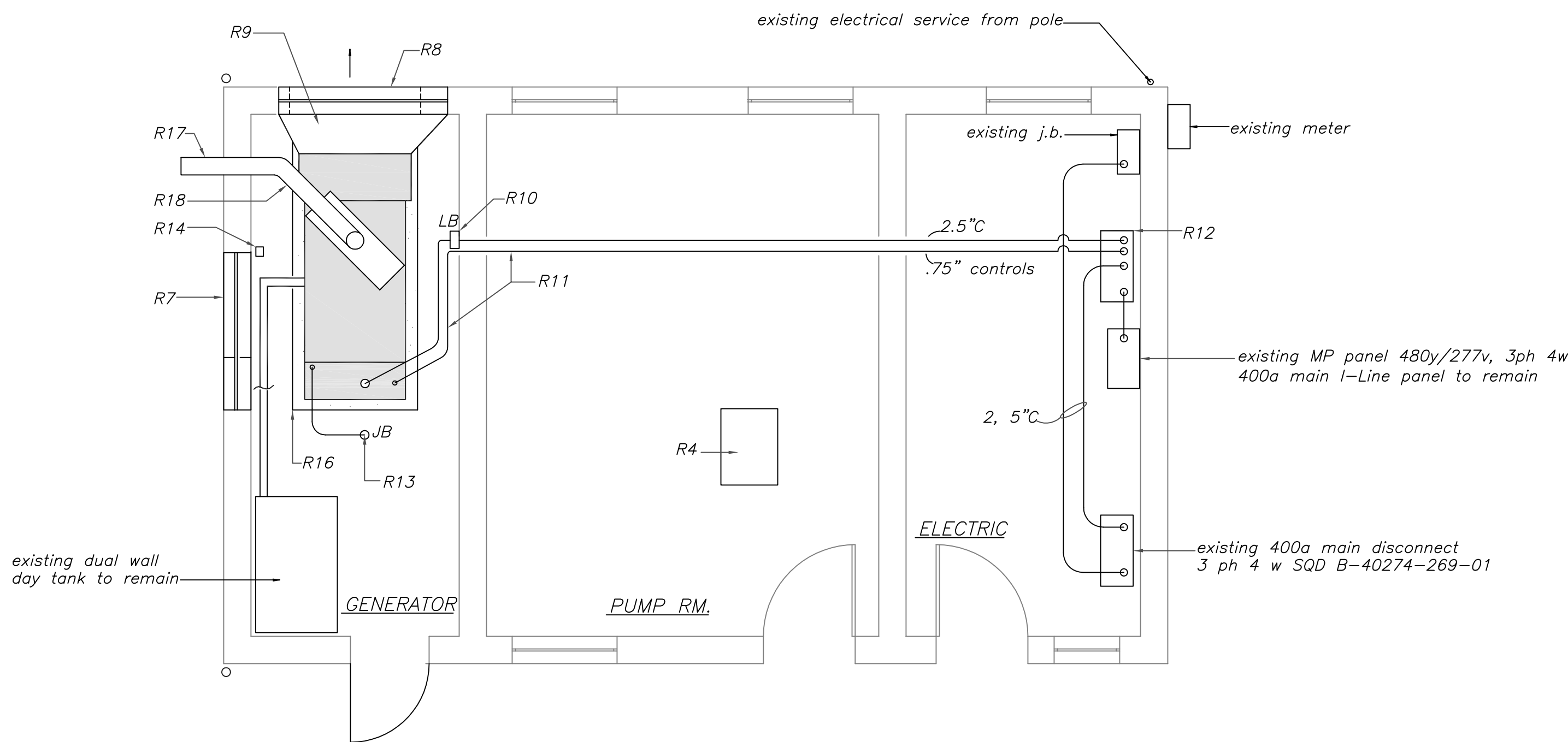
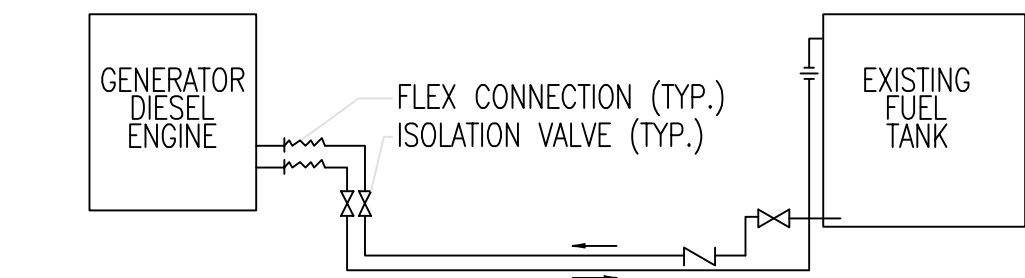


