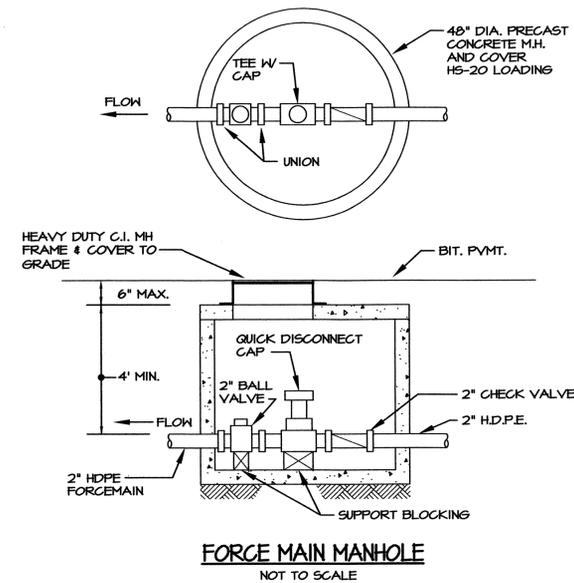
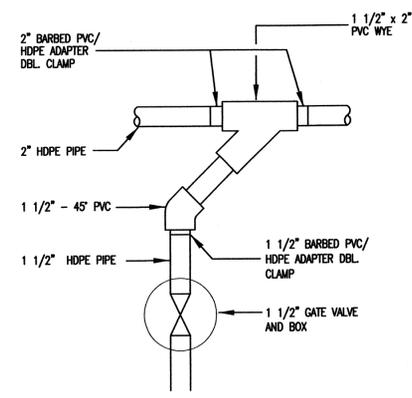


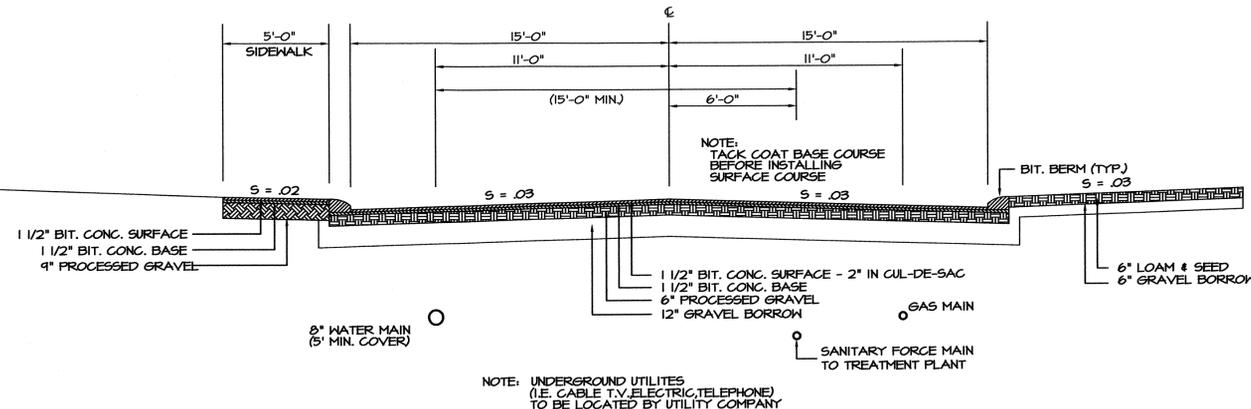
VICTORIAN LIGHTING DETAIL
SCALE: 1/2" = 1'-0"
(ROTONICS MFR, INC. OR EQUAL)



