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BASIN M VEGETATED INFILTRATION BASIN OPERATIONAL YEAR 4

ANNUAL SUMMARY REPORT

Terminal 4 Slip 1

Prepared for

Port of Portland
11040 N Lombard Street
Portland, OR 97203

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Project PNW0524G

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1. INTRODUCTION

1.1 Purpose

This annual report is provided to satisfy the requirements of the Port of Portland (Port) Terminal 4 (T4) Operation and Maintenance (O&M) Plan for the Basin M Vegetated Infiltration Basin (Bioinfiltration Basin), approved by Oregon Department of Environmental Quality (DEQ) in April 2022 and filed with the City of Portland in April 2022. Basin M is within the Slip 1 upland area, for which the Port entered into a Voluntary Cleanup Program (VCP) Agreement for Remedial Investigation, Source Control Measures, and Feasibility Study with DEQ on December 4, 2003 (LQVC-NWR-03-18; ECSI #2356). The stormwater discharges from T4, including Basin M, are permitted under the Port's Municipal Separate Storm Sewer (MS4) Discharge Permit No. 101314.

1.2 Background

The O&M Plan requires either a comprehensive report or an annual report to be submitted to DEQ by October 1 for five years starting in 2022. Each report will cover the preceding operating year (July 1 through June 30). Following approval of this report, the remaining reporting schedule consists of a comprehensive report for 2026 (Year 5).

1.3 Location and SCM Description

T4 is located at 11040 N Lombard St, Portland, OR and occupies approximately 283 acres on the east bank of the lower Willamette River downstream from the St. Johns Bridge in North Portland, between River Miles 4.1 and 4.6. It is within the drainage basin of the Portland Harbor Superfund Site. T4 is zoned heavy industrial and is a shipping terminal primarily used to transport bulk goods by ship and rail.

Basin M, which is located within the Slip 1 Upland Facility, is approximately 26.5 acres (Figure 1) and includes a mix of land uses. The drainage area is relatively flat and approximately 53 percent impervious. There is an above-ground tank farm in the middle of Basin M that is self-contained and does not contribute runoff[1]. The bioinfiltration basin was designed to capture, treat, and infiltrate greater than 90% of the average annual runoff volume from Basin M. The main treatment components of the source control measure (SCM) are a sedimentation forebay to remove coarse solids, followed by a vegetated media bed which filters stormwater through engineered media prior to infiltrating into native soils (Figure 2). By infiltrating a high volume of treated runoff, the bioinfiltration basin is significantly reducing the volume of discharge and pollutant loads to Slip 1 and the Willamette River.

[1] The stormwater from this area and Basin M do not interact. Infiltration and evaporation are the only available means of stormwater management for this area. Neither the Port nor its tenants have ever needed to evacuate water from the tank farm area.