SOUTH (REAR) ELEVATION, BLDG. 16
SCALE: 1/4"=1'-0"

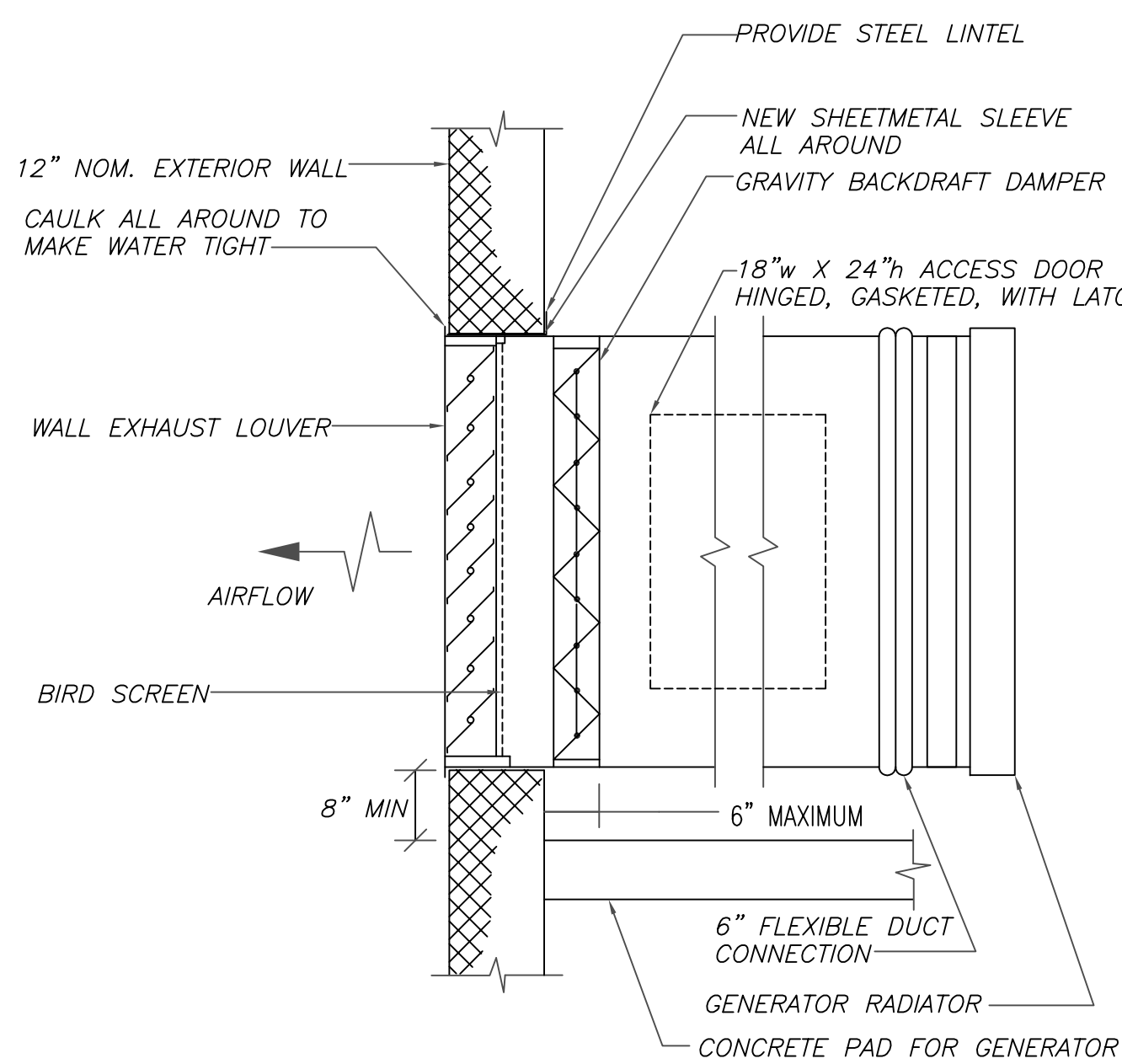
EAST (SIDE) ELEVATION, BLDG. 16
SCALE: 1/4"=1'-0"



