

|      | DRAWING INDEX  |  |  |  |  |  |  |  |  |  |
|------|--|--|--|--|--|--|--|--|--|--|
| M400 | MECHANICAL GENERATOR FUEL LEGEND AND ABBREVIATIONS     |  |  |  |  |  |  |  |  |  |
| M401 | MECHANICAL GENERATOR FUEL GENERAL NOTES                |  |  |  |  |  |  |  |  |  |
| M402 | MECHANICAL GENERATOR FUEL SITE PLAN                    |  |  |  |  |  |  |  |  |  |
| M403 | GENERATOR FUEL MECHANICAL ENLARGED PLAN NORTHWEST YARD |  |  |  |  |  |  |  |  |  |
| M405 | GENERATOR FUEL CONTROL DIAGRAM                         |  |  |  |  |  |  |  |  |  |

MD401 GENERATOR FUEL MECHANICAL ENLARGED DEMO PLAN

|                   | _F(AF)—<br>_F(CΔ)—   |                     | FIRE - ANTIFREEZE FIRE - CLEAN AGENT  | 2 1/2"———————————————————————————————————— | PIPE SIZE PIPING ROUTED BELOW SLAB OR GRADE                      |
|-------------------|----------------------|---------------------|---|--|--|
|                   | ≕F(CA)−<br>=F(DEL)−  |                     | FIRE - CLEAN AGENT FIRE - DELUGE  | AV   | ACID VENT  |
|                   | =F(DDX)              |                     | FIRE - DRAIN  | AW   | ACID WASTE   |
|                   | =F(DRY)=<br>==F(PA)= |                     | FIRE - DRY FIRE - PRE-ACTION  | BBD<br>CA(##)                              | BOILER BLOWDOWN  COMPRESSED AIR (NOMINAL PRESSURE)               |
|                   | F                    |                     | FIRE - WET  | CD(P)                                      | CONDENSATE DISCHARGE PUMPED                                      |
|                   | AC                   |                     | SPRINKLER GUARD FOR UPTICHT, PENDANT OR SIDEWALL SPRINKLER ABBREVIATION FOR ANTICORROSION       | CD   | CONDENSATE DRAIN DIONIZED WATER                                  |
|                   | нт<br>[]             |                     | ABBREVIATION FOR HIGH TEMPERATURE  SPARE CABINET FOR 12 SPRINKLERS                              | DIR  | DIONIZED WATER RECIRCULATING                                     |
|                   | SAN                  |                     | DRAINAGE PIPING   | DCW  | DISTILLED WATER  DOMESTIC COLD WATER                             |
|                   | <b>↔</b><br>-        |                     | FIRE EXTINGUISHER   | DCW(S)                                     | DOMESTIC COLD WATER SOFTENED                                     |
|                   | <b>→</b>             |                     | SIAMESE FIRE DEPARTMENT CONNECTION PRIVATE HYDRANT - ONE HOSE OUTLET                            | DHW  | DOMESTIC HOT WATER  DOMESTIC HOT WATER RECIRCULATION             |
|                   | <b>+</b>             |                     | PUBLIC HYDRANT - TWO HOSE OUTLETS   | D  | DRAIN  |
|                   | 0                    |                     | PUBLIC HYDRANT - TWO HOSE OUTLETSAND PUMPER CONNECTION UPRIGHT SPRINKLER                        | GWH  | GREASE WASTE HUMIDIFICATION                                      |
|                   | •                    |                     | PENDANT SPRINKLER   | LV   | LABORATORY VENT  |
|                   | ∇<br>• DP            |                     | SIDEWALL SPRINKLER  DRY PENDANT SPRINKLER   | LW   | LABORATORY WASTE  NATURAL GAS (LOW PRESSURE)                     |
|                   | $\nabla$             |                     | DRY SIDEWALL SPRINKLER  | GD   | GARAGE DRAINAGE  |
|                   | FCP                  |                     | FIRE ALARM CONTROL PANEL FIRE VALVE CABINET   | GV   | NATURAL GAS VENT MEDIUM PRESSURE GAS                             |
|                   | SPCAB                |                     | SPRINKLER CABINET   | NPCW——                                     | NON-POTABLE COLD WATER   |
|                   | ₽<br>Ø               |                     | FIRE HOSE VALVE ASSEMBLY FIRE DAMPER  | NPCW(S)                                    | NON-POTABLE COLD WATER SOFTENED NON-POTABLE HOT WATER            |
|                   | <u></u>              |                     | FIRE DAMPER SMOKE DAMPER  | NPHW(S)                                    | NON-POTABLE HOT WATER SOFTENED                                   |
|                   | Ø                    |                     | FIRE SMOKE DAMPER   | PT\$                                       | PNEUMATIC TRANSPORT  |
| <u>r</u>          | <b>⊘</b>             | Fş                  | DUCT MOUNTED SMOKE SENSOR SUPERVISED BUTTERFLY VALVE  | PG   | PROPANE GAS REVERSE OSMOSIS                                      |
| 曹                 | 1                    | <b>7</b> 0 <u>₩</u> | SUPERVISED BUTTERFLY VALVE NORMALLY CLOSED  | ROR  | REVERSE OSMOSIS RECIRCULATION                                    |
| <b>⊕</b>          |                      | ₽<br>₩<br>₩         | SUPERVISED GATE VALVE SUPERVISED OUSIDE SCREW AND YORK (OS&Y) VALVE                             | SL   | SAMPLING LINE<br>SANITARY DRAIN                                  |
| •                 | 4                    | 8                   | SUPERVISED OS&Y VALVE   | SAN(O)                                     | SANITARY DRAIN (OIL)   |
| +<br>-><br>■•0•0= | T<br>ajiira          | <del>8</del>        | SUPERVISED WATERFLOW SWITCH SUPERVISED BACKFLOW PREVENTER                                       | SAN(P)———————————————————————————————————— | SANITARY PUMPED SANITARY RADIOACTIVE                             |
| - <u>O</u>        |                      |                     | WET ALARM CHECK VALVE WITH TRIMING  | ST   | STORM DRAIN  |
|                   |                      |                     | DELUGE ALARM CHECK WITH TRIMING   | ST(0)————————————————————————————————————  | STORM DRAIN OVERFLOW STORM DRAIN PUMPED                          |
| -                 | 4                    | i i                 | AIR MENTENANCE DEVICE   | ST(P)————————————————————————————————————  | VACUUM (AIR)   |
|                   |                      |                     | FLOOR AIR COMPRESSOR TANK   | VAC(EX)                                    | VACUUM PUMP EXHAUST  |
|                   |                      |                     | MOUNTED AIR COMPRESSOR ASSEMBLY DRY ALARM CHCEK VALVE WITH TRIMING                              | V  | VENT (OIL)   |
|                   |                      |                     | PREACTION ALARM CHECK VALVE WITH TRIMING  | V(SE)                                      | VENT (SEWAGE EJECTOR)  |
| <u>@</u>          |                      | ā                   | BOSTER PUMP (ALBANY PUMP) TEST AND DRAIN VALVE  |  | PIPE INSULATION FIXTURE TRAP                                     |
| <b> </b> @        | Å                    | rô                  | PRESSURE REDUCING VALVE   | СВ 🔾                                       | CATCH BASIN  |
| 러                 | ю                    | 0                   | 1-1/2 FIRE CONNECTION ANGLE VALVE 2-1/2 FIRE CONNECTION ANGLE VALVE                             | MH ○<br>RD Ø                               | MAN HOLE<br>ROOF DRAIN   |
| ₽                 | <b>3</b>             | *                   | FLOOR CONTROL VALVE ASSEMBLY  | FD Ø                                       | FLOOR DRAIN  |
| <u>Ø</u>          | <b>8</b>             | <b>2</b>            | CHECK VALVE TREADED BALL VALVE  | FFD ∅                                      | FUNNEL FLOOR DRAIN TRAP PRIMER                                   |
| ⊜•                | .S                   | 8                   | GROOVED BALL VALVE  | ·—————————————————————————————————————     | HOSE BIBB  |
| <b>©</b>          | Î                    | 1                   | HYDRAULIC GONG  |  | PLUMBING FIXTURES  |
|                   | ⊚                    | a                   | ELECTRIC BELL ELBOW WITH DRAIN 1 IN.  |  | LAB & MEDICAL GAS  |
| Ø                 | Œ                    | Œ                   | GROOVE ELBOW  | WAGD                                       | ANESTHETIC EVACUATION  |
| Ţ                 | A                    | <b>₽</b> O          | GROOVE TEE FIRE DEPARTMENT CONNECTION AND BACKFLOW PREVENTER                                    | CO2  | CARBON DIOXIDE  DENTAL COMPRESSED AIR                            |
|                   | od <br><b>o</b> ⊑⊓   | ₿                   | SIAMESE PROJECTING CONNECTION «Y»   | DV   | DENTAL VACUUM  |
| G                 |                      | ©\$<br>⊕            | SIAMESE CONNECTION «Y» FREE STANDING BODY FOR FIRE DEPARTMENT CONNECTION AND BACKFLOW PREVENTER | He———H2———                                 | HELIUM<br>HYDROGEN   |
| щ                 | (Con                 | •                   | CONCENTRIC GROOVED MECHANICAL REDUCER   | IA   | INSTRUMENT AIR   |
| 0                 | 8                    | <b>∘</b><br>•       | GROOVED MECHANICAL TEE OR CAP REDUCING COUPLING   | LCA——LVCA——                                | LABORATORY COMPRESSED AIR LABORATORY VACUUM                      |
| 0                 | 8                    | •                   | THREADED MECHANICAL TEE OR CAP  | KVCA                                       | MEDICAL AIR  |
| (Tai)             | <b>8</b>             | ф                   | THREADED MECHANICAL CROSS THREADED MECHANICAL TEE   | MV<br>N2                                   | MEDICAL VACUUM NITROGEN  |
|                   |                      | -                   | HORIZONTAL SPLIT CASE FIRE PUMP   | N2—  | NITROUS OXIDE  |
|                   |                      |                     | END SUCTION FIRE PUMP   | 02   | OXYGEN MEDICAL AIR OUTLET  |
| <b>₽Ç</b> N       |                      |                     | VERTICAL INLINE FIRE PUMP   | A<br>V                                     | MEDICAL AIR OUTLET MEDICAL VACUUM OUTLET                         |
|                   | D <sub>1</sub>       | <b>a</b>            | FIRE PUMP ANGLE BODY 4 WAY  | Ń<br>N                                     | MEDICAL NITROGEN OUTLET  |
|                   |                      | 0                   | JOCKEY PUMP   | ⟨N⟩<br>⟨NO⟩<br>⟨O⟩                         | MEDICAL NITROUS OXIDE OUTLET MEDICAL OXYGEN OUTLET               |
|                   |                      |                     |   | (A) -                                      | LAB AIR SINGLE BENCH OUTLET                                      |
|                   |                      |                     | PREACTION CABINET   | (V) →<br>(N) →                             | LAB VACUUM SINGLE BENCH OUTLET LAB NITROGEN SINGLE BENCH OUTLET  |
|                   |                      |                     | FIRE HOSE RACK  | NO-  | LAB NITROUS OXIDE SINGLE BENCH OUTLE                             |
|                   | <del>0.0</del>       |                     | SEISMIC EXPANSION LOOP  | (a)  | LAB OXYGEN SINGLE BENCH OUTLET LAB DOUBLE 45 DEGREE BENCH OUTLET |
|                   | <u> </u>             |                     |   | A  | LAB DOUBLE BENCH OUTLET  |
|                   |                      | <b>©</b>            | WALL POST INDICATOR VALVE (PIV)   | (A)  | LAB QUAD 45 DEGREE BECNH OUTLET MEDICAL GAS MASTER ALARM PANEL   |
|                   | 1                    |                     | HANGER  | 12222                                      | MEDICAL GAS AREA ALARM PANEL                                     |
|                   | .s.                  | <b>0</b>            | HYDRANT VALVE CONTROL WALL HYDRANT  | ——————————————————————————————————————     | MEDICAL GAS ZONE VALVE BALL VALVE                                |
|                   | <u>a</u>             |                     | WALL HYDRANT WALL MOUNTED PORTABLE FIRE EXTINGUISHER  |  | CHECK VALVE  |
|                   |                      |                     | SEMI RECESSED CABINET FOR PORTABLE EXTINGUISHER   |  |  |
|                   |                      |                     |   |  |  |
|                   |                      |                     |   |  |  |





