



# Council Communication

Office of the City Manager

Date

August 11, 2008

Agenda Item No. 55

Roll Call No. 08-

Communication No. 08-498

Submitted by: William G. Stowe, Assistant City Manager/Public Works/Engineering and Jeb E. Brewer, P.E., City Engineer

## AGENDA HEADING:

Authorize design, including issuing a Request for Proposals (RFP) for design and construction phase services, of storm sewer improvements and a storm sewer pump station in the vicinity of Water Street and Court Avenue.

## SYNOPSIS:

Approval to issue a Request for Proposals for the design and construction phase services for storm sewer improvements and a storm sewer pump station in the vicinity of Water Street and Court Avenue. The scope of services will include a study phase to determine the extent of necessary storm sewer improvements and all other aspects of engineering services needed for the pump station.

## FISCAL IMPACT:

Amount: \$600,000

Funding Source: 2008-2009 CIP - New Project Court Ave/Water Street Sewer Separation - STE081: with a transfers from the following projects: \$388,000 from CIP Page Storm Water - 14, Storm Water Pump and Trash Rack Replacement - STE076; \$42,839 from CIP Page Storm Water - 17, Watershed Studies, STE072; and \$169,161 from Easton Detention Basin - STE065.

## ADDITIONAL INFORMATION:

The flood protection for this area is comprised of a Corps of Engineers' 100-year design levee. The area is served by a combined (storm and sanitary) sewer system with normal flow directed to the wastewater treatment plant. Under high rain events, the excess flow in the system is diverted to the Des Moines River through a gravity combined sewer overflow (CSO) gate. Localized flooding can occur under the conditions of heavy rain and sufficiently high river levels when the CSO must be closed to prevent flow from the river into the sewer system. Design and construction of a separate storm sewer system and storm pump station can mitigate the incidence and severity of localized flooding.

Due to exceptionally high river levels and extensive localized rains, the combined sewer system in the Court Avenue Area became surcharged and contributed to the localized flooding in the area. By June 6, 2008, the river elevation was such that the river would have flowed into the combined sewer system if the CSO gate at Court Avenue had been opened. These gate structures prevent large scale flooding of the area. Subsequent rainfalls, such as on June 11 and June 12, with the river gauge at SE 6<sup>th</sup> Avenue reading in 31.5 or higher, resulted in flooding depths of four feet on Court Avenue.

The Wastewater Treatment Plant was processing the flow in excess of the total rated plant capacity of 196 million gallons per day. The sewer system uses a twin barrel inverted siphon to transport the normal wastewater flows from the west side of the downtown combined sewer system to the east side of the Des Moines River. Any flow in excess of the capacity of the inverted siphon is typically discharged at the Court Avenue overflow when the river is below 25 feet at the SE 6<sup>th</sup> Street Gauge. During the June 11 and 12 rain events, excess flows were discharged from the tops of the manholes and intakes along and south of Court Avenue. Flows were also observed discharging from the storm sewer intakes north of Court Avenue due to high river levels and gate closures on the storm sewers that serve Walnut Avenue, Locust Street, and Grand Avenue. These flows added to the volume of the combined sewer water to create the flooding in the Court Avenue area and the areas to the south of Court Avenue.

Due to the severity of flooding, staff recommends this design process so that the project can proceed quickly. Funding for construction will be programmed through the Capital Improvement Program process.

**PREVIOUS COUNCIL ACTION(S): NONE**

**BOARD/COMMISSION ACTION(S): NONE**

**ANTICIPATED ACTIONS AND FUTURE COMMITMENTS:**

Anticipated actions include a design contract with the selected consultant and subsequent public hearing, receive and file of bids, designate lowest bidder, approve contract and bond, partial payments to the contractor, and final acceptance of work.

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