

Appendix G3 - Assessment of Controls (PCB Source Tracking)

Support for Source Trackdown to Identify Potential Sources of PCB Contamination in the Bush River Watershed: Sampling Plan and Quality Assurance Project Plan for Phase I Investigations

Background

In 2016, the U.S. Environmental Protection Agency (EPA) approved the Bush River Total Maximum Daily Load (TMDL) for polychlorinated biphenyls (PCBs) established by Maryland Department of the Environment (MDE). Under Harford County's Municipal Separate Storm Sewer System (MS4) permit, the County is required to investigate potential sources of PCBs for the waterbodies in the County that have EPA-approved TMDLs. Harford County has begun to compile background information to address the Bush River PCB TMDL, through a stepwise approach.

In August 2022, MDE released its *Guidance for Developing Local PCB TMDL Stormwater Wasteload Allocation (SW-WLA) Watershed Implementation Plans (WIPs)* (MDE 2022). The source trackdown methodology outlined in the guidance includes development of the following components.

1. PCB Source Assessment to identify potential sources within each TMDL subwatershed based on a desktop analysis
2. Subwatershed Prioritization Strategy to identify and prioritize which TMDL subwatersheds will require source trackdown investigations (based on the PCB Source Assessment)
3. A Multi-phase Source Trackdown Investigation to identify discrete sources of PCBs within TMDL subwatersheds.

Under a previous task order, Tetra Tech conducted desktop analyses to produce a PCB Source Assessment report and geodatabase characterizing potential sources (Tetra Tech 2022). This report included the Subwatershed Prioritization Strategy which was based on data reviewed.

The multi-phase PCB source trackdown investigation (component 3 above) will include:

- Phase I: Subwatershed PCB screening
- Phase II: In-stream subwatershed PCB characterization
- Phase III: MS4 PCB characterization

Under this task order, Tetra Tech will prepare a Sampling and Analysis Plan (SAP) and Quality Assurance Project Plan (QAPP) for Phase I trackdown investigations.

Scope of Work

Task 1. Project coordination

Tetra Tech project staff will begin this task by holding a kickoff meeting with Harford County to review the Task scope and schedule and to begin coordinating on task activities. The meeting will be held virtually via Microsoft Teams. At the meeting, Tetra Tech will review the proposed project scope, schedule, and deliverables as presented in this proposed Task Order scope of work. If changes are needed to the scope or schedule, Tetra Tech will revise these materials and provide to Harford County for approval within 1 week of the kickoff meeting.

This task will also include up to 3 additional virtual meetings during Tasks 2 and 3, as well as task management and preparation of progress reports.

Deliverables:

- *From kickoff meeting, an updated scope and schedule*
- *Agendas and meeting notes*

Task 2. Develop Sampling and Analysis Plan for Phase I Source Trackdown Investigations: Subwatershed PCB screening

Tetra Tech will develop a Sampling and Analysis Plan (SAP) for the upcoming first phase of the multi-phase PCB source trackdown sampling effort, which will target sampling of the downstream end of subwatersheds in Bush River watershed.

Based on results of the November 2022 report, including the subwatershed prioritization, Tetra Tech will prepare a draft map that combines the individual subwatersheds into larger subwatersheds to be used for sampling. As per MDE guidance, the average area of these new subwatersheds would be approximately 5 to 10 square miles. Tetra Tech may present one or more options for the combined subwatersheds map. Upon review by Harford County, Tetra Tech will finalize the new subwatersheds map.

Using the new subwatershed map, Tetra Tech will propose candidate sample site locations at or near the downstream end of each subwatershed, depending on potential site access or site ownership restrictions. Backup site locations will be provided in the event of permission denials by landowners, cases where a landowner cannot be identified or reached, or if a site is otherwise found to be unsampleable. Two reference sites will be selected to represent background conditions. These sites would be in perennial streams in non-urban areas, in areas unlikely to be sources of PCBs (based on the desktop source assessment findings). The non-tidal sampling locations used by MDE in the Bush River TMDL development will also be included in the set of candidate sample sites.

For the candidate sites, Tetra Tech will prepare a geodatabase or Excel file with site coordinates and landowner information available from the County's public parcel records (<https://hcggis.harfordcountymd.gov/planning/harfordgis/>), which will include owner name, owner address, premises address, tax ID, map, parcel and lot (if applicable).

Tetra Tech will also consider access routes. The list will include parcel and landowner information for adjacent properties that may need to be crossed to access a sample site.

We understand that prior to field sampling (which will be conducted under a separate task), Harford County will be responsible for obtaining landowner permission to access sites and for recording data on landowner permissions granted, denied, pending, or “no response”.

