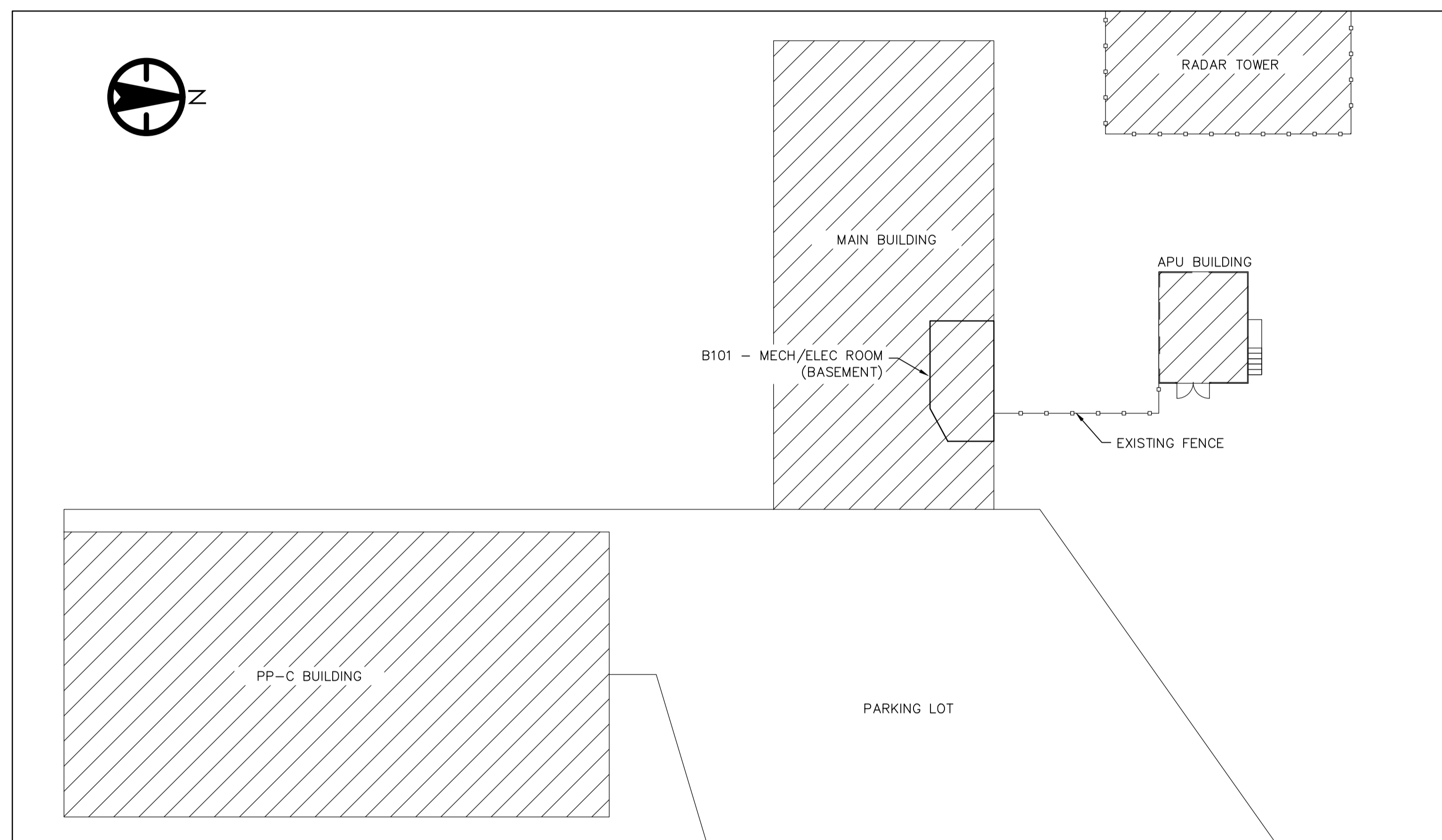


KING CITY WEATHER RADAR STATION GENERATOR UPGRADE

GENERAL LEGEND	
	GENERAL DETAIL
	SECTION
	DEMOLITION NOTES
	DRAWING NOTES
	CONNECT TO EXISTING
	DRAWING REVISION

SOME SYMBOLS SHOWN IN LEGEND MAY NOT APPEAR IN THE DRAWING SET.



1 KING CITY SITE PLAN
G0 1:200

FUEL SYSTEMS LEGEND

- FV --- FUEL TANK VENT LINE
- FOF --- FUEL OIL FILL LINE
- FOS --- FUEL OIL SUPPLY LINE
- FOR --- FUEL OIL RETURN LINE

- MANUAL BALL VALVE
- FIRE VALVE
- SIMPLEX STRAINER
- PRESSURE RELIEF VALVE
- CHECK VALVE
- FLEX LINES
- ELECTRIC PUMP
- DUPLEX BASKET STRAINER
- VENT WHISTLE
- VENT CAP
- CAP
- UNION
- CONCENTRIC REDUCER/INCRASER
- LEVEL GAUGE
- HIGH LEVEL FLOAT
- 4-POSITION FLOAT
- LEVEL SENSOR

ELECTRICAL/CONTROLS LEGEND

- FUSE
- TERMINAL BLOCK CONNECTION
- SCREW TERMINAL BLOCK
- NORMALLY CLOSED CONTACT
- NORMALLY OPEN CONTACT
- NORMALLY OPEN PUSH BUTTON
- NORMALLY CLOSED PUSH BUTTON
- NORMALLY OPEN, TIMED-CLOSED CONTACT
- INDICATOR LIGHT, LED
- RELAY
- CIRCUIT BREAKER
- METERING CABINET
- GENERATOR
- TRANSFORMER
- RECEPTACLE
- AUTOMATIC TRANSFER SWITCH
- PANELBOARD
- GROUND TERMINAL
- HAND/OFF/AUTO SELECTOR SWITCH

KING CITY GENERATOR UPGRADE	
DWG. NUMBER	DRAWING TITLE
G0	DRAWING LIST, LEGENDS AND SITE PLAN
M1	MECHANICAL EXISTING AND NEW FUEL STORAGE TANKS SYSTEM SCHEMATIC
M2	MECHANICAL APU BUILDING PLAN - DEMOLITION
M3	MECHANICAL APU BUILDING PLAN - NEW WORK
M4	MECHANICAL DETAILS
E1	ELECTRICAL EXISTING SITE PLAN
E2	ELECTRICAL B101 - MECHANICAL & ELECTRICAL ROOM
E3	ELECTRICAL APU BUILDING - DEMOLITION
E4	ELECTRICAL APU BUILDING - NEW CONSTRUCTION
E5	ELECTRICAL SINGLE LINE DIAGRAM - DEMOLITION
E6	ELECTRICAL SINGLE LINE DIAGRAM - CONSTRUCTION PHASE
E7	ELECTRICAL SINGLE LINE DIAGRAM - NEW CONSTRUCTION
E8	ELECTRICAL APU BUILDING PANEL 'F' SCHEDULE
E9	ELECTRICAL DAMPER CONTROL PANEL DMP-1
S1	PLAN AND SECTION CONCRETE RAMP

Environment and Climate Change Canada
Real Property Management Division
Technical Services
Environnement et Changement Climatique Canada
Division Gestion des Biens Immobilier
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KING CITY ONTARIO
ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
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GENERATOR REPLACEMENT

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DRAWING LIST,
LEGENDS AND
SITE PLAN

drawn by
dessiné par C. LOBO

designed by
conçu par C. LOBO

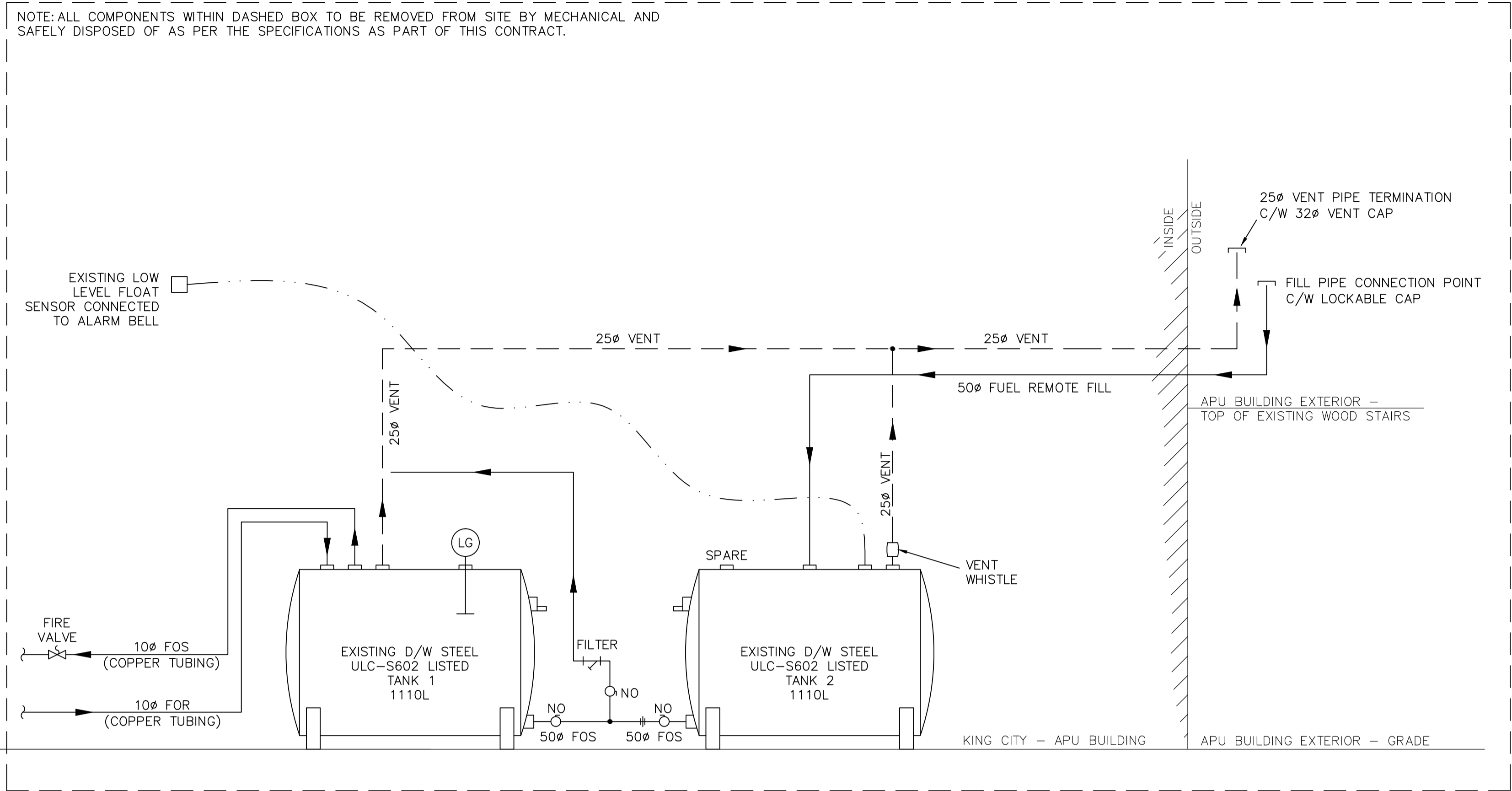
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1 EXISTING FUEL STORAGE TANK SYSTEM SCHEMATIC
M1 N.T.S.

GENERAL NOTES

1. ANCHOR TANKS TO CONCRETE PAD/SLAB AS PER SPECIFICATIONS.
2. ALL ITEMS NOT IN SCOPE WITHIN APU BUILDING TO BE STORED SAFELY DURING CONSTRUCTION BY DEPARTMENTAL REPRESENTATIVE.

NEW CONSTRUCTION NOTES

1. SLOPE FUEL FILL LINE FOR MAIN TANKS A MINIMUM OF 2% TOWARDS TANKS AND INSTALL WITHOUT ANY SAGS OR TRAPS.
2. INSTALL FILL PIPE TERMINATION A MINIMUM OF 600 mm FROM BUILDING OPENINGS, A MINIMUM OF 1000 mm ABOVE GRADE AND A MINIMUM OF 1500 mm FROM ALL BUILDING EXITS. FILL PIPE SHALL BE DESIGNED FOR TIGHT FILL ONLY AND PROVIDED WITH APPROVED CAMLOCK FITTING AT TERMINATION.
3. NEW 50mm FILL PIPE TERMINATION WITH WEATHER-TIGHT CAP AND CAN/ULC-S663 CERTIFIED SPILL CONTAINER WITH A MINIMUM CAPACITY OF 28 L. MAXIMUM DISTANCE FROM BOTTOM OF TANK TO FILL PIPE TERMINATION SHALL BE 6850 mm. EXPECTED HEIGHT ABOVE GRADE IS APPROXIMATELY 2200 mm.
4. PROVIDE ULC S661-CERTIFIED OVERFILL PREVENTION VALVE SET TO 95% OF NEW TANK CAPACITY IN FILL PIPE AT CONNECTION TO ST-1.
5. VENT CONNECTION PORT SHALL BE 75mm. VENT PIPING SHALL NOT EXTEND MORE THAN 25 mm INTO TANKS.
6. SLOPE VENT PIPING FOR MAIN TANKS A MINIMUM OF 2% TOWARDS TANKS AND INSTALL WITHOUT ANY SAGS OR TRAPS. PROVIDE VENT PIPE TERMINATION WITH A WEATHERPROOF VENT CAP WITH FREE AREA AT LEAST EQUIVALENT TO CROSS-SECTION OF VENT PIPE. TERMINATE VENT A MINIMUM OF 600mm FROM BUILDING OPENINGS AND 1500 mm FROM ALL BUILDING EXITS. INSTALL VENT PIPE TERMINATION MAXIMUM 1000 mm FROM FILL PIPE TERMINATION. EXPECTED HEIGHT OF NEW VENT TERMINATION ABOVE GRADE IS APPROXIMATELY 2350 mm.
7. FUEL OIL RETURN PIPING FROM GENERATOR IS TO EXTEND INTO TANK AND TERMINATE 50 mm FROM TANK BOTTOM. ANTI-SIPHON PROTECTION IS TO BE PROVIDED WITH HOLE DRILLED INTO DROPTUBE WITHIN TANK AT TOP OF TANK.
8. FUEL OIL SUPPLY PIPING TO GENERATOR IS TO EXTEND INTO TANK AND TERMINATE 150 mm FROM TANK BOTTOM. PROVIDE FOOT VALVE AT TERMINATION OF SUPPLY PIPING INSIDE TANK AS PER SPECIFICATIONS.
9. PROVIDE NEW CAN/ULC-S661 LISTED OVERFILL ALARM PANEL AT FILL LOCATION C/W NEW ULC-LISTED ONE-POSITION HIGH LEVEL FLOAT SWITCH SET TO 90% OF TANK CAPACITY.

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GENERATOR REPLACEMENT

drawing title
titre du dessin
EXISTING AND NEW FUEL STORAGE TANK SYSTEM SCHEMATIC

drawn by
dessiné par **C. LOBO**

designed by
conc par **C. LOBO**

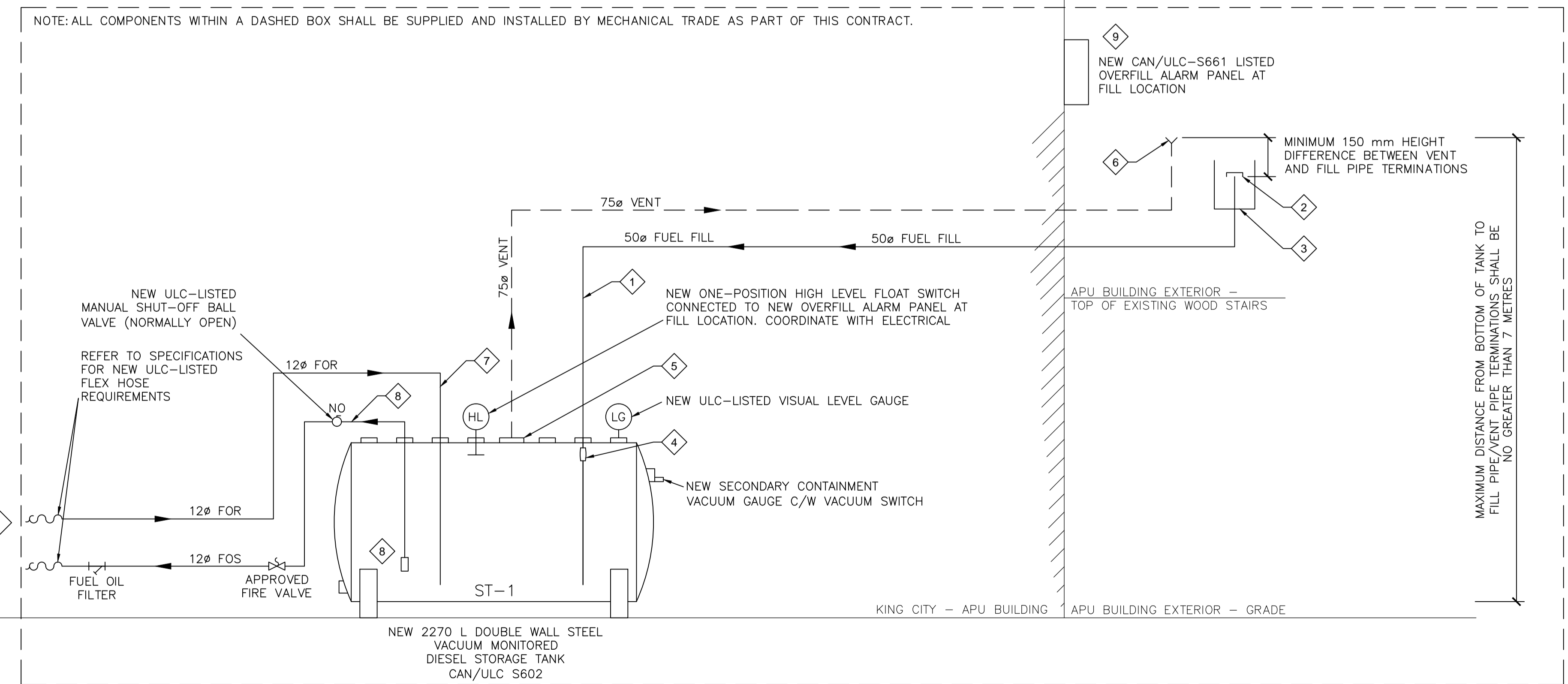
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administrateur de projets

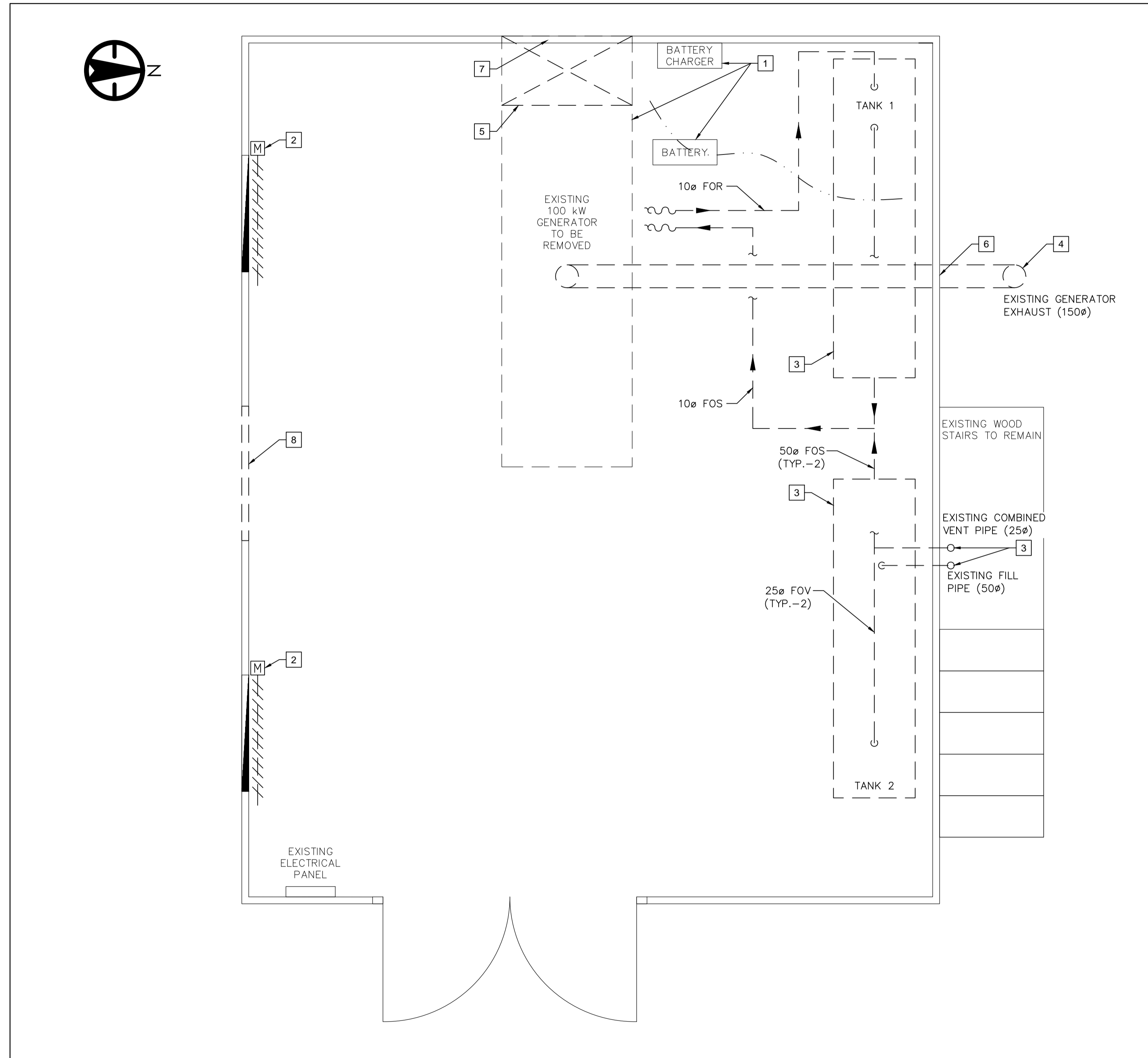
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dessiné no. **M1**



2 NEW FUEL STORAGE TANK SYSTEM SCHEMATIC
M1 N.T.S.



GENERAL NOTES	
1.	DEMOLITION OF EXISTING DIESEL STORAGE TANK SYSTEM SHALL BE COORDINATED WITH DEPARTMENTAL REPRESENTATIVE AND ELECTRICAL TRADE. MINIMIZE CHANGEOVER TIME AND ENSURE EXISTING GENERATOR SYSTEM IS DISCONNECTED FROM DIESEL STORAGE TANK SYSTEM FOR LEAST AMOUNT OF TIME POSSIBLE.

