

## **WOODRIDGE LAKE SEWER DISTRICT**

### **Qualifications Based Selection Process**

#### **PROPOSED SCOPE OF SERVICES**

CONSULTANT will provide Wastewater System Consulting Services to the Woodridge Lake Sewer District (CLIENT) in support of providing the Connecticut Department of Environmental Protection (CTDEP) with an approach to compliance. The following tasks will be performed as part of this Agreement:

#### **TASK 1: REGULATORY REVIEW**

CONSULTANT will review applicable water quality standards and regulations, existing adjacent and downstream water body uses and alternative methods of discharge. CONSULTANT will identify potential discharge location alternatives, changes to water uses and discharge systems and the impact of each with regard to treatment and disposal alternatives.

#### **Deliverables:**

- Findings and recommendations will be presented in a technical memorandum within the Facilities Plan Update.

#### **TASK 2: DISPOSAL EVALUATION**

CONSULTANT will review available/existing data and CTDEP regulations to determine the disposal bed impacts on the Bantam River. Based on the assessment, the CONSULTANT will make a recommendation for disposal area improvements, as necessary. If the existing data does not determine what effects the disposal bed has on the Bantam River, additional fieldwork and a hydrogeologic study will be conducted. Specific field investigation may be performed include:

- CONSULTANT will review the 1995 and 2001 hydrogeologic investigation reports and other data previously collected including (but not limited to) the 1985 pumping test to understand the type and extent of geologic formation in the disposal area and calculate the “seepage velocity” for the discharge into the disposal bed. By understanding this seepage velocity, we will be able to determine if the discharge currently meets CTDEP requirements for travel time to the Bantam River, or if adjustments to the disposal bed are necessary. In conjunction, the most recent CTDEP regulations for disposal bed requirements will be reviewed to identify any additional disposal field requirements. If existing data is sufficient, it can be determined if the discharge currently meets CTDEP requirements for travel time to the Bantam River or if further recommended improvements are needed.
- If additional information is needed to make a determination if the current discharge meets requirements, field work and a hydrogeologic study will be conducted to gather more data and assess disposal bed impacts to the Bantam River and determine the “seepage velocity”. Field work may include the installation and survey of new observation wells (by use of borings) to establish groundwater elevations to construct a water table map. From the map, we will calculate the groundwater gradient to understand the specific time and direction of groundwater flows from the disposal bed. CONSULANT will develop a technical memo to summarize findings and recommendations.

#### **Deliverables:**

- Findings and recommendations will be presented in a technical memorandum within the Facilities Plan Update.

### **TASK 3: CAPACITY MANAGEMENT**

CONSULTANT will review available/existing data to determine how effective the current capacity management program is and make further recommendations. Specific tasks to be performed will include:

- CONSULTANT will review existing infiltration and inflow (I/I) reduction initiatives including sub area delineation, flow metering data, manhole and television inspections, and rehabilitation work to make a determination of the effectiveness of the current capacity management program and rehabilitation work at addressing I/I.
- CONSULTANT will utilize base mapping in hardcopy and electronic format (as prepared by the CLIENT) as part of the analysis. Mapping should consist of collection system layout, sewer system base mapping including road information, parcel information, and any associated sewer system information. If sufficient data is not available, recommendations will be made to acquire the data needed to assess current I/I efforts. These recommendations will become part of an updated capacity management program and Action Plan.
- As appropriate, CONSULTANT will develop a flow metering program to quantify infiltration rates and peak inflow in selected tributary areas to prioritize sub areas for further investigations. An evaluation of data from this program to previous programs will be completed to attempt to assess the effectiveness of the CLIENT's I/I rehabilitation projects. As part of this effort, the CONSULTANT will estimate the cost of I/I removal on a subsystem basis and compare to the cost to treat and transport the I/I.
- As appropriate, CONSULTANT will conduct field work to investigate priority sewer sub areas for I/I. Field work may include, but is not limited to, CCTV to identify pipe and manhole defects, smoke testing and dye testing to identify inflow sources, sump pump removal program, and flow isolation.
- Based on the field work investigations, CONSULTANT will identify and assess potential pipe and manhole rehabilitation projects that support I/I removal efforts.

#### **Deliverables:**

- Findings and recommendations will be presented in a technical memorandum within the Facilities Plan Update.

### **TASK 4: TREATMENT IMPROVEMENTS**

CONSULTANT will review the 2005 Nathan L. Jacobsen Engineering Study of wastewater collection, treatment and disposal alternatives. CONSULTANT will evaluate the treatment technologies identified in the report which include a new Sequencing Batch Reactor (SBR) facility or a Single Sludge Two Stage Modified Luczick-Ettinger (MLE) treatment system.

