CITY OF TORONTO
GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION AT 703 DON MILLS RD., NORTH YORK, ON

ISSUED FOR TENDER
DATE: APRIL 15, 2025

DRAWING LIST

ELECTRICAL

E–0 ELECTRICAL ABBREVIATIONS, LEGEND AND SHEET LIST
E–1 ELECTRICAL SITE PLAN
E–2 ELECTRICAL PENTHOUSE DEMOLITION & NEW WORK
E–3 ELECTRICAL PARTIAL SINGLE LINE DIAGRAM
E–4 ELECTRICAL DETAILS

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M–1B SITE PLAN OPTION 1B
M–1C SITE PLAN OPTION 1C
M–2 BASEMENT FLOOR PLAN – FUEL OIL
M–3 PENTHOUSE FLOOR PLAN – FUEL OIL
M–4 PENTHOUSE FLOOR PLAN – VENTILATION
M–5 FUEL OIL SCHEMATICS
M–6 MECHANICAL DETAILS 1
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STRUCTURAL

S–1 GENERAL NOTES, ABBREVIATIONS AND DRAWING LIST
S–2 SITE PLAN
S–3 STRUCTURAL PENTHOUSE DEMOLITION & NEW WORK
S–4 DETAILS

Consultant:

Stantec

Suite 300 – 125 Commerce Valley Drive West
Markham, ON L3T 7W4
Tel: (416) 499–3110 Fax: (416) 499–9658

CONSULTANT PROJECT NUMBER: 135901001

GENERAL

SYMBOL	DESCRIPTION
1	NOTE TAG
X / XX	ELECTRICAL EQUIPMENT X EQUIPMENT NO. XX
X / XX	DETAIL No. X ON DRAWING XX
X / XX	SECTION No. X ON DRAWING XX

ABBREVIATIONS
(NOT ALL ABBREVIATIONS MAY APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION
1 PH / 3 PH	1 PHASE / 3 PHASE
3P / 2P / 1P	3 POLE / 2 POLE / 1 POLE
3W / 4 W	3 WIRE / 4 WIRE
AF	FRAME SIZE IN AMPERE
AFF	ABOVE FINISHED FLOOR
AT	TRIP RATING IN AMPERE
ATS	AUTOMATIC TRANSFER SWITCH
DG	DIESEL GENERATOR
DS	DISCONNECT SWITCH
GL	GRID LINE
GND	GROUND WIRE
KA	KILO AMPERE
KVA	KILO VOLT AMPERE
MCCB	MOULDED CASE CIRCUIT BREAKER
O/H	OVER HEAD
SWBD	SWITCH BOARD
TX	TRANSFORMER
TYP	TYPICAL
UT	UTILITY TRANSFORMER
WP	WEATHER PROOF, WATERTIGHT & CORROSION RESISTANT

POWER SYSTEM
(NOT ALL SYMBOLS MAY APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION
	600V DIRECT CONNECTION
	120/208V DIRECT CONNECTION
	DISCONNECT SWITCH
	TRANSFORMER
	ELECTRICAL EQUIPMENT AS NOTED

SINGLE LINE DIAGRAM

SYMBOL	DESCRIPTION
	MOULDED CASE CIRCUIT BREAKER
	POWER CIRCUIT BREAKER (DRAW-OUT)
	UNFUSED DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
G	DIESEL GENERATOR
	PANEL
	TRANSFORMER

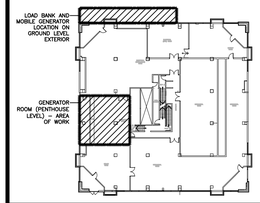
LINE TYPES

SYMBOL	DESCRIPTION
	NEW
	EXISTING
	DEMOLITION

SHEET LIST

DWG.NO	DRAWING NAME
E-0	ELECTRICAL ABBREVIATIONS, LEGEND AND SHEET LIST
E-1	ELECTRICAL SITE PLAN
E-2	ELECTRICAL PENTHOUSE DEMOLITION & NEW WORK
E-3	ELECTRICAL PARTIAL SINGLE LINE DIAGRAM
E-4	ELECTRICAL DETAILS

KEY PLAN:



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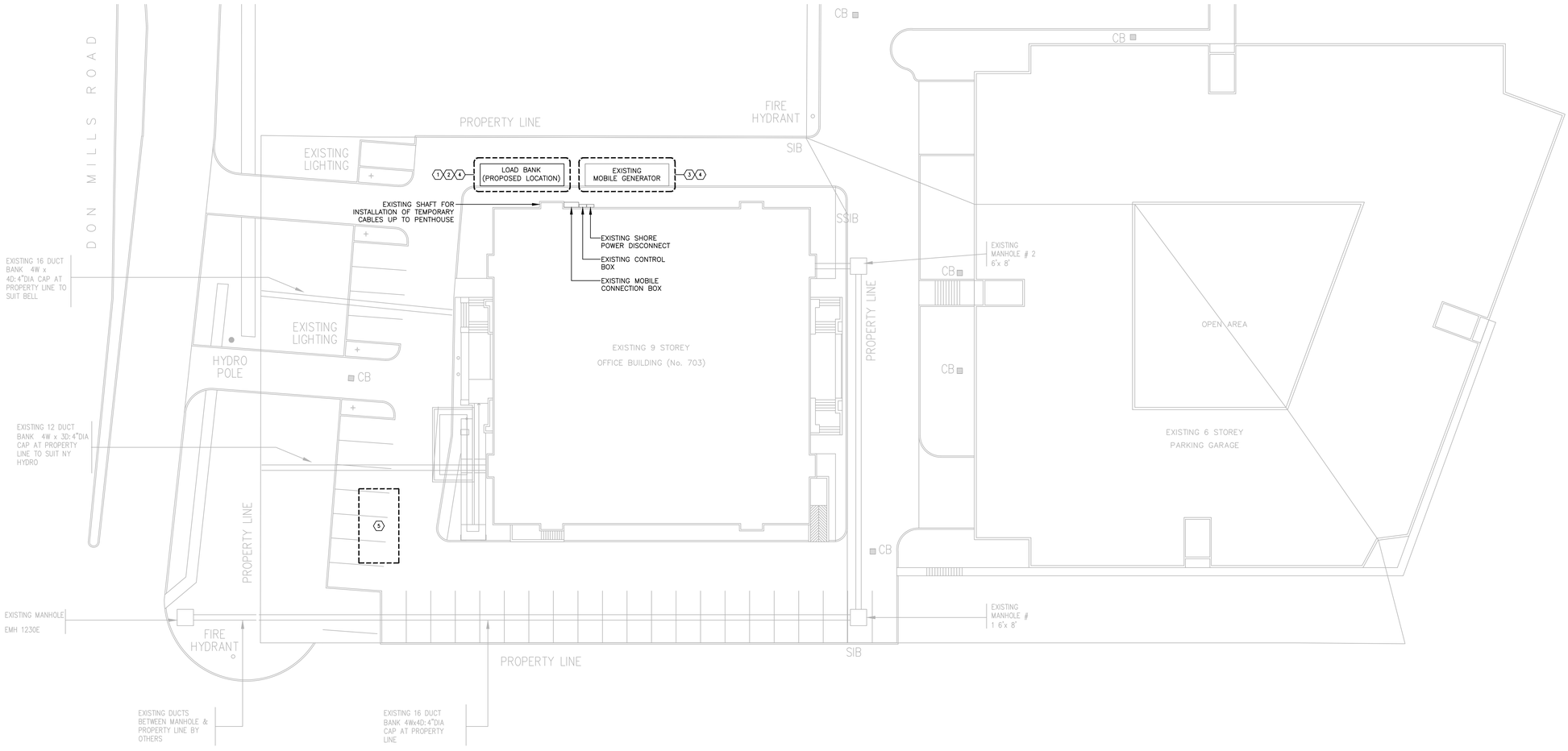
1	ISSUED FOR 60% REVIEW	2024-11-05	KW

SHEET TITLE:

ELECTRICAL ABBREVIATIONS, LEGEND AND SHEET LIST

DRAWN BY: RW	DATE: SEPT. 2024
DESIGNED BY: KW	CHECKED BY: TG
SCALE:	DWG FILE:

Project No:	Drawing No:
135901001	E-0



GENERAL NOTES:

1. MAINTAIN WORK AREA IN CLEAN AND ORDERLY CONDITION AT ALL TIMES.
2. PROVIDE AND MAINTAIN BARRICADES AND OTHER PROTECTION AROUND THE WORK AREA AT ALL TIMES.
3. REMOVE AND REPLACE EXISTING SITE SIGNAGE AS REQUIRED TO COMPLETE THE WORK. PROVIDE NEW SIGNAGE AND TRAFFIC SIGNALS AS REQUIRED TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC BOTH WITHIN THE PARKING LOT AND AT ALL BUILDING EXITS AND ENTRANCES.
4. MAINTAIN ACCESS TO BUILDING AND PARKING LOT ENTRANCES, EXITS AND EMERGENCY ROUTES AT ALL TIMES. PROVIDE TEMPORARY WALKWAYS AND ACCESS PATHS AS REQUIRED TO THE ENTRANCES, SIDEWALK, EXITS, AND EMERGENCY ROUTES TO ALLOW FOR THE WORK.
5. STAGE THE REMEDIAL WORK AS REQUIRED TO MAINTAIN ACCESS. PROVIDE ACCESS AND PHASING PLANS TO THE CONSULTANT BEFORE PERFORMING ANY WORK.
6. DO NOT DAMAGE EXISTING AREAS BEYOND THE WORK AREA.
7. DRAWINGS ARE SCHEMATIC AND DO NOT SHOW ALL ITEMS OF WORK. VERIFY ALL MEASUREMENTS AND SITE CONDITIONS PRIOR TO DEMOLITION. COMMENCEMENT OF DEMOLITION MEANS ACCEPTANCE OF THE EXISTING SITE CONDITIONS.
8. NOTIFY LOCAL AUTHORITIES HAVING JURISDICTION AND OBTAIN NECESSARY PERMITS PRIOR TO PERFORMING ANY WORK.
9. REMOVE ALL TEMPORARY EQUIPMENT, CABLES, BARRIERS, SIGNAGE ETC. UPON COMPLETION OF WORK. ANY MODIFICATIONS/CHANGES MADE TO SITE TO ACCOMMODATE TEMPORARY WORK SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS.
10. REFER TO PHASING PLAN ON DRAWING E-3 FOR PROPOSED SEQUENCE OF WORK.

DRAWING NOTES:

(1) PROPOSED LOAD BANK LOCATION. PROVIDE JERSEY BARRIERS, APPROPRIATE SIGNAGE, AND PROTECTION FOR ALL TEMPORARY EQUIPMENT AND PORTABLE POWER CABLES – HEAVY-DUTY FLOOR COVERS/RAMPS, CABLE WRAPS, ETC. – FOR THE DURATION OF THE WORK. COORDINATE WITH OWNER AS REQUIRED.

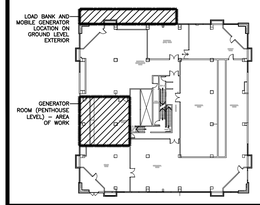
(2) PROVIDE 1,250kW, 600V, 60Hz LOAD BANK WITH LOAD STEPS AND LOAD BANK TEMPORARY POWER CABLES – 4 RUNS OF 3–500MCM CU TECK. ALTERNATIVELY, EQUIVALENT ALUMINUM OR DLO TEMPORARY CABLES ARE ACCEPTABLE. INSTALL/ROUTE TEMPORARY LOAD BANK CABLES THROUGH EXISTING SHAFT ON NORTH SIDE OF THE BUILDING UP TO PENTHOUSE. PROVIDE VERTICAL SUPPORTS IN ACCORDANCE WITH THE OESC.

(3) EXISTING 1,000kW, 600V TEMPORARY MOBILE GENERATOR CONNECTED TO DISTRIBUTION SYSTEM VIA EXISTING MOBILE CONNECTION BOX – REFER TO SINGLE LINE DIAGRAM E-3. MOBILE GENERATOR CONTROLS ARE WIRED TO BYPASS EXISTING PARALLELING/SYNCHRONIZATION FUNCTIONALITY OF THE DISTRIBUTION SYSTEM AND CURRENTLY OPERATES AS LEAD-LAG WITH STATIONARY GENERATOR G2. THE CONTRACTOR SHALL ENTER A CONTRACT WITH TOROMONT – EXISTING MOBILE GENERATOR SUPPLIER – TO ASSUME RESPONSIBILITY OF THE TEMPORARY GENERATOR FOR THE DURATION OF THE PROJECT. THE COST OF THE CONTRACT BETWEEN THE CONTRACTOR AND TOROMONT SHALL BE TAKEN FROM THE ALLOCATED CASH ALLOWANCE PER THE BASE BID PRICING FORM.

(4) NORTH SIDE VEHICULAR ACCESS TO THE REAR OF THE BUILDING SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION. CONTRACTOR SHALL ENSURE THAT TRAFFIC REMAINS UNIMPEDED, UNLESS OTHERWISE APPROVED BY THE OWNER.

(5) APPROXIMATE OUTLINE OF EXISTING UNDERGROUND FUEL TANK.

KEY PLAN:



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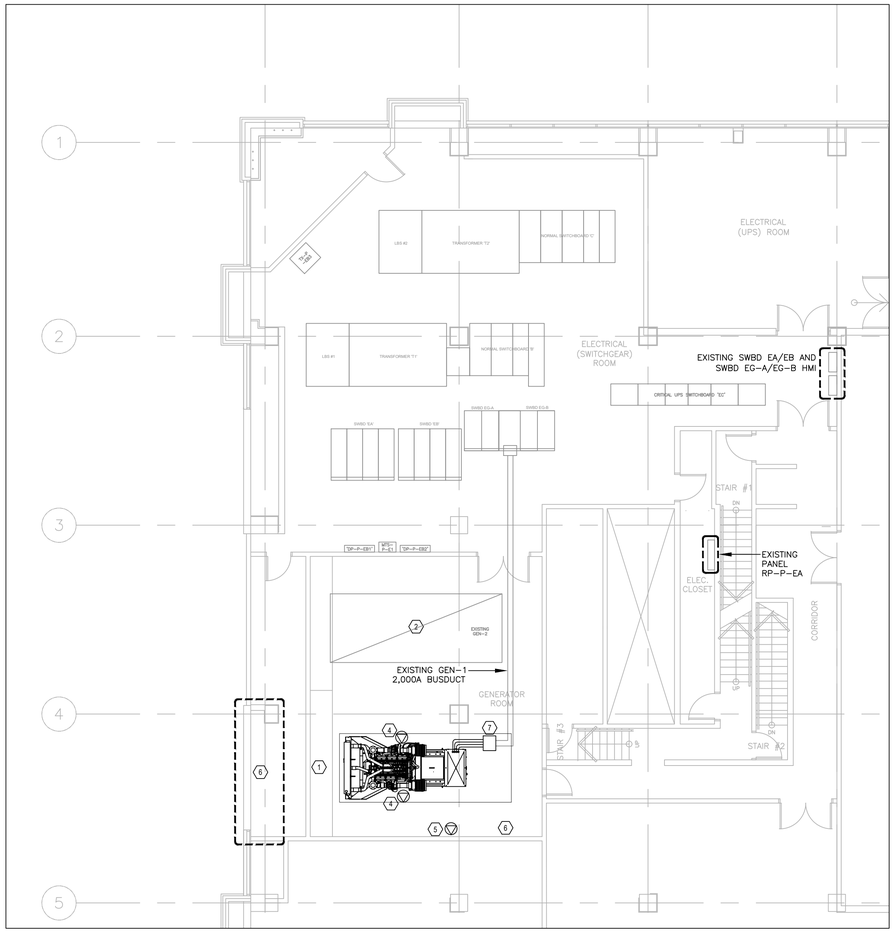
SHEET TITLE:

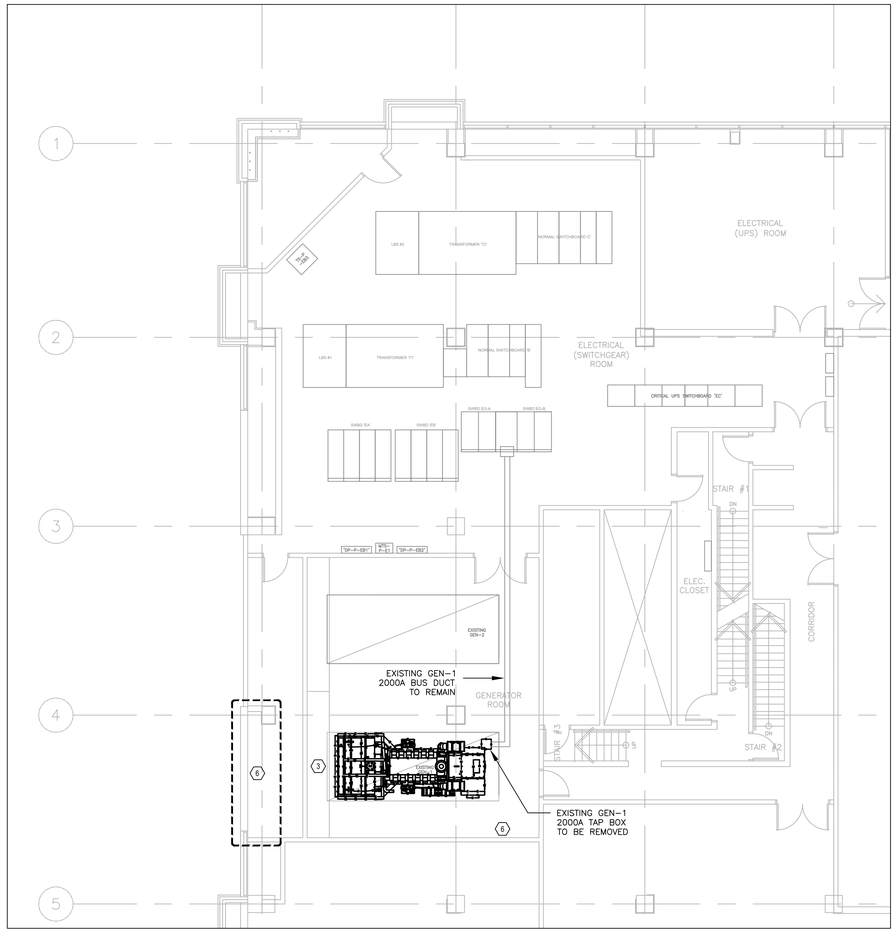
ELECTRICAL SITE PLAN

DRAWN BY:	RW	DATE:	SEPT. 2024
DESIGNED BY:	KW	CHECKED BY:	TG
SCALE:	1:250	DWG FILE:	

Project No:	Drawing No:
135901001	E-1



2 PARTIAL PENTHOUSE FLOOR PLAN - NEW WORK
SCALE: 1:100



1 PARTIAL PENTHOUSE FLOOR PLAN - DEMOLITION
SCALE: 1:100

GENERAL NOTES:

1. FEEDER ROUTING IS DIAGRAMMATIC ONLY. VERIFY EXACT ROUTING ON SITE.
2. REFER TO SINGLE LINE DIAGRAM FOR FEEDER TYPES, QUANTITIES, AND SIZING.
3. COORDINATE ALL REQUIRED SHUTDOWN ACTIVITIES WITH THE OWNER. REFER TO PHASING PLAN ON DRAWING E-3 FOR STAGING OF WORK.
4. BASIS OF DESIGN: CATERPILLAR C32 GENERATOR SET. REFER TO SPECIFICATIONS FOR LIST OF APPROVED MANUFACTURERS.

DRAWING NOTES:

(1) NEW 1,250kW, 600V, DIESEL GENERATOR GEN-1. INSTALL NEW GENERATOR ON EXISTING CONCRETE PAD - REFER TO STRUCTURAL DRAWINGS FOR PAD MODIFICATION DETAILS.

(2) EXISTING 1,500kW, 600V, DIESEL GENERATOR GEN-2 TO REMAIN.

(3) EXISTING 1,500kW, 600V DIESEL GENERATOR GEN-1 TO BE REMOVED IN ITS ENTIRETY.

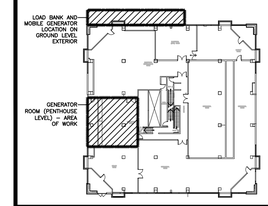
(4) RE-USE EXISTING CIRCUITS (CCT. 14, 16) IN PANEL RP-P-EA TO SUPPLY BLOCK HEATERS OF NEW GENERATOR. EXTEND EXISTING CONDUIT AND WIRING AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH SHOP DRAWINGS AND EXACT LOCATION ON SITE.

(5) RE-USE EXISTING CIRCUIT (CCT. 19) IN PANEL RP-P-EA TO SUPPLY BATTERY CHARGER OF NEW GENERATOR. EXTEND EXISTING CONDUIT AND WIRING AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH SHOP DRAWINGS AND EXACT LOCATION ON SITE.

(6) REFER TO MECHANICAL AND STRUCTURAL DRAWINGS FOR WORK ASSOCIATED WITH REMOVAL/REINSTATEMENT OF EXISTING SHEET METAL PLENUM, DAMPERS AND LOUVRES, TO ACCOMMODATE THE REMOVAL OF EXISTING GENERATOR GEN-1 AND INSTALLATION OF THE NEW GENERATOR, INCLUDING FUEL SUPPLY LINE MODIFICATIONS.

(7) PROVIDE NEW TAP BOX TO TRANSITION FROM EXISTING 2000A SIEMENS I-T-E BUS DUCT TO DLO CABLES. TERMINATE DLO CABLES AT NEW GENERATOR GEN-1 INLINE CIRCUIT BREAKER.