DEMOLITION NOTES	
1	EXISTING 100 KW STANDBY GENERATOR AND RELATED ACCESSORIES TO BE REMOVED BY ELECTRICAL TRADE. SHOWN HERE FOR COORDINATION AND REFERENCE ONLY.
2	EXISTING 840 X 1240 (W X H) MOTORIZED DAMPER TO REMAIN. REMOVE EXISTING ACTUATOR. REFER TO DRAWING M3 FOR NEW ACTUATOR. TYPICAL.
3	REMOVE EXISTING 1110 L DOUBLE WALL STEEL DIESEL STORAGE TANKS C/W ALL RELATED ACCESSORIES, VALVES AND PIPING IN ACCORDANCE WITH SPECIFICATIONS. TYPICAL-2.
4	REMOVE EXISTING GENERATOR EXHAUST C/W ALL RELATED ACCESSORIES IN ACCORDANCE WITH APPROVED SCHEDULE OF WORK. COORDINATE WITH ELECTRICAL. PATCH, SEAL AND MAKE GOOD EXISTING GENERATOR EXHAUST OPENING TO MATCH EXISTING WEATHERPROOF WALL CONSTRUCTION AT BOTH EXTERIOR AND INTERIOR. REFER TO NOTE 6.
5	REMOVE EXISTING DUCTWORK CONNECTING EXISTING GENERATOR RADIATOR COOLING EXHAUST AIR AND EXISTING WALL OPENING.
6	CONTRACTOR SHALL WEATHERPROOF, PATCH, SEAL AND MAKE GOOD EXISTING OPENING FROM EXISTING TO BE REMOVED GENERATOR EXHAUST AND WALL THIMBLE. CONTRACTOR SHALL FILL OPENING WITH APPROVED WEATHERPROOF FIRESTOPPING SEALANT AND MATCH FINISH OF APU BUILDING EXTERIOR AND INTERIOR WALLS.
7	MAINTAIN EXISTING WALL OPENING C/W EXISTING 840 X 1240 (W X H) LOUVRE FOR INSTALLATION OF NEW 100 KW STANDBY GENERATOR RADIATOR COOLING EXHAUST AIR.
8	REMOVE EXISTING ±970MM X ±1230MM (H) WINDOW C/W ALL RELATED ACCESSORIES TO CREATE NEW WALL OPENING FOR THE INSTALLATION OF NEW WEATHERPROOF LOUVER AND THERMALLY BROKEN INSULATED DAMPER.



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GENERATOR REPLACEMENT

drawing title / titre du dessin
MECHANICAL APU BUILDING PLAN DEMOLITION

drawn by / dessiné par
C. LOBO

designed by / conçu par
C. LOBO

approved by / approuvé par
C. McGEE

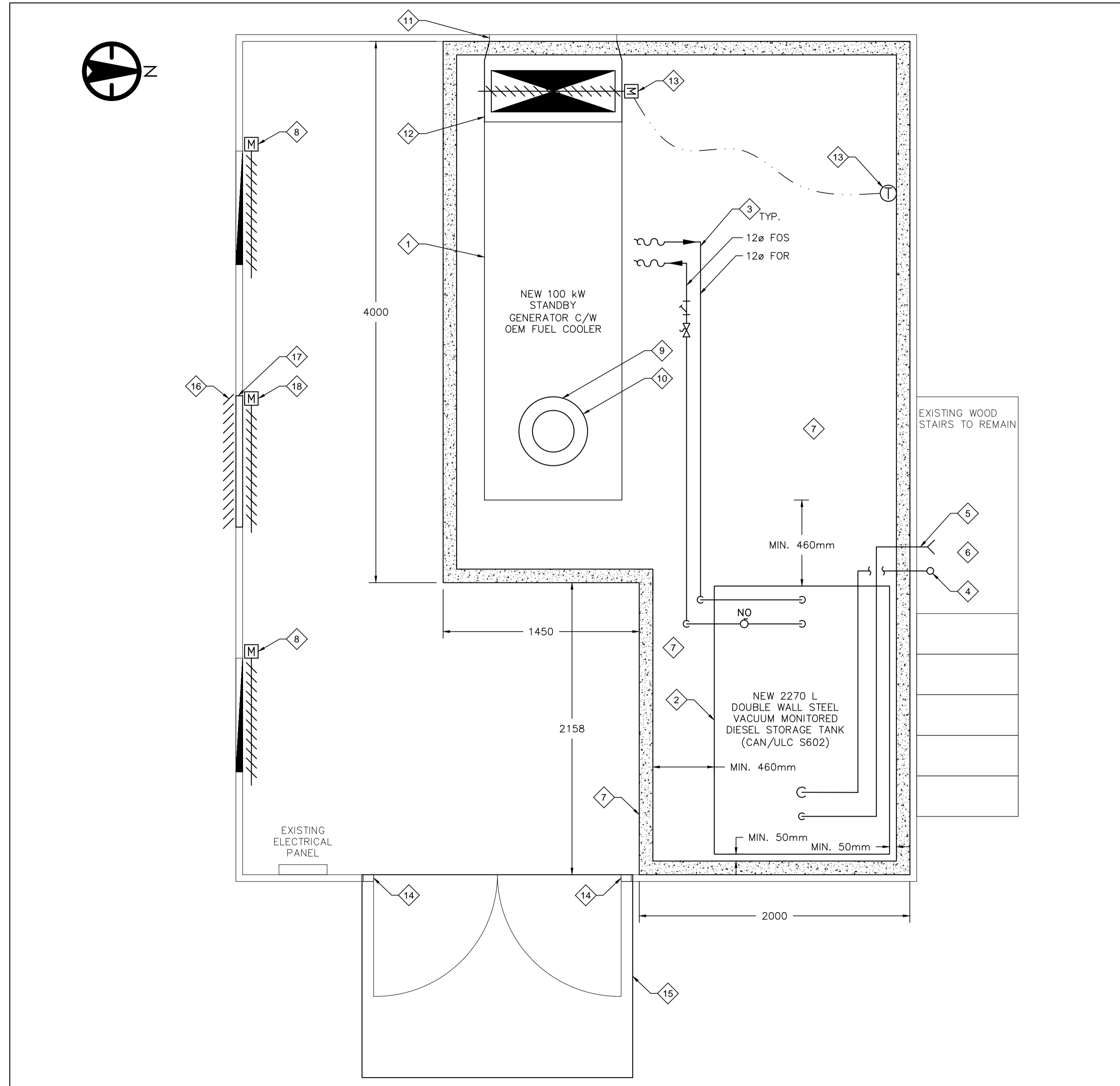
tender / soumission **DANIEL VENTURA** project manager / administrateur de projets

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M2

1 KING CITY RADAR WEATHER STATION – APU BUILDING PLAN – DEMOLITION
 M2 1:20



1 KING CITY RADAR WEATHER STATION – APU BUILDING PLAN – NEW WORK
M3 1:20

GENERAL NOTES

- INSTALLATION OF NEW DIESEL STORAGE TANK SYSTEM SHALL BE COORDINATED WITH DEPARTMENTAL REPRESENTATIVE AND ELECTRICAL TRADE. MINIMIZE CHANGEOVER TIME AND ENSURE NEW GENERATOR SYSTEM IS DISCONNECTED FROM DIESEL STORAGE TANK SYSTEM FOR LEAST AMOUNT OF TIME POSSIBLE.

NEW CONSTRUCTION NOTES

- NEW 100 kW STANDBY GENERATOR C/W INTEGRAL OEM FUEL COOLER AND FUEL FILTER TO BE INSTALLED BY ELECTRICAL. SHOWN HERE FOR COORDINATION AND REFERENCE ONLY.
- PROVIDE NEW 2270 L DOUBLE WALL STEEL VACUUM MONITORED DIESEL STORAGE TANK (CAN/ULC S602) AS INDICATED. PROVIDE PIPING CONNECTIONS, VALVES AND SENSORS AS PER 2/M1. EACH OF FOUR (4) SUPPORT LEGS OF NEW STORAGE TANK SHALL BE ANCHORED TO 100mmØ, 100mm HIGH SCH. 80 STEEL PIPE AS PER MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS. RIGIDLY ANCHOR EACH STEEL PIPE TO EXISTING FLOOR WITH EXPANSION-TYPE BOLTS APPROVED BY FUEL STORAGE TANK MANUFACTURER. NEW TANK SHALL BE PROVIDED WITH THE FOLLOWING MINIMUM SERVICE CLEARANCES: MIN. SPACING FROM GENERATOR SHALL BE NO LESS THAN 750 mm. MIN. SPACING BETWEEN FRONT AND ONE SIDE OF TANK FROM WALL AND OTHER INTERFERENCES SHALL BE NO LESS THAN 400 mm. MIN. SPACING FOR TANK FROM BACK WALL AND SECOND SIDE TO WALL SHALL BE NO LESS THAN 50 mm.
- SUPPORT ALL PIPING ON WALLS, FLOOR AND CEILING AS PER DETAILS ON DRAWING M4. TYPICAL FOR ALL FUEL OIL PIPING. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE NEW 50ø FILL PIPE TO OUTDOOR TERMINATION AS INDICATED. NEW FILL PIPE SHALL BE EQUIPPED WITH WEATHERTIGHT CAP AND CAN/ULC-S661 CERTIFIED SPILL CONTAINER WITH A MINIMUM CAPACITY OF 28 L. SLOPE FILL PIPING AT MINIMUM 2% TOWARD TANK WITHOUT ANY SAGS OR TRAPS IN WHICH FUEL CAN COLLECT. CONTRACTOR SHALL REUSE EXISTING WALL PENETRATION FROM EXISTING TO BE REMOVED FILL PIPE AND WIDEN AS REQUIRED TO SUIT ROUTING OF NEW PIPING. PATCH, SEAL AND MAKE GOOD TO MATCH EXISTING FINISH AND INTERIOR AND EXTERIOR OF APU BUILDING. REFER TO DETAIL 4/M4 FOR WALL PENETRATION REQUIREMENTS.
- PROVIDE NEW 75ø VENT TO ATMOSPHERE C/W NEW ULC WEATHERPROOF VENT CAP AT TERMINATION OUTSIDE. SLOPE VENT PIPING AT MINIMUM 2% TOWARD TANK WITHOUT ANY SAGS OR TRAPS IN WHICH FUEL CAN COLLECT. CONTRACTOR SHALL REUSE EXISTING WALL PENETRATION FROM EXISTING TO BE REMOVED VENT PIPE AND WIDEN AS REQUIRED TO SUIT ROUTING OF NEW VENT PIPING. PATCH, SEAL AND MAKE GOOD TO MATCH EXISTING FINISH AND INTERIOR AND EXTERIOR OF APU BUILDING. REFER TO DETAIL 4/M4 FOR WALL PENETRATION REQUIREMENTS.
- NEW FUEL FILL AND VENT LINES TO BE ROUTED UP AND OUT OF BUILDING. TERMINATE BOTH PIPES IN APPROXIMATELY THE SAME LOCATION AS CURRENT FILL & VENT CONNECTIONS. CLEARLY LABEL FILL AND VENT PIPES "DIESEL FILL" AND "DIESEL VENT" WITH LAMACOIDS. SUPPLY AND INSTALL "NO SMOKING" AND "TIGHT FILL ONLY" SIGN AT FILL LOCATION. PROVIDE NEW OVERFILL ALARM AT FILL LOCATION AS PER DETAIL ON DRAWING M4.
- PROVIDE NEW 100 mm x 150 mm (W x H) CAST-IN-PLACE CONCRETE CURB SURROUNDING DIESEL STORAGE TANK SYSTEM AND GENERATOR WITHIN APU BUILDING AS INDICATED. SEAL ENTIRE FLOOR AREA LOCATED WITHIN NEW CURB WITH APPROVED SEALANT THAT IS IMPERMEABLE TO FUEL OIL. REFER TO DETAIL 6/M4. PATCH ALL EXISTING CRACKS IN CONCRETE FLOOR OF EXISTING APU BUILDING.
- PROVIDE NEW SPRING-RETURN ACTUATOR C/W END SWITCHES FOR EXISTING COMBUSTION AIR AND VENTILATION AIR MOTORIZED DAMPERS. POWER, CONTROLS AND WIRING BY ELECTRICAL. REFER TO SPECIFICATIONS FOR ACTUATOR REQUIREMENTS. TYPICAL-2.
- PROVIDE NEW APPROVED ULC-LISTED PREFABRICATED GENERATOR EXHAUST STACK DIRECTLY DOWNSTREAM OF NEW APPROVED ULC-LISTED HEAVY DUTY RESIDENTIAL-GRADE GENERATOR SILENCER C/W ALL RELATED ACCESSORIES AS PER SPECIFICATIONS. NEW EXHAUST STACK SHALL BE SIZED TO SUIT NEW 100 kW STANDBY GENERATOR. NEW EXHAUST C/W SILENCER SHALL BE INSULATED FOR FIRST 2450 mm ABOVE GRADE AND THERE SHALL BE A CONDENSATE DRAIN C/W SHUTOFF VALVE PROVIDED TO DRAIN TO A SAFE LOCATION INSIDE THE APU BUILDING. CONTRACTOR SHALL ENGAGE QUALIFIED ROOFING SUBTRADE AND CARRY ALL COSTS ASSOCIATED WITH ROOFING WORK TO CREATING NEW ROOF OPENING FOR EXHAUST. INSTALLATION OF NEW EXHAUST ABOVE ROOF LEVEL. INSTALLATION OF SUPPORTS AND ALL EXHAUST RELATED WORK AT OR ABOVE ROOF LEVEL. WEATHERPROOF, PATCH, SEAL AND MAKE GOOD NEW ROOF OPENING TO MATCH EXISTING ROOF CONDITION. REFER TO DETAILS 9/M4 AND 10/M4. EXACT LOCATION OF NEW EXHAUST STACK AND NEW EXHAUST SILENCER TO SUPPLIED AND INSTALLED BY DIVISION 23 SHALL BE COORDINATED ONSITE WITH DEPARTMENTAL REPRESENTATIVE.
- THE CONTRACTOR SHALL ENGAGE A SEISMIC ENGINEER LICENSED IN THE PROVINCE OF ONTARIO TO CARRY OUT THE SUPPORTS FOR THE PROPOSED GENERATOR EXHAUST INCLUDING, BUT NOT LIMITED TO, THE NEW GENERATOR EXHAUST SILENCER AND CHIMNEY. THE CONTRACTOR SHALL SUBMIT SEALED SHOP DRAWING(S) OF THE SUPPORTS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SCHEDULE OF WORK. THE SHOP DRAWING(S) FOR THE SUPPORTS MUST BE APPROVED BY THE MANUFACTURERS OF BOTH THE APPROVED GENERATOR EXHAUST STACK AND APPROVED EXHAUST SILENCER. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH DESIGNING AND PROVIDING THE GENERATOR EXHAUST CHIMNEY SUPPORTS.
- MAINTAIN EXISTING WALL OPENING C/W EXISTING 940mm x 1240mm (W x H) LOUVRE AND PROVIDE NEW BIRD SCREEN TO SUIT WALL OPENING SIZE. CONTRACTOR TO VERIFY DIMENSIONS PRIOR TO COMPLETING WORK AND NOTIFY DEPARTMENTAL REPRESENTATIVE OF ANY DISCREPANCIES.
- PROVIDE NEW DUCTWORK PLENUM TO SUIT NEW 100 kW STANDBY GENERATOR RADIATOR COOLING AIR REQUIREMENTS (3000 L/s) AND EXISTING 940mm x 1240mm WALL OPENING. INSULATE PLENUM AS PER SPECIFICATIONS.
- PROVIDE NEW CONTROL DAMPER C/W ACTUATOR FOR GENERATOR RADIATOR COOLING AIR RECIRCULATION IN ACCORDANCE WITH SPECIFICATIONS. ACTUATOR SHALL BE INTERLOCKED WITH NEW TEMPERATURE SENSOR AS INDICATED. PROVIDE NEW SURFACE-MOUNTED TEMPERATURE SENSOR ON WALL AS INDICATED. POWER, CONTROLS AND WIRING BY ELECTRICAL.
- PROVIDE NEW MECHANICAL SPRING-ACTUATED DOOR CLOSER TO SUIT EACH SIDE OF EXISTING DOUBLE MAN DOOR TO THE SATISFACTION OF DEPARTMENTAL REPRESENTATIVE. TYPICAL-2.
- APPROXIMATE LOCATION OF NEW CONCRETE RAMP AT APU BUILDING ENTRANCE BY DIVISION 3. COORDINATE DELIVERY AND ROUGH IN OF NEW EQUIPMENT INSIDE APU BUILDING WITH STRUCTURAL TRADE. REFER TO DRAWING S1 FOR NEW CONCRETE RAMP.
- PROVIDE NEW 1220mm (H) x 914mm (W) x 100mm (D) STORMPROOF LOUVRE C/W FLANGED CONNECTION IN NEW ±1220mm x ±970mm (W x H) OPENING CREATED BY REMOVAL OF WINDOW. INSTALL LOUVRE AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE WEATHERSTRIPPING AND CAULKING TO ENSURE THAT LOUVRE IS SEALED TO BE FULLY WEATHERTIGHT. CONTRACTOR IS RESPONSIBLE FOR ENLARGING OPENING AND/OR PROVIDING INSULATED ALUMINUM BLANK-OFF PANELS AS NECESSARY FOR THE INSTALLATION OF THE NEW LOUVRE TO SUIT NEW WALL OPENING CREATED BY THE REMOVAL OF WINDOW. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE NEW 914MM (W) x 1220MM (H) THERMALLY BROKEN INSULATED DAMPER C/W FLANGED CONNECTION. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
- PROVIDE NEW SPRING-RETURN ACTUATOR C/W END SWITCHES FOR NEW COMBUSTION AIR AND VENTILATION AIR DAMPER. POWER, CONTROLS AND WIRING BY ELECTRICAL. REFER TO SPECIFICATIONS FOR ACTUATOR REQUIREMENTS.



