Stormwater Pollution Prevention: PCBs in Municipal Products

FY2013 Municipal Stormwater Grants of Regional or Statewide Significance Proposal

APPLICANT: CITY OF SPOKANE IN PARTNERSHIP WITH MEMBERS OF THE SPOKANE RIVER REGIONAL TOXICS TASK FORCE

TAX ID NUMBER _____

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SIGNATURE AND CERTIFICATION

I CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION IN THIS APPLICATION IS TRUE AND CORRECT AND THAT I AM **THE LEGALLY AUTHORIZED SIGNATORY OR DESIGNEE** FOR THE SUBMITTAL OF THIS INFORMATION ON BEHALF OF THE APPLICANT.

_____ PRINTED NAME

_____ SIGNATURE

_____ TITLE

_____ DATE

Abstract

PCBs are a toxic environmental contaminant found ubiquitously in the environment. The Washington 2008 303(d) list has 113 Category 5 listings for PCBs, covering 59 waterbodies (Ecology, 2010). Once thought to be a legacy contaminant, PCBs have been found in numerous commercially available products such as motor oil, hydraulic fluid, pigments, and caulk. These products can easily come into contact with rain water and contribute to PCBs in stormwater runoff. Municipalities are concerned about the presence of PCBs in commonly used products such as yellow road paint, asphalt sealers, and de-icer, for example. However, limited data is available as to the concentration of PCBs in products used by municipalities for road and facility maintenance. The purpose of this grant proposal is to perform PCB analysis on products commonly used by municipalities. The information will be used to inform permittees and to help them make decisions about pollution prevention measures to prevent PCBs from entering stormwater runoff. This proposal is supported by members of the Spokane River Regional Toxics Task force as well as other jurisdictions who have a common interest in the identification and reduction of PCBs in the Spokane River watershed and across the State of Washington.

Work Plan

1. Project purpose

The purpose of this project is to support pollution prevention measures and aid in illicit discharge detection and elimination by identifying PCBs in commonly used municipal products that come into contact with stormwater, such as road paint, asphalt sealers, and de-icer. PCBs are a pollutant of concern in many Washington State watersheds. There were 113 Category 5 listings on the Washington 2008 303(d) list, and PCBs are a priority in many watersheds such as the Spokane River, Lower Duwamish Waterway, the Wenatchee River, and Lake Washington. The Department of Ecology is currently preparing a Chemical Action Plan for PCBs, in part due to the concern over PCBs in new products. This proposal not only aids municipalities in stormwater pollution prevention, but also helps meet objectives of Toxics Management Plans in the Spokane region's NPDES Waste Discharge permits and pollution identification and reduction efforts of the Spokane River Regional Toxics Task Force.

The Spokane River Regional Toxics Task Force was formed in response to the Category 5 listing in portions of the Spokane River. The Task Force is comprised of NPDES permittees including the City of Spokane, state and local agencies, and environmental advocacy groups that are actively working to identify and reduce sources of PCBs in the Spokane River watershed. Activities related to PCBs in products will benefit not only the Spokane River watershed, but also watersheds across the state and beyond.

2. Project Description

2.1 Project objective

The objective of this project is to sample and analyze products commonly used by municipalities for PCBs. City departments will be queried for products they frequently use that have the potential to come into contact with stormwater. Each of the identified products will be sampled and sent to a qualified laboratory for analysis. A report will be prepared detailing these analytical results. The information will be used to help pollution prevention measures. This data can also be used for public education and public involvement activities, informing citizens about PCBs and their impacts to water quality and human health.

2.2 Project Activities and Tasks

2.2.1. Prepare QAPP

A Quality Assurance Project Plan (QAPP) will be prepared prior to sampling activities. The QAPP will detail product sampling procedures and will be written as a guideline to be widely used by other jurisdictions and entities sampling for PCBs in products around the Spokane region and Washington State. The technical advisor to the Spokane River Regional Toxics Task Force, LimnoTech, will prepare the QAPP.

