

GENERAL NOTES:

- ALL MATERIAL SHALL BE NEW AND BE CSA APPROVED OR ULC LISTED.
- THE CONTRACTOR SHALL ENSURE THAT ALL MATERIALS AND EQUIPMENT ARE INSTALLED IN FULL COMPLIANCE WITH THE CURRENT CSA B149.1-15 & THE ONTARIO BUILDING CODE.
- PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOUR REQUIRED TO INSTALL COMPLETE AND OPERABLE SYSTEMS AS INDICATED ON ALL OF THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH STRUCTURAL, GAS & ELECTRICAL UTILITY, ELEVATOR TECHNICIANS, ELECTRICAL WORK, ETC. ALL CONTRACTORS SHALL REVIEW NOTES AND SCOPE SHOWN ON OTHER DRAWINGS.
- THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR SEALING ALL PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES WITH RATED FIRE STOP RATED EQUAL TO THAT OF THE ADJACENT MATERIALS. ALL FIRE STOP MATERIALS AND INSTALLATION SHALL CONFORM TO UL 1479 AND ASTM E-814-10.
- CONTRACTOR SHALL BE FAMILIAR AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, CITY BY-LAWS AND REGULATIONS RELATING TO THE WORK.
- CONTRACTOR SHALL PROVIDE AND PAY FOR ALL MATERIALS, LABOUR, WATER, TOOLS, TEMPORARY GENERATOR & CONNECTIONS, EQUIPMENT, LIGHT, HEAT, POWER & SECURITY OF THE CONSTRUCTION SITE NECESSARY FOR THE EXECUTION OF THE WORK.

- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION SAFETY AT THE SITE AND FOR COMPLIANCE WITH THE RULES, REGULATIONS AND PRACTICES REQUIRED BY THE APPLICABLE CONSTRUCTION SAFETY LEGISLATION AND OTHER AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL INSTALLED EQUIPMENT FOR APPROVAL BY ENGINEER DURING TENDERING. NO ALTERNATES WILL BE PERMITTED ONCE TENDER CLOSE.
- CONTRACTOR SHALL PROVIDE ONE SET OF AS-BUILT DRAWINGS UPON COMPLETION OF WORK. AS-BUILTS TO BE CLEAN AND ALL CHANGES SHALL BE CLEARLY LEGIBLE AND IN RED INK. SUBMIT RED-LINES FOR EACH DISCIPLINE. MECHANICAL, ELECTRICAL, ELEVATOR WORK & STRUCTURAL.
- CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ANY OR ALL DEFECTS IN WORKMANSHIP WHICH MAY ARISE FOR A MINIMUM PERIOD OF 12 MONTHS FROM SUBSTANTIAL COMPLETION.
- CONTRACTOR SHALL PROVIDE 3 COPIES OF OPERATION AND MAINTENANCE MANUALS TO THE OWNER PRIOR TO FINAL PAYMENT IS REQUESTED. THE MANUALS WILL BE APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL SUPERVISE THE INITIAL STARTUP OF ALL EQUIPMENT AND SHALL ASSIST THE OWNERS REPRESENTATIVE IN THE PROPER OPERATION AND MAINTENANCE OF THE EQUIPMENT.
- PROVIDE LINE LOCATE REPORTS, ESA REPORTS, FIRE ALARM VERIFICATION REPORT, GAS CONNECTION REPORT, GENERATOR LOAD TEST & OVERALL COMMISSIONING REPORT.

