**OAK LODGE WATER SERVICES**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**
**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) PERMIT**

**Permit No. 101348**

# ANNUAL REPORT
**FY 2022-2023**
**November 21, 2023**

This annual compliance report for the MS4 Discharge Permit No. 101348 is submitted in accordance with Schedule B, Condition 5 of the permit. As required by 40 CFR Section 122.22, I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Brad Albert, District Engineer

11/21/2023

Date

Prepared by Oak Lodge Water Services Technical Services Department

OAK LODGE
WATER SERVICES

# 2022-2023
# Annual Report

for
National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4)
Permit Compliance
Permit #101348

**Prepared by:**
Oak Lodge Water Services, Technical Services Department

November 2023

**2023 Oak Lodge Water Services**
**October 2021 MS4 Permit**
**ANNUAL REPORT REQUIREMENTS**

## Table of Contents

# 1. Background

The Board of Directors of Oak Lodge Sanitary District (OLSD) created a Surface Water Management program with the adoption of Ordinance 1001 in May of 1993. The purpose of the Surface Water Management Program is to:

- prevent pollutants from entering rivers, lakes, and streams;
- maintain and/or improve water quality; and
- restore or enhance properly functioning conditions in the watersheds.

Program development began officially on July 1, 1993, with the collection of Surface Water Management fees based on impervious surface area.

On January 1, 2017, Oak Lodge Sanitary District and Oak Lodge Water District officially consolidated into Oak Lodge Water Services. Prior to this consolidation, Oak Lodge Sanitary District passed Resolution (16-12) assigning all assets and obligations to the Oak Lodge Water Services. Oak Lodge Water Services understands that it must meet the obligations that OLSD had made for the MS4 Permit. In 2022, OLWS became an Authority, which is a type of special district that holds its assets, duties, and boundaries in perpetuity.

Permit History

Under the federal Clean Water Act (CWA) and Oregon Revised Statute 468B.050, Oregon Department of Environmental Quality (DEQ) has issued the Oak Lodge Water Services (OLWS) a renewed National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase I Discharge Permit, effective October 1, 2021.

This Annual Report describes activities related to implementation of the OLWS's NPDES MS4 Permit and the Stormwater Management Plan (SWMP). The SWMP contains best management practices (BMPs), which outline the specific tasks that the OLWS will conduct to prevent and reduce stormwater pollution to the maximum extent practicable (MEP) to protect water quality and satisfy the requirements of the NPDES MS4 Permit and the CWA.

OLWS is a co-permittee on the Clackamas County NPDES MS4 Permit, along with 11 other agencies. The first permit (101348) was issued in 1995. A second permit was issued in 2005 after an appeal and a modification. A third permit was issued in 2012, expired in 2017 and went into administrative extension until a renewed permit was issued September 15th, 2021, with an effective date of October 1st, 2021.

The 2022 version of the OLWS's SWMP was developed based on a review and evaluation of the OLWS's stormwater management program, including activities and accomplishments implemented during the previous permit term and during the administrative extension period. The OLWS has used an adaptive management process to assess and modify, if necessary, BMPs to achieve reductions in stormwater pollutants to the MEP. This SWMP update considers available technologies and practices; review of SWMP measurable goals and tracking measures; and evaluation of OLWS resources available to implement programs.

The BMPs are evaluated annually during the preparation of the NPDES MS4 Annual Report. The annual reports include the status of implementing each BMP and any proposed modifications or adaptations of the program.

| Table 1 – 2021 NPDES MS4 Annual Reporting Requirements | |
|---|---|
| **Annual Reporting Requirements from Schedule B.3.a. - l.** | **Location in document** |
| a. The status of implementing the Stormwater Management Program (SWMP) and each control measure program element in Schedule A.3, including progress in meeting the measurable goals and program tracking and assessment metrics identified in the SWMP Document as well as additional annual reporting requirements identified in each section, or, prior to SWMP Document approval by DEQ, measurable goals and tracking metrics approved under the previous permit's approved SWMP. | Section 3 |
| b. A summary of the adaptive management implementation and any changes or updates to programs made during the reporting year, including rationales for any proposed changes to the SWMP (e.g., new BMPs), and review of related new and historical monitoring data. This summary should also include discussion of the implications of, or any findings related to recent years' adaptive management and/or changes made to the SWMP Document, based on data from tracking measures, measurable goals, and/or any monitoring related to the change. | Section 5 |
| c. Any proposed changes to SWMP program elements that are designed to reduce Total Maximum Daily Loads (TMDL) pollutants. | Section 6 |
| d. A summary of education & outreach and public involvement activities, progress toward or achievement of measurable goals, and any relevant assessment of those activities. This should include planned adaptive management or other program enhancements to occur in the following years. | Section 4 |
| e. A summary describing the number and nature of enforcement actions, inspections, and public education programs, including results of ongoing field screening and follow-up activities related to illicit discharges. | Section 14 |
| f. A list of entities referred to DEQ for possible 1200-Z NPDES general permit coverage based on co-permittee screening activities, a list of categories of facilities inspected, and an overview of the results of inspections of commercial and industrial facilities. | Section 14 |
| g. A summary of total stormwater program expenditures and funding sources over the reporting fiscal year, and those anticipated in the next fiscal year. | Section 7 |
| h. A summary of monitoring program results, including monitoring data that are accumulated throughout the reporting year submitted in the DEQ-approved Data Submission Template, and any assessments or evaluations of that data completed by the co-permittees or an authorized third party. | Section 15 |
| i. Any proposed modifications to the monitoring plan are necessary to ensure that adequate data and information are collected to conduct stormwater program assessments. | Section 9 |
| j. An overview, as related to MS4 discharges, of concept planning, land use changes and new development activities (including the number of new post-construction permits issued) that occurred within the Urban Growth Boundary (UGB) expansion areas during the reporting year, and those forecast for the following year, where such data is available. | Section 11 |
| k. The details of all corrective actions implemented associated with Schedule A.1.b.iii during the reporting year. | Section 14 |
| l. Additional Annual Report requirements for 2022:<br>• Winter maintenance activities. | Section 16 |

| | |
|---|---|
| • Mercury Minimization Assessment | |
| m. Additional Annual Report requirements for 2023:<br>• Low Impact Development/Green Infrastructure Strategy Document.<br>• Retrofit and Hydromodification Summary. | Section 17 |

## 2. Report Organization

This report is organized based on the requirements of the October 2021 NPDES permit, Schedule B.5.a through B.5.l. The numbers listed after the report headings indicate the portion of the permit schedule that the section addresses. The report covers the activities of OLWS from July 1, 2022 to June 30, 2023. Information about implementation of required BMP's is summarized in Appendix A. Lastly, the DEQ Grab Data Submission Table summarizes water quality sampling activities in Appendix B. Brief summaries of each topic are described in this document.

## 3. Status of SWMP Program and Associated Elements (B.5.a)

The Oak Lodge Sanitary District (OLSD) implemented the former Surface Water Management Plan (SWMP) in 2012, which was based on the two permits because the new/current permit was issued mid-cycle in March 2012. The SWMP has been updated for the purposes of the new permit. For the purpose of this annual report preparation, implementation of the SWMP is being reported based on the requirements in the current permit (No. 101348). This information is summarized in Appendix A of this report.

## 4. Status of Public Education Effectiveness Programs (B.5.b)

OLWS uses multiple avenues to educate the public about the importance of surface water protection.

OLWS includes bi-monthly newsletters in our bills and posts the same information on our website and social media. OLWS partners with multiple agencies and non-profits to support public outreach and education focused on stormwater.

Over time, OLWS has created, supported, and implemented a variety of programs and partnerships to provide outreach to the community about surface water issues. Partnerships include:

- Ecology in Classrooms & Outdoors (ECO)
- Clackamas Community College Environment Learning Center (CCC ELC)
- Clackamas River Basin Council
- Regional Coalition for Clean Rivers and Streams (Coalition)
- North Clackamas Park and Recreation District (NCPRD)
- Aves Compartidas

Ongoing public education through programs include:

- Backyard Habitat Certification Program with Portland Audubon and Columbia Land Trust
- OLWS Stormdrain Cleaning Assistance Program
- OLWS Wastewater Treatment Plant Tours

**Stormdrain Cleaning Assistance Program (SCAP)**
The Stormdrain Cleaning Assistance helps businesses maintain their parking lots drains at a discount price, which helps remove contaminants and prevents flooding. The image below is the Stormdrain Cleaning Assistance Program Postcard. We implemented the use of QR codes to make it easy for customers to sign up online via an online form.


In-person tours at the wastewater treatment plant were suspended due to COVID-19 and as a result a virtual tour of the treatment plant was created and posted to YouTube here: https://www.youtube.com/watch?v=kxgBqTjr97w


In-person customer tours resumed in Summer 2022 and 2023. OLWS had 7 tours between July 1, 2022 – June 30, 2023.

**Backyard Habitat Certification Program**
OLWS partners with the Backyard Habitat Certification Program (BHCP) to support urban gardeners in their efforts to create natural backyard habitats. This includes working with homeowners to find stormwater solutions in their yards to mimic nature by allowing runoff to soak into the ground, helping to filter out pollutants and decrease or eliminate runoff on their property. In 2022-23 in the OLWS Service Area, BHCP visited 27 properties.

**Clackamas River Basin Council**
OLWS partnered with the Clackamas River Basin Council to sponsor their Rain Garden Workshop (50 attendees per session. Session 1 included an overview of rainwater, ideas on ways to manage rainwater, conserve water, and protect water quality. Session 2 included how to construct your rain garden including underground and overland ways of connecting them, planting and maintaining them, challenges,

constraints and rain garden alternatives.

**Ecology in Classrooms & Outdoors (ECO)**
This year's ECO program included Oak Grove Elementary, View Acres Elementary, New Urban High, and Rex Putnam High. In total, ECO reached approximately 420 students across 14 different classrooms.

ECO delivered 28 indoor lessons and 9 outdoor lessons for a total of 930 contact hours of engagement at Rex Putnam, Oak Grove, and View Acres.

The students in this program learned about a diverse set of topics all revolving around watershed health, including wetlands, macroinvertebrates, rain gardens, and native plant identification. In the high schools, ECO delivered our Climate Action lessons, which focused on the relationship between protecting our natural systems, like waterways, and climate change. ECO supplemented the Climate Action lessons with an in-person visit at Rex Putnam to study water quality.

**Figure 1: Ecology in Classrooms & Outdoors student field trips**

**Aves Compartidas**
Aves Compartidas provides Spanish immersion and dual language classroom lessons on ecology, restoration and land use, and offers field experiences where students engage in habitat enhancement projects. Programming supports the teachers and students at three dual language elementary schools: Candy Lane Elementary (4 classrooms), Riverside Elementary (3 classrooms), and Milwaukie El Puente Elementary (9 classrooms). A total of 16 classrooms participated in these sessions, with each lesson lasting for one hour. The number of students reached was roughly 385 along with 14 teachers. All three of the Riverside classrooms were new to the program this year, along with the expansion of 13 new classrooms at the other two schools.

All 3-5 **Riverside** classrooms walked to Risley Park for an hour-long field trip where they participated in two activities. Staff from NCPRD helped with planting native plants, and Aves Compartidas staff led a bird observation activity with binoculars.
**Candy Lane** had two 4$^{th}$ grade classrooms at Candy Lane that walked to Boardman Wetlands for an hour-long field trip where they participated in two activities: bird observation with binoculars and aquatic macroinvertebrate observation.
Through Aves Compartidas lessons, they successfully increased students' awareness and knowledge of migratory birds, pollinators, life cycles, food webs, songbirds, watersheds and of their sister schools and

students who live in Guanajuato. The interactive nature of the lessons facilitated active participation and deeper understanding among students.

Figure 2: Aves Compartidas field trip to Boardman Wetlands

**Clackamas Community College Environmental Learning Center (CCC ELC)**
In the winter of 2022, the CCC ELC presented Livestream episodes to K-5 students. Each of ten episodes focused on wetland ecology, wildlife, and watershed health. Student activity sheets were developed to engage students in the content; each program has an accompanying sheet.

Teachers were provided recordings of the sessions in addition to links for joining the LIVE events. This enabled them to view the presentation at a time that was convenient for them. Two episodes were delivered each week, one for grades K-3 (*Wild About Water*) and the other for grades 4-5 (*Wild in the Wetland*), which totaled in 10 livestream classes. Highlighted below are some topics that were featured:

- Where are you in the watershed: January 10, 2023, with 55 students
- Watershed Health Art Project: January 31, 2023, with 55 students
- Are the Wetlands Home to Animals: February 7, 2023, with 25 students
- Water Temperature Check-up: March 7, 2023, with 55 students
- Waterflow in the Wetland: March 24, 2023, with 55 students

The CCC ELC also offers three field trips that immerses student in discovering and exploring the beautiful wetland and forest ecosystems. All field trips are two hours long. Field trip activities include:

- Measuring the quality of water in our wetland, including sampling for macroinvertebrates;
- Experimenting with the role that soil plays in filtering pollutants from the water; and
- Observing the wetland.

| School (field trip) | Grade | # of students |
|---|---|---|
| Candy Lane Elementary *(Healthy Watersheds)* | 5th grade | 52 |
| Oak Grove Elementary *(Welcome Home)* | 2nd grade | 56 |

**Regional Coalition for Clean Rivers and Streams (Coalition)**
OLWS is active with the Regional Coalition for Clean Rivers and Streams (Coalition). The Coalition continued its work – initiated in the late 1990s – of providing coordinated messaging about area water health and residential behaviors linked to stormwater pollution from across the Portland metropolitan region in Washington, Multnomah, and Clackamas counties.

The Coalition continues its mission of collaborating across the Portland metropolitan region to improve watershed health by changing household behaviors, reducing polluted runoff and connecting people with their local waterways.

The Coalition's key messages focus on raising awareness about pollution from stormwater runoff and motivating actions to protect surface water quality through action at the household level. The key messages are:

- Stormwater runoff goes directly to our local waterways without treatment. When it rains, pollutants from your home, car, and garden wash into our rivers and streams. Never dump anything into storm drains.
- Bacteria from uncollected dog waste washes into our rivers and streams. You can protect our water by picking up after your pets. OLWS partners with NCPRD to provide waste bags for dogs in our service area.
- Yard and garden products wash into our rivers and streams. You can protect our water by eliminating these products or using compost and slow-release fertilizer.
- Motor oil, solvents, and soaps wash into our rivers and streams. You can protect our water by keeping car-care chemicals out of storm drains, diverting wash water onto your landscaping, and going to a car wash.

**In-person Events**

- Coalition members Clackamas Water Environment Services, Oak Lodge Water Services, Clackamas River Providers, and the City of Oregon City hosted an in-person *How to Build a Rain Garden* workshop on May 13, 2023.

- On June 24, 2023, Oak Lodge Water Services partnered with Clackamas County, the City of Milwaukie, and other community partners to hold a Pollination Celebration in Stringfield Family Park in Milwaukie.

Below are examples of OLWS social media posts to discouraging the use of lawn chemicals and connecting the community to their waterways.


Figure 3: A social media post by Oak Lodge Water Services discouraging the use of lawn chemicals.


Figure 4: A social media post by Oak Lodge Water Services promoting the Connect the Drops campaign, hosted by the Clean River Coalition.

Please see the BMP's for Public Education listed in Appendix A for full detail on OLWS's progress toward public education and outreach efforts.