KEY PLAN:



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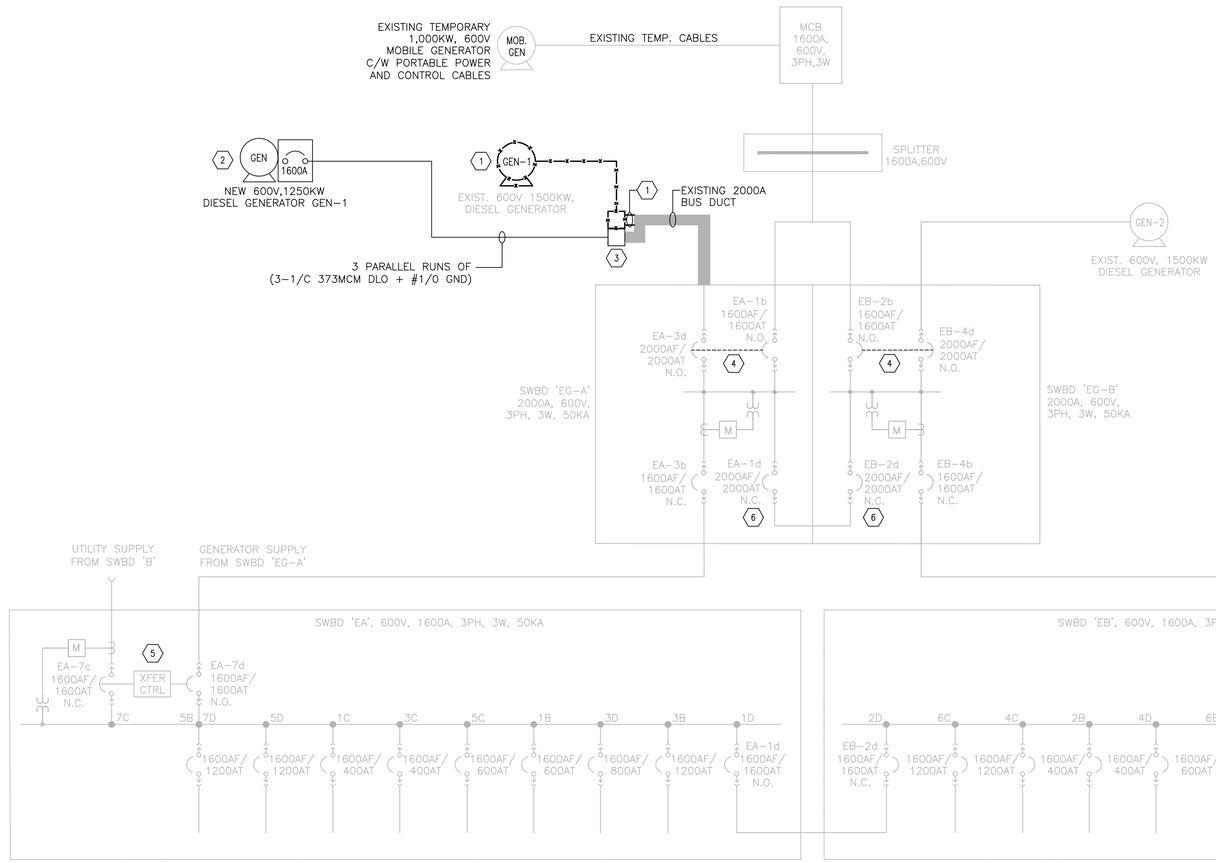
SHEET TITLE:

ELECTRICAL PENTHOUSE DEMOLITION & NEW WORK

DRAWN BY: RW	DATE: SEPT. 2024
DESIGNED BY: KW	CHECKED BY: TG
SCALE:	DWG FILE:

Project No:	Drawing No:
135901001	E-2



GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN. THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE FOLLOWING DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN.
2. REFER TO FLOOR PLANS ON DRAWING E-2 FOR LOCATIONS OF EQUIPMENT.
3. FOR ANY OVERNIGHT SHUTDOWN OF THE LIFE SAFETY/EMERGENCY POWER SYSTEMS, PROVIDE OWNER WITH MINIMUM 4-WEEKS NOTICE PRIOR TO SHUTDOWN. DURING SHUTDOWN, PROVIDE FIRE WATCH PERSONNEL AS REQUIRED.
4. FOR SEQUENCE OF OPERATION MODIFICATIONS (DEFAULT PARALLEL/SYNCHRONIZATION WITH STATIONARY GENERATORS ONLY; LEAD-LAG MODE WITH MOBILE GENERATOR ONLY), REFER TO 'MODIFICATIONS TO EXISTING CONTROLS' SPECIFICATION SECTION 26 32 13.

DRAWING NOTES:

(1) REMOVE EXISTING GENERATOR GEN-1. DISCONNECT EXISTING CABLE TAP BOX AT BUS DUCT AND REMOVE. REMOVE POWER CABLES BETWEEN GENERATOR AND TAP BOX. REMOVE GENERATOR CONTROL CABLING. INSTALL NEW CONTROL CABLES FOR NEW GENERATOR IN EXISTING CONDUITS.

(2) NEW 1,250kW, 600V GENERATOR. CONNECT NEW POWER FEEDER AS SHOWN.

(3) PROVIDE NEW TAP BOX AND CONNECT TO EXISTING 2,000A SIEMENS I-T-E BUS DUCT. PROVIDE DLO CABLES BETWEEN NEW TAP BOX AND NEW GENERATOR GEN-1 INLINE CIRCUIT BREAKER.

(4) RETAIN THE SERVICES OF TOROMONT TO REVISE PLC PROGRAMMING FOR EG-A/EG-B TO IMPLEMENT THE MODE OF OPERATION DESCRIBED IN SPECIFICATION SECTION 26 32 13, AND TO PROVIDE HARD-WIRED INTERLOCKS TO PREVENT EACH PAIR OF BREAKERS (EA-3d/EA-1b AND EA-4d/EA-2b) FROM BEING CLOSED AT THE SAME TIME.

(5) RETAIN THE SERVICES OF KRKA POWER TO REVISE PLC PROGRAMMING TO IMPLEMENT THE MODE OF OPERATION DESCRIBED IN SPECIFICATION SECTION 26 32 13.

(6) EA-1d AND EB-2d TIE BREAKER NORMAL CONDITIONS SHALL BE AS FOLLOWS:

- BOTH EA-1d AND EB-2d CLOSED IF GENERATORS OPERATE IN PARALLEL MODE.
- BOTH EA-1d AND EB-2d OPEN IF GENERATORS OPERATE IN LEAD-LAG MODE.

PHASING PLAN A – PRE-CONSTRUCTION:

1. CONDUCT SITE INVESTIGATIONS AND INFORMATION GATHERING.
2. COMPLETE OFF-SITE WORKS – UPDATE PLC PROGRAMS OF SWBDs EG-A/EG-B AND EA/EB FOR THE NEW (ADDITIONAL) SEQUENCE OF OPERATION. TEST NEW PROGRAM OFF SITE.

PHASING PLAN B – CONTROLS WORK:

3. COMPLETE CONTROL WIRING MODIFICATIONS, HARD-WIRED INTERLOCKS IN SWBDs EG-A/EG-B. SHUTDOWN OF SWBDs EG-A/EG-B REQUIRED – SHUT SWITCHBOARDS DOWN ONE AT A TIME AND PROVIDE MOP FOR ACTIVITY.
4. TEST AND COMMISSION FUNCTIONALITY OF MOBILE AND STATIONARY GENERATORS. ENSURE GENERATORS START AND BREAKERS OPERATE AS INTENDED PER NEW SEQUENCE OF OPERATION – PARALLELING/SYNCHRONIZATION OPERATION WHEN BOTH STATIONARY GENERATORS ARE AVAILABLE; LEAD/LAG OPERATION WHEN MOBILE GENERATOR AND ONE STATIONARY GENERATOR IS AVAILABLE. PROVIDE MOP FOR ACTIVITY.

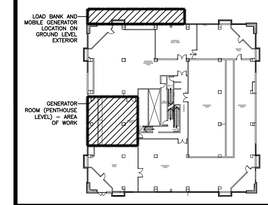
PHASING PLAN C – DEMOLITION WORKS:

5. ISOLATE GENERATOR GEN-1 AT SWBD EG-A. PROVIDE MOP FOR ACTIVITY.
6. DISCONNECT AND REMOVE GENERATOR GEN-1 AND EXISTING TAP BOX. COMPLETE MODIFICATIONS OF EXISTING BUS DUCT AS REQUIRED IN PREPARATION FOR NEW TAP BOX AND GENERATOR INSTALLATION.

PHASING PLAN D – NEW WORKS:

7. INSTALL NEW GEN-1 AND ASSOCIATED ANCILLARIES. CONNECT ALL CONTROL CABLING. LEAVE POWER CABLES SAFE AND COILED AT GENERATOR. COMPLETE GEN-1 FUELING WORK (REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS) AND CONNECT NEW GEN-1 TO FUEL SYSTEM.
8. PERFORM GENERATOR START-UP TESTS. INCLUDE VENTILATION, FUEL AND MONITORING SYSTEMS.
9. PROVIDE LOAD BANK C/W CABLES FOR TESTING OF NEW GEN-G1. INSTALL LOAD BANK CABLES THROUGH EXISTING SHAFT AT NORTH SIDE OF THE BUILDING TO PENTHOUSE LEVEL. PERFORM EIGHT (8) HOUR FULL LOAD TEST. TOP UP FUEL IN UNDERGROUND STORAGE TANK UPON COMPLETION OF LOAD TEST.
10. DISCONNECT AND REMOVE LOAD BANK AND PORTABLE POWER CABLES.
11. TERMINATE AND CONNECT PERMANENT POWER FEEDER AT GEN-1 THROUGH NEW CABLE TAP BOX.
12. UPLOAD NEW PROGRAM TO SWBDs EA/EB PLCs. SHUTDOWN OF SWBDs EA/EB REQUIRED – SHUT SWITCHBOARDS DOWN ONE AT A TIME AND PROVIDE MOP FOR ACTIVITY.
13. RE-ENERGIZE NEW GEN-1 AT SWBD EG-A. COMPLETE INTEGRATED OPERATIONAL SYSTEMS TESTING AND COMMISSIONING. PROVIDE MOP FOR ACTIVITY.
14. COMPLETE GEN-2 FUELING WORK (REFER TO MECHANICAL DRAWINGS/SPECIFICATIONS). TEST AND COMMISSION FUEL SYSTEM. PROVIDE MOP FOR ACTIVITY.
15. DISCONNECT AND REMOVE MOBILE GENERATOR FROM SITE.

KEY PLAN:



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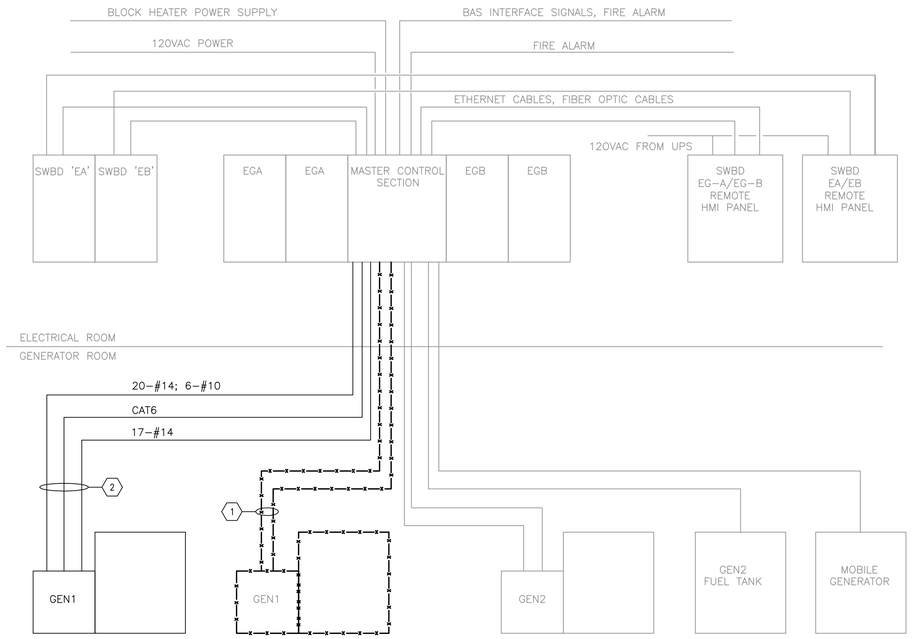
SHEET TITLE:

ELECTRICAL PARTIAL SINGLE LINE DIAGRAM

DRAWN BY: RW	DATE: SEPT. 2024
DESIGNED BY: KW	CHECKED BY: TG
SCALE:	DWG FILE:

Project No: 135901001

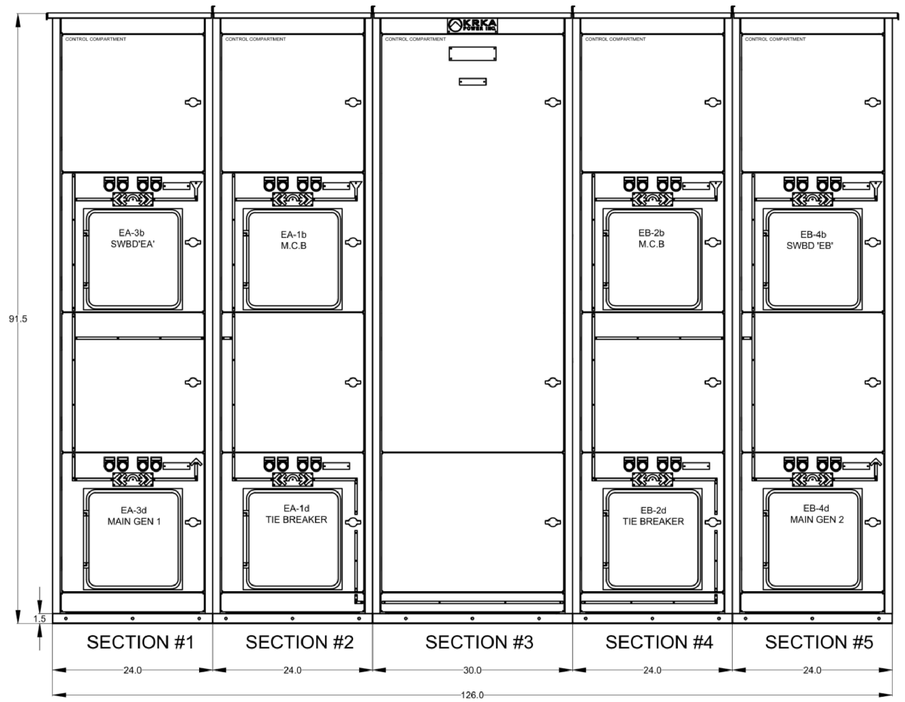
Drawing No: E-3



DRAWING NOTES:

1. REMOVE EXISTING GEN-1 CONTROL CABLES. RETAIN EXISTING CONDUITS AND REUSE FOR NEW GEN-1 CONTROL CABLES. PROVIDE ADDITIONAL NEW CONDUITS AS REQUIRED PER NEW WORK SHOWN ON DETAILS 1/E-4 AND 3/E-4.
2. WIRING FOR GENERATOR CONTROL IS SHOWN APPROXIMATELY, FOR PRICING PURPOSES. WORK SHOWN ON DRAWINGS SHALL BE CONSIDERED AS THE BASE PRICING. PROVIDE ACTUAL WIRING BASED ON MANUFACTURER'S SHOP DRAWINGS. PROVIDE AN ADEQUATE ALLOWANCE TO COVER THE COST OF ALL CONTROL WIRING AND RACEWAYS, REGARDLESS OF GENERATOR MANUFACTURER. THE CONTRACT CASH ALLOWANCE SHALL NOT BE USED FOR THIS PURPOSE.

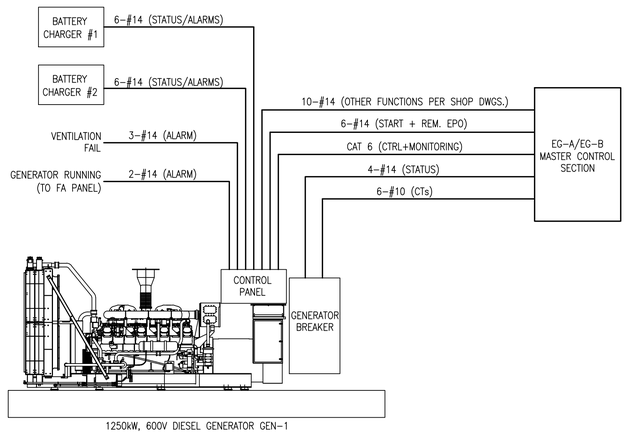
1 EXISTING AND NEW GENERATOR CONTROL WIRING DIAGRAM
SCALE: N.T.S



GENERAL NOTES:

1. PROVIDE NEW SELECTOR SWITCH (SYNCHRONIZATION MODE; LEAD/LAG MODE) IN SECTION #3 OF SWBDs EG-A/EG-B.

2 EXISTING GENERATOR SWITCHBOARD EG-A & EG-B ELEVATION
SCALE: N.T.S



GENERATOR CONTROLS & MONITORING:

PROVIDE THE FOLLOWING STATUS/ALARMS FOR NEW GENERATOR G-1:

- GENERATOR NOT IN AUTO
- GENERATOR COOLDOWN
- GENERATOR BREAKER STATUS (CLOSED/OPEN/TRIPPED/LOCK OUT)
- GENERATOR ENGINE RUNNING
- GENERATOR SUMMARY ALARM
- GENERATOR SHUTDOWN
- GENERATOR OVER/UNDERVOLTAGE
- GENERATOR OVER/UNDERFREQUENCY
- FAIL TO SYNCHRONIZE
- LOW FUEL LEVELS
- OVERSPEED SHUTDOWN
- OVERCRANK SHUTDOWN
- LOW OIL PRESS SHUTDOWN
- SHUTDOWN FAULT
- HIGH WATER TEMP. SHUTDOWN
- PRE-HIGH WATER TEMP. ALARM
- LOW WATER LEVEL SHUTDOWN
- GENERATOR EMERGENCY STOP ACTIVATED
- REVERSE POWER
- BATTERY CHARGER ALARM

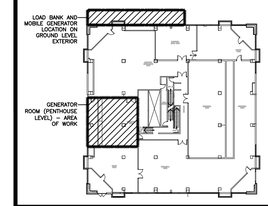
PROVIDE NEW CONTROLS/COMMUNICATIONS CABLING AND INSTALL IN EXISTING CONDUITS.

RECONNECT GENERATOR TO FIRE ALARM SYSTEM TO MONITOR GENERATOR RUNNING SIGNAL. PROVIDE ADDITIONAL ADDRESSABLE MONITORING MODULES AS REQUIRED AND COORDINATE EXACT INSTALLATION WITH GENERATOR MANUFACTURER.

NOTE: GENERATOR CONTROLS AND MONITORING POINTS AND WIRING ARE SHOWN APPROXIMATELY. REFER TO GENERATOR SHOP DRAWINGS FOR ACTUAL AND INTENDED FUNCTIONALITY.

3 NEW GENERATOR GEN-1 CONTROL WIRING SCHEMATIC
SCALE: N.T.S

KEY PLAN:



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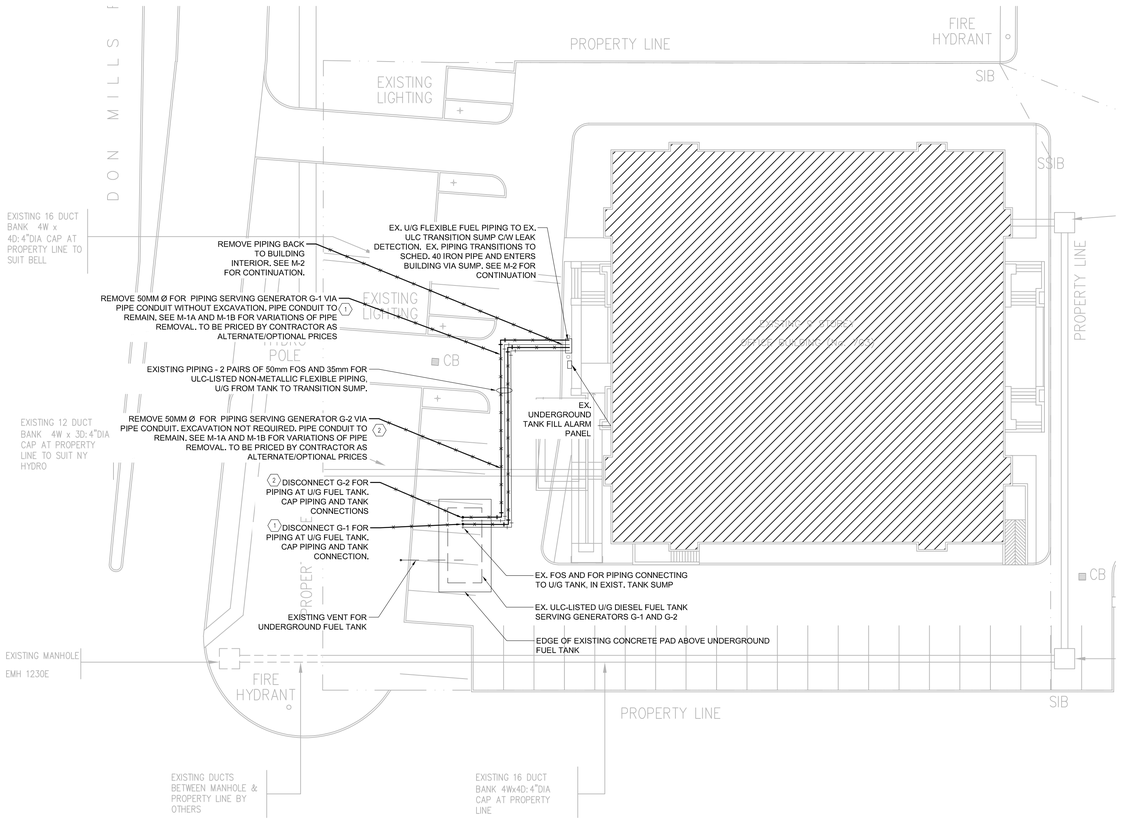
Project No:	Drawing No:
135901001	E-4



1 SITE PLAN
SCALE: 1:250

SITE PLAN GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3. THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN
2. IT IS CRITICAL THAT REDUNDANCY AND RELIABILITY OF BUILDING EMERGENCY POWER SUPPLIES BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED THAT IMPACTS THE OPERATION OF MORE THAN ONE GENERATOR, EXCEPT AS DESCRIBED UNDER AN APPROVED METHOD OF PROCEDURE (MOP) WHICH SHALL BE PREPARED BY THE CONTRACTOR, AND SUBMITTED AT LEAST THIRTY (30) DAYS IN ADVANCE OF SCHEDULED WORK, TO BE APPROVED BY BOTH THE OWNER AND THE OWNER'S ENGINEER.
3. MAINTAIN WORK AREA IN CLEAN AND ORDERLY CONDITION AT ALL TIMES.
4. PROVIDE AND MAINTAIN BARRICADES AND ALL OTHER PROTECTION AROUND THE WORK AREA AT ALL TIMES.
5. PROVIDE SIGNAGE AND TRAFFIC SIGNALS AS REQUIRED TO MAINTAIN PEDESTRIAN AND VEHICULAR TRAFFIC BOTH WITHIN THE PARKING LOT AND TO ALL BUILDING EXITS AND ENTRANCES.
6. MAINTAIN ACCESS TO BUILDING AND PARKING LOT ENTRANCES, EXITS AND EMERGENCY ROUTES AT ALL TIMES. PROVIDE TEMPORARY WALKWAYS AND ACCESS PATHS AS REQUIRED TO THE ENTRANCES, SIDEWALK, EXITS AND EMERGENCY ROUTES TO ALLOW FOR THE WORK. PHASE THE REMEDIAL WORK AS REQUIRED TO MAINTAIN ACCESS, PROVIDE AN ACCESS AND PHASING PLANS TO THE CONSULTANT BEFORE PERFORMING ANY WORK.
7. DO NOT DAMAGE EXISTING AREAS BEYOND THE WORK AREA.
8. LAYOUTS AND SCHEMATICS DO NOT SHOW ALL ITEMS. VERIFY ALL MEASUREMENTS AND SITE CONDITIONS PRIOR TO DEMOLITION. COMMENCEMENT OF DEMOLITION MEANS ACCEPTANCE OF THE EXISTING SITE CONDITIONS.
9. REMOVE AND REPLACE SITE SIGNAGE AS REQUIRED TO COMPLETE THE WORK.
10. OBTAIN NECESSARY PERMITS AND NOTIFY LOCAL AUTHORITIES HAVING JURISDICTION PRIOR TO PERFORMING ANY WORK.
11. REMOVE ALL TEMPORARY EQUIPMENT AND CABLES UPON COMPLETION OF WORK. ANY MODIFICATIONS/CHANGES MADE ON SITE TO ACCOMMODATE TEMPORARY EQUIPMENT SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS.
12. PRIOR TO ALTERATION, DISCONNECTION, SHUT DOWN OF, OR ANY ACTION THAT WOULD INTERRUPT THE FUEL SUPPLY TO GENERATOR G-1 OR G-2, THE CONTRACTOR SHALL CONDUCT A SITE INVESTIGATION TO IDENTIFY ALL FUEL LINES AS SERVING EITHER GENERATOR G-1 OR GENERATOR G-2. CONTRACTOR SHALL PROVIDE CLEAR VISUAL MARKING ON EACH LENGTH OF PIPING AT A MAXIMUM SPACING OF 10M, CONTRACTOR SHALL IDENTIFY PIPING UP TO UNDERGROUND PIPING TRANSITIONS WITH VISUAL INSPECTIONS. AT TRANSITION TO UNDERGROUND PIPING TRANSITIONS, CONTRACTOR SHALL PRESSURIZE THE INTERSTITIAL SPACE OF EACH LENGTH OF FUEL PIPING ONE AT A TIME TO VERIFY END-TO-END TERMINATIONS AND IDENTIFY ORIGIN AND TERMINATION OF PIPING.