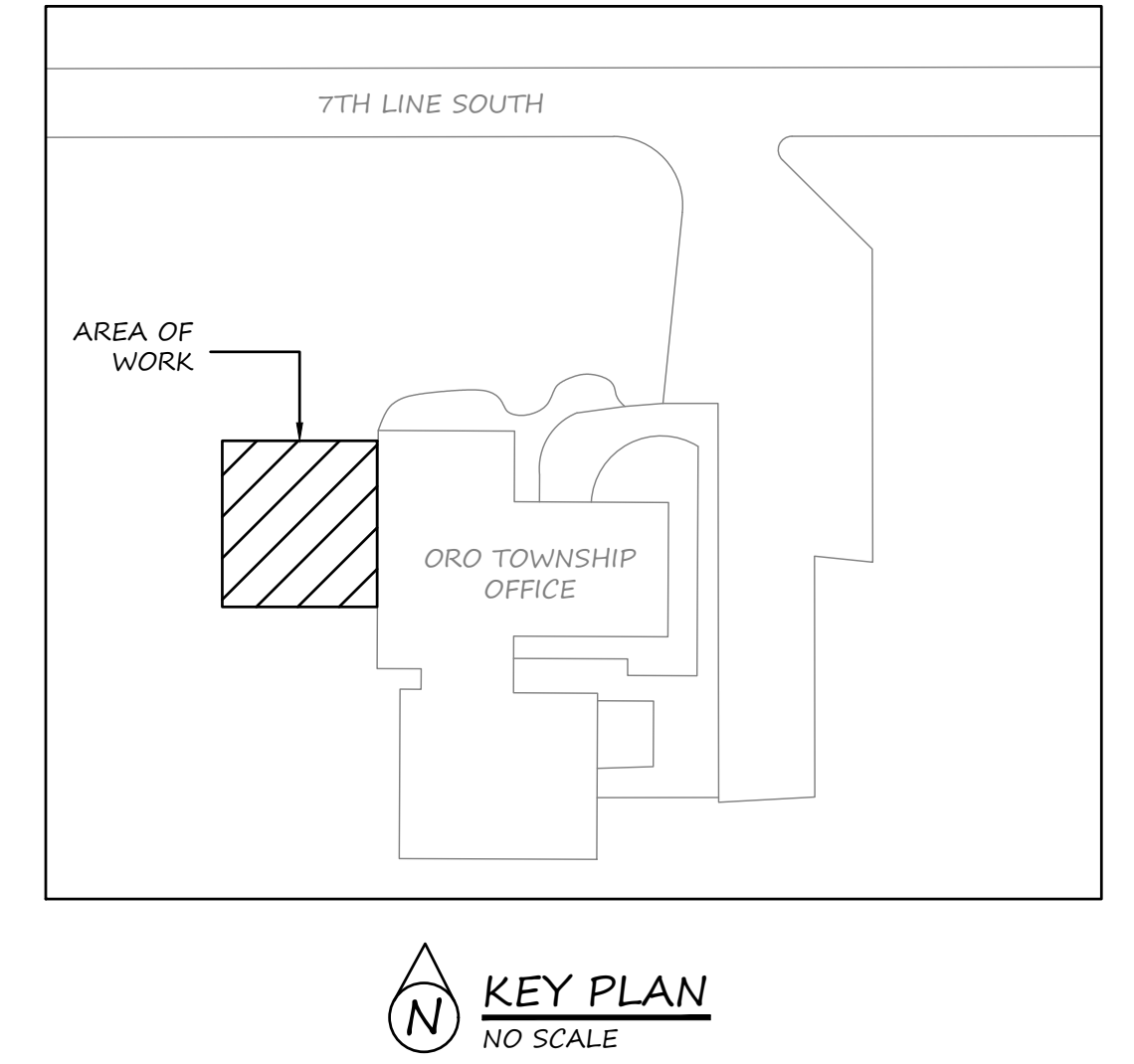
