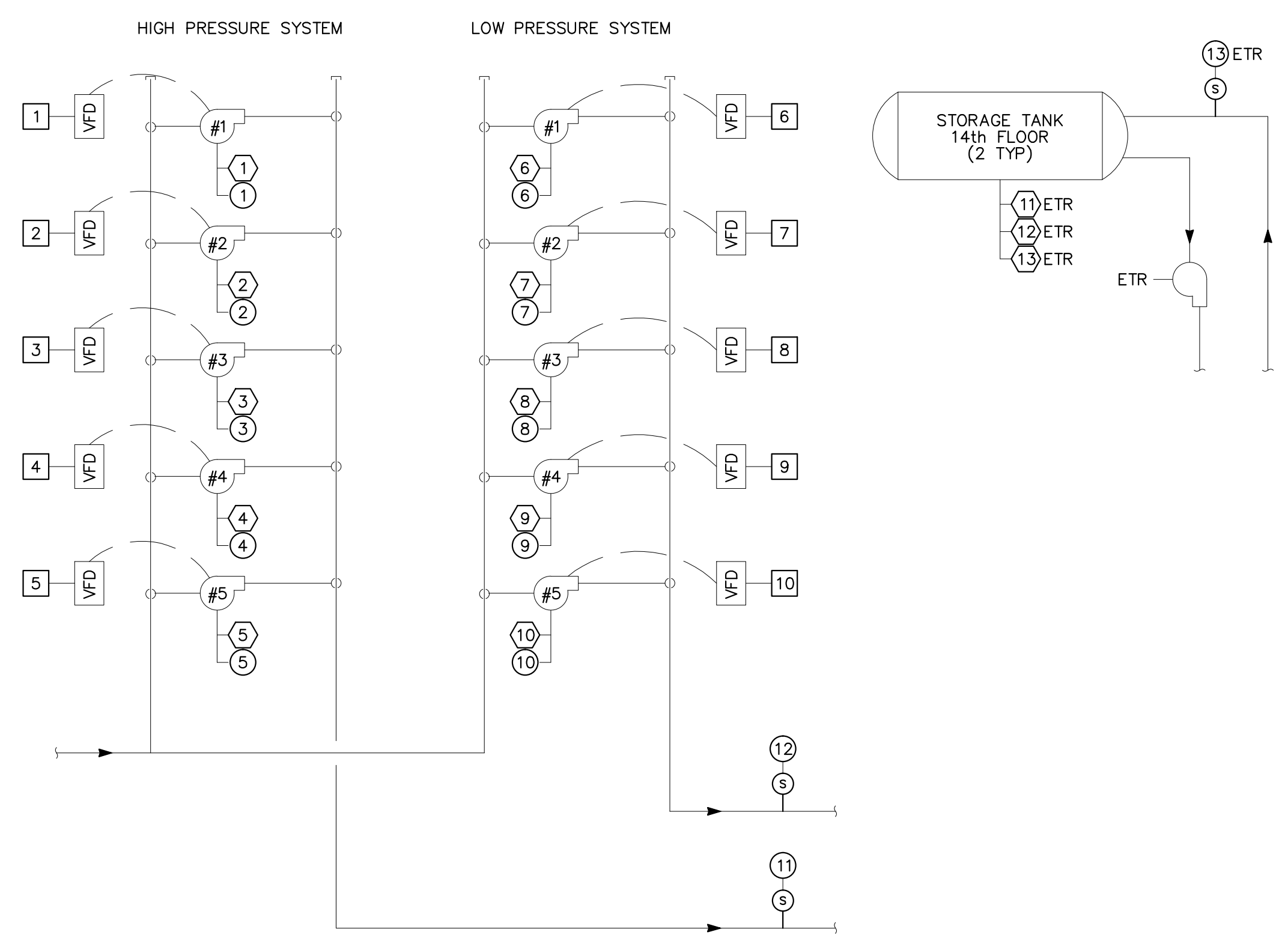


A
one inch = one foot
B
three-quarters inch = one foot
C
one-half inch = one foot
D
three-eighths inch = one foot
E
one-quarter inch = one foot
one-eighth inch = one foot



- ANALOG INPUTS**
- ① HIGH PRESSURE PUMP #1 VFD FEEDBACK
 - ② HIGH PRESSURE PUMP #2 VFD FEEDBACK
 - ③ HIGH PRESSURE PUMP #3 VFD FEEDBACK
 - ④ HIGH PRESSURE PUMP #4 VFD FEEDBACK
 - ⑤ HIGH PRESSURE PUMP #5 VFD FEEDBACK
 - ⑥ LOW PRESSURE PUMP #1 VFD FEEDBACK
 - ⑦ LOW PRESSURE PUMP #2 VFD FEEDBACK
 - ⑧ LOW PRESSURE PUMP #3 VFD FEEDBACK
 - ⑨ LOW PRESSURE PUMP #4 VFD FEEDBACK
 - ⑩ LOW PRESSURE PUMP #5 VFD FEEDBACK
 - ⑪ HIGH PRESSURE SYSTEM DISCHARGE PRESSURE TRANSMITTER
 - ⑫ LOW PRESSURE SYSTEM PRESSURE TRANSMITTER
 - ⑬ HIGH PRESSURE SYSTEM HIGH POINT PRESSURE TRANSMITTER

