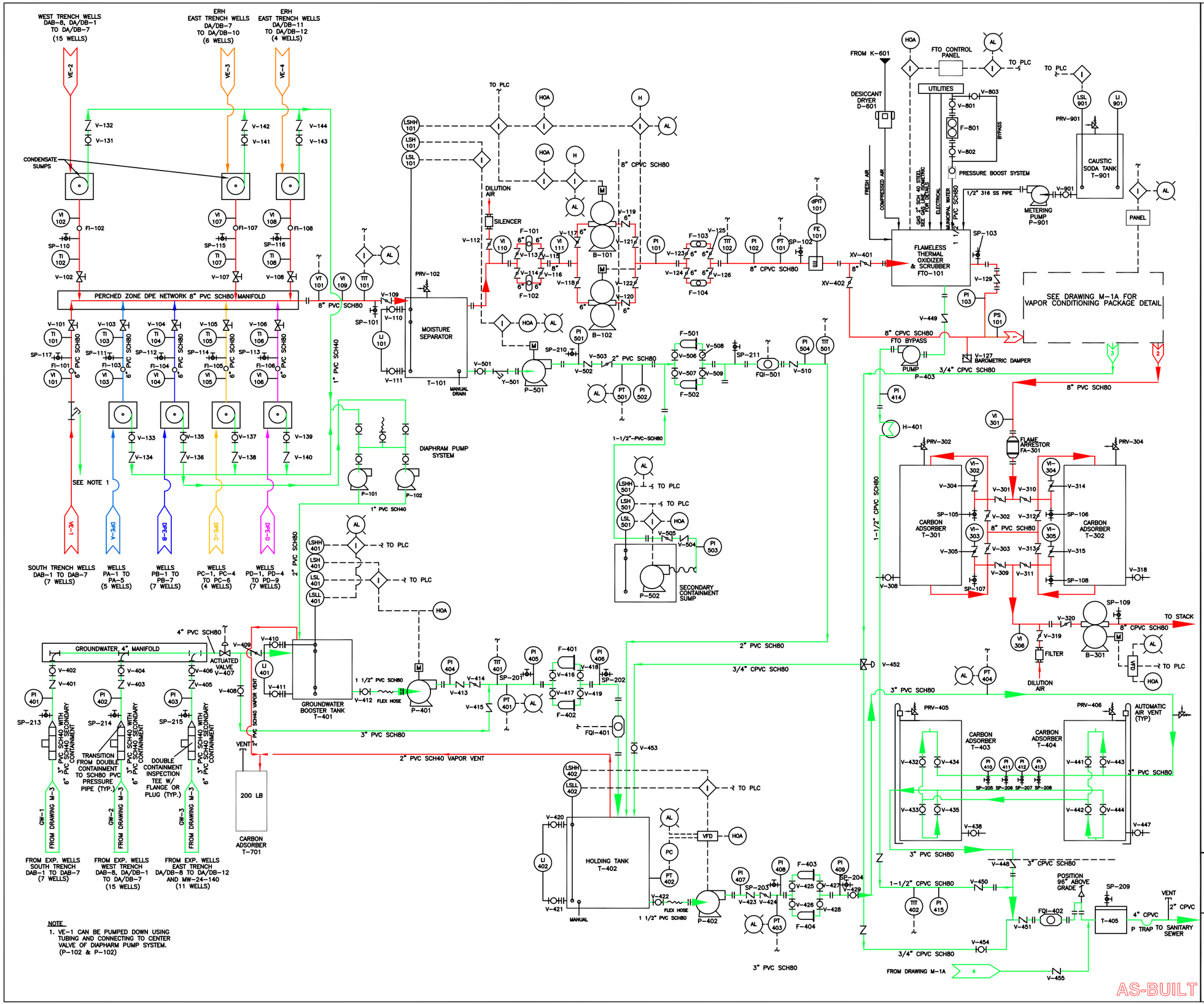

NOTE

1. VE-1 CAN BE PUMPED DOWN USING TUBING AND CONNECTING TO CENTER VALVE OF DIAPHARM PUMP SYSTEM. (P-102 & P-102)

LEGEND:

- BUTTERFLY VALVE
- BALL VALVE
- CHECK VALVE
- DIAPHRAGM VALVE
- VALVE WITH ACTUATOR
- VALVE WITH SOLENOID
- PRESSURE RELIEF VALVE
- VACUUM RELIEF VALVE
- VACUUM BREAKER (ANTI-SIPHON)
- ELECTRIC MOTOR
- FLOW TOTALIZER & INDICATOR
- VALVED SAMPLE PORT
- SYSTEM INTERLOCK/FAILSAFE
- ELECTRICAL
- ELECTRICAL REPORTING TO PLC
- VENT
- LONG TURN TEE WYE
- FLEX HOSE
- AIR FILTER
- REGULATOR W/ PRESSURE GAUGE
- ALARMS
- HEATING COIL
- COOLING FANS
- FLANGE
- UNION
- HEAT EXCHANGER
- CAM AND GROOVE COUPLINGS-ALUMINUM
- CLEAN-OUT WYE
- AVERAGING PITOT TUBE
- FLAME ARRESTOR
- AUTOMATIC AIR VENT
- MULTIPLE BAG FILTER HOUSING
- SINGLE BAG FILTER HOUSING
- CALCIUM FILTER