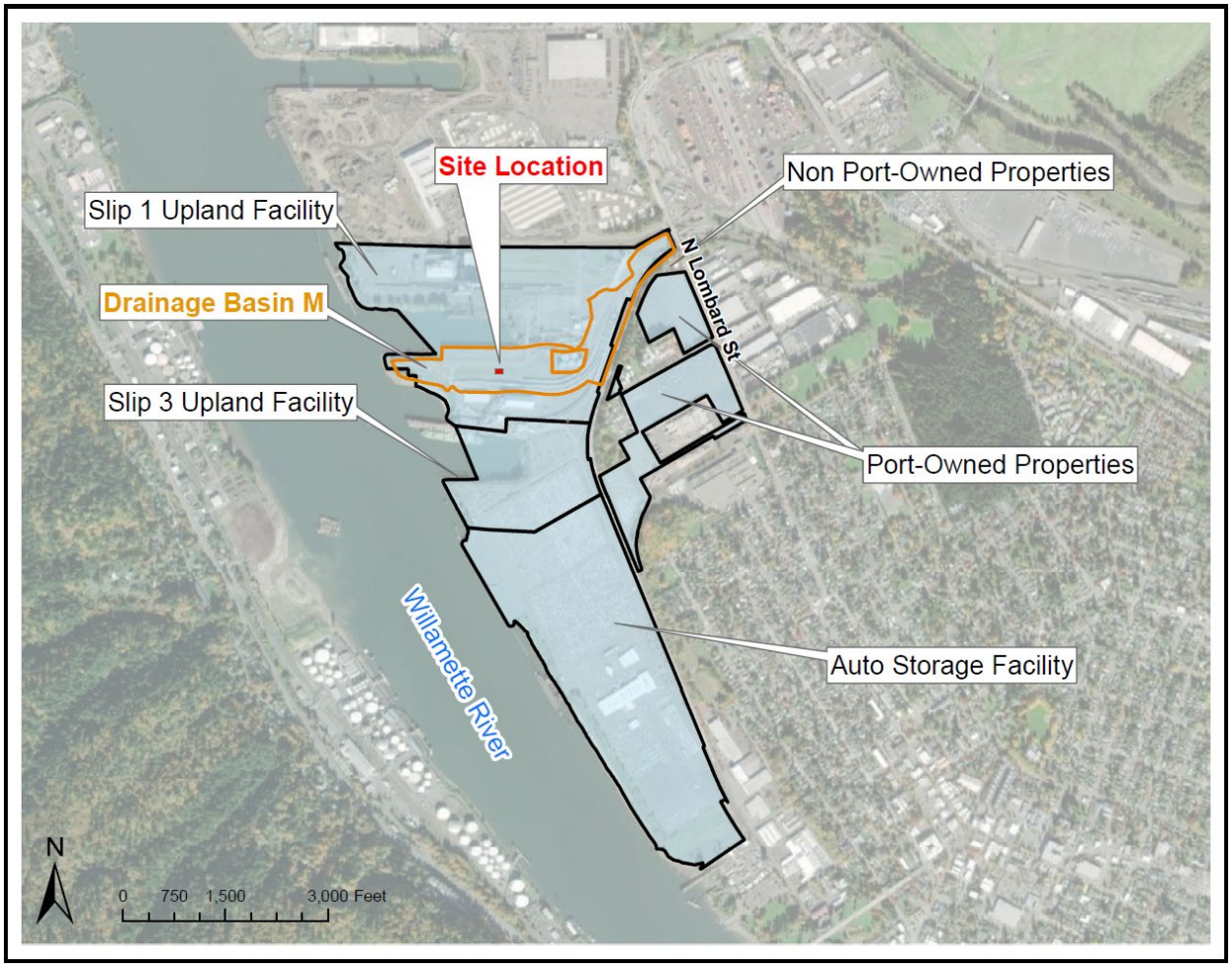


Figure 1. Site location map

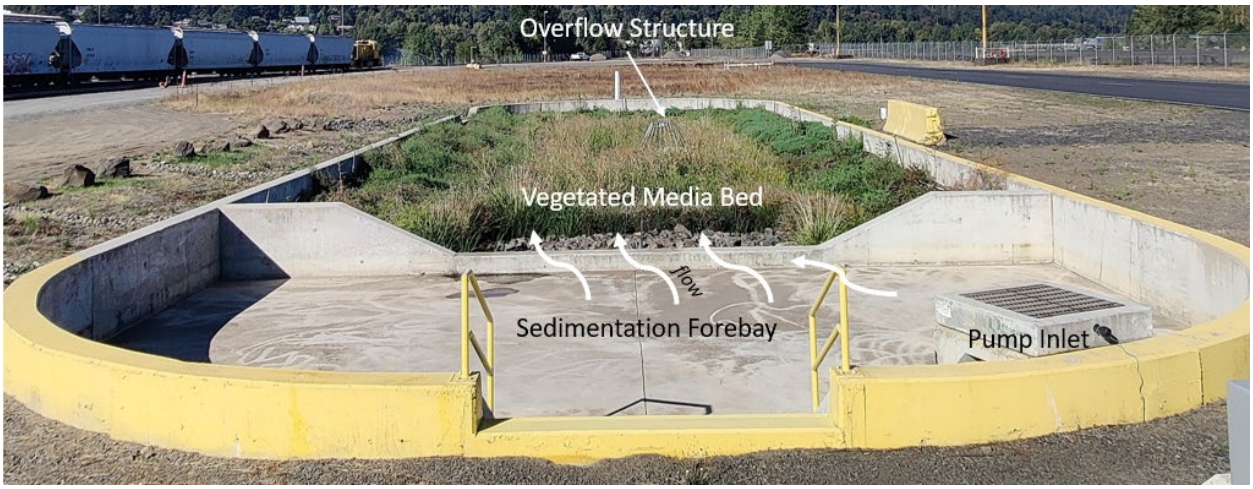


Figure 2. T4 Basin M Bioinfiltration Basin Overview

2. OPERATION AND MAINTENANCE SUMMARY

2.1 Timeline

The following notable dates are associated with the fourth operational year of the Basin M stormwater SCM:

- **20 September 2024** – Routine maintenance (instrumentation standpipe cleaning, forebay sediment removal) completed.
- **24 September 2024 –** Regular inspection completed.
- **7 October 2024 –** Routine maintenance (weeding, vegetation thinning) completed.
- **29 October 2024 –** Rainfall-triggered inspection.
- **7 November 2024 –** DEQ approves the Year 3 Annual Report.
- **19 November 2024 –** Irrigation system turned off for the year.
- **18 December 2024 –** Regular inspection completed.
- **23 March 2025 –** Terminal 4 experiences a power outage that last about a day. Pump station functions on uninterruptable power supply (UPS). Unknown to facility personnel prior to this event, the pump station does not switch back to standard power when the power returns.
- **26 March 2025** – The supervisory control and data acquisition (SCADA) system (real-time data collection from remote sensors and devices and reporting out) sends Facility personnel a communications failure alert. The alert is acknowledged, but personnel are unaware the alert is regarding the power status of the UPS. The UPS batteries are completely drained and the system turns off.
- **17 April 2025** – Facility personnel notice the system is not turned on and vendor is contacted about the issue.
- **25 April 2025 –** System is manually turned back on with vendor support and it is confirmed the system has been turned off due to the March 23 power failure. Irrigation turned on.
- **15 May 2025 –** Routine maintenance (weeding), irrigation repair, irrigation times reduced to help reduce week growth.
- **20 May 2025 –** Regular inspection completed.

