

Basin K1 Bioinfiltration Basin Operational Year 2 Comprehensive Report

Kinder Morgan Port of Portland Terminal 4, Slip 3

Prepared for:

Kinder Morgan Bulk Terminals, Inc.

11040 North Lombard Street

Portland, OR 97203

Multnomah County

January 26, 2024

Project No. M1017.01.016

Prepared by:

Maul Foster & Alongi, Inc.

3140 NE Broadway, Portland, OR 97232

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Basin K1 Bioinfiltration Basin Operational Year 2 Comprehensive Report

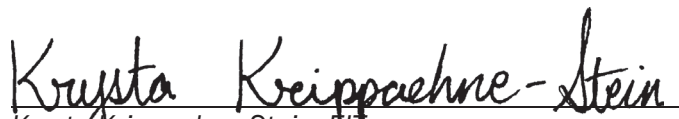
Kinder Morgan Port of Portland Terminal 4, Slip 3

*The material and data in this report were prepared
under the supervision and direction of the undersigned.*

Maul Foster & Alongi, Inc.



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1 Introduction

1.1 Purpose

Maul Foster & Alongi, Inc., (MFA) has prepared this comprehensive report on behalf of Kinder Morgan Bulk Terminals, Inc. (Kinder Morgan) consistent with the performance monitoring and reporting requirements outlined in the April 14, 2022 Kinder Morgan Port of Portland Terminal 4 *Operation and Maintenance Manual* prepared for the Basin K1¹ stormwater treatment and infiltration system.² The Operation and Maintenance (O&M) Manual was approved by the Oregon Department of Environmental Quality (DEQ) on May 7, 2021. This comprehensive report summarizes the performance monitoring of the Basin K1 stormwater treatment and infiltration system for the 2022–2023 operating year (July 1, 2022, through June 30, 2023). This was the second operating year and the first full year of operations.

1.2 Reporting Schedule

The O&M Manual requires either a comprehensive or annual report to be submitted to DEQ by October 1 starting in 2022, and for the following five years. Each report covers the preceding operating year (July 1 through June 30). The original O&M Manual stated that a comprehensive report would be prepared for the first operating year (July 1, 2021, through June 30, 2022); however, in an email to DEQ on July 15, 2022, Kinder Morgan requested an alternative schedule due to system instrumentation troubleshooting that resulted in the availability of less than a year of performance monitoring data for the first reporting year.

On August 3, 2022, DEQ approved the revised reporting schedule to submitting annual reports for 2021–2022, 2023–2024 and 2024–2025, and comprehensive reports for 2022–2023 and 2025–2026. This report is the first comprehensive report that discusses the Basin K1 treatment and infiltration system operations during the second operating year (July 1, 2022, through June 30, 2023).

1.3 Site Background

The Kinder Morgan facility encompasses approximately 11.8 acres and is located at the Port of Portland Terminal 4 in section 02, township 1 north, range 1 west of the Willamette Meridian. Kinder Morgan is located at 11040 North Lombard Street in Portland, Oregon and is bounded to the west by the Willamette River and to the east by North Terminal Road (the site) (see Figure 1-1). The site is owned by the Port of Portland and leased by Kinder Morgan.

¹ Kinder Morgan's Basin K1 was previously referred to as Basin M.

² MFA. 2022. *Operation and Maintenance Manual*. April 14.

The Kinder Morgan facility is a river-dependent active bulk storage and transfer site that primarily handles soda ash. Soda ash is delivered by rail from mines, then stored in the Soda Ash Building and loaded onto ships or railcars.

Basin K1 is within the Slip 3 upland area, for which the Port of Portland entered into a Voluntary Cleanup Program Agreement for Remedial Investigation, Source Control Measures, and Feasibility Study with DEQ on December 4, 2003 (LQVC-NWR-03-18) (Environmental Cleanup Site Information [ESCI] #2356).

Stormwater runoff generated at Kinder Morgan Basin K1 is treated and infiltrated in the bioinfiltration basin. Runoff in excess of the bioinfiltration basin capacity (i.e., bypass or overflow, as defined in Section 1.4) discharges to the Willamette River between river miles 4 and 5, consistent with the National Pollutant Discharge Elimination System Stormwater Discharge Permit No. 1200-Z (1200-Z Permit) issued by the DEQ and administered by the City of Portland Bureau of Environmental Services.

1.4 Stormwater Treatment and Infiltration System

The Basin K1 stormwater treatment and infiltration system consists of a flow- and spill-control manhole, pump station, sedimentation forebay, and bioinfiltration basin. Photographs of the system components are included in Appendix A. Stormwater runoff from Basin K1 is collected in catch basins and conveyed to a spill- and flow-control manhole. The manhole directs design flows to the pump station and traps leaks, spills, and sediment inside the manhole sump. Stormwater gravity-flows from the manhole to the pump station and is pumped to the pretreatment forebay for sedimentation. Pretreated stormwater is then conveyed to the vegetated bioinfiltration basin for treatment (biofiltration and adsorptive filtration) and infiltration. Flows in excess of the bioinfiltration basin's capacity bypass the bioinfiltration basin from the manhole to the existing Willamette River outfall. Overflows from the bioinfiltration basin are routed to the river outfall as well.

2 Operation and Maintenance Summary

2.1 Timeline

The following notable dates are associated with the second year of operation of the Basin K1 stormwater treatment and bioinfiltration basin. Inspections of the treatment and infiltration system are completed monthly to document site conditions and the need for maintenance or repairs. Monthly inspection records are included in Appendix B.

- **July 7, 2022:** Monthly inspection completed
- **August 12, 2022:** Monthly inspection completed
- **September 12, 2022:** Monthly inspection completed
- **October 24, 2022:** Monthly inspection completed
- **November 9, 2022:** Monthly inspection completed

- **December 8, 2022:** Monthly inspection completed
- **December 26, 2022:** Bypass and overflow events
- **January 10, 2023:** Monthly inspection completed
- **February 1, 2023:** Monthly inspection completed
- **March 13, 2023:** Monthly inspection completed
- **April 13, 2023:** Monthly inspection completed
- **May 16, 2023:** Monthly inspection completed
- **June 28, 2023:** Monthly inspection completed

2.2 Inspection Observations and Maintenance Activities

The following inspection observations were made and maintenance activities were conducted during the 2022–2023 operating year:

- **August 29, 2022:** An oil sheen was observed in a puddle by the maintenance warehouse entrance. Kinder Morgan used bulk oil absorbent to absorb the sheen and properly disposed of the absorbent material. The source of the sheen could not be identified during the inspection of the drainage area, but it was likely associated with leaks from vehicle or train traffic or tracking by foot traffic from the maintenance shop.
- **October 25, 2022:** Several plants appeared dormant or dead in the bioinfiltration basin. MFA consulted with a landscape contractor and the contractor recommended that the plants be replaced during the summer or fall of 2023.
- **October 25, 2022:** An oil sheen was observed in the manhole (the manhole was designed to trap sheen in the sump). The source of the sheen could not be identified during the inspection of the drainage area, but it was likely associated with leaks from vehicle or train traffic. An absorbent boom was deployed in the manhole to absorb the sheen. The boom was subsequently removed, placed into a plastic bag, and disposed in an on-site municipal waste dumpster. A new absorbent boom was then placed inside the manhole to absorb sheen that may discharge to the manhole. This boom is observed during inspections and will be replaced when observations indicate it is near saturated.
- **March 13, 2023:** The drain at the bottom of the valve vault was clogged. Kinder Morgan vacuumed out the valve vault and cleared the drain on March 14, 2023.
- **May 12, 2023:** The bioinfiltration basin irrigation system was turned on for the summer.
- **June 28, 2023:** The bioinfiltration basin irrigation line was observed to be damaged during a monthly inspection. The underground irrigation line elbow fitting that transitions from a horizontal line to the vertical riser that is connected to the sprinkler head had cracked sometime after the inspection on May 16, 2024 and resulted in a leak. Water from the damaged irrigation line eroded a small depression (approximately 12 by 12 by 6 inches) around the sprinkler head at the top of the slope.³

³ The sprinkler and surrounding erosion were repaired on July 17, 2023 (this date is past the 2022–2023 year discussed in this report). Plant replacement designed to increase plant coverage to 70-80 percent was conducted during the fall 2023 and will be reported in the 2023–2024 annual report.

3 Quantitative Results

3.1 Summary of Available Data

Water surface levels were measured continuously at 15-minute intervals using pressure transducers in the manhole and basin. Pumped volume data were recorded continuously at 15-minute intervals using a MagFlux electromagnetic flow meter. Data is logged on the High Tide Technologies HTT-1100 Supervisory Control and Data Acquisition (SCADA) system. Continuous hourly rain gage data were retrieved from the City of Portland's HYDRA rain gage network at the nearby Shipyard Rain Gage. Precipitation data along with time series of the flow-control manhole water surface elevation over the bypass weir elevation, basin water surface elevation (ponding above the media bed surface) relative to the basin overflow elevation, and pump flow rates are provided in Figures 3-1, 3-2, and 3-3, respectively.

The basin and manhole water level data were corrected based on adjustments to the pressure transducer elevation, following the calibration of each transducer (adjustment of low amperage readings to zero). MFA identified pressure transducer reading anomalies during data analysis by comparing pressure transducer-reported bioinfiltration basin water levels to water levels shown on the basin staff gage during site inspections. This comparison indicated a water level difference of approximately 4.8 inches. MFA visually inspected the pressure transducer on September 22, 2023, and discovered that the pressure transducer was located approximately 4.8 inches below the base of the bioinfiltration basin. The pressure transducer was subsequently recalibrated to account for this difference, and the recorded basin water levels were adjusted accordingly. All of the data presented in this report have been corrected to reflect adjusted water levels.

The maximum water level in the basin recorded during the November 4, 2022 storm was 3.8 inches below the basin overflow, demonstrating that the basin was not close to overflowing despite the high rainfall depth. The pressure transducer in the manhole only records water levels above the overflow weir, so it is not known how far or close to the bypass weir the water depth reached.

As described in Section 2.2, the bioinfiltration basin irrigation line was damaged between May and July 2023. The underground irrigation line elbow fitting that transitions from a horizontal line to the vertical riser that is connected to the sprinkler head had cracked and resulted in a leak. The broken fitting was replaced on July 17, 2023, and the irrigation system has been functioning properly since then.

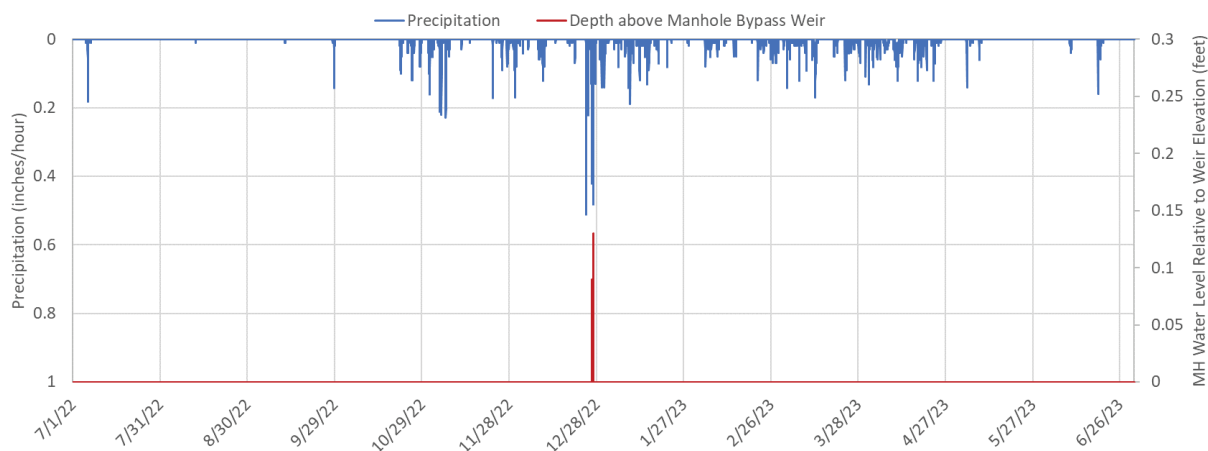
The irrigation sprinkler is programmed to run for 30 minutes at 5:30 a.m. and 9:30 p.m. each day during this period. The damage resulted in non-stormwater basin water level measurements following each irrigation period that were recorded by the pressure transducer (including during days with no recorded precipitation).

The irrigation water discharges to the basin were not recorded by the flow meter and therefore did not impact the quality of the flow meter data or calculated volumes of stormwater pumped to the basin. As shown in Figure 3-2, there were five days with precipitation between May 16, 2023, and June 30, 2023. Basin overflows did not occur during any of these storm events and the maximum

ponding depth recorded during this period was 4.2 inches. The basin was not close to overflowing during any of these events.

The broken irrigation line discharge flow rates into the basin have been estimated to range between 20 to 50 gallons per minute (based on the potential flow rates through a 1-inch diameter pipe). This corresponds to a potential estimated volume of irrigation water discharged to the basin ranging between 55,200 and 138,000 gallons (total volume of the two daily 30-minute periods between May 16 and June 30). The total volume of stormwater pumped into the basin during this period was 514 gallons.

Figure 3-1: Manhole Water Level Above the Bypass Weir Elevation



Note

MH = manhole.

