



GENERAL AREA CIRCUITING - TABLE #1

LIGHTING FIXTURE LOCATION	CCT #	RECEPTACLE LOCATION	CCT #
P4 TO P1 - EXIT SIGNS	EX-XX	LOBBY (P4 TO P1)	EX-XX
G/F TO I/O F - EXIT SIGNS	EX-XX	STAIR 'A' (5/F, 2/F)	EX-XX
I/F TO ROOF - EXIT SIGNS	EX-XX	STAIR 'B' (12/6, 3/P, 14/2) FLOORS	EX-XX
LOBBY (P4 TO P1)	EX-XX	STAIR 'C' (12/6, 3/P, 14/2) FLOORS	EX-XX
STAIR 'A' (P4 TO G/F)	EX-XX	STAIR 'D' (P1/F4) FLOORS	EX-XX
CORRIDOR	EX-XX	STAIR 'E' (P1) FLOOR	EX-XX
		CORRIDOR	EX-XX

GENERAL NOTES - PARKING:

- ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH MECHANICAL, STRUCTURAL, ARCHITECTURAL AND LANDSCAPE DRAWINGS, AND COMPLY WITH ALL APPLICABLE NOTES.
- CONTRACTOR SHALL RUN CABLES WITHIN CEILING SLAB OR ENCLOSURES TO RETAIN 2 HOUR FIRE PROTECTION RATING FOR ALL LOADS THAT CONNECT TO EMERGENCY POWER.
- STAIRWAY WALL MOUNTED EMERGENCY LIGHT FIXTURES SHALL BE MOUNTED @ 1' AFF.
- EMERGENCY LIGHT FIXTURES IN LOCKERS, STORAGE, UTILITY AND SERVICE ROOMS SHALL BE CONNECTED TO BOTH NORMAL AND EMERGENCY POWER AS PER DETAIL #28 OF DUG. E-35.
- FOR STORAGE ROOM VENTILATION SYSTEM, DIV. 16 TO PROVIDE CONDUIT, WIRING AND SWITCH (S) TO START/STOP FAN AND DAMPER. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- FOR UTILITY ROOM VENTILATION SYSTEM, DIV. 15 WILL PROVIDE LINE VOLTAGE THERMOSTAT (T) TO DIV. 16. DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP FAN AND DAMPER VIA THERMOSTAT. FAN AND 110V ACTUATOR TO BE SUPPLIED AND INSTALLED BY DIV. 15.
- FOR UNIT HEATER, DIV. 15 TO PROVIDE LINE VOLTAGE THERMOSTAT (T), DIV. 16 TO PROVIDE CONDUIT AND WIRING TO START/STOP UNIT HEATER.
- SANITARY PIPE AS NOTED, ALL STANDPIPE, ALL WET SPRINKLER AND DOMESTIC WATER PIPE RUN IN UNHEATED AREA SHALL BE HEAT TRACED BY DIV. 16.
- ULTRASONIC CEILING MOUNTED SENSORS SHOULD BE LOCATED AT A MINIMUM OF 6 FEET FROM HVAC SUPPLY/RETURN VENTS.
- REFER TO DETAIL #6 ON DUG. E-35 FOR OCCUPANCY SENSORS ON LIGHTING CONTROL BLOCK DIAGRAM.
- CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PRACTICE, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK FOR OCCUPANCY SENSORS REPLACEMENT, (IF USED).
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS FOR OCCUPANCY SENSORS, (IF USED).
- CARBON MONOXIDE CONDUIT SYSTEM TO BE PROVIDED AND INSTALLED BY DIV. 16 THROUGHOUT PARKING LOT, AND SHALL BE MOUNTED ON COLUMNS AT 1200mm AFF. REFER TO DETAIL #22 ON DUG. E-35.
- GARAGE EXHAUST FANS SHALL BE CONTROLLED BY CO SENSOR SYSTEM C/W OVERRIDE ON/OFF SWITCH LOCATED AT THE CACF.
- REFER TO SPRINKLER DRAWINGS FOR FIRE PROTECTION DEVICE TO BE CONNECTED TO THE FIRE ALARM SYSTEM. THE DEVICE AND EQUIPMENT SHALL FORM AN INTEGRAL PART OF THE ELECTRICAL CONTRACT.
- PROVIDE CHAIN FOR CEILING MOUNTED LIGHT FIXTURES IN P-1 LEVEL. LIGHTS TO BE INSTALLED AT 3m AFF. MAX, 2m AFF. MIN, OR INSTALL LIGHTS BELOW MECHANICAL PIPE, WHICHEVER HAS LOWER AFF.
- OCCUPANCY SENSORS SHALL COMMUNICATE TO RELAY PANEL THROUGH LVT WIRING CIRCUIT # Z1, Z2, ETC.
- CONTRACTOR SHALL PROVIDE ALLOWANCE FOR HEAT TRACING TO DRUM DRIPS (6 PER PARKING LEVEL).
- THE INDOOR METAL ENCLOSED HIGH VOLTAGE SWITCHGEAR MUST BE CERTIFIED TO STANDARD CSA C22.2 No. 3. RULE 2-024, BULLETIN 36-6-19.
- THE LOCATION OF THE HIGH VOLTAGE CONDUCTORS ENCASED OR EMBEDDED IN CONCRETE OR MASONRY SHALL BE INDICATED BY PERMANENT MARKERS SET IN THE WALLS, FLOORS OR CEILINGS AT INTERVALS OF NOT MORE THAN 3M. RULE 36-100 (4).
- CONDUCTORS USED FOR THE CONNECTION TO DRY TYPE TRANSFORMERS SHALL BE PERMITTED TO ENTER A TRANSFORMER THROUGH THE TOP, ONLY WHERE THE TRANSFORMER IS MARKED TO PERMIT SUCH ENTRY. RULE 26-240 (3).
- THE PRIMARY "HO" CONNECTION OF THE HIGH VOLTAGE TRANSFORMER SHALL BE CONNECTED TO THE UTILITY COMPANY'S SYSTEM NEUTRAL, WHEN REQUIRED BY THE UTILITY COMPANY. RULE 2-034.

