

GENERAL PUMP NOTES

1. GENERAL-
FURNISH AND INSTALL A COMPLETE SIMPLEX PUMPING SYSTEM CONSISTING OF SUBMERSIBLE SEWAGE PUMP AND MOTOR, DISCHARGE PIPING AND VALVE, FLOAT SWITCH LEVEL CONTROLS, HIGH WATER ALARM, SIMPLEX CONTROL PANEL AND PRECAST CONCRETE PUMP CHAMBER. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS AND SHALL BE WARRANTED FOR AT LEAST ONE YEAR. THE CONTRACTOR SHALL PROVIDE A SUFFICIENT QUANTITY OF CLEAN WATER TO CONDUCT PUMP OPERATION TEST.
2. PUMP CHAMBER-
THE PUMP CHAMBER SHALL BE A REINFORCED PRECAST CONCRETE STRUCTURE. CONSTRUCTION JOINTS AND OPENINGS SHALL BE SEALED WITH A HYDRAULIC CEMENT OR OTHERWISE MADE WATER TIGHT.
3. PUMP AND MOTOR
PUMP SHALL BE A MYERS PUMP MODEL MW50, OR EQUIVALENT, SUBMERSIBLE SEWAGE PUMP CAPABLE OF PASSING 2-INCH SOLIDS. PUMP AND MOTOR SHALL BE FULLY SUBMERSIBLE AND SHALL OPERATE AT 1,625 RPM WITH A 230V, 60 CYCLE, SINGLE PHASE AC POWER SOURCE. (NOTE: ELECTRICAL CONTRACTOR SHALL VERIFY AVAILABLE VOLTAGE AT THE PUMP CONTROL PANEL PRIOR TO CONSTRUCTION.) PUMP SHALL BE RATED AS FOLLOWS:
- H.P. 0.5 H.P.
RATE: 38 GPM
TDH: 13 FEET
MODEL: MYERS PUMP MODEL MW 50 OR EQUIVLENT

PUMP SHALL BE FACTORY TESTED PRIOR TO SHIPMENT AND A CERTIFIED FACTORY TEST REPORT SHALL BE PROVIDED TO THE ENGINEER.

PUMP SIDE RAILS SHALL BE CONSTRUCTED AS SHOWN ON PLAN. RAILS SHALL BE MODEL SRA-200 OR APPROVED EQUAL.

4. PIPING-
2-INCH (SCH 80) PVC PIPE AND FITTING SHALL BE USED FOR INTERIOR PUMP STATION DISCHARGE PIPING AND FITTINGS. THE SEWAGE FORCE MAIN SHALL BE SDR 21 (CLASS 200) PVC PIPE OF THE SIZE INDICATED ON THE PLANS. DISCHARGE LINES WITHIN THE PUMP CHAMBER SHALL INCLUDE THE FOLLOWING FOR EACH PUMP:

- 1) IN THE VERTICAL POSITION: A CHECK VALVE
2) IN THE HORIZONTAL POSITION: A BALL VALVE

ALL PIPING OUTSIDE THE PUMP CHAMBER AND HAVING LESS THAN 4-FEET OF SOIL COVER SHALL BE INSULATED. (SEE NOTE 8)

5. LEVEL CONTROLS-
SEALED FLOAT TYPE MECHANICAL SWITCHES SHALL BE SUPPLIED TO CONTROL THE PUMP LEVEL AND ALARM SIGNAL. THREE FLOAT SWITCHES SHALL BE USED TO CONTROL THE PUMP LEVEL: ONE EACH FOR PUMP "ON" AND PUMP "OFF". A THIRD SWITCH SHALL BE PROVIDED WITH A POWER SOURCE SEPARATE FROM THE PUMP POWER SOURCE TO ACTIVATE THE ALARM UNIT. ALL FLOAT SWITCHES SHALL BE OF THE MECHANICAL TUBE TYPE SEALED IN POLYURETHANE FLOATS. THE FLOAT LEVEL CONTROLS SHALL BE SET TO OPERATE AT THE ELEVATIONS INDICATED ON THE PLANS.

