

Technical Advisory Committee Meeting No. 4  
*SAM Study: Evaluation of Stormwater BMPs Maintenance Conditions*

November 4, 2024, 1-2 PM

Teams video call: [Click here to join the meeting on Teams](#)

Meeting ID: 236 699 812 173      Passcode: d7MxtE

Audio only 206-800-4880 Phone Conference ID 956 372 534#

## AGENDA & MINUTES

### WELCOME

TAC members:

- Don McQuilliams, Bellevue
- James Packman, Herrera
- Scott McQuary, Redmond
- Sammie Howe, Woodinville
- [vacant], Sumner
- [vacant], Tacoma

#### Useful links:

1. [NPDES Phase II Permit](#), see section S5.C.7. for Operations and Maintenance requirements for stormwater facilities
2. SWMMWW [Appendix V-A: BMP Maintenance Tables](#)
3. This [Study's webpage](#) on the SAM website

### CURRENT - TASK 5: Pilot Data Analysis of BMP O&M Data, 30 minutes

- Summary of findings
- Draft technical memorandum

### UPCOMING - TASK 6: White Paper, 5 minutes

- Summation of outcomes from study
- Draft white paper

### UPCOMING - TASK 7: Communications, 5 minutes

- Fact sheet
- Presentations

### NEXT STEPS, 10 minutes

- Pilot Data Analysis technical memorandum
  - Draft report:
  - TAC review:
- White Paper
  - Draft white paper:
  - TAC review:
- Next (final) TAC meeting:
  - Target date:

Regulations & Permits > Reporting requirements > Stormwater monitoring > Stormwater Action Monitoring > SAM effectiveness studies > BMP maintenance conditions

### Reporting requirements

SAM effectiveness studies

Bioretention effectiveness  
for 6PPD and PFAS

Bioretention infiltration

**BMP maintenance  
conditions**

## Evaluation of Best Management Practices Maintenance Conditions

The city of Bellevue, in collaboration with Herrera Environmental Consultants, will evaluate the maintenance thresholds or conditions for the following stormwater Best Management Practices (BMPs): ponds, vaults, trenches, and tanks. Findings will suggest how permittees might adjust BMP maintenance efforts to maximize overall environmental outcomes to meet permit requirements.

# Stormwater BMPs Maintenance Conditions Evaluation

TAC Meeting #4, November 4, 2024



# Agenda



## CURRENT WORK

### **TASK 5: Pilot Data Analysis, 30 minutes**

- Summary of findings
- Draft technical memorandum

## UPCOMING WORK

### **TASK 6: White Paper, 5 minutes**

- Summation of findings and outcomes from study
- Draft for TAC review: January 2025

### **TASK 7: Communications, 5 minutes**

- Fact sheet
- Presentations

## **NEXT STEPS, 10 minutes**

# Task 5: Pilot Data Analysis

## Goals

- Review and analyze municipal BMP inspection and maintenance data in context of maintenance standards.
- Pilot-scale effort
  - Data from 3 jurisdictions: Bellevue, Redmond, Tacoma

## Objectives

1. What BMP inspection and maintenance data are collected?
2. What associated data may be available related to BMP geographic settings, design, water quality benefits, and habitat conditions?
3. Compare data to BMP maintenance standards.



# Pilot Data Analysis

## RECORDS OF DATA

	<b>TOTAL</b>	<b>Ponds</b>	<b>Trenches/ Swales</b>	<b>Vaults</b>	<b>Period</b>
City of Bellevue	7,356	469	237	6,650	1/2019-11/2023
City of Redmond	554	95	151	308	4/2023-11/2023
City of Tacoma	376	105	107	164	8/2019-11/2023

