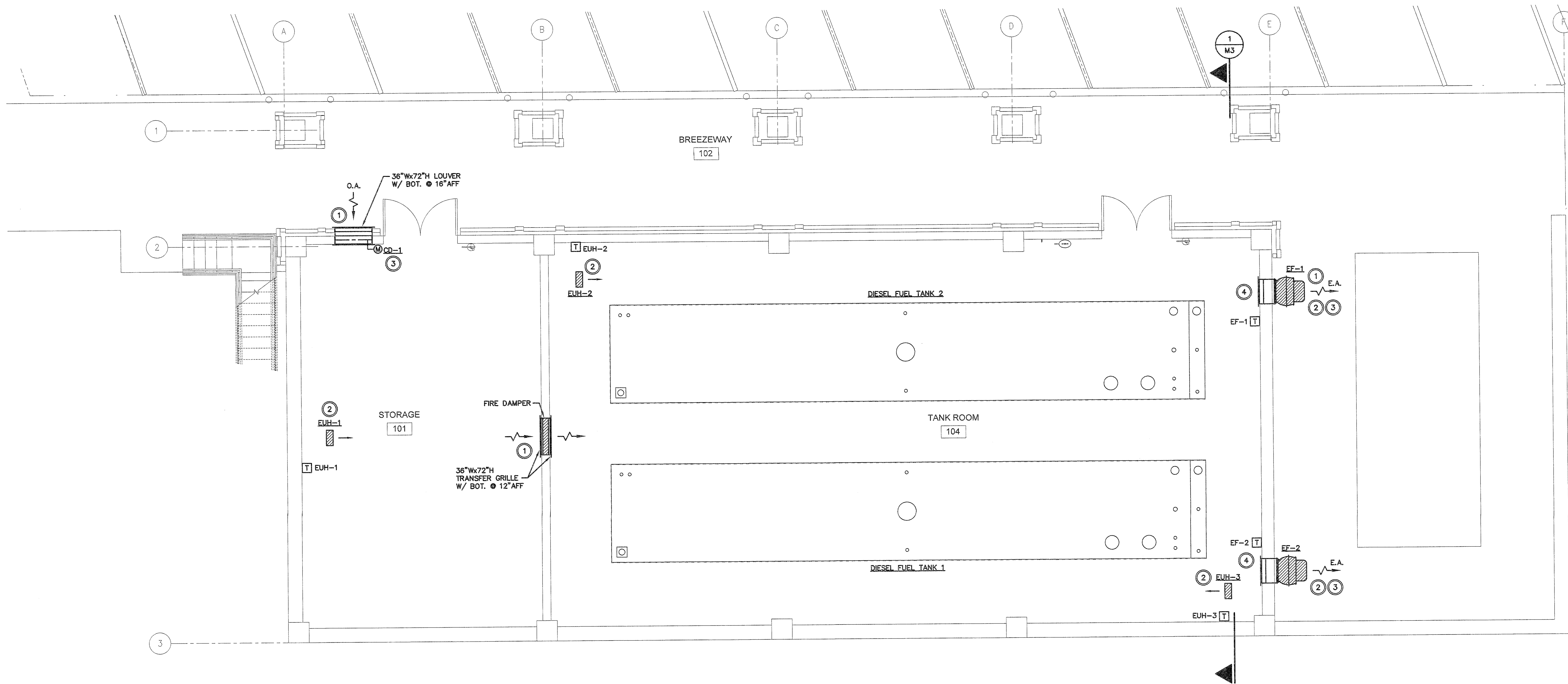


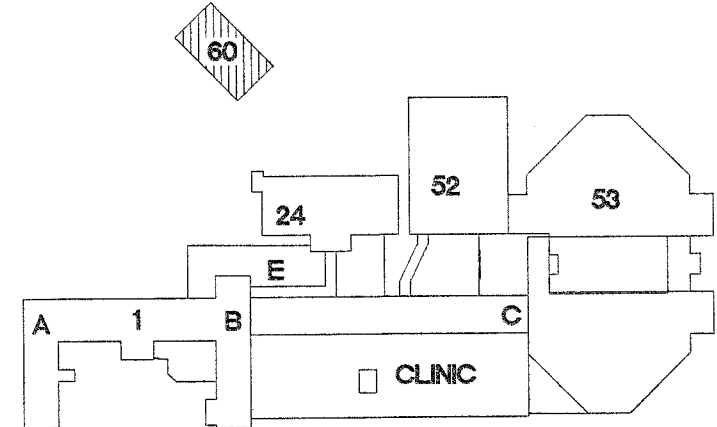
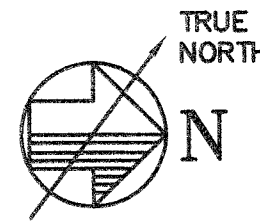
NOTE: CONTRACTOR IS ADVISED TO VISIT THE SITE TO OBSERVE EXISTING CONDITIONS PRIOR TO BID. ALL CONTRACTOR PERSONNEL ARE REQUIRED TO ATTEND OSHA TRAINING TO MEET OWNER REQUIREMENTS. ALL CONTRACTOR PERSONNEL ARE ALSO REQUIRED TO COMPLETE SECURITY CLEARANCE REQUIREMENTS AND TRAINING.

NOTES:

- 1 NEW MECHANICAL WORK SHOWN BOLD (TYPICAL).
- 2 COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. MOUNT UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL.
- 3 INTERLOCK INTAKE DAMPER WITH EACH VENTILATION FAN (EF-1 AND EF-2). EACH FAN SHALL START AFTER DAMPER END SWITCH MAKES CONTACT. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR.
- 4 COVER WALL OPENING WITH 1/2" X 1/2" EXPANDED ALUMINUM WIRE MESH.



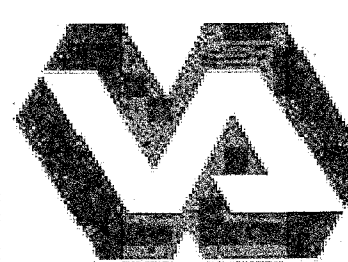
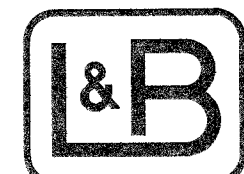


1 FIRST FLOOR - MECHANICAL PLAN



KEY PLAN
SCALE: NO SCALE



CAD#25119 JUN-26-13 L&B PROJ. #6100

SUBMISSION		DATE	 <div>Department of Veterans Affairs Jack C. Montgomery Medical Center 1011 Honor Height Drive Muskogee, Oklahoma 74401</div>	CONSULTANTS:		SEAL:	ARCHITECT / ENGINEERS		APPROVED: President A.F.O.E 2220		APPROVED: Energy Engineer		APPROVED: Medical Center Director		DRAWING TITLE: FIRST FLOOR - MECHANICAL PLAN		PROJECT TITLE FULL FACILITY GENSET		Date 6-28-2013		<div>Department of Veterans Affairs</div>							
100% Construction Documents		6-28-13		 <div>Lee & Browne Consulting Engineers, Inc. 1207 South Sheridan Road Tulsa, Oklahoma 74112-5405 (918) 836-0271 CA #252 Exp.: 6/14</div>		 <div>MICHAEL RAY BASE 19311 6/22/15 OKLAHOMA</div>		 <div>7700 NORTH HUDSON AVENUE, SUITE 9 OKLAHOMA CITY, OKLAHOMA 73118 WWW.SPUR-DESIGN.COM PHONE: 405.842.6100 OK CERTIFICATE OF AUTHORITY NO.: 32293</div>		APPROVED:		APPROVED: Safety Manager		APPROVED: Associate Director		PROJECT NUMBER 623-12-109		CONTRACT NO:		Designed By MRB		Drawn By WMK		Checked By MRB		DRAWING NO: M1		
100% Construction Documents (For Owner Review)		6-24-13								APPROVED:		APPROVED: Infection Control Nurse		APPROVED: Chief of Staff		BUILDING NUMBER 60		AUTOCAD FILE NAME:		Location								
99% Construction Documents		2-28-13								APPROVED:		APPROVED: Industrial Hygienist		APPROVED: Chief of Engineering Service														
66% Design Development		11-21-12								APPROVED:																		
33% Schematic Design		8-3-12								APPROVED:																		
Revisions:																												

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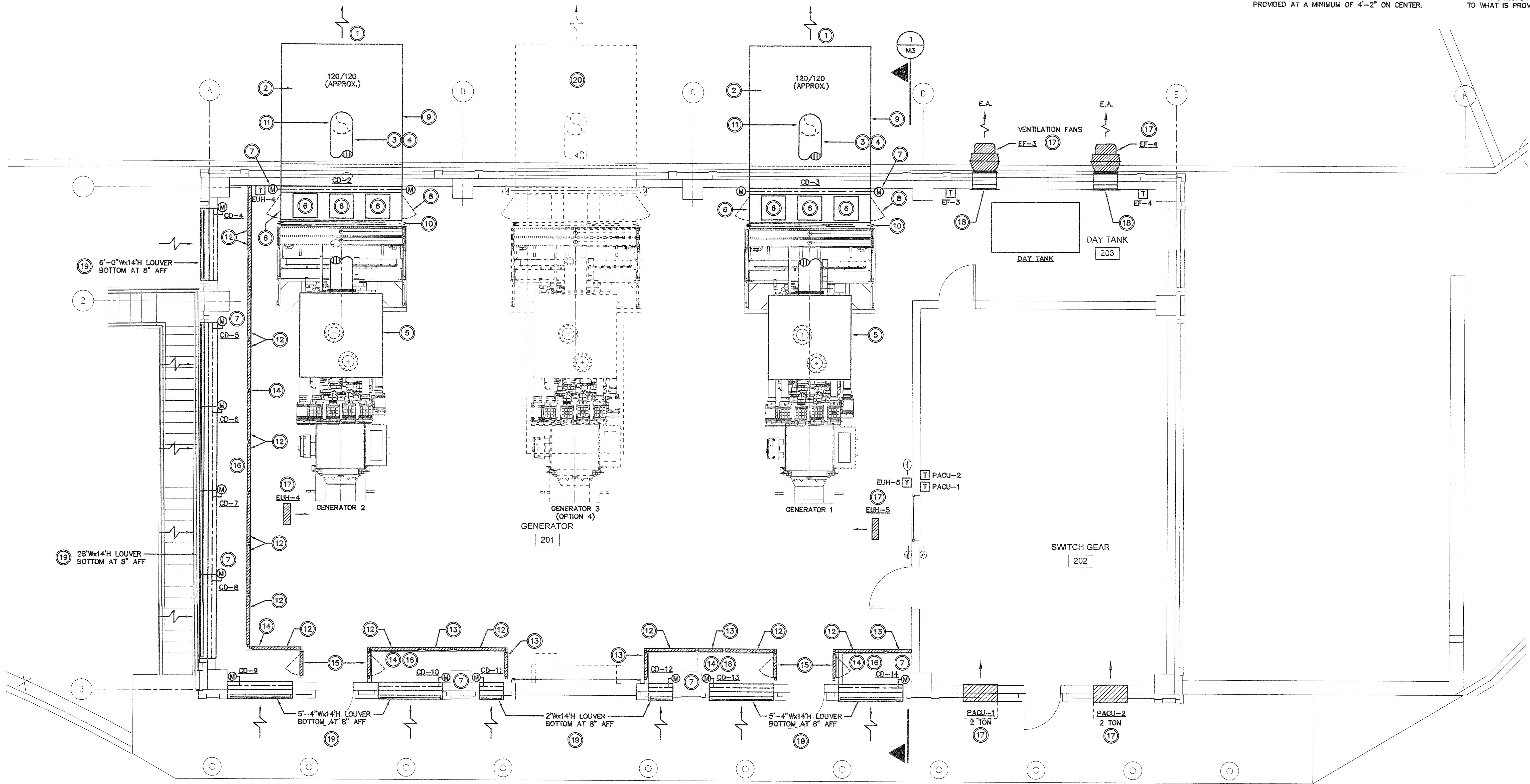
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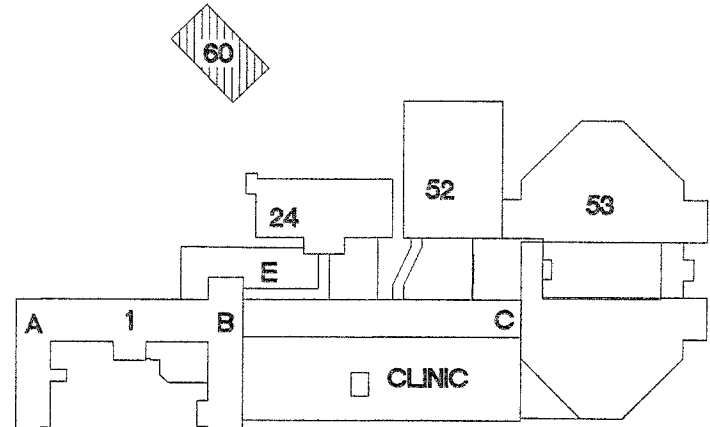
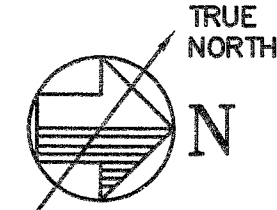
- MECHANICAL WORK SHOWN BOLD (TYPICAL).
- 1/2" x 1/2" EXPANDED ALUMINUM MESH OVER DUCT OPENING. PROVIDE 1-1/2" x 1-1/2" x 1/8" ALUMINUM ANGLE STIFFENERS TO SUPPORT WIRE MESH ON 24" CENTERS EACH WAY.
- 18"Ø WELDED 304 STAINLESS STEEL EXHAUST TUBE.
- 2" THICK SCHULLER (OR APPROVED EQUAL) THERMO-12 CALCIUM SILICATE INSULATION WITH ALUMINUM JACKET OVER EXHAUST PIPE AND MUFFLER.
- MUFFLER WITH MOUNTING BRACKET SUPPORTS AND CLAMPS. SUPPORT MUFFLER AND EXHAUST PIPE WITH SPRING ISOLATORS, WMC MODEL RSH-30A-97. COORDINATE WITH ELECTRICAL CONTRACTOR TO OBTAIN MUFFLER FROM GENERATOR MANUFACTURER.
- (5) 18" x 18" RUSKIN (OR APPROVED EQUAL) MODEL PRD18 PRESSURE RELIEF DOORS, SET AT 3" W.G. PRESSURE RELIEF. 3 RELIEF DOORS ACROSS TOP AND 1 RELIEF DOOR ON EACH SIDE.
- SPRING OPEN CONTROL DAMPER WITH ELECTRIC OPERATOR (TYPICAL). DAMPER SHALL BE INTERLOCKED WITH GENERATOR STARTING CIRCUIT.

