FACT SHEET FOR RAINBOW VALLEY LANDFILL, INC.
STATE WASTE DISCHARGE PERMIT ST 6049

Purpose of this Fact Sheet

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed State Waste Discharge Permit for Rainbow Valley Landfill, Inc. that will allow discharge of wastewater to Willapa Regional Wastewater Treatment Plant.

State law requires any commercial or industrial facility to obtain a permit before discharging waste or chemicals to municipal sanitary sewer collection and treatment systems.

Ecology makes the draft permit and fact sheet available for public review and comment at least 30 days before it issues the final permit to the facility operator. Copies of the fact sheet and draft permit for Rainbow Valley Landfill, Inc., State Waste Discharge Permit ST 6049, are available for public review and comment. For more details on preparing and filing comments about these documents, please see **Appendix A - Public Involvement Information**.

Rainbow Valley Landfill, Inc. reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions about the facility's location, history, product type, production rate, or discharges prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology will summarize substantive comments and our responses to them. Ecology will include our summary and responses to comments to this fact sheet as **Appendix E - Response to Comments**, and publish it when we issue the final State Waste Discharge Permit. Ecology generally will not revise the rest of the fact sheet. The full document will become part of the legal history contained in the facility's permit file.

Summary

Rainbow Valley Landfill, Inc. is a closed landfill in Raymond, Washington. This facility collects and hauls its leachate to the Willapa Regional Wastewater Treatment Plant. Ecology issued the previous permit for this facility on February 10, 2012.

Effluent limits in the proposed permit are the same as the previous permit. These limits include Flow, Biochemical Oxygen Demand (BOD), Temperature, Oil and Grease, and pH.

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I. INTRODUCTION

The legislature defined the Department of Ecology's (Ecology) authority and obligations for the wastewater discharge permit program in the Water Pollution Control law, chapter 90.48 Revised Code of Washington (RCW).

Ecology adopted rules describing how it exercises its authority:

- State Waste Discharge Program [chapter 173-216 Washington Administrative Code (WAC)]
- Submission of Plans and Reports for Construction of Wastewater Facilities (chapter 173-240 WAC)

These rules require any industrial facility owner/operator to obtain a State Waste Discharge Permit before discharging wastewater to state waters. This rule includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. They also help define the basis for limits on each discharge and for other performance requirements imposed by the permit.

Under the State Waste Discharge Permit Program and in response to a complete and accepted permit application, Ecology generally prepares a draft permit and accompanying fact sheet, and makes it available for public review before final issuance. If the volume of the discharge has not changed or if the characteristics of the discharge have not changed Ecology may choose not to issue a public notice. When Ecology publishes an announcement (public notice); it tells people where they can read the draft permit, and where to send their comments, during a period of 30 days. (See **Appendix A - Public Involvement Information** for more detail about the public notice and comment procedures). After the public comment period ends, Ecology may make changes to the draft State Waste Discharge Permit in response to comment(s). Ecology will summarize the responses to comments and any changes to the permit in **Appendix E**.

