



June 12, 2025

BCC Agenda Date/Item: _____

Board of County Commissioners
Acting as the governing body of Water Environment Services
Clackamas County

**Approval of an Intergovernmental Agreement with Oak Lodge Water Services for surface water monitoring and analysis services. Agreement Value is \$8,250 for 6 months. Funding is through WES Surface Water Operating Funds and reimbursement from Oak Lodge Water Services.
No County General Funds are involved.**

Previous Board Action/Review	N/A		
Performance Clackamas	<ol style="list-style-type: none">1. This project supports the WES Strategic Plan objectives to implement watershed protection measures to improve stream health in WES' service area, and to ensure programs have the data they need to optimize infrastructure operations, and to comply with regulatory permit requirements.2. This project supports the County's Strategic Plan of building a strong infrastructure that delivers services to customers and honors, utilizes, promotes and invest in our natural resources.		
Counsel Review	Yes	Procurement Review	N/A
Contact Person	Ron Wierenga	Contact Phone	503-742-4581

EXECUTIVE SUMMARY: The NPDES Municipal Stormwater Permit issued by the Oregon Department of Environmental Quality to Water Environment Services (WES) and Oak Lodge Water Services (OLWS) requires the districts to conduct surface water monitoring activities. OLWS requested that WES conduct the required monitoring on their behalf in order to achieve efficiency and cost savings and to utilize WES's experienced technical staff. Through the IGA WES will collect field data and biological samples at three sites, support analytical services, and provide data analysis to OLWS in compliance with their regulatory obligations. OLWS will reimburse WES for the full cost of conducting this monitoring on their behalf.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve the intergovernmental agreement between Water Environment Services and Oak Lodge Water Services

For Filing Use Only

District for surface water monitoring support.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Gregory Geist", with a long horizontal flourish extending to the right.

Gregory Geist
Director, WES

Attachment: Intergovernmental Agreement with Oak Lodge Water Services

**INTERGOVERNMENTAL AGREEMENT
BETWEEN WATER ENVIRONMENT SERVICES
AND OAK LODGE WATER SERVICES FOR
PHASE I MS4 NPDES PERMIT COMPLIANCE BIOMONITORING SUPPORT**

THIS AGREEMENT (this “Agreement”) is entered into by and between Water Environment Services (“District”), an intergovernmental entity formed pursuant to ORS Chapter 190, and Oak Lodge Water Services, an Oregon Joint Water and Sanitary Authority organized under ORS Chapter 450 (“Co-Permittee”). The District and Co-Permittee are collectively referred to as the “Parties” or each a “Party.”

RECITALS

ORS 190.010 confers authority upon local governments to enter into agreements for the performance of any and all functions and activities that a party to the agreement, its officers or agencies, have authority to perform.

The Co-Permittee desires to obtain biological monitoring services from the District, contracted through a third party, Wolf Water Resources (“WWR”), in order to comply with the monitoring and reporting requirements in Phase I MS4 NPDES Permit No. 101348, as amended on May 5, 2023 (“Permit”).

In consideration of the mutual promises set forth below, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

TERMS

1. **Term.** The Agreement shall be valid and enforceable between the District and the Co-Permittee upon execution by the District and the Co-Permittee and shall be deemed effective as of July 1, 2024 (“Effective Date”). The Agreement shall expire on December 31, 2025 (“Term”). The District and Co-Permittee acknowledge that Work (defined in Section 2 below) may have been performed prior to the execution of this Agreement. By execution of this Agreement, the District and Co-Permittee hereby approve and ratify the Work hereunder that was performed prior to execution, as of the Effective Date. Each Party reserves all rights, remedies, claims, and causes of action it may have with respect to previously performed Work.
2. **Scope of Work.** The District agrees to coordinate and contract for biological monitoring services, on behalf of the Co-Permittee, to comply with the procedure specified in Schedule B, Section 1.b., Table 3. Clackamas Group Environmental Monitoring Requirements of the Comprehensive Clackamas County Stormwater Monitoring Plan (“CCCSMP”) for sample collection, analysis, and reporting in the Clackamas Groups Phase I MS4 NPDES Permit No. 101348 (“Permit”), further described in Exhibit C (“Scope of Work”) attached hereto and incorporated herein. The Co-Permittee requires three (3) sites to be surveyed in its jurisdiction. The location of each site is listed in Exhibit A. Data review and reporting to DEQ will occur in accordance with the Permit and CCCSMP by the District. All Work shall be completed by the end of the Term.