ELECTRICAL LEGEND

LIGHTING

- FLUORESCENT LIGHT FIXTURE TYPE AS NOTICED
- NIGHT LIGHT OR LIGHT CONNECTED TO EMERGENCY POWER
- CEILING MOUNTED WALL MOUNTED LIGHT FIXTURE
- INScribed LETTER DENOTES TYPE
- POLE MOUNTED LIGHT FIXTURE
- INScribed LETTER DENOTES TYPE
- CANTILEVER CEILING LIGHT OUTLET
- TRACK LIGHT
- STEP LIGHT
- UNDER CABINET FLUORESCENT LIGHT FIXTURE
- CEILING MOUNTED WALL MOUNTED EXIT SIGN
- EMERGENCY LIGHT FIXTURE
- EMERGENCY BATTERY PACK
- OCCUPANCY SENSOR POWER PACKS
- 1/4" / 1/8" SINGLE/THREE POLE SINGLE/THREE THRU SINGLE SWITCH RESPECTIVELY
- 1/4" / 1/8" / 3" / 4" / 2" DENOTES 3-WAY/4-WAY/FLYOUT LIGHT, OTHER SWITCHED LIGHT RESPECTIVELY
- MASTER LIGHTING SWITCH/ OFF SWITCH
- SENSOR WALL SWITCH PIR SELF POWERED
- OCCUPANCY SENSOR CEILING MOUNTED

POWER

- REGULAR DUPLEX RECEPTACLE
- DUPLEX RECEPTACLE GROUND FAULT INTERRUPT
- 3-20R 1-60T DUPLEX RECEPTACLE
- SINGLE RECEPTACLE TYPE AND CONFIGURATION AS SPECIFIED FOR DRYER
- CONNECTION FOR OVERCOOKTOP
- ABOVE COUNTER DEVICE
- CEILING MOUNTED DEVICES
- FLOOR MOUNTED DEVICES
- DISCONNECT SWITCH NON-FUSED
- DISCONNECT SWITCH FUSED
- CORPORATION STRAFER
- FRACTIONAL MOTOR/FAN DIRECT CONNECTION
- DIRECT CONNECTION SINGLE PHASE
- DIRECT CONNECTION THREE PHASE
- THERMOSTAT
- DRYER SENSOR
- HEAT TRACE
- ELECTRICAL HEATER
- ELECTRICAL PANEL / SECURITY PANEL