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MECHANICAL
APU BUILDING PLAN
NEW WORK

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dessiné par
C. LOBO

designed by
conçue par
C. LOBO

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approuvé par
C. McGEE

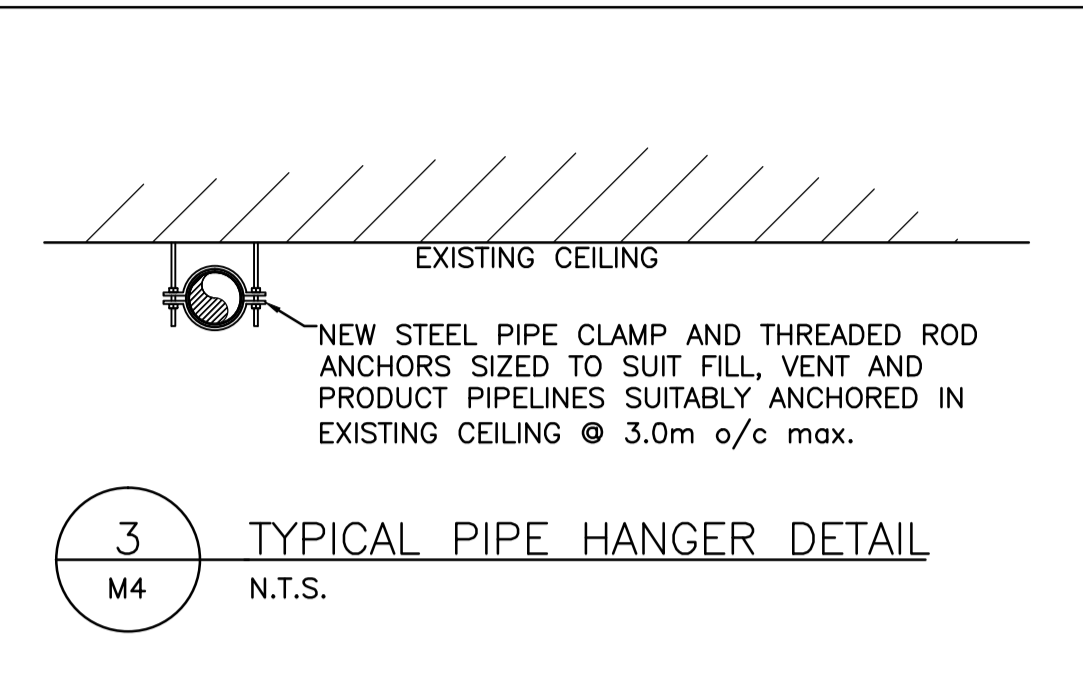
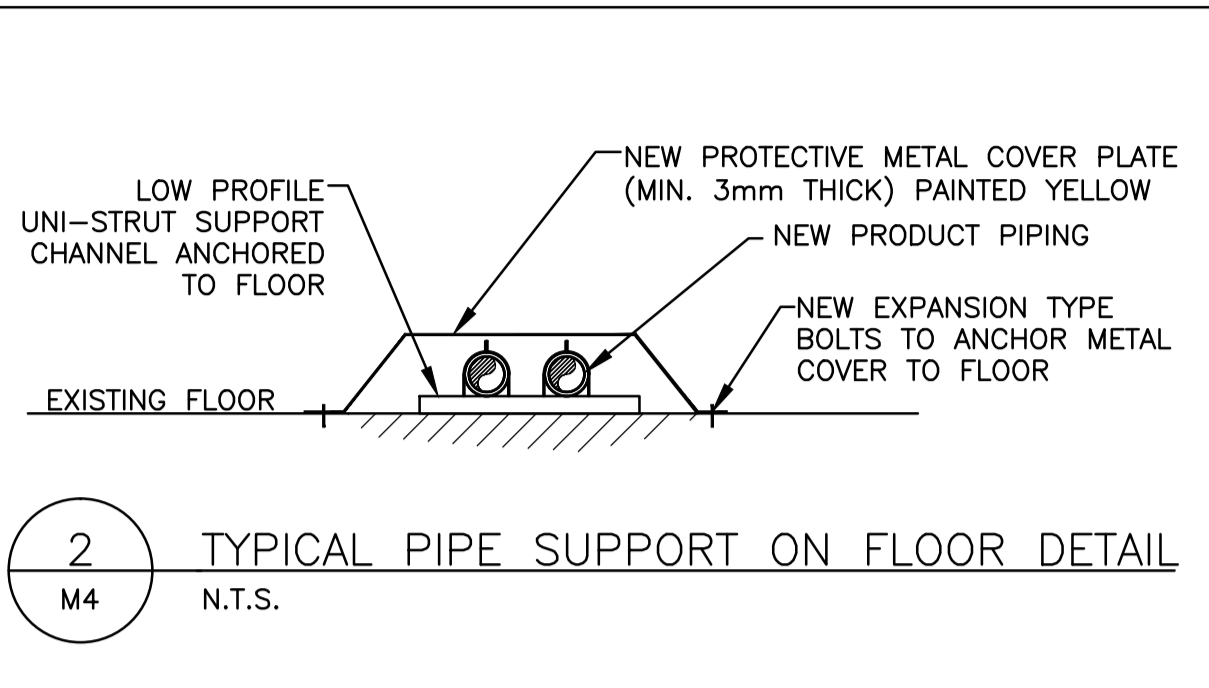
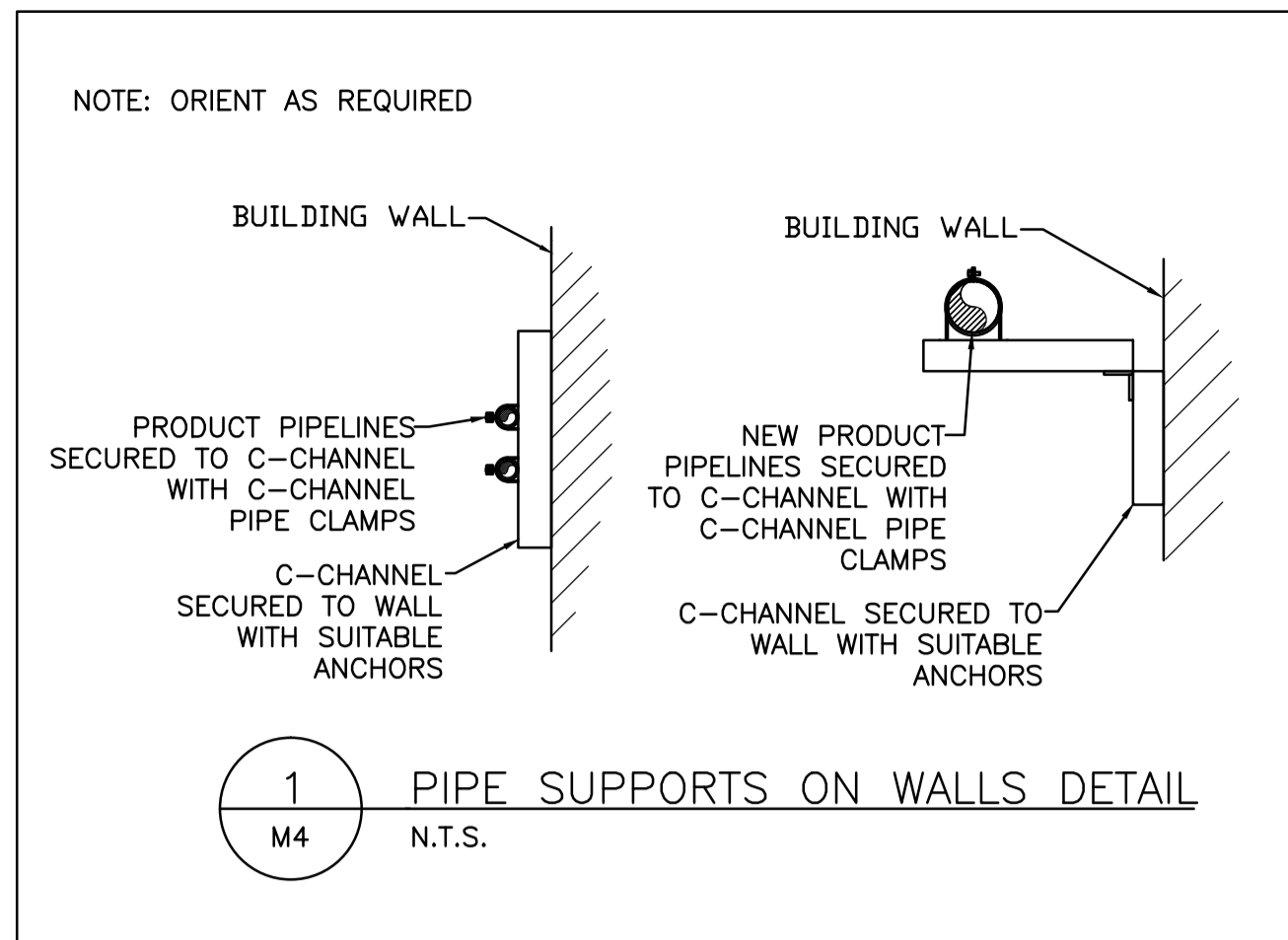
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DANIEL VENTURA

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administrateur
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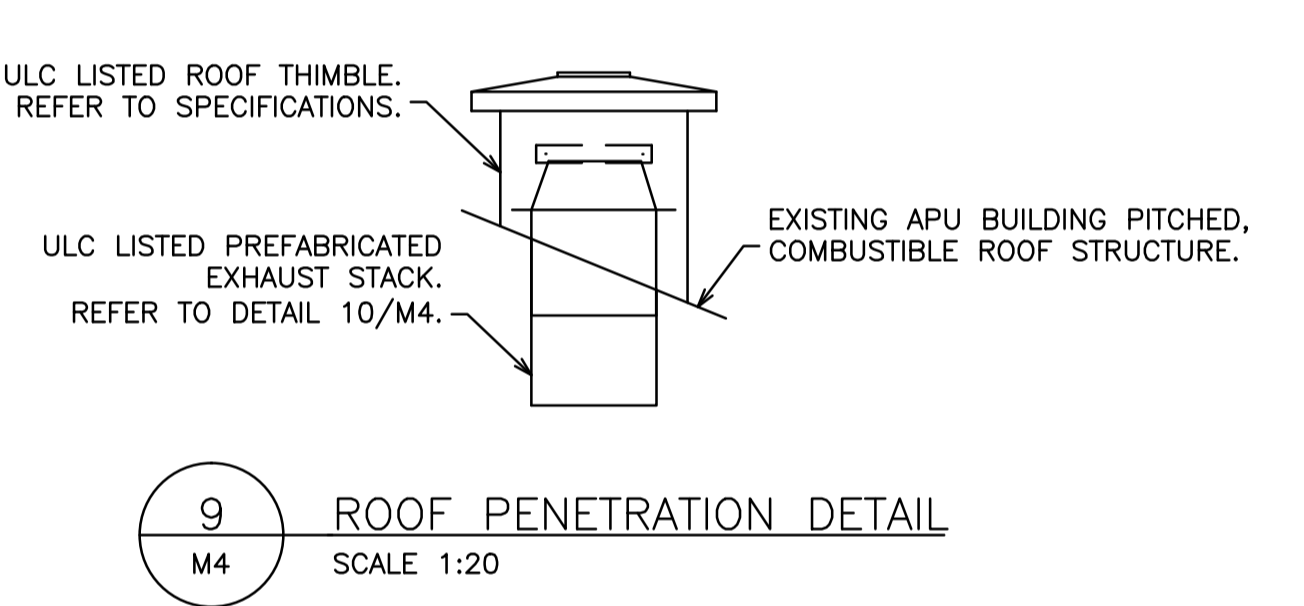
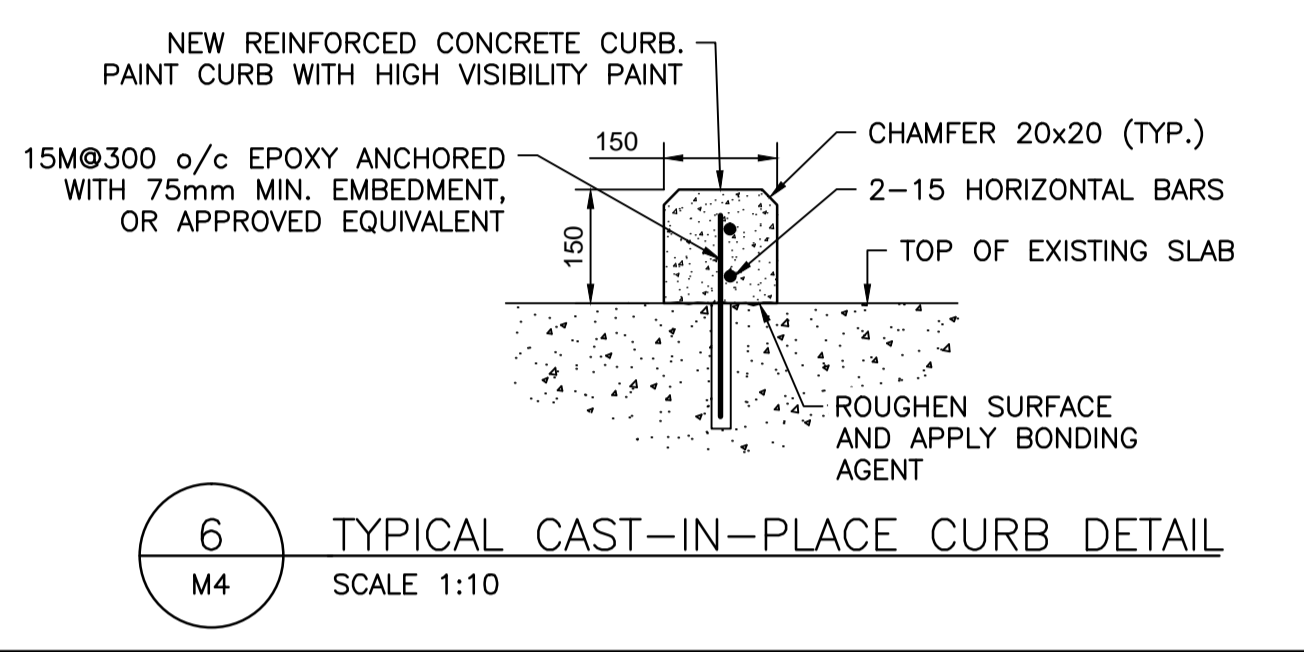
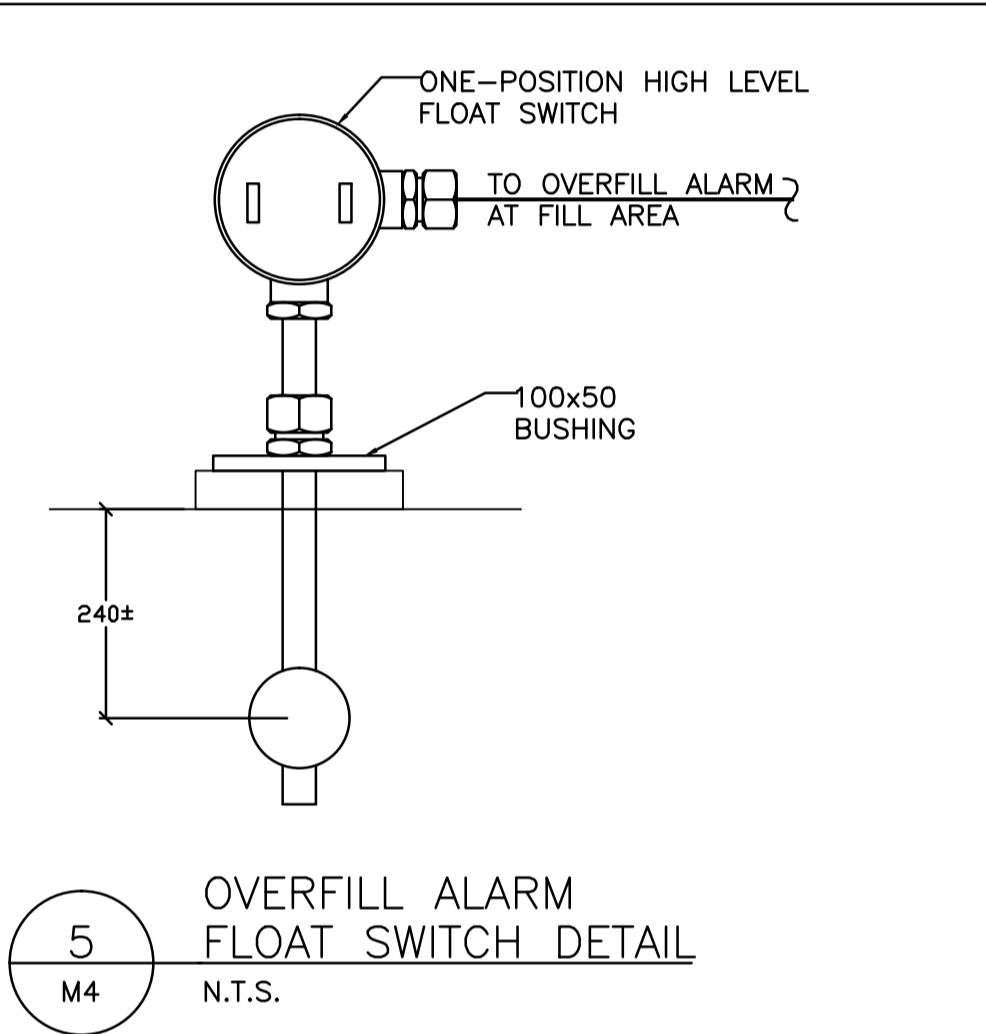
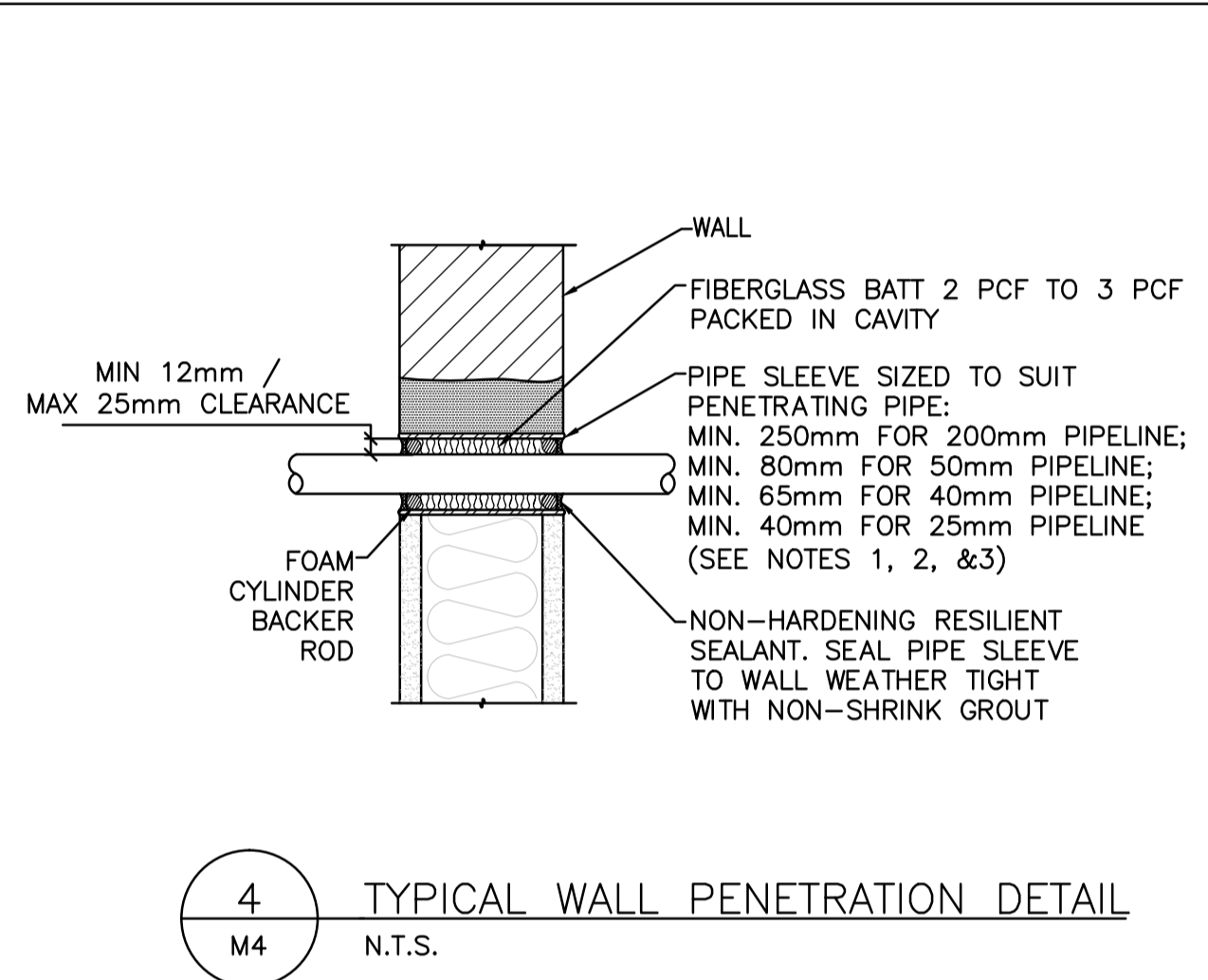
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drawing no.
dessiné no.
M3



NOTES

- FUEL OIL PIPING AND CONDUIT SUPPORTS TO BE SPACED SUFFICIENTLY FROM PARTITION LINE TO ALLOW ACCESS FOR INSTALLATION/ SEALING.
- FOR STUD WALLS MILD STEEL SLEEVE BEDDED IN SEALANT TO SEAL OFF STUDWORK.
- FOR BLOCK WALLS THICKNESS OF STEEL SLEEVE TO BE SUFFICIENT TO SUPPORT MORTAR ABOVE, MINIMUM THICKNESS 1/16 INCH.
- ALL BUILDING PENETRATIONS MUST BE SCANNED PRIOR TO ALL CORING ACTIVITIES AND APPROVED BY DEPARTMENTAL REPRESENTATIVE.
- ALL NEW FUEL PIPE PENETRATIONS THROUGH BUILDING WALLS MUST BE SEALED WITH AN APPROVED 2 HOUR FIRE-RESISTANT RATED MATERIAL.



