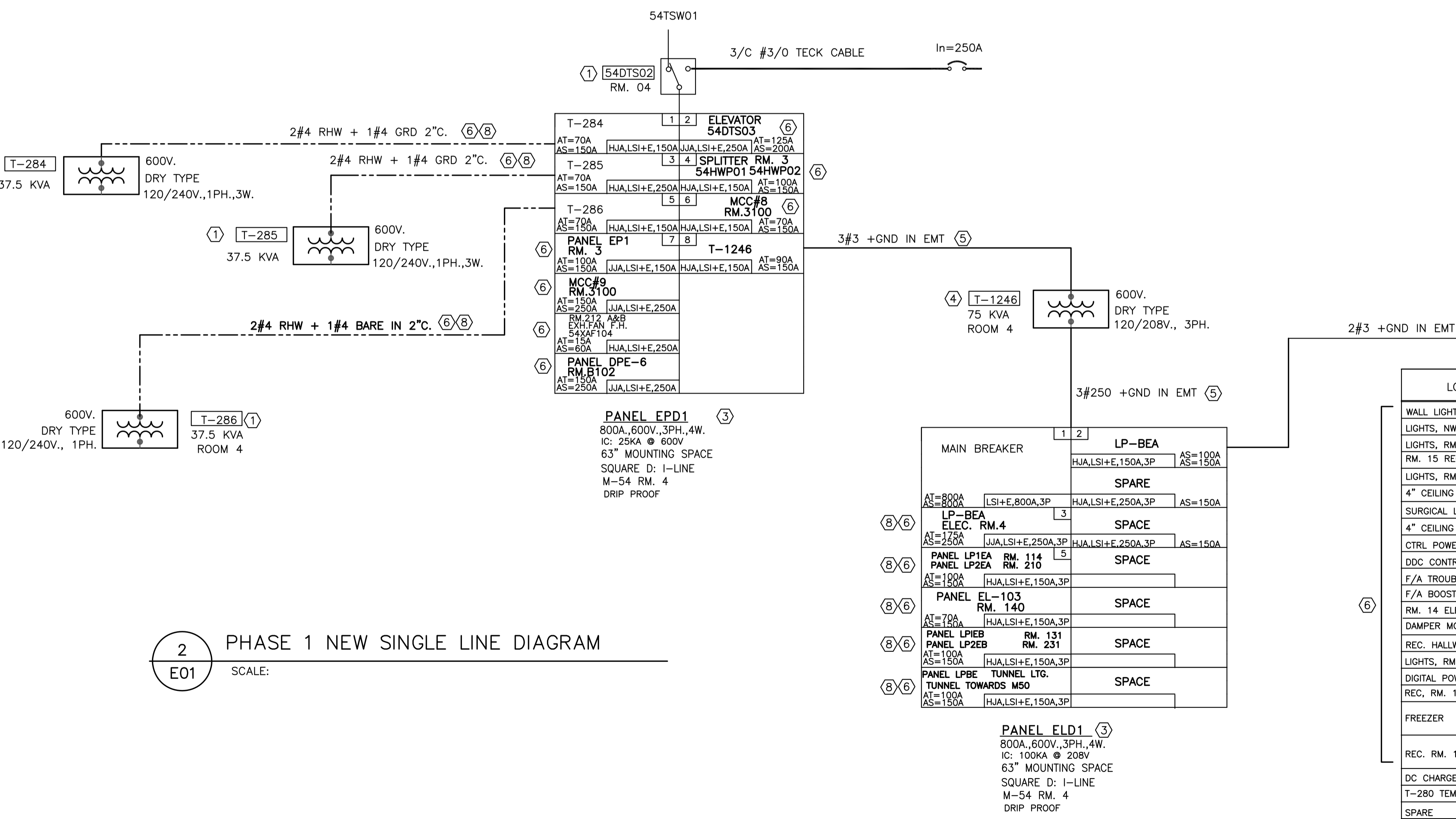


1 PHASE 1 DEMOLITION SINGLE LINE DIAGRAM
SCALE: 1:100



2 PHASE 1 NEW SINGLE LINE DIAGRAM
SCALE: 1:100

DRAWING NOTES

- EXISTING EQUIPMENT AND WIRING IN SOLID LINE TO REMAIN
- EXISTING EQUIPMENT AND WIRING IN DASHED LINE TO BE DEMOLISHED
- PROVIDE NEW SQ D PANELBOARD AS SHOWN.
 - BREAKER WITH SELF POWERED ELECTRONIC TRIP UNIT AS SHOWN.
 - ON BOARD POWER SUPPLY
 - NO COMMUNICATION MODULE
- PROVIDE NEW HAMMOND DRY TYPE TRANSFORMER., COPPER WINDING.
- PROVIDE NEW WIRING AND CONNECTION.
- EXISTING WIRING TO BE RE-ROUTED AND TERMINATED TO NEW SOURCE, PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.
- PROVIDE NEW SQ D NQOD PANEL WITH QB BREAKER AS SHOWN.
- EXISTING SINGLE PHASE FEEDER TO BE CONNECTED TO 3P BREAKER, KEEP LOAD BALANCED AS POSSIBLE.
- EXISTING PANEL TO BE REPLACED WITH NEW SQ D NQOD PANEL, SCHEDULE SEE E07.

