

# **Professional Services Request**

## **City of Camas**

### **SCOPE OF SERVICES**

#### **Project Background**

The City of Camas (City) currently owns and operates a multi-source municipal water system that includes supply from ten groundwater wells and two surface water sources, treatment, 8.45 million gallons (MG) of storage, and 143 miles of pipelines which serve residential and commercial customers. The City has recently completed a Water System Master Plan and supporting hydraulic model that will be referenced and used in the planning evaluation.

The City currently owns and operates a wastewater collection system that collects and conveys wastewater for treatment by the City's wastewater treatment facility (WWTF). The City's collection system utilizes conventional gravity sewer with lift stations (LS) as well as Septic Tank Effluent (STE) Pumping Stations (STEP), Septic Tank Effluent Filter Systems (STEF), and Septic Tank Effluent Gravity Systems (STEG) to convey wastewater to the WWTF. A hydraulic model of the collection system and the WWTF hydraulics were created as part of the new General Sewer Plan and Facility Plan. Additionally, Carollo developed a process model of the WWTP that will be updated and utilized to evaluate the impacts of additional flow on various elements of the treatment process.

As requested, Carollo will focus our efforts on:

1. Identifying potential water resources and the required improvements to the City water system to provide sufficient supply for each scenario identified below. The evaluation will also consider the need for off-site municipal storage associated with the project scenarios, which will be required by State regulations and City standards.
2. Evaluating sewer collection system alternatives for both industrial and sanitary wastewater flows from the site to the City's WWTF.
3. Evaluating the ability of the existing WWTF to handle the flows and loads discharged under each scenario (based on Carollo's experience). This task will require close coordination with the City to define the wastewater quality and what segregation or pretreatment should be assumed.
4. Identifying potential permitting requirements associated with the new improvements. This effort may require coordination with the City to determine requirements and opportunities to reduce impact.

#### **Project Assumptions**

- Carollo Engineers, Inc. will be referred to as "Carollo" in this document.
- The City of Camas and its staff will be referred to as "City" in this document.
- All meetings will be held on Microsoft Teams, unless otherwise specified.
- Draft Technical Memorandum (TM) will be provided in electronic copy (PDF and/or Microsoft Word) transmitted via email or secure file transfer.
- City comments on TM will be documented in the Comment Response Log by Carollo. Carollo will prepare responses to address the comments in the Comment Response Log for the City's review and acceptance.
- Carollo will prepare an agenda, presentation materials, and document discussions, including action items and decisions, in meeting minutes for Carollo-led meetings.

- Meeting notes and related materials will be transmitted electronically in MS Word and/or PDF formats via email.
- The City will print and produce all documents as necessary for its use. Carollo will not provide any deliverables in a paper format.
- Carollo shall complete the services required hereunder in accordance with the prevailing engineering standard of care by exercising the skill and ability ordinarily required of engineers performing the same or similar services, under the same or similar circumstances, in the State of Washington.
- In providing opinions of cost, financial analyses, economic feasibility projections, schedules, and quantity and/or quality estimates for potential projects, the Consultant has no control over cost or price of labor and material; unknown or latent conditions of existing equipment or structures that may affect operation and maintenance costs; competitive bidding procedures and market conditions; time or quality of performance of third parties; quality, type, management, or direction of operating personnel; the incoming water quality and/or quantity; the way City's plant(s) and/or associated processes are operated and/or maintained; and other economic and operational factors that may materially affect the ultimate project elements, including, but not limited to, cost or schedule. Therefore, the Consultant makes no warranty that the City's actual project costs, financial aspects, economic feasibility, schedules, and/or quantities or quality realized will not vary from the Consultant's opinions, analyses, projections, or estimates.
- The services to be performed by Carollo are intended solely for the benefit of the City. No person or entity not a signatory to the Agreement shall be entitled to rely on Carollo's performance of its services hereunder, and no right to assert a claim against Carollo by assignment of indemnity rights or otherwise shall accrue to a third party as a result of the Agreement or the performance of the Carollo's services hereunder.

### Scope of Services

The goal for this project is to develop a high-level capital plan to identify infrastructure that could serve new development(s) in the City and impact both water and wastewater systems. The specific tasks required as part of the evaluation include:

- **Task 100 – Project Management**
  - Monthly Progress Reports and Invoices. This subtask consists of production and implementation of the project plan, schedule, and budget. Assist the project team members in the implementation of the task items, reviewing the work-in-progress reports. Prepare and submit monthly activity reports showing current project status and identifying key issues or elements of the project that will need to be addressed in the proceeding weeks. An electronic version of the monthly progress reports will be sent to the City for review and approval. This task assumes that no hard copy of the monthly progress reports will be distributed.
  - Meeting No. 1 - Kick-off Meeting. Facilitate a kick-off meeting to review project management and initial data requests. This will be combined with Task 200.
  - Client Coordination.
    - Manage the consultant project team to track time and budget, work elements accomplished, work items planned for the next period, manpower, scope changes, time and budget needed to complete the project.

- Create and maintain a working project schedule.
- Review project status, including scope, budget, and schedule.

- **Task 200 - Collect and Analyze Project Data**

- As part of this analysis, Carollo will work with the City to identify reasonable sites or areas that new development may locate. This information will be utilized to promote development of accurate and defensible criteria for use in the evaluation.
- Carollo will work with the City to confirm the following evaluation scenarios: 2 MGD and 4 MGD additional Average Day Demand (ADD) and Dry Weather Flow (DWF).
- Similarly, Carollo will work with the City to make assumptions associated with the potential wastewater quality. Development(s) with this size of demand will represent a large percentage of the flow and load to the City's WWTF and could have a potentially significant impact on operations.