Tetra Tech will prepare the SAP, including

- description of the targeted number of samples
- sampling schedule
- candidate sampling sites
- description of field and laboratory methods
- SOPs for field sampling
- data management and analysis

Tetra Tech will submit the draft *Phase I Source Trackdown Sampling and Analysis Plan (SAP)* for County review. Tetra Tech will address one round of comments from the County to create the final SAP.

Deliverables:

- *Draft map with combined subwatersheds; final map and GIS shapefile upon review by County*
- *Draft Phase I Source Trackdown Sampling and Analysis Plan (SAP)*
- *Final SAP upon review by County*
- *Geodatabase or Excel file of candidate sites with coordinates and landowner identification data*

Task 3. Develop Quality Assurance Project Plan for Phase I Source Trackdown Investigations: Subwatershed PCB screening

Tetra Tech will develop a draft Quality Assurance Project Plan (QAPP) for Harford County’s review and a final version after receipt of review comments. The QAPP will be prepared in accordance with *EPA Requirements for Quality Assurance Project Plans (EPA QA/R-5)*.

Tetra Tech will submit the draft QAPP for County review. Tetra Tech will address one round of comments from the County to create the final QAPP.

Deliverables:

- *Draft Phase I Source Trackdown QAPP*
- *Final QAPP upon review by County*

Proposed schedule

Proposed schedule for Source Trackdown Investigation to Identify Potential Sources of PCB Contamination in the Bush River watershed. Assumes June 1, 2023, start.		
Task	Activity	Timeframe
Task 1. Project coordination	Kickoff meeting	Kickoff meeting by June 12 Revised materials by June 19
	Coordination meetings	To be scheduled as needed
Task 2. Develop Sampling and Analysis Plan	Review subwatersheds and develop new subwatersheds map	Draft map by July 31 County review by August 15 Final subwatershed map by August 31
	Develop field SOPs and SAP text	Aug. 1 – Oct. 2
	Develop list and map of candidate sampling sites, with landowner information	Sept. 1 – Sept. 29
	Draft SAP	Draft SAP by Oct. 2 County review by Oct. 25
	Final SAP and candidate site list/map	Final by Nov. 15
Task 3. Develop Quality Assurance Project Plan	Develop QAPP content	July 15 – Sept. 29
	Draft QAPP	Draft QAPP by Oct. 2 County review by Oct. 25
	Final QAPP	Final QAPP by Nov. 15


References

Maryland Department of the Environment (MDE). 2022. *Guidance for Developing Local PCB TMDL (Total Maximum Daily Load) Stormwater Wasteload Allocation (SW-WLA) Watershed Implementation Plans (WIPs)*. Prepared by Maryland Department of the Environment, Baltimore, Maryland, August 2022.

Tetra Tech. 2022. *Identification of Potential PCB Sources in the Bush River Watershed*. Prepared by Tetra Tech, Owings Mills, MD, for Harford County Department of Public Works, Watershed Protection and Restoration, Bel Air, Maryland. October.

Tetra Tech, Inc.



<div>TETRA TECH, INC.</div> <div>DESCRIPTION</div>		Task 01		Task 02		Task 03			
		Project Coordination		Develop SAP		Develop QAPP		TOTAL	
		Units	\$	Units	\$	Units	\$	Units	\$
Tetra Tech, Inc. Labor									
Category	Rate								
Project Manager	\$186.60	20.0	\$ 3,732.00	32.0	\$ 5,971.20	20.0	\$ 3,732.00	72.0	\$ 13,435.20
Sr. Environmental Scientist	\$174.66	-	\$ -	8.0	\$ 1,397.28	46.0	\$ 8,034.36	54.0	\$ 9,431.64
Wetland Scientist	\$109.97	14.0	\$ 1,539.58	80.0	\$ 8,797.60	-	\$ -	94.0	\$ 10,337.18
Environmental Engineer	\$114.29	-	\$ -	8.0	\$ 914.32	-	\$ -	8.0	\$ 914.32
Senior Environmental Engineer	\$194.17	4.0	\$ 776.68	24.0	\$ 4,660.08	8.0	\$ 1,553.36	36.0	\$ 6,990.12
Water Quality Specialist	\$142.18	-	\$ -	4.0	\$ 568.72	-	\$ -	4.0	\$ 568.72
Environmental Scientist	\$76.03	-	\$ -	-	\$ -	8.0	\$ 608.24	8.0	\$ 608.24
Clerical	\$74.07	5.0	\$ 370.35	-	\$ -	-	\$ -	5.0	\$ 370.35
Aquatic Ecologist	\$65.42	-	\$ -	12.0	\$ 785.04	-	\$ -	12.0	\$ 785.04
TOTAL		43.0	\$6,418.61	168.0	\$ 23,094.24	82.0	\$ 13,927.96	293.0	\$ 43,440.81