3. **Consideration.** The Co-Permittee agrees to pay District, from available and authorized funds, an amount not to exceed **Eight Thousand Two Hundred and Fifty Dollars (\$8,250.00)** in accordance with the rates set forth in Exhibit B, attached hereto and incorporated herein, for performing the Work.
4. **Payment.** Unless otherwise specified by the Co-Permittee, the District shall submit a single invoice to the Co-Permittee as specified in Exhibit B for services rendered at the site(s) for the Co-Permittee. Invoices shall describe all Work performed and shall itemize expenses. The Co-Permittee shall make payments to the District within 30 days of receipt of an invoice.
5. **Representations and Warranties.**
 - A. *Co-Permittee's Representations and Warranties:* Co-Permittee, as to itself, represent and warrant to District that the Co-Permittee has the power and authority to enter into and perform this Agreement, and this Agreement, when fully executed, shall be a valid and binding obligation of the Co-Permittee and enforceable in accordance with its terms.
 - B. *District Representations and Warranties:* District represents and warrants to Co-Permittee that District has the power and authority to enter into and perform this Agreement, and this Agreement, when executed and delivered, shall be a valid and binding obligation of District and enforceable in accordance with its terms.
 - C. The warranties set forth in this section are in addition to, and not in lieu of, any other warranties provided.
6. **Termination.**
 - A. The District may terminate this Agreement at any time upon thirty (30) days' prior written notice to the Co-Permittee.
 - B. In the event of a breach of the Agreement by the Co-Permittee, the District may terminate the Agreement. In the event of a breach of the Agreement by the District, the Co-Permittee may terminate this Agreement. Prior to either such termination however, the Party seeking the termination shall give the other Party written notice of the breach and of the Party's intent to terminate. If the breaching Party has not entirely cured the breach within fifteen (15) days of deemed or actual receipt of the notice, then the Party giving notice may terminate the Agreement at any time thereafter by giving written notice of termination stating the effective date of the termination. If the default is of such nature that it cannot be completely remedied within such fifteen (15) day period, this provision shall be complied with if the breaching Party begins correction of the default within the fifteen (15) day period and thereafter proceeds with reasonable diligence and in good faith to effect the remedy as soon as practicable. The Party giving notice shall not be required to give more than one (1) notice for a similar default in any twelve (12) month period.
 - C. Neither the District nor any Co-Permittee shall be deemed to have waived any breach of this Agreement by the other Party except by an express waiver in writing. An express written waiver as to one breach shall not be deemed a

waiver of any other breach not expressly identified, even though the other breach is of the same nature as that waived.

- D. The District may terminate this Agreement in the event the District fails to receive expenditure authority sufficient to allow the District, in the exercise of its reasonable administrative discretion, to continue to perform under this Agreement, or if federal or state laws, regulations, or guidelines are modified or interpreted in such a way that either the Work under this Agreement is prohibited or the District is prohibited from paying for such Work from the planned funding source. If the District terminates the Agreement under this Section the District shall cooperate with the Co-Permittee in good faith to transfer data and information pertaining to this Agreement to the next provider of the Work as required for each Co-Permittee.
- E. Any termination of this Agreement shall not prejudice any rights or obligations accrued to the Parties prior to the effective date of termination.

7. Indemnification.

- A. Subject to the limits of the Oregon Constitution and the Oregon Tort Claims Act or successor statute, the District agrees to indemnify, save harmless, and defend the Co-Permittee, its officers, elected officials, agents, and employees, from and against all costs, losses, damages, claims or actions, and all expenses incidental to the investigation and defense thereof arising out of or based upon damages or injuries to persons or property caused by the negligent or willful acts of the District or its officers, elected officials, owners, employees, agents, or its subcontractors or anyone over which the District has a right to control. Notwithstanding the above, the District shall not be responsible for indemnifying or defending the Co-Permittee from and against any claims, actions, or fines of any nature arising from a lack of compliance by the Co-Permittee with the Clean Water Act, Oregon Revised Statutes, or any other state or federal legal or regulatory requirement related to the performance of this Agreement.