TELECOMMUNICATION

- TV/CABLE OUTLET
- TELEPHONE OUTLET
- TELEPHONE CABLE (MULTI-PORT OUTLET)
- DATA OUTLET
- DATA/TELEPHONE OUTLET
- IN SITE TELEPHONE BOX C/W RECEPTACLE
- LIFT LOCATION
- MUSIC SPEAKER / VOLUME CONTROL
- RADIO RECEIVER

SECURITY

- INTERCOM / INTERPHONE
- INTERCOM WITH CAMERA
- PANIC BUTTON / PANIC INTERCOM STATION
- CARD READER
- AUTOMATIC RELEASE CARD ACCESS/RADIO
- ELECTRIC STRIKE
- MAGLOCK
- DOOR CONTACT / WINDOW CONTACT
- AUTOMATIC DOOR OPERATOR
- MOTION DETECTOR
- PUSH BUTTON
- SECURITY CAMERA

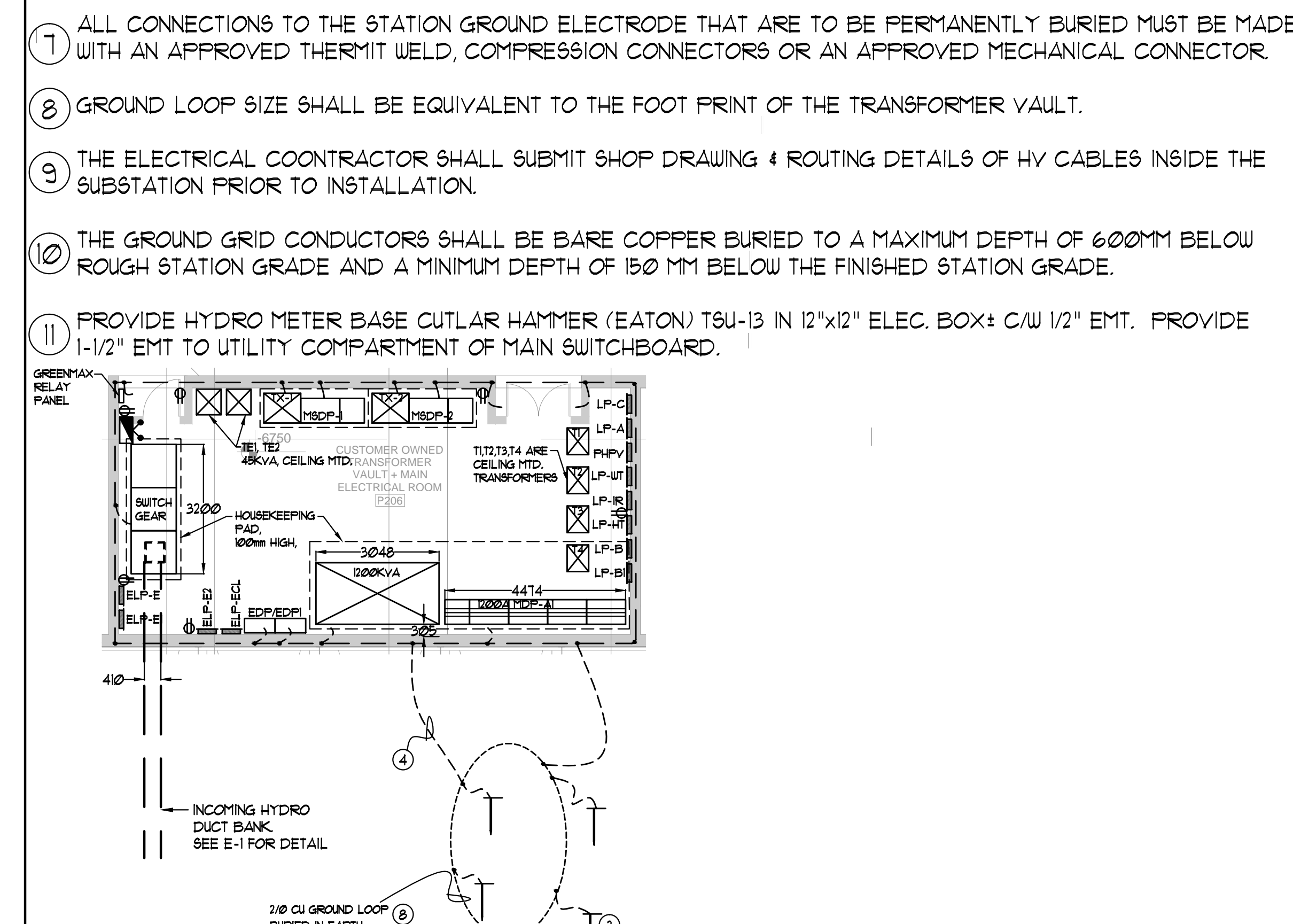
LIFE SAFETY

- FIRE ALARM SPOKE DETECTOR
- SPOKE ALARM
- FIRE ALARM DUCT TYPE SPOKE DETECTOR
- FIRE ALARM HEAT DETECTOR
- FIRE ALARM WINDCUTTER HEAT DETECTOR
- MOISTURE PROOF HEAT DETECTOR
- CO ALARM
- COMBINATION SPOKE & CO ALARM
- CO SENSOR / NO SENSOR
- FIRE ALARM MANUAL CALL STATION
- PREPAREDNESS HANGSET
- FIRE ALARM STROBES/WALL MTD.
- FIRE ALARM 110V-HORN WALL MTD.
- FIRE ALARM 110V-HORN CEILING MTD.
- FIRE ALARM SPEAKER/STROBE CEILING MTD.