**EQUIPMENT IDENTIFICATION** 

AB-# AIR BLENDER

AF-# AIR FILTER

B-# BOILER

BT-# BATH TUB

CH-# CHILLER

CB-# CHILLED BEAM

CC-# COOLING COIL

CONV-# CONVECTOR

CT-# COOLING TOWER

CU-# CONDENSING UNIT

CV-# CONTROL VALVE

DAC-# DOOR AIR CURTAIN

DF-# DRINKING FOUNTAIN

DG-# DOOR GRILLE

DS-# DUCT SILENCER

EL-# EXPANSION LOOP

DCT-# DECONTAMINATION TANK

DU-# DEHUMIDIFICATION UNIT

ERC-# ENERGY RECOVERY COIL

ERU-# ENERGY RECOVERY UNIT

ETU-# EXHAUST TERMINAL UNIT

EWC-# ELECTRIC WATER COOLER

F(LE)-# FAN LABORATORY EXHAUST

ES-# EMERGENCY SHOWER

EWS-# EYE WASH STATION

F(C)-# FAN CEILING

F(E)-# FAN EXHAUST

F(R)-# FAN RETURN

F(S)-# FAN SUPPLY

F-# FAN

F(T)-# FAN TRANSFER

FCU-# FAN COIL UNIT

FD-# FLOOR DRAIN

FUR-# FURNACE

FFU-# FAN FILTER UNIT

FPP-# FIRE PROTECTION PUMP

FTR-# FINNED TUBE RADIATOR

GFS-# GLYCOL FEED SYSTEM

H(C)-# HOOD (CANOPY)

