

MEMORANDUM

TO: Mayor and Council

FROM: Craig Hupy, Public Services Area Administrator

DATE: February 1, 2013

SUBJECT: Additional Information Regarding Item DS-1 for 2/4/13

At the February 4, 2013 Council Meeting Resolution DS-1 will be presented to approve a professional services agreement (PSA) with the consulting firm Orchard, Hiltz & McCliment, Inc. (OHM) for the Sanitary Sewer System Flow Monitoring and Wet Weather Evaluation Project. The purpose of this memo is to provide additional background information and to set the context of this project among other related projects and programs dealing with wet weather impacts to infrastructure systems in the City.

As a result of heavy precipitation events, large volumes of stormwater can find its way into the city's sanitary sewer system, which can exceed the capacity of the system to move flows to the City's wastewater treatment plant (WWTP). When the sanitary sewer system is over-capacity, sewage may enter residents' homes through basement floor drains or through lower elevation plumbing fixtures, and sewage may overflow from manholes. Additionally, flow to the WWTP may exceed the plant's capacity and result in the discharge of partially-treated wastewater directly into the Huron River.

In 2001, the City established the Footing Drain Disconnection (FDD) Program to reduce the impact of wet weather events on the sanitary sewer collection and treatment systems. Then in August 2003, City Council approved a resolution establishing the Development Offset-Mitigation Program to further reduce these wet weather impacts that may be exacerbated by new developments. Since the inception of these programs, over 2,500 footing drains have been disconnected throughout the City.

With the FDD program having in place for over 10 years, it is appropriate to evaluate and document the effectiveness of the program on reducing the impacts of wet weather events on the City's sanitary sewer system. This review will allow the City to assess the sanitary basement backup risk that remains in the City that may require further mitigation efforts. In addition, advances in technology and wet weather control methodologies may have occurred over the past decade; therefore, the complete range of methods available for the future reduction of wet weather impacts should be reviewed and evaluated. These examinations are the primary goal and purpose of the *Sanitary Sewer System Flow Monitoring and Wet Weather Evaluation Project* that will be undertaken by OHM upon approval of the above-mentioned resolution. A project overview handout sheet with further background on this effort is attached for your reference.

While heavy precipitation events can impact our sanitary sewer systems, they also affect and at times adversely impact the stormwater management systems throughout the City. There are two other efforts now underway dealing with these wet weather impacts - - the *Stormwater Model Calibration & Analysis Project* and the *Upper Malletts Stormwater Conveyance Study* project.

The *Stormwater Model Calibration & Analysis Project* is a city-wide project to refine the City's stormwater system model, which was developed in 2008, to allow staff to use the model to obtain a realistic picture of how stormwater behaves in the City. This type of analysis will help identify potential improvements to the stormwater system. The *Upper Malletts Stormwater Conveyance Study* project is an effort focused on the southwest portion of the City that was greatly impacted by the storm event on March 15, 2012. This effort will evaluate stormwater behavior in the Upper Malletts Creek area. This effort is an engineering and landscape analysis of what happens to water on the surface if the stormwater pipes are full in this portion of the Malletts Creek watershed area. As Malletts Creek is under the jurisdiction of the Washtenaw County Water Resources Commissioner, the Commissioner's Office is leading this project through a partnership with the City. Additional information on these projects, including project overview handouts, is available at:

www.a2gov.org/stormmodel and www.a2gov.org/UpperMallettsStudy

Also attached to this memo is a graphic listing of the multiple wet weather focused projects to illustrate these separate, but related efforts. Aspects of these projects depicted on this graphic include:

- Each project includes public engagement strategies utilizing citizen/community advisory groups. In the future, the City Council will be requested to nominate appointees to the Citizen Advisory Committee for the *Sanitary Sewer System Flow Monitoring and Wet Weather Evaluation Project*
- To ensure coordination among the projects, a Technical Working Group consisting of the project managers and other key staff members will meet regularly through the duration of the projects
- To ensure consistency in communication, reduction or elimination of unwanted overlaps or creation of gaps in data or technical aspects an Overarching Technical Oversight & Advisory Group will be established, which is anticipated to include:
 - Areas of Interest/Expertise in
 - Climate Adaptation
 - Stormwater Management – Holistic Issues
 - Public Involvement/Public Engagement Expertise
 - Academia – Related Topics
 - Civil Engineer/Technical Knowledge
 - Peer Review