## 5. Adaptive Management Process (B.5.c)

Over time, OLWS continues to evaluate the overall health of local watersheds using the information collected through the monitoring program. Monitoring data and information provides a valuable 'snapshot' of water quality in OLWS and provides program management the opportunity to determine where to focus limited financial resources for program implementation. OLWS continues targeting water quality issues that are trending toward exceeding state water quality standards; adjustments can be made to focus the messaging to the community about different water quality problems being observed. The anticipated outcome would be a reversal of negatively trending water quality factors because of actions taken by OLWS. Examples of actions might include stepped up inspection and enforcement in areas with documented water quality issues, targeted public outreach to smaller neighborhood or watershed groups that are the source of the problem, and targeted monitoring activities to try to minimize the area where the source of the water quality problems are coming from.

In 2022-2023, OLWS reviewed and updated its Illicit Discharge Detection and Elimination (IDDE) Standard Operating Procedure (SOP), including the inspection and tracking procedures, enforcement response guide, and Dry Weather Field Screening. The final IDDE SOP is available online in the OLWS MS4 Permit document library. Second, OLWS completed an audit of its Code language and procedures concerning erosion control inspection, reporting, and enforcement processes and found no changes were needed. Current erosion control practices were found to be in compliance and are available upon request. Finally, OLWS updated our Industrial / Commercial SOP with a focus on screening and reporting. This document was shared with the public for a 30-day period and the final Industrial / Commercial SOP is available in the online OLWS MS4 Permit document library.

## 6. Proposed Changes to SWMP (B.5.d)

OLWS amended the SWMP during the 2022-2023 permit year as a result of the updated permit conditions required by DEQ. OLWS updated the 2022 SWMP during FY2023 to document the references to updated IDDE SOP, Erosion Control Practices and Procedures, and Industrial / Commercial SOP. No additional proposed changes were made to the SWMP at this time. A Revision Log is included in the updated SWMP to document SWMP changes. The revised SWMP is posted on the MS4 Permit Library on the Watershed Protection Pages of the OLWS website.

## 7. Summary of SWM Program Expenditures (B.5.e)

All revenue generated by the Watershed Protection Fee is retained within the surface water management program. During the 2023 Fiscal Year, one Equivalent Service Unit (ESU) was $9.65 per month for residential households. For commercial and industrial users their ESU equivalent is calculated by dividing their total impervious surface by the residential ESU, or by 2,500 SF.

For the 2023 Fiscal Year, OLWS's expenditures for the surface water program totaled $1,673,194. With $1,651,818 being devoted to operational expenditures and $21,376 being spent from the Surface Water Management Capital Improvement fund.

Last year, for the Surface Water Capital Improvement fund, $21,376 was focused on evaluating rehabilitation for resolution of flooding on Boardman at Arista.

## 8. Summary of SWM Program Monitoring (B.5.f)

Surface water sampling occurred four times annually as is required in the NPDES permit. The sites sampled included instream samples from each site, and two outfalls. In reviewing the water quality data, water quality elements for sediment and bacteria tend to be elevated, with periodic exceedances of the state standard for e. Coli. Other testing elements appear to be within DEQ range, and for this reporting year program monitoring occurred per the procedures outlined in the approved monitoring plan.

Required Mercury monitoring for the Clackamas Permit is being handled by Water Environment Services and the first full year of sampling results will be submitted with the 2023-2024 Annual Report.

Sample results are provided in Appendix B.

## 9. Proposed Modifications to Monitoring Plan (B.5.g)

OLWS monitors using the currently approved monitoring plan. Clackamas co-permittees including OLWS participate in the Clackamas County Coordinated Stormwater Monitoring Program (CCCSMP). The CCCSMP Plan was updated and resubmitted to DEQ on May 30, 2023, following the completion and outcome of the Clackamas NPDES MS4 Permit Modification (initiated in January 2023). The CCCSMP reflects updated pesticide monitoring frequencies and was approved by DEQ on June 7, 2023, for implementation beginning in July 2023.

## 10. SWMP Enforcement (B.5.h)

OLWS routinely inspects the various elements of the Surface Water system within OLWS. A summary of the inspections, enforcements, and ongoing activities related to illicit discharges can be found in Appendix A.

## 11. Development Activities (B.5.i)

Land within the Oak Lodge Water Services is largely built out, with very little undeveloped land available for new development and redevelopment activities are more common. Appendix A summarizes the number and type of development activities that OLWS reviewed. At this time, there are no proposals for land annexations, and OLWS does not implement any part of the Urban Growth Boundary.

## 12. OLWS Boundary Expansion and Authority (B.5.j)

When Oak Lodge Sanitary District consolidated with Oak Lodge Water District to form Oak Lodge Water Services, its boundary grew by approximately 25%; this newly acquired area was already within Clackamas County Service District #1 (CCSD#1). To clarify whose authority would preside in this area, Oak Lodge Water Services District worked with CCSD#1 to create a Memorandum of Understanding (MOU) that allowed CCSD#1 to continue its service in this area since this area naturally drained to watersheds CCSD#1 was already managing. This MOU was later adopted via OLWS Resolution 2017-5. In addition, in 2022 Oak Lodge Water Services became an Authority. This protects the jurisdiction's assets, services and boundaries in perpetuity.

## 13. Public Notice of 2022-2023 Annual Report

OLWS solicited public comment on this annual report in the following manner:

- Public Notice and Solicitation of Comments on the OLWS website: 2nd week, October 2023;
- North Clackamas Watersheds Council: OLWS's monthly report mentions availability of report on website for public review and comment: 3rd week, November 2023;
- The final 2022-2023 Annual Report was posted on OLWS website after submission to DEQ;
- Notice on the Annual Report Posting was sent to OLWS's *Interested Parties* list.

## 14. Appendix A – BMP Table on the following pages.

## 15. Appendix B – Water Quality Monitoring Data Sampling Summary. Data submission to DEQ occurred using the required online format.

## 16. Appendix C – See Attached Mercury Minimization Assessment and Winter Maintenance Activities on the following pages.

## 17. Appendix D – Low Impact Development/Green Infrastructure Strategy Document and Retrofit and Hydromodification Summary.

## 18. Appendix E – Technical Memo: Hydromodification and Retrofit Strategy Update to DEQ.

# Appendix A: BMP Table—OLWS 2022-2023 Summary of BMP Implementation

| *Best Management Practice* | *MS4 Permit Schedule A Requirement* | *BMP Description* | *Performance Measure* | *Annual Report 2022-2023* |
|---|---|---|---|---|
| **Illicit Discharge Detection and Elimination**<br><br>**Enforcement Response Plan and Pollution Parameter Action Levels** | **4.a.i – iii** | **BMP Description:** In cases where an illicit discharge has resulted in a discharge that OLWS suspects resulted in a violation of state water quality standards, water quality samples may be collected at the suspected discharge point, as well as upstream and downstream of the discharge point. This is done in an effort to prove the impact on water quality that the illicit discharge has had. The samples will be tested at the laboratory based on field observations of the discharge in an effort to identify any pollutants present in the discharge. Staff will also investigate the source of the discharge by looking in the surface water system upstream of the discharge point; samples may be taken at locations suspected of originating the illicit discharge.<br><br>In cases of an oily discharge, OLWS will notify DEQ through the OERS (Oregon Emergency Response System), which is in place to address oil spills into waterways and ditches. If the DEQ and/or EPA become involved, OLWS will provide a support role to these agencies. When the source of the illicit discharge is identified, OLWS will determine whether this discharge violated OLWS's Surface Water Management Code, and if so, fines may be levied against the offending party, including all cleanup costs, investigative and sampling costs, and OLWS staff costs, including legal fees.<br><br>OLWS will rely on State of Oregon water quality standards to determine a pollutant level that violates water quality as a trigger to initiate full enforcement action. | 1. Documentation of Enforcement Plan<br>2. Response Procedures<br>3. Pollutant Parameter Action Levels | 1. Illicit discharges are managed through OLWS's documented Illicit Discharge Program.<br><br>2. OLWS maintains an SOP (Standard Operation Procedure) for staff to perform enforcement actions with illicit discharges.<br><br>3. OLWS has determined pollutant parameter action levels to match Oregon State water quality standards. |
| **Illicit Discharge Detection and Elimination**<br><br>**Conduct Annual Dry Weather Field Screening** | **4.a.iv** | **BMP Description:** The purpose of dry-weather outfall inspections is to detect an illicit discharge at the outfall or confirm that they are not present. If flow is detected during dry weather, District staff track it upstream through the storm sewer system to the source, and then address, or if necessary, control the discharge. Illicit discharges are detected during dry-weather inspections through the use of hand-held water quality measuring equipment and through visual inspections by the inspector. When a visual inspection or a pollutant level measured at an outfall indicates that an illicit discharge may be present, an upstream investigation through the storm sewer system is performed. When the discharge's source is located, District staff work with the property owner and/or business owner to evaluate, and if necessary, control the discharge. | (1) Number of outfalls inspected during dry weather.<br>(2) Number and type of illicit discharges that were encountered and controlled.<br>(3) Status of updating procedures to address new permit requirements<br><br>Measurable Goals:<br>• Inspect major or priority outfalls for the presence of illicit discharges at least once per year.<br>• Update maps of major outfalls on an annual basis.<br>• Update dry weather field screening program to address new permit requirements by December 1, 2023. | 1. All five Dry Weather Outfalls were inspected during the dry season quarter of the 2022-23 Permit year.<br><br>2. No illicit discharges were noted from the outfall inspections.<br><br>3. Dry weather field screening program has been updated with the following information:<br>• Priority locations remain as listed<br>• Field Screening and analysis procedures include photographs of CBs / outfalls each year<br>• Pollutant parameter action levels as described in screening SOP (see attached field screening form)<br>• Lab Analysis would occur through contracted lab relationship under the SWM monitoring program |

# Appendix A: BMP Table—OLWS 2022-2023 Summary of BMP Implementation

| *Best Management Practice* | *MS4 Permit Schedule A Requirement* | *BMP Description* | *Performance Measure* | *Annual Report 2022-2023* |
|---|---|---|---|---|
| | | | | |
| **Illicit Discharge Detection and Elimination**<br><br>**Implement the Spill Response Program** | **4.a.v** | **BMP Description:** OLWS's Spill Response Program prevents, contains, and responds to spills of dangerous, hazardous and other materials. OLWS's Spill Response Program ensures that the actual or possible release of dangerous/hazardous materials to the MS4 is properly addressed. Except for minor incidents, OLWS's Spill Response Program personnel always coordinate closely with other agencies and departments, including Clackamas County Fire District No. 1 (and for certain incidents involving hazardous materials, the Gresham HazMat Team), DEQ, Oregon State Police, the Clackamas County Department of Transportation and Development (CCDTD), and the Oregon Department of Transportation (ODOT). | (1) Number of reported spills to the MS4 system.<br>(2) Number and type of response to the reported spills.<br><br>Measurable Goals:<br>• Implement the spill response program and associated protocols. | 1. During the reporting period 2022-23 OLWS received and investigated 6 storm water complaints of potential spills or illicit discharges.<br>2. District found that 5 of the reported complaints required an action response (see BMP below). |
| **Respond to reports involving illicit discharges** | **4.a.V – 4.a.xii** | **BMP Description:** Reports are often received from the Oregon DEQ, ODOT, Water Districts, Fire Districts, cities, citizens, district employees and others which allege that an illicit discharge has occurred or is occurring. When reports are received which allege that an illicit discharge has occurred or is occurring, OLWS will attempt to verify the allegation in a timely manner. If it can be confirmed that an illicit discharge has occurred or is occurring, OLWS staff will cooperate with the property owner and/or business owner to evaluate, and if necessary, control the discharge. Control options that may be applied or recommended by OLWS include, but are not limited to:<br>• The removal of certain pollutants from the wastewater prior to discharge to the storm sewer system (i.e. cease usage of soap when washing).<br>• Issuance of the proper discharge permit from DEQ. A discharge that has been authorized and controlled by a DEQ water quality permit is not an illicit discharge.<br>• Application of the wastewater to dry land with no discharge to surface waters or storm sewers. This option is inappropriate for certain types of wastewaters, discharge rates, and soil types and may require the issuance of a WPCF permit from DEQ.<br>• Wastewater reuse without any discharge. | (1) Number of alleged illicit discharges and non-stormwater discharges which were reported each year.<br>(2) Number of illicit discharges that were controlled.<br><br>Measurable Goals:<br>• Respond to reports involving alleged illicit discharges within two weeks. | OLWS responded to 6 reported Illicit discharge complaints during the reporting year 2022-23. OLWS staff investigated all 6 complaints and took actions to resolve the discharges at 5 of the sites.<br><br>Tracking numbers of the IDDE complaints are:<br>• 2023-23-23: 2279 SE LINDENBROOK CT<br>• 2023-23-22: SE ROETHE RD along Trolley Trail<br>• 2023-23-21: SE OAK GROVE BLVD<br>• 2023-23-20: 4317 SE HULL AVE<br>• 2023-23-19: 4001 SE ROETHE RD<br>• 2023-23-18: 5722 SE GLEN ECHO AVE<br>Records include description and follow-up response actions taken to each incident. Records available on request. |

# Appendix A: BMP Table—OLWS 2022-2023 Summary of BMP Implementation

| *Best Management Practice* | *MS4 Permit Schedule A Requirement* | *BMP Description* | *Performance Measure* | *Annual Report 2022-2023* |
|---|---|---|---|---|
| | | • Hauling the wastewater off-site for proper disposal.<br>• With the necessary permits, discharge the wastewater to OLWS's sanitary sewer system. | | |
| **Screen Existing and New Industrial Facilities** | **4.b.i – 4.b.iii** | **BMP Description:** Once during the permit term, OLWS will review new industrial development applications to determine whether any existing or new facilities would be subject to an industrial stormwater NPDES permit. This determination will occur based on a review of the facilities' proposed activities and the applicable SIC codes related to the 1200-series NPDES permit. If a facility is identified that would be subject to an industrial stormwater NPDES permit, the facility and DEQ will be notified within 30 days. | (1) Track the number of existing or new industrial facilities subject to a stormwater industrial NPDES permit during the permit term.<br><br>Measurable Goals:<br>• Review new industrial development applications once during the permit term to identify additional facilities needing to obtain 1200-Z permits. | OLWS currently has 1 1200Z permit holder within its boundaries.<br><br>No new Industrial user accounts opened in 2022-23.<br><br>OLWS continually reviews all new industrial facilities through its development review process. |
| **Address Other Industrial Facilities** | **4.b.i – iii** | **BMP Description:** The facilities that are addressed by OLWS for this BMP are those that are not required to obtain a 1200Z permit, and/or are anticipated to contribute a substantial load of pollutants to the MS4.<br><br>Facilities will primarily be inspected on a complaint-driven basis, but it is possible that some inspections will be conducted by OLWS during source tracking activities if OLWS's storm event monitoring work or routine monitoring work shows that excessive levels of one or more pollutants are present. All facilities that are the subject of a complaint will be inspected in a timely manner by District staff. The implementation of control measures for stormwater discharges from these facilities will be deemed necessary by OLWS if the presence of excess levels of stormwater pollution can be confirmed by OLWS. For instances where the presence of excess levels of pollution in stormwater has been confirmed by OLWS, and in the event that the discharger's initial attempts to improve stormwater quality do not produce the required improvement, then District personnel will continue to provide guidance and technical assistance until the facility's stormwater quality improves.<br><br>The presence of excess levels of pollution in stormwater can generally be confirmed by two general methods: visual and analytical. Analytical methodologies include hand-held meters, and those performed by an environmental laboratory. OLWS will use visual or analytical methods at OLWS's discretion.<br><br>Industrial users permitted under the pretreatment program 40CFR403 have an annual facility inspection which includes a review of storm water facilities. | (1) Track the number of inspections performed, and where applicable, monitoring data collected.<br>(2) Track the number of letters, enforcement actions, or other contacts made.<br>(3) Track the number of pretreatment inspections performed.<br><br>Measurable Goals:<br>• Notify and work with industries to improve stormwater management if an inspection is conducted that indicates improvement is needed. | As in last year's report, there are 4 commercial or industrial sites that were anticipated to contribute a substantial load of pollutants to the MS4 during 2022-23.<br>1. 16600 SE Kens Ct. (Blue Sky Filters)<br>2. 3901 SE Naef Rd. (NW Flex Space)<br>3. 3810 SE Naef Rd. (Stanley Tools)<br>4. 3701 SE Naef Rd. (Buffalo Welding)<br><br>No enforcement actions or IDDE reports were made related to these properties. Pretreatment monitoring or routine monitoring reflected no excessive levels of pollutants.<br><br>Of OLWS commercial or industrial accounts, Blue Sky Filters performs routine stormwater monitoring on site. There were no excessive levels of concern from the monitoring results. |