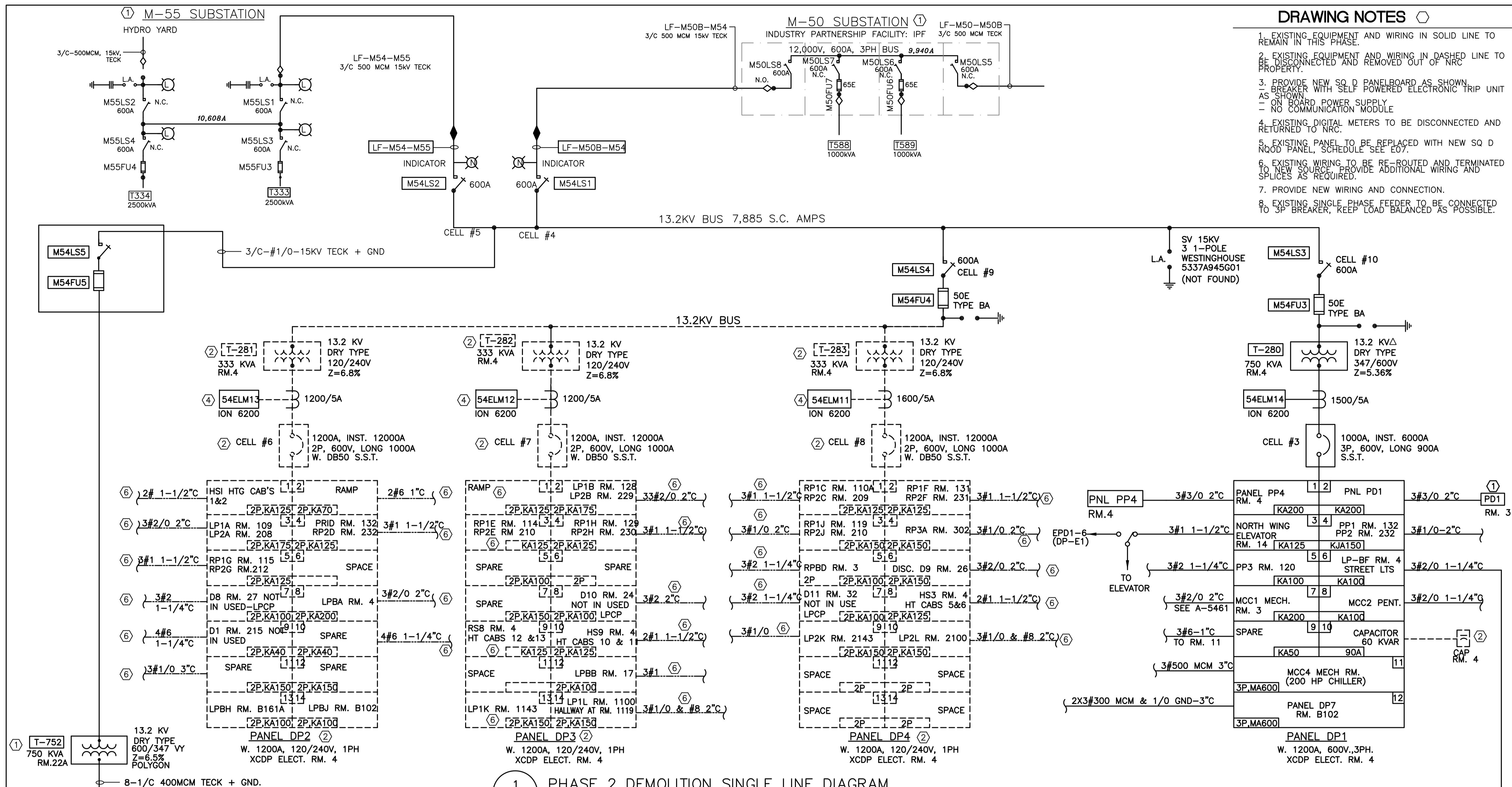


ELECTRICAL GENERAL NOTES

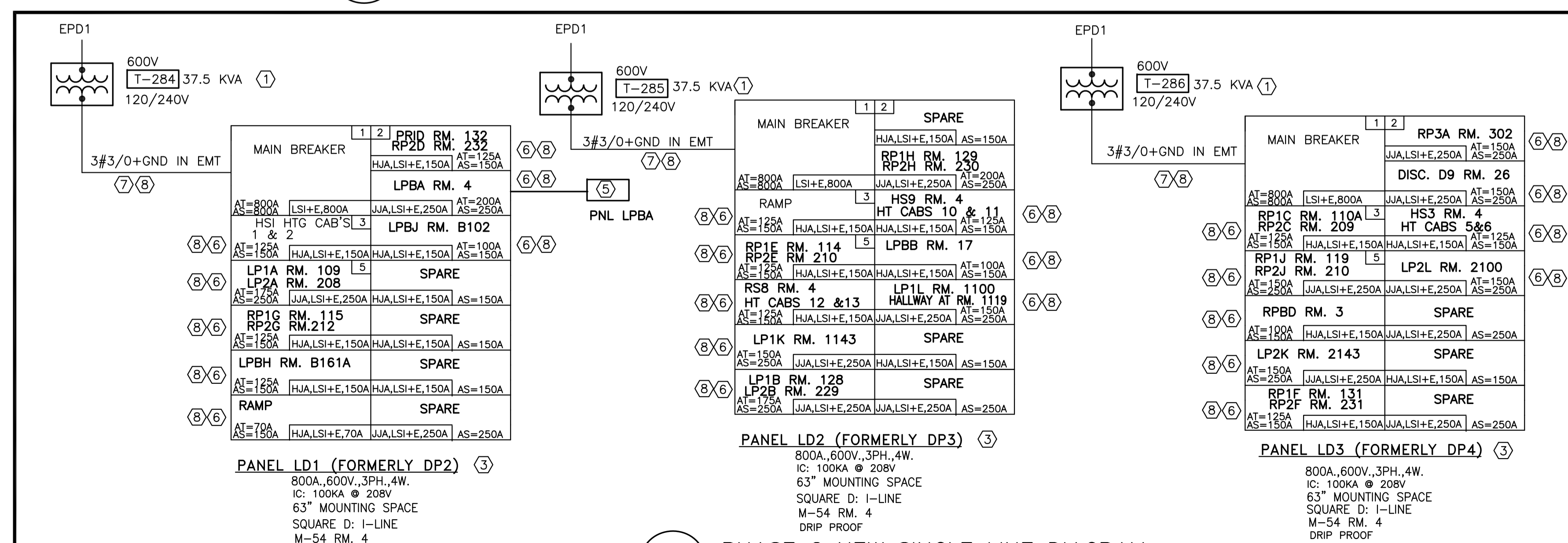
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- CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO NRC DEPARTMENTAL REPRESENTATIVE.
- CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK.
- PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.
- MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.
- FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTRACT AREA. COLOUR SCHEME TO MATCH EXISTING.
- REMOVE MEANS REMOVE AND DISPOSE OF OFF SITE UNLESS OTHERWISE NOTED.
- PROVIDE LABELS TO NEW DEVICES TO INDICATE POWER SOURCE. UPDATE PANEL SCHEDULES AFTER JOB COMPLETION.
- THE WORD "PROVIDE" MEANS SUPPLY, INSTALL, CONNECT AND TEST.
- THE WORD "WIRING" MEANS WIRES/CABLE AND RACEWAY.
- COORDINATE ALL SHUTDOWNS WITH THE NRC DEPARTMENTAL REPRESENTATIVE. OUTAGE IS ONLY SCHEDULED DURING WEEKEND OR AFTER HOUR, UNLESS OTHERWISE SPECIFIED BY NRC REPRESENTATIVE.
- ANY WEEKEND OUTAGE MUST BE CARRIED BETWEEN FRIDAY 1800 AND MONDAY 0300
- ANY AFTER HOUR OUTAGE MUST BE CARRIED BETWEEN SAME DAY 1800 AND NEXT DAY 0300
- ALL LOADS TO BE RESUMED AT THE END OF OUTAGE TO USE NRC OWNED CRANE ON SITE, CONTRACTOR IS REQUIRED TO PROVIDE OWN CERTIFIED CRANE OPERATOR, AND CERTIFY THE CRANE BEFORE AND AFTER EACH OPERATION. AS ALTERNATIVE, CONTRACTOR CAN BRING OWN CRANE.
- CONTRACTOR TO VERIFY INTEGRITY OF EXISTING RACEWAY BY PULLING A BRUSH AND MANDREL BEFORE WIRING.
- ALWAYS PERFORM SCAN BEFORE CORE DRILL.
- VERIFY PHASING AND ROTATION, MATCH THE EXISTING SYSTEM.
- CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGES TO ANY EXISTING BUILDING COMPONENT CAUSED BY CONSTRUCTION ACTIVITIES.

No.	Date	Revision	By:
0	MAR 2019	ISSUED FOR TENDER	KXL

LOAD DESCRIPTION	BKR SIZE	CKT NO	CKT NO	BKR SIZE	LOAD DESCRIPTION
WALL LIGHTS, NE & SW STAIRWELL	20	1	2	20	EXIT LIGHTS, HALLWAY 1st & 2ND FLOOR
LIGHTS, NW STAIRWELL	20	3	4	15	PANEL REC.
LIGHTS, RM. 4 & 6	20	5	6	20	LIGHTS, RM. 3 NORTH
RM. 15 REC. FOR INCUBATOR	15	7	8	20	LIGHTS, RM. 3 SOUTH
LIGHTS, RM. 34	20	9	10	20	LIGHTS, RM. 19, 20, 22
4" CEILING SLAB BOX HALLWAY	20	11	12	20	AIR COMPRESSOR, PRE ACTION SYS. RM 15
SURGICAL LIGHTS RM. 34	20	13	14	15	AUTO STRIKE PANEL
4" CEILING SLAB BOX HALLWAY	20	15	16	15	F/A PANEL, EMERG. LTS RM.19
CTRL POWER, RM. 24 CONTACTOR	20	17	18	20	CTRL POWER, RM. 26 CONTACTOR
DDC CONTROLLER	15	19	20	20	RM. 13 REC
F/A TROUBLE, PRE ACTION	15	21	22	15	EXIT LIGHTS, STAIRWELL LIGHTS,
F/A BOOSTER	15	23	24	15	EXIT LIGHTS, NORTH & SOUTH RM.2,4
RM. 14 ELEVATOR LTS & BELL	15	25	26	15	MASTER CLOCK SYSTEM
DAMPER MOTOR RM. 11	15	27	28	15	A/C FAN COIL, RM. 18
REC. HALLWAY BY ELEVATOR	15	29	30	15	DIESEL FUEL PUMP RM. 6
LIGHTS, RM. 15	15	31	32	15	REC. RM. 12
DIGITAL POWER METER	15	33	34	15	INCUBATOR, RM. 12
REC. RM. 15	15	35	36	20	RM. 12 BIO HOOD
FREEZER	15	37	38	15	RM. 15 FRIDGE
		39	40	15	RM. 15 FRIDGE
		41	42		
		43	44	15	FREEZER REC. BY ELEVATOR
REC. RM. 13	20	45	46	15	SPARE
DC CHARGER	50	47	48	15	SPARE
T-280 TEMPERATURE CONTROLLER	15	49	50	15	SPARE
SPARE	15	51	53	15	SPARE
SPARE	15	53	54	15	SPARE



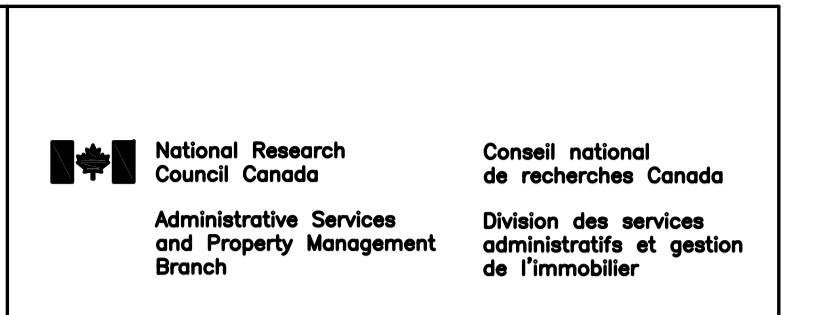
1 PHASE 2 DEMOLITION SINGLE LINE DIAGRAM
SCALE: E02



2 PHASE 2 NEW SINGLE LINE DIAGRAM
SCALE: E02

DRAWING NOTES

1. EXISTING EQUIPMENT AND WIRING IN SOLID LINE TO REMAIN IN THIS PHASE.
2. EXISTING EQUIPMENT AND WIRING IN DASHED LINE TO BE DISCONNECTED AND REMOVED OUT OF NRC PROPERTY.
3. PROVIDE NEW SQ D PANELBOARD AS SHOWN.
 - BREAKER WITH SELF POWERED ELECTRONIC TRIP UNIT AS SHOWN
 - ON BOARD POWER SUPPLY
 - NO COMMUNICATION MODULE
4. EXISTING DIGITAL METERS TO BE DISCONNECTED AND RETURNED TO NRC.
5. EXISTING PANEL TO BE REPLACED WITH NEW SQ D MOOD PANEL, SCHEDULE SEE E07.
6. EXISTING WIRING TO BE RE-ROUTED AND TERMINATED TO NEW SOURCE. PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.
7. PROVIDE NEW WIRING AND CONNECTION.
8. EXISTING SINGLE PHASE FEEDER TO BE CONNECTED TO 3P BREAKER, KEEP LOAD BALANCED AS POSSIBLE.

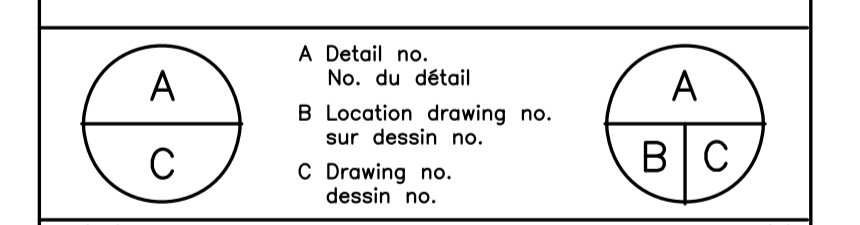


ELECTRICAL GENERAL NOTES

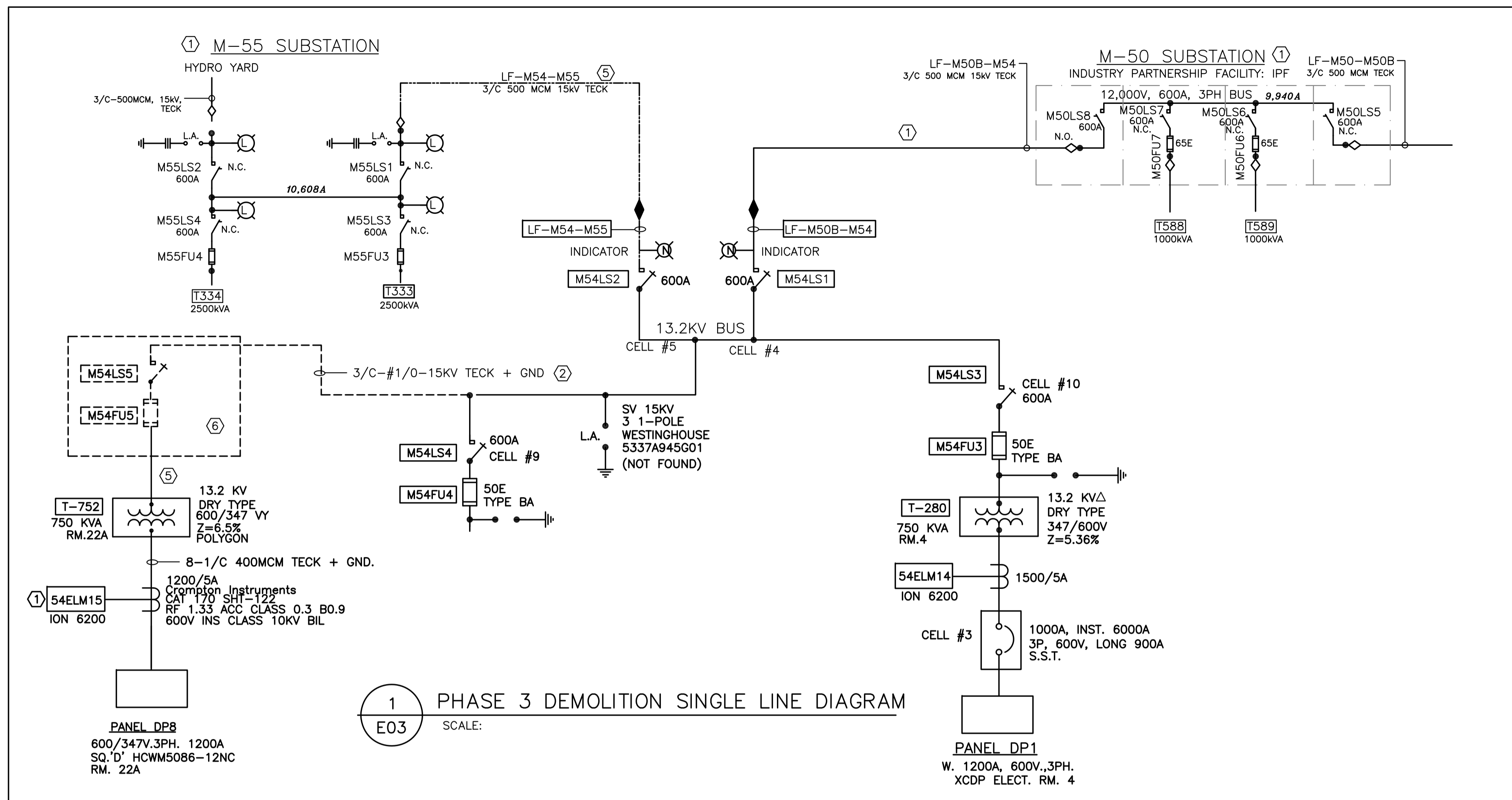
- A. READ THIS DRAWING IN CONJUNCTION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
- B. CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO NRC DEPARTMENTAL REPRESENTATIVE.
- C. CONTRACTORS MUST VISIT THE SITE & FULLY FAMILIARIZE THEMSELVES WITH THE SCOPE OF THE WORK.
- D. PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.
- E. MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK. FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTRACT AREA. COLOUR SCHEME TO MATCH EXISTING.
- G. REMOVE MEANS REMOVE AND DISPOSE OF OFF SITE UNLESS OTHERWISE NOTED.
- H. PROVIDE LABELS TO NEW DEVICES TO INDICATE POWER SOURCE. UPDATE PANEL SCHEDULES AFTER JOB COMPLETION.
- I. THE WORD "PROVIDE" MEANS SUPPLY, INSTALL, CONNECT AND TEST.
- J. THE WORD "WIRING" MEANS WIRES/CABLE AND RACEWAY. ALL WIRE TO BE IN EMT UNLESS OTHERWISE NOTED.
- K. COORDINATE ALL SHUTDOWNS WITH THE NRC DEPARTMENTAL REPRESENTATIVE. OUTAGE IS ONLY SCHEDULED DURING WEEKEND OR AFTER HOUR, UNLESS OTHERWISE SPECIFIED BY NRC REPRESENTATIVE.
- L. ANY WEEKEND OUTAGE MUST BE CARRIED BETWEEN FRIDAY 1800 AND MONDAY 0300.
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- O. CONTRACTOR TO VERIFY INTEGRITY OF EXISTING RACEWAY BY PULLING A BRUSH AND MANDREL BEFORE WIRING. ALWAYS PERFORM SCAN BEFORE CORE DRILL.
- P. VERIFY PHASING AND ROTATION, MATCH THE EXISTING SYSTEM.
- Q. CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGES TO ANY EXISTING BUILDING COMPONENT CAUSED BY CONSTRUCTION ACTIVITIES.
- R. APPLY FIRE STOP TO FILL OUT CAVITY WHERE CONDUIT OR CABLE PENETRATE WALL OR FLOOR.