H(I)-# HOOD (INTAKE)

H(K)-# HOOD (KITCHEN)

H(R)-# HOOD (RELIEF)

H(RH)-# HOOD (RANGE)

H-# HUMIDIFIER

HC-# HEATING COIL

HP-# HEAT PUMP

LAV-# LAVATORY

MSK-# MOP SINK

MV-# MIXING VALVE

RD-# ROOF DRAIN

RH-# RANGE HOOD

RP-# RADIANT PANEL

RTU-# ROOFTOP UNIT

SH-# SHOWER

SK-# SINK

HRU-# HEAT RECOVERY UNIT

HX-# HEAT EXCHANGER

MAU-# MAKEUP AIR UNIT

MD-# MOTORIZED DAMPER

MVP-# MEDICAL VACUUM PUMP

PDU-# POOL DEHUMIDIFICATION UNIT

PTAC-# PACKAGED TERMINAL AIR CONDITIONER

R-# RETURN AIR GRILLE / REGISTER / DIFFUSER

RPBP-# REDUCED PRESSURE BACKFLOW PREVENTER

S-# SUPPLY GRILLE / REGISTER / DIFFUSER

SPC-# SOLAR PANEL COLLECTOR

SSF-# SIDE STREAM FILTER

T(B)-# TANK (BUFFER TANK)

T(E)-# TANK (EXPANSION TANK)

T(S)-# TANK (STORAGE TANK)

UH-# UNIT HEATER

UV-# UNIT VENTILATOR

WC-# WATER CLOSET

WS-# WATER SOFTENER

UR-# URINAL

VA-# VALVE

L-# LOUVER

T(H)-# TANK (HYDRO PNEUMATIC TANK)

TRANSFER AIR GRILLE

USG-# UNFIRED STEAM GENERATOR

VFD-# VARIABLE FREQUENCY DRIVE

PRV-# PRESSURE REDUCING VALVE

HT-# HYDROPNEUMATIC TANK

LATU-# LAB AIR TERMINAL UNIT

MAC-# MEDICAL AIR COMPRESSOR

FPTU-# FAN POWERED TERMINAL UNIT

GSG-# GAS-FIRED STEAM GENERATOR(\*)

H(HC)-# HOOD (HEAT AND CONDENSATE)

DWH-# DOMESTIC WATER HEATER

E-# EXHAUST GRILLE / REGISTER / DIFFUSER

DCVA-# DOUBLE CHECK VALVE ASSEMBLY

DC-# DUST COLLECTOR

CUH-# CABINET UNIT HEATER

CRU-# CONDENSATE RETURN UNIT

AUTOMATIC AIR VENT

ABOVE FINISHED CEILING

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

ABOVE FINISH ROOF

AIR PRESSURE DROP

BACKDRAFT DAMPER

BRAKE HORSEPOWER

BRITISH THERMAL UNIT

CONSTANT AIR VOLUME

**CUBIC FEET PER MINUTE** 

DRY BULB TEMEPRATURE

A-WEIGHTED DECIBLES

DIRECT DIGITAL CONTROL

EXISTING TO BE DEMOLISHED

ENERGY EFFICIENCY RATIO

EXISTING RELOCATED (NEW

CONSTRUCTION PLANS)

(DEMOLITION PLANS)

FEET PER SECOND

GENERAL CONTRACTOR

GALLONS PER MINUTE

HEATING / VENTILATING / AIR

INTEGRATED ENERGY EFFECIENCY

INTEGRATED PART LOAD VALUE

LEAVING AIR TEMPERATURE

LEAVING WATER TEMPERATURE

HORSEPOWER

CONDITIONING

INVERT ELEVATION

HOUR

INCHES

KILOWATT

POUNDS

METER

MAXIMUM

VALUES

THOUSAND OF BTUH

MAXIMUM OVERCURREN

PROTECTION

NOT APPLICABLE

NOISE CRITERIA

NORMALLY CLOSED

NOMINAL PIPE SIZE

OWNER FURNISHED, CONTRACTOR

OWNER FURNISHED EQUIPMENT

OWNER FURNISHED / OWNER

POUNDS PER SQUARE INCH

POUNDS PER SQUARE INCH.

PNEUMATIC TUBE STATION POLYVINYL CHLORIDE

POUNDS PER SQUARE INCH, GAGE

OUTSIDE AIR

INSTALLED

INSTALLED

ABSOLUTE

RETURN AIR

SUPPLY AIR

RELATIVE HUMIDITY

UNDERGROUND

VERIFY IN FIELD

WITH

°F FAHRENHEIT

VARIABLE AIR VOLUME

VARIABLE FREQUENCY DRIVE

PROPYLENE GLYCOL

POINT OF ENTRANCE

POINT OF SERVICE

LINEAR FEET

FOOT/FEET

GAUGE

EXISTING TO BE RELOCATED

(DEMOLITION PLANS)

ETHELYENE GLYCOL

SYSTEM

CIRCUIT BALANCING VALVE

BOTTOM OF DUCT

BOTTOM OF PIPE

COMPLETE WITH

DECIBEL(S)

DEGREE

DIVISION

DRAWING

DOWN

**ACCESS PANEL** 

**AVERGAGE** 

ADJUSTABLE

AMERICANS WITH DISABILITIES ACT

AUTHORITY HAVING JURISDICTION

BUILDING AUTOMATION SYSTEM

BUILDING MANAGEMENT SYSTEM

AC-# AIR COMPRESSOR

AHU-# AIR HANDLING UNIT

ATU-# AIR TERMINAL UNIT

BCU-# BLOWER COIL UNIT

AS-# AIR SEPARATOR

ACU-# AIR CONDITIONING UNIT

ADS-# AIR AND DIRT SEPARATOR



#### **MECHANICAL DRAWINGS**

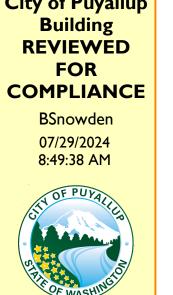


City of Puyallup Building **REVIEWED** FOR COMPLIANCE BSnowden 07/29/2024 8:49:38 AM

Approval of submitted plans is not an approval of omissions or oversights by this office or non compliance with any applicable egulations of local government. The contractor is responsible for making sure that the building complies with all applicable

engineering must be posted on the job at all inspections in a visible and readily accessible location.