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| **Construction Site Runoff Control**<br><br>**Erosion Control Ordinances** | **4.c.i – 4.c.vi** | **BMP Description:**<br>*OLWS Surface Water Management Code*<br>OLWS updated the Surface Water Management Code (Rules and Regulations and Design and Construction Standards) in 2018 and 2020 respectively to match updated requirements through the MS4 permit and reconcile the SWWMP. The combined documents address regulatory and review requirements related to erosion control, tree removal, undisturbed buffers, and flow control and treatment requirements. These regulations require submittal of an erosion prevention and sediment control plan containing methods and/or interim facilities to be constructed or used concurrently with land development. Plan submittals are required to provide details of erosion control measures, schedules for construction, and a maintenance schedule for erosion control activities. OLWS administers "small lot" erosion control permits less than one acre and 1200CN permits for sites between 1-5 acres. OLWS has an agreement with Oregon DEQ for administration of the 1200-C sites greater than five acres in size. | (1) Implement Code<br><br>Measurable Goals:<br>• Update SWMC and implement new code | OLWS adopted revised Design and Construction standards on February 18, 2021 by Resolution Number 2021- 01 January 19, 2021. This document contains much of OLWS's post-construction regulations.<br><br>OLWS is in the process of updating the Surface Water Management Code (Rules and Regulations and Design and Construction Standards). OLWS will be adopting a modified version of the Water Environment Services' code within the 2023-2024 reporting year. Updated information will be provided in next year's Annual Report. |
| **Public Education and Outreach**<br><br>**Topic: Reduce Discharges of Pesticides, Herbicides and Fertilizers** | 4.d.iii | BMP Description: OLWS administers a public education program which provides information that attempts to motivate workers and residents to reduce stormwater pollution that is caused by the application of pesticides, herbicides, and fertilizers in OLWS. Educational information is shared with the public using:<br>• Articles in newsletters<br>• District's website.<br>• Through local public involvement campaigns. A recent example of a recent relevant public involvement campaign is the Oregon Environmental Literacy Plan (OELP), which is enacted as part of House Bill 2544 and lays out age-appropriate environmental literacy education.<br>• Brochures<br>Common topics that are addressed by this program include:<br>• Less harmful alternatives to the use of pesticides, herbicides, and fertilizers are provided. For example, use of ladybugs to eat insect pests is encouraged as an alternative to pesticide application. | (1) Track programs messages delivered, type of communication piece, and where appropriate, the number of people affected.<br><br>Measurable Goals:<br>• Continue to maintain relevant public education materials on the district's website.<br>• Prepare a minimum of one relevant article per year for inclusion with customer billing statements. | The following outreach efforts occurred last year:<br><br>Customer outreach: Six newsletters to all customers were distributed that included surface water education topics.<br><br>Student Outreach:<br>• Aves Compartidas provides Spanish immersion and dual language classroom lessons on ecology, restoration and land use, and offers field experiences where students engage in habitat enhancement projects. Programming supports the teachers and students at three dual language elementary schools: Candy Lane Elementary (4 classrooms), Riverside Elementary (3 classrooms), and Milwaukie El Puente Elementary (9 classrooms). A total of 16 classrooms participated in these sessions, with each lesson lasting for one hour. The number of students reached was roughly 385 along with 14 teachers. All three of the Riverside classrooms were new to the program this year, along with the expansion of 13 new |

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| | | • Information about the potential hazards to water quality, public health, and aquatic life associated with the misuse of pesticides, herbicides, and fertilizers in OLWS.<br>• Users are reminded that pesticide and herbicide products need to be used in a manner consistent with the product's label. | | classrooms at the other two schools.<br><br>• The Clackamas Community College Environmental Learning Center presented Livestream episodes to K-5 students. Each of ten episodes focused on wetland ecology, wildlife, and watershed health. Student activity sheets were developed to engage students in the content; each program has an accompanying sheet. Teachers were provided recordings of the sessions in addition to links for joining the LIVE events. This enabled them to view the presentation at a time that was convenient for them. 108 students participated.<br><br>• This year's ECO program included Oak Grove Elementary, View Acres Elementary, New Urban High, and Rex Putnam High. In total, ECO reached approximately 420 students across 14 different classrooms. ECO delivered 28 indoor lessons and 9 outdoor lessons for a total of 930 contact hours of engagement at Rex Putnam, Oak Grove, and View Acres. The students in this program learned about a diverse set of topics all revolving around watershed health, including wetlands, macroinvertebrates, rain gardens, and native plant identification. In the high schools, ECO delivered our Climate Action lessons, which focused on the relationship between protecting our natural systems, like waterways, and climate change. ECO supplemented the Climate Action lessons with an in-person visit at Rex Putnam to study water quality.<br><br>Adult outreach:<br>• OLWS partners with the Backyard Habitat Certification Program (BHCP) to support urban gardeners in their efforts to create natural backyard habitats. This includes working with homeowners to find stormwater solutions in their yards to mimic nature by allowing runoff to soak |

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| | | | | into the ground, helping to filter out pollutants and decrease or eliminate runoff on their property. In 2022-23 in the OLWS Service Area, BHCP visited 27 properties.<br><br>• OLWS partnered with the Clackamas River Basin Council to sponsor their Rain Garden Workshop (50 attendees per session. Session 1 included an overview of rainwater, ideas on ways to manage rainwater, conserve water, and protect water quality. Session 2 included how to construct your rain garden including underground and overland ways of connecting them, planting and maintaining them, challenges, constraints and rain garden alternatives.<br><br>• OLWS partners with the North Clackamas Watersheds Council to offer the Streamside Stewards Program (SSP), which works to enhance and maintain habitat through partnerships with owners along OLWS streams. Along with annual maintenance, the SSP moved the outreach and education aspects of the program online due to COVID-19.<br><br>• OLWS partners with EcoBiz to provide targeted outreach and education to automotive businesses with the goal of reducing the potential loading of pollutants into the storm/sewer systems.<br><br>Events: OLWS participated in several virtual events which contained water quality education for students and adults. These included the following:<br>• The Children's Clean Water Festival was back in person this year. The event took place on April 25, 2023 with 1,000 4th graders in attendance. As we |

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| | | | | have transitioned back to in-person the virtual component that was developed during COVID-19 has continued as a resource for teachers to use in April and throughout the year.<br><br>• The North Clackamas Watersheds Council (NCWC) partnership continues to provide public outreach benefits to people living in our service area. To adapt to COVID, OLWS partnered with NCWC to host three virtual workshops about the importance of human actions and their impact on watershed health.<br><br>• OLWS partnered with the Clackamas Community College Environmental Learning Center to offer a free online learning series April – June. This wetland online learning series was designed for grades K-3 and included 10 episodes.<br><br>Outreach groups: Participated in local outreach groups and public involvement campaigns, including: the Clean Rivers Coalition's *Follow the Water* statewide campaign, Clackamas County Water Education Team (CCWET), and the Regional Coalition for Clean Rivers and Streams *River Starts Here* regional campaign.<br><br>The What's Your Lawn Style project was also developed by the Clean Rivers Coalition. This project focused on delivering integrated pest management techniques for lawn care to reduce nonpoint source runoff of pesticides and quick release fertilizers by single family residents. The education and materials from this campaign were sent to OLWS customers through our bi-monthly newsletter, website, and social media.<br><br>Virtual outreach: Presented and contributed to creating virtual content and social media outreach relevant to |

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| | | | | water quality education information for OLWS customers, property owners, tenants, educators, and students. This included creation of paid media with KPTV (FOX 12). Messages highlighted car washing tips to help keep soap and other pollutants out of our streams, and stormwater smart yard and garden maintenance. |
| **Education and Outreach**<br><br>**Privately Owned SWM Facility Education** | 4.d.iv | **BMP Description:** Privately owned SWM facilities require periodic inspection and maintenance to keep them working correctly. This effort focuses on outreach and education to those private landowners who own these types of facilities | (1) Number and Type of Education and Outreach efforts specific to privately owned facility inspection and maintenance. | Outreach materials and letters sent to owners engaging them in awareness, cleaning, maintenance, and functionality of their catchment systems. Provided supplemental information to owners as people reached out requesting more information.<br><br>Participation in the Stormdrain Cleaning Assistance Program (SCAP) with postcards sent to 262 property owners with private storm drains on their property/business. Creation of electronic signup for SCAP through our website. OLWS also utilized a QR code and text to sign up option to make the process easier for business owners.<br><br>Continued to build emails to reach all previous participants as well as new accounts with privately owned facilities in order to increase participation. |
| **Education and Outreach**<br><br>**Erosion Control Contractor Training Opportunities** | 4.d.v | **BMP Description:** Provide notice to construction site operators concerning where education and training to meet erosion prevention and sediment control requirements can be obtained. | (1) Describe efforts to provide this notice | Oak Lodge has four CESCL certified erosion control staff members and provides construction site operators with notice and training opportunities on an ad hoc basis during initial inspections at the start of new erosion control permits. |
| **Education and Outreach** | 4.d.vi | **BMP Description:** Over the permit term, OLWS will provide information related to an effectiveness evaluation. This may be conducted in coordination with other local Phase 1 jurisdictions. The effectiveness evaluation information will focus on assessing | (1) Report on activities annually.<br><br>Measurable Goals: | During the 2013-2014 permit year, OLWS participated in a regional study about the effectiveness of various stormwater-related public outreach efforts within Oregon. |

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| **Effectiveness Evaluation** | | changes in targeted behaviors and will allow for additional information that can be used in adaptive management of the OLWS education and outreach strategy. | • Provide/compile information regarding a public education effectiveness evaluation over the permit term. | The report was commissioned through Oregon Association of Clean Water Agencies. Refer to previously submitted Appendix B for a copy of the study.<br>OLWS will work with the Clackamas County Phase I co-permittees to discuss a coordinated effectiveness evaluation based on requirements of the new MS4 Permit. |
| **Education and Outreach**<br><br>**Employee Training** | 4.d.vii | **BMP Description:** A variety of training is provided to staff associated with surface water management. Training and advisory committee opportunities are made available through local agencies and groups involved with a broad range of water quality issues including stormwater (e.g., Oregon Association of Clean Water Agencies conferences). Such training is provided based on need and availability. | Track the number of employees receiving training in stormwater management annually**.**<br><br>Measurable Goals:<br>• Attend relevant stormwater management related training based on need and availability. | Specific Staff Trainings included:<br>• OLWS Water Quality Coordinator presented at and participated in Oregon ACWA's Annual Stormwater Summit.<br>• OLWS conducted an all-staff training for new and seasoned relevant staff and provided a comprehensive overview on the MS4 Stormwater Permit with a focus on sediment control and good housekeeping practices. |
| **Public Education and Outreach**<br><br>**Facilitate Public Reporting of Illicit Discharges** | 4.d.viii | **BMP Description:** The District implements a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges and other types of improper disposal of materials into the MS4. After District staff have received a report which relates to one of these discharges, they investigate and, if appropriate, apply control measures. See BMP #3. | (1)Number illicit discharges reported.<br>(2)Number of illicit discharges requiring action.<br>(3)Number of educational events educating public about illicit discharges and procedures to report.<br>(4)Number of publications educating public about illicit discharges and procedures to report.<br><br>Measurable Goals:<br>• Create a page for public complaints on the District's website and track number of complaints for reporting. | Potential illicit discharges reported: 6<br><br>Actions taken: 5 (see IDDE above for details)<br><br>Educational Events: 2 – IDDE outreach/education during public meetings with customers<br><br>Educational Publications:<br>1) Dump Smart Campaign – Painting, Carpet Cleaning and Pressure Washing (Posted on OLWS website)<br>2) Where to Properly Dispose of unwanted or expired medications (Posted on website)<br>3) EPA/NOAA – Keep Salmon off Drugs (Poster)<br>4) Clackamas River Water Providers – Keep Pesticides and Herbicides Out of the River (Pictorial Poster)<br>5) Regional Coalition for Clean Rivers and Streams – River Starts Here Campaign (Web and paid media outreach)<br>6) Clean Rivers Coalition – statewide social media campaign to raise awareness about pesticide reduction |

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| | | | | Public submits complaints through the information email on the OLWS website or calls staff directly. Complaints are coded in Lucity, the district's Computerized Maintenance Management System. |
| **Public Involvement and Participation** | 4.e | **BMP Description:** Schedule A.4.e of the District's MS4 NPDES permit requires OLWS to provide opportunity for public participation in the development, implementation, and modification of the Storm Water Management Plan (SWMP). Prior to submittal of various milestone reports, OLWS will provide the public with an opportunity to comment for a period of 2 weeks prior to submittal dates. Comments on the documents will be collected and considered.<br><br>Additionally, OLWS has many opportunities for members of the community to participate in various sub committees that provide oversight and guidance to OLWS management related to MS4 implementation. | (1) Provide for public participation with the SWMP and pollutant load reduction benchmarks prior to the permit renewal application deadline. | SWM 2022-23 Annual Report Public Notice: posted to website on October 9, 2023 and shared with North Clackamas Watersheds Council board meeting on November 15, 2023, and to OLWS Board Members on October 17, 2023. In addition, the website contains MS4 Permit and supporting material, including the new MS4 Permit, with ongoing opportunities for public to comment. |
| **Construction Site Runoff Control** | **4.f.i - 4.f.iv** | **BMP Description:**<br>*OLWS Development Review*<br>OLWS reviews all development plans for new construction or redevelopment projects in OLWS's service area through the building permit process. All reviews are conducted in accordance with the OLWS Surface Water Management Code (SWMC). These regulations require submittal of a surface water management plan that addresses post-construction pollutant and runoff control measures. | (1) Annual number of permitted, active construction projects (i.e., those projects disturbing 500 s.f. or more).<br>(2) Annual number of site plan reviews and approved plans.<br>Measurable Goals:<br>Review all applicable erosion and sediment control plans submitted as part of the building permit. | Number of development permits issued: 7<br><br>Acreage of development activity: 3.61 Acres<br><br>Number of erosion control permits issued: 29<br><br>Number of erosion control inspections completed: 290<br><br>Number of enforcements (violations that needed enforcement action): 0<br><br>Identify any new industrial businesses in OLWS: 0<br><br>Variance Requests: 1<br><br>Appeals: 0<br><br>Estimate of total new and replaced impervious surface area related to development projects: 2.11 acres |
| **Pollution Prevention** | **4.g** | **BMP Description:** Major arterial curbed streets within the DTD service area (which includes OLWS) are swept on a regular basis by DTD. The frequency varies depending | (1) Number of miles that were swept within OLWS<br>(2) Mass or volume of material removed during sweeping | Street Sweeping within OLWS Boundary (MOU with CCDTD):<br><br>(1) 68.8 Curb/ Shoulder Miles |

