



# OLYMPIC VALLEY PUBLIC SERVICE DISTRICT BOARD REPORT



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<b>SUBJECT:</b> OVPSD Water System Chlorination Evaluation – Professional Services Agreement	<b>EXHIBIT:</b> F-6, 6 Pages
<b>AUTHOR:</b> Dave Hunt, District Engineer	<b>MEETING DATE:</b> December 16, 2025

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**RECOMMENDED ACTION:** Authorize the General Manager to execute a Professional Services Agreement with Hydros Engineering, Inc. for preparation of the OVPSD Water System Chlorination Evaluation in an amount not to exceed \$19,840.

**DISCUSSION:** The State Water Resources Control Board Division of Drinking Water (DDW) performed a compliance inspection of the District’s water system on August 27, 2025. DDW typically performs these inspections on a bi-annual basis. The 2025 inspection concluded that the District’s water system is in good condition and well-operated. However, in Appendix A. Compliance Inspection Findings, of the inspection report (2025 COMPLIANCE INSPECTION OF THE OLYMPIC VALLEY PSD PUBLIC WATER SYSTEM, PWS NO. 3110020, dated September 16, 2025) DDW is requiring the District to “investigate the use of a disinfectant on a permanent basis and provide their findings to the Division.” Currently, the District chlorinates our water only on a seasonal basis to coincide with our springtime water system flushing activities (April/May).

In response, District engineering and operations staff have been working closely with Hydros Engineering and DDW to develop a scope of work that satisfies DDWs requirements for the study. The objectives of the study are to evaluate historical water quality and assess the pros and cons of full-time water system chlorination. The study will be informational in nature and is not intended to make a formal recommendation to DDW or the Board on whether full-time chlorination should be implemented. The DDW will review the study submitted by the District and provide further regulatory guidance to the District for consideration.

The scope of the study includes the following tasks:

- Task 1. Review Existing Information and Records
- Task 2. Survey Other Systems Utilizing Chlorination
- Task 3. Assess Positives and Negatives of Chlorination
- Task 4. Develop Bench-Top Testing Protocol
- Task 5. Evaluation Chlorination Facilities at Well Sites
- Task 6. Evaluation Mitigation Measures to TTHMs and Tank Mixing Options
- Task 7. Prepare Project Report

The work includes a water quality sampling program to assess chlorine demand and the potential for the formation of disinfection byproducts (DBP). DBP sampling will be conducted

by a certified laboratory. The study will also define capital improvements necessary at the well sites and present planning level cost estimates.

The scope of work from Hydros Engineering totals \$19,840. The District will incur an additional \$4,000 in laboratory fees for the water quality analysis and laboratory fees. This is an unplanned expense and is not included in the FY2025-2026 budget. The project will be funded from the Water Operating account. The project will begin in early January 2026 and continue through March 2026. .

**FISCAL/RESOURCE IMPACTS:** The project will be funded from the Water Operating account.

**ATTACHMENTS:**

- OVPSD Chlorination System - Scope of Work - Hydros Engineering (December 5, 2025)

**DATE PREPARED:** December 5, 2025

# OVPSD Chlorination System – Scope of Work

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This scope of work outlines the study to assess full-time chlorination of the Olympic Valley Public Service District (District) potable water system. The study is required by the California State Water Resources Control Board Division of Drinking Water (DDW). The requirement was included in the September 16, 2025 inspection report - 2025 COMPLIANCE INSPECTION OF THE OLYMPIC VALLEY PSD PUBLIC WATER SYSTEM (PWS NO. 3110020), prepared by the DDW.

Objectives of the study are to evaluate historical water quality data from the District's system, particularly bacteriological results, assess the pros and cons of full-time chlorination. This study will provide information only and is not intended to make a formal recommendation on whether full-time chlorination should be implemented. The DDW will review the final report and provide regulatory guidance to the District for consideration.

Project tasks are described below and the fee estimate for the project is included in Attachment A.

## **Task 1: Review Existing Information and Records & Project Kickoff**

This task focuses on review of existing information and records and a project kickoff meeting. A request for information will be prepared that identifies the background data from the District. Types of information anticipated include historical water quality data, review and assessment of existing sampling plans and review other previously prepared regulatory documentation with an emphasis on the bacteriological water quality and reporting, historical records for flushing and seasonal chlorination. Monthly production data from the District sources of supply will be used to estimate chemical quantities.

## **Task 2: Survey Other Systems Utilizing Chlorination**

Telephone survey other systems utilizing chlorination or that have converted from non-chlorinated to chlorinated will be conducted and supplemented with publicly available data from regulatory databases. Emphasis will be on systems in the Tahoe Basin area and other Northern California systems. Review of the existing literature of similar conversions will also be conducted. This information will be summarized and used to identify lessons learned from other systems that have undergone similar system operational modifications.