2.2 Maintenance Activities

No pump failures occurred during the fourth operating year, however, a power outage did cause the pump station to not operate for approximately 1 month. This is not considered a pump failure as the pumps were operable. Table 1 summarizes routine maintenance that was performed. Table 2 summarizes notable equipment issues and remedies.

Table 1: Maintenance Summary

Maintenance Activity	Completion Date	Summary of Activities Performed	Additional Documentation
Regular	9/20/2024	Accumulated sediment removed from forebay; biological growth removed from media basin pressure transducer standpipe	Appendix A
Regular	10/7/2024	Weeding, vegetation thinning	Appendix A
Regular	5/15/2025	Weeding, irrigation repair	Appendix A

Table 2: Notable Equipment Issues

Equipment Issue	Date	Remedy
T4 experiences a power outage. Uninterruptable power supply runs out of battery and shuts off system. System does not restart by itself and is manually restarted on 4/25.	3/26/25 – 4/25/25	Port contacted vendor immediately once the issue was identified and the system is operational within a week. Port is working with the vendor on determining modifications to improve the communication of the SCADA alerts, including personnel training on the alerts.
After system is manually restarted, Pump 2 runs for 3 days without turning off. Wet well remains dry.	4/25/25 – 4/27/25	Pump 2 data was reviewed following the next storm and was found to be working properly.
P2 flow meter did not record data for 2 hours, however, the pump continued operating as designed based on wet well PT data.	5/17/2025 01:00-11:00	Flow meter inspected and determined to be operating as designed.

2.3 Summary of Inspections

There were no major issues noted during routine or rainfall-triggered inspections. Weed growth continues to be the most notable finding of many inspections. During the December 18 inspection one of three weep holes between the forebay and main basin was found to be clogged, and was unclogged during the inspection.

3. QUANTITATIVE RESULTS

3.1 Summary of Available Data

Continuous hourly rainfall data was retrieved from the City's HYDRA network at the nearby Shipyard tipping bucket rain gage. Water surface levels were measured continuously for the entire reporting year using a permanent PT in the media bed (Figure 3), and temporary PTs in the media bed (redundant to the permanent PT, not shown) and overflow manhole (Figure 4). Pump data, faults, and failures were recorded continuously by the MultiSmart™ system.

