King County
Solid Waste Division
Department of Natural Resources and Parks
King Street Center
201 South Jackson Street, Suite 701
Seattle, WA 98104-3855
206-477-4466
711 TTY Relay
www.kingcounty.gov/solidwaste

October 2, 2019

TO: Darshan Dhillon, Health and Environmental Investigator III, Environmental Health Division, Public Health – Seattle & King County (PHSKC)

FM: Jennifer Keune, Environmental Compliance Coordinator, Solid Waste Division, Department of Natural Resources & Parks

RE: Vashon Island Closed Landfill Application for Reissuance of Municipal Solid Waste Handling Permit

The purpose of this memorandum is to transmit the permit application for reissuance of the Vashon Island Closed Landfill Municipal Solid Waste Handling Permit, which expires on December 31, 2019. Pursuant to the provisions of the Washington Administrative Code (WAC) Chapter 173-351-730, the Solid Waste Division has prepared the enclosed Solid Waste Permit Application for the Vashon Closed Landfill. Under a reissued Solid Waste Handling Permit, the Solid Waste Division proposes to continue post-closure care of the landfill and associated environmental control systems. Additional activities underway or planned for the landfill include independent cleanup activities and assessment of functional stability to inform future termination of post-closure care.

The enclosed permit application form and table of contents provides an outline of the contents of this Permit Application. The following documents are in support of this application:

- Vashon Island Closed Landfill Inspection Survey Reports 2010-2019 (enclosed)
- Copy of 2009 – 2019 Municipal Solid Waste Handling Permit Vashon Landfill (Post Closure) (enclosed)
- Vashon Island Closed Landfill General Site Map (enclosed)
- Environmental Monitoring Sampling and Analysis Plan and Quality Assurance Project Plan for Vashon Island Closed Landfill (enclosed)
- Wastewater Discharge Authorization No. 4366-01 (enclosed)
- Operating Plan Updates provided in Work Plans (enclosed)
    - Vashon Island Work Plan
    - Vashon Island Closed Landfill Landfill Gas Extended Influence Texting Work Plan Addendum
    - Perimeter Probe Investigation and Monitoring – Vashon Island Closed Landfill

- Vashon Island Closed Landfill Landfill Gas Extraction Well Installation Work Plan Addendum
- Vashon Island Closed Landfill Evaluation of Refuse Areas External to Main Closure – Exploration Work Plan

- Vashon Island Closed Landfill Remedial Investigation, Agency Draft provided to PHSKC on October 8, 2019
- Engineering report updates with additional information will be provided, incorporating the Vashon Island Closed Landfill Feasibility Study findings in 2021.
- The Vashon Island Closed Landfill Plan of Operations and Post-Closure Plan will be provided with updates dependent on the Agencies' acceptance of the Feasibility Study.

We appreciate your cooperation through this permitting process and look forward to working with you toward the reissuance of the Vashon Island Closed Landfill Municipal Solid Waste Handling Permit. If you have any questions regarding these documents, please call Marisa Baptiste at 206-477-0458 or me at 206-477-4801.

Enclosures

cc: Yolanda Pon, Managing Supervisor, Public Health - Seattle & King County
Pat D. McLaughlin, Division Director, Solid Waste Division (SWD), Department of Natural Resources & Parks (DNRP)
Glynda Steiner, P.E., CCM, Deputy Division Director, SWD, DNRP
Neil Fujii, P.E., FESS Manager, SWD, DNRP
Anne Holmes, Engineer Supervisor, SWD, DNRP
Dan Swope, Engineer III, SWD, DNRP

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MUNICIPAL SOLID WASTE LANDFILL

VASHON ISLAND CLOSED LANDFILL - PERMIT REISSUANCE APPLICATION

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ENCLOSURES

1. Vashon Island Closed Landfill Inspection Survey Reports 2010-2019

2. Copy of 2009 – 2019 Municipal Solid Waste Handling Permit Vashon Landfill (Post Closure)

3. Vashon Island Closed Landfill General Site Map

4. Environmental Monitoring Sampling and Analysis Plan and Quality Assurance Project Plan for Vashon Island Closed Landfill