No.	Date	Revision	By:
0	MAR 2019	ISSUED FOR TENDER	KXL

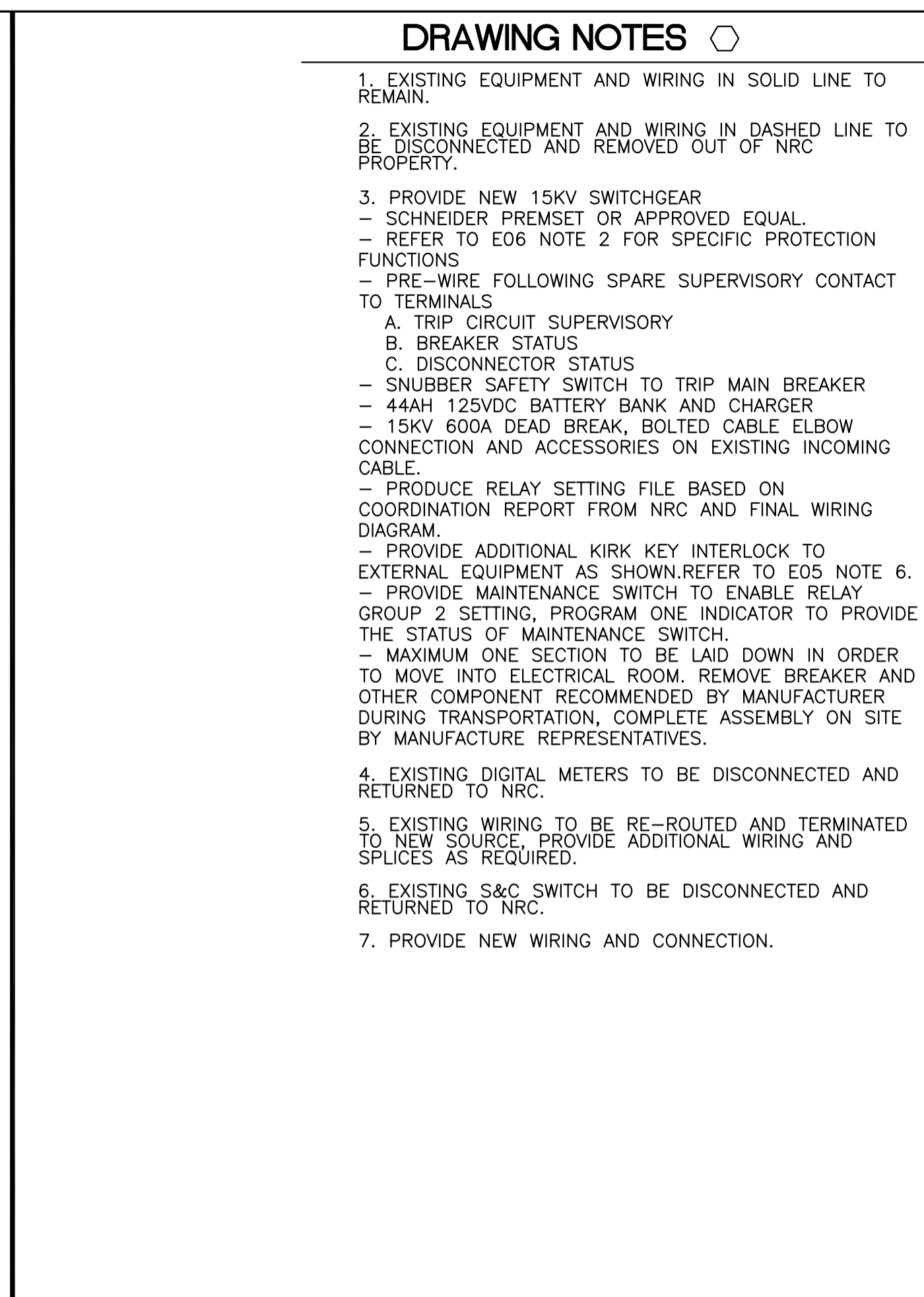
Date Printed DD MM YYYY Date imprimée
 • Verify all dimensions and site conditions and be responsible for same
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project		projet	
BUILDING M-54			
ELECTRICAL ROOM 4 UPGRADE			
MONTREAL ROAD CAMPUS			
drawing			
PHASE 2 SINGLE LINE DIAGRAM			
designed	conçu	date	date
KXL		MAR/2019	
drawn	dessiné	scale	échelle
KXL		NTS	
checked	vérifié	sheet	feuille
DIF		E02 of/de E07	
approved	approuvé	W.O.no.	D.T.no.
DIF		A1-011396-04	
dwg.no.	dessin no.		
5632-E02			



1 PHASE 3 DEMOLITION SINGLE LINE DIAGRAM
E03 SCALE:



2 PHASE 3 NEW SINGLE LINE DIAGRAM
E03 SCALE:

DRAWING NOTES

- EXISTING EQUIPMENT AND WIRING IN SOLID LINE TO REMAIN.
- EXISTING EQUIPMENT AND WIRING IN DASHED LINE TO BE DISCONNECTED AND REMOVED OUT OF NRC PROPERTY.
- PROVIDE NEW 15KV SWITCHGEAR
 - SCHNEIDER PRESET OR APPROVED EQUAL.
 - REFER TO E06 NOTE 2 FOR SPECIFIC PROTECTION FUNCTIONS
 - PRE-WIRE FOLLOWING SPARE SUPERVISORY CONTACT TO TERMINALS
 - TRIP CIRCUIT SUPERVISORY
 - BREAKER STATUS
 - DISCONNECTOR STATUS
 - SNUBBER SAFETY SWITCH TO TRIP MAIN BREAKER
 - 44AH 125VDC BATTERY BANK AND CHARGER
 - 15KV 600A DEAD BREAK, BOLTED CABLE ELBOW CONNECTION AND ACCESSORIES ON EXISTING INCOMING CABLE.
 - PRODUCE RELAY SETTING FILE BASED ON COORDINATION REPORT FROM NRC AND FINAL WIRING DIAGRAM.
 - PROVIDE ADDITIONAL KIRK KEY INTERLOCK TO PREVENT THE SPREAD OF DUST & DEBRIS BEYOND THE WORK AREA AND CLEAN ALL SURFACES AT COMPLETION.
 - MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK.
 - FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTRACT AREA. COLOUR SCHEME TO MATCH EXISTING.
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 - PROVIDE LABELS TO NEW DEVICES TO INDICATE POWER SOURCE. UPDATE PANEL SCHEDULES AFTER JOB COMPLETION.
- EXISTING DIGITAL METERS TO BE DISCONNECTED AND RETURNED TO NRC.
- EXISTING WIRING TO BE RE-ROUTED AND TERMINATED TO NEW SOURCE. PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.
- EXISTING S&C SWITCH TO BE DISCONNECTED AND RETURNED TO NRC.
- PROVIDE NEW WIRING AND CONNECTION.

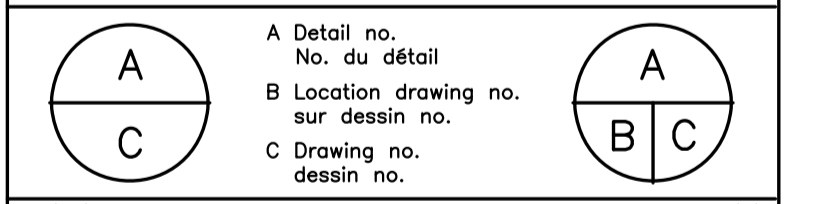


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0	MAR 2019	ISSUED FOR TENDER	KXL

Date Printed DD MM YYYY Date imprimée
 o Verify all dimensions and site conditions and be responsible for same
 o Vérifier toutes les dimensions et l'état des lieux et en assumer la responsabilité



project **BUILDING M-54 ELECTRICAL ROOM 4 UPGRADE** projet
 drawing **PHASE 3 SINGLE LINE DIAGRAM** dessin
 designed **KXL** conçu date **MAR/2019** date
 drawn **KXL** dessiné scale **NTS** échelle
 checked **DIF** vérifié sheet **E03** of/de **E07** feuille
 approved **DIF** approuvé W.O.no. **A1-011396-04** D.T.no.
 dwg.no. **5632-E03** dessin no.

DRAWING NOTES

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- EXISTING EQUIPMENT AND WIRING IN DASHED LINE TO BE DISCONNECTED AND REMOVED OUT OF NRC PROPERTY.
- EXISTING WIRING TO BE RE-ROUTED AND TERMINATED TO NEW SOURCE REFER TO E05. PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.