DRAWING NOTES:

1. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP C.6. FUEL OIL RETURN PIPING SERVING GENERATOR G-1 SHALL BE REMOVED FIRST IN SEQUENCE AND SEPARATE FROM FOR PIPING SERVING GENERATOR G-2. CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATOR G-1 AND FOS AND FOR PIPING SERVING GENERATOR G-2. PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.
2. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP D.14. FUEL OIL RETURN PIPING SERVING GENERATOR G-2 SHALL BE REMOVED AFTER ALL WORK TO PROVIDE A FULLY FUNCTIONAL GENERATOR G-1 IS COMPLETED INCLUDING ACCEPTANCE OF COMMISSIONING BY THE ENGINEER AND OWNER. CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATORS G-1 AND G-2. PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.

PROJECT NOTES:

1. CONTRACTOR TO COORDINATE DIMENSIONS OF EQUIPMENT WITH ARCHITECTURAL AND STRUCTURAL TRADES PRIOR TO SUBMISSION OF SHOP DRAWINGS FOR:
   - 1.1. SILENCERS
   - 1.2. MUFFLERS
   - 1.3. GENERATOR EXHAUST SYSTEMS
   - 1.4. OPERATING/CONTROL DAMPERS
   - 1.5. LOUVERS (BY STRUCTURAL - SEE DRAWING S-3, SEPARATE PRICE S-1)
2. PROVIDE A FACTORY BUILT ULC LISTED ENGINE EXHAUST SYSTEM FOR THE GENERATORS, TO REPLACE PORTIONS OF THE EXISTING SYSTEM REMOVED TO ACCOMMODATE GENERATOR AND MUFFLER REMOVAL , PROVIDE SUPPORTS AS REQUIRED BY MANUFACTURER AND ITEM 3.1 BELOW. COORDINATE INTERFERENCES BETWEEN MECHANICAL AND ELECTRICAL DISCIPLINES
3. DELEGATED DESIGN REQUIREMENTS:
   - 3.1. CONTRACTOR SHALL PROVIDE DESIGN OF SUPPORTING ELEMENTS FOR NEW GENERATOR COMBUSTION SILENCER AND VENTING, TO BE PREPARED BY AN ENGINEER LICENSED IN THE PROVINCE OF ONTARIO, SUBMIT STAMPED DRAWINGS FOR APPROVAL BY OWNER AND ENGINEER PRIOR TO ORDERING OF PARTS OF FABRICATION OF SUPPORTS. COORDINATE WITH OWNER'S STRUCTURAL DESIGN FOR INTERFACE WITH SECONDARY STEEL DESIGN BY OWNER'S STRUCTURAL ENGINEER - SEE STRUCTURAL DRAWINGS FOR DETAILS.
4. ALTERNATE PRICES
   - 4.1. SEE DRAWINGS M-1A REPRESENTS BASE BID, M-1B AND M-1C FOR ALTERNATE PRICE SCOPE TO BE SUBMITTED FOR UNDERGROUND FUEL PIPING TREATMENT. CONTRACTOR SHALL SUBMIT PRICING ACCORDING TO EACH PLAN. ALL 3 OPTIONS SHALL BE INCLUDED IN THE TSSA VARIANCE APPLICATION.
     - 4.1.1. OPTION M-1A, REMOVAL OF PIPING V/A EXISTING PIPE CONDUIT, SHALL FORM PART OF THE BASE BID
     - 4.1.2. OPTION M-1B, TO ABANDON PIPING IN PLACE AND FILL WITH GROUT, SHALL BE THE PREFERRED METHOD OF U/G FUEL PIPING TREATMENT, PENDING ONGOING TSSA DESIGN REVIEW.
     - 4.1.3. OPTION M-1C, EXCAVATION TO REMOVE BURIED PIPING, SHALL BE EXERCISED IN THE EVENT THAT EXISTING SITE CONDITIONS REQUIRE EXCAVATION TO ACHIEVE THE REMOVAL OF U/G FUEL PIPING, CONTRACTOR SHALL PROVIDE UNIT PRICING PER THE BID INSTRUCTIONS AND FORM, AND PRICING SHALL BE VALID UNTIL PROJECT TOTAL COMPLETION.
5. STORAGE AND RE-USE OF SILENCERS. THE CONTRACTOR SHALL REMOVE THE EXISTING SILENCERS SERVING GENERATOR G-2 AND INSPECT.

GENERATOR COMBUSTION EXHAUST SILENCER – SEE DIV 26

TAG	QTY.	DESIGNATION	DRAWING	CONSTRUCTION		PERFORMANCE DATA					SIZE L X D (mm) NOTE 5	WEIGHT (lbs) NOTE 6	NOTES
				TYPE	FLOW CAPACITY (CU.M/MIN) NOTE 2	PRESSURE DROP (kPa) NOTE 2	CONNECTIONS – NOTE 3, 4						
							INLET LOCN	INLET SIZE (MM)	OUTLET LOCN	OUTLET SIZE (MM)			
GEN-1-COMB	1	COMBUSTION EXHAUST	M-4	REACTIVE	283.4	3.4	SIDE IN	356	END OUT	356	3302x762	1100	ALL

NOTES:
1. THIS INFORMATION PROVIDED FOR REFERENCE ONLY AND IS BASED ON ENGINEER'S COORDINATION WITH THE GENERATOR MANUFACTURERS TO IDENTIFY THE MOST RESTRICTIVE CONDITIONS OF EACH MEASURE, THE CONTRACTOR SHALL COORDINATE WITH THE GENERATOR MANUFACTURER TO OBTAIN FINAL VALUES
2. THE CONTRACTOR, VIA THE GENERATOR MANUFACTURER, SHALL SUBMIT CALCULATIONS DEMONSTRATING THAT SELECTED SILENCER, ALONGSIDE ALL OTHER EXHAUST COMPONENTS, SHALL NOT EXCEED GENERATOR RATED MAXIMUM BACKPRESSURE AT GENERATOR SET STANDBY-RATED LOAD.
3. ASSUMES SINGLE-PORT GENERATOR EXHAUST CONNECTION. WHERE CONTRACTOR'S CHOSEN GENERATOR REQUIRE DUAL EXHAUST PORT CONNECTION, A DUAL SIDE-IN INLET SHALL BE PROVIDED, WITH INLET SIZE PER THE GENERATOR MANUFACTURER IN ACCORDANCE WITH NOTE 2.
4. GENERATOR MANUFACTURER SHALL PROVIDE EXPANSION JOINT(S) BETWEEN GENERATOR EXHAUST OUTLET AND SILENCER INLET.
5. LENGTH GIVEN AS TOTAL SILENCER LENGTH INCLUDING END-OUT CONNECTIONS, DIAMETER GIVEN DOES NOT INCLUDE SIDE-IN CONNECTIONS.
6. WEIGHT GIVEN IS REFERENCE WEIGHT OF SILENCER USED BY STRUCTURAL FOR DESIGN OF SECONDARY STRUCTURAL STEEL. SEE STRUCTURAL DRAWINGS. CONTRACTOR SHALL COORDINATE WITH SILENCER MANUFACTURER TO PROVIDE DESIGN OF SILENCER SUPPORTS FROM SECONDARY STEEL AND ALL OTHER SUPPORTING ELEMENTS NECESSARY TO FULLY SUPPORT THE SILENCER AND ALL CONNECTED FITTINGS, PIPING, INSULATION, AND ACCESSORIES.
7. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS OF THE SILENCER AND EXHAUST INSTALLATION PRIOR TO SUBMISSION OF SHOP DRAWINGS AND ORDERING OF COMPONENTS.
8. SILENCER PERFORMANCE TO MEET SUPER CRITICAL GRADE PER EGSA 2015-2014 GUIDE FOR RATING GENERATOR EXHAUST SILENCERS

MOTORIZED DAMPER SCHEDULE

UNIT	QUANTITY	DESIGNATION	LOCATION	DRAWING	NOMINAL		SIZE		NO/NC	ACTUATOR	NOTES
					CFM	L/s	mm L	mm W			
MD-03	1	RECIRCULATION AIR	PENTHOUSE	M-4	25,285	11,933	4200	1200	NC	MOD, 24V AC	1,2,3,4
MD-04	1	RECIRCULATION AIR	PENTHOUSE	M-4	25,285	11,933	4200	1200	NC	MOD, 24V AC	1,2,3,4
MD-05	1	EXHAUST AIR	PENTHOUSE	M-4	50,571	23,867	3200	3200	NO	MOD, 24V AC	1,2,3,4

NOTES:
1. DAMPER SIZES ARE APPROXIMATE, COORDINATE SIZE WITH ARCHITECTURAL OPENINGS AND TRADES AS NECESSARY.
2. PROVIDE AS MANY DAMPER SECTIONS AND ACTUATORS AS REQUIRED FOR EACH OPENING SO AS NOT TO EXCEED ACTUATOR TORQUE REQUIREMENTS.
3. EXHAUST DAMPERS SERVING GENERATOR SHALL HAVE FEEDBACK MONITORED BY BAS AND ALARMED FOR MISMATCH GREATER THAN 10% IN 30 SECONDS ON GENERATOR FIRST START.
4. ACTUATORS SHALL BE SPRING-RETURN, POSITION ON LOSS OF POWER AS INDICATED

DRAWING LIST

DWG. No.	DESCRIPTION
M-1A	LEGEND, DRAWING LIST, PROJECT NOTES AND SITE PLAN OPTION 1A
M-1B	SITE PLAN OPTION 1B
M-1C	SITE PLAN OPTION 1C
M-2	BASEMENT FLOOR PLAN - FUEL OIL
M-3	PENTHOUSE FLOOR PLAN - FUEL OIL
M-4	PENTHOUSE FLOOR PLAN - VENTILATION
M-5	FUEL OIL SCHEMATICS
M-6	MECHANICAL DETAILS 1
M-7	MECHANICAL DETAILS 2

MECHANICAL LEGEND

SYMBOL	DESCRIPTION
	DOMESTIC WATER SUPPLY
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
G	GAS PIPING
	EXISTING SERVICE TO REMAIN
FD	FLOOR DRAIN
C	PIPE DROP
	PIPE RISER
CAP	END CAP
	UNION
	GATE VALVE
	CHECK VALVE
	GLOBE VALVE
	BALL VALVE
	STRAINER
	PRESSURE RELIEF VALVE
	PIPE ANCHOR
	PIPE LINE GUIDE
EJ	EXPANSION JOINT
	EXPANSION LOOP
	FLEXIBLE CONNECTION
	THERMOMETER
PG	PRESSURE GAUGE AND COCK
	PUMP
A/D	ACCESS DOOR
MOD	MOTORIZED DAMPER (ELEC,)
CFM	CUBIC FEET PER MINUTE
CTE	CONNECT TO EXISTING
AFF	ABOVE FINISHED FLOOR
TYP	TYPICAL
EX.	EXISTING
VTR	VENT THROUGH ROOF
FFL	FINISHED FLOOR LEVEL
EF	EXHAUST FAN
CMH	CUBIS METRES PER HOUR
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
T	THERMOSTAT
TS	TEMPERATURE SENSOR

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TORONTO

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5	ISSUED FOR PERMIT	2025-03-28	AC
4	ISSUED FOR 100% REVIEW	2025-03-19	AC
3	RE-ISSUED FOR 80%	2025-02-07	AC
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

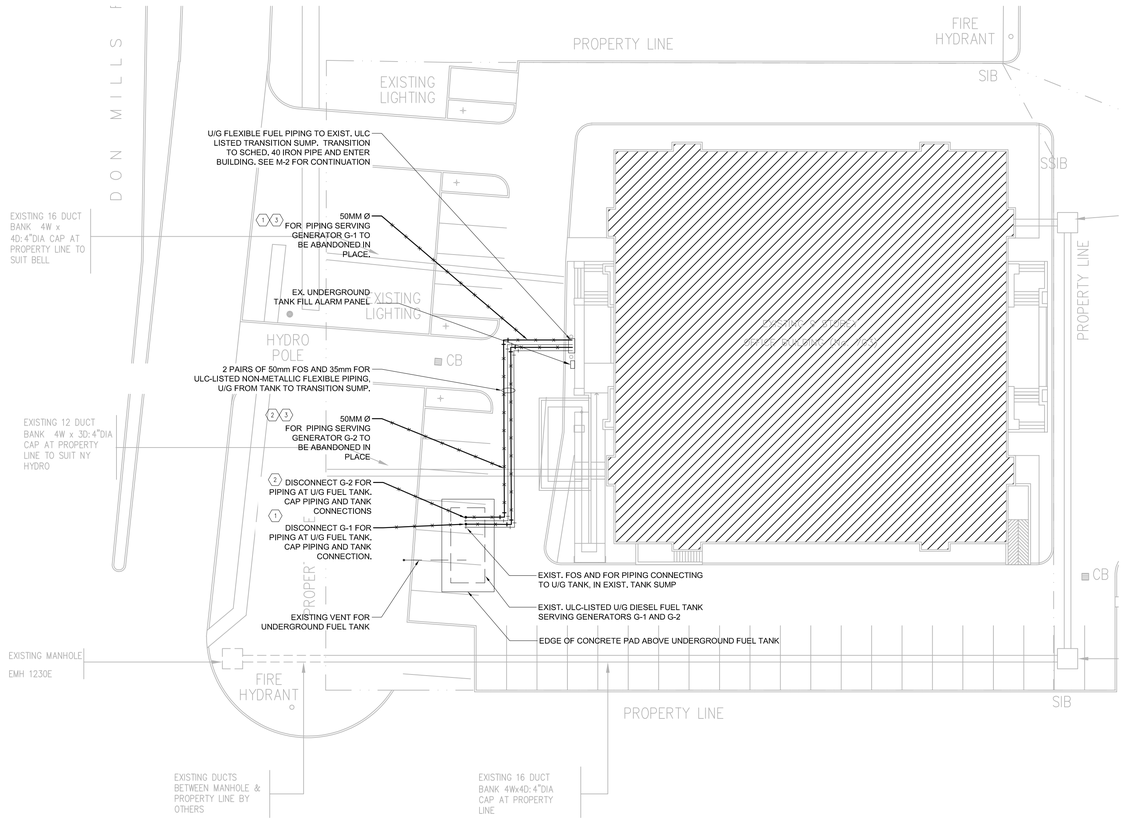
SHEET TITLE:

LEGEND, DRAWING LIST, PROJECT NOTES AND SITE PLAN OPTION 1A (BASE BID)

DRAWN BY: AC	DATE: MAR. 2025
DESIGNED BY: AC	CHECKED BY: GF
SCALE: AS INDICATED	DWG FILE:

Project No: 135901001

Drawing No: M-1A



1 SITE PLAN
SCALE: 1:250

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1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3, THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN
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6. MAINTAIN ACCESS TO BUILDING AND PARKING LOT ENTRANCES, EXITS AND EMERGENCY ROUTES AT ALL TIMES, PROVIDE TEMPORARY WALKWAYS AND ACCESS PATHS AS REQUIRED TO THE ENTRANCES, SIDEWALK, EXITS AND EMERGENCY ROUTES TO ALLOW FOR THE WORK, PHASE THE REMEDIAL WORK AS REQUIRED TO MAINTAIN ACCESS, PROVIDE AN ACCESS AND PHASING PLANS TO THE CONSULTANT BEFORE PERFORMING ANY WORK.
7. DO NOT DAMAGE EXISTING AREAS BEYOND THE WORK AREA.
8. LAYOUTS AND SCHEMATICS DO NOT SHOW ALL ITEMS, VERIFY ALL MEASUREMENTS AND SITE CONDITIONS PRIOR TO DEMOLITION. COMMENCEMENT OF DEMOLITION MEANS ACCEPTANCE OF THE EXISTING SITE CONDITIONS.
9. REMOVE AND REPLACE SITE SIGNAGE AS REQUIRED TO COMPLETE THE WORK.
10. OBTAIN NECESSARY PERMITS AND NOTIFY LOCAL AUTHORITIES HAVING JURISDICTION PRIOR TO PERFORMING ANY WORK.
11. REMOVE ALL TEMPORARY EQUIPMENT AND CABLES UPON COMPLETION OF WORK. ANY MODIFICATIONS/CHANGES MADE ON SITE TO ACCOMMODATE TEMPORARY EQUIPMENT SHALL BE RESTORED TO THEIR ORIGINAL CONDITIONS.
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DRAWING NOTES:

1. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP C.6. FOR PIPING SERVING GENERATOR G-1 SHALL BE REMOVED FIRST IN SEQUENCE AND SEPARATE FROM FOR PIPING SERVING GENERATOR G-2. CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATOR G-1 AND FOS AND FOR PIPING SERVING GENERATOR G-2. PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.
2. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP D.14. FOR PIPING SERVING GENERATOR G-2 SHALL BE REMOVED AFTER ALL WORK TO PROVIDE A FULLY FUNCTIONAL GENERATOR G-1 IS COMPLETED INCLUDING ACCEPTANCE OF COMMISSIONING BY THE ENGINEER AND OWNER. CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATORS G-1 AND G-2. PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.
3. UNDERGROUND FUEL LINES SHALL BE ABANDONED IN-PLACE, INCLUDING FLUSHING WITH DETERGENT TO REMOVE TRACES OF HYDROCARBONS, FILLING PIPE WITH GROUT/CONCRETE, AND CAPPING PIPING. CONTRACTORS SHALL INCLUDE AS PART OF THEIR TSSA VARIANCE APPLICATION

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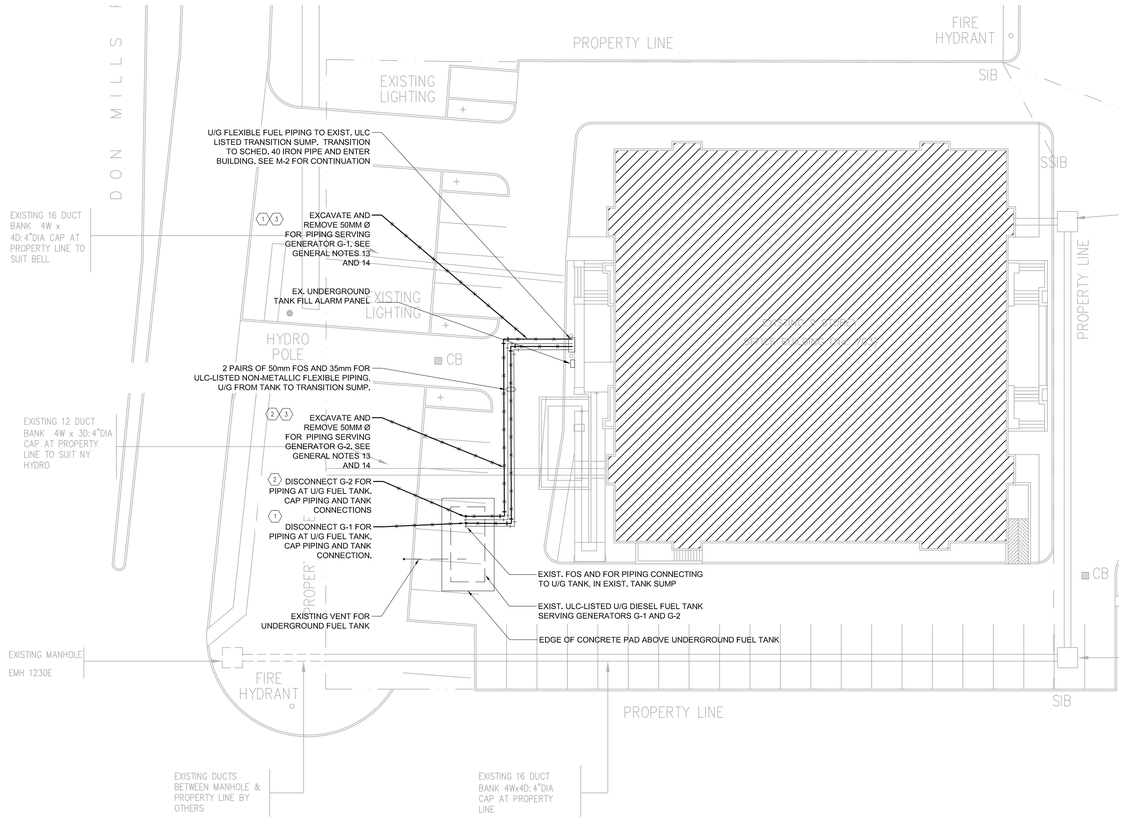
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

SHEET TITLE:

SITE PLAN OPTION 1B

DRAWN BY: AC	DATE: MAR. 2025
DESIGNED BY: AC	CHECKED BY: GF
SCALE: AS INDICATED	DWG FILE:
Project No: 135901001	Drawing No: M-1B



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SCALE: 1:250

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7. DO NOT DAMAGE EXISTING AREAS BEYOND THE WORK AREA.
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13. CONTRACTORS SHALL MAKE ALL ATTEMPTS TO MINIMIZE THE EXTENT OF EXCAVATION REQUIRED. CONTRACTORS SHALL ATTEMPT TO REMOVE PIPING AS PER M-1A, AND EXCAVATE ONLY WHERE PULLING OF PIPE FROM CONDUIT IS NOT FEASIBLE OR COULD REASONABLY CAUSE DAMAGE TO OTHER PIPING. WHERE IT IS NOT FEASIBLE TO REMOVE PIPING FROM CONDUIT, CONTRACTORS SHALL ATTEMPT TO IDENTIFY THE LOCATION OF THE RESTRICTION AND EXCAVATE ONLY TO REVEAL THE SOURCE OF THE RESTRICTION. AT ALL TIMES THE FIRE ROUTE MUST BE MAINTAINED, AND ALL EXCAVATION WORK SHALL REQUIRE COORDINATION WITH SITE OPERATIONS FOR THE DEVELOPMENT OF A WORK PLAN AND METHOD OF PROCEDURE, TO BE SUBMITTED FOR APPROVAL 30 DAYS PRIOR TO THE COMMENCEMENT OF WORK.
14. CONTRACTORS SHALL PROVIDE ALTERNATE AND UNIT PRICING ASSOCIATED WITH EXPLORATORY EXCAVATION TO REMOVE ALL PIPING, INCLUDING
    - 14.1. EXCAVATION FOR COMPLETE REMOVAL OF PIPE. TO BE PERFORMED IN SECTIONS. SUCH THAT FIRE ROUTE IS CONTINUOUSLY MAINTAINED. CONTRACTORS SHALL PROVIDE SHORING AND TRAFFIC PLATES FOR ALL EXCAVATION WORK TO MAINTAIN FIRE DEPARTMENT ACCESS TO SITE.
    - 14.2. EXCAVATION, BACKFILL, AND PATCHING TO MATCH EXISTING OF 2M SECTIONS TO LOCATE SUSPECTED LOCATIONS OF PIPING RESTRICTION
    - 14.3. CUTTING INTO PIPE CONDUIT AFTER EXCAVATION PER 14.2 TO REVEAL UNDERGROUND PIPE AND RESOLVE RESTRICTIONS AND/OR PULLING OF PIPE WHERE BREAKAGE OCCURS DURING PULLING.

