

Regional School District 13

Frank Ward Strong Middle School Generator Replacement

191 Main Street
Durham, Connecticut 06422

DRAWING LIST:

- Cover Sheet
- M1 Mechanical Site Plan, Notes and Details
- E1 Electrical Site Plan, One Line Diagram and Details



SILVER / PETRUCELLI + ASSOCIATES

Architects / Engineers / Interior Designers

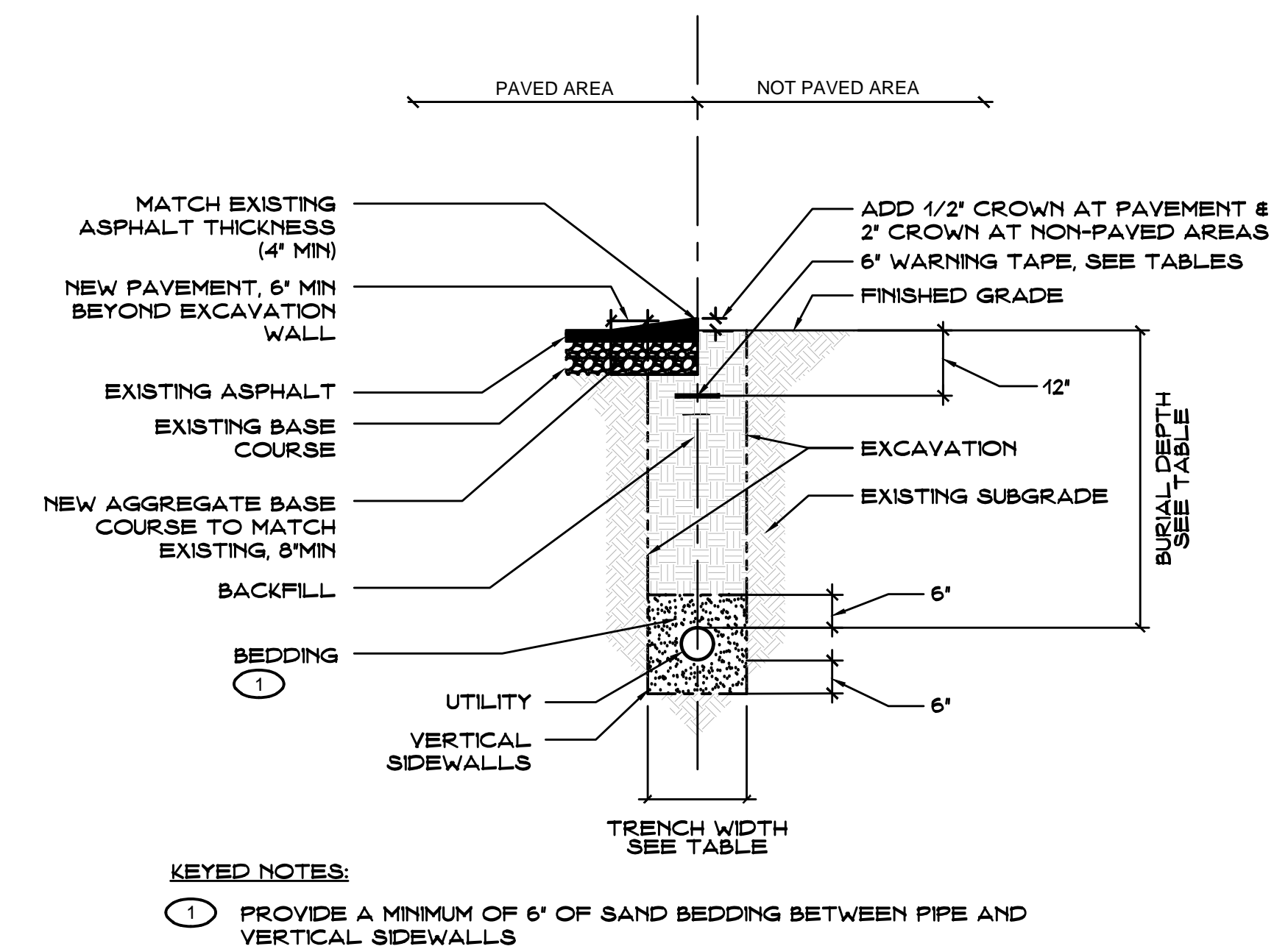
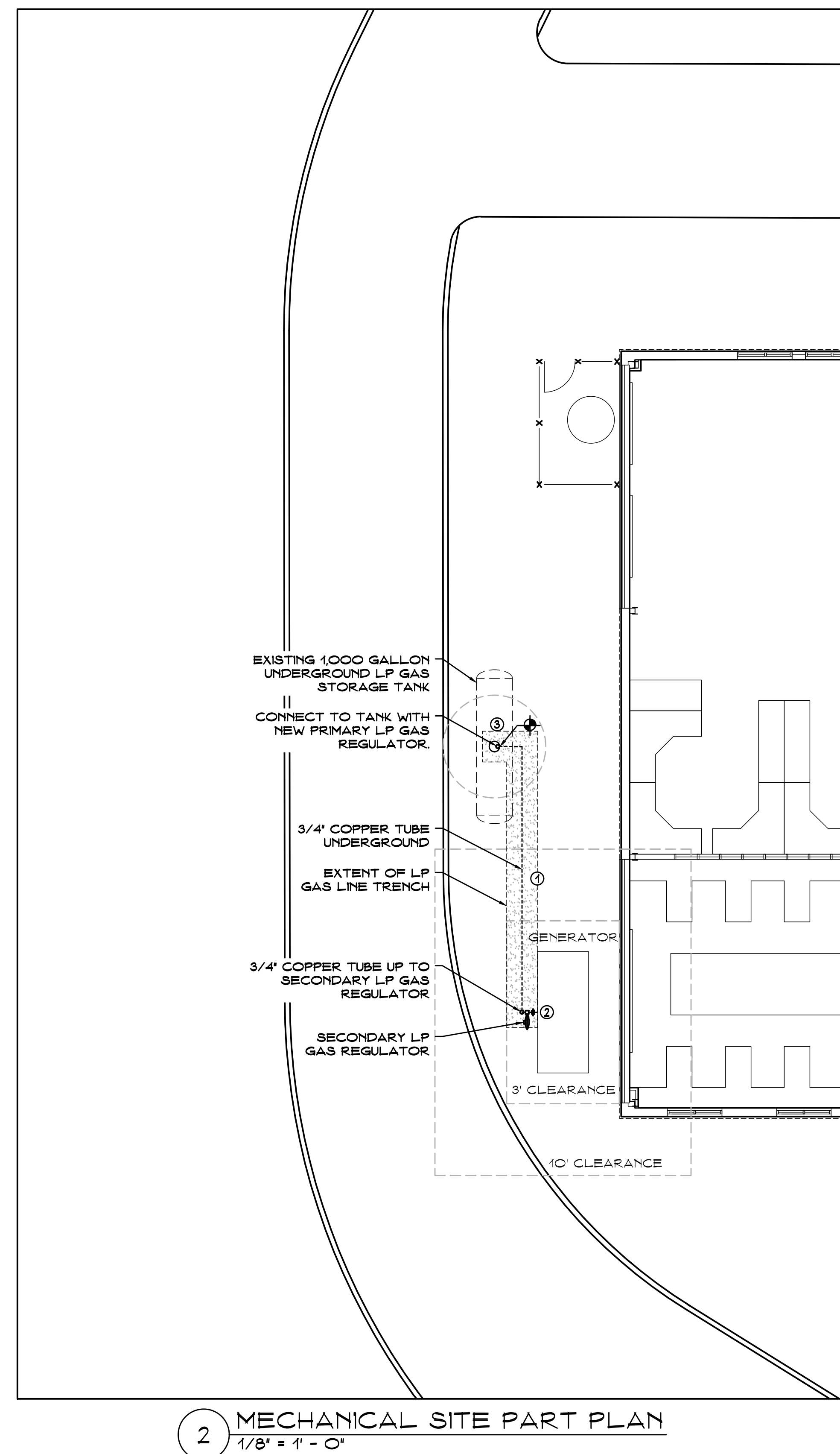
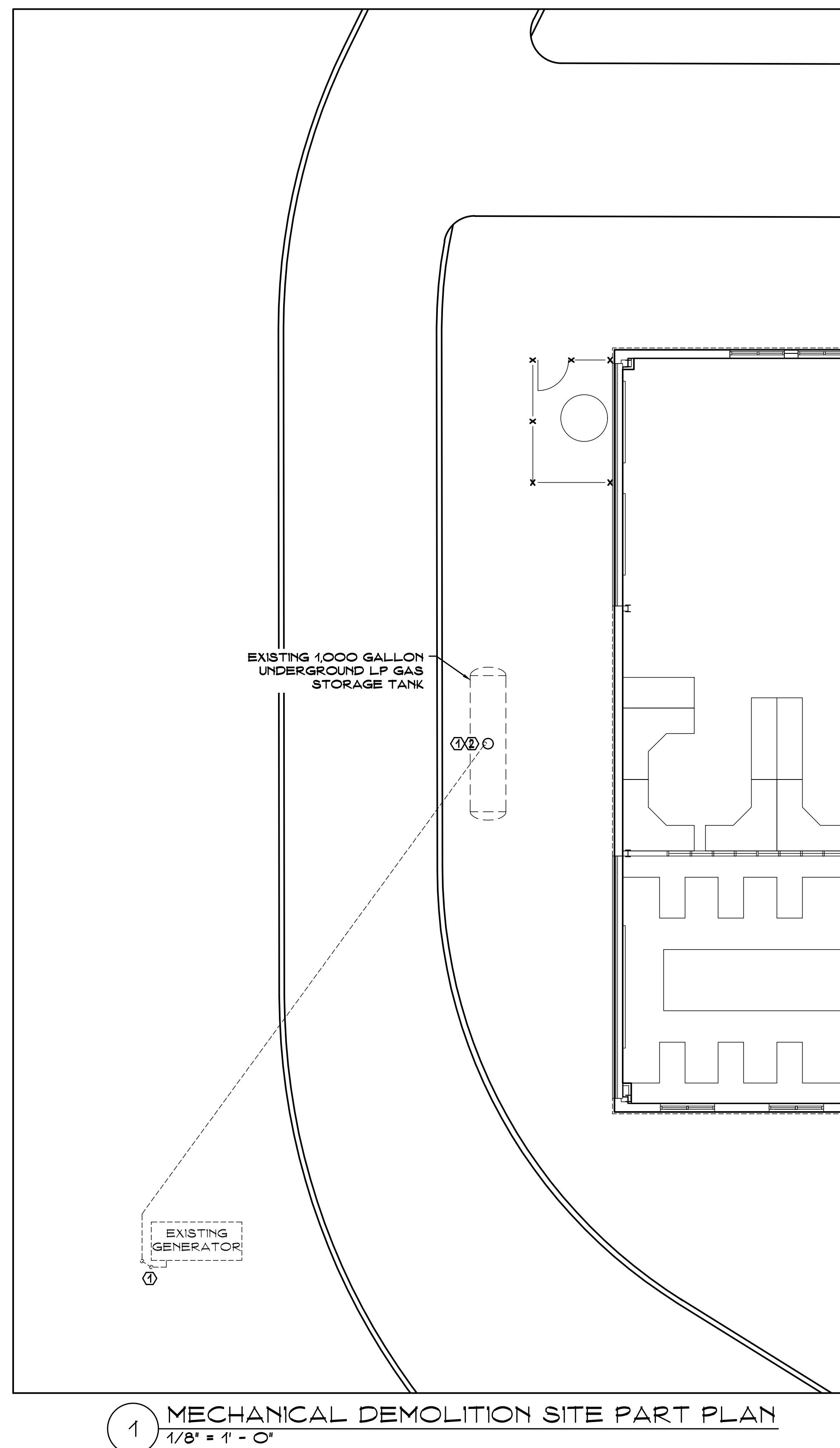
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TRENCH WIDTH	
UTILITY SIZE	TRENCH WIDTH
TO 4"	24"
6"	30"
8"	32"
10"	34"
12"	36"
14"	38"
16"	40"
18"	42"