5. Wastewater Discharge Authorization No. 4366-01

6. Work Plans

    a. Vashon Island Work Plan
    b. Vashon Island Closed Landfill Landfill Gas Extended Influence Texting Work Plan Addendum
    c. Perimeter Probe Investigation and Monitoring – Vashon Island Closed Landfill
    d. Vashon Island Closed Landfill Landfill Gas Extraction Well Installation Work Plan Addendum
    e. Vashon Island Closed Landfill Evaluation of Refuse Areas External to Main Closure – Exploration Work Plan

Environmental Health Services Division
401 Fifth Avenue, Suite 1100
Seattle WA 98104-1818
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www.kingcounty.gov/health

Public Health
Seattle & King County

Permit Number (For official use only)

Solid Waste Permit Application

Chapter 173-350 WAC and Chapter 173-351 WAC,

King County Board of Health Code Title 10

PART 1. General Information

Application Date: October 2, 2019	City or unincorporated area where facility is located: Vashon
Name of Facility: Vashon Island Closed Landfill Applicant (Company Name, Government Entity): King County Solid Waste Division Applicant Mailing Address: 201 S Jackson St #701, Seattle, WA 98104	Applicant is: ☑ Facility owner ☐ Facility operator ☐ Other(specify) Pat McLaughlin 201 S Jackson St #701 Seattle, WA 98104 Applicant Contact Name and Position in Company/Government Entity: Jennifer Keune, Env. Compliance Coordinator Contact phone: (206) 477-4801 E-mail: jennifer.keune@kingcounty.gov

PART 2. Solid Waste Activity/Facility Type

Mark all solid waste handling activities/facilities that are included in this permit application.
Complete applicable PART 3 sections for each activity/facility type.

☑ Municipal Solid Waste Landfill Unit per Chapter 173-351 WAC	☑ Surface impoundment per WAC 173-350-330
☐ Recycling and/or material recovery per WAC 173-350-210	☐ Tank per WAC 173-350-330
☐ Composting per WAC 173-350-220	☐ Waste tire storage per WAC 173-350-350
☐ Land application per WAC 173-350-230	☐ Moderate risk waste handling per WAC 173-350-360
☐ Energy recovery and incineration per WAC 173-350-240	☐ Limited purpose landfill per WAC 173-350-400
☐ Anaerobic digesters per WAC 173-350-250	☐ Inert waste landfill per WAC 173-350-410
☐ Transfer station per WAC 173-350-310	☐ Other methods of solid waste handling per WAC 173-350-490 (specify):
☐ Drop box facility per WAC 173-350-310	☐ Collection/transportation vehicle per King County BOH Chapter 10.05
☐ Piles used for storage or treatment per WAC 173-350-320	

PART 3. Solid Waste Activity/Facility Details

☑ Municipal Solid Waste Landfill Unit

Attach the following:	Document Name, Page No.
Engineering plans, reports and specifications per WAC 173-351-730(5)	General location map attached
Demonstrations that the facility meets the location standards of WAC 173-351-130 and 173-351-140	n/a
Hydrogeologic report and water quality monitoring plan, and demonstrations, prepared in accordance with WAC 173-351-400	Vashon Island Closed Landfill Remedial Investigation, Agency Draft provided to agency on October 8, 2018. Sampling and Analysis Plan 2016 is attached.
A plan of operations, and demonstrations, meeting the requirements of WAC 173-351-200, 173-351-210 and 173-351-220	n/a
An engineering report comprehensively describing the existing site conditions and an analysis of the facility, including closure, post-closure criteria and any necessary demonstrations per WAC 173-351-730(5)(b)	Vashon Island Closed Landfill Remedial Investigation, Agency Draft provided to agency on October 8, 2018. Updates with additional information will be provided incorporating the Feasibility Study findings in 2021.

