTALL EXPLOSION PROOF FITTINGS AND SEALS IN ALL 3/4" CONDUIT THAT EXTENDS FROM THE HANDHOLES TO THE HAZARDOUS AREAS LOCATED NEAR THE FUEL ISLAND. EXPLOSION PROOF FITTINGS AND SEALS SHALL BE INSTALLED IN THE CONDUITS LOCATED IN THE HANDHOLES.
- 5. FOR ALL CONDUIT RUNS FOR THE FUEL ISLAND, MOTOR FUEL AND ANY OTHER CONDUIT THAT ARE INSTALLED IN HAZARDOUS LOCATIONS; RGSC SHALL BE USED FOR THE LAST TWO (2) FEET OF UNDERGROUND RUN TO EMERGENCE OR THE POINT OF CONNECTION TO THE ABOVEGROUND RACEWAY. CONDUIT RUNS TO THE HANDHOLES SHALL TRANSITION TO RGSC FOR THE LAST TWO (2) FEET OF UNDERGROUND RUN TO THE POINT OF CONNECTION TO THE HANDHOLES.

**LEGEND (CONTINUED)**

- ⑬ IN-TANK PROBE CONDUCTORS FROM TANK MONITORING SYSTEM TO DIESEL TANK (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)
- ⑭ SPARE
- ⑮ FMU AND TANK MONITORING SYSTEM COMMUNICATIONS (4-CONDUCTOR SHIELDED #24 OR AS PER MANUFACTURER SPECIFICATIONS).  
FMU AND NETWORK COMMUNICATIONS (CAT 6 - RATED FOR UNDERGROUND INSTALLATION)  
OVERFILL ALARM FOR UNLEADED AND DIESEL TANKS (NO. & SIZE OF CONDUCTORS PER MANUFACTURER'S SPECIFICATIONS)  
EMERGENCY PHONE COMMUNICATIONS (CAT 6 - RATED FOR UNDERGROUND INSTALLATION)  
FMU AND NETWORK COMMUNICATIONS (CAT 6 SPARE - RATED FOR UNDERGROUND INSTALLATION)
- ⑯ SPARE
- ⑰ DIESEL SUBMERSIBLE PUMP AC POWER (2#8 AWG, 1#8 GRND)  
DIESEL TANK SOLENOID VALVE AC POWER (2#10 AWG, 1#10 GRND)  
DIESEL DISPENSER AC POWER (NO. & SIZE OF CONDUCTORS PER MANUFACTURER SPECIFICATIONS)  
FMU POWER (3#10 AWG, 1#10 GRND)  
ISLAND LIGHTING (2#10 AWG, 1#10 GRND)  
SHUNT TRIP PUSH BUTTON (3#10 AWG, 1#10 GRND)
- ⑱ SPARE TO FMU (POWER)



REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	SCALE AS NOTED	<p><b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION</p> <p>Filename: ...FD_MSH_ELE_103_0247_E600.dgn</p>	SIGNATURE/BLOCK:  <b>OFFICE OF ENGINEERING</b> APPROVED BY:	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
										DRAWING TITLE: <b>MOTOR FUEL ISLAND CONDUIT</b>		DRAWING NO. <b>E-600</b>
												SHEET NO. <b>10.19</b>

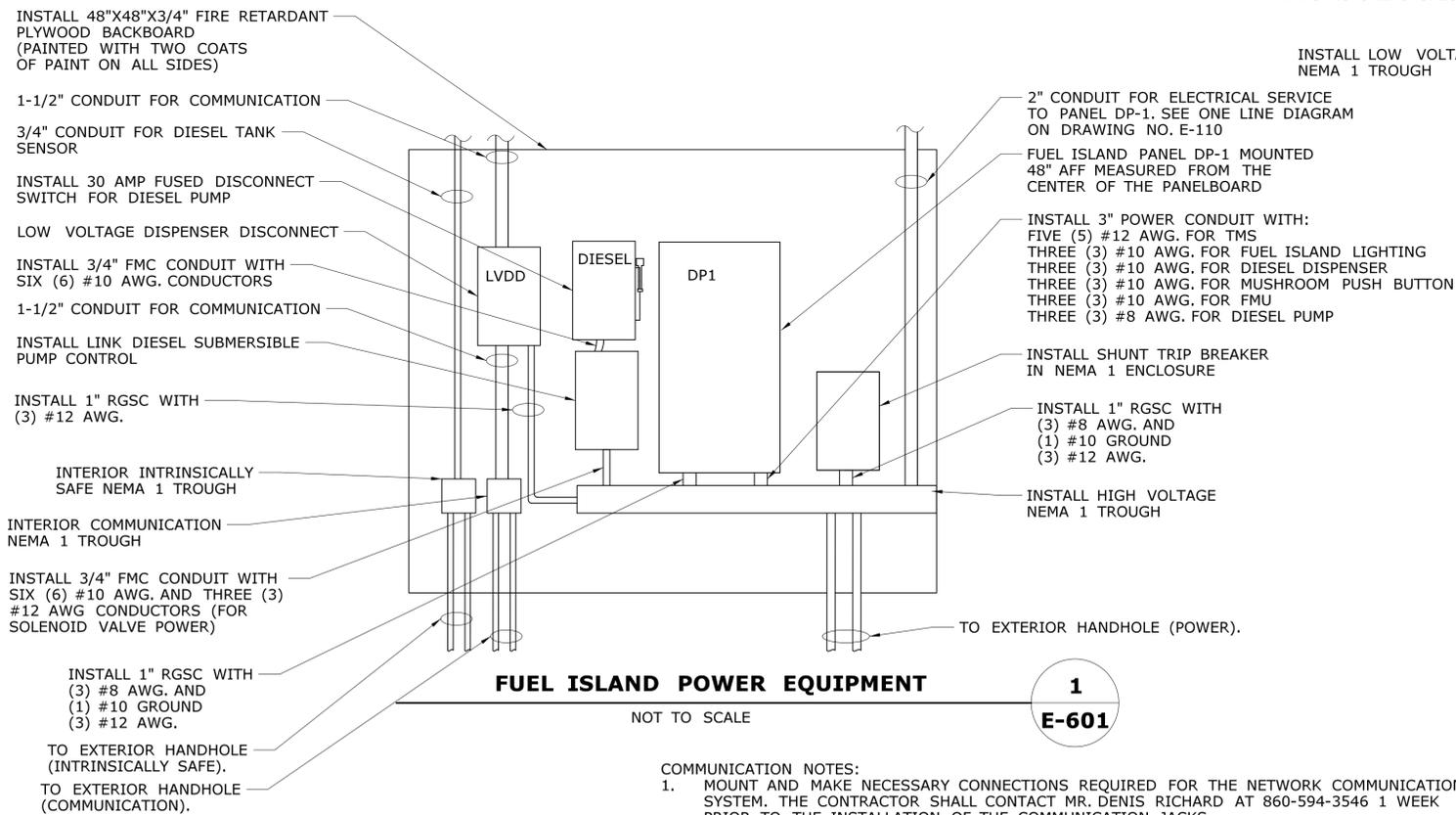


**LOW VOLTAGE DISPENSER DISCONNECT DETAIL**

4

**E-601**

NOT TO SCALE



**FUEL ISLAND POWER EQUIPMENT**

1

**E-601**

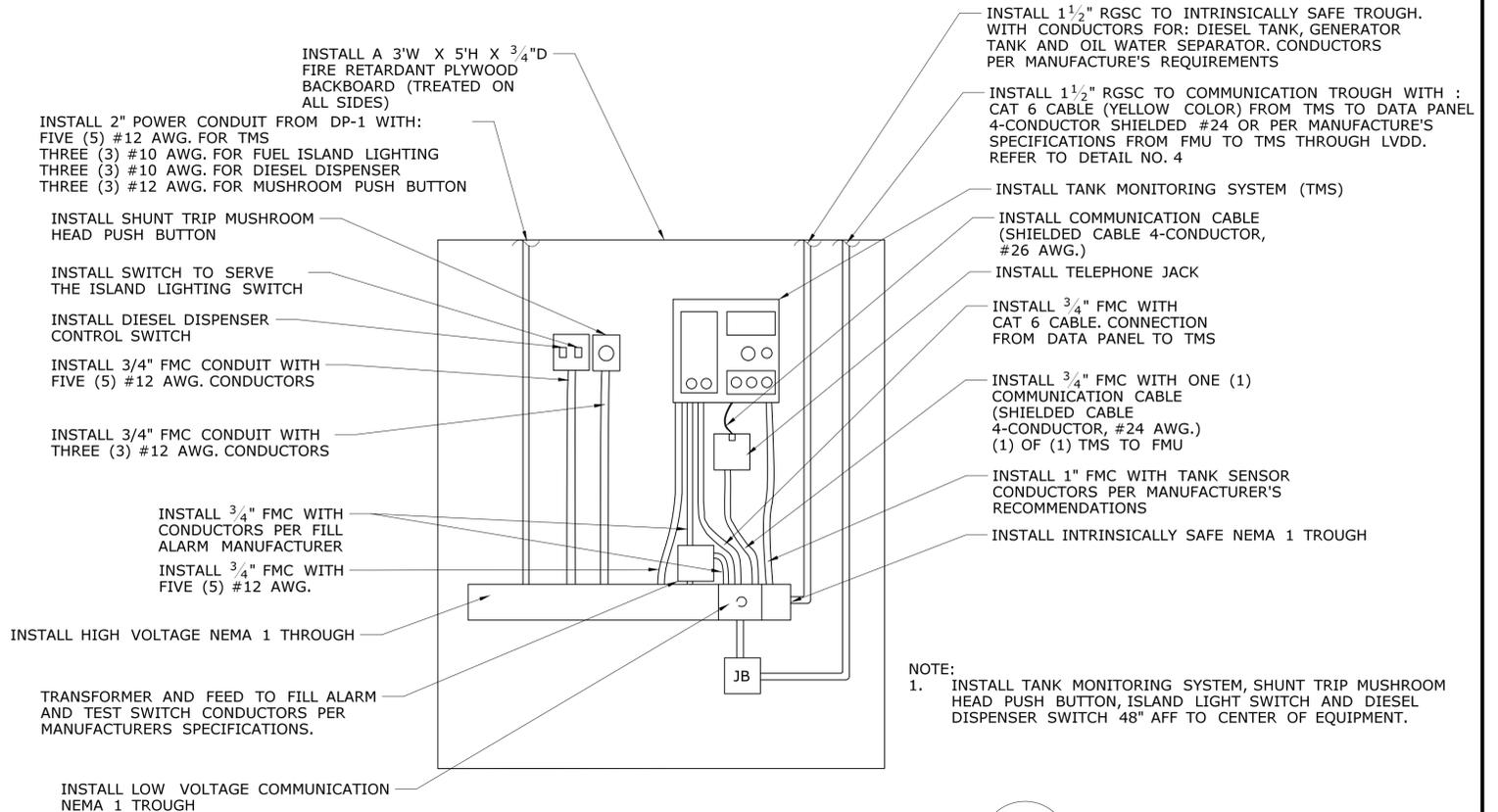
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**COMMUNICATION NOTES:**

1. MOUNT AND MAKE NECESSARY CONNECTIONS REQUIRED FOR THE NETWORK COMMUNICATION SYSTEM. THE CONTRACTOR SHALL CONTACT MR. DENIS RICHARD AT 860-594-3546 1 WEEK PRIOR TO THE INSTALLATION OF THE COMMUNICATION JACKS.
2. THE SPARE CAT 6 CABLE SHALL BE ROLLED AND SECURED WITH CABLE TIES. ALL CAT 6 DATA CABLE SHALL BE TERMINATED AT THE DATA PANEL/NETWORK SWITCH.
3. THE CT DOT INFORMATION SYSTEMS OFFICE SHALL PROVIDE DIRECTION ON THE INSTALLATION OF TELEPHONE LINE FROM PATCH PANEL. LOCATION OF THE LINE SEIZURE RELAY SHALL BE DETERMINED BY CT DOT INFORMATION SYSTEMS OFFICE.