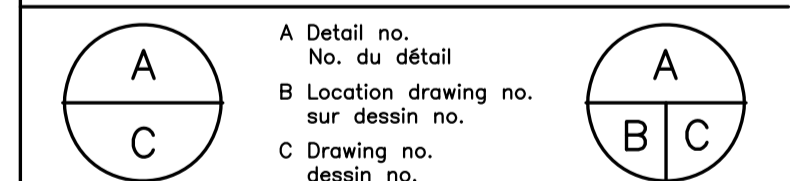
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Date Printed DD MM YYYY / Date imprimée

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project / projet

**BUILDING M-54
ELECTRICAL ROOM 4 UPGRADE**

MONTREAL ROAD CAMPUS

drawing / dessin
**PHASE 4 DEMOLITION
SINGLE LINE DIAGRAM**

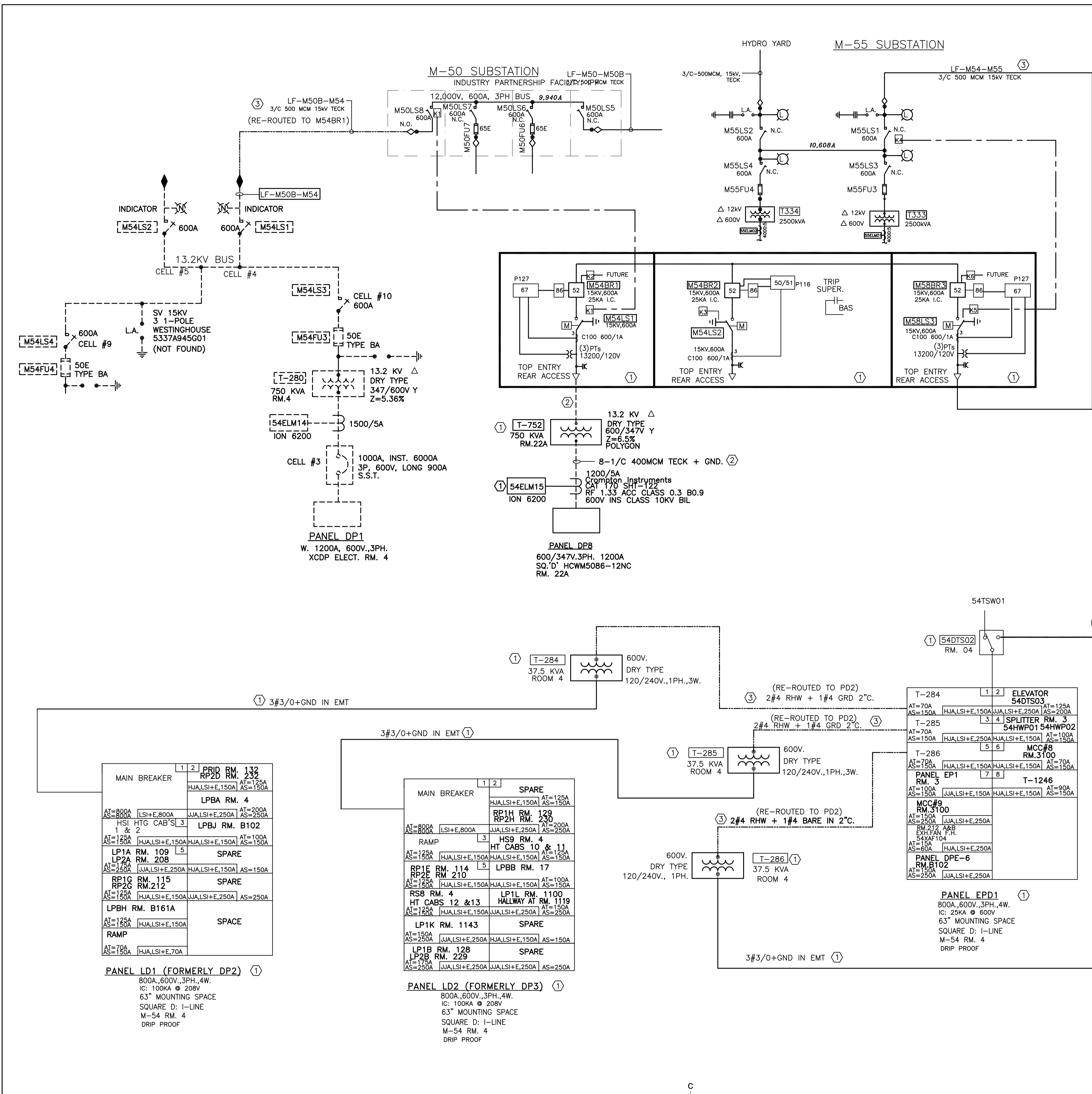
designed / conçu
KXL / date / date
MAR/2019

drawn / dessiné
KXL / scale / échelle
NTS

checked / vérifié
DIF / sheet / feuille
E04 of / de **E07**

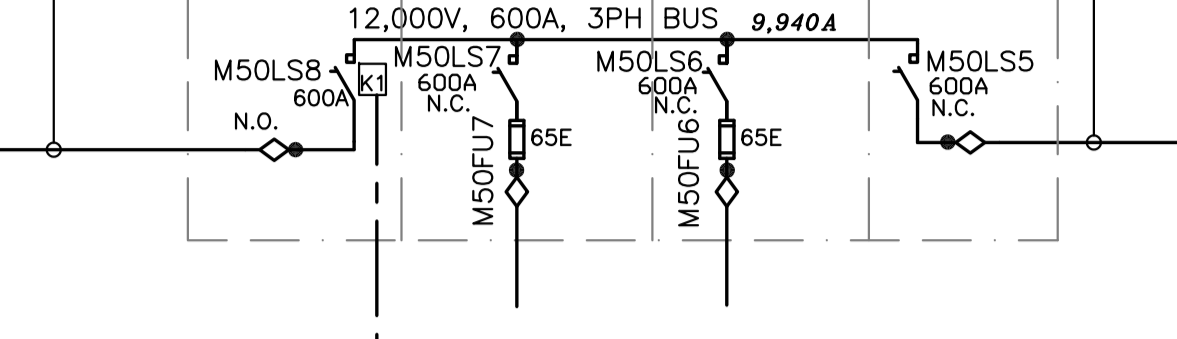
approved / approuvé
DIF / W.O.no. / D.T.no.
A1-011396-04