- 24" x 72" DOUBLE WALL INSULATED ACCESS DOORS (EACH SIDE).
- ACOUSTICAL PERFORATED PANELS.
- VENTFABRICS (OR APPROVED EQUAL) MODEL VENTSIL HIGH TEMPERATURE FLEXIBLE DUCT CONNECTOR.
- 45' SLANT CUT ON EXHAUST TUBE DISCHARGE. PROVIDE 1/2" ALUMINUM MESH OVER OPENING.
- 4'W x 18'H FILTER SECTION WITH (18) 24" x 24" x 2" PLEATED FARR 30/30 FILTERS IN HOLDING FRAME.
- 2'W x 18'H FILTER SECTION WITH (9) 24" x 24" x 2" PLEATED FARR 30/30 FILTERS IN HOLDING FRAME.
- FIELD FABRICATE SHEET METAL PLENUM WITH UNISTRUT FRAME TO HOLD FILTER SECTIONS. EXTEND PLENUM FROM FLOOR TO BOTTOM OF CEILING STRUCTURE AND SEAL AIR TIGHT AT ALL JOINTS AND CONNECTIONS AT WALLS, FLOOR, AND STRUCTURE. UNISTRUT FROM FLOOR TO STRUCTURE ABOVE SHALL BE PROVIDED AT A MINIMUM OF 4'-2" ON CENTER.

- RUSKIN (OR APPROVED EQUAL) 24"W x 72"H MODEL GPAD ACCESS DOOR IN SHEET METAL PLENUM. TYPICAL ONE DOOR FOR EACH FILTER "ROOM". INSTALL UNISTRUT BRACING ABOVE DOOR. INSTALL 2'W x 8'H FILTER SECTION IN REMAINING PLENUM SPACE ABOVE EACH DOOR. (4 - 24" x 24" x 2" FILTERS).
- ALL FILTERS ARE TO BE ACCESSED FOR MAINTENANCE AND REPLACEMENT FROM INSIDE EACH FILTER "ROOM". FILTER HOLDING FRAME SHALL BE FARR (OR APPROVED EQUAL) FAST FRAME WITH COMPRESSION TABS TO HOLD FILTER WITHOUT USE OF CLIPS OR FASTENERS. PROVIDE ALL REQUIRED STIFFENERS, SCREWS, AND NUTS TO CONNECT HOLDING FRAMES TOGETHER.
- COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. MOUNT UNIT AS HIGH AS POSSIBLE. COORDINATE EXACT LOCATION WITH ARCHITECTURAL.
- COVER WALL OPENING WITH 1/2" x 1/2" EXPANDED ALUMINUM WIRE MESH.
- COORDINATE INSTALLATION OF INTAKE AIR WALL LOUVER WITH GENERAL CONTRACTOR.
- AS PART OF OPTION 4 FOR GENERATOR 3, PROVIDE EXHAUST, INSULATION, ACCESS DOORS, ETC., SIMILAR TO WHAT IS PROVIDED FOR GENERATORS 1 & 2.



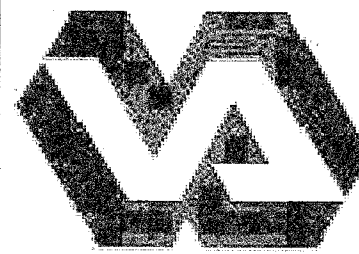
1 SECOND FLOOR - MECHANICAL PLAN



KEY PLAN
SCALE: NO SCALE
PROJECT NORTH

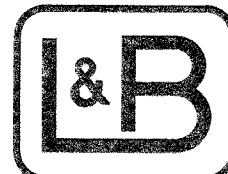
CAD#25112 JUN-26-13 L&B PROJ. #6100

SUBMISSION	DATE
100% Construction Documents	6-28-13
100% Construction Documents (For Owner Review)	6-24-13
99% Construction Documents	2-28-13
66% Design Development	11-21-12
33% Schematic Design	8-3-12
Revisions:	



Department of Veterans Affairs
Jack C. Montgomery
Medical Center
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OK CERTIFICATE OF AUTHORITY NO: 92285

APPROVED: President A.F.G.E. 2250

APPROVED:

APPROVED:

APPROVED:

APPROVED: Energy Engineer

APPROVED: Safety Manager

APPROVED: Infection Control Nurse

APPROVED: Industrial Hygienist

APPROVED: Medical Center Director

APPROVED: Associate Director

APPROVED: Chief of Staff

APPROVED: Chief of Engineering Service

DRAWING TITLE:
SECOND FLOOR -
MECHANICAL PLAN

PROJECT NUMBER
623-12-109

BUILDING NUMBER
60

CONTRACT NO.:

AUTOCAD FILE NAME:

PROJECT TITLE
FULL FACILITY GENSET

Designed By
MRB

Location

Drawn By
WMK

Checked By
MRB

Date
6-28-2013

Scale

DRAWING NO.:

M2

Department of
Veterans Affairs

A

MECHANICAL LEGEND			
CC	CANVAS CONNECTION	EAT	ENTERING AIR TEMPERATURE
◇	DIFFUSER OR GRILLE NOTATION	TEMP	TEMPERATURE
CFM	CUBIC FEET PER MINUTE OF AIR	UH	UNIT HEATER
⊕	THERMOSTAT	BTUH	BTU PER HOUR
⊗	HUMIDISTAT	MBTUH	THOUSANDS OF BTU PER HOUR
⊡	TEMPERATURE SENSOR	GPM	GALLONS PER MINUTE
⊡	HUMIDITY SENSOR	RPM	REVOLUTIONS PER MINUTE
BDD	BACKDRAFT DAMPER	TDH	TOTAL DYNAMIC HEAD
VD	VOLUME DAMPER	DIA	DIAMETER
FD	FIRE DAMPER	CENT	CENTRIFUGAL
26/10	DUCTWORK WITH TURNING VANES (DOUBLE WALL). SIZE INDICATED IS CLEAR INSIDE DIMENSION.	PSI	POUNDS PER SQUARE INCH
26/10	VOLUME DAMPER IN DUCTWORK	ΔP	PRESSURE DIFFERENCE
26/10	SUPPLY AIR DUCT UP/DOWN	HP	HORSEPOWER
26/10	RETURN OR EXHAUST AIR DUCT UP/DOWN	KW	KILOWATTS
26/10	45° TAKE-OFF PER SMACNA FIG. 2-6	PH	PHASE
OA	OUTSIDE AIR	W.G.	WATER GAUGE
RA	RETURN AIR	S.P.	STATIC PRESSURE
SA	SUPPLY AIR	N.O.	NORMALLY OPEN
BOT	BOTTOM ELEVATION	N.C.	NORMALLY CLOSED
AFF	ABOVE FINISHED FLOOR	B.S.	BIRDSCREEN
DN	DOWN	ALUM	ALUMINUM
CONN	CONNECTION OR CONNECTED	CS	CONDENSER WATER SUPPLY
⊗	CONNECTION POINT TO EXISTING	CR	CONDENSER WATER RETURN
AHU	AIR HANDLING UNIT	CWS	CHILLED WATER SUPPLY
EF	EXHAUST FAN	CWR	CHILLED WATER RETURN
EWT	ENTERING WATER TEMPERATURE	HWS	HEATING WATER SUPPLY
LWT	LEAVING WATER TEMPERATURE	HWR	HEATING WATER RETURN
		BAS	BUILDING AUTOMATION SYSTEM

PIPING LEGEND		NOTE: ALL SYMBOLS SHOWN ARE NOT NECESSARILY USED ON THIS JOB	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—HWS—	HEATING WATER SUPPLY	—FLEX—	FLEXIBLE CONNECTION
—HWR—	HEATING WATER RETURN	—PR—	PIPE REDUCER
—CWS—	CHILLED WATER SUPPLY	—V—	VENTURI WATER FLOW MEASURING DEVICE
—CWR—	CHILLED WATER RETURN	—TRAP—	TRAP (F&T, INVERTED BUCKET, THERMOSTATIC)
—HCWS—	COMBINATION HOT & CHILLED WATER SUPPLY	—UNION—	UNION
—HCWR—	COMBINATION HOT & CHILLED WATER RETURN	—G—	GAUGE
—CS—	CONDENSER WATER SUPPLY	—T—	THERMOMETER
—CR—	CONDENSER WATER RETURN	—SW—	SANITARY WASTE (ABOVE FLOOR)
—LPS—	LOW PRESSURE STEAM (5#-15#)	—SV—	SANITARY VENT (V)
—LPC—	LOW PRESSURE CONDENSATE	—SW—	SANITARY WASTE (BELOW FLOOR OR GRADE)
—MPS—	MEDIUM PRESSURE STEAM (20#-100#)	—SS—	SANITARY SEWER
—MPC—	MEDIUM PRESSURE CONDENSATE	—CO—	CLEAN OUT
—HPS—	HIGH PRESSURE STEAM (ABOVE 100#)	—AV—	ACID VENT
—HPC—	HIGH PRESSURE CONDENSATE	—AW—	ACID WASTE
—DWS—	CHILLED DRINKING WATER SUPPLY	—SD—	STORM DRAIN
—DWR—	CHILLED DRINKING WATER RETURN	—D—	DRAIN
—THWS—	TEMPERED HEATING WATER SUPPLY	—FD—	FOOTING DRAIN
—THWR—	TEMPERED HEATING WATER RETURN	—BD—	BOILER BLOW DOWN
—SCW—	SOFT COLD WATER	—RD—	ROOF DRAIN
—SHW—	SOFT HOT WATER	—VIR—	VENT THRU ROOF
—180°—	SANITIZING HOT WATER RETURN 180° F	—ATV—	ATMOSPHERIC VENT (STEAM OR HOT VAPOR)
—180°—	SANITIZING HOT WATER SUPPLY 180° F	—FOS—	FUEL OIL SUPPLY
—C—	COLD WATER	—FOR—	FUEL OIL RETURN
—H—	HOT WATER SUPPLY 140° F	—WSP—	WET STAND PIPE
—HR—	HOT WATER RETURN 140° F	—MG—	MEDIUM PRESSURE GAS
—RL—	REFRIGERANT LIQUID	—G—	GAS (LOW PRESSURE)
—RS—	REFRIGERANT SUCTION	—FP—	FIRE PROTECTION
—RHG—	REFRIGERANT HOT GAS	—VAC—	VACUUM (SUCTION)
—GV—	GATE VALVE	—OX—	OXYGEN
—BV—	BUTTERFLY VALVE	—A—	AIR OUTLET
—GV—	GLOBE VALVE	—V—	VACUUM OUTLET
—CV—	CHECK VALVE (WITH FLOW ARROW)	—O—	OXYGEN OUTLET
—BV—	BALANCING VALVE (CIRCUIT SETTER)	—FD—	FLOOR DRAIN
—GC—	GAS COCK	—SD—	SHOWER DRAIN
—2-WAY—	2-WAY VALVE (PNEU. OR ELEC.)	—AD—	AREA DRAIN
—3-WAY—	3-WAY VALVE (PNEU. OR ELEC.)	—RD—	ROOF DRAIN
—BV—	BALL VALVE	—HB—	HOSE BIBB
—SV—	SOLENOID VALVE	—WH—	WALL HYDRANT
—PLV—	PLUG VALVE	—YH—	YARD HYDRANT IN 1"x1/2" CONC. PAD
—RV—	RELIEF VALVE	—CP—	CONNECTION POINT TO EXISTING
—PRV—	PRESSURE REDUCING VALVE (PRV)		
—S—	STRAINER		