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| **for Municipal Operations**<br><br>**Street Sweeping** | | on a variety of factors (for example, traffic volumes). For information on their street sweeping activities, refer to the DTD MS4 NPDES SWMP. | Measurable Goals:<br>7) For DTD roads, see tracking measures in the DTD MS4 NPDES SWMP. | (2) 28.14 Cubic Yards debris removed<br>(3) OLWS contracts with the City of Milwaukie to have its impervious surfaces for facilities swept once a month. |
| **Operations & Maintenance for Public Streets** | **4.g** | **BMP Description:** Operations and maintenance of public streets within the DTD service area (which includes OLWS) is the responsibility of CCDTD. This includes Winter maintenance activities for roadway operations. For information on their activities, refer to the CCDTD MS4 NPDES SWMP. | Measurable Goals:<br>• DTD Roads: See DTD's MS4 NPDES SWMP.<br>• Remove illegal solid waste dumps as they are discovered.<br>• Collect sand applied for ice/snow events within 10 days of the end of the event. | Refer to CCDTD's MS4 Annual Report for reference to measurable goals, including Winter maintenance activities. |
| **Control Infiltration and Cross Connections to OLWS's Stormwater System** | **4.g** | **BMP Description:** OLWS prevents exfiltration of flows from municipal sanitary through the presence of a rigorous maintenance program involving routine cleaning and inspection of lines to ensure that there are very few leaks. Lines are inspected with a television camera on a periodic basis. Tree roots, which could cause leakage, are removed whenever identified.<br><br>OLWS prohibits cross-connections in new/redevelopments through the development and building permit review and issuance process. This system, which features plan review in the office and field inspections by certified plumbing inspectors, ensures that fixtures that need to be plumbed into OLWS's sanitary sewer system or a private septic system are actually plumbed into those systems, preventing hundreds of illicit discharges per year. OLWS is able to identify and control the exfiltration of flows from municipal sanitary sewers when it occurs by:<br><br>• Performing dry-weather inspections at all major or priority outfalls on an annual basis to detect non-stormwater flows, and<br>• Receiving and promptly responding to reports from citizens of unusual colors, odors and solids. | (1) Number of cross-connections/ sanitary discharges identified.<br><br>Measurable Goals:<br>• Eliminate any identified sanitary discharges to the storm system. | No Cross-connections were found during the 2022-23 permit year. |
| **Flood Management Projects and Water Quality** | **4.g** | **BMP Description:** There are two Components to this BMP. The first is to ensure that water quality is assessed and addressed when developing capital improvement projects (CIPs) for flooding. The second is to examine the existing system to determine whether water quality retrofits would be beneficial and feasible. | (1) Number of retrofits constructed that address water quality treatment.<br>(2) Number of flood management projects implemented or constructed and the percentage of | Oak Lodge Water Services continues to fund North Clackamas Watersheds Council's (NCWC) Streamside Stewards Program which enhances water quality and streamside health. NCWC completed a Watershed Action Plan, which now helps NCWC and OLWS prioritize restoration and enhancement projects to improve water |

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| | | CIPs: OLWS develops 5- and 10-year Capital Improvement Plans to identify major projects necessary to address water quality concerns. One of the main goals and outcomes of the CIP is to prioritize what stormwater management actions and activities should be conducted in specific sub-basin areas, such as where to assist the operations and maintenance program in targeting specific activities in various locales. Another main goal of the CIP is to build projects to protect, restore, and enhance the health and function of a watershed. | those projects that include water quality Components.<br><br>Measurable Goals:<br>• Ensure all planned stormwater CIPs include consideration of water quality. | quality and floodplain function. The OLWS continues funding the Backyard Habitat Certification Program in partnership with the Columbia Land Trust and Portland Audubon. This program educates and informs the public on yard maintenance options that limit the use of herbicides and pesticides on private property that can get into our streams and reduce water quality. |
| **Maintenance of Conveyance System Components and Structural Controls** | **4.g** | **BMP Description:** OLWS maintains conveyance and treatment components of the storm water system that are located outside the right-of-way of publicly owned roads in maintenance agreement subdivisions or that are owned by OLWS. The conveyance components include, but are not limited to, culverts, storm sewer lines (8" or greater in diameter) and inlets. The stormwater treatment components of the system include, but are not limited to, vegetated aboveground stormwater detention facilities, sedimentation manholes, and various types of underground proprietary pollution control systems. Maintenance records are kept by both DTD and OLWS.<br><br>OLWS and DTD are working on the development of an intergovernmental agreement to clarify and coordinate maintenance activities. | (1) Miles of ditches and storm lines maintained<br>(2) Number and type of components inspected and/or cleaned, and<br>(3) Mass or volume of material removed during cleaning | (1) Ditch Cleaning by CCDTD: 614 ft<br>(2) Culverts Cleaned by CCDTD: 3 culverts<br>(3) Mass of Debris Removed by CCDTD: 2.16 cubic yards of material. |
| **Catch Basin Cleaning and Maintenance** | **4.g** | **BMP Description:** OLWS cleans all District owned or District operated/maintained catch basins once every five years. Catch basin cleaning activities primarily occur during the dry weather season, but during the fall, certain catch basins may be cleaned more frequently if needed. Utility crews utilize a database to document inspection and maintenance activities for the annual reports. Repair or replacement of public catch basins is scheduled following inspection. | (1) Track the number of District owned or District operated/maintained catch basins cleaned per year.<br>(2) Track the mass or volume of debris removed during cleaning activities.<br><br>Measurable Goals:<br>• Clean OLWS District operated/maintained public catch basins on a 5-year rotational basis.<br>• Schedule repair or replacement of catch basins based on inspection results. | During this reporting period, OLWS and CCDTD continued a coordinated approach to storm system inspection and maintenance (see updated SWMP Zone Map).<br><br>(1) Catch basin Inspections: 446<br>(2) Catch basins and Structures Cleaned: OLWS: 122<br>(3) Structures Cleaned by CCDTD: 5<br>(4) Mass of Debris Removed by OLWS: 24.61 Cubic Yards<br>(5) Mass of Debris Removed by CCDTD: 0.59 CY. |
| **Private Surface Water Facility** | **4.g** | **BMP Description:** This BMP includes maintenance agreements for stormwater quality and detention structures in residential areas. There are very few of these facilities in OLWS. | (1) Number of structures inspected and cleaned. | 18 Ponds and 23 Private Facility assets inspections were completed in the 2022-23 permit year. |

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| **Maintenance Program** | | This infrastructure varies from subdivision to subdivision but may include any of the following: catch basins, below-ground stormwater detention tanks, above-ground storm water detention and/or water quality ponds, below-ground vortex separators, and swales. | | A letter was sent to 50% of owners of single-family private facilities with OLWS SWM Facility Agreements explaining the requirement to clean and maintain facilities.<br><br>SWM Assets that required cleaning were completed. |
| **Hydromodific-ation Assessment** | 5.a – 5.d | **BMP Description:** OLWS anticipates partnering with adjacent co-permittees (CCSD#1, CCDTD) to develop a simplified tool for development engineers to easily size LID BMPs to address the duration of elevated flow levels in addition to addressing flow volumes and peaks. Use of the tool in designing LID BMPS is expected to ultimately address the long-term impacts of increased runoff from development. To address flow durations, a long-term continuous simulation of hydrology is required. As a result, designing and sizing BMPs becomes more complicated than traditional design practices focused on a single design event. In order to make the BMP design process easier for the development community, neighboring states have developed a sizing tool. Currently, there are no BMP design/sizing tools to address the impacts of Hydromodification that are applicable to local conditions such as rainfall patterns and critical channel forming flows. This tool will provide a simple, consistent and defensible methodology for designing/sizing LID throughout Clackamas County and the region to address Hydromodification impacts. | (1) Net impervious area treated by LID.<br>(2) Number of applications submitted using tool.<br>(3) Customer Feedback/ Community Relations.<br><br>Measurable Goals:<br>• The primary goal is to develop, by June 30, 2013, a tool to assist development engineers with the design/sizing of stormwater management facilities in order to reduce target pollutants and stream degradation impacts (i.e., Hydromodification) associated with the development of impervious surfaces. | In the OLWS SWMC code documents, stormwater management facility sizing guidelines accept two co-permittee tools; the WES sizing tool and the City of Portland PAC tool.<br><br>OLWS's Design and Constructions standards require surface water detention and flow control. Most developments are required to detain to the 2-year, 24-hour post-developed runoff rate to a ½ of the 2-year, 24-hour pre- developed discharge rate. In areas of hydromodification concern, the standard is reduced to ½ of the 2-year, 24-hour predeveloped discharge rate.<br><br>Additionally, in 2019, Oak Lodge implemented a permit review software system (Accela) which tracks impervious surfaces more accurately and precisely than previous systems for future hydromodification assessment and treatment tracking. |