WARNING TAPE COLOR	
SERVICE	COLOR
LP/NATURAL GAS	YELLOW
SEWER	GREEN
OIL, FUEL, ETC.	YELLOW
WATER	BLUE
STEAM/ CONDENSATE	YELLOW
EFFLUENT/ RECLAIMED WATER	PURPLE

UTILITY BURIAL DEPTH	
SERVICE	MIN DEPTH
LP/NATURAL GAS LINES UNDER PAVEMENT	60"
LP/NATURAL GAS MAINS	36"
FUEL/LP/NATURAL GAS SERVICE LINES	30"
SEWER LINES	48"
STEAM/CONDENSATE LINES	48"
WATER LINES	48"

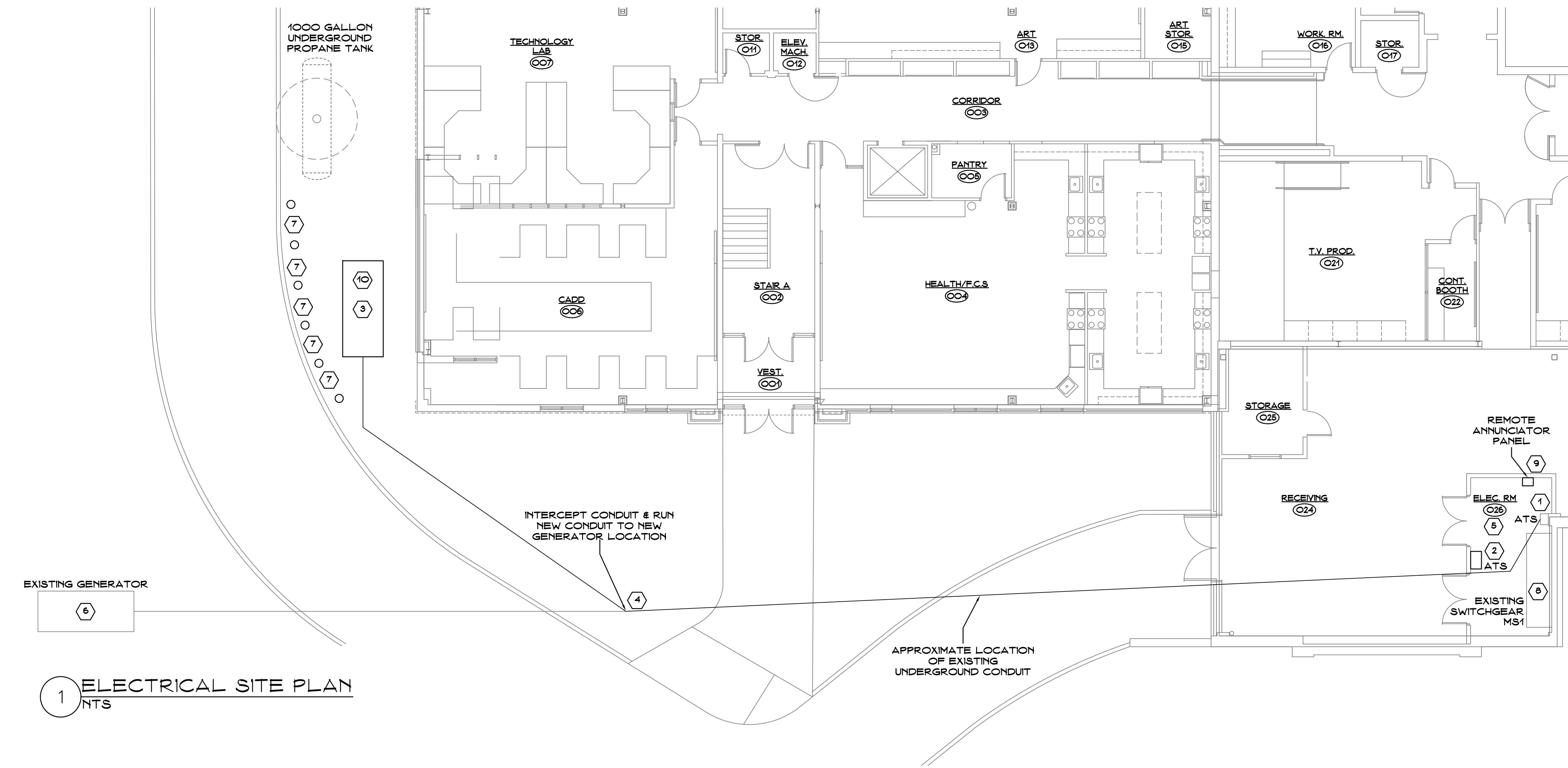
x MEASURED FROM FINISHED
GRADE TO TOP OF PIPE

DEMOLITION DRAWING KEY NOTES

- ① CONTRACTOR SHALL REMOVE AND LEGALLY DISPOSE OF EXISTING LP GAS PIPING AND APPURTENANCES TO THE EXISTING GENERATOR UNDERGROUND STORAGE TANK TO THE GREATEST EXTENT POSSIBLE CAP BELOW GRADE AND ABANDON UNDERGROUND PIPING IN PLACE. VERIFY EXISTING UTILITY AND PIPING LOCATIONS WITH UTILITY LOCATION SERVICE BEFORE DIGGING.
- ② CONTRACTOR SHALL CAP-OFF EXISTING LP GAS CONNECTION WITH APPROVED LOCK-OUT/TAG-OUT PROCEDURES FOR RECONNECTION PHASE.