dwg.no. / dessin no.
5632-E04

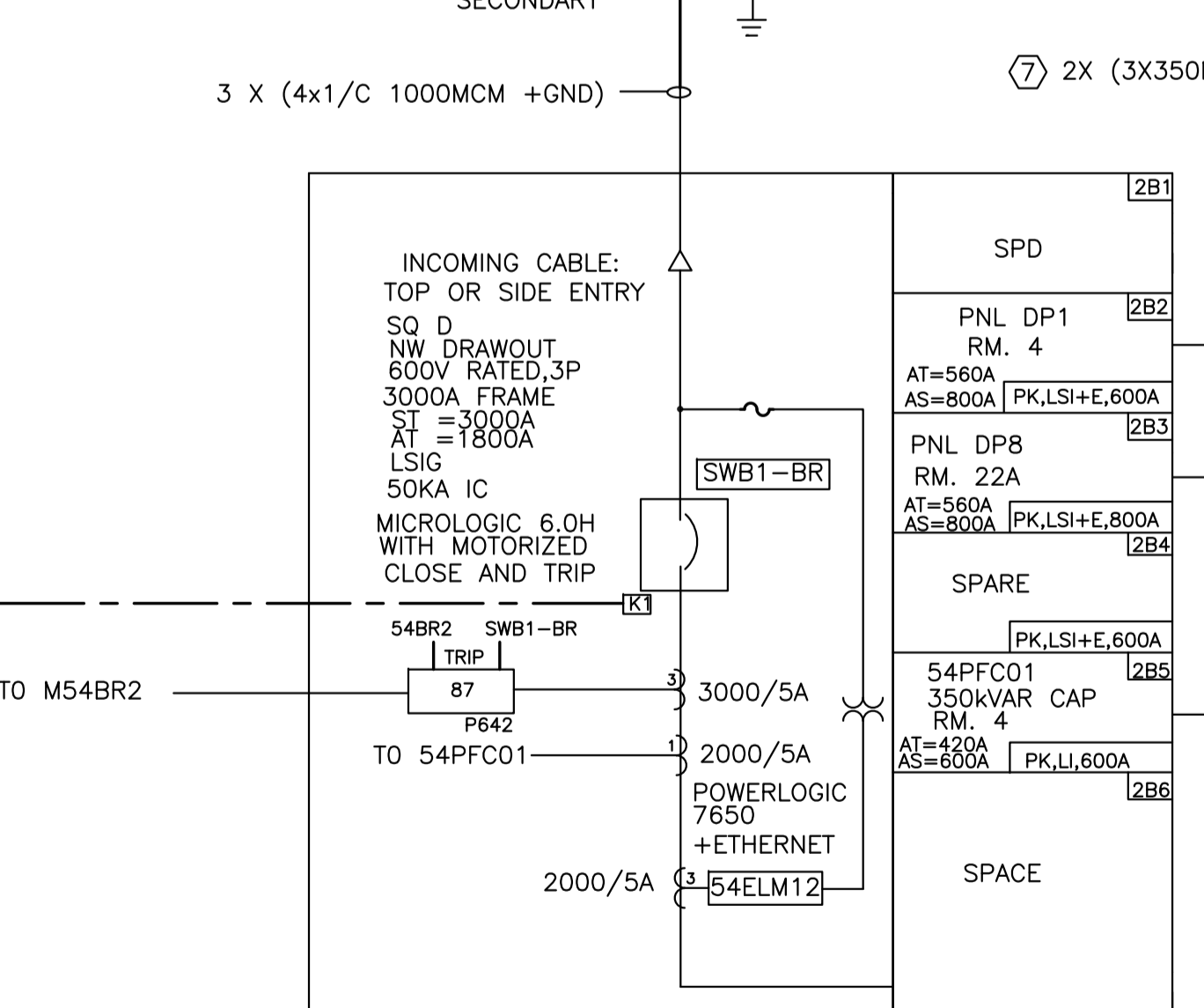
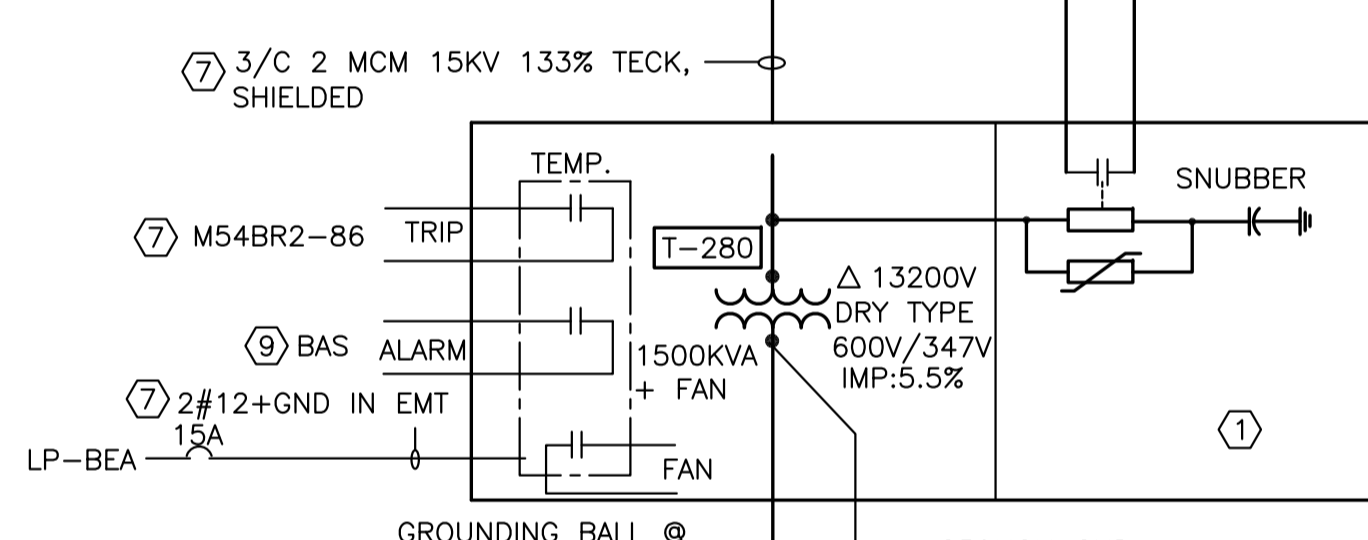
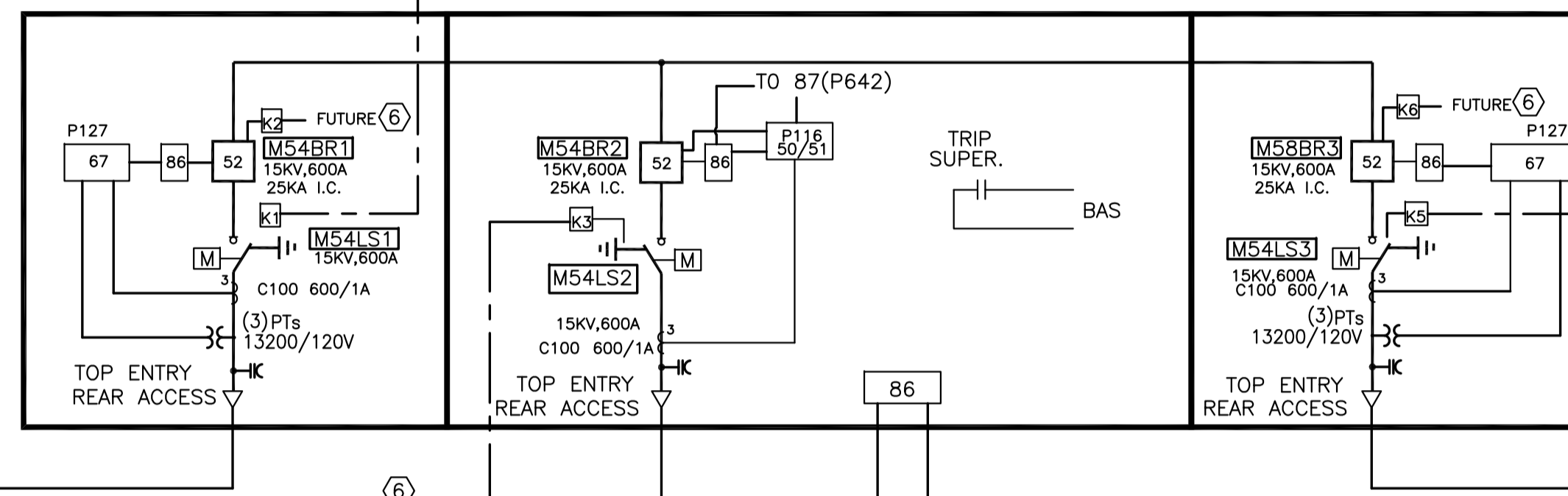
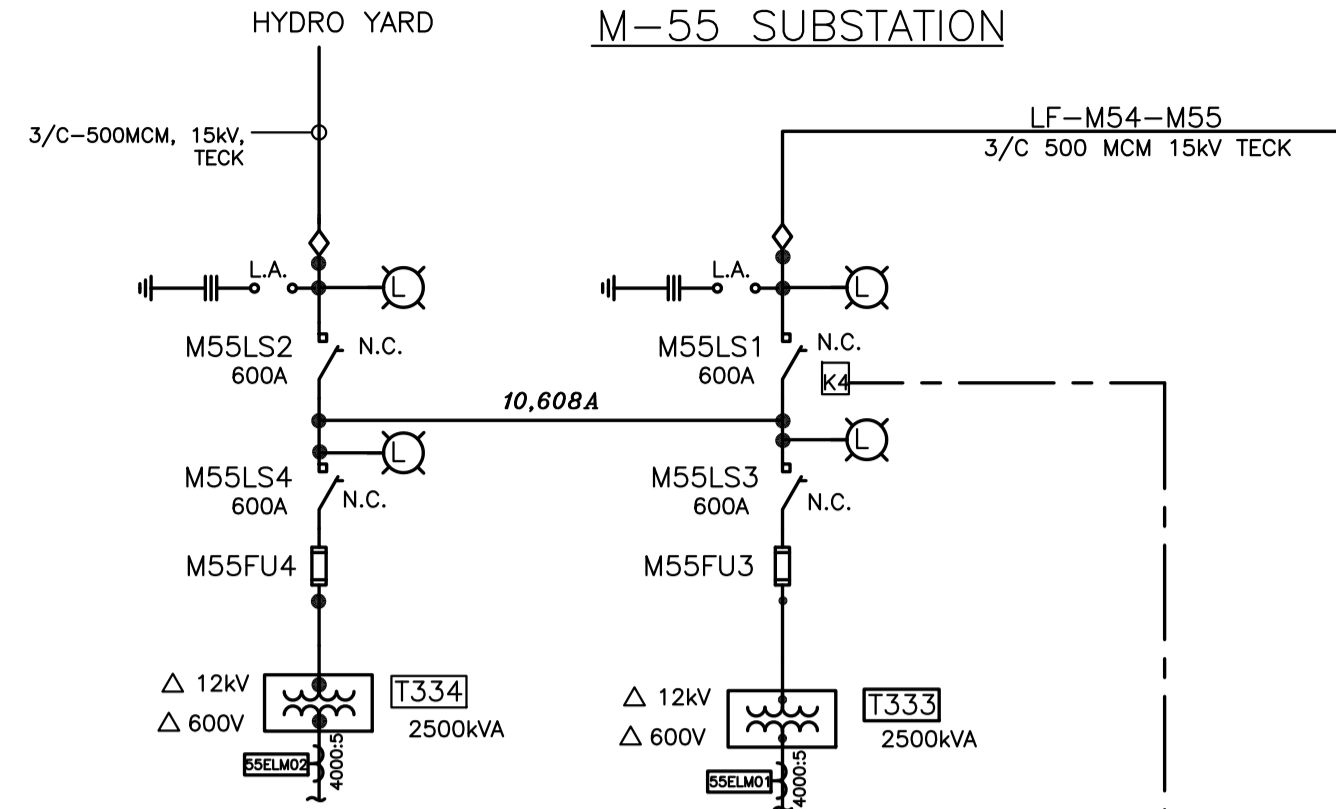


LF-M50B-M54
3/C 500 MCM 15KV TECK

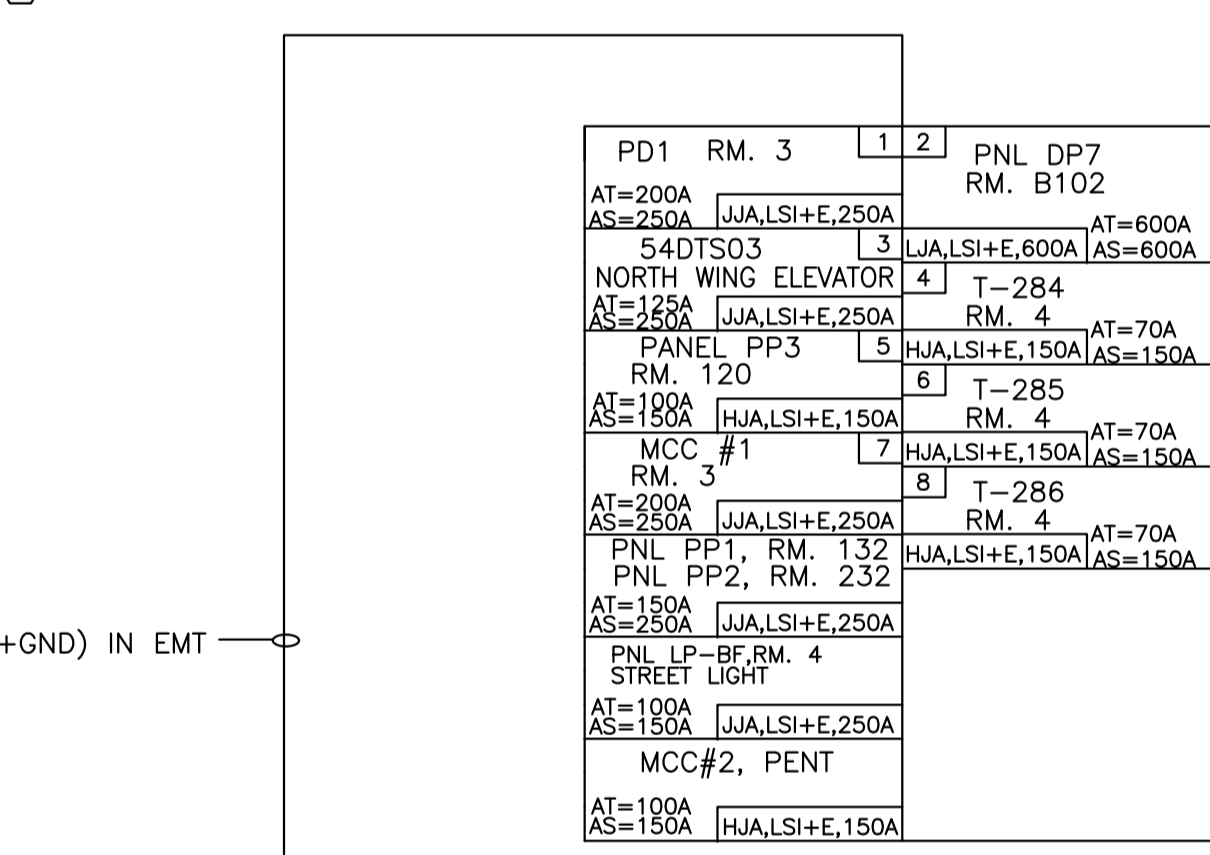
M-50 SUBSTATION
INDUSTRY PARTNERSHIP FACILITY: IPF



M-55 SUBSTATION

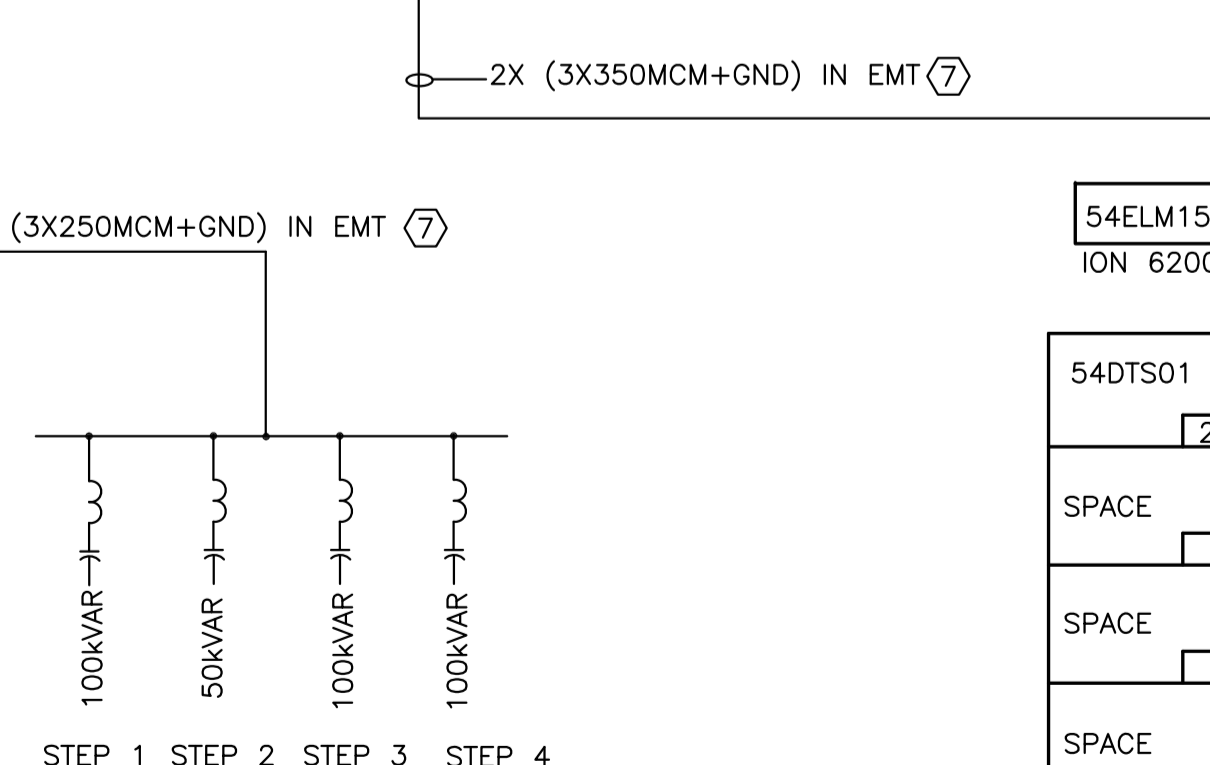


M54-SWB1 ②
2500A, 600V, 3PH, 4W.
50KA IC @ 600V
FREESTANDING SQ D
I-LINE SWITCHBOARD, QED TYPE
NEMA 1, DRIP PROOF
M-54 RM. 4