| Monitoring Location ID | Activity Start Date | Activity Start Time | Activity Start/End Time Zone | Activity Media Subdivision Name | Activity Type | Activity ID (Locked) | Sample Collection Method | Characteristic Name | CAS Number | Result Value | Result Unit | Result Measure Qualifier | Detection Limit Value | Detection Limit Unit | Reporting Limit Value | Reporting Limit Unit | Result Analytical Method ID | Laboratory Name | Lab Sample ID | Analytical Start/End Date | Analytical Start/End Time | Result Comment | Activity Comment | Result Status (DEQ USE ONLY) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | 0.0360 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3C0444-01 | 2023/03/16 | 19:07 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | <3.35 | mg/L | U | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0444-01 | 2023/03/20 | 13:48 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 6.99 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3C0444-01RE1 | 2023/03/29 | 02:46 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | 0.00346 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0444-01 | 2023/03/15 | 19:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | 0.0100 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0444-01RE1 | 2023/03/29 | 02:46 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | E. coli, Total | NA | 2421 | MPN/100 mL | WC | NR | MPN/100 mL | 1 | MPN/100 mL | SM 9223B (colilert- | Alexin Analytical Laborat | A3C0444-01 | 2023/03/14 | 11:10 | Sample was received in a container not provided by the laboratory. | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 26.6 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3C0444-01 | 2023/03/29 | 02:46 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.21 | mg/L | U,O-01 | NR | mg/L | 5.21 | mg/L | EPA 1664B | Apex Laboratories | A3C0444-01 | 2023/03/22 | 10:50 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3C0444-01 | 2023/03/13 | 16:31 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.00680 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0444-01RE1 | 2023/03/29 | 02:46 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0444-01 | 2023/03/15 | 19:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 2.22 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3C0444-01RE1 | 2023/03/29 | 02:46 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 0.995 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3C0444-01 | 2023/03/13 | 18:29 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.120 | mg/L | Q-42 | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3C0444-01 | 2023/03/13 | 15:39 | Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or R | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.5 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0444-01 | 2023/03/13 | 17:42 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 23.8 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0444-01 | 2023/03/13 | 17:42 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.387 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3C0444-01 | 2023/03/24 | 17:37 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 90.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3C0444-01 | 2023/03/17 | 18:41 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 116 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3C0444-01 | 2023/03/20 | 11:54 | | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.0165 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0444-01 | 2023/03/15 | 19:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541 -- NAEF | 2023/03/13 | 10:45 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0706 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3C0444-01RE1 | 2023/03/29 | 02:46 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | <0.0200 | mg/L | U | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2J0753-01 | 2022/10/25 | 11:52 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | 5.57 | mg/L | | NR | mg/L | 1.71 | mg/L | SM 5210 B | Apex Laboratories | A2J0753-01 | 2022/10/31 | 13:15 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 8.41 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | 0.0113 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0753-01 | 2022/10/27 | 14:46 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | 0.0128 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | > 2420 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2J0753-01 | 2022/10/25 | 17:57 | > 2420 | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 30.5 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.05 | mg/L | U,O-01, Q-42 | NR | mg/L | 5.05 | mg/L | EPA 1664B | Apex Laboratories | A2J0753-01 | 2022/11/09 | 13:27 | Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or R | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.05 | mg/L | U,O-01, Q-42 | NR | mg/L | 5.05 | mg/L | EPA 1664B | Apex Laboratories | A2J0753-01 | 2022/11/09 | 13:27 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2J0753-01 | 2022/10/24 | 17:00 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | 0.000449 | mg/L | H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0753-01RE1 | 2022/10/28 | 22:46 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.00125 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 2.30 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 1.11 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2J0753-01RE1 | 2022/10/25 | 16:28 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.161 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2J0753-01 | 2022/10/24 | 18:03 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.5 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0753-01 | 2022/10/24 | 18:02 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 24.1 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0753-01 | 2022/10/24 | 18:02 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.185 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2J0753-01 | 2022/10/27 | 16:45 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 82.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2J0753-01RE1 | 2022/10/28 | 18:00 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 16.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A2J0753-01 | 2022/10/25 | 18:09 | | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.0580 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0753-01 | 2022/10/27 | 14:46 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2022/10/24 | 10:30 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0749 | mg/L | B-02 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2J0753-01 | 2022/10/29 | 21:04 | Analyte detected in an associated blank at a level between one-half the MRL and the | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | <0.0200 | mg/L | U | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3D1026-01 | 2023/04/12 | 13:29 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | <3.24 | mg/L | U | NR | mg/L | 3.24 | mg/L | SM 5210 B | Apex Laboratories | A3D1026-01 | 2023/04/17 | 11:20 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 10.5 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | 0.00298 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3D1026-01 | 2023/04/20 | 18:21 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | 0.00462 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | 1990 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A3D1026-01 | 2023/04/11 | 16:18 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 39.9 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.00 | mg/L | U,O-01 | NR | mg/L | 5.00 | mg/L | EPA 1664B | Apex Laboratories | A3D1026-01 | 2023/04/24 | 10:55 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3D1026-01 | 2023/04/11 | 07:52 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.00160 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3D1026-01 | 2023/04/20 | 18:21 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 3.31 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 1.23 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3D1026-01 | 2023/04/11 | 18:16 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0754 | mg/L | Q-42 | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3D1026-01 | 2023/04/10 | 17:28 | Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or R | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.5 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3D1026-01 | 2023/04/10 | 17:15 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 22.5 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3D1026-01 | 2023/04/10 | 17:15 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.148 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3D1026-01 | 2023/04/14 | 14:33 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 83.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3D1026-01RE1 | 2023/04/13 | 18:41 | | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 20.0 | mg/L | EST_s | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3D1026-01 | 2023/04/12 | 18:27 | Solids results are reported as estimates when less than 2.5 mg residue is recovered dur | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.0196 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3D1026-01 | 2023/04/20 | 18:21 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| N40-0541--NAEF | 2023/04/10 | 10:00 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0348 | mg/L | B-02 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3D1026-01 | 2023/04/19 | 21:24 | Analyte detected in an associated blank at a level between one-half the MRL and the | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | 0.0400 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2I0787-02 | 2022/09/27 | 16:15 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | <1.97 | mg/L | U | NR | mg/L | 1.97 | mg/L | SM 5210 B | Apex Laboratories | A2I0787-02 | 2022/10/03 | 14:50 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 23.3 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | <0.00200 | mg/L | U | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | <0.00200 | mg/L | U,H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-02 | 2022/10/05 | 05:35 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | 206 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2I0787-02 | 2022/09/27 | 17:33 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 92.7 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2I0787-02 | 2022/09/27 | 12:13 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.000413 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-02 | 2022/10/05 | 05:35 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 8.39 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | <0.250 | mg/L | U | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2I0787-02 | 2022/09/27 | 10:01 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0909 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-02RE1 | 2022/09/27 | 16:43 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-02RE1 | 2022/09/27 | 10:47 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 19.3 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-02RE1 | 2022/09/27 | 10:47 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.192 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-02 | 2022/09/28 | 17:37 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 173 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2I0787-02 | 2022/09/26 | 19:20 | | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 1.60 | mg/L | SL-1 | NR | mg/L | 1.00 | mg/L | SM 2540 D | Apex Laboratories | A2I0787-02 | 2022/09/27 | 12:27 | Result is considered an estimated value. Less than 1 liter of sample was used in analysis | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.00770 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-02 | 2022/10/05 | 05:35 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/09/26 | 10:50 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0116 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-02 | 2022/10/01 | 00:34 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | 0.137 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2J0754-02 | 2022/10/25 | 11:59 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | 3.63 | mg/L | | NR | mg/L | 1.71 | mg/L | SM 5210 B | Apex Laboratories | A2J0754-02 | 2022/10/31 | 13:15 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 9.76 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | 0.00573 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-02 | 2022/10/27 | 14:57 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | 0.00811 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | > 2420 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2J0754-02 | 2022/10/25 | 17:57 | > 2420 | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 38.6 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.26 | mg/L | U,O-01 | NR | mg/L | 5.26 | mg/L | EPA 1664B | Apex Laboratories | A2J0754-02 | 2022/11/15 | 13:56 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2J0754-02 | 2022/10/24 | 16:54 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | 0.000233 | mg/L | H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-02RE1 | 2022/10/28 | 22:51 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.00106 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 3.46 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 0.511 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2J0754-02RE1 | 2022/10/25 | 17:11 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0818 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-02 | 2022/10/24 | 18:05 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-02 | 2022/10/24 | 18:11 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 25.0 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-02 | 2022/10/24 | 18:11 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.117 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-02 | 2022/10/27 | 16:47 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 94.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2J0754-02RE1 | 2022/10/28 | 18:00 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 10.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A2J0754-02 | 2022/10/25 | 18:09 | | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.0353 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-02 | 2022/10/27 | 14:57 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12 -- WALTA VIST | 2022/10/24 | 11:00 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0552 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-02 | 2022/11/03 | 11:28 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | 0.0590 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3E1133-02 | 2023/05/09 | 12:40 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | <2.83 | mg/L | U | NR | mg/L | 2.83 | mg/L | SM 5210 B | Apex Laboratories | A3E1133-02 | 2023/05/15 | 11:34 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 22.1 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | <0.00200 | mg/L | U | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | <0.00200 | mg/L | U,H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-02 | 2023/05/18 | 14:15 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | 435 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A3E1133-02 | 2023/05/09 | 17:27 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 90.2 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.38 | mg/L | U,O-01 | NR | mg/L | 5.38 | mg/L | EPA 1664B | Apex Laboratories | A3E1133-02 | 2023/05/17 | 13:30 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3E1133-02 | 2023/05/09 | 10:06 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.000221 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-02 | 2023/05/18 | 14:15 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 8.49 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 1.03 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3E1133-02 | 2023/05/08 | 18:39 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0624 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-02 | 2023/05/09 | 09:02 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-02 | 2023/05/08 | 15:53 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 20.3 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-02 | 2023/05/08 | 15:53 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.115 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-02 | 2023/05/16 | 17:30 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 152 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3E1133-02 | 2023/05/11 | 18:49 | | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | <5.00 | mg/L | U,EST_s | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3E1133-02 | 2023/05/11 | 16:34 | Solids results are reported as estimates when less than 2.5 mg residue is recovered dur | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.0105 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-02 | 2023/05/18 | 14:15 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 12--WALTA VISTA | 2023/05/08 | 11:00 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.0149 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-02 | 2023/05/17 | 23:01 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | 0.0990 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2I0787-03 | 2022/09/27 | 16:16 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | <1.97 | mg/L | U | NR | mg/L | 1.97 | mg/L | SM 5210 B | Apex Laboratories | A2I0787-03 | 2022/10/03 | 14:50 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 22.2 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | <0.00200 | mg/L | U | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | <0.00200 | mg/L | U,H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-03 | 2022/10/05 | 05:40 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | 95.9 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2I0787-03 | 2022/09/27 | 17:33 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 94.6 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2I0787-03 | 2022/09/27 | 12:13 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | <0.000200 | mg/L | U | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-03 | 2022/10/05 | 05:40 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 9.52 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 0.837 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2I0787-03 | 2022/09/27 | 10:22 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0721 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-03RE1 | 2022/09/27 | 16:45 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.7 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-03RE1 | 2022/09/27 | 10:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 21.4 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-03RE1 | 2022/09/27 | 10:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.135 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-03 | 2022/09/28 | 17:37 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 179 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2I0787-03 | 2022/09/26 | 19:20 | | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 1.20 | mg/L | SL-1 | NR | mg/L | 1.00 | mg/L | SM 2540 D | Apex Laboratories | A2I0787-03 | 2022/09/27 | 12:27 | Result is considered an estimated value. Less than 1 liter of sample was used in analysis | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Zinc, Dissolved | 7440-66-6 | 0.00443 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-03 | 2022/10/05 | 05:40 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 15 -- FAIROAKS | 2022/09/26 | 11:20 | PDT | Water | Sample | #N/A | | Zinc, Total | 7440-66-6 | 0.00663 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-03 | 2022/10/01 | 00:39 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Ammonia as N, Total | NH4 | <0.0200 | mg/L | U | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2J0754-03 | 2022/10/25 | 12:01 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Biochemical Oxygen Demand, Total | BOD5 | 2.03 | mg/L | | NR | mg/L | 1.71 | mg/L | SM 5210 B | Apex Laboratories | A2J0754-03 | 2022/10/31 | 13:15 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Calcium, Total | 7440-70-2 | 12.6 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Copper, Dissolved | 7440-50-8 | 0.00578 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-03 | 2022/10/27 | 15:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Copper, Total | 7440-50-8 | 0.00712 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | E. coli, Total | E.coli | > 2420 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2J0754-03 | 2022/10/25 | 17:57 | > 2420 | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Hardness, Total | HARD | 50.0 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | HEM (Oil and Grease), Total | HEM | <5.10 | mg/L | U,O-01 | NR | mg/L | 5.10 | mg/L | EPA 1664B | Apex Laboratories | A2J0754-03 | 2022/11/07 | 09:25 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2J0754-03 | 2022/10/24 | 16:48 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Lead, Dissolved | 7439-92-1 | 0.000262 | mg/L | H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-03RE1 | 2022/10/28 | 22:57 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Lead, Total | 7439-92-1 | 0.000816 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Magnesium, Total | 7439-95-4 | 4.48 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Nitrate-Nitrogen, Total | 7727-37-9 | 0.279 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2J0754-03RE1 | 2022/10/25 | 17:33 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.103 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-03 | 2022/10/24 | 18:05 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | pH, Total | pH | 7.8 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-03 | 2022/10/24 | 18:14 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | pH Temperature (deg C), Total | pH Temp | 24.8 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-03 | 2022/10/24 | 18:14 | Sample Analysis or Filtration was performed >15 minutes after sample collection. Cons | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Phosphorus, Total | 7723-14-0 | 0.132 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-03 | 2022/10/27 | 16:48 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Total Dissolved Solids, Total | TDS | 109 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2J0754-03RE1 | 2022/10/28 | 18:00 | | | |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | #N/A | | Total Suspended Solids, Total | TSS | 9.00 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A2J0754-03 | 2022/10/25 | 18:09 | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0330 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-03 | 2022/10/27 | 15:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 15--FAIROAKS | 2022/10/24 | 11:30 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.0455 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-03 | 2022/11/03 | 11:33 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | <0.0200 | mg/L | U | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3E1133-03 | 2023/05/09 | 12:42 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | <2.83 | mg/L | U | NR | mg/L | 2.83 | mg/L | SM 5210 B | Apex Laboratories | A3E1133-03 | 2023/05/15 | 11:34 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 19.1 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | <0.00200 | mg/L | U | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | <0.00200 | mg/L | U,H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-03 | 2023/05/18 | 14:24 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | E. coli, Total | E.coli | 147 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A3E1133-03 | 2023/05/09 | 17:27 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 76.8 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <5.15 | mg/L | U,O-01 | NR | mg/L | 5.15 | mg/L | EPA 1664B | Apex Laboratories | A3E1133-03 | 2023/05/17 | 13:30 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3E1133-03 | 2023/05/09 | 10:07 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.000256 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-03 | 2023/05/18 | 14:24 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 7.04 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 0.885 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3E1133-03 | 2023/05/08 | 19:01 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0519 | mg/L | Q-42 | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-03 | 2023/05/09 | 09:03 | Matrix Spike and/or Duplicate analysis was performed on this sample. % Recovery or R |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.5 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-03 | 2023/05/08 | 15:55 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 19.7 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-03 | 2023/05/08 | 15:55 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | <0.100 | mg/L | U | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-03 | 2023/05/16 | 17:30 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 122 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3E1133-03 | 2023/05/11 | 18:49 | |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | <5.00 | mg/L | U,EST_s | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3E1133-03 | 2023/05/11 | 16:34 | Solids results are reported as estimates when less than 2.5 mg residue is recovered dur |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0214 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-03 | 2023/05/18 | 14:24 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 15--FAIROAKS | 2023/05/08 | 10:30 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.0245 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-03 | 2023/05/17 | 23:10 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | 0.0410 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2I0787-01 | 2022/09/27 | 16:13 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | <1.97 | mg/L | U | NR | mg/L | 1.97 | mg/L | SM 5210 B | Apex Laboratories | A2I0787-01 | 2022/10/03 | 14:50 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 20.7 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.00201 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | <0.00200 | mg/L | U,H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-01 | 2022/10/05 | 05:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | E. coli, Total | E.coli | 326 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2I0787-01 | 2022/09/27 | 17:33 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 80.1 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2I0787-01 | 2022/09/27 | 12:13 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.000514 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-01 | 2022/10/05 | 05:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 6.91 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 0.823 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2I0787-01 | 2022/09/27 | 08:55 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0498 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-01RE1 | 2022/09/27 | 16:43 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-01 | 2022/09/26 | 15:23 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 19.1 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2I0787-01 | 2022/09/26 | 15:23 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | 0.170 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2I0787-01 | 2022/09/28 | 17:36 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 159 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2I0787-01 | 2022/09/26 | 19:20 | |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 4.60 | mg/L | SL-1 | NR | mg/L | 1.00 | mg/L | SM 2540 D | Apex Laboratories | A2I0787-01 | 2022/09/27 | 12:27 | Result is considered an estimated value. Less than 1 liter of sample was used in analysi |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.00473 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2I0787-01 | 2022/10/05 | 05:20 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3 -- PARK AVE | 2022/09/26 | 10:20 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.00976 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2I0787-01 | 2022/10/01 | 00:28 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | 0.0310 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A2J0754-01 | 2022/10/25 | 11:58 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | 7.68 | mg/L | | NR | mg/L | 1.65 | mg/L | SM 5210 B | Apex Laboratories | A2J0754-01 | 2022/10/31 | 10:05 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 14.3 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | 0.00479 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-01 | 2022/10/27 | 14:52 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.00483 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | E. coli, Total | E.coli | 2420 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A2J0754-01 | 2022/10/25 | 17:57 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 54.7 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <4.95 | mg/L | U,O-01 | NR | mg/L | 4.95 | mg/L | EPA 1664B | Apex Laboratories | A2J0754-01 | 2022/11/15 | 13:56 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A2J0754-01 | 2022/10/24 | 16:58 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.00122 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-01 | 2022/10/27 | 14:52 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 4.63 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 1.05 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A2J0754-01RE1 | 2022/10/25 | 16:50 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0606 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-01 | 2022/10/24 | 18:03 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.9 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-01 | 2022/10/24 | 18:08 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 25.0 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A2J0754-01 | 2022/10/24 | 18:08 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | 0.111 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A2J0754-01 | 2022/10/27 | 16:46 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 124 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A2J0754-01RE1 | 2022/10/28 | 18:00 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 10.