NEW WORK DRAWING KEY NOTES (#)

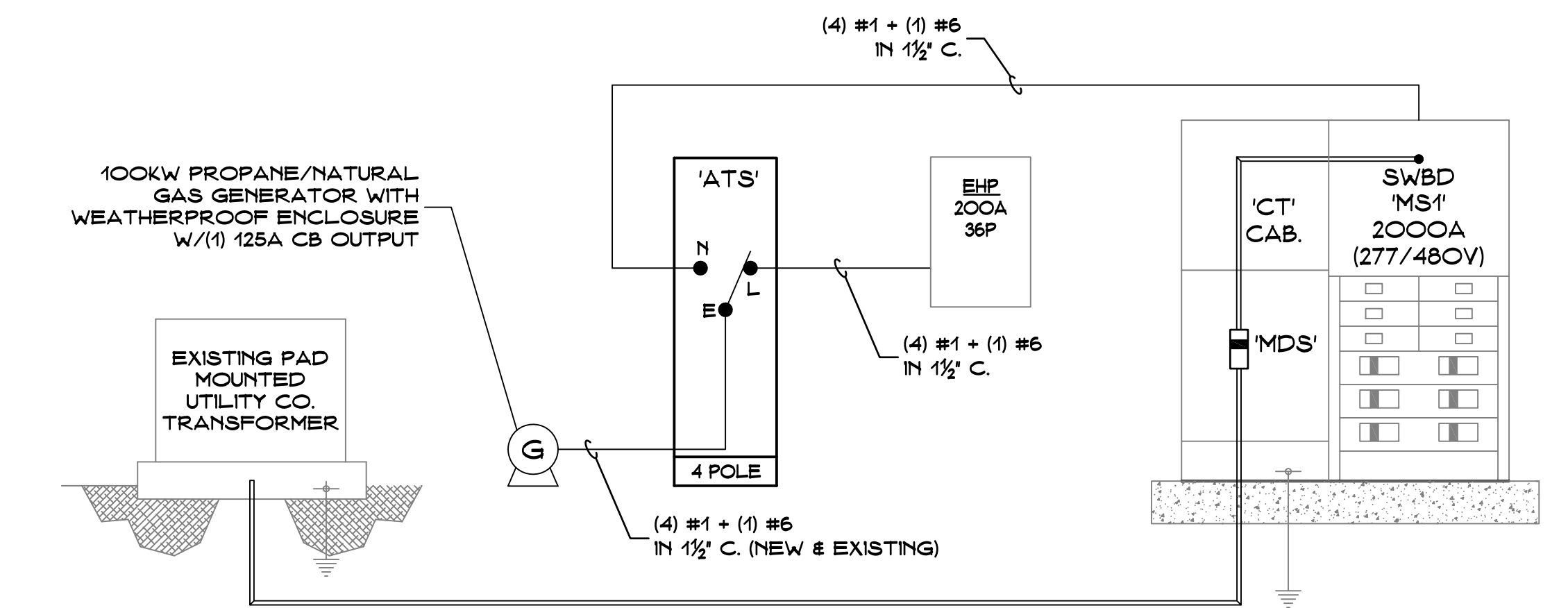
- ① CONTRACTOR SHALL FURNISH AND INSTALL NEW UNDERGROUND LP GAS LINE TO SERVE PROPOSED EMERGENCY GENERATOR. CONTRACTOR SHALL PROVIDE ALL RELATED EXCAVATION, TRENCHING AND BACKFILL SERVICES RELATED TO THE GAS SERVICE. COORDINATE WITH ALL UNDERGROUND UTILITIES, PROPOSED AND OTHERWISE, FOR CODE REQUIRED CLEARANCES AND TO PREVENT DISTURBING EXISTING UTILITIES (VIF). SERVING AS A TYPICAL SECTION THROUGH EXISTING CONCRETE DRIVEWAYS AND DRIVEIS. TEST PIPING FOR LEAKS AND MAKE ANY REPAIRS PRIOR TO BACKFILLING. BACKFILL WITH SCREENED FILL MATERIAL TO ORIGINAL GRADE ELEVATION. FURNISH AND INSTALL MAGNETIC TRACER AND IDENTIFICATION TAPE IN TRENCH FOR FUTURE DETECTION OF PIPE SERVICE & LOCATION. FURNISH AND INSTALL SOD AND TOPSOIL TO MATCH ORIGINAL UNDISTURBED CONDITIONS.
- ② FURNISH AND INSTALL LP GAS PIPING AND APPURTENANCES ABOVE GRADE AND MAKE FINAL CONNECTION TO PROPOSED GENERATOR WITH THE REQUIRED SECONDARY PRESSURE REGULATORS, VALVES, FLEXIBLE EQUIPMENT CONNECTIONS AND FLEXIBLE HOSE. PROVIDE SLEEVE FOR PIPE PASSING THROUGH EQUIPMENT PADS AS REQUIRED. MAKE ALL CONNECTIONS AND SUPPORTS AS REQUIRED PER THE GENERATOR EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS.
- ③ MAKE CONNECTION TO EXISTING UNDERGROUND LP GAS STORAGE TANK (VIF) IN ACCORDANCE WITH APPLICABLE CODES, NFPA 54 & 58, AND THE LP GAS SUPPLIER REQUIREMENTS. FURNISH AND INSTALL ALL PIPING, PRIMARY PRESSURE REGULATORS, VALVES, GAUGES, ETC. TEST PIPE FOR LEAKS, PURGE PIPE AND RINSE TO SERVICE. PANT PIPING IN ACCORDANCE WITH THE SPECIFICATIONS WITH SUITABLE EXTERIOR PRIMER AND PAINT.



