TETRA TECH

8.a

PRIME AMENDMENT NO. 1

Date: March 13, 2017

Tetra Tech Job/Ph. No: 135-48600-16001 / _____ Client Contract No. _____ / _____

Client: **City of Stevenson**

Address: PO Box 371 / 7121 E. Loop Road

Stevenson, WA 98648

Attn: Eric Hansen Tel: 509.427.5970 Fax: _____

Consultant: **Tetra Tech, Inc.**

Address: 1420 Fifth Avenue, Suite 600

Seattle, WA 98101

Project Manager: Jim Santroch, PE Tel: 206.883.9410 Fax: 206.883.9301

Re: Project:

In accordance with the original Professional Services Agreement (PSA) executed February 19, 2016, this Amendment modifies the original PSA and any prior Amendment(s).

PSA/Amendment #		$ Amount	Total $ Amount
Original Agreement		$210,560	
Prior Authorized Amendment(s):	#	0	
	#		
Prior PSA/Amendment $ Subtotal			$210,560
Current Amendment $ (increase)		$112,791	
Total ($) Amended PSA			$323,351

With approval of this Amendment, services will be provided as described in the Scope of Services and Schedule as indicated:

☐ Attached to the executed PSA. ☒ Attached to this Amendment.

☐ Attached to the executed PSA and, specifically, the work described in Paragraph(s) _____ (or task(s) _____).

Payment for services shall be in accordance with the PSA. All provisions of the original Agreement shall remain unchanged with the exception of the denoted changes and/or attached items, which are amended to be included as indicated.

Services are authorized by: ☒ Executed Amendment ***or*** ☐ Notice(s) to Proceed (NTP)

Please sign and return executed copy for our records. Signature(s) by Facsimile or e-mail shall be deemed original(s).

Accepted By:	**Tetra Tech, Inc.**	Authorized By Client:	**City of Stevenson**
Authorized Signature:		Signature:	
Title:	Director	Title:	Mayor
Date:		Date:	

Originals: Client, Tetra Tech Contract File *c: Central File, Project Manager* *Tetra Tech AMD – 2/17*

TETRA TECH

Contract Amendment

City of Stevenson

Wastewater Facility Plan

Amendment 1 Scope of Work

March 13, 2017

GENERAL

Tetra Tech, Inc. is currently completing the City of Stevenson Wastewater Facility Plan, per the February 19, 2016 contract with the City of Stevenson. Amendment 1 to the contract covers NPDES permit compliance tasks by Tetra Tech, including additions to the Wastewater Facility Plan, along with assistance on critical Wastewater Treatment Plant (WWTP) operational issues. This scope of work for the amendment modifies the previous scope of work by adding tasks to assist the City in responding to comments from the Washington Department of Ecology (Ecology) regarding compliance with the City's National Pollutant Discharge Elimination System (NPDES) permit for the Stevenson WWTP.

The NPDES permit compliance schedule shown as Attachment A shows an outline of the required work, color coded to indicate work to be performed by Tetra Tech to assist the City. The following list identifies the modified and additional tasks required to complete this work:

- Task 1—Project Management (Amendment)
- Task 10—Financial (Amendment)
- Task 14—Administration and Liaison (Amendment)
- Task 16—Brewery Wastewater
- Task 17—Promote Source Control
- Task 18—Industrial Pretreatment
- Task 19—Modify Existing WWTP Operations
- Task 20—High-Strength Wastewater Rates
- Task 21—Assistance with RAS Control and Backup Power Issues
- Task 22—As-Needed Engineering Services

Work will proceed according to this scope of work and the associated schedule and budget. A detailed description of the work to be performed under each task is provided below.

The work products from this project will be submitted in hard copy and electronic format. Report files will be produced in Microsoft Word. CAD files will be produced in AutoCAD. GIS files will be produced in ESRI's ArcGIS in data formats.

This scope assumes that existing GIS data for this project will be acquired through the Skamania County GIS systems and that any fees for accessing the County GIS information will be paid directly by the City.

15350 SW Sequoia Parkway, Suite 220, Portland, OR 97224
Tel 503.684.9097 Fax 503.598.0583 tetratech.com

Assumptions:

Permit compliance tasks addressed by this contract amendment will be 10 months in duration.

The following information will be provided by the City:

- Ordinances defining sewer service area policies, sewer rates and other charges
- Existing pretreatment (fats, oils and grease) program information
- City sewer utility financial information for 2011 through 2015, including rates, revenue and operating expenses

TASK 1—PROJECT MANAGEMENT (AMENDMENT)

Additional project management effort includes monitoring budgets, preparing and reviewing invoices and quality assurance review of deliverables for additional work through December 2017.