**DRAWING NOTE:**

1. THE SOLENOID VALVE SHALL BE POWERED AND CONTROLLED FROM THE SUBMERSIBLE PUMP CONTROL.

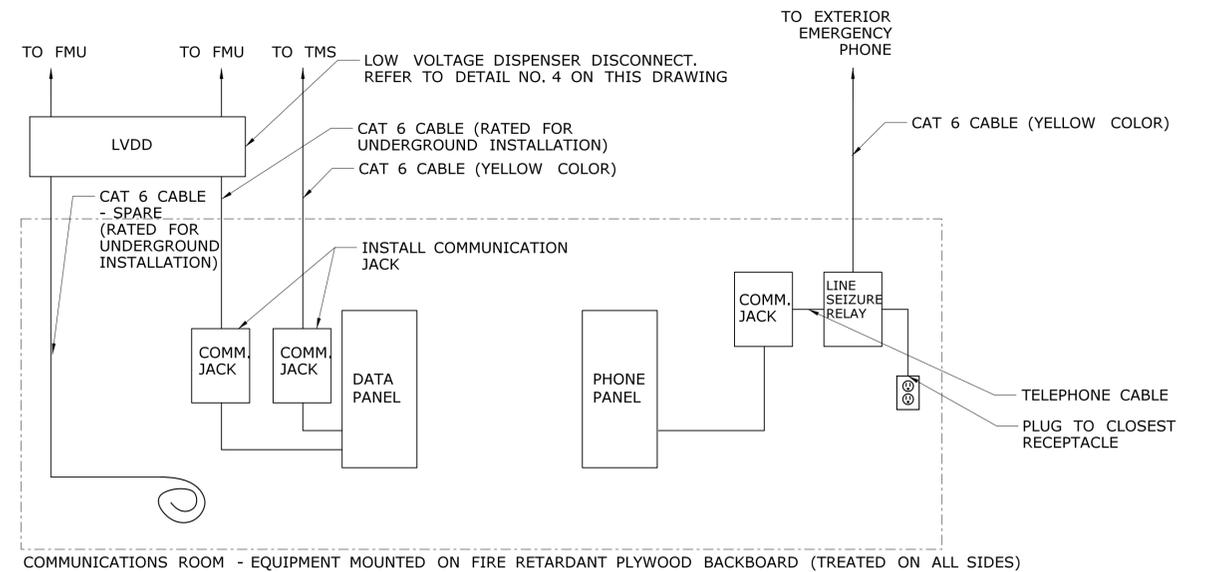


**FUEL ISLAND CONTROL EQUIPMENT**

2

**E-601**

NOT TO SCALE



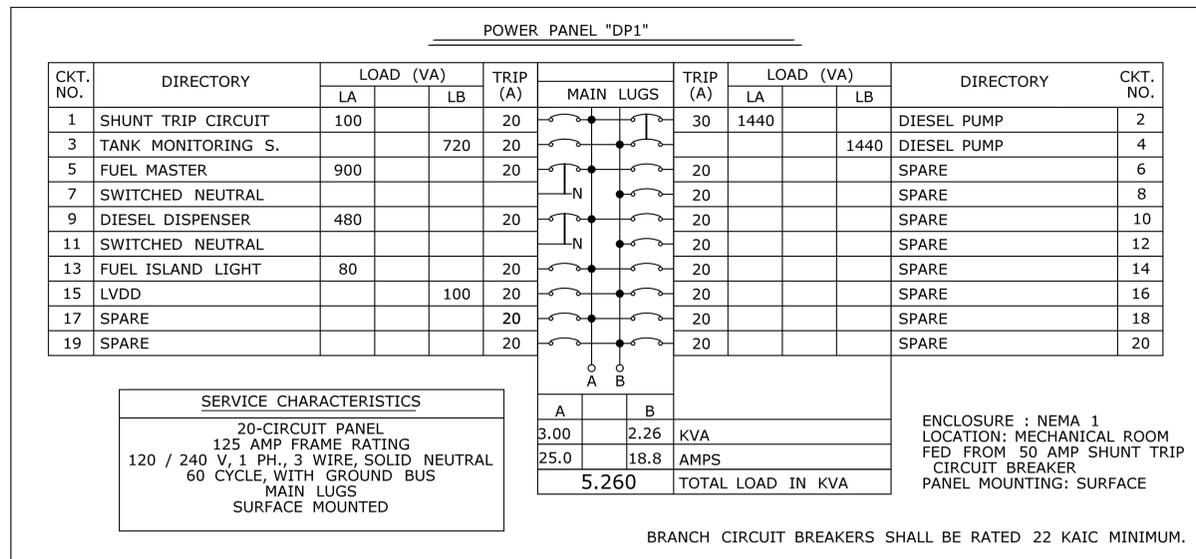
**FUEL ISLAND COMMUNICATIONS DIAGRAM**

3

**E-601**

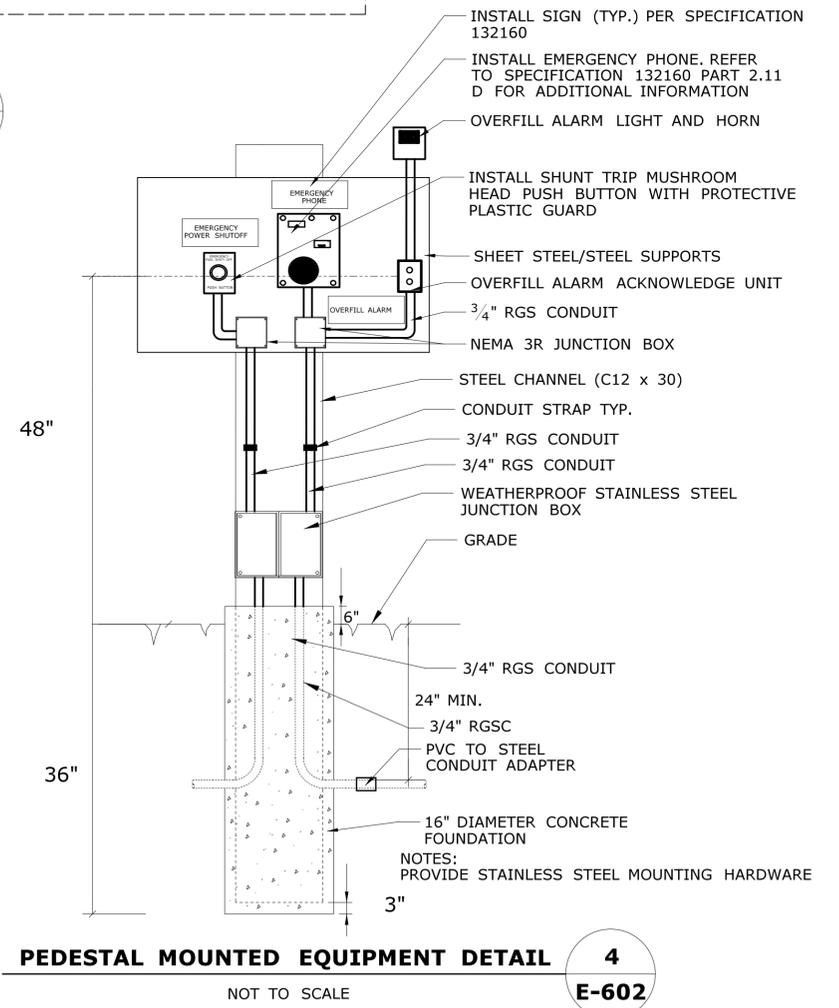
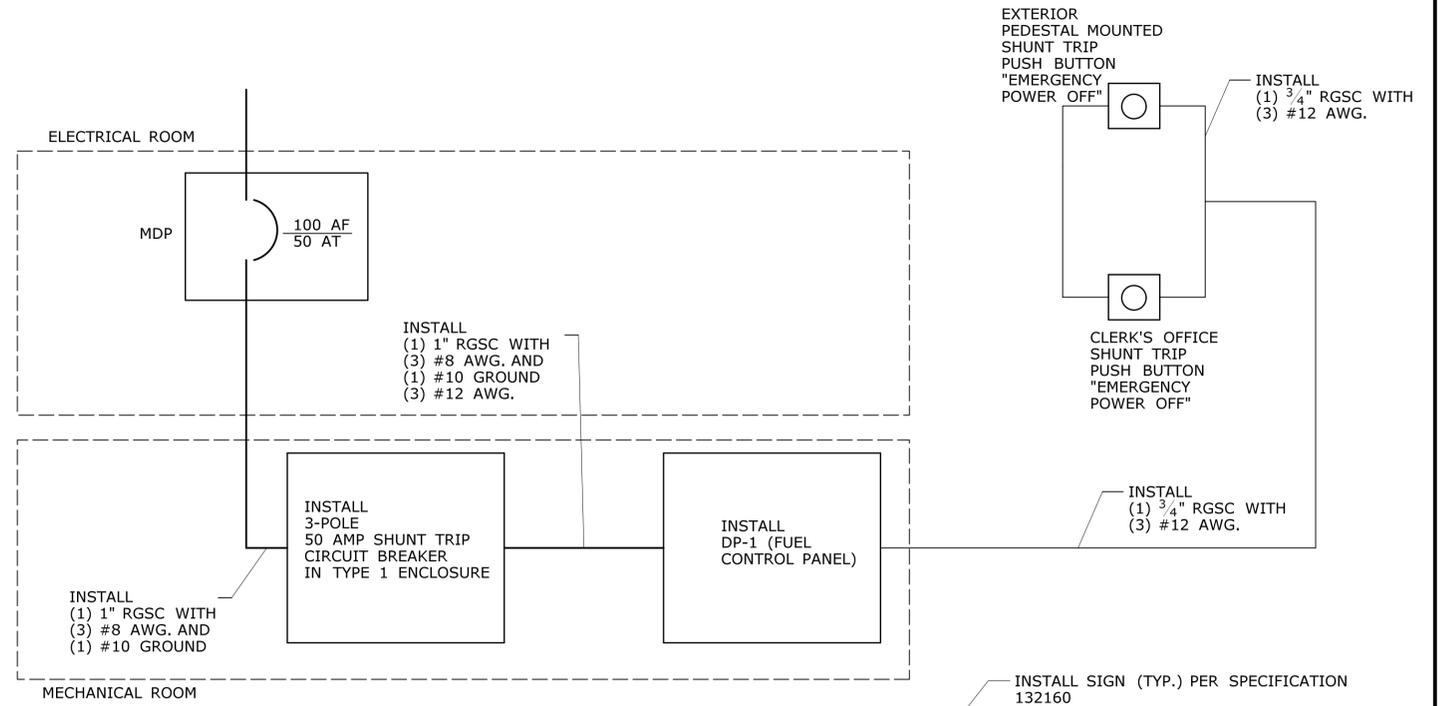
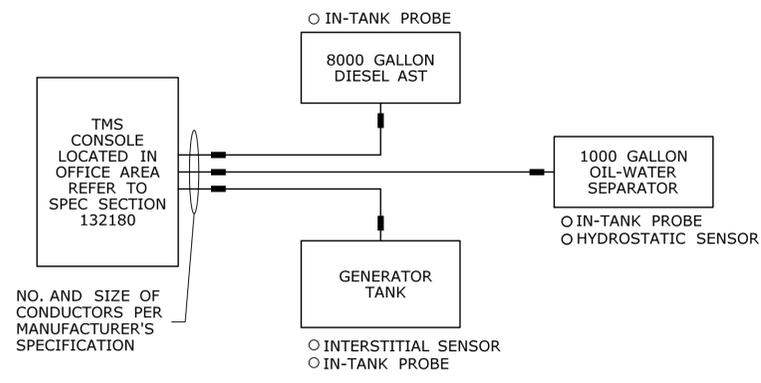
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	SCALE AS NOTED	<p><b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <p>Filename: ...FD_MSH_ELE_103_0247_E601.dgn</p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
												DRAWING TITLE: <b>FUEL ISLAND EQUIPMENT</b>	DRAWING NO. <b>E-601</b>
													SHEET NO. <b>10.20</b>



**PANEL SCHEDULE 1**  
NOT TO SCALE **E-602**

- NOTES:
- INSTALL DP-1 PANELBOARD, GE CATALOG NO. AQU1302RCXAXB4 OR APPROVED EQUAL. DP-1 SHALL BE EQUIPPED WITH PIANO HINGED TRIMS, COPPER TIN PLATED BUS, BOLT-ON CIRCUIT BRANCH BREAKERS RATED FOR 22KIC.
  - INSTALL A 3-POLE SHUNT TRIP 50 AMP MAIN BREAKER IN NEMA TYPE 1 ENCLOSURE BETWEEN PANEL EM AND PANEL DP-1 FOR DISCONNECTION OF PHASE A, B, AND NEUTRAL. 3-POLE SHUNT TRIP BREAKER SHALL BE GE CATALOG NO. SEHA36AT0060 OR APPROVED EQUAL. REFER TO NEC, ARTICLE 514. EMERGENCY SHUTOFF MUST BE MANUALLY RESET BY RESETTING SHUNT TRIP CIRCUIT BREAKER.
  - INSTALL SHUNT TRIP MUSHROOM HEAD PUSH BUTTON, RED LED-ILLUMINATED WITH POLYCHROMATIC GUARD, PUSH/TWIST RELEASE BUTTON. THE SHUNT TRIP PUSH BUTTON SHALL BE 30 MM IN SIZE AND EQUIPPED WITH 1 NORMALLY OPEN AND 1 NORMALLY CLOSED CONTACTS. PROVIDE NAMEPLATE "FUEL ISLAND EMERGENCY POWER OFF". THE EMERGENCY STOP SWITCH INSTALLED IN OFFICE AREA AND ON EXTERIOR OF THE BUILDING SHALL BE WIRED IN PARALLEL AND SHALL TRIP THE SHUNT TRIP BREAKER. THE SHUNT TRIP MUSHROOM HEAD PUSH BUTTON SHALL BE SIEMENS CATALOG NO. 52PR8MRAB OR APPROVED EQUAL. TWO (2) ARE REQUIRED.
  - BRANCH CIRCUITS EXCEEDING 100 FEET IN LENGTH SHALL BE #10 AWG. WIRING SIZE SHALL BE ADJUSTED AS NECESSARY TO REFLECT VOLTAGE DROP.
  - FUEL ISLAND LIGHTS SHALL BE CONNECTED TO THE LIGHTING CONTACTOR LOCATED IN THE ELECTRICAL ROOM AND SHALL BE CONNECTED ALSO TO THE FUEL ISLAND LIGHT SWITCH LOCATED IN THE CLERK'S OFFICE.
  - PROVIDE SWITCHED NEUTRAL CIRCUIT BREAKER FOR THE FMU AND DIESEL DISPENSER.