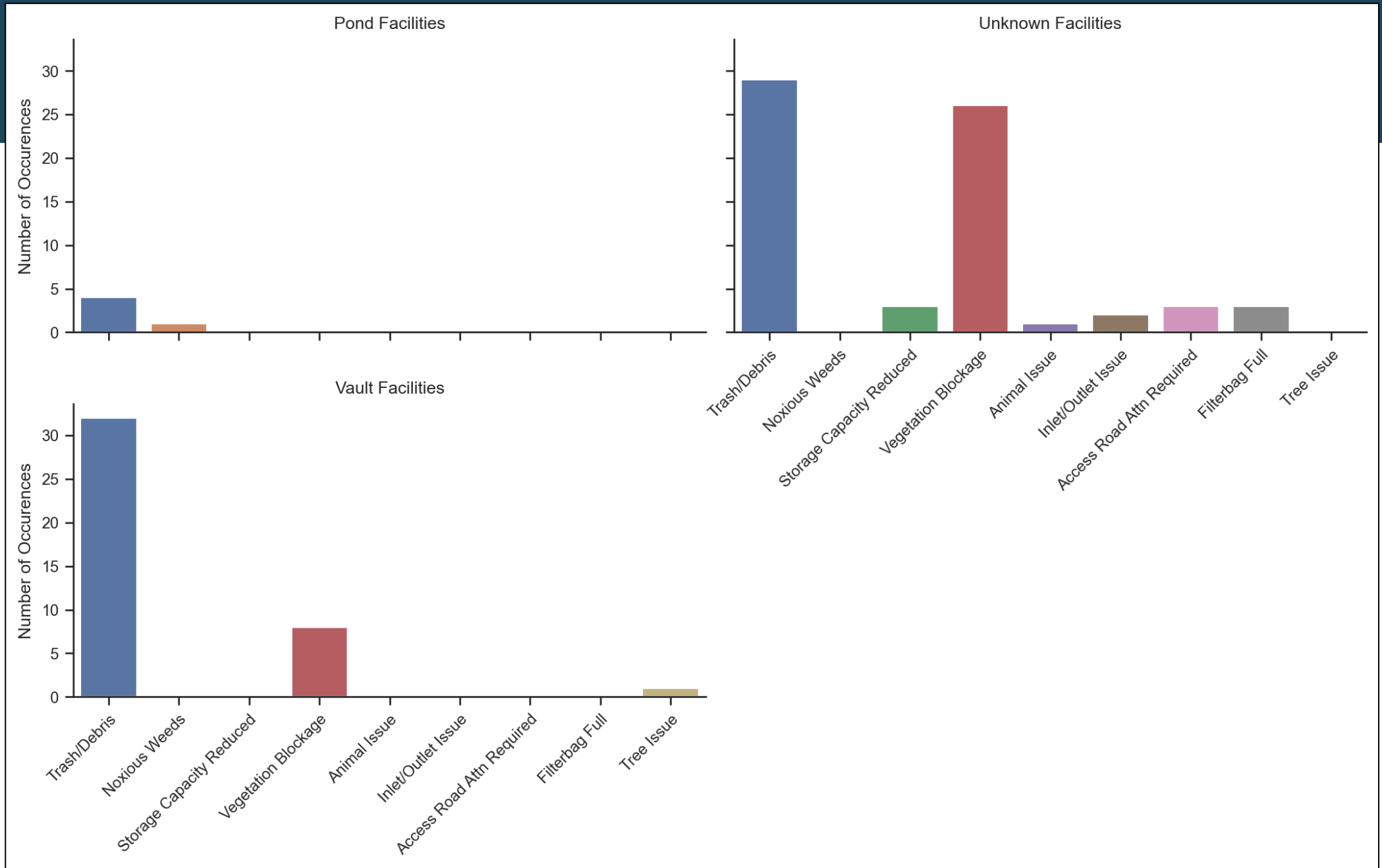
Bellevue: 51,294 records with unidentified BMP type per Asset ID