TASK 10—FINANCIAL (AMENDMENT)

This task provides an overview of future financial impacts associated with implementing the Wastewater Facility Plan, but is not a complete rate study. Tetra Tech's subconsultant, Katy Isaksen & Associates (KI&A), will work with Tetra Tech and the City to complete the financial chapter of the Wastewater Facility Plan.

10.2 Revenue Sources

Tetra Tech, in conjunction with KI&A, will list and discuss the available and potential revenue sources for system improvements, including potential grant and loan programs.

10.3 Sewer Charges

Tetra Tech will provide the estimated costs for the recommended capital improvement plan, incremental staffing, and changes to operation and maintenance (O&M) costs to the City. This will include a delineation of the capacity related portion of the improvement projects. General strategies for rates, system development charges and high-strength waste surcharges will be discussed with the City. Tetra Tech's subconsultant, KI&A, will estimate the impact on existing sewer rates to complete the recommended improvements.

Assumptions:

- An update to the sewer system development charge or connection charges is not included in this contract (but may be added at a later date).
- The high-strength waste surcharge from Task 20 will be known and included as a revenue source.

10.4 Six-Year Financial Projection

Tetra Tech will provide estimates for capital and O&M costs for the recommended improvements to be implemented in the six-year period.

KI&A will provide a six-year financial projection of sewer utility revenues and expenses. The projection will be based on current operating, debt and capital activity to be provided by the City. The projections will be based on key assumptions of planned growth projections, inflation and anticipated future expenses. Estimated debt service payments will be included where borrowing is assumed for the capital improvement plan.

10.5 Draft Financial Chapter

KI&A will draft a financial chapter to be included in the Wastewater Facility Plan.

Assumptions:

- Draft financial chapter will be reviewed by Tetra Tech and the City.

10.6 Presentation to Council

KI&A will participate in one presentation and Q&A session with the City Council.

Work Products:

Cost data for financial plan, including estimates for capital and O&M costs for the recommended improvements (for the six-year capital improvement plan), and a list and discussion of revenue sources, including potential grants and loans. Draft financial chapter.

TASK 14—ADMINISTRATION AND LIAISON (AMENDMENT)

Additional work includes one City Council meeting presentation and coordination with Ecology regarding the NPDES permit compliance schedule

14.1 City Meetings and NPDES Permit Compliance Schedule

Tetra Tech will make a presentation at one City Council meeting, which will include the following:

- Background information on wastewater and the Stevenson WWTP biochemical oxygen demand (BOD) loading over the past five years
- Current information on the Stevenson NPDES permit and the permit compliance schedule required by Ecology
- Questions and discussion with Council.

Assumptions:

Two Tetra Tech engineers will visit Stevenson for the afternoon and evening, to meet with WWTP staff and to present at the City Council meeting.

This task includes draft NPDES permit compliance schedule development.

Work Products:

PowerPoint presentation, NPDES permit compliance schedule.

14.4 Coordination with Ecology on NPDES Permit Compliance Schedule

Tetra Tech will coordinate and communicate with Ecology and the City to ensure efficient development and execution of the NPDES permit compliance schedule as follows:

- Participate in up to four conference calls with Ecology and the City, to discuss the NPDES permit compliance schedule.
- Review Ecology comments on the first draft of the NPDES permit compliance schedule and make edits accordingly, in order to prepare a final NPDES permit compliance schedule.

Assumptions:

One round of Ecology comments will be incorporated into the NPDES permit compliance schedule.

Work Products:

Agendas and meeting minutes for the conference calls. Final NPDES permit compliance schedule.

TASK 16—BREWERY WASTEWATER

This task involves activities from March 2016 through July 2016 to review wastewater issues from rapidly expanding brewery and beverage industries in Stevenson:

- Review brewery wastewater data collected by the City in early 2016
- Review high strength sewer user charges for breweries in neighboring cities.
- Participate in one call between Tetra Tech, the City and OMI regarding high-strength wastewater.
- Meet with City staff, OMI and Backwoods brewery to review wastewater loadings and discuss methods for reducing peak loading to the WWTP.
- Prepare brewery wastewater guidance document.
- Develop preliminary pretreatment options and costs for brewery wastewater.

Work Products:

Meeting minutes from April 20, 2016 Stevenson/Backwoods Brewery Wastewater Meeting. Brewery Wastewater Guidance Document (April 28, 2016). Pretreatment system comparison spreadsheet.