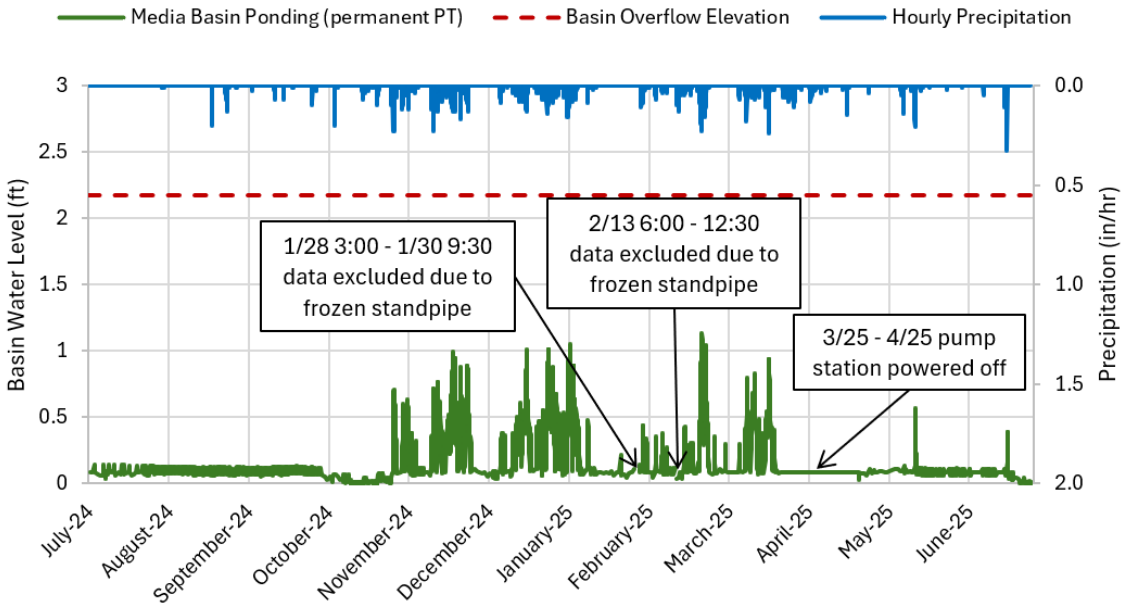


Figure 3. Basin Ponding Depth Time Series

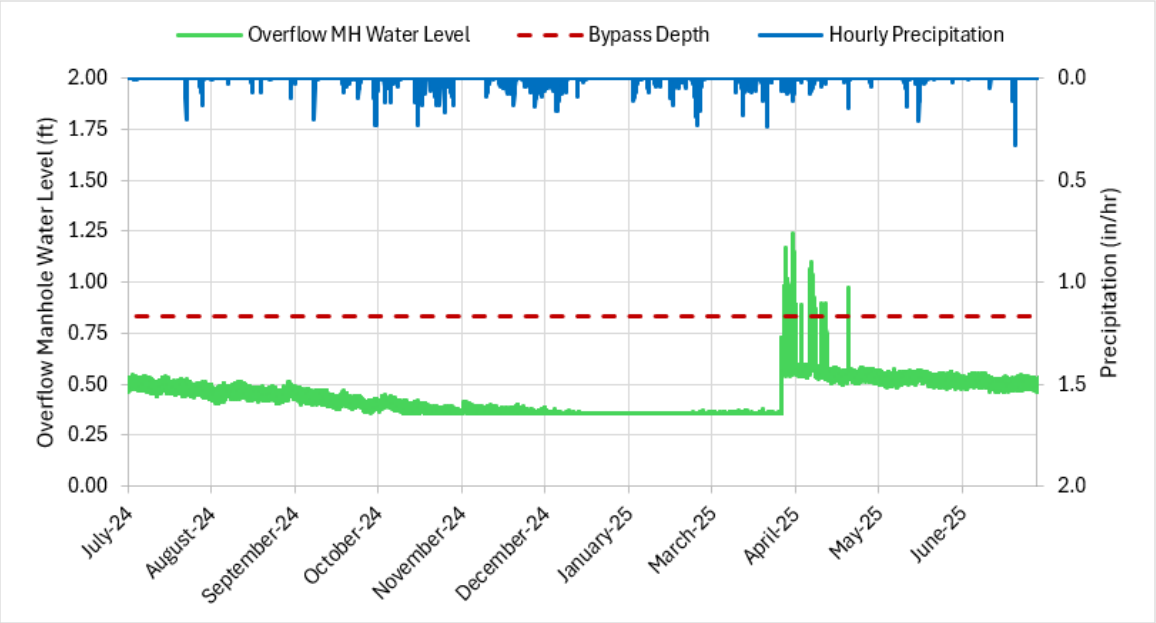


Figure 4. Overflow Manhole Time Series

3.2 Data Interpretation

Figure 3 highlights that no overflow occurred within the bioinfiltration basin during the period from 1 July 2024 to 30 June 2025.

Bypass at the diversion manhole only occurred during the month where the pumps were shut off due to power failure. During this time, bypass occurred approximately 12 times (Table 3).

Table 3: Year 4 Bypass Events Summary

Event Start Date	Rainfall Total, 24h Preceding End of Bypass (in)	Hourly Storm Intensity at Start of Bypass (in/h)	Approximate Bypass Duration (h)
3/27/2025 23:00	0.12	0.06	5.0
3/28/2025 13:00	0.25	0.00	9.0
3/29/2025 1:30	0.16	0.08	17.75
3/30/2025 16:00	0.07	0.05	2.25
3/30/2025 23:50	0.12	0.11	31.75
4/3/2025 5:00	0.06	0.00	0.5
4/6/2025 11:30	0.08	0.02	1.0
4/6/2025 14:30	0.12	0.07	38

Event Start Date	Rainfall Total, 24h Preceding End of Bypass (in)	Hourly Storm Intensity at Start of Bypass (in/h)	Approximate Bypass Duration (h)
4/8/2025 8:00	0.16	0.00	3.0
4/10/2025 15:48	0.08	0.00	1.5
4/12/2025 14:00	0.04	0.01	0.25
4/20/2025 16:45	0.17	0.00	1.25

The water level above the media exceeded 12 inches during one storm event throughout the reporting year, with a maximum water level of 13.6 inches during the 23 February 2025 storm event. The estimated maximum infiltration rate when the water level above the media was at least 12 inches was 23.7 inches per hour and the estimated average infiltration rate was 22.4 inches per hour.

The maximum drawdown time, defined as the time required for the water level in the media basin to drop below three inches after pumping ceased following a storm event, was 8.75 hours. This occurred between 08:15 and 17:45 on 10 January 2025.

4. SUMMARY AND RECOMMENDATIONS

Based on available data, the Basin M stormwater SCM is operating as designed. No major maintenance was required. The maximum drawdown time remained well below the City of Portland's requirement of drawdown within 30 hours. The minimum infiltration rate with at least 12 inches of ponding was close to the design infiltration rate of 20 inches per hour, and no overflow from the basin occurred.

Based on this information, the recommendation for the next reporting period, from 1 July 2025 to 30 June 2026, is to continue monitoring and maintaining the Basin M stormwater SCM as outlined in the O&M Plan, with submission of a Comprehensive Report on or before 1 October 2026.

