

## MEMORANDUM

**DATE:** August 5, 2011

**TO:** Tom Crawford  
Interim City Administrator

**FROM:** Sue McCormick  
Public Service Area Administrator

**RE:** West Park Improvements Project Status Update

The following memorandum is to provide an update of the status of the West Park Improvements Project. In 2010, in addition to other park improvements, construction was performed on the Allen Creek Drain within West Park, with the goal of improving storm water quality in the drain. The work was partially paid for by an American Recovery and Reinvestment Act (ARRA) grant, obtained by the Washtenaw County Water Resource Commissioner's Office.

The plans for this work were designed by Beckett & Raeder, Inc. (BRI), and included the installation of eight swirl concentrator units (to remove suspended solids from the storm water prior to reintroducing it into the system) on the north and south branches of Allen Creek near the west side of the park. The project also included "daylighting" the stormwater runoff from North Seventh Street, allowing it to travel over the surface of the park through a series of wet meadows instead of through the underground pipes, thus reducing the likelihood of flooding upstream of the park.

During the construction of the project, flooding was experienced upstream of the work area during one of the several large storms experienced in the summer of 2010. In addition, in October of 2010, after the stormwater work had been completed, one of the swirl concentrators on the north branch collapsed, creating a sinkhole near the northwest corner of the park. Subsequent investigation revealed that the remaining swirl concentrators on the north branch were in various stages of failure as well.

In response to the upstream flooding, the weir plates that served to divert flow into the swirl concentrator units were removed due to concerns over their effect on upstream flooding. This took the swirl concentrators offline prior to the collapse of the swirl concentrator unit in October. Currently, the weirs are still removed, leaving the below ground sewer system to function essentially as it did prior to the 2010 construction, with the exception of the overland flow aspects of the project. The inclusion of the overland flow reduces the amount of flow in the storm sewer pipes, and actually lessens the chance of flooding upstream of the park as compared to conditions prior to construction of project.

City Staff engaged the engineering consulting services of Orchard Hiltz & McCliment (OHM) to analyze the failure of the swirl concentrator units, and also evaluate the original design and propose any necessary changes in order to assure that properties upstream of the park are not affected by the changes to the stormwater system.

Based on OHM's analysis (a final report outlining its findings is currently being completed), we

believe the failure of the swirl concentrator units was caused primarily by a manufacturing defect. In addition, we have also concluded that the weirs in the diversion manholes were designed and installed too high, and that insufficient analysis was performed initially to verify the effects of the weirs. OHM will be providing recommendations in its report for redesigning and replacing the weirs.

Staff is currently working with Site Development, Inc., the general contractor on the project, to have discussions with AquaShield, Inc. and L.F. Manufacturing, which manufactured the swirl concentrator units, to pursue potential repair and/or replacement solutions for the failed and failing units.

It is the City's intention to recover all costs from the analysis, redesign, and replacement of the units, as well as any changes that need to be made to the rest of the system, from the manufacturer, the original design engineering firm, or possibly others as we find appropriate.

Currently, we are hopeful that all necessary repairs will be identified and constructed early in the 2012 construction season, and West Park will be restored to its full public use shortly afterwards. More details on the project shall be presented to City Council by the Attorney's Office via a written privileged communication, which can be discussed in a closed session.

Current value of contracts relevant to this project:

- OHM: ±\$125,000 (expected final cost of evaluation & recommendations report; further design costs to be determined following discussions with the manufacturer of the swirl concentrator units)
- Beckett & Reader, Inc.: \$344,870 (preliminary study, design, construction inspection, & construction management)
- Site Development, Inc.: \$1,580,877 (current value of construction contract, including change orders)