Full sized legible color plans are required to be provided by the permitee on site for inspection.



codes and regulations of the local government. The approved construction plans, documents, and all

City of Puyallup

**Development & Permitting Services** 

**ISSUED PERMIT** 

Engineering Public Works

Traffic

Building

Fire

MECHANICAL

LEGEND AND

**ABBREVIATIONS** 

GENERATOR FUEL



#### **GENERAL NOTES**

- 1. THE MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE AND ARE BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL OF THE DETAILS FOR THE EQUIPMENT. THE MECHANICAL CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT AND ENSURE THAT IT WILL FIT IN THE AVAILABLE
- 2. MECHANICAL CONTRACTOR RESPONSIBLE FOR INSTALLATION OF COMPLETED AND OPERATIONAL SYSTEMS WITH DUE RESPECT TO ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION.
- 3. IT IS THE CONTRACTOR RESPONSIBILITY TO FIELD VERIFY ALL CONNECTION POINTS PRIOR TO INSTALL. NOT ALL CONNECTION SIZES ARE SHOWN, BUT THOSE THAT ARE APPROXIMATE AND TAKEN FROM
- 4. COORDINATE PIPE ROUTING WITH DUCTWORK, SPRINKLER PIPING AND ELECTRICAL POWER/LIGHTING CIRCUITING AND STRUCTURAL MEMBERS PRIOR TO INSTALLATION.

EXISTING AS-BUILTS AND FIELD OBSERVATIONS.

STRINGENT WILL APPLY.

- 5. CONTRACTORS TO VERIFY ALL GRADES. DIMENSIONS AND EXISTING CONDITIONS AT THE SITE BEFORE PROCEEDING WITH WORK. NOTIFY PRIME CONSULTANT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS BEFORE INSTALLATION.
- 6. EQUIPMENT AND SYSTEMS SHALL COMPLY WITH 2021 WASHINGTON STATE ENERGY AND MECHANICAL
- 7. COORDINATE INSTALLATION OF PIPING AND DUCTWORK WITH ELECTRICAL CONTRACTOR AND OTHER
- 8. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS NEEDED TO CONSTRUCT WORK SHOULD IN THE
- CONSTRUCTION DOCUMENTS AND ACCOMPANYING SPECIFICATIONS. 9. IF THERE IS A CONFLICT BETWEEN THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS, THE MOST
- 10. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURERS. CONTRACTOR TO PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES
- 11. BUILDING IS UNHEATED AND SHALL BE CLASSIFIED AS A LOW ENERGY BUILDING PER C4021.1.1.
- 12. SYSTEMS ADHERE TO SECTION C403.3.2 HVAC EQUIPMENT PERFORMANCE REQUIREMENTS: EQUIPMENT SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C403.3.2(1) THROUGH C403.3.2(12) WHEN TESTED AND RATED IN ACCORDANCE WITH THE APPLICABLE TEST PROCEDURE.

REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.

- 13. SYSTEMS ADHERE TO C405.8 ELECTRIC MOTOR EFFICIENCY: A. ALL ELECTRIC MOTORS, FRACTIONAL OR OTHERWISE, SHALL MEET THE MINIMUM EFFICIENCY
  - REQUIREMENTS OF TABLES C405.8(1) THOUGH C405.8(4) WHEN TESTED IN ACCORDANCE WITH DOE 10 CFR UNLESS OTHER EXCEPTIONS ARE QUALIFIED AND MET BY THIS SECTION.
- B. FRACTIONAL HP FAN MOTORS THAT ARE 1/12 HP OR GREATER AND LESS THAN 1 HP (BASED ON THE OUTPUT POWER) WHICH ARE NOT COVERED IN TABLES C405.8(3) AND C405.8(4) SHALL BE ELECTRONICALLY COMMUTATED MOTORS OR SHALL HAVE A MINIMUM MOTOR EFFICIENCY OF 70 PERCENT WHEN RATED IN ACCORDANCE WITH DOE 10 CFR 431.
- 14. PENETRATIONS OF DUCTS, PIPES, CONDUITS, ETC IN WALLS REQUIRING PROTECTED OPENINGS SHALL BE FIRE STOPPED, FIRE STOP MATERIAL, SHALL BE A UL/ULC-LISTED ASSEMBLY APPROPRIATE FOR FIRE OR SMOKE PENETRATIONS AS APPLICABLE AND AS APPROVED BY THE FIRE MARSHAL.
- 15. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL FIRE, SMOKE, OR COMBINATION SMOKE/FIRE DAMPERS AND ACCESS PANELS COMMENSURATE WITH THE RATING OF THE WALL IN ALL DUCTWORK THAT PENETRATES FIRE WALLS, FIRE BARRIERS, FIRE PARTITIIONS, SMOKE BARRIERS AND SMOKE PARTITION IN ALL DUCTWORK THAT PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON THE DRAWINGS.
- 16. ALL BRANCH DUCTS SHALL HAVE VOLUME DAMPERS.
- 17. WHERE FLOW EXCEEDS 150 CFM, THE CONTRACTOR SHALL USE SMOOTH RADIUS ELBOWS OR TURNING
- 18. ALL DUCT JOINTS SHALL BE SEALED IN ACCORDANCE WITH SMACNA STANDARDS.
- 19. ALL DUCT DIMENSIONS ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED PROVIDED THAT THE NET FREE AREA IS MAINTAINED.
- 20. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1" FIBERGLASS INSULATING BLANKET WITH
- 21. ALL DUCTWORK SHALL BE CONSTRUCTED, ERECTED AND TESTED IN ACCORDANCE WITH THE LOCAL REGULATIONS AND PROCEDURES DETAILED IN THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION. (SMACNA).
- 22. ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED PER IMC.
- 23. DUCTWORK SHALL MEET THE AIR LEAKAGE REQUIREMENTS OF 2021 WSEC C402.5 AND VAPOR RETARDER REQUIREMENTS PER THE IBC.
- 24. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAPS TO SUPPORT PIPES WILL NOT BE PERMITTED. REFER TO SPECIFICATIONS FOR MINUMUM SPACING OF PIPE SUPPORTS.
- 25. ALL EQUIPMENT TO BE INSTALLED ON MIN 6" THICK CONCRETE HOUSEKEEPING PADS.
- 26. ALL EQUIPMENT, DUCTS PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHERPROOFED.
- 27. MECHANICAL EQUIPMENT, DUCTS AND PIPING ARE TO BE COORDINATED WITH STRUCTURAL JOISTS AND CROSS BRACING.
- 28. ALL EXPOSED PIPING IN OCCUPIED SPACES SUBJECT TO ARCHITECTURAL APPROVAL PRIOR TO
- 29. ALL DUCTWORK SHALL BE CONSTRUCTED AND SEALED PER IMC.
- 30. THE HVAC SYSTEMS SHALL BE TESTED AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER PRIOR TO COMMISSIONING. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER.
- 31. A BUILDING COMMISSIONING PROCESS AND FUNCTIONAL TESTING OF MECHANICAL SYSTEMS SHALL BE CARRIED OUT BY A CERTIFIED COMMISSIONING PROFESSIONAL IN ACCORDANCE WITH 2021 WSEC SECTION C408. THE MECHANICAL, ELECTRICAL, PLUMBING, AND CONTROL CONTRACTORS ARE REQUIRED TO PERFORM FUNCTIONAL PERFORMANCE TESTING OF ALL EQUIPMENT PRIOR TO TESTING BY THE COMMISSIONING AGENT. CONTRACTORS SHALL PROVIDE THE NECESSARY ASSISTANCE TO THE COMMISSIONING AGENT TO PERFORM COMMISSIONING DUTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING CORRECTIVE ACTION IF ANY DEFICIENCIES ARE FOUND DURING COMMISSIONING.
- 32. SYSTEMS ADHERE TO 2021 WSEC SECTION C408 SYSTEM COMMISSIONING: A. A CERTIFIED COMMISSIONING PROFESSIONAL (CCP) SHALL LEAD THE COMMISSIONING PROCESS. A CCP IS AN INDIVIDUAL WHO IS CERTIFIED BY AN ANSI/ISO/IEC 17024:2012 ACCREDITED ORGANIZATION TO LEAD, PLAN, COORDINATE, AND MANAGE COMMISSIONING TEAMS AND
- IMPLEMENT THE COMMISSIONING PROCESS. B. A CERTIFIED COMMISSIONING PROFESSIONAL SHALL PERFORM THE FOLLOWING:
- a. DEVELOP A COMMISSIONING PLAN. b. REVIEW BUILDING DOCUMENTATION AND CLOSE-OUT SUBMITTALS. c. PROVIDE A COMMISSIONING REPORT.
- d. LIST SPECIFIC EQUIPMENT, APPLIANCES AND SYSTEMS COMMISSIONED. C. FUNCTIONAL TESTING SHALL BE COMPLETED FOR THE FOLLOWING SYSTEMS AND THEIR
- ASSOCIATED CONTROL SYSTEMS: a. MECHANICAL SYSTEMS
- b. SERVICE WATER HEATING SYSTEMS c. CONTROLLED RECEPTACLE AND LIGHTING SYSTEMS
- d. EQUIPMENT APPLIANCE AND SYSTEMS e. ENERGY METERING

