

APPENDIX A STATEMENT OF WORK AND BUDGET

Project Background: Puget Sound Marine Nearshore Sediment Monitoring for the RSMP

Based on recommendations for the Stormwater Work Group, Washington State's Regional Stormwater Monitoring Program (RSMP) includes a component to monitor the status and trends of contaminants in sediments in the marine nearshore of Puget Sound in 2016. This status and trends monitoring follows a probabilistic sample design such that data gathered can be summarized across the Puget Sound ecoregion. Forty (40) marine nearshore sites that are adjacent to Puget Sound's Urban Growth Areas (UGAs) have been selected for inclusion in this sediment monitoring study. This monitoring will occur in the summer of 2016 and will be implemented by a team. The United State Geological Survey (USGS) will be the project lead and will coordinate for sampling being conducted by field crews from both the Washington Department of Natural Resources (WDNR) and King County. Sediment samples will be analyzed by two primary labs (King County and Ecology's Manchester Laboratory (MEL)). Contaminants to be assessed include polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyl (PCBs), polybrominated diphenyl ethers (PBDEs), a range of chlorinated pesticides and metals.

The objectives of this project are to:

- Evaluate the range of chemical contamination in UGA shoreline sediments from 40 sites.
- Measure the magnitude of contamination in nearshore sediments from the 40 sites and compare to other marine sediment monitoring programs in the Puget Sound/Salish Sea.
- Provide recommendations for future status and trends monitoring of nearshore sediments to answer questions about stormwater management.

The purpose of this Statement of Work (SOW) is to define and describe the RSMP activities and products that will be delivered to the Washington State Department of Ecology (Ecology) by WDNR from the initiation of this contract through December 2017. This SOW describes the work to be completed for each task, the deliverables to be submitted upon completion of each task, and the total estimated cost and schedule per task.

Introduction

The Stormwater Work Group (SWG) is a coalition of federal, tribal, state, and local governments; business, environmental, and agricultural entities; and academic researchers. All SWG members have interests and a stake in the Puget Sound watershed. The SWG was convened by the Puget Sound Partnership (PSP) and the Washington State Department of Ecology (Ecology) in October 2008 to develop a regional stormwater monitoring strategy and to recommend monitoring requirements in National Pollutant Discharge Elimination System (NPDES) stormwater permits issued by Ecology.

In 2010, the SWG published an overall strategy for monitoring (SWG, 2010a). This strategy included recommendations for status and trends monitoring in the Puget Sound nearshore, with a focus on an integrated approach to quantify stormwater pollutant impacts in Puget Sound and to provide information to efficiently, effectively, and adaptively manage stormwater to reduce harm to the ecosystem.

The SWG also recommended a specific NPDES municipal permittee-funded plan for monitoring the effects of stormwater under the permits in the Puget Sound region (SWG, 2010b). The resulting program, a subset of the overall strategy, is called the Regional Stormwater Monitoring Program (RSMP). Specifically, the RSMP includes status and trends probabilistic sampling which is compatible with

ongoing status and trends monitoring programs.

The overall goals of the nearshore monitoring program are partly based on those developed for the Puget Sound Ecosystem and Monitoring Program (PSEMP) Sediment Component (Dutch et al., 2009), an ongoing program at Ecology, and the desire to characterize the nearshore by urbanized areas. This QAPP focuses on sediment chemistry. The goals include:

1. Assess the health of Puget Sound sediment quality in the nearshore urban areas, defined as being inside parallel to established UGAs.
2. Document geographic patterns.
3. Document natural and human-caused changes over time in Puget Sound nearshore sediments.
4. Identify existing nearshore sediment quality problems and, where possible, provide data to help target sources.
5. Support nearshore research activities by making available uniformly collected, high quality data.
6. Provide nearshore data to assist the SWG, PSP, Ecology, WDFW, and others in measuring the success of stormwater and other environmental management programs.

Task 1 – Review QAPP

USGS will develop the QAPP for sediment sampling based on existing knowledge, protocols and procedures. The QAPP will guide the nearshore sediment monitoring and will identify a list of sampling sites that overlap with the RSMP Mussel sampling sites where possible, field and laboratory activities, analytical procedures and data summary methods.

WDNR will review the draft QAPP that is being prepared by USGS.

Deliverable 1. WDNR comments, corrections or concerns of the document to RSMP Coordinator and USGS on the draft QAPP for RSMP nearshore sediment monitoring.

- Target Date: July 1, 2016, or 2 weeks after draft QAPP provided.

Task 1 Estimated Cost: \$860

Task 2 – Sampling Travel, Equipment, and Labor

WDNR will provide equipment necessary for travel, sediment sampling and consumable supplies needed to properly complete the nearshore sediment sampling according to the developed QAPP.

1. Travel costs (land and marine including fuel, boat usage)
2. Equipment (Not including sample bottles; those costs are included in lab costs)
3. Labor (USGS will provide 1 person for each WDNR field trip. King County will provide all labor for their sites)

WDNR will conduct marine sediment sampling per the RSMP Sediment Sampling QAPP at the pre-selected marine nearshore sediment sites from June – to October 15, 2016.

Deliverable 2.1 Project management memo including list of equipment and supplies ordered or procured by WDNR to support of the 2016 RSMP marine sediment monitoring.

- Target Completion Date: July 30, 2016
- Percent of Estimated Cost: 10%

Deliverable 2.2 Final Field forms nearshore sediment monitoring locations.

- Target Date: October 1, 2016
- Percent of Estimated Cost: 90%

Task 2 Estimated Cost: \$91,400

Task 3 – Chemical Analysis and Sample Shipping

Upon completion of sediment sampling, WDNR staff will deliver/send sediment samples for chemical analyses to the contracted analytical laboratories. Sediment samples will be transported to the lab(s) identified in the QAPP using the appropriate storage and transport methods using sample bottles provided by the lab(s) within holding times. WDNR will ship or deliver samples to the lab(s).

Deliverable 3.1: Sample delivery spreadsheet with sample ID, date of delivery and lab. Scan copy of shipping confirmation.

- Target date: October 01, 2016

Task 3 Estimated Cost: \$1000

Task 4 – Draft Report Review

WDNR will review the draft report prepared by USGS.

Deliverable 4.1: WDNR comments on draft report for RSMP marine sediment sampling.

- Target Date: July 2017, or 30 days after report provided for review.

Task 4 Estimated Cost: \$ 2,000

TOTAL PROJECT COST = \$95,260

This project and each task cost includes a %15 contingency.