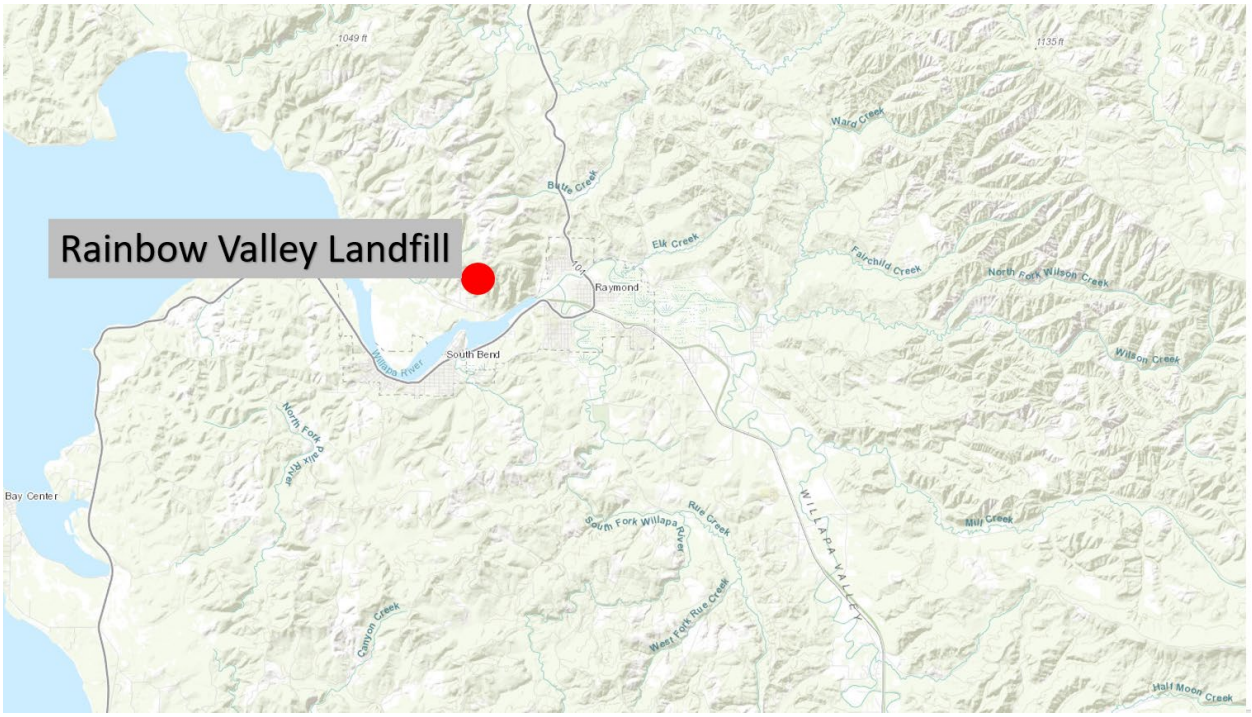
II. BACKGROUND INFORMATION

General Facility Information

Facility Information	
Applicant	Raymond Valley Landfill, Inc.
Facility Name and Address	Rainbow Valley Landfill, Inc. Hwy 105 Raymond, WA 98577
Contact at Facility	Name: Larry Bale Telephone #: (360) 942-7259
Responsible Official	Name: Larry Bale Title: President Address: 114 Airport Road Raymond, WA 98577 Telephone #: (360) 942-7259

Facility Information	
Industrial User Type	Categorical Industrial User
Industry Type	Solid Waste Landfill (Closed)
Type of Treatment by Industry	n/a
Fee Category	Solid Waste Site (< 50 acres)
SIC Codes	4953 Refuse Systems
NAIC Codes	562212 Solid Waste Landfill
Facility Location (NAD83/WGS84 Reference Datum)	Latitude: 46.71009 Longitude: -123.82508
Treatment Plant Receiving Discharge	Willapa Regional Wastewater Treatment Plant
Discharge Location (NAD83/WGS84 Reference Datum)	Latitude: 46.689722 Longitude: -123.745
Permit Status	
Issuance Date of Previous Permit	February 3, 2012
Application for Permit Renewal Submittal Date	September 17, 2020
Date of Ecology Acceptance of Application	September 30, 2020
Inspection Status	
Date of Last Non-sampling Inspection Date	June 4, 2021

Facility Location Map



A. Facility Description

History

Rainbow Valley Landfill, Inc. began its operations in 1980. This facility is located about 5 miles west of the city of Raymond on the north side of State Highway 105 in Pacific County. This facility closed on July 31,1991, and has been and is still owned and operated by Rainbow Valley Landfill, Inc. This site still functions as a solid waste collection and transfer site.

This facility was last open to the public as an active landfill on July 31, 1991. The work to install the final cover started before the summer of 1991. The final cover was installed in early fall of 1991.

During the time this facility was open, this facility was the primary disposal site for Pacific County's solid waste. This facility initially only served Raymond, South Bend, and rural areas in the region. Since the landfill in Long Beach closed, most of the waste collected in Pacific County and portions of Wahkiakum County were taken to this facility for disposal. Only municipal solid waste (residential and commercial) were handled at this site. This facility did not handle industrial waste.