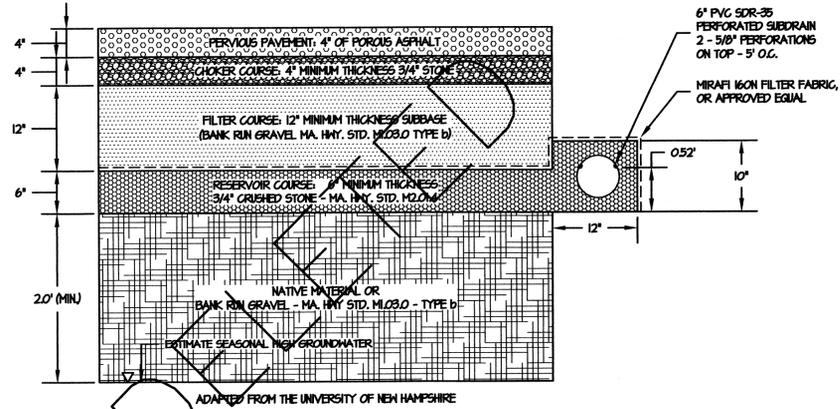
FORCE MAIN MANHOLE
NOT TO SCALE



SANITARY SERVICE CONNECTION
NOT TO SCALE

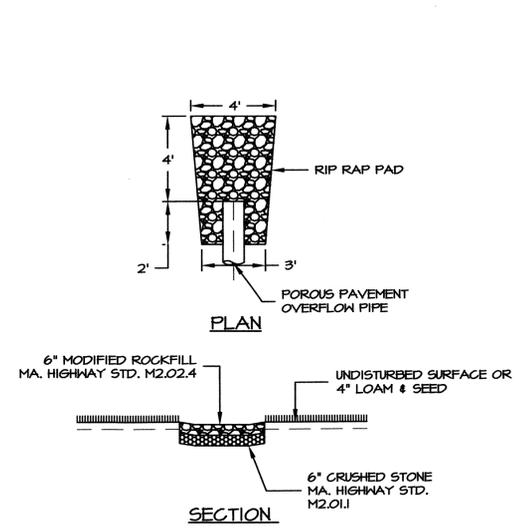


TYPICAL ROAD SECTION
SCALE: 1" = 4'-0"

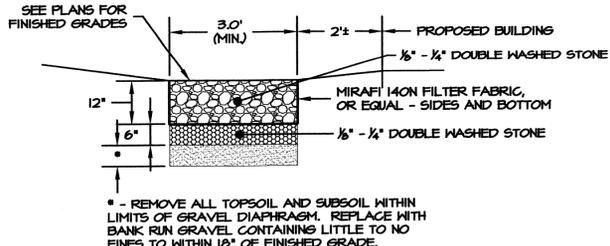


- NOTES:**
- POROUS ASPHALT MIX SHALL MEET THE REQUIREMENTS OF THE UNIVERSITY OF NEW HAMPSHIRE STORMWATER CENTER - JULY 2007 "POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS DESIGN SPECIFICATIONS".
 - CHOKER COURSE SHALL BE MA. HWY. STD. M2.01.4.
 - BANK RUN GRAVEL SHALL HAVE A HYDRAULIC CONDUCTIVITY OF 10 - 60 FEET PER DAY AT 92% COMPACTION. ALL MATERIALS AND INSTALLATION SHALL BE AS SPECIFIED BY THE UNIVERSITY OF NEW HAMPSHIRE STORMWATER CENTER - JULY 2007 "POROUS ASPHALT PAVEMENT AND INFILTRATION BEDS DESIGN SPECIFICATIONS", UNLESS OTHERWISE NOTED.

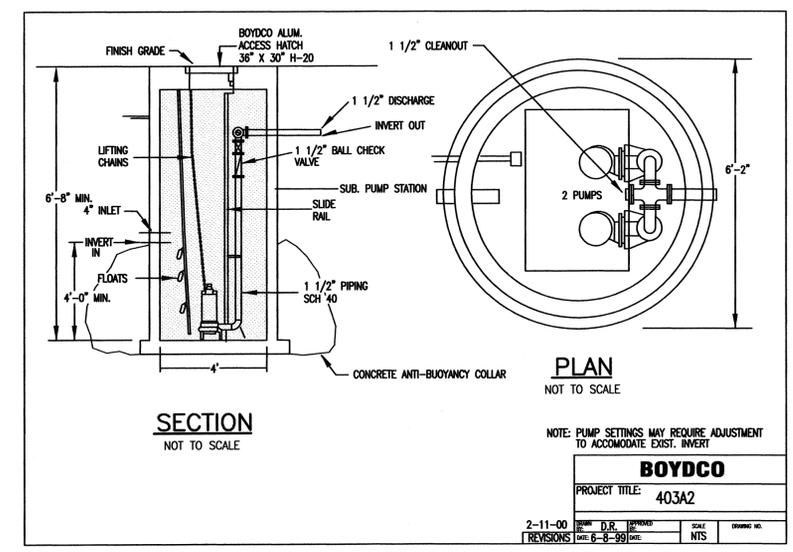
TYPICAL SECTION - POROUS PAVEMENT
NOT TO SCALE