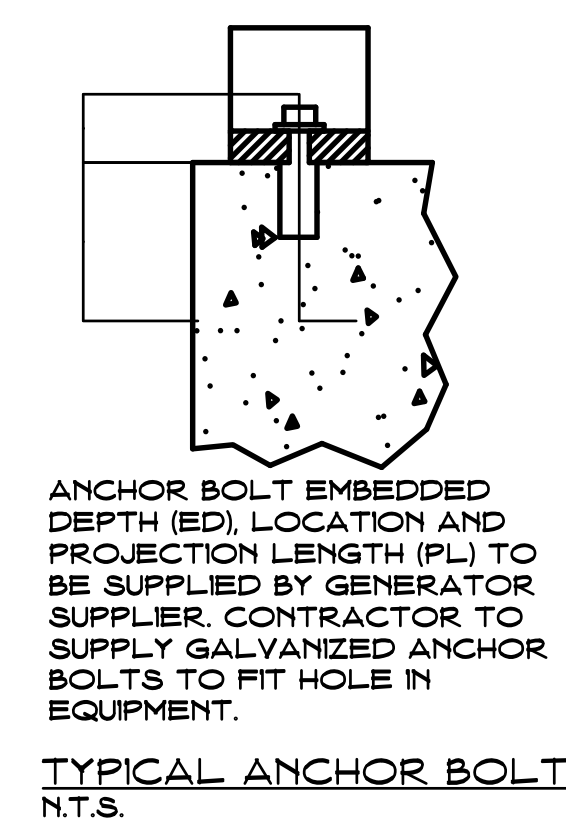
1 ELECTRICAL SITE PLAN
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ELECTRICAL PLAN NOTES