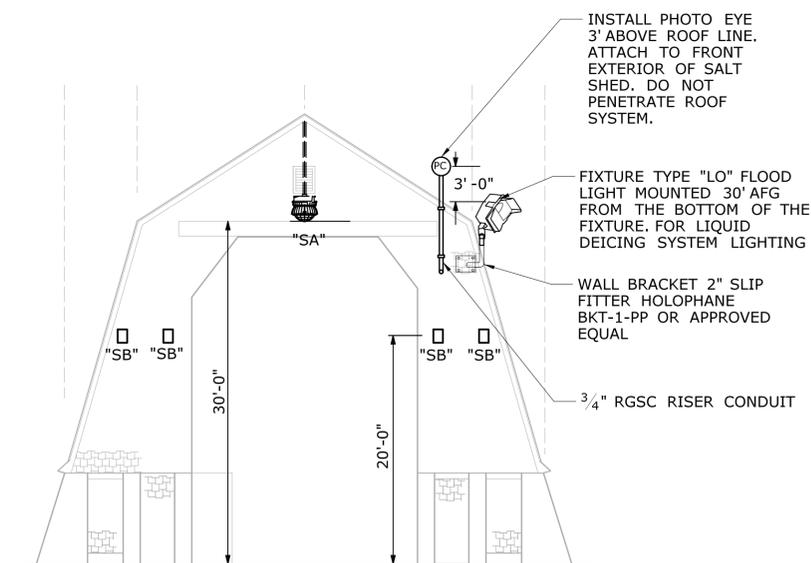
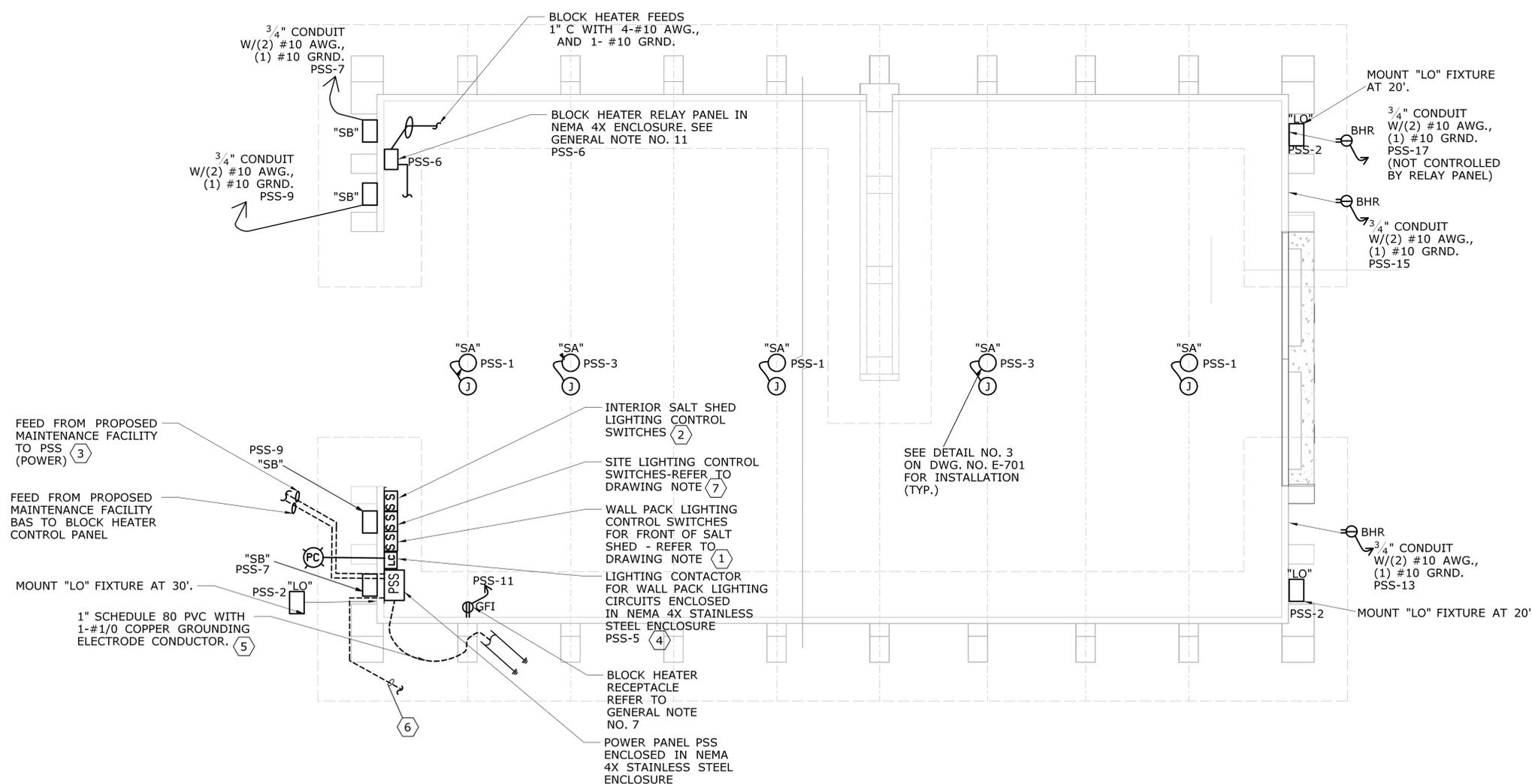


**DRAWING NOTES:**

- ① FEED AND CONTROL INNER WALLPACKS SEPARATE FROM THE OUTER WALLPACKS. SUBJECT SWITCHES SHALL CONTROL THE WALLPACK FIXTURES WHEN THE LIGHTING CONTACTOR IS IN THE "HAND" POSITION.
- ② TWO SEPARATE CIRCUITS SHALL FEED AND CONTROL ALTERNATING SEQUENCE OF FIXTURES.
- ③ FEED FROM PROPOSED MAINTENANCE FACILITY TO PSS: (1) 3" PVC CONDUIT WITH 4 - #1 AWG. CONDUCTORS AND 1 - #4 GROUND. (1) 3" PVC CONDUIT SPARE
- ④ INSTALL TWO POSITION LIGHTING CONTACTOR (WITH "HAND" AND "AUTO" POSITIONS) TO CONTROL WALLPACKS.
- ⑤ ELECTRICAL PANEL SHALL BE CONNECTED TO GROUNDING ELECTRODE SYSTEM.
- ⑥ LIQUID DEICING SYSTEM RECEPTACLE FEED. 2" RGSC WITH (2) #10 AWG. AND (1) #10 AWG. GROUND FOR LIGHT AND (3) #10 AWG. AND (1) #10 GROUND FOR RECEPTACLE.
- ⑦ SWITCHES TO CONTROL TYPE "LO" FIXTURE LIGHTING CIRCUIT. PREDATOR FIXTURES SHALL NOT BE INSTALLED ON THE LIGHTING CONTACTOR. ONE SWITCH SHALL CONTROL LO FIXTURE INSTALLED ON THE FRONT OF THE SALT SHED. PROVIDE ONE SWITCH TO CONTROL TWO LO FIXTURES INSTALLED ON THE REAR OF THE SALT SHED.

**GENERAL NOTES:**

1. REFER TO DRAWING NO. E-100 FOR THE ELECTRICAL SITE PLAN.
2. ALL EQUIPMENT, CONDUITS AND FITTINGS SHALL BE PROPERLY GROUNDED PER NEC.
3. ALL ENCLOSURES AND BOXES IN SALT SHED SHALL BE NEMA 4X RATED, SUITABLE FOR CORROSIVE CONDITIONS PANEL ENCLOSURE, LIGHTING CONTACTOR, AND BLOCK HEATER PANEL SHALL BE STAINLESS STEEL NEMA 4X.
4. PROVIDE APPROPRIATE SLEEVE AND GROUT WHERE CONDUIT PENETRATES A WALL OR FLOOR. SEE "WALL PENETRATION DETAIL NO. 5 ON DRAWING NO. E-901.
5. ALL CONDUCTORS SHALL BE STRANDED COPPER WITH THWN INSULATION SUITABLE FOR USE IN WET LOCATIONS. MINIMUM CONDUCTORS SIZE SHALL BE #12 AWG, UNLESS OTHERWISE NOTED.
6. PVC WEATHERPROOF COVERS SHALL BE PROVIDED FOR ALL SWITCHES IN THE SALT SHED. TWO GANG SWITCHES (CARLON E9G2SSN OR APPROVED EQUAL) AND SINGLE SWITCHES (CARLON E98TSCN-CAR OR APPROVED EQUAL).
7. GFI RECEPTACLE SHALL HAVE PILOT LIGHT (LEVITON #78991-HGI OR APPROVED EQUAL) AND IN-USE COVER. ALL EXTERIOR MOUNTED BLOCK HEATER RECEPTACLE SHALL BE SINGLE RECEPTACLE (LEVITON #T5020-COI) WITH IN USE COVERS. EXTERIOR MOUNTED BLOCK HEATER RECEPTACLES SHALL BE INSTALLED ON THE BLOCK HEATER RELAY PANEL. WITH THE EXCEPTION OF ONE.
8. REFER TO DRAWING NO. E-003 FOR SALT SHED LIGHTING FIXTURE SCHEDULE AND POWER PANEL SCHEDULE.
9. LABEL ALL LIGHT SWITCHES WITH FIXTURE CONTROL DESIGNATIONS.
10. ALL CONDUIT INSTALLED WITHIN THE SALT SHED SHALL BE PVC OR PVC COATED TYPE CONDUIT. CONDUIT ABOVE 10 FEET ELEVATION SHALL BE PVC AND CONDUIT BELOW 10 FEET ELEVATION SHALL BE PVC COATED. ALL HARDWARE AND C- CHANNELS SHALL BE STAINLESS STEEL.
11. INSTALL BLOCK HEATER RECEPTACLES WITH GFI CIRCUIT BREAKER. BLOCK HEATER RECEPTACLES SHALL BE CONNECTED TO RELAY SWITCHES THAT ACTIVATES THE RECEPTACLE WHEN THE TEMPERATURE DROPS TO A PREDETERMINED LEVEL. BLOCK HEATER RELAY SWITCH SHALL BE CONNECTED TO THE BAS.



