

Department of Public Works

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February 21, 2022

To: Alder Mollie Jones, Chair
Public Works and Services Committee

From: John C. Rooney, P.E.
Commissioner of Public Works

RE: Professional Services Agreement -AECOM Technical Services, Inc.

The City of Racine and the other major contributing public entities developed and signed an Intergovernmental Agreement (IGA) to establish sanitary sewer flow allocations for each of the parties. The IGA flow allocations are expressed as Average Day Flow with an associated Peak Day Flow, Peak Hour Flow, BOD, TSS, as well as other parameters. The RWU has flow monitors at various locations in the wastewater network and either monitors or calculates flows for each party. The IGA also has trigger points where if the RWU monitored or calculated flows exceed either 80, 90, 95 or 100 percent of the peak flows, various requirements are triggered.

The City is the largest wastewater contributor to the RWU system and has a complicated network that is part monitored and part calculated to determine flows for compliance. In 2020, the RWU service area had high intensity rain events in which the City's calculated peak hour flow rate exceeded 100 percent of the City's peak hour flow allocation twice and exceeded 90 percent a total of five times. In 2021, the City did not have any exceedances. Since 2020, the City has had a sewer moratorium triggered by the 2020 events, however, it has been temporarily lifted while several studies and projects are being executed to address exceedances.

The City's collection system grade is highly influenced by the intensity and duration of rainfall events. This program is anticipated to last several years and will be undertaken in a phased approach. The goal of this program will be to define the peak flow allocation allotment, and ultimately reduce the peak hour flow to below 90 percent of the allocated amount and develop a cost-effective strategy to continue to reduce peak flows to avoid future exceedances and will enable a release from a sewer moratorium.

The first phase of the program will consist of flow monitoring to quantify baseline flows of the Echo Lane neighborhood; as well as the two study areas in the North Osbourne area. One area in North Osborne will be studied for the flow reductions due to the elimination of vented manholes and the other will be studied for the flow reductions from City-side lateral deficiencies grouting. The second phase of this program will include system improvement design, construction support services, and specialty inspections for Echo Lane and North Osbourne areas. The third phase will include flow monitoring to quantify the post-improvement flows.

With the results of Phase III, the fourth phase will include an analysis of the entire program including the results of the two study areas applied Citywide and the Main/Goold tunnel storage project. A fifth and final phase of the program will only be undertaken if the existing projects and the City-wide reduction projections do not achieve an overall reduction in the peak hour flow to the below 90 percent requirement. If a fifth phase is required, it will consist of developing additional projects to facilitate the remaining reductions needed.

While the scope of this professional services agreement includes five phases, only Phase I is being considered at this time. The remaining four phases will be authorized at a later date. The cost of Phase I is \$222,550 and funding is available in 40101-52100, and was budgeted for and approved in the 2022 CIP. If the committee agrees with the staff recommendation, then the appropriate action is recommend that Mayor & City Clerk be authorized to enter into the agreement.

JCR/km

CC: Mayor Cory Mason
Tara Coolidge
Jon Dragotta
Kathleen Fischer