Figure 3-2: Basin Water Level Relative to the Basin Overflow Elevation

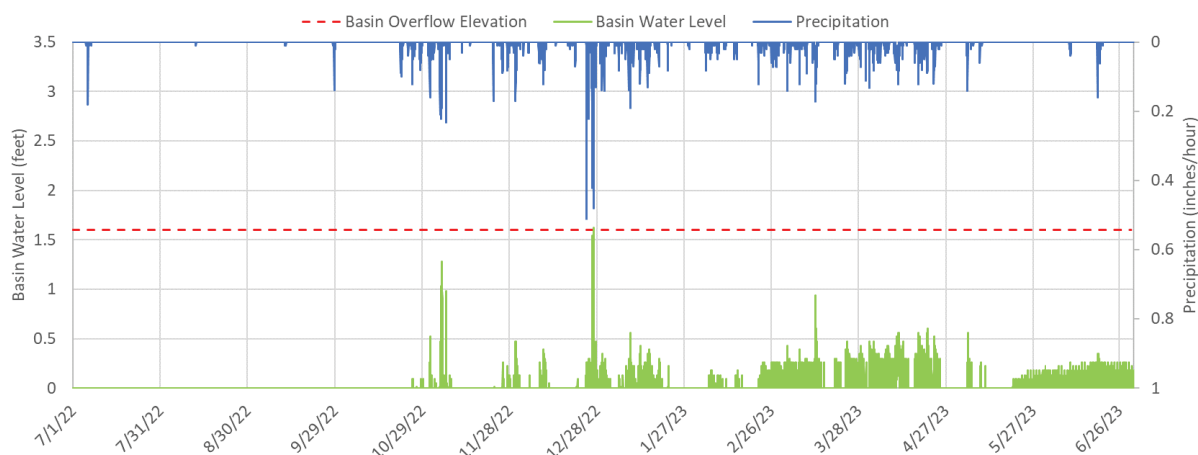
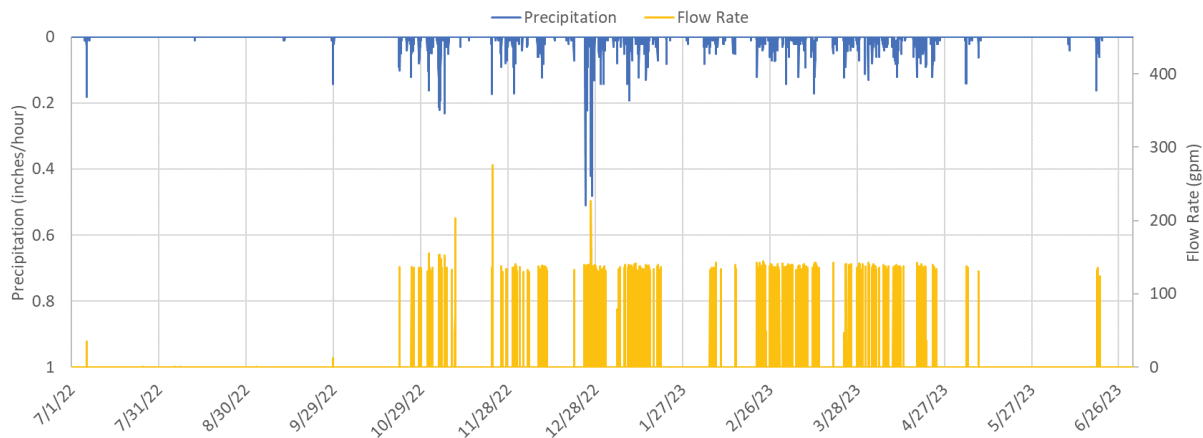


Figure 3-3: Pump Flow Rates



Note

gpm = gallons per minute.

3.2 Data Interpretation

Annual rainfall data, capture analysis, infiltration rates, and drawdown times were analyzed consistent with the methodology outlined in the O&M Manual. The results of these analyses are summarized in the following sections.

3.2.1 Total Annual Rainfall Depth

The total annual rainfall depth between July 1, 2022, and June 30, 2023, was 34.95 inches. The average annual rainfall over the past 10 years was 41.49 inches. The 2022–2023 operational year rainfall was 84 percent of the ten-year average and 70 percent of the 2021–2022 annual rainfall of 50.05 inches.

Although the 2022–2023 annual rainfall was less than the ten-year average, two significant storm events occurred between July 1, 2022, and June 30, 2023. These storms occurred on November 4, 2022, and December 26, 2022, and produced 24-hour rainfall depths of 2.34 inches and 2.90 inches, respectively.

3.2.2 Capture Analysis

The total volume of stormwater captured and routed to the Basin K1 bioinfiltration basin between July 1, 2022, and June 30, 2023, was 997,100 gallons.

Figure 3-1 indicates that a bypass from the flow-control manhole occurred once between July 1, 2022, and June 30, 2023, and Figure 3-2 shows that one overflow from the bioinfiltration basin occurred between July 1, 2022, and June 30, 2023. The bypass and overflow both occurred during the significant storm event on December 26, 2022. The flow-control manhole bypassed for approximately one hour and discharged approximately 6,600 gallons to the Willamette River. The bioinfiltration basin overflowed for approximately 45 minutes and discharged approximately 4,500

gallons to the Willamette River. The total volume of stormwater infiltrated in the basin was therefore 992,600 gallons, while the total volume discharged to the river was 11,100 gallons.

The volume of water discharged during bypasses and overflows was calculated using pressure transducer data and a weir equation. The estimate assumes stormwater discharged continuously over each 15-minute interval. This likely overestimated the volume of bypasses. Looking at the December 26, 2023 bypass and overflow, the estimated volumes could be overestimated by roughly 30 percent and 25 percent, respectively, if the overflow stopped at the start of the final 15-minute interval.

3.2.3 Infiltration Rates

As outlined in the O&M Manual, infiltration rates should be calculated using the following equation:

$$i = \frac{A_L * dL}{A_i * dt} \quad \text{[Equation 1]}$$

Where,

i = infiltration rate

A_L = surface area of water in the basin

A_i = surface area of the ponded water in the basin

$\frac{dL}{dt}$ = change in water level over the time period

However, the above equation is intended to be used when influent flow has ceased and ponding remains. Storm events between July 1, 2022, and June 30, 2023, did not generate ponding that exceeded 6 inches without influent flow. Therefore, the infiltration rate calculation was revised to the following equation, which accounts for influent flow during the drawdown period:

$$i = \frac{(A_{avg} * dL) + V_{in}}{A_{avg} * dt} \quad \text{[Equation 2]}$$

Where,

i = infiltration rate

A_{avg} = surface area of the ponded water in the basin at the average water level over the observed time period

V_{in} = volume of water entering the basin over the observed time period

$\frac{dL}{dt}$ = change in water level over the time period

Infiltration rates could only be calculated using data obtained during the November 4 and December 26, 2022, storm events. The maximum ponding depth over the basin media bed did not exceed 1 foot during the November 6, 2022, and March 13, 2023, storm events; therefore, infiltration rates were not calculated for these storms. The maximum ponding depths over the basin media bed on November 4 and December 26 were 1.28 and 1.62 feet, respectively. The average infiltration rate when water ponding depth over the media bed was between 6 and 12 inches was 41 inches per hour. The average infiltration rate when water ponding depth was between 12 and 18 inches was 29 inches per hour.