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DETAILS

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C. LOBO

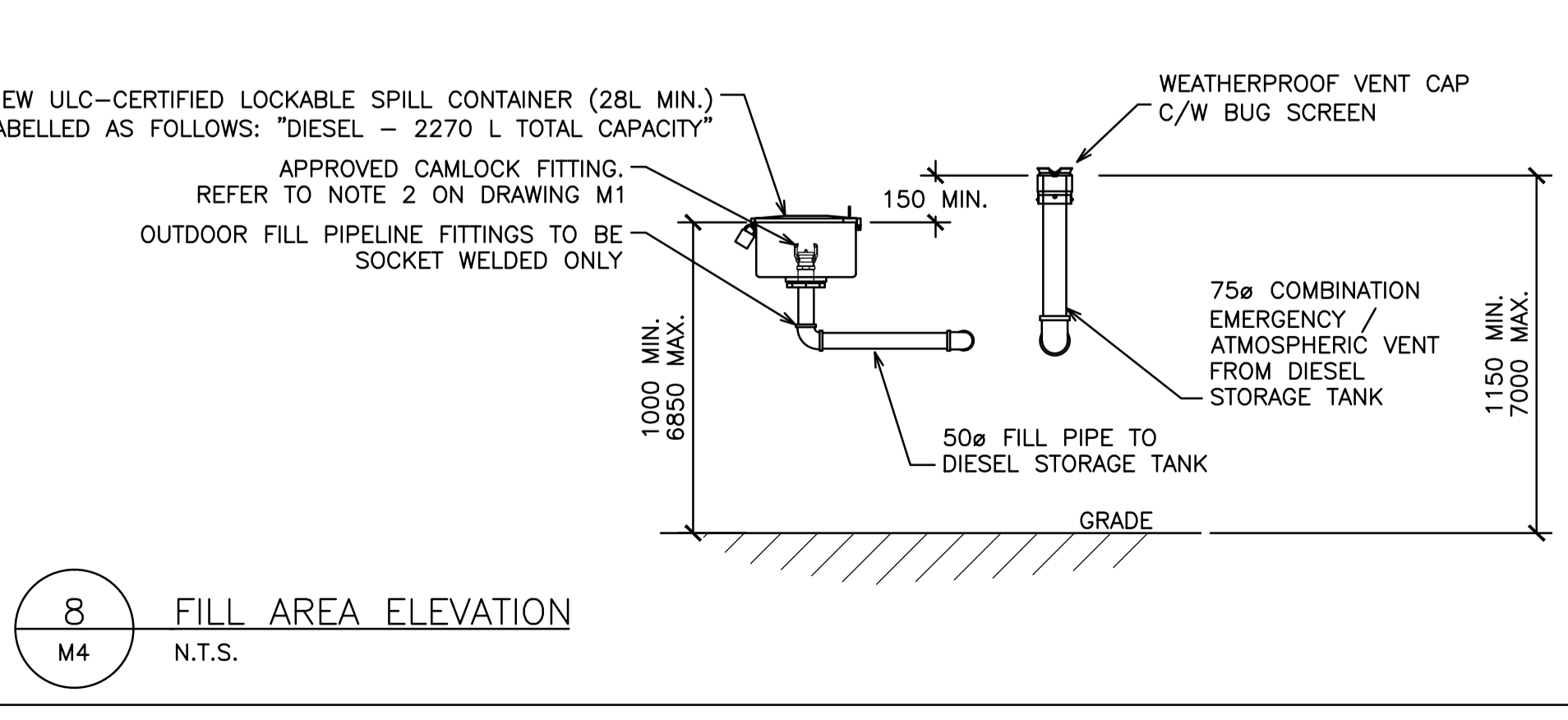
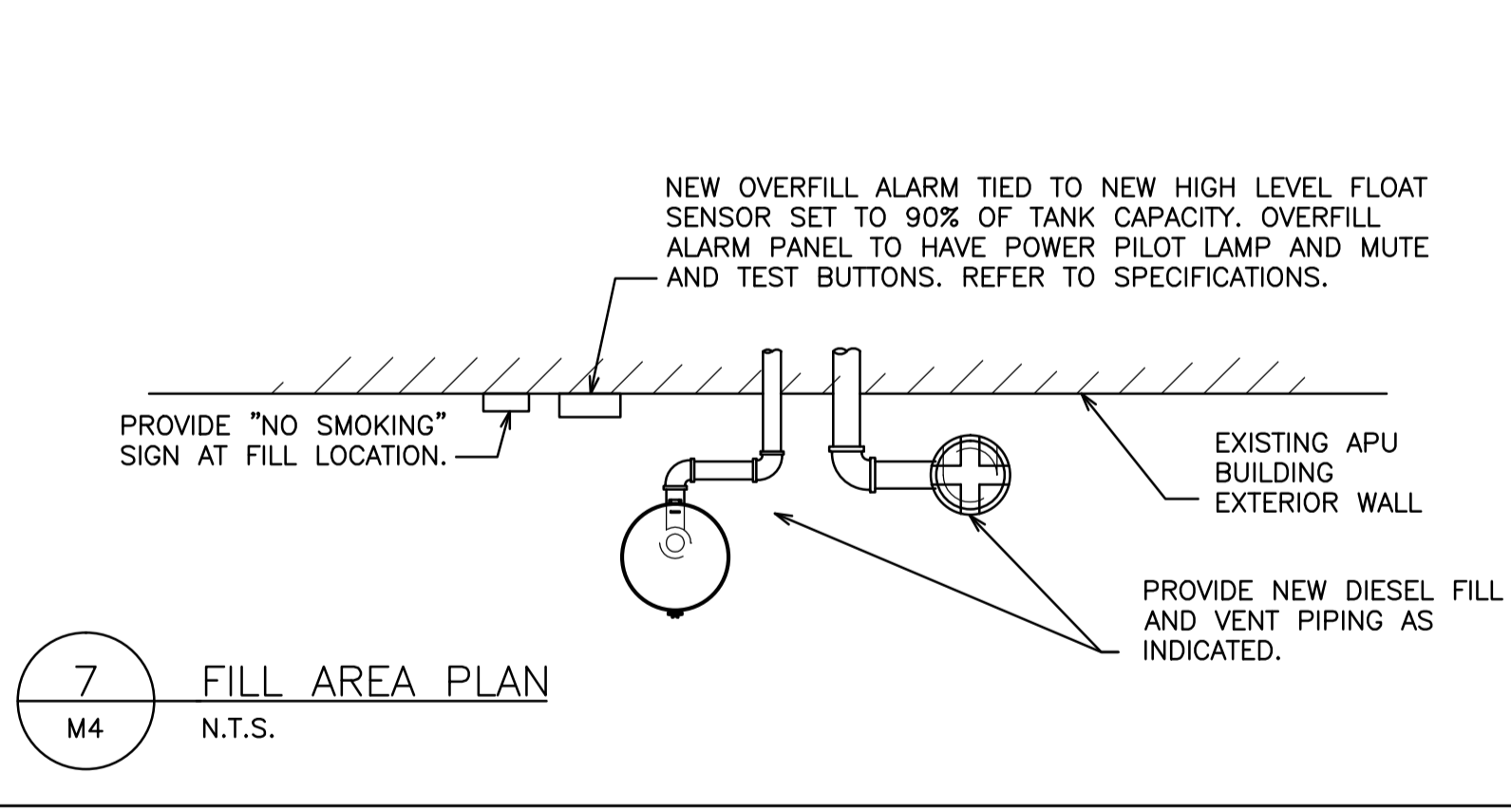
approved by / approuvé par
C. McGEE

tender submission / soumission
DANIEL VENTURA

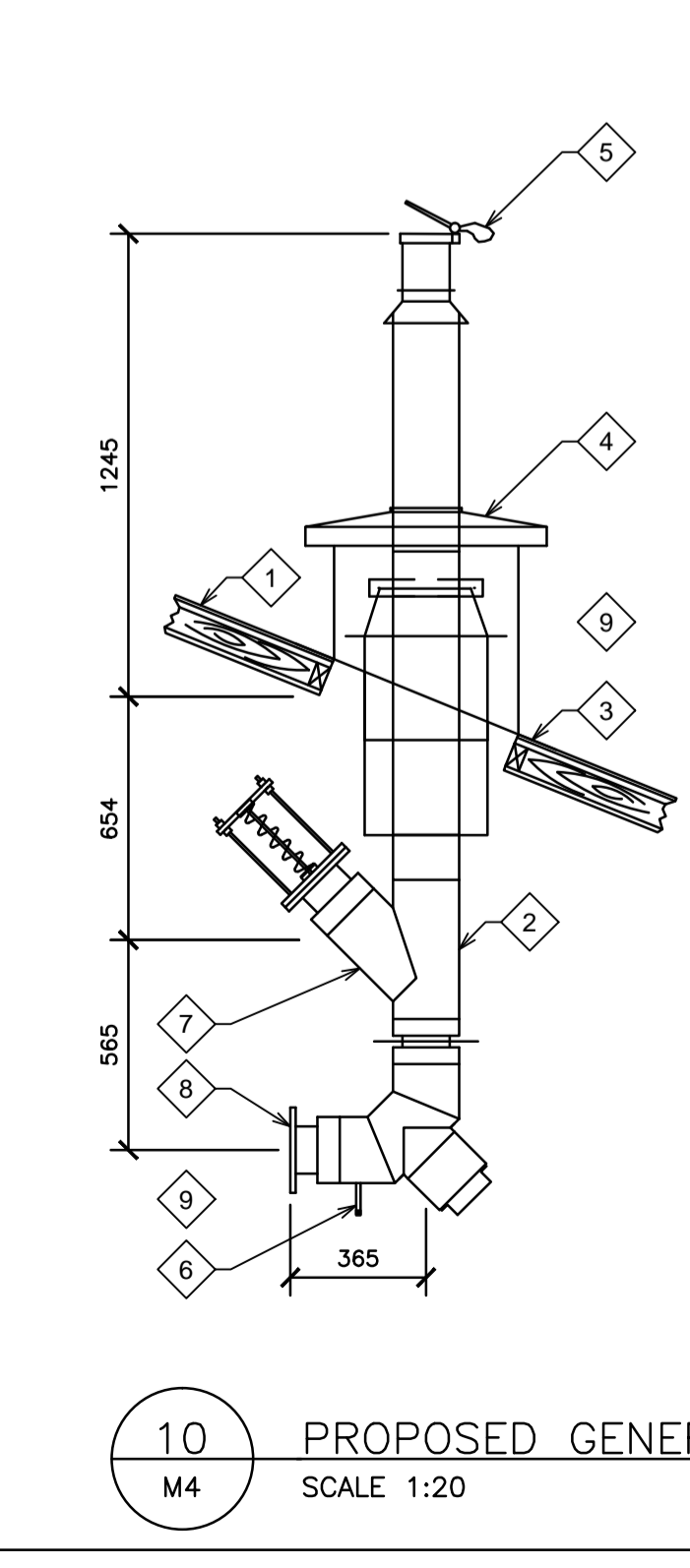
project date / date du projet
2017/05/09

project no. / no. du projet
163302290

drawing no. / dessin no.
M4

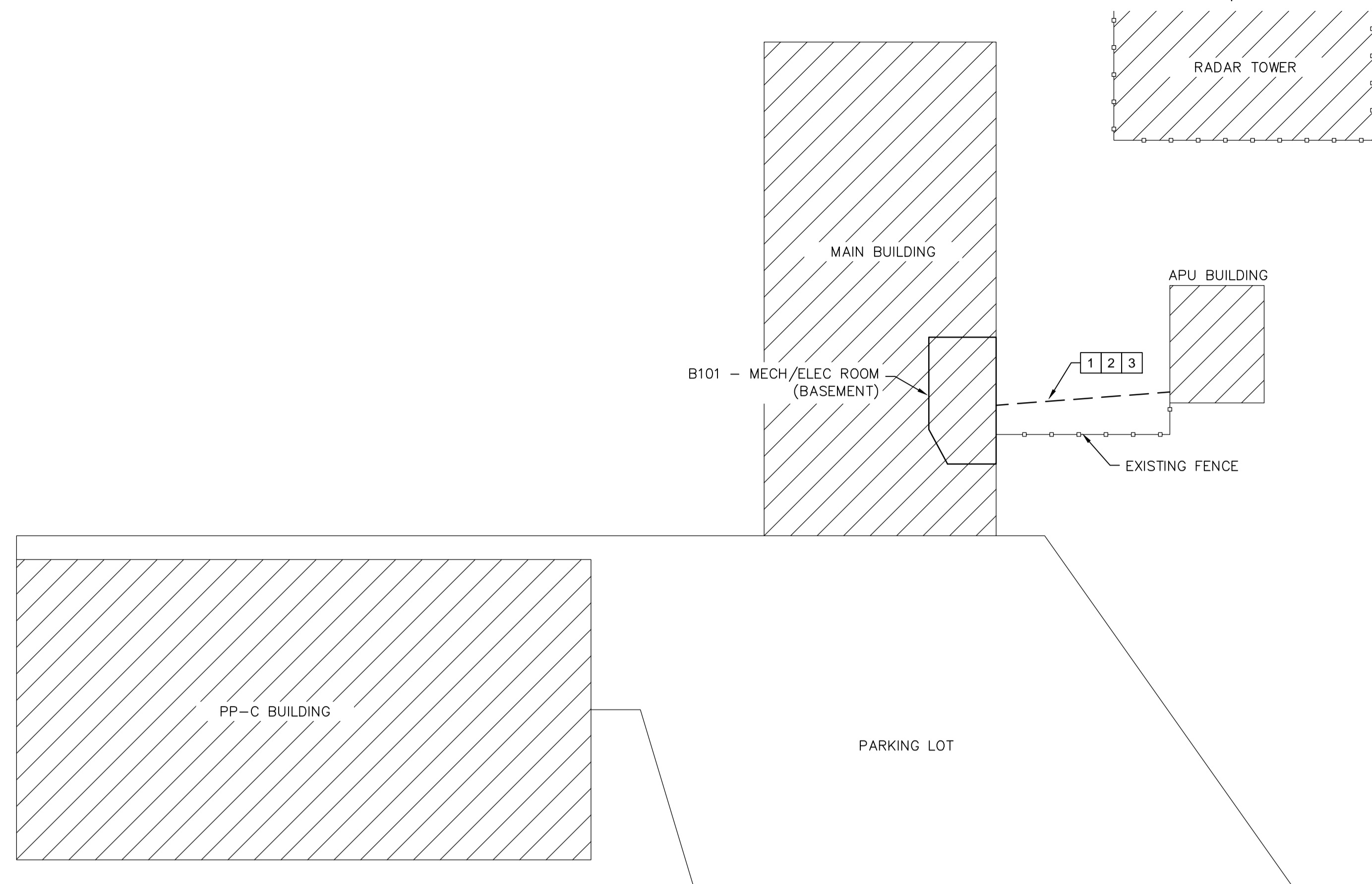
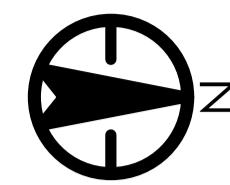


NOTE: REFER TO SPECIFICATIONS FOR COMPLETE REQUIREMENTS OF NEW ULC-LISTED GENERATOR EXHAUST CHIMNEY. ALL WORK AT ROOF LEVEL SHALL BE PERFORMED BY QUALIFIED ROOFING SUBTRADE WITH ALL RELATED COSTS CARRIED BY CONTRACTOR. REFER TO NOTE 9 ON DRAWING M3.



DETAIL NOTES

- EXISTING COMBUSTIBLE PITCHED ROOF STRUCTURE OF APU BUILDING.
- NEW PREFABRICATED ULC-LISTED EXHAUST STACK SHALL BE INSULATED, AT MINIMUM, FOR FIRST 2450 mm ABOVE GRADE. INSTALL NEW EXHAUST ABOVE ROOF LEVEL C/W SUPPORTS AND WEATHERPROOF.
- CONTRACTOR SHALL CREATE NEW ROOF PENETRATION SIZED TO SUIT NEW EXHAUST STACK C/W ULC LISTED ROOF THIMBLE AS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PATCH, SEAL AND MAKE GOOD NEW ROOF OPENING. CONTRACTOR SHALL ENSURE THAT THE ROOFING MATERIAL IS CUT BACK TO A MINIMUM OF 100mm GREATER THAN CLEARANCE TO COMBUSTIBLES REQUIREMENT AS PER CSA B139-15. REFER TO DETAIL 9/M4.
- NEW ULC-LISTED ROOF THIMBLE. CONTRACTOR SHALL ENSURE THAT THERE IS ADEQUATE CLEARANCE TO COMBUSTIBLES FROM THE NEW EXHAUST CHIMNEY. REFER TO DETAIL 9/M4.
- EXHAUST STACK TERMINATION SHALL BE EQUIPPED WITH FLAPPER RAIN CAP AND FLUE SHALL EXTEND AT LEAST 1000 mm ABOVE POINT OF CONTACT WITH EXISTING APU BUILDING ROOF AND 610 mm ABOVE ANY ROOF STRUCTURE THAT WITHIN A 3000mm HORIZONTAL PLANE PERPENDICULAR TO THE EXHAUST.
- EXHAUST STACK SHALL BE EQUIPPED WITH CONDENSATE DRAIN C/W SHUTOFF VALVE PROVIDED TO DRAIN TO A SAFE LOCATION INSIDE THE APU BUILDING.
- EXHAUST STACK SHALL BE EQUIPPED WITH AN EXCESS PRESSURE RELIEF VALVE INSIDE THE APU BUILDING.
- CONNECT TO OUTLET OF NEW GENERATOR EXHAUST SILENCER WITH ULC-LISTED FLANGE CONNECTOR FROM SAME MANUFACTURER AS PREFABRICATED ULC-LISTED EXHAUST STACK.
- THE CONTRACTOR SHALL ENGAGE A SEISMIC ENGINEER LICENSED IN THE PROVINCE OF ONTARIO TO CARRY OUT THE DESIGN OF THE SUPPORTS FOR THE PROPOSED GENERATOR EXHAUST INCLUDING, BUT NOT LIMITED TO, THE NEW GENERATOR EXHAUST SILENCER AND CHIMNEY. THE CONTRACTOR SHALL SUBMIT SEALED SHOP DRAWING(S) OF THE SUPPORTS FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE APPROVED SCHEDULE OF WORK. THE SHOP DRAWING(S) FOR THE SUPPORTS MUST BE APPROVED BY THE MANUFACTURERS OF BOTH THE APPROVED GENERATOR EXHAUST STACK AND APPROVED EXHAUST SILENCER. THE CONTRACTOR SHALL CARRY ALL COSTS ASSOCIATED WITH DESIGNING AND PROVIDING THE GENERATOR EXHAUST CHIMNEY SUPPORTS.



DEMOLITION NOTES	
1	LOCATE AND REMOVE EXISTING GENERATOR FEED WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.
2	LOCATE AND REMOVE EXISTING GENERATOR RUN SIGNAL WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.
3	CONTRACTOR TO PERFORM LOCATES PRIOR TO EXCAVATION SO AS NOT TO DISTURB EXISTING CONDUITS FOR PANEL 'F' AND SPARE CONDUIT.

1 DEMOLITION - ELECTRICAL SITE PLAN
E1 1:200

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Technical Services
Environnement et Changement Climatique Canada
Division Gestion des Biens Immobilier
Services Techniques



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Ottawa ON
Tel. 613-722-4420

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 - THICK SOLID LINES INDICATE NEW CONSTRUCTION.
 - THIN SOLID LINES INDICATE EXISTING.



04		
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revision		date

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| | A | Detail No. |
| | B | drawing no. - where detail required |
| | C | drawing no. - where detailed |

project title
titre du projet
KING CITY ONTARIO
ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT

drawing title
titre du dessin
ELECTRICAL
EXISTING SITE PLAN

drawn by
dessine par **J.CZYZEWSKI**

designed by
conc par **T. BIRO**

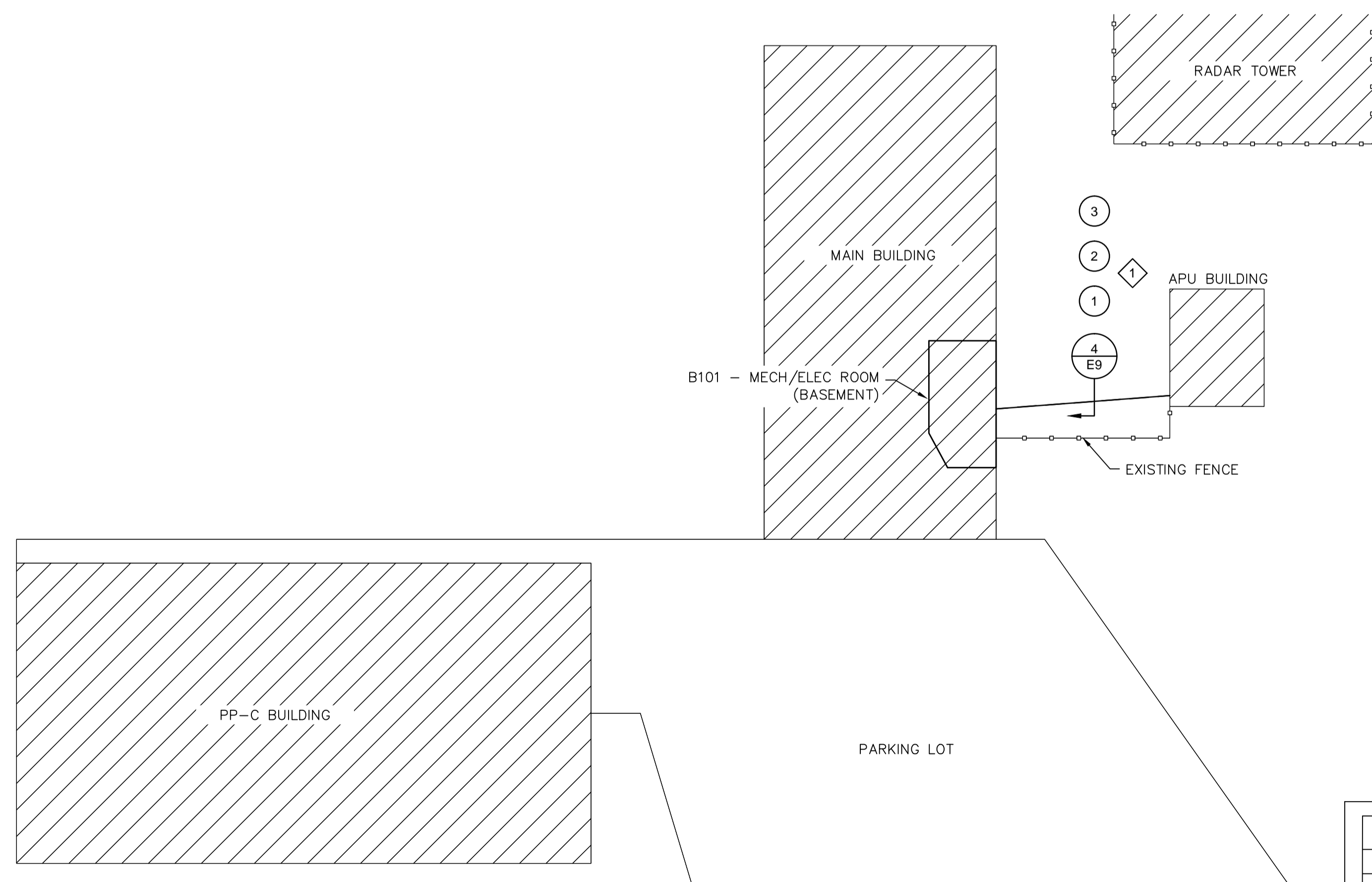
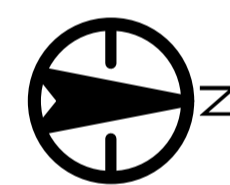
approved by
approuve par **O. JAN**