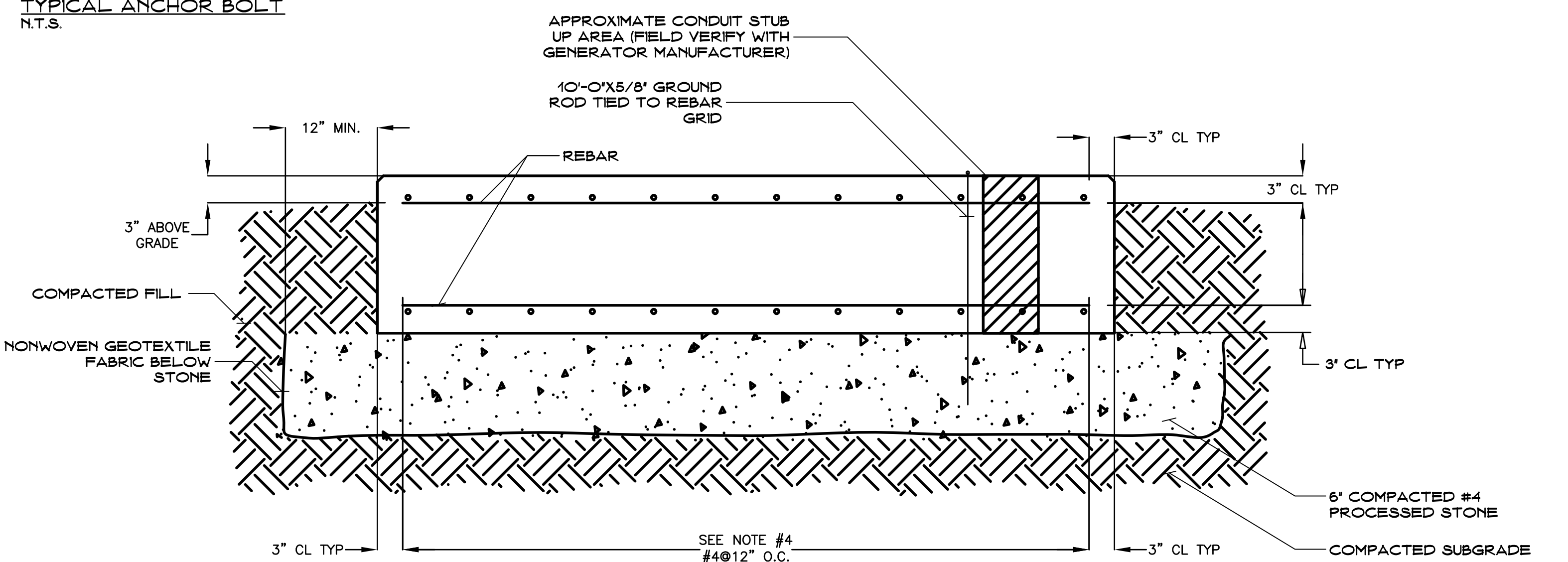
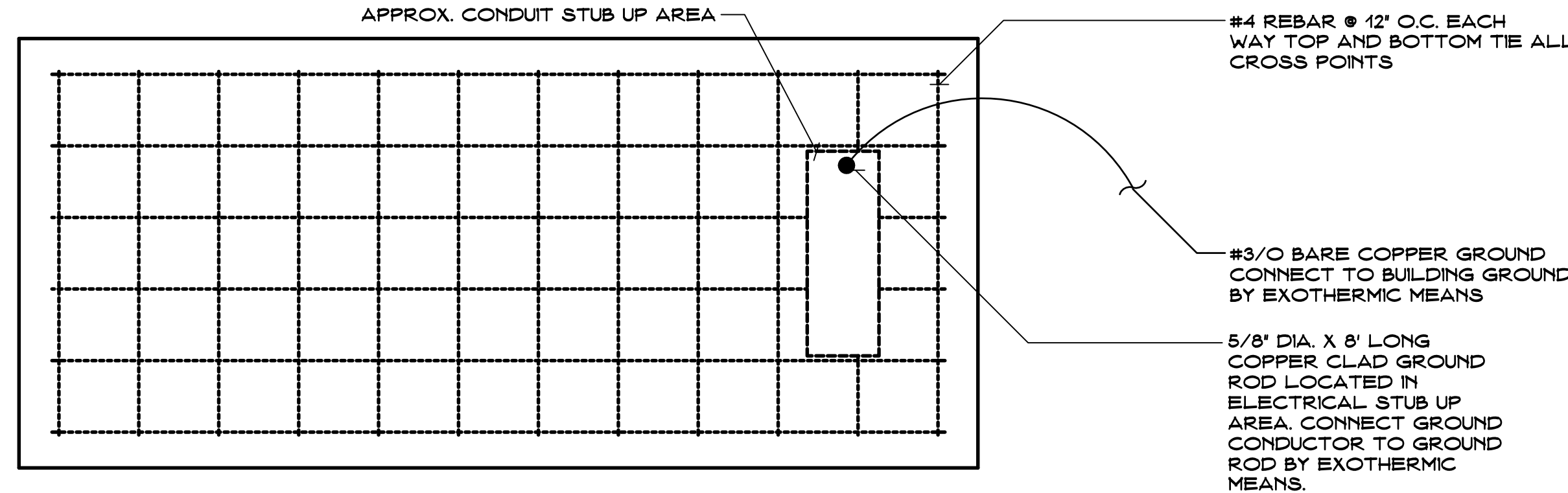
- 1 REMOVE EXISTING ATS & ALL ASSOCIATED WIRE IN LOCATION SHOWN. EXTEND CONDUIT TO LOCATION OF NEW ATS. INSTALL NEW WIRE AS SHOWN ON ONE LINE DIAGRAM.
- 2 FURNISH & INSTALL NEW 200A, 277/480V, 4-POLE, CUMMINS OTPC ATS IN LOCATION SHOWN. CONNECT NEW ATS TO EXISTING NORMAL, LOAD & EMERGENCY CIRCUITS FOR EXISTING GENERATOR. REFER TO ONE LINE DIAGRAM FOR MORE INFORMATION.
- 3 FURNISH & INSTALL NEW CUMMINS 100GHH 100KW NATURAL GAS/PROPANE GENERATOR W/LVL 2 ENCLOSURE IN LOCATION SHOWN. GENERATOR SHALL COME WITH MAINLINE CIRCUIT BREAKER, BLOCK HEATER, BATTERY CHARGER, POWERCOMMAND 2000 CONTROLLER & REMOTE ANNUNCIATOR PANEL. REFER TO GENERATOR PAD DETAIL FOR INFORMATION ON PAD. PER NFPA 58 THE GENERATOR NEEDS TO BE LOCATED 10' AWAY FROM THE PROPANE STORAGE TANK.
- 4 INTERCEPT EXISTING CONDUIT (1/2" FOR GENERATOR POWER, 1/2" FOR CONTROLS, BLOCK HEATER & BATTERY CHARGER, & 1/2" SPARE) IN LOCATION SHOWN. INSTALL NEW CONDUIT & WIRE FROM LOCATION IT GETS INTERCEPTED AT TO NEW GENERATOR AS SHOWN. REFER TO ONE LINE DIAGRAM FOR MORE INFORMATION.
- 5 INSTALL NEW CONDUIT & WIRE IN ELECTRICAL ROOM FOR ATS, WITH THE ATS IN A NEW LOCATION NEW CONDUIT & WIRE WILL NEED TO COME FROM THE SWITCHGEAR. CONDUIT & WIRE WILL NEED TO ALSO BE BROUGHT FROM ATS TO PANEL. BHP. CONDUIT WILL NEED TO BE EXTENDED FROM EXISTING ATS AFTER IT IS REMOVED TO NEW LOCATION WITH NEW WIRE. REFER TO ONE LINE DIAGRAM FOR MORE INFORMATION.
- 6 REMOVE EXISTING GENERATOR & DISPOSE OF IT. REMOVE GENERATOR PAD ALSO & CAP EXISTING CONDUIT FEEDING GENERATOR. MAKE SURE CONDUIT IS CAPPED BELOW GRADE & BACKFILL, REPAIR & RESEED THE AREA SO THAT IT IS LEVEL WITH GRADE.
- 7 INSTALL CONCRETE BOLLARDS AROUND NEW GENERATOR IN LOCATIONS SHOWN. BOLLARDS SHOULD BE SPACED 6' APART FROM EACH OTHER ON CENTER. REFER TO CONCRETE BOLLARD DETAIL FOR MORE INFORMATION.
- 8 REMOVE EXISTING 100A 3 POLE BREAKER IN SWITCHGEAR MS1 FEEDING ATS & PANEL BHP. REPLACE WITH A 25A 3 POLE 480V BREAKER IN SAME BREAKER SLOT. REMOVE & REPLACE ALL ASSOCIATED WIRING TO THE ATS. REFER TO ONE LINE DIAGRAM FOR MORE INFORMATION.
- 9 FURNISH & INSTALL REMOTE ANNUNCIATOR PANEL FOR GENERATOR IN ELECTRICAL ROOM WHERE SPACE ALLOWS. RUN WIRES FOR ANNUNCIATOR PANEL THROUGH EXISTING SPARE 1/2" CONDUIT OUT TO GENERATOR. CONSULT WITH OWNER FOR EXACT LOCATION.
- 10 WIRE GENERATOR FACTORY INSTALLED GFI RECEPTACLE TO NEAREST GENERAL PURPOSE RECEPTACLE CIRCUIT, IF THERE IS A NEARBY OUTSIDE CIRCUIT THEN USE THAT.