CONSULTANT will update the projected costs and identify a recommended alternate (or a modified system). CONSULTANT evaluation will include a life cycle cost analysis (LCA) that combines the long-term costs associated with capital expenditures with the operations and maintenance costs to compare local treatment and regional disposal options.

#### **Deliverables:**

- Findings and recommendations will be presented in a technical memorandum within the Facilities Plan Update.

### **TASK 5: REGIONALIZATION OPTIONS**

CONSULTANT will assess the alternatives for CLIENT interconnecting and discharging to the City of Torrington collection system. Specific tasks to be performed will include:

- CONSULTANT will facilitate a meeting with key stakeholders from the Town of Goshen and the Goshen WPCA to discuss the interconnection and treatment plant/disposal

field improvements projects. The team will solicit feedback from the Town and WPCA regarding additional options and considerations for each potential solution.

- CONSULTANT will review the existing draft Intermunicipal Agreement terms and identify improvement projects that may be required as a result of an interconnection to Torrington. Potential improvement projects include construction projects (sewer extensions), pumping stations and administrative efforts related to the development of an intermunicipal agreement.
- CONSULTANT will develop a life cycle cost analysis to identify the capital, operation and maintenance costs associated with interconnection.
- CONSULTANT will facilitate a meeting with the CLIENT and Torrington Water Pollution Control Authority to discuss potential projects associated with regionalization and solicit preliminary comments to identify additional projects and constraints associated with regionalization.

**Deliverables:**

- Findings and recommendations will be presented in a technical memorandum within the Facilities Plan Update.

**TASK 6: MEETING WITH CLIENT & CTDEP**

CONSULTANT will arrange for and facilitate a meeting with the CTDEP to present the results of the Facilities Plan Update and supporting data related to disposal, capacity, treatment and regionalization options. The CLIENT/CONSULTANT team will solicit CTDEP suggestions for addressing regulatory requirements.

**TASK 7: FINANCIAL PLANNING & FUNDING ASSISTANCE**

CONSULTANT will assist the CLIENT with financial planning and identifying funding programs to offset the capital costs of the improvement projects. Specific tasks include:

- CONSULTANT will meet with the CLIENT to discuss the proposed projects based on the Facilities Plan Update and conversations with CTDEP, identify CLIENT's funding and financing needs, introduce financing strategies and funding programs, present project delivery options, and mutually communicate other related project information.
- CONSULTANT will contact the funding agencies to identify potential availability and applicability of capital funding options.
- CONSULTANT will utilize the information obtained during the meeting to develop a financial planning and funding strategy memorandum for the proposed project. The memorandum will include a project funding matrix summarizing various funding options with an assessment of the likelihood of success of accessing each funding source. The memorandum will include a summary of project delivery strategies and our recommendation of the optimal delivery methodology. The document will also include a proposed phasing plan designed to provide the CLIENT with an approach to deliver the project.

**Deliverables:**

- CONSULTANT will prepare a financial planning and funding strategy action plan memorandum.

**TASK 8: PUBLIC EDUCATION, OUTREACH, AND PARTICIPATION**

CONSULTANT will facilitate public meetings to gain stakeholder input on the proposed wastewater improvements. Specific tasks to be performed will include:

- CONSULTANT will participate in Public Meeting with key stakeholders (WLS ratepayers, Torrington WPCA, Town of Goshen Selectmen, etc.) to review the recommendations of the Facility Plan Update and solicit input that will be considered as part of development of the final Action Plan. The CONSULTANT will prepare a presentation and handouts Public Meeting.

- CONSULTANT will participate in Public Hearing once the Action Plan has been developed. At the meeting, CONSULTANT will to summarize the recommendations of the Action Plan.

**Deliverables:**

- CONSULTANT will prepare a presentation and handout for the Public Meeting
- CONSULTANT will prepare a presentation for Public Hearing.
- CONSULTANT will incorporate presentation materials and public comments during the Public Hearing into the Final Facilities Plan documents.

**TASK 9: DEVELOP ACTION PLAN**

CONSULTANT will prepare a submission (Action Plan) for CTDEP that outlines the proposed scope of work required for the CLIENT to achieve compliance with the CTDEP standards. This Action Plan will include an implementation schedule and financing/funding plan.

**A. SCHEDULE**

The scope of services outlined in Tasks 1 – 9 will be completed in accordance with the schedule requirements negotiated with CTDEP.