6. CONTROL PANELS-
THE SIMPLEX CONTROL PANEL SHALL BE EQUIPPED WITH RUN LIGHTS FOR THE PUMP, PROPERLY SIZED PUMP CIRCUIT BREAKERS, A TRANSFORMER TO GIVE PROPER VOLTAGE TO THE CONTROL CIRCUITS, AN ALTERNATOR RELAY AND A THREE-WAY HAND CONTROL SWITCH. THE SWITCH POSITIONS SHALL BE AS FOLLOWS:

- 1) PUMP OFF
2) AUTOMATIC PUMP ON
3) MANUAL PUMP ON

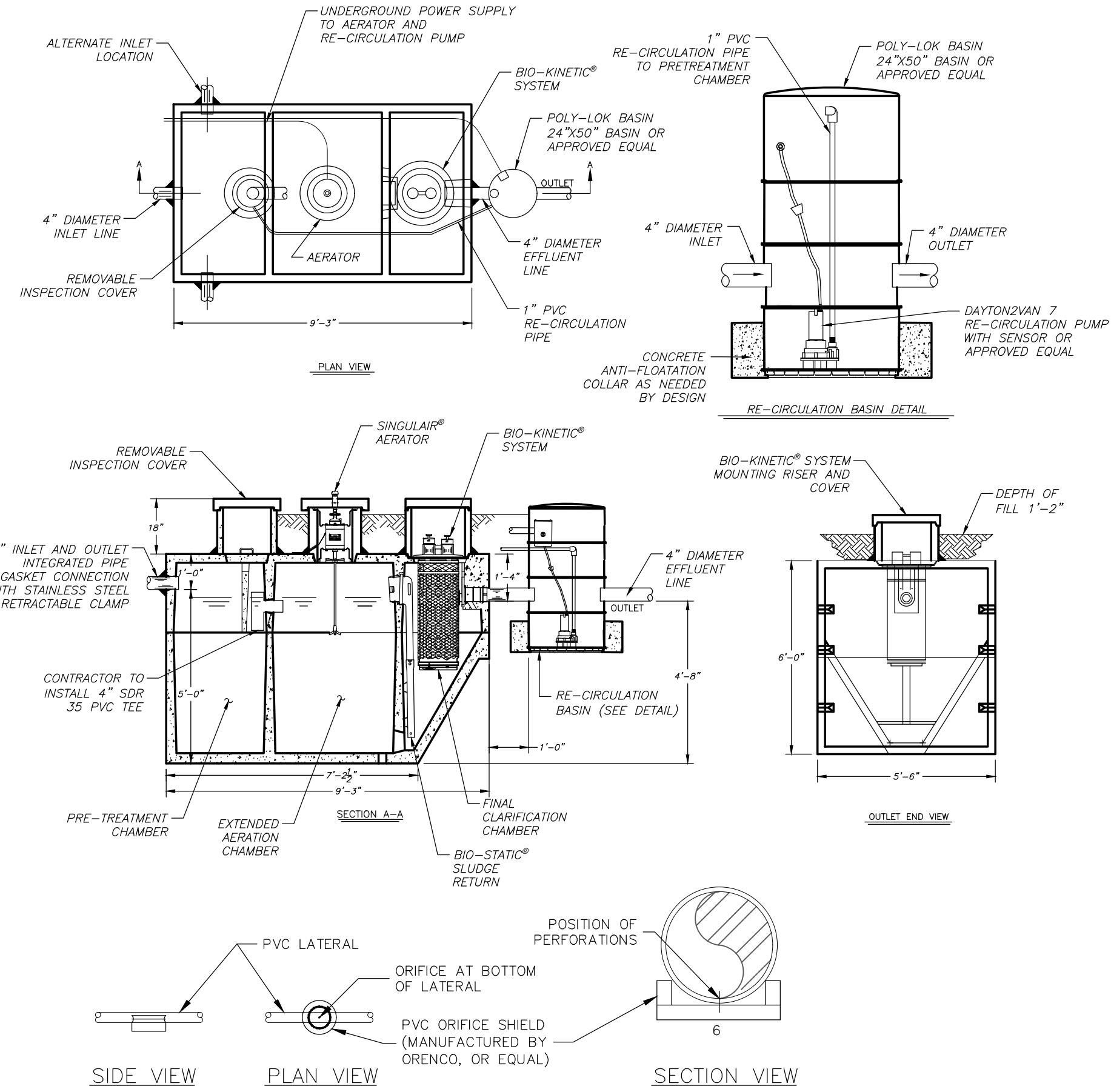
THE CONTROL PANEL SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE MOUNTED ON A PANEL. THE ENCLOSURE SHALL COMPLY WITH ALL STATE AND LOCAL ELECTRICAL CODES.

