## Department of Public Works – Engineering Division

## MEMO

**TO:** Utilities Committee

**FROM:** Paula Vandehey, Director of Public Works
Sue Olson, Staff Engineer
Pete Neuberger, Staff Engineer

**DATE:** May 1, 2019

**RE:** Approval to single source and award 2019P stormwater consulting services contract for Kernan Ravine Final Design and Construction Related Services with Brown and Caldwell in an amount not to exceed $42,100

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The Department of Public Works is requesting approval to single source and award 2019P stormwater consulting services contract for Kernan Ravine Final Design and Construction Related Services (CRS) with Brown and Caldwell (BC) in an amount not to exceed $42,100.

In February, a contract with BC was approved to evaluate options to replace the collapsed storm sewer in the ravine west of the intersection of Kernan Avenue and Dewey Street. The storm sewer is over 20 feet deep and is located in an easement crossing residential properties and underneath a garage. Staff believes that this is an emergency situation and a new pipe needs to be installed in 2019.

Since that time, staff has corresponded with the Wisconsin Department of Natural Resources (WDNR) and the US Army Corps of Engineers (ACOE) regarding the collapsed pipe and the ravine. As anticipated, a wetland delineation is required and permitting work within the ravine will be challenging, likely prohibiting construction in 2019. Also, the location of a WDNR monitored eagle's nest within the ravine will further limit construction timelines.

Concurrently, BC evaluated discharging the new storm sewer at two different locations within the ravine and also a street option. The ravine evaluations included whether to open cut or tunnel the new pipe, how to discharge a large volume of water without eroding the ravine and navigable channels and whether or not a stormwater quality pond could be incorporated into the design. Because the ravine areas were filled in the past, further evaluation of the ravine options requires several soil borings. However, there is no way to access the boring locations without likely damaging the ravine and wetlands in the process.
The street option includes installing the storm sewer in Kernan Avenue and East South River Street. This alternative provides similar hydraulic capacity, avoids a wetland delineation, avoids WDNR and ACOE permits, avoids damage from a soil boring rig, and is outside the radius of the eagle's nest that would limit construction time.

As shown on the attached drawing, the existing ravines flow from south to north and southeast to northwest, all joining at a pipe on the south side of East South River Street just upstream of the Banta Bowl. The original pipe was a large horse-collar shaped pipe on the old streambed and was slip lined in 1967 with a 60" pipe. The proposed junction of the new 48" pipe with the existing pipe will require a structural analysis and design to ensure long term stability and proper support for the street pavement.

Work under this contract will include:

- Finalizing the XP-SWMM model based on the selected design
- Preparing a draft and final design memo to document alternatives, assumptions, and model results
- Preparing final drawings and specifications for the connection structure to be included with the City bid package (City is designing the rest of the project)
- Answering questions on the structure during bidding
- Reviewing shop drawings and submittals from the Contractor for the structure
- Answering questions during construction of the structure
- Contract administration and coordination meetings

The February award memo included the following language: "*With satisfactory performance by the consultant, it is anticipated that shortly after an alternative is selected, a request to contract for bidding documents and permitting will be brought to committee for approval."* BC has performed well on the 30% Percent Design contract and staff recommends awarding them the 2019P contract for Final Design and CRS services.

# Kernan Ravine Storm Sewer Repair Alternatives