



Real People. Real Solutions.

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March 4, 2021

Tim Gladhill, AICP
Deputy City Administrator
7550 Sunwood Drive NW
Ramsey, MN 55303

RE: Proposal for Engineering Services –Trott Brook North (MUSA Area) – Public Utilities

Dear Mr. Westby:

We appreciate the opportunity to assist the City of Ramsey with the analysis of servicing the area north of Trott Brook, within the MUSA boundary, with public utilities.

There are several potential development scenarios that could be brought forward for the area north of Trott Brook, west of Nowthen Boulevard. The specific properties being evaluated for this study include:

- Hunt Addition: A 35.5 acre parcel between 173rd Avenue and 175th Avenue, west of Nowthen Boulevard.
- Makowsky Addition: An approximate 200 acre parcel directly north of Trott Brook between Nowthen Boulevard and Variolite Street.

Three development scenarios will be reviewed:

- The Hunt Addition develops as a stand-alone project,
- The Hunt Addition and a portion of the Makowsky Addition develop simultaneously, and
- The Hunt Addition and all of the Makowsky Addition develop simultaneously.

For each of the scenarios, we will review required improvements and costs associated with those improvements. The costs will be separated between development responsibility and trunk utility responsibility. We will review needs and costs associated with roadway, storm sewer, water main, sanitary sewer improvements.

Base Analysis

Our base analysis will include the following:

Water Main – We will review the City’s Comprehensive plan and determine the improvements required to serve the area(s).

Roadways – The roadway network will be reviewed to determine the improvements required. Temporary improvements will be identified if they are needed to serve the development(s).

Sanitary Sewer – We will review options for each of the three development scenarios, including temporary service if the Hunt Addition develops individually. For the sanitary sewer analysis, we will

make recommendations related to the capabilities of the existing facilities to serve the area north of Trott Brook. Our analysis will assume the existing lift station can serve the Hunt Addition on a temporary basis, as long as flow can be routed to the facility.

Scope of Work

The tasks anticipated for the study are presented below. The anticipated duration of each primary task is included next to the task title.

Existing Conditions Analysis

Gather Data and Compile Working Drawing: We will gather existing information, including aerial photography, LiDAR contour information, GIS utility information and record drawings, where available. We will compile the information into a working drawing. Fees associated with this task are estimated at \$2,220.

Field Survey: Based on the working drawing, we anticipate some field survey will be required along the creek. We are estimating 1.5 days of field survey, including establishing control and inserting the data into the working drawing. Fees associated with this task are estimated at \$2,240.

Existing Sanitary Sewer Flows: To understand the existing sanitary sewer flows in the area, we will request the lift station pumping records for the past several years. We will work with Public Works staff to gather the pumping records. We will also review the existing developed areas which flow to the lift station to gain a further understanding of flows per residence in the area. Fees associated with this task are estimated at \$1,740.

Flow Projections and System Requirements

Developable Acreage/Projected Flows: We will review the undeveloped parcels which could potentially flow to Variolite Street, both north and south of Trott Brook. We will then develop estimates for average daily flow and peak flow for the service area. Fees associated with this task are estimated at \$3,330.

Pipe Capacity Requirements: Based on the projected flow estimates, we will develop pipe capacity requirements at several locations throughout the service area. Fees associated with this task are estimated at \$630.

Roadway and Water System Requirements

Roadway: We will review the roadway needs for the area. This will include a review of Nowthen Boulevard and the potential cul-de-sac if the Hunt Addition develops prior to the Makowsky Addition. Fees associated with this task are estimated at \$630.

Water System: We will review the City's Comprehensive plan to determine water system improvements required for the development(s). Fees associated with this task are estimated at \$830.

Estimates and Memorandum

Estimates and Memorandum: We will prepare a brief Memorandum with exhibits depicting the results of the study. High level construction cost estimates will also be prepared for use in budgeting for the improvements. Fees associated with this task are estimated at \$3,240.

Additional Recommendations

Based on the findings of our analysis, we may make recommendations for tasks which should be completed during the design phase of future projects. The recommendations could include such items as: soil borings, additional survey, additional lift station related testing (concrete, power supply, etc.), and I/I analysis of the existing sanitary sewer system in the area.

Optional: Lift Station Analysis

Our proposed analysis will assume that the existing lift station will be able to accommodate flows from the Hunt Addition on a temporary basis. Once the Makowsky Addition develops, the Hunt Addition sanitary sewer flows will be conveyed through the Makowsky Addition.

The current Sanitary Sewer Comprehensive Plan depicts service to this area via gravity sewer which then flows to an existing lift station. The lift station then pumps the sewage through a forcemain which discharges in Variolite Street near 166th Avenue. Our understanding is that the lift station is at or near capacity, requiring alternative solutions to be explored.

The lift station analysis will most likely include the following components:

- Meet with Public Works staff to gain an understanding of existing operations of the facility,
- Complete a site visit and perform a cursory review and condition assessment,
- Review the control panel, SCADA system and power source. Develop recommendations based on reliability and long-term usage of the existing equipment.
- Analyze existing and future flows to the facility. Develop an estimate of when pump replacement will need to occur.
- Analyze forcemain, lift station structure and pump capacity to determine if capacity exists when full development of the service area occurs.
- Perform a general assessment of the existing power source. Provide discussion related to the implications of power failure, the potential need for a backup power generator, and consequences of power failure.
- Prepare cost estimates for recommended improvements.

The above analysis is estimated to cost \$9,260. The actual fees may vary, depending upon the findings described in the primary task.

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Proposed Fees

Each of the tasks above presents an estimate of fees on a per task basis. The total fees will not exceed \$14,860.00 without prior approval of the City. The optional lift station analysis can be completed for an additional not to exceed amount of \$9,260.00.

If there are any questions, please call me at (651) 968-7760.

Sincerely,

BOLTON & MENK, INC.

A handwritten signature in blue ink that reads "Kevin P. Kielb". The signature is written in a cursive, flowing style.

Kevin P. Kielb, P.E.

Principal Engineer

Attachment: Location Map

