

Letter of intent (LOI)

Interested parties should submit a Letter of Intent (LOI) on or before February 28, 2023 for each individual proposal. Letter of intent should include applicant contact information and seven questions about proposed study. More details about SAM study selection process, eligibility and funding availability can be found in SAM REF guidelines in SAM Effectiveness webpage.

The respondent's email (ddeleon@cityoftacoma.org) was recorded on submission of this form.

Applicant contact information

Applicant Full Name *

Dana de Leon

Organization *

City of Tacoma

Phone number *

2533129744

Proposed Study Information

1. Proposed Study Title *

Monitoring for Stormwater Contaminants of Emerging Concern in Western Washington

2. Which topic(s) from the SWG's priority list do you propose to address? *

The proposed study topic should be in the SWG's priority list

Topic 16. "Regional stormwater discharge monitoring study (Appendix 9, WWA Permit) to characterize emerging pollutants in stormwater, e.g. 6-PPD/q, PFAS/PFOS, micro- and nano- plastic contamination in stormwater."

3. Select type of project being proposed *

- Survey
- Literature Review & Synthesis
- Environmental Sampling Study
- Other

4. Short Description of the Proposed Study *

250 word limit: describe how results will assess effectiveness and advance regional understanding and permittees' implementation of specific stormwater management approaches

The 2020 discovery of the linkage between 6PPD-q and Coho salmon mortality has shown us that emerging pollutants can drive biological degradation in our waterways. This discovery demands that we focus on contaminants of emerging concern (CECs) of our time to document their prevalence and distribution across the landscape. We propose revisiting the 2007-2012 Phase I Permit S8.D. monitoring locations and conduct a synoptic monitoring study throughout western Washington to correlate land use to environmental concentrations of not only 6PPD-q, but also 6PPD, microplastics, tire wear particles, emerging tire-derived chemicals, and PFAS/PFOS. A portion of every project sample will be frozen for future analysis as new environmental pollutants are discovered.

The old S8.D. data has proven extremely valuable for Permittees in the region. The data have been used for multiple purposes, including in The Nature Conservancy's Hot Spot Model, King County's WQBE model, Seattle's Integrated Plan, and by Ecology for adaptive stormwater management. However, these models and planning efforts are silent on some of the most toxic pollutants in our waterways, simply because we knew little, if anything, about them when the S8.D. data were collected. The proposed study would generate a dataset which would augment and update the old S8.D. data and help inform stormwater management decisions for the next decade.

5. What type information will be collected or analyzed for this proposed study? *

If existing permittees' data are needed, specify the type, and the expected timing of a request for existing information from Permittees.

This study will entail the collection of stormwater and baseflow samples as well as sediment grab samples. The objective is to correlate the chemistry results with drainage basin characteristics. The dataset will be augmented with existing data collected by Permittees who have been conducting their own recent research on these same emerging pollutants. We have already contacted all of the Phase I permittees and plan to make a formal data request to all Permittees at the onset of the project.

The data from the Permittees, however, is not essential as we will be collecting our own data as part of this study. We have already been given approval to gain access to 15 of the original 22 S8.D. outfall monitoring locations by Phase I permittees, ensuring a statistically robust dataset. Regardless, the data request will be submitted in an effort to augment and increase the sample size and number of basins characterized. Quality assurance measures will be implemented to assure that only high-quality data are used.

6. What are the anticipated measurable outcomes and key deliverables that will be produced by the proposed study, and how will they be used by Permittees and the Washington State Department of Ecology? *

The study will result in a data set correlating land use to concentrations of pollutants of concern. The data can be used by Permittees for planning purposes, pollutant load modelling, identifying hot spots for treatment, and management decisions. Key deliverables will be:

- Literature Review of methods and available data for the CECs identified
- Quality Assurance Project Plan
- Synoptic regional Database of Sample Data for CECs
- Data Dashboard hosted online for data analysis and visualization
- Communication Plan
- Final Report

The deliverables will provide easily accessible information for the Permittees and Ecology. Data will be presented in an intuitive dashboard where users can filter by parameter, land use, location, etc. and visualize or download data as needed. Reports and deliverables from the Study will be posted on the SAM website and made publicly available. All newly collected monitoring data will also be uploaded to the Ecology EIM system.

7. Permittees or agencies you are proposing to coordinate with (provide staff names and contact information, if known) *

Enter "NA" if not applicable.

The City of Tacoma will be the agency sponsor for this study, and we have already begun forming the technical advisory committee (TAC). We have tentative commitment for TAC participation by individuals from seven Phase I jurisdictions as noted below. In addition, all except for Seattle have offered their S8.D. sampling locations for the study.

1. Dana de Leon: City of Tacoma (lead agency), ddeleon@ci.tacoma.wa.us
 2. Bob Hutton, Clark County, Bob.Hutton@clark.wa.gov
 3. Brad Archbold, WSDOT, ArchboB@wsdot.wa.gov
 4. Carol Falkenhayn Maloy, Pierce County, carol.falkenhaynmaloy@piercecountywa.gov
 5. David Batts, King County, David.Batts@kingcounty.gov
 6. John Herrmann, Snohomish County, John.Herrmann@co.snohomish.wa.us
 7. Jennifer Arthur, City of Seattle, Jennifer.Arthur@seattle.gov
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