PLAN OF RESERVOIR PUMPHOUSE, BLDG. 16
SCALE: 1/4"=1'-0"



FUEL PIPING FROM GENERATOR TO TANK
NO SCALE



WALL EXHAUST LOUVER DETAIL ELEVATION
NO SCALE

GENERATOR and AUTOMATIC TRANSFER SWITCH SET

1. BASIS OF DESIGN IS BY CUMMINS POWER GENERATION. ANY MODIFICATIONS TO SITE BY OTHER MANUFACTURERS PRODUCTS SHALL BE REVIEWED AND ACCOMPLISHED BY CONTRACTOR. THE BELOW SHALL BE MINIMUM ACCEPTABLE SALIENT CHARACTERISTICS

CUMMINS CROSSPOINT DIESEL GENSET 60 Hz-110kW FOR PUMP HOUSE.
INSTALL-US-STAT - U.S. EPA, STATIONARY EMERGENCY APPLICATION

| ITEM | DESCRIPTION |
|----------|--|
| 100DSCAA | GENSET-DIESEL, 60Hz, 100kW |
| A331-2 | DUTY RATING STANDBY POWER |
| L090-2 | LISTING-UL 2200 |
| L169-2 | EMSSON CERT, EPA, TIER 3, NSPS CI STATIONARY EMERGENCY |
| R002-2 | VOLTAGE-277/480, 3 PHASE, WYE, 4 WIRE |
| B246-2 | ALTERNATOR-60Hz, 12 LEAD, LIMITED RANGE, 125/105C |
| H702-2 | GENSET CONTROL POWER COMMAND 2.2 |
| B184-2 | EXCITER/REGULATOR-FMS, 3PH SENSOR |
| A336-2 | ENGINE GOVERNOR- ELECTRONIC, ISOCHRONOUS ONLY |
| H536-2 | DISPLAY LANGUAGE- ENGLISH |
| H609-2 | CONTROL MOUNTING- LEFT FACING |
| H606-2 | METERS-AC OUTPUT, ANALOG |
| K631-2 | REALYS-GENSET STATUS, USER CONFIGURED |
| K796-2 | STOP SWITCH EMERGENCY |
| KS53-2 | SIGNALS- AUXILIARY, 8 INPUTS/8 OUTPUTS |
| KP79-2 | CIRCUIT BREAKER OR ENTRANCE BOX-LEFT SIDE ONLY |
| K171-2 | CIRCUIT BREAKER-150A, LEFT, 3P, 600/525V. TM. 80%, LU/IEC |
| F179-2 | SKIDBASE-HOUSING READY |
| C127-2 | SEPARATOR-FUEL/WATER |
| A422-2 | ENGINE STARTER-12VDC MOTOR |
| A333-2 | BATTERY CHARGING ALTERNATOR NORMAL OUTPUT |
| E125-2 | ENGINE COOLING HIGH AMBIENT AIR TEMPERATURE |
| H389-2 | SHUTDOWN LOW COOLANT LEVEL |
| E089-2 | EXTENSION ENGINE COOLANT DRAIN |
| F013-2 | DUCT ADAPTOR RADIATOR OUTLET |
| H669-2 | ENGINE COOLANT 50% ANTIFREEZE, 50% WATER, MIXTURE |
| H036-2 | COOLANT HEATER- 120V AC, SINGLE PHASE |
| D036-2 | ENGINE AIR CLEANER HEAVY DUTY |
| A299-2 | EXHAUST CONNECTOR NPT |
| H706-2 | ENGINE OIL |
| L031-2 | GENSET MANUFACTURER WARRANTY STANDY COMPREHENSIVE EXTENDED 5 YEARS, 1500 HOURS |
| L050-2 | LITERATURE ENGLISH |
| A322-2 | PACKING SKID POLY BAG |
| F065-2 | RACK BATTERY |
| H268-2 | EXTENSION OIL DRAIN |
| CP01-2 | COMMON PARTS LISTING |
| SPEC H | PRODUCT REVISION H |

