MEMORANDUM

TO: Stu Arnett, ADG  
FROM: Christopher Perkins, PE, Weston & Sampson  
DATE: October 7, 2016  
SUBJECT: Scope of Work Summary & Planning Level Budget, Preliminary Design Phase  

Expanded TIF District

Over the course of 2016, the town of Hooksett has evaluated the expansion of the TIF district to more broadly capture the Route 3A corridor. With a goal of economic development, the need for sewer is critical. Accordingly, conceptual sewer planning was conducted and potential routing options explored.

The next steps are to advance a TIF district expansion to the voters for their approval in the spring of 2017 as well as a warrant article to fund preliminary sewer design based on Option 5 of the conceptual sewer alternatives. In support of the preliminary sewer design, we have prepared the following scope of work and planning level budget.

**Anticipated Sewer Extension Limits**

<table>
<thead>
<tr>
<th>Street</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>West River Road (Route 3A)</td>
<td>22,520</td>
</tr>
<tr>
<td>Commerce Drive</td>
<td>800</td>
</tr>
<tr>
<td>Cross Road</td>
<td>675</td>
</tr>
<tr>
<td>Hackett Hill Road</td>
<td>3,800</td>
</tr>
<tr>
<td>Kimball Drive</td>
<td>5,950</td>
</tr>
<tr>
<td>Meadowcrest Road</td>
<td>1,450</td>
</tr>
<tr>
<td>Quality Drive</td>
<td>2,850</td>
</tr>
<tr>
<td>Technology Drive</td>
<td>1,575</td>
</tr>
<tr>
<td>Merrimack River Crossing</td>
<td>900</td>
</tr>
<tr>
<td>Existing Sewer Interceptor to Hooksett WWTP</td>
<td>1,400</td>
</tr>
<tr>
<td>Total:</td>
<td>41,920</td>
</tr>
</tbody>
</table>
It is important to note that the project area has been developed to account for the addition of surrounding streets and parcels in the event there is a future need for sewer extensions into these areas. Therefore, the preliminary design effort must address how these areas may eventually be connected to the sewer system. Further, the expanded sewer system must integrate into the existing system and treatment plant, likely by directing flows across and beneath the Merrimack River from the Route 3A area. It is important to study whether these additional flows warrant upgrades to the sewer interceptor upstream of the treatment plant.

**Preliminary Design Phase Scope of Work:**

The overall intent of the project is to advance the sewer design through the preliminary stage for all streets listed above. Thorough development of preliminary sewer design plans will encompass the following tasks:

- Conduct topographic survey to accurately establish existing contour elevations and locate most above-ground structures. The most comprehensive method of gathering this data is the use of aerial survey with integrated ground control.

- Perform targeted wetland delineation to identify areas within the jurisdiction of the NHDES Wetlands Bureau.

- Perform a limited hazardous materials database investigation to identify potential areas of concern.

- Perform a subsurface investigation program consisting of a combination of soil borings and geotechnical probes to determine extent of unsuitable materials and/or the ledge/rock profile. This is estimated to include up to 70 soil borings at an average depth of 22 feet, and up to 210 geotechnical probes at an average depth of 17 feet. An additional 5 soil borings to an average depth of 32 feet is anticipated at the three (3) assumed pump station locations. An engineer shall be provided for up to 40 days to observe the drilling activities and log soil conditions and all materials and conditions encountered. A geotechnical report shall be prepared at the conclusion of the testing to summarize all information gathered and determine specific construction issues that will be integrated into the Preliminary Design Report.

- Perform a geotechnical investigation for the Merrimack River crossing. Once the likely crossing location is identified, perform the following tasks:
  - Coordinate, submit permit applications, manage, and monitor the advancement of up to six (6) in-water borings across the Merrimack River. The borings shall be advanced from a barge with depths ranging from 40 to 100 feet, with a total estimated footage of 400 feet. This is expected to require up to 10 days of labor and equipment.
  - Prepare soil, rock, and groundwater condition logs.
  - Coordinate and manage laboratory analysis of soil and rock samples for up to four grain size distribution tests, organic content determination, and up to five compression tests on rock samples.
  - Prepare a geotechnical report to summarize all data and determine the proposed approach to the crossing, including the horizontal and vertical alignment and construction methods. This report shall become part of the Preliminary Design Report.
- Conduct flow metering in up to three (3) locations along the existing sewer interceptor in the areas adjacent to the wastewater treatment plant. This can be expected to require up to 18 total meter weeks, with data analysis and capacity study to follow, to ensure that adequate capacity is available to accommodate the projected future wastewater flows generated by the project.

- Onsite survey to accurately locate the following:
  - Above- and below-ground utilities (visible or marked by town/utilities) including sewer, water, stormwater, natural gas, electric, data, telephone, etc.
  - Building sill elevations.
  - Delineated wetland resource area boundary flags.
  - Soil borings and geotechnical probes.
  - Other pertinent site features.

- Obtain most recent Assessor's Office and GRANIT GIS data layers and record drawings, overlay onto the survey data, incorporate aerial survey information, and create base plans.

- Develop a Preliminary Design Report (PDR) that outlines the project design criteria based on the above information. The PDR serves to summarize the design effort and enables the committee to approve the approach prior to final design efforts. The PDR generally includes, at a minimum, the following:
  - A brief chronological summary of project history.
  - Service area delineation.
  - Flow development and projection analysis.
  - Results and recommendations of the subsurface investigation program as determined by geotechnical staff.
  - A preliminary sewer layout.
  - A list of potential permits required to complete the project.
  - The need for easements or land takings.
  - NHDOT and water way impacts and specific project coordination needs.
  - A siting investigation for up to three pump stations. For these assumed new pump stations, develop:
    - General pump station siting location.
    - General assessment of pump station design criteria and possible style, listing of potential appurtenances.
  - A summary of sewer routing options and base plan figures depicting recommendations.
  - Calculated pipe sizing for both gravity and force main sewers.
  - Recommended phasing approach.
  - An estimate of probable construction cost.
**Preliminary Design Phase Cost**

A planning level cost of $600,000 has been estimated for the above scope of work. This budget includes a nominal $20,000 allowance to address minor contingencies that may arise during performance of the work, such as the need for additional soil borings or more comprehensive traffic control measures. This budget figure may be further refined following a successful Town Meeting vote and prior to initiation of work.

The above costs are based on the following assumptions:

1. All areas to be studied shall have a project start date of July 1, 2017.
2. No permitting outside of that explicitly stated above is included in the scope of work.
3. No final design, bidding, or construction administration/resident representative services are provided in the scope of work.

Should any of these or other baseline scope of work assumptions not match the final scope of work, additional compensation may be warranted.