DETAILS - POROUS PAVEMENT OVERFLOW PIPE AND ROOF DRAIN (10") OUTLET PROTECTION
SCALE 1" = 4"



GRAVEL DIAPHRAGM DETAIL
SCALE 1" = 2'-0"



GRINDER PUMP STATION (BOYDCO MODEL 403A2 OR EQUAL) GENERAL
NOTE: PUMP SETTINGS MAY REQUIRE ADJUSTMENT TO ACCOMMODATE EXIST. INVERT
BOYDCO
PROJECT TITLE: 403A2
2-11-00
REVISIONS

CONTRACTOR SHALL FURNISH AND INSTALL ONE (1) BOYDCO PREFABRICATED REINFORCED CONCRETE SUBMERSIBLE TYPE NET PIT SEWAGE PUMP STATION. THE STATION SHALL BE OF PRECAST REINFORCED CONCRETE CONSTRUCTION. MANUFACTURER SHALL GUARANTEE THAT ALL JOINTS IN PUMPING CHAMBER WILL BE WATERTIGHT.

PUMPING STATIONS SHALL BE COMPLETE WITH TWO (2) GRINDER SEWAGE PUMPS, THREE (3) LEVEL FLOAT SWITCHES, AND A SINGLE DOOR HATCHWAY.

STATION WILL BE FACTORY ASSEMBLED AND DELIVERED TO THE JOB SITE WITH ALL EQUIPMENT INSTALLED AND GUARANTEED BY MANUFACTURER. MANUFACTURER'S OWN PERSONNEL WILL SHIP AND INSTALL STATION. FOUR (4) COPIES OF OPERATION MANUALS SHALL BE PROVIDED ALONG WITH START-UP ASSISTANCE TO INSURE CORRECT OPERATION OF SYSTEM.

PUMP CHAMBER
PUMP CHAMBER SHALL BE CONSTRUCTED OF CONCRETE REINFORCED FOR COMPRESSIVE STRENGTH TO A MINIMUM OF 5000 PSI. CHAMBER HAS INSIDE DIMENSIONS OF 4' DIAMETER X 8' HEADROOM FOR 12.56 SQUARE FOOT STATION. THE WALLS SHALL BE 5" THICK. THE FLOOR SHALL BE 6" THICK. THE ROOF SLAB SHALL BE 8" THICK. MANUFACTURER SHALL SEAL ALL JOINTS AND OPENINGS TO BE WATERTIGHT WITH THE EXCEPTION OF THE INLET PIPES.

PUMPS
PUMPS SHALL BE EBARA DQU11 GRINDER PUMPS. EACH PUMP SHALL BE DESIGNED FOR A CAPACITY OF 20 GPM AGAINST 60' TOTAL DYNAMIC HEAD. MOTORS SHALL BE HERMETICALLY SEALED SUBMERSIBLE TYPE ELECTRIC MOTOR OF 2 HP, 3600 RPM, FOR OPERATION ON 230 VOLT, 1 PHASE, 60-HERTZ POWER FOR EACH PUMP. MOTOR NAMEPLATE HORSEPOWER RATING SHALL NOT BE EXCEEDED BY THE GRAVEL DIAPHRAGM HORSEPOWER REQUIREMENT OF THE PUMP FOR DESIGN CONDITION OF SERVICE FOR THE IMPELLER DIAMETER INSTALLED. MOTOR SHAFT SHALL BE STAINLESS STEEL, IMPERVIOUS TO THE LIQUID AND WASTE MATTER BEING HANDLED. THERMAL OVERLOAD PROTECTIONS SHALL BE BUILT INTO THE MOTOR.

LIFTING EYES SHALL BE CAST INTO THE MOTOR HOUSING ADEQUATELY DESIGNED TO LIFT THE ENTIRE PUMP/MOTOR ASSEMBLY. PUMP CONSTRUCTION SHALL BE IN ACCORDANCE WITH ASTM SPEC. NO. A48-84, CLASS 30, WHICH SHALL INCLUDE CAST IRON FOR PUMP CASING. ALL PIPE FLANGES SHALL BE FACED AND TO THE THICKNESS REQUIRED FOR COMPLIANCE WITH 125 LB. AMERICAN STANDARD. BOLT SLOTS ARE ACCEPTABLE IN LIEU OF DRILLED HOLES.