The calculated infiltration rates are greater than the conservative design rate of 20 inches per hour. The design rate included a factor of safety that accounts for the potential long-term reduction in

infiltration rates from sedimentation and/or media compaction. The measured rates indicate that this reduction has not occurred, and that the basin can treat and infiltrate the design flow and does not require maintenance or replacement of the media bed.

3.2.4 Drawdown Time

The maximum annual drawdown time is defined as the maximum time required for the bioinfiltration basin water level to drop to below three inches once pumping ceased after a storm event. A minimum threshold of three inches was used instead of zero to reduce the effects of data noise and account for the fact that data are logged at 15-minute intervals. The drawdown time during the November 4 storm event was one hour. The drawdown time following the December 26 storm event was approximately 30 minutes. Using three inches as the threshold instead of zero reduces uncertainty due to potential elevation differences of the engineered soil, mulch, and plant surfaces in the basin. If zero was used as the minimum threshold, the reported drawdown times would increase by 30 minutes. This would result in a drawdown time of 1.5 hours instead of 1 hour on November 4 and a drawdown time of 1 hour instead of 30 minutes on December 26. All of these values are significantly below the 24-hour drawdown time that triggers the maintenance requirements listed in the O&M Manual.

The table below summarizes the total captured, bypassed, and overflow duration and volumes for the first and second year of operation, as well as average infiltration rate and annual maximum drawdown time.

Comparison of Basin K1 Year 1 and Year 2 Metrics

Metric	Year 2 Result	Year 1 Result ^a
Annual volume routed to bioinfiltration basin	997,100 gallons	1,017,500 gallons
Number of days per year with discharge to Willamette River	1	1
Approximate duration and volume of bypasses	1 hour; 6,600 gallons	1.25 hours; 7,500 gallons
Approximate duration and volume of overflows	45 minutes; 4,500 gallons	0
Annual rainfall depth	34.95 inches	50.05 inches
Average annual infiltration rate	29 to 49 inches per hour	23 to 40 inches per hour
Maximum drawdown time	1 hour	<3 hours
24-hour rainfall depth for bypass event	2.90 inches	2.16 inches

Note

^a Year 1 includes Sept 1, 2021, through June 30, 2022.

4 Summary and Recommendations

Based on the available data, the Basin K1 stormwater treatment and bioinfiltration system is operating as designed. Observed infiltration rates are higher than infiltration rates used to design the basin.

Based on the results of the inspections conducted during the second year, vegetation replanting was warranted in portions of the bioinfiltration basin. Vegetation was replanted on November 2, 2023.

Monthly inspections now include inspecting the oil absorbing boom in the spill- and flow-control manhole and replacement of the boom when it appears to be near saturated. The manhole was designed to trap spills and oil sheen and therefore, observations of sheen in the manhole suggest that it is effectively trapping sheen and preventing it from discharging to the basin. The oil absorbent boom will effectively remove the sheen on a regular basis providing another level of safety.

Kinder Morgan will continue monitoring and maintaining the Basin K1 stormwater treatment and infiltration system consistent with the O&M Manual and submit an annual report summarizing the July 1, 2023, to June 30, 2024, year by October 1, 2024.

Figure



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Site Address: 11040 North Lombard Street,
Portland, Oregon
Source: Taxlot obtained from Metro RLIS,
US Geological Survey (1990) 7.5-minute
topographic quadrangle: Linnton
Section 2, Township 1 North, Range 1 West

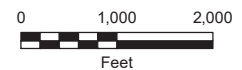


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**Figure 1-1
Site Location**

Kinder Morgan
Portland, Oregon



Appendix A

Photo Log



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Photographs

Project Name: Kinder Morgan Basin K1
Project Number: M1017.01.016
Location: Port of Portland Terminal 4, Slip 3

Photo No. 1.

Description

Flow- and spill-control
manhole

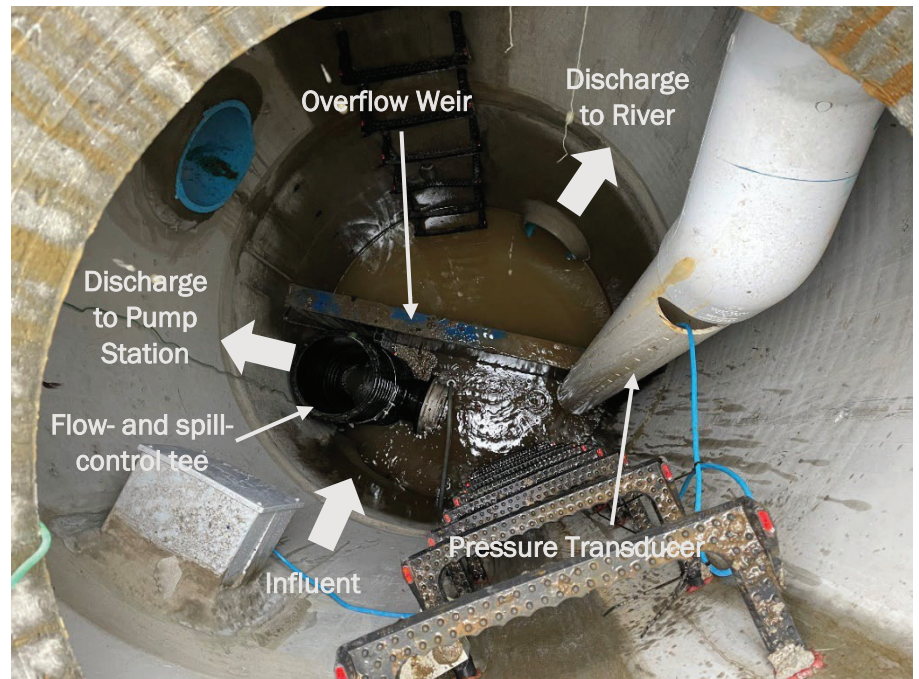


Photo No. 2.

Description

Sedimentation forebay



Photographs

Project Name: Kinder Morgan Basin K1
Project Number: M1017.01.016
Location: Port of Portland Terminal 4, Slip 3

Photo No. 3.