We understand the difficulty in determining the ultimate water quality for processes that are still unknown, it will be important to understand the wastewater quantity and load expectations, including both the upper and lower limits of the wastewater quality. We will use our expertise to make necessary assumptions and attempt to evaluate whatever processes are necessary given the assumptions provided by the City for use in making an accurate assessment of the treatability of the blended wastewater feeding the City's WWTF.

- Infrastructure: Carollo will work with the City to obtain as-built drawings of existing water and wastewater infrastructure associated with the study area. Carollo will work with the City to confirm the extent of new construction allowed within existing easements along the recommended infrastructure route.

- **Task 300 – Analyze Available Water Quantity and Delivery to Development Site**

- Carollo will update any existing information available by the City or existing Carollo records. Using the data collected in Task 200, Carollo will evaluate water rights, source capacity, storage and distribution system and determine likely pumping and storage facility locations and pipeline routes to supply the areas identified in Task 200. Carollo will utilize the City's hydraulic model to confirm distribution system capacity and infrastructure for up to two Average Day Demand (ADD) scenarios. Modeling will also review Maximum Day Demand (MDD) and impacts to fire flow availability.
- Alternative routes will be evaluated with consideration for possible cost and construction risks, such as utility conflicts, based on available as-built information, and easements. No additional survey or field investigations will be conducted as part of this Task.
- As part of this task, Carollo will coordinate with the City to determine the location and quantity of future water supplies to serve the new development. No specific analysis of water supply will be conducted.
- As part of this task, Carollo will also evaluate potential options to reclaim and recycle waste flows to offset incoming City water demands, if necessary or financially beneficial.

- **Task 400 – Analyze Wastewater Conveyance from Development Site to City WWTF**

- This task involves identifying alternatives to transfer wastewater flows from the areas identified in Task 200 to the City's WWTF.

Using the data collected in Task 200, Carollo will determine likely wastewater pipeline routes to accommodate new development of this magnitude. Carollo will develop an excel-based capacity analysis tool to determine the impact of the development to pump stations impacted by the site. The City's hydraulic model will not be used for this task. Alternative routes will be evaluated with consideration for possible cost and construction risks, such as utility conflicts, based on available as-built information, and easements. No additional survey or field investigations will be conducted as part of this Task.

- As part of this task, Carollo will also evaluate potential options to reclaim and recycle waste flows to reduce the wastewater treatment and collection needs.

- **Task 500 – Evaluate City WWTF Capacity**

- Carollo will define the characteristics of the industrial load: Using water quality information established in Task 200, and literature information on biodegradability of different industrial sources, estimate the chemical oxygen demand (COD) fractionation of up to two (2) different industrial loads for use in the BioWin modeling.
- Carollo will determine impact to process capacity: Add the two industrial load scenarios developed in the above subtask to the 2035 maximum month BioWin models developed in the last planning effort to determine the impact of this load on the capacity of the plant.
- Carollo will use the hydraulic calculations for the City's wastewater treatment plant (WWTF) developed as part of the WWT Engineering Report to evaluate the hydraulic capacity of the WWTF under up to four scenarios. The purpose of the evaluation is evaluate the impact of additional flows on the WWTF. It is expected that the evaluation will be based on a comparison of WWTF capacity with and without the added flows under dry and wet weather conditions. Recommendations to expand capacity to address the insufficient processes will be identified. A meeting will be held to discuss findings for Tasks 300, 400, and 500.

- **Task 600 – Review Permitting Considerations and Requirements**

- As part of this task, Carollo will review the potential permitting requirements associated with the water and wastewater infrastructure improvements identified in the previous tasks. While the primary goal will be to identify potential impacts on the schedule to execute installation of new pipelines, pump stations and treatment plant upgrades (if required), this task will also evaluate potential modifications to the existing City WWTF treatment and discharge permits that may be driven by the projected flows.

- **Task 700 – Develop Implementation Schedule and Opinion of Probable Cost**

- Based on the results of the previous tasks, Carollo will develop a high level construction schedule with risks for implementation of the recommended

infrastructure improvements. Construction sequencing opportunities will be evaluated to support optimum project schedule and cost.

- Carollo will develop a Level 5 cost estimate for the recommendations and improvements identified in the previous tasks. If there are options to be selected as part of any of the tasks, the cost for the options will be developed to support accurate and defensible decisions.
- A meeting will be held to present and discuss results and findings from Tasks 600, 700, and 800.

- **Task 800 – Draft and Final Technical Memorandum**

- Draft and Final TM summarizing evaluation criteria, recommended improvements, regulatory and permitting pathways, costs, and timelines for recommended actions.
- A high-level executive summary will be included for easy reference.

## Assumptions

- The evaluation will be done for the following two scenarios for water:
  - Scenario 1 - ADD = 2 MGD
  - Scenarios 2 - ADD = 4 MGD
- The evaluation will be done for the following two scenarios for wastewater:
  - Scenario 1 - DWF = 2 MGD
  - Scenario 2 – DWF = 4MGD
- The planning demand and wastewater factors from both water and wastewater plans will be used.
- There is not expected to be any significant travel on this project and all reviews will be virtual reviews.

## Deliverables List

1. Draft and Final Tech Memo summarizing evaluation criteria, recommended improvements, regulatory and permitting pathways, costs, and timelines for recommended actions.
2. A high-level executive summary will be included for easy reference.