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A2J0754-01 | 2022/10/25 | 18:09 | |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0108 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A2J0754-01 | 2022/10/27 | 14:52 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2022/10/24 | 10:00 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.0196 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A2J0754-01 | 2022/11/03 | 11:23 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | <0.0200 | mg/L | U | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3E1133-01RE1 | 2023/05/09 | 12:56 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | <2.83 | mg/L | U | NR | mg/L | 2.83 | mg/L | SM 5210 B | Apex Laboratories | A3E1133-01 | 2023/05/15 | 11:34 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 20.0 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | 0.00244 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-01 | 2023/05/18 | 14:05 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.00462 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | E. coli, Total | E.coli | 69.7 | MPN/100 mL | | NR | MPN/100 mL | 1.00 | MPN/100 mL | SM 9223 B | Apex Laboratories | A3E1133-01 | 2023/05/09 | 17:27 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 77.0 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <5.43 | mg/L | U,O-01 | NR | mg/L | 5.43 | mg/L | EPA 1664B | Apex Laboratories | A3E1133-01 | 2023/05/17 | 13:30 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3E1133-01 | 2023/05/09 | 10:04 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.000656 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-01 | 2023/05/18 | 14:05 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 6.56 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 1.32 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3E1133-01 | 2023/05/08 | 18:18 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0459 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-01 | 2023/05/09 | 09:02 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-01 | 2023/05/08 | 15:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 20.6 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3E1133-01 | 2023/05/08 | 15:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | <0.100 | mg/L | U | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3E1133-01 | 2023/05/16 | 17:29 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 124 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3E1133-01 | 2023/05/11 | 18:49 | |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 9.00 | mg/L | EST_s | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3E1133-01 | 2023/05/11 | 16:34 | Solids results are reported as estimates when less than 2.5 mg residue is recovered dur |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0151 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3E1133-01 | 2023/05/18 | 14:05 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW 3--PARK AVE | 2023/05/08 | 10:00 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.0217 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3E1133-01 | 2023/05/17 | 22:46 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | 0.0380 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3C0446-02 | 2023/03/16 | 19:16 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | <3.35 | mg/L | U | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0446-02 | 2023/03/20 | 13:48 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 5.84 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-02RE1 | 2023/03/24 | 21:52 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | 0.00244 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-02 | 2023/03/15 | 19:41 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.0128 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-02 | 2023/03/23 | 23:41 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | E. coli, Total | NA | 2420 | MPN/100 mL | WC | NR | MPN/100 mL | 1 | MPN/100 mL | SM 9223B (colilert- | Alexin Analytical Laborat | A3C0446-02 | 2023/03/14 | 11:10 | Sample was received in a container not provided by the laboratory. |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 22.1 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3C0446-02 | 2023/03/24 | 21:52 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <5.32 | mg/L | U,O-01 | NR | mg/L | 5.32 | mg/L | EPA 1664B | Apex Laboratories | A3C0446-02 | 2023/03/22 | 10:50 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3C0446-02 | 2023/03/13 | 16:38 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.00722 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-02 | 2023/03/23 | 23:41 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-02 | 2023/03/15 | 19:41 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 1.83 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-02 | 2023/03/23 | 23:41 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 0.593 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3C0446-02 | 2023/03/13 | 19:55 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0666 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-02 | 2023/03/13 | 15:41 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.4 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-02 | 2023/03/13 | 17:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 22.8 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-02 | 2023/03/13 | 17:51 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | 0.288 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-02 | 2023/03/24 | 17:40 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 79.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3C0446-02 | 2023/03/17 | 18:41 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 117 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3C0446-02 | 2023/03/20 | 11:54 | |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0202 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-02 | 2023/03/15 | 19:41 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.0993 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-02 | 2023/03/23 | 23:41 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | 0.0340 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3C0446-03 | 2023/03/16 | 19:18 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | 4.69 | mg/L | B,B, B-06 | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0446-03 | 2023/03/20 | 13:48 | Analyte detected in an associated blank at a level above the MRL. (See Notes and Conv |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | 4.69 | mg/L | B,B, B-06 | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0446-03 | 2023/03/20 | 13:48 | Oxygen drop for dilution water was above the acceptance limit and could contribute to |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 7.13 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-03RE1 | 2023/03/24 | 21:57 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | 0.00244 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-03 | 2023/03/15 | 19:47 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.0212 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-03 | 2023/03/23 | 23:45 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | E. coli, Total | NA | 1553 | MPN/100 mL | WC | NR | MPN/100 mL | 1 | MPN/100 mL | SM 9223B (colilert- | Alexin Analytical Laborat | A3C0446-03 | 2023/03/14 | 11:10 | Sample was received in a container not provided by the laboratory. |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 28.3 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3C0446-03 | 2023/03/24 | 21:57 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <5.26 | mg/L | U,O-01 | NR | mg/L | 5.26 | mg/L | EPA 1664B | Apex Laboratories | A3C0446-03 | 2023/03/22 | 10:50 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3C0446-03 | 2023/03/13 | 16:46 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.0183 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-03 | 2023/03/23 | 23:45 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | <0.000200 | mg/L | U,H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-03 | 2023/03/15 | 19:47 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 2.55 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-03 | 2023/03/23 | 23:45 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 0.656 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3C0446-03 | 2023/03/13 | 20:17 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.105 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-03 | 2023/03/13 | 15:42 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.4 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-03 | 2023/03/13 | 17:56 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 23.3 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-03 | 2023/03/13 | 17:56 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | 0.564 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-03 | 2023/03/24 | 17:40 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 67.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3C0446-03 | 2023/03/17 | 18:41 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 281 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3C0446-03 | 2023/03/20 | 11:54 | |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0190 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-03 | 2023/03/15 | 19:47 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.177 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-03 | 2023/03/23 | 23:45 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Ammonia as N, Total | NH4 | 0.0300 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-NH3 G | Apex Laboratories | A3C0446-01 | 2023/03/16 | 19:10 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | 3.65 | mg/L | B,B, B-06 | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0446-01 | 2023/03/20 | 13:48 | Analyte detected in an associated blank at a level above the MRL. (See Notes and Conv |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Biochemical Oxygen Demand, Total | BOD5 | 3.65 | mg/L | B,B, B-06 | NR | mg/L | 3.35 | mg/L | SM 5210 B | Apex Laboratories | A3C0446-01 | 2023/03/20 | 13:48 | Oxygen drop for dilution water was above the acceptance limit and could contribute to |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Calcium, Total | 7440-70-2 | 6.86 | mg/L | | NR | mg/L | 0.600 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-01RE1 | 2023/03/24 | 21:36 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Copper, Dissolved | 7440-50-8 | 0.00221 | mg/L | H-13 | NR | mg/L | 0.00200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-01 | 2023/03/15 | 19:36 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Copper, Total | 7440-50-8 | 0.0157 | mg/L | | NR | mg/L | 0.00200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-01 | 2023/03/23 | 23:36 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | E. coli, Total | NA | 1414 | MPN/100 mL | WC | NR | MPN/100 mL | 1 | MPN/100 mL | SM 9223B (colilert- | Alexin Analytical Laborat | A3C0446-01 | 2023/03/14 | 11:10 | Sample was received in a container not provided by the laboratory. |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Hardness, Total | HARD | 24.6 | mg CaCO3/L | | NR | mg CaCO3/L | 2.12 | mg CaCO3/L | SM 2340B | Apex Laboratories | A3C0446-01 | 2023/03/24 | 21:36 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | HEM (Oil and Grease), Total | HEM | <5.21 | mg/L | U,O-01 | NR | mg/L | 5.21 | mg/L | EPA 1664B | Apex Laboratories | A3C0446-01 | 2023/03/22 | 10:50 | Result for total Hexane Extractable Material (HEM) is below reporting level for this sam |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Lab Filtration (prep only)REMOVE | NA | PREP | N/A | | NR | N/A | | N/A | NA | Apex Laboratories | A3C0446-01 | 2023/03/13 | 16:31 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Lead, Dissolved | 7439-92-1 | 0.000214 | mg/L | H-13 | NR | mg/L | 0.000200 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-01 | 2023/03/15 | 19:36 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Lead, Total | 7439-92-1 | 0.0192 | mg/L | | NR | mg/L | 0.000200 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-01 | 2023/03/23 | 23:36 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Magnesium, Total | 7439-95-4 | 1.83 | mg/L | | NR | mg/L | 0.150 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-01 | 2023/03/23 | 23:36 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Nitrate-Nitrogen, Total | 7727-37-9 | 0.878 | mg/L | | NR | mg/L | 0.250 | mg/L | EPA 300.0 | Apex Laboratories | A3C0446-01 | 2023/03/13 | 18:51 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Orthophosphate Phosphorus, Total | 264888-19-9 | 0.0693 | mg/L | | NR | mg/L | 0.0200 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-01 | 2023/03/13 | 15:41 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | pH, Total | pH | 7.4 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-01 | 2023/03/13 | 17:46 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | pH Temperature (deg C), Total | pH Temp | 23.9 | pH Units | H-12 | NR | pH Units | | pH Units | SM 4500-H+ B | Apex Laboratories | A3C0446-01 | 2023/03/13 | 17:46 | Sample Analysis or Filtration was performed >15 minutes after sample collection.  Cons |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Phosphorus, Total | 7723-14-0 | 0.451 | mg/L | | NR | mg/L | 0.100 | mg/L | SM 4500-P E | Apex Laboratories | A3C0446-01 | 2023/03/24 | 17:38 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Total Dissolved Solids, Total | TDS | 61.0 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 C | Apex Laboratories | A3C0446-01 | 2023/03/17 | 18:41 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Total Suspended Solids, Total | TSS | 157 | mg/L | | NR | mg/L | 5.00 | mg/L | SM 2540 D | Apex Laboratories | A3C0446-01 | 2023/03/20 | 11:54 | |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Zinc, Dissolved | 7440-66-6 | 0.0156 | mg/L | H-13 | NR | mg/L | 0.00400 | mg/L | EPA 200.8 (Diss) | Apex Laboratories | A3C0446-01 | 2023/03/15 | 19:36 | Sample collection is not compliant with 40 CFR Part 136, including sample filtration and |
| SW3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Water | Sample | | #N/A | Zinc, Total | 7440-66-6 | 0.113 | mg/L | | NR | mg/L | 0.00400 | mg/L | EPA 200.8 | Apex Laboratories | A3C0446-01 | 2023/03/23 | 23:36 | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SW3 -- PARKAVE | 2022/09/26 | 10:20 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:202209261020:FM | Field Meter | Field LDO | | 9.52 | mg/l | | NR | mg/l | None | mg/l | 10360 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/09/26 | 10:20 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:202209261020:FM | Field Meter | Field CDC | | 196.2 | mS/cm | | NR | mS/cm | None | mS/cm | 8160 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/09/26 | 10:20 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:202209261020:FM | Field Meter | Field pH | | 7.39 | pH Units | | NR | pH Units | None | pH Units | 8156 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/09/26 | 10:20 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:202209261020:FM | Field Meter | Field Temperature | | 16.4 | deg C | | NR | deg C | None | deg C | 8375 | OLWS Staff | Field Sample | | |
| SW12 -- WALTAVISTA | 2022/09/26 | 10:50 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:202209261050:FM | Field Meter | Field LDO | | 8.24 | mg/l | | NR | mg/l | None | mg/l | 10360 | OLWS Staff | Field Sample | | |
| SW12 -- WALTAVISTA | 2022/09/26 | 10:50 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:202209261050:FM | Field Meter | Field CDC | | 242 | mS/cm | | NR | mS/cm | None | mS/cm | 8160 | OLWS Staff | Field Sample | | |
| SW12 -- WALTAVISTA | 2022/09/26 | 10:50 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:202209261050:FM | Field Meter | Field pH | | 7.36 | pH Units | | NR | pH Units | None | pH Units | 8156 | OLWS Staff | Field Sample | | |
| SW12 -- WALTAVISTA | 2022/09/26 | 10:50 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:202209261050:FM | Field Meter | Field Temperature | | 16.3 | deg C | | NR | deg C | None | deg C | 8375 | OLWS Staff | Field Sample | | |
| SW15 -- FAIROAKS | 2022/09/26 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:202209261030:FM | Field Meter | Field LDO | | 7.35 | mg/l | | NR | mg/l | None | mg/l | 10360 | OLWS Staff | Field Sample | | |
| SW15 -- FAIROAKS | 2022/09/26 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:202209261030:FM | Field Meter | Field CDC | | 220 | mS/cm | | NR | mS/cm | None | mS/cm | 8160 | OLWS Staff | Field Sample | | |
| SW15 -- FAIROAKS | 2022/09/26 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:202209261030:FM | Field Meter | Field pH | | 7.4 | pH Units | | NR | pH Units | None | pH Units | 8156 | OLWS Staff | Field Sample | | |
| SW15 -- FAIROAKS | 2022/09/26 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:202209261030:FM | Field Meter | Field Temperature | | 18.1 | deg C | | NR | deg C | None | deg C | 8375 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/10/24 | 10:00 | PDT | Stormwater | Field Measurement/Observation | SW3 -- PARKAVE:202210241000:FM | Field Meter | Field LDO | | 9.81 | mg/l | | NR | mg/l | None | mg/l | 10360 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/10/24 | 10:00 | PDT | Stormwater | Field Measurement/Observation | SW3 -- PARKAVE:202210241000:FM | Field Meter | Field CDC | | 165.5 | mS/cm | | NR | mS/cm | None | mS/cm | 8160 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/10/24 | 10:00 | PDT | Stormwater | Field Measurement/Observation | SW3 -- PARKAVE:202210241000:FM | Field Meter | Field pH | | 7.48 | pH Units | | NR | pH Units | None | pH Units | 8156 | OLWS Staff | Field Sample | | |
| SW3 -- PARKAVE | 2022/10/24 | 10:00 | PDT | Stormwater | Field Measurement/Observation | SW3 -- PARKAVE:202210241000:FM | Field Meter | Field Temperature | | 12.8 | deg C | | NR | deg C | None | deg C | 8375 | OLWS Staff | Field Sample | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SW12 -- WALTAVISTA | 2022/10/24 | 11:00 | PDT | Stormwater | Field Measurement/Observation | SW12 -- WALTAVISTA:20221024110 | FM Field Meter | Field LDO | 9.87 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2022/10/24 | 11:00 | PDT | Stormwater | Field Measurement/Observation | SW12 -- WALTAVISTA:20221024110 | FM Field Meter | Field CDC | 104.8 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2022/10/24 | 11:00 | PDT | Stormwater | Field Measurement/Observation | SW12 -- WALTAVISTA:20221024110 | FM Field Meter | Field pH | 7.53 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2022/10/24 | 11:00 | PDT | Stormwater | Field Measurement/Observation | SW12 -- WALTAVISTA:20221024110 | FM Field Meter | Field Temperature | 13.1 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2022/10/24 | 11:30 | PDT | Stormwater | Field Measurement/Observation | SW15 -- FAIROAKS:20221024113 | FM Field Meter | Field LDO | 8.84 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2022/10/24 | 11:30 | PDT | Stormwater | Field Measurement/Observation | SW15 -- FAIROAKS:20221024113 | FM Field Meter | Field CDC | 136.6 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2022/10/24 | 11:30 | PDT | Stormwater | Field Measurement/Observation | SW15 -- FAIROAKS:20221024113 | FM Field Meter | Field pH | 7.5 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2022/10/24 | 11:30 | PDT | Stormwater | Field Measurement/Observation | SW15 -- FAIROAKS:20221024113 | FM Field Meter | Field Temperature | 11 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2022/10/24 | 10:30 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20221024103 | FM Field Meter | Field LDO | 10.36 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2022/10/24 | 10:30 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20221024103 | FM Field Meter | Field CDC | 86.7 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2022/10/24 | 10:30 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20221024103 | FM Field Meter | Field pH | 7.72 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2022/10/24 | 10:30 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20221024103 | FM Field Meter | Field Temperature | 13.7 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2023/03/13 | 10:45 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20230311045 | FM Field Meter | Field LDO | 11.78 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2023/03/13 | 10:45 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20230311045 | FM Field Meter | Field CDC | 52.8 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2023/03/13 | 10:45 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20230311045 | FM Field Meter | Field pH | 7.76 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW8 -- N40-0541NAEF | 2023/03/13 | 10:45 | PDT | Stormwater | Field Measurement/Observation | SW8 -- N40-0541NAEF:20230311045 | FM Field Meter | Field Temperature | 8 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW 3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Stormwater | Field Measurement/Observation | SW 3 -- PARK AVE:20230313093 | FM Field Meter | Field LDO | 10.96 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW 3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Stormwater | Field Measurement/Observation | SW 3 -- PARK AVE:20230313093 | FM Field Meter | Field CDC | 68.9 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW 3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Stormwater | Field Measurement/Observation | SW 3 -- PARK AVE:20230313093 | FM Field Meter | Field pH | 7.69 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW 3 -- PARK AVE | 2023/03/13 | 09:30 | PDT | Stormwater | Field Measurement/Observation | SW 3 -- PARK AVE:20230313093 | FM Field Meter | Field Temperature | 9.1 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW 12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Stormwater | Field Measurement/Observation | SW 12 -- WALTA VISTA:20230313102 | FM Field Meter | Field LDO | 11.2 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW 12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Stormwater | Field Measurement/Observation | SW 12 -- WALTA VISTA:20230313102 | FM Field Meter | Field CDC | 49.7 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW 12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Stormwater | Field Measurement/Observation | SW 12 -- WALTA VISTA:20230313102 | FM Field Meter | Field pH | 7.58 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW 12 -- WALTA VISTA | 2023/03/13 | 10:22 | PDT | Stormwater | Field Measurement/Observation | SW 12 -- WALTA VISTA:20230313102 | FM Field Meter | Field Temperature | 8.4 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW 15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Stormwater | Field Measurement/Observation | SW 15 -- FAIROAKS:20230313095 | FM Field Meter | Field LDO | 11.12 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW 15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Stormwater | Field Measurement/Observation | SW 15 -- FAIROAKS:20230313095 | FM Field Meter | Field CDC | 43 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW 15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Stormwater | Field Measurement/Observation | SW 15 -- FAIROAKS:20230313095 | FM Field Meter | Field pH | 7.45 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW 15 -- FAIROAKS | 2023/03/13 | 09:57 | PDT | Stormwater | Field Measurement/Observation | SW 15 -- FAIROAKS:20230313095 | FM Field Meter | Field Temperature | 8.6 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| N40-0541 -- NAEF | 2023/04/10 | 10:00 | PDT | Stormwater | Field Measurement/Observation | N40-0541 -- NAEF:20230410100 | FM Field Meter | Field LDO | 10.33 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| N40-0541 -- NAEF | 2023/04/10 | 10:00 | PDT | Stormwater | Field Measurement/Observation | N40-0541 -- NAEF:20230410100 | FM Field Meter | Field CDC | 111.7 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| N40-0541 -- NAEF | 2023/04/10 | 10:00 | PDT | Stormwater | Field Measurement/Observation | N40-0541 -- NAEF:20230410100 | FM Field Meter | Field pH | 7.58 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| N40-0541 -- NAEF | 2023/04/10 | 10:00 | PDT | Stormwater | Field Measurement/Observation | N40-0541 -- NAEF:20230410100 | FM Field Meter | Field Temperature | 11.5 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW3 -- PARKAVE | 2023/05/08 | 10:00 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:20230508100 | FM Field Meter | Field LDO | 9.89 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW3 -- PARKAVE | 2023/05/08 | 10:00 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:20230508100 | FM Field Meter | Field CDC | 229 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW3 -- PARKAVE | 2023/05/08 | 10:00 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:20230508100 | FM Field Meter | Field pH | 7.32 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW3 -- PARKAVE | 2023/05/08 | 10:00 | PDT | Surface Water | Field Measurement/Observation | SW3 -- PARKAVE:20230508100 | FM Field Meter | Field Temperature | 12.6 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2023/05/08 | 11:00 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:20230508110 | FM Field Meter | Field LDO | 9.56 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2023/05/08 | 11:00 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:20230508110 | FM Field Meter | Field CDC | 213 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2023/05/08 | 11:00 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:20230508110 | FM Field Meter | Field pH | 7.27 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW12 -- WALTAVISTA | 2023/05/08 | 11:00 | PDT | Surface Water | Field Measurement/Observation | SW12 -- WALTAVISTA:20230508110 | FM Field Meter | Field Temperature | 12.8 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2023/05/08 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:20230508103 | FM Field Meter | Field LDO | 9.89 | mg/l | NR | mg/l | None | mg/l | 10360 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2023/05/08 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:20230508103 | FM Field Meter | Field CDC | 184.3 | mS/cm | NR | mS/cm | None | mS/cm | 8160 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2023/05/08 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:20230508103 | FM Field Meter | Field pH | 7.53 | pH Units | NR | pH Units | None | pH Units | 8156 OLWS Staff | Field Sample |
| SW15 -- FAIROAKS | 2023/05/08 | 10:30 | PDT | Surface Water | Field Measurement/Observation | SW15 -- FAIROAKS:20230508103 | FM Field Meter | Field Temperature | 12.9 | deg C | NR | deg C | None | deg C | 8375 OLWS Staff | Field Sample |