This facility continues to collect and haul its leachate generated from the closed landfill to the Willapa Regional Wastewater Treatment Plant (WWTP). The amount of leachate generated at the site depends on the amount of rainfall the site receives. Leachate is collected and hauled to the Willapa Regional WWTP almost every day between January

and March. During the dryer months between July and September, leachate is hauled offsite roughly 15 to 20 times per month.

Industrial Process(s)

This landfill is located over a thick deposit of low permeability clay and does not have a bottom liner. The leachate collection system at this site consists of a deep leachate collection trench and an extraction well located on the south end of the landfill.

The leachate collection trench ranges from 8 to 26-feet deep with a 4-inch diameter perforated collection pipe. The trench is backfilled with washed rock and gravel. A leachate blanket drain is located in the cover on the south side of the landfill and connects to the deep trench.

An interim leachate collection trench at the toe of the north side of the landfill intercepts the leachate seeps. This trench connects to a corrugated metal pipe sump structure. The leachate from this system is pumped to an aboveground storage tank on the south end of the landfill.

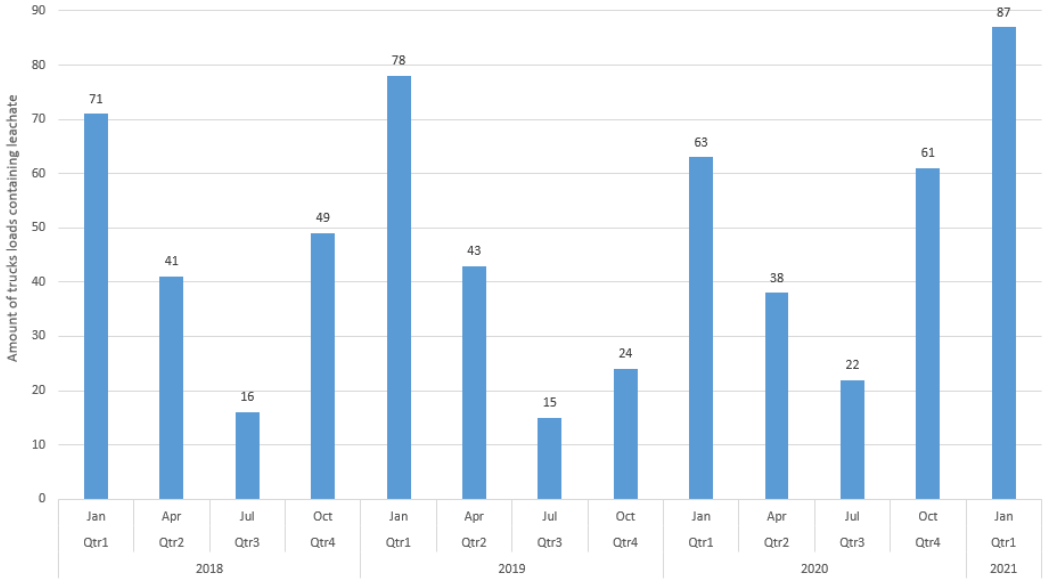
There are two leachate storage tanks on the south side of the landfill. Each tank has a capacity of 16,400-gallons.

Wastewater Pretreatment

This closed landfill does not have a pretreatment system. The leachate that is generated at this site is pumped to the two leachate storage tanks mentioned in the section above. The leachate from the holding tanks are hauled to the Willapa Regional WWTP for treatment.

The volume of leachate generated at this site depends on the amount of rainfall the area receives. A greater volume of leachate is hauled to the Willapa Regional WWTP in the wetter months compared to the dryer months. The graph below shows the amount of truck loads that hauled leachate from the landfill to the Willapa Regional WWTP between 2018 and the end of April in 2021.