Subject to the limits of the Oregon Constitution and the Oregon Tort Claims Act or successor statute, the Co-Permittee agrees to indemnify, save harmless, and defend the District, its officers, elected officials, agents, and employees from and against all costs, losses, damages, claims, or actions and all expenses incidental to the investigation and defense thereof, arising out of or based upon damages or injuries to persons or property caused by the negligent or willful acts of the indemnifying Co-Permittee or its officers, elected officials, owners, employees, agents, or its subcontractors or anyone over which the Co-Permittee has a right to control.

- 8. **Insurance.** Each Party agrees to maintain levels of insurance, or self-insurance, sufficient to satisfy its obligations under this Agreement and all requirements under applicable law.
- 9. **Notices; Contacts.** Any notice provided under this Agreement shall be delivered by email or by first class US mail to the individuals identified below. Any communication or notice mailed by first class US mail shall be deemed to be given three days after the date it is sent. Any communication or notice sent by electronic mail is deemed to

be received on the date sent, unless the sender receives an automated message or other indication that the email has not been delivered. Either Party may change the Party contact information, or the invoice or payment addresses, by giving prior written notice to the other Party.

- A. Chris Desiderati or their designee will act as liaison for the District.

Contact Information:

Chris Desiderati, Environmental Services Supervisor

Clackamas Water Environment Services

15941 S. Agnes Ave, Bldg. B

Oregon City, OR 97045

CDesiderati@clackamas.us

Primary: 503-557-2834

- B. Lara Christensen or their designee will act as liaison for the Co-Permittee.

Contact Information:

Lara Christensen, Water Quality Coordinator

Oak Lodge Water Services

14496 SE River Rd.

Oak Grove, OR 97267

lara.christensen@olws.org

Cell: 971-291-4533

10. General Provisions.

- A. **Oregon Law and Forum.** This Agreement, and all rights, obligations, and disputes arising out of it, will be governed by and construed in accordance with the laws of the State of Oregon and the ordinances of the District and Clackamas County without giving effect to the conflict of law provisions thereof. Any claim between District and Co-Permittee that arises from or relates to this Agreement shall be brought and conducted solely and exclusively within the Circuit Court of Clackamas County for the State of Oregon; provided, however, if a claim must be brought in a federal forum, then it shall be brought and conducted solely and exclusively within the United States District Court for the District of Oregon. In no event shall this section be construed as a waiver by the District of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. Co-Permittee, by execution of this Agreement, hereby consents to the in personam jurisdiction of the courts referenced in this section.
- B. **Compliance with Applicable Law and Permit Requirements.** All Parties shall comply with all applicable local, state and federal ordinances, statutes, laws and regulations. All provisions of law required to be a part of this Agreement, whether

listed or otherwise, are hereby integrated and adopted herein. Failure to comply with such obligations is a material breach of this Agreement. The Co-Permittee shall be responsible for ensuring it is in compliance with all legal and regulatory requirements applicable to it, including, but not limited to, the terms of the Permit.

- C. **Non-Exclusive Rights and Remedies.** Except as otherwise expressly provided herein, the rights and remedies expressly afforded under the provisions of this Agreement shall not be deemed exclusive and shall be in addition to and cumulative with any and all rights and remedies otherwise available at law or in equity. The exercise by a Party of any one or more of such remedies shall not preclude the exercise by it, at the same or different times, of any other remedies for the same default or breach, or for any other default or breach, by another Party.
- D. **Access to Records.** The District and the Co-Permittee shall retain, maintain, and keep accessible all records relevant to this Agreement ("Records") for a minimum of six (6) years, following Agreement termination or full performance or any longer period as may be required by applicable law, or until the conclusion of an audit, controversy, or litigation arising out of or related to this Agreement, including any appeals thereof, whichever is later. The District and Co-Permittee shall maintain their respective financial records in accordance with generally accepted accounting principles. All other Records shall be maintained to the extent necessary to clearly reflect actions taken. During this record retention period, each Party shall permit the authorized representatives of any other Party access to Records at reasonable times and places for purposes of examining and copying.
- E. **Work Product.** The District shall own any and all data, documents, plans, copyrights, specifications, working papers, and any other materials produced in connection with this Agreement ("Work Product"). The District grants to the Co-Permittee, a non-exclusive license and right to copies of the Work Product produced, and the Co-Permittee shall have the license and the right to use, distribute, and allow third parties to use the Work Product for any purpose that the distributing Co-Permittee determines necessary or beneficial. Any reuse of such Work Product by Co-Permittee outside the scope of work for which it was developed, or any alteration whatsoever, shall be at the Co-Permittee's sole risk and with no liability to District.
- F. **Hazard Communication.** The Co-Permittee shall notify District prior to using products containing hazardous chemicals to which District employees may be exposed, which includes any hazardous, toxic, or dangerous substance, waste, or material that is the subject of environmental protection legal requirements or that becomes regulated under any applicable local, state or federal law, including but not limited to the items listed in the United States Department of Transportation Hazardous Materials Table (49 CFR §172.101) or designated as hazardous substances by Oregon Administrative Rules, Chapter 137, or the