**SALT SHED ELECTRICAL DETAIL**  
SCALE: 3/16" = 1'-0"

**SALT SHED ELECTRICAL ELEV. (FRONT)**  
SCALE: 3/8" = 1'-0"

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	<p><b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
					CHECKED BY: <b>MPW</b>		APPROVED BY: 		DRAWING TITLE: <b>ELECTRICAL SALTSHED DETAILS 1</b>	DRAWING NO. <b>E-700</b>
					SCALE AS NOTED	Filename: ...FD_MSH_ELE_103_0247_E700.dgn				SHEET NO. <b>10.22</b>

MAINTENANCE FACILITY POWER PANEL "PSS"												
CKT. NO.	DIRECTORY	LOAD (VA)			TRIP (A)	MAIN BREAKER 200 Amps	TRIP (A)	LOAD (VA)			DIRECTORY	CKT. NO.
		LA	LB	LC				LA	LB	LC		
1	INTERIOR LIGHTING	600			20		20	300			YARD LIGHTING	2
3	INTERIOR LIGHTING		400		20		20				SPARE	4
5	LIGHTING CONTACTOR			180	20		20		180		BLOCK HEATER CONTROL	6
7	WALLPACK	140			20		30	1944			LIQUID DEICING SYSTEM	8
9	WALLPACK		140		20			1944				10
11	BLOCK HEATER REC			1500	20		20				SPARE	12
* 13	BLOCK HEATER REC	1500			20		20				SPARE	14
* 15	BLOCK HEATER REC		1500		20		20				SPARE	16
* 17	BLOCK HEATER REC			1500	20		20				SPARE	18

SERVICE CHARACTERISTICS			
18-CIRCUIT PANEL 120 / 208 V, 3 PH., 4 WIRE, SOLID NEUTRAL 60 CYCLE, WITH GROUND BUS 100 AMP MAIN BUS 22 KAIC MIN. SURFACE MOUNTING			

A	B	C	
4.48	3.98	3.36	KVA
37.4	33.2	28.0	AMPS
11.828			TOTAL LOAD IN KVA

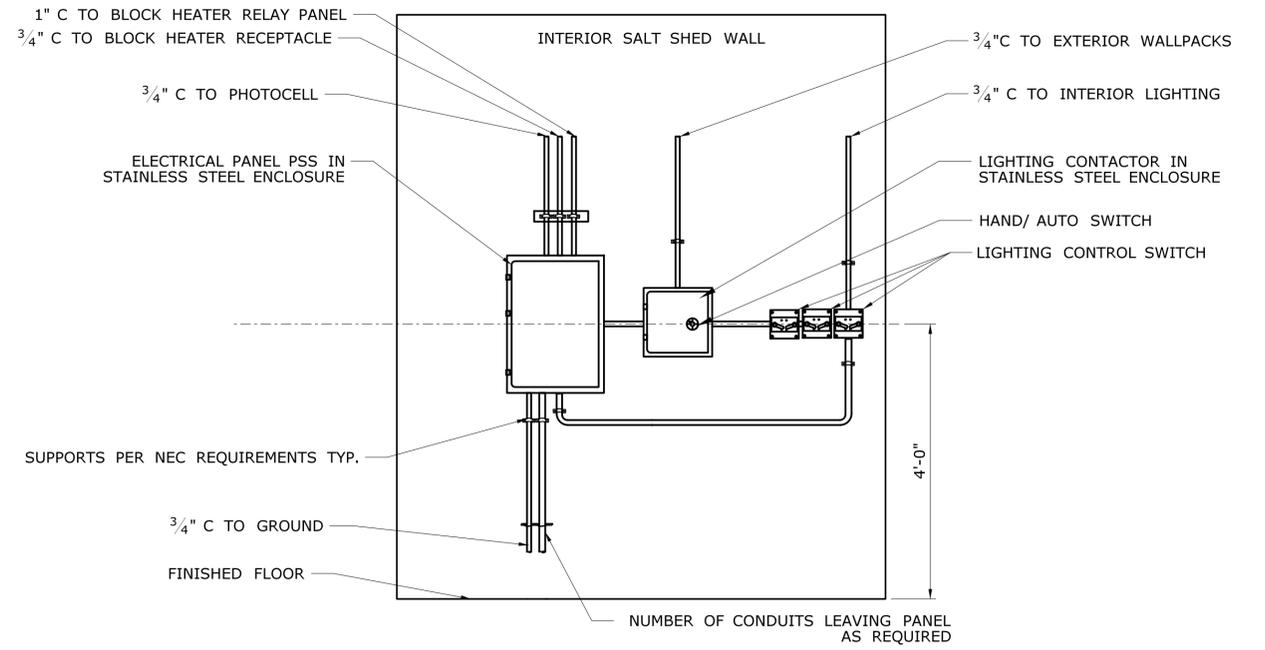
\* GFI CIRCUIT BREAKER  
ENCLOSURE : NEMA 4X  
LOCATION: SALT SHED  
FED FROM MDP

BRANCH CIRCUIT BREAKERS SHALL BE RATED 22 KAIC MINIMUM.

**PANELBOARD SCHEDULE**

**1**  
**E-701**

NOT TO SCALE

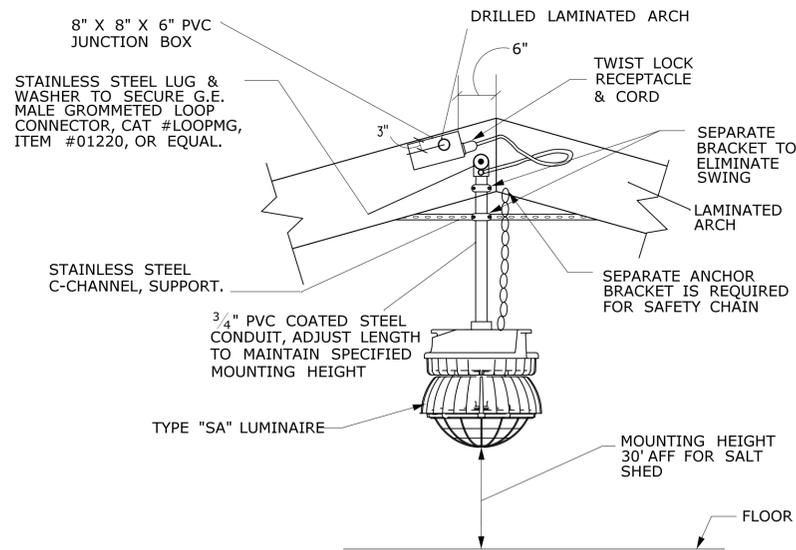


CONDUIT ROUTING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL ROUTE CONDUIT PER FIELD CONDITIONS.

**ELEVATION PLAN**

**2**  
**E-701**

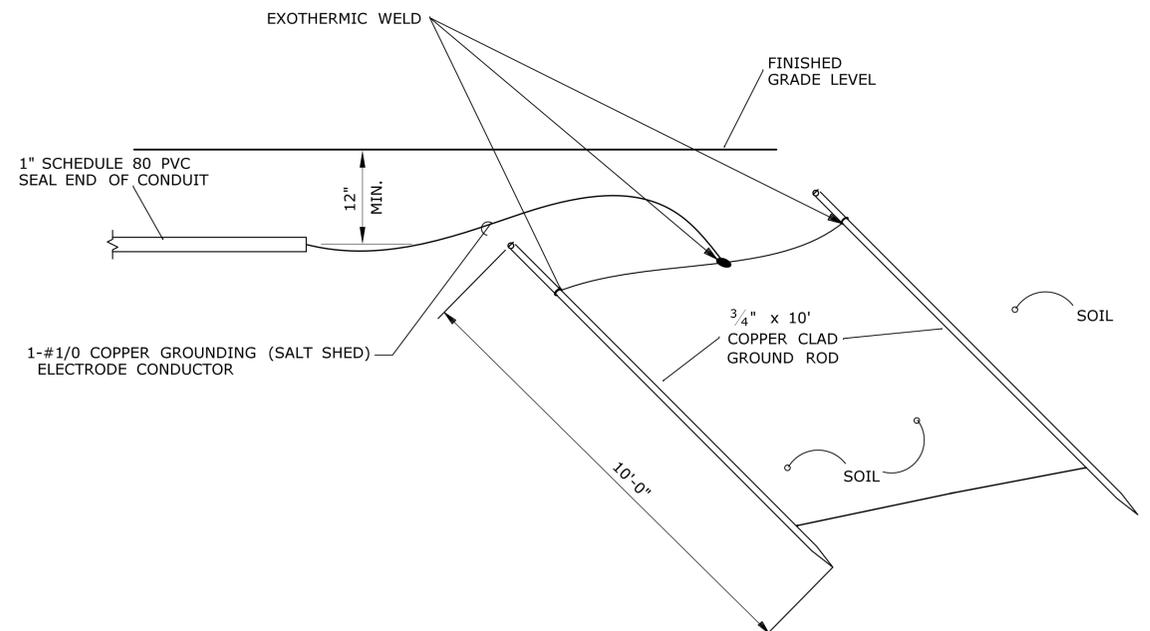
SCALE: 3/4" = 1'-0"



**TYPICAL INDOOR LED LIGHTING  
FIXTURE MOUNTING DETAIL**

**3**  
**E-701**

NOT TO SCALE



**GROUNDING ELECTRODE DETAIL**

**4**  
**E-701**

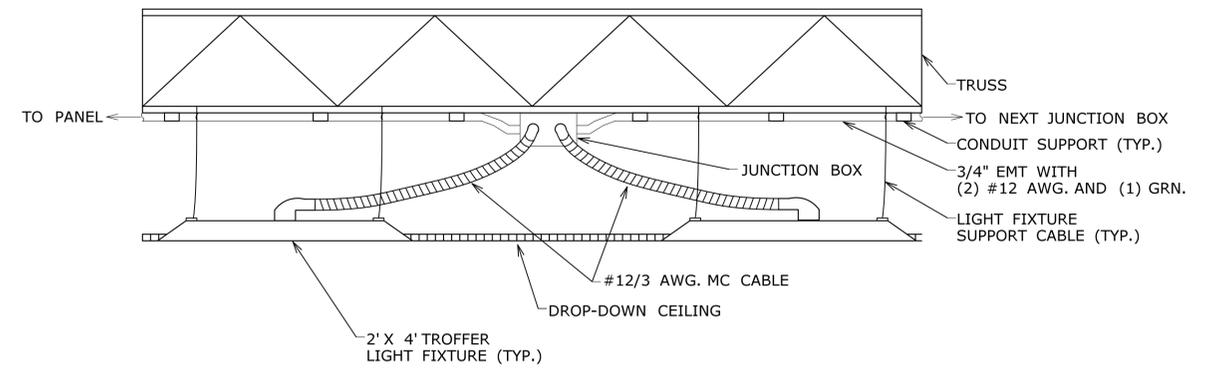
NOT TO SCALE

DESIGNER/DRAFTER: <b>SKW</b>	<p><b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
CHECKED BY: <b>MPW</b>		APPROVED BY: 	DRAWING TITLE: <b>ELECTRICAL SALTSLED DETAILS 2</b>	SHEET NO. <b>10.23</b>	
REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	Filename: ...FD_MSH_ELE_103_0247_E701.dgn	