Amount of Truckloads Containing Leachate Between 2018 and Q1 of 2021



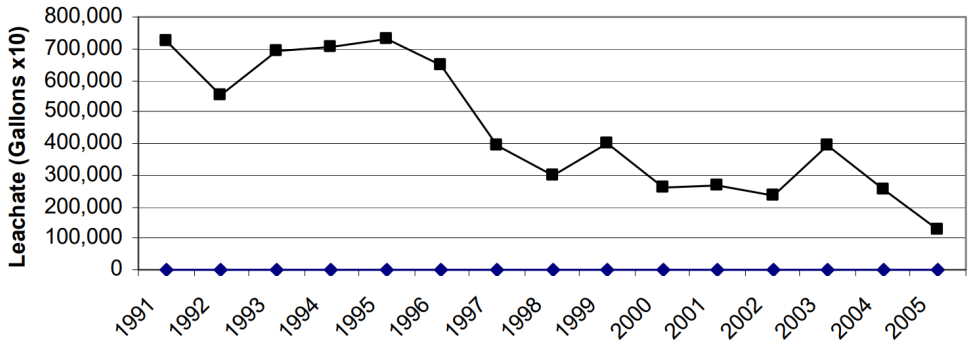
When the landfill closed in 1991, consultants estimated roughly 1,000,000 gallons per year of leachate to be generated from the closed landfill. However, the amount of leachate generated from the site averaged 6,700,000 gallons per year between 1991 and 1996.

After years of study, the facility undertook a "second closure" of the landfill in August of 1996 to reduce the amount of leachate generated at the site. This information is from the Pacific County Solid Waste Management Plan and the "second closure" to reduce the volume of leachate consisted of:

- Re-contouring and recapping the uppermost 3.5 acres of landfill cover with a 60 mil Geo-membrane and two to three feet of clay cover.
- Abandoning and replacing one of the three leachate collection trenches.
- Abandoning a portion of one of the two other leachate collection trenches.
- Improving the surface water conveyance system.
- Improving the leachate collection and loading system

After the "second closure" the volume of leachate generated from the landfill decreased as seen in the graph below from the Pacific County Solid Waste Management Plan document. The leachate volume has been between 4,000,000 and approximately 1,000,000 gallons per year between 1997 and 2005.

Leachate generation between 1991 and 2005



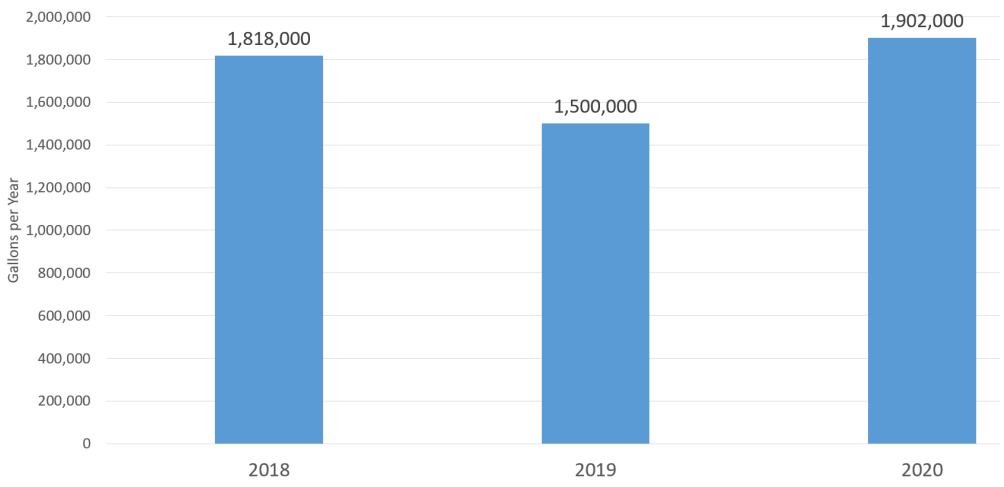
Prior to June of 2017, the Discharge Monitoring Reports (DMRs) submitted by Rainbow Valley Landfill, Inc. only contained one average monthly and one maximum daily flow values per month. Therefore, the total annual discharge from this facility before April of 2017 is not available.

The daily flow values for each day of the month from this facility became available in the quarterly DMRs starting in July of 2017. Therefore, the total annual flow from this facility is available starting in July of 2017.

The graph below shows the total annual flow between 2018 and 2020. Values from 2017 were not used because only the partial flow values from this year were available. Values from 2021 were not used for the same reason.

The total annual flow between 2018 and 2020 are between 1,500,000 and 1,902,000 gallons per year.

Leachate Generation Between 2018 and 2020



Solid Wastes

The landfill closed on July 31, 1991. This site still functions as a solid waste collection and transfer site. However, there are no solid wastes generated at this site from the leachate collection system or the closed landfill.

