



November 9, 2022

Project No. 2111005

Corum Ketchum, Interim City Manager
City of John Day
450 East Main St
John Day, OR 97845

c/o: Aaron Lieuallen, Senior Project Manager
c/o: Nick Green, Catalyst Public Policy Advisors

RE: GROUNDWATER & SURFACE WATER MONITORING PLAN DEVELOPMENT FOR WPCF PERMIT #103281

Dear Mr. Ketchum:

CwM H2O, LLC (CwM) presents the City of John Day (City) with this scope of work for the required development of Outfall 001 Groundwater and Surface Water Monitoring Plans for the City's Water Pollution Control Facility (WPCF) Permit #103281 (Permit). The Oregon Department of Environmental Quality (DEQ) issued the approved WPCF Permit and Fact Sheet on April 18, 2022, with an effective permit date of May 1, 2022. Under the Permit conditions, the Groundwater and Surface Water Monitoring Plans must be submitted to DEQ for approval within one year of the permit effective date, or by May 1, 2023. The plans must be individual and specific to groundwater and to surface water.

In total, the Permit issued includes separate monitoring and reporting requirements related to each of the three WPCF outfalls identified:

- 001: Infiltrated Water (*Monitoring Plans due by May 1, 2023, annual report due by February 15 of each year*)
- 002: Recycled Water (*Recycled Water Use Plan due date not yet defined, annual report due by January 15 of each year*)
- 003: Biosolids (*Biosolids Management Plan due date not yet defined, annual report due by February 19 of each year*)

This scope of work addresses only the Monitoring Plan conditions for Outfall 001: Infiltrated Water, due by May 1, 2023. Future task orders by CwM, or by other City consultants, will address plans and monitoring related to Outfalls 002 and 003 as required by permit (due dates not specified by permit).

Outfall 001: Required Monitoring

Based on Permit #103281 requirements, monitoring for Outfall 001 involves a unique plan for both groundwater and surface water. The required groundwater monitoring must include a representative section of the shallow alluvial aquifer up- and down-gradient of Outfall 001 and possible cross-gradient monitoring points. The permit does not indicate the exact location, number, and design of monitoring wells/stations, nor does it specify the field methods and techniques to be utilized. Such

details are to be determined by the City and proposed in the separate Groundwater and Surface Water Monitoring Plans. It is advantageous to the City to submit draft plans to the OWRD as soon as possible to allow time for discussion and revision, as well as preparation for related field work and construction of the approved monitoring systems.

The permit as approved also includes required up- and down-stream monitoring within the John Day River. Specifically, the permit requires measurements of flow rate and volume at the time of each sampling event. After communications between CwM and the DEQ, it appears the Department may accept data from the nearby USGS stream gage in lieu of dedicated up- and down-stream monitoring stations. This revised scope of work assumes that a surface water monitoring and sampling plan will be prepared without dedicated flow monitoring stations.

This scope of work also aims to coordinate a groundwater and surface water monitoring program with local forest industry partners, DEQ permit writers, and the City to define a monitoring strategy that will meet the City's permit requirements and potentially synchronize groundwater and surface water monitoring plans to assist local forest industry businesses. Local forest industry water users are potential future City clients for recycled water use. Coordinating monitoring programs will provide a benefit to both the City and these local businesses.

This scope includes a total of five tasks proposed by CwM:

- Task 1 – Planning and Coordination for Monitoring Program
- Task 2 – Equipment and Methods Compilation
- Task 3 – Water Quality Monitoring Plan Development
- Task 4 – Groundwater Monitoring Project Plan and Technical Specifications

Scope of Work

Task 1 – Monitoring Framework and Stakeholder Coordination

Task 1 seeks to develop an optimum monitoring program to meet the conditions and requirements of WPCF Permit #103281. Based on the details within the final WPCF permit package, CwM will coordinate with DEQ, City staff, local business partners, and other City consultants to determine optimal monitoring structure to meet requirements per Division 40 Groundwater Quality Protection rules (OAR 340-040-0030). Specifically, CwM will aim to identify the ideal configuration for the following factors:

- Coordination of monitoring with local industries facing WPCF monitoring requirements,
- Establish the number of new groundwater monitoring points,
- Existing groundwater monitoring points that can be utilized,
- Location of new monitoring points within the flow field,
- Type and location of John Day River monitoring stations.

The preliminary co-ordination will be completed through up to three video conference calls with stakeholders interested in the monitoring program. Through this process, a framework for both the groundwater and surface water monitoring will be developed. CwM will request that the City provide a list of potential stakeholders and appropriate City staff to participate in these activities.

Task 2 – Equipment and Methods Compilation

The goal of Task 2 is to satisfy the required technical aspects of the Groundwater and Surface Water Monitoring Plan rules, such as sample collection and analysis methods (OAR 340-040-0030(B)) and data analysis procedures (OAR 340-040-0030(D)). Task 2 will identify the field methods and equipment that will be employed by CwM and City staff, as well as outside water quality labs that meet State requirements for analysis.

