



**ENGINEERING AND OPERATIONS DEPARTMENT
ENGINEERING DIVISION**

Report Number: 2011-19

Date: November 28, 2011

**SUBJECT: UPDATE REPORT ON THE OMER PUMPING STATION CATCHMENT
AREA EXTRANEOUS FLOW REDUCTION PROGRAM**

1) PURPOSE:

This report is prepared by Jim Huppunen, Manager of Engineering Services under the permission of Ron Hanson, Director of Engineering and Operations to update Council on the progress and status of the Omer Pumping Station (PS) Area Extraneous Flows Reduction Program.

2) HISTORY, BACKGROUND, COUNCIL POLICY, PRACTICES

The City has been actively engaged in the identification and remediation of extraneous flows since the 1970's, when the first sections of the 1929 vitrified clay sanitary sewer system were replaced. Today, that system now consists of PVC pipe materials, which is substantially superior to previous materials such as asbestos cement. Emphasis on rehabilitation and remediation in the past has focused primarily on the infrastructure located within the road allowances, with few attempts to rectify sources of extraneous flow from the private sector.

In conjunction with the Region of Niagara, the Port Colborne Pollution Control and Infrastructure Study was completed in 2006. The study identified existing CSO locations and sources of extraneous flow contributing to the problem. As a result of the study, recommendations for source control in key areas have been identified. As detailed in the Strategic Planning sessions and at Budget deliberations, Staff presented a proposed Pilot Program for the Arena Sewershed, with an initial allocation of \$200,000 for 2008. A successful application under the Region's CSO Plan matched those funds with an additional \$200,000 for the project. Upon the conclusion of the Pilot Program, Staff requested funds to start flow monitoring and investigation in the Omer PS catchment area in 2009.

The results of source control measures will be lower treatment costs to the Municipality, reduced capital costs to the Region for pumping station, treatment plant upgrades and forcemain, gravity sewer replacements/upgrades and additional capacity for future development connecting to the system.

Redirection of any sources of storm water from the sanitary sewer system should be encouraged, since the payback in treatment costs is immediate. A source of sewer surcharging is removed, which could result in reduced instances of basement flooding.

By-law No. 5228/134/08 was adopted by Council in December 2008. The bylaw prohibits any form of storm water connection to the sanitary sewer system and provides the means to disconnect such connections. While the owner of the building is responsible for the cost of disconnection of the sources of storm water, section 4.8.2

provides for a reimbursement program, subject to budget and Council concurrence, which would provide financial incentives to assist in the work. To date, it has not been necessary to levy fines under this by-law.

As reported to Council over the past four years, we have been actively pursuing a Combined Sewer Overflow (CSO) remediation program in the Arena PS catchment area. Post-flow monitoring was completed in the Arena PS area in the fall of 2010 and a summary report was prepared by Veritec Consulting Inc. in February 2011 and submitted to Associated Engineering for review. In anticipation of the completion of that project, the next phase of the CSO work has moved into the Omer PS catchment area, where pre-flow monitoring, Closed Circuit Television (CCTV) work and private property inspections of the area has been completed. The Omer area is significantly larger than the Arena area and has presented new challenges to identification of sources of extraneous flow. The CSO projects are funded on a 50 % basis, jointly by the Region and the City. The City's Arena CSO program was initiated in 2008 under the previous Region guidelines which allowed the 50% funding from the Region to be utilized to complete spot repairs and disconnection of sump pumps in the private sector, however, with recent changes to the terms of the Region's funding program, the City will be 100% responsible for any works related to private property works and spot repairs which are considered to be a maintenance item.

3) STAFF COMMENTS AND DISCUSSIONS

Private Property Sources

To date there have been 71 sump pumps and 11 weeping tiles found to be connected to the sanitary system in the Omer area with only 321 properties requiring inspections out of the 980 properties contributing to the Omer PS. There have also been 6 downspout connections and 12 private catchbasin connections to the sanitary sewer. There are 11 sewer laterals that are good candidates for a full length lining which is more economical than open cut, spot repair or replacement. There are 3 sewer laterals with root infestation severe enough to be completely replaced or cleared and then lined. The total projected cost for work on private property is \$379,200.00 which will have to be funded 100% by the City as the Regional funding does not allow for work on private property.

Municipal Sewer Sources

There have been 30 points of inflow and infiltration found within the sanitary sewer pipes. Out of the 30 points of inflow and infiltration, 22 points could be removed from the system by the spot repair method which is most cost effective for these types of inflow and infiltration points. The remainder of the points of inflow and infiltration are good candidates for full length pipe liners. The condition of the Barrick Road sewer is a lot better than anticipated and only requires manhole replacements to rectify the inflow and infiltration points.

With the new guidelines for the Regional funding, only capital projects qualify for the 50% contribution. The private property work, full length liners and spot repairs to the sanitary sewers will need to be funded 100% by the City which may need to be phased over several years in order to complete spot repairs and full length liners to the sanitary system. This cost of this project is expected to be approximately \$254,500. Manhole replacements are considered to be capital improvements and can be funded jointly with the Region. The estimated cost for the manhole replacements is expected to be \$86,000 plus by-pass pumping and consulting fees.

The total costs of the Omer PS CSO program to date for all inspection work are \$400,969.00. This cost includes all investigative and administrative work. Currently the City's expenses for the Omer PS CSO program are \$318,240.00 which dates back to 2009.

By removing extraneous flows from the sanitary system, the capacity of the entire system is theoretically increased allowing the City and the Region to delay future capital upgrades to the system such as construction of CSO tanks, sewer replacement, upgrade of pumping stations or the upgrade of the treatment plant.

Attached is a brief summary report, prepared by Associated Engineering, to provide Council with a current status report of the project. The attached report outlines the findings and potential cost savings found during the Omer PS area project.

4) OPTIONS AND FINANCIAL CONSIDERATIONS:

a) Do nothing.

This report is presented as information for Council.

b) Other Options

None.

5) COMPLIANCE WITH STRATEGIC PLAN INITIATIVES

Not applicable.

6) ATTACHMENTS

1. Progress Report #18 prepared by Associated Engineering.

7) RECOMMENDATION

That the update report on the Omer Pumping Station Catchment Area Extraneous Flow Reduction Program be received for information.

8) SIGNATURES

Prepared on November 10, 2011 by:

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