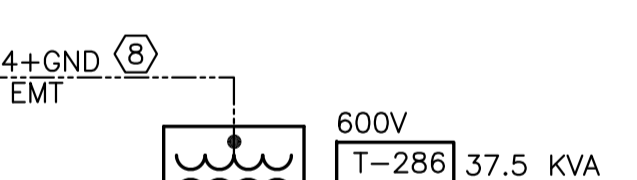
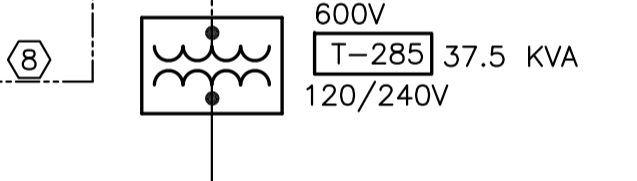
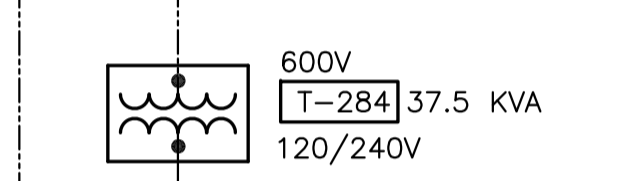


PD1 RM. 3	1	2	PNL DP7 RM. B102
AT=200A	JJA,LSI+E,250A	AT=600A	JJA,LSI+E,600A AS=600A
AS=250A		AS=150A	
54DTS03	3	T-284	
NORTH WING ELEVATOR	4	T-285	
AT=125A	JJA,LSI+E,250A	AT=70A	JJA,LSI+E,150A AS=150A
AS=125A		AS=150A	
PANEL PP3	5	T-286	
RM. 120	6	AT=70A	JJA,LSI+E,150A AS=150A
AT=100A	HJA,LSI+E,150A	AS=150A	
AS=100A			
MCC #1	7	T-286	
RM. 3	8	AT=70A	JJA,LSI+E,150A AS=150A
AT=200A	JJA,LSI+E,250A	AS=150A	
AS=200A			
PNL PP1, RM. 132			
PNL PP2, RM. 232			
AT=150A	JJA,LSI+E,250A		
AS=150A			
PNL LP-BF, RM. 4			
STREET LIGHT			
AT=100A	JJA,LSI+E,250A		
AS=100A			
MCC#2, PENT			
AT=100A	JJA,LSI+E,250A		
AS=100A			

PANEL PD2(FORMERLY DP1) ③
1200A, 600V, 3PH, 4W.
IC: 25KA @ 600V
63" MOUNTING SPACE
SQUARE D: I-LINE
M-54 RM. 4
DRIP PROOF



PANEL DP8
600/347V, 3PH, 1200A
SQ. D' HCWM5086-12NC
RM. 22A



54DTS01	1	2	T-753-225KVA
			FEDS PANEL
			225A, 3P, 300A, 3P, DP9
SPACE	3	4	PANEL DP-11
SPACE			125A, 3P,
SPACE	5	6	PANEL DP-12
SPACE			150A, 3P,
SPACE	7	8	T-754-150KVA
SPACE			FEDS PANEL
SPACE	9	10	TRANSFER SWITCH
SPACE			225A, 3P,
SPACE	11	12	SPACE

PANEL DP8
600/347V, 3PH, 1200A
SQ. D' HCWM5086-12NC
RM. 22A

LOAD DESCRIPTION	BKR	CKT	NO	CKT	BKR	NO	LOAD DESCRIPTION
LIGHTING (CANOPY LVS OVER FLOOR) EST & WST ENTRY	20	1	2	20			SPARE
SPARE	20	3	4	20			LIGHTING LOADING RAMP OUTDOOR
SPARE	20	5	6	20			DDC CONTROL POWER
RM. 18 CE CUBE MACHINE	15	7	8	15			DRAIN HEATING CABLE 1ST FLOOR WST
DRAIN HEATING CABLE 1ST FLOOR WST	15	9	10	15			HEATING CABLE COOLING TOWER MAKE UP WATER
F/A DOOR HOLDER	15	11	12	15			ITS ELEVATOR
CENTRIFUGE	30	13	14				SPACE
SPACE			15				SPACE
SPACE			17				SPACE
SPACE			19				SPACE
SPACE			21				SPACE
SPACE			23				SPACE
SPACE			25				SPACE
SPACE			27				SPACE
SPACE			29				SPACE
SPACE			31				SPACE
SPACE			33				SPACE
SPACE			35				SPACE
SPACE			37				SPACE
SPACE			39				SPACE
SPACE			41				SPACE

120/240V, 1PH, 3W
225 AMP MAINS
SQUARE D: NQOD
NEUTRAL SURFACE MOUNTED
PANELBOARD LP-BF
ROOM 4

DRAWING NOTES

- PROVIDE 13.2 KV DRY TYPE TRANSFORMER, COPPER WINDING
- FORCED FAN VENTILATION
- GROUNDING STUD ON SECONDARY LUGS.
- HAMMOND OR APPROVED EQUIVALENT
- NTSA PROTEC Z 3-PHASE HV RC SNUBBER, CAT : PZ-MM3-5KV SSW
- CONNECTED AT PRIMARY SIDE.
- PROVIDE PHYSICAL FIBRE BARRIER BETWEEN SNUBBER AND TRANSFORMER CORE.
- INSTALLATION MUST BE COMPLETE AND INSPECTED BY ESA OR CSA PRIOR TO ENERGIZING.
- QUALITROL TEMPERATURE MONITOR, PROVIDE 120V CIRCUIT FROM ELD1.
- ASSEMBLY OF ENCLOSURE AND CORE ON SITE MUST BE SUPERVISED BY MANUFACTURER REPRESENTATIVES.
- PROVIDE NEW FREESTANDING 600V SWITCHBOARD SQ D QED SWITCHBOARD
- MAIN BREAKER AND BRANCH BREAKER TO HAVE SHUNT CLOSE AND OPEN COIL CONTROL THROUGH TCP/IP COMMUNICATION FROM PLC. PRE-WIRED ETHERNET INTERFACE TO EACH BREAKER. PROVIDE ONE ETHERNET PORT TO BE ACCESSIBLE FROM EXTERIOR SURFACE.
- ON BOARD METER SHOULD BE WIRED WITH SEPARATE ETHERNET PORT TO BE ACCESSIBLE FROM EXTERIOR SURFACE.
- PROVIDE 120V AUTOMATIC TRANSFER SWITCH BETWEEN LOCAL CONTROL POWER AND EMERGENCY POWER CIRCUIT FROM ELD1. LOAD SIDE FEEDS ALL BREAKER MOTORIZED OPERATORS, ETHERNET NETWORK AND ON BOARD METER.
- PROVIDE SURGE PROTECTION DEVICE.
- MAXIMUM ONE SECTION TO BE LAID DOWN THROUGH EXISTING PASSAGE. REMOVE BREAKER AND OTHER COMPONENT RECOMMENDED BY MANUFACTURER DURING TRANSPORTATION, ASSEMBLE ALL SECTIONS ON SITE BY MANUFACTURER REPRESENTATIVES.
- PROVIDE NEW SQ D I-LINE PANEL
- BREAKERS WITH ELECTRONIC TRIP UNIT AS SHOWN.
- ON BOARD POWER SUPPLY.
- NO BREAKER COMMUNICATION.
- PROVIDE AUTOMATIC DETUNED POWER FACTOR CORRECTION CAPACITOR BANK
- PROVIDE CT AT MAIN SOURCE AND #10 WIRING TO UNIT PER MANUFACTURER INSTRUCTION.
- PROVIDE KIRK-KEY INTERLOCK
- M54LS2 CAN ONLY BE OPEN TO GROUNDING POSITION WHEN SWB1-BR IS AT OPEN POSITION.
- M58BR2 CAN ONLY CLOSE WHEN M58LS2 IS CLOSED.
- WHEN M54LS1 & M54LS3 ARE NOT LOAD BREAK RATED, M58LS1 CAN ONLY OPERATE UNDER NO LOAD.
- M54LS1 CAN ONLY BE OPEN TO GROUNDING POSITION WHEN M50LSB IS OPEN AND LIVE INDICATOR IS NO POTENTIAL.
- M54LS3 CAN ONLY BE OPEN TO GROUNDING POSITION WHEN M55LS1 IS OPEN AND LIVE INDICATOR IS NO POTENTIAL.
- M54BR1 & M54BR3 INITIATES KIRK-KEY INTERLOCK FOR FUTURE UPSTREAM GROUNDING SWITCH.
- PROVIDE NEW WIRING AND CONNECTION.
- EXISTING WIRING TO BE RE-ROUTED AND TERMINATED TO NEW SOURCE. REFER TO 004. PROVIDE ADDITIONAL WIRING AND SPLICES AS REQUIRED.
- CARRY COST TO PROVIDE BAS POINTS BY AINSWORTH



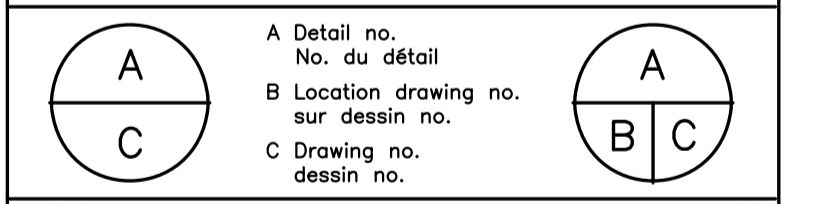
ELECTRICAL GENERAL NOTES

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- CONTRACTORS TO CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO DEMOLITION OR CONSTRUCTION AND REPORT ANY ERRORS OR OMISSIONS TO NRC DEPARTMENTAL REPRESENTATIVE.
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- MAKE GOOD ALL SURFACES AFFECTED BY THIS WORK. FILL ALL HOLES, PATCH & PAINT ALL SURFACES IN CONTRACT AREA. COLOUR SCHEME TO MATCH EXISTING.
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- APPLY FIRE STOP TO FILL OUT CAVITY WHERE CONDUIT OR CABLE PENETRATE WALL OR FLOOR.