In structuring the plans, CwM will identify laboratory methods (OAR 340-040-0030(B)(v)), field equipment (OAR 340-040-0030(B)(i-iv)), as well as sampling protocols (OAR 340-040-0030(B)(iii)) related to the required groundwater and surface water monitoring. To complete this work, CwM will communicate with regional water quality labs to determine which facilities can provide the necessary analysis and to estimate costs. CwM will also identify equipment and supplies that the City will need to complete the proposed monitoring network, meet permit measurement and detection level conditions, and conform to field quality assurance procedures.

The monitoring plans (Task 3) require the City to specify the field equipment and methods proposed for monitoring. Equipment may include pressure transducers, data loggers, data analysis software, manual or automatic sampling equipment, water quality sondes or probes, etc. The intent is to design a monitoring network that maximizes the information gained while minimizing City staff effort, so automated and multi-parameter equipment may be considered.

Deliverables:

- List of Potential Water Quality Labs
- List of Field Equipment, Related Supplies, and Cost Estimates for Monitoring Program
- List of Laboratory and Field Methods for Sampling and Analysis

Task 3 – Water Quality Monitoring Plan Development

In Task 3, CwM will design a monitoring network based on the permit conditions and DEQ monitoring requirements from OAR 340-040-0030 and further refined in Tasks 1 and 2. The permit requires the following items to be included in the Groundwater Monitoring Plan:

OAR 340-040-0030(2)(a):

- (A) System Design:
 - (i) Well Locations;
 - (ii) Well Construction;
 - (iii) Background Monitoring Point(s);
 - (iv) Detection Monitoring Point(s);
 - (v) Water Quality Compliance Point(s).
- (B) Sample Collection and Analysis:
 - (i) Parameters to be Sampled;
 - (ii) Sampling Frequency and Duration;
 - (iii) Sample Collection Methods;
 - (iv) Sample Handling and Chain of Custody;

- (v) Analytical Methods;
- (vi) Acceptable Minimum Reporting Levels;
- (vii) Quality Assurance and Quality Control Plan.
- (C) Data Analysis Procedure:
 - (i) Statistical Analysis Method;
 - (ii) Frequency of Analysis.

As defined in the WPCF permit, monitoring of surface water is a temporary requirement that may be removed after three years of initial monitoring. The Surface Water Monitoring Plan will be prepared following the same format as the Groundwater Monitoring Plan.

CwM will use data from the groundwater modeling study and information developed in the stakeholders' meetings (Task 1) to select locations for groundwater monitoring and surface water monitoring sites. Initial designs for groundwater monitoring wells will be provided and used for eventual contractor selection. CwM will also propose locations for water quality monitoring stations on the John Day River to meet permit requirements.

It is important to note that meeting the up-gradient (out of the influence of the proposed system) and representative down-gradient groundwater monitoring conditions may require locating wells off of City property. Down-gradient wells, for example, may be best located near the end of the alluvial aquifer flow field to the west of City lands. The down-gradient river station will have to be located west of the alluvial aquifer discharge area. CwM will communicate the preferred locations to the City to determine if acquiring access to land owned by third parties is required or if the City's rights-of-way can be used at these locations.

The final WPCF permit monitoring requirements include measurements of daily river flow volume (discharge) at the selected John Day River monitoring points. Based on recent communications with the DEQ, CwM assumes that continuous flow data from the USGS stream gage located a short distance upstream of the City on the John Day River will be used for flow reporting.

As part of Task 3, CwM will develop a draft monitoring plan for City review and commentary. Following City review, draft plans will be shared with ODEQ before final submittal to capture any substantive comments or concerns. CwM will also update the Site Health and Safety Plan for previously completed field work at the WPCF site to cover future field work associated with the installation of the monitoring network.

Task 3 includes one site visit by CwM staff to coordinate and mark monitoring locations in the field with City staff. Specifically, the site visit would address potential access issues for monitoring well installation and the positioning of surface water monitoring stations.

Deliverables:

- Groundwater Monitoring Plan
- Surface Water Monitoring Plan
- Monitoring Well Design Diagrams
- Maps of Proposed Monitoring Sites
- Updated Site Health and Safety Plan

Task 4 - Groundwater Monitoring Project Plan and Technical Specifications

In this task, CwM will develop a Monitoring Network Installation Plan. The Plan will identify the schedule and cost estimate for the installation of the groundwater monitoring sites based on the final monitoring plans submitted to DEQ. This will include the installation of monitoring wells and related sampling or monitoring equipment. CwM will provide drilling contractors with technical specifications for monitoring well designs and installation specifications that were developed as a result of the work completed in Tasks 1-3. Drilling contractors will be asked for cost estimates and schedules for the installation of monitoring wells.

Developing the schedule and cost estimate is important for moving the drilling program forward and keeping groundwater monitoring synchronized with other monitoring plan elements. Most drilling companies currently have three to six months of backlogged projects, and we would like to see the monitoring well installation completed in the summer of 2022. Once the selected drilling contractor's cost and schedule estimates are established, CwM will submit a complete estimate of consulting and contractor costs for the installation of the groundwater monitoring system.