- FIRE ALARM SPEAKER CEILING MTD.
- MOTION DETECTOR
- PUSH BUTTON
- SECURITY CAMERA

KEY NOTES (FOR CUSTOMER OWNED SUBSTATION):

- GROUND LOOP PER ONT. ELEC. SAFETY CODE SECTION 10.
- PROVIDE 3/4" X 10 FT STEEL GROUND RODS BURIED IN EARTH & CONNECT TO GROUND BUS BY 2-2/0 STRANDED COPPER WIRES. MIN. OF GROUND RODS SHALL BE SPACED AT LEAST 3 METERS APART.
- ALL DOOR FRAMES, SWITCHGEAR FRAMES & OTHER METAL OBJECTS SHALL BE BONDED TO THE GROUND BUS. METAL FRAME OF BUILDING TO BE CONNECTED TO GROUND GRID BY MIN. OF 2-2/0 CU. CONDUCTORS.
- CONNECT STATION GROUND WITH IN-EARTH GROUND LOOP BY MIN. OF 2 LEADS SEPARATED BY A MINIMUM OF 2 METERS.
- WARNING SIGNS TO BE POSTED AS PER ONT. ELEC. SAFETY CODE RULES: 36-006, 36-100(A), 2-100, 14-506(D) BULLETIN 36-12-0, BULLETIN 36-6-11
- LOW VOLTAGE NEUTRAL 'XO' OF TRANSFORMER MUST BE GROUNDED TO THE SUBSTATION ELECTRODE WITH 3/0 AWG COPPER AND THE NEUTRAL INSTALLED TO THE SERVICE EQUIPMENT. THE 'XO' SHALL ALSO BE BONDED TO THE TRANSF. ENCLOSURE/GROUND BUS WITH A MIN. 500 MCM COPPER CONDUCTOR.

