



Department of Public Works

BUREAU OF UTILITIES

Stephen Gerwin, Bureau Chief

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To Developers of Howard County Shared Septic Systems

Subject: **Howard County Design Manual Revisions Approved May 7, 2007**

Clarification of Volume IV – Standard Specifications & Details Related Individual Lots

The Bureau of Utilities has developed a construction acceptance checklist for shared septic system to assure County expectations are clear. This checklist is being provided to assist the builders in understanding how, when and what the County needs to accept the work. This list is a guide; the County reserves the right to add to this list on a situational basis

The goal of the County is to ensure that an environmental responsible, operational, and maintainable, and safe system is installed. It is also the County's goal to assist the builder in meeting their deadline by clearly establishing these requirements.

Below, is the Bureau of Utilities first effort to resolve the ambiguity related to individual lot construction on the approved Shared Septic Systems.

Sincerely

A handwritten signature in green ink that reads "Stephen C. Gerwin". The signature is written in a cursive style.

Stephen C. Gerwin, P.E .

Chief, Bureau of Utilities

Bureau of Utilities

Shared Septic Individual Lot U&O Checklist

- Power for the grinder pump and controls is supplied directly from the electrical meter.
- An ampere rated over-current device (electrical disconnect, NEMA 3R enclosure) is to be installed between the electric meter and the pump control panel. It is to be securely mounted to the dwelling in close proximity (3-5 feet) of the electric meter at a minimum height of 40-inches above final grade.
- The bottom of the pump control panel shall be securely mounted to the dwelling at a minimum of 45-inches above final grade. The panel door shall open fully and all external buttons and warning devices will be accessible for maintenance. The control panel must be mounted in line of site with the pump chamber.
- Wiring shall be appropriate gauge to handle the length of run without experiencing an inappropriate voltage drop. Direct bury wire is not acceptable, all wiring shall be encased in appropriately sized conduit. The conduit shall be watertight.
The use of tray cable is mandatory for the wire runs from the pump control panel to the grinder pump chamber; three conductors for the pump power and six conductors for the level control.
Exceptions:
 1. Conduit is only an option between the electrical service meter and the electrical disconnect.
 2. Supply power wiring leading up to the control panel does not require the exclusive use of tray cable.
- Conduit shall be sized appropriately; to accommodate grouped services, larger gauge wire diameters as required. Power and control wiring are sometimes run together in a single conduit as code permits. It is advisable to consult with the equipment supplier first; some pump chambers may be pre-plumbed with through wall watertight fittings. The electrical control panel and the electrical junction box in the grinder pump chamber are rated NEMA 4X. The conduit and associated fittings must maintain the integrity of the NEMA 4X rating.
Sweeping bends are mandatory for all conduit direction changes.
- Sealing box is installed on the conduit 6-8-inches below the control panel.
- Conduit shall be buried 24 inches below final grade. The Bureau of Utilities prior to backfilling must inspect both the conduit and trench. Contact Mr. Tom Pickett at least 48 hours (business days) before installing underground conduit to arrange inspection at 410-313-4975.

Bureau of Utilities Shared Septic Individual Lot U&O Checklist

- Gravity sewer house connection shall have a minimum cover of 36 inches below final grade. Sweeping bends are mandatory for all gravity house connection direction changes. The pipe slope from the house to the cleanout standpipe at the Grinder Pump Chamber should maintain two percent fall unless otherwise approved by the Department of Public Works and noted on the drawing. The Bureau of Utilities prior to backfilling must inspect both the gravity sewer house connection and trench. Contact Mr. Tom Pickett at least 48 hours (business days) before installing underground conduit to arrange inspection at 410-313-4975.
- Unobstructed open access shall be maintained for both the electrical disconnect and the control panel. Minimum unobstructed distance shall be a five-foot radius from both the electrical disconnect and control panel. This area may be shared with other utility service providers as long as maintenance access is not hindered. Above ground storage tanks, HVAC equipment, or emergency power generators are not permitted in the maintenance area. Landscaping efforts near this maintenance area need to allow for mature growth size not encroaching in the five-foot unobstructed maintenance areas. The unobstructed maintenance area increases for the grinder pump chamber; minimum twelve-foot radius measured from the center of the chamber cover.
- The Grinder Pump Chamber and pump isolation valves shall be clearly visible. The valve boxes are to be adjusted to final grade, free of debris, straight and centered above the curbstop valves.
- The top of the Pump Chamber should be two- inches above final grade; this provides access for maintenance and additional protection from surface water inflow. The grade immediately surrounding the pump chamber shall gently fall away from the chamber in all directions; positive drainage is a primary concern.
- The structural integrity of the Pump Chamber must remain watertight; all mounting brackets and through wall fittings shall be free of leaks. The baffle in the bottom must be able to hold liquid waste on either side; waste is only to spill over the top of the baffle.

Bureau of Utilities Shared Septic Individual Lot U&O Checklist

Use and Occupancy Release

- Dwelling construction shall be near complete; sheetrock and painting finished, only touch-up and punch list work remaining.
- Sewer pump testing shall be scheduled in advance, notification with the Department of Environmental Health, Construction Inspection Division, Equipment manufacture representative, builder/developer, and the Bureau of Utilities need to be coordinated.
- The Grinder Pump Chamber shall be cleaned and inspected by the Bureau of Utilities prior to setting the Grinder Pump.
- The level control floats shall be properly adjusted; the alarm is to sound off just prior to spilling over the baffle wall. The gravity sewer house connection shall remain above the liquid waste level at all times.
- The equipment manufactures representative shall demonstrate proper operation of the pump and the associated controls.
- The Developer shall maintain positive isolation of the remaining gravity sewer house connection. This shall be done to both protect the grinder pump placed in service as well as the equipment at the treatment headworks.
- Following the completion of a successful sewer pump test, the Bureau of Utilities will send written notification of sewer release to the Department of Environmental Health.