TESTING START UP INSPECTION
BATTERY BATTERY
BAT CHARGER 10 AMP, 12/24V SENS BATTERY CHARGER

TESTING 4 HOUR ON SITE LOAD BANK TESTING

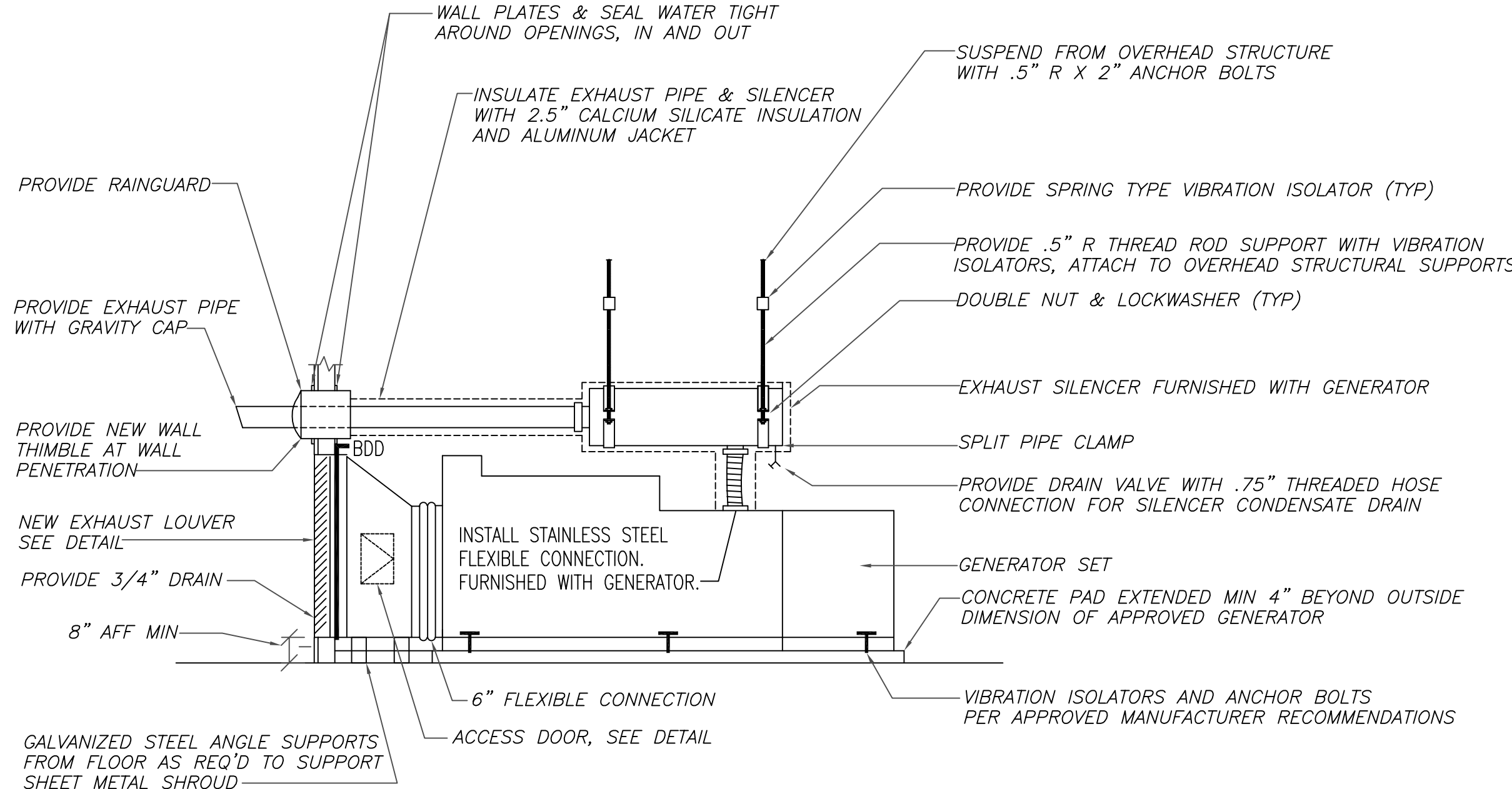
TRANSFER SWITCH POWER COMMAND: 400A

| | |
|---------|--|
| OTPC400 | TRANSFER SWITCH-ONAN, PWRCOMD 400 AMP |
| A02807 | POLES-3 |
| A035-7 | APPLICATION UTILITY TO GEN SET |
| A046-7 | LISTING UL 1008/CSA CERTIFICATION |
| A044-7 | FREQUENCY 60 HERTZ |
| A042-7 | SYSTEM 3 PHASE 4 WIRE |
| R026-7 | VOLTAGE 480 VAC |
| B001-7 | CABINET TYPE 1 |
| C023-7 | CONTROL TRANSFER SWITCH LEVEL 1 |
| M019-7 | DISPLAY DIGITAL |
| M031-7 | INTERFACE COMMUNICATIONS NETWORK FTT-10 |
| L102-7 | AUXILIARY RELAY SWITCH IN EMERGENCY POSITION - 24VDC |
| L103-7 | AUXILIARY RELAY SWITCH IN NORMAL POSITION - 24 VDC |
| G013-7 | TRANSFER SWITCH MANUFACTURER WARRANTY, 5 YEARS COMPREHENSIVE |
| CP01-7 | COMMON PARTS LIST |
| SPEC-A | PRODUCT REVISION A |


CONTRACTOR ASSUMES REMOVAL OF EXISTING GENERATOR, AND INSTALLATION TO PLACEMENT OF NEW GENERATOR, AND ALL REQUIREMENTS AND MATERIALS TO INSURE PROPER OPERATION OF UNIT PRIOR TO ACCEPTANCE BY VA. CONTRACTOR SHALL PROVIDE A BALANCE OF FUEL AS REQUIRED TO START UP AND LOAD BANK.

Renovation Notes (R)

- ALL WORK SHALL TAKE PLACE MONDAY THROUGH THURSDAY 6AM-430PM. ACCOMPLISH ALL WORK TO MINIMIZE DISRUPTION TO MEDICAL CENTER OPERATIONS AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR PUMPHOUSE SECURITY WHEN WORK STARTS. VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BIDDING PROJECT AND PROVISION OF SUBMITTALS.
- PROVIDE NEW LABELS AND LEGENDS FOR ALL ITEMS, ALL CONDUIT WORK SHALL BE IN COMPLIANCE WITH CURRENT EDITION OF NATIONAL ELECTRIC CODE.
- ALL WORK ON GENERATOR SHALL BE ACCOMPLISHED BY QUALIFIED INDIVIDUALS APPROVED BY MANUFACTURER OF THE GENERATOR.
- REMOVE EXISTING AND INSTALL NEW MATERIAL ON EXISTING WATER PUMP (MATERIALS BY JABO):
2 EACH ITEM#027-99990 6"x8" 150LB STYLE 50E-45A EPDM EXPANSION JOINT (\$2,600)
