

# CONTROL PANEL NOTES

1. A NEMA 3R STAINLESS STEEL CONTROL PANEL WITH A THREE POINT LATCH AND DEAD FRONT DOOR FOR CONTROLS SHALL BE PROVIDED FOR EACH SET OF PUMPS. THE PANEL SHALL BE DESIGNED AND BUILT TO PROVIDE THE NECESSARY COMPONENTS TO SAFELY RUN AND CONTROL THE PUMPS. THE PANEL SHALL INCLUDE THE ALARM LIGHT AND ALARM HORN.
2. PROPERLY SIZED HEAVY-DUTY, AIR CIRCUIT BREAKERS SHALL BE PROVIDED FOR EACH OF THE FOLLOWING: MAIN BREAKER, TVSS BREAKER, CONTROL BREAKER, AND DUPLEX RECEPTACLE BREAKER. PROVIDE MCP TYPE BREAKERS FOR EACH PUMP. BREAKERS SHALL BE MOUNTED ON AUXILIARY BACK PLATE WITH CUTOUTS THROUGH THE DEAD FRONT PANEL SO THAT BREAKER FACES WILL BE FLUSH WITH THE DEAD FRONT. ALL CIRCUIT BREAKERS SHALL BE SEALED BY THE MANUFACTURER AFTER CALIBRATION TO PREVENT TAMPERING. BREAKERS SHALL HAVE INTERRUPT RATING IN EXCESS OF MAX AVAILABLE FAULT CURRENT ON LOAD SIDE OF UTILITY COMPANY TRANSFORMER.
3. AN OPEN FRAME, ACROSS THE LINE, NEMA RATED MAGNETIC, MOTOR STARTER SHALL BE PROVIDED FOR EACH MOTOR. POWER CONTACTS SHALL BE DOUBLE-BREAK CADMIUM OXIDE SILVER. ALL MOTOR STARTERS SHALL BE EQUIPPED TO PROVIDE UNDER VOLTAGE RELEASE AND OVERLOAD PROTECTION ON ALL THREE PHASES. AN OVERLOAD RESET BUTTON SHALL BE MOUNTED THROUGH THE DEAD FRONT DOOR FOR EACH MOTOR STARTER.
4. EACH PUMP SHALL BE PROVIDED WITH A RUN LIGHT, SEAL FAILURE LIGHT, OVER TEMPERATURE LIGHT, H.O.A. SWITCH AND AN ELAPSED TIME METER. PROVIDE TIME DELAY RELAYS TO PREVENT SIMULTANEOUS START OF BOTH PUMPS UPON RESTORATION OF POWER AFTER A POWER OUTAGE.
5. H.O.A. PUMP MODE SELECTOR SWITCHES SHALL BE CONNECTED TO PERMIT MANUAL START AND MANUAL STOP OF EACH PUMP INDIVIDUALLY, AND TO SELECT AUTOMATIC OPERATION OF EACH PUMP. MANUAL OPERATION SHALL OVERRIDE ALL SHUTDOWN SYSTEMS, BUT NOT THE MOTOR OVERLOAD RELAYS OR PHASE MONITOR CONTACTS. SWITCH CONTACTS SHALL BE RATED FOR 15 AMPERES MINIMUM AT 120 VOLTS NON-INDUCTIVE.
6. A PUMP ALTERNATOR RELAY SHALL BE OF THE ELECTROMECHANICAL INDUSTRIAL DESIGN. RELAY CONTACTS SHALL BE RATED FOR 10 AMPERES MINIMUM AT 120 VOLTS NON-INDUCTIVE. A SWITCH SHALL BE PROVIDED TO PERMIT THE OPERATOR TO SELECT AUTOMATIC ALTERNATION OF THE PUMPS, TO SELECT PUMP NUMBER 1 TO BE THE LEAD PUMP FOR EACH PUMPING CYCLE, OR TO SELECT PUMP NUMBER 2 TO BE LEAD PUMP FOR EACH PUMPING CYCLE.
7. SIX DIGIT ELAPSED TIME METERS (NON-RESET TYPE) SHALL BE CONNECTED TO EACH MOTOR STARTER TO INDICATE THE TOTAL RUNNING TIME OF EACH PUMP IN "HOURS" AND "TENTHS OF HOURS".
8. A PHASE MONITOR AND TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS) SHALL BE PROVIDED. TVSS TERMINATIONS PER MANUFACTURER'S INSTRUCTIONS.
9. A WEATHERPROOF, CORROSION RESISTANT 120V, GFIC, CONVENIENCE RECEPTACLE SHALL BE PROVIDED ON THE EXTERIOR OF THE PANEL. THE RECEPTACLE SHALL BE WIRED THROUGH A 20 AMP SINGLE POLE CIRCUIT BREAKER.
10. DRY CONTACTS SHALL BE PROVIDED FOR THE CITY'S SCADA SYSTEM. A TOTAL OF EIGHT (8) POINTS SHALL BE MONITORED; LOSS OF POWER, HIGH LEVEL ALARM, PUMP #1 RUNNING, PUMP #2 RUNNING, HOA SWITCH FOR PUMP #1 IN AUTOMATIC POSITION, HOA SWITCH FOR PUMP #2 IN AUTOMATIC POSITION, GENERATOR RUNNING, SPARE.
11. PROVIDE REMOTE TELEMETRY UNIT COMPLETE, AS REQUIRED BY THE CITY. PROVIDE INTERCONNECTING WIRING BETWEEN PUMP CONTROL PANEL AND TELEMETRY UNIT ENCLOSURE.

**CITY OF GROVELAND STANDARD DETAILS: SANITARY SEWER**



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 SCALE: N.T.S.

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