AND START-UP PROCEDURES.

- f. REFRIGERATION SYSTEMS D. A COMMISSIONING REPORT SHALL BE DELIVERED TO THE BUILDING OWNER AND INCLUDE:
- a. RESULTS OF THE FUNCTIONAL PERFORMANCE TESTS b. LIST OF DEFICIENCIES AND CORRECTIVE MEASURES IMPLEMENTED OR PROPOSED.
- c. FUNCTIONAL PERFORMANCE TEST PROCEDURES. d. COMMISSIONING PLAN.
- e. TAB REPORT. 33. TESTING AND BALANCING: ALL HVAC SYSTEMS SHALL BE BALANCED BY A LICENSED CONTRACTOR IN
- COMMISSIONING. 34. OWNER TRAINING BY CONTRACTORS FOR EACH PIECE OF EQUIPMENT OR SYSTEM SHALL INCLUDE: SYSTEM/EQUIPMENT OVERVIEW (WHAT IT IS, WHAT IT DOES, AND WHICH OTHER SYSTEMS OR EQUIPMENT DOES IT INTERFACE WITH). REVIEW OF THE AVAILABLE O&M MATERIALS. REVIEW OF THE RECORD DRAWINGS ON THE SUBJECT SYSTEM/EQUIPMENT. HANDS-ON DEMONSTRATION OF ALL NORMAL MAINTENANCE PROCEDURES, NORMAL OPERATING MODES, AND ALL EMERGENCY SHUTDOWN

ACCORDANCE WITH ACCEPTED ENGINEERING STANDARDS AND SPECIFICATIONS PRIOR TO





## **MECHANICAL**



FUEL OIL PIPING PERMIT R1 6/17/2024

FUEL OIL PIPING PERMIT

City of Puyallup Development & Permitting Services **ISSUED PERMIT** Building Planning Public Works Engineering Fire OF W Traffic

MECHANICAL GENERATOR FUEL Title GENERAL NOTES

MECHANICAL GENERATOR FUEL SITE PLAN

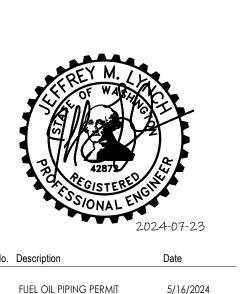
1" = 30'-0"





MECHANICAL DRAWINGS

VOLTAGE PARK UPS 1019 39th AVENUE SE PUYALLUP, WA 98374



City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building Planning
Engineering Public Works
Fire Traffic

Drawn By: Checked By:

JLV BO

MECHANICAL GENERATOR FUEL SITE Title PLAN

# (E) GENERATOR (E) 1 1/2" FOR (E) 1" FOS — PHASE 2. DISCONNECT EXISTING GENERATORS AND RECONNECT NEW GENERATOR 1 1/2" FOR 1" FOS 1 1/2" FOS/R — (N) GENERATOR (E) 2" FOS & FOR ——— EXISTING FUEL PIPING ROUTED TO (E) FOT-1 & (E) FOT-2 PHASE 1. — EXTEND PIPE TO NEW GENERATORS NOT IN SCOPE (N) GENERATOR (N) GENERATOR

## MECHANICAL GENERATOR FUEL ENLARGED PLAN 1/8" = 1'-0"





**KEY NOTES** 

M:07 EXISTING FUEL PUMPS AND FUEL CONTROL PANELS
P:04 PRIOR TO CONSTRUCTION, THE GENERAL CONTRACTOR

SHALL VERIFY THE LOCATION AND CONDITION OF ALL EXISTING UTILITIES, INCLUDING STORM DRAINAGE, SEWER LINES, WATER LINES, AND ELECTRICAL CONDUIT IN THE VICINITY OF THE PROJECT FOOTPRINT. THE

GENERAL CONTRACTOR/CIVIL CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING OR RELOCATING THE

STORM DRAIN AS NECESSARY AND AS DESIGNED UNDER THE APPROVED CIVIL PLANS FILED UNDER PERMIT PRCCP20240183 AND SHALL MAINTAIN UTILITY SEPARATION FROM ALL OTHER EXISTING AND

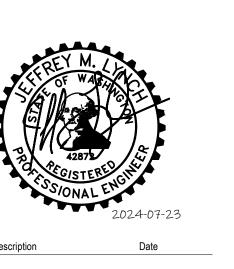
PROPOSED UTILITIES PRIOR TO POURING FOUNDATIONS AND EQUIPMENT PADS AND PRIOR TO INSTALLATION OF FLUID COOLERS OR OTHER MECHANICAL EQUIPMENT. ANY CONFLICTS BETWEEN THE PROPOSED PLANS AND THE APPROVED CIVIL PLANS MUST BE COORDINATED

AND MITIGATED AS NECESSARY PRIOR TO

CONSTRUCTION.