United States Environmental Protection Agency (40 CFR Part 302), and any amendments thereto. Upon District's request, the notifying Co-Permittee shall immediately provide Material Safety Data Sheets for the products subject to this provision.

- G. **Debt Limitation.** This Agreement is expressly subject to the limitations of the Oregon Constitution and Oregon Tort Claims Act and is contingent upon the appropriation of adequate funds. Any provisions herein that conflict with the above referenced laws are deemed inoperative to that extent.
- H. **Severability.** If any provision of this Agreement is found to be unconstitutional, illegal, or unenforceable, this Agreement nevertheless shall remain in full force and effect and the offending provision shall be stricken. The Court or other authorized body finding such provision unconstitutional, illegal, or unenforceable shall construe this Agreement without such provision to give effect to the maximum extent possible the intentions of the Parties.
- I. **Integration, Amendment, and Waiver.** Except as otherwise set forth herein, this Agreement constitutes the entire agreement between the Parties on the matter of the Project. There are no understandings, agreements, or representations, oral or written, not specified herein regarding this Agreement. No waiver, consent, modification or change of terms of this Agreement shall bind a Party unless in writing and signed by all Parties and all necessary approvals have been obtained. Such waiver, consent, modification or change, if made, shall be effective only in the specific instance and for the specific purpose given. The failure of a Party to enforce any provision of this Agreement shall not constitute a waiver by such Party of that or any other provision.
- J. **Interpretation.** The titles of the sections of this Agreement are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.
- K. **Independent Contractor.** Each of the Parties hereto shall be deemed an independent contractor for purposes of this Agreement. No representative, agent, employee or contractor of one Party shall be deemed to be a representative, agent, employee or contractor of another Party for any purpose, except to the extent specifically provided herein. Nothing herein is intended, nor shall it be construed, to create between the Parties any relationship of principal and agent, partnership, joint venture or any similar relationship, and each Party hereby specifically disclaims any such relationship.
- L. **No Third-Party Beneficiary.** The Co-Permittee and the District are the only parties to this Agreement and are the only parties entitled to enforce its terms. Nothing in this Agreement gives, is intended to give, or shall be construed to give or provide any benefit or right, whether directly, indirectly or otherwise, to third

persons, unless such third persons are individually identified by name herein and are expressly described as intended beneficiaries of the terms of this Agreement.