APPENDIX A
Completed Inspection and Maintenance Forms

PORT OF PORTLAND

Form v11082023

VEGETATED INFILTRATION BASIN INSPECTION FORM

Inspector's Name: Mike Geosyntec Date: 9/24/24

Location/Facility ID: T4 Basin M Time: 10:03

Weather: Clear, warm

Date of Last Rainfall: 9/14/24 Amount: 0.07 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

✓ **Step 1: Take photos from all 4 sides of facility**

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Basin Inlet
- 0 Structure damaged
- 0 Structure clogged or obstructed
- Other:

2) Sediment Forebay
- 0 >3 inches of sediment / debris accumulation
- 0 Vectors / pests present
- 0 Structural integrity
- Other:

3) Basin Divider
- 0 Sediment / debris blocking weir
- 0 Weir integrity
- 0 Erosion
- 0 Weep holes not functioning
- Other:

4) Media Bed
- 0 > 2 inches of sediment / debris accumulation
- 0 Trash accumulation
- 0 Crusting of surface of media bed
- 0 Holes / loss of media / channelization / scour
- 0 Evidence of burrowing animals / vectors / pests
- 0 Standing water / saturated patches
- Other:

5) Vegetation
- 2 Trimming or detritus removal needed
- 0 Loss of vegetation cover
- 2 Noxious weeds
- 0 Abnormal plant mortality
- Other:

6) Side Slopes
- 0 Rill / gully erosion
- 0 Evidence of burrowing animals / pests
- 0 Slope slippage
- 0 Structural integrity
- Other:

7) Outlet
- 0 Structure damaged, grate displaced
- 0 Structure clogged or obstructed
- 0 Standpipe and pressure transducer condition
- Other:

8) Overflow Weir & Swale
- 0 Structure damaged
- 0 Weir / riprap integrity
- 0 Swale - erosion
- 0 Swale - noxious weeds
- Other:

Inspection Summary and Comments: Vegetated bed slopes overgrown w/ weeds. Main bed needs weeding

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified
1 = Monitor (potential for future problem exists)
(2 = Routine Maintenance Required)
3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

CONVEYANCES INSPECTION FORM

Inspector's Name: Mike Geosyntec Date: 9/24/24

Location/Facility ID: T4 Basin M Time: 10:20

Weather: Clear, Warm

Date of Last Rainfall: 9/14/24 Amount: 0.07 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Upstream Manhole / Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

2) Intercept Manhole

0 Access Problems
0 > 11 inches of sediment / debris build-up ~3in
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
Other:

3) Wet Well and Pumps

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Safety chains condition
Other:

4) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
0 Safety chains condition
Other:

5) Swale Outlet Catch Basin

Clogged catch basin grate or insert
Sediment / debris build-up in bottom of catch basin
Cracks / mechanical damage
Other:

6) Overflow / Bypass Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Standpipe and pressure transducer condition
Other:

7) Downstream Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping

Inspection Summary and Comments:

OVERALL FACILITY RATING (Circle One)

(0 = No Deficiencies Identified) 2 = Routine Maintenance Required
1 = Monitor (potential for future problem exists) 3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

VEGETATED INFILTRATION BASIN INSPECTION FORM

Inspector's Name: Mike Geosyntec
Date: 10/29/24
Location/Facility ID: T4 - Basin M
Time: 8:45
Weather: Fog, Sun, 43 °F
Date of Last Rainfall: 10/27/24
Amount: 0.72 inches

Reason for Inspection (Circle): Routine Complaint Major Event (spill or >1" in 24hrs)

✓ **Step 1: Take photos from all 4 sides of facility**

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Basin Inlet
0 Structure damaged
0 Structure clogged or obstructed
Other:

2) Sediment Forebay
0 >3 inches of sediment / debris accumulation
0 Vectors / pests present
0 Structural integrity
Other:

3) Basin Divider
0 Sediment / debris blocking weir
0 Weir integrity
0 Erosion
0 Weep holes not functioning
Other:

4) Media Bed
0 > 2 inches of sediment / debris accumulation
0 Trash accumulation
0 Crusting of surface of media bed
0 Holes / loss of media / channelization / scour
0 Evidence of burrowing animals / vectors / pests
0 Standing water / saturated patches
Other:

5) Vegetation
0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
0 Abnormal plant mortality
Other:

6) Side Slopes
0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
1 Structural integrity
2 Other: South slope vegetation

7) Outlet
0 Structure damaged, grate displaced
0 Structure clogged or obstructed
0 Standpipe and pressure transducer condition
Other:

8) Overflow Weir & Swale
0 Structure damaged
0 Weir / riprap integrity
0 Swale - erosion
0 Swale - noxious weeds
Other:

Inspection Summary and Comments: Side slope structural stability slightly weakened by weeding. ~~Monitor and for~~ Continue to monitor. Vegetation on South slope largely lost due to weed cover over summer. Replant in spring and continue to monitor

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified
1 = Monitor (potential for future problem exists)
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

Note on vegetation: This inspection occurred not long after weed removal in early-mid October, which is why the south slope was noted as bare. Port landscaping inspects the basin approximately monthly as noted in an email later in this attachment, and did not find replanting would be necessary. Wood mulch remains in place and no erosion was noted during the May inspection.