7. ALARM-
HIGH WATER ALARM SHALL BE SUPPLIED WITH BOTH AUDIBLE AND VISUAL ALARMS WITH A SEPARATE POWER SUPPLY FROM THE PUMP. THE ALARM SHALL BE HOUSED IN A WEATHERPROOF ENCLOSURE MOUNTED ON A PANEL. ALARM SILENCER BUTTON SHALL BE PROVIDED TO SILENCE THE AUDIBLE ALARM WHILE THE VISUAL ALARM REMAINS ILLUMINATED UNTIL MANUALLY RESET.

8. PIPE INSULATION-
PVC FORCE MAIN SHALL BE COVERED WITH 2-INCH THICK, RIDGED POLYSTYRENE INSULATION WHEREVER THE DEPTH OF SOIL COVER IS LESS THAN 4-FEET.

9. PUMP CHAMBER WIRING REQUIREMENTS-
ALL POWER WIRING, FLOAT WIRING, JUNCTIONS BOXES, PENETRATIONS SEALS, AND ALL OTHER ELECTRICAL APPURTENANCES REQUIRED IN THE PUMP CHAMBER SHALL BE INSTALLED IN COMPLIANCE WITH REGULATIONS PERTAINING TO CLASS 1, DIVISION 1 HAZARDOUS LOCATIONS.

10. EFFLUENT FILTER TEE-
EFFLUENT TEE FILTER SHALL BE STF-100 PRESSURE FILTER OR EQUAL DEP APPROVED FILTER. FILTER SHALL BE RATED FOR THE FLOW SHOWN ON THE PLAN.



STANDARD ORIFICE SHIELD

NOT TO SCALE.

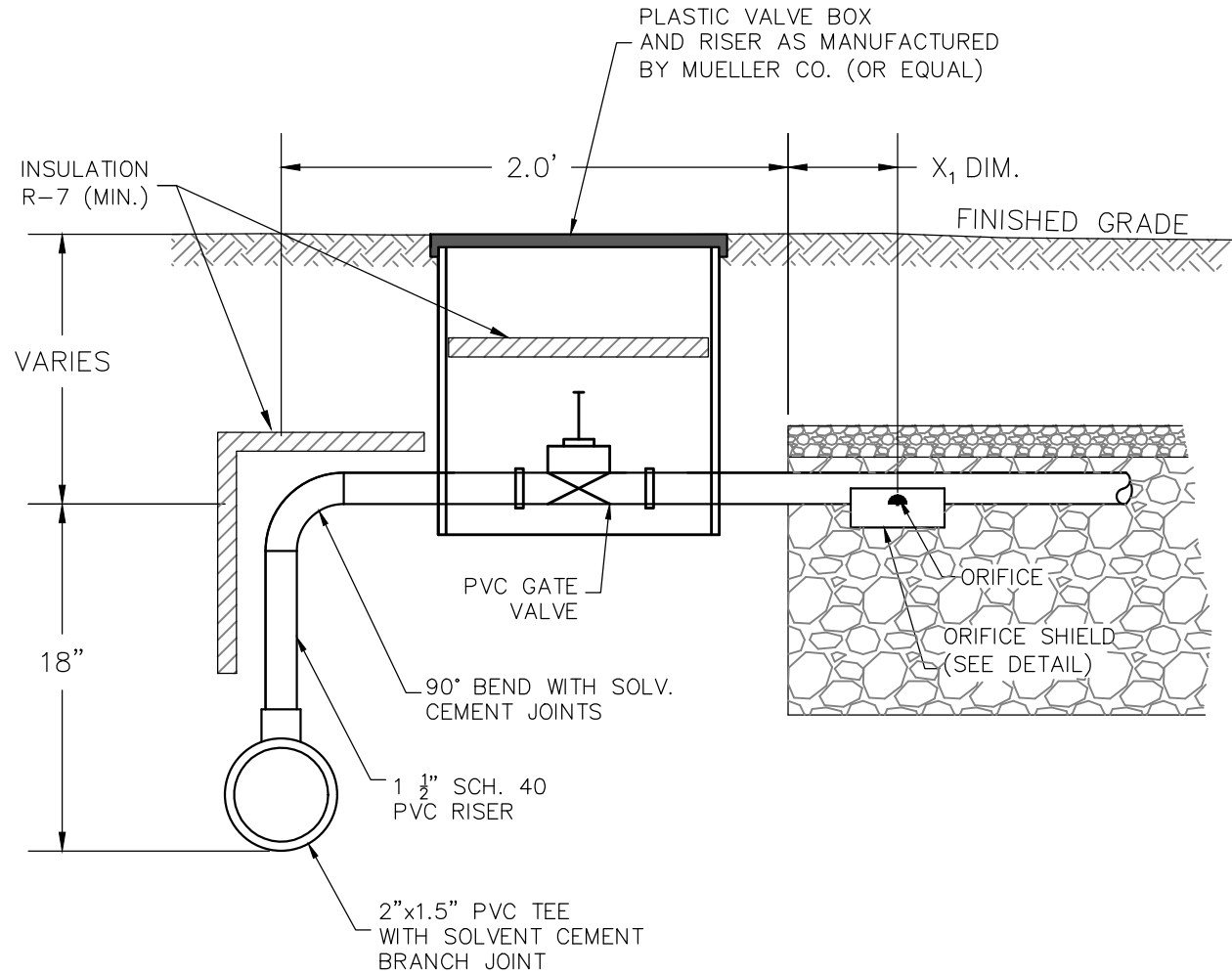
PRESSURE DISTRIBUTION TESTING REQUIREMENTS:

1. CONTRACTOR SHALL PROVIDE ADEQUATE WATER AND ALL MATERIALS FOR THE PERFORMANCE OF A FLOW TEST
2. LAST ORIFICE ON EACH LATERAL SHALL BE LEFT UNCOVERED WITH NO SHIELD FOR FLOW TESTING.
3. FLOW TESTING SHALL BE WITNESSED BY THE BOARD OF HEALTH AGENT AND THE ENGINEER.
4. CONTRACTOR TO ADJUST GATE VALVES AS REQUIRED TO PROVIDE 3' OF DISTAL HEAD AT END OF EACH LATERAL (MEASURED FROM THE LATERAL INVERT). (TOLERANCE ±10%).

ORIFICE SPACING TABLE:

LATERAL ID	ORF. Ø	# OF ORIF.	O.C. SPACING	X ₁ DIM.	X ₂ DIM.
1P	3/16"ø	11*	3.50' O.C.	7"	35"
2P	3/16"ø	11*	3.50' O.C.	14"	28"
3P	3/16"ø	11*	3.50' O.C.	21"	21"
4P	3/16"ø	11*	3.50' O.C.	28"	14"
5P	3/16"ø	11*	3.50' O.C.	35"	7"

* ALL ORIFICES TO BE POSITIONED IN THE DOWNWARD (6 O'CLOCK) EXCEPT FOR THE LAST ORIFICE ON EACH LINE WHICH SHALL BE POSITIONED IN THE UPWARD POSITION (12 O'CLOCK).



RISER AND DISTRIBUTION LINE DETAIL

NOT TO SCALE

"NOT FOR CONSTRUCTION"
CONVENTIONAL RESERVE AREA CALCULATIONS:

HYDRAULIC LOADING:
FOUR (4) BEDROOMS AT 110 GALLONS PER DAY PER BEDROOM = 440 GALLONS PER DAY

RESERVE LEACHING AREA (CONVENTIONAL SYSTEM):
DESIGN PERCOLATION RATE = 30 M.V./ (SOIL CLASS II)
EFFLUENT LOADING RATE = 0.33 GALLONS/S.F.
LEACHING AREA REQUIRED = 440 GPD / 0.33 GPD/S.F. = 1,334 S.F.
TOTAL LEACHING AREA PROVIDED = (6) 56' TRENCHES, 2' WIDE x 1' DEEP (6 X 56 X 4) = 1,344 S.F.
TOTAL DESIGN FLOW = 1,344 S.F. X 0.33 GALLON/S.F. = 443 GALLONS