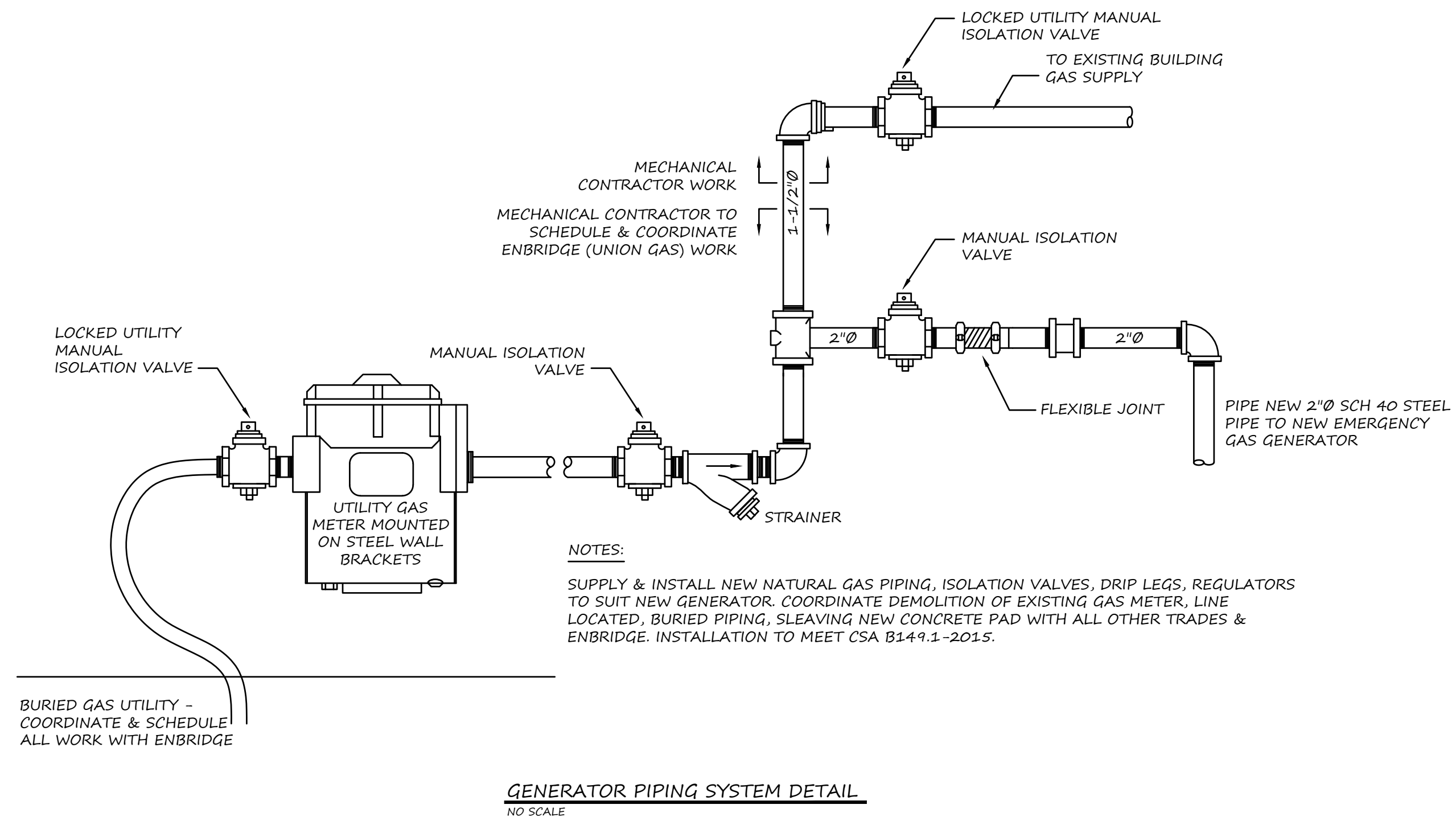
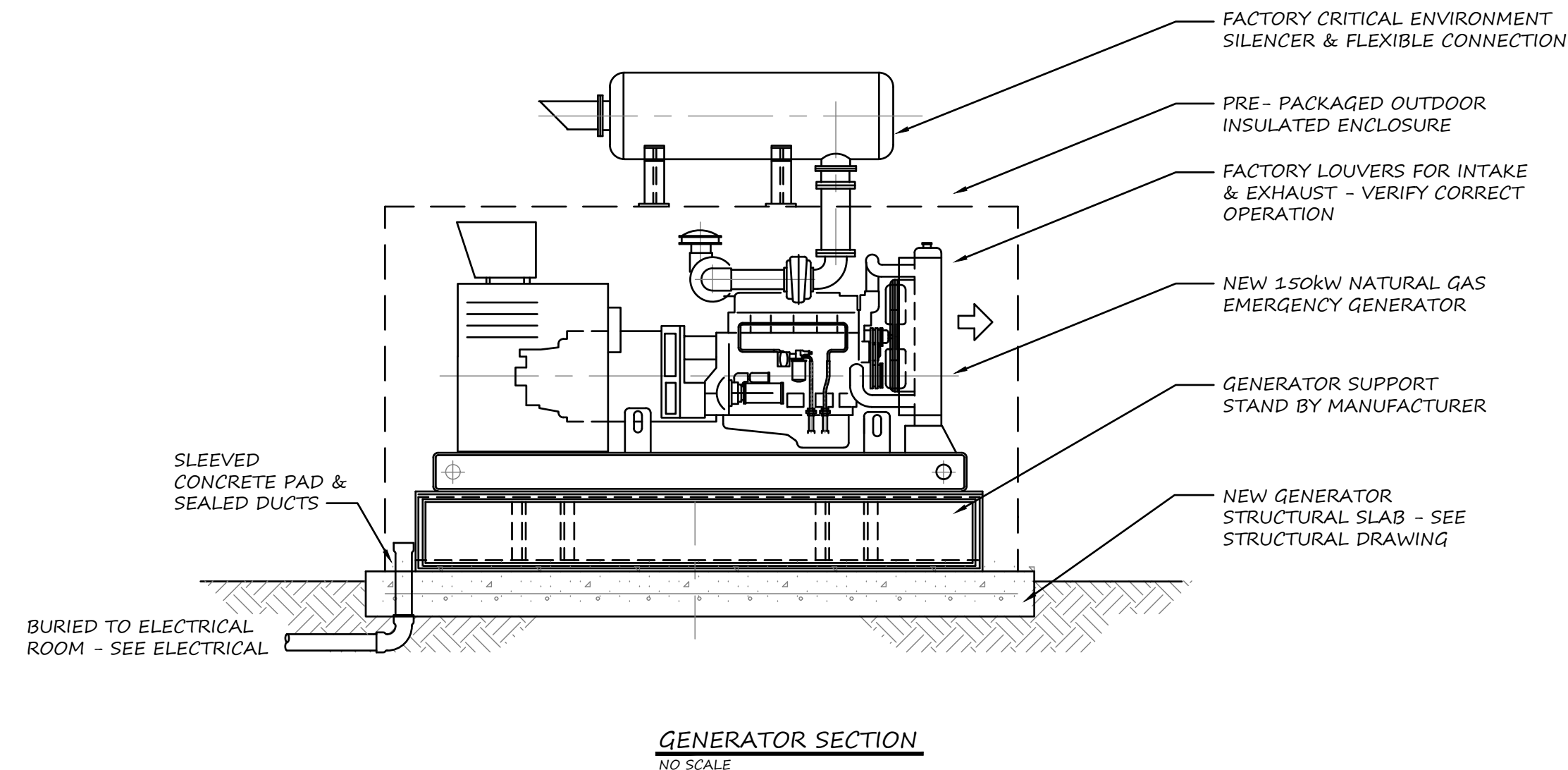