An engineering report containing a description of the existing site conditions and an analysis of the proposed facility per WAC 173-351-730(5)(c)	see previous
A construction quality assurance and quality control plan per WAC 173-351-730(6)	n/a
Closure and post-closure plans per WAC 173-351-500	2005 Post-Closure Care and Maintenance Plan will be provided including updates, depend on the Agencies' acceptance of the Feasibility Study. Ongoing reports on diagnostic activity are attached.
Documentation per WAC 173-351-730(1)(b)(viii) for managing leachate	Major Discharge Authorization No. 4366-01 (2016-2021)
Cost estimates and mechanisms to meet financial assurance per WAC 173-351-600	see Application Part B, Section VIII
Plan for meeting landfill operator certification per Chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities (WAC 173-351-220(4)(b))	n/a
Documentation that owners of property located within 1,000 feet of the landfill boundary have been notified that the proposed facility may impact their ability to construct water supply wells, in accordance with Chapter 173-160 WAC, Minimum standards for construction and maintenance of wells (WAC 173-351-730(1)(a)(iv))	n/a
A demonstration of how the MSWLF conforms to the approved local comprehensive solid waste management plan in place at the time of application	n/a
Additional information required by the jurisdictional health department per WAC 173-351-730(1)(b)(xii)	see attached information

☐ **Research, Development and Demonstration for Municipal Solid Waste Landfill Unit/s**	
Attach the following:	**Document Name, Page No.**
Description of activity for which a Research, Development and Demonstration permit is sought	
Description of demonstrable project goals	
Demonstration that the MSWLF unit is not a source or potential source of contamination	
Demonstration that leachate depth on the liner will be maintained at one foot (30 cm) or less	
For alternative final cover proposals, a demonstration that infiltration of liquids will not cause contamination of groundwater or surface water	
Description of the quantity and type of liquids to be introduced and method for adding liquids	
Demonstration that the leachate discharge or containment system has capacity for additional liquids	
Description of monitoring or testing to measure progress in attaining project goals	
Engineering reports, plans and specifications	
Additional information required by the jurisdictional health department	

Continue on next page...

☐ Recycling and Material Recovery Facilities

Attach the following:	Document Name, Page No.
Engineering reports, plans and specifications that address the design standards of WAC 173-350-210(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-210(6)	
A closure plan meeting the requirements of WAC 173-350-210(8)	
Additional information required by the jurisdictional health department per WAC 173-350-210(6)(b)(v) and (10)(d)	

☐ Composting Facilities

Attach the following:	Document Name, Page No.
Engineering reports, plans and specifications that address the design standards of WAC 173-350-220(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-220(6)	
A closure plan meeting the requirements of WAC 173-350-220(8)	
Additional information required by the jurisdictional health department per WAC 173-350-220(6)(e)(vi)	

☐ Land Application

Attach the following:	Document Name, Page No.
Contact information as required by WAC 173-350-230(10)(a)(i)	
Analysis of pollutant concentrations as required by WAC 173-350-230(10)(a)(ii)	
Analysis of nutrients as required by WAC 173-350-230(10)(a)(iii)	
Analysis of physical/chemical parameters as required by WAC 173-350-230(10)(a)(iv)	
Discussion of any pathogens known or suspected as required by WAC 173-350-230(10)(a)(v)	
Additional analysis required by the jurisdictional health department by WAC 173-350-230(10)(a)(vi)	
Land application site characterization as required by WAC 173-350-230(10)(a)(vii)	
A plan of operation meeting the requirements of WAC 173-350-230(6)	

Continue on next page...