DRAWING NOTES:

1. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP C,6., FOR PIPING SERVING GENERATOR G-1 SHALL BE REMOVED FIRST IN SEQUENCE AND SEPARATE FROM FOR PIPING SERVING GENERATOR G-2. CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATOR G-1 AND FOS AND FOR PIPING SERVING GENERATOR G-2, PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.
2. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP D,14. FOR PIPING SERVING GENERATOR G-2 SHALL BE REMOVED AFTER ALL WORK TO PROVIDE A FULLY FUNCTIONAL GENERATOR G-1 IS COMPLETED INCLUDING ACCEPTANCE OF COMMISSIONING BY THE ENGINEER AND OWNER, CONTRACTOR SHALL PROTECT FOS PIPING SERVING GENERATORS G-1 AND G-2. PIPING SHALL BE REMOVED AND DISPOSED OF AS A MATERIAL CONTAMINATED WITH HYDROCARBONS - PIPING SHALL NOT BE ABANDONED IN PLACE.
3. PERFORM LOCATES PRIOR TO EXCAVATION. HYDROC SHALL BE UTILIZED FOR ALL EXCAVATION WORK DUE TO PROXIMITY OF ACTIVE FUEL LINES.

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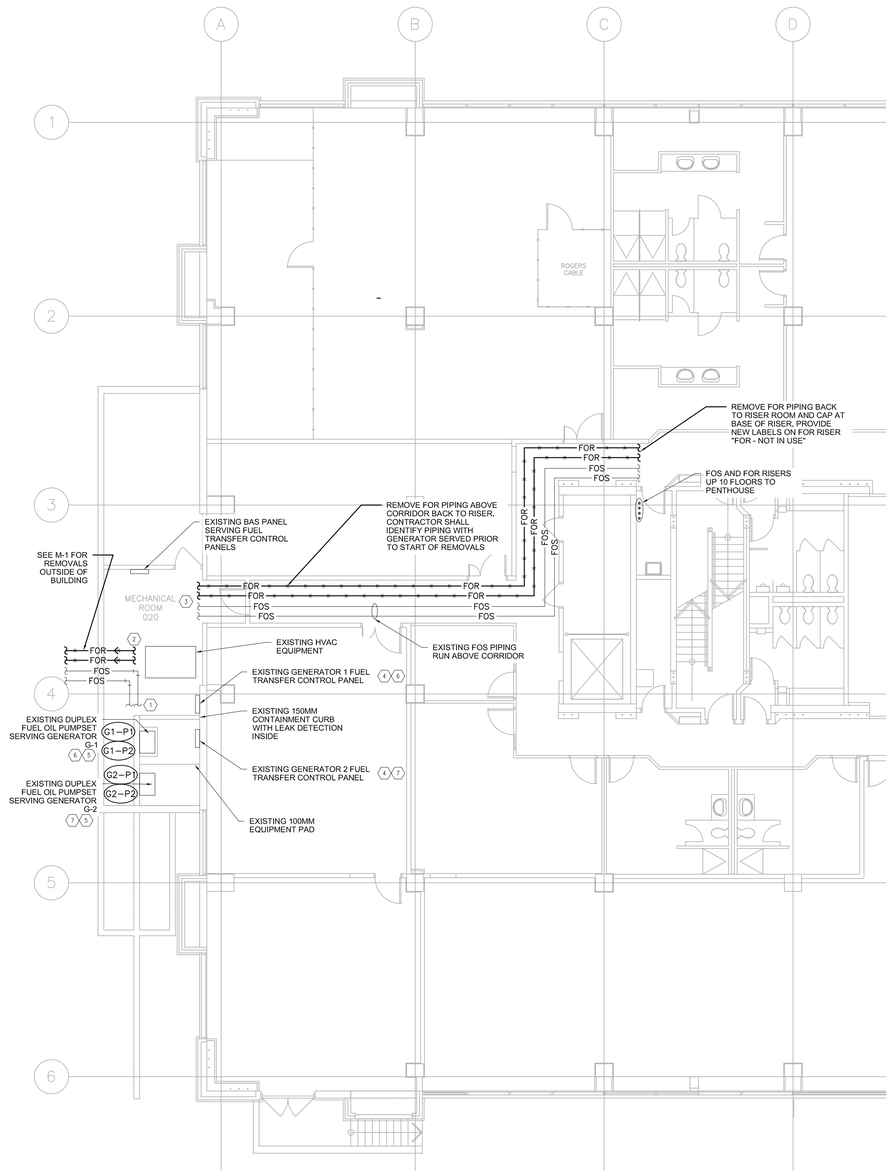
SHEET TITLE:

SITE PLAN OPTION 1C

DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	AS INDICATED	DWG FILE:	

Project No: 135901001

Drawing No: M-1C



1 PARTIAL BASEMENT FLOOR PLAN - NEW WORK

SCALE: 1:100

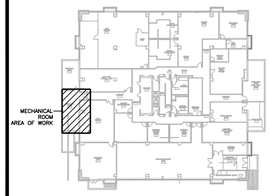
GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3. THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN
2. IT IS CRITICAL THAT REDUNDANCY AND RELIABILITY OF BUILDING EMERGENCY POWER SUPPLIES BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED THAT IMPACTS THE OPERATION OF MORE THAN ONE GENERATOR, EXCEPT ASDESCRIBED UNDER AN APPROVED METHOD OF PROCEDURE (MOP) WHICH SHALL BE PREPARED BY THE CONTRACTOR, AND SUBMITTED AT LEAST THIRTY (30) DAYS IN ADVANCE OF SCHEDULED WORK, TO BE APPROVED BY BOTH THE OWNER AND THE OWNER'S ENGINEER.
3. PRIOR TO ALTERATION, DISCONNECTION, SHUT DOWN OF, OR ANY ACTION THAT WOULD INTERRUPT THE FUEL SUPPLY TO GENERATOR G-1 OR G-2, THE CONTRACTOR SHALL CONDUCT A SITE INVESTIGATION TO IDENTIFY ALL FUEL LINES AS SERVING EITHER GENERATOR G-1 OR GENERATOR G-2. CONTRACTOR SHALL PROVIDE CLEAR VISUAL MARKING ON EACH LENGTH OF PIPING AT A MAXIMUM SPACING OF 10M. CONTRACTOR SHALL IDENTIFY PIPING UP TO UNDERGROUND PIPING TRANSITIONS WITH VISUAL INSPECTIONS. AT TRANSITION TO UNDERGROUND PIPING TRANSITIONS, CONTRACTOR SHALL PRESSURIZE THE INTERSTITIAL SPACE OF EACH LENGTH OF FUEL PIPING ONE AT A TIME TO VERIFY END-TO-END TERMINATIONS AND IDENTIFY ORIGIN AND TERMINATION OF PIPING.

DRAWING NOTES:

1. MODIFY FUEL OIL PIPING AT PUMPSETS AS PER DRAWING M-5. SEE KEYNOTE 3 FOR CONTINUATION.
2. FOR PIPING RUN ACROSS MECHANICAL ROOM FROM EXTERIOR WALL TO CONTINUATION ABOVE EXIT DOOR OF MECHANICAL ROOM. SEE KEYNOTE 3 FOR CONTINUATION.
3. CONTINUATION OF FOS AND FOR PIPING. FOS SEE KEYNOTE 1. FOR SEE KEYNOTE 2.
4. SEE M-5 FOR ALTERATIONS TO FUEL OIL TRANSFER CONTROLS
5. OUTLET OF FUEL OIL PUMP PRESSURE RELIEF TO BE MODIFIED TO DISCHARGE TO FUEL OIL PUMP INLET. SEE M-5 FOR SCHEMATIC
6. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP C.6.
7. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP D.14

KEY PLAN – BASEMENT LEVEL:



NORTH

Stantec

TORONTO

GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION

AT 703 DON MILLS, NORTH YORK
CoT REF. NO.: TBD

REV	DESCRIPTION	DATE	BY
6	ISSUED FOR TENDER	2025-04-15	KW
5	ISSUED FOR PERMIT	2025-03-28	AC
4	ISSUED FOR 100% REVIEW	2025-03-19	AC
3	RE-ISSUED FOR 80%	2025-02-07	AC
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

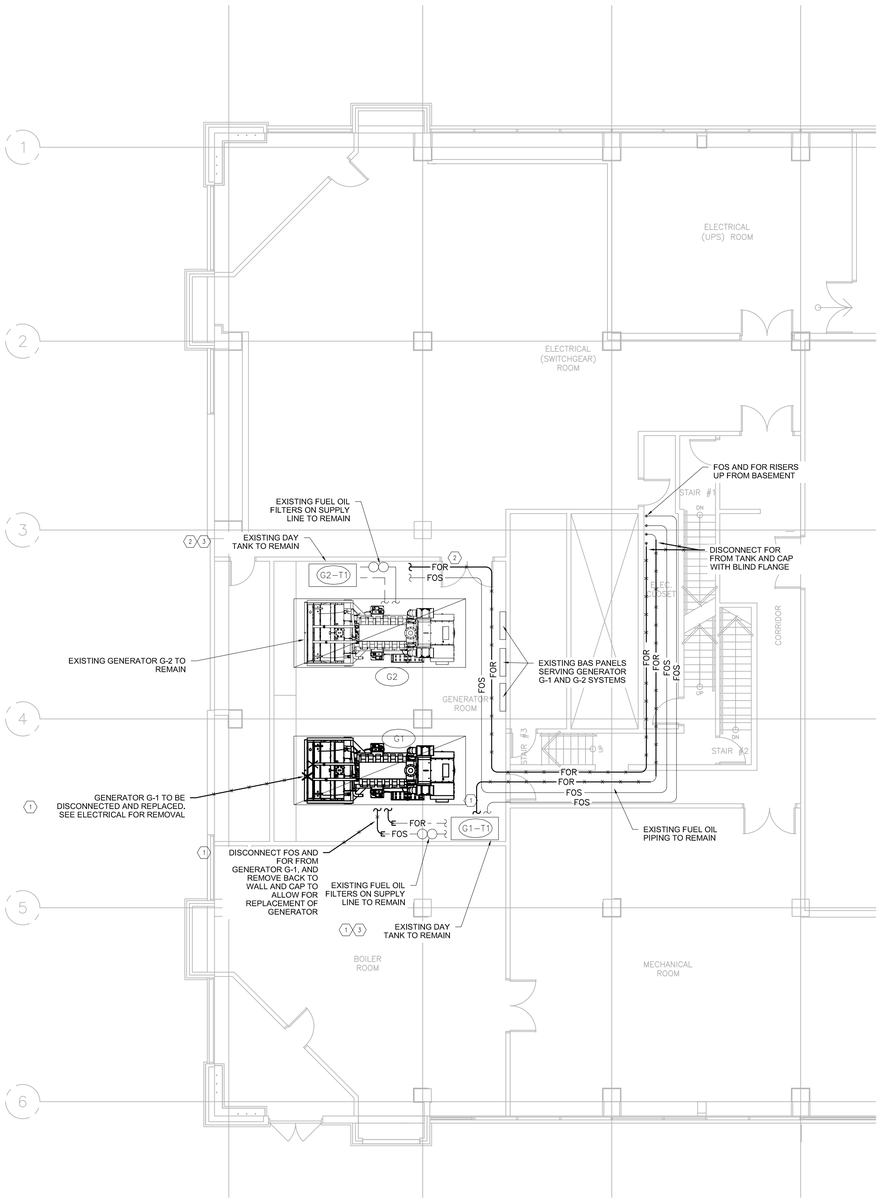
SHEET TITLE:

BASEMENT FLOOR PLAN - FUEL OIL

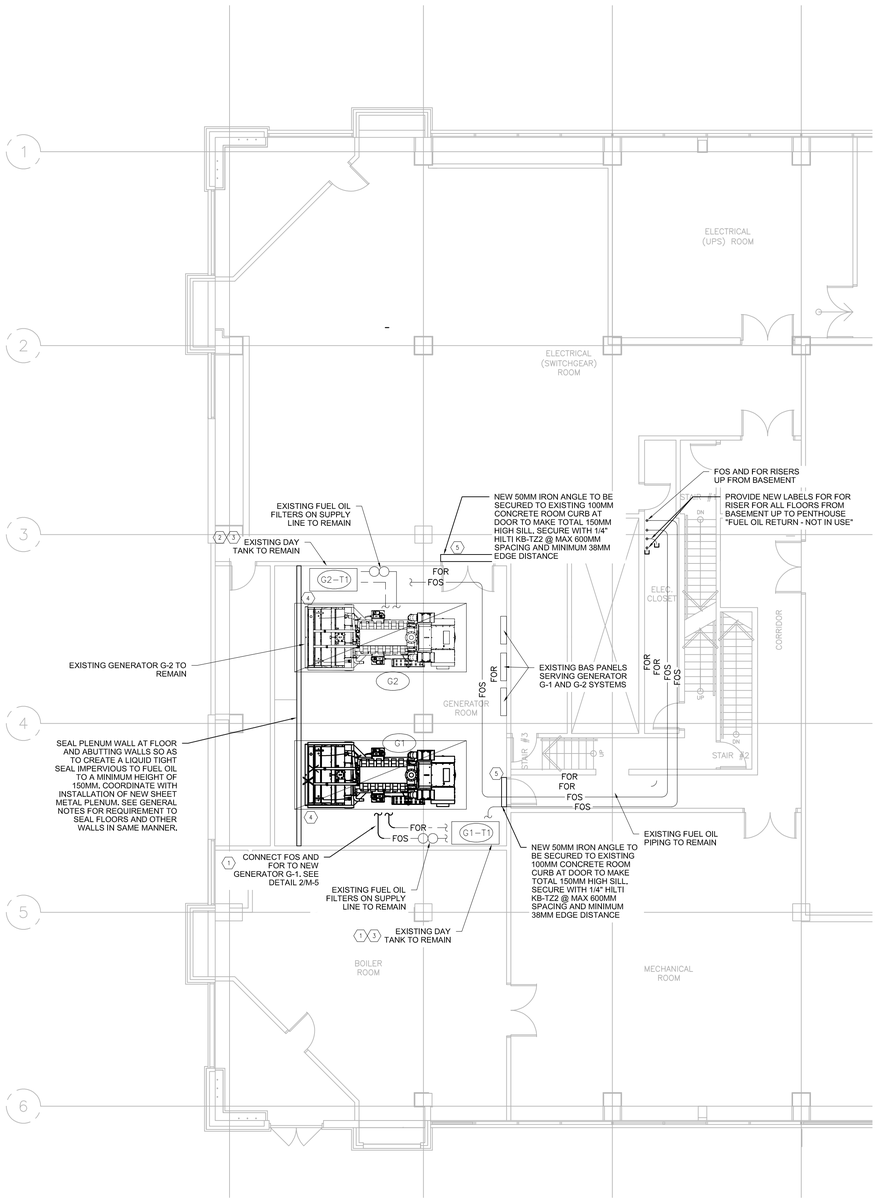
DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	AS INDICATED	DWG FILE:	

Project No: 135901001

Drawing No: M-2



1 PARTIAL PENTHOUSE FLOOR PLAN - FUEL OIL DEMOLITION
SCALE: 1:100



2 PARTIAL PENTHOUSE FLOOR PLAN - FUEL OIL NEW WORK
SCALE: 1:100

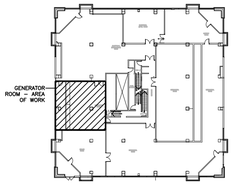
GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3, THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN
2. IT IS CRITICAL THAT REDUNDANCY AND RELIABILITY OF BUILDING EMERGENCY POWER SUPPLIES BE MAINTAINED AT ALL TIMES, NO WORK SHALL BE PERFORMED THAT IMPACTS THE OPERATION OF MORE THAN ONE GENERATOR, EXCEPT ASDESCRIBED UNDER AN APPROVED METHOD OF PROCEDURE (MOP) WHICH SHALL BE PREPARED BY THE CONTRACTOR, AND SUBMITTED AT LEAST THIRTY (30) DAYS IN ADVANCE OF SCHEDULED WORK, TO BE APPROVED BY BOTH THE OWNER AND THE OWNER'S ENGINEER.
3. PRIOR TO ALTERATION, DISCONNECTION, SHUT DOWN OF, OR ANY ACTION THAT WOULD INTERRUPT THE FUEL SUPPLY TO GENERATOR G-1 OR G-2, THE CONTRACTOR SHALL CONDUCT A SITE INVESTIGATION TO IDENTIFY ALL FUEL LINES AS SERVING EITHER GENERATOR G-1 OR GENERATOR G-2. CONTRACTOR SHALL PROVIDE CLEAR VISUAL MARKING ON EACH LENGTH OF PIPING AT A MAXIMUM SPACING OF 10M.
4. EXTEND EXISTING EPOXY TREATMENT OF GENERATOR ROOM FLOOR UP THE WALLS TO A MINIMUM HEIGHT OF 150 MM ABOVE FINISHED FLOOR LEVEL, MATCH COLOUR TO FLOOR.

DRAWING NOTES:

1. SEE PHASING PLAN ON E-3, WORK IS CONSIDERED PART OF PHASING PLAN STEP C.6. WORK ON GENERATOR G-1 SHALL BE PERFORMED PRIOR TO ANY WORK AFFECTING GENERATOR G-2. CONTRACTOR SHALL PROTECT FUEL, AIR AND EXHAUST COMPONENTS AND PIPING SERVING GENERATOR G-2 WHILE PERFORMING WORK ON G-1.
2. SEE PHASING PLAN ON E-3, WORK IS CONSIDERED PART OF PHASING PLAN STEP D.14. WORK ON GENERATOR G-2 SHALL BE PERFORMED AFTER WORK ON GENERATOR G-1, INCLUDING COMMISSIONING, IS COMPLETED, CONTRACTOR SHALL PROTECT FUEL, AIR AND EXHAUST COMPONENTS AND PIPING SERVING GENERATOR G-1 WHILE PERFORMING WORK ON G-2.
3. MODIFY FUEL OIL PIPING AND DAY TANK CONNECTIONS AS PER DRAWING M-5.
4. PROVIDE NEW SPOT-STYLE FUEL OIL LEAK DETECTOR AND CONNECT TO BAS FOR ALARM
5. APPLY SILICON SEALANT BELOW ANGLES PRIOR TO ANCHORING. PAINT ANGLES, STAIRS, AND FLOOR LANDING AREA ON BOTH SIDES OF DOORWAY IN WITH DIAGONAL STRIPES IN CAUTION YELLOW.

