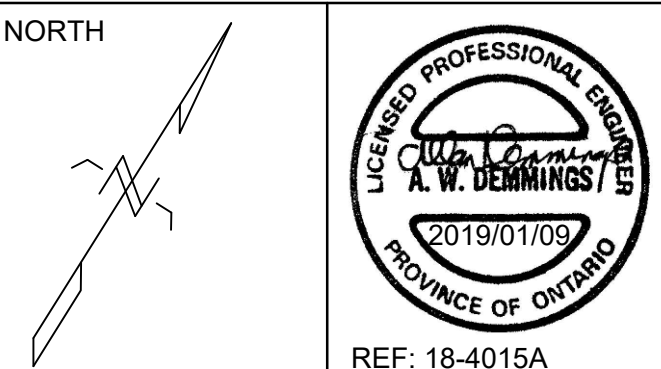


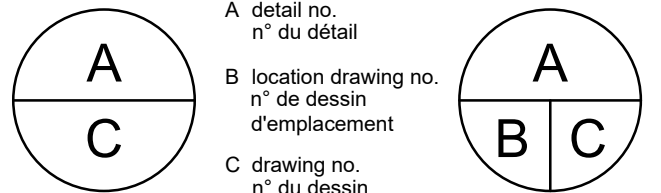
1. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ISSUES/PROBLEMS WHICH MAY OCCUR AS A RESULT OF A FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY.
2. DO NOT SCALE DRAWINGS. REFER ANY DIMENSIONAL CLARIFICATIONS AND/OR POSSIBLE TRADE INTERFERENCE/CONFLICTS TO DEPARTMENT REPRESENTATIVE FOR CLARIFICATION PRIOR TO COMMENCEMENT OF THE WORK.
3. THE POSITION OF POLE LINES, CONDUITS, WATERMANS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON DRAWING. AND, WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, THE CONTRACTOR SHALL INFORM THEMSELVES OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM.



Contractor to verify all dimensions & conditions on site and immediately notify department representative of all discrepancies.

4	ISSUED FOR TENDER	2019/01/09
3	RE-ISSUED FOR 100% REVIEW	2018/12/14
2	ISSUED FOR 100% REVIEW	2018/12/05
1	ISSUED FOR 99% REVIEW	2018/11/26
0	ISSUED FOR 66% REVIEW	2018/10/17

révisions	description	date
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project project