☐ **Energy Recovery and Incineration Facilities**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-240(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-240(6)	
A closure plan meeting the requirements of WAC 173-350-240(8)	
Plan for meeting landfill operator certification per Chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities	
Additional information required by the jurisdictional health department per WAC 173-350-240(6)(b)(vi)	

☐ **Anaerobic Digesters**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design standards of WAC 173-350-250(4)	
A plan of operation meeting the requirements of WAC 173-350-250(6)(f)	
A closure plan meeting the requirements of WAC 173-350-250(8)	
Additional information required by the jurisdictional health department per WAC 173-350-250(6)(d)(iv)	

☐ **Transfer Stations and Drop Boxes**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-310(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-310(6)	
A closure plan meeting the requirements of WAC 173-350-310(8)	
Additional information required by the jurisdictional health department per WAC 173-350-310(6)(d)(v)	

☐ **Piles for Treatment and Storage**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-320(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-320(6)	
A closure plan meeting the requirements of WAC 173-350-320(8)	
Additional information required by the jurisdictional health department per WAC 173-350-320(6)(b)(v)	

☐ **Surface Impoundments and Tanks**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-330(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-330(6)	
For surface impoundments not equipped with a leak detection layer, hydrogeologic reports and plans that address the requirements of WAC 173-350-330(7)	
A closure plan meeting the requirements of WAC 173-350-330(8)	
Additional information required by the jurisdictional health department per WAC 173-350-330(6)(b)(vi)	

☐ **Waste Tire Storage**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-350(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-350(6)	
A closure plan meeting the requirements of WAC 173-350-350(8)	
Documentation as needed to meet the financial assurance requirements of WAC 173-350-350(9)	
Additional information required by the jurisdictional health department per WAC 173-350-350(6)(b)(vii)	

☐ **Moderate Risk Waste Handling Facility**	
Attach the following:	**Document Name, Page No.**
Engineering reports, plans and specifications that address the design and documentation standards of WAC 173-350-360(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-360(6)	
A closure plan meeting the requirements of WAC 173-350-360(8)	
Documentation as needed to meet the financial assurance requirements of WAC 173-350-360(9)	
Additional information required by the jurisdictional health department per WAC 173-350-360(6)(b)(vii)	

Continue on next page...

☐ Limited Purpose Landfills

Attach the following:	Document Name, Page No.
Demonstrations that the facility meets the location standards of WAC 173-350-400(3)	
Documentation that owners of property located within 1,000 feet of the landfill boundary have been notified that the proposed facility may impact their ability to construct water supply wells, in accordance with WAC 173-350-400(10)(a) and Chapter 173-160 WAC, Minimum standards for construction and maintenance of wells.	
Engineering reports/plans and specifications that address the design and documentation standards of WAC 173-350-400(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-400(6)	
Hydrogeologic reports and plans that address the requirements of WAC 173-350-400(7)	
A closure plan meeting the requirements of WAC 173-350-400(8)	
A post-closure plan meeting the requirements of WAC 173-350-400(11)	
Documentation as needed to meet the financial assurance requirements of WAC 173-350-400(9)	
Plan for meeting landfill operator certification per Chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities	
Additional information required by the jurisdictional health department per WAC 173-350-400(6)(c)(v)	

☐ Inert Waste Landfill

Attach the following:	Document Name, Page No.
Engineering reports/plans and specifications that address the design and documentation standards of WAC 173-350-410(4) and (5)	
A plan of operation meeting the requirements of WAC 173-350-410(6)	
A closure plan meeting the requirements of WAC 173-350-410(8)	
Documentation that all owners of property located within 1,000 feet of the landfill boundary have been notified that the proposed facility may impact their ability to construct water supply wells, in accordance with WAC 173-350-410(10)(d) and Chapter 173-160 WAC, Minimum standards for construction and maintenance of wells	
Plan for meeting landfill operator certification per Chapter 173-300 WAC, Certification of operators of solid waste incinerator and landfill facilities	
Additional information required by the jurisdictional health department per WAC 173-350-410(6)(b)(iv)	

Attachments

- ☐ For a facility/activity to be permitted under Chapter 173-350 WAC, attach a vicinity plan or map per WAC 173-350-715(1)(d)
- ☐ For a facility permitted under Chapter 173-351 WAC, attach a vicinity plan or map per WAC 173-351-730(5)(a)(iii)(B)
- ☐ Attach evidence of authority to sign this permit application per WAC 173-351-730(7) or WAC 173-350-715(3) (for example, a printout from the Washington Secretary of State for corporations, or printout from a government website)
- ☐ Attach evidence of compliance with Chapter 197-11 WAC, SEPA rules (i.e. submit completed SEPA checklist)