tender
soumission **DANIEL VENTURA** project manager
administrateur de projets

project date
date du projet **2017/05/09**

project no.
no. du projet **163302290**

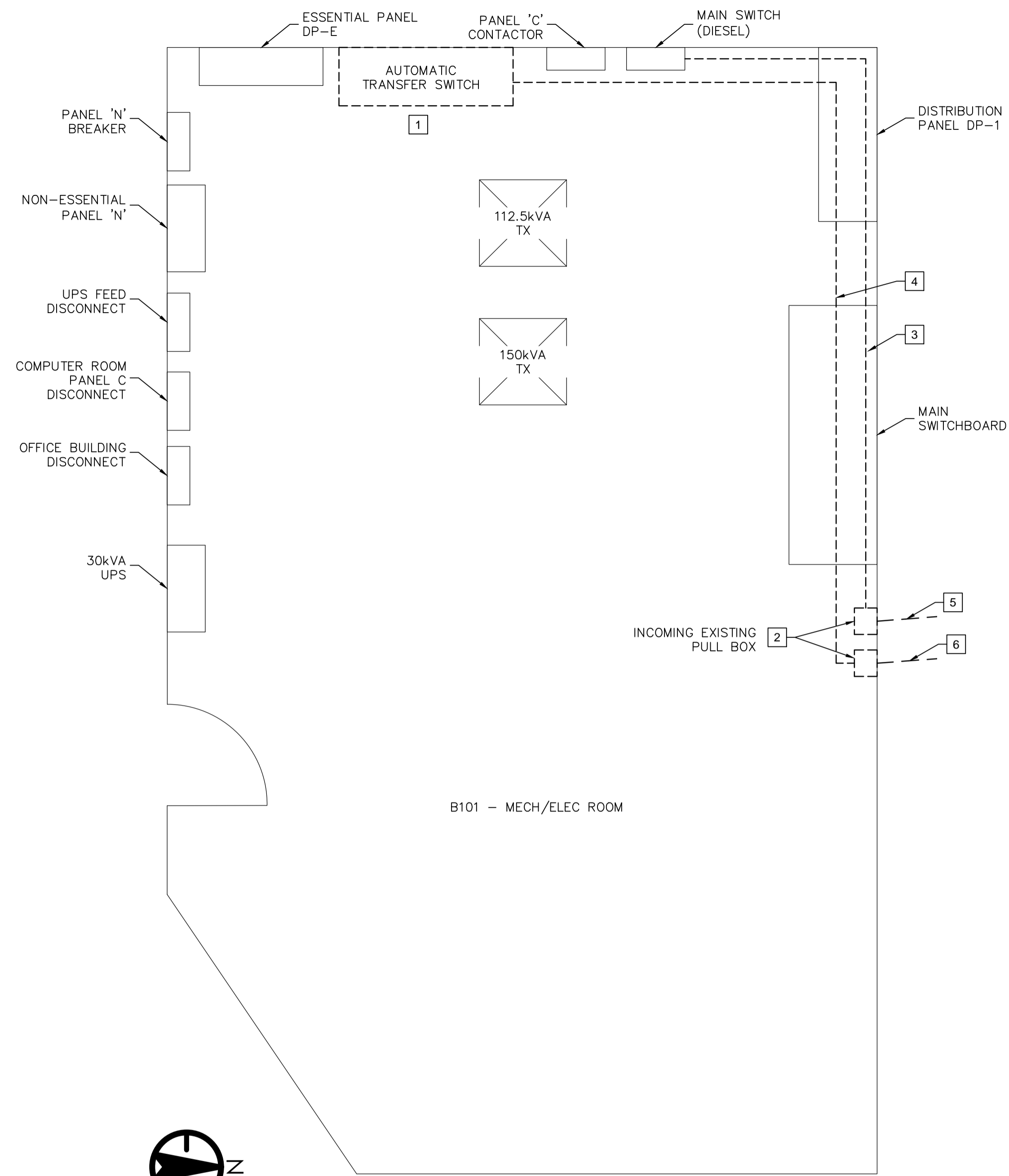
drawing no.
dessine no. **E1**



NEW CONSTRUCTION NOTES	
1	PROVIDE AND INSTALL NEW DIRECT BURIED CONDUIT FROM APU BUILDING TO MAIN BUILDING B101 MECH/ELEC ROOM AS PER DIRECT BURIED CONDUIT SCHEDULE.

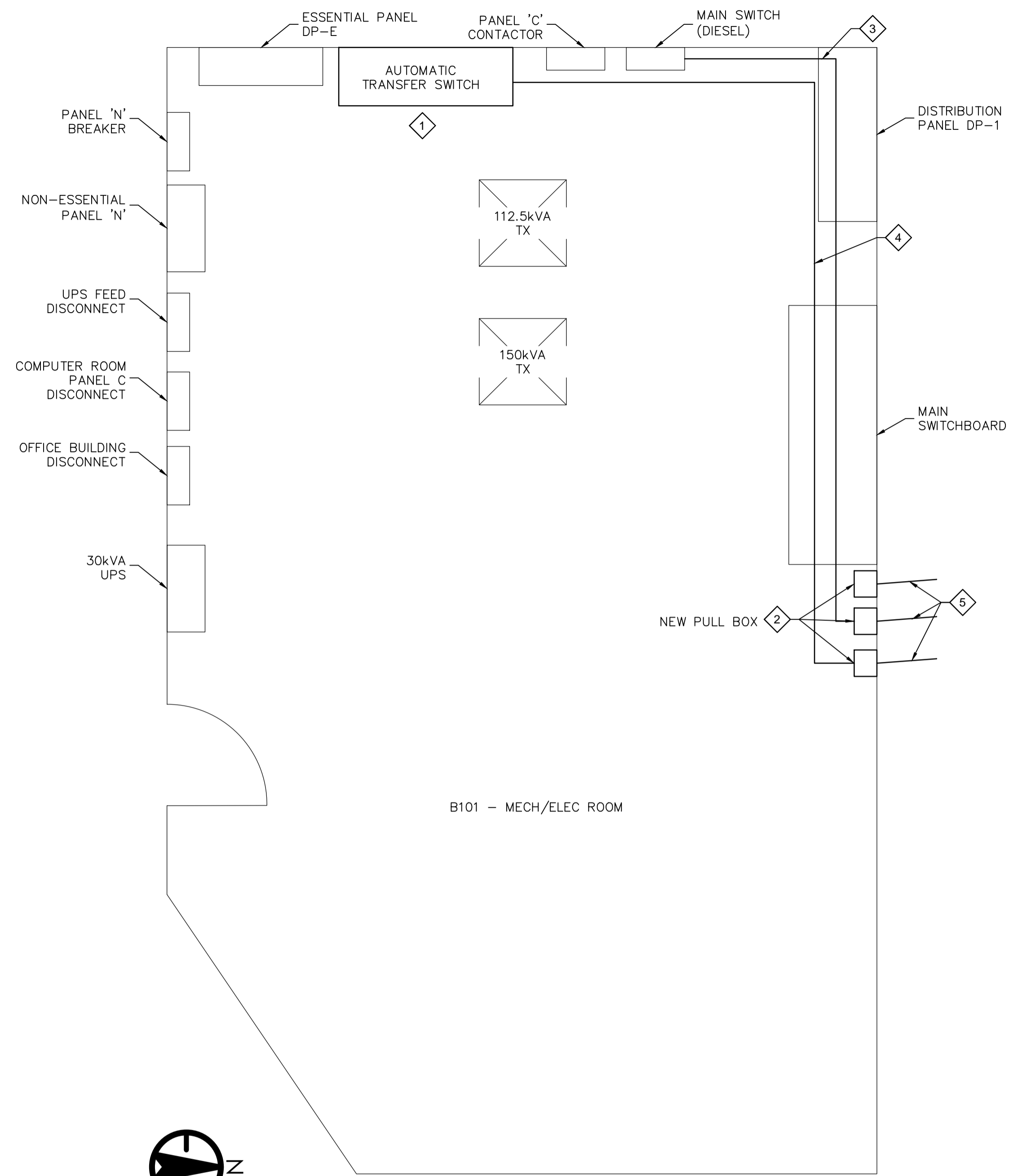
2 NEW CONSTRUCTION - ELECTRICAL SITE PLAN
E1 1:200

DIRECT BURIED DUCT SCHEDULE					
NO.	FROM	TO	DIA.	SERVICE	CONDUCTOR(S)
1	APU BUILDING NEW GENERATOR	ELEC. ROOM MAIN SWITCH (DIESEL)	63mm RIGID PVC	600V	3x #1/0AWG RWU90 XLPE PLUS BOND
2	APU BUILDING GEN. CNTRL PANEL	ELEC. ROOM NEW ATS & OPERATIONS ROOM ALRM	27mm RIGID PVC	120V	7x #14AWG RWU90 XLPE
3	APU BUILDING	MAIN BUILDING	27mm RIGID PVC	SPARE	C/W PULL STRING



1 DEMOLITION – B101 MECHANICAL/ELECTRICAL ROOM
E2 N.T.S.

DEMOLITION NOTES	
1	REMOVE EXISTING AUTOMATIC TRANSFER SWITCH C/W ALL ASSOCIATED WIRING AND CONDUIT. REFER TO SINGLE LINE DIAGRAM - DEMOLITION FOR DETAILS.
2	REMOVE INCOMING GENERATOR FEED AND RUN SIGNAL PULL BOXES.
3	REMOVE EXISTING GENERATOR FEED WIRING AND CONDUIT WITHIN ROOM B101 FROM PULL BOX TO MAIN SWITCH (DIESEL).
4	REMOVE EXISTING GENERATOR RUN SIGNAL WIRING AND CONDUIT WITHIN ROOM B101 FROM PULL BOX TO EXISTING ATS.
5	LOCATE AND REMOVE EXISTING GENERATOR FEED WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.
6	LOCATE AND REMOVE EXISTING GENERATOR RUN SIGNAL WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.



2 NEW CONSTRUCTION – B101 MECHANICAL/ELECTRICAL ROOM
E2 N.T.S.

NEW CONSTRUCTION NOTES	
1	PROVIDE AND INSTALL NEW AUTOMATIC TRANSFER SWITCH C/W ALL ASSOCIATED WIRING AND CONDUIT. REFER TO SINGLE LINE DIAGRAM - NEW CONSTRUCTION FOR DETAILS.
2	PROVIDE AND INSTALL NEW PULL BOXES FOR INCOMING CONDUITS FROM APU BUILDING.
3	PROVIDE AND INSTALL NEW 3 #1/0AWG RWU90 XLPE PLUS BOND IN 63mm EMT FROM NEW PULL BOX TO EXISTING MAIN SWITCH (DIESEL).
4	PROVIDE AND INSTALL NEW 2 #14AWG RWU90 XLPE IN 27mm EMT FROM NEW PULL BOX TO NEW ATS.
5	PROVIDE AND INSTALL NEW DIRECT BURIED CONDUIT FROM APU BUILDING TO MAIN BUILDING B101 MECH/ELEC ROOM AS PER DIRECT BURIED CONDUIT SCHEDULE. REFER TO DWG. E1 FOR DETAILS.



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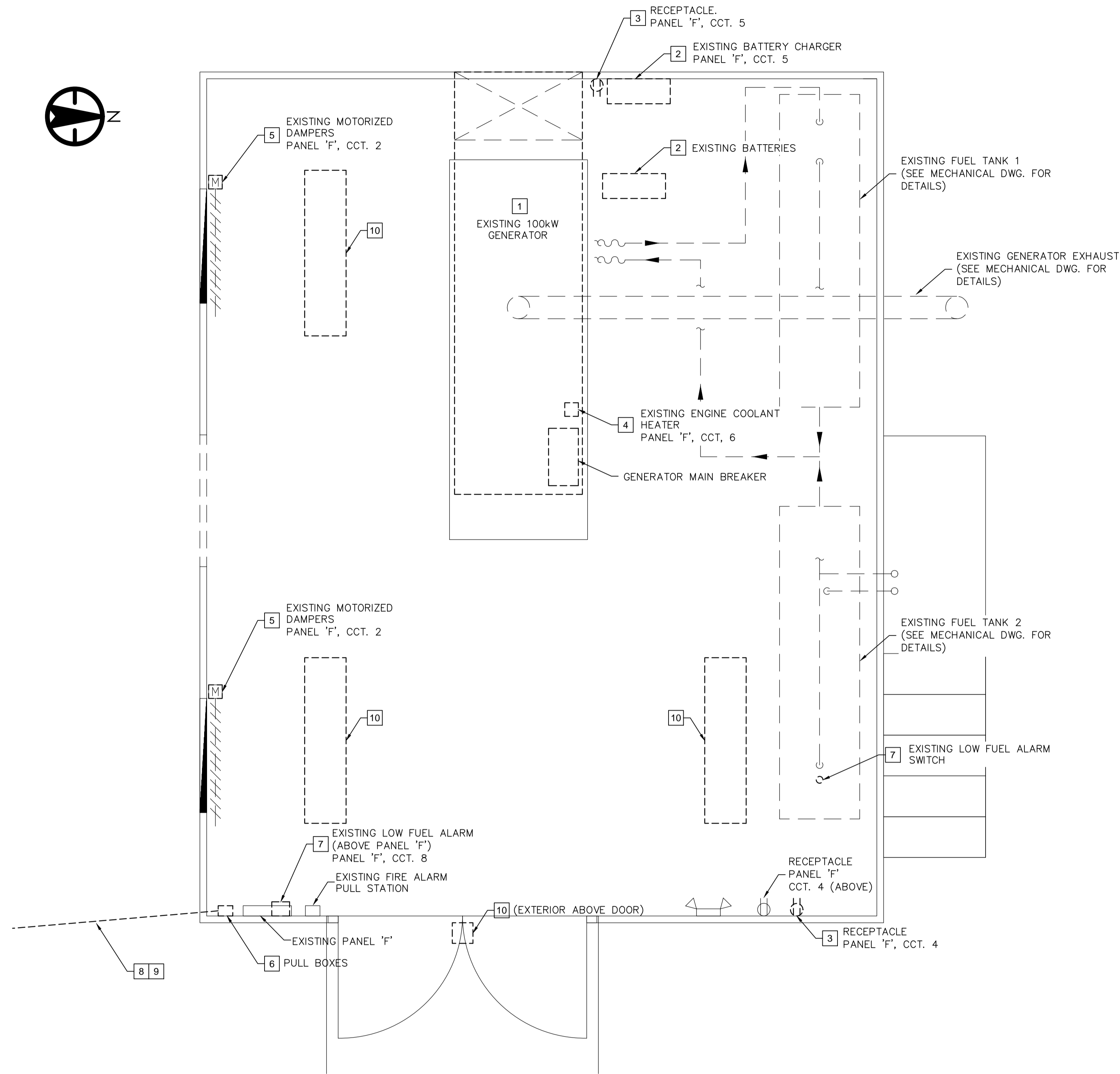
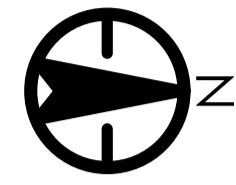
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project title
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KING CITY ONTARIO
ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT

drawing title
titre du dessin
ELECTRICAL
B101 – MECHANICAL &
ELECTRICAL ROOM

drawn by dessiné par	J.CZYZEWSKI
designed by conçu par	T. BIRO
approved by approuvé par	O. JAN
tender soumission	DANIEL VENTURA
project manager administrateur de projets	
project date date du projet	2017/05/09
project no. no. du projet	163302290
drawing no. dessiné no.	E2



DEMOLITION NOTES	
1	REMOVE EXISTING 100kW GENERATOR C/W ALL ASSOCIATED WIRING AND CONDUIT.
2	REMOVE EXISTING WALL MOUNT BATTERY CHARGER AND EXISTING BATTERIES C/W ALL ASSOCIATED WIRING AND CONDUIT TO PANEL 'F'. CIRCUIT TO BE REUSED FOR NEW EQUIPMENT.
3	REMOVE EXISTING RECEPTACLES C/W ALL ASSOCIATED CONDUIT AND WIRING TO PANEL 'F'.
4	REMOVE EXISTING WIRING AND CONDUIT FROM EXISTING ENGINE COOLANT HEATER TO PANEL 'F'. CIRCUIT TO BE REUSED FOR NEW EQUIPMENT.
5	REMOVE EXISTING WIRING AND CONDUIT FROM MOTORIZED DAMPERS TO PANEL 'F'.
6	REMOVE INCOMING GENERATOR FEED AND RUN SIGNAL PULL BOXES.
7	REMOVE EXISTING LOW FUEL ALARM SYSTEM C/W BELL, LOW FUEL SWITCH (TANK 2) AND ALL ASSOCIATED WIRING AND CONDUIT TO PANEL 'F'.
8	LOCATE AND REMOVE EXISTING GENERATOR FEED WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.
9	LOCATE AND REMOVE EXISTING GENERATOR RUN SIGNAL WIRING AND CONDUIT FROM APU BUILDING TO MAIN BUILDING - B101 MECH/ELEC ROOM.
10	REMOVE EXISTING INTERIOR AND EXTERIOR APU BUILDING LIGHTING. EXISTING CONDUIT AND WIRING TO PANEL 'F' TO REMAIN. CIRCUIT TO BE REUSED FOR NEW EQUIPMENT.



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 14780 JANE STREET
 KING CITY, ON

GENERATOR REPLACEMENT

drawing title
 titre du dessin
ELECTRICAL
APU BUILDING - DEMOLITION

drawn by
 dessiné par **J.CYZEWSKI**

designed by
 conçu par **T. BIRO**

approved by
 approuvé par **O. JAN**

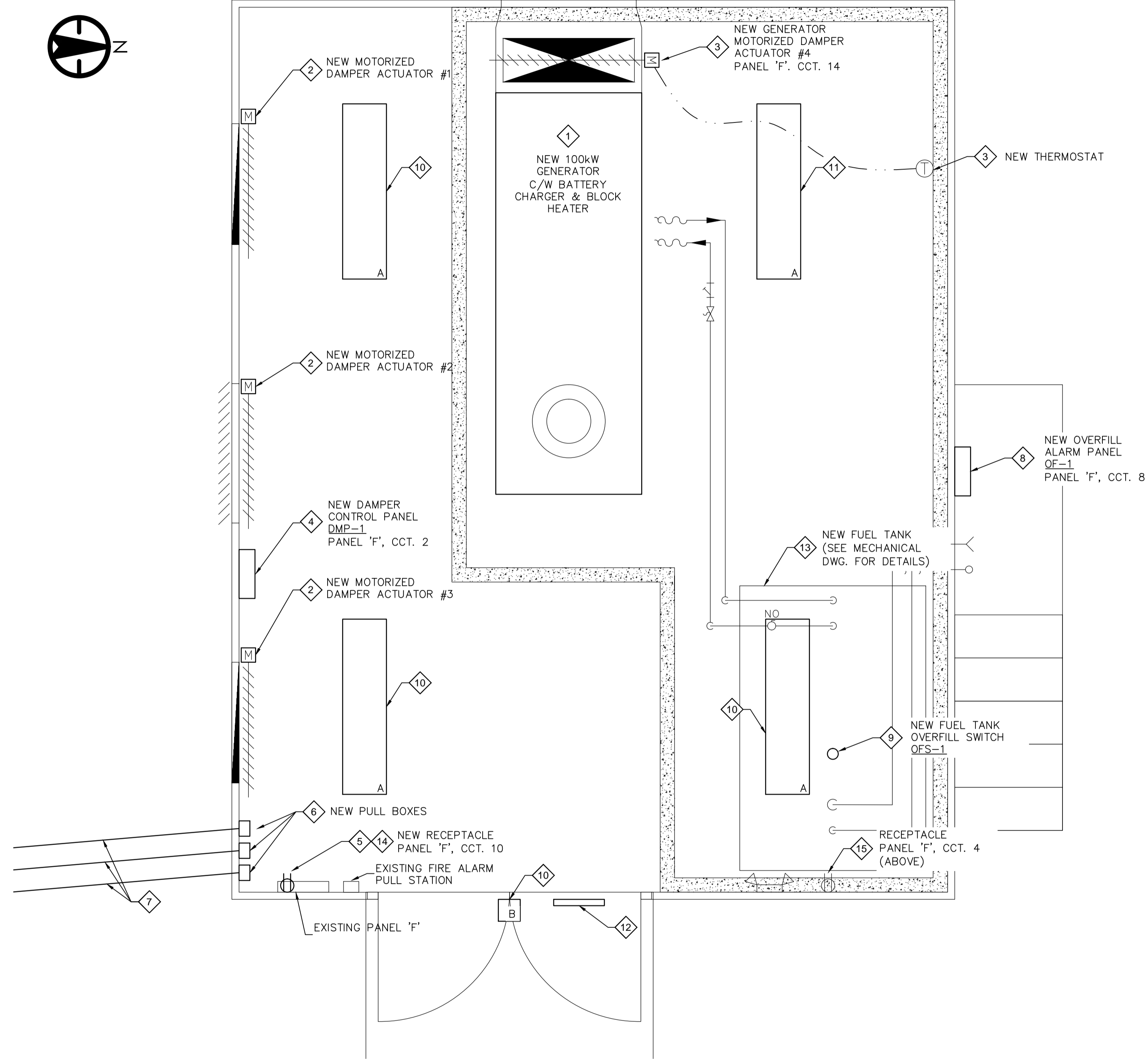
tender
 soumission **DANIEL VENTURA** project manager
 administrateur de projets