CONTROL DAMPER SCHEDULE					
NOTE: PROVIDE MANUFACTURER LISTED, OR APPROVED EQUAL.					
DAMPER DESIGNATION	DAMPER SIZE	SECTION QUANTITY	SECTION SIZE	DAMPER OPERATORS, QUANTITY	MANUFACTURER & REMARKS
CD-1	36"x72"	2	36"x36"	2	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-2	120"x120"	4	60"x60"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-3	120"x120"	4	60"x60"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-4	6'-6"x14'	4	78"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-5	7'x14'	4	84"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-6	7'x14'	4	84"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-7	7'x14'	4	84"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-8	7'x14'	4	84"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-9	5'-4"x14'	4	64"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-10	5'-4"x14'	4	64"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-11	2'x14'	2	24"x84"	2	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-12	2'x14'	2	24"x84"	2	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-13	5'-4"x14'	4	64"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.
CD-14	5'-4"x14'	4	64"x42"	4	RUSKIN CD-50, ELECTRIC, N.O., O.B.

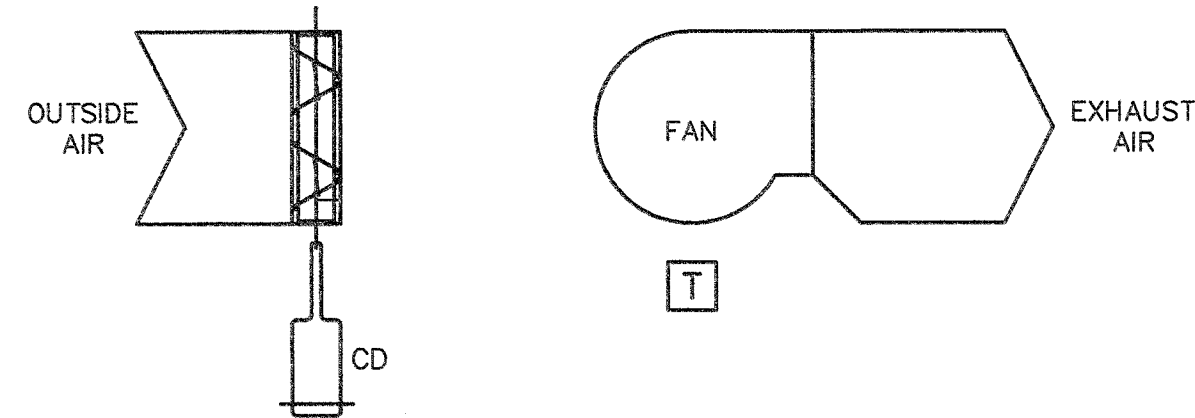
FAN SCHEDULE									
NOTE: PROVIDE MANUFACTURER LISTED, OR APPROVED EQUAL.									
MARK	MANUFACTURER AND MODEL	SERVICE OR PURPOSE	TYPE	CFM	S.P. IN. W.G.	FAN/MOTOR RPM	HP	POWER SUPPLY V/PH/Hz	REMARKS
EF-1, 2, 3, 4	COOK ACW-D 135W150	VENTILATION	CENTRIF.	2,000	0.6	1499/1550	1/2	115/1/60	17.3 1.2,3,4,5,6
REMARKS: 1. WALL MOUNTED, DIRECT DRIVE UNIT. 2. FACTORY WIRED DISCONNECT SWITCH. 3. BACKDRAFT DAMPER. 4. ALUMINUM BIRDSCREEN. 5. FAN SPEED CONTROLLER. 6. WALL INTAKE GRILLE.									

ELECTRIC UNIT HEATER SCHEDULE						
NOTE: PROVIDE MANUFACTURER LISTED, OR APPROVED EQUAL.						
UNIT HEATER DESIGNATION	HEATER CAPACITY KW	TYPE UNIT	ENT. AIR TEMP. °F	POWER SUPPLY VOLTS/PH/Hz	AMPS	MANUFACTURER MODEL
EUH-1,2,3	3.3	HORIZONTAL	60	460/3/60	4.0	TRANE UHEC-033
EUH-4,5	20	HORIZONTAL	60	460/3/60	24.1	TRANE UHEC-073

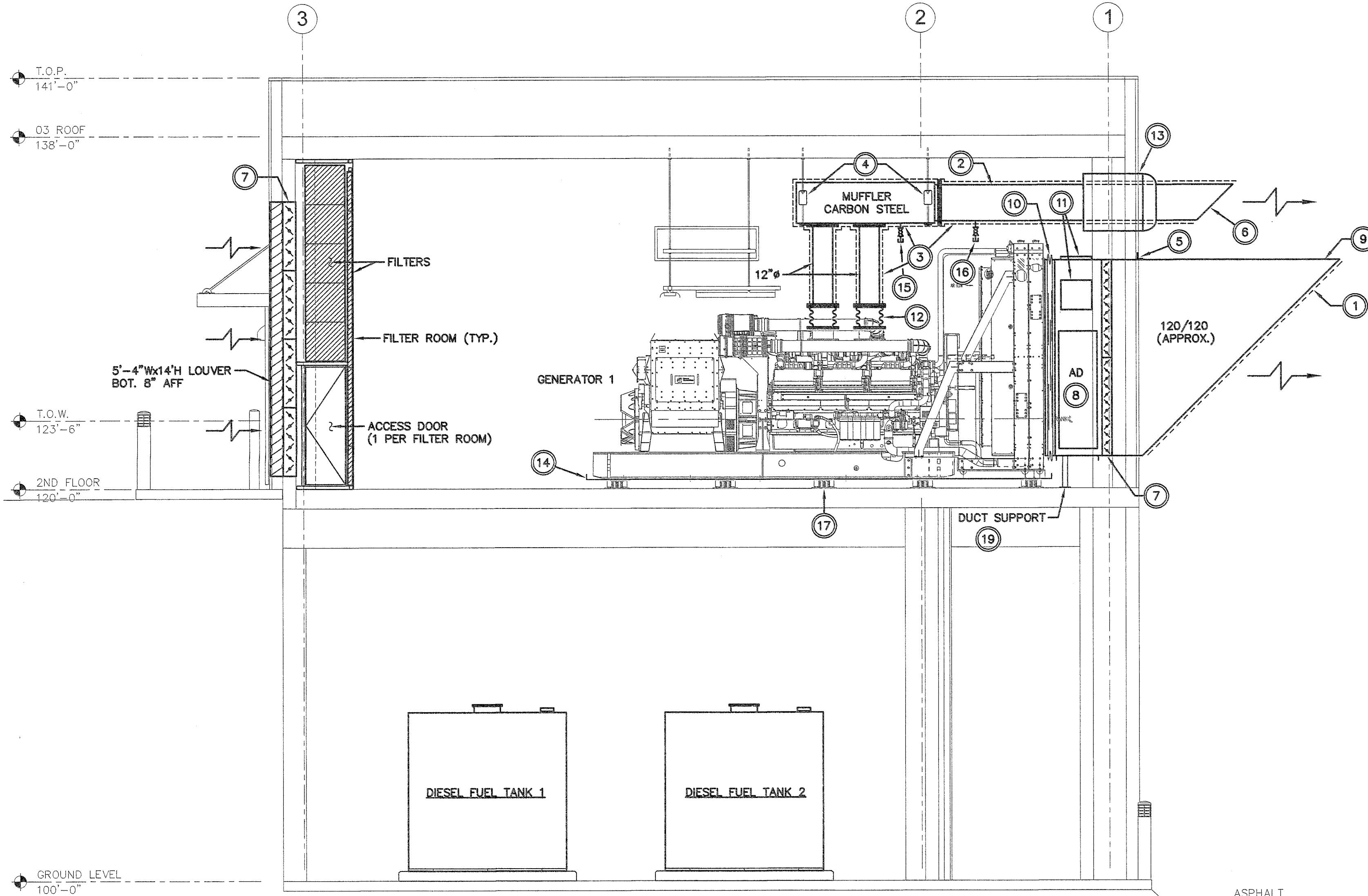
DUCTLESS UNITARY SCHEDULE									
NOTE: PROVIDE MANUFACTURER LISTED, OR APPROVED EQUAL.									
TAG	AREA SERVED	NOM. TONS	COOLING BTU/HR	HEATING BTU/HR	EER	REF.	POWER SUPPLY V/PH/Hz	RATED LOAD AMPS	REMARKS
PACU-1,2	CONTROL ROOM	2	22,500	15,359	9	R410A	208/3/60	8.1	25 BARD W24A 1.2,3,4
REMARKS: 1. COOLING BTU/HR AT 105°F AMBIENT OUTSIDE AIR TEMPERATURE AND INDOOR TEMPERATURE OF 80°F D.B. AND 67°F W.B. 2. OPTIONAL FACTORY INSTALLED ELECTRIC HEATING COIL (6 KW NOMINAL), 208/3/60, 4.50 KW, 12.5 AMPS. 3. OPTIONAL FACTORY INSTALLED LOW AMBIENT COOLING CONTROL (DOWN TO 0°F), HIGH AND LOW PRESSURE CONTROL ALARMS, ANALOG DISCHARGE AIR TEMPERATURE SENSOR, DIGITAL FAN AIRFLOW SENSOR, DIGITAL COMPRESSOR CURRENT STATUS, AND DIGITAL FILTER STATUS. 4. OPTIONAL FACTORY INSTALLED 2" PLEATED FILTER (MERV 8) AND RACK.									

POINT SCHEDULE														
LOAD: MISC.	DEVICE NO.	ANALOG			DIGITAL STATUS			ALARMS			DIRECT DIGITAL CONTROL (DDC)			
		TEMPERATURE (°F)	HUMIDITY (%)	STATIC PRESSURE (IN. W.G.)	ON-OFF/OPEN-CLOSE	RELAY	STATUS	SMOKE OR TROUBLE	LOW TEMPERATURE	HIGH/LOW PRESSURE	DISCHARGE AIR TEMP. RESET	ROOM TEMPERATURE	OPEN-CLOSE	START-STOP
PACKAGED UNITS	PACU-1&2													
UNIT HEATER	EUH													
VENTILATION FANS	EF-1,2,3,4													

- PACKAGED AIR CONDITIONING UNIT SEQUENCE OF OPERATION**
- GENERAL
 - PACKAGED UNIT SHALL BE STARTED AND STOPPED FROM BAS. UNIT SHALL OPERATE BASED ON UNIT CONTROLS. UNIT SHALL BE CONNECTED TO BAS TO PROVIDE STATUS AND ALARM FUNCTIONS. LOCAL TEMPERATURE SENSOR SHALL PROVIDE STATUS: HIGH SPACE TEMPERATURE 80°F (ADJUSTABLE), AND LOW SPACE TEMPERATURE 60°F (ADJUSTABLE) ALARM FUNCTIONS.
- UNIT HEATER SEQUENCE OF OPERATION**
- GENERAL
 - UNIT HEATER SHALL BE STARTED AND STOPPED FROM BAS USING LOCAL TEMPERATURE SENSOR. UNIT HEATER SHALL START AT 55°F (ADJUSTABLE) AND STOP AT 60°F (ADJUSTABLE).
- VENTILATION FAN SEQUENCE OF OPERATION**
- GENERAL
 - VENTILATION FAN SHALL BE STARTED AND STOPPED FROM BAS USING LOCAL TEMPERATURE SENSOR. FAN SHALL START AT 85°F (ADJUSTABLE) AND STOP AT 80°F (ADJUSTABLE).
 - VENTILATION FAN SHALL BE INTERLOCKED WITH ASSOCIATED ELECTRIC MOTORIZED DAMPER. FAN SHALL START AFTER DAMPER END SWITCH MAKES CONTACT. EF-1 AND EF-2 SHALL BE INTERLOCKED WITH CD-1. EF-3 AND EF-4 SHALL BE INTERLOCKED WITH CD-4 THROUGH CD-14.