# Appendix C

# Mercury Minimization Assessment for Oak Lodge Water Services (OLWS)

A Total Maximum Daily Load (TMDL) is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet applicable water quality standards. TMDLs assign wasteload allocations (WLAs) to point sources of pollutants, and load allocations (LAs) to nonpoint sources of pollutants. The Oregon Department of Environmental Quality (DEQ) has the regulatory authority to implement TMDL programs in Oregon with responsibility for: 1) requiring and reviewing TMDL Implementation Plans for nonpoint sources; and 2) incorporating TMDL related requirements for point sources in NPDES permits. Therefore, with respect to municipal stormwater discharges regulated under an NPDES MS4 permit, DEQ includes TMDL requirements directly within those permits.

As stated in DEQ's Permit Evaluation Report (PER) for the 2021 Clackamas Group NPDES MS4 Permit,

> "*DEQ has determined that implementation of the permit conditions, BMPs identified in the SWMP Document, and the adaptive management process will meet TMDL WLAs for municipal stormwater* (PER, pp 36)."

The Clackamas Group NPDES MS4 permit identifies applicable TMDLs and associated WLAs. Schedule D, *Special Conditions* of the permit lists specific conditions for addressing those TMDLs. These permit conditions include requirements to conduct a TMDL pollutant load reduction evaluation in comparison to assigned WLAs for stormwater, and to develop pollutant load reduction benchmarks targeting achievement of WLAs for specified TMDL pollutants over time. DEQ included TMDL requirements in the 2005, 2012, and the recently issued 2021 NPDES MS4 permits for Phase I permittees.

OLWS has complied with permit requirements to conduct pollutant load reduction evaluations and establish TMDL pollutant load reduction benchmarks. However, WLAs were not established for mercury until 2021 and, therefore, mercury was neither required nor included in OLWS's prior TMDL analyses.[1] The 2021 mercury TMDL includes a water quality management plan (WQMP) developed by DEQ, that outlines management strategies for both point and nonpoint sources of mercury. Specific management strategies for OLWS, and Phase I NPDES MS4 permittees are outlined in Sections 13.3.1.21 and 13.3.2.2 respectively of the revised TMDL (Appendix A) and were subsequently included in Schedule D.3.b of the Clackamas Group NPDES MS4 permit. Per Schedule D.3.b, requirements specific for mercury are detailed below:

*i. Develop and submit a mercury minimization assessment with the annual report due December 1, 2022, that documents the current actions, such as BMPs implemented, that*

[1] Mercury was originally included in the 2006 Willamette River TMDL, but establishment of WLAs was deferred due to lack of data. On November 22, 2019, DEQ issued a revised Willamette River TMDL for mercury. The United States Environmental Protection Agency (EPA) disapproved DEQ's TMDL on December 30th, 2019 and the final TMDL was issued on February 4, 2021.

*reduce the amount of solids discharged into and from the permitted MS4 system (similar to the actions currently required in Schedule A). If the assessment indicates that mercury and sediment reducing BMPs are fully incorporated into the SWMP Document, a report documenting the results as such is sufficient.*

ii. *Continued implementation of the BMPs and other actions described in the mercury minimization assessment that are effective for mercury reduction, along with documentation of implementation in each subsequent annual report.*

iii. *An analysis of the effectiveness of the best management practices and any other actions taken and qualitative pollutant load reductions achieved in the MS4 Permit Renewal Application Package. Due to data limitations, mercury benchmarks are not applicable in the first permit cycle after the TMDL is finalized.*

iv. *Collection of paired total mercury and total suspended solids samples, as described in Schedule B.*

v. *Submittal of paired mercury and total suspended solids monitoring data in the appropriate DEQ data submission template. Given the lack of sufficient mercury data, pollutant load reduction evaluations, benchmarks, and waste load allocation attainment analyses for mercury will not be required in this permit cycle.*

The purpose of this Mercury Minimization Assessment, included with OLWS's 2022 MS4 Annual Compliance Report is to address the requirement outlined in bullet *i.* above.

Chapter 4 of EPA's 2021 *TMDL for Mercury in the Willamette Basin* includes summary information regarding mercury sources. Atmospheric deposition of mercury from global sources is presented as the dominant source of mercury in the Willamette River Basin. Additional sources identified include nonpoint sources such as runoff from forestry and agricultural land management practices that can transport sediment and mercury to streams; background/anthropogenic sources that include mercury in groundwater due to local geology, and naturally occurring sediment-bound mercury that is eroded and transported to streams; and point sources such as municipal waste discharges, industrial discharges, suction dredge mining and stormwater. Mercury loads in urban stormwater are believed to be predominantly associated with atmospheric deposition and active erosion or transport of sediment that is carried in runoff to downstream water bodies. As a result, stormwater best management practices (BMPs) implemented by NPDES MS4 permittees are focused on reducing the discharge of sediment as the primary method to reduce discharges of mercury.

The prevention and reduction of sediment in runoff has been a focus of OLWS's stormwater management program since the first MS4 permit-required Stormwater Management Plan (SWMP) was developed in the early 1990's. OLWS uses an adaptive management approach to continually improve upon existing stormwater BMPs over time as new knowledge is gained regarding the effectiveness and efficiency of these practices. OLWS has submitted the results of its adaptive management process every year in annual reports since the original SWMP became effective. OLWS has also conducted detailed quantitative and qualitative adaptive management analyses as part of each NPDES MS4 permit renewal. OLWS's 2022 MS4 Annual Compliance Report, due to DEQ on

December 1, 2022, provides the latest summary of BMP implementation according to the pre-existing 2013 SWMP. A new SWMP that meets the conditions of the recently issued 2021 NPDES MS4 permit is also being submitted to DEQ for approval on December 1, 2022.

Based on OLWS's long-term ongoing adaptive management process, a review of the current/approved 2013 SWMP, and a comprehensive MS4 program evaluation and update as per the 2021 permit, we have determined that **effective sediment and mercury reducing BMPs are fully incorporated into OLWS's new/proposed 2022 SWMP Document**. BMP tables in the proposed SWMP (Section 2) provide a cross-reference of each strategy to potential TMDL pollutants addressed, including mercury (i.e., by way of addressing sediments). To meet the NPDES MS4 permit standard, these BMPs have been developed as part of an overall program to reduce pollutants to the maximum extent practicable (MEP).

In summary, OLWS's BMPs, or Stormwater Program Management Control Measures as termed in the 2022 SWMP, include the following major categories of BMPs and activities that prevent sediment and mercury in stormwater discharges:

- Public Education and Outreach (Section 2.1)
- Public Involvement and Participation (Section 2.2)
- Illicit Discharge Detection and Elimination (Section 2.3)
- Construction Site Runoff Control (Section 2.4)
- Post-Construction Site Runoff for New Development and Redevelopment (Section 2.5)
- Pollution Prevention and Good Housekeeping for Municipal Operations (Section 2.6)
- Industrial and Commercial Facilities (Section 2.7)

The 2022 SWMP includes descriptions of each major category of BMPs and describes the individual BMPs within the category, including tasks, measurable goals and tracking measures. As noted in the BMP tables, nearly all program activities support the prevention and reduction of mercury and sediment.

Further, OLWS submitted an updated TMDL Implementation Plan in September 2022 that addresses requirements of the 2021 *TMDL for Mercury in the Willamette Basin* for nonpoint sources of mercury.

As a result of this Mercury Minimization Assessment, OLWS finds that sediment and mercury reducing BMPs are fully incorporated into the SWMP Document.

## Winter Maintenance Activities for Oak Lodge Water Services (OLWS)

OLWS relies on Clackamas County for operation and maintenance of its road system, and winter maintenance activities are an integral part of road maintenance. Clackamas County Department of Transportation and Development has confirmed its ability to provide overall annual information on winter maintenance activities occurring within the OLWS boundary, including application of deicing materials, and application and removal of sand or gravel. OLWS will report annually in the BMPs.

OAK LODGE
WATER SERVICES

# Memo

| | |
|---|---|
| **To:** | Oregon Department of Environmental Quality |
| **From:** | Brad Albert, Public Works Director / District Engineer |
| **Re:** | LID/GI Strategy: MS4 Permit #101348; Oak Lodge Water Services |
| **Date:** | November 2023 |

**Summary:** The purpose of this memo is to address the requirement to submit a Low Impact Development (LID) and Green Infrastructure (GI) Strategy for Oak Lodge Water Services (OLWS) per the Clackamas County group's Phase I National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer systems (MS4) #101348 (Clackamas NPDES MS4 permit October 1, 2021), Schedule A.3.e.ii. This permit deliverable requests clarification of the jurisdiction's strategy prioritizing Low Impact Development (LID) and Green Infrastructure (GI) to the maximum extent feasible by December 1, 2023.

**Background:** In the OLWS NPDES MS4 Permit, prioritization of Low Impact Development & Green Infrastructure is required:

> *"The co-permittees must, by December 1, 2023, review and update or develop and begin implementation of a strategy to require to the maximum extent feasible, the use of Low Impact Development and Green Infrastructure (LID/GI) design, planning, and engineering strategies intended to minimize effective impervious area or surfaces, and reduce the volume of stormwater discharge and the discharge of pollutants in stormwater runoff from development and redevelopment projects."*

**Current Standards: Prioritized LID/GI:** OLWS' current Design and Construction Standards (Standards) encourages and requires LID/GI components. These Standards are used to authorize and size many GI and vegetated surface water management facilities (SMFs). Specifically, Section 2.1005.04 Water Quality Standards prioritizes open, vegetated treatment facilities with other, alternative systems only approved with an exception by OLWS. The Standards reference the City of Portland's Stormwater Management Manual (SWMM) for selection and sizing of vegetated SMFs. Facilities typically approved include water quality swales, detention ponds/infiltration trenches, bioswales, downspout disconnections, subsurface infiltration, and tree box filters.

Based on precedence and practice, Oak Lodge typically only approves GI for sites that have sufficient infiltration rates.

The existing standards require infiltration analyses, and based on that analysis, allow for use of GI including raingardens, infiltration planters, bioretention, etc.. In all cases, Oak Lodge requires equivalent water quality treatment performance whether using GI or other vegetated SMFs.

The current Standards encourage, but do not require LID approaches such as impervious area reduction techniques (i.e., pervious pavement, green roofs, downspout disconnections) to the maximum extent feasible as required in the recent NPDES MS4 Phase I Permit. OLWS' Rules and Regulations do contain riparian buffer requirements and riparian tree retention as well as mitigation requirements, which further support LID principles but those are not detailed in conjunction with the District's Standards. As such, additional refinement of the District's Standards by the December 1, 2024 deadline are anticipated.

**Future Standards:** OLWS anticipates adopting applicable elements of Water Environment Services (WES') recently adopted (June 2023) Stormwater Standards. WES is also a co-permittee on the Clackamas Phase I NPDES MS4 Permit. Given the unique ownership situation of stormwater assets in OLWS, as well as a desire to maintain regional consistency, WES' updated stormwater standards were selected for tailoring and adoption. OLWS has observed hydromodification issues, and adoption of the WES standards, which have a defined focus on flow control, is seen as a distinct benefit.

Implementation of the current set of OLWS Standards has resulted in the installation of numerous GI-type facilities and will continue to be implemented until the update in 2024. Tailoring WES' Stormwater Standards to OLWS's particular needs will bring in the benefits of the new MS4 Permit requirements. Thus, LID/ GI will continue to be prioritized until OLWS' Standards are updated and adopted Adopting provisions of WES' 2023 Stormwater Standards will enhance the OLWS water quality treatment standards and further comply with the requirement of MS4 permit section 3.e.ii, Prioritization of Low Impact Development & Green Infrastructure.