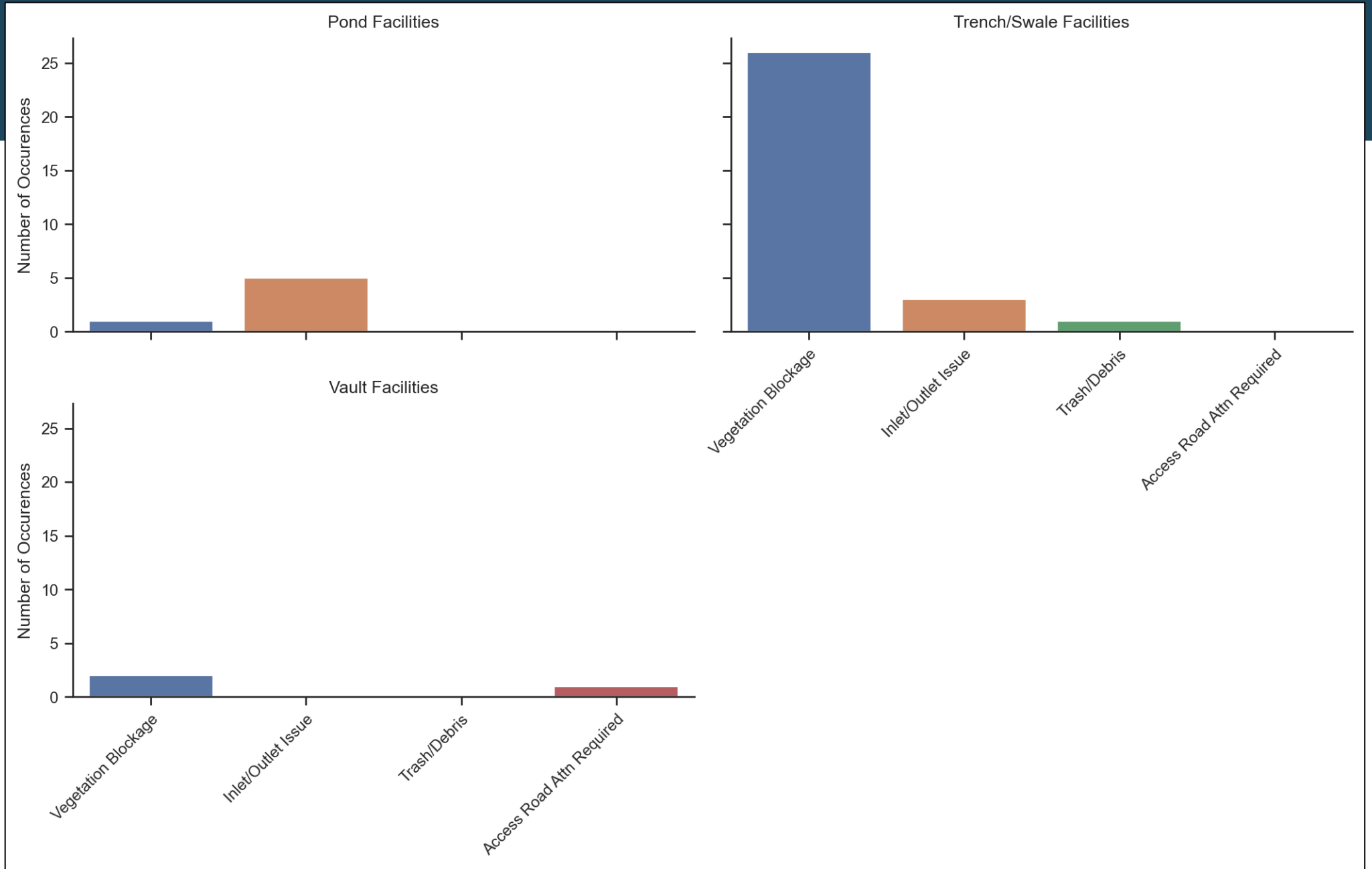
Redmond: 2023 data only

# Pilot Data Analysis

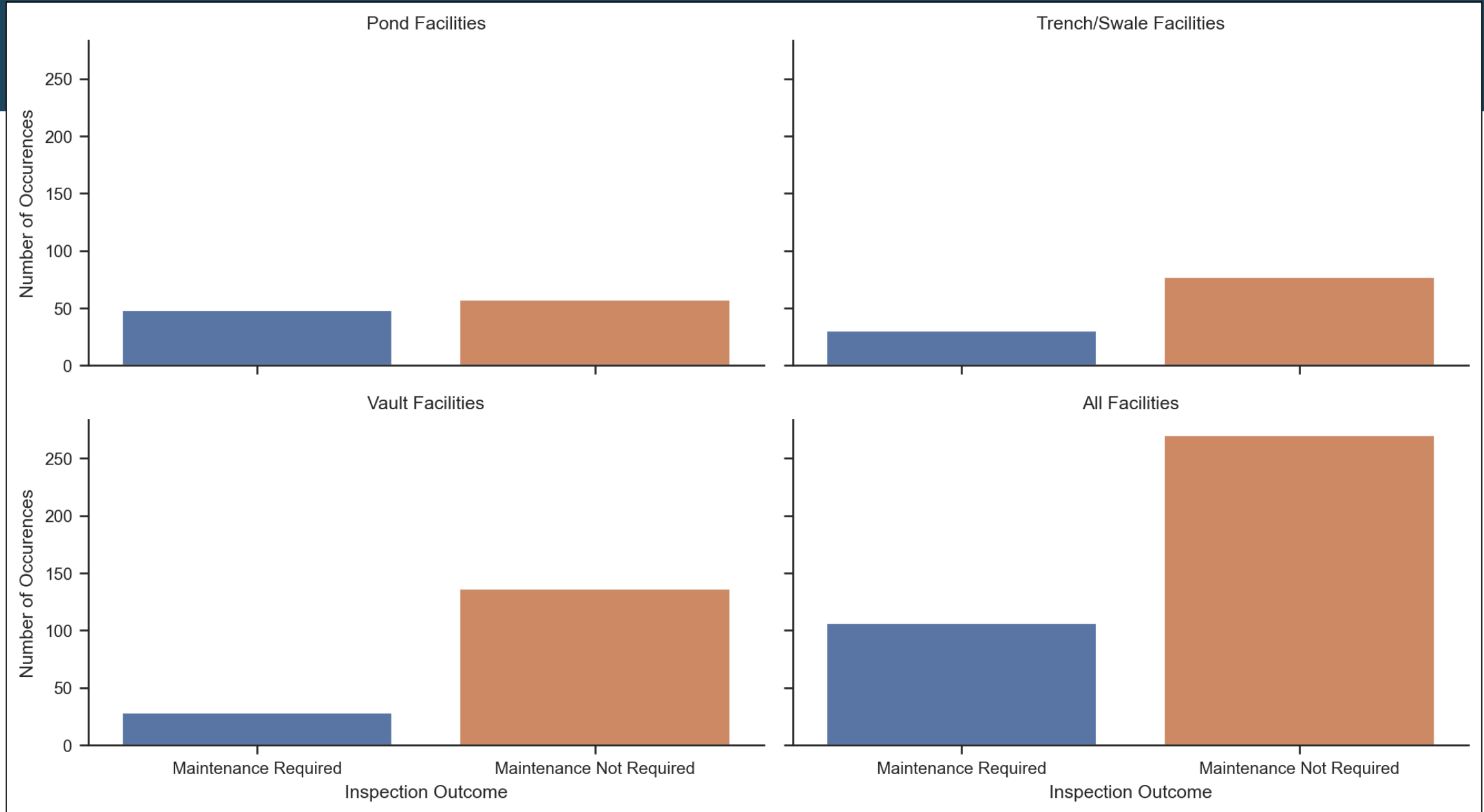
## TYPES OF BMPs

	<b>Ponds</b>	<b>Trenches/Swales</b>	<b>Vaults</b>
<b>Bellevue</b>	Detention Pond	Bioretention Cell	Coalescing Plate
		Bioretention Planter	Detention Vault
		Bioretention Swale	Elbow
			Flow Control/Constrictor
			Filterra
			MH or CB ("Participates")
			Oil/Water Separator
			Sand Filter
			StormFilter
			Tank
			Vortex
<b>Redmond</b>	Pond	Swale	Vault
<b>Tacoma</b>	Combined Detention & Stormwater Wetland	Dispersion Trench	Detention Tank
	Combined Detention & Wetpond	Infiltration Trench	Infiltration Tank
	Detention Pond	Silva Cell	Wetvault
	Stormwater Treatment Wetland		