KEY PLAN – PENTHOUSE LEVEL:



NORTH

Stantec

TORONTO

GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION
AT 703 DON MILLS, NORTH YORK
CoT REF. NO.: TBD

REV	DESCRIPTION	DATE	BY
6	ISSUED FOR TENDER	2025-04-15	KW
5	ISSUED FOR PERMIT	2025-03-28	AC
4	ISSUED FOR 100% REVIEW	2025-03-19	AC
3	RE-ISSUED FOR 80%	2025-02-07	AC
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

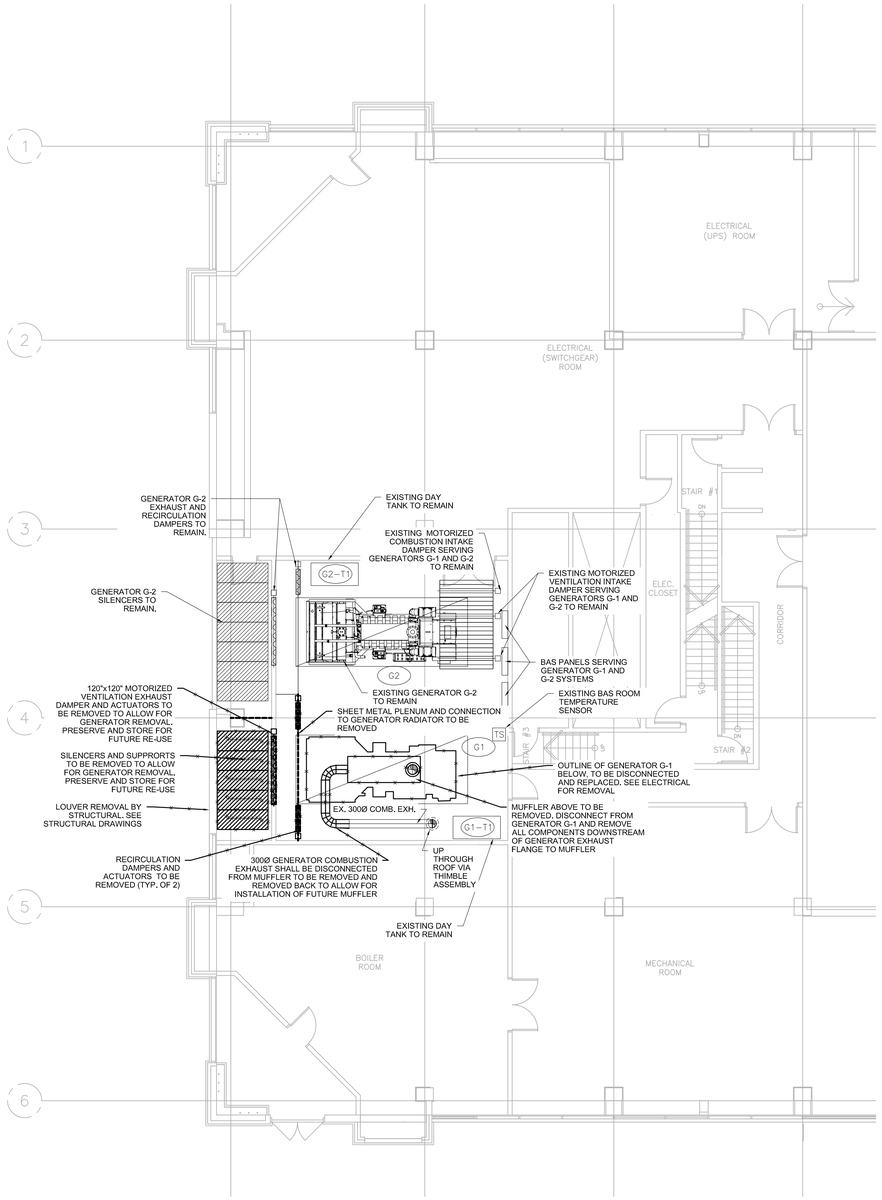
SHEET TITLE:

PENTHOUSE FLOOR PLAN - FUEL OIL

DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	AS INDICATED	DWG FILE:	

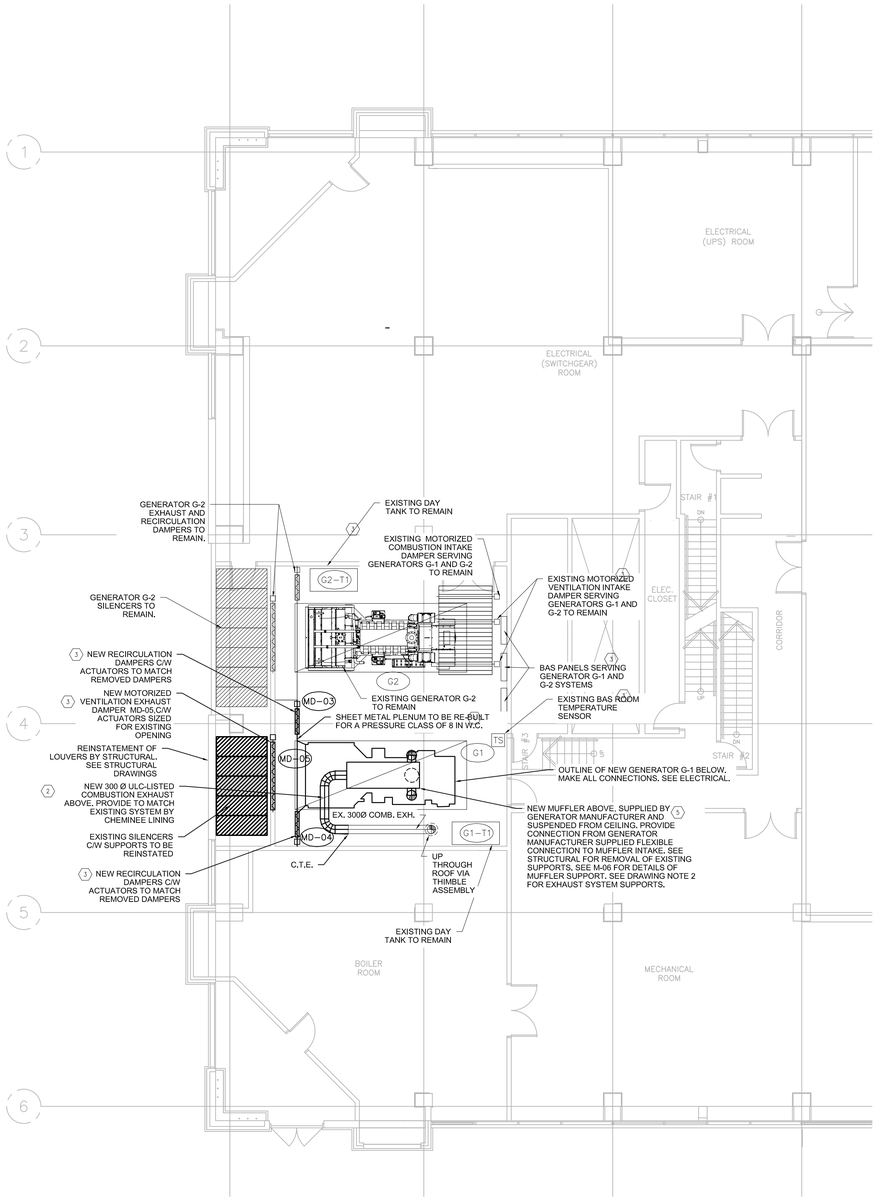
Project No: 135901001

Drawing No: M-3



1 PARTIAL PENTHOUSE FLOOR PLAN -VENTILATION DEMOLITION

SCALE: 1:100



2 PARTIAL PENTHOUSE FLOOR PLAN - VENTILATION NEW WORK

SCALE: 1;100

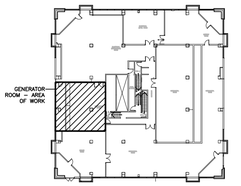
GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3. THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN
2. IT IS CRITICAL THAT REDUNDANCY AND RELIABILITY OF BUILDING EMERGENCY POWER SUPPLIES BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED THAT IMPACTS THE OPERATION OF MORE THAN ONE GENERATOR, EXCEPT AS DESCRIBED UNDER AN APPROVED METHOD OF PROCEDURE (MOP) WHICH SHALL BE PREPARED BY THE CONTRACTOR, AND SUBMITTED AT LEAST THIRTY (30) DAYS IN ADVANCE OF SCHEDULED WORK, TO BE APPROVED BY BOTH THE OWNER AND THE OWNER'S ENGINEER, CONTRACTOR SHALL PROTECT FUEL, AIR AND EXHAUST COMPONENTS AND PIPING SERVING GENERATOR G-2 WHILE PERFORMING WORK ON G-1.
3. A DRAIN PIPE FROM THE EXHAUST MUFFLER SHALL BE EXTENDED TO A LOCATION OF THE CITY'S PREFERENCE WHERE IT SHALL TERMINATE WITH A VALVE AND CAP. THE DRAIN SHALL BE PERIODICALLY EMPTIED (INTO A BUCKET OR OTHER VESSEL, AND NOT TO A BUILDING DRAIN).

DRAWING NOTES

1. CONTRACTOR SHALL PROVIDE DESIGN OF SHEET METAL PLENUM BASED ON SITE CONDITIONS AND CONTRACTOR'S SELECTED GENERATOR TO INCORPORATE DAMPERS AND DEVICES AS SHOWN. CONTRACTOR SHALL SUBMIT STAMPED ENGINEERING DRAWINGS FOR CONSULTANT'S REVIEW. PLENUM SHALL BE DESIGNED AND CONSTRUCTED ACCORDING TO SMACNA STANDARDS FOR INDUSTRIAL DUCT CONSTRUCTION FOR 500 PA (2 IN. W.C.) PRESSURE CLASS
2. CONTRACTOR SHALL PROVIDE DESIGN OF NEW COMBUSTION EXHAUST SUPPORTS, UTILIZING THE EXHAUST SYSTEM MANUFACTURER'S STANDARD SUPPORT SYSTEM AND COORDINATED WITH EXISTING SUPPORTS FOR THE PORTION OF THE EXHAUST SYSTEM NOT REMOVED. CONTRACTOR SHALL SUBMIT PLANS FOR REVIEW BY THE OWNER AND OWNER'S ENGINEER.
3. EXISTING BAS CONTROLS FOR DAMPER OPERATIONS SHALL BE MODIFIED. SEE M-05 FOR ROOM VENTILATION SEQUENCE OF OPERATION
4. SEE 4/S-3, 2/S-4 AND M-6 FOR DETAILS OF GENERATOR MUFFLER/SILENCER SUPPORTS AND CONNECTION OF MUFFLER TO GENERATOR
5. GENERATOR COMBUSTION SILENCER/MUFFLER AND CONNECTIONS FROM SILENCER TO GENERATOR ARE SHOWN BASED ON CAT C32 BASIS OF DESIGN WITH DUAL EXHAUST. CONTRACTOR SHALL COORDINATE WITH GENERATOR MANUFACTURER TO PROVIDE ALL REQUIRED CONNECTIONS FROM GENERATOR TO MUFFLER, INCLUDING FLEXIBLE EXPANSION JOINTS AND VENT CONNECTIONS TO SUIT CHOSEN GENERATOR AND GENERATOR SILENCER.

KEY PLAN – PENTHOUSE LEVEL:



NORTH

Stantec

TORONTO

GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION

AT 703 DON MILLS, NORTH YORK

CoT REF. NO.: TBD

REV	DESCRIPTION	DATE	BY
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3	RE-ISSUED FOR 80%	2025-02-07	AC
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

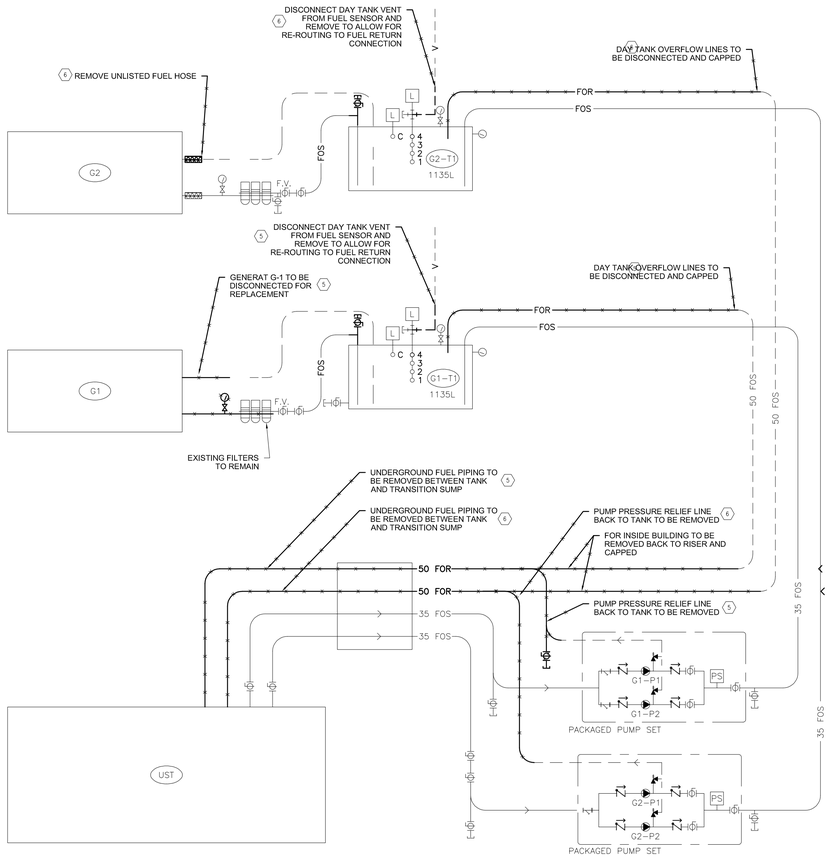
SHEET TITLE:

PENTHOUSE FLOOR PLAN - VENTILATION

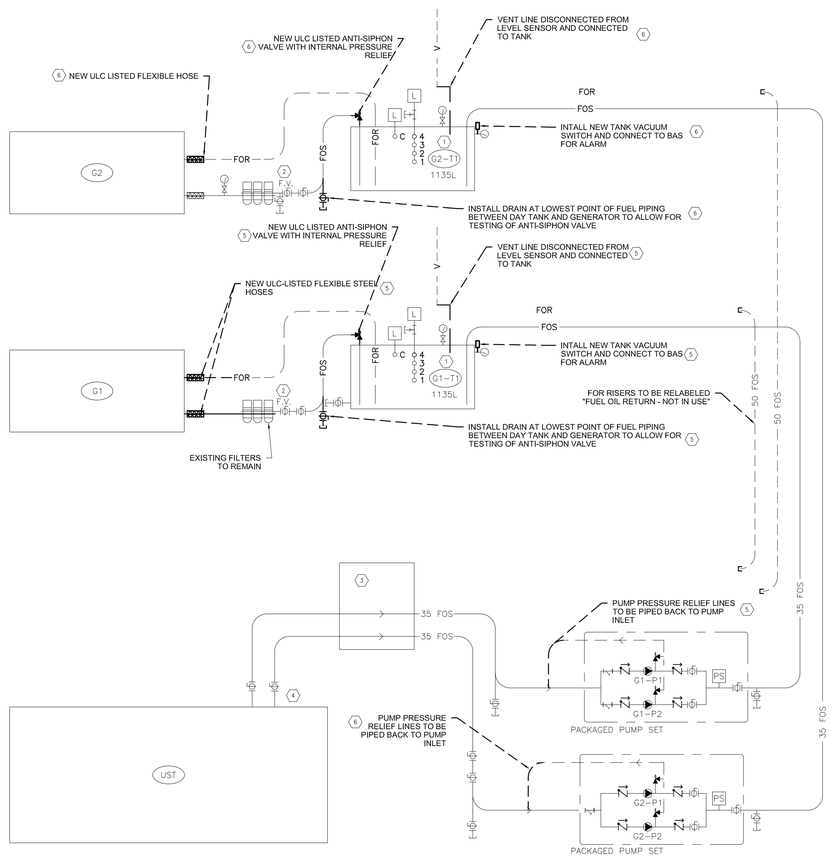
DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	AS INDICATED	DWG FILE:	

Project No: 135901001

Drawing No: M-4



1 FUEL OIL SCHEMATIC - REMOVALS
N.T.S.



2 FUEL OIL SCHEMATIC - NEW WORK
N.T.S.

VENTILATION SEQUENCE OF OPERATION

CONTRACTOR SHALL RETAIN THE OWNER'S BUILDING AUTOMATION CONTRACTOR (AMBIENT MECHANICAL), TO MODIFY EXISTING GENERATOR ROOM VENTILATION CONTROLS TO ENSURE THAT THE FOLLOWING SEQUENCE IS MET.

DAMPER CONFIGURATION
1. ALL NEW DAMPER ACTUATORS SHALL BE SPRING-RETURN TYPE, SIZED TO ENSURE THAT THEIR RESPECTIVE DAMPER WILL REACH SPRING-RETURN POSITION IN UNDER 30s AFTER A LOSS OF POWER.
2. COMBUSTION AIR, VENTILATION AIR, AND EXHAUST AIR DAMPERS SHALL BE ARRANGED FAIL-OPEN
   2.1. COMBUSTION AIR AND VENTILATION AIR ARE EXISTING TO REMAIN.
3. RECIRCULATION AIR DAMPERS SHALL BE ARRANGED FAIL-CLOSED
4. EACH INDIVIDUAL DAMPER BANK SHALL BE PROVIDED WITH A POSITION FEEDBACK SIGNAL TO THE BAS. A DAMPER MISMATCH ALARM SHALL RAISED WHEN POSITION IS GREATER THAN +/- 10% OF DAMPER COMMAND FOR 10 MINUTES OR MORE.
5. ALL NEW DAMPERS SHALL BE PROVIDED WITH A POSITION SWITCH REPRESENTING 85% OF THEIR SPRING-RETURN POSITION, WHERE A 100% SPRING-CLOSED DAMPER IS A FULLY CLOSED DAMPER, AND A 100% SPRING-OPEN DAMPER IS A FULLY OPEN DAMPER. THESE POSITION SWITCHES SHALL BE CAPABLE OF PROVIDING A SIGNAL EVEN WHEN THE ASSOCIATED DAMPER ACTUATORS DO NOT HAVE POWER.

ROOM VENTILATION
1. GENERATORS GEN-1 AND GEN-2 SHARE COMBUSTION AND VENTILATION INTAKE DAMPERS, EACH GENERATOR HAS A SEPARATE SET OF EXHAUST AND RECIRCULATION DAMPERS
2. ON A CALL FOR EITHER GEN-1 OR GEN-2, THE COMBUSTION AND VENTILATION DAMPERS SHALL GO TO THEIR FULL-OPEN POSITIONS.
3. ON A CALL FOR GEN-1, EXHAUST DAMPER MD-05 SHALL GO TO THE FULL-OPEN POSITION. RECIRCULATION DAMPERS MD-03 AND MD-04 SHALL GO TO THE FULL-CLOSED POSITION.
4. ON A CALL FOR GEN-2, IT'S EXHAUST DAMPER SHALL GO TO THE FULL-OPEN POSITION. RECIRCULATION DAMPERS SHALL GO TO THE FULL-CLOSED POSITION.
5. AN ALARM SHALL BE RAISED FOR ANY DAMPER THAT HAS NOT MET IT'S 85% POSITION SWITCH AFTER 30s
6. AFTER 30s, VENTILATION AND RECIRCULATION DAMPERS SHALL MODULATE TO MAINTAIN THE GENERATOR ROOM TEMPERATURE TO A MAXIMUM TEMPERATURE OF 30 DEGREES CELSIUS AND A MINIMUM TEMPERATURE OF 18 DEGREES CELSIUS
7. WHEN THERE IS NO CALL FOR EITHER GENERATOR THE COMBUSTION, VENTILATION, AND EXHAUST DAMPERS SHALL GO TO THE CLOSED POSITIONS. RECIRCULATION DAMPERS SHALL GO TO THE OPEN POSITION.

FUEL TRANSFER SEQUENCE OF OPERATION

CONTRACTOR SHALL RETAIN THE FUEL TRANSFER CONTROLS MANUFACTURER, ALBANY PUMP CO., TO MODIFY EXISTING FUEL TRANSFER CONTROLS TO ENSURE THAT THE FOLLOWING SEQUENCE IS MET. CONTACT STEVE BENNET, SBENNET@ALBANYPUMP.COM

TO BE APPLIED SEPARATELY TO EACH TRANSFER PUMPSET:

LEAD PUMP SELECTION
1. WHEN P1-AUTO-P2 SWITCH IS IN THE AUTO POSITION, PUMPS WILL ALTERNATE LEAD-LAG DESIGNATION AT EACH PUMP RUN COMMAND

LEVEL CONTROL
1. LEAD PUMP SHALL START WHEN TANK LEVEL IS BELOW REF 2.
2. LAG PUMP SHALL START WHEN TANK LEVEL IS BELOW REF. 1
3. ALL PUMPS SHALL STOP WHEN TANK LEVEL AT OR ABOVE REF. 3 (SEE NOTE 1)

HIGH LEVEL ALARM AND STOP
1. ALL PUMPS SHALL STOP WHEN TANK LEVEL AT OR ABOVE EITHER OF REF. 4 OR REF. C AND A HIGH LEVEL ALARM SHALL BE RAISED.

HIGH PRESSURE ALARM AND STOP
1. ALL PUMPS SHALL STOP AND AN ALARM BE RAISED WHEN THE PUMP DISCHARGE PRESSURE EXCEEDS 115% OF NORMAL OPERATING PRESSURE FOR 30S.
2. PUMPS SHALL ONLY RESTART WHEN HIGH PRESSURE CONDITION IS REMOVED AND ALARM IS MANUALLY RESET AT PUMP CONTROL PANEL

LOW PRESSURE ALARM AND STOP
1. ALL PUMPS SHALL STOP AND AN ALARM BE RAISED WHEN THE PUMP DISCHARGE PRESSURE DROPS BELOW 50% OF NORMAL OPERATING PRESSURE

2. PUMPS SHALL RESTART AUTOMATICALLY WHEN LOW PRESSURE CONDITION IS REMOVED. ALARM SHALL ONLY BE CLEARED VIA MANUAL RESET AT PUMP CONTROL PANEL

DAY TANK LEVEL CONTROLS		
REF.	DESCRIPTION	SETTINGS AND ACTIONS
C	CRITICAL HIGH ALARM	95% TANK VOLUME DAY TANK HIGH LEVEL ALARM AND STOP PUMPS
4	HIGH ALARM	95% TANK VOLUME DAY TANK HIGH LEVEL ALARM AND STOP PUMPS
3	PUMP STOP	90% TANK VOLUME STOP PUMPS
2	LEAD PUMP START	70% TANK VOLUME START LEAD PUMP
1	LAG PUMP START AND ALARM	60% TANK VOLUME LEAD PUMP FAILURE ALARM AND START LAG PUMP

3 FUEL OIL CONTROL MODIFICATIONS
N.T.S.

GENERAL NOTES:

1. REFER TO PROPOSED WORK PHASING PLAN ON DRAWING E-3. THE PLAN IS NOT INTENDED TO BE ALL-ENCOMPASSING, BUT RATHER TO INDICATE THE INTENT AND CUT-OVER REQUIREMENTS ONLY. THE PHASING PLAN DOES NOT RELIEVE THE CONTRACTOR OF REVIEWING ALL ON-SITE CONDITIONS AS THEY PERTAIN TO THE WORK DESCRIBED HEREIN.