NOTE: CONTROLS CONTRACTOR SHALL PROVIDE ALL LOW VOLTAGE WIRING AND CONNECTIONS FOR A COMPLETE AND FUNCTIONING SYSTEM. PROVIDE ALL REQUIRED LINE AND LOW VOLTAGE RELAYS AND CONTACTORS. COORDINATE ALL LINE VOLTAGE CONNECTIONS WITH ELECTRICAL CONTRACTOR.



- ELEVATION NOTES:**
- 1/2" EXPANDED ALUMINUM MESH OVER DUCT OPENING. PROVIDE 1-1/2" x 1-1/2" x 1/8" ALUMINUM ANGLE STIFFENERS TO SUPPORT WIRE MESH ON 24" CENTERS EACH WAY.
 - 18" WELDED 304 STAINLESS STEEL EXHAUST TUBE.
 - 2" THICK SCHULLER (OR APPROVED EQUAL) THERMO-12 CALCIUM SILICATE INSULATION WITH ALUMINUM JACKET OVER EXHAUST PIPE AND MUFFLER.
 - MUFFLER WITH MOUNTING BRACKET SUPPORTS AND CLAMPS. SUPPORT MUFFLER AND EXHAUST PIPE WITH SPRING ISOLATORS, VMC MODEL RSH-30A-97.
 - FLASHING WITH SILICONE CAULK ACROSS TOP OF PANEL.
 - 45° SLANT CUT ON EXHAUST TUBE DISCHARGE. PROVIDE 1/2" ALUMINUM WIRE MESH OVER OPENING.
 - SPRING OPEN CONTROL DAMPER WITH ELECTRIC OPERATOR. DAMPER SHALL BE INTERLOCKED WITH GENERATOR STARTING CIRCUIT.
 - 24" x 72" DOUBLE WALL INSULATED ACCESS DOOR (EACH SIDE).
 - ACOUSTICAL PERFORATED PANELS.
 - VENTILATORS (OR APPROVED EQUAL) MODEL VENTSIL HIGH TEMPERATURE FLEXIBLE DUCT CONNECTOR.
 - (5) 18" x 18" RUSKIN (OR APPROVED EQUAL) MODEL PRD18 PRESSURE RELIEF DOORS, SET AT 3" W.G. PRESSURE RELIEF.
 - STAINLESS STEEL FLEXIBLE EXHAUST CONNECTOR TO CONNECT TO ENGINE GENERATOR.
 - INSTALL STAINLESS STEEL ENGINE EXHAUST WALL THIMBLE. COORDINATE WITH ELECTRICAL CONTRACTOR.
 - PROVIDE GALVANIZED STEEL DRIP PAN WITH 1" EDGES AND WELDED CORNERS. BUILD CUSTOM SIZE TO CATCH ANY POSSIBLE FLUID LEAK.
 - PROVIDE BALL VALVE AND CAP ON MUFFLER DRAIN BUNG. LOCATE OUTSIDE OF INSULATION/JACKET MATERIAL.
 - PROVIDE 1" BALL DRAIN VALVE WITH PLUG ON THREAD-O-LET.
 - INSTALL ISOLATION SPRINGS AND ANCHOR TO CONCRETE.
 - LOCATION BASED ON MANUFACTURER'S RECOMMENDATION.
 - PROVIDE TUBE STEEL WITH 1/8" PLATE STEEL FOOT WELDED TO BOTTOM OF TUBE STEEL ANCHORED TO FLOOR TO SUPPORT EXHAUST DUCT.

2 PACU/UNIT HEATER/VENTILATION FAN CONTROL NO SCALE

1 MECHANICAL ELEVATION - LOOKING SOUTH

CAD#25111 JUN-26-13 L&B PROJ. #6100

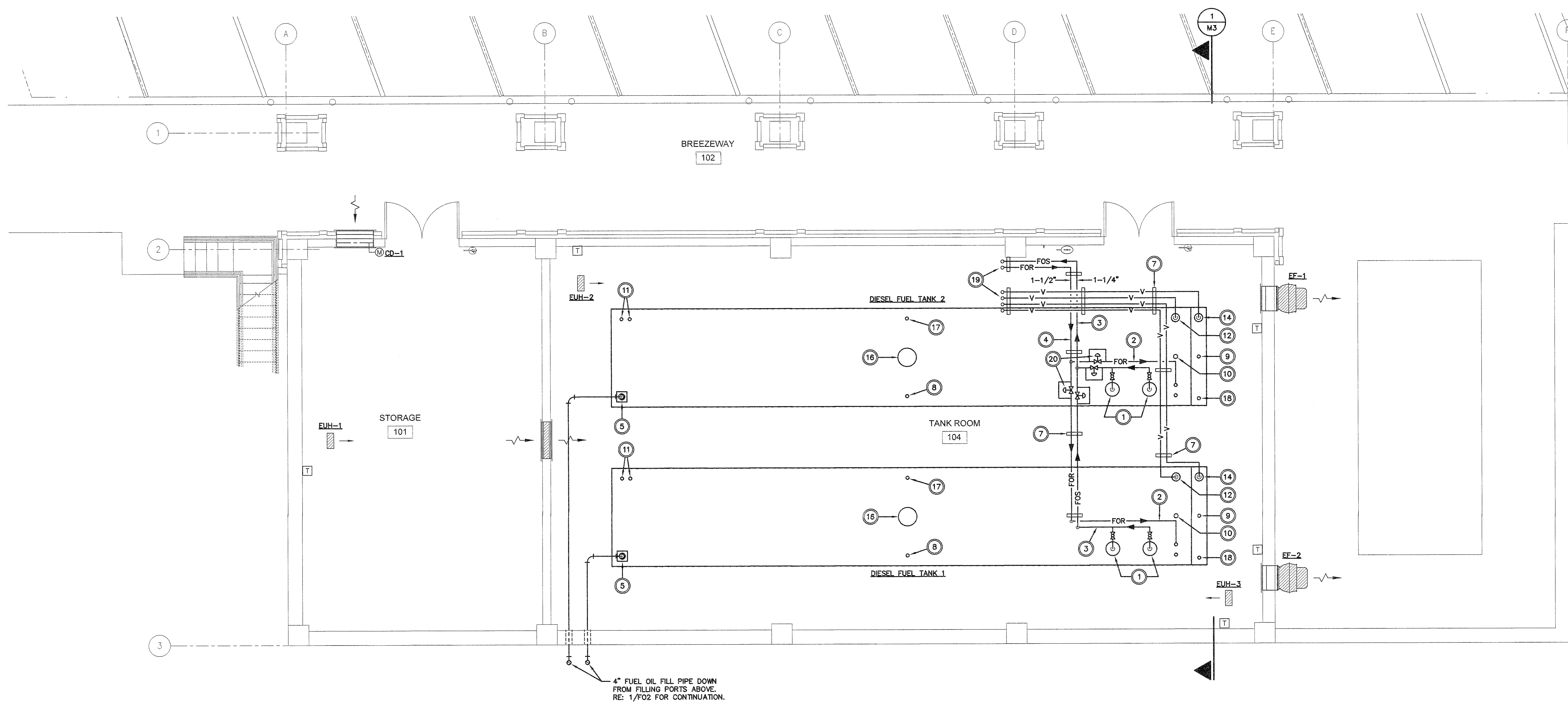
SUBMISSION 100% Construction Documents 100% Construction Documents (For Owner Review) 99% Construction Documents 96% Design Development 33% Schematic Design	DATE 6-28-13 6-24-13 2-28-13 11-21-12 6-3-12	 Department of Veterans Affairs Jack C. Montgomery Medical Center 1011 Honor Height Drive Muskogee, Oklahoma 74401	CONSULTANTS: Lee & Browne Consulting Engineers, Inc. 1207 South Sheridan Road Tulsa, Oklahoma 74112-5405 (918) 536-0271 CA #252 Exp.: 6/14	SEAL: 	ARCHITECT / ENGINEERS 7700 NORTH HUDSON AVENUE, SUITE 9 OKLAHOMA CITY, OKLAHOMA 73116 WWW.SPURDESIGN.COM PHONE: 405.542.6100 OK CERTIFICATE OF AUTHORITY NO: 62258	APPROVED: President A.F.G.E. 2250 APPROVED: Energy Engineer APPROVED: Safety Manager APPROVED: Infection Control Nurse APPROVED: Industrial Hygienist	APPROVED: Medical Center Director APPROVED: Associate Director APPROVED: Chief of Staff APPROVED: Chief of Engineering Service	DRAWING TITLE: MECHANICAL ELEVATION, DETAILS, AND SCHEDULES	PROJECT TITLE: FULL FACILITY GENSET	Date 6-28-2013 Scale Drawing No. M3	Department of Veterans Affairs
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NOTE: CONTRACTOR IS ADVISED TO VISIT THE SITE TO OBSERVE EXISTING CONDITIONS PRIOR TO BID. ALL CONTRACTOR PERSONNEL ARE REQUIRED TO ATTEND OSHA TRAINING TO MEET OWNER REQUIREMENTS. ALL CONTRACTOR PERSONNEL ARE ALSO REQUIRED TO COMPLETE SECURITY CLEARANCE REQUIREMENTS AND TRAINING.

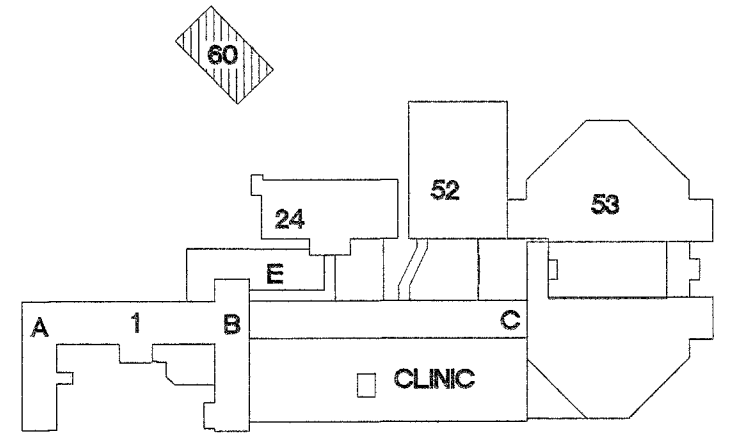
NOTES:

- 1 PROVIDE SUBMERSIBLE FUEL PUMPS WITH FUEL TANKS. REFER TO SPECIFICATION SECTION 263214 FOR REQUIREMENTS.
- 2 FUEL OVERFILL RETURN LINE SHALL BE SCHEDULE 80 BLACK STEEL WELDED PIPING AND FITTINGS.
- 3 FUEL SUPPLY LINE SHALL BE SCHEDULE 80 BLACK STEEL WELDED PIPING AND FITTINGS.
- 4 FUEL RETURN LINE SHALL BE SCHEDULE 80 BLACK STEEL WELDED PIPING AND FITTINGS.
- 5 6" OPENING WITH 3" GUILLOTINE ANTI-OVERFILL VALVE WITH DROP TUBE.
- 6 PIPING WALL SUPPORT (TYPICAL). REFER TO DETAIL 2/FO-3.
- 7 PIPE HANGER (TYPICAL). SEE DETAIL 5/FO-3.
- 8 CLOCK GAUGE-MORRISON #818 WITHOUT ALARM.
- 9 INTERSTITIAL LEAK SENSOR.
- 10 4" SPARE OPENING WITH SCREW PLUG.
- 11 2" SPARE OPENING WITH SCREW PLUG.
- 12 PRIMARY EMERGENCY VENT WITH OPW 23 VENT CAP 12'-0" (MIN.) ABOVE FINISHED GRADE. SIZE PER MANUFACTURER'S RECOMMENDATION (6" MINIMUM).