Description

Bioinfiltration basin

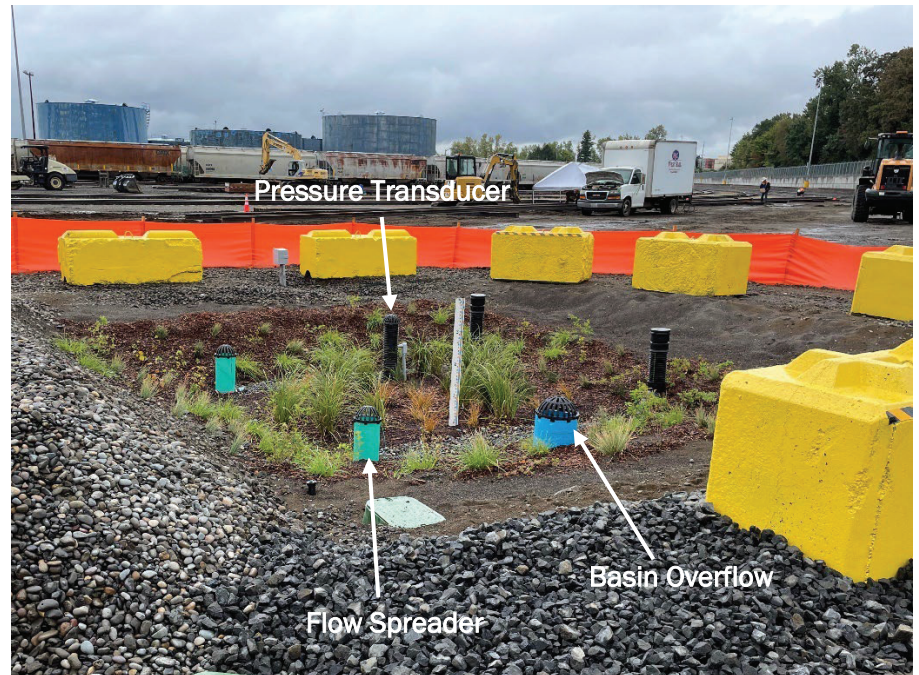


Photo No. 4.

Description

Forebay in September 2022



Photographs

Project Name: Kinder Morgan Basin K1
Project Number: M1017.01.016
Location: Port of Portland Terminal 4, Slip 3

Photo No. 5.

Description

Bioinfiltration basin in
September 2022



Photo No. 6.

Description

Bioinfiltration basin on
December 26, 2022, at
12:57 p.m. with water
level elevation at 1.4
feet



Photographs

Project Name: Kinder Morgan Basin K1
Project Number: M1017.01.016
Location: Port of Portland Terminal 4, Slip 3

Photo No. 7.

Description

Bioinfiltration basin on March 13, 2023, at 3:47 p.m. with water level elevation at 0.4 feet.



Photo No. 8.

Description

Erosion at edge of the basin from sprinkler



Appendix B

Inspection Records



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BASIN K1
CONVEYANCES
INSPECTION FORM

Inspector's Name: BRODIE HARMON

Date: 7/29/22

Location/Facility ID: KM BASIN K1 T4

Time: 1100

Weather: SUNNY

Date of Last Rainfall: 7/6/22

Amount: 0.3 inches

Reason for Inspection:

Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

- ☐ Evidence of improper weir height (see Design Drawings)
- ☒ Sediment / debris build-up (dry season observation)
- ☐ Cracks / mechanical damage
- ☐ Inlet / outlet piping damaged
- ☐ Poor seal to piping
- ☐ Access problems
- Other: _____

2) Wet Well and Pumps

- ☒ Sediment / debris build-up (dry season observation)
- ☐ Cracks / mechanical damage
- ☐ Inlet / outlet piping damaged
- ☐ Poor seal to piping
- ☐ Access problems
- Other: _____

3) Valve Box

- ☐ Leaks / water present
- ☐ Sediment / debris present
- ☐ Cracks / mechanical damage
- Other: _____

4) Upstream Catch Basins

- ☐ Clogged catch basins
- ☐ Sediment / debris build-up
- ☐ Cracks / mechanical damage
- Other: _____

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

BASIN K1
BIOINFILTRATION BASIN
INSPECTION FORM

Inspector's Name: BRUCE HARMON

Date: 7/29/22

Location/Facility ID: KM BASIN K1 T4

Time: 1100 AM

Weather: SUNNY

Date of Last Rainfall: 7/16/22

Amount: 0.3 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

- ☒ Structure damaged
☐ Structure clogged or obstructed
☐ Scour / erosion present
Other: _____

2) Sedimentation Forebay

- ☐ > 30% capacity sediment accumulation (dry season observation)
☐ Vectors / pests present
☐ Structural integrity
Other: _____

3) Vegetation

- ☐ Trimming or detritus removal needed
☒ Loss of vegetation cover
☐ Noxious weeds
Other: _____

4) Media Bed

- ☐ > 2" of sediment / debris accumulation
☐ Trash accumulation
☒ Crusting of surface of media bed
☒ Holes / loss of media / channelization/scour
☒ Evidence of burrowing animals / vectors / pests
☐ Standing water / saturated patches
Other: _____

5) Side Slopes

- ☐ Rill / gully erosion
☒ Evidence of burrowing animals / pests
☐ Slope slippage
☐ Structural integrity
Other: _____

6) Emergency Overflow

- ☐ Structure damaged
☒ Structure clogged or obstructed
☐ Beehive grate displaced
Other: _____

Inspection Summary and Comments:

IRRIGATION SYSTEM WAS NOT TURNED ON -
LANDSCAPER WAS CONTACTED

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

BASIN K1
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

Inspection Date: July 29, 2022 11 AM

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	—	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	SOME WEEDS AROUND INFILTRATION BASIN, THOUGH NONE CURRENTLY IN BASIN
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	MOST WATER HAS EVAPORATED AND MINIMAL SEDIMENT ACCUMULATION NOTED
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	—	VEGETATION LOOKS GOOD, WILL ASSESS AFTER SUMMER
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	—	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: <u>BROOKE HARMON</u>	Signature: <u>Brooke Harmon</u>	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

**BIOINFILTRATION BASIN
INSPECTION FORM**

Inspector's Name: BROOKE HARMON

Date: 8/29/22

Location/Facility ID: KM TH BASIN KI

Time: 1400

Weather: SUNNY

Date of Last Rainfall: 8-12-22

Amount: 20.01 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

- ☐ Structure damaged
- ☐ Structure clogged or obstructed
- ☐ Scour / erosion present
- Other: _____

2) Sedimentation Forebay

- ☐ > 30% capacity sediment accumulation (dry season observation)
- ☐ Vectors / pests present
- ☐ Structural integrity
- Other: _____

3) Vegetation

- ☐ Trimming or detritus removal needed
- ☐ Loss of vegetation cover
- ☐ Noxious weeds
- Other: _____