project date
 date du projet **2017/05/09**

project no.
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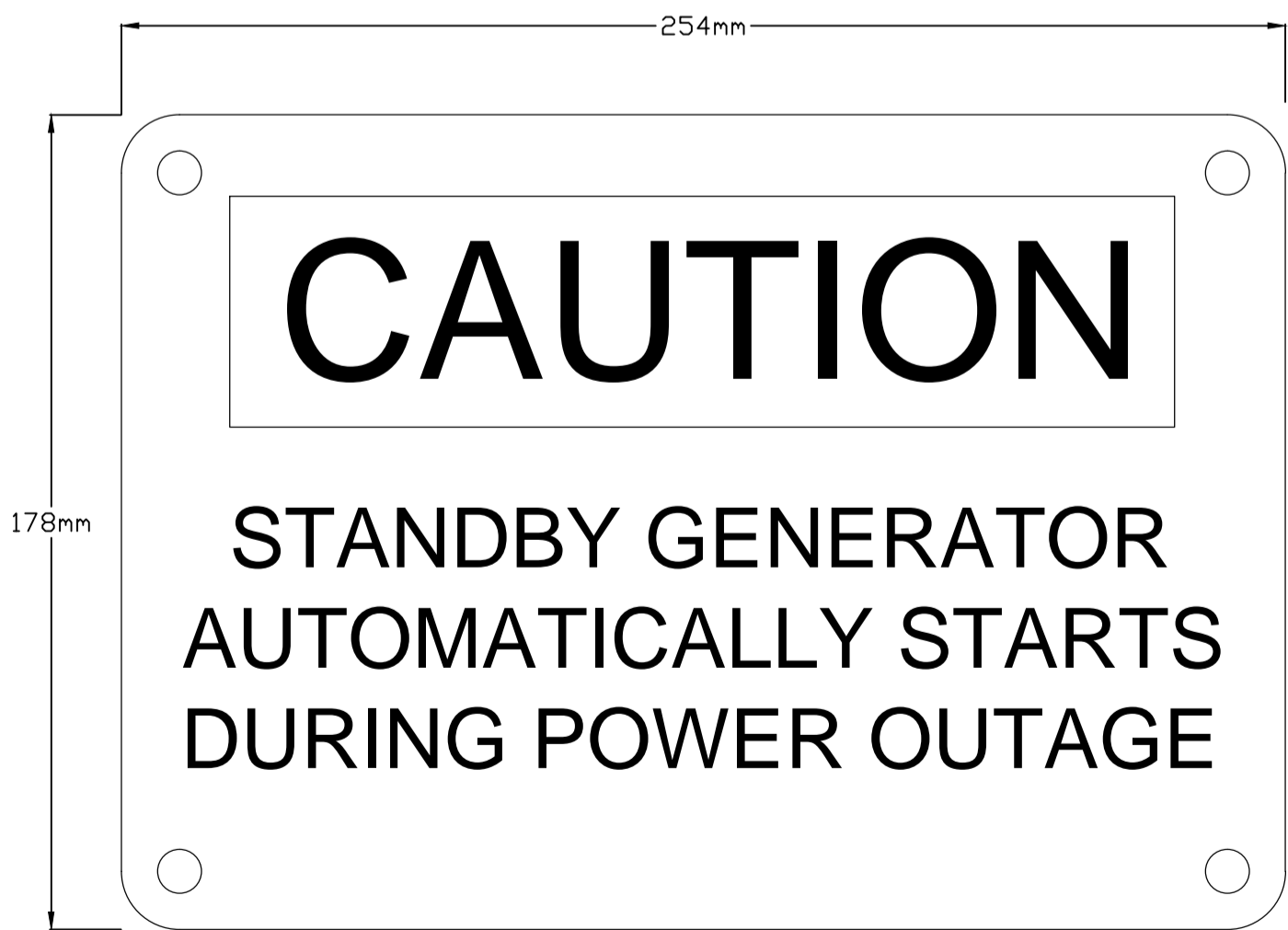
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 dessiné no. **E3**

1 DEMOLITION - APU BUILDING
 E3 1:20



1 NEW CONSTRUCTION – APU BUILDING
E4 1:20

NEW CONSTRUCTION NOTES	
1	PROVIDE AND INSTALL NEW 100kW GENERATOR C/W ALL ASSOCIATED WIRING AND CONDUIT. REFER TO SINGLE LINE DIAGRAM - NEW CONSTRUCTION FOR MORE DETAILS. FEED NEW BATTERY CHARGER FROM EXISTING PANEL 'F', CCT. 5. FEED NEW GENERATOR ENGINE BLOCK HEATER FROM EXISTING PANEL 'F', CCT. 6.
2	PROVIDE AND INSTALL WIRING AND EMT CONDUIT FROM NEW MOTORIZED DAMPERS TO NEW CONTROL PANEL DMP-1.
3	PROVIDE AND INSTALL NEW WIRING AND EMT CONDUIT FOR NEW GENERATOR MOTORIZED DAMPER TO NEW THERMOSTAT. FEED NEW GENERATOR MOTORIZED DAMPER FROM PANEL 'F', CCT. 14.
4	PROVIDE AND INSTALL NEW MOTORIZED DAMPER CONTROL PANEL DMP-1. NEW PANEL TO BE FED FROM EXISTING PANEL 'F', CCT. 2.
5	PROVIDE AND INSTALL NEW RECEPTACLE BELOW EXISTING PANEL 'F'. FEED NEW RECEPTACLE FROM PANEL 'F', CCT. 10.
6	PROVIDE AND INSTALL NEW PULL BOXES FOR INCOMING CONDUITS FROM MAIN BUILDING MECH/ELEC ROOM B101.
7	PROVIDE AND INSTALL NEW DIRECT BURIED CONDUIT FROM APU BUILDING TO MAIN BUILDING B101 MECH/ELEC ROOM AS PER DIRECT BURIED CONDUIT SCHEDULE. REFER TO DWG. E1 FOR DETAILS.
8	PROVIDE AND INSTALL NEW OVERFILL ALARM PANEL OF-1. NEW OVERFILL ALARM PANEL TO BE MOUNTED ON EXTERIOR WALL OF APU BUILDING. FEED NEW PANEL FROM EXISTING PANEL 'F', CCT. 8.
9	PROVIDE AND INSTALL NEW FUEL TANK OVERFILL SWITCH OFS-1 ON NEW FUEL TANK. CONNECT TO NEW OVERFILL ALARM PANEL OF-1.
10	PROVIDE AND INSTALL NEW LED INTERIOR AND EXTERIOR APU BUILDING LIGHTING. CONNECT TO EXISTING WIRING.
11	PROVIDE AND INSTALL NEW LED INTERIOR LIGHT, TO BE FED FROM EXISTING LIGHTING CIRCUIT 1 IN PANEL 'F'.
12	PROVIDE AND INSTALL CAUTIONARY SIGNAGE ON ENTRANCE DOOR TO APU BUILDING SUITABLE FOR OUTDOOR USE. SEE DETAIL 2 FOR PREFERRED SIGN.
13	BOND NEW FUEL TANK TO NEW GENERATOR.
14	PROVIDE CIRCUIT ID LABELS ON ALL RECEPTACLES TO INDICATE SOURCE CIRCUIT.



2 CAUTION SIGN DETAIL – APU BUILDING
E4 N.T.S



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KING CITY ONTARIO
ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT

drawing title
titre du dessin
ELECTRICAL
APU BUILDING –
NEW CONSTRUCTION

drawn by
dessiné par J.CZYZEWSKI

designed by
conçu par T. BIRO

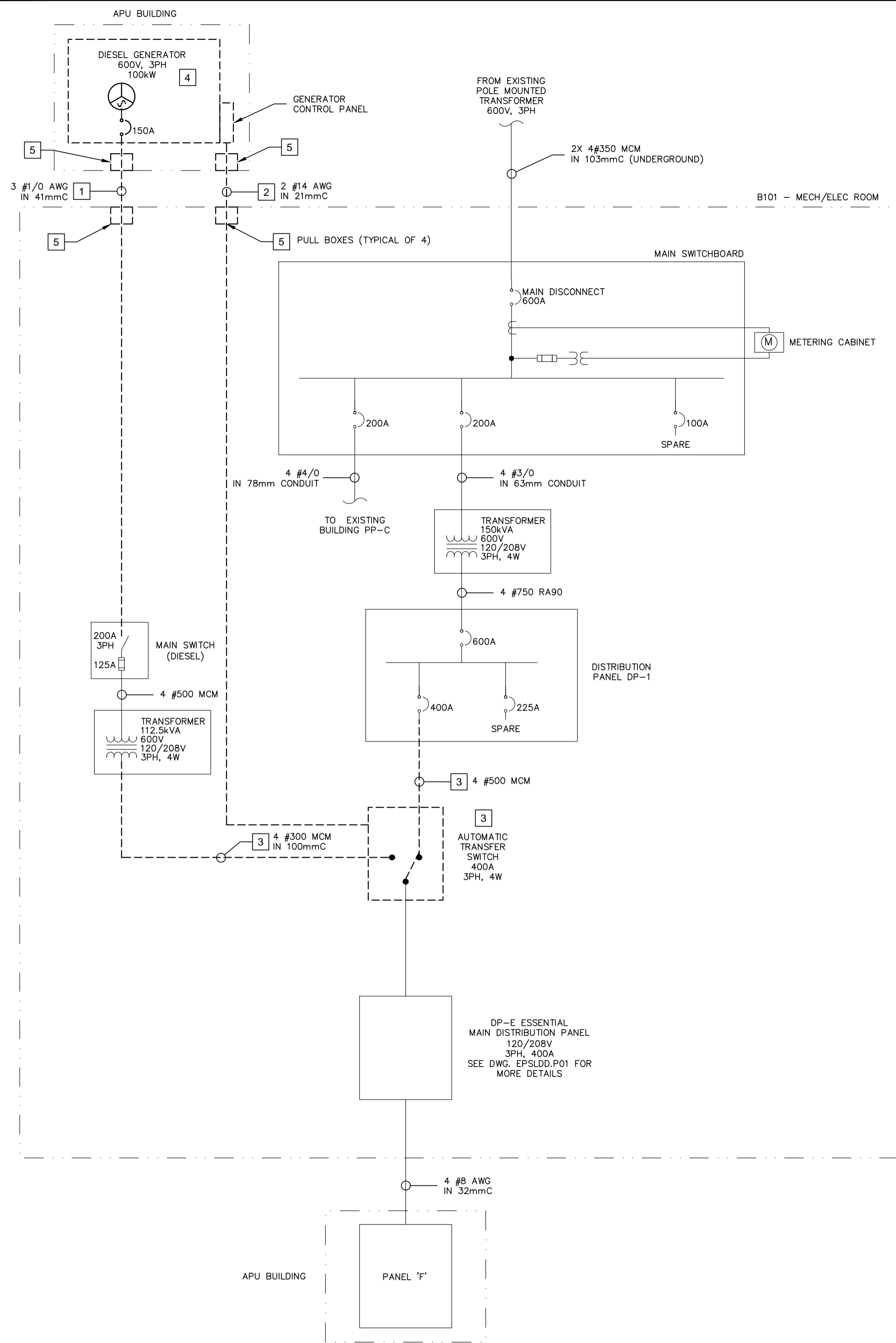
approved by
approuvé par O. JAN

tender
soumission DANIEL VENTURA project manager
administrateur de projets

project date
date du projet 2017/05/09

project no.
no. du projet 163302290

drawing no.
dessiné no. E4



1 DEMOLITION – KING CITY RADAR WEATHER STATION SINGLE LINE DIAGRAM
E5 N.T.S

DEMOLITION NOTES	
1	REMOVE EXISTING GENERATOR FEED WIRING AND CONDUIT TO MAIN SWITCH (DIESEL) LOCATED IN ROOM B101 - MECH/ELEC ROOM
2	REMOVE EXISTING GENERATOR RUN SIGNAL WIRING AND CONDUIT TO EXISTING ATS LOCATED IN ROOM B101 - MECH/ELEC ROOM
3	REMOVE EXISTING AUTOMATIC TRANSFER SWITCH C/W ALL ASSOCIATED WIRING AND CONDUIT.
4	REMOVE EXISTING 100kW GENERATOR C/W ALL ASSOCIATED WIRING AND CONDUIT.
5	REMOVE EXISTING PULL BOXES IN APU BUILDING AND MAIN BUILDING ROOM B101 - MECH/ELEC ROOM.



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ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT
drawing title
titre du dessin
ELECTRICAL
SINGLE LINE DIAGRAM –
DEMOLITION

drawn by
dessiné par J.CZYZEWSKI

designed by
conçu par T. BIRO

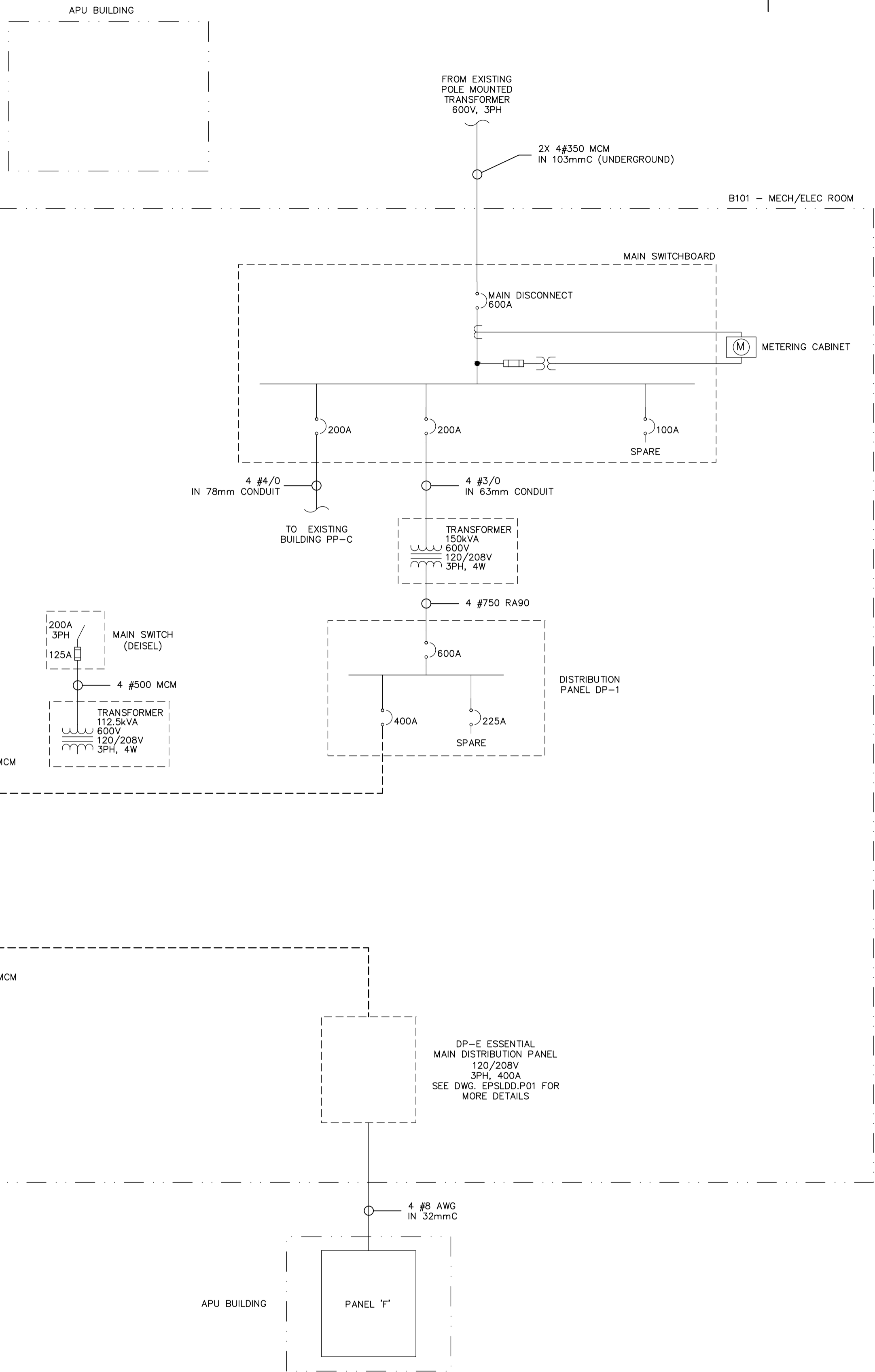
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approuvé par O. JAN

tender
soumission DANIEL VENTURA project manager
administrateur de projets

project date
date du projet 2017/05/09

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no. du projet 163302290

drawing no.
dessiné no. E5



- ### CONSTRUCTION PHASING NOTES
- 1 PROVIDE NEW TEMPORARY 208V, 3PH, 60KW DIESEL GENERATOR C/W 400A, 3PH AUTOMATIC TRANSFER SWITCH TO PROVIDE CONTINUOUS FACILITY OPERATION DURING APU BUILDING CONSTRUCTION.
 - 2 PROVIDE TEMPORARY WIRING FROM TEMP. GENERATOR TO EXISTING DISTRIBUTION PANEL DP-1 AND EXISTING ESSENTIAL MAIN DISTRIBUTION PANEL DP-E. CONTRACTOR TO DETERMINE BEST POSSIBLE CABLING ROUTE ON SITE WITH ECCC DEPARTMENTAL REPRESENTATIVE.
 - 3 PROVIDE TEMPORARY GROUNDING TO MAIN BUILDING GROUND SYSTEM.

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 KING CITY, ON

drawing title / titre du dessin
GENERATOR REPLACEMENT
 ELECTRICAL
 SINGLE LINE DIAGRAM -
 CONSTRUCTION PHASE

drawn by / dessiné par **J.CZYZEWSKI**

designed by / conçu par **T. BIRO**

approved by / approuvé par **O. JAN**

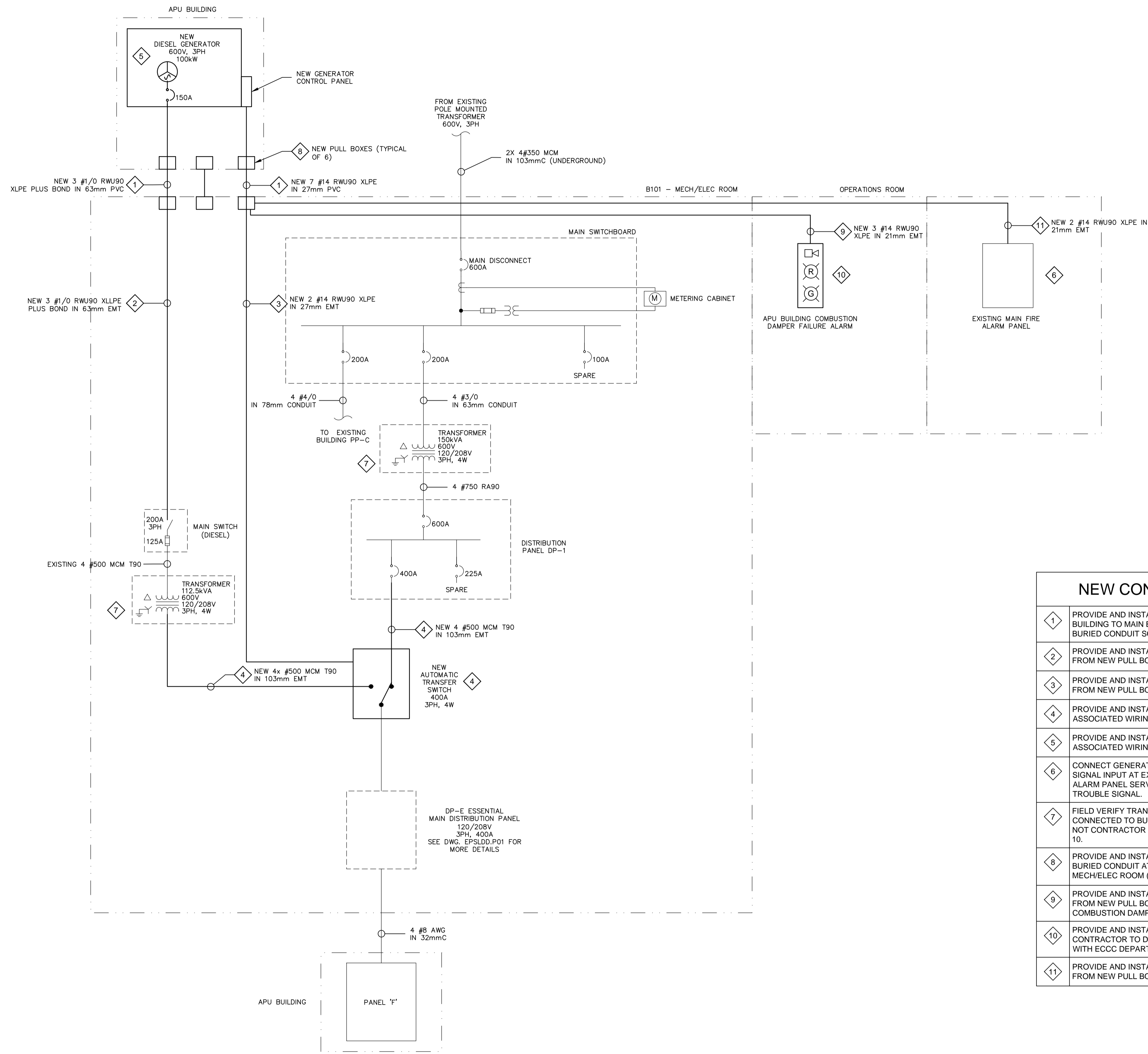
tender / soumission **DANIEL VENTURA** project manager / administrateur de projets

project date / date du projet **2017/05/09**

project no. / no. du projet **163302290**

drawing no. / dessiné no. **E6**

1 CONSTRUCTION PHASE - KING CITY RADAR WEATHER STATION SINGLE LINE DIAGRAM
 E6 N.T.S.



NEW CONSTRUCTION NOTES	
1	PROVIDE AND INSTALL NEW DIRECT BURIED CONDUIT FROM APU BUILDING TO MAIN BUILDING B101 MECH/ELEC ROOM AS PER DIRECT BURIED CONDUIT SCHEDULE. REFER TO DWG. E1 FOR DETAILS.
2	PROVIDE AND INSTALL NEW 3 #1/0AWG RWU90 XLPE IN 63mm EMT FROM NEW PULL BOX TO EXISTING MAIN SWITCH (DIESEL).
3	PROVIDE AND INSTALL NEW 2 #14AWG RWU90 XLPE IN 27mm EMT FROM NEW PULL BOX TO NEW ATS.
4	PROVIDE AND INSTALL NEW AUTOMATIC TRANSFER SWITCH C/W ALL ASSOCIATED WIRING AND CONDUIT.
5	PROVIDE AND INSTALL NEW 100kW GENERATOR C/W ALL ASSOCIATED WIRING AND CONDUIT.
6	CONNECT GENERATOR GENERAL FAULT STATUS TO NEW TROUBLE SIGNAL INPUT AT EXISTING FIRE ALARM PANEL. ARRANGE FOR FIRE ALARM PANEL SERVICE PROVIDER TO INTEGRATE GENERATOR TROUBLE SIGNAL.
7	FIELD VERIFY TRANSFORMER SECONDARY WYE POINT IS CONNECTED TO BUILDING GROUND AS PER OESC SECTION 10. IF NOT CONTRACTOR SHALL PROVIDE BONDING AS PER OESC SECTION 10.
8	PROVIDE AND INSTALL NEW PULL BOXES FOR INCOMING DIRECT BURIED CONDUIT AT APU BUILDING AND MAIN BUILDING ROOM B101 MECH/ELEC ROOM (TYPICAL OF 6).
9	PROVIDE AND INSTALL NEW 3 #14AWG RWU90 XLPE IN 21mm EMT FROM NEW PULL BOX TO NEW OPERATIONS ROOM APU BUILDING COMBUSTION DAMPER FAILURE ALARM.
10	PROVIDE AND INSTALL HORN/LIGHT COMBO IN OPERATIONS ROOM. CONTRACTOR TO DETERMINE BEST MOUNTING LOCATION ON SITE WITH ECCO DEPARTMENTAL REPRESENTATIVE.
11	PROVIDE AND INSTAL NEW 2 #14AWG RWU90 XLPE IN 21mm EMT FROM NEW PULL BOX TO EXISTING FIRE ALARM PANEL.