TASK 17—PROMOTE SOURCE CONTROL

This task involves communication with industries and residents about methods for controlling BOD contributions to the sewer system and WWTP.

17.1 Communication with Skamania Lodge and Beverage Industry Dischargers

Tetra Tech will participate with the City in meetings with Skamania Lodge to discuss food waste disposal methods, and with beverage industry dischargers to discuss best practices to control BOD. These discussions will include explanation of the City's current situation regarding NPDES permit compliance and the need to reduce BOD influent to the WWTP.

Assumptions:

One Tetra Tech engineer will participate in meetings with the City, the lodge and dischargers during a one-day site visit.

Work Products:

Meeting agendas, handouts and summary

17.2 Communication with Customers

Tetra Tech will edit the City's flyer discouraging customers from using their garbage disposal and encouraging them to put food waste in the trash.

Work Products:

Edited flyer to city customers.

TASK 18—INDUSTRIAL PRETREATMENT

This task involves work to assist the City with establishing an ordinance for load limits and pretreatment program requirements.

18.1 Research Pretreatment Requirements

Tetra Tech will research pretreatment requirements in three comparable cities (such as Hood River, Vancouver, Washougal) including the following:

- Source control requirements
- Pretreatment requirements
- Existing ordinances for high-strength load limits
- Existing rates and user classes for high load dischargers.

Work Products:

Brief technical memorandum with table showing the above findings for each of the three cities.

18.2 Notify Industrial Dischargers of Load Limits

Tetra Tech will assist the City in notifying industrial dischargers that individual loading allocations will be limited. This will involve up to four meetings with Skamania Lodge and beverage industries.

Assumptions:

One Tetra Tech engineer will participate in meetings with the City, the Lodge and dischargers during a one-day site visit. Two separate site visits (including meetings) will be performed with Tetra Tech's participation.

Work Products:

Agenda and handouts for the meetings and meeting summaries.

18.3 Update City Ordinance

Tetra Tech will assist the City in updating the City ordinance to establish load limits and pretreatment program requirements, including the following:

- Tetra Tech will utilize information gathered in Task 18.1 on similar ordinances in up to three western Washington and Oregon cities in order to provide background information.
- Tetra Tech will discuss these findings with the City and help develop the City's preferences for its own pretreatment program ordinance.

Assumptions:

The City will have primary responsibility for drafting and finalizing changes to the City sewer ordinance regarding high strength wastewater discharges.

Work Products:

Brief technical memorandum with table showing the above findings for each of the three cities.

TASK 19—MODIFY EXISTING WWTP OPERATIONS

This task involves developing short-term alternatives that could be implemented at the existing WWTP to maintain effluent limit compliance.

19.1 Calculate Interim Influent Loading Limit at the Stevenson WWTP to Maintain Effluent Limit Compliance

Tetra Tech will use existing treatment process performance to calculate influent loading limits for BOD and TSS, which will apply through 2021, when the WWTP improvements (to be described in the Stevenson Wastewater Facility Plan) will be constructed and placed into service.

Assumptions:

Assumes that Ecology will be open to alternatives (such as those described in Task 19.2) to ensure that the WWTP maintains effluent NPDES permit limit compliance, and that Ecology will be open to considering alternative influent loading limits at the Stevenson WWTP.

One set of comments from Ecology and the City will be incorporated to prepare a final interim influent loading limit technical memorandum.

Work Products:

Technical memorandum describing the process for analyzing the interim influent loading limits and showing interim influent loading limits to maintain effluent limit compliance through 2021.

19.2 Operational Modifications Development and Analysis

Tetra Tech will prepare calculations and develop descriptions for modifications to the Stevenson WWTP operations, on a trial basis only, which may increase interim plant capacity. Tetra Tech will analyze data collected by the City. These modifications will include the following:

- Increase sludge volume or concentration of sludge hauled from digester (trial basis only).
- Increase wasting rate from oxidation ditch to reduce sludge age (trial basis only).
- Add dose-paced coagulant addition after oxidation ditch (trial basis only).

Assumptions:

City to coordinate with OMI to implement the operational modifications and collect data as recommended by Tetra Tech.

Work Products:

Technical memorandum describing the operational modifications and results, and recommending modifications to implement on a long-term interim basis through 2021.

TASK 20—HIGH-STRENGTH WASTEWATER RATES

This task includes development of wastewater rates for high-strength dischargers.

20.1 Develop High Strength Wastewater Rate Structure

Tetra Tech will utilize the rate information for high load dischargers gathered in Task 18.1 and will identify reasonable alternatives for high-strength rate structures that might fit Stevenson parameters and users.