ABBREVIATIONS:

AL	ALARM	LSHH	LEVEL SWITCH HIGH-HIGH
CV	CONTROL VALVE	LSL	LEVEL SWITCH LOW
dPIT	DIFFERENTIAL PRESSURE INDICATING TRANSMITTER	LSLL	LEVEL SWITCH LOW-LOW
FE	FLOW ELEMENT	PI	PRESSURE INDICATOR
FI	FLOW INDICATOR	PT	PRESSURE TRANSMITTER
FM	FLOW METER	PS	PRESSURE SWITCH
FQI	FLOW TOTALIZER	SP	SAMPLE PORT
GALV	GALVANIZED	SS	STAINLESS STEEL
HOA	HAND-OFF AUTO	TI	TEMPERATURE INDICATOR
LAH	LEVEL ALARM HIGH	TIT	TEMPERATURE INDICATOR TRANSMITTER
LACSD	LOS ANGELES COUNTY SANITATION DIVISION	VI	VACUUM INDICATOR
LI	LEVEL INDICATOR	VT	VACUUM TRANSMITTER
LSH	LEVEL SWITCH HIGH	VFD	VARIABLE FREQUENCY DRIVE

NOTES:

1. A SUMMARY OF PROCESS EQUIPMENT DESCRIPTIONS AND SPECIFICATIONS ARE SHOWN ON THIS DRAWING. REFER TO TABLE 4-11 - EQUIPMENT AND INSTRUMENT SPECIFICATION SUMMARY AND TABLE 4-12 - MAJOR EQUIPMENT SPECIFICATIONS FOR MORE DETAILS ON FANS,BLOWERS,PUMPS, VAPOR PHASE CARBON ADSORPTION UNITS, FLAMELESS THERMAL OXIDATION SYSTEM AND FILTRATION SYSTEMS.
2. PLEASE SEE SPECIFICATION SECTION 13405 - PROCESS LOGIC CONTROL FOR PLC DESIGN, INTERLOCKS, ALARMS, AND CONTROL REQUIREMENS AND SPECIFICATIONS.
3. INSTALLATION OF PIPING SYSTEM SHALL BE PERFORMED IN ACCORDANCE WITH ATTACHMENT 2 IN THE RFP AND SPECIFICATION SECTION 15400-PROCESS PIPING.
4. ALL ELECTRICAL WIRING SHALL CONFORM TO SPECIFICATION DIVISION 16 - ELECTRICAL.
5. CONTROL PANELS FOR EACH TREATMENT PROCESS SHALL BE DESIGNED AND POSITIONED ON THE EQUIPMENT IT CONTROLS BY THE MANUFACTURER.
6. TREATMENT EQUIPMENT SHALL BE PLACED IN ACCORDANCE WITH THE TREATMENT COMPOUND PROCESS LAYOUT ON DRAWING M-4.
7. ALL PIPING AND CONDUITS SHALL BE SUPPORTED; IN ACCORDANCE WITH LOCAL CODES, TO PREVENT SAGGING OR OVER-STRESSING OF THE PIPE AND CONNECTIONS. ALL PIPING SHALL BE SUPPORTED SO THAT NO LOAD OR STRESS IS TRANSFERRED TO ANY EQUIPMENT.
8. PROCESS PIPING SHALL BE LABELED WITH FLOW DIRECTION AND CONTENT AT ALL ABOVE GROUND VALVES.
9. WHERE PIPING IS ROUTED ABOVE GROUND (INSIDE THE COMPOUND) THE PIPING SHALL BE SUPPORTED BY UNISTRUT AND SHALL BE INSTALLED PER LOCAL CODE AND PIPE MANUFACTURER GUIDELINES.
10. UTILITY PIPING MUST BE INSTALLED PER LOCAL CODE.
11. ALL PROCESS PIPING BENEATH ROADS SHALL BE A MINIMUM OF SCHEDULE 40.
12. SECONDARY CONTAINMENT PIPING AND ELECTRICAL CONDUIT, WHERE REQUIRED, SHALL BE A MINIMUM OF SCHEDULE 40.
13. SUMP PUMP P-502 HOSES, ELECTRICAL, AND CONTROLS MUST BE CONFIGURED FOR QUICK REMOVAL FROM SECONDARY CONTAINMENT SUMP.
14. CAUSTIC PUMP P-901 WILL BE PROVIDED BY ANGUIL AND WILL BE INSTALLED BY CONTRACTOR AS PART OF THIS SCOPE.
15. FINAL DESIGN OF VAPOR CONDITIONING PACKAGE SHALL BE DETERMINED BY TREATMENT SYSTEM CONTRACTOR.

GENERAL PIPING AND INSTRUMENTATION DIAGRAM

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SCALE: AS SHOWN	APPROVED	DATE: 07/19/2007
DESIGNED: MB, JW & LL	AS BUILTS	DRAWING
DRAWN: DC & JBP		M-1
CHECKED: JW		