- 13 18" MANWAY WITH LONG BOLTS AND PRIMARY EMERGENCY VENT.
- 14 SECONDARY EMERGENCY VENT WITH OPW 23 VENT CAP 12'-0" (MIN.) ABOVE FINISHED GRADE. SIZE PER MANUFACTURER'S RECOMMENDATION (6" MINIMUM).
- 15 18" MANWAY WITH LONG BOLTS AND SECONDARY EMERGENCY VENT.
- 16 36" TIGHT BOLT HINGED MANHOLE.
- 17 PRIMARY WORKING TANK VENT.
- 18 SECONDARY WORKING TANK VENT.
- 19 REFER TO DRAWING 1/FO2 FOR CONTINUATION OF PIPING UP TO SECOND FLOOR.
- 20 CONTROL VALVES PROVIDED WITH FUEL TANK TO CONTROL WHICH FUEL TANK IS BEING USED. SWITCH AND CONTROL WIRING PROVIDED BY ELECTRICIAN. REFER TO DRAWING 1/FO3 FOR PIPING DETAIL AT CONTROL VALVE WITH BYPASS.



1 FIRST FLOOR - FUEL OIL PLAN



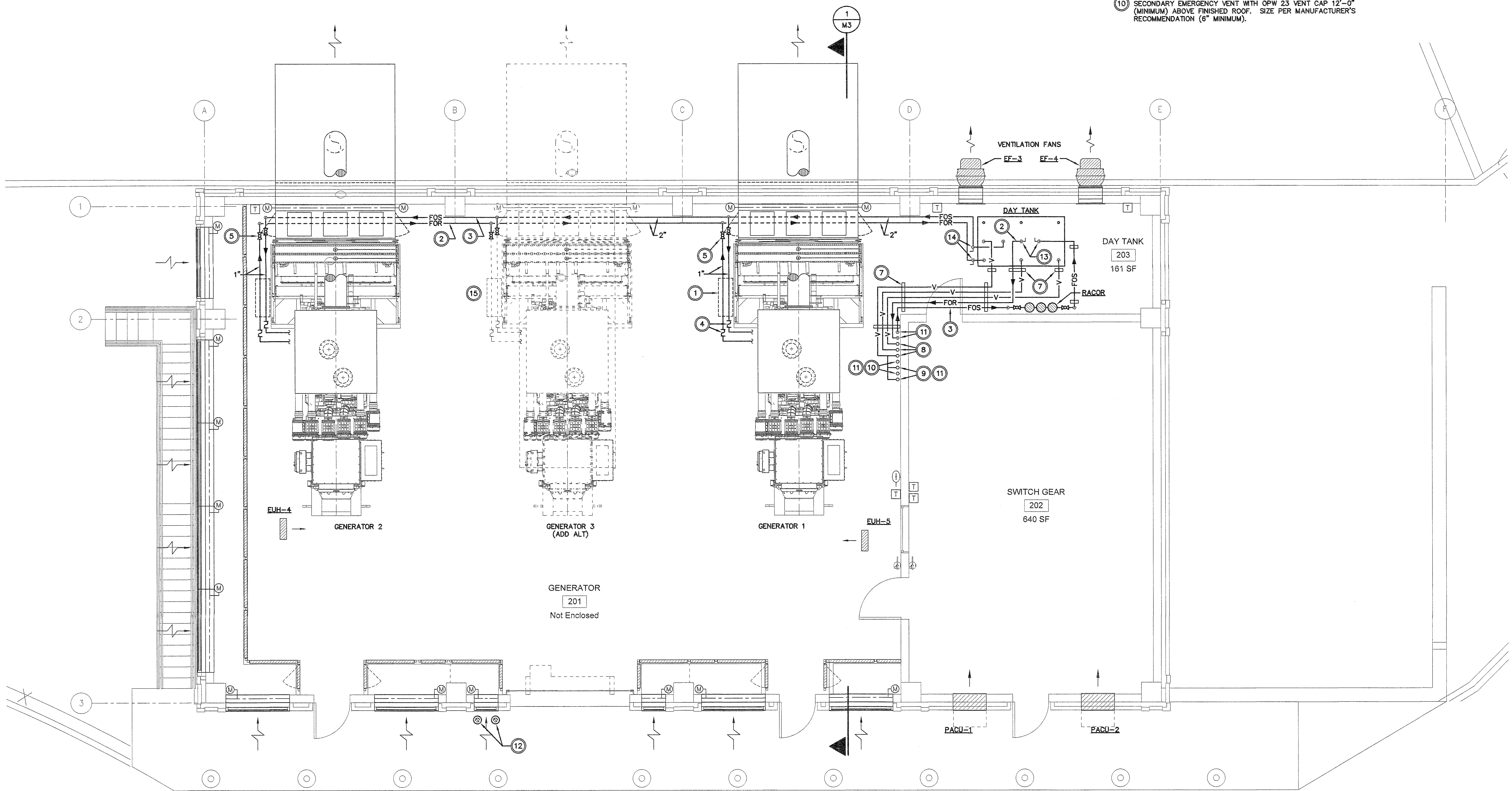
KEY PLAN
SCALE: NO SCALE
PROJECT NORTH

CAD#25120 JUN-26-13 L&B PROJ. #6100

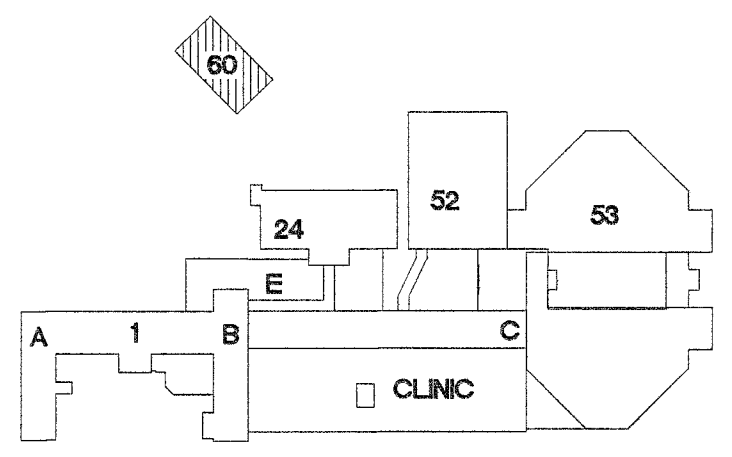
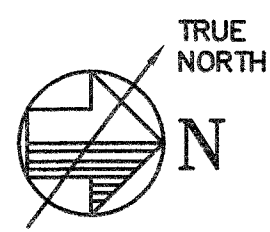
SUBMISSION 100% Construction Documents 100% Construction Documents (For Owner Review) 99% Construction Documents 88% Design Development 33% Schematic Design Revisions:	DATE 6-28-13 6-24-13 2-28-13 11-21-12 6-3-12	 Department of Veterans Affairs Jack C. Montgomery Medical Center 1011 Honor Height Drive Muskogee, Oklahoma 74401		CONSULTANTS: Lee & Browne Consulting Engineers, Inc. 1207 South Sheridan Road Tulsa, Oklahoma 74112-5405 (918) 836-0271 CA #252 Exp.: 6/14	SEAL: 	ARCHITECT / ENGINEERS SPUR DESIGN 7700 NORTH HUDSON AVENUE, SUITE 9 OKLAHOMA CITY, OKLAHOMA 73118 WWW.SPUR-DESIGN.COM PHONE: 405.542.6100 OK CERTIFICATE OF AUTHORITY NO. 52255	APPROVED: President A.F.G.E. 2250		APPROVED: Energy Engineer		APPROVED: Medical Center Director		DRAWING TITLE: FIRST FLOOR - FUEL OIL PLAN		PROJECT TITLE FULL FACILITY GENSET		Date 6-28-2013	 Department of Veterans Affairs
							APPROVED:		APPROVED: Safety Manager		APPROVED: Associate Director		PROJECT NUMBER 623-12-109		CONTRACT NO:		Scale	
							APPROVED:		APPROVED: Infection Control Nurse		APPROVED: Chief of Staff		BUILT NUMBER 60		AUTOCAD FILE NAME:		Drawing By MRB	
							APPROVED:		APPROVED: Industrial Hygienist		APPROVED: Chief of Engineering Service		Location		Checked By MRB		DRAWING NO: FO1	

NOTES:

- 1 FUEL CELL PACKAGE BY MECHANICAL CONTRACTOR.
- 2 FUEL RETURN LINE SHALL BE SCHEDULE 80 BLACK STEEL WELDED PIPING AND FITTINGS.
- 3 FUEL SUPPLY LINE SHALL BE SCHEDULE 80 BLACK STEEL WELDED PIPING AND FITTINGS.
- 4 FLEXIBLE PIPING CONNECTIONS FOR CONNECTION TO ENGINE GENERATOR.
- 5 BALL VALVE SIZED TO FUEL LINE. CLEARLY AND PERMANENTLY MARK VALVE POSITIONS AND SUPPLY OR RETURN TYPES WITH FLOW DIRECTIONS (TYPICAL).
- 6 WALL MOUNTED PIPE SUPPORT (TYPICAL). REFER TO DETAIL 2/FO-3.
- 7 PIPE HANGER (TYPICAL). SEE DETAIL 5/FO-3.
- 8 VENT UP THROUGH ROOF WITH OPW 23 FLAME ARRESTOR CAP.
- 9 PRIMARY EMERGENCY VENT WITH OPW 23 VENT CAP 12'-0" (MINIMUM) ABOVE FINISHED ROOF. SIZE PER MANUFACTURER'S RECOMMENDATION (6" MINIMUM).
- 10 SECONDARY EMERGENCY VENT WITH OPW 23 VENT CAP 12'-0" (MINIMUM) ABOVE FINISHED ROOF. SIZE PER MANUFACTURER'S RECOMMENDATION (6" MINIMUM).
- 11 REFER TO DRAWING 1/FO1 FOR CONTINUATION OF PIPING UP FROM FIRST FLOOR.
- 12 FUEL OIL FILLING PORTS. MANHOLE TYPE FLUSH WITH TOP OF PAVEMENT. REFER TO DRAWING 1/FO1 FOR CONTINUATION.
- 13 BALL SHUTOFF VALVE AND NEEDLE TYPE MANUAL FLOW CONTROL VALVE IN RISER.
- 14 BALL SHUTOFF VALVE IN RISER.
- 15 AS PART OF OPTION 4 FOR GENERATOR 3, PROVIDE FUEL PACKAGE, FLEXIBLE CONNECTIONS, ETC., SIMILAR TO WHAT IS PROVIDED FOR GENERATORS 1 & 2.