Katy Isaksen & Associates (KI&A), with input from Tetra Tech, will develop a proposed high-strength rate structure. The rate structure will include high-strength user charges, likely for several different classes or categories of high-strength users. The rate structure may also include availability charges, based on written agreements to be developed between the City and dischargers, which define seasonal and peak treatment capacity needed by the discharger.

The high-strength rate structure will be designed for phased implementation. Initial rates are intended to be established before the City completes the wastewater facility plan, and will be based on assumptions and preliminary estimates of City capital and O&M costs for high-strength wastes. An update or refinement of the initial high-strength rates may be necessary after the wastewater facility plan is adopted and estimated costs for high-strength wastes are better defined. An update of the initial rates is not included in this task and can be added as extra work.

KI&A will review the draft rate structure with Tetra Tech and the City and present the draft high-strength rate structure at a City Council meeting. KI&A will incorporate review comments from Tetra Tech and the City and provide a written summary of the recommended high-strength rate structure and Phase 1 rates.

20.2 City Council Presentation

Tetra Tech and KI&A will present the proposed high-strength charges at one City Council meeting. The City may opt to schedule a meeting with City staff and high-strength dischargers on the same day and include Tetra Tech and KI&A.

Assumptions:

- This is not a full rate study and will not address existing user charges or system development charges.
- This task will develop initial high-strength rates to be implemented before the Wastewater Facility Plan is complete and adopted.
- The initial high-strength rates will generate additional revenue to the City, beyond what is currently being collected with the City's current sewer rate structure.
- Effort to update or refine the initial rates is not included in this contract (but may be added at a later date).
- Tetra Tech will provide estimated constituent parameters (flow, BOD, TSS) by user category and preliminary estimates of City costs for high-strength users. The cost estimates will include recent extra costs incurred by the City such as for extra monitoring, studies, sludge hauling, power, labor, etc. The cost estimates will also include projected future capital and O&M costs for assumed improvements to be implemented at the treatment plant by 2021, when the facility plan recommendations are scheduled to be completed, as shown in the City's proposed NPDES compliance schedule.

Work Products:

Recommended high-strength rate structure, initial high-strength rates and a summary technical memorandum.

TASK 21—ASSISTANCE WITH RAS CONTROL AND BACKUP POWER ISSUES

This task is related to a power outage from the weekend of February 4, which resulted in an NPDES permit excursion due to the limited equipment at the WWTP which is connected to backup power, and to RAS pump

controls and programming. This task involves brainstorming and development of alternatives to improve operational reliability of this equipment and minimize the risk of further permit excursions from future similar events.

21.1 Participate in Conference Calls

Tetra Tech will participate in up to five conference calls between the City and R&W Engineering to discuss the reasons for the permit excursion and to brainstorm, discuss and develop alternatives to improve operational reliability, to reduce the risk of future permit excursions.

TASK 22– AS-NEEDED ENGINEERING SERVICES

This task will include engineering services as requested by the City.

Assumptions:

Prior agreement to scope and budget will be completed immediately following each request from the City for additional work.

More than one request for engineering services by the City may be submitted.

Email agreement regarding scope, budget and notice to proceed with work is acceptable.

Work Products:

To be determined at the time of each agreement.