- ALL CONNECTIONS TO THE STATION GROUND ELECTRODE THAT ARE TO BE PERMANENTLY BURIED MUST BE MADE WITH AN APPROVED THERMIT WELD, COMPRESSION CONNECTORS OR AN APPROVED MECHANICAL CONNECTOR.
- GROUND LOOP SIZE SHALL BE EQUIVALENT TO THE FOOT PRINT OF THE TRANSFORMER VAULT.
- THE ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWING & ROUTING DETAILS OF HV CABLES INSIDE THE SUBSTATION PRIOR TO INSTALLATION.
- THE GROUND GRID CONDUCTORS SHALL BE BARE COPPER BURIED TO A MAXIMUM DEPTH OF 600MM BELOW ROUGH STATION GRADE AND A MINIMUM DEPTH OF 150 MM BELOW THE FINISHED STATION GRADE.
- PROVIDE HYDRO METER BASE CUTLAR HAMMER (EATON T8U-13 IN 12"x12" ELEC. BOX+ C/W 1/2" EMT. PROVIDE 1-1/2" EMT TO UTILITY COMPARTMENT OF MAIN SWITCHBOARD.



A ELECTRICAL & SWITCH GEAR ROOM PLAN VIEW & GROUNDING DETAILS
E-2 SCALE 1:100

ONLY FOR P-1 (OR FLOOR WITH HY TRANSFORMER) FREEZE FOR OTHER PARKING LEVELS.

KEY NOTES - PARKING:

- FOR CIRCUITING, REFER TO TABLE #1.
- PROVIDE ALARM SPEAKERS SMOKE DETECTOR AND RECEPTACLE AT EVERY THIRD FLOOR STAIR WELL STARTING FROM TOP FLOOR, AS PER TO DUG. E-32 FOR FIRE ALARM RISER DIAGRAM.
- SANITARY TRAPS ARE TO BE HEAT TRACED BY DIV. 16. CONNECT TO CIRCUIT "XXXX".
- SANITARY AND STORM LINE IN PARKING FLOORS ARE TO BE HEAT TRACED WITH SELF REGULATING CABLE BY DIV. 16. CONNECT TO GFI CIRCUIT AS SHOWN.
- ACTIVATION OF FIRE ALARM SYSTEM SHALL ACTIVATE THE SUPPLY FANS. WHEN THE DUCT TYPE SMOKE DETECTOR IS ACTIVATED, THE ASSOCIATED SUPPLY FAN SHALL BE TURNED OFF. WHEN THE MOTORIZED DAMPER IS ACTIVATED, THE DOOR SHALL BE RELEASED AND OPENED.
- ELECTRICAL CONTRACTOR SHALL PROVIDE A RECEPTACLE C/W 1-1/2" CONDUIT TO 120/208V PANEL E.V. WITH METERS FOR HEVY (PLUG-IN HYBRID ELECTRIC VEHICLES); XX DEDICATED 1ø, 208V, 20A CIRCUITS.
- ALLOCATE 2, 120V, 15A CCTS FROM PANEL 'X' FOR MECHANICAL CONTROL. CONTRACTOR COORDINATE WITH DIV. 15 FOR EXACT LOCATION. REFER TO PANEL SCHEDULE FOR CCT# X-XX, X-XXX
- F.H.C. IN UNHEATED AREAS ARE TO BE HEAT TRACED BY DIV. 16. CONNECT TO GFI CIRCUIT AS SHOWN.
- CONTROL PANEL FOR SANITARY PUMP AND STORM PUMP BY DIV. 15. POWER CONNECTION UP TO CONTROL PANELS SHALL BE INSTALLED BY DIV. 16 CONTRACTOR. THIS CONTRACTOR SHALL SUPPLY UNDER SLAB CONDUITS FOR POWER AND CONTROL WIRING FROM CONTROL PANELS TO SANITARY/SUMP PIT.
- INSTALL 3/4" C CONDUIT C/W FULL STRING FROM SANITARY AND STORM PUMP CONTROL PANEL TO CONCERGE DECK AND CACF FOR HIGH WATER ALARM SYSTEM.

REVISIONS

NO.	DESCRIPTION	DATE

CONTRACTOR MUST CHECK AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND REPORT DISCREPANCIES TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THIS DRAWING IS THE PROPERTY OF THE ENGINEER AND IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF THE ENGINEER.

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PROFESSIONAL ENGINEER
REGISTERED ELECTRICAL ENGINEER

DATE: FEB, 13 1313
 DRAWN BY: S.O.
 CHECKED BY: S.T.
 SCALE: 1:100
 PROJECT NUMBER: E-2
 DRAWING NUMBER: 01