

CONSTRUCTION NOTES

The construction of an at-grade disposal system must follow established acceptable practices. The following procedures are to be followed. Changes from these procedures are not allowed.

- Construction can only take place during dry weather. Construction on wet soil causes soil smearing and compaction and possible future failure.
- The surface water diversion swale (shown on the plans) shall be installed prior to constructing the at-grade system to keep surface water runoff away from the system while it is under construction.
- Stake out the system with the Engineer. Call the Engineer at least 48 hours before you are ready to stake out the system. Rope off the area downslope of system site to all traffic.
- To prevent compaction, construction equipment shall not be moved across and downslope of the at-grade system area before or after tilling.
- Vegetation shall be cut close to the ground and removed from the area to be tilled. The at-grade system area shall be tilled, preferably by mold board or chisel plow to a depth of 6 to 8 inches, parallel to the ground contour. During plowing, the soil should be thrown upslope to provide a proper interface between the soil and stone aggregate. If the site cannot be plowed, a backhoe bucket fitted with chisel teeth may be used to "till" the site by creating furrows that are parallel to ground contour.
- The forcemain enters the system at the upslope side of the system. The forcemain should be installed before tilling.
- Place 6" of clean, washed crushed stone (sized: 3/4 to 1-1/2") as shown on the section. Form channels in the stone in which to lay the piping network. Lay pipes level in channels and connect manifold pipe to pipe from pumping chamber. Place 2" of stone over the pipe.
- Pumping chamber is to be filled with clean water and the pump electrically connected. System to be water tested to show that differences in flow through perforations in laterals are less than 15%, AND THERE IS AT LEAST A DISTAL HEAD OF 2.3' (1 PSI) Call the Engineer at least 48 HOURS before testing time to schedule inspection.
- Place stone over lateral pipes. Place a layer of non-woven fabric such as tyvar, mirafi, or equivalent over all of the stone.
- Place minimum of 12-18" of subsoil and topsoil over crushed stone.
- Common fill shall be permeable soil with no rocks greater than 12" in diameter.
- Place 4" min. of good quality topsoil over entire disturbed surface.
- To inspect proper depth of cover, call the Engineer at least 24 HOURS in advance of this point.
- Seed and mulch entire surface immediately to prevent erosion

Provisions should be made to prevent gases in the chamber from following the electrical conduits into the control box and/or house. Set the pump "off" switch several inches above the pump inlet. Set the pump "on" switch above the pump "off" switch at a distance to deliver the proper dose volume. The switches must be separate sealed mercury float switches.

The alarm system consists of a switch in the pumping chamber, and a bell and a light in the house. The switch is usually a sealed mercury switch positioned three inches above the pump "on" switch. The alarm system must be on a circuit separate from the pump circuit.

The pump should be set on a pedestal, usually a concrete block, inside the pumping chamber. This assures that pumped effluent is free from solids which could pass into the pumping chamber from the septic tank. The pumping chamber bottom should be cleaned out when the septic tank is pumped out (at least every

A pipe quick-connect fitting should be used inside the pumping chamber for easy pump removal.

PIPING NETWORK

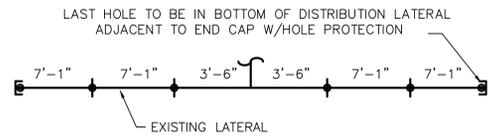
The pressure distribution pipe should be rigid schedule 40 or 80 PVC pipe. All joints should be primed (cleaned) and solvent cemented. The smaller diameter lateral piping is purchased as solid wall piping. Perforations in the laterals are drilled by the installer. Make sure all holes lie in a single row on the bottom (invert) of the pipe. It is easiest to drill holes in a shop using a drill press and jig. Holes should be sharp-edged and perpendicular to the length of the pipe. If a hand-held drill is used, do not wiggle drill. Since the laterals drain between doses, air must be vented from the laterals at the beginning of each dosing cycle. Any burrs around the holes inside the pipe should be removed. This can be done by sliding a pipe of slightly smaller diameter (sharpened at one end) through the lateral.

Most problems with any disposal system can be traced to inadequate septic tank maintenance. Maintenance involves pumping out the septic tank (and the bottom of the pumping chamber) at least every three years to avoid carryover of solids into the mound. The dosing chamber should be inspected regularly, at which time switch and pump operation should be tested. REMEMBER THAT POISONOUS AND EXPLOSIVE GASES ACCUMULATE IN THE SEPTIC TANK AND PUMPING CHAMBER.

If solids do enter the piping network and plug the laterals, the lateral ends can be cut and the lines rodged and flushed. The ends can be replaced with a slip coupling and solvent weld joint. A good water conservation plan within the house assures the mound will not be overloaded.