- M. **Subcontract and Assignment.** District may enter into subcontracts for any of the Work required by this Agreement or assign or transfer any of its interest in this Agreement by operation of law or otherwise, provided that the District provides written notice to the Co-Permittee of such assignment.
- N. **Counterparts.** This Agreement may be executed in several counterparts (electronic or otherwise), each of which shall be deemed an original, and all of which together shall constitute the same instrument.
- O. **Survival.** All provisions in Sections 5, 7, and 10 (A), (C), (D), (G), (H), (I), (J), (L), (O), (R), (T), and (U) shall survive the termination of this Agreement, together with all other rights and obligations herein which by their context are intended to survive.
- P. **Necessary Acts.** Each Party shall execute and deliver to the others all such further instruments and documents as may be reasonably necessary to execute and carry out this Agreement.
- Q. **Time is of the Essence.** The Parties agree that time is of the essence in the performance this Agreement.
- R. **Successors in Interest.** The provisions of this Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective authorized successors and assigns.
- S. **Force Majeure.** Neither the Co-Permittee nor District shall be held responsible for delay or default caused by events outside of Co-Permittee's or District's reasonable control including, but not limited to, fire, terrorism, riot, acts of God, or war. However, the Parties shall make all reasonable efforts to remove or eliminate such a cause of delay or default and shall upon the cessation of the cause, diligently pursue performance of their obligations under this Agreement.
- T. **Confidentiality.** Each Party acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Agreement, be exposed to or acquire confidential information. Any and all information of any form obtained by any Party, or its employees or agents in the performance of this Agreement, shall be deemed confidential information of the custodian of the information provided ("Confidential Information"). Each Party agrees to hold Confidential Information in strict confidence, using at least the same degree of care that the Party uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purpose unless specifically authorized in

writing by the custodian of the Confidential Information or as provided under this Agreement.

- U. **No Attorney Fees.** In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Agreement, each party shall be responsible for its own attorneys' fees and expenses.

IN WITNESS WHEREOF, the Parties have executed this Agreement as indicated by the duly authorized signature of each Party on the dates listed below.

Water Environment Services

Chair

Date

Oak Lodge Water Services

Brad Albert

Authorized Signature

5/14/2025

Date

General Manager

Title

Approved as to Form:

Amanda Kelly

County Counsel

5/27/2025

Date

Exhibit A

Biological Monitoring Permit Requirements and Site Descriptions

Excerpt from the CCCSMP (pp 21-23, dated December 2022 and revised May 2023) describing environmental monitoring requirements as they pertain to required biological monitoring for the District and Co-Permittee.

Comprehensive Clackamas County Stormwater Monitoring Plan

5.4 Biological Monitoring Efforts

Biological monitoring throughout the Clackamas County MS4 permit area addresses objective 5 from Schedule B.1.a of the 2021 permit:

Objective 5: Assess the chemical, biological, and physical effects of MS4 stormwater discharges on receiving waters.

Biological monitoring activities will attempt to address the following questions:

- What are the biologic conditions of receiving waters?
- Based on past macroinvertebrate sampling activities, are there noticeable trends of improvement or impairment in receiving waters?

The following sections describe the macroinvertebrate monitoring site locations (Section 5.4.1), sample collection methods (Section 5.4.2), and connection to physical condition monitoring (Section 5.4.3).

5.4.1 Description of Biological Monitoring Locations

Biological monitoring efforts conducted by the participating Clackamas County co-permittees as part of this 2023 Plan include a total of 20 sampling locations representing 15 water bodies.

Biological monitoring sites reflect locations where biologic and water quality sampling has historically been conducted. In some cases, the locations are consistent with previous pesticide monitoring activities and/or ongoing instream water quality monitoring. Conclusions and recommendations from previous biological monitoring efforts related to site conditions and site adjustments were considered for this 2023 Plan.

For WES, biological monitoring locations reflect WES's clustered monitoring approach, and locations of detailed, instream physical condition assessments are not directly included in this 2023 Plan. WES's clustered monitoring approach is internal to WES and is intended to allow for a more comprehensive assessment of watershed conditions at specific sites.

The biological monitoring locations are described in Table 10 and shown graphically in Figure 4.