4) Media Bed

- ☐ > 2" of sediment / debris accumulation
- ☐ Trash accumulation
- ☐ Crusting of surface of media bed
- ☐ Holes / loss of media / channelization/scour
- ☐ Evidence of burrowing animals / vectors / pests
- ☐ Standing water / saturated patches
- Other: _____

5) Side Slopes

- ☐ Rill / gully erosion
- ☐ Evidence of burrowing animals / pests
- ☐ Slope slippage
- ☐ Structural integrity
- Other: _____

6) Emergency Overflow

- ☐ Structure damaged
- ☐ Structure clogged or obstructed
- ☐ Beehive grate displaced
- Other: _____

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

**CONVEYANCES
INSPECTION FORM**

Inspector's Name: BROOK HARMON

Date: 8/29/22

Location/Facility ID: KM T4 BASIN K1

Time: 1400

Weather: SUNNY

Date of Last Rainfall: 8-12-22

Amount: 0.01 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

- ☒ Evidence of improper weir height (see Design Drawings)
- ☒ Sediment / debris build-up (dry season observation)
- ☒ Cracks / mechanical damage
- ☒ Inlet / outlet piping damaged
- ☒ Poor seal to piping
- ☒ Access problems
- Other: _____

2) Wet Well and Pumps

- ☒ Sediment / debris build-up (dry season observation)
- ☒ Cracks / mechanical damage
- ☒ Inlet / outlet piping damaged
- ☒ Poor seal to piping
- ☒ Access problems
- Other: _____

3) Valve Box

- ☒ Leaks / water present
- ☒ Sediment / debris present
- ☒ Cracks / mechanical damage
- Other: _____

4) Upstream Catch Basins

- ☒ Clogged catch basins
- ☒ Sediment / debris build-up
- ☒ Cracks / mechanical damage
- Other: _____

Inspection Summary and Comments:

OIL SHEEN OBSERVED
BY MAINTENANCE WAREHOUSE, KM PLACED
OIL ABSORBENT FOLLOWING INSPECTION

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

Inspection Date: 8/29/12 1400

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	—	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	Yes	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	—	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: <u>BROOKE HARMON</u>		Signature: <u>Brooke Harmon</u>
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

**BIOINFILTRATION BASIN
INSPECTION FORM**
BASIN K1

Inspector's Name: BRODIE HARMON

Date: 9/24/22

Location/Facility ID: KM T4 BASIN K1

Time: 9 AM

Weather: SUNNY

Date of Last Rainfall: 9/12/22

Amount: ~0.01 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

- ☒ Structure damaged
☒ Structure clogged or obstructed
☒ Scour / erosion present
Other: _____

2) Sedimentation Forebay

- ☒ > 30% capacity sediment accumulation (dry season observation)
☒ Vectors / pests present
☒ Structural integrity
Other: _____

3) Vegetation

- ☒ Trimming or detritus removal needed
☒ Loss of vegetation cover
☒ Noxious weeds
Other: _____

4) Media Bed

- ☒ > 2" of sediment / debris accumulation
☒ Trash accumulation
☒ Crusting of surface of media bed
☒ Holes / loss of media / channelization/scour
☒ Evidence of burrowing animals / vectors / pests
Standing water / saturated patches
Other: _____

5) Side Slopes

- ☒ Rill / gully erosion
☒ Evidence of burrowing animals / pests
☒ Slope slippage
☒ Structural integrity
Other: _____

6) Emergency Overflow

- ☒ Structure damaged
☒ Structure clogged or obstructed
☒ Beehive grate displaced
Other: _____

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

**CONVEYANCES
INSPECTION FORM
BASIN K1**

Inspector's Name: BROOKE HARMON

Date: 9/26/22

Location/Facility ID: KM TH BASIN K1

Time: 9 AM

Weather: SUNNY

Date of Last Rainfall: 9/12/22

Amount: ~0.01 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

- 0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

3) Valve Box

- 0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

2) Wet Well and Pumps

- 0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

4) Upstream Catch Basins

- 0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

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

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
BASIN K1

Inspection Date: SEPT 24, 2022 9AM

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	YES	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: <u>BROOKE HARMON</u>	Signature: <u>Brooke Harmon</u>	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: BROOKS HARMONDate: 10/25/22Location/Facility ID: KM 14 BASIN K1Time: 1430Weather: CLOUDYDate of Last Rainfall: 10/24/22Amount: ~0.17 inches

Reason for Inspection:

Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

- ☐ Structure damaged
☐ Structure clogged or obstructed
☐ Scour / erosion present
 Other: _____

2) Sedimentation Forebay

- ☐ > 30% capacity sediment accumulation (dry season observation)
☐ Vectors / pests present
☐ Structural integrity
 Other: _____

3) Vegetation

- ☐ Trimming or detritus removal needed
☐ Loss of vegetation cover
☐ Noxious weeds
 Other: _____

4) Media Bed

- ☐ > 2" of sediment / debris accumulation
☐ Trash accumulation
☐ Crusting of surface of media bed
☐ Holes / loss of media / channelization/scour
☐ Evidence of burrowing animals / vectors / pests
☐ Standing water / saturated patches
 Other: _____

5) Side Slopes

- ☐ Rill / gully erosion
☐ Evidence of burrowing animals / pests
☐ Slope slippage
☐ Structural integrity
 Other: _____

6) Emergency Overflow

- ☐ Structure damaged
☐ Structure clogged or obstructed
☐ Beehive grate displaced
 Other: _____

Inspection Summary and Comments:

TURNED SPRINKLER OFF FOR WINTER

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

**CONVEYANCES
INSPECTION FORM**

Inspector's Name: BRUCE HARMON

Date: 10/25/22

Location/Facility ID: KM T4 BASIN K1

Time: 1430

Weather: CLOUDY

Date of Last Rainfall: 10/24/22

Amount: ~0.17 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

- ☐ Evidence of improper weir height (see Design Drawings)
- ☐ Sediment / debris build-up (dry season observation)
- ☐ Cracks / mechanical damage
- ☐ Inlet / outlet piping damaged
- ☐ Poor seal to piping
- ☐ Access problems
- Other: _____

2) Wet Well and Pumps

- ☐ Sediment / debris build-up (dry season observation)
- ☐ Cracks / mechanical damage
- ☐ Inlet / outlet piping damaged
- ☐ Poor seal to piping
- ☐ Access problems
- Other: _____

3) Valve Box

- ☐ Leaks / water present
- ☐ Sediment / debris present
- ☐ Cracks / mechanical damage
- Other: _____

4) Upstream Catch Basins

- ☐ Clogged catch basins
- ☐ Sediment / debris build-up
- ☐ Cracks / mechanical damage
- Other: _____

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

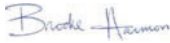
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
Basin K1