B. Discharge Location to the Willapa Regional Wastewater Treatment Plant

The leachate generated from the closed landfill is collected and flows to a manhole before reaching the storage tanks on the south end of the landfill. The leachate is sampled at the manhole. A tanker collects the leachate from the storage tank. The tanker then hauls the leachate to the Willapa Regional WWTP for treatment.

C. Wastewater Characterization

Rainbow Valley Landfill, Inc. reported the concentration of pollutants in the permit application and in DMRs. The tabulated data represents the quality of the effluent discharged from April 1, 2012, through March 31, 2021. These values are from the DMRs that are submitted quarterly by Rainbow Valley Landfill, Inc. The effluent is characterized as follows:

Wastewater Characterization

Parameter	Units	Average Value	Maximum Value
Flow	GPD	6,098	30,000
Biochemical Oxygen Demand (BOD_5)	mg/L	9.13	31.5
Total Suspended Solids (TSS)	mg/L	36.4	117
Oil & Grease	mg/L	15.6	301

Parameter	Units	Average Value	Maximum Value
Temperature	°F	43.9	53.2
Ammonia	mg/L	25.6	60.3
Parameter	**Units**	**Minimum Value**	**Maximum Value**
pH	Standard Units	4.55	8.64

D. Summary of Compliance with Previous Permit Issued

The previous permit placed effluent limits on Flow, pH, BOD, Temperature, and Oil and Grease.

Rainbow Valley Landfill, Inc. has not consistently complied with the effluent limits and permit conditions throughout the duration of the permit issued on February 3, 2012. Ecology assessed compliance based on its review of the facility's DMRs and on inspections conducted by Ecology.

The following table summarizes the violations that occurred during the permit term.

Violations/Permit Triggers

Reporting Period	Parameter	Reported Value	Permit Limit	Violation
Apr-2012	Late Submittal of DMRs			
Jul-2012	Late Submittal of DMRs			
Jul-2012	Ammonia	Analysis not Conducted		
Oct-2012	Late Submittal of DMRs			
Oct-2012	Temperature	Analysis not Conducted		
Apr-2013	pH	8.64	8.5	Numeric effluent violation
Jul-2013	Late Submittal of DMRs			
Oct-2013	Late Submittal of DMRs			
Oct-2013	pH	8.55	8.5	Numeric effluent violation
Jan-2014	pH	4.55	5.5	Numeric effluent violation
Jul-2015	Late Submittal of DMRs			
Jul-2015	Flow	Frequency of Sampling Violation		
Oct-2015	Late Submittal of DMRs			
Oct-2015	Flow	Frequency of Sampling Violation		

Reporting Period	Parameter	Reported Value	Permit Limit	Violation
Jan-2016	Late Submittal of DMRs			
Jan-2016	Flow	Frequency of Sampling Violation		
Apr-2016	Late Submittal of DMRs			
Apr-2016	Flow	Frequency of Sampling Violation		
Apr-2016	Oil & Grease	109 mg/L	100 mg/L	Numeric effluent violation
Jul-2016	Late Submittal of DMRs			
Jul-2016	Flow	Frequency of Sampling Violation		
Oct-2016	Late Submittal of DMRs			
Oct-2016	Flow	Frequency of Sampling Violation		
Jan-2017	Flow	Frequency of Sampling Violation		
Apr-2017	Late Submittal of DMRs			
Apr-2017	Flow	Frequency of Sampling Violation		
Jul-2017	Late Submittal of DMRs			
Jul-2017	TSS	Analysis not Conducted		
Jul-2017	TSS	Analysis not Conducted		
Oct-2017	Late Submittal of DMRs			
Jan-2018	pH	5.21	5.5	Numeric effluent violation
Apr-2018	Late Submittal of DMRs			
Apr-2018	Oil & Grease	301	100	Numeric effluent violation
Jul-2018	Late Submittal of DMRs			
Jan-2019	Late Submittal of DMRs			
Apr-2019	Late Submittal of DMRs			
Jul-2020	Late Submittal of DMRs			
Jan-2021	Late Submittal of DMRs			

The following table summarizes compliance with report submittal requirements over the permit term.