Brown AND Caldwell

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# Technical Memorandum

Prepared for: Oak Lodge Water Services

Project Title: NPDES Support 2023-24

Project No.: 185495

**Technical Memorandum**

Subject: Infrastructure Retrofit and Hydromodification Assessment Update

Date: December 1, 2023

To: Lara Christensen

From: Natalie Chow, PE and Angela Wieland, P.E.

Reviewed by: _____
Angela Wieland, P.E.

*Limitations:*

*This document was prepared solely for Oak Lodge Water Services in accordance with professional standards at the time the services were performed and in accordance with the contract between Oak Lodge Water Services and Brown and Caldwell dated September 14, 2023. This document is governed by the specific scope of work authorized by Oak Lodge Water Services; it is not intended to be relied upon by any other party except for regulatory authorities contemplated by the scope of work. We have relied on information or instructions provided by Oak Lodge Water Services and other parties and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.*

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# Section 1: Introduction/Background

Oak Lodge Water Services (OLWS') 2012 Phase 1 National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) permit (Permit), Schedule A.5 required OLWS to conduct a hydromodification assessment to examine hydromodification impacts related to MS4 discharges, including erosion, sedimentation and/or alteration to stormwater flow, volume and duration that may cause or contribute to water quality degradation. The assessment and resulting report were required to "identify strategies and priorities for preventing or reducing hydromodification impacts related to the co-permittees MS4 discharges… and identify or develop effective tools to reduce hydromodification". The report was required for submittal to DEQ by July 1, 2015.

Also included in the 2012 NPDES MS4 Permit, in Schedule A.6., OLWS was required to develop a stormwater quality retrofit strategy applicable to developed areas of OLWS identified as impacting water quality and underserved or lacking stormwater controls. The strategy and resulting plan were required to include "a retrofit control measure project or approach priority list, including rationale, identification and map of potential stormwater retrofit locations where appropriate, and an estimated timeline and cost for implementation of each project or approach." As with the hydromodification assessment, the plan was also due to DEQ by July 1, 2015.

Schedule A.3.h of OLWS' 2021 NPDES MS4 Permit requires co-permittees by December 1, 2023, to "consider the impacts of policy, capital improvements, and retrofit projects on MS4 discharges to receiving waters, considering the goals and proposed actions described in the 2012 Permit's Hydromodification Assessment and Stormwater Retrofit Strategy reports (i.e., the 2015 submittals). Specifically, permittees are required to prepare "an assessment of any outcomes related to the Hydromodification Assessment and Stormwater Retrofit Strategy Reports." This assessment is required to include the following:

1. An assessment of how the Hydromodification Assessment and Stormwater Retrofit Strategy have been used, considered, or implemented since the time the reports were completed (see Sections 2.1 and 3.1);
2. Progress toward or completion of projects identified in the Retrofit Strategy priority list, and a qualitative assessment of the benefits of those projects (see Section 2.2);
3. Description of any further actions taken as a result of the Hydromodification Assessment, and a rationale for those actions since the writing of the reports (see Section 3.3);
4. Narrative describing progress toward addressing gaps in the hydromodification information or data related to waterbodies within the co-permittees' jurisdiction as identified in the Hydromodification Assessment (see Section 3.2); and,
5. New goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification and/or water quality impacts resulting from historical development/infrastructure, and for improving retrofit planning, considering information gathered in the time since the completion of the reports (see Sections 2.3 and 3.4).

The Permit requires the permittees to document this assessment in the third annual report (i.e., the 2023 annual report) as an appendix or subsection. This documented assessment was prepared to fulfill this requirement. Findings and results are based OLWS' review of completed and in-progress projects, historic code implementation, and pending programmatic and regulatory activities.



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TM_Hydromodification and Retrofit Strategy Update_to DEQ

# Section 2: 2015 Retrofit Strategy Summary

## 2.1 What was included in the Retrofit Strategy and how has it been used, considered, or implemented since 2015?

Incorporating water quality facilities into the existing stormwater system is known as a stormwater treatment retrofit. OLWS' 2015 Stormwater Retrofit Strategy and Plan (Retrofit Plan) established retrofit objectives and identified retrofit opportunities (projects) for future implementation.

Goals and objectives of OLWS's Retrofit Plan are like goals of OLWS' overall stormwater program and include:

- Emphasize use of non-structural methods as a preferred alternative in controlling runoff and pollution at the source.
- Emphasize protection of the ecological integrity of rivers, streams, wetlands, lakes, and riparian corridors.
- Integrate water quantity and quality to address the community's needs for surface water management with an emphasis on natural systems as a preferred alternative.
- Provide public involvement, public information, and public education to improve surface water management.
- Comply with local, state, and federal regulations regarding the protection of water quality.
- Provide funding for surface water management at a level that balances community needs and values.

These objectives aim to reduce damage to public and private property and hazards to public safety during floods, improve water quality by reducing discharge of pollutants into surface waters, and protect and enhance aquatic habitat along the creeks and wetlands within OLWS. Current measures outlined in the Retrofit Plan include implementation of capital projects, regulations, incentives, voluntary measures, and public education.

Capital project (CP) implementation is a key element of OLWS' Retrofit Plan. Project implementation status and future opportunities, along with a timeline update, are discussed in Section 2.2. CP focus has been on Boardman Creek watershed, as per recommendations of OLWS' 2011 Surface Water Management Strategic Plan, but new regional stormwater treatment facilities, retrofits of existing facilities, and natural resource restoration projects are also reflected.

To prioritize the CPs, OLWS evaluates project needs annually, and reviews previously planned projects for strategic and fiduciary viability. Most surface water CPs require multi-year funding to design and construct, which requires long term financial planning.

## 2.2 What progress has been made toward completion of projects identified in the Retrofit Strategy priority list, and what have been the benefits of those projects?

As detailed in the 2015 Retrofit Plan, seven projects were identified that reflect OLWS' objectives to 1) reduce damage to public and private property and hazards to public safety during floods; 2) improve water quality by reducing discharge of pollutants into surface waters; and 3) protect and enhance aquatic habitat along the creeks and wetlands within OLWS.

Since 2015, three identified projects were completed:



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- SB-17 - Boardman Watershed Initiative: Boardman Wetland Complex (Boardman Ave to Jennings Ave). Project was completed in 2018 and includes clearing and planting of a 1.5-acre treatment wetland, as well as site improvements including construction of elevated boardwalks, walking paths, and a parking lot.
- CS-01 – Courtney Springs Basin: Regional Stormwater Facility and Riparian Restoration. Project was completed in 2016 and includes construction of a regional stormwater facility near the downstream end of the basin. Provides treatment for five acres of currently developed and untreated impervious area.
- CS-02 – New Urban High School Stormwater Retrofit. Project was completed in 2021 and includes installation of low impact development (LID) facilities including swales, cartridge filers and water quality signage in support of redevelopment.

BB-02/ BB-03 projects are both associated with the McLoughlin Blvd Corridor Stormwater Retrofits. Efforts were completed on BB-02 prior to 2015 Retrofit Plan. No additional efforts were conducted on either BB-02 or BB-03 since 2015, and there are no pending project opportunities so both projects are removed from future consideration.

Schedule of the remaining viable projects is uncertain, pending OLWS' evaluation of funding and partnership opportunities.

OLWS is a unique jurisdiction in that they provide stormwater services for approximately 5.2 square miles of unincorporated Clackamas County. OLWS is not a city nor land use authority. As such, OLWS and Clackamas County Department of Land Use and Transportation (DTD) collectively manage stormwater assets within the OLWS boundary in accordance with a Memorandum of Understanding (MOU) dated 2013 and future updates to the MOU are anticipated in 2024.

As a result, OLWS is currently prioritizing smaller projects through their Localized Enhancement Program, while they work with neighboring jurisdictions including Clackamas County to fund larger, regional projects in the future. The Localized Enhancement Program is reflected in OLWS' 2024-2029 Draft Capital Improvement Plan (CIP) and dedicates funding (i.e., $300,000 annually) to fix small to medium scale, localized stormwater issues including installation of roadside surface water treatment. Funding may also support the phased implementation of CPs per the Retrofit Plan.

Table 1 summarizes those in progress or future retrofit projects per the 2015 Retrofit Plan, as well as identification of other pending CPs that provide hydromodification benefit, as discussed in Section 3.



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| Table 1. Oak Lodge Water Services Retrofit and Hydromodification Project Status | | | | | | | |
|---|---|---|---|---|---|---|---|
| Project ID | Identified in the 2015 Retrofit Plan (Y/N) | Identified in the 2015 Hydromodification Assessment (Y/N) | Project Name | Originally Anticipated Construction Date | Current Anticipated Construction Date | Project Description | Notes |
| SB-01 | | Y | Boardman Watershed Initiative: Paradise Subdivision Stormwater Retrofit | 2018 | TBD | Retrofit existing stormwater facility for additional treatment and flow control benefit | Boardman and Arista project is upstream, so need for this project may be impacted. |
| SB-08 | Y | Y | Boardman Watershed Initiative: Phase 2 (Walta Vista and River Road Culvert Replacement) | 2017 | TBD | Culvert replacement to stabilize existing channels and minimize sediment discharge. Restore ~500' of Boeckman Creek for fish passage. | Clackamas County is the lead agency, so timing is depending on County funding.<br>Currently on County CIP |
| SB-16 | Y | Y | Boardman Watershed Initiative: Naef Road Culvert Replacement and Channel Restoration | 2017 | TBD | Daylight and restore 150' piped corridor to a natural stream channel | Dependent on Clackamas County priority. |
| SB-18 | | Y | Jennings Avenue Sidewalk: Green Infrastructure Demonstration Project | Unspecified | 2024 | Install LID with new sidewalk from Oatfield to River Road. | Clackamas County is the lead agency for this project. |
| | N | N | Boardman and Arista Flooding (at Trolley Trail) | 2024 | TBD | Hydraulic modeling and concept design to ease or eliminate flooding. | Pre-design efforts complete. OLWS is looking for partner agencies. |



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## 2.3 What are the new goals, tools, priorities, and planned or potential projects for improving retrofit planning to address water quality impacts resulting from historical development/infrastructure?

OLWS has altered their approach to their retrofit strategy by implementing a Localized Enhancement Program instead of large-scale regional capital improvements. This change allows for OLWS to complete more projects while working on funding assistance from neighboring jurisdictions.

OLWS' 2024-2029 CIP also includes the Boardman and Arista Flooding project to be initiated in 2024. Although specific water quality features are not yet identified, this project will evaluate hydraulic conditions to ease or eliminate localized flooding due to flat grade and beaver activity (see Table 1).

# Section 3: 2015 Hydromodification Assessment Summary

## 3.1 What were the results of the Hydromodification Assessment and how has it been used, considered, or implemented since 2015?

OLWS' 2015 Hydromodification Assessment included a desktop GIS evaluation and targeted field assessment, as well as a review of existing planning documents to develop strategies and approaches for addressing identified hydromodification impacts.

Per the 2015 Hydromodification Assessment, stream channels in OLWS show hydromodification impacts from past development. Observed hydromodification impacts include areas of channel incision and bed/bank erosion, areas of stream channel widening, flooding, and stream channel aggradation. Sources of hydromodification include the channelization and piping of natural stream channels, development encroachment into riparian areas, and construction of culverts and other structures. These sources of hydromodification are the result of past development activity and future development in OLWS is expected to be limited to small-scale redevelopment projects.

The Hydromodification Assessment included a variety of recommendations that centered on 1) implementation of key capital projects to increase stream corridor storage and mitigate peak flows; 2) enhancement of stormwater design standards to prioritize infiltration and low-impact development (LID) approaches to stormwater management; 3) development of an updated Surface Water Master Plan (SMP) to enhance existing data and planning for capital projects; 4) continued monitoring of known problem areas through annual inspections and documentation; and 5) prioritize locations for future property acquisition along stream channel corridors.

Implementation of Capital Projects: Five capital projects were recommended in Section 8 of the 2015 Hydromodification Assessment. One identified project (SB-17) was completed as detailed in Section 2.2. The remaining, identified capital projects as identified per the Hydromodification Assessment have not been completed, and three of them overlap with identified projects per the Retrofit Assessment (see Table 1). One project (SB-18) is in final design and agency permitting.

Enhancement of Stormwater Design Standards: Given the identified hydromodification risks per the Hydromodification Assessment, as well as new requirements per the reissued 2021 NPDES MS4 permit, OLWS anticipates completion of a more substantial update to their Design and Construction Standards by December 1, 2024. OLWS recently completed their Low Impact Development (LID)/ Green Infrastructure (GI) Strategy after completion of a larger code evaluation and literature review of other local stormwater standards that meet the retention-based performance standards per the permit.



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**Development of an updated SMP:** As described previously, OLWS works in partnership with Clackamas County (CC) as CC owns the stormwater system and OLWS is responsible for cleaning and inspecting the catch basins and storm piping. In accordance with OLWS' Stormwater Management Program (SWMP) Document, OLWS is currently working with CC to update the Memorandum of Understanding (MOU) to better define the roles of OLWS and CC regarding stormwater system asset ownership by December 1, 2024.

Until ownership obligations are clarified, development of an SMP including detailed hydrologic/ hydraulic modeling of pipe capacity and identification of capital projects requiring replacement of stormwater conveyance in the right-of-way may not be appropriate given OLWS limited ownership.

**Monitoring and Property Acquisition**: Annual inspections were recommended in the Hydromodification Assessment to monitor known problem areas and proposed capital project locations. To date, OLWS monitors problem areas primarily based on communication from community members. Physical condition monitoring (in conjunction with macroinvertebrate sampling) is also reflected in the updated Clackamas County Coordinated Stormwater Monitoring Plan (CCCSMP), updated in 2023 and reflecting a July 1, 2023 implementation start date.

Property acquisition is considered an opportunistic approach and triggered if prioritized properties are subject to sale from willing owners.

## 3.2 Were there any identified gaps in the hydromodification information or data related to waterbodies within the City's jurisdiction and, if so, what progress has been made in addressing gaps?

OLWS' Hydromodification Assessment did not identify any data gaps in either the hydromodification information or data related to waterbodies within OLWS' jurisdiction.

## 3.3 What further actions have been taken as a direct result of the Hydromodification Assessment, and what was the rationale for those actions?

Because hydromodification impacts and risk was identified per the 2015 Hydromodification Assessment, OLWS is currently (2023) updating and refining their Design and Construction Standards for consistency with the 2021 NPDES MS4 permit, specifically to clarify the use of infiltration-based facilities (i.e., GSI). OLWS has preliminarily identified Clackamas County Water Environment Services (WES) stormwater standards as the template for their update, which also incorporate peak flow and flow duration matching standards to mitigate hydromodification risk. The update will be completed by December 1, 2024 to meet the 2021 NPDES MS4 Permit deadline.

## 3.4 What are OLWS' new goals, tools, priorities, and planned or potential projects for addressing ongoing hydromodification?

Although no immediate implementation schedule for all CPs outlined in Table 1, the hydromodification benefit and need is understood, and OLWS will continue to coordinate with regional partners to support project implementation efforts.

Given the conclusions from the 2015 Hydromodification Assessment provided in Section 3.2 above, OLWS is focused on updating their Design and Construction standards to prioritize LID and infiltration and incorporate hydromodification-based flow control standards. This will allow for District-wide incorporation of flow mitigation in accordance with new and redevelopment.



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