JUSTICE BUILDING ELECTRICAL WORK 2018

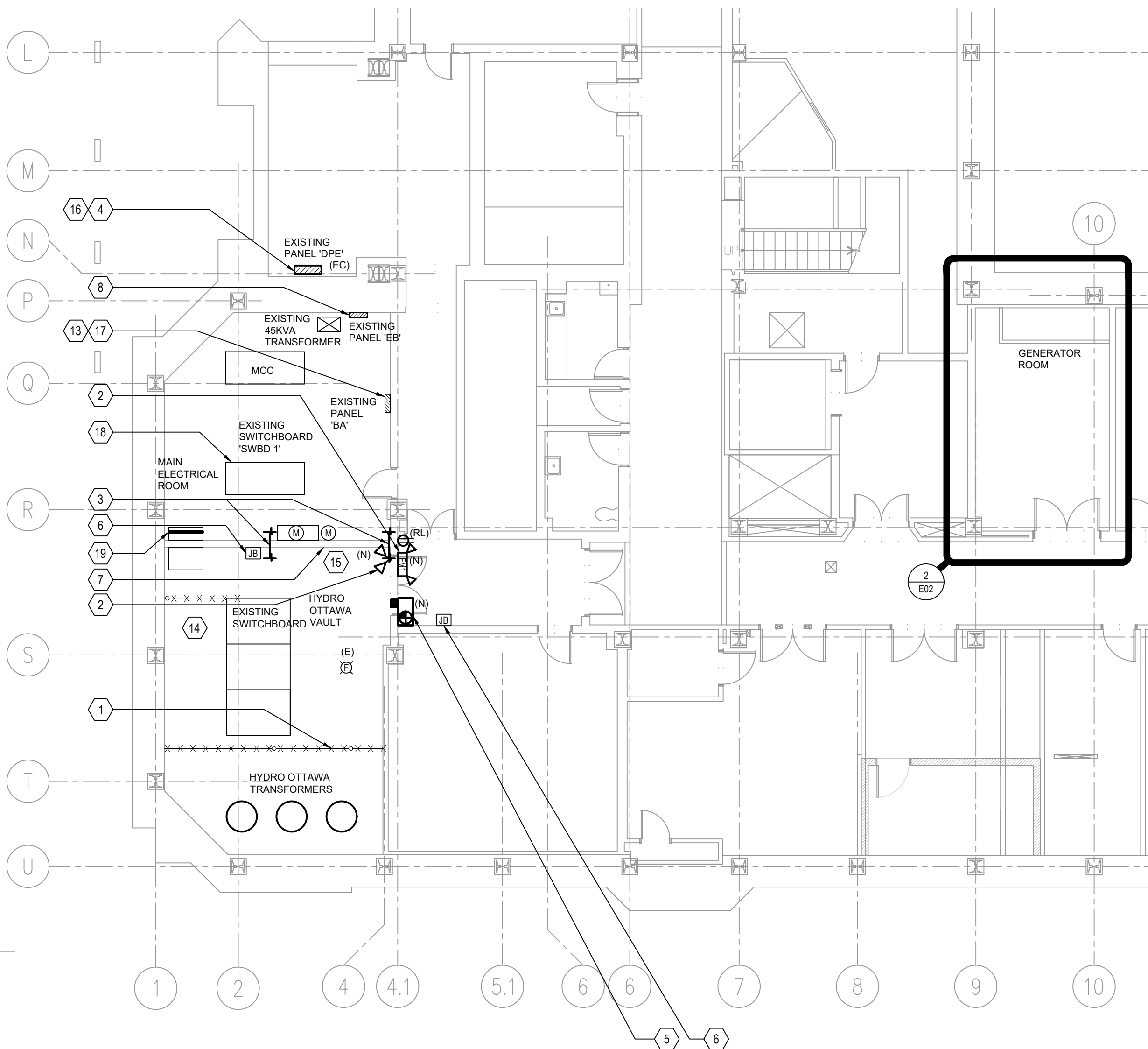
284 Wellington St., Ottawa (Ontario)

drawing dessin

ELECTRICAL BASEMENT & SLD NEW WORK

Designed By	A. Demmings	Conçu par	November 2018
Date	November 2018	(yyyy/mm/dd)	
Drawn By	E. Yeh	Dessiné par	November 2018
Date	November 2018	(yyyy/mm/dd)	
Reviewed By	S. Larocque	Examiné par	November 2018
Date	November 2018	(yyyy/mm/dd)	
Approved By	...	Approuvé par	...
Date	...	(yyyy/mm/dd)	
Tender	Chestney Grant	Soumission	
Project Manager	Administrateur de projet		
Project no.	n° de projet		
Drawing no.	n° du dessin		