2. IT IS CRITICAL THAT REDUNDANCY AND RELIABILITY OF BUILDING EMERGENCY POWER SUPPLIES BE MAINTAINED AT ALL TIMES. NO WORK SHALL BE PERFORMED THAT IMPACTS THE OPERATION OF MORE THAN ONE GENERATOR, EXCEPT AS DESCRIBED UNDER AN APPROVED METHOD OF PROCEDURE (MOP) WHICH SHALL BE PREPARED BY THE CONTRACTOR, AND SUBMITTED AT LEAST THIRTY (30) DAYS IN ADVANCE OF SCHEDULED WORK, TO BE APPROVED BY BOTH THE OWNER AND THE OWNER'S ENGINEER.

3. PRIOR TO ALTERATION, DISCONNECTION, SHUT DOWN OF, OR ANY ACTION THAT WOULD INTERRUPT THE FUEL SUPPLY TO GENERATOR G-1 OR G-2, THE CONTRACTOR SHALL CONDUCT A SITE INVESTIGATION TO IDENTIFY ALL FUEL LINES AS SERVING EITHER GENERATOR G-1 OR GENERATOR G-2. CONTRACTOR SHALL PROVIDE CLEAR VISUAL MARKING ON EACH LENGTH OF PIPING AT A MAXIMUM SPACING OF 10M. CONTRACTOR SHALL IDENTIFY PIPING UP TO UNDERGROUND PIPING TRANSITIONS WITH VISUAL INSPECTIONS. AT TRANSITION TO UNDERGROUND PIPING TRANSITIONS, CONTRACTOR SHALL PRESSURIZE THE INTERSTITIAL SPACE OF EACH LENGTH OF FUEL PIPING ONE AT A TIME TO VERIFY END-TO-END TERMINATIONS AND IDENTIFY ORIGIN AND TERMINATION OF PIPING.

DRAWING NOTES:

1. EXISTING DOUBLE-WALLED TANK LISTED TO ULC-S602-2007.
2. EXISTING ULC LIST FIRE VALVE (MORRISON BROTHERS)
3. EXISTING ULC-LISTED TRANSITION SUMP WITH LEAK DETECTION.
4. EXISTING PIPING TERMINATES IN ULC-LISTED SUMPS AT EXISTING ULC-LISTED UNDERGROUND TANK
5. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP C.6.
6. SEE PHASING PLAN ON E-3. WORK IS CONSIDERED PART OF PHASING PLAN STEP D.14

NORTH

Stantec

TORONTO

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2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

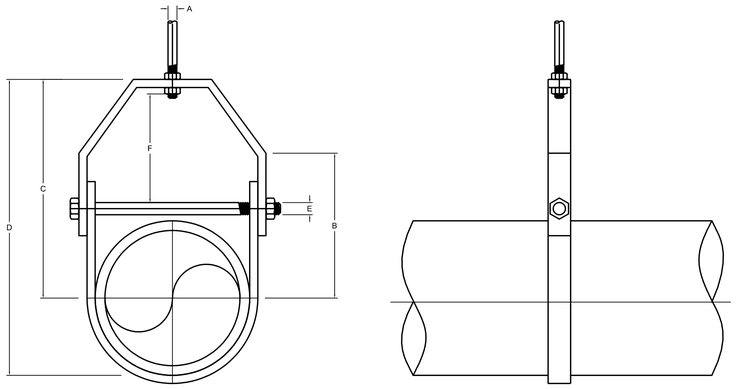
SHEET TITLE:

FUEL OIL SCHEMATICS

DRAWN BY: AC	DATE: MAR. 2025
DESIGNED BY: AC	CHECKED BY: GF
SCALE: N.T.S.	DWG FILE:

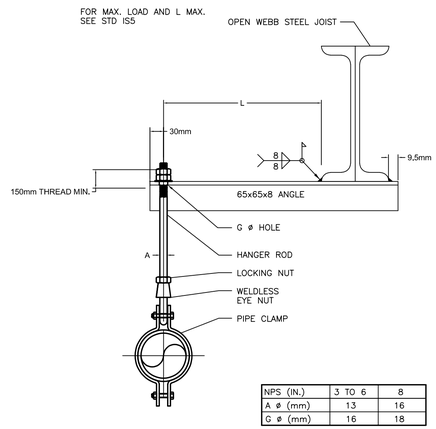
Project No: 135901001

Drawing No: M-5



ENGINEERING DATA				DIMENSION DATA				MATERIAL	
PIPE SIZE	REC HGR SPACING	HNAGER ROD DIA(A)	ROD TAKE-OUT(B)	C	D	E	F	UPPER	LOWER
15	SEE SPECIFICATION 20 05 29 PART 3.1	SEE SPECIFICATION 20 05 29 PART 3.1	32	44.5	58	7	7	16GAx7/8	16gax7/8
20			29	70	85	8	23	1/8 x 1	1/8 x 1
25			29	46	59	8	23	1/8 x 1 1/8	1/8 x 1 1/8
32			29	46	59	10	20	3/16 x 1	3/16 x 1
40			29	46	59	10	20	3/16 x 1	3/16 x 1
50			29	46	59	10	32	3/16 x 1	3/16 x 1
63			29	46	59	10	32	3/16 x 1 /1/4	3/16 x 1 1/4
75			29	46	59	12	42	3/16 x 1 /1/4	3/16 x 1 1/2
100			29	46	59	15	42	3/16 x 1 1 /2	3/16 x 1 1/2
150			29	46	59	15	50	5/16 x 1 /1/2	3/16 x 1 1/2
200			29	46	59	18	73	3/8 x 1 1/2	1/4 x1 1/2
250			29	46	59	20	73	3/8 x 2	1/4 x 2
300			29	46	59	20	73	1/2 x 2	2/3 x 2

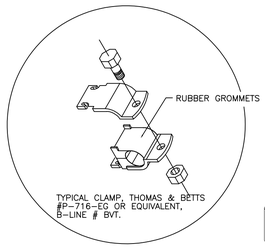
4 STANDARD CLEVIS HANGER
SCALE: N.T.S.



NPS (IN.)	3 TO 6	8
A ø (mm)	13	16
G ø (mm)	16	18

DESCRIPTION	MYATT	GRINNELL	C & P	HUNT
PIPE CLAMP	133	212	175	60
MACHINE ROD OR	–	–	133	–
ALL-THREAD ROD	432	146	94	99
WELDLESS EYE NUT	480	290	279	88

3 WELDED BRACKET WITH HANGER
SCALE: N.T.S.

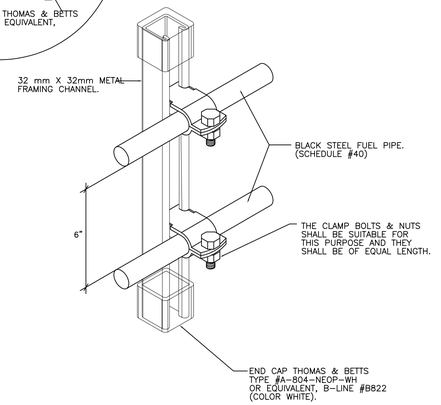


REMARKS:

1- THE GALVANISED FRAMING CHANNEL SHALL BE CUT AT RIGHT ANGLES AND FILED PRIOR TO INSTALLING END CAPS.

2- THE WHITE END CAPS SHALL BE INSTALLED ON THE CHANNEL PRIOR TO WALL MOUNTING.

3- FUEL LINES SHALL BE PAINTED PRIOR TO INSTALLATION. CHANNELS & BRACKETS SHALL NOT BE PAINTED.



1 TYP. MOUNTING OF SUPPLY & RETURN FUEL LINES
SCALE: N.T.S.

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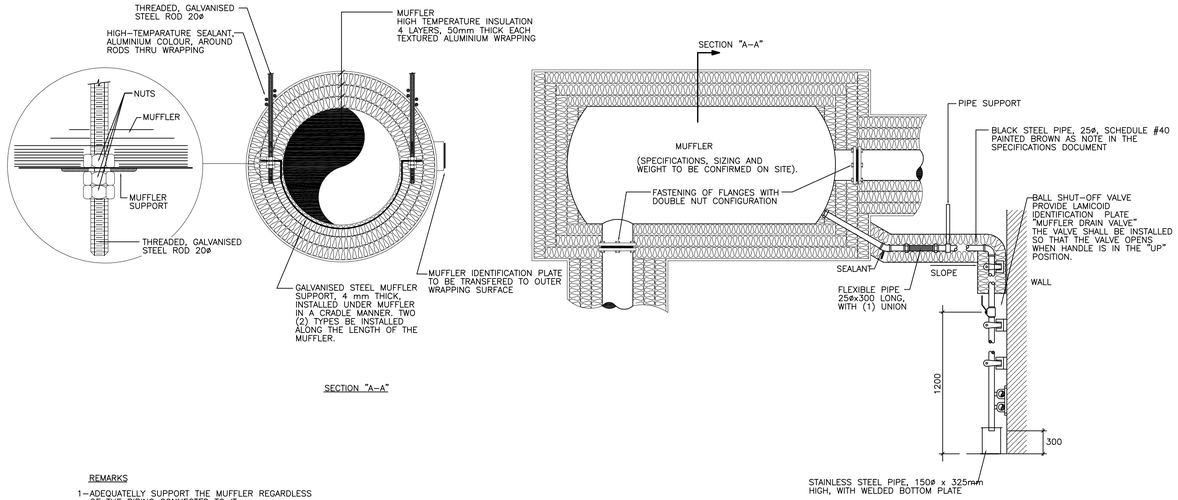
GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION
AT 703 DON MILLS, NORTH YORK
CoT REF. NO.: TBD

REV	DESCRIPTION	DATE	BY
6	ISSUED FOR TENDER	2025-04-15	KW
5	ISSUED FOR PERMIT	2025-03-28	AC
4	ISSUED FOR 100% REVIEW	2025-03-19	AC
3	RE-ISSUED FOR 80%	2025-02-07	AC
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

SHEET TITLE:

MECHANICAL DETAILS 1 FUEL PIPING

DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	1:250	DWG FILE:	
Project No:	135901001	Drawing No:	M-6



SECTION "A-A"

REMARKS

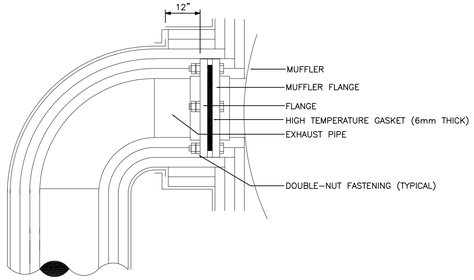
1-ADEQUATELLY SUPPORT THE MUFFLER REGARDLESS OF THE PIPING CONNECTED TO IT.

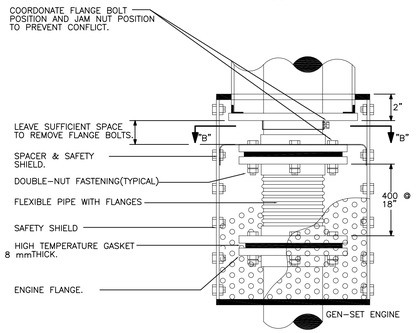
2-DO NOT WELD ANYTHING TO THE MUFFLER UNIT.

3-TRANSFER THE MUFFLER IDENTIFICATION PLATE TO THE WRAPPING SURFACE. DO NOT INSULATE AROUND IDENTIFICATION PLATE WHILE IT IS ON MUFFLER, THE IDENTIFICATION PLATE MUST BE REMOVED.

6 MUFFLER SUSPENSION AND DRAIN DETAIL

SCALE: N.T.S.





8 DETAILED INSTALLATION OF ENGINE EXHAUST PIPE

SCALE: N.T.S.

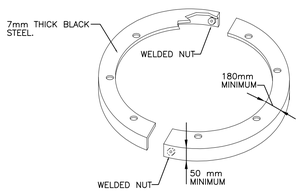
REMARKS

A) THE MUFFLER, THE FLEXIBLE PIPE AND THE FLEXIBLE PIPE SAFETY SHIELD SHALL BE SUPPLIED BY THE GEN-SET SUPPLIER AND INSTALLED BY THE MECHANICAL CONTRACTOR.

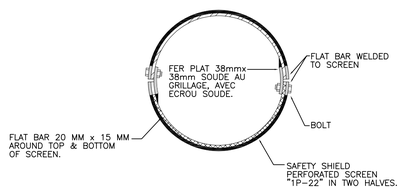
B) THE FLANGE FOLLOWING THE FLEXIBLE PIPE SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR.

C) THE FLEXIBLE PIPE SHALL BE PERFECTLY ALIGNED IN BOTH AXIS. IT SHALL NOT BE COMPRESSED AND/OR STRETCHED DURING INSTALLATION ON THE GEN-SET. THE EXHAUST SYSTEM SHALL BE INSTALLED IN THE PRESENCE OF THE GEN-SET MANUFACTURER. ALL FLEXIBLE PIPE ADJUSTEMENTS SHALL BE MADE BY THE GEN-SET MANUFACTURER IN COORDINATION WITH THE MECHANICAL CONTRACTOR.

D) REFER TO THE SPECIFICATIONS DOCUMENTS FOR MATERIAL CHARACTERISTICS.



SPACER-DETAIL



SECTION "B-B"
SAFETY SHIELD

5 DETAILED INSTALLATION OF ENGINE PIPE

SCALE: N.T.S.

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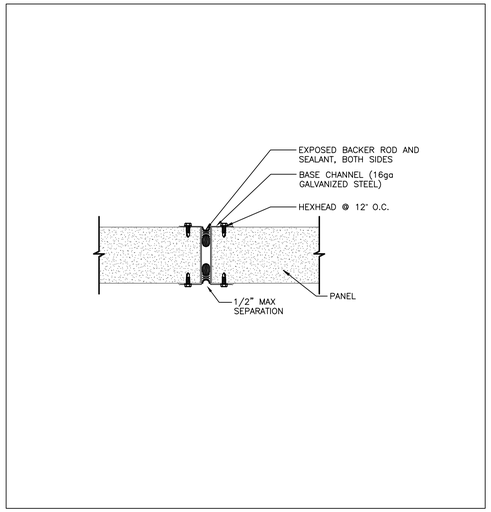
2	ISSUED FOR 80% REVIEW	2025-01-09	AC
1	ISSUED FOR 60% REVIEW	2024-11-05	AC

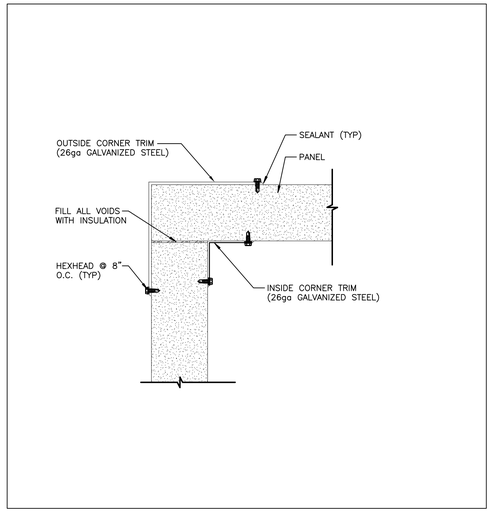
SHEET TITLE:

MECHANICAL DETAILS 2
COMBUSTION EXHAUST

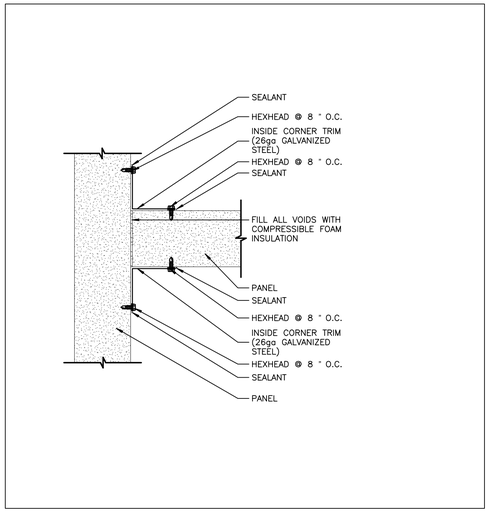
DRAWN BY: AC	DATE: MAR. 2025
DESIGNED BY: AC	CHECKED BY: GF
SCALE: AS NOTED	DWG FILE:
Project No: 135901001	Drawing No: M-7



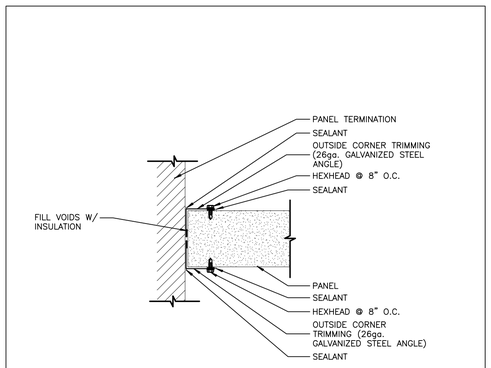
1 PLENUM PANLE BUTT JOINT DETAIL
SCALE: N.T.S.



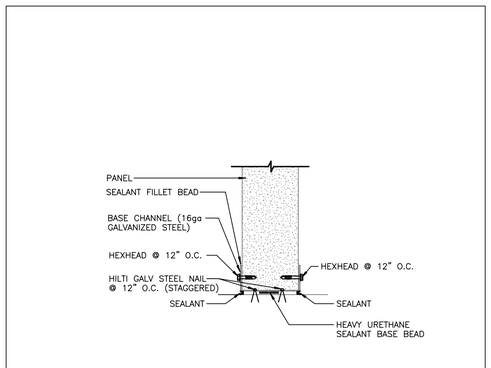
2 PLENUM PANEL CORNER JOINT DETAIL
SCALE: N.T.S.



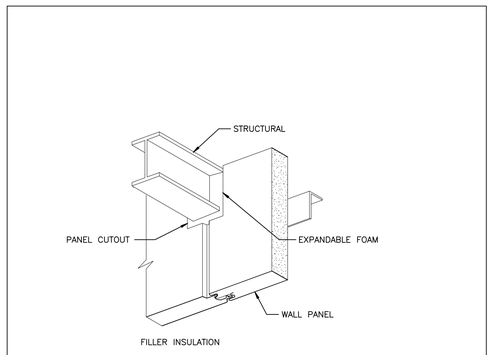
3 PLENUM PANEL JOINT DETAIL
SCALE: N.T.S.



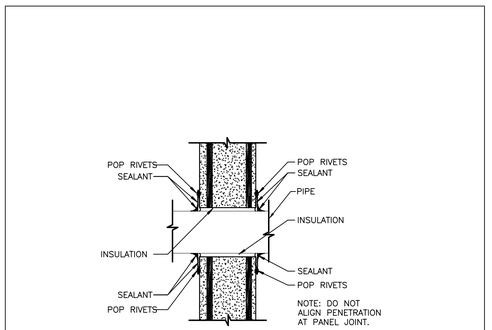
4 PLENUM PANEL TERMINATION DETAIL
SCALE: N.T.S.



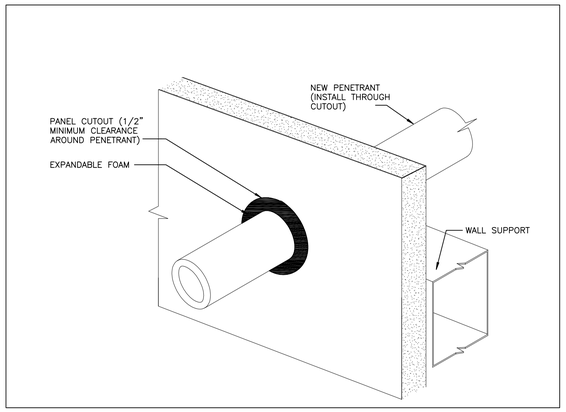
5 PLENUM PANEL BASE DETAIL
SCALE: N.T.S.



6 PLENUM PANEL STRUCTURAL PENETRATION
SCALE: N.T.S.

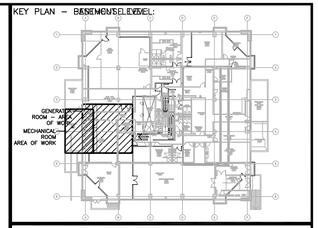


7 PLENUM PANEL PIPE PENETRATION
SCALE: N.T.S.



8 PLENUM PANEL PIPE PENETRATION
SCALE: N.T.S.

KEY PLAN – BASEMENT LEVEL:



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GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION
AT 703 DON MILLS, NORTH YORK
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1	ISSUED FOR 60% REVIEW	2024-11-05	AC

SHEET TITLE:

MECHANICAL DETAILS 3
EXHAUST PLENUM

DRAWN BY:	AC	DATE:	MAR. 2025
DESIGNED BY:	AC	CHECKED BY:	GF
SCALE:	AS NOTED	DWG FILE:	

Project No: 135901001

Drawing No: M-8

A. GENERAL NOTES

1. THE GENERAL NOTES AND TYPICAL DETAILS ARE APPLICABLE TO ALL PARTS OF THE PROJECT AND SHALL BE READ IN CONJUNCTION WITH THE DRAWINGS AND THE PROJECT SPECIFICATIONS.
2. USE ONLY THE LATEST ISSUES OF ANY GOVERNMENT CODES, STANDARDS OR REGULATIONS MENTIONED IN THE FOLLOWING NOTES, UNLESS OTHERWISE INDICATED.
3. NEW STRUCTURAL ELEMENTS SHOWN ON THESE DRAWINGS ARE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF O.REG. 332/12, AS AMENDED (ONTARIO BUILDING CODE 2024). ALL CONSTRUCTION, EXCEPT WHERE NOTED OTHERWISE, SHALL COMPLY WITH THAT SAME CODE.
4. INFORMATION REGARDING THE EXISTING BUILDING AND ITS RELATION TO THE NEW STRUCTURE HAS BEEN TAKEN FROM DRAWINGS OF THE EXISTING STRUCTURE, PROVIDED BY THE OWNER. CONSULTANT HAS NOT FIELD-VERIFIED ACCURACY OF OWNER'S DRAWINGS.
   THE CONTRACTOR SHALL VERIFY ALL DETAILS AND DIMENSIONS OF THE EXISTING STRUCTURE AND SHALL REPORT ANY DISCREPANCIES TO THE CONSULTANT BEFORE PROCEEDING WITH THE WORK. COMMENCEMENT OF THE WORK IMPLIES ACCEPTANCE OF THE EXISTING CONDITIONS.
5. DRAWINGS AND DETAILS ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MODIFICATIONS TO THE DESIGN NECESSARY TO SUIT SITE DIMENSIONS OR CONDITIONS SHALL BE SUBMITTED TO CONSULTANT FOR APPROVAL BEFORE PROCEEDING.
6. FOR DETAILS AND DIMENSIONS NOT GIVEN ON STRUCTURAL DRAWINGS SEE MECHANICAL AND ELECTRICAL DRAWINGS. VERIFY LOCATIONS AND DIMENSIONS OF ALL OPENINGS, PIPE SLEEVES, ETC. AS REQUIRED WITH THE MECHANICAL AND ELECTRICAL CONTRACTORS.
7. DO NOT CUT THROUGH, CORE-DRILL OR OTHERWISE ALTER ANY EXISTING OR NEW PART OF THE STRUCTURE WITHOUT PRIOR APPROVAL OF CONSULTANT. DO NOT CUT OR DAMAGE EMBEDDED REINFORCING STEEL OR CONDUITS WHEN INSTALLING ANCHORS OR CUTTING OPENINGS TO EXISTING CONC. OR MASONRY. SCAN OR X-RAY EXISTING CONC. OR MASONRY BEFORE DRILLING OR BEFORE CUTTING OPENINGS. INSTALL ANCHORS IN ACCORDANCE w/ MANUFACTURERS WRITTEN INSTRUCTION.
8. DO NOT EXCEED THE DESIGN LOADINGS INDICATED ON THESE DRAWINGS DURING CONSTRUCTION.
9. ALL DESIGN LOADINGS INDICATED ON THESE DRAWINGS ARE SPECIFIED (i.e. UNFACTORED SERVICE) LOADINGS UNLESS OTHERWISE INDICATED.
10. MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION STRESSES AND FOR SUFFICIENT TEMPORARY BRACING AND SHORING TO KEEP THE STRUCTURE PLUMB AND LEVEL DURING ALL PHASES OF WORK. ANY BRACING MEMBERS SHOWN ON STRUCTURAL DRAWINGS ARE THOSE REQUIRED FOR THE FINISHED STRUCTURE AND MAY NOT BE ADEQUATE FOR ERECTION PURPOSES.
11. ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE INDICATED.
12. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CO-ORDINATION OF SUBCONTRACTORS AND FOR ALL SITE DIMENSIONS.
13. DO NOT SCALE THE DRAWINGS.
14. CONTRACTOR TO CO-ORDINATE SEQUENCING OF CONSTRUCTION BASED ON ELECTRICAL AND MECHANICAL SCOPE OF WORK.
15. REMOVE ALL EXISTING FIXTURES (SUCH AS DUCTWORK, WIRES, CONDUITS ETC) TO ALLOW FOR THE INSTALLATION OF THE NEW STEEL BEAMS. REINSTATE FIXTURES AFTER STRUCTURAL FRAMING HAS BEEN INSTALLED.