1 SECOND FLOOR - FUEL OIL PLAN



KEY PLAN
SCALE: NO SCALE
PROJECT NORTH

CAD#25114 JUN-26-13 L&B PROJ. #6100

SUBMISSION	DATE
100% Construction Documents	6-28-13
100% Construction Documents (For Owner Review)	6-24-13
99% Construction Documents	2-28-13
66% Design Development	11-21-12
33% Schematic Design	8-3-12
Revisions:	

Department of Veterans Affairs
Jack C. Montgomery
Medical Center
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Muskogee, Oklahoma 74401

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(918) 836-0271
CA #252 Exp.: 6/14

SEAL:

MICHAEL RAY
BASE
19311
6/24/13
OKLAHOMA

ARCHITECT / ENGINEERS

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OKLAHOMA CITY, OKLAHOMA 73118
WWW.SPUR-DESIGN.COM
PHONE: 405.842.6100
OK CERTIFICATE OF AUTHORITY NO: 82295

APPROVED: President A.F.G.E. 2250
APPROVED:
APPROVED:
APPROVED:

APPROVED: Energy Engineer
APPROVED: Safety Manager
APPROVED: Infection Control Nurse
APPROVED: Industrial Hygienist

APPROVED: Medical Center Director
APPROVED: Associate Director
APPROVED: Chief of Staff
APPROVED: Chief of Engineering Service

DRAWING TITLE: SECOND FLOOR - FUEL OIL PLAN	
PROJECT NUMBER 623-12-109	CONTRACT NO:
BUILDING NUMBER 80	AUTOCAD FILE NAME:

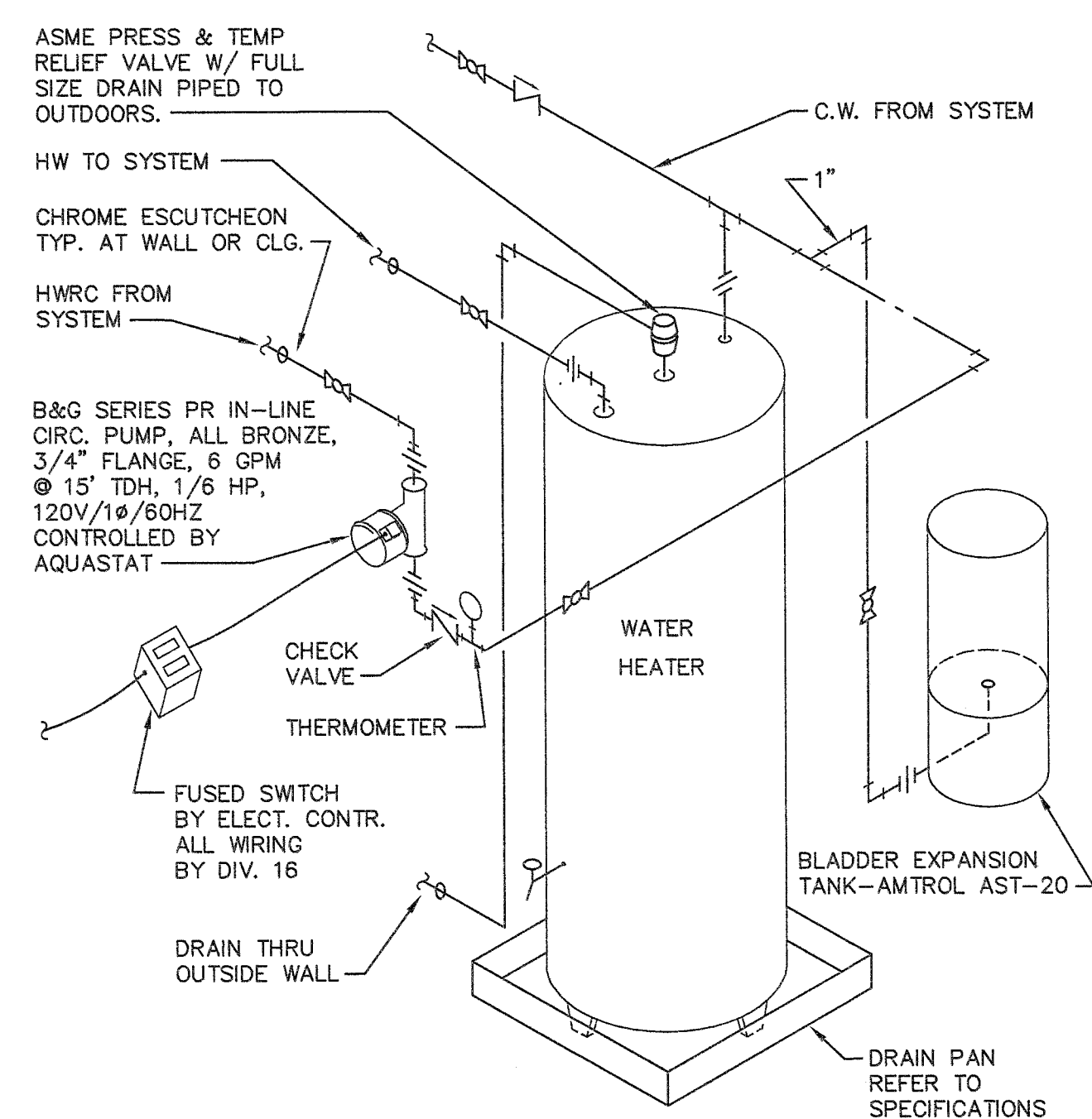
PROJECT TITLE FULL FACILITY GENSET		
Designed By MRB	Drawn By WMK	Checked By MRB
Location		

Date 6-28-2013
Scale
DRAWING NO: FO2

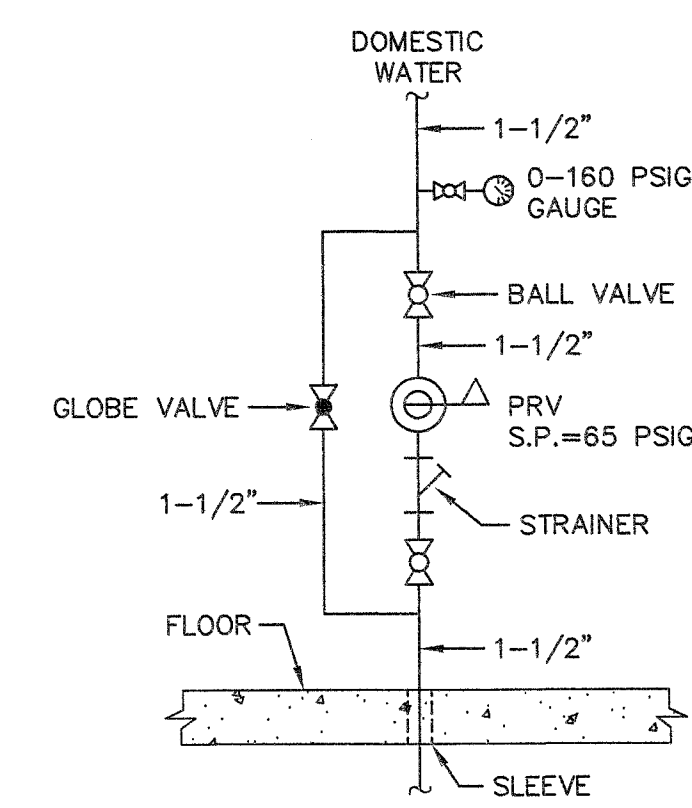
Department of
Veterans Affairs

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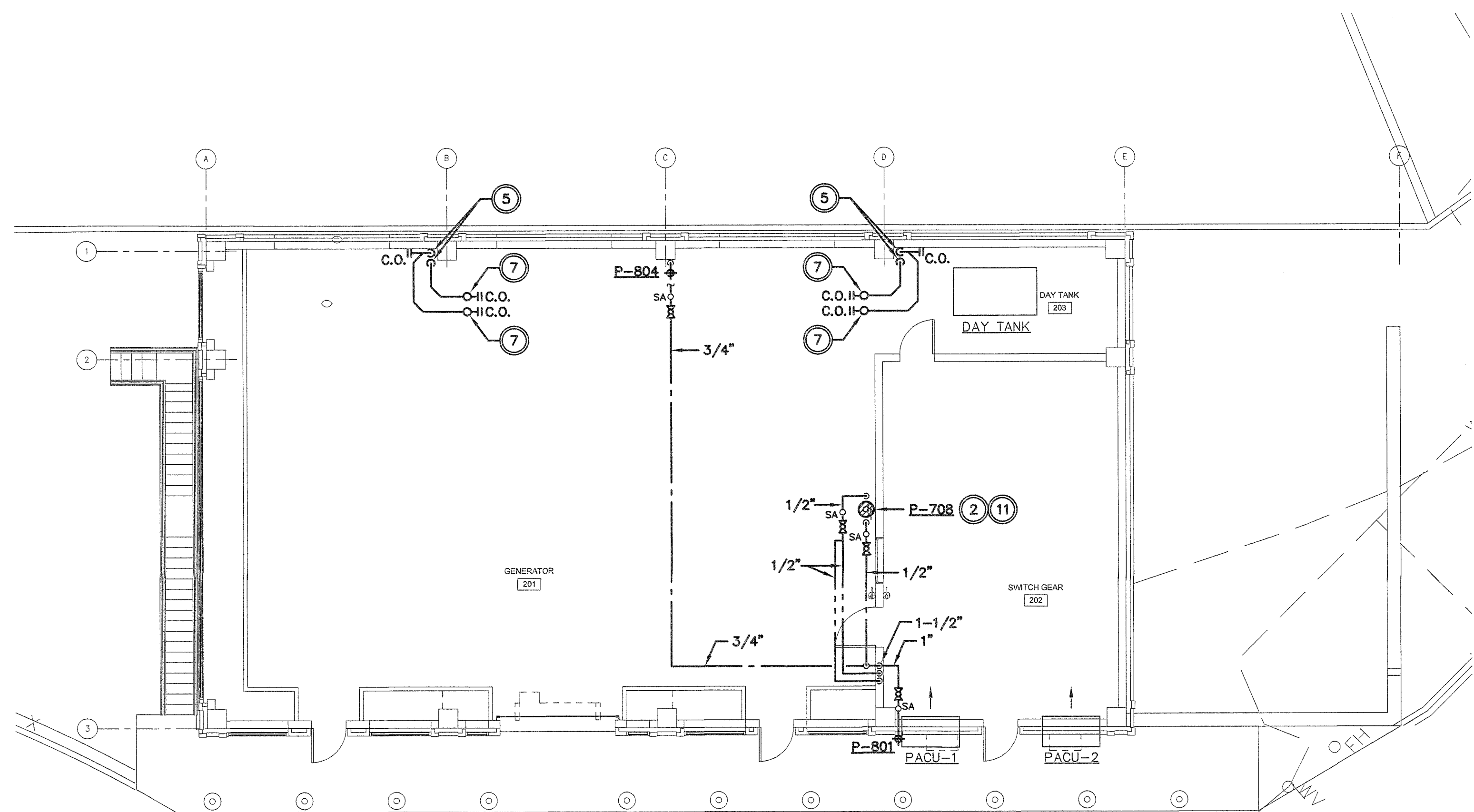