E02

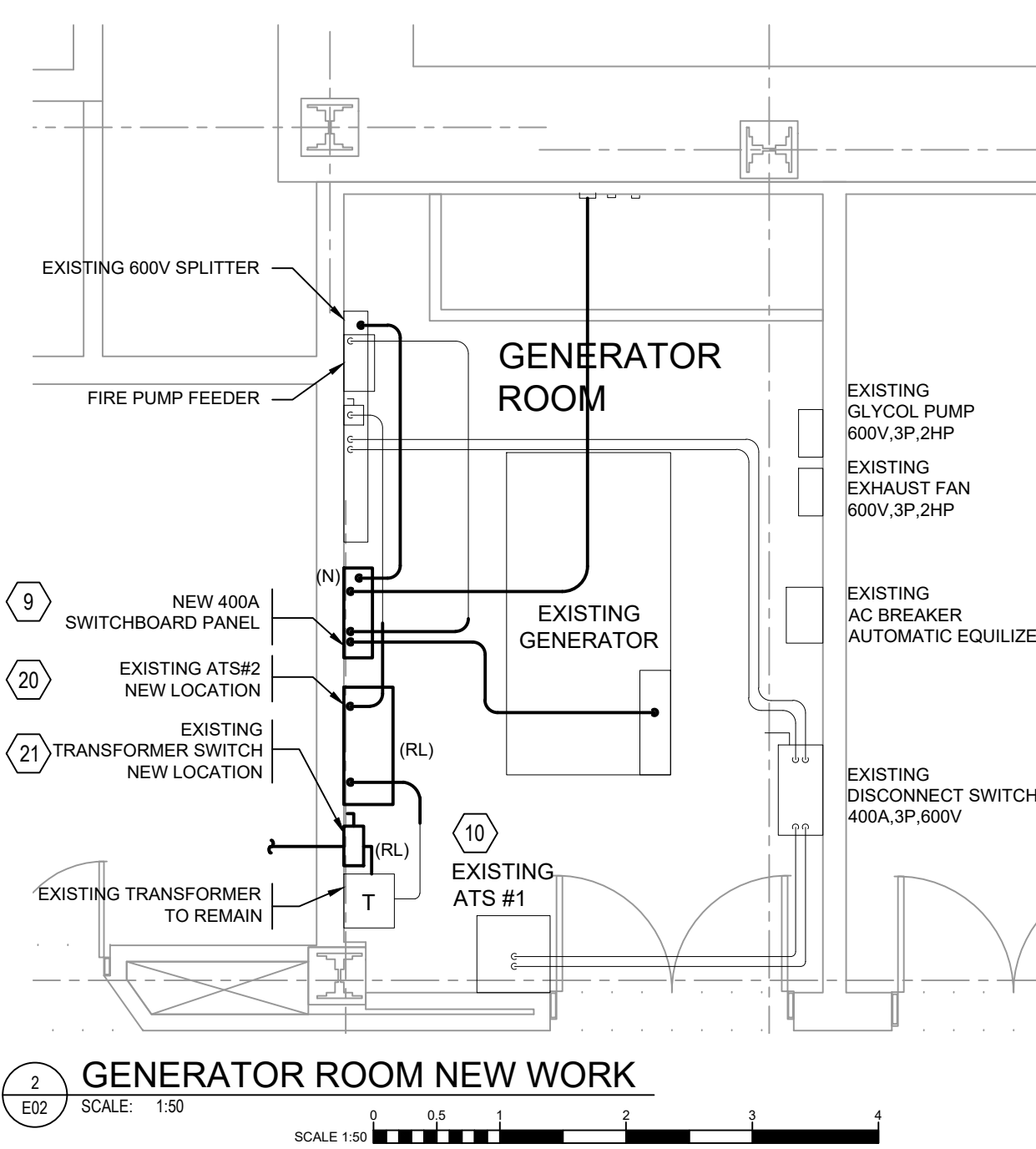


ELECTRICAL - BASEMENT NEW WORK

1 E02

SCALE: 1:100

SCALE 1:100



GENERATOR ROOM NEW WORK

2 E02

SCALE: 1:50

SCALE 1:50

GENERAL CONSTRUCTION NOTES

1. REPLACE EXISTING 15A, 2P CIRCUIT BREAKER #2 LABELED "HOT FOOD WELL", EXISTING 20A, 1P CIRCUIT BREAKER #40 LABELED "SPARE" AND REPLACE 15A, 1P CIRCUIT BREAKER #24 LABELED "DRINK MACHINE" WITH NEW CIRCUIT BREAKERS OF SAME RATINGS. INSIDE ELECTRICAL PANEL 'GE' IN ROOM 3B. (PANEL NOT SHOWN ON THESE DRAWINGS)
2. REPLACE EXISTING 50A, 3P CIRCUIT BREAKER (CIRCUITS 25/27/29) WITH NEW OF SAME RATINGS IN ELECTRICAL PANEL EB-1 IN ROOM 605. (PANEL NOT SHOWN ON THESE DRAWINGS)
3. REPLACE EXISTING 15A, 1P CIRCUIT BREAKER LABELED "OFFICE 2002" WITH NEW CIRCUIT BREAKER OF SAME RATING, INSIDE ELECTRICAL PANEL '2C' LOCATED IN ROOM 203. (PANEL NOT SHOWN ON THESE DRAWINGS)
4. PROVIDE 21MM CONDUIT FROM ATS TO ELEVATOR CONTROL IN ELEVATOR MACHINE ROOM 1102 FOR CONNECTION OF 'PRE-TRANSFER' SIGNAL. (ROUTING OF CONDUITS NOT SHOWN ON THESE DRAWINGS)

GENERAL NOTES

1. THIS CONTRACTOR SHALL ENSURE THAT CLEARANCES REQUIRED BY THE CEC 2018 FOR EQUIPMENT AND PANELS.
2. THIS CONTRACTOR TO PROVIDE PULL BOXES EVERY 30m OR EVERY TWO 90° BENDS OR WHEN NECESSARY.
3. THIS CONTRACTOR SHALL DETERMINE ALL WIRING AND CONDUIT LENGTHS.