**MOUNTING HEIGHT NOTES:**

- MEANS OF MOUNTING SHALL BE PER MANUFACTURER'S SPECIFICATIONS UNLESS OTHERWISE NOTED.
- MOUNT GFI RECEPTACLES ADJACENT TO SINKS AT ADA ACCESSIBLE HEIGHT 40" AFF.
- COUNTERTOP GFI RECEPTACLES SHALL BE 8" ABOVE COUNTER TOP MEASURED TO THE MIDDLE OF THE RECEPTACLE. COUNTER TOP GFI RECEPTACLES SHALL BE INSTALLED WITHIN 24" FROM THE EDGE OF THE SINK.
- DISCONNECTS FOR SINGLE PHASE ROOF MOUNTED EXHAUST FANS SHALL BE MOUNTED ADJACENT TO THE UNIT.
- WHERE FINNED TUBE RADIATION EXISTS, INSTALL BOTTOM OF WORK BOXES 2" ABOVE FINNED TUBE RADIATION.
- ALL EXPOSED CONDUIT INSTALLED IN THE OFFICE AREA, BAY AREAS, ELECTRICAL AND MECHANICAL ROOMS AT FLOOR LEVEL UP TO AND INCLUDING THE UNIFORM HEIGHT OF 10 FEET ABOVE FINISHED FLOOR SHALL BE RGSC. CONDUIT RACEWAYS SPECIFIED TO BE INSTALLED AND EXTENDED BEYOND THE 10 FOOT HEIGHT SHALL BE CONVERTED TO EMT.
- ALL WIRING IN OFFICE CORE SHALL BE FED IN EMT CONDUIT INSIDE FINISH WALL (FOR EXPOSED CONDUIT SEE MOUNTING NOTE 6a). CONDUIT IN OFFICE AREA SHALL NOT BE RUN IN SLAB UNLESS OTHERWISE NOTED.
- ALL EXPOSED CONDUIT INSTALLED IN THE WASH BAY AREAS AT FLOOR LEVEL UP TO AND INCLUDING THE UNIFORM HEIGHT OF 10 FEET ABOVE BAY AREA FINISHED FLOOR SHALL BE PVC COATED RGSC. CONDUIT RACEWAYS SPECIFIED TO BE INSTALLED AND EXTENDED BEYOND THE 10 FOOT HEIGHT SHALL BE CONVERTED TO PVC. PVC SHALL BE EQUIPPED WITH EXPANSION FITTINGS WHERE NECESSARY TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION AS SPECIFIED IN THE NEC ARTICLE 300.7.
- FAN CONTROLS AND GARAGE DOOR CONTROLS SHALL BE MOUNTED 48" AFF MEASURED TO THE CENTER.
- CENTER WORKBENCH LIGHTING FIXTURES OVER WORKBENCH LOCATIONS 7' AFF. TYPE "C" FIXTURES SHALL BE SUSPENDED FROM THE BOTTOM OF THE CEILING OR WALLS. INSTALL LIGHT SWITCHES FOR TYPE "C" FIXTURES ON THE WALL ADJACENT TO THE BENCH OR TO THE WORKBENCHES WHEN NOT AGAINST THE A WALL.
- ELECTRICAL DEVICES INSTALLED IN MASONRY WALLS SHALL BE FLUSH MOUNTED. THE CONTRACTOR CAN ADJUST MOUNTING HEIGHT AND LOCATION OF ELECTRICAL BOXES TO THE NEAREST CMU FOR EASE OF INSTALLATION. MOUNTING HEIGHTS SHALL BE UNIFORM BETWEEN LIKE DEVICES AND DEVICES WITH THE SAME DESIGNATED MOUNTED HEIGHTS AS DETAILED IN THIS SHEET. ADJUSTED MOUNTING HEIGHTS SHALL BE ADA COMPLIANT.
- TYPE "J", "A", "AE", "C", "H", AND "HE" FIXTURES SHALL BE EQUIPPED WITH TWIST LOCK TYPE RECEPTACLES AND SHALL BE INSTALLED UTILIZING STRUTS AND C-CHANNEL - TYPICAL.
- WET LOCATIONS SHALL USE STAINLESS STEEL MOUNTING HARDWARE OR AS SPECIFIED IN THE SPECIFICATIONS.

- OVERHEAD DOOR OPERATOR DISCONNECT SWITCHES SHALL BE INSTALLED ADJACENT TO THE DOOR OPERATOR MOTORS. COMBINATION MOTOR STARTER DISCONNECT SHALL BE MOUNTED 60" ON ADJACENT WALL CLOSEST TO THE ELECTRICAL PANEL WHERE SERVICE FOR THE EQUIPMENT IS DERIVED OR AS LOCATED ON PLANS. THERMAL DISCONNECT SWITCHES FOR UNIT HEATERS SHALL BE MOUNTED ON THE MECHANICAL EQUIPMENT.



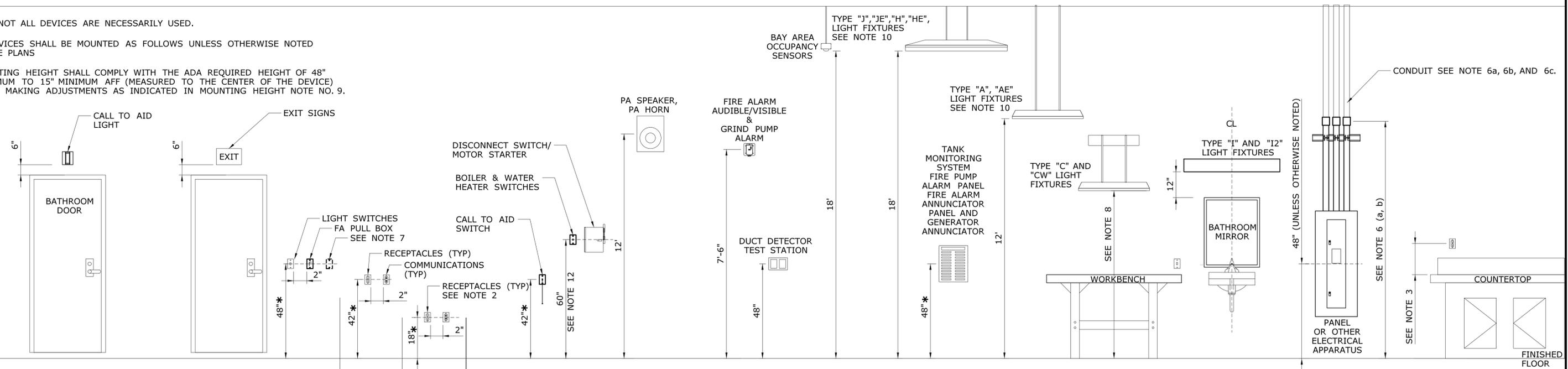
**RECESSED TROFFER LIGHTING IN OFFICE DETAIL**  
NTS

2  
E-900

NOTE: NOT ALL DEVICES ARE NECESSARILY USED.

ALL DEVICES SHALL BE MOUNTED AS FOLLOWS UNLESS OTHERWISE NOTED ON THE PLANS

\*MOUNTING HEIGHT SHALL COMPLY WITH THE ADA REQUIRED HEIGHT OF 48" MAXIMUM TO 15" MINIMUM AFF (MEASURED TO THE CENTER OF THE DEVICE) WHEN MAKING ADJUSTMENTS AS INDICATED IN MOUNTING HEIGHT NOTE NO. 9.

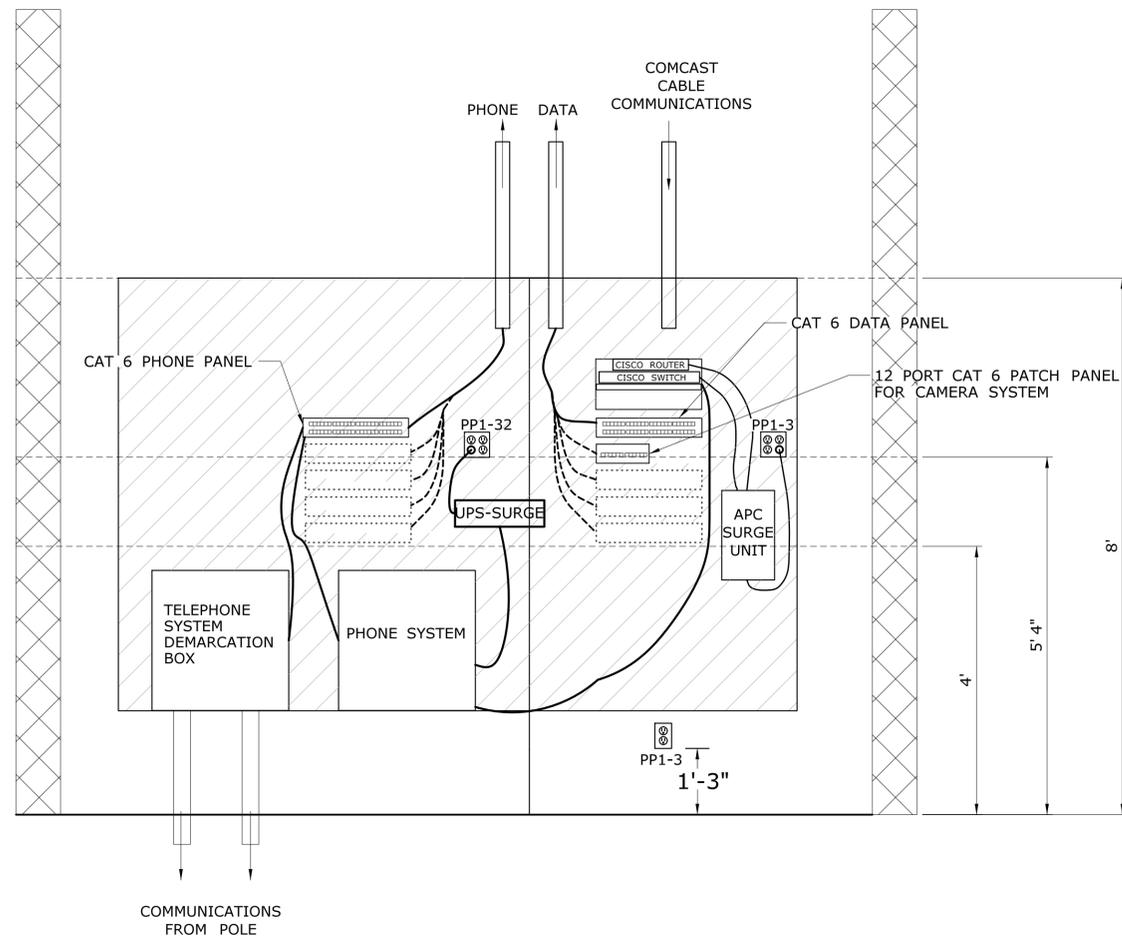


**MOUNTING HEIGHT DETAILS**

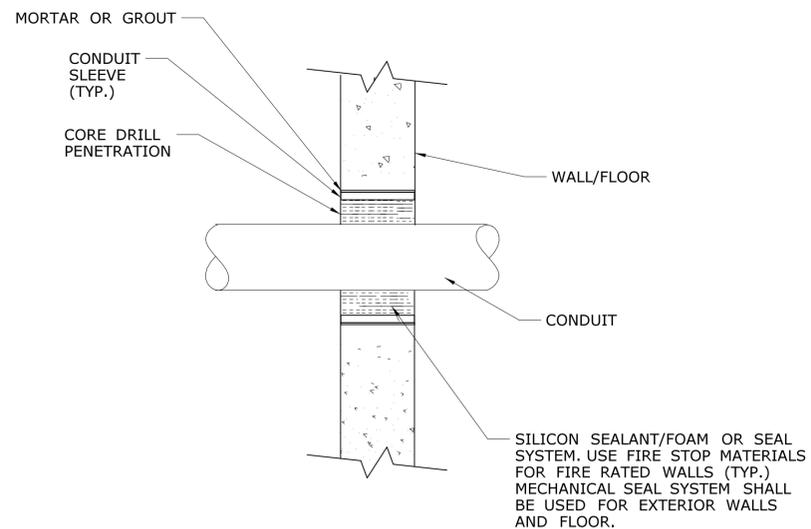
NTS

1  
E-900

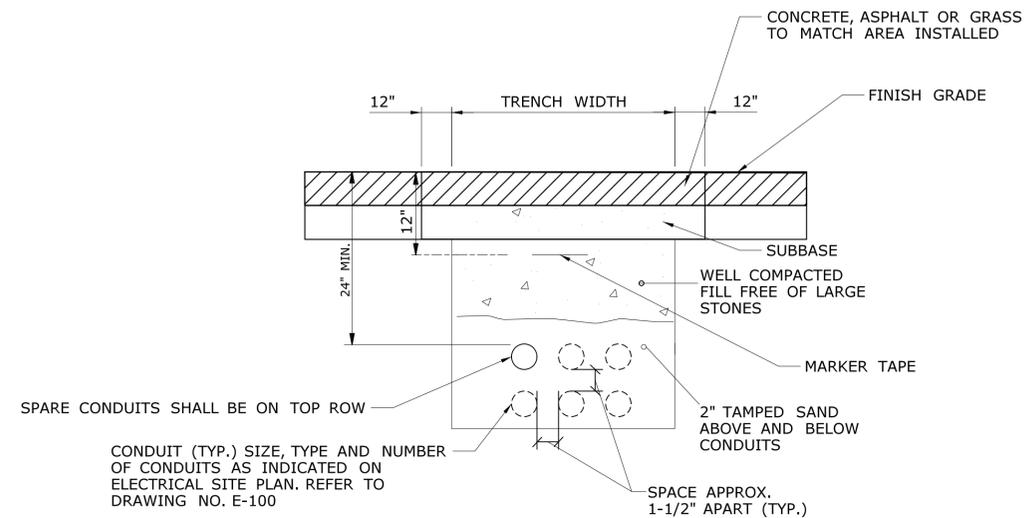
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 8/12/2015	DESIGNER/DRAFTER: <b>SKW</b>	<p><b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
					CHECKED BY: <b>MPW</b>		APPROVED BY: 		DRAWING TITLE: <b>ELECTRICAL DETAILS-1</b>	DRAWING NO. <b>E-900</b>
					SCALE AS NOTED	Filename: ...FD_MSH_ELE_103_0247_E900.dgn				SHEET NO. <b>10.24</b>