1 NEW CONSTRUCTION – KING CITY RADAR WEATHER STATION SINGLE LINE DIAGRAM
E7 N.T.S



Stantec Consulting Ltd.
400-1331 Clyde Avenue
Ottawa ON
Tel. 613-722-4420

- GENERAL NOTES:
- THICK DASHED LINES INDICATE REMOVALS.
 - THICK SOLID LINES INDICATE NEW CONSTRUCTION.
 - THIN SOLID LINES INDICATE EXISTING.



04		
03	ISSUED FOR TENDER	2017/08/25
02	ISSUED FOR 99% REVIEW	2017/06/09
01	ISSUED FOR 50% REVIEW	2017/05/19
revision		date

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A	Detail No.
B	No. du détail
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	drawing no. – where detailed dessin no. – où détaillé

project title
titre du projet
KING CITY ONTARIO
ENVIRONMENT AND CLIMATE CHANGE CANADA
14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT
drawing title
titre du dessin
ELECTRICAL
SINGLE LINE DIAGRAM –
NEW CONSTRUCTION

drawn by
dessine par
J.CZYZEWSKI

designed by
conc par
T. BIRO

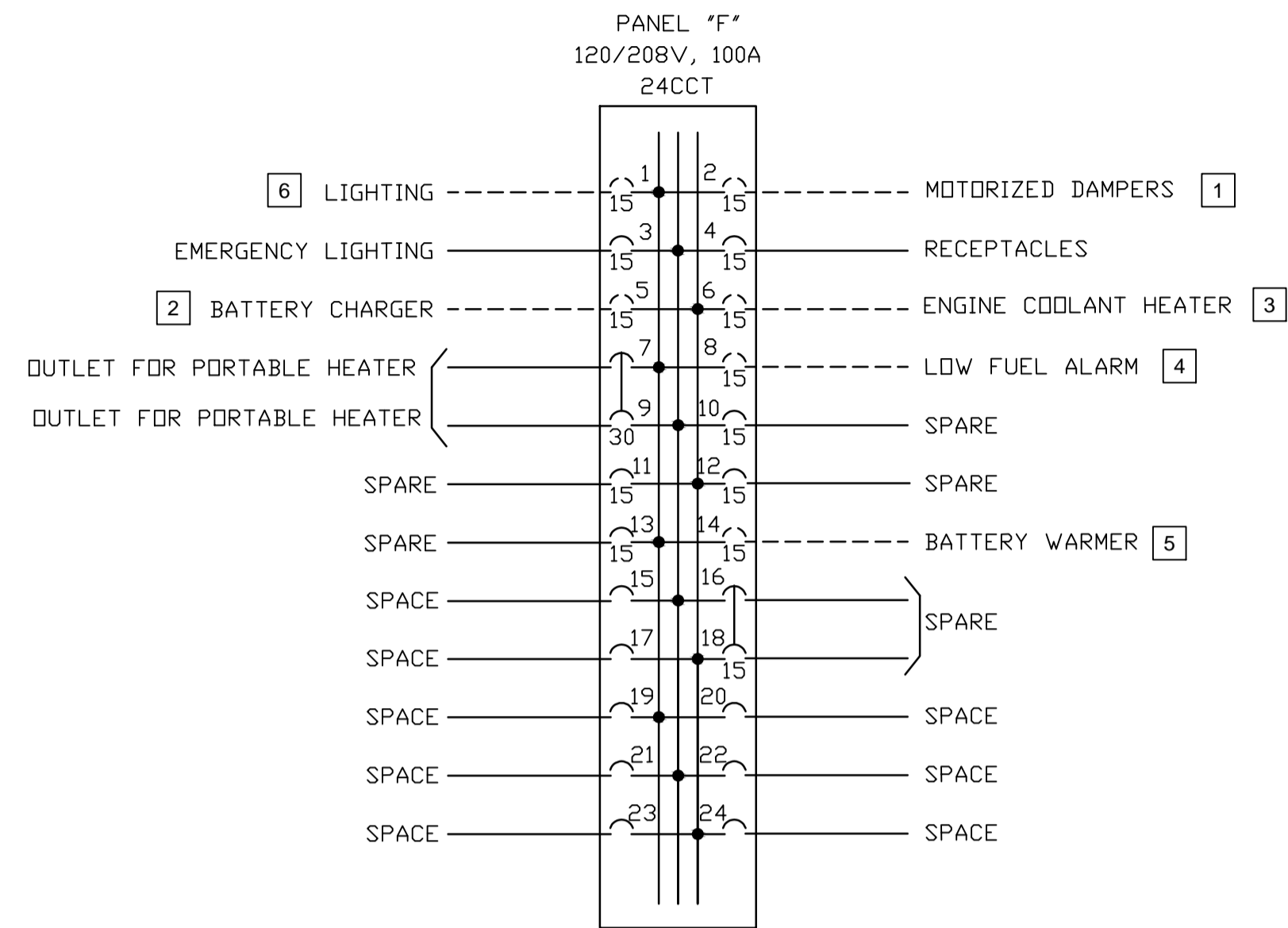
approved by
approuve par
O. JAN

tender
soumission
DANIEL VENTURA

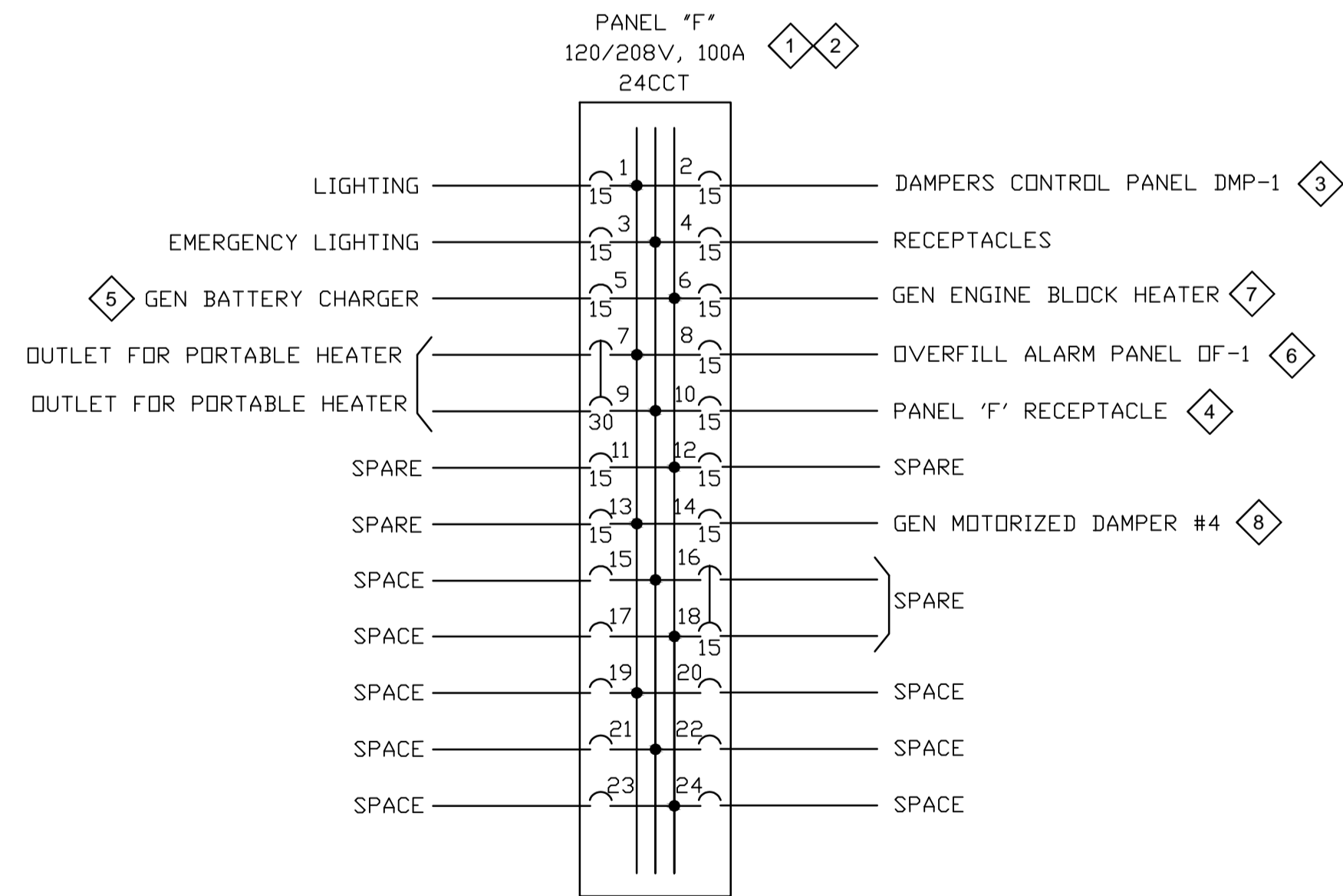
project manager
administrateur de projets
project date
date du projet
2017/05/09

project no.
no. du projet
163302290

drawing no.
dessine no.
E7



1 DEMOLITION – GENERATOR SHED – PANEL F SCHEDULE
E8 N.T.S



2 NEW CONSTRUCTION – GENERATOR SHED – PANEL F SCHEDULE
E8 N.T.S

DEMOLITION NOTES	
1	REMOVE EXISTING POWER FEED TO EXISTING MOTORIZED DAMPERS.
2	REMOVE EXISTING POWER FEED TO EXISTING WALL MOUNTED BATTERY CHARGER.
3	REMOVE EXISTING POWER FEED TO EXISTING ENGINE COOLANT HEATER.
4	REMOVE EXISTING POWER FEED TO EXISTING LOW FUEL ALARM SYSTEM.
5	REMOVE EXISTING POWER FEED TO EXISTING BATTERY WARMER.
6	APU BUILDING INTERIOR AND EXTERIOR LIGHTS TO BE REPLACED. EXISTING WIRING AND CONDUIT TO REMAIN.

NEW CONSTRUCTION NOTES	
1	UPDATE TYPE WRITTEN PANEL SCHEDULE TO AS-BUILT CONDITION AND PROVIDE COPY IN PANELBOARD.
2	PROVIDE CIRCUIT ID LABEL ON ALL RECEPTACLES TO INDICATE SOURCE CIRCUIT.
3	PROVIDE NEW 2#14AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW MOTORIZED DAMPER CONTROL PANEL DMP-1.
4	PROVIDE NEW 2#14AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW RECEPTACLE.
5	PROVIDE NEW 2#14AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW GENERATOR BATTERY CHARGER.
6	PROVIDE NEW 2#14AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW OVERFILL ALARM PANEL OF-1.
7	PROVIDE NEW 2#14AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW GENERATOR ENGINE BLOCK HEATER.
8	PROVIDE NEW 2#14 AWG T90 + BOND IN 21mm EMT FROM EXISTING CIRCUIT BREAKER IN PANEL 'F' TO NEW GENERATOR MOTORIZED DAMPER ACTUATOR #4.



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GENERATOR REPLACEMENT
drawing title / titre du dessin
ELECTRICAL
APU BUILDING
PANEL 'F' SCHEDULE

drawn by / dessiné par J.CZYZEWSKI

designed by / conçu par T. BIRO

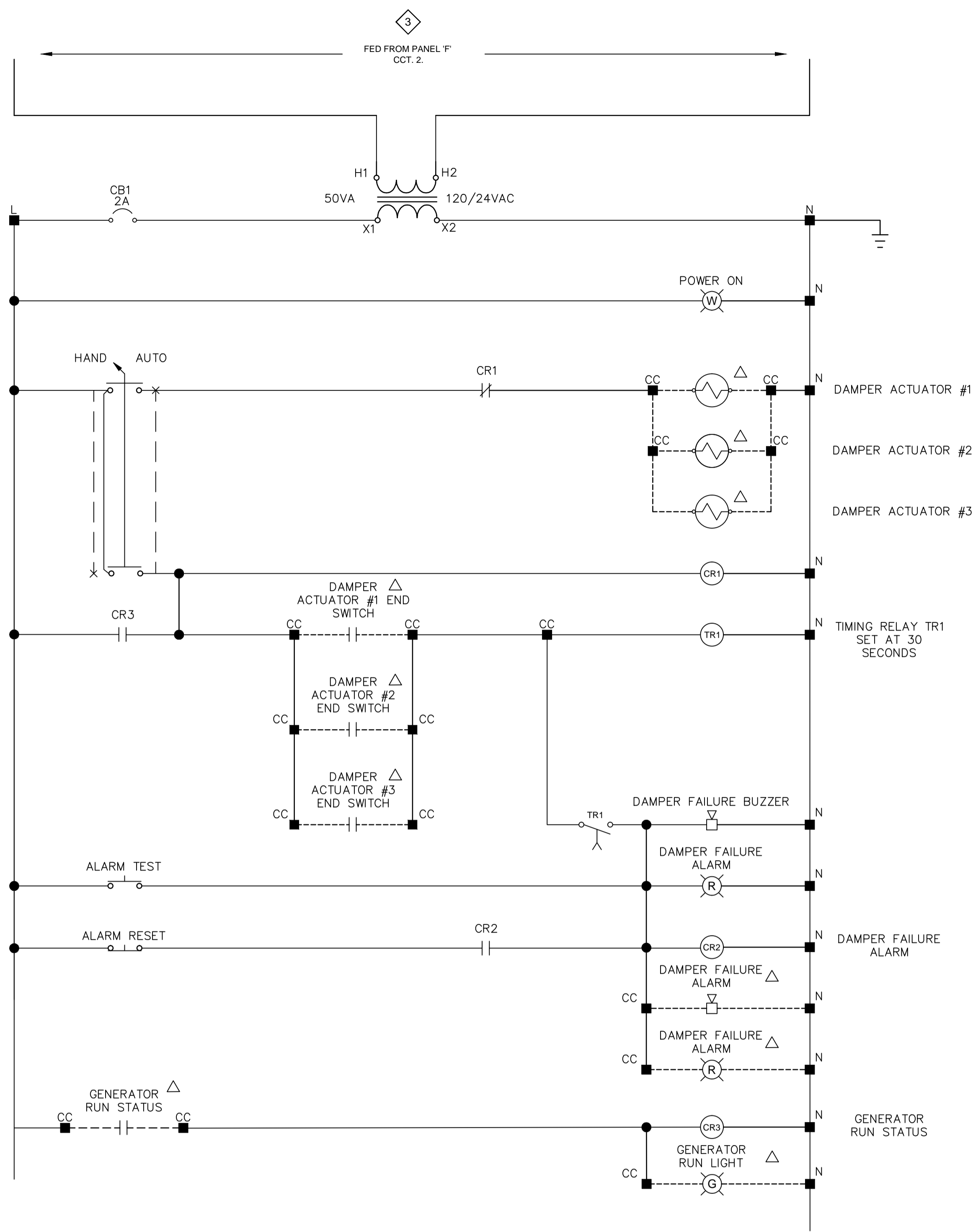
approved by / approuvé par O. JAN

tender submission / soumission DANIEL VENTURA project manager / administrateur de projets

project date / date du projet 2017/05/09

project no. / no. du projet 163302290

drawing no. / dessiné no. E8



SYMBOL LEGEND:
 △ = FIELD DEVICE

CONTROL LOGIC

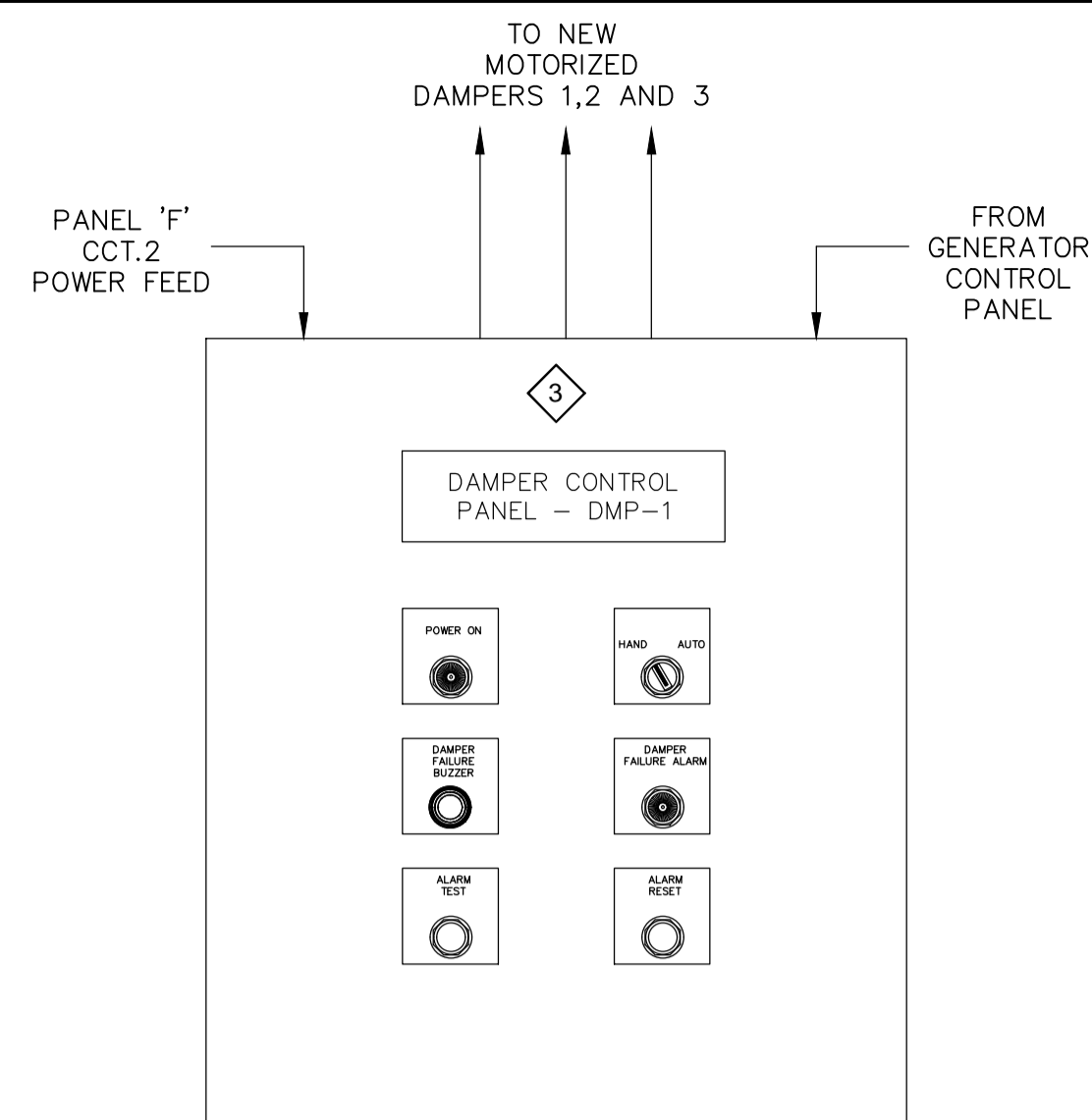
RUN SIGNAL FROM GENERATOR

1. WHEN IN 'AUTO' POSITION THE DAMPER ACTUATOR IS DE-ENERGIZED CAUSING THE DAMPER TO OPEN (SPRING OPEN)
2. THE DAMPER ACTUATOR END SWITCH SIGNAL IS MONITORED AND IF NOT FULLY OPENED WITHIN 30 SECONDS AN ALARM IS GENERATED TURNING ON THE BUZZER AND PANEL LIGHT AT THE APU BUILDING DAMPER PANEL DMP-1. A REMOTE LIGHT AND BUZZER LOCATED IN THE OPERATIONS ROOM WILL ALSO ACTIVATE.