PORT OF PORTLAND

Form v11082023

CONVEYANCES INSPECTION FORM

Inspector's Name: Mike Geaynter
Date: 10/29/24
Location/Facility ID: 14 Basin M
Time: 900
Weather: Some fog, sun, 45°F
Date of Last Rainfall: 10/27/24
Amount: 0.72 inches

Reason for Inspection (Circle): Routine Complaint (Major Event (spill or >1" in 24hrs))

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Upstream Manhole / Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

2) Intercept Manhole

0 Access Problems
0 > 11 inches of sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
Other:

3) Wet Well and Pumps

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Safety chains condition
Other:

4) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
0 Safety chains condition
Other:

5) Swale Outlet Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

6) Overflow / Bypass Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Standpipe and pressure transducer condition
Other:

7) Downstream Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping

Inspection Summary and Comments: None

OVERALL FACILITY RATING (Circle One)

(0 = No Deficiencies Identified)
1 = Monitor (potential for future problem exists)
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

VEGETATED INFILTRATION BASIN INSPECTION FORM

Inspector's Name: Mike Geosyntec

Location/Facility ID: T4 Basin M

Weather: Sunny, some clouds, 55°F

Date of Last Rainfall: 12/18/24

Date: mdb 12/18/24

Time: ~~09:00~~ 09:00

Amount: 1.06 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

✓ **Step 1: Take photos from all 4 sides of facility**

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Basin Inlet
- 0 Structure damaged
- 0 Structure clogged or obstructed
- Other:

2) Sediment Forebay
- 0 >3 inches of sediment / debris accumulation
- 0 Vectors / pests present
- 0 Structural integrity
- Other:

3) Basin Divider
- 0 Sediment / debris blocking weir
- 0 Weir integrity
- 0 Erosion
- 1 Weep holes not functioning
- Other:

4) Media Bed
- 0 > 2 inches of sediment / debris accumulation
- 0 Trash accumulation
- 0 Crusting of surface of media bed
- 0 Holes / loss of media / channelization / scour
- 0 Evidence of burrowing animals / vectors / pests
- 1 Standing water / saturated patches
- Other:

5) Vegetation
- 0 Trimming or detritus removal needed
- 0 Loss of vegetation cover
- 0 Noxious weeds
- 0 Abnormal plant mortality
- Other:

6) Side Slopes
- 0 Rill / gully erosion
- 0 Evidence of burrowing animals / pests
- 0 Slope slippage
- 0 Structural integrity
- Other:

7) Outlet
- 0 Structure damaged, grate displaced
- 0 Structure clogged or obstructed
- 0 Standpipe and pressure transducer condition
- Other:

8) Overflow Weir & Swale
- 0 Structure damaged
- 0 Weir / riprap integrity
- 0 Swale - erosion
- 0 Swale - noxious weeds
- Other:

Inspection Summary and Comments: Forebay full of water. 1 weephole clogged. Debris cleared and weephole functioning as designed. Standing water in vegetated basin ~1.5". Forebay still draining. Vegetation growing back after trim.

OVERALL FACILITY RATING (Circle One)

(0 = No Deficiencies Identified)
1 = Monitor (potential for future problem exists)
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

CONVEYANCES
INSPECTION FORM

Inspector's Name: Mike Geosyntec Date: 12/18/24

Location/Facility ID: 74 Basin M Time: 09:20

Weather: Sunny, some clouds, ~55°F

Date of Last Rainfall: 12/18/24 Amount: 1.06 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Upstream Manhole / Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

2) Intercept Manhole

0 Access Problems
0 > 11 inches of sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
Other:

3) Wet Well and Pumps

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Safety chains condition
Other:

4) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
0 Safety chains condition
Other:

5) Swale Outlet Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

6) Overflow / Bypass Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Standpipe and pressure transducer condition
Other:

7) Downstream Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping

Inspection Summary and Comments:

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified
1 = Monitor (potential for future problem exists)
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

VEGETATED INFILTRATION BASIN INSPECTION FORM

Inspector's Name: Mike DuBose

Date: 5/20/25

Location/Facility ID: T4 Basin M

Time: 0910

Weather: Sunny, some clouds 57°F

Date of Last Rainfall: 5/17/25

Amount: 0.60 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

X **Step 1: Take photos from all 4 sides of facility**

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Basin Inlet
0 Structure damaged
0 Structure clogged or obstructed
Other:

2) Sediment Forebay
0 >3 inches of sediment / debris accumulation
0 Vectors / pests present
0 Structural integrity
Other:

3) Basin Divider
0 Sediment / debris blocking weir
0 Weir integrity
Erosion
0 Weep holes not functioning
Other:

4) Media Bed
0 > 2 inches of sediment / debris accumulation
0 Trash accumulation
0 Crusting of surface of media bed
0 Holes / loss of media / channelization / scour
0 Evidence of burrowing animals / vectors / pests
0 Standing water / saturated patches
Other:

5) Vegetation
0 Trimming or detritus removal needed
0 Loss of vegetation cover
1 Noxious weeds
2 Abnormal plant mortality
Other:

6) Side Slopes
0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
1 Other: Side slope vegetation

7) Outlet
0 Structure damaged, grate displaced
0 Structure clogged or obstructed
0 Standpipe and pressure transducer condition
Other:

8) Overflow Weir & Swale
0 Structure damaged
0 Weir / riprap integrity
Swale - erosion
0 Swale - noxious weeds
Other:

Inspection Summary and Comments: Needs growing in media bed. South slope mostly no remaining vegetation.