CwM staff will visit the City project site during Task 4 to physically mark the proposed monitoring network locations, including wells and surface water stations. GPS coordinates will be collected so that location data can be shared among project team members.

Deliverables:

- Technical Specifications and Bid Sheet for Drilling Contractors
- Fieldwork Schedule for Installation of Groundwater Monitoring Stations
- Cost Estimate for Installation of Groundwater Monitoring Stations
- Notes and Location Data from Field Visit

Cost Estimate

Please see the attached time and materials cost estimate for CwM to provide the above services outlined in Tasks 1 – 4 (Attachment 1). CwM estimates that approximately 288 hours of professional time will be required to support the proposed services for an estimated cost of approximately **\$46,578**.

A schedule for the completion of each task will be developed during Task 1, but all tasks will be completed before the Monitoring Plan due date of May 1, 2023.

Contract and Work Order Authorization

Accompanying this scope of work, you will find CwM's Work Order Authorization (WOA) for the proposal (Attachment 2) and our current rate schedule (Attachment 3). Please sign a copy of the WOA and return it for our records. The work proposed will be completed under our Master Services Agreement with the City of John Day (dated August 9, 2022).

Please do not hesitate to call or email me with any questions.

Sincerely,

CwM H2O, L.L.C.



Robert Long, RG, LHG, CWRE
Principal Consultant

Attachments:

- 1) Cost Estimate
- 2) Work Order Authorization
- 3) CwM 2022 Rate Schedule

Task	Description	Labor Hours	Labor	Outside Services, Affiliates and Expenses	Total
1	Task 1 - Planning and Coordination	24	\$4,100	\$0	\$4,100
2	Task 2 - Equipment and Methods Compilation	24	\$3,630	\$0	\$3,630
3	Task 3 - Water Quality Monitoring Plan Development	175	\$27,290	\$409	\$27,699
4	Task 4 - Groundwater Monitoring Cost Estimate and Coordination	65	\$10,840	\$309	\$11,149
TOTALS Project Total					
		288	\$45,860	\$718	\$46,578

Attachment 2
2111005 - City of John Day
John Day, Oregon
Work Order Authorization 001

CwM H2O, LLC

Project Name and Site	Client Reference No.	CwM H2O Project No.
Water Quality Monitoring Plan Development for the City of John Day WPCF Permit #103281	2111	2111005

SCOPE OF SERVICES

The scope of services is outlined in the attached proposal, dated November 9, 2022. This scope includes four tasks intended to meet the ODEQ's WPCF Permit conditions for developing and implementing groundwater and surface water monitoring plans.

AGREEMENT COST

Time and Materials estimate: \$46,578

SCHEDULE

The project will commence once CwM receives the signed documents. The tasks will be completed before the May 1, 2023 due date for the monitoring plans.

The work covered by this Work Order Authorization shall be performed under the terms and conditions of our active City of John Day Professional Services Agreement dated August 9, 2022. Please endorse the signature page of this document and return to CwM-H2O, LLC. Thank you.

Corum Ketchum, Interim City Manager
City of John Day

CwM-H2O, LLC



By:
Authorized Representative

By:
Authorized Representative
Robert E. Long Jr.

Its:

Its: Member Manager

Date: _____

Date: November 9, 2022

Attachment 3

**CwM H2O, LLC
Professional Services Rate Schedule for Calendar Year 2022**

Invoices from CwM H2O, LLC include all labor charges, other direct costs, and costs associated with in-house services. Charges include only those services directly attributable to a client's individual project. Time spent when traveling in the interest of work will be charged in accordance with the hourly rates.

An additional 50% will be added to the applicable labor rate for technical support of legal counsel when supporting litigation, preparing and providing expert testimony, and response to subpoena related to any client projects, including time spent preparing for and in depositions, and for the preparation of testimony.

Labor charges are based upon standard hourly billing rates for each category of staff. The billing rates include costs for salary, payroll taxes, insurance associated with employment, benefits (including holiday, sick leave, and vacation), administrative overheads, and profit. Rates by labor category are as follows:

<i>Personnel Level</i>	<i>Personnel Category</i>	<i>Hourly Rate (U.S. \$)</i>
LA1	Admin Support	\$75
LA2	Staff Admin Support	\$95
LT1	Technician	\$85
LT2	Staff Technician	\$100
LD1	CAD/Graphics	\$105
LD2	Staff CAD/Graphics	\$130
LV1	Engineer/Scientist	\$105
LV2	Staff Engineer/Scientist	\$115
LV3	Project Engineer/Scientist	\$140
LV4	Senior Project Engineer/Scientist	\$160
LV5	Senior Engineer/Scientist	\$180
LV6	Senior Consultant	\$215
LV7	Principal Consultant	\$240

Other approved direct costs, including materials, rental equipment, and approved subcontractor costs will be invoiced at cost plus a minimum general and administrative fee of 15% or as required by contract.

Rates for laboratory services and use of equipment owned by CwM H2O, LLC will be provided upon request.