



John M. McDonald Engineering

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May 24, 2017

Robert Bergen
Montgomery County Sanitary Sewer District #1
PO Box 246
Fort Plain, NY 13339

**Re: Montgomery County Sanitary District #1
Fort Plain Pump Station and Palatine Bridge Forcemain Air Relief Valves
Engineering Services Proposal**

Dear Mr. Bergen:

As per our recent discussion, there are several issues with the sanitary sewer conveyance systems within the County Sanitary District that require immediate attention. The Palatine pump station currently has one of the two pumps out of service, which will require extensive repairs or replacement and there have been issues with the nine (9) air relief valves along the three (3) mile length of the 8" forcemain from this pump station to the WWTP. Additionally, the Fort Plain pump station continues to have issues with cavitation if the pumps are run at full speed. We propose to provide the following scope of engineering services:

Fort Plain Pump Station

The Pump Station Evaluation and Infiltration & Inflow Report that we completed in June 2011 included an analysis of the Fort Plain pump cavitation issue. It was found that the existing pumps require more net positive suction head than is available in the wetwell to run the pumps at full speed. The pumps are run at a slower speed to prevent cavitation damage to the pumps, however, that means that the pump station cannot convey the full design flow to the treatment plant. This allows wet weather overflows to occur that may be avoided if the pumps were able to operate at full capacity.

Therefore, we proposed to determine properly sized replacement pumps for the actual flow and head conditions that exist at the pump station. This will include evaluation of several different styles of pumps, piping modifications, variable frequency drive replacements and any other incidentals. A letter report will be prepared with our findings, recommendation and budget cost estimates for the necessary improvements.

We propose to perform the Fort Plain pump station evaluation for a fee not to exceed \$8,400.00.

Palatine Bridge Pump Station

This pump station currently has one pump out of service and a repair company has provided an estimate in the amount of \$26,000 to replace the pump. We proposed to determine properly sized replacement pumps for the flow and head conditions that exist at the pump station. This will include evaluation of several different styles of pumps, piping modifications, variable frequency drive replacements and any other incidentals. A letter report will be prepared with our findings, recommendation and budget cost estimates for the necessary improvements

We propose to perform the Palatine Bridge pump station evaluation for a fee not to exceed \$6,800.00.

Palatine Bridge Forcemain

The forcemain and its appurtenances are approaching 40 years of age. We have been advised that a few of the air relief valves, located in concrete vaults, have been replaced in the past, however, the majority are original to the system. Some of these valves are leaking slightly in the vaults, and others are not functioning properly or cannot be isolated for proper maintenance. As the Palatine Bridge pump station pumps into a common forcemain with the Fort Plain pump station, both pump stations have to be shut down if maintenance or repairs are needed on the Palatine forcemain.

We proposed to inspect the air relief valve vaults to determine the condition of the equipment and obtain information on the make and model of the valves. We will determine the best location for isolation valves to be cut into the existing forcemains in order to properly isolate the Palatine Bridge forcemain from the Fort Plain forcemain to make the valve replacements. Per our recent meeting, it appears that two valves could be installed on the forcemain within the WWTP site to accomplish the isolation. A letter report will be prepared with our findings, recommendation and budget cost estimates for the necessary improvements.

We propose to perform the Palatine Bridge air relief valve evaluation for a fee not to exceed \$7,700.00.

The sum of the three individual studies is \$22,900.00, however, we can perform them all at the same time for a reduce fee of \$19,900.00. We have factored in some time for assistance with a future grant application into the engineering fee, as this study could be used as the basis for the Preliminary Engineering Report that is required as part of the CWSRF application process.

We look forward to assisting the Sanitary District in this important evaluation of existing facilities to maintain compliance with the SPDES permit and protection of the environment. If you have any questions, please feel free to call or email me.

Sincerely,



Douglas P. Cole, PE
Director of Wastewater Systems - NY Division