**COMMUNICATIONS DETAIL** 1  
NOT TO SCALE E-901

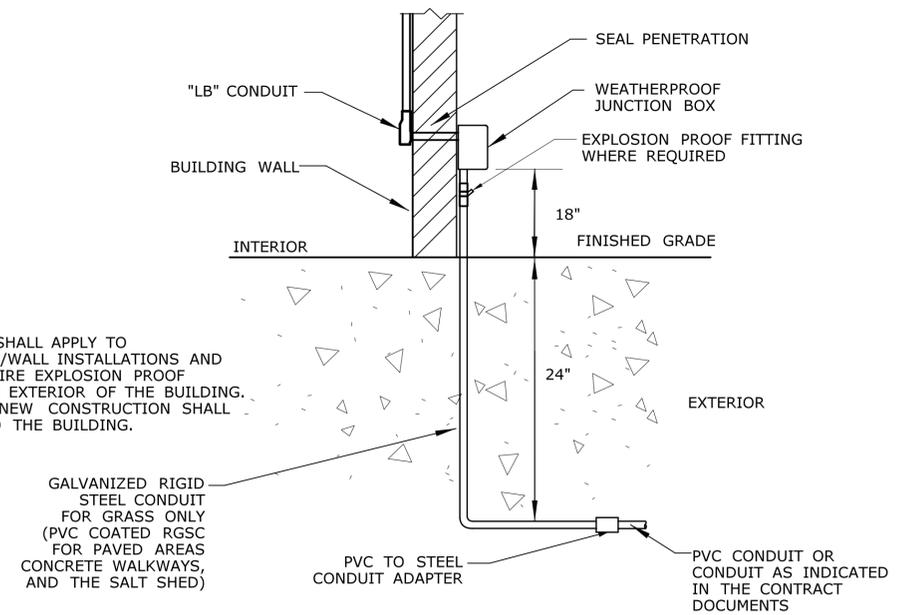


**PENETRATION DETAIL** 2  
NOT TO SCALE E-901



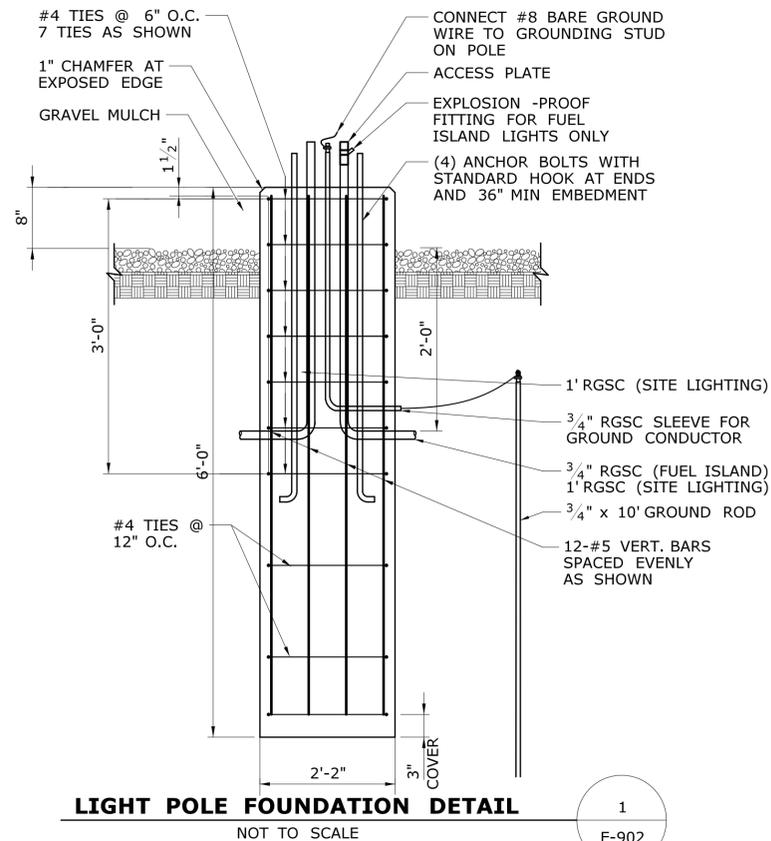
**CONDUIT TRENCH** 3  
NOT TO SCALE E-901

NOTE:  
CONDUIT STUB-UP DETAIL SHALL APPLY TO EXISTING- TO-REMAIN SLAB/WALL INSTALLATIONS AND INSTALLATIONS THAT REQUIRE EXPLOSION PROOF FITTING MOUNTED TO THE EXTERIOR OF THE BUILDING. CONDUIT ENTRANCES FOR NEW CONSTRUCTION SHALL SWEEP UNDER GRADE INTO THE BUILDING.



**CONDUIT STUB-UP DETAIL** 4  
NOT TO SCALE E-901

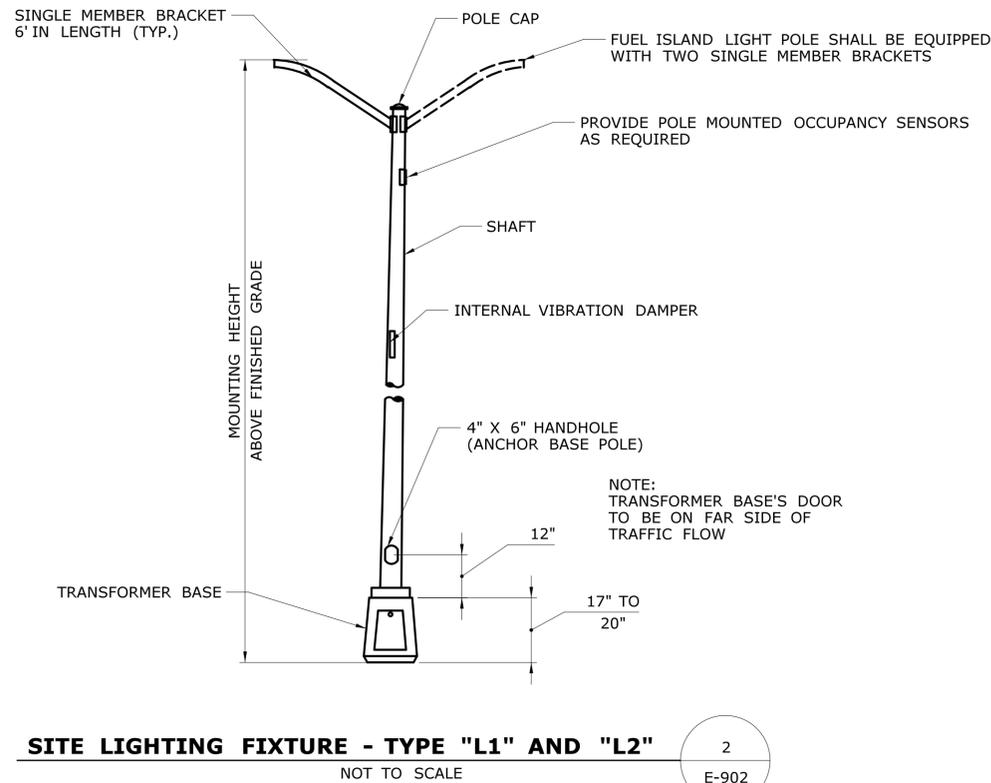
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
					CHECKED BY: <b>MPW</b>		APPROVED BY: 		DRAWING TITLE: <b>ELECTRICAL DETAILS-2</b>	DRAWING NO. <b>E-901</b>
					SCALE AS NOTED	Filename: ...FD_MSH_ELE_103_0247_E901.dgn				SHEET NO. <b>10.25</b>



**LIGHT POLE FOUNDATION DETAIL**

NOT TO SCALE

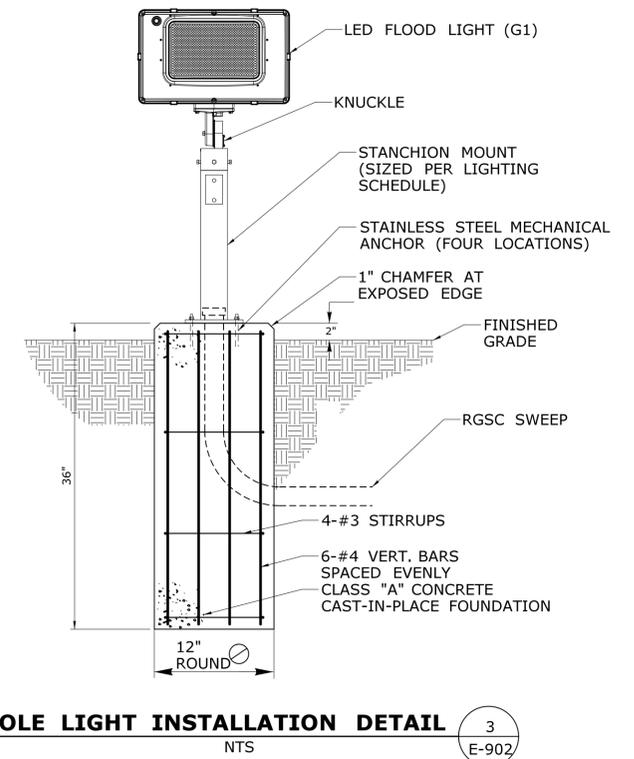
1  
E-902



**SITE LIGHTING FIXTURE - TYPE "L1" AND "L2"**

NOT TO SCALE

2  
E-902



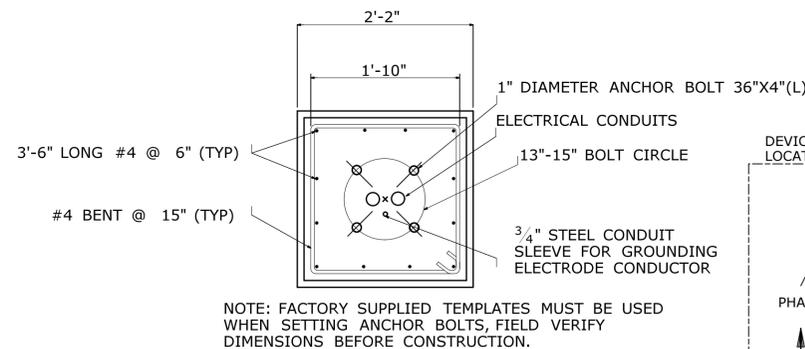
**FLAG POLE LIGHT INSTALLATION DETAIL**

NTS

3  
E-902

**DRAWING NOTES:**

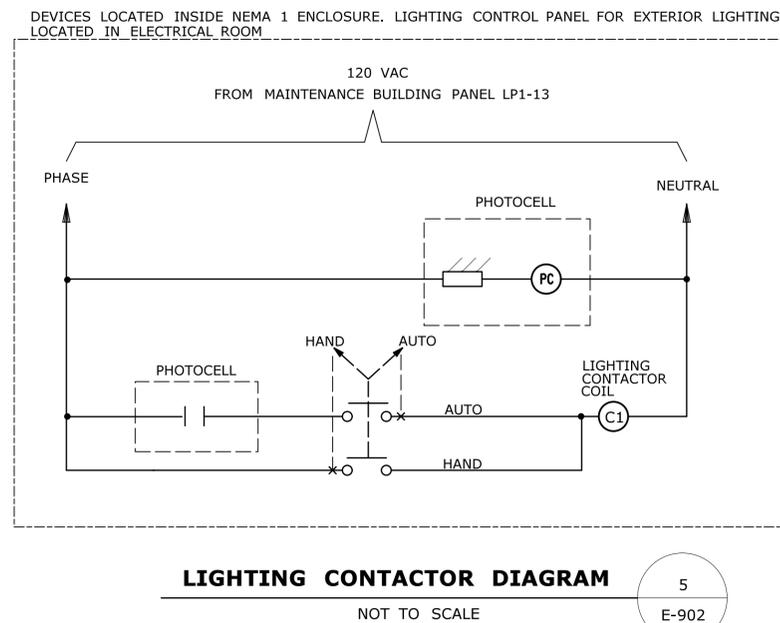
- EQUIP SITE LIGHTING LUMINAIRE'S WITH SEPARATE BOND AND GROUND LUGS.
- ALL POLE DIMENSIONS ARE SHOWN ON LIGHTING SCHEDULE. REFER TO DRAWING NO. E-003.
- ALL HARDWARE USED TO ASSEMBLE THE LIGHT STANDARD, BASE, AND BRACKETS SHALL BE STAINLESS STEEL. ANCHOR BOLT HARDWARE SHALL BE GALVANIZED.