PART 4. Facility Information

Facility Physical Address: 18900 Westside Hwy SW Vashon, WA 98070	Responsible Official Name and Position at Facility: Pat McLaughlin Phone: (206) 477-4501 E-mail: Pat.McLaughlin@kingcounty.gov
Facility Mailing Address (if different): 201 S Jackson St #701, Seattle, WA 98104	Facility phone: 206-477-4466

Facility Location (at front gate)

Section	Township	Range	Latitude	Longitude
Location Description Vashon		2	N 47 26 06	W 122 30 03

Legal Description of Site

SW 1/4 OF SW 1/4 LESS HWY TGW S 1/2 OF NW 1/4 OF SW 1/4 LYING NLY & ELY OF NLY & ELY MGN OF HWY TGW W 280 FT OF SW 1/4 OF NE 1/4 OF SW 1/4 ALL LOCATED IN 36-23-02 AKA POR OF KC LEGAL LOT L07M0018 DATED 05-03-0

Property Tax Account Number(s) 3623029009	Facility Site Zoning RA5

Required or Existing Permits at the Facility Site

Type of permit *(check box)*	Need to Obtain	Existing Permit		
		Regulating Authority	Permit #	Expiration Date
☑ Solid waste permit		Public Health - Seattle & King County	PR0015723	12/31/2019
☐ NPDES permit				
☐ Biosolids permit				
☐ State waste discharge permit				
☐ Conditional use permit				
☐ Stormwater permit				
☐ Hydraulic permit				
☐ DNR Surface mining permit				
☐ Flood control permit				
☐ Fire permit				
☐ Wetlands permit				
☐ Air quality permit				
☐ DNR Forest Practices				
☐ Other				

Mark the solid waste handling activities/facilities that are already taking place.	
☑ Municipal solid waste landfill per Chapter 173-351 WAC	☑ Surface impoundment per WAC 173-350-330
☐ Recycling and material recovery per WAC 173-350-210	☐ Tank per WAC 173-350-330
☐ Composting per WAC 173-350-220	☐ Waste tire storage per WAC 173-350-350
☐ Land application per WAC 173-350-230	☐ Moderate risk waste handling per WAC 173-350-360
☐ Energy recovery and incineration per WAC 173-350-240	☐ Limited MRW per WAC 173-350-360
☐ Anaerobic digesters per WAC 173-350-250	☐ Limited purpose landfill per WAC 173-350-400
☐ Transfer station per WAC 173-350-310	☐ Inert waste landfill per WAC 173-350-410
☐ Drop box facility per WAC 173-350-310	☐ Other methods of solid waste handling per WAC 173-350-490 (specify):
☐ Piles used for storage or treatment per WAC 173-350-320	☐ Collection/transportation vehicle per King County BOH Chapter 10.05

PART 4. Additional Contact Information

Facility Owner(s)

(attach additional sheets if more than one facility owner)

Responsible Official: Pat McLaughlin	Contact Name (if different):
Company Name, Government Entity, etc.: King County Solid Waste Division	Contact Mailing Address : 201 S Jackson St #701 Seattle, WA 98104
Position in Company or Government Entity: Division Director	Contact phone: (206) 477-4501 E-mail: Pat.McLaughlin@kingcounty.gov

Facility Operator(s) Same as Facility Owner(s) ☑ YES

(attach additional sheets if more than one facility operator)

Responsible Official:	Contact Name (if different):
Company Name, Government Entity, etc.:	Contact Mailing Address :
Position in Company or Government Entity:	Contact phone: E-mail:

Property Owner(s) Same as Facility Owner(s) ☑ YES

(attach additional sheets if more than one property owner)

Property Owner Name:	Contact Name (if different):
	Contact Mailing Address :
	Contact phone: E-mail:

PART 5. Signature and Verification of Applicant

(Refer to *WAC 173-351-730(7) or 173-350-715(3)* for appropriate signing authority)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments. Based on my inquiry of the individuals responsible for providing the information, I believe the information is true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Pat D. McLaughlin
(Applicant's Signature – printed)

Director
(Title)

(Applicant's Signature)

9/25/19
(Date)

PART 6. Notary Public Verification

State of Washington

County of King

Signed or attested before me on

by

Joyce A. Matsukawa
(Signature)

(seal or stamp)

JOYCELYN A. MATSUKAWA
COMMISSION EXPIRES
NOTARY PUBLIC
LIC. No. 201235
04-24-2022
STATE OF WASHINGTON

My appointment expires:
04/24/22
(Date)

Alternative formats available upon request. People with impaired hearing may call Washington Relay Service at 711. People with speech disability may call TTY at 877-833-6341.

PERMIT COMPLIANCE SUMMARY PER WAC 173-351-730 (4)
(Updated October 6, 2015)

The following summary is provided to describe modifications that have occurred during the current permit cycle and others scheduled for implementation during the reissued permit cycle.

PART B – REVIEW OF THE ORIGINAL APPLICATION AND PERMIT

SECTION I – CHANGES TO PERMITTEE AND ADMINISTRATIVE INFORMATION

Updated administrative information is provided in the enclosed Permit Application (see Part A).

SECTION II – CHANGES TO AUTHORIZATION

No changes proposed.

SECTION III – CHANGES TO DEMONSTRATIONS

No changes proposed.

SECTION IV – CHANGES TO DESCRIPTION OF PERMITTED UNITS, SCOPE OF PERMIT, AND AUTHORIZED ACTIVITIES

A. MSWLF Unit Name: Vashon Island Closed Landfill – Phase I

Rules Applying to this Unit: No change.

Types of Waste Authorized: No change.

Design Volume: No change.

Earliest Authorized Start of Activity: No change.

Closure Date: 1988

B. MSWLF Unit Name: Vashon Island Closed Landfill – Phase II

Rules Applying to this Unit: No change.

Types of Waste Authorized: No change.

Authorized Design Volume: No change.

Earliest Authorized Start of Activity: No change.

Closure Date: December 31, 2002

C. Surface Impoundment: Active Leachate Lagoon

Rules Applying to this Unit: No change.

Types of Waste Authorized: No change.

Authorized Design Volume: No change.

Earliest Authorized Start of Activity: No change.

D. Type of Waste Activities Authorized at this Unit

Rules Applying to this Unit: No change.

Types of Waste Authorized: No change.

SECTION V – CHANGES TO POST CLOSURE OPERATION AND MAINTENANCE PLAN

A. Minimum Standards for Performance

1. Groundwater – No changes.
2. Surface Water – No changes.
3. Explosive Gas - No changes.
4. Air - No changes.
5. Disease Vectors - No changes.
6. Run-on /Run-off Control Systems - No changes.
7. Records - No changes.
8. Maintenance of Monitoring Systems - No changes.
9. Facility Inspection – No changes.
10. Leachate Collection System Operation – The two aerators operate on an eight-hour cycle where one aerator operates for two hours, then both aerators are off for two hours, then the second aerator operates for two hours, and finally both aerators are off for two hours. This cycle operation is continuous.
11. Operator Certification – No changes.

SECTION VI - CHANGES TO GROUNDWATER MONITORING SYSTEMS AND CORRECTIVE ACTION

A. Changes to the Hydrogeologic Report

The updated hydrogeological report was included as part of the *Vashon Island Closed Landfill Remedial Investigation – Agency Draft* submitted to the Agency on October 9, 2018. This

update redefined the conceptual hydrogeological model for the landfill and the points of compliance for the specified aquifers, as follows:

- The point of compliance for Unit B aquifer is well MW-24.
- The points of compliance for Channel Cc1 aquifer are wells MW-3, MW-4, MW-10, and MW-13.
- The points of compliance for Channel Cc2 aquifer are wells MW-2, MW-9, MW-20, MW-21, MW-33, and MW-35.
- The points of compliance for Channel Cc3 aquifer are wells MW-8 and MW-36.
- The points of compliance for Unit D aquifer are well MW-7, MW-12, MW-19, MW-25, MW-28, MW-29, and MW-34.

