OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
NONPOINT SOURCE IMPLEMENTATION GRANT AGREEMENT

EXHIBIT E
PERFORMANCE REPORT/OWRI REPORT

Project name:	Bear Creek TMDL Effectivness Monitoring Analysis	**DEQ Agreement #**	044-20
Recipient:	Rogue Valley Council of Governments		

All reports must be submitted in a format as recommended in this section to the DEQ Grant Administrator. The reports need to be provided electronically.

Section I

Please include a discussion that includes an overall summary of the Project to date and the partners involved. Include the following elements:

1. What were the goals for this Project? Were those goals met? If goals were not met, explain why not. Please enumerate specific quantifiable environmental changes and results that are a result of the Project. THIS IS THE MOST IMPORTANT PORTION OF THE FINAL PERFORMANCE REPORT AND NEEDS TO BE CLEAR AND EMPHASIZED. Include:
    a. Behavioral results such as the amount of BMPs installed;
    b. Estimates of the amount of pollutants prevented from reaching surface or ground water; and
    c. Documented changes in water quality based on monitoring.

The goals of the project were to:

1. Take a leadership role in the technical advisory committee providing guidance to the EPA ORISE data analyst (100%). *Completed.*
2. Develop and on-line story map showing the results of the analysis (100%). *Completed. An online story map was completed, presented at the October TMDL meeting, and can be found online on the page outlined in question #6.*
3. Summarize trends, percent exceedances, and other results of the 24 sampling sites (100%). *Completed as part of the work undertaken with EPA. Additional analysis was also conducted by RVCOG using the monitoring data collected.*
4. Summarize implementation actions and BMPS (100%). *Recommended BMPS were summarized by relevant site. In addition, BMPs were also discussed in the Story Map.*
5. Collate and submit all data to DEQ (100%). *Data was prepped for submittal to DEQ and submitted.*
6. Formally present results and final work products to TMDL working group (100%). *The results were presented at the October TMDL Meeting. Comments and suggestions were incorporated and updates were provided with the Regional Managers Updated at the January and April TMDL Meeting (April outside of grant window). Relevant deliverables were uploaded to the Bear Creek TMDL page https://rvcog.org/what-we-do/natural-resources/clean-water-act-tmdl/bear-creek-tmdl/ .*

The project is completed and all of the goals/deliverables were completed.

a. In terms of behavioral results, the project preceded regional TMDL plan updates. Changes were made to the implementation plans to move toward meeting water quality benchmarks. In addition, we are investigating changes to the monitoring program to see if we can better

evaluate implementation activities. We are planning on coordinating a technical team to discuss monitoring. In addition, we are continuing to refince lists of BMPs and recommendations for implementation at specific locations. As of this report, both COVID19 and the area fires have pushed back the discussion of monitoring changes for 2021-2022. We are in the process of renewing contracts and will evaluate sampling locations (we currently monitor at 23 sites. We may move locations of selected sites after the technical team meets.

Potential changes for the program to discuss include changing locations to better evaluate Almeda fire impacts and changes over time from natural system recovery and restoration actions, adding/moving locations to evaluate tributary inputs, best management practice implementation, adding storm drains, and additions/removal of parameters.

We are continuing to use the Stream Smart platform to tie in relevant activities including results from this program to help us inform the public, recruit volunteers for restoration actions, and build continued support for implementation programs including BMPs and LIDS to improve water quality. In addition to the support, community members can take various pledges to help improve water quality, volunteer to plant trees and clean up streams, learn about where sites are monitored and why, and other topics. We also have been working locally (in Bear Creek) and regionally to develop a watershed report card to help encourage behavioral changes.

b. Given the nature of the project, no estimates of pollutants prevented from reaching groundwater or surface water have been made.
c. The data analysis of the water quality data showed that there were only minor statistically significant trends. However, with the population growth in the region, climatic fluctuations including several droughts, bad fire years, and a highly managed water system, the water quality did not show any downward trend. While implementation of various implementation strategies including best management practices did not lead to any significant improvements or major progress towards meeting standards, the water quality held steady despite the pressures on it indicating that the TMDL program is helping to maintain existing water quality conditions.

2. Provide a written description of what worked and what did not work. Provide a written description of lessons learned in carrying out the Project.

The project mostly worked as designed. We did have some unanticipated delays due to COVID19 that impacted the timeline and has led us to ask for an extension. In addition, we ended up getting technical support from EPA on the data analysis as opposed to needing consulting support which was an option considered during project development. We also did not get a list of recommended changes to the monitoring program which we had on our wish list of deliverables/goals in the initial phases of project development.

In addition, Southern Oregon experienced several fires that started in September 2020. The Almeda fire in particular utilized a lot of local resources including time of many communities, agencies, and organizations including a number of individual staff that were contributing to this project.

We also did not end up with any definitive conclusions to help us recommend BMPs, identify problem areas, or success stories.

Lessons learned:

1. Localized conditions (e.g., ponding for water diversion and waterfowl use) may impact trends seen in water quality data.
2. Climatic and water conditions (flow, water use and movement) may vary from year to year making trends difficult to see.
3. Separating out the local conditions and climatic impacts is difficult in data analysis. Changes in sampling locations, frequency, parameters, timing, and other variables may be needed to help isolate impacts.
4. No statistical test is perfect and sometimes it takes trial and error to find the best analysis methods.
5. It takes time to make significant (positive) impacts on water quality.
6. Analysis of additional parameters may be needed to see some of the trends and impacts.
7. Online mapping and story maps are effective ways to show project results and share information.
8. The TMDL monitoring program provides a vital data source for the Bear Creek basin, TMDL DMAs, and NPDES Phase II MS4s.
9. Widespread BMP recommendations are difficult without definitive data conclusions.
10. The cooperation among organizations in the region is unique and is a model across for the State.
11. Both the monitoring program and TMDL implementation program (primarily Bear Creek) are examples of success stories. The relationships built as a result of the TMDL program including monitoring was a critical piece in the rapid response for the fires including damage assessment, monitoring of concerns, and in Phase I restoration and rehabilitation activities.
12. The story map and other visuals are great tools for sharing information and successes.

3. Describe how the Project's funding worked out. Include the projected cost and actual cost of the Project, how much of the Grant funds were spent, and how much funding (cash and in-kind) was provided as match from other sources.

The detailed funding is provided in Exhibit B, the match form, and the match tables. As of March 31st, 2021 we have spent a total of $ ($23,100.00 of 319 funds and provided $17,394.81 of in-kind match).

The funding was adequate in meeting the basic project goals. Additional funding would have been helpful to help with additional activities that would have helped continue or expand the project. Those ideas are expanded on in Question #4.

Without the support of the local TMDL program which provides the primary amount of the match, the program would not be able to be completed.

4. What follow up is required? Include photos, graphics and 2 copies of all products produced in the effort. Project completion documentation can be submitted and are encouraged to be submitted in a digital format (one copy).

Action items to consider as next step items or follow-up activities include the following:

1. Meeting of the interested DMAs monitoring representatives to determine next steps for the monitoring program.
2. Additional data analysis including GIS data, aerial photos, and discussions with local officials to better determine additional BMP recommendations for sites.