2 EACH ITEM#958-64066 6" 150 LB RED RUB F/F/ GASKET 1/8" THICH
6 EACH ITEM#950-54180 FT 3/4" X 6" GALVANIZED ALL THREAD ROD
16 EACH ITEM#952-67080 3/4" PLATED HEAVY HEX NUT
6 EACH ITEM#952-20200 6" 150 LB FLANGE PACK, 1/16" RIN
- PATCH HOLE WHERE OLD EXHAUST IS REMOVED WITH GALVANIZED PLATE BOTH SIDES, CAULK/SEAL AND TAPCON
- CORE DRILL 8" HORIZONTAL HOLE (VERIFY WITH MFGR) IN MASONRY EXTERIOR WALL TO ACCEPT NEW EXHAUST PIPING, SEE DETAIL
- REMOVE EXISTING 4/4' LOUVER, SAWCUT MASONRY EXTERIOR WALL AND PATCH TO ACCEPT NEW 6' X 4' INTAKE LOUVER, MATCHING EXISTING STYLE REMOVED WITH BIRDSCREEN AND NEW MOTORIZED BLADE INTAKE WITH SPRING CLOSE; INTERLOCK OPEN WHEN GENERATOR RUNS.
- REMOVE EXISTING 6/4' LOUVER. SAWCUT MASONRY IN EXTERIOR WALL AND PATCH & SAW CUT AT SOLID CONCRETE FOUNDATION, TO INSURE NEW GENERATOR WILL FIT, NOMINALLY 8' X 6' EXHAUST LOUVER, MATCHING EXISTING STYLE REMOVED WITH BIRDSCREEN AND BACKDRAFT DAMPER. INSTALL NEW STEEL LINTEL TO HOLD BRICK WORK ABOVE AND PAINT. SECURE AND SEAL TO MASONRY.
- INSTALL NEW SHEETMETAL ENCLOSED TRANSITION DUCT SHROUD FROM RADIATOR TO EXHAUST LOUVER. PROVIDE SIDE ACCESS DOOR AND APPROVED FLEXIBLE CONNECTION AT GENERATOR, SEE DETAIL.
- NEW GENERATOR SITS BEYOND EXISTING TIE IN POINT OF OLD REMOVED. REPLACE WIRING FROM A.T.S. TO GENERATOR MATCHING EXISTING 4 WIRE WITH GROUND, REPLACE EXISTING CONDUIT AT EXISTING LB WITH NEW 2.5" RIGID CONDUIT TO NEW TIE IN POINT OF GENERATOR.
- NEW ENGINE MOUNT CONTROL PANEL. REPLACE WIRING FROM A.T.S. TO GENERATOR WITH NEW PER APPROVED MANUFACTURER REQUIREMENTS. EXTEND NEW CONDUIT FROM NEAREST JUNCTION BOX TO NEW POINT OF CONNECTION.
- REMOVE EXISTING GENERATOR AUTOMATIC TRANSFER SWITCH (A.T.S.) AND REPLACE WITH NEW. TIE IN EXISTING WIRING FROM EXISTING DISCONNECT. TIE IN NEW CONTROL WIRING AND CONDUIT, AND TIE IN ADJACENT MP PANEL.