B. PROTECTION, SHORING AND BRACING

1. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR PROTECTION OF THE NEW AND EXISTING STRUCTURE AND ITS OCCUPANTS DURING ALL PHASES OF CONSTRUCTION.
2. CONTRACTOR SHALL CARRY OUT A PRE-CONSTRUCTION VISUAL SURVEY OF THE CONDITION OF THE EXISTING STRUCTURE AND OTHER BUILDING COMPONENTS PRIOR TO COMMENCEMENT OF WORK.
3. VERIFY THE LOCATION OF UNDERGROUND, UNDER FLOOR OR EMBEDDED UTILITIES AND SERVICES THAT MAY INTERFERE WITH THE WORK, AND COORDINATE WITH THE OWNER, CONSULTANT AND OTHER AUTHORITIES AS MAY BE REQUIRED FOR THE PROTECTION, REMOVAL OR RELOCATION OF SUCH SERVICES.
4. CONTRACTOR SHALL SAFEGUARD AND PROTECT ALL EXISTING STRUCTURES, PUBLIC SPACES, UNDERGROUND UTILITIES, AND EXISTING CONDUITS, PIPES AND SERVICES THAT MAY BE AFFECTED BY THE CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF TEMPORARY SHORING AND BRACING. MAKE ADEQUATE PROVISIONS FOR CONSTRUCTION STRESSES. KEEP THE STRUCTURE PLUMB, LEVEL AND FREE OF CRACKS OR OTHER DISTRESS DURING ALL PHASES OF THE WORK.
6. SUBMIT SHOP DRAWINGS FOR ALL SHORING AND BRACING. DRAWINGS TO BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.
7. DO NOT DEVIATE FROM OR FIELD-ALTER SHORING AND BRACING INDICATED ON REVIEWED SHOP DRAWINGS WITHOUT PRIOR WRITTEN APPROVAL OF ENGINEER RESPONSIBLE FOR SHORING DESIGN. NOTIFY CONSULTANT OF ANY DEVIATIONS.
8. MAKE GOOD ANY DAMAGE RESULTING FROM WORK, TO THE SATISFACTION OF THE OWNER AND THE CONSULTANT.

C. STRUCTURAL STEEL

1. DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO CSA-S16-19.
2. ALL STRUCTURAL STEEL IS TO BE NEW AND SHALL CONFORM TO:
   -CSA G40.21M, GRADE 350W, UNO
   -CSA G40.21M, GRADE 300W FOR PLATES, CHANNELS AND ANGLES.
   -CSA G40.20M, GRADE 350W, CLASS C FOR HSS
   -ASTM 500 - GRADE (317W) FOR PIPE
3. ALL BOLTS ARE TO BE HIGH TENSILE STEEL CONFORMING TO ASTM SPECIFICATION A325 DESIGN REQUIREMENTS. USE BEARING TYPE CONNECTIONS (MINIMUM BOLTS - TWO M20 BOLTS PER CONNECTION) UNLESS OTHERWISE INDICATED. THREADS ARE TO BE EXCLUDED FROM SHEAR PLANES. ALL BOLTS SHALL BE PROPERLY PRE-TENSIONED. UNO.
4. ANCHOR BOLTS: F1554, 36 ksi, UNLESS OTHERWISE NOTED.
5. DO NOT CUT OR DAMAGE EMBEDDED REINFORCING STEEL OR CONDUITS WHEN INSTALLING ANCHORS TO EXISTING CONC. OR MASONRY. SCAN OR X-RAY EXISTING CONC. OR MASONRY BEFORE DRILLING. INSTALL ANCHORS IN ACCORDANCE w/ MANUFACTURER'S WRITTEN INSTRUCTIONS.
6. WELDING:
   a. WELDING WORK TO BE IN ACCORDANCE WITH CSA-W59-18.
   b. WELDING TO BE UNDERTAKEN ONLY BY WELDERS CERTIFIED BY CWB.
   c. WELDING ONLY TO BE UNDERTAKEN BY A FABRICATOR CERTIFIED TO CSA-W47.1-19.
   d. EXPOSED WELDS SHALL BE CONTINUOUS AND GROUND SMOOTH.
7. STEEL FABRICATOR SHALL DESIGN CONNECTIONS TO RESIST THE LOADS AND FORCES SHOWN ON THE DRAWINGS. ALL BEAM CONNECTIONS SHALL BE TWO-SIDED. IF NO CONNECTION FORCES ARE SHOWN, CONNECTIONS FOR NON-COMPOSITE BEAMS AND GIRDERS SHALL BE DESIGNED FOR THE GREATER OF:
   a. SHEAR FORCE CORRESPONDING WITH THE DISTRIBUTED FACTORED LOADS AND TRIBUTARY AREAS (PLUS INDICATED FACTORED CONCENTRATED LOADS) SHOWN ON THE DRAWINGS, AND
   b. SHEAR FORCE CORRESPONDING WITH 50% OF THE TOTAL UNIFORMLY DISTRIBUTED FACTORED LOAD FOR LATERALLY SUPPORTED BEAMS (AS TABULATED IN 'BEAM LOAD TABLES' IN CISC HANDBOOK OF STEEL CONSTRUCTION).

   SUBMIT SHOP DRAWINGS SHOWING DETAILS OF STEEL FABRICATION AND ERECTION, AND THE FACTORED DESIGN LOADS FOR EACH CONNECTION. SHOP DRAWINGS TO BE SIGNED AND SEALED BY A P.ENG. LICENSED IN THE PROVINCE OF ONTARIO.
8. PROVIDE ALL REQUIRED GUSSETS, SPACERS, FILLERS, SHIMS, LEVELLING AND BATTEN PLATES.
9. MAKE NO HOLES IN ANY STRUCTURAL STEEL MEMBER, OTHER THAN THOSE SHOWN ON REVIEWED SHOP DRAWINGS, WITHOUT APPROVAL BY THE CONSULTANT.
10. STRUCTURAL STEEL EXPOSED TO THE WEATHER (INCLUDING ALL MASONRY LINTELS) SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH CSA-G164-18-(R2003), WITH A MINIMUM ZINC COATING OF 600 GRAMS PER SQUARE METRE. ALL INTERIOR STEEL TO BE PRIME PAINTED UNLESS NOTED OTHERWISE.
11. REPAIR DAMAGED AREAS OF GALVANIZED SURFACES WITH TWO COATS OF ZINC-RICH PAINT.
12. CLEAN AND PREPARE SURFACES OF EXISTING STRUCTURAL STEEL MEMBERS PRIOR TO APPLYING PRIMER AND COATING SYSTEM.

D. CONCRETE

1. ALL CONCRETE TO CONFORM TO THE REQUIREMENTS OF CSA STANDARD A23.1.
2. ALL CONCRETE FORMWORK AND FALSEWORK TO CONFORM TO CSA-S269.1-16-(R2021).
3. ALL CONCRETE IS TO HAVE THE MINIMUM SPECIFIED 28 DAY COMPRESSIVE STRENGTH, WATER/CEMENTING MATERIALS RATIO, AND AIR CONTENT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD A23.1.
4. ALL CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 32 MPa, UNLESS NOTED OTHERWISE. THIS MINIMUM DOES NOT APPLY WHERE CONCRETE EXPOSURE CLASSIFICAITONS DICTATE A GREATER MINIMUM COMPRESSIVE STRENGTH REQUIREMENT.
5. ALL CONCRETE WHICH WILL BE SUBJECTED TO FREEZING AND THAWING OR SUBJECTED TO APPLICATIONS OF DE-ICING CHEMICALS IS TO HAVE THE 28 DAY COMPRESSIVE STRENGTH, WATER/CEMENTING MATERIALS RATIO, AND AIR CONTENT IN ACCORDANCE WITH THE REQUIREMENTS OF CSA STANDARD A23.1.
6. ALL CONCRETE SHALL BE NORMAL DENSITY CONCRETE AND CONFORMING TO THE FOLLOWING UNLESS NOTED OTHERWISE

LOCATION	EXPOSURE	MIN fc@28	MAX. AGGR.	REMARKS
INTERIOR REINFORCED CONCRETE	N	25	20	-

:

7. SUBMIT MIX DESIGNS FOR EACH CLASS OF CONCRETE TO BE USED ON THE PROJECT.
8. ADMIXTURES THAT CONTAIN CHLORIDES SHALL NOT BE USED.
9. FOR CLEAR COVER REFER TO PAD EXTENSION DETAIL.
10. BONDING NEW CONCRETE TO EXISTING CONCRETE:
    a. UNLESS SHOWN OTHERWISE, ALL EXISTING CONCRETE SUBSTRATES TO BE BONDED TO NEW CONCRETE SHALL BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 6mm, AND SHALL BE CLEANED OF ALL DIRT, RUST AND LAITENCE.
    b. DO NOT CUT EXISTING REINFORCING BARS WHICH INTERSECT JOINTS OF NEW-TO-EXISTING CONCRETE.
    c. PREPARED SURFACES OF EXISTING CONCRETE SHALL BE THOROUGHLY WETTED DOWN WITH POTABLE WATER FOR NOT LESS THAN ONE (1) HOUR PRIOR TO PLACEMENT OF CONCRETE.
    d. PUDDLES AND/OR FREE WATER SHALL BE BLOWN CLEAR OF THE REPAIR AREA IMMEDIATELY BEFORE PLACEMENT OF CONCRETE.
    e. CONCRETE SUBSTRATE MUST BE CLEAN, SOUND, AND IN A SATURATED SURFACE DRY CONDITION AT TIME OF APPLICATION.
    f. TEMPERATURE OF SLAB AND AIR TEMPERATURE MUST NOT BE BELOW +10°C.
11. DO NOT PLACE FOOTINGS, WALLS AND SLABS IN ONE CONTINUOUS POUR THAT WOULD EXCEED 30 METRES IN LENGTH. CONTRACTOR TO SUBMIT PROPOSED LOCATIONS OF CONSTRUCTION JOINTS FOR APPROVAL PRIOR TO START OF WORK.
12. PROVIDE 20 MM CHAMFER AT ALL EXPOSED CORNERS AND EDGES UNLESS OTHERWISE NOTED.
13. OPENINGS AND SLEEVES:
    a. ALL OPENINGS SHALL BE FORMED OR SLEEVED PRIOR TO PLACING CONCRETE
    b. PROVIDE ADDITIONAL REINFORCING AT OPENINGS AS SHOWN OR DIRECTED
    c. OBTAIN CONSULTANT APPROVAL FOR ANY OPENINGS REQUIRED BUT NOT SHOWN ON STRUCTURAL DRAWINGS
    d. MAINTAIN SPECIFIED CLEAR CONCRETE COVER TO REINFORCING STEEL ADJACENT TO OPENINGS OR CONDUITS.
14. NO HOLES SHALL BE MADE THROUGH CONCRETE WORK OTHER THAT THOSE INDICATED ON THE STRUCTURAL DRAWINGS, WITHOUT APPROVAL FROM THE ENGINEER.
15. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL AND OTHER TRADES DRAWINGS FOR SIZE AND LOCATION OF ALL CURBS AND PADS. REINFORCE AS PER TYPICAL DETAILS UNLESS NOTED OTHERWISE.
16. PROVIDE MACHINE TROWEL FINISH TO INTERIOR SLABS, BROOM FINISH TO EXTERIOR SLABS.
17. PROVIDE MINIMUM SEVEN (7) DAY WET BURLAP CURE TO ALL SLABS AND STAIRS.
18. NON-SHRINK GROUT: PREMIXED CEMENTIOUS COMPOUND, NONMETALLIC AGGREGATES, 50 MPa COMPRESSIVE STRENGTH AT 28 DAY.

E. REINFORCING STEEL

1. CONFORM TO THE REQUIREMENTS OF CSA STANDARDS A23.1 & A23.3.
2. REINFORCING STEEL SHALL BE DEFORMED BAR CONFORMING TO CSA STANDARD G30.18-M92, GRADE 400R, UNO.
3. REINFORCING STEEL SPECIFIED TO BE WELDED SHALL CONFORM TO CSA STANDARD G30.18-M92, GRADE 400W, UNO.
4. BAR MARKS WITH PREFIX 'S' DENOTES STAINLESS STEEL BARS.
5. REINFORCING STEEL IS TO BE DETAILED AND BENT AS OUTLINED IN THE REINFORCING STEEL MANUAL OF STANDARD PRACTICE PUBLISHED BY THE REINFORCING STEEL INSTITUTE OF CANADA.
6. SUBMIT SHOP DRAWINGS SHOWING PLACEMENT AND DETAILS OF ALL REINFORCING STEEL.
   DRAW ALL WALLS IN FULL ELEVATION, AND SLABS WITH TOP AND BOTTOM BARS ON SEPARATE PLANS.
7. DO NOT FIELD-CUT OR FIELD-BEND BARS WITHOUT ENGINEER'S APPROVAL.
8. PROVIDE CHAIRS, SPACER BARS, SUPPORT BARS AND OTHER ACCESSORIES TO SUPPORT REINFORCING IN ACCORDANCE WITH A23.1 AND A23.3. ALL THE WIRE, CHAIRS AND BAR SUPPORTS FOR FOUNDATIONS AND FOR EXPOSED CONCRETE SHALL BE NON-METALLIC OR COATED.
9. PROVIDE CLASS 'B' TENSION LAP SPLICES UNLESS NOTED OTHERWISE.
   ALL SPLICE LOCATIONS SHALL BE TO THE APPROVAL OF THE CONSULTANT.
10. LAP SPLICES IN WELDED WIRE MESH SHALL NOT BE LESS THAN 200 mm, AS MEASURED BETWEEN THE OUTERMOST CROSS-WIRES OF EACH FABRIC SHEET.
11. BAR LAPS IN REINFORCED MASONRY TO BE NOT LESS THAN 40 BAR DIAMETERS, AND SHALL BE LOCATED AT FLOOR LEVELS ONLY.
12. DOWELS TO EXISTING CONCRETE SHALL USE THE HILTI "RE500" DOWELING SYSTEM UNLESS NOTED OTHERWISE. COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.
13. PROVIDE ONE 15M NOSING BAR FOR ALL SILLS, LEDGES, AND STEPS, UNLESS NOTED OTHERWISE.
14. PROVIDE ONE CONTINUOUS 15M TOP AND BOTTOM REINFORCING BARS AT ALL EDGES OF SLABS. THIS REINFORCING MAY BE PROVIDED BY MODIFYING THE BARS SHOWN ON PLAN OR SCHEDULE, OR BY PROVIDING ADDITIONAL REINFORCING.
15. PROVIDE MINIMUM 2-20M VERTICAL AT EACH END, TEE AND CORNER OF ALL REINFORCED CONCRETE WALLS UNO.
16. REINFORCING STEEL IN MASONRY BOND BEAMS AND LINTELS SHALL BE MIN. 15M BARS CONTINUOUS (WITHOUT SPLICES). PROVIDE STANDARD HOOKS AT BOTH ENDS TO BARS IN MASONRY LINTELS. PROVIDE 90-DEGREE "L-BARS" AT CORNERS IN MASONRY BOND BEAMS, WITH LAPS OF 40 BAR DIAMETERS.

F. GROUT

1. NON-SHRINK GROUT: PREMIXED CEMENTIOUS COMPOUND, NONMETALLIC AGGREGATES, 40 MPa COMPRESSIVE STRENGTH AT 28 DAYS.

G. TESTING AND INSPECTION

1. THE CONTRACTOR SHALL ARRANGE FOR THE FOLLOWING ITEMS TO BE INSPECTED OR TESTED BY AN INDEPENDENT THIRD-PARTY INSPECTION/TESTING AGENCY ACCEPTABLE TO THE OWNER AND THE CONSULTANT. COPIES OF ALL TEST REPORTS SHALL BE FORWARDED TO THE OWNER AND CONSULTANT ON THE SAME DAY TESTS ARE MADE. THE ITEMS TO BE TESTED SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:
   a. CAST-IN-PLACE CONCRETE:
      TESTING SHALL BE IN ACCORDANCE WITH CSA-A23.1/A23.2, AND SHALL INCLUDE AIR CONTENT, SLUMP AND AGE PRIOR TO PLACEMENT AND COMPRESSIVE STRENGTH. CONTRACTOR TO MAINTAIN RECORDS OF POUR DATES, TESTING PERFORMED, CLASS OF CONCRETE USED, AND TEST RESULTS FOR ALL ITEMS PLACED. ALL MIX DESIGNS SHALL BE REVIEWED BY THE DESIGNATED TESTING AGENCY.
   b. REINFORCING STEEL (FOR CONCRETE AND MASONRY):
      PERFORM VISUAL INSPECTION OF BAR SIZE, GRADE, SPACING, COVER, CHAIRS, TIES, COATINGS (IF ANY) AND TOLERANCES FOR EACH CONCRETE PLACEMENT. BASIS OF INSPECTION WILL BE FINAL REVIEWED SHOP DRAWINGS.
   c. STRUCTURAL STEEL:
      PERFORM VISUAL INSPECTION OF ALL WELDS, TORQUE TESTING OF BOLTED CONNECTIONS AND CHECK ON BEARING, PLUMBNESS, ALIGNMENT AND PAINTING. BASIS OF INSPECTION SHALL BE FINAL REVIEWED SHOP DRAWINGS.
      PERFORM NON-DESTRUCTIVE TESTING OF WELDS WHERE RESULTS OF VISUAL INSPECTION ARE NOT ACCEPTABLE OR INCONCLUSIVE.

H. RECORD DRAWINGS

1. CONTRACTOR SHALL MAINTAIN TWO SETS OF RECORD DRAWINGS, SHOWING AND CERTIFYING AS-BUILT CONDITIONS OF ALL ASPECTS OF THE STRUCTURE.
2. MAKE DRAWINGS AVAILABLE ON SITE FOR REVIEW DURING CONSTRUCTION, AND SUBMIT 1 COPY TO CONSULTANT UPON PROJECT COMPLETION.