## MECHANICAL DRAWINGS

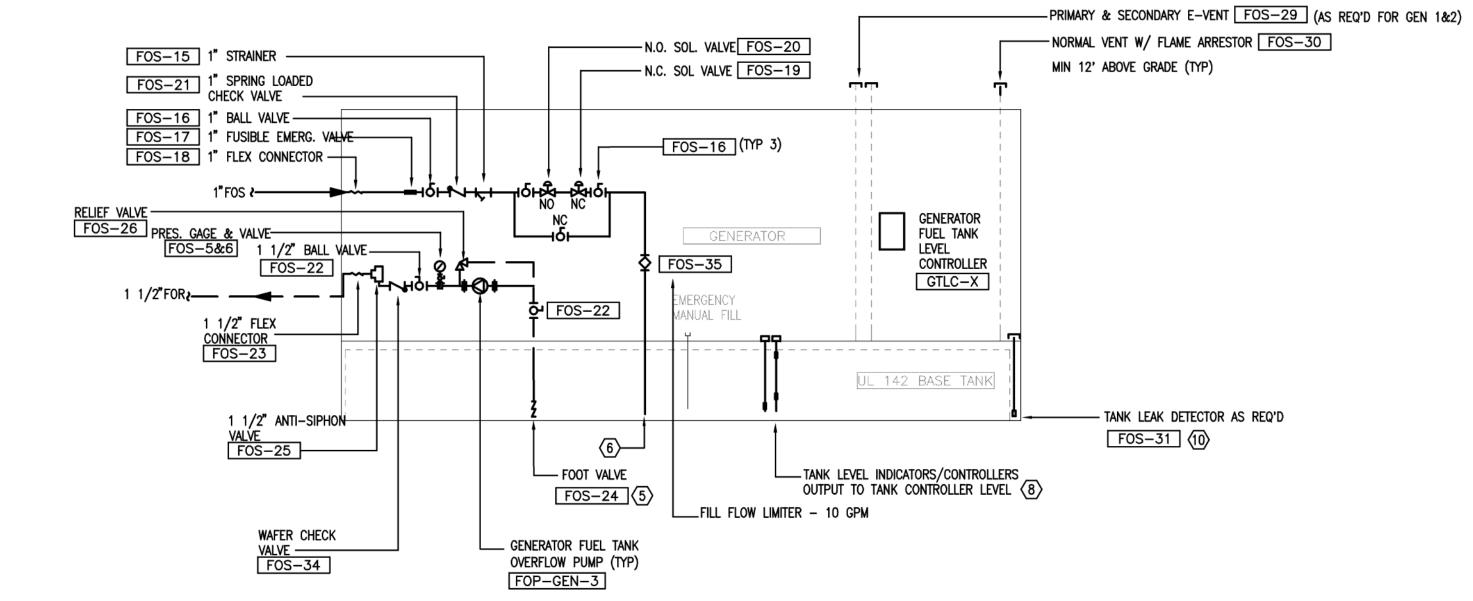
CENTERIS VOLTAGE PARK UPS 1019 39th AVENUE SE PUYALLUP, WA 98374



City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building Planning
Engineering Public Works
Fire Traffic

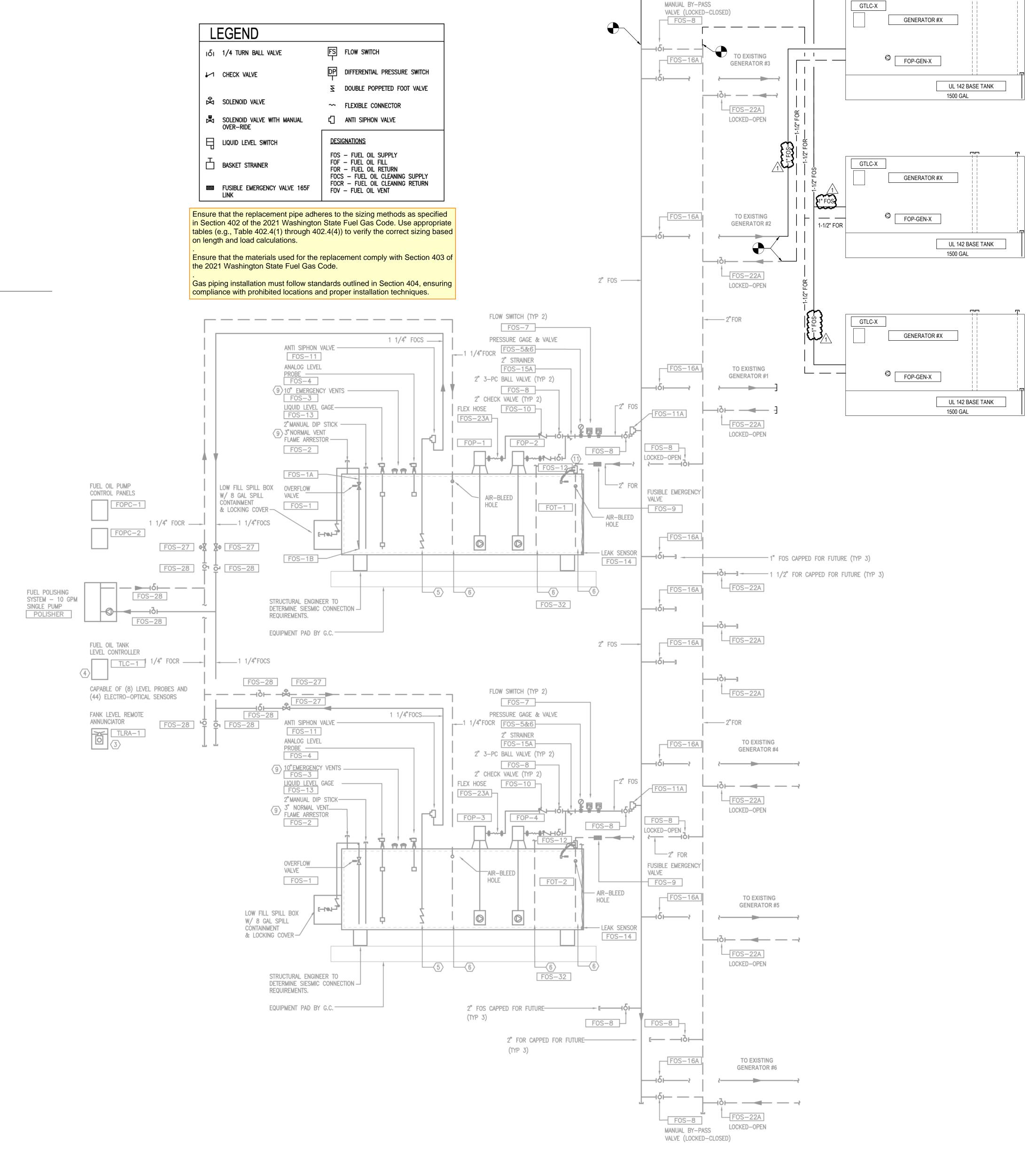
Drawn By: Checked By:

GENERATOR FUEL
MECHANICAL
ENLARGED PLAN
NORTHWEST YARD



|          |                |                 | MATERIAL      |               |                   |                                |                                    |                                    |  | JOINTS |       |          |        |          |        |         |                   |         |      |
|----------|----------------|-----------------|---------------|---------------|-------------------|--------------------------------|------------------------------------|------------------------------------|--|--------|-------|----------|--------|----------|--------|---------|-------------------|---------|------|
| SYSTEM   | PIPE SIZE (IN) | LOCATION        | COPPER TYPE K | COPPER TYPE L | A53 BS ERW SCH 40 | CARBON STEEL<br>A53 BS ERW STD | SCH 10 TYPE 316 STAINLESS<br>STEEL | SCH 10 TYPE 304 STAINLESS<br>STEEL | DOUBLE CONTAINED<br>FLEXIBLE PVDF UL-RATED | HDPE   | PEX-A | SOLDERED | BRAZED | THREADED | WELDED | SCREWED | PRESSURE FITTINGS | GROOVED | NOTE |
|          | 2 AND LESS     | CONCEALED       |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        | Χ        | Х      |         |                   |         |      |
|          |                | EXPOSED         |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        | Х        | Х      |         |                   |         |      |
| FUEL OIL |                | MECHANICAL ROOM |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        | Χ        | Х      |         |                   |         |      |
|          |                | OUTDOOR         |               |               |                   |                                |                                    |                                    |  |        |       |          |        | Χ        | Х      |         |                   |         |      |
|          |                | UNDERGROUND     |               |               |                   |                                |                                    |                                    | Х  |        |       |          |        |          |        | Х       |                   |         |      |
|          | 2-1/2 - 3      | CONCEALED       |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        |          | Х      |         |                   |         |      |
|          |                | EXPOSED         |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        |          | Х      |         |                   |         |      |
|          |                | MECHANICAL ROOM |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        |          | Х      |         |                   |         |      |
|          |                | OUTDOOR         |               |               |                   | Х                              |                                    |                                    |  |        |       |          |        |          | Х      |         |                   |         |      |
|          |                | UNDERGROUND     |               |               |                   |                                |                                    |                                    | Х  |        |       |          |        |          |        | Х       |                   |         |      |