Comprehensive Clackamas County Stormwater Monitoring Plan

Table 10. Biologic Monitoring Site Summary

Jurisdiction	Target monitoring date	Site description	Receiving water	Past biologic monitoring efforts?	Current instream water quality monitoring location?
WES	2024	Rowe Middle School (SE Lake Road)	Kellogg Creek	Y (2009, 2011, 2014, 2017, 2020)	Y
WES	2024	Carli Creek Stormwater Treatment Facility (formally Downstream of 11814 Jennifer Street)	Carli Creek	Y (2007, 2009, 2011, 2014, 2017, 2020)	N ^a
WES	2024	Downstream from Highway 212/224	Sieben Creek	Y (2002, 2007, 2009, 2011, 2014, 2017, 2020)	Y ^b
WES	2024	SE Troge Road and SE Foster Road	Rock Creek	Y (2009, 2011, 2014, 2017, 2020)	N
WES	2024	SE Rusk Road	Kellogg Creek	Y (2011, 2014, 2017, 2020)	N ^c
WES	2024	NCPRD Park downstream from Highway 224	Mt. Scott Creek	Y (2011, 2014, 2017, 2020)	Y ^d
WES	2024	Downstream from Highway 212/224	Rock Creek	Y (2002, 2007, 2009, 2011, 2014, 2017, 2020)	Y ^e
WES	2024	Downstream of SE Dean Drive	Cow Creek	Y (2011, 2014, 2017, 2020)	N
Gladstone	2024	River Road (Brookside Village Apartments)	Rinearson Creek	Y (2018)	N ^f
Milwaukie	2024	Box culvert at SE Harmony Road	Minthorn Creek	Y (2013, 2018)	Y
Oregon City	2024	Singer Creek Park	Singer Creek	Y (2013, 2018)	Y
Oregon City	2024	Lower Coffee Creek	Coffee Creek	Y (2013, 2018)	Y
West Linn	2024	Imperial Drive	Tanner Creek	Y (2013, 2018)	Y
West Linn	2024	Caloroga Road	Trillium Creek	Y (2013, 2018)	Y
Wilsonville	2024	Memorial Park at Rose Lane footbridge	Boeckman Creek	Y (2013, 2018)	Y
Wilsonville	2024	Kolbe Lane Bridge	Boeckman Creek	Y (2004, 2013, 2018)	N
Wilsonville	2024	Boeckman Creek footbridge	Boeckman Creek	Y (2004, 2013, 2018)	N
OLWS	2024	2350 SE Swain Avenue	River Forest Creek	Y (2013, 2018)	N
OLWS	2024	SE Naef Road at Stringfield Park	Boardman Creek	Y (2013, 2018)	N
OLWS	2024	4507 SE Boardman Avenue	Boardman Creek	Y (2013, 2018)	N

a. The Carli Creek biological monitoring location was relocated approximately 200 meters downstream from the previous location in 2017. Record of past biological monitoring activities also correspond with the historical WES instream monitoring location at SE 120th Avenue and Carpenter Drive. No significant tributaries or other potential influences occur in the intervening distance; therefore, comparisons with previous years' results are valid.

b. The Sieben Creek biologic monitoring location corresponds to the historical WES instream monitoring location at Highway 212/224 and current instream mercury monitoring location.

c. The SE Rusk Road Kellogg Creek biologic monitoring location corresponds to the historical WES instream monitoring location at SE Rusk Road.

d. The Mt. Scott Creek biologic monitoring location corresponds to the historical WES instream and biologic monitoring location at North Clackamas Park. The past biologic monitoring efforts refer to the North Clackamas Park location. The instream and biologic monitoring site was relocated to Highway 224 for the 2013–14 monitoring year.

e. Shifted reach location in 2014, but not by more than 200m.

f. This site was relocated from the Risley Road instream monitoring location based on recommendations following Gladstone's 2013 biological monitoring effort.

5.4.2 Sample Collection Methods

Biological monitoring efforts will be conducted by each participating co-permittee a minimum of once over the permit term (i.e., July 2023 through September 2026). Efforts include macroinvertebrate sampling and associated physical habitat, riparian assessment, and water chemistry sampling that accompanies the sample collection. Historically, the co-permittees have used a contractor to conduct the sampling and prepare the documentation in a separate report.

Sampling efforts are typically targeted for summer or early fall, low-flow conditions.

Sample collection processes and methods summarized below are consistent with methods previously employed. Detailed documentation of methods can be referenced in the *Clackamas County NPDES MS4 Co-permittees 2018 Coordinated Macroinvertebrate Assessment* (January 2019), prepared by Cole Ecological, Inc. on behalf of the cities of Gladstone, Lake Oswego, Milwaukie, Oregon City, West Linn, Wilsonville and OLWS. At the time of sampling, sampling methods may be slightly adjusted to conform to new technologies. Such changes will be documented in a final assessment report at the conclusion of the monitoring event.