4 ONE LINE DIAGRAM
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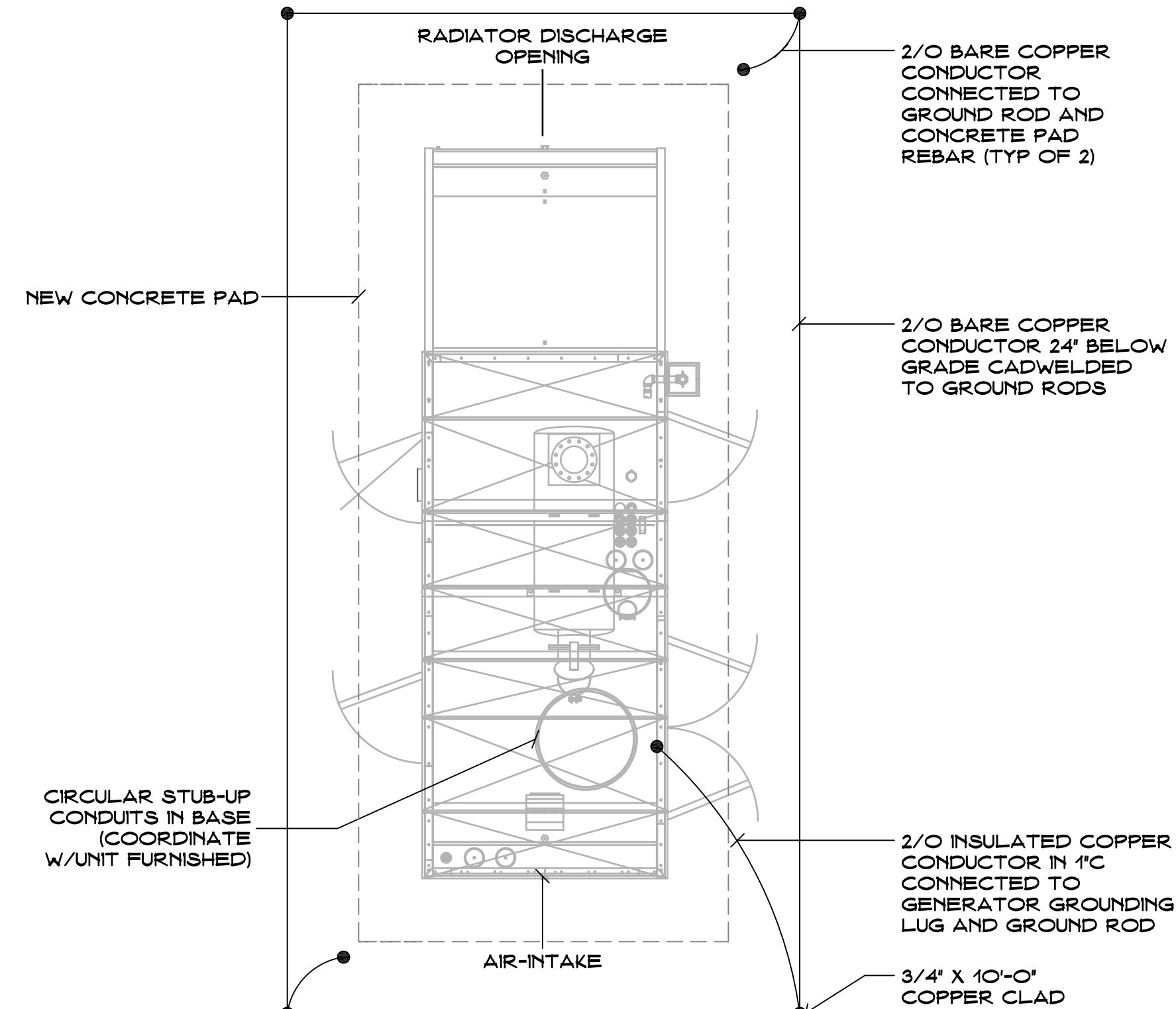


TYPICAL ANCHOR BOLT
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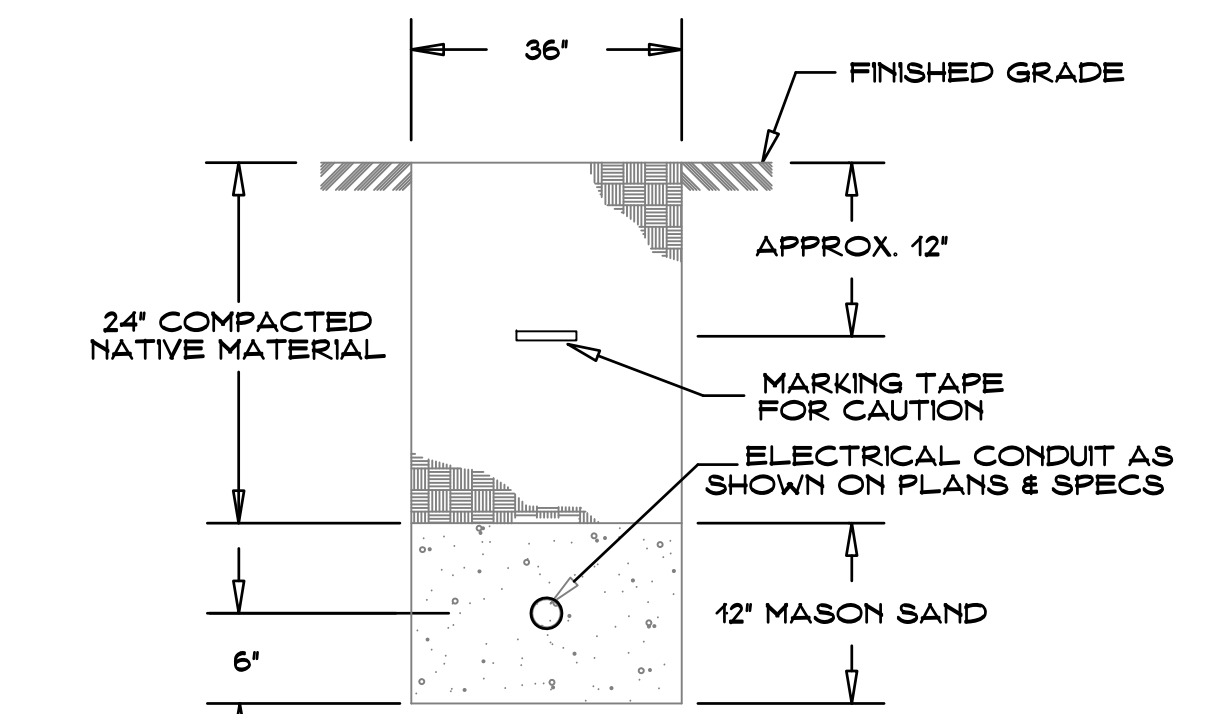