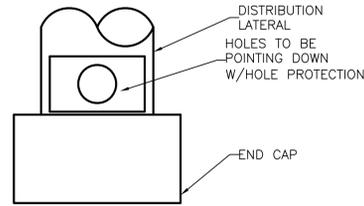
Avoid excess traffic on mound, NO heavy equipment or animals. Winter traffic should be avoided to minimize frost penetration.

Good planning is essential for efficient construction. The delivery of materials, inspection points, and actual construction must be carefully planned. All technical questions should be clarified with the Engineer before construction starts.

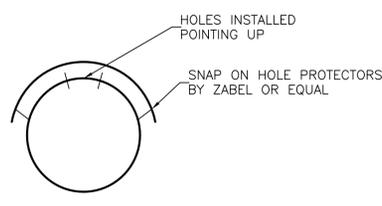


Holes to be laid up lateral pipe size - 1" Ø SCHEDULE 40
HOLE SIZE - 3/8" Ø

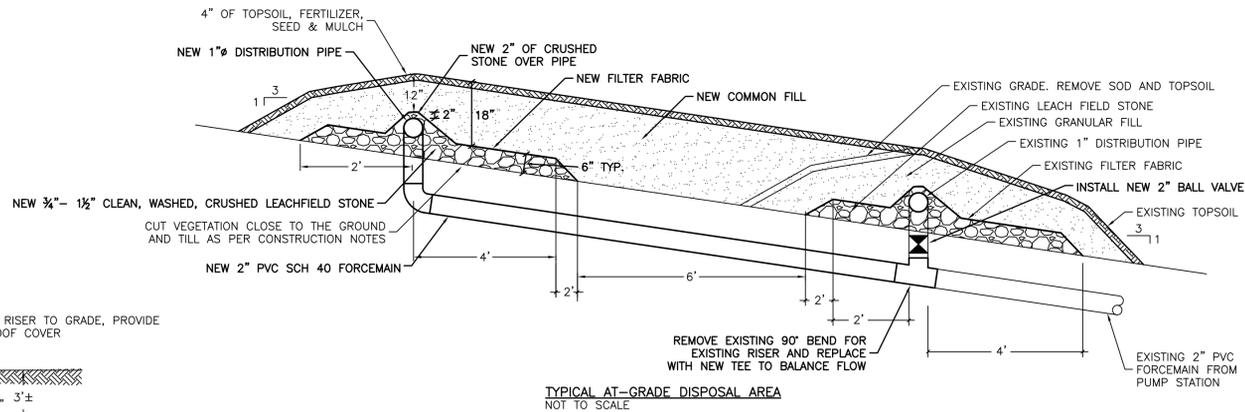
NEW AT-GRADE SYSTEM
LATERAL HOLE SPACING
SCALE: NONE



LATERAL END HOLE DETAIL
SCALE: NONE

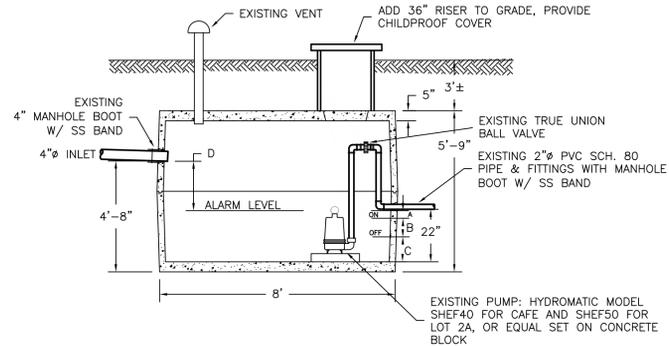


LATERAL HOLE DETAIL
SCALE: NONE



DESIGN NOTES:

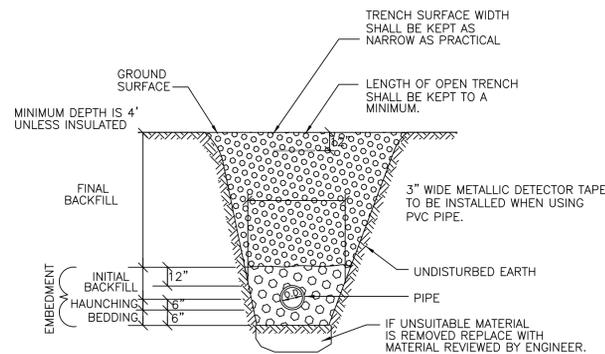
- PRIMARY AREA
- AVERAGE DAILY FLOW = 280 GPD
 - EXISTING SEPTIC TANK IS 1000 GALLON
 - APPLICATION RATE IS TO BE 1 GAL/DAY/SF
 - LEACH BED AREA REQUIRED = 280/APPLICATION RATE = 280 SQ. FEET
 - USE PRESSURE DIST. SYSTEM, AND TWO (2) AT-GRADE 4' EFFECTIVE WIDTH X 37.5' = 300 SQ. FEET
 - AT-GRADE SYSTEM TO BE CONSTRUCTED AS SHOWN HEREON WITH 6" CRUSHED STONE BELOW PIPE
 - PRESSURE DISTRIBUTION PIPING TO BE AS SHOWN HEREON
 - PUMP IN PUMP STATION TO PROVIDE 15 GPM AT 28' OF TOTAL HEAD- 4 TIMES A DAY AT 70.0 GAL. PER DOSE
 - INSTALL HOLE PROTECTORS (BY ZABEL, OR EQUAL) AT EACH EFFLUENT HOLE ON THE LATERALS
 - INSTALL EFFLUENT SCREEN (BY POLYLOK, OR EQUAL) IN OUTLET OF SEPTIC TANK, IF NOT ALREADY INSTALLED



FLOAT DIMENSIONS: A: 3"
B: 3.3" (BASED ON PUMPING 70.0 GAL)
C: AS PER PUMP STATION MFR.
D: MIN. 14" (1 DAY STORAGE)
NOTE: DIMENSIONS BASED ON CAMP PRECAST 1000 GAL PUMP STATION

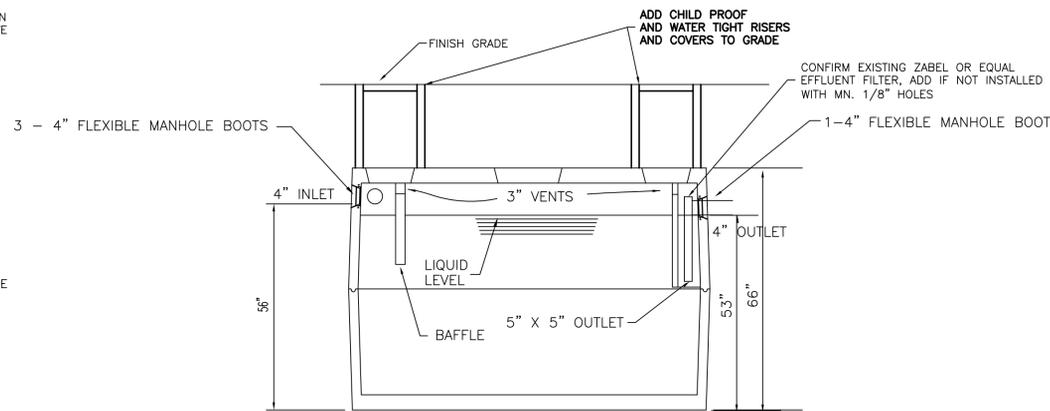
NOTE: THE FLOAT DIMENSIONS ARE BASED ON 21.3 GAL/INCH IN THE PUMP STATION IF CONTRACTOR USES DIFFERENT MANUFACTURER THEN DIMENSIONS WILL HAVE TO BE MODIFIED TO REFLECT NEW PUMP STATION DIMENSIONS

EXISTING 1000 GAL. PUMP STATION
SCALE: NONE



- NOTES:
- NO MECHANICAL TAMPERS SHALL BE USED DIRECTLY OVER PIPE TO INSURE PIPE IS NOT DAMAGED.
 - MINIMUM DEPTH WITH INSULATION IS 2.5'

TYPICAL TRENCH DETAIL
BURIED PVC SANITARY FORCE MAIN
SCALE: NONE



EXISTING 1000 GAL. SEPTIC TANK
SCALE: NONE

10/08/14	CHANGES AS PER NEW OWNER	KC	AH
01/06/05	REVISED 3-BEDROOM DISPOSAL SYSTEM	RHW	CHK
REV.#	DATE	DESCRIPTION	BY
		GREEN MOUNTAIN ENGINEERING 1438 SOUTH BROWNELL ROAD WILLISTON, VERMONT 05495 FAX & PHONE: (802)862-5590	
FILENAME: PUMP DETAILS		DESIGNED: KC DRAWN: RHW CHECKED:	PROJECT NO.: 24-004
KYTOAD, INC. SUBDIVISION		PLOT DATE: 10/22/14 SCALE: NONE	FUNDING NO.: DRAWING NO.: 3
3795 ETHAN ALLEN HIGHWAY CHARLOTTE, VT 05445		DATE: OCT. 2014	SHEET 3 OF 3