

Excerpt from:

# Village of Algonquin (IL) Committee of the Whole met March 13.

By Lhalie Castillo | Apr 27, 2018

Speaking: Bob Mitchard, Public Works Director

While our efforts to clean, inspect, and televise are admirable, we've sought other technologies that might better utilize existing resources, and provide more timely assessment of our overall collection system. We believe we've found such technology with the SL-RAT or Sewer Line Rapid Assessment Tool. This technology uses active acoustic transmission through pipes (think of it as "yelling" down the pipe) to a receiver that picks up the vibration and has the capability to listen and interpret the received acoustic signal for blockage assessment results. In year one we learned that our system on the east side of town is overall in good condition besides a few blockages that we quickly corrected when we received the condition report from the contractor. Manhole Structure Assessments. While acoustic assessment is highly accurate for pipe segments, the technology is less effective for manhole structures. Our solution for accurate assessment of manholes is the use of a Rapid View 360 Degree Panoramic camera. The camera is lowered into the manhole structure, taking a series of individual images, when pieced together produces a detailed visual image of the interior of the manhole structure. Information produced can be presented in one of three ways; a single photo, an unfolded view, and point layer. Similar to SL-RAT, manhole condition is assigned a numerical value, producing a rating from 0 to 5. Asset condition and defects can be detailed and reviewed quickly and this technology also eliminates the need for confined space entry by both the Village employees and the contractor. Information gathered can be plugged into our asset management software as static information for historical reasons, and can generate work orders and/or can be shared with engineers during project design phase.

As noted, a program of cleaning and televising sanitary sewers is a necessary component of good CMOM program helping to properly manage pipeline capacity and prevent overflow conditions. Information gained through the SLRAT and Panoramic camera can be a catalyst for repairs and/or replacement. Condition assessments are becoming increasing commonplace and an extremely useful tool when considering roadway projects (IMS) and for development of long range planning. The SL-RAT can assess miles of pipe in months, rather than years. The numerical values produced can re-direct time and resources to problem areas allowing staff to focus on pipe segments that display the highest risk for failure or blockage. While not a replacement for pipe cleaning, the acoustic approach can act as a precursor and focus energies where they need to be.

This fiscal year, we had \$300,000 budgeted in the water & sewer improvement fund for rehabilitation of manholes and sewer main that were flagged as needing repair through SL-RAT and manhole assessment last fiscal year. However, we do not need the full \$300,000 to perform the repairs so we are proposing to use that money for two purposes: \$179,150.00 will be used for Year 2 of SL-RAT and 360-degree manhole inspection (the work in this memo and contract) \$120,850.00 will be used to repair the deficiencies that were found in the Year 1 (FY 2016/17) assessment. This work needs to go out to bid and will come before the Committee at a later date.

Staff recommends that the Committee of the Whole take action to move this matter forward to the Village Board for approval of a contract with Midwest Water Group for SL-RAT and 360-degree manhole assessment for \$179,150.00. Following discussion, it is the consensus to move this item on to the Board for approval.