Permit Submittals

Submittal Name	Status	Due Date	Received Date
Priority Pollutant Scan	Received	10/1/15	9/17/2020
Signatory Requirements	Reviewed	n/a	4/30/2015
Duty to Reapply	Received	10/1/15	9/17/2020

E. State Environmental Policy Act (SEPA) Compliance

State law exempts the issuance, reissuance or modification of any wastewater discharge permit from the SEPA process as long as the permit contains conditions that are no less stringent than federal and state rules and regulations (RCW 43.21C.0383). The exemption applies only to existing discharges, not to new discharges.

III. PROPOSED PERMIT LIMITS

State regulations require that Ecology base limits in a State Waste Discharge Permit on the:

- Technology and treatment methods available to treat specific pollutants (technology-based). Technology-based limits are set by the EPA and published as a regulation [40 Code of Federal Regulations (CFR) Parts 400 – 471], or Ecology develops limits on a case-by-case basis (40 CFR 125.3, and RCW 90.48). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART).

- Effects of the pollutants on the POTW. Wastewater must not interfere with the operation of the POTW. Ecology considers local limits in developing permit limits.

- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of these limits to each parameter of concern and further describes the proposed limits below.

The limits in this permit reflect information received in the application and from supporting reports (engineering, hydrogeology, monitoring, etc.). Ecology evaluated the permit application and determined the limits needed to comply with the rules adopted by the state of Washington. Ecology does not develop effluent limits for all reported pollutants. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, and are not listed in regulation.

Ecology does not usually develop permit limits for pollutants not reported in the permit application but may be present in the discharge. The permit does not authorize the discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent. Until Ecology modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

A. Technology-Based Effluent Limits

Waste discharge permits issued by Ecology specify conditions requiring AKART of discharges to waters of the state (RCW 90.48).

Rainbow Valley Landfill, Inc. falls under Standard Industrial Classification (SIC) 4953, refuse systems. Existing federal categorical limits for this facility are found under 40 CFR Part 445 – Landfills Point Source Category. However, because Rainbow Valley Landfill, Inc. hauls its wastewater to a POTW, the General Pretreatment Standards under 40 CFR Part 403 apply instead.

The State Waste Discharge Permit regulations include restrictions and prohibitions to protect publicly-owned sewerage systems. A facility may not discharge any wastewater having a pH less than 5.0 or greater than 11.0 or having any other corrosive property capable of causing damage or hazard to structures, equipment, or personnel unless the:

- System is specifically designed to accommodate such discharge.
- Discharge is authorized by a permit (WAC 173-216-060).

Federal regulations (40 CFR 403.5b) also prohibits the discharge of pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the collection and treatment system is designed to accommodate such discharges.

B. Effluent Limits Based on Local Limits

To protect the Willapa Regional WWTP from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, Ecology believes it necessary to impose limits for certain parameters. Ecology based these limits on local limits established by name POTW and codified in ordinance. Ecology's pretreatment program delegation agreement with EPA includes language in which Ecology agreed to enforce limits adopted by non-delegated programs (local limits). Applicable limits for this discharge include the following:

Limits Based on Local Limits

Effluent Limits		
Parameter	**Average Monthly**	**Maximum Daily**
Temperature	n/a	150 °F
Oil & Grease	n/a	100 mg/L
BOD	n/a	350 mg/L
Parameter	**Daily Minimum**	**Daily Maximum**
pH	5.5 standard units	8.5 standard units

C. Comparison of Effluent Limits with the Previous Permit Issued February 3, 2012

Comparison of Effluent Limits

		Previous Effluent Limits: Outfall # 001		Proposed Effluent Limits: Outfall # 001	
Parameter	**Basis of Limit**	**Average Monthly**	**Maximum Daily**	**Average Monthly**	**Maximum Daily**
Flow	n/a	40,000 GPD	50,000 GPD	40,000 GPD	50,000 GPD
BOD	Local	n/a	300 mg/L	n/a	300 mg/L
Temperature	Local	n/a	150 °F	n/a	150 °F
Oil & Grease	Local	n/a	100 mg/L	n/a	100 mg/L

Parameter	Basis of Limit	Daily Minimum	Daily Maximum
pH	Local	5.5	8.5

The proposed permit includes the same limits as the previous permit.