4 ELECTRIC WATER HEATER PLUMBING ISOMETRIC WITH PUMP
NO SCALE

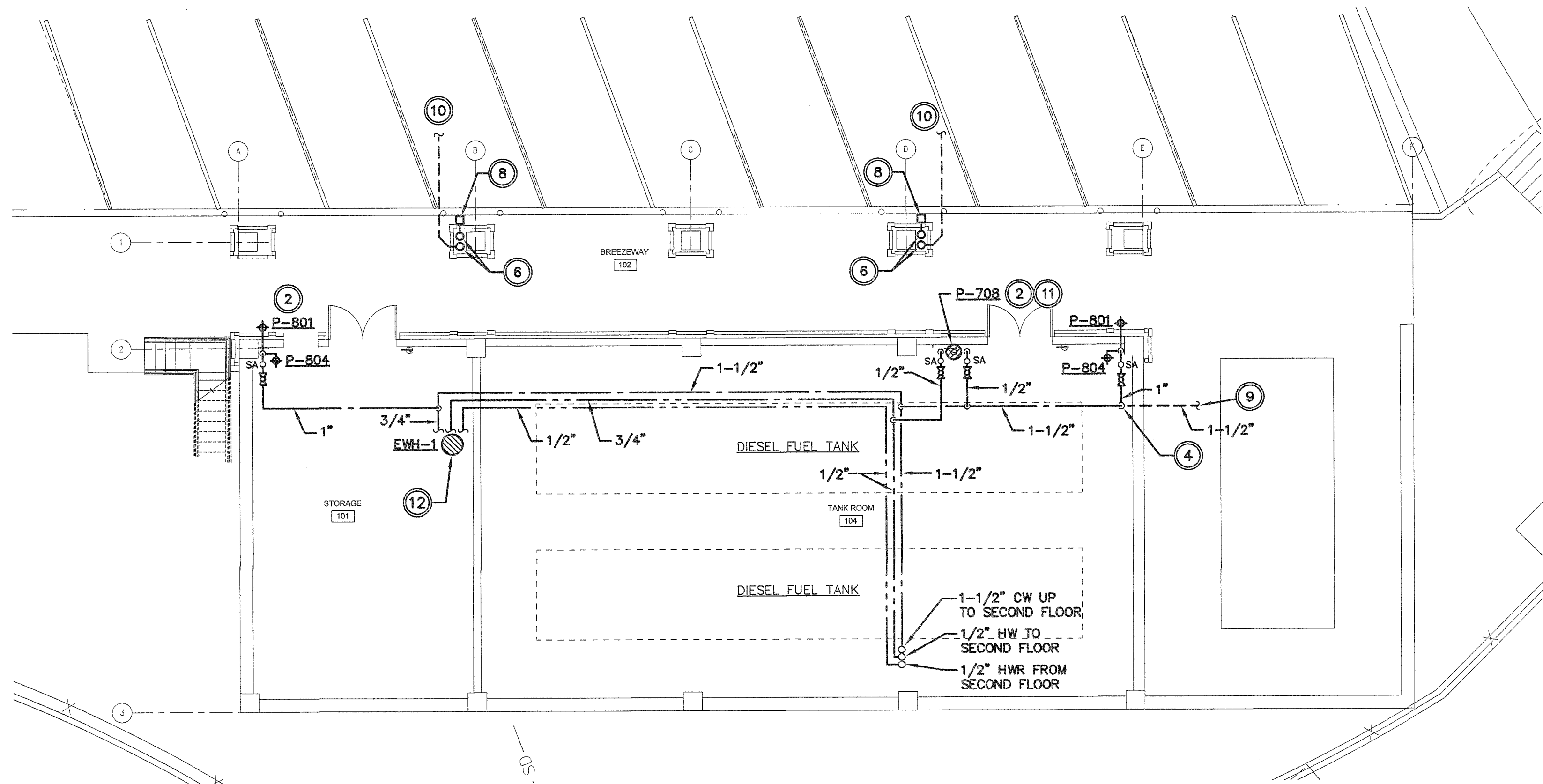


3 PRV DETAIL
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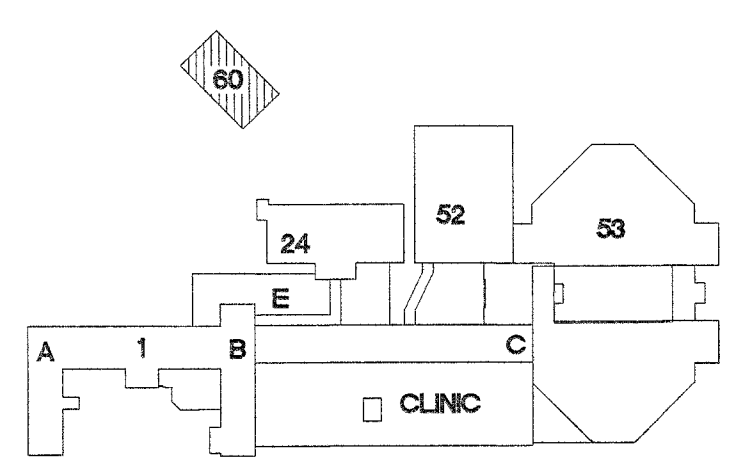
- NOTES:
- 1 NEW WORK SHOWN BOLD (TYPICAL).
 - 2 REFER TO PLUMBING FIXTURE SPECIFICATIONS SECTION 224000 FOR FIXTURE DESCRIPTION.
 - 3 REFER TO STORM DRAINAGE SPECIFICATIONS SECTION 221400 FOR ROOF DRAIN AND DOWNSPOUT NOZZLE DESCRIPTION.
 - 4 PROVIDE PRESSURE REDUCING VALVE ASSEMBLY. REFER TO DETAIL 3/P1 FOR COMPONENTS AND CONFIGURATION.
 - 5 4" ROOF DRAIN (PRIMARY AND SECONDARY OVERFLOW) DOWN TO FIRST FLOOR. OFFSET 4" PIPING IN VERTICAL (AS REQUIRED). COORDINATE WITH GENERAL CONTRACTOR FOR SECOND FLOOR SLAB PENETRATION. REFER TO 1/P1 FOR CONTINUATION.
 - 6 4" ROOF DRAIN (PRIMARY AND SECONDARY OVERFLOW) DOWN FROM SECOND FLOOR. OFFSET PIPING IN VERTICAL (AS REQUIRED). REFER TO 2/P1 FOR CONTINUATION.
 - 7 UP TO 4" PRIMARY AND SECONDARY OVERFLOW ROOF DRAINS. REFER TO ARCHITECTURAL FOR EXACT LOCATION. COORDINATE WITH GENERAL CONTRACTOR FOR ROOF PENETRATION AND ALL REQUIRED ROOF FRAMING AROUND ROOF DRAIN.
 - 8 PROVIDE 4" SECONDARY OVERFLOW ROOF DRAIN DOWNSPOUT NOZZLE AT 24" ABOVE FINISHED GRADE. REFER TO ARCHITECTURAL FOR EXACT LOCATION.
 - 9 REFER TO CIVIL DRAWINGS FOR CONTINUATION.
 - 10 REFER TO CIVIL DRAWINGS FOR CONTINUATION OF 4" UNDERGROUND PRIMARY ROOF DRAIN. PROVIDE CLEANOUP AT BASE OF RISER PRIOR TO ROUTING UNDERGROUND.
 - 11 PROVIDE PORTABLE ON-SITE WASTE CART WITH WHEELS TO COLLECT WASTE WATER FROM EMERGENCY EYE/FACE WASH. CART SHALL HOLD A MINIMUM OF 50 GALLONS OF WATER.
 - 12 PROVIDE 66 GALLON (MINIMUM) ELECTRIC HOT WATER HEATER WITH (2) 3,000 WATT NON-SIMULTANEOUS ELECTRIC HEATING ELEMENTS RATED FOR 480 VOLT 3 PHASE POWER. REFER TO SPECIFICATION SECTION 223300 FOR DESCRIPTION. COORDINATE INSTALLATION WITH ELECTRICAL CONTRACTOR. REFER TO DETAIL 4/P1 FOR COMPONENTS AND CONFIGURATION.



2 SECOND FLOOR - PLUMBING PLAN



1 FIRST FLOOR - PLUMBING PLAN

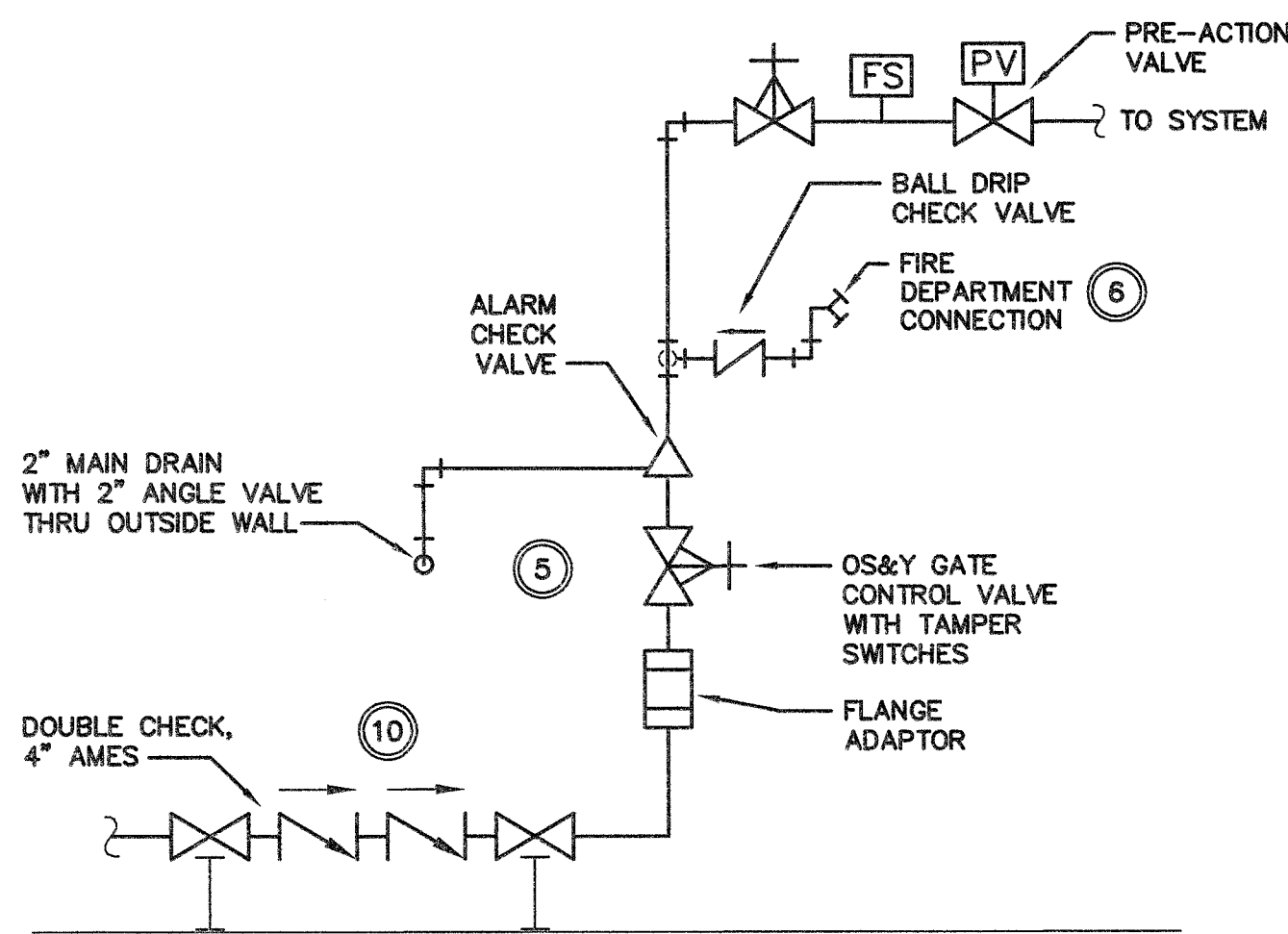


KEY PLAN
SCALE: NO SCALE
PROJECT NORTH

CAD#25248 JUN-26-13 L&B PROJ. #6100

SUBMISSION 100% Construction Documents 100% Construction Documents (For Owner Review) 98% Construction Documents 66% Design Development 33% Schematic Design Revisions:		DATE 6-28-13 6-24-13 2-28-13 11-21-12 8-3-12	 Department of Veterans Affairs Jack C. Montgomery Medical Center 1011 Honor Height Drive Muskogee, Oklahoma 74401	CONSULTANTS: Lee & Browne Consulting Engineers, Inc. 1207 South Sheridan Road Tulsa, Oklahoma 74112-5405 (918) 836-0271 CA #252. Exp: 6/14		SEAL: 	ARCHITECT / ENGINEERS 7700 NORTH HUDSON AVENUE, SUITE 9 OKLAHOMA CITY, OKLAHOMA 73116 WWW.SPUR-DESIGN.COM PHONE: 405.842.8100 OK CERTIFICATE OF AUTHORITY NO: 02285	APPROVED: President A.F.G.E. 2250 APPROVED: APPROVED: APPROVED:	APPROVED: Energy Engineer APPROVED: Safety Manager APPROVED: Infection Control Nurse APPROVED: Industrial Hygienist	APPROVED: Medical Center Director APPROVED: Associate Director APPROVED: Chief of Staff APPROVED: Chief of Engineering Service	DRAWING TITLE: FIRST AND SECOND FLOOR - PLUMBING PLANS PROJECT NUMBER: 623-12-109 BUILDING NUMBER: 60	PROJECT TITLE: FULL FACILITY GENSET Designed By: MRB Drawn By: WMK Checked By: MRB AUTOCAD FILE NAME: Location	Date: 6-28-2013 Scale: DRAWING NO.: P1	 Department of Veterans Affairs