0	MAR 2019	ISSUED FOR TENDER	KXL
No.	Date	Revision	By:
			Par:

Date Printed DD MM YYYY Date imprimée

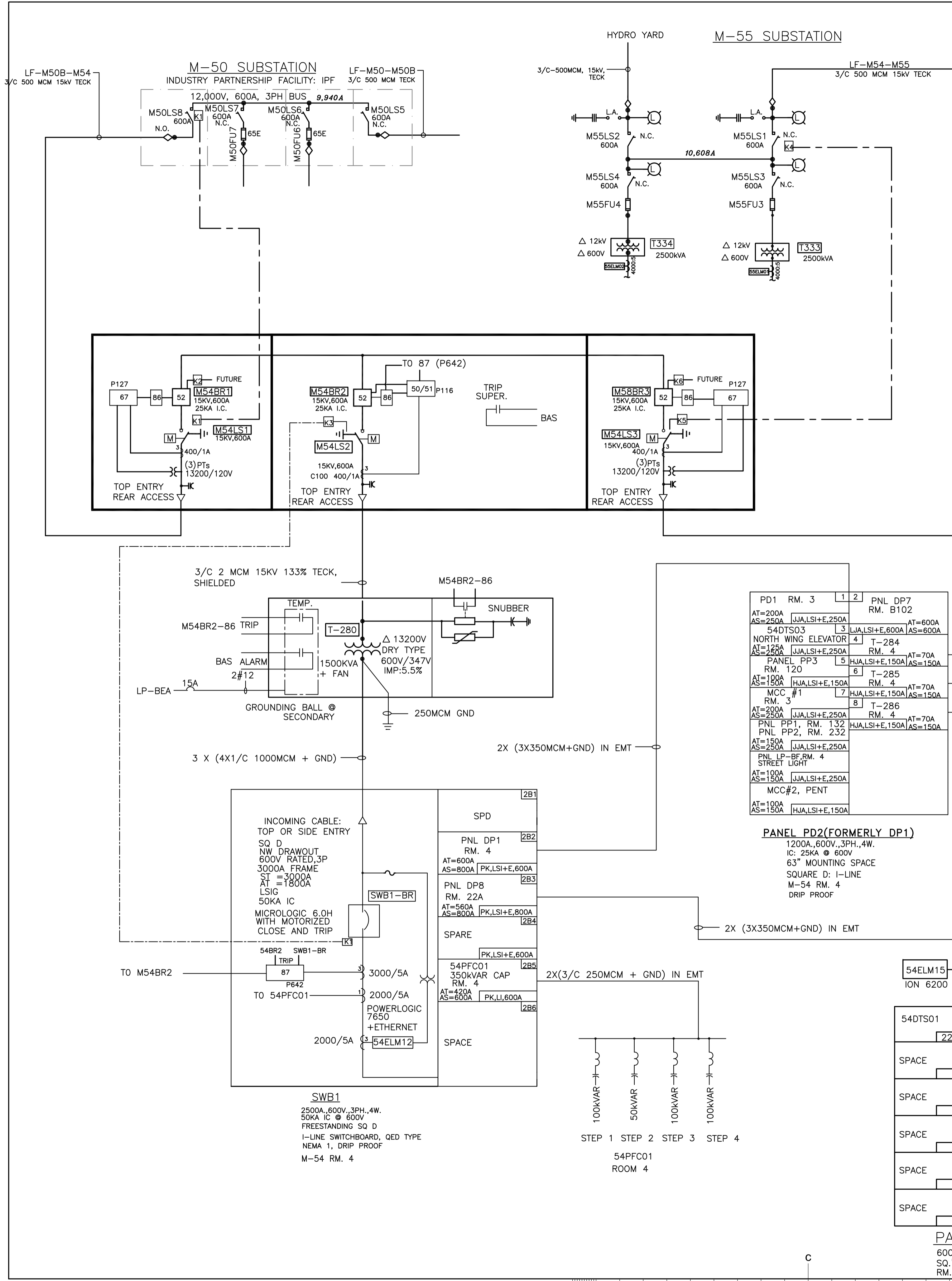
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project **BUILDING M-54** projet
ELECTRICAL ROOM 4 UPGRADE

drawing **MONTREAL ROAD CAMPUS** dessin
PHASE 4 NEW SINGLE LINE DIAGRAM

designed	conçu	date	date
KXL		MAR/2019	
drawn	dessiné	scale	échelle
KXL		NTS	
checked	vérifié	sheet	feuille
DIF		E05	of/de E07
approved	approuvé	W.O.no.	D.T.no.
DIF		A1-011396-04	
dwg.no.		dessin no.	
5632-E05			



DRAWING NOTES

- APPLY PROTECTIVE SETTING PROVIDED BY NRC.
- SPECIFIC 15KV SWITCHGEAR PROTECTION FUNCTIONS.
 - DIFFERENTIAL CURRENT (87) TO T-280
 - SELF-POWERED OVERCURRENT (50/51) TO T-280
 - PRIMARY DIRECTIONAL OVERCURRENT (67) TO 54BR1 AND 54BR3 TO BE TRIGGERED BY LOOP SYSTEM AND DOWNSTREAM OVERCURRENT.
 - T-280 SNUBBER SAFETY VALVE AND WINDING TEMPERATURE TO TRANSFER TRIP M54BR2

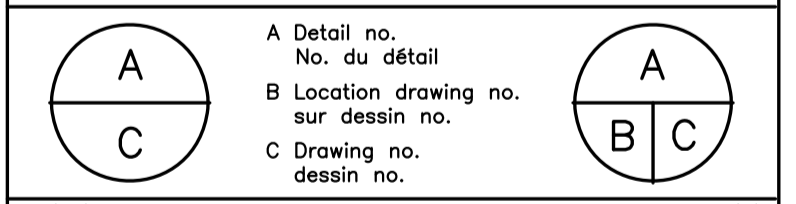


ELECTRICAL GENERAL NOTES

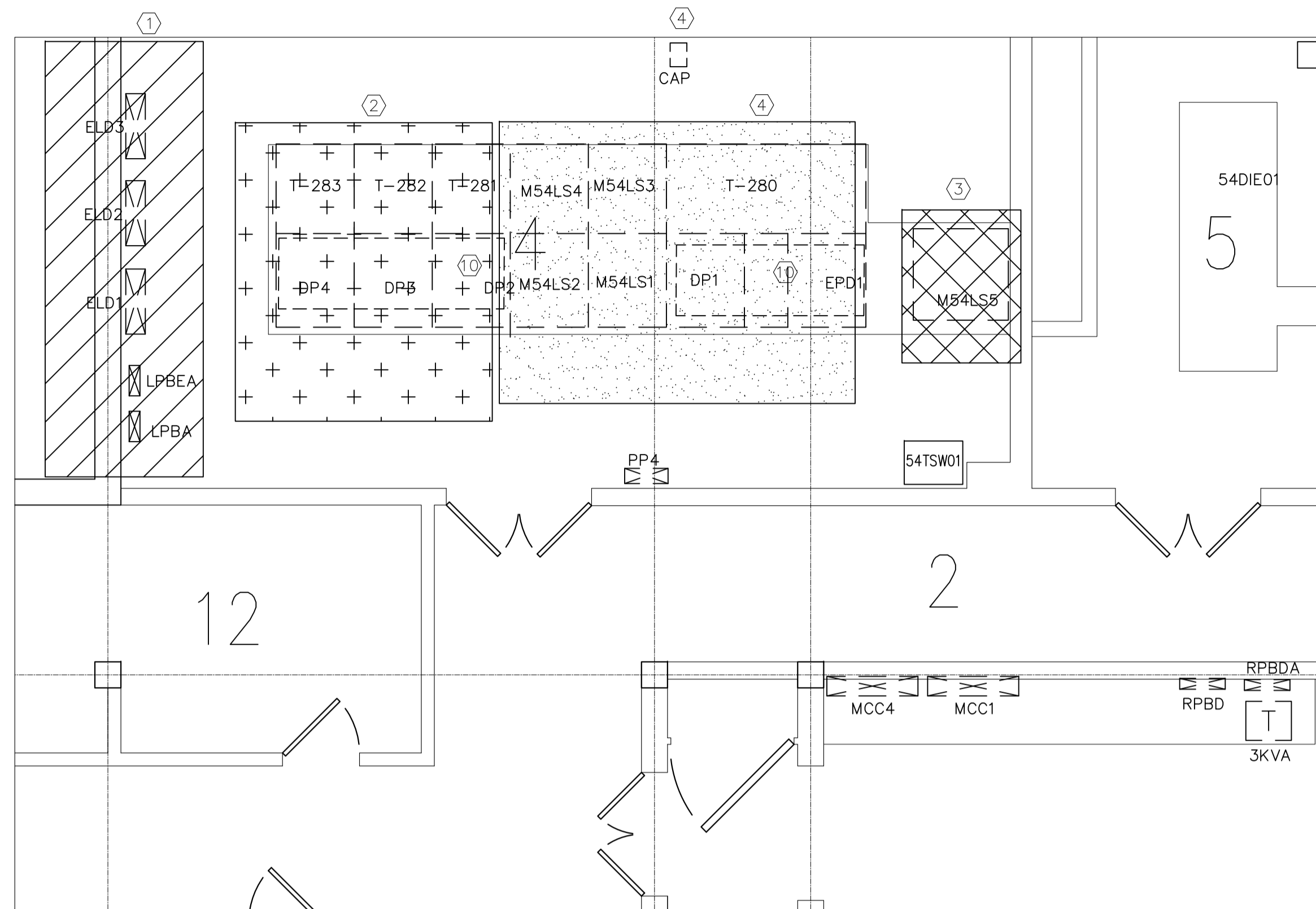
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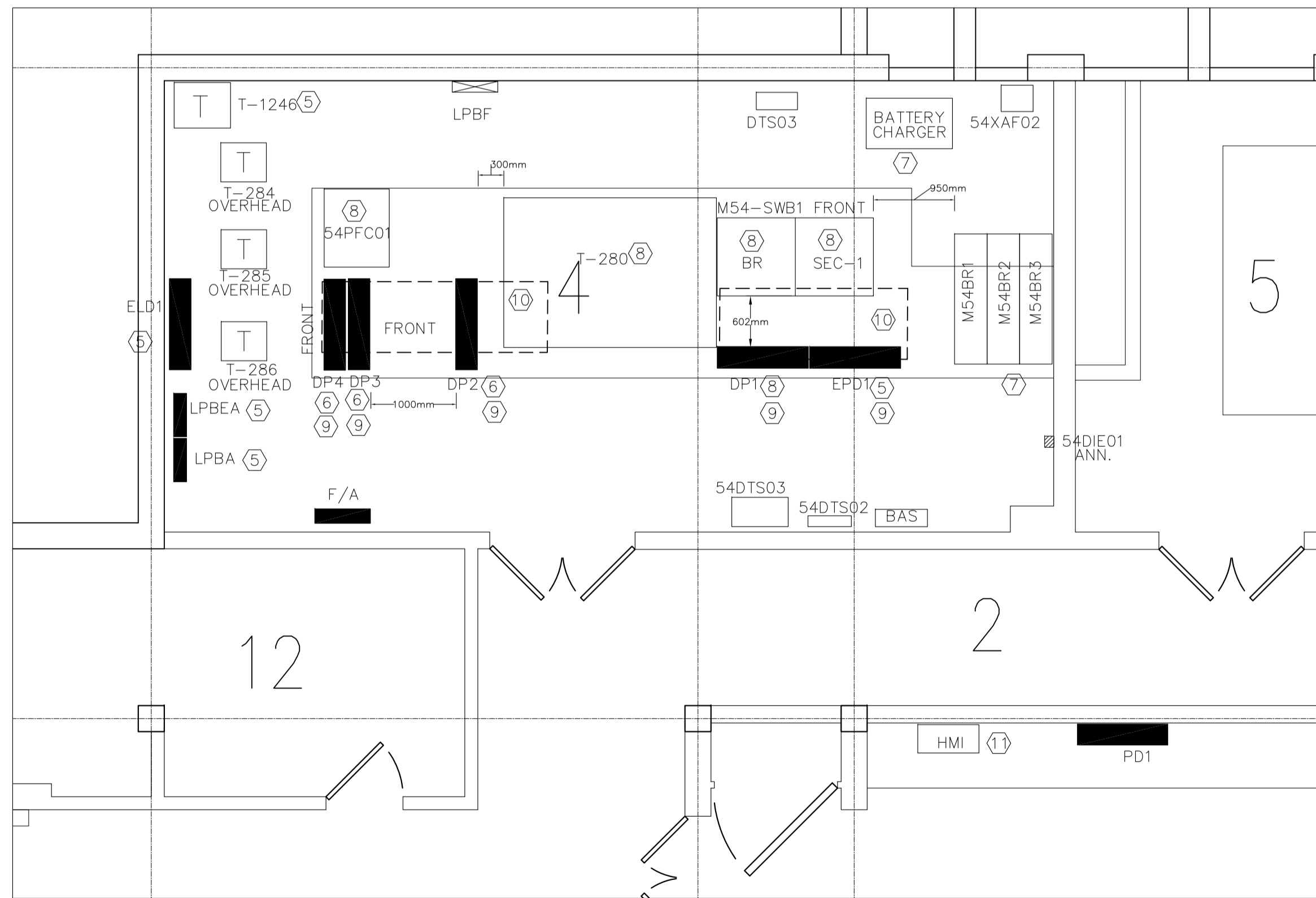
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project	BUILDING M-54 ELECTRICAL ROOM 4 UPGRADE			project
drawing	MONTREAL ROAD CAMPUS FINAL NORMAL POWER SINGLE LINE DIAGRAM			dessin
designed	conçu	date	MAR/2019	date
drawn	dessiné	scale	NTS	échelle
checked	vérifié	sheet	E06 of/de E07	feuille
approved	approuvé	W.O.no.	A1-011396-04	D.T.no.
dwg.no.	5632-E06			dessin no.