- BINARY INPUTS**
- ① HIGH PRESSURE PUMP #1 STATUS
 - ② HIGH PRESSURE PUMP #2 STATUS
 - ③ HIGH PRESSURE PUMP #3 STATUS
 - ④ HIGH PRESSURE PUMP #4 STATUS
 - ⑤ HIGH PRESSURE PUMP #5 STATUS
 - ⑥ LOW PRESSURE PUMP #1 STATUS
 - ⑦ LOW PRESSURE PUMP #3 STATUS
 - ⑧ LOW PRESSURE PUMP #3 STATUS
 - ⑨ LOW PRESSURE PUMP #4 STATUS
 - ⑩ LOW PRESSURE PUMP #5 STATUS
 - ⑪ STORAGE TANK LOW LEVEL ALARM
 - ⑫ STORAGE TANK HIGH LEVEL ALARM
 - ⑬ FLOW SWITCH

- ANALOG OUTPUTS**
- ① HIGH PRESSURE SYSTEM PUMP #1 SPEED CONTROL
 - ② HIGH PRESSURE SYSTEM PUMP #2 SPEED CONTROL
 - ③ HIGH PRESSURE SYSTEM PUMP #3 SPEED CONTROL
 - ④ HIGH PRESSURE SYSTEM PUMP #4 SPEED CONTROL
 - ⑤ HIGH PRESSURE SYSTEM PUMP #5 SPEED CONTROL
 - ⑥ LOW PRESSURE SYSTEM PUMP #1 SPEED CONTROL
 - ⑦ LOW PRESSURE SYSTEM PUMP #2 SPEED CONTROL
 - ⑧ LOW PRESSURE SYSTEM PUMP #3 SPEED CONTROL
 - ⑨ LOW PRESSURE SYSTEM PUMP #4 SPEED CONTROL
 - ⑩ LOW PRESSURE SYSTEM PUMP #5 SPEED CONTROL

- SEQUENCE OF OPERATION:**
- A. ALL POINTS INDICATED SHALL BE PROVIDED AS AN EXTENSION OF THE EXISTING ANDOVER CONTROLS BUILDING MANAGEMENT SYSTEM. CONTRACTOR SHALL ENGAGE U&S SERVICES INC TO PERFORM THE INDICATED WORK.
 - B. HIGH PRESSURE BOOSTER SYSTEM SHALL MODULATE TO MAINTAIN SYSTEM PRESSURE OF 100 PSI (ADJ.) AT THE TOP OF THE SYSTEM.
 - C. VFDs SHALL BE HARD WIRED TO THE BOOSTER SYSTEM AND SHALL AUTOMATICALLY MODULATE THE FLOW OF THE PUMP(S) TO MAINTAIN SYSTEM PRESSURE. DDC SYSTEM SHALL NOT CONTROL VFDs. DDC SYSTEM OUTPUT PRESSURE REQUIREMENT TO VFDs. VFDs SHALL MODULATE PUMPS AUTOMATICALLY TO MAINTAIN SYSTEM PRESSURE.
 - D. DDC SHALL TIE INTO EXISTING HIGH PRESSURE SYSTEM HIGH LEVEL AND LOW LEVEL ALARMS. UPON HIGH LEVEL ALARM, SYSTEM PRESSURE SHALL BE REDUCED TO 85 PSI (ADJ.) AND A BUILDING ALARM SHALL BE SENT TO THE OPERATORS WORKSTATION. UPON HIGH-HIGH LEVEL ALARM, THE HIGH PRESSURE BOOSTER SHALL BE DE-ENERGIZED AND A CRITICAL BUILDING ALARM SHALL BE SENT TO THE OPERATORS WORKSTATION.
 - E. LOW PRESSURE BOOSTER SYSTEM SHALL MODULATE TO MAINTAIN A SYSTEM PRESSURE OF 70 PSI (ADJ.) AT THE PUMP DISCHARGE.

HEATING SYSTEM CONTROL SCHEMATIC
NO SCALE

VA WESTERN NEW YORK HEALTHCARE SYSTEM 3495 BAILEY AVENUE BUFFALO, NEW YORK 14215		CLINICAL ENGINEERING	DATE	ENGINEERING MANAGER	DATE	Drawing Title BUILDING MANAGEMENT SYSTEM TIE-IN	Project Title BOOSTER PUMP VFD'S		Date APRIL 10, 2013		
		INFECTION CONTROL	DATE	CARELINE MANAGER	DATE				Station No. 528		
ISSUE FOR BID Revisions		4/10/13 Date		MEDICAL CENTER DIRECTOR DATE		Building Number 1		Checked JWM	Drawn JWM	12-S13 M102	
						ASSOCIATE MEDICAL CENTER DIRECTOR DATE		Location V.A.M.C. BUFFALO, NEW YORK			

