



Amendment No. 5

Water Treatment Plant Start-Up
City of Camas

August 1, 2025

Amendment No. 5

Client name: City of Camas

Document no: *[Document number]*

Revision: 0

Revision date: August 1, 2025

Project/Proposal no: TBD

Project manager: Jack Wallis, PE

Prepared by: Jack Wallis, PE

Approved by: Dan Shafar, PE ENV SP

File name: Camas SSF Startup Amendment 081825 MKB

Jacobs Engineering Group Inc.

2020 SW Fourth Avenue
3rd Floor
Portland, OR 97201
United States

T +1.503.235.5000
www.jacobs.com

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Project Understanding

The City of Camas (City) has requested an Amendment to the existing contract for startup-assistance for the City's existing Water Treatment Plant (WTP). This amendment will represent the fifth amendment for this contract. The following summarizes the amendment history:

Contract	Contract Schedule	Contract Cost
Original Contract December 2020	Dec 2020 → Nov 2021	\$34,910
Amendment 1 December 2021	Nov 2021 → Jun 2022	No change
Amendment 2 June 2022	Jun 2022 → Dec 2022	No change
Amendment 3 November 2022	Dec 2022 → Dec 2023	No change
Amendment 4 November 2023	Dec 2023 → Dec 2024	No Change

Recent attempts to complete startup of the slow sand filter have been complicated by a number of factors including wildfires within the watershed, required maintenance at the watershed intakes, on-going SCADA and I&C integration and service upgrades, and multi-party coordination including Jacobs, Carollo, S&B, Tomco, and Airgas.

The intent of this amendment is to synchronize and simplify the start-up process by having Jacobs primarily responsible for scheduling and sequencing startup operations. Jacobs will provide coordination of vendor services, on-site and start-up services of the slow sand filter, and provide additional training refresher for City staff. This amendment also includes an allowance for on-call support for the first year of startup operations.

The original scope of the professional services agreement is provided for context below; however, all work contracted under Tasks 1 and 2 has been completed. Task 3 will be amended to extend Project Management beyond the current schedule. Additional tasks have been added to complete this expanded scope.

Background

This section is copied from the original Professional Services Agreement and provided for reference. The City of Camas, WA (City) owns and operates a slow sand filter (SSF) water treatment plant (WTP) located near the intersection of NE Lessard Road and NE Winter Road. City staff have asked for assistance with startup of the plant since it is only operated seasonally and significant time has passed since the plant was last operated. The City has recently added caustic and carbon dioxide to the plant that has increased the complexity of the system. City staff have also noted that there may be air in the effluent line, which is causing issues with the accuracy of the flow meter. The City has requested that Jacobs Engineering Group Inc (Consultant) assist City staff with startup, training, and ongoing operations support.

Scope of Work

Consultant shall perform the following tasks.

Task 1 – Startup Assistance and Training

This task is copied from the original Professional Services Agreement and provided for reference. This task includes work required to assist with plant startup and operator training. This task includes:

- One site visit for startup troubleshooting and training. This site visit includes one Consultant staff member on site for three 8-hour days and one additional Consultant staff member for one 8-hour day.
- A second site visit to follow up on plant operations. This site visit includes one Consultant staff member on site for two 8-hour days to reinforce training.
- Preparation of materials for operator training, troubleshooting, and startup. The budget for this component assumes preparation of a PowerPoint or PDF presentation for operator training, and/or minor updates to the existing Operations and Maintenance Manual to limit the allowance.

Assumptions

- This task includes travel expenses for two site visits.

Deliverables

- Training and startup materials as pdf documents divided between task-based modules (e.g. startup/shutdown sequence, alarm response, troubleshooting). Operator sign-off sheets for verifying knowledge transfer.

Task 2 – As-Needed Treatment Technical Assistance

This task is copied from the original Professional Services Agreement and provided for reference. This task includes on-going support to help with treatment plant operational issues that may arise during the first operation season, including:

- About 40 hours of on-call support during the first operational season. This budget could be used for an additional site visit, if requested by the City.

Assumptions

- Consultant will provide support based on requests from the City Utilities Manager.

Deliverables

- Written documentation and/or redlined O&M manual updates in response to City requests.

Task 3 – Project Management

This task is amended as indicated below. This task includes work necessary to effectively manage the work, including but not limited to:

- Task management, internal reporting, and coordination with the City.

- Preparing and submitting bi-monthly invoices and progress reports for Consultant services.

Assumptions

- The duration of the project for budgeting project management purposes is assumed to be from November 2020 to ~~November 2024~~ December 2026. Invoicing is assumed to occur every other month.

Deliverables

- Bi-monthly invoices and monthly progress report including a schedule look-ahead and vendor coordination notes.