IV. MONITORING REQUIREMENTS

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly and that the discharge complies with the permit's effluent limits.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the methods and meets or exceeds the method detection levels required by the permit. The permit describes when facilities may use alternative methods. It also describes what to do in certain situations when the laboratory encounters matrix effects. When a facility uses an alternative method as allowed by the permit, it must report the test method, Detection Level (DL), and Quantitation Level (QL) on the discharge monitoring report or in the required report.

A. Lab Accreditation

Ecology requires that facilities must use a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories, to prepare all monitoring data (with the exception of certain parameters).

B. Wastewater Monitoring

Ecology details the proposed monitoring schedule under Special Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

V. OTHER PERMIT CONDITIONS

A. Reporting and recordkeeping

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges [WAC 173-216-110 and CFR 403.12 (e), (f), (g), (h), (j), (l), (n), (o), and (p)].

B. Operations and Maintenance

Ecology requires dischargers to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). The facility must prepare and submit an updated of an Operation and Maintenance (O&M) Manual as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). Implementation of the procedures in the O&M Manual ensures the facility's compliance with the terms and limits in the permit.

C. Prohibited Discharges

Ecology prohibits certain pollutants from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (chapter 173-303 WAC).

D. Dilution Prohibited

Ecology prohibits the facility from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limits.

E. General Conditions

Ecology bases the standardized general conditions on state law and regulations. They are included in all State Waste Discharge Permits issued by Ecology.

VI. PUBLIC NOTIFICATION OF NONCOMPLIANCE

Ecology may annually publish a list of all industrial users in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters in a local newspaper. Accordingly, this permit Special Condition informs the Facility that noncompliance with this permit may result in publication of the noncompliance.

VII. PERMIT ISSUANCE PROCEDURES

A. Permit Modifications

Ecology may modify this permit to impose or change the numerical limits, if necessary to comply with changes in the pretreatment requirements, conditions in local sewer ordinances, or based on new information from sources such as inspections and effluent monitoring. It may also modify this permit to comply with new or amended state or federal regulations.

B. Proposed Permit Issuance

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limits and conditions believed necessary to control toxics. Ecology proposes that the permit be issued for five years.

VIII. REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws, Rules & Rulemaking (https://ecology.wa.gov/About-us/How-we-operate/rulemaking)

Permit and Wastewater Related Information (https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance)

Permit Writer's Manual, January 2015. Publication Number 92-109 (https://fortress.wa.gov/ecy/publications/documents/92109.pdf)

Focus Sheet on Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees, February 2007. Publication Number 07-10-024. (https://fortress.wa.gov/ecy/publications/documents/0710024.pdf)

APPENDIX A - PUBLIC INVOLVEMENT INFORMATION

Ecology proposes to reissue a permit to Rainbow Valley Landfill, Inc. The permit includes wastewater discharge limits and other conditions. This fact sheet describes the facility and Ecology's reasons for requiring permit conditions.

Ecology placed a Public Notice of Application on June 15, 2016; June 22, 2016; June 10, 2020; June 17, 2020; June 16, 2021; and June 23, 2021, in the Chinook Observer to inform the public about the submitted application and to invite comment on the reissuance of this permit.

Ecology will place a Public Notice of Draft on _____ in the Chinook Observer to inform the public and to invite comment on the proposed draft State Waste Discharge Permit and fact sheet.

The notice:

- Tells where copies of the draft Permit and Fact Sheet are available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website).
- Offers to provide the documents in an alternate format to accommodate special needs.
- Urges people to submit their comments, in writing, before the end of the Comment Period
- Tells how to request a public hearing of comments about the proposed State Waste Discharge Permit.
- Explains the next step(s) in the permitting process.

Ecology has published a document entitled Frequently Asked Questions about Effective Public Commenting, available at https://apps.ecology.wa.gov/ecy/publications/documents/0307023.pdf.

You may obtain further information from Ecology by email at carey.cholski@ecy.wa.gov or by writing to the address listed below.

