



**CITY OF CAMAS  
PROFESSIONAL SERVICES AGREEMENT  
Task Order No. 2**

616 NE 4<sup>th</sup> Avenue  
Camas, WA 98607

Project No. S1034

**On-Call Professional Services Support for  
Wastewater Treatment Plant 2021-2026**

**WWTP BLOWER SYSTEM IMPROVEMENTS**

THIS AMENDMENT (“Amendment”) to Professional Services Agreement is made as of the 25<sup>th</sup> day of August, 2022, and between the **City of Camas**, a municipal corporation, hereinafter referred to as "the City", and **HDR Engineering, Inc.**, hereinafter referred to as the "Consultant", in consideration of the mutual benefits, terms, and conditions hereinafter specified. The City and Consultant may hereinafter be referred to collectively as the “Parties.”

The Parties entered into an Original Agreement dated April 4, 2022, by which Consultant provides professional services in support of the Project identified above. Except as amended herein, the Original Agreement shall remain in full force and effect.

1. Scope of Services. Consultant agrees to perform services as identified in the attached Exhibit (Scope of Services) attached hereto, including the provision of all labor, materials, equipment, supplies and expenses, for an amount not-to-exceed \$159,804.
  - a.  Unchanged from Original/Previous Contract
2. Time for Performance. Consultant shall perform all services and provide all work product required pursuant to this Amendment by:
  - a.  Extended to XXX, 20XX.
  - b.  Unchanged from Original/Previous Contract date of December 31, 2026  
 Dependent on extension of time as granted in writing by the City, or the Agreement is terminated by the City in accordance with Section 3 of the Original Agreement.
3. Payment. Based on the Scope of Services and assumptions noted in attached Exhibit A. Consultant proposes to be compensated on a time and material basis per attached exhibit (Costs for Scope of Services) with a total estimated not to exceed fee of:
  - a. Previous Total of all approved Task Orders: \$25,000
  - b. Task Order No. 2 \$159,804
  - c. **Total of all approved Task Orders: \$184,804**
  - d. Consultant billing rates:
    - Modification to Consultant Billing Rates attached herein
    - Unchanged from Original Contract

- 4. Counterparts. Each individual executing this Agreement on behalf of the City and Consultant represents and warrants that such individual is duly authorized to execute and deliver this Agreement. This Agreement may be executed in any number of counter-parts, which counterparts shall collectively constitute the entire Agreement.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_.

CITY OF CAMAS:

**HDR ENGINEERING, INC.:**  
*Authorized Representative*

By: \_\_\_\_\_

DocuSigned by:  
  
By: \_\_\_\_\_  
3BE5736BA7074E7...

Print Name: \_\_\_\_\_

Tracy Ellwein  
Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

Vice President  
Title: \_\_\_\_\_

8/25/2022  
Date: \_\_\_\_\_

**EXHIBIT A**  
**SCOPE OF SERVICES AND RELATED COSTS**



## Task Order No. 2

### WWTP Blower System Improvements

August 2022

HDR Engineering, Inc. (HDR) is pleased to provide this scope of work for the City of Camas (City) Wastewater Treatment Plant (WWTP) on-call contract for engineering services. The intent of this task order is to implement the recommendations from the WWTP Blower System Diagnostics Study (March 2022).

## SCOPE OF WORK

### TASK 2 BLOWER SYSTEM IMPROVEMENTS

#### 2.1 Project Management and Administration

HDR will manage the project scope, schedule, and budget. HDR will perform project management responsibilities including staff and deliverable management, client coordination, scheduling, project setup, accounting and invoicing, and internal team coordination. A project kickoff meeting will be scheduled following NTP including five representatives from HDR.

#### ASSUMPTIONS

- Project duration is estimated to be 6 months from Notice to Proceed (NTP). A more detailed schedule will be prepared following NTP.
- Task Order general assumptions are as follows:
  - Memorandums will be electronically submitted in PDF format.
  - Except for site visits and as otherwise noted, meetings will be conducted virtually through Webex and facilitated by HDR. If the City prefers a different virtual meeting platform, the City may arrange the meeting in coordination with HDR.
  - The City will provide applicable background documents as needed.
  - The general intent of this scope of services is to improve the blower system operations, however, performance results after completion are unknown. Additional troubleshooting or improvements beyond the scope of this task order may be required.

#### DELIVERABLES

- Monthly progress reports, invoices, and budget updates (approx. 6)
- Project schedule
- Kickoff meeting notes

#### 2.2 Immediate Actions Support

HDR will support the City in completion of the Immediate Action recommendations. These items include:



1. Development of scope items for Schneider Electric for service of the existing blower VFDs including adjustment to current settings, cleaning inside the panels, and replacing filters.
2. Support the City in contracting with Schneider Electric to complete the service.

### **ASSUMPTIONS**

- A virtual review meeting will be held with three HDR staff: Project Manager, Engineer II, Sr. Electrical Engineer, and Engineer V. The Draft scope items (approximately 2 pages) will be provided prior to the review meeting. The Final scope items will incorporate the review meeting notes.
- City will contract directly with Schneider Electric to complete service items.