**GENERATOR PIPING DETAIL** 





M404

centeris

720 3rd Avenue Suite 1500 Seattle Washington 98104-1878

(206) 667-0555

**MECHANICAL** 

**DRAWINGS** 

FUEL OIL PIPING PERMIT R1 7/23/2024

**Development & Permitting Services** 

**ISSUED PERMIT** 

Fire

GENERATOR FUEL

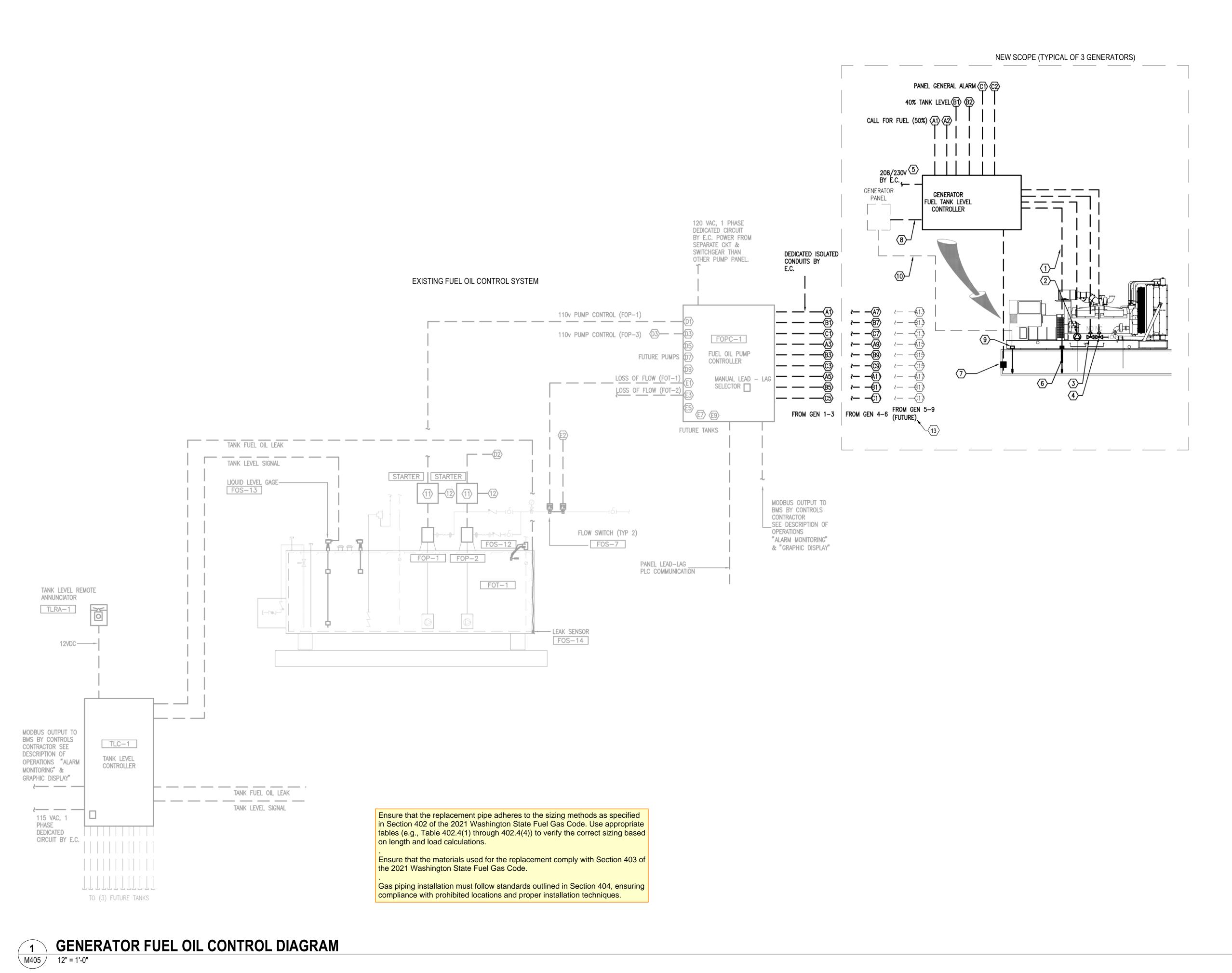
PIPING DIAGRAM

NORTHWEST YARD

Building

Engine<mark>ering</mark>

PRMH20240831



#### **KEY NOTES**

- 1 LEVEL PROBE CABLE BY E.C. (MULTIPLE)
- 2 PUMP CONTROL WIRING BY E.C.
- N.O. SOL. VALVE 110VAC. INSTALLED BY M.C., WIRING BY E.C.
- (4) N.C. SOL VALVE 110VAC. INSTALLED BY M.C., WIRING BY E.C.
- 5 GTLC HAS INTEGRAL DISCONNECT.
- (6) TANK LEVEL INDICATOR. INSTALLED BY M.C., WIRING BY E.C. (MULTIPLE)
- 7 TANK LEAK SENSOR. INSTALLED BY M.C., WIRING BY E.C.
- (8) GENERATOR GENERAL ALARM OUTPUT (DRY CONTACT) TO GENERATOR TANK LEVEL CONTROLLER. 9 GENERATOR LOW FUEL OIL SHUTDOWN TANK LEVEL INDICATOR — BY GENERATOR MFR. / E.C.
- (10) WIRING OF GENERATOR LOW FUEL OIL SHUTDOWN TANK LEVEL INDICATOR BY GENERATOR MFR / E.C.
- PUMP STARTERS WITH DEDICATED POWER FROM DIFFERENT PANELS / SWITCHGEAR 208/230V WITH DRY RUN PROTECTION. PROVIDED BY M.C. INSTALLED BY E.C. LOCATE STARTERS REMOTE.
- PUMP STARTER DISCONNECTS 208/230V BY E.C. POWER PUMP PAIRS FROM SEPARATE CIRCUIT/SWITCHGEAR TO CORRESPOND WITH PUMP PANELS.
- $\langle 13 \rangle$  FIELD CONFIRM SPACE FOR NEW GENERATOR POINTS ON CONTROLLER.





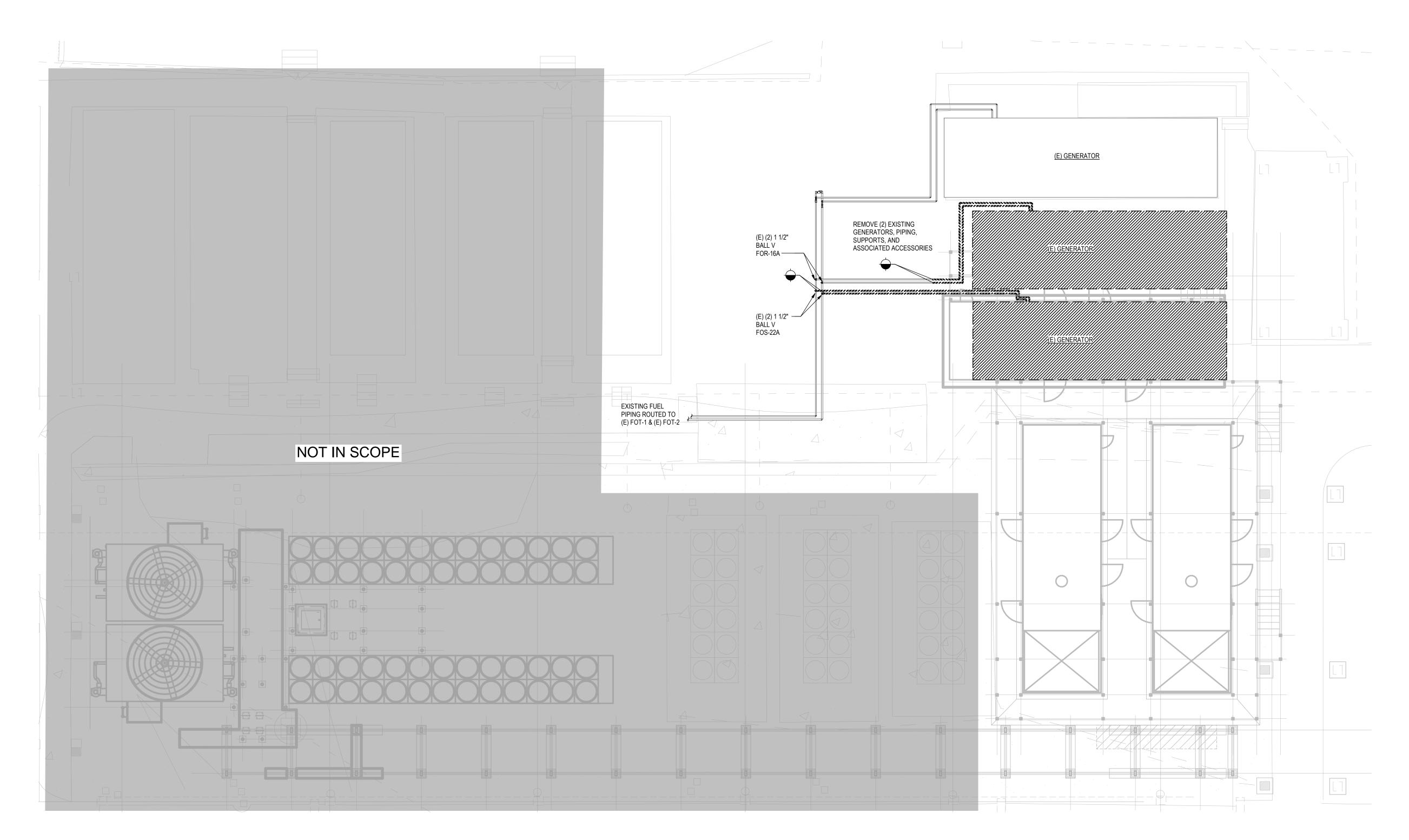
### **MECHANICAL DRAWINGS**



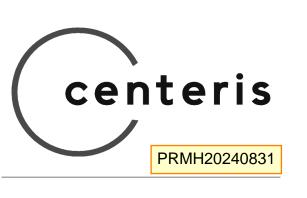
FUEL OIL PIPING PERMIT

**Development & Permitting Services** ISSUED PERMIT Building Engineering Fire

GENERATOR FUEL Title CONTROL DIAGRAM



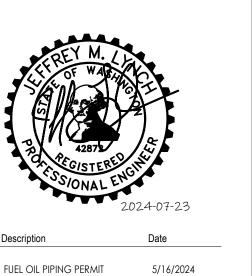






## MECHANICAL DRAWINGS

CENTERIS VOLTAGE PARK UPS 1019 39th AVENUE SE PUYALLUP, WA 98374



| City of P<br>Development & Pe<br>ISSUED |              |  |  |  |  |  |  |  |
|---|--------------|--|--|--|--|--|--|--|
| Building                                | Planning     |  |  |  |  |  |  |  |
| Engineering                             | Public Works |  |  |  |  |  |  |  |
| Fire OF W                               | Traffic      |  |  |  |  |  |  |  |

Drawn By: Checked By:

GENERATOR FUEL
MECHANICAL
ENLARGED DEMO
Title PLAN

**MD401**