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified
(1 = Monitor (potential for future problem exists))
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

PORT OF PORTLAND

Form v11082023

CONVEYANCES INSPECTION FORM

Inspector's Name: Mike DuBose

Date: 5/20/25

Location/Facility ID: TL Basin M

Time: 0925

Weather: Sunny, some clouds ~57°F

Date of Last Rainfall: 5/17/25

Amount: 0.000 inches

Reason for Inspection (Circle): (Routine) Complaint Major Event (spill or >1" in 24hrs)

INSPECTION SCORING - For each facility inspection item, insert one of the following scores:

0 = No deficiencies identified
1 = Monitor (potential for future problem)
2 = Routine maintenance required
3 = Immediate repair necessary
N/A = Not applicable

FEATURES

1) Upstream Manhole / Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
0 Other:

2) Intercept Manhole

0 Access Problems
0 > 11 inches of sediment / debris build-up ~4"
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
Other:

3) Wet Well and Pumps

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Safety chains condition
Other:

4) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
0 Safety chains condition
Other:

5) Swale Outlet Catch Basin

0 Clogged catch basin grate or insert
0 Sediment / debris build-up in bottom of catch basin
0 Cracks / mechanical damage
Other:

6) Overflow / Bypass Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Standpipe and pressure transducer condition
Other:

7) Downstream Manhole

0 Sediment / debris build-up
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping

Inspection Summary and Comments: No issues.

OVERALL FACILITY RATING (Circle One)

(0 = No Deficiencies Identified)
1 = Monitor (potential for future problem exists)
2 = Routine Maintenance Required
3 = Immediate Repair Necessary

From: Madalinski, Kelly
To: Ariel Mosbrucker; Mike Du Bose; Marc Leisenring
Subject: FW: MFM assistance on stormwater maintenance for infiltration basin at Terminal 4
Date: Friday, September 20, 2024 2:04:58 PM
Attachments: image001.png
image002.jpg
image003.png

From: Grill, Pat <Pat.Grill@portofportland.com>
Sent: Friday, September 20, 2024 1:41 PM
To: Madalinski, Kelly <Kelly.Madalinski@portofportland.com>
Cc: Anderson, Roger <Roger.Anderson@portofportland.com>
Subject: RE: MFM assistance on stormwater maintenance for infiltration basin at Terminal 4

Kelly,

This work has been completed.

Pat

From: Madalinski, Kelly <Kelly.Madalinski@portofportland.com>
Sent: Wednesday, September 11, 2024 11:56 AM
To: Grill, Pat <Pat.Grill@portofportland.com>
Cc: Anderson, Roger <Roger.Anderson@portofportland.com>
Subject: MFM assistance on stormwater maintenance for infiltration basin at Terminal 4

Hi Pat,

I am requesting MFM assistance to conduct maintenance for the stormwater infiltration basin at T4 Basin M. The charge code is 820007.181200. The two maintenance items are listed below. Asking, if possible, to have this completed by October 4 (or sooner) and to notify when completed.

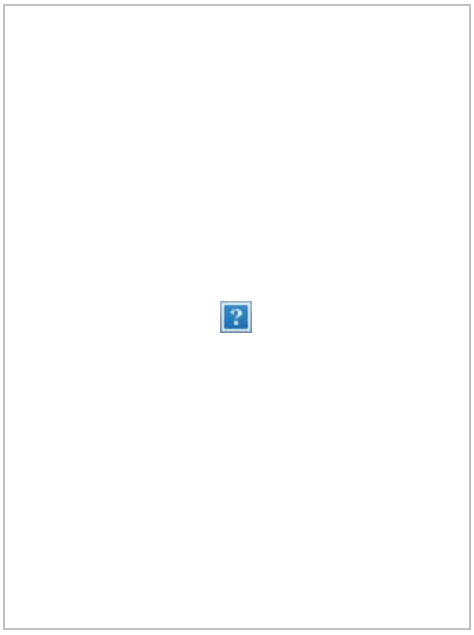
Once again, appreciate the assistance. Feel free to follow with any questions. Thanks!

1. Cleanout the sediment/solids in the forebay of the stormwater infiltration basin in Basin M. See picture below.

2. Remove the mildew growth within the PVC pipe that is located next to the overflow basin in the middle of the infiltration basin. See picture below.

   The PVC pipe will have two pieces of equipment, called pressure transducers (PTs) that measure water level. Therefore, following is the suggestion for cleaning:

   - Remove the two PTs from the standpipe (don't untie the strings/cords, just pull the devices out of the pipe).
   - Pressure wash or light scrubbing to remove build-up of mildew inside of the standpipe.
   - Use a wet vac or something similar to remove any water from the standpipe.
   - If needed, rinse PTs with water and paper towel/soft cloth to remove any mildew.
   - Place PTs back in standpipe.



Kelly Madalinski
Harbor Environmental Manager
he/him/his

e: kelly.madalinski@portofportland.com
p: 503-349-7526
w: portofportland.com

From: Madalinski, Kelly
To: Ariel Mosbrucker
Subject: FW: T-4 Stormwater Basin
Date: Wednesday, August 27, 2025 1:18:04 PM

Fyi, See below from the marine landscaping team. I'm still waiting from the labors on any additional info.

