



Hazen and Sawyer
545 Mainstream Drive, Suite 350
Nashville, TN 37228 • 615.783.1515

May 29, 2018

Mr. Brian Goodwin, P.E.
Assistant Director
City of Franklin – Water Management Department
124 Lumber Drive
Franklin, TN, 37064

Re: Proposal for Hydraulic Modeling Assistance – Southeastern Pressure Zone

Dear Brian:

Hazen and Sawyer (Hazen) is pleased to submit this proposal to provide hydraulic modeling assistance for the Southeastern Pressure Zone (SPZ). The scope includes an expedited evaluation of the distribution system around the Goose Creek Bypass Area and related assistance including meeting attendance on an as-needed basis.

Task 1 – As-needed Assistance

Hazen will provide as-needed assistance related to water distribution hydraulics in the SPZ. Assistance may include in-person or Skype meetings or other related analyses or tasks. Work will only be performed as specifically defined and authorized by City of Franklin staff.

Task 2 – Hydraulic Modeling in the SPZ

Hazen will conduct a hydraulic evaluation to determine if its existing infrastructure is sufficient to provide capacity for planned developments in the Berry Farms Development Area on the southeastern quadrant of the Interstate 65, south of Old Peytonsville Road (see Figure 1).

It is assumed Franklin will provide all information required for this analysis including fire flow test results, SCADA data for the Southeastern PS and Goose Creek Tank, GIS for water lines, and site plan information with utilities, etc. for the Berry Farms Development Area, and other demands that contribute to this zone.

Hazen will develop a local hydraulic model to include only the elements in the SPZ starting at the Southeastern PS on Old Peytonsville Road. The existing model with its demands as entered at the time of development will be used as a starting point to see if the model can be brought into agreement with observed results in the system. If model demands are determined to be significantly different than actual conditions, adjustments will be made as necessary based on recent data from water billing records in the area and number of parcels served by usage type. This will not be a detailed demand allocation, but rather a global adjustment to scale existing demands appropriately such that the SPZ demands are accurately represented in the model.

The model will be used to analyze hydraulic performance of the system including pressures, fire flow availability, and the Goose Creek Tank level under assumed maximum-demand design conditions with assumed domestic, irrigation and fire demands entered for the new developments. Additionally, a 16-inch

loop will be modeled to simulate the effects of a secondary water supply crossing Interstate 65. Pressures and fire flows will be compared with the existing system without a secondary loop. At the completion of the evaluation, a TM will be developed to summarize results and provide assessment of existing capacity.

During this modeling effort Hazen will evaluate and propose ways in which the level of service may be increased in this area, however, this work does not constitute a full and complete model evaluation of the City's service area. Proposed results will be determined from the entire water model completed for the City's service area at a later date.

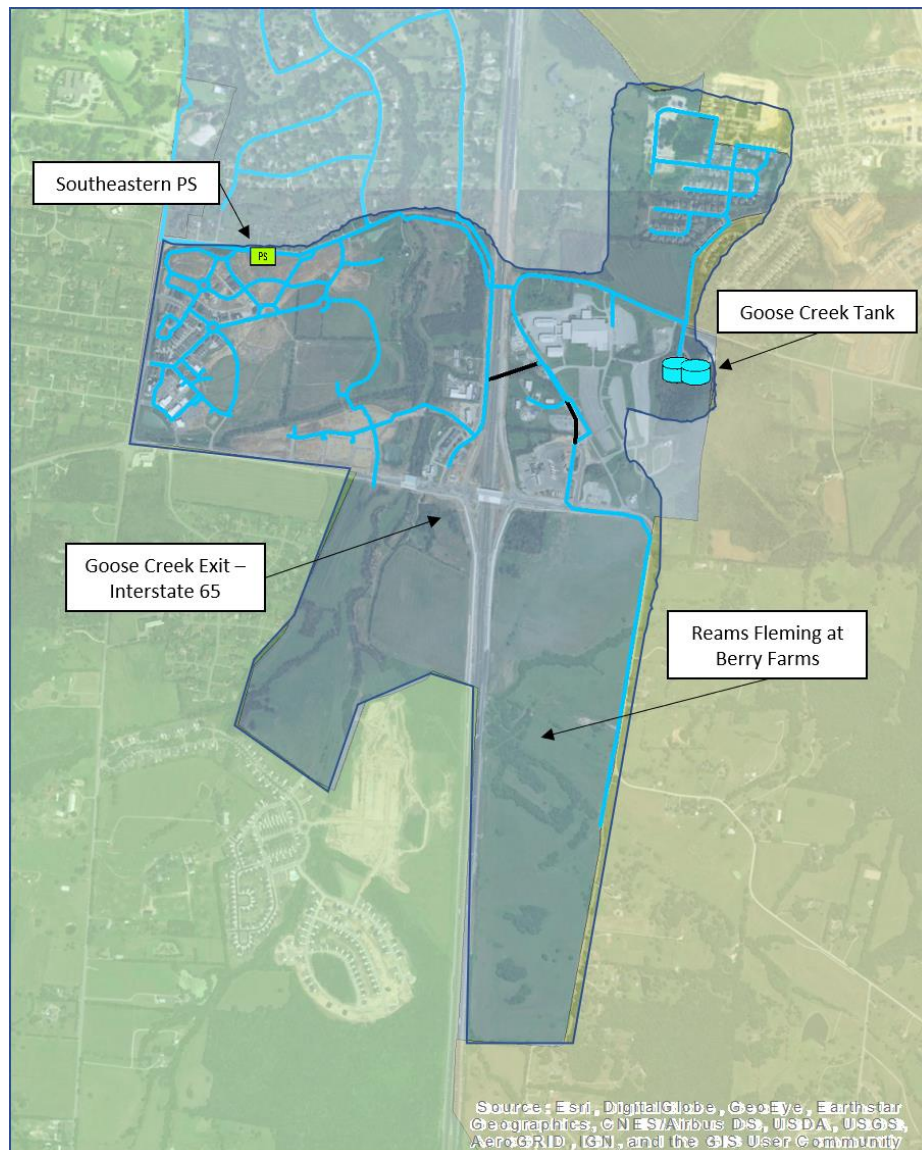


Figure 1: Southeastern Pressure Zone (SPZ)

Schedule and Fee

Hazen proposes to establish a not-to-exceed fee of \$9,000 for as-needed services provided under Task 1. Task 1 will be performed based on the needs identified by the City of Franklin.

Please contact Ryan Dean or me if you have any questions or wish to further discuss our proposal. As always, we appreciate the opportunity to work with the City of Franklin.

Sincerely,

A handwritten signature in blue ink, appearing to read "S. Woodard", with a stylized flourish at the end.

Scott Woodard, PE
Vice President

Enclosure

cc: Ryan Dean