B. Changes to the Groundwater Monitoring Program

No changes proposed.

C. Changes to Frequency or Proposed Deletions or Changes.

No changes proposed.

D. Changes to Groundwater Sampling and Analysis Plan

Environmental Monitoring Sampling and Analysis Plan and Quality Assurance Project Plan for Vashon Island Closed Landfill– Submitted to Agency on January 29, 2016.

SECTION VII - CHANGES TO OTHER ENVIRONMENTAL MONITORING REQUIREMENTS

A. Surface Water – No change.

B. Leachate – No change.

C. Landfill Gas – No change.

SECTION VIII - CHANGES TO FINANCIAL ASSURANCE FOR POST-CLOSURE AND CORRECTIVE ACTION

No changes in the post-closure criteria. Financial assurance will be transmitted separately, after the completion of the Feasibility Study, as agreed to on July 25, 2019 during the Permit Compliance Meeting – Landfill Edition.

SECTION IX - CHANGES TO GENERAL CONDITIONS

No changes.

SECTION X - CHANGES TO THE REPORTING REQUIREMENTS

No changes.

APPENDIX I – CHANGES TO COMPLIANCE REQUIREMENTS

Task 1 Sampling Analysis Plan:
Status – Complete, Transmitted on January 29, 2016

Task 2 Environmental Investigations, Monitoring, and Remediation:
Status – On-going

Task 3 Surface Impoundment Monitoring Plan:
Status – Complete, Transmitted on October 7, 2015

Task 4 Submit well installation and data analysis report for the 2010 Hillslope investigation projection.
Status – Complete, Transmitted on April 8, 2011

PART C – REVIEW OF INFORMATION COLLECTED FROM INSPECTIONS, COMPLAINTS, OR KNOWN CHANGES IN THE OPERATIONS

C.1 - LEACHATE ACCEPTANCE CERTIFICATION

Leachate from the Vashon Island Closed Landfill is transported to the King County Wastewater Treatment Division (KCWTD) collection system. The current permit expires on July 31, 2021. In compliance with KCWTD permit renewal requirements, the renewal application will be submitted when required. No substantive changes to the permit conditions are anticipated.

C.2 - CHANGES TO OPERATIONS PRACTICES

During the expiring permit period, the following activities were conducted at the landfill:

- Maintenance of the leachate system
- Maintenance of the landfill gas system
- Maintenance of the surface water system
- Inspections of the cover system, landfill gas system, leachate system, and surface water systems. These inspections were conducted monthly by operators and at least annually by the landfill engineer.
- Quarterly monitoring of groundwater, surface water and landfill gas. Monitoring reports were submitted quarterly and annually.

All of these activities are identified and frequency is established in the Vashon Island Closed Landfill Plan of Operations and Post-Closure Plan (O&M Plan).

In addition to the inspections and maintenance requirements in the O&M Plan, additional investigations have been on going or are being planned:

- Remedial Investigation, including
    - Beneficial Well Survey
    - Terrestrial and Ecological Evaluation
    - Continued groundwater and landfill gas system evaluation
- Feasibility Study

C.3 - GROUNDWATER MONITORING RESULTS

Vashon Island Closed Landfill has four principal water-bearing units that were identified based on existing hydrogeologic data: Channel Cc2, Channel Cc3, Unit D, and Unit F. Conditions present in the wells in Channel Cc3 and Unit D (referred to in previous permit applications as a regional aquifer) show no indication of impacts attributable to landfill activities. The water quality in this unit represents natural conditions. Units D and F are generally separated by an aquitard (Unit E).

In August of 2010, KCSWD initiated an independent cleanup action under the Voluntary Program of the Model Toxics Control Act to address vinyl chloride detections in Channel Cc2. The final Remedial Investigation will be completed in 2020 followed by a Feasibility Study and Corrective Action Plan, which identify any necessary remediation efforts.