PUMP CASING SHALL BE OF THE VOLUTE TYPE AND MADE OF CAST IRON. THE CASING SHALL BE OF ONE-PIECE CONSTRUCTION AND OF A DESIGN TO MINIMIZE CLOGGING AND FLOW INTERFERENCE.

IMPELLER SHALL BE CAST IN ONE PIECE AND DIRECTLY MOUNTED TO A ONE PIECE STAINLESS STEEL MOTOR-PUMP SHAFT. IT SHALL NOT REQUIRE SEPARATE PUMP SHAFT OR COUPLING. EACH IMPELLER SHALL BE A RADIAL-RECESSED TYPE. THE ENDS OF THE BLADES SHALL BE ROUNDED TO PREVENT CLOGGING.

IMPELLER HUB SHALL BE PROVIDED WITH KEYWAY AND KEY, AND WILL BE LOCKED TO THE PUMP SHAFT AND MAINTAINED IN THIS POSITION BY A WASHER AND SELF-LOCKING IMPELLER SCREW.

MOTOR BEARINGS SHALL BE IN ACCORDANCE WITH ELECTRIC MOTOR SPECIFICATION, B-10 LIFE OF 60,000 HRS.

PIPING
PIPING SHALL BE SCHEDULE 40 PVC. SHUTOFF VALVES TO BE FULL PORT QUARTER TURN BALL VALVES. CHECK VALVES TO BE HEAVY-DUTY BRONZE BODY, BALL TYPE, WITH A PRESSURE RATING OF 125 PSI.

CONTROLS
CONTROL PANEL SHALL INCLUDE INDIVIDUAL CIRCUIT BREAKERS, DOUBLE POLE DEFINITIVE PURPOSE CONTRACTORS RATED FOR UP TO 2 HP, ALARM BUZZER, ON-OFF TEST SWITCH, PUMP H-0-A SWITCH, ALTERNATOR, PUMP RUN LIGHT, TERMINAL STRIP, AND GROUND BAR. PUMP CONTROLS WILL BE DESIGNED TO OPERATE ON (230) VOLT, (1) PHASE, 60-HERTZ ELECTRIC POWER. PANEL WILL BE NEMA (4X) DESIGNED FOR OUTDOOR OR INDOOR MOUNTING.

LEVEL FLOAT SWITCHES SHALL ACTIVATE SEWAGE PUMPS IN STATION. SWITCHES SHALL BE POLYURETHANE ENCLOSED SWITCH AND DESIGNED SPECIFICALLY FOR SEWAGE PUMPING APPLICATIONS.

FS-1 FUNCTIONS AS PUMP SHUT OFF AND CAUSES ALTERNATOR TO SELECT NEXT PUMP FOR THE NEXT CYCLE. THIS SWITCH IS SET AT LOW LEVEL IN WET WELL. FS-2 STARTS PUMPING CYCLE AND OPERATES AT NORMAL PUMP START LEVEL. FS-3 STARTS LAG PUMP IF LEVEL RISES ABOVE NORMAL PUMP START LEVELS AND ACTUATES HIGH WATER ALARM BOTH LOCALLY AND BY CLOSING ALARM TELEMETERING CONTACTS.

TELEMETERING
THERE WILL BE A LOCAL ANNUNCIATOR ON FRONT OF CONTROL PANEL WITH ALARM LIGHTS FOR THE FOLLOWING ALARM CONDITIONS:

- HIGH WATER
- NOTE:**
PUMP STATION DESIGN NOT FINAL AND IS SUBJECT TO REVIEW BY BOYDCO.

	DETAIL SHEET NO. 4 GREENBRIER CONDOMINIUMS PREPARED FOR RI SEEKONK HOLDINGS, LLC FALL RIVER AVENUE & COLE STREET SEEKONK, MASSACHUSETTS	
	CAPUTO AND WICK LTD. 1150 PAWTUCKET AVE. RUMFORD, R.I. 02916 401-434-8880	DATE August 31, 2009 REV. MAY 2010 SHEET 20 OF 21