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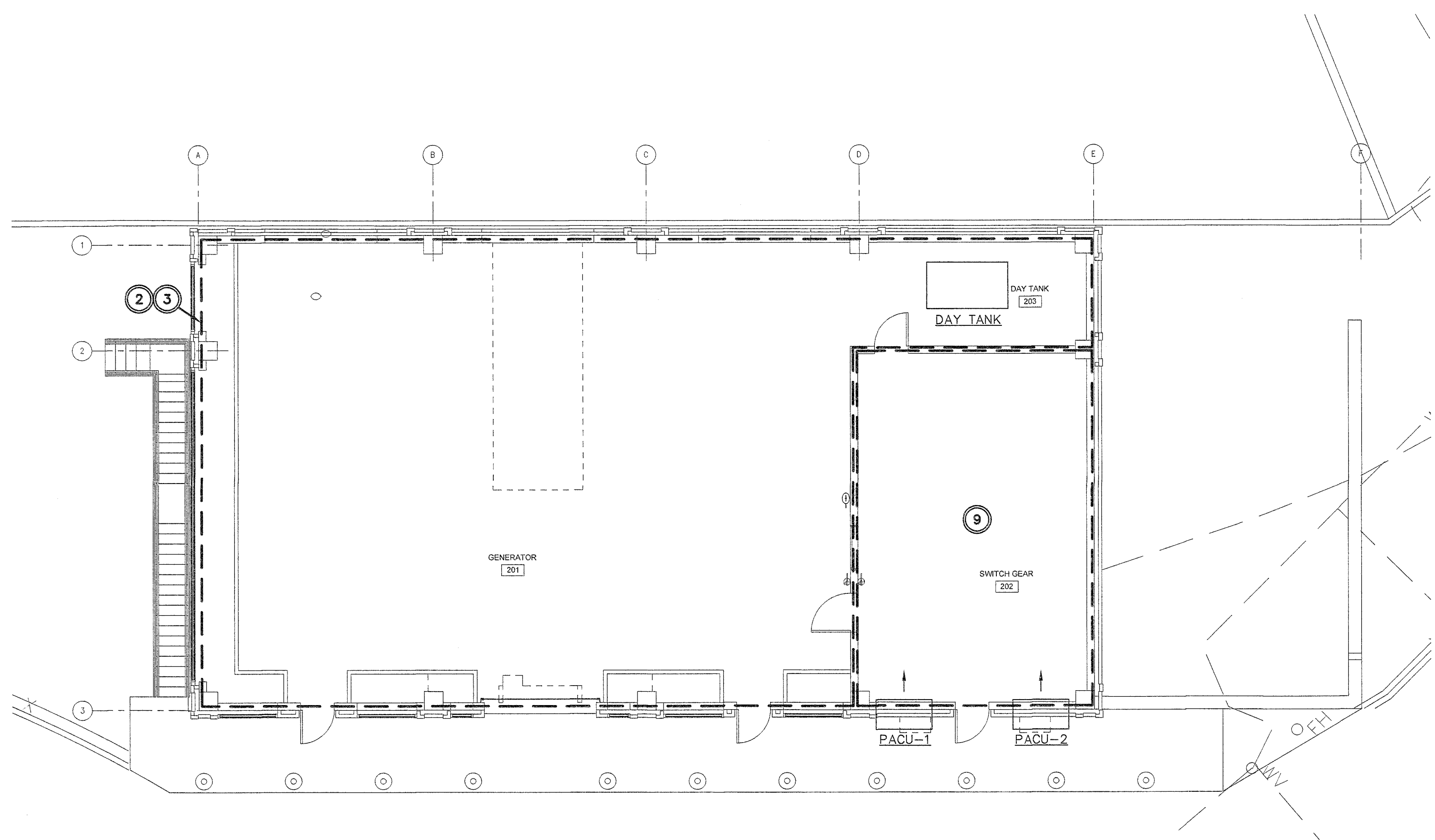
3 SPRINKLER RISER
NO SCALE

LEGEND:

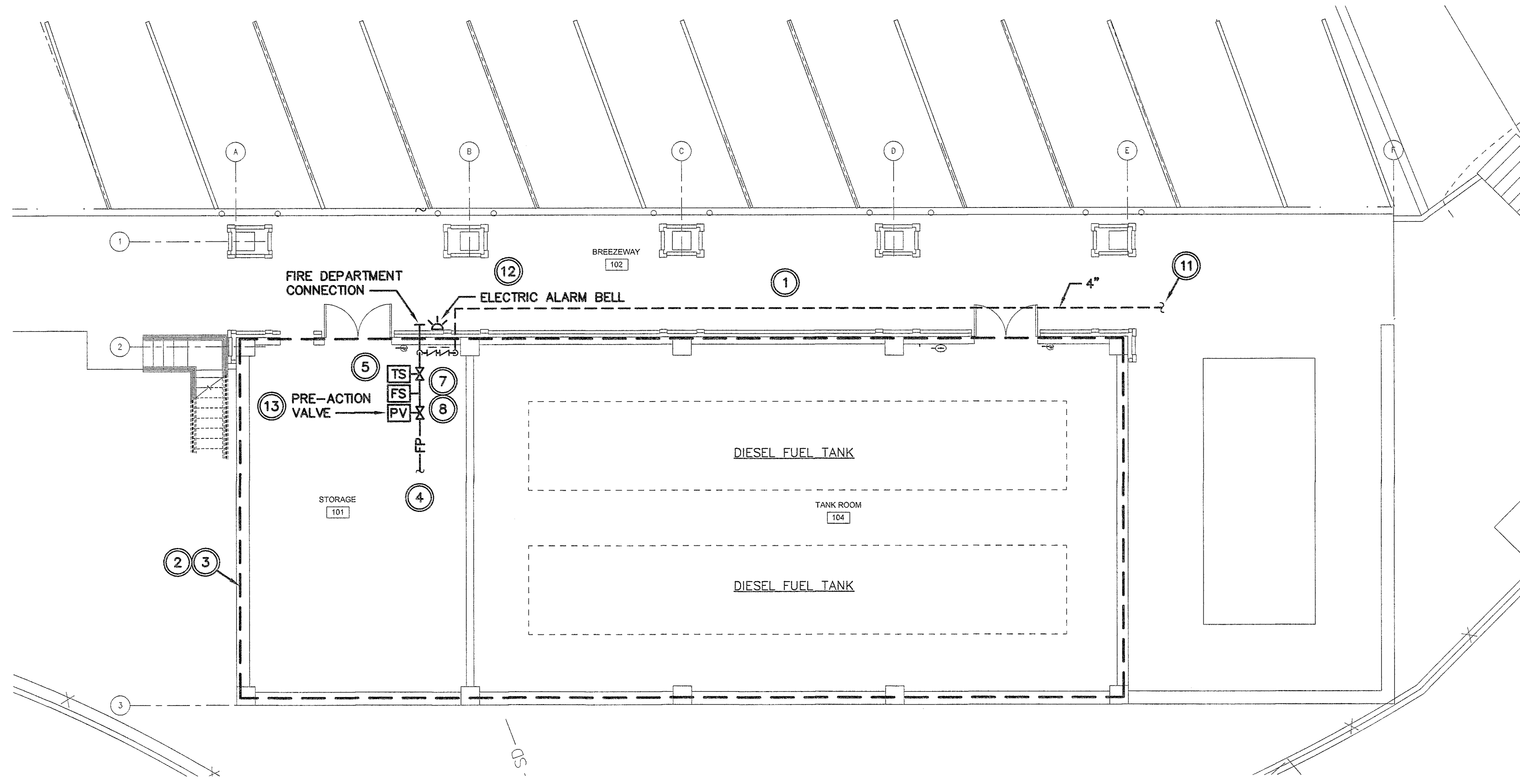
- Control Valve with Tamper Switch.
- Flow Switch.
- SPRINKLER PIPING.
- Flow Switch.
- ABOVE FINISHED FLOOR.

FIRE PROTECTION NOTES:

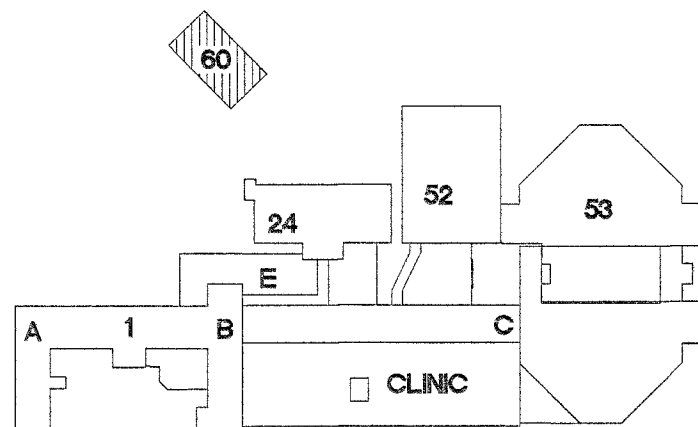
- PIPING SHOWN ON PLANS IS FOR GENERAL ROUTING ONLY. THIS CONTRACTOR SHALL COORDINATE WITH ALL OTHER TRADES TO MINIMIZE CONFLICTS AND AVOID FIELD CHANGES.
- CONTRACTOR SHALL HYDRAULICALLY CALCULATE SIZE OF SPRINKLER PIPING PER NFPA 13 FOR LIGHT HAZARD CLASSIFICATION (UNLESS NOTED OTHERWISE) AND PROVIDE NUMBER AND SPACING OF SPRINKLERS AS REQUIRED BY NFPA 13 FOR AREA SHOWN. STORAGE AND MECHANICAL ROOMS SHALL BE ORDINARY HAZARD GROUP 1. FIRE PROTECTION SYSTEM SHALL MEET THE REQUIREMENTS OF NFPA AND LOCAL AGENCIES. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS.
- FIRE PROTECTION SYSTEM SHALL MEET THE REQUIREMENTS OF NFPA AND LOCAL AGENCIES.
- ROUTE CROSS MAINS AND RUNOUTS TO AVOID CONFLICTS WITH DUCTWORK, CEILINGS, AND LIGHTING.
- COMBINATION DRAIN AND FLOW SWITCH TEST DEVICES SHALL BE VICTAULIC STYLE 718 TESTMASTER, OR EQUAL.
- FIRE DEPARTMENT CONNECTION. COORDINATE REQUIREMENTS WITH THE CITY OF MUSKOGEE.
- MAIN RISER. SEE DETAIL 3 THIS DRAWING.
- PROVIDE TEST LINE OUTLET 12" ABOVE FINISHED FLOOR THROUGH EXTERIOR WALL.
- DO NOT ROUTE PIPING OVER ELECTRICAL PANELS OR EQUIPMENT (TYPICAL). COORDINATE PIPE ROUTING AND ELECTRICAL EQUIPMENT LOCATIONS WITH OWNER.
- 4" DOUBLE CHECK BACKFLOW PREVENTER WITH OS&Y GATE VALVES WITH TAMPER SWITCH, AMES MODEL 2000SS.
- SEE CIVIL DRAWINGS FOR CONTINUATION OF NEW MAIN FIRE LINE.
- PROVIDE ELECTRIC FIRE ALARM BELL MOUNTED ON EXTERIOR WALL. FOLLOW CITY OF MUSKOGEE FIRE DEPARTMENT REQUIREMENTS. COORDINATE INSTALLATION OF FIRE ALARM BELL WITH ELECTRICAL CONTRACTOR. COORDINATE EXACT FIRE ALARM BELL LOCATION WITH FIRE MARSHAL.
- PROVIDE PRE-ACTION VALVE TO PROVIDE DRY PIPE PRE-ACTION SPRINKLER SYSTEM FOR ENTIRE BUILDING.



2 SECOND FLOOR - FIRE PROTECTION PLAN



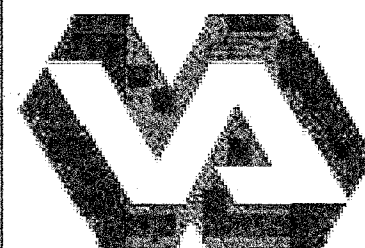
1 FIRST FLOOR - FIRE PROTECTION PLAN



KEY PLAN
SCALE: NO SCALE

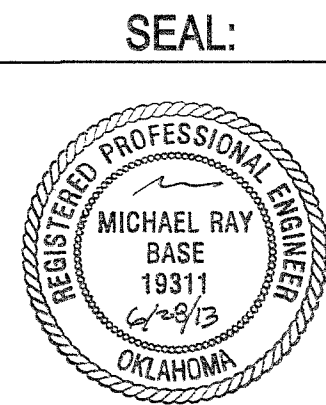
CAD#25250 JUN-26-13 L&B PROJ. #6100

SUBMISSION	DATE
100% Construction Documents	6-28-13
100% Construction Documents (For Owner Review)	6-24-13
99% Construction Documents	2-28-13
66% Design Development	11-21-12
33% Schematic Design	8-3-12
Revisions:	



Department of Veterans Affairs
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APPROVED: President A.F.G.E 2250
APPROVED:
APPROVED:
APPROVED:

APPROVED: Energy Engineer
APPROVED: Safety Manager
APPROVED: Infection Control Nurse
APPROVED: Industrial Hygienist

APPROVED: Medical Center Director
APPROVED: Associate Director
APPROVED: Chief of Staff
APPROVED: Chief of Engineering Service

DRAWING TITLE: FIRST AND SECOND FLOOR - FIRE PROTECTION PLANS	
PROJECT NUMBER 623-12-109	CONTRACT NO.
BUILDING NUMBER 60	AUTOCAD FILE NAME:

PROJECT TITLE FULL FACILITY GENSET		
Designed By MRB	Drawn By VMK	Checked By MRB
Location		

Date 6-28-2013
Scale
DRAWING NO: FP1

Department of
Veterans Affairs