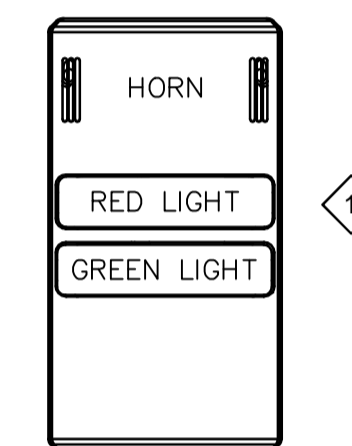
DAMPER ACTUATOR HAND/AUTO SWITCH

1. HAND POSITION - DAMPER ACTUATOR OPENS
2. AUTO POSITION - DAMPER ACTUATOR OPENS WHEN GENERATOR IS RUNNING

1 DAMPER CONTROL PANEL DMP-1 - WIRING SCHEMATIC
 E9 N.T.S.

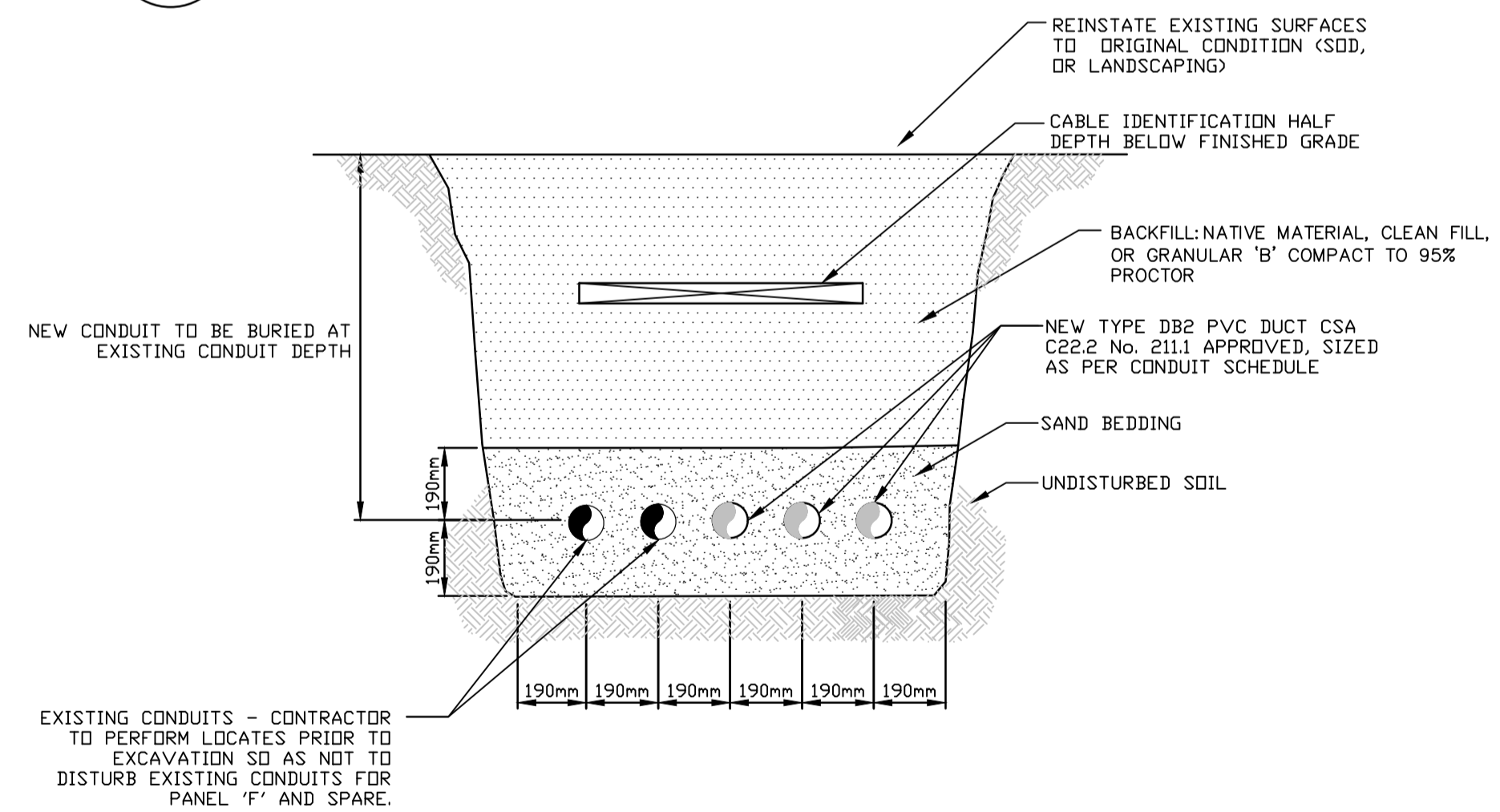


2 DAMPER CONTROL PANEL DMP-1 - EXTERIOR LAYOUT
 E9 N.T.S.



APU BUILDING COMBUSTION DAMPER & GENERATOR STATUS
 GREEN = GEN RUNNING
 RED = DAMPER FAILURE
 RESET LOCATED IN APU BUILDING

3 OPERATIONS ROOM - LIGHT/HORN COMBO
 E9 N.T.S.



4 DIRECT BURIED DUCTBANK (1X5)
 E9 N.T.S.

NEW CONSTRUCTION NOTES	
1	PROVIDE AND INSTALL WALL MOUNT HORN/LIGHT COMBO IN OPERATIONS ROOM. RED LIGHT AND HORN TO BE ASSOCIATED WITH DAMPER FAILURE ALARM. GREEN LIGHT TO BE ASSOCIATED WITH GENERATOR RUN COMMAND. CONTRACTOR TO DETERMINE BEST MOUNTING LOCATION ON SITE WITH ECCC DEPARTMENTAL REPRESENTATIVE.
2	PROVIDE AND INSTALL LAMACOID AS INDICATED. SIZE AS REQUIRED.
3	PROVIDE CUSTOM PANEL FROM DAMPER CONTROL. PANEL TO A NEMA 12 ENCLOSURE, WALL MOUNT. PROVIDE PANEL LIGHTS, RELAYS, CIRCUIT BREAKER, PUSH BUTTON, SELECTOR SWITCH AND TRANSFORMER AS SHOWN ON WIRING SCHEMATIC DETAIL 1.



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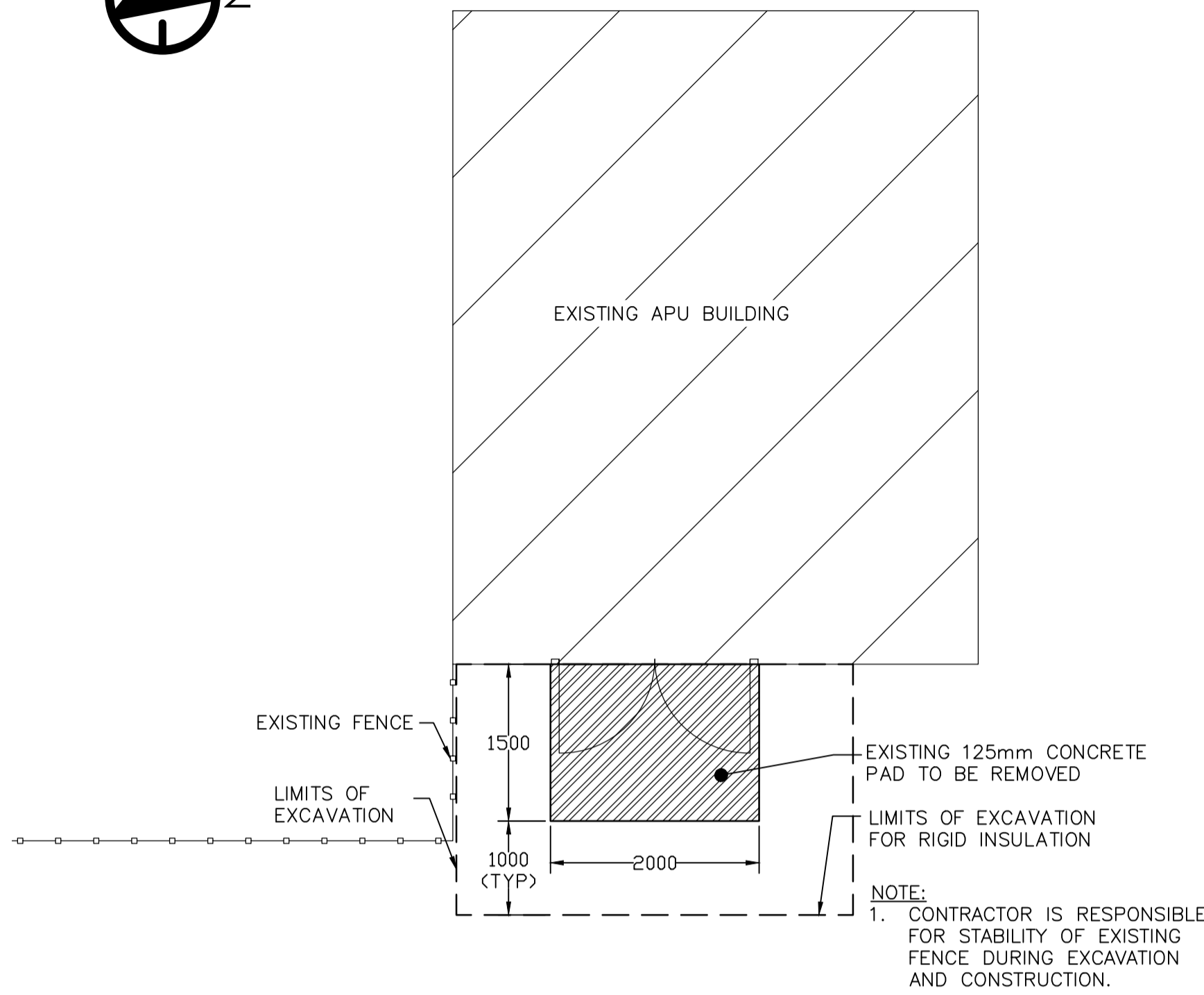
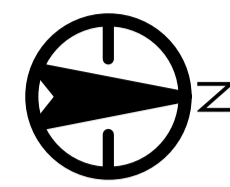
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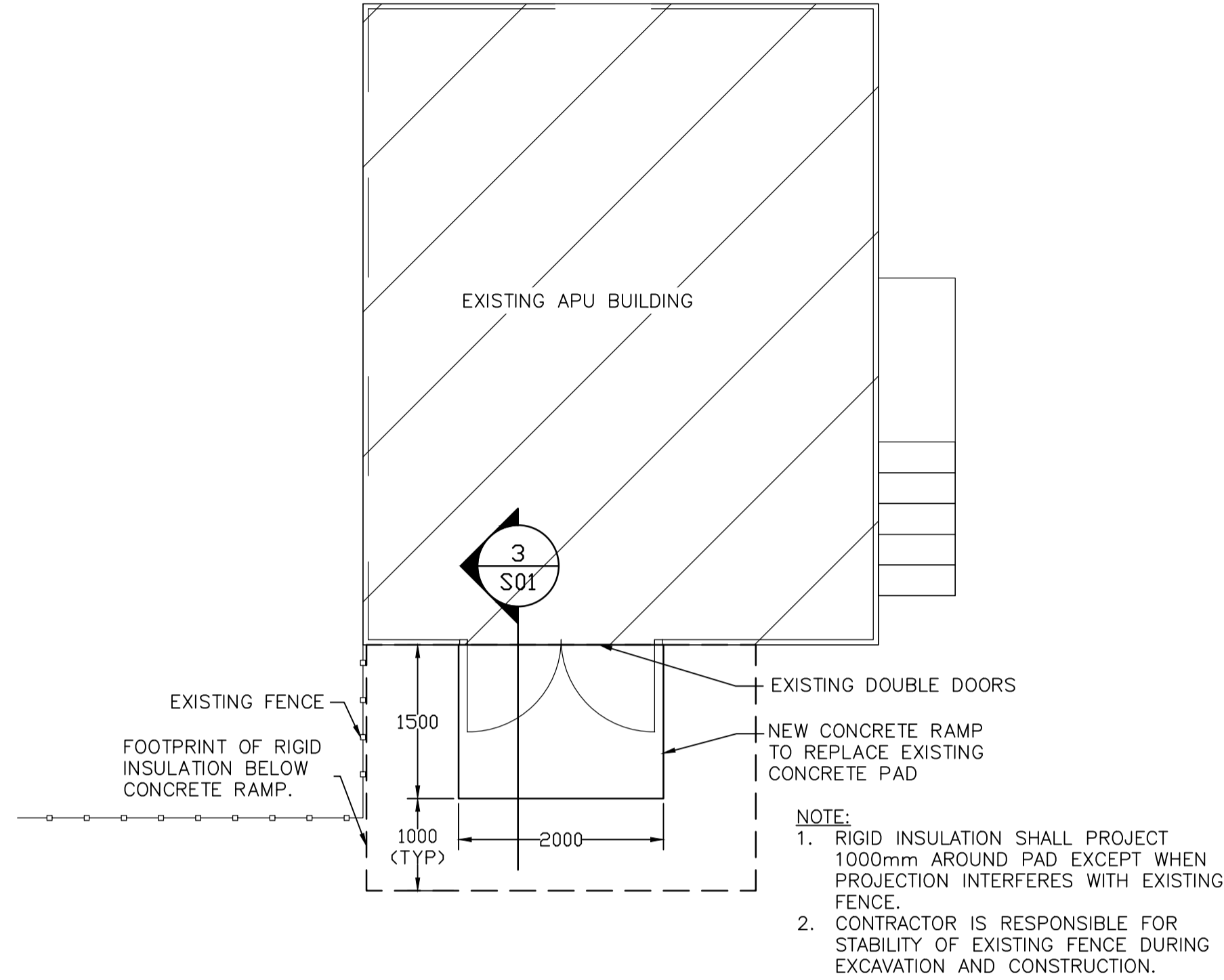
GENERATOR REPLACEMENT

drawing title
 titre du dessin
ELECTRICAL
 DAMPER CONTROL PANEL
 DMP-1

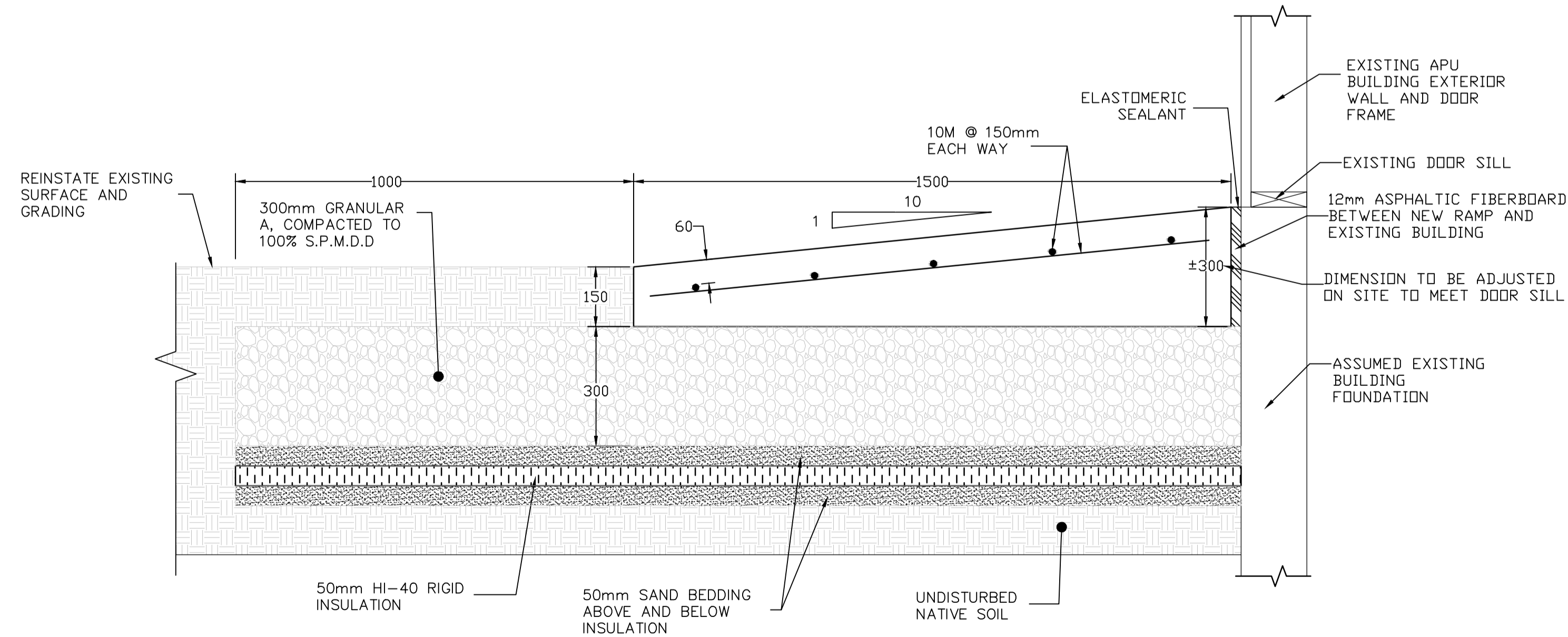
drawn by dessine par	J.CZYZEWSKI
designed by conc par	T. BIRO
approved by approuve par	O. JAN
tender soumission	DANIEL VENTURA
project manager administrateur de projets	
project date date du projet	2017/05/09
project no. no. du projet	163302290
drawing no. dessine no.	E9



1 APU BUILDING CONCRETE PAD DEMOLITION AND EXCAVATION PLAN
S1 1:200



2 APU BUILDING NEW CONSTRUCTION GENERAL PLAN
S1 1:200



3 NEW RAMP CROSS-SECTION
S1 1:200

DESIGN NOTES

GENERAL

1. ALL CODES REFERENCED ARE TO BE THE LATEST VERSION AT THE DATE OF ISSUE.
2. DESIGN IS BASED ON THE 2015 NATIONAL BUILDING CODE.
3. READ THESE DESIGN NOTES IN CONJUNCTION WITH THE CONTRACT NMS SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
4. REVIEW ALL DRAWINGS AND CHECK DIMENSIONS PRIOR TO IMPLEMENTING THE WORK. REPORT ANY DISCREPANCIES TO THE CONSULTANT FOR CLARIFICATION BEFORE PROCEEDING.
5. COORDINATE PLACEMENT AND LOCATION OF ITEMS BY SUBSEQUENT TRADES.
6. RELEVANT TRADES SHALL REVIEW PRIOR TO ERECTION AND/OR INSTALLATION.
7. NOTIFY THE ENGINEER A MINIMUM OF 24 HOURS PRIOR TO ANY REQUIRED SITE REVIEWS.

CAST-IN-PLACE REINFORCED CONCRETE

1. CONCRETE MATERIALS, QUALITY, MIXING, PLACING, FORMWORK AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CSA-A23.1.
2. SUPPLY CONTROLLED CONCRETE IN ACCORDANCE WITH CSA-A23.1 WITH PROPERTIES NOTED IN CONTROLLED CONCRETE TABLE.
3. CONCRETE STRENGTH SHALL BE 30MPa AT 28 DAYS.
4. CONCRETE EXPOSURE CLASS: C-1
5. USE TYPE GU CEMENT FOR ALL CONCRETE UNLESS NOTED OTHERWISE IN CONTROLLED CONCRETE TABLE.
6. NOTIFY CONSULTANT 72 HOURS PRIOR TO CONCRETE POURS TO ALLOW FOR REVIEW OF REINFORCEMENT.
7. DO NOT USE ADMIXTURES CONTAINING CALCIUM CHLORIDE.

CONCRETE REINFORCEMENT

1. REINFORCEMENT STEEL TO CONFORM TO CSA-G30.18 GRADE 400.
2. DO NOT WELD REINFORCEMENT UNLESS APPROVED IN WRITING BY THE ENGINEER.
3. NOTIFY THE ENGINEER PRIOR TO CONCRETE PLACEMENT TO ALLOW FOR REVIEW OF REINFORCING.
4. CLEAR CONCRETE COVER TO REINFORCEMENT
 - 4.1. CONCRETE CAST DIRECTLY AGAINST EARTH: 75mm
 - 4.2. ALL OTHER CONCRETE: 60mm
5. ALL REINFORCEMENT TO BE SUPPORTED AT 900 mm MAXIMUM SPACING.

CONCRETE FORMWORK

1. DESIGN, FABRICATION, ERECTION, AND OTHER CONSTRUCTION PRACTICES TO CONFORM TO CAN/CSA-S269.3.



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2017-07-07

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14780 JANE STREET
KING CITY, ON

GENERATOR REPLACEMENT

drawing title
titre du dessin
**PLAN AND SECTION
CONCRETE RAMP**

drawn by
dessiné par **J. FOGARTY**

designed by
conçu par **C. VON TEICHMAN**

approved by
approuvé par **C. VON TEICHMAN**

tender
soumission **DANIEL VENTURA** project manager
administrateur de projets

project date
date du projet **2017/05/09**

project no.
no. du projet **163302290**

drawing no.
dessiné no. **S1**