Inspection Date: OCTOBER 25, 2022 ~~1500~~ 1430
 SH

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	-	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	-	A COUPLE SOME PLANTS LOOK DORMANT/ POSSIBLY DEAD - CHECK AGAIN NEXT MONTH. REACH OUT TO LANDSCAPER
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a quilted vacuum truck service.	No	HARD TO SEE LUMP, BUT POSSIBLE/ SLIGHT SHEEN OBSERVED PIH REPLACED W/ NEW BODIES IN DUE.
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a quilted vacuum truck service.	-	DISPOSE OF USED BOOM IN PLASTIC BAG IN DUMPSTER
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: <u>BRODIE HARMON</u>	Signature: <u>Brodie Harmon</u>	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
Basin K1

Inspection Date: November 9, 2022 11:00 AM

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	No	Trace accumulation observed in the bottom of the pump station during contractor work, less than 6 inches
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	NA	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Contractor added safety grate to pump station and confined space signs added to pump station and valve vault		
Inspected By: Brooke Harmon	Signature: 	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 11/9/2022
Location/Facility ID: KM T4 Time: 11:00 AM
Weather: sunny and 45 deg
Date of Last Rainfall: 11/7/22 Amount: ~0.1 inches

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

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

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

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 11/9/2022

Location/Facility ID: KM T4

Time: 11:00 AM

Weather: sunny and 45 deg

Date of Last Rainfall: 11/7/22

Amount: ~0.1 inches

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

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

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

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Other: _____

3) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

4) Upstream Catch Basins

0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

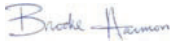
Inspection Summary and Comments: _____

OVERALL FACILITY RATING (Circle One)

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

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
Basin K1

Inspection Date: December 8, 2022 15:00

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	NA	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: Brooke Harmon	Signature: 	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 12/8/2022

Location/Facility ID: KM T4

Time: 15:00

Weather: Cloudy and 40 deg

Date of Last Rainfall: 12/8/22

Amount: ~0.3 inches

Reason for Inspection: Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 12/8/2022

Location/Facility ID: KM T4

Time: 15:00

Weather: Cloudy and 40 deg

Date of Last Rainfall: 12/8/22

Amount: ~0.3 inches

Reason for Inspection:

Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

3) Valve Box

0 Leaks / water present

0 Sediment / debris present

0 Cracks / mechanical damage

0 Other: _____

4) Upstream Catch Basins

0 Clogged catch basins

0 Sediment / debris build-up

0 Cracks / mechanical damage

0 Other: _____

Inspection Summary and Comments: _____

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

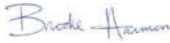
2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
Basin K1

Inspection Date: January 10, 2023 10:30

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	NA	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: Brooke Harmon		Signature: 
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 1/10/2023
Location/Facility ID: KM T4 Time: 10:30
Weather: Cloudy and 45 deg
Date of Last Rainfall: 1/9/23 Amount: ~0.2 inches

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

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

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

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 1/10/2023

Location/Facility ID: KM T4

Time: 10:30

Weather: Cloudy and 45 deg

Date of Last Rainfall: 1/9/23

Amount: ~0.2 inches

Reason for Inspection:

Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

3) Valve Box

0 Leaks / water present

0 Sediment / debris present

0 Cracks / mechanical damage

0 Other: _____

4) Upstream Catch Basins

0 Clogged catch basins

0 Sediment / debris build-up

0 Cracks / mechanical damage

0 Other: _____

Inspection Summary and Comments: _____

OVERALL FACILITY RATING (Circle One)

0 = No Deficiencies Identified

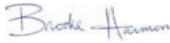
2 = Routine Maintenance Required

1 = Monitor (potential for future problem exists)

3 = Immediate Repair Necessary

Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon
Basin K1

Inspection Date: February 1, 2023 15:00

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Drain pump station wet well and inspect for sediment accumulation. If more than six inches of solids is observed in the wet well, pressure wash wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation coverage after the first three years. Replant if needed.	NA	
Flow-Control Manhole Maintenance		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qualified vacuum truck service.	No	
Dry Season. Drain flow-control manhole and inspect for sediment accumulation. If more than one-foot of solids is observed in the manhole, schedule removal with a qualified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance activities performed this month.		
Inspected By: Brooke Harmon	Signature: 	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 2/1/2023
Location/Facility ID: KM T4 Time: 15:00
Weather: Cloudy and 42 deg
Date of Last Rainfall: 1/28/23 Amount: ~0.05 inches

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

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

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

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 2/1/2023

Location/Facility ID: KM T4

Time: 15:00

Weather: Cloudy and 42 deg

Date of Last Rainfall: 1/28/23

Amount: ~0.05 inches

Reason for Inspection:

Routine

Complaint

Major Event (spill or >1" in 24hrs)

(Circle One)

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

0 = No deficiencies identified

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)

0 Cracks / mechanical damage

0 Inlet / outlet piping damaged

0 Poor seal to piping

0 Access problems

0 Other: _____

3) Valve Box

0 Leaks / water present

0 Sediment / debris present

0 Cracks / mechanical damage

0 Other: _____

4) Upstream Catch Basins

0 Clogged catch basins

0 Sediment / debris build-up

0 Cracks / mechanical damage

0 Other: _____

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

Basin K1
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

March 13, 2023 3:45 pm

Inspection Date: _____

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Inspect for sedimentat accumulation, drain pump station if needed. If more than six inches of solids is observed in the wet well, pressure wash and/or vacuum wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation covrage after the first three years. Replant if needed.	NA	
Flow-Control Manhole		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qulified vacuum truck service.	No	
Dry Season. Inspect manhole for sediment accumulation, drain if needed. If more than one-foot of solids is observed in the manhole, schedule removal with a qulified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance and/or corrective actions performed this month.		
Drain in valve vault clogged. KM to vac out structure and clear drain - Completed on 3/14/23		
Inspected By: Brooke Harmon		Signature: 
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 3/13/2023

Location/Facility ID: KM T4

Time: 15:45

Weather: Cloudy and 46 deg

Date of Last Rainfall: 3/13/23

Amount: ~1.1 inches

Reason for Inspection: Routine
(Circle One)

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

3 = Immediate repair necessary

1 = Monitor (potential for future problem)

N/A = Not applicable

2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 3/13/2023

Location/Facility ID: KM T4

Time: 15:45

Weather: Cloudy and 46 deg

Date of Last Rainfall: 3/13/23

Amount: ~1.1 inches

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

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

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

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Other: _____

3) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

4) Upstream Catch Basins

0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

Inspection Summary and Comments: Drain in bottom of valve vault clogged - KM to vac out
structure and clear drain - Completed 3/14/23

OVERALL FACILITY RATING (Circle One)