Macroinvertebrate community sampling will be conducted using the *Benthic Macroinvertebrate Sampling Protocol for Wadeable Rivers and Streams* (DEQ 2003). Samples are sorted and identified to the level of taxonomic resolution recommended for Level 3 macroinvertebrate assessments. Level 3 protocols include duplicate composite sampling for quality assurance. Both glide and riffle samples are assessed using a multi-metric analysis and using a predictive model.

As required per the protocol, water temperature, DO, and specific conductivity will be measured at each site. SOPs and calibration procedures will be provided to participating co-permittees by the contractor prior to field sampling efforts.

5.4.3 Connection to Physical Condition Monitoring

With urbanization and increased development along the stream corridor, the timing and magnitude of discharge to stream channels often results in changes to the geomorphic character of the channel. This physical change to the stream channel can be observed through changes to stream channel width and depth and changes to the riparian vegetation.

During macroinvertebrate community sampling activities, habitat surveys and riparian assessments are likely to be conducted to inform the presence or lack of macroinvertebrates. Habitat surveys and riparian assessments are a type of physical condition monitoring that also help to locate areas of erosion, incision, and migration, and other changes to the stream corridor.

The physical conditions of the stream corridor can be assessed using the modified Rapid Stream Assessment Technique (RSAT), which includes data collection from channel habitat units (a sample reach equal to 20 times the wetted width or 75 meters, whichever length is greater), channel cross sections, and the adjacent riparian zone. Habitat surveys are conducted to measure or visually estimate the number, length, gradient, and depth of pools and riffles instream; the percent of eroding or downcutting banks; woody debris characteristics; and substrate characteristics. Riparian assessment efforts include identification of riparian plant community type and percent vegetative cover present in the riparian area.

Exhibit B
Cost Sheet

Oak Lodge Water Services

Item	Units	Quantity	Subtotal
Biological Monitoring, per site	3	\$2,750	\$8,250
Grand Total			\$8,250

Exhibit C

Scope of Work Details

Wolf Water Resources, Inc. (the “Contractor”) will conduct macroinvertebrate monitoring. Geomorphic monitoring will include only the measurements needed to inform macroinvertebrate monitoring and analysis. Limited reporting of these sites will be conducted and integrated into the broader report. Many aspects of this work will be conducted in tandem or parallel with the broader project scope of work.

The Contractor will meet with User staff to discuss monitoring goals, information needs, and agency reporting requirements. Appropriate survey methodology (riffle-targeted vs. multihabitat) will be determined in consideration of the amount and distribution of habitat units in survey reaches, the ability of each approach to broadly assess stream health and reveal meaningful shifts in macroinvertebrate community composition related to management actions, and requirements for data reporting to agencies such as Oregon Department of Environmental Quality (“ORDEQ”).

Sampling sites will be selected based on User data needs, land ownership, site accessibility, and existence of any macroinvertebrate sampling data from prior years. Any desired physical habitat or water chemistry sampling in conjunction with macroinvertebrate sample collection will be determined.

Macroinvertebrate samples will be collected from designated reaches and habitat units. Macroinvertebrates will be identified to the lowest practical taxonomic level in accordance with current PNAMP (Pacific Northwest Aquatic Monitoring Partnership) recommendations. Where appropriate (i.e., riffle-targeted samples), ORDEQ models including the PREDATOR O/E predictive model and associated stressor models and the Macroinvertebrate-based Index of Biotic Integrity (I-IBI) will be applied to the data. Contractor will also calculate the Macroinvertebrate Thermal Tolerance Index (MTTI) to assess the assemblage-level response to different thermal habitats. Individual metrics in the PREDATOR and M-IBI models will be calculated for samples taken in reaches that lack riffle habitat to provide a basis for comparison between sites and identification of potential stressors.

ORDEQ model results will be translated into measures of biological health. Macroinvertebrate community composition and characteristics will be further assessed using both taxonomic (i.e., genus/species) and ecological (i.e., functional feeding group, voltinism, water temperature and flow associations) traits, and multivariate and univariate statistical analyses will be applied to reveal patterns and identify potential stressors, and to provide a baseline for comparison with any sampling done in future years.

Additional Assumptions:

- User to coordinate property access.
- Macroinvertebrate sampling at sites with required QA/QC.
- Final report will provide limited discussion of User monitoring, with only basic summary of macroinvertebrate monitoring/analysis results and mapping of monitoring site locations.