2.2.2. Identify Products

City of Spokane departments will be surveyed to identify which products they commonly use that have the potential to come into contact with stormwater. Items may include road paint, asphalt sealers, de-icer, adhesives, caulk, lubricants, pesticides, and vehicle wash soap, for example. Other jurisdictions will also be queried to verify if the same products are used, or if additional products should be sampled. The list will be compiled, narrowed down to a maximum of 25 products, and prioritized based on greatest pollution prevention potential. Five duplicate samples will be collected for quality control purposes, bringing the total number of samples to 30.

2.2.3. Sample Products

City of Spokane staff will follow QAPP procedures to collect samples of the identified products and ship them to the laboratory for analysis. Staff from the Wastewater Management Department are experienced in the ultra clean sampling procedures necessary for PCB sampling. They have been collecting PCB samples in stormwater, wastewater, and catch basin sediments over the past three years.

2.2.4. Laboratory Analysis

The samples will be sent to a qualified laboratory for PCB analysis. EPA Method 1668 will be used to analyze all 209 PCB congeners. The laboratory will follow quality assurance and quality control procedures outlined in the QAPP and EPA Method 1668 to produce reliable results.

2.2.5. Data Review and Reporting

Data received from the laboratory will be reviewed per quality control procedures. A report will be prepared, detailing the findings of this study. The report will include a description of the products tested, total PCB concentration, homologue patterns, and will include the laboratory reports in an appendix.

2.3. Project Outcomes

This project will provide jurisdictions and other interested parties around the state with information on the content of PCBs in commonly used products. The QAPP will also provide sampling and analysis procedures that jurisdictions across the state can follow for testing PCBs in additional products not listed in this study.

The information gained from this study will enhance the body of stormwater knowledge across the state and beyond. Little is known about the content of PCBs in products, yet they can potentially contribute PCBs to impaired watersheds through contact with stormwater. The first step to reducing PCB contamination in stormwater is to identify its source(s).

2.4. Project Schedule

Table 1. Project Schedule

ACTIVITY	DEADLINE
Grant Proposal Due	October 1, 2013
Ecology Issues Final Offer and Applicant List	October 20, 2013
Negotiate and Sign Funding Agreements	December 6, 2013
City Council Review and Contracts	March 1, 2014
Prepare QAPP	April 15, 2014
Ecology QAPP Review	May 1, 2014
Identify Products to Sample	June 1, 2014
Collect Samples (Products Available for Summer Use)	July 1, 2014
Laboratory Analysis	September 1, 2014
Collect Additional Samples (Products Available for Winter Use)	November 1, 2014
Laboratory Analysis	January 2, 2015
Data Review and Draft Report	January 30, 2015
Ecology Review Draft Report	February 13, 2015
Final Report Submission	February 28, 2015

2.5. Deliverables

There are two major project deliverables. A QAPP will be prepared for the study that can also be used by other municipalities and agencies for PCB product sampling. The second deliverable is the final report, including details of the products sampled, results, and analysis.

3. Partnerships

Partners for this proposal include the City of Spokane, Spokane River Regional Toxics Task force, ____. The City of Spokane will manage the project and perform the majority of the tasks. Partner organizations will provide in kind resources, which may include review of the products list, coordination of access to products for sampling, and report review.

The Spokane River Regional Toxics Task Force is a non-profit organization whose members include NPDES permittees discharging to the Spokane River, local and state agencies, and environmental advocacy groups. The goal of the Task Force is to develop a comprehensive plan to bring the Spokane River into compliance with PCB water quality standards.

Other jurisdictions outside the Spokane region are also interested in partnering with the City of Spokane on this project, including ___

4. Project Management

4.1 Project Team Structure

Staff from the City of Spokane Wastewater Management Department will be responsible for this project. The technical consultant to the Spokane River Regional Toxics Task Force, LimnoTech, will prepare the QAPP as a subcontractor.

