## **In-Place Abandonment Procedures**

All projects that involve abandonment of the existing collection system shall require submittal of the associated permit. The Contractor shall submit the permit to Aqua Engineers prior to construction.

- Abandonment may not begin until the Contractor has received written approval of the submitted permit application. Aqua Engineers shall review and provide the Contractor a written response to the permit application within fourteen (14) calendar days after receipt of the application.
- Prior to abandonment, sewer lines and manholes shall be cleaned of all waste debris to prevent hazardous gas buildup. Sewer cleaning procedures will be performed per Section 6.1.
- Abandoned sewer lines shall be plugged with concrete into each end for a length of 1.5 times the diameter of the pipe into the abandoned line.
- Sewer lines greater than 18" in diameter shall be filled entirely with cementitious low strength material or sand. The material must have a minimum strength of 100 psi. The method of installation shall be able to meet the requirement of completely filling the existing sanitary sewer line and any voids adjacent to the sanitary sewer line.
- Abandoned PVC pipe shall be capped with a glued in place PVC end cap.
- Laterals should also be abandoned using the PVC pipe abandonment procedures above.
- Manhole frames, covers and inflow guards in good condition and as approved by Aqua Engineers shall be removed and returned to Aqua Engineers, Inc. (For Army North, contact Greg Wilson at 808 621–3098 and for Army South, contact James Ano at 808 685-7347. Cone section of manholes (or top 1m of cast–in–place manholes and other structures) shall be completely removed. Break bottom of manholes to permit subsurface drainage through the bottom. Remaining portion of manhole interior shall be backfilled with compacted granular material, such as base course or S4C. Compaction shall be to 95% of maximum density.
- As-built drawings of the demolition plan shall identify all abandoned in place sewer lines, manholes and other structures. Topographic survey shall reflect these abandoned lines by changing the level to the abandoned utility line level per AECC CADD Standards.