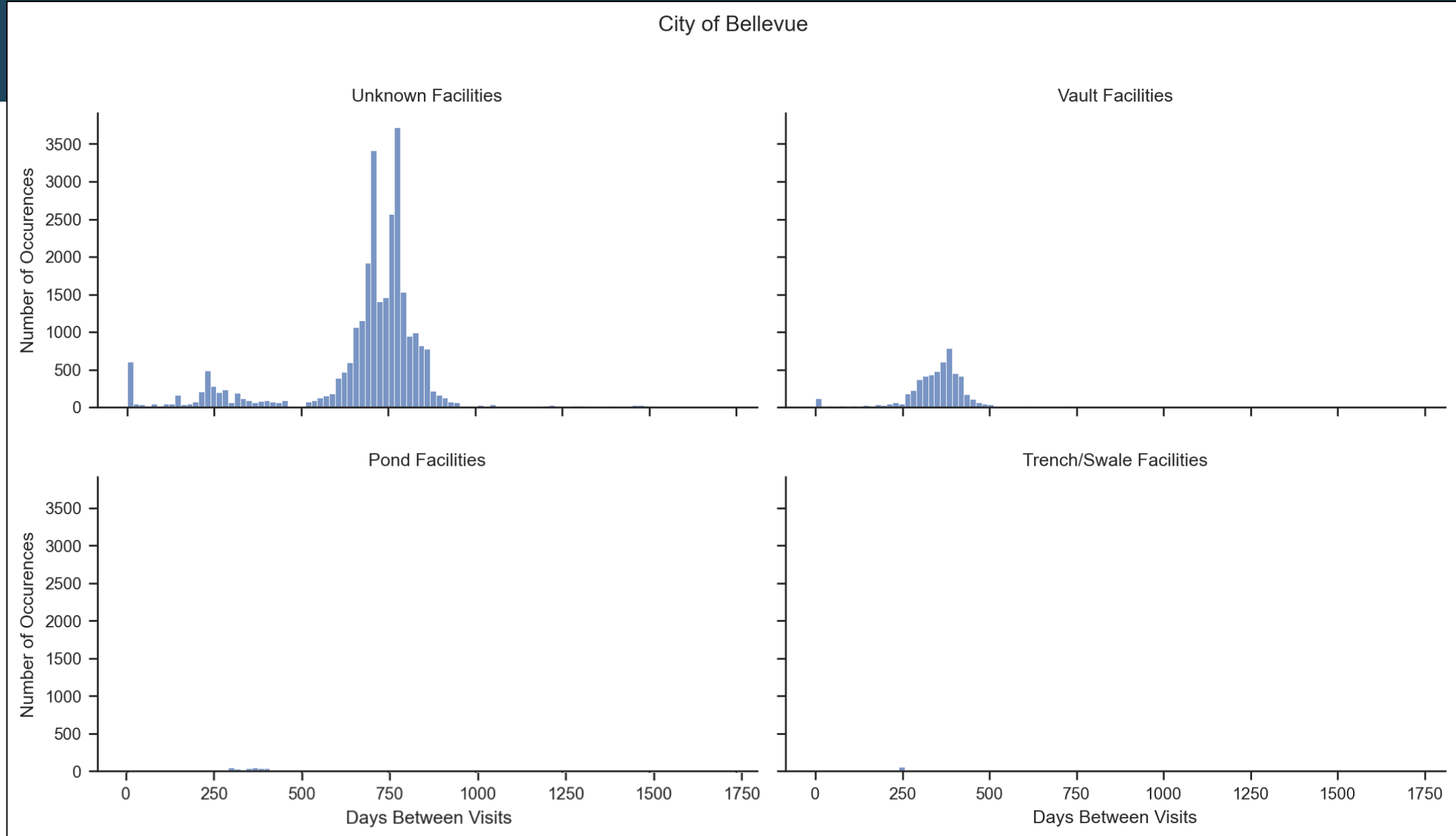






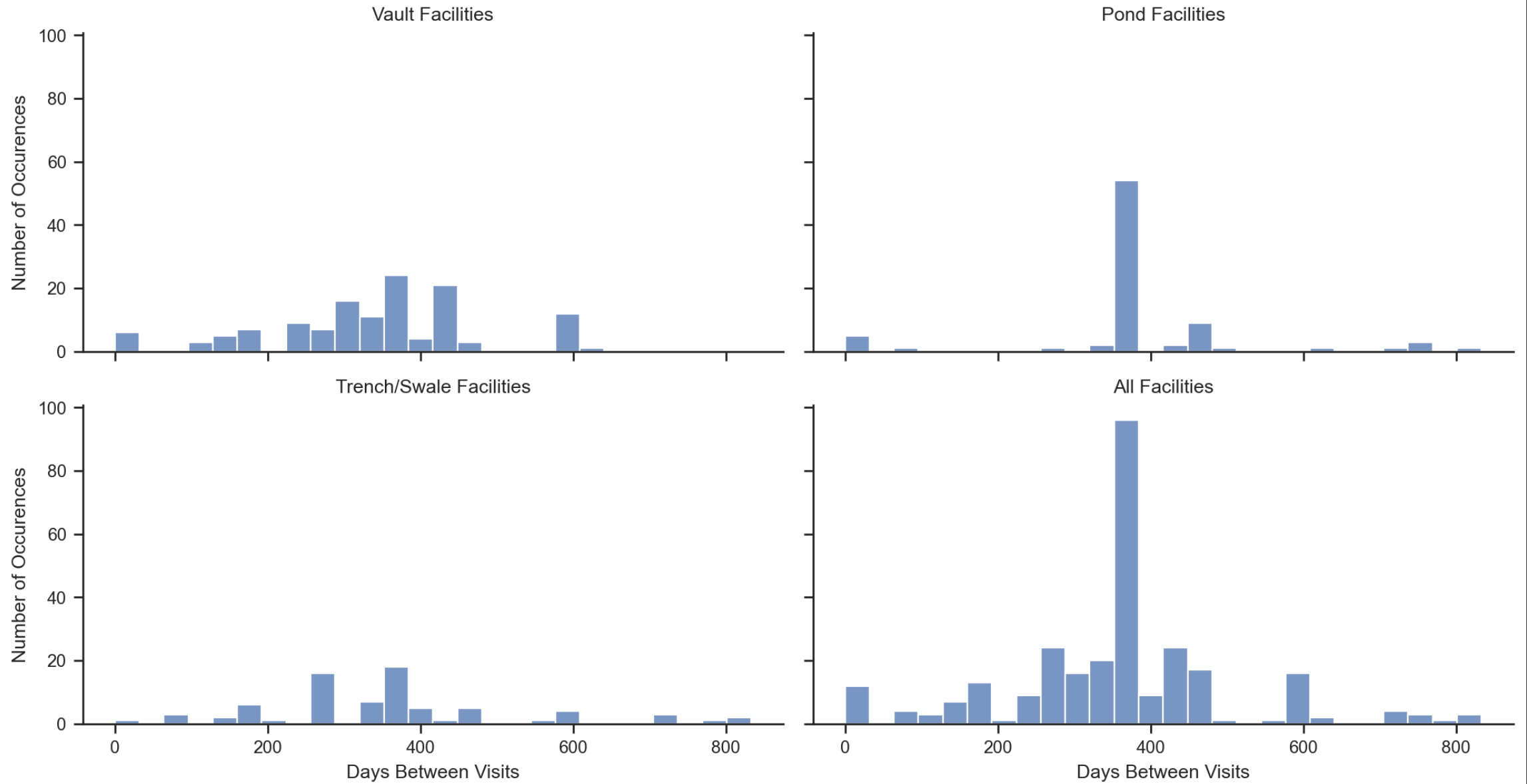


# Bellevue



# Tacoma

City of Tacoma



# Comparison to BMP Maintenance Standards

## **Compare Standard to what is inspected**

- Specific BMP Types
- Conditions and issues and maintenance needed

## **Permit**

- Compliance = 95% of required inspections
- Must maintain records

### ***Frequency of maintenance***

- 1 year, typical most facilities
- 6 months, catch basins
- 2 years, capital construction <\$25,000
- Spot check for damage after storms  
10-year recurrence or greater

## **Change maintenance frequency**

- Based on records 2x as long as proposed
- Or written statements "*based on actual inspection and maintenance experience.*"

## **What's not possible to compare?**

- Depends what information is collected
  - Issue specific record?
- By how much a BMP issue passes or fails



# White Paper

**Planned Content** - summary and synthesis of outcomes per deliverables:

- Findings from the permittee survey about O&M programs and practices
- Summary of literature review and history of stormwater manuals and BMP maintenance standards
- Pilot data analysis summary
- Recommendations:
  - Inspection frequencies
  - Revisions to BMP maintenance standards and tables in the SWMMWW
- Recommendations for potential follow-up studies

# Communications

## Fact Sheet

- 2-page
- Assembled and formatted by Ecology
- February 2025

## Presentations

- Stormwater Work Group:  
February 12, 2025 (tentative)
- Local municipal stormwater  
group: TBD



# Next Steps

- **Pilot Data Analysis Technical Memorandum**
  - Herrera, finish draft report: Nov 25
  - TAC review: Nov 25-Dec 6
- **White Paper**
  - Herrera, draft January 13
  - TAC review: January 13-24
- **Next (final) TAC meeting:**
  - Sometime January 27-February 7