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

Basin K1
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

April 13, 2023 4:30 pm

Inspection Date: _____

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Inspect for sedimentat accumulation, drain pump station if needed. If more than six inches of solids is observed in the wet well, pressure wash and/or vacuum wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation covreage after the first three years. Replant if needed.	NA	
Flow-Control Manhole		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a quified vacuum truck service.	No	
Dry Season. Inspect manhole for sediment accumulation, drain if needed. If more than one-foot of solids is observed in the manhole, schedule removal with a quified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance and/or corrective actions performed this month.		
Inspected By: Brooke Harmon		Signature: 
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 4/13/2023
Location/Facility ID: KM T4 Time: 16:30
Weather: Cloudy and 53 deg
Date of Last Rainfall: 4/12/23 Amount: ~0.1 inches

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

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

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

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 4/13/2023

Location/Facility ID: KM T4

Time: 16:30

Weather: Cloudy and 53 deg

Date of Last Rainfall: 4/12/23

Amount: ~0.1 inches

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

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

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

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Other: _____

3) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

4) Upstream Catch Basins

0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

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

Basin K1
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

May 16, 2023 9:30 am

Inspection Date: _____

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Inspect for sedimentat accumulation, drain pump station if needed. If more than six inches of solids is observed in the wet well, pressure wash and/or vacuum wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	NA	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation covreage after the first three years. Replant if needed.	NA	
Flow-Control Manhole		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a qulified vacuum truck service.	No	
Dry Season. Inspect manhole for sediment accumulation, drain if needed. If more than one-foot of solids is observed in the manhole, schedule removal with a qulified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance and/or corrective actions performed this month.		
Inspected By: Brooke Harmon	Signature: 	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 5/16/2023
Location/Facility ID: KM T4 Time: 9:30 am
Weather: Sunny and 75 deg
Date of Last Rainfall: 5/8/23 Amount: ~0.1 inches

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

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

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

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
Other: _____

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 5/16/2023

Location/Facility ID: KM T4

Time: 9:30 am

Weather: Sunny and 75 deg

Date of Last Rainfall: 5/8/23

Amount: ~0.1 inches

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

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

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

FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Other: _____

3) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

4) Upstream Catch Basins

0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

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

Basin K1
Stormwater Treatment System Inspection Record
Kinder Morgan Bulk Terminals, Inc.
Portland, Oregon

June 28, 2023 14:30

Inspection Date: _____

Checklist Item	(Yes/No)	Additional Information (e.g., Location, Source, Detailed Description, Corrective Action Implemented [if applicable] and Implementation Date)
Pump Station Wet Well and Valve Vault		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings and appurtenances within the wet well?	No	
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, valves, and fittings within the valve vault?	No	
Dry season. Inspect for sedimentat accumulation, drain pump station if needed. If more than six inches of solids is observed in the wet well, pressure wash and/or vacuum wet the well and manage the wash water and solids consistent with applicable disposal regulations.	NA	
Forebay and Bioinfiltration Basin		
Monthly. Inspect any accumulation of stormwater solids and debris. Inspect eroded damage over two inches deep on side slopes of the bioinfiltration basin. Inspect any Poisonous or nuisance vegetation, and noxious weeds (Himalayan blackberry etc.) are observed and remove via mechanical measures.	No	
Dry season. Inspect for sediment accumulation. If more than seven inches of sediment, trash, and/or debris is observed in the forebay (over the rock layer) during the dry season inspection, sediment will be removed using a vacuum truck.	No	
Dry Season. In the first three years (2021-2024), inspect if there is 80% vegetation coverage at the bottom of bioinfiltration basin and 70% at the sides. Inspect if there is 90% vegetation covrage after the first three years. Replant if needed.	NA	B. Harmon contacted landscaper to repair irrigation and asked them to evaluate plants when they come out and determine which ones need to be replanted.
Flow-Control Manhole		
Monthly. Are there any leaks, breaks, or evidence of damage in the piping, fittings within the flow-and-spill control manhole?	No	
Monthly. Inspect any oil, fuel, or other floating liquid in the manhole. If more than two inches of floatables is observed, schedule removal with a quified vacuum truck service.	No	
Dry Season. Inspect manhole for sediment accumulation, drain if needed. If more than one-foot of solids is observed in the manhole, schedule removal with a quified vacuum truck service.	NA	
Stormwater System Maintenance: Note stormwater treatment system maintenance and/or corrective actions performed this month.		
Sprinkler head on the northeast corner appears to have fallen over an is not functioning as designed. B. Harmon contacted landscaper, they returned my call on 7/5 and said they would look at their schedule and get back to us.		
Inspected By: Brooke Harmon	Signature: 	
I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.		

BIOINFILTRATION BASIN INSPECTION FORM

Inspector's Name: Brooke Harmon Date: 6/28/2023
Location/Facility ID: KM T4 Time: 14:30
Weather: Sunny and 85 deg
Date of Last Rainfall: 6/19/23 Amount: ~0.1 inches

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

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

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2 = Routine maintenance required

FEATURES

1) Inlet (Flow Spreader)

0 Structure damaged
0 Structure clogged or obstructed
0 Scour / erosion present
Other: _____

2) Sedimentation Forebay

0 > 30% capacity sediment accumulation (dry
season observation)
0 Vectors / pests present
0 Structural integrity
Other: _____

3) Vegetation

0 Trimming or detritus removal needed
0 Loss of vegetation cover
0 Noxious weeds
Other: _____

4) Media Bed

0 > 2" 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) Side Slopes

0 Rill / gully erosion
0 Evidence of burrowing animals / pests
0 Slope slippage
0 Structural integrity
3 Other: Sprinkler created depression at top of slope

6) Emergency Overflow

0 Structure damaged
0 Structure clogged or obstructed
0 Beehive grate displaced
Other: _____

Inspection Summary and Comments: Northeast sprinkler head fell over and needs repair. Water from
sprinkler eroded 1ft by 1ft by 0.5ft depression around sprinkler head at
top of slope.
B. Harmon contacted landscaper, schedule TBD.

OVERALL FACILITY RATING (Circle One)

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

CONVEYANCES INSPECTION FORM

Inspector's Name: Brooke Harmon

Date: 6/28/2023

Location/Facility ID: KM T4

Time: 14:30

Weather: Sunny and 85 deg

Date of Last Rainfall: 6/19/23

Amount: ~0.1 inches

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

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

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FEATURES

1) Intercept Manhole

0 Evidence of improper weir height (see Design Drawings)
0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
Other: _____

2) Wet Well and Pumps

0 Sediment / debris build-up (dry season observation)
0 Cracks / mechanical damage
0 Inlet / outlet piping damaged
0 Poor seal to piping
0 Access problems
0 Other: _____

3) Valve Box

0 Leaks / water present
0 Sediment / debris present
0 Cracks / mechanical damage
Other: _____

4) Upstream Catch Basins

0 Clogged catch basins
0 Sediment / debris build-up
0 Cracks / mechanical damage
Other: _____

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