CONSTRUCTION NOTES

- 1 PROVIDE NEW "DANGER HIGH VOLTAGE" SIGN AND INSTALL ON FENCE DOOR. REFER TO CEC 2018 SECTION 36-006 (1) (a).
- 2 PROVIDE NEW EMERGENCY BATTERY UNIT COMPLETE WITH 7W LED HEADS ON WALL AND OUTLET ABOVE DOORS. PROVIDE NEW DUAL LED BATTERY HEADS INSIDE VAULT.
- 3 CUT BACK EMPTY CONDUITS THROUGH VAULT WALL AND PROVIDE 2 HOUR RATED FIRE STOP SEALANT AROUND AND INSIDE CONDUITS. THIS CONTRACTOR SHALL CONFIRM QUANTITIES AND LOCATIONS ON SITE. ALLOW FOR FOUR (4) CONDUITS TO BE CUT BACK.
- 4 PROVIDE NEW 22KAIC RATED INTERIOR AND CIRCUIT BREAKERS AND INSTALL IN EXISTING TUB FOR PANEL 'DPE'. CIRCUIT BREAKERS SHALL BE A MINIMUM OF 22KAIC RATED AND SHALL HAVE THE SAME AMPERE RATINGS AND NUMBER OF POLES AS THE ONES BEING REPLACED. RE-CONNECT EXISTING LOADS.
- 5 PROVIDE NEW ASPRATING TYPE SMOKE DETECTOR COMPLETE WITH DETECTION TUBING. MOUNT DETECTOR OUTSIDE OF HYDRO VAULT, AND CONNECT TO 120V CIRCUIT FROM EMERGENCY POWER ELECTRICAL PANEL. RE-USE EXISTING ADDRESS FOR VAULT CEILING MOUNTED SMOKE DETECTOR THAT WAS REMOVED, AND CONNECT TO EXISTING BUILDING FIRE ALARM PANEL.
- 6 PROVIDE COVERS PLATE ON EXISTING OPEN JUNCTION BOXES. ALLOW FOR FOUR (4) COVERS TO BE INSTALLED.
- 7 PROVIDE SINGLE LINE DIAGRAM TO CLEARLY IDENTIFY INTERLOCKS, ISOLATION MEANS, AND ALL SOURCES OF VOLTAGE AND MOUNT DIAGRAM ON WALL. REFER TO CEC 2018 SECTION 36-006 (5) (A). PROVIDE NEW NAMEPLATES FOR HIGH VOLTAGE SWITCHGEAR INSIDE VAULT TO ENSURE NAMES ON EQUIPMENT MATCH THOSE ON THE SINGLE LINE DIAGRAM.
- 8 PROVIDE ONE NEW 15A, 1P CIRCUIT BREAKER IN EXISTING 120/208V PANEL 'EB'. PROVIDE ONE NEW SURFACE MOUNTED DUPLEX RECEPTACLE BESIDE PANEL 'EB' AND ELECTRICALLY RECONNECT.
- 9 INSTALL NEW 400A, 3P, 347/600V SWITCHBOARD WITH 400A, 3P BREAKER FOR BUILDING EMERGENCY POWER FEEDING EXISTING SPLITTER, 400A, 3P BREAKER FOR CONNECTION OF LOAD BANK TEST AND/OR PORTABLE GENERATOR AND 400A, 3P FOR THE FEED FROM THE GENERATOR. PROVIDE KIRK INTERLOCKS TO ENSURE ONLY ONE GENERATOR IS CONNECTED AT A TIME. PROVIDE WARNING SIGN ON SWITCHBOARDS, READING, "WARNING: NEVER CONNECT A MOBILE GENERATOR TO THE EXTERIOR CABINET WHEN IN LOAD BANK TEST CONFIGURATION (WHEN BREAKERS B1 AND B2 ARE CLOSED). REFER TO OPERATING SEQUENCE IN GENERATOR ROOM." SEE SINGLE LINE DIAGRAM FOR CONNECTIONS.
- 10 EXISTING ATS #1 UNIT TO REMAIN, AND TO BE MODIFIED WITH KIRK-KEY INTERLOCK AND TRIP COIL AS SHOWN.
- 11 PROVIDE GROUNDING #4/0 CONNECTOR TO GROUND BUS IN PANELBOARD.
- 12 PROVIDE TRIP COIL TO TRANSFER BUILDING LOAD IN CASE OF POWER FAILURE DURING GENERATOR LOAD BANK TEST. ATS NORMAL POWER CONTACT AND BREAKER B1 CONTACT TO CLOSE.
- 13 MAIN ELECTRICAL ROOM: PROVIDE NEW BREAKERS 20A-1P FOR MOBILE GENERATOR BATTERY CHARGER, AND 30A, 1P FOR MOBILE GENERATOR BLOCK HEATER IN EXISTING PANEL 'BA', AND CONNECT TO NEW EXTERIOR GENERATOR DUPLEX PURPOSE DOCKING STATION.
- 14 COORDINATE WITH BUILDING PROJECT MANAGER AND HYDRO OTTAWA FOR ACCESS INTO TRANSFORMER VAULT AND ALL REQUIRED POWER SHUTDOWNS TO ELECTRICAL SERVICE TO PERFORM ALL WORK INSIDE VAULT.
- 15 PROVIDE SURFACE REPAIR OF CRACKS AND CHIPS IN CONCRETE FLOOR SLAB OF VAULT. SAW CUT LARGER CRACKS AND INJECT GROUT. ALLOW FOR 3 METERS OF SAW CUTTING, AND RE-PAINT GREY. SEE DRAWING E01 DETAIL 1.
- 16 PROVIDE ADDITIONAL SUPPORTS FOR 2-HOUR FIRE RATED CABLES RUN FROM PANEL 'DPE' IN BASEMENT TO PANEL 'DPEP' IN MECHANICAL PENTHOUSE AT TOP OF BUILDING. THE SPACING BETWEEN SUPPORTS SHALL BE NOT MORE THAN 915MM ON CENTRE FOR STRAPS/GEAR CLAMPS. PROVIDE AND INSTALL SUPPORTS AS PER CABLE MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS.
- 17 REPLACE EXISTING 15, 2P CIRCUIT BREAKER LABELED "BLOCK HEATER" WITH NEW CIRCUIT BREAKER OF SAME RATING, INSIDE ELECTRICAL PANEL 'BA' LOCATED IN MAIN ELECTRICAL ROOM 0023.
- 18 MAKE ADJUSTMENTS TO GROUND FAULT PROTECTION OF MAIN CIRCUIT BREAKER IN SWITCHBOARD SWBD1 TO COORDINATE WITH PHASE PROTECTION OF THE FEEDERS PRESENT SETTINGS FOR MAIN BREAKER ARE:

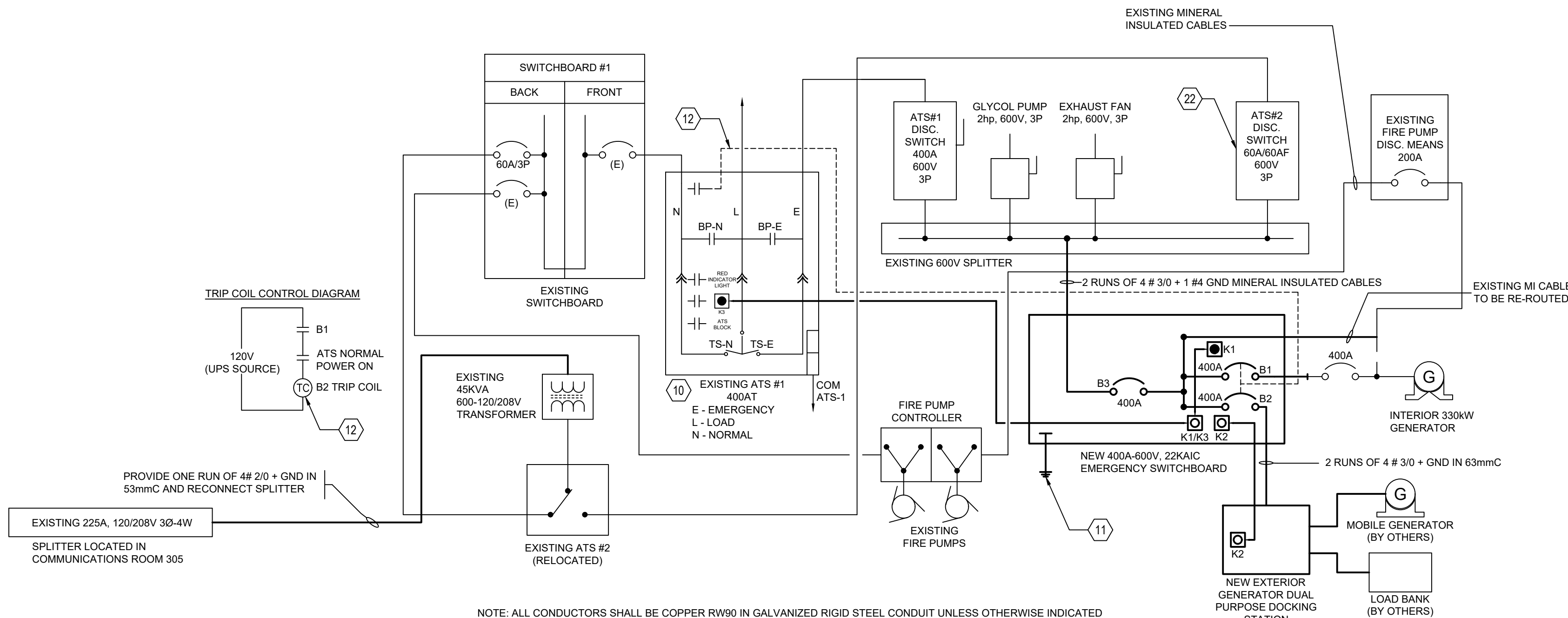
PHASE:
LTPU (50-100 X P) 100% (1600A)
LTD (2.5-30 SEC.) 11
STPU (1.5-9 X P) 4 (6400A)
STD (0.07-0.3 SEC.) 0.2 FIXED (1°S T OFF)
INST (1.5-12 X P) 10 (16000A)