### **Task 3: Assess Positives and Negatives of Chlorination**

This task focuses on assessing positives and negatives of chlorination including operation and maintenance activities, economics, health and safety, positive/negative water quality impacts. The work will be based on baseline regulatory and industry standards as well as the benchtop testing results included in Task 4 below. The focus will be on the technical and financial aspects of chlorinating a public water supply.

### **Task 4: Develop Bench-Top Testing Protocol**

This task focuses on developing a bench-top testing protocol. The sampling plan will be based on the 2019 Environmental Protection Agency – Free Chlorine Distribution System Influent Hold Protocol. This testing assesses chlorine decay and the potential formation of disinfection byproducts (DBPs) utilizing jar testing of system water. Understanding both of these factors is considered an important aspect for future decision making regarding converting to full-time chlorination.

District staff will conduct the testing and coordinate with the laboratory for acquisition of bottles and water quality analysis defined in the testing protocol prepared by Hydros Engineering. District ability to measure temperature, free chlorine and pH onsite will be necessary for data collection. Trihalomethane and haloacetic acid testing will be conducted at a certified laboratory. Lab costs will be covered by the District and not included in our fee as noted in Attachment A.

Hydros Engineering will provide sample collection and testing protocols and the various data collection forms. Data will be evaluated for chlorine demand/decay and DBP formation potential.

### **Task 5: Evaluate Chlorination Facilities at Well Sites**

Identification of capital improvements at the District Well 2R, Well 5R, and Horizontal Well sites necessary to implement full-time chlorination. Simplified system layouts will be provided showing conceptual equipment layouts. We have assumed that drawings with existing facilities will be available base maps for the figures.

Important questions to answer include centralized vs. decentralized chlorination facilities, chemical storage and containment, controls, and operation and maintenance considerations. Budget level cost estimates will be developed for the system to provide the District information regarding capital and operation costs.

### **Task 6: Evaluate Mitigation Measures for TTHMs and Tank Mixing Options**

The formation of DBPs is a risk when chlorine is introduced as a disinfectant. The benchtop testing described in Section 4 of this scope of work will provide information regarding the DBP potential. However, benchtop testing does not always model real world results. Possible mitigation of DBPs through modification of operations, or

installation of mixing or aeration on tanks could be necessary. Alternatives will be investigated and identified along with budget level costs.

### **Task 7: Prepare Project Report**

A draft report will be prepared and presented to the District for review. A review meeting via Teams is anticipated after the District has reviewed the draft. Comments will be incorporated into the draft and resubmitted to the District prior to finalization. The final report will be distributed in electronic form to the District for submission to the DDW.

### **Task 8: Project Management and Administration**

Project management tasks including management, billing and job set up are included in this task.

### **Schedule**

Our anticipated schedule is provided below:

- Notice to proceed: January 1, 2025
- Draft report to District: March 9, 2025
- Review Meeting: March 16, 2025
- Finalize Report: March 31, 2025



**FEE ESTIMATE**

Hydros Engineering Job#: OVPS25-002  
Chlorination Feasibility Study

TASK NO.	DESCRIPTION	NOTES	Princ Eng    Eng Tech    Admin			HYDROS FEE	DIRECT EXP	TOTAL
			\$ 210	\$ 130	\$ 75			
			HRS					
1	Review Existing Information and Records & Project Coordination with OVPSD staff and DDW		8	2		\$ 1,940	\$ 1,940	
2	Survey other Systems Utilizing Chlorination		2	4		\$ 940	\$ 940	
3	Assess Positives and negatives of chlorination		4			\$ 840	\$ 840	
4	Water Quality Testing							
a.	Develop bench top testing protocol - Utilize EPA Free Cl2 Distribution System Influent Hold Study Protocol		4			\$ 840	\$ 840	
b.	Assist district with bench top tests		2			\$ 420	\$ 420	
c.	Review and evaluate test results		6	2		\$ 1,520	\$ 1,520	
5	Evaluate chlorination facilities at four well sites and develop conceptual layout and capital cost		6	6		\$ 2,040	\$ 2,040	
6	Evaluate mitigation measures for TTHMs and tank modifications		8	2		\$ 1,940	\$ 1,940	
7	Report Preparation							
a.	Prepare Draft Project Report		24	8	2	\$ 6,230	\$ 6,230	
b.	Review Meeting (Remote via Teams)		2			\$ 420	\$ 420	
c.	Finalize Report after District and DDW review and comments		8	4	2	\$ 2,350	\$ 2,350	
8	Project Management and Administration		1		2	\$ 360	\$ 360	
<b>Subtotal</b>			<b>75</b>	<b>28</b>	<b>6</b>	<b>\$ 19,840</b>	<b>\$ -</b>	<b>\$ 19,840</b>

**Lab costs by District \$ 4,000**  
(Anticipated cost for two well sites)

**TOTAL PROJECT \$ 23,840**