### **DELIVERABLES**

- Service scope for Schneider Electric for VFDs.

## **2.3 Electrical and Instrumentation Improvements**

The blower study identified specific electrical and instrumentation improvements needed for improved system operation and control. HDR will:

1. Design a blower discharge header singular pressure indicating transmitter (PIT). This includes specifying new pressure instrumentation and design of conduit and wiring modifications.
2. Develop design to integrate the existing thermistors to provide high temperature protection of the blower motors.
3. Develop design to integrate the existing motor space heaters to help protect the motors from condensation, which may result in corrosion.
4. Design replacement of the existing broadband filters with active harmonic filters.

### **ASSUMPTIONS**

- HDR to develop technical exhibits and specifications of improvements to be used as scope of work for contractor installation. Assumes development of 3 drawings completed in AutoCAD (2D).
- City responsible for contract and hiring of contractor/electrician to complete the work.

### **DELIVERABLES**

- Draft and Final exhibits and specifications of improvements.

## **2.4 Programming Modifications and Troubleshooting**

The blower system controls programming requires modification to improve operations and reliability. Independent blower and pressure control, without a common header pressure, has created challenges with blower control stability. This effort will include the following:

1. Modify blower controls to have single header pressure control designed as part of Task 2.3.



2. Online observation of existing blower controls to further identify potential programming improvements.
3. Review and adjust blower timers and limits as needed to improve blower start up and shut down sequence. If possible, troubleshoot to allow for two blowers to operate simultaneously. If not possible, identify improvements needed to achieve this operating condition.
4. Identify possible air piping system header piping blockages or pipe size limitations by desk topic model using AFT Arrow.
5. After implementation of programming modifications, review 14 days of operational data of blower header pressures at different flow rates (low, medium, and high flow rate). A 2-page technical memorandum (TM) will be provided summarizing analysis of data and recommendations for next steps in troubleshooting, if needed.

### **ASSUMPTIONS**

- Field work effort assumes three HDR staff (two Engineer II and Engineer V) on site for five days and two half-days for travel, and one HDR staff (Sr. Electrical Engineer) on site for two days.
- AFT Arrow modeling effort assumed to 20 hours of HDR Engineer II with focused effort on identifying if there is any blockage in the main distribution header. A 1- page summary of effort will be provided as an appendix item in the TM.
- City to collect operational data and provide in Excel format for HDR review.
- City responsible for contract and hiring of contractor/electrician to complete the work.

### **DELIVERABLES**

- Summary of field notes.
- Redlined loop drawings documenting implemented changes, as needed. Included as an appendix item in the TM.
- Data Analysis TM.

## **2.5 HVAC Improvements Preliminary Design**

The blower and electrical rooms of the Equipment Building require HVAC improvements. A preliminary design effort will review options for ventilation replacement of the blower room, and cooling and pressurization of the electrical room. A TM will summarize the analysis and provide recommendations for design. Evaluation will include a conceptual level opinion of probable construction costs (OPCC) Class 4.

As part of the effort, a field visit and HVAC condition assessment for all rooms within the Equipment Building will be completed. A summary of the condition of the generator, primary sludge dewatering, office, biofilter fan, and centrifuge rooms will be provided. The recommended preliminary design of improvements will be limited to the blower and electrical rooms.

### **ASSUMPTIONS**

- 1-day Site visit, including roof access for review of fans by one HDR staff (Engineer IV).



- TM (anticipated 4-6 pages) will summarize electrical and blower room HVAC analysis with potential impacts to building electrical and structural components. TM will also include the condition summary of the other remaining rooms within the Equipment Building.
- Virtual review meeting with two HDR staff (Project Manager, Engineer IV).

#### **DELIVERABLES**

- Draft and Final HVAC Preliminary Design TM
- Scope and budget for final design of the recommended improvements