**SITE LIGHTING POLE BASE PLATE FOR FIXTURE - TYPE "L1" AND "L2"**

NOT TO SCALE

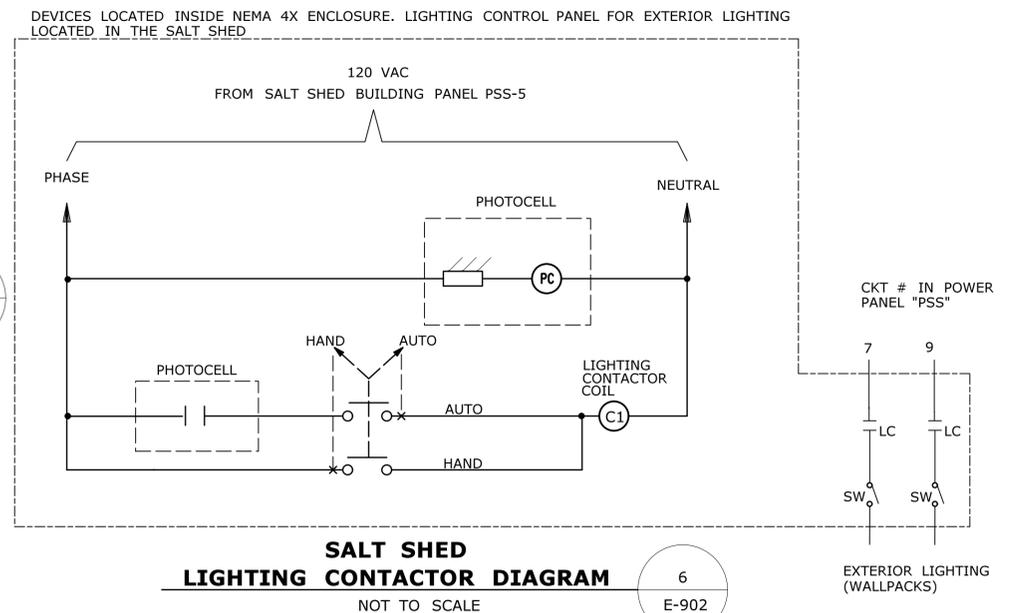
4  
E-902



**LIGHTING CONTACTOR DIAGRAM**

NOT TO SCALE

5  
E-902



**SALT SHED LIGHTING CONTACTOR DIAGRAM**

NOT TO SCALE

6  
E-902

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 8/12/2015

DESIGNER/DRAFTER:  
**SKW**  
CHECKED BY:  
**MPW**  
SCALE AS NOTED

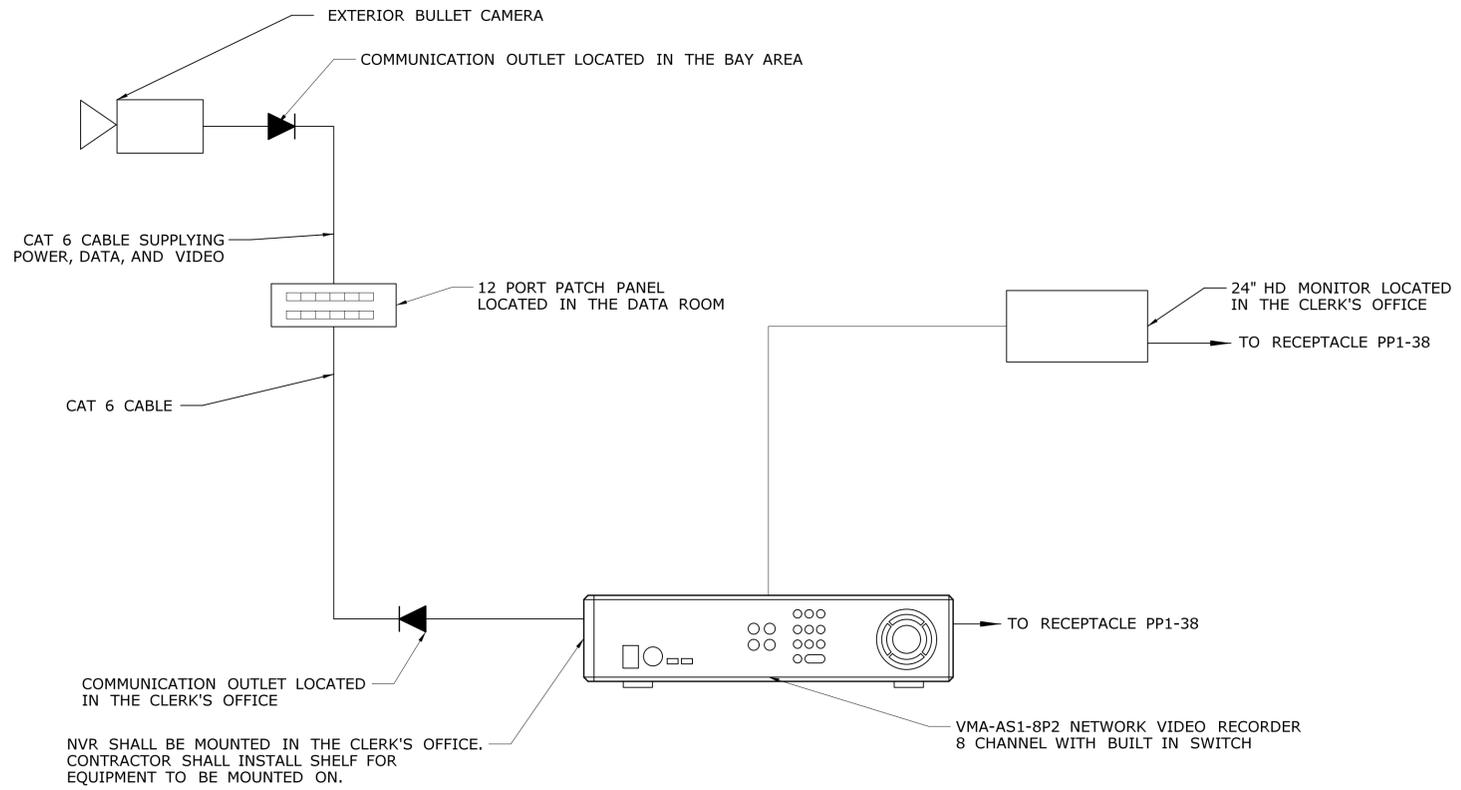
STATE OF CONNECTICUT  
DEPARTMENT OF TRANSPORTATION

OFFICE OF ENGINEERING  
APPROVED BY:  
*[Signature]*

PROJECT TITLE:  
**OCCUM MAINTENANCE FACILITY**

TOWN:  
**OCCUM**  
DRAWING TITLE:  
**ELECTRICAL DETAILS-3**

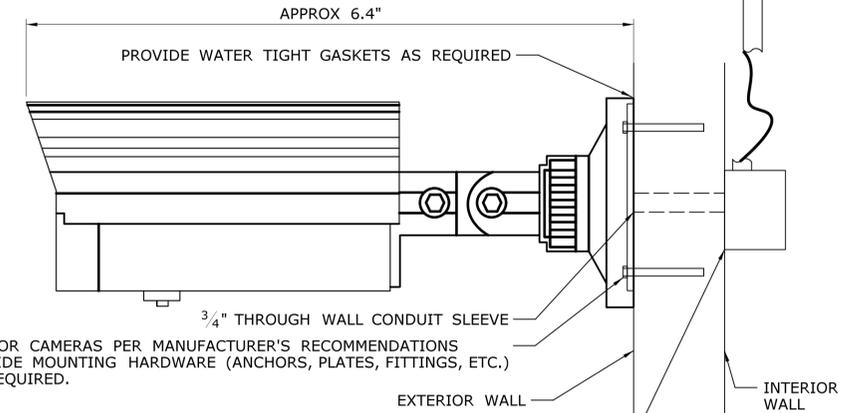
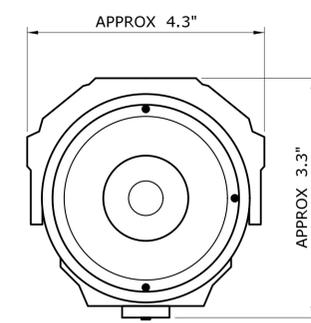
PROJECT NO.  
**103-0247**  
DRAWING NO.  
**E-902**  
SHEET NO.  
**10.26**



CAMERA BLOCK DIAGRAM

NOT TO SCALE

1  
E-903



EXTERIOR WALL MOUNTED BULLET CAMERA

NOT TO SCALE

2  
E-903

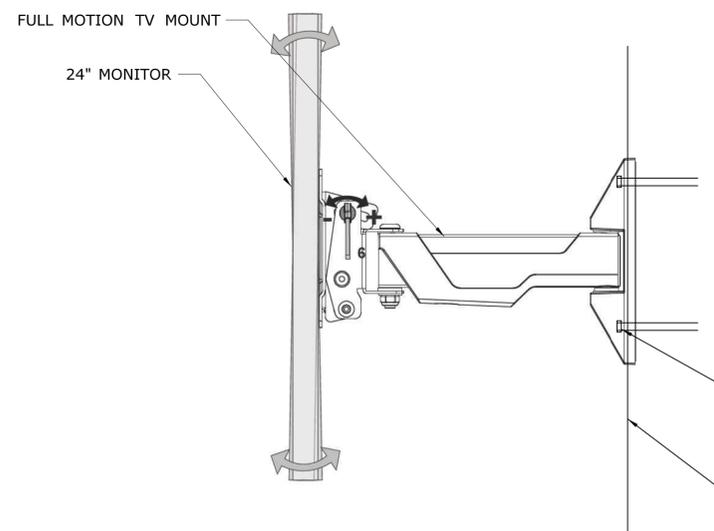
BASIS OF DESIGN: AVIGILON (OR APPROVED EQUAL)

COMPONENT	CATALOG NUMBER
VMA 8 CHANNEL NVR	AVIGILON: VMA-AS1-8P2
2 MP OUTDOOR IP CAMERA	AVIGILON: 2.0W-H3-B01-IR
CAMERA BACK BOX	AVIGILON: H3-BO-JB
24" MONITOR HD MONITOR	DELL: UP2414Q

NOTE: MOUNTING AND INSTALLATION ACCESSORIES TO BE PROVIDED AS REQUIRED.

**DRAWING NOTES:**

- DRAWING IS DIAGRAMMATIC. EQUIPMENT SHALL BE MOUNTED ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
- THE CONTRACTOR SHALL COORDINATE WITH THE CAMERA INSTALLER TO REVISIT THE SITE AFTER PATCH PANELS AND NETWORK EQUIPMENT HAS BEEN INSTALLED. CAMERA INSTALLER SHALL SET-UP CAMERA, NVR AND MONITOR AND DEMONSTRATE CAMERA OPERATION TO PERSONNEL. AVIGILON SHALL PROVIDE SOFTWARE AND TECH SUPPORT AT NO CARDINAL COSTS ASSOCIATED WITH SET-UP SHALL BE INCLUDED IN THIS CONTRACT. ALL FINAL CROSS CONNECTIONS BY THE CONTRACTOR UNDER THE SUPERVISION OF CONNDOT TELECOMMUNICATIONS PERSONNEL.
- REFER TO ELECTRICAL DRAWINGS FOR CAMERA LOCATIONS. THE CONTRACTOR SHALL COORDINATE FINAL MOUNTING LOCATION AND MOUNTING HEIGHT WITH CAMERA INSTALLER AND ENGINEER.
- WIRING IS DIAGRAMMATIC ONLY. CONSULT WITH MANUFACTURER FOR ACTUAL WIRING.