J. DESIGN LOAD (2024 OBC)

IMPORTANCE CATEGORY: NORMAL

1. LOCATION :TORONTO (NORTH YORK), ONTARIO
2. WIND LOAD (UNFACTORED):

   HOURLY WIND PRESSURE
   q(1/50) ..... 0.44 kPa
   q(1/10) ..... 0.34 kPa

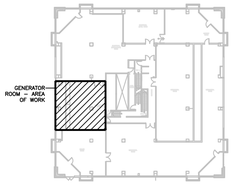
H. ABBREVIATIONS

ADD'L	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
ALT	ALTERNATE
ARCH	ARCHITECTURAL
B	BOTTOM
BC	BOTTOM CHORD
BLDG	BUILDING
BLK	BLOCK
BLL	BOTTOM LOWER LAYER
BM	BEAM
BOT	BOTTOM
BRG	BEARING
BT	BENT
BUL	BOTTOM UPPER LAYER
C	COLUMN OR CHANNEL
C/C	CENTER TO CENTER
C/W	COMPLETE WITH (INCLUDING)
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT OR CONNECTION
CNT	CORE NOMINAL THICKNESS
CONT	CONTINUOUS
CSJ	CONSTRUCTION JOINT
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DL	DEAD LOAD
DN	DOWN
DO	DITTO
DP	DEEP
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP. JT.	EXPANSION JOINT
EXT.	EXTERIOR
FACT	FACTORED
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FAR FACE
FIN	FINISHED
FL	FULL LENGTH OR FACTORED LOAD
FT	FOOT OR FEET
FTG	FOOTING
FUT	FUTURE
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GND	GROUND
H	HORIZONTAL
HEF	HORIZONTAL EACH FACE
HOR	HORIZONTAL
HP	HIGH POINT
HSS	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH OR INCHES
INCL	INCLUDING
INT	INTERIOR
JT	JOINT
KO	KNOCKOUT
L	STEEL ANGLE
LG	LENGTH OR LONG
LL	LOWER LAYER OR LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LP	LOW POINT
LW	LONG WAY
M	MIDDLE
MAX	MAXIMUM
MECH	MECHANICAL
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
mm	MILLIMETERS
MO	CLEAR MASONRY OPENING
MPDD	MODIFIED PROCTOR DRY DENSITY
NF	NEAR FACE
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OPP/H	OPPOSITE HAND
OWSJ	OPEN WEB STEEL JOIST
PC	PRECAST OR PRESTRESSED CONC.
PED	PEDESTAL
PL	PLATE PROJ PROJECTION
RC	REINFORCED CONCRETE
RD	ROOF DRAIN
REINF	REINFORCING
REQ'D	REQUIRED
REV	REVISION
RO	ROUGH OPENING
RW	REINFORCED WITH
SEC	SECTION
SF	SQUARE FOOT
SIM	SIMILAR
SL	SLAB
SMR	STANDARD MASONRY REINFORCING
SPDD	STANDARD PROCTOR DRY DENSITY
SOG	SLAB ON GRADE
SPEC	SPECIFICATIONS
STAGG	STAGGERED
STD	STANDARD
STIF	STIFFENER
STR	STRAIGHT
STRUCT	STRUCTURAL
SYMM	SYMMETRICAL
T	TOP
T&B	TOP AND BOTTOM
TC	TOP CHORD
TEMP	TEMPERATURE
TJ	TIE JOIST
TLL	TOP LOWER LAYER
TOS	TOP OF STEEL
TRANS	TRANSVERSE
TS	TUBE SECTION
TUL	TOP UPPER LAYER
TYP	TYPICAL
U/S	UNDERSIDE
UL	UPPER LAYER
UNO	UNLESS NOTED OTHERWISE
VEF	VERTICAL EACH FACE
VERT	VERTICAL
VOS	VERIFY ON SITE
VSC	VERTICALLY SLOTTED CONNECTION
W	WIDE FLANGE
WP	WORKING POINT OR WELD PLATE
WT	WEIGHT
WWM	WELDED WIRE MESH

DRAWING LIST

DWG. NO.	DESCRIPTION
S-1	GENERAL NOTES, ABBREVIATIONS & DRAWING LIST
S-2	SITE PLAN
S-3	STRUCTURAL PENTHOUSE DEMOLITION & NEW WORK
S-4	DETAILS

KEY PLAN – PENTHOUSE LEVEL:



Stantec

TORONTO

GENERATOR REPLACEMENT AND FUEL SYSTEM REMEDIATION
AT 703 DON MILLS, NORTH YORK
CoT REF. NO.: TBD

REV	DESCRIPTION	DATE	BY
5	ISSUED FOR TENDER	2025-04-15	TM
4	ISSUED FOR PERMIT	2025-03-28	TM
3	ISSUED FOR 100% REVIEW	2025-03-19	TM
2	ISSUED FOR 80% REVIEW	2025-01-09	TM
1	ISSUED FOR 60% REVIEW	2024-11-05	TM

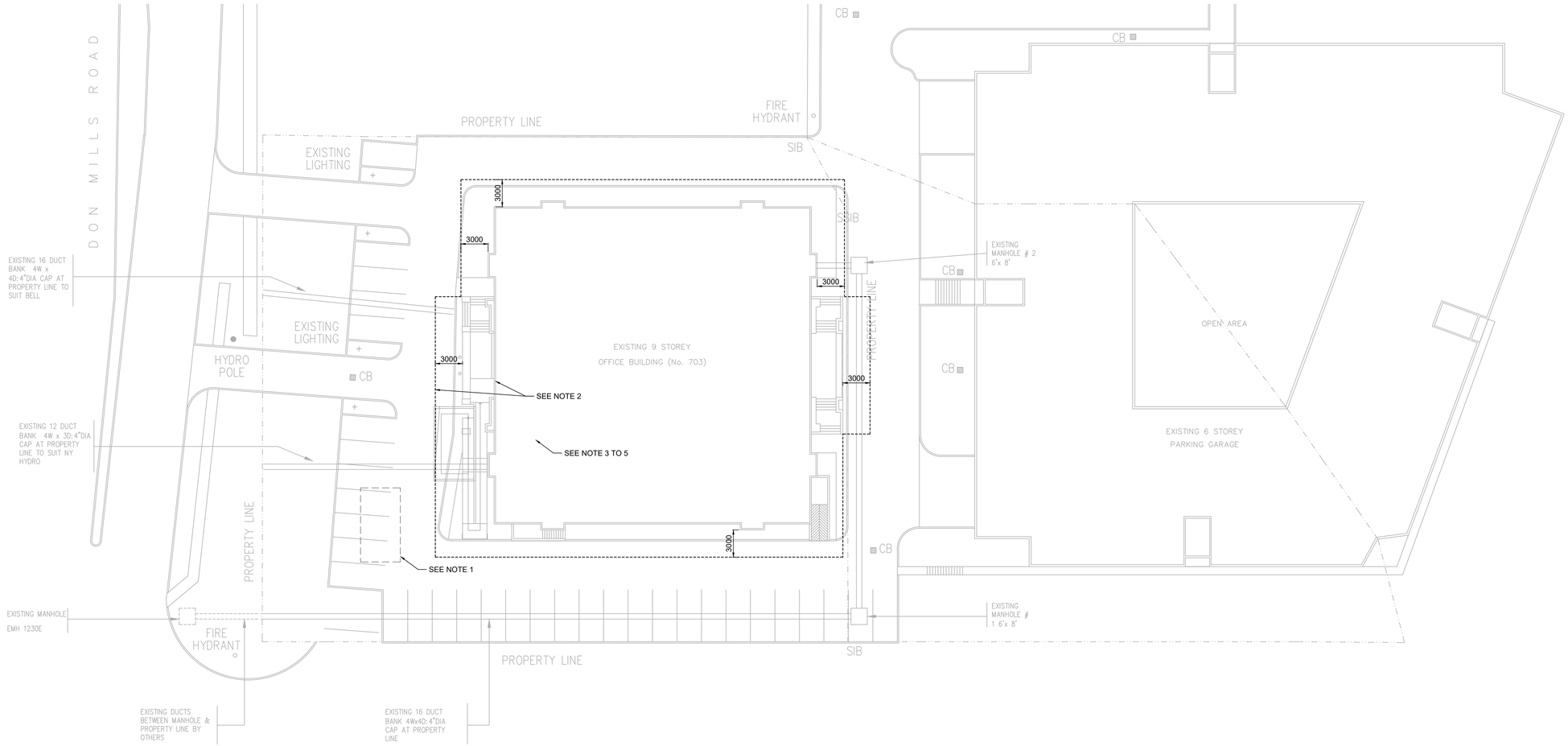
SHEET TITLE:

GENERAL NOTES, ABBREVIATIONS AND DRAWING LIST

DRAWN BY:	GN	DATE:	APR 15, 2025
DESIGNED BY:	TM	CHECKED BY:	STM
SCALE:	AS NOTED	DWG FILE:	

Project No: 135901001

Drawing No: S-1

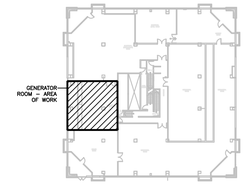


1 S-2 SITE PLAN
SCALE: 1:250

NOTES:

1. THE APPROXIMATE EXTENTS OF AN EXISTING UNDERGROUND TANK ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR TO FIELD VERIFY TANK LOCATION AND DEPTH. CRANE OUTRIGGER LOAD MUST BE AT LEAST 2 x D, WHERE D IS THE DEPTH OF THE TANK.
2. THE DOTTED LINE SHOWN ON THE DRAWING ALL AROUND THE BUILDING IS THE AREA WHERE A CRANE OUTRIGGER LOAD GREATER THAN 250 PSF IS NOT PERMITTED. THE DISTANCE IS BASED ON THE DEPTH BELOW GRADE OF THE BASEMENT LEVEL. IF A CRANE LOAD HIGHER THAN THIS IS REQUIRED TO BE PLACED IN THIS AREA, CONTRACTOR SHALL GET WRITTEN CONFIRMATION FROM A GEOTECHNICAL ENGINEER THAT THERE WILL BE NO LATERAL IMPACT TO THE EXISTING STRUCTURE. SUBMIT THIS REPORT TO THE STRUCTURAL ENGINEER FOR REVIEW. CONTRACTOR SHALL RETAIN A GEOTECHNICAL ENGINEER IF THE CRANE IS REQUIRED TO BE PLACED WITHIN THE MARKED AREA.
3. THE GENERATOR INSTALLATION AT THE PENTHOUSE LEVEL WILL REQUIRE A CRANE LIFT.
4. CONTRACTOR SHALL DETERMINE A SUITABLE CRANE LOCATION BASED ON THE EXISTING SITE CONDITIONS AND CRANE LIFT REQUIREMENTS.
5. CONTRACTOR SHALL ENSURE THAT ALL EXISTING STRUCTURES ARE NOT IMPACTED OR DAMAGED DURING CONSTRUCTION AND THE CRANE LIFT.
6. CONTRACTOR SHALL SUBMIT A LIFT PLAN MINIMUM 4 WEEKS IN ADVANCE TO THE CITY AND THE ENGINEER FOR REVIEW AND APPROVAL. THE INFORMATION SHALL INCLUDE THE PROPOSED DATE, TIME, DURATION, TRAFFIC-CONTROL PLAN, SITE PLAN, SEQUENCE OF WORK, PERSONNEL AND OTHER RELEVANT DETAILS AS REQUIRED BY THE CITY.

KEY PLAN – PENTHOUSE LEVEL:



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TORONTO

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AT 703 DON MILLS, NORTH YORK
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1	ISSUED FOR 60% REVIEW	2024-11-05	TM

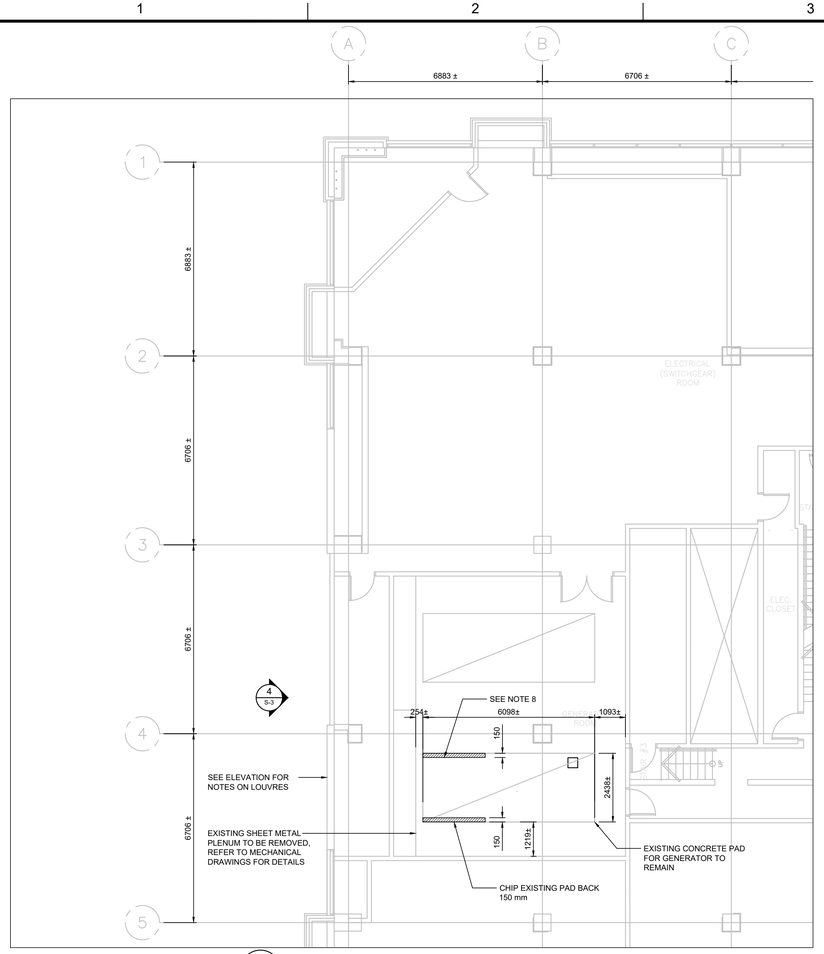
SHEET TITLE:

SITE PLAN

DRAWN BY:	GN	DATE:	APR 15, 2025
DESIGNED BY:	TM	CHECKED BY:	STM
SCALE:	AS NOTED	DWG FILE:	

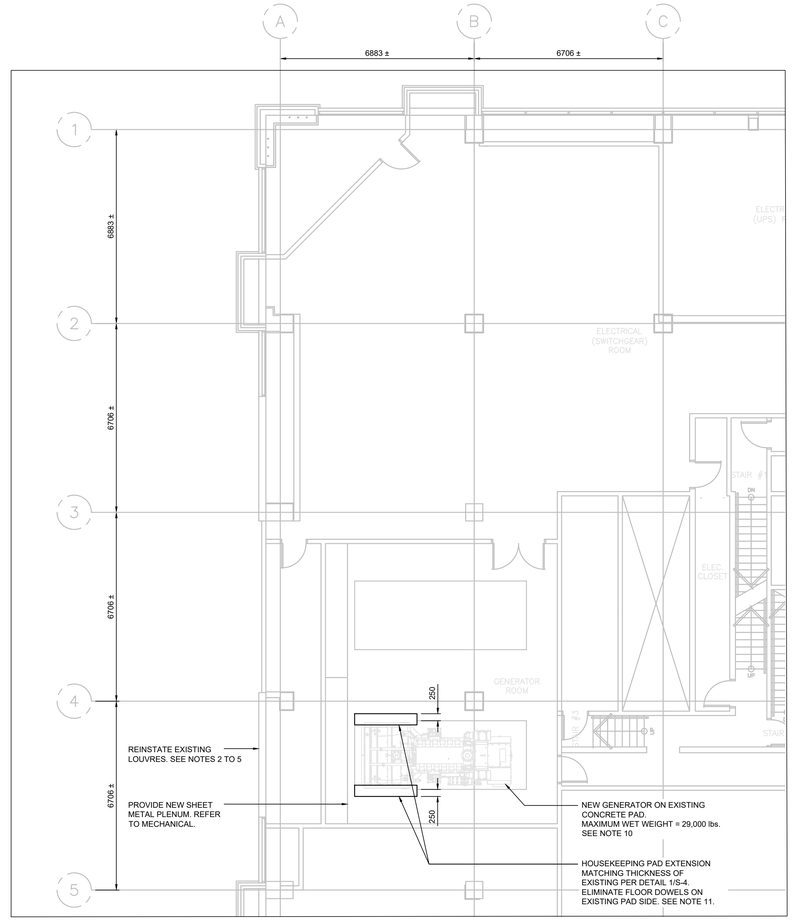
Project No: 135901001

Drawing No: S-2



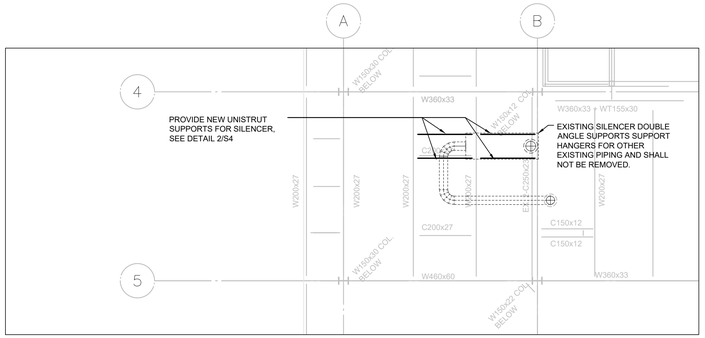
1 S–3 PART PENTHOUSE FLOOR PLAN - DEMOLITION

SCALE: 1:100



2 S–3 PART PENTHOUSE FLOOR PLAN - NEW WORK

SCALE: 1:100



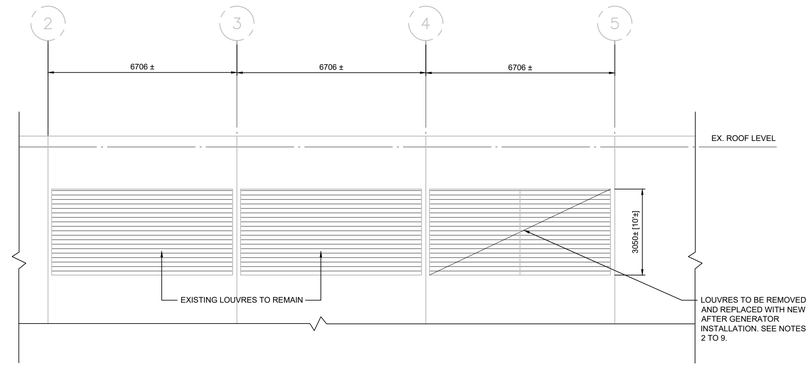
4 S–3 PART ROOF FRAMING PLAN

SCALE: 1:100

ALL STEEL EXISTING UNLESS NOTED AS "NEW".

NOTES:

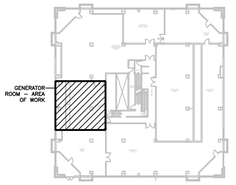
1. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS.
2. NOTIFY ENGINEER ONE WEEK IN ADVANCE TO SCHEDULE A SITE VISIT TO REVIEW LOUVRES, AFTER REMOVAL OF PLENUM WALL AND/OR SILENCERS IS COMPLETE AND THE LOUVRES ARE ACCESSIBLE FOR VISUAL INSPECTION.
3. EXISTING LOUVRES ARE TO BE DISASSEMBLED AND REMOVED AND STORED FOR REUSE. DO NOT DAMAGE EXISTING LOUVRES DURING REMOVAL. THE BASE SCOPE FOR THIS PROJECT IS COMPLETE REPLACEMENT OF THE REMOVED LOUVRES. DEPENDING ON CONDITION OF THE EXISTING LOUVRE, THE OWNER MAY CHOOSE TO REUSE THE EXISTING LOUVRES. PROVIDE ALTERNATE PRICE FOR REUSING LOUVRES AS PART OF THE BID.
4. CONTRACTOR SHALL PROVIDE TEMPORARY HOARDING AND FALL PROTECTION ONCE LOUVRES ARE REMOVED TO ENSURE THAT THE PENTHOUSE AREA IS PROTECTED FROM EXTERIOR ELEMENTS, AND TO ENSURE SAFE ACCESS IN THE CONSTRUCTION AREA.
5. SHOP DRAWINGS WITH DETAILS OF HOARDING AND FALL PROTECTION SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE REMOVAL OF EXTERIOR LOUVRES. SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO.
6. DESIGN OF HOARDING AND FALL PROTECTION SHALL BE PER THE ONTARIO BUILDING CODE 2024.
7. REMOVE ALL DAMAGED AND/OR DETERIORATED LOUVRE FRAMING AND REPLACE WITH NEW FRAMING BEFORE INSTALLATION OF LOUVRES. DO NOT REUSE EXISTING BOLTS AND SCREWS.
8. NEW LOUVRES SHALL MATCH THE COLOUR OF EXISTING LOUVRES. PROVIDE FINIISHED METAL SILL FLASHING WITH END DAMS AND BACK DAMS AT LOUVRE. WATERPROOFING MEMBRANE SHALL TIE INTO EXISTING BUILDING ENVELOPE. NEW CAULKING TO MATCH EXISTING. REFER TO SPECIFICATION 08 91 19 FOR FURTHER DETAILS OF LOUVRES.
9. SUBMIT SHOP DRAWINGS STAMPED BY A PROFESSIONAL ENGINEER FOR NEW LOUVRES, FRAMING, CONNECTIONS TO EXISTING STRUCTURE, WATERPROOFING AND SEALING DETAILS.
10. THE MAXIMUM OPERATIONAL WEIGHT OF GENERATOR ALLOWED FOR THIS AREA OF THE FLOOR IS 29,000 LBS. IF SELECTED GENERATOR EXCEEDS THIS WEIGHT, NOTIFY ENGINEER. DO NOT INSTALL GENERATOR EXCEEDING THIS WEIGHT WITHOUT PRIOR APPROVAL FROM ENGINEER
11. THE WIDEST GENERATOR BASED ON PRELIMINARY INFORMATION RECEIVED FROM MANUFACTURERS IS 93 INCHES, AND THE LONGEST GENERATOR IS 220 INCHES. PAD WIDENING DETAIL IS PROVIDED IF REQUIRED FOR GENERATOR ANCHORAGE EDGE DISTANCE REQUIREMENTS. CONTRACTOR TO CONFIRM IF WIDENING IS REQUIRED BASED ON GENERATOR SELECTED, BEFORE DEMOLISHING THE PAD.
12. SEE MECHANICAL DRAWINGS FOR DETAILS OF SILENCER. MAXIMUM WEIGHT OF SILENCER IS ASSUMED TO BE 860 LBS. IF SILENCER EXCEEDS THIS WEIGHT, NOTIFY ENGINEER TO OBTAIN APPROVAL PRIOR TO INSTALLATION.



4 S–3 EXTERIOR ELEVATION (WEST)

SCALE: 1:100

KEY PLAN – PENTHOUSE LEVEL:



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SHEET TITLE:

STRUCTURAL PENTHOUSE DEMOLITION & NEW WORK

DRAWN BY:	GN	DATE:	APR 15, 2025
DESIGNED BY:	TM	CHECKED BY:	STM
SCALE:	AS NOTED	DWG FILE:	

Project No: 135901001

Drawing No: S-3

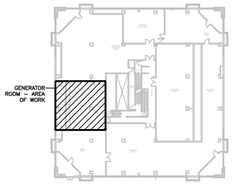
2 DETAIL
S-4 SCALE: 1:20

PAD ON EXISTING SLAB

1 HOUSEKEEPING PAD EXTENSION
S-4 SCALE: NTS

NOTES:
1. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF NEW PADS, AND FOR CAST-IN EMBEDMENTS.
2. FOR NEW PADS ON EXISTING CONCRETE, EXISTING EMBEDDED REINFORCING BARS AND CONDUITS SHALL BE LOCATED PRIOR TO DRILLING USING X-RAY, FERROSCAN, GPR, CHIPPING OR OTHER MEANS. DO NOT DAMAGE EXISTING BARS OR CONDUITS TO INSTALL NEW DOWELS.
3. EXISTING CONCRETE TO BE BONDED TO NEW CONCRETE SHALL BE INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 6 mm AND A FREQUENCY NOT EXCEEDING 25 mm AND SHALL BE CLEANED OF ALL DIRT, RUST AND LAITENCE. REFER TO GENERAL AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. DO NOT ACID ETCH.
4. PRIOR TO SUBSTANTIAL COMPLETION OF THE PROJECT, CONTRACTOR SHALL REPAIR ALL VISIBLE CRACKS IN HOUSEKEEPING PADS WIDER THAN 1 mm. USE SikaDur CRACK FIX RESIN, OR APPROVAL EQUAL. DO NOT ROUT V-NOTCHES AT CRACKS WITHOUT PRIOR WRITTEN APPROVAL.

KEY PLAN – PENTHOUSE LEVEL:



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DETAILS

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SCALE:	AS NOTED	DWG FILE:	

Project No: 135901001

Drawing No: S-4