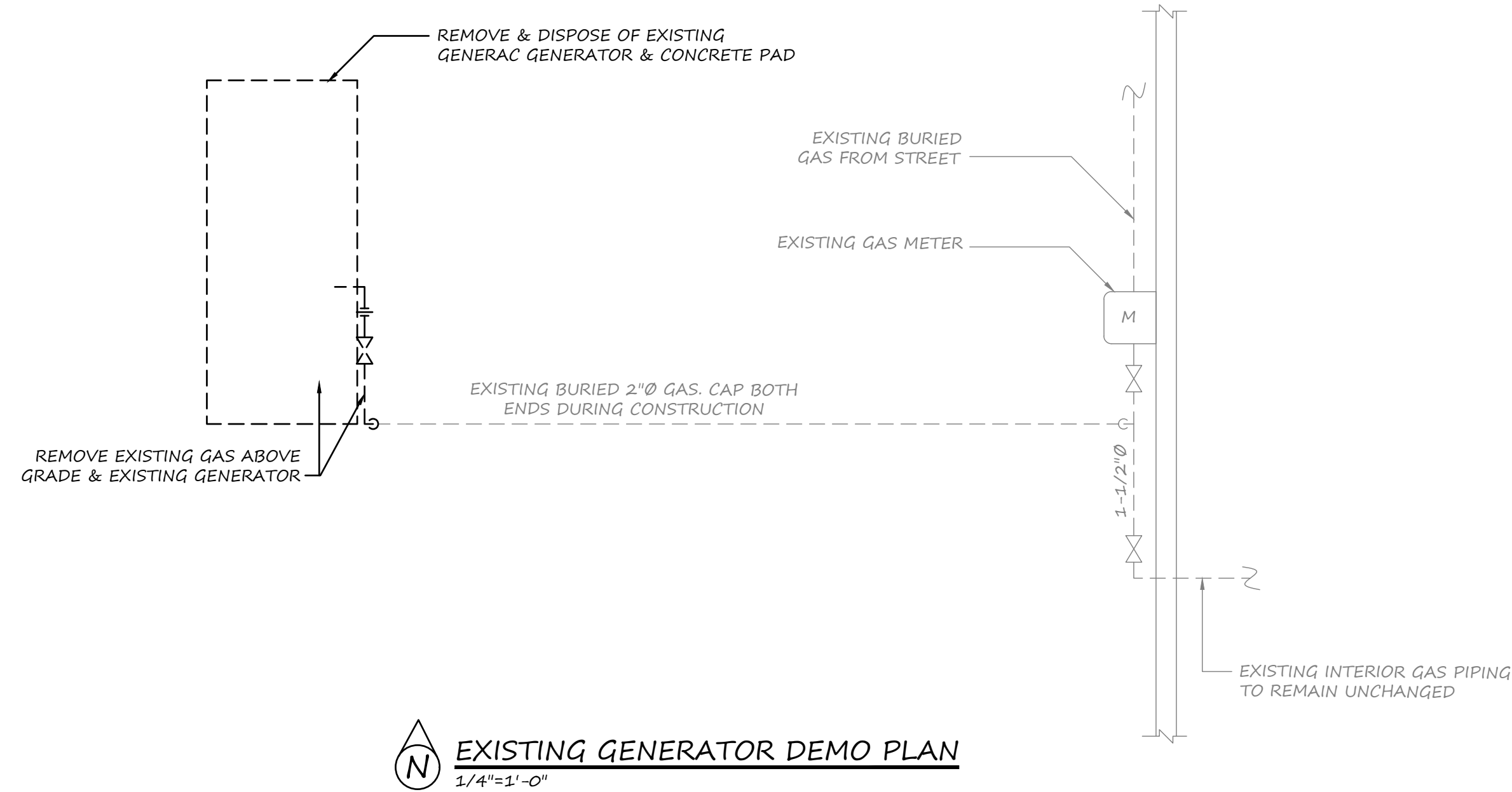
NEW WORK NOTES:

- MECHANICAL CONTRACTOR TO SUBMIT REQUEST FOR ACTION TO ENBRIDGE (UNION GAS) FOR INCREASED GAS LOAD.
- MECHANICAL CONTRACTOR SHALL COORDINATE ALL ASSOCIATED WORK WITH ENBRIDGE (UNION GAS) FOR THE DEMOLITION & INSTALLATION OF GAS SERVICE TO EXISTING AND NEW GENERATOR.
- INSTALL ENBRIDGE SUPPLIED MONITORED & LIMIT GAS VALVE. PROVIDE APPROPRIATE

- VALVE & PIPE LABELING FOR EMERGENCY GENERATOR SYSTEMS.
- VENTED REGULATORS TO BE RELIEF PIPED AS PER TABLE 5.2 IN CSA B149.1.
 - SUPPLY & INSTALL NEW GAS PIPING SUPPORTS AT SPACING AS SPECIFIED IN TABLE 6.2 IN CAS B149.1.
 - STEEL GAS PIPE TO ASTM A 53/A53M, SCHEDULE 40, SEAMLESS AS FOLLOWS:
 - NPS 1/2 TO 2" SCREWED
 - NPS 2 1/2 AND OVER, PLAIN END.
 - COPPER PIPE: TO ASTM B 75M.
 - JOINTING MATERIAL:
 - SCREWED FITTINGS: PULVERIZED LEAD PASTE.
 - WELDED FITTINGS: TO CSA W47.1.
 - FLANGE GASKETS: NON-METALLIC FLAT.
 - BRAZING: TO ASTM B 75M.
 - FITTINGS
 - STEEL PIPE FITTINGS, SCREWED:
 - MALLEABLE IRON: SCREWED TO ANSI B16.3, CLASS 150 FOR SERVICE PRESSURES UP TO AND INCLUDING 861 KPA.
 - UNIONS: MALLEABLE IRON, BRASS TO IRON, GROUND SEAT, TO ASTM A47M.
 - NIPPLES: SCHEDULE 40, TO ASTM A53.
 - COPPER TUBE FITTINGS:
 - SERVICE LINE RISER AND TRANSITION FITTINGS.
 - WROUGHT COPPER AND COPPER ALLOY, SOLDER TYPE 1 TO ANSI/ASME B16.22.
 - MANUAL SHUT-OFF VALVES
 - NPS 1/2 AND UNDER, FULL PORT, FORGED BRASS BALL VALVE FOR TWO PIECE BODY CONSTRUCTION COMPLETE WITH THE FOLLOWING:
 - BLOWOUT-PROOF STEM.
 - ADJUSTABLE PACKING GLAND.
 - CHROME-PLATED BALL.
 - CLASS 150 WSP, 600 WOG.
 - CGA 3.16 APPROVED.
 - PROVIDE COMPLETE WITH CRN.
 - LEVER HANDLE.
 - ANSI B1.20.1 NPT END CONNECTIONS
10. EXECUTION
- MANUFACTURER'S INSTRUCTIONS
 - COMPLIANCE: COMPLY WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS

- OR SPECIFICATIONS, INCLUDING PRODUCT TECHNICAL BULLETINS, HANDLING, STORAGE AND INSTALLATION INSTRUCTIONS AND DATASHEET.
- PIPING
 - INSTALL PIPING IN ACCORDANCE TO APPLICABLE PROVINCIAL CODES, CAN/CSA-B149.1, SUPPLEMENTED AS SPECIFIED.
 - SLOPE PIPING DOWN IN DIRECTION TO FLOW TO LOW POINTS.
 - INSTALL DRIP POINTS:
 - AT LOW POINTS IN PIPING SYSTEM AND WHERE INDICATED.
 - PROVIDE COMPLETE WITH BLOWDOWN VALVE I.E. MANUAL SHUT-OFF VALVE AS SPECIFIED ABOVE. MINIMUM 75mm IN LENGTH FROM TEE CONNECTION IN RISE TO TOP OF VALVE.
 - SIZE TO BE MINIMUM NPS 3/4". PROVIDE COMPLETE WITH THREADED END CAP.
 - USE ECCENTRIC REDUCERS AT PIPE SIZE CHANGE INSTALLED TO PROVIDE POSITIVE DRAINAGE.
 - PROVIDE CLEARANCE FOR ACCESS AND FOR MAINTENANCE.
 - REAM PIPES, CLEAN SCALE AND DIRT, INSIDE AND OUT.
 - INSTALL PIPING TO MINIMIZE PIPE DISMANTLING FOR EQUIPMENT REMOVAL.
 - FIELD ENDING OF PIPING TO BE PROHIBITED.
 - NESTING OF BUSHINGS TO BE PROHIBITED. UTILIZE PROPERLY SIZED REDUCING FITTINGS.
 - DO NOT UTILIZE PROPANE PIPING AS AN ELECTRICAL GROUND.
 - VALVES
 - INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL UNLESS APPROVED OTHERWISE BY OWNER'S REPRESENTATIVE.
 - INSTALL VALVES AS INDICATED.
 - FIELD QUALITY CONTROL
 - TEST SYSTEM IN ACCORDANCE WITH CAN/CSA B149.1 AND CAN/CSAB149.2 AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
 - SCHEDULE SITE VISITS WITH TSSA TO REVIEW WORK AT STAGES LISTED:
 - WHEN PREPARATORY WORK ON WHICH WORK OF THIS SECTION DEPENDS IS COMPLETE, BUT BEFORE INSTALLATION BEGINS.
 - TWICE DURING PROGRESS OF WORK AT 25% AND 60% COMPLETE.
 - UPON COMPLETION OF WORK, AFTER CLEANING IS CARRIED OUT.