CAMERA MONITOR MOUNTING DETAIL

NOT TO SCALE

3  
E-903

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 5/22/2015

DESIGNER/DRAFTER: **SKW**  
 CHECKED BY: **MPW**  
 SCALE AS NOTED

STATE OF CONNECTICUT  
 DEPARTMENT OF TRANSPORTATION

Signature: *[Handwritten Signature]*

Filename: ...FD\_MSH\_ELE\_103\_0247\_E903.dgn

SIGNATURE/BLOCK:  
**OFFICE OF ENGINEERING**  
 APPROVED BY:

PROJECT TITLE:  
**OCCUM MAINTENANCE FACILITY**

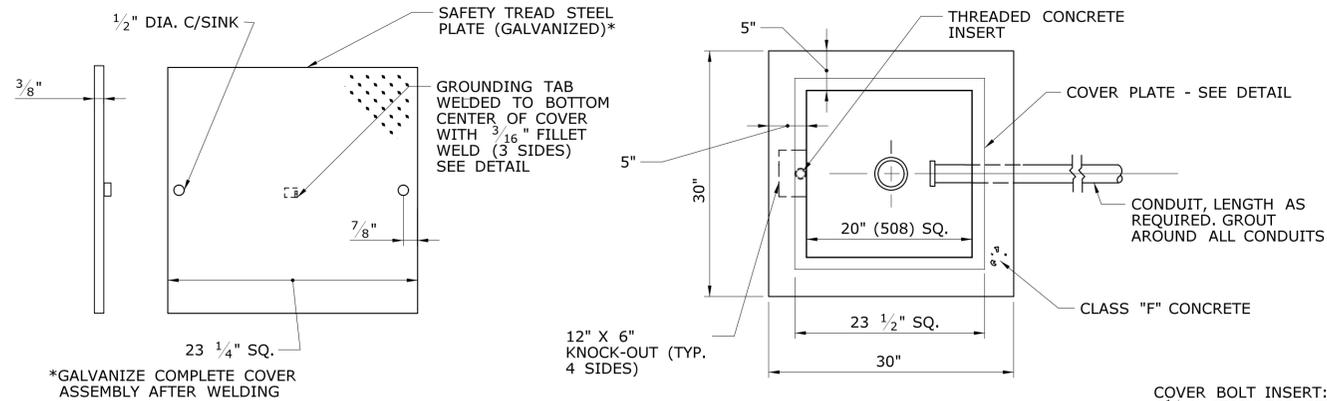
TOWN:  
**OCCUM**

DRAWING TITLE:  
**ELECTRICAL DETAILS-4**

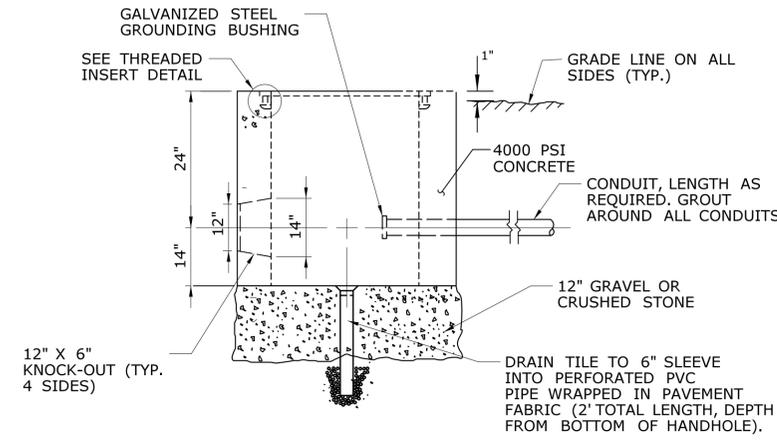
PROJECT NO.  
**103-0247**

DRAWING NO.  
**E-903**

SHEET NO.  
**10.27**



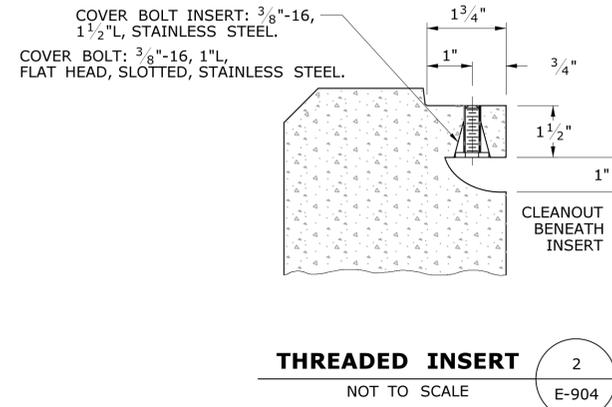
\*GALVANIZE COMPLETE COVER ASSEMBLY AFTER WELDING



**CONCRETE HANDHOLE - TYPE I**

NOT TO SCALE

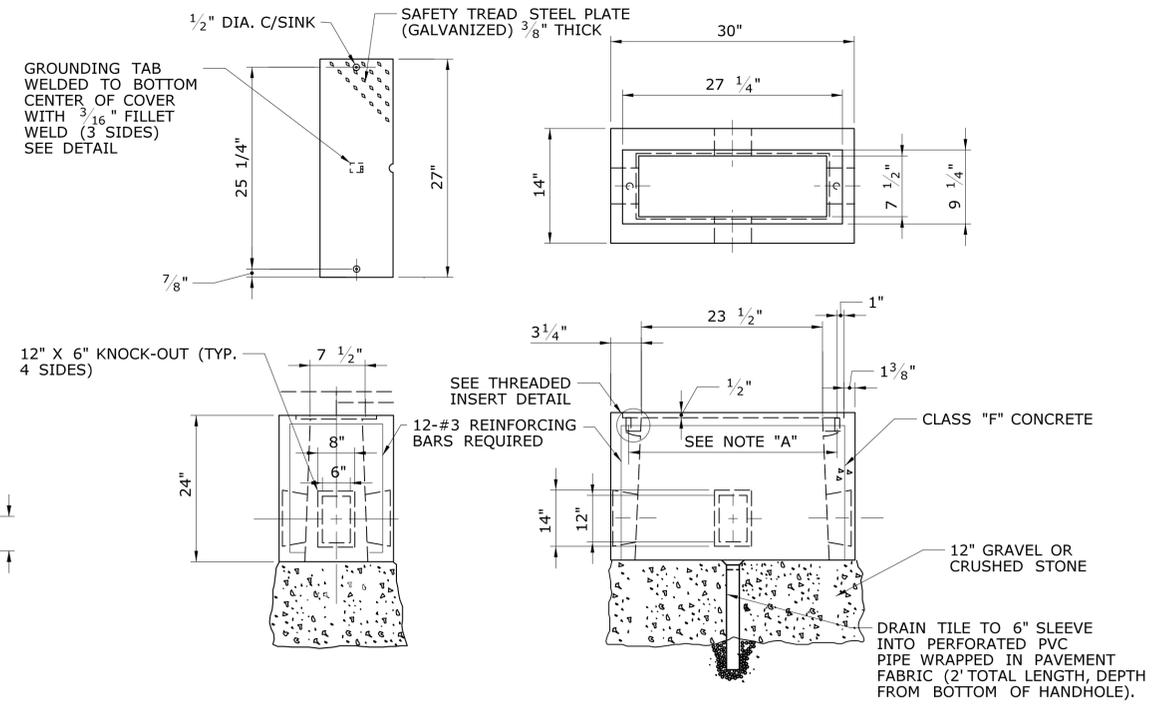
1  
E-904



**THREADED INSERT**

NOT TO SCALE

2  
E-904

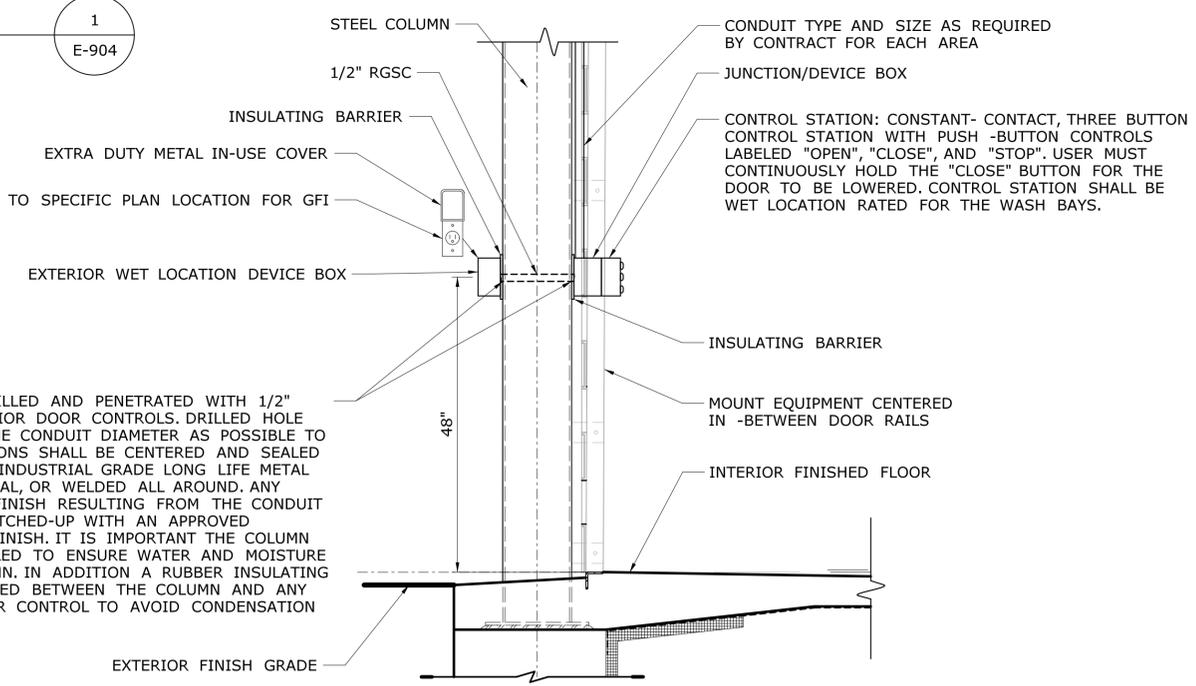


**CONCRETE HANDHOLE - TYPE II**

NOT TO SCALE

3  
E-904

THE COLUMN SHALL BE DRILLED AND PENETRATED WITH 1/2" RGSC OPPOSITE THE INTERIOR DOOR CONTROLS. DRILLED HOLE SHALL BE AS CLOSE TO THE CONDUIT DIAMETER AS POSSIBLE TO LIMIT GAPS. ALL PENETRATIONS SHALL BE CENTERED AND SEALED USING A RUBBER GASKET, INDUSTRIAL GRADE LONG LIFE METAL TO METAL SEALING MATERIAL, OR WELDED ALL AROUND. ANY DAMAGE ON THE COLUMN-FINISH RESULTING FROM THE CONDUIT INSTALLATION MUST BE PATCHED-UP WITH AN APPROVED PROCEDURE FOR SIMILAR FINISH. IT IS IMPORTANT THE COLUMN REMAIN PERMANENTLY SEALED TO ENSURE WATER AND MOISTURE DO NOT ENTER THE COLUMN. IN ADDITION A RUBBER INSULATING BARRIER SHALL BE INSTALLED BETWEEN THE COLUMN AND ANY INTERIOR/EXTERIOR BOX OR CONTROL TO AVOID CONDENSATION BUILDUP.



**COLUMN PENETRATION DETAIL**

NTS

4  
E-904

**HANDHOLE INSTALLATION NOTES:**

1. REMOVE ONLY KNOCKOUTS THAT ARE TO BE USED.
2. INSTALL CENTER OF ALL 30" X 30" HANDHOLES 3 FEET FROM BACK EDGE OF CURB OR EDGE OF ROAD (UNLESS DIMENSIONED OTHERWISE ON THE PLANS).
3. CONTRACTOR SHALL RECEIVE ENGINEERS APPROVAL IN DETERMINING BEST METHOD OF INSTALLING HANDHOLE DRAINS PRIOR TO INSTALLATION OF SUBJECT DRAINS.
4. DUCT SEAL ALL CONDUITS HOUSING CONDUCTORS, AND CAP ALL SPARE CONDUITS.
5. THE HANDHOLE COVER PLATE SHALL BE BONDED TO THE GROUND WIRE AND TO ALL METAL CONDUIT WITHIN THE HANDHOLE WITH NO. 8 GROUND WIRE. GROUND WIRE SHALL BE BONDED TO HANDHOLE GROUND TABS. ALL GROUND WIRES SHALL BE BONDED TO 3/4" BY 10' GROUND RODS.

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 5/22/2015	DESIGNER/DRAFTER: <b>SKW</b>	CHECKED BY: <b>MPW</b>	SCALE AS NOTED	<p><b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b></p> <p>Filename: ...FD_MSH_ELE_103_0247_E904.dgn</p>	SIGNATURE/ BLOCK: <b>OFFICE OF ENGINEERING</b>	APPROVED BY: 	PROJECT TITLE: <b>OCCUM MAINTENANCE FACILITY</b>	TOWN: <b>OCCUM</b>	PROJECT NO. <b>103-0247</b>
												DRAWING TITLE: <b>ELECTRICAL DETAILS-5</b>	DRAWING NO. <b>E-904</b>
													SHEET NO. <b>10.28</b>