1 EXISTING RM. 4 FLOOR PLAN
E07 SCALE: 1:50



2 NEW RM. 4 FLOOR PLAN
E07 SCALE: 1:50

DRAWING NOTES

1. EXISTING EQUIPMENT TO BE DEMOLISHED IN PHASE 1
2. EXISTING EQUIPMENT TO BE DEMOLISHED IN PHASE 2
3. EXISTING EQUIPMENT TO BE DEMOLISHED IN PHASE 3
4. EXISTING EQUIPMENT TO BE DEMOLISHED IN PHASE 4
5. PROVIDE NEW EQUIPMENT IN PHASE 1
6. PROVIDE NEW EQUIPMENT IN PHASE 2
7. PROVIDE NEW EQUIPMENT IN PHASE 3
8. PROVIDE NEW EQUIPMENT IN PHASE 4
9. PROVIDE FREESTANDING UNISTRUT SUPPORT FOR NEW PANEL
10. SERVICE PIT BELOW EXISTING EQUIPMENT, EXACT DIMENSION TO BE INVESTIGATED BY CONTRACTOR ON SITE. REFER TO ORIGINAL BASEMENT FLOOR PLAN A2.
11. PROVIDE COMPLETE PLC/HMI SYSTEM AND NETWORK CABLING, REFER TO SPECIFICATION SECTION 26 09 50.



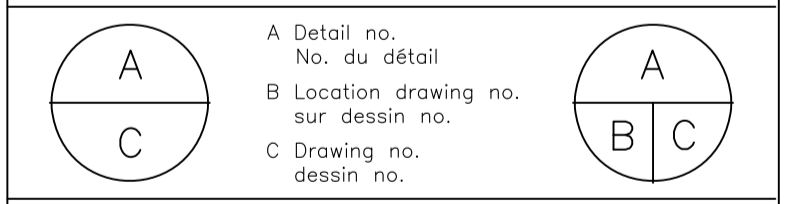
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Date Printed DD MM YYYY Date imprimée

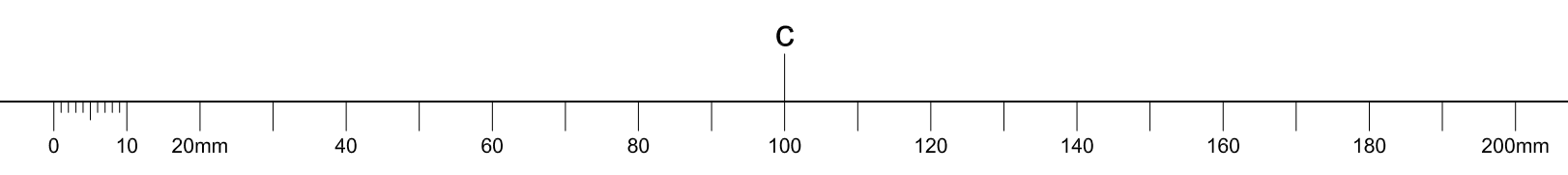
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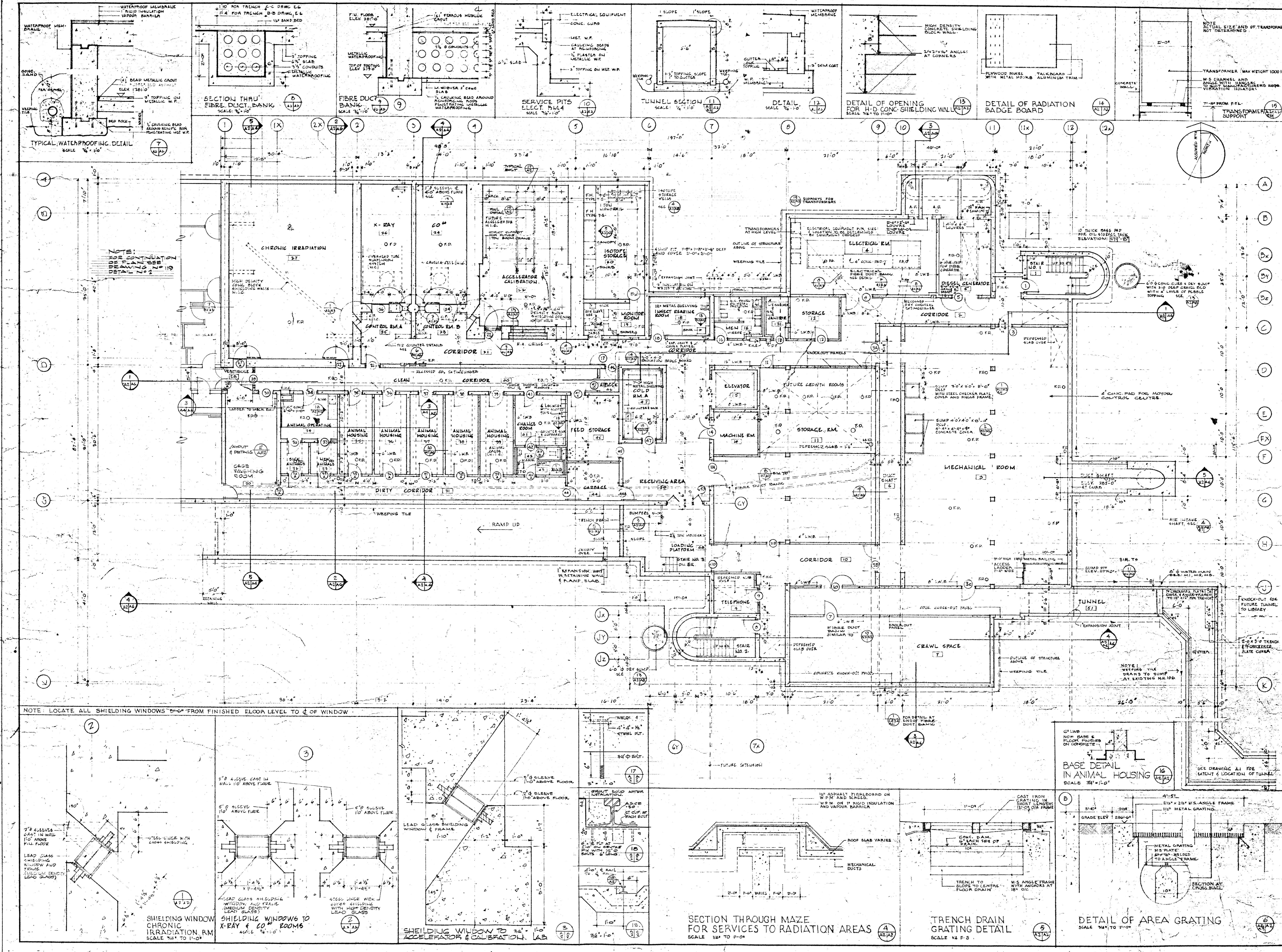


project projet
BUILDING M-54
ELECTRICAL ROOM 4 UPGRADE
MONTREAL ROAD CAMPUS
drawing dessin
EQUIPMENT FLOOR PLAN

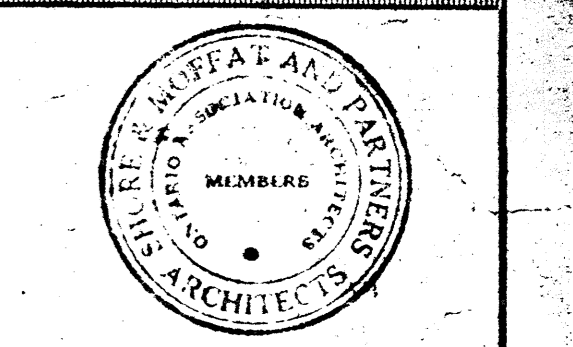
designed conçu	date	date
KXL	MAR/2019	
drawn dessiné	scale	échelle
KXL	AS NOTED	
checked vérifié	sheet	feuille
DIF	E07 of/de	E07
approved approuvé	W.O.no.	D.T.no.
DIF	A1-011396-04	
dwg.no.	dessin no.	

5632-E07





Department of Public Works
 Building Construction Branch
 J. A. Langford, Chief Architect
 E. F. Webb, District Architect



A. Detail no.
 B. Location sheet
 C. Drawing no.

AS BUILT DRAWINGS
THIS DRAWING HAS BEEN REVISED
TO SHOW THIS BUILDING AS BUILT

SHORE & MOTTAF AND PARTNERS
 ARCHITECTS

Job title:
RADIATION BIOLOGY LABORATORY PROJECT NO. 320
 FOR
NATIONAL RESEARCH COUNCIL
 Drawing title:
BASEMENT FLOOR PLAN
 scale: 1/8" = 1'-0"
 designed by: A.G.
 drawn by: V.G.
 reviewed by: J.A.
 approved by: [Signature]
 Job number: [Blank]
 Date: C.A. 64-6-16
 Drawing no. A20f16