- OBTAIN REPORTS WITHIN THREE (3) WORKING DAYS OF REVIEW AND SUBMIT IMMEDIATELY TO OWNER'S REPRESENTATIVE.
14. PERFORMANCE VERIFICATION:
- PURGING: PURGE AFTER PRESSURE TEST IN ACCORDANCE WITH CAN/CSA B149.1 AND CAN/CSA B149.2.
 - CHECK VENTS FROM REGULATORS, CONTROL VALVES, TERMINATE OUTSIDE BUILDING IN APPROVED LOCATION, PROTECTED AGAINST BLOCKAGE, DAMAGE.
 - CHECK GAS TRAINS, ENTIRE INSTALLATION IS APPROVED BY AUTHORITY HAVING JURISDICTION.
15. CLEANING IN ACCORDANCE WITH CAN/CSA B149.1, CAN/CSA B149.2, SUPPLEMENTED AS SPECIFIED.
- PERFORM CLEANING OPERATIONS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
 - UPON COMPLETION AND VERIFICATION OF PERFORMANCE OF INSTALLATION, REMOVE SURPLUS MATERIALS, EXCESS MATERIALS, RUBBISH, TOOLS AND EQUIPMENT.
 - PURGE AFTER PRESSURE TEST IN ACCORDANCE WITH CSA-B149.1.
16. IDENTIFICATION
- IDENTIFY NEW NATURAL GAS PIPING SYSTEMS IN ACCORDANCE WITH REQUIREMENTS FOR CSA-B149.1.
 - ABOVE GROUND GAS PIPING TO BE PRIMED AND PAINTED YELLOW ALONG ITS ENTIRE LENGTH. ONLY ON AREAS AFFECTED BY WORK & WHERE PAINT IS WORK. SUPPLY AND INSTALL "NATURAL GAS" PIPE IDENTIFICATION MARKERS ALONG LENGTH OF PIPING INSTALLATION IN ACCORDANCE WITH CSA-B149.1. MAXIMUM SPACING ALONG STRAIGHT LENGTH OF PIPE TO BE 6m. INSTALL ADDITIONAL LABELS ON BRANCH LINES WHERE PRESSURES ARE 2psi OR GREATER.



ISSUED FOR PERMIT & TENDER	06/21/21
Revision/Issue	MM/DD/YY

ABLE Energy
Management & Design

K. BINIARIS
90452699
PROVINCE OF ONTARIO

C.D. Martyn
ENGINEERING LTD

KEY PLAN, EXISTING GENERATOR DEMO PLAN, NEW GENERATOR PLAN, GENERATOR SECTION, GENERATOR PIPING SYSTEM DETAIL & NOTES

GENERATOR UPGRADE
ORO TOWNSHIP OFFICE
148 7 LINE SOUTH
ORO, ON L0L 2X0

Project	AE-2132	Sheet	M-1
Date	JUNE 21, 2021		
Scale	AS SHOWN		

AE-2132-ORO MEDONTE GENERATOR.dwg