GROUND:
50% GFPU 50% (800A)
GFD (0.1-0.5 SEC.) 0.2 (1°S T OFF)
- 19 SUPPLY AIR DUCT TO TRANSFORMER VAULT WITH REPLACEABLE FILTER AT DISCHARGE OPENING. FED FROM SAME OUTDOOR AIR DUCT AS SF#3. MODIFY AIR DUCT INSIDE ELECTRICAL ROOM FOR INSTALLATION OF SAME SIZED REPLACEABLE AIR FILTER AND REMOVE FILTER FROM INSIDE VAULT. THIS IS TO PLACE THE AIR FILTER IN A MORE ACCESSIBLE SPACE.
- 20 NEW LOCATION OF 70A-3P ATS #2 UNIT. RECONNECT TO FACILITATE THE INSTALLATION OF NEW 400A EMERGENCY SWITCHBOARD. PROVIDE NEW FEEDERS AS REQUIRED.
- 21 NEW LOCATION OF EXISTING 60A-3P, TRANSFORMER DISCONNECT SWITCH. RECONNECT TO FACILITATE THE INSTALLATION OF NEW 400A EMERGENCY SWITCHBOARD. PROVIDE NEW FEEDERS AS REQUIRED.
- 22 PROVIDE THREE NEW 60A, TIME DELAY CLASS 'J' FUSES.

KIRK KEY INTERLOCKS

- K1 - TWO LOCKS (ONE SHARED WITH K3), ONE KEY.
K2 - TWO LOCKS, ONE KEY.
K3 - TWO LOCKS (ONE SHARED WITH K1), ONE KEY.

SEE INTERLOCKING SYSTEMS SPECIFICATIONS FOR SEQUENCE OF OPERATIONS.



NOTE: ALL CONDUCTORS SHALL BE COPPER RW90 IN GALVANIZED RIGID STEEL CONDUIT UNLESS OTHERWISE INDICATED

PARTIAL EMERGENCY SINGLE LINE DIAGRAM NEW WORK

3 E02

SCALE: N.T.S.