Table 2. Project Team

NAME	TITLE	RESPONSIBILITY
Dale Arnold City of Spokane Wastewater Management	Director	Reviews and Approves QAPP and Project Report
Lynn Schmidt City of Spokane Wastewater Management	Stormwater Permit Coordinator	Project Manager; Reviews QAPP; Coordinates Preparation of Product List and Sampling Activities; Prepares Project Report
Michael Cannon City of Spokane Wastewater Management	Laboratory Supervisor	Reviews QAPP; Laboratory Staff Supervisor
Jeff Donovan City of Spokane Wastewater Management	Chemist	General Contact, Reviews QAPP and Final Report
Gary Bussiere City of Spokane Wastewater Management	Laboratory Technician	Collects Samples
Kyle Arrington City of Spokane Wastewater Management	Laboratory Technician	Collects Samples
Dave Dilks, Ph.D. LimnoTech Ann Arbor, MI	Vice President, LimnoTech	Prepares QAPP

4.2. Staff Qualifications and Experience

The City of Spokane began an aggressive PCB monitoring program in 2010 in response to a Consent Decree with the Spokane Riverkeeper. The project has included sampling and analysis of PCBs in catch basin sediments and stormwater performed by Wastewater Management staff. Various motor oils and hydraulic fluid have also been sampled. Over the past three years, nearly two hundred PCB samples have been collected. The project has been coordinated with Ecology's Urban Waters program staff in Spokane for proper sampling procedures and to prevent duplication of efforts. In addition, the City routinely samples for PCBs in the wastewater collection system and treatment plant effluent as a requirement of the NPDES Waste Discharge permit.

Dale Arnold, City of Spokane –Director

Dale is the Director of the Wastewater Management Department, responsible for the stormwater and wastewater collection system as well as the Riverside Park Water Reclamation Facility. Dale oversees the City's PCB sampling and analysis program. He will review final documents and provide guidance as needed (5 hours).

Lynn Schmidt, P.E. City of Spokane – Stormwater Permit Coordinator

Lynn has 7 years of experience in the water resources and environmental engineering field and has been involved in the City of Spokane's PCB sampling efforts for the past two years. She will manage the project, including preparation of the product list, coordinating QAPP preparation and sampling efforts, and preparation of the project report (120 hours).

Michael Cannon, City of Spokane – Laboratory Supervisor

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Jeff Donovan, City of Spokane – Chemist

xxx

Gary Bussiere, City of Spokane – Laboratory Technician

xxx

Kyle Arrington, City of Spokane – Laboratory Technician

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Partnership Staff

Partner jurisdictions and organizations will provide in-kind support for the project. They will review the product list, assist in coordination of product sampling if samples are needed from other jurisdictions, and review the final report. The following partners have expressed their willingness to participate:

Dave Moss, Spokane County (Spokane River Regional Toxics Task Force member)
Mike Petersen, The Lands Council (Spokane River Regional Toxics Task Force member)
Xxxxx

Budget

Table 3. Budget

BUDGET ITEM	UNITS	PRICE PER UNIT	COST
Salaries			
Dale Arnold	5 hours		
Lynn Schmidt	120 hours		
Michael Cannon	5 hours		
Jeff Donovan	5 hours		
Gary Bussiere	20 hours		
Kyle Arrington	20 hours		
Contractual			
LimnoTech QAPP	Lump Sum		
Laboratory Analysis	30 samples	$1,000	$30,000
Supplies			
Any supplies?			
Indirect Costs (max 25%)			

The salary budget item reflects the expected staff time needed to complete the project. The QAPP will be prepared by a qualified, experienced consultant who is also coordinating sampling activities and the QAPP and Sampling and Analysis Plan for the Spokane River Regional Toxics Task Force. Laboratory analysis will be performed by a qualified contract laboratory. Supplies needed for the sampling include…… Indirect costs …

References

Washington State Department of Ecology, 2010. An Assessment of the PCB and Dioxin Background in Washington Freshwater Fish, with Recommendations for Prioritizing 303(d) Listings. Publication No. 10-03-007