

# Chemical Grouting

## Keeping ground water out of the sanitary sewer system

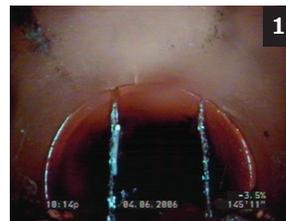
The Millcreek Township Sewer Authority and Millcreek Township Sewer Revenue Department are continuously looking to eliminate ground and surface waters from getting into the Township's sanitary sewer system. With costs for transportation and treatment of the flows being sent through our collection and conveyance system plus the City of Erie sanitary sewer conveyance system and Erie Sewer Authority's wastewater treatment plant, it is important for all rate payers to understand and support the idea that we only send the wastewater that needs to be treated and not pay for less contaminated ground or surface waters. For 2012, the Millcreek Township Sewer Revenue Department paid \$3,813,586 to the City of Erie for treatment and \$200,566 for transportation. The Sewer Revenue Department's 2013 budget includes \$4,409,859 for treatment and \$266,367 for transportation charges by the City of Erie. The budgeted amounts are calculated upon a three year rolling average of past recorded flow volumes per agreement between Millcreek Township and the City of Erie – a process which has worked very well for a number of years.

This article is going to concentrate on ground water. The efforts to find and eliminate ground water entering the sanitary sewer system are expensive but very worthwhile. The future cost avoidance and making available pipe capacity for future development not being taken up by the ground water makes chemical grouting one of the best available "tools" sewer system operators have. The Millcreek Township Sewer Authority, through competitive bidding, has retained State Pipe Services of Cranberry Township, Pa. to assist us in this year's grouting program. State Pipe Services was also the lowest bidder the past two years



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Rob Rodemeyer / State Pipe Services internal videos

and has been extremely helpful in working together with us to find leaking joints (*see photo 1*), cracked pipes, tree root intrusions (*see photo 2*) and identifying service laterals which are allowing ground water to enter into the sanitary sewer system.

Chemical grouting is applied from a remotely operated tool called a "packer" inside of the sanitary sewer pipe, which, under pressure, injects the chemical grout. The repair actually takes place on the outside of the pipe when the chemical grout mixes with the soil. The open joint, leak or crack is filled and the roots and/or ground water are stopped from entering the pipe. With improvements to the grout materials and the installation process being conducted by experienced professionals, the repairs will last many years and are far more cost efficient than open cut excavation and pipe repair or replacement methods.

The proof of the previously completed projects to date have been less flows sent to the city of Erie, less pumping related costs to operate our pumping stations, less peak flows during high wet weather or ground water periods and less sewer backups, some of which may back up into the basements of residences or businesses. It is the plan of the Millcreek Township Sewer Authority to have an annual chemical grouting program in order to continuously find and eliminate the sources of ground water entering the sanitary sewer system.