Thanks,
Kelly

From: Groom, Shawn <Shawn.Groom@portofportland.com>
Sent: Wednesday, August 27, 2025 11:37 AM
To: Madalinski, Kelly <Kelly.Madalinski@portofportland.com>; Villanueva, Gabe <Gabe.Villanueva@portofportland.com>; Fritz, Corrine <Corrine.Fritz@portofportland.com>; Kuzmin, Jessie <Jessie.Kuzmin@portofportland.com>
Subject: T-4 Stormwater Basin

Good Morning all,

The T-4 Stormwater Basin M activities for irrigation and maintenance are the falling:

Date irrigation turned **OFF** in Fall 2024: November 19, 2024

Date irrigation turned **ON** in Spring 2025: April 25, 2025
Irrigation was set for a 5 AM start time, MTWTFSS days, 10 min run time

Weeding:

10/4/25	3 hours	Start project for waterway channels in grasses.
10/6/25	8 hours	(Cut back of all grasses and sedge)
10/7/24	3 hours	Finish work
5/15/25	2 hours	Fixed broken irrigation, weeded bed
5/15/25	Changed irrigations times to reduce weeds in swale, Run Time: 5 mins, Days: MWFS	

Also added charges to the T-4 Pier 1 Cam for mowing and spraying on the outside of the T-4 Stormwater basin.

Mowed completely around the basin and strips up the roadway to prevent weed seed spreading. Also sprayed a barrier of 12 inches or so around the outside of basin along rocks.

I complete a monthly visit to the basin to check irrigation, check for noxious weeds and make sure site looks decent. I normally charges those times to the T-4 Pier 1 Cam, because I'm also checking on the Wheeler Bay site and irrigation, the 414/415 slip new trees/plants and irrigation.

Please let me know if I can help you any further or answer any other questions related to the work I have completed.

Sincerely
Shawn Groom

APPENDIX B
Relevant Photographs

Photo Log for Basin M Bio-infiltration Basin Year 4 (7/2024 – 6/2025)

Photo B-1 **Date:** 9/24/2024 **Direction:** W **Description:** Healthy vegetation and weeds present at the start of the wet season.	
Photo B-2 **Date:** 9/24/2024 **Direction:** SE **Description:** Pump inlet and forebay condition at the start of the wet season.	

Photo B-3 **Date:** 10/29/2024 **Direction:** S **Description:** Condition of the upstream side of the basin adjacent to the forebay post-vegetation maintenance.	
Photo B-4 **Date:** 10/29/2024 **Direction:** W **Description:** Basin and vegetation condition after weeding and vegetation thinning.	

Photo B-5 **Date:** 12/18/2024 **Direction:** W **Description:** Infiltration basin shortly after a storm, showing a full forebay.	
Photo B-6 **Date:** 12/18/2024 **Direction:** W **Description:** Basin condition in early winter.	

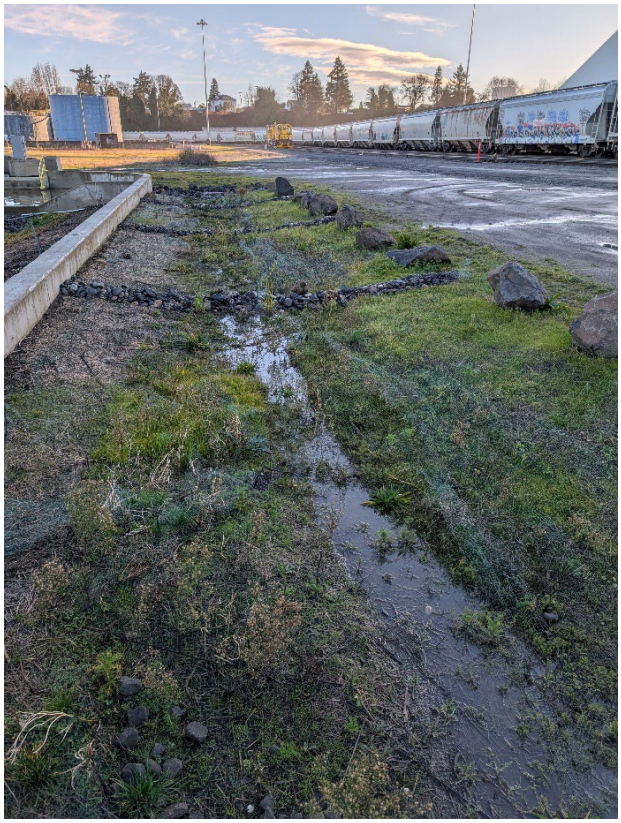
Photo B-7 **Date:** 12/18/2024 **Direction: E** **Description:** Condition of side swale in early winter, showing vegetation growth after addition of previous year's erosion control measures.	
Photo B-8 **Date:** 5/20/2025 **Direction:** W **Description:** Condition of basin near the end of the wet season.	

Photo B-9 **Date:** 5/20/2025 **Direction:** S **Description:** Forebay showing some accumulated sediment and upstream end of basin near the end of the wet season.	
Photo B-9 **Date:** 5/20/2025 **Direction:** E **Description:** Side swale showing healthy vegetation with increased density near the end of the wet season.