Task 4 – Pre-Start-up Services

Consultant will provide pre-start-up services including the following key activities:

- File necessary WA Department of L&I paperwork and notices for prevailing wage
- Review existing design documentation for Carbon Dioxide and caustic systems (design by Carollo Engineers). Perform an onsite chemical system readiness check.
- Coordinate and lead a conference call between City and TOMCO to review findings from the chemical system readiness check and to strategize needs and approach for initial assessment site visit.
- Coordinate and lead the initial assessment site visit between TOMCO and Air Gas to evaluate the existing condition of the tank and dosing systems.
- Coordinate a final testing and completion of S&B's I&C upgrade for the plant.
- Provide updated notice to Washington Department of Health of anticipated start-up dates.

Assumptions

- Jacobs operations and maintenance staff will perform the chemical system readiness check and review findings with the City, TOMCO and Air Gas.
- Air Gas' time and materials will be invoiced directly to the City through their existing agreement (attached to this proposal).
- TOMCO Systems will provide one 8-hour site visit to inspect CO2 storage and feed system for proper installation and assessment of the idle system.
- Jacobs operations and maintenance staff will complete all work tasks (under supervised direction of TOMCO) for prevailing wage related work. Assumes 8-hour workday with two start-up operators on-site.
- This task includes travel related expenses for Jacobs and TOMCO.
- All comments on draft memoranda will be provided in a consolidated format.

Deliverables

- Draft and final memorandum in electronic format documenting all findings from the chemical system readiness check.
- Draft and final site visit summary memorandum in electronic format documenting work completed on-site, equipment condition and next steps.
- Certified payroll and prevailing wage documentation.

Task 5 – WTP Start-up Services

Consultant will complete WTP start-up services in coordination with the City and its operators. Start-up includes the following key activities:

- Coordinate vendor start-up services between TOMCO and Air Gas.
- One day of start-up services and plant testing in advance of vendor scheduled start-up services.
- Participate in start-up activities under the direction of TOMCO on-site. Assumes that Jacobs operations and maintenance team will complete all work tasks for prevailing wage related work. Assumes three 8-hour workdays with two start-up operators on-site. Includes labor for potential minor repairs under supervision of TOMCO for the CO2 tank and feed systems.
- One day of start-up services and plant operations following vendor scheduled start-up services.
- One-day of on-site training and refresher for City staff. Includes updates to the existing Operations and Maintenance manual (allowance of 40-hours to compile if needed).
- One day per month (assume for four months) of on-site support for City Water Operations.
- One day of on-site support during seasonal plant shut-down (April 2026).
- One day of on-site support during seasonal plant start-up (October 2026).
- Allowance of 20-hours for as-needed operational support (October – December 2026).

Assumptions

- Air Gas' time and materials will be invoiced directly to the City through their existing agreement (attached to this proposal).
- Consultant will provide two O&M Technicians for five 8-hour working days during vendor start-up services.
- Consultant will provide one operations and maintenance team member for 8-hour working day during monthly operations and seasonal shut-down and start-up events.
- Consultant technical team including project manager and or design engineering support specialist will be on-site to assist with testing and coordination.
- S&B responsible for verifying point-to-point I&C verification, accuracy of flow meters and calibration check.
- A \$10,000 allowance included for TOMCO to provide as-needed small parts/equipment for potential repairs to the storage tank and feed systems.

Deliverables

- Updated operations and maintenance manual.
- Update training materials.
- Site visit summary memoranda documenting work completed on-site.
- Commissioning documentation such as test sheets, calibration logs, and operator sign-off sheets.
- Certified payroll and prevailing wage documentation.

Schedule

This section is amended as indicated below. The period of performance for this project is NTP through ~~November 30, 2021~~ December 2026.

The following section is added.

Consultant will work with the City to execute the anticipated schedule below.

- September & October 2025 – Subcontracting and scheduling vendor services
- November 2025 – Site visits with Jacobs, Tomco, and Air Gas to assess existing carbon dioxide equipment condition and potential repairs.
- December 2025 – Vendor startup services including Tomco start-up and delivery of Carbon Dioxide.
- January 2026 thru April 2026 – City operates WTP with monthly site visits.
- May 2026 – Seasonal plant shut-down with one site visit.
- October 2026 – Seasonal plant start-up with one site visit.
- October 2026 thru December 2026 – City operates WTP with as-needed startup support.
- December 2026 – Contract close-out.

Cost

Consultant will provide this scope of work on a time and materials basis with a not-to-exceed budget of \$179,410, unless authorized by a written Amendment. The task breakdown for the not-to-exceed amount is shown in Table 1.

Table 1. Estimated Cost for Camas SSF Startup and Training Assistance

Task	Labor Cost	Expenses	Total
1 – Startup Assistance and Training	-	-	-
2 – As-Needed Treatment Technical Assistance	-	-	-

3 – Project Management	\$14,309	\$0	\$14,309
4 – Pre-Start-up Services	\$29,521	\$9,150	\$39,266
5 – WTP Start-up Services	\$81,980	\$42,200	\$125,835
TOTAL			\$179,410

Billing Rates

Compensation shall be in accordance with the provisions of the Professional Engineering Services Contract between City and Consultant. The labor rates included in Attachment B include a 3.15 multiplier on raw rates up to a cap of \$310/hour and a flat rate of \$115/hour on Consultant GID staff.

Attachment B – Level of Effort