In 2015, four monitoring wells (MW-1, MW-5D/S, MW 14, and MW-27) were decommissioned and replaced with four new monitoring wells (MW-33, MW-34, MW-35, and MW-36).

KCSWD continues to monitor the groundwater in compliance with local, state, and federal regulations. Complete groundwater results and findings can be found in the Vashon Island Closed Landfill 2018 Annual Groundwater Data Evaluation Report. Results and related analysis are submitted quarterly and annually to Public Health – Seattle & King County and Washington State Department of Ecology. There are no changes from the last annual report submitted in April 2018.

C.4 - SURFACE WATER AND METHANE MONITORING RESULTS

Surface water run-off is collected and detained onsite and does not recharge groundwater at the closed landfill. Two surface water sampling stations were decommissioned during this permit period. Station SW-B was no longer sampled after fourth quarter of 2011 and station SW-D was no longer sampled after first quarter of 2012.

There are surface expressions of the shallow groundwater zones on the west hill slope, west of Westside Highway. In March of 2011 King County Water and Land Resources Division produced a report evaluating the water quality of the west hill slope and determining that Channel Cc2 was the groundwater source for the seeps. Sampling of surface water station SW-E, located approximately 1,500 feet from the Vashon Island Closed Landfill property in Robinwood Creek, started in fourth quarter of 2012.

Methane had previously been monitored monthly and starting in 2010, quarterly monitoring continued around the perimeter of the landfill and has only had one trace detection in the past ten years. In 2017 the *Vashon Island Closed Landfill Geochemical Evaluation* concluded that volatile organic compound detections in Channel Cc2 are the result of landfill gas. Additional landfill gas extraction wells were installed in 2016 and 2018 to improve landfill gas control.

Installation and decommissioning of gas wells and temporary gas probes:

- TP-1S, installed 2014, decommissioned 2016
- TP-2S/2D, installed 2014
- TP-3S/3D, installed August 2016
- TP-4S/4D, installed August 2016
- TP-5S/5D, installed January 2017

- TP-6S/6D, installed January 2017
- TP-7, installed April 2018
- TP-8, installed April 2018
- TP-9, installed April 2018
- TP-10, installed April 2018
- TP-11S/11D, installed April 2018
- GW-9, installed 2016
- GW-10, installed 2018
- GW-11, installed 2018

Results and related analysis are submitted quarterly and annually to Public Health – Seattle & King County and Washington State Department of Ecology. There are no changes from the last annual report submitted in April 2018.

C.5 - INSPECTION REPORTS

- No significant issues were identified from periodic inspections completed during the current permit cycle. The summary table of inspection reports for 2010 through July 2019 is enclosed.

- Design, Construction, and Management of all Environmental Management Systems for surface water, air and groundwater, and located at the Vashon Island Closed Landfill are governed by WAC 173-351, except for Surface Impoundments (leachate and contaminated stormwater lagoons) which are regulated under WAC 173-350-330. Inspection of surface impoundments at the Vashon Island Closed Landfill are completed per schedules outlined in tables in the Vashon Island Closed Landfill Plan of Operations and Post –Closure Plan. Liner Inspections are currently scheduled to be completed every five (5) years per WAC 173-350-330 (4)(b) using Contract Services. An inspection was completed in 2015. No anomalies were identified and the Vashon Landfill Leachate Lagoon Liner Testing Report was submitted on October 7, 2015 to Public Health – Seattle & King County and Washington State Department of Ecology.

C.6 – COMPLIANCE SUMMARY

The demonstrations included above provide evidence that KCSWD is in compliance with the Municipal Solid Waste Handling Permit Vashon Landfill (Post-Closure) in the following areas:

- Completion of compliance tasks (Part A Appendix A)
- Compliance with maintenance schedules defined in the O&M Plan.
- Quarterly and annually groundwater monitory and reporting

- Quarterly and annually surface water monitory and reporting
- Quarterly and annually gas monitory and reporting