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

The primary author of this permit and fact sheet is Hiro Kusakabe.

APPENDIX B - YOUR RIGHT TO APPEAL

You have a right to appeal this permit to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of the final permit. The appeal process is governed by chapter 43.21B RCW and chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2) (see glossary).

To appeal you must do the following within 30 days of the date of receipt of this permit:

- File your appeal and a copy of this permit with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this permit on Ecology in paper form - by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in chapter 43.21B RCW and chapter 371-08 WAC.

ADDRESS AND LOCATION INFORMATION

Street Addresses	Mailing Addresses
Department of Ecology Attn: Appeals Processing Desk 300 Desmond Drive Southeast Lacey, WA 98503	**Department of Ecology** Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel Road Southwest, Suite 301 Tumwater, WA 98501	**Pollution Control Hearings Board** PO Box 40903 Olympia, WA 98504-0903

APPENDIX C - GLOSSARY

1-DMax or 1-day maximum temperature -- The highest water temperature reached on any given day. This measure can be obtained using calibrated maximum/minimum thermometers or continuous monitoring probes having sampling intervals of thirty minutes or less.

7-DADMax or 7-day average of the daily maximum temperatures - The arithmetic average of seven consecutive measures of daily maximum temperatures. The 7-DADMax for any individual day is calculated by averaging that day's daily maximum temperature with the daily maximum temperatures of the three days prior and the three days after that date.

Acute toxicity - The lethal effect of a compound on an organism that occurs in a short time period, usually 48 to 96 hours.

AKART - The acronym for "all known, available, and reasonable methods of prevention, control and treatment." AKART is a technology-based approach to limiting pollutants from wastewater discharges, which requires an engineering judgment and an economic judgment. AKART must be applied to all wastes and contaminants prior to entry into waters of the state in accordance with RCW 90.48.010 and 520, WAC 173-200-030(2)(c)(ii), and WAC 173-216-110(1)(a).

Alternate point of compliance - An alternative location in the groundwater from the point of compliance where compliance with the groundwater standards is measured. It may be established in the groundwater at locations some distance from the discharge source, up to, but not exceeding the property boundary and is determined on a site specific basis following an AKART analysis. An "early warning value" must be used when an alternate point is established. An alternate point of compliance must be determined and approved in accordance with WAC 173-200-060(2).

Ambient water quality - The existing environmental condition of the water in a receiving water body.

Ammonia - Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Annual average design flow (AADF) - Average of the daily flow volumes anticipated to occur over a calendar year.

Average monthly (intermittent) discharge limit - The average of the measured values obtained over a calendar months time taking into account zero discharge days.

Average monthly discharge limit - The average of the measured values obtained over a calendar month's time.

Background water quality - The concentrations of chemical, physical, biological or radiological constituents or other characteristics in or of groundwater at a particular point in time upgradient of an activity that has not been affected by that activity, [WAC 173-200-020(3)]. Background water quality for any parameter is statistically defined as the 95 percent upper tolerance interval with a 95 percent confidence based on at least eight hydraulically upgradient water quality samples. The eight

samples are collected over a period of at least one year, with no more than one sample collected during any month in a single calendar year.

Best management practices (BMPs) - Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD5 - Determining the five-day Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD5 is used in modeling to measure the reduction of dissolved oxygen in receiving waters after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD_5 is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass - The intentional diversion of waste streams from any portion of a treatment facility.

Categorical pretreatment standards - National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties, which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Chlorine - A chemical used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic toxicity - The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean water act (CWA) - The federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance inspection-without sampling - A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance inspection-with sampling - A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations. In addition, it includes as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Ecology may conduct additional sampling.

Composite sample - A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite" (collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction activity - Clearing, grading, excavation, and any other activity, which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous monitoring - Uninterrupted, unless otherwise noted in the permit.

Critical condition - The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Date of receipt - This is defined in RCW 43.21B.001(2) as five business days after the date of mailing; or the date of actual receipt, when the actual receipt date can be proven by a preponderance of the evidence. The recipient's sworn affidavit or declaration indicating the date of receipt, which is unchallenged by the agency, constitutes sufficient evidence of actual receipt. The date of actual receipt, however, may not exceed