2 TYPICAL GENERATOR CONCRETE PAD DETAIL
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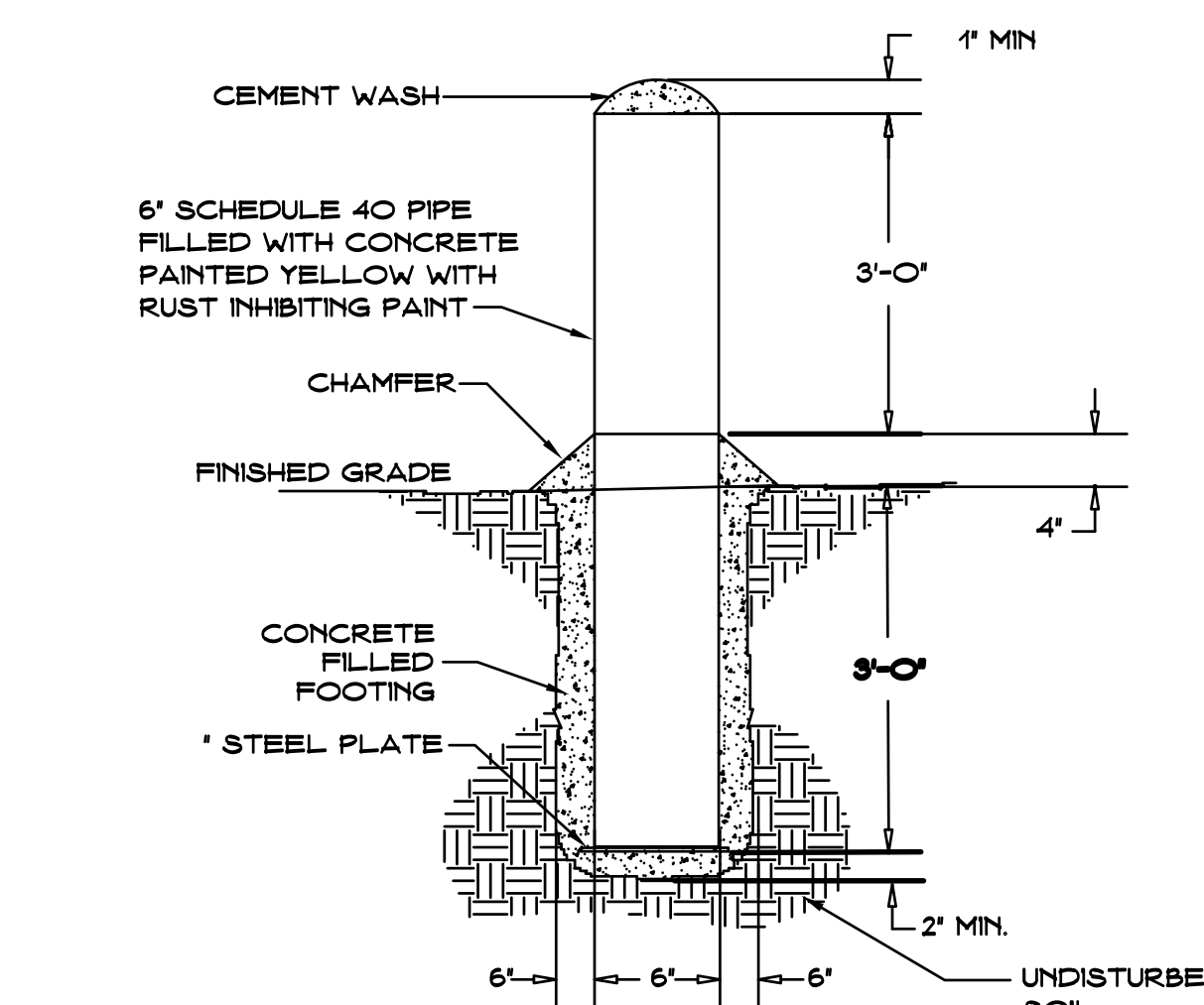
- NOTES:
1. INSPECT AND COMPACT ALL SOIL. PROVIDE 12" BASE OF ITEM #4 PROCESSED STONE, COMPACTED.
 2. ALL EXPOSED EDGES SHALL BE 3/4" CHAMFER.
 3. CONCRETE SHALL BE 4000 PSI @ 7 DAYS.
 4. LENGTH AND WIDTH OF PAD TO BE 6' WIDER ON EACH SIDE THAN GENERATOR ENCLOSURE.



3 GENERATOR GROUNDING DETAIL
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5 TYPICAL TRENCHING & BACKFILLING DETAIL
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6 CONCRETE BOLLARD DETAIL
NTS



Revision	Description	Date	Revised By