- TIE INTO EXISTING 120V CKT AND JUNCTION BOX IN CEILING, EXTEND NEW WIRING AND EMT CONDUIT TO SIDE OF GENERATOR AND SURFACE MOUNT NEW 4 GANG H.G. RECEPACLE FOR ENGINE BLOCK HEATER AND MAINTENANCE USE. UTILIZE SEAL TIGHT CONDUIT AT CONNECTION POINT, MAX. 6" RUN.
- WIRE NEW ELECTRICAL TO DAMPER FROM WHERE OLD IS REMOVED..
- DISCONNECT EXISTING FUEL PIPING FROM OLD GENERATOR REMOVED. RE-PIPE WITH NEW PIPING TO LOCATION OF NEW GENERATOR, SIMILAR TO OLD REMOVED. PAINT AND LABEL PIPE, MATCH EXISTING MATERIAL SPECS AS A MINIMUM.
- EXTEND EXISTING CONCRETE CURB ON ALL 4 SIDES, DRILL REBAR INTO EXISTING SIDE OF PAD, AND DRILL EXPANSION BOLTS IN FLOOR HELD UP MIN 1.5"; FORM AND POUR MIN OF 12" ON ALL FOUR SIDES. MINIMUM SPEC IS 4" BEYOND OUTSIDE DIMENSION OF NEW GENERATOR.
- NEW GENERATOR EXHAUST, CORE DRILL MIN 8" THROUGH MASONRY FOR PIPING PENETRATION, SEE DETAIL. PROVIDE 3/4" DRAIN TO GRADE. INSTALL MUFFLER AND FLEX CONNECTION FURNISHED BY GENERATOR MANUFACTURER. PROVIDE INSULATION, HANGERS, SUPPORTS AND ALUMINUM JACKET.
- NEW 5" WELDED STAINLESS STEEL EXHAUST PIPING, 2.5" CALCIUM SILICATE. SLOPE 1/8" PER FOOT FRO SILENCER TO EXTERIOR WALL



MUFFLER & LOUVER MOUNTING DETAIL
NO SCALE

|  | UNITED STATES DEPARTMENT OF VETERANS AFFAIRS | | | | | | |
|---|---|---|-----------------------------|-------------|-----------------|-------------------------------|-----------|
| | DRAWING TITLE: | | PROJECT TITLE: | | PROJECT NUMBER: | REVIEWED: | |
| | SECTIONS, DETAILS & NOTES BLDG. 17 PUMPHOUSE | | REPLACE PUMPHOUSE GENERATOR | | 581-13-111 | DAN NICHOLSON, SAFETY MANAGER | |
| | | | | | DATE: | REVIEWED: | |
| | APPROVED, CHIEF ENGINEER: | | BUILDING: | DESIGNED: | CHECKED: | DRAWING NUMBER: | REVIEWED: |
| | JOHN KLIM III | | 16 | Steve Boyes | Wasser/Elrod | 1 | |
| | APPROVED, ASSISTANT CHIEF ENGINEER: | | LOCATION: | | DWG. 1 of 1 | | REVIEWED: |
| CHRIS ECKLES | | VA MEDICAL CENTER 1540 SPRING VALLEY DRIVE HUNTINGTON, W.V. 25704 | | | | | |