City of Stevenson - NPDES Permit Compliance Schedule

TASK	2017											2018												2019												2020												2021											
	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
1. LIMIT NEW INDUSTRIAL CONNECTIONS																																																										
a. Review all new sewer connections through "Application for Improvement" process																																																									
b. Authorization for any connections by significant industrial users by DOE only																																																									
2. PROMOTE SOURCE CONTROL																																																									
a. Visit Skamania Lodge and discuss food waste disposal methods																																																									
b. Visit other commercial kitchens and discuss food waste disposal methods																																																									
c. Visit beverage industry dischargers and discuss best practices to control BOD																																																									
d. Send flyer to customers discouraging garbage disposal for food waste																																																									
3. EXPLORE FUNDING OPPORTUNITIES																																																									
4. REQUIRE INDUSTRIAL PRETREATMENT																																																									
a. Research pretreatment requirements in comparable cities and calculate draft limits																																																									
b. Notify industrial dischargers that individual loading allocations will be limited																																																									
c. Provide industrial dischargers with time to solicit engineering guidance																																																									
d. Update City ordinance to establish load limits and pretreatment program requirements																																																									
5. MODIFY WWTP OPERATIONS																																																									
a. Compute interim influent loading limit at WWTP to maintain effluent limit compliance																																																									
b. Increase sludge volume hauled or concentration of sludge hauled (trial basis only)																																																									
c. Increase wasting rate from oxidation ditch to reduce sludge age (trial basis only)																																																									
d. Add dose-paced coagulant addition after oxidation ditch (trial basis only)																																																									
e. Analyze trial WWTP modification results																																																									
f. Modify long-term WWTP operations based on trial result performance																																																									
6. UPDATE WASTEWATER RATES																																																									
a. Review high strength wastewater rate structures in comparable cities																																																									
b. Review of rate changes by rate planning specialist																																																									
c. Prepare draft rate update language																																																									
d. Review of rate update by City Council and presentation at public meetings																																																									
e. Implement updated wastewater rates																																																									
7. COMPLETE GENERAL SEWER PLAN UPDATE																																																									
a. Submit draft for City review																																																									
b. Hold first public meeting to present alternatives to public (w/ 30 day notice)																																																									
c. Review by City and discussion with major dischargers																																																									
d. Incorporate review comments																																																									
e. Submit draft for DOE review																																																									
f. Hold second public meeting to present updated Plan to public (w/ 30 day notice)																																																									
g. Incorporate review comments and submit final Plan																																																									
8. DESIGN WWTP IMPROVEMENTS																																																									
a. Apply for DOE funding																																																									
b. Prepare preliminary design documents																																																									
c. Review by City and DOE																																																									
d. Prepare final design documents																																																									
9. CONSTRUCT WWTP IMPROVEMENTS																																																									
a. Apply for DOE funding																																																									
b. Solicit construction bids																																																									
c. Review bids and select Contractor																																																									
d. Construction																																																									
e. Startup of upgraded WWTP																																																									

Responsibility:

- City of Stevenson -
- Tetra Tech -
- Other -

Price Proposal

Stevenson Facility Plan, Amend 1

Contract Amendment 1

Submitted to: City of Stevenson (Attn: Eric Hansen, PWD)

Contract Type: T&M

		Labor Plan										
		9 Resource										112,791
												0
	Proj Area >										Total Price	112,791
		Project Manager (Jim Santroch)	Sr Civil Engineer (Gordon Munro)	Sr Sanitary Engineer (Cyndy Bratz)	Civil Engineer - sewers (Erik Nordholm)	Civil Engineer - treatment (Hunter Bennett-Daggett)	Editor (Dan Portman)	Administrative (Becky Connelly)	Pricing by Resource			
Project Phases / Tasks	**Total Labor Hrs**								Labor	Subs	Travel	**Task Pricing Totals**
Fr	**600**	122	4	191	-	260	6	18	94,636	17,450	705	**112,791**
Task 1 - Project Management	**54**	**12**		**24**	**-**			**18**	**9,244**			**9,244**
Task 10 - Financial	**20**	**4**		**4**	**-**	**12**			**2,940**	**10,320**		**13,260**
Task 14 Administration & Liaison	**52**	**8**		**18**	**-**	**26**			**7,980**		**321**	**8,301**
Task 16 Brewery Wastewater	**72**	**10**		**43**	**-**	**20**			**12,308**		**96**	**12,404**
Task 17 - Promote Source Control	**19**			**15**	**-**	**4**			**3,258**		**96**	**3,354**
Task 18 Industrial Pretreatment	**144**	**24**	**-**	**36**	**-**	**84**	**-**	**-**	**21,204**	**-**	**192**	**21,396**
18.1 Research Pretreatment Requirements	52	8		4	-	40			6,868			6,868
18.2 Notify Dischargers	28	8		16	-	4			5,209		192	5,401
18.3 Update Ordinance	64	8		16	-	40			9,127			9,127
Task 19 - Modify Existing WWTP Operations	**62**	**10**	**-**	**8**	**-**	**40**	**4**	**-**	**8,560**	**-**	**-**	**8,560**
19.1 Interim Influent Load Limit	38	8		4	-	24	2		5,377			5,377
19.2 Mods Development and Analysis	24	2		4	-	16	2		3,184			3,184
Task 20 - High Strength Wastewater Rates	**52**	**12**		**4**	**-**	**34**	**2**		**7,346**	**7,130**		**14,476**
Task 21 - Asst w/Urgent WWTP Issues	**9**	**2**		**7**	**-**				**1,758**			**1,758**
Task 22 - As Needed Engineering Services	**116**	**40**	**4**	**32**	**-**	**40**			**20,037**			**20,037**
Totals	**600**	**122**	**4**	**191**	**-**	**260**	**6**	**18**	**94,636**	**17,450**	**705**	**112,791**