Level of Effort	HDR Engineering													Hours	Labor	Travel	Total Expenses	HDR Fee	Total Fee (includes sub-consultant mark-up and escalation)
	Principal In Charge	Project Manager	Sr. Mechanical Engineer	Engineer II	Sr. Electrical Engineer	Engineer V	Engineer IV	EIT	Engineer V	Project Technician III	Project Technician IV	Engineer II	CAD Technician						
City of Camas, Washington - Camas TO2 WWTP Blower Improvements	\$275.00	\$265.00	\$315.00	\$160.00	\$260.00	\$260.00	\$210.00	\$130.00	\$260.00	\$160.00	\$190.00	\$160.00	\$90.00						
Task Description																			
<b>Task 002.1 Project Management and Admin.</b>																			
Project Management		12												12	\$ 3,180		\$ -	\$ 3,180	\$ 3,260
Project Setup		2								4	2			8	\$ 1,550		\$ -	\$ 1,550	\$ 1,589
Monthly Invoicing		6									18			24	\$ 5,010		\$ -	\$ 5,010	\$ 5,135
Project Closeout		1								4	3			8	\$ 1,475		\$ -	\$ 1,475	\$ 1,512
Client Coordination	6	4												10	\$ 2,710		\$ -	\$ 2,710	\$ 2,778
Team Coordination	6	16		8	8	8	8			8				62	\$ 14,290		\$ -	\$ 14,290	\$ 14,647
Kick Off Meeting		2		2	1	1	1							7	\$ 1,580		\$ -	\$ 1,580	\$ 1,620
<b>Sub-total</b>	<b>12</b>	<b>43</b>	<b>0</b>	<b>10</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>131</b>	<b>\$ 29,795</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 29,795</b>	<b>\$ 30,540</b>
<b>Task 002.2 Immediate Actions Support</b>																			
Schneider Electric VFD Service Scope Development & Coordination Support		1		8	8	4				2				23	\$ 4,985		\$ -	\$ 4,985	\$ 5,110
Review meeting		2		2	2	1								7	\$ 1,630		\$ -	\$ 1,630	\$ 1,671
QC Hours Only			4											4	\$ 1,260		\$ -	\$ 1,260	\$ 1,292
<b>Sub-total</b>	<b>0</b>	<b>3</b>	<b>4</b>	<b>10</b>	<b>10</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>\$ 7,875</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 7,875</b>	<b>\$ 8,072</b>
<b>Task 002.3 Electrical and Instrumentation Improvements</b>																			
Spec Development & Conduit/Wiring Mod Design		4		32	56	16				8			30	146	\$ 28,880	\$ 2,175	\$ 2,175	\$ 31,055	\$ 31,777
QC Hours Only			10											10	\$ 3,150		\$ -	\$ 3,150	\$ 3,229
<b>Sub-total</b>	<b>0</b>	<b>4</b>	<b>10</b>	<b>32</b>	<b>56</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>156</b>	<b>\$ 32,030</b>	<b>\$ 2,175</b>	<b>\$ 2,175</b>	<b>\$ 34,205</b>	<b>\$ 35,006</b>
<b>Task 002.4 Programming Modifications and Troubleshooting</b>																			
Prepare for field work		4		8	8	8		24						52	\$ 9,620		\$ -	\$ 9,620	\$ 9,861
Field work				40	16	48		48						152	\$ 29,280	\$ 3,475	\$ 3,475	\$ 32,755	\$ 33,487
Summarize field work activities				2	1	1		4		2				10	\$ 1,680		\$ -	\$ 1,680	\$ 1,722
Data Review and Analysis of System Performance TM		1		20	2	12		8		2				45	\$ 8,465		\$ -	\$ 8,465	\$ 8,677
Air Header Modeling		1		20		4								25	\$ 4,505		\$ -	\$ 4,505	\$ 4,618
QC Hours Only			8											8	\$ 2,520		\$ -	\$ 2,520	\$ 2,583
<b>Sub-total</b>	<b>0</b>	<b>6</b>	<b>8</b>	<b>90</b>	<b>27</b>	<b>73</b>	<b>0</b>	<b>84</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>292</b>	<b>\$ 56,070</b>	<b>\$ 3,475</b>	<b>\$ 3,475</b>	<b>\$ 59,545</b>	<b>\$ 60,947</b>
<b>Task 002.5 HVAC Improvements Pre-Design</b>																			
Site visit and as-built verification		1					8							9	\$ 1,945	\$ 25	\$ 25	\$ 1,970	\$ 2,019
Draft TM		1		16	8		40			4		4		73	\$ 14,585		\$ -	\$ 14,585	\$ 14,950
Virtual review meeting		2					4							6	\$ 1,370		\$ -	\$ 1,370	\$ 1,404
Final TM		1		4	2		4			2		2		15	\$ 2,905		\$ -	\$ 2,905	\$ 2,978
Develop Design Phase Scope and Budget	2	2					1							5	\$ 1,290		\$ -	\$ 1,290	\$ 1,322
QC Hours Only			3						6					9	\$ 2,505		\$ -	\$ 2,505	\$ 2,568
<b>Sub-total</b>	<b>2</b>	<b>7</b>	<b>3</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>57</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>117</b>	<b>\$ 24,600</b>	<b>\$ 25</b>	<b>\$ 25</b>	<b>\$ 24,625</b>	<b>\$ 25,240</b>
<b>Hours</b>	<b>14</b>	<b>63</b>	<b>25</b>	<b>162</b>	<b>112</b>	<b>103</b>	<b>66</b>	<b>84</b>	<b>6</b>	<b>36</b>	<b>23</b>	<b>6</b>	<b>30</b>	<b>730</b>					
<b>Fee</b>	<b>\$3,850</b>	<b>\$16,695</b>	<b>\$7,875</b>	<b>\$25,920</b>	<b>\$29,120</b>	<b>\$26,780</b>	<b>\$13,860</b>	<b>\$10,920</b>	<b>\$1,560</b>	<b>\$5,760</b>	<b>\$4,370</b>	<b>\$960</b>	<b>\$2,700</b>		<b>\$ 150,370</b>	<b>\$ 5,675</b>	<b>\$ 5,675</b>	<b>\$ 156,045</b>	
<b>Escalation</b>															<b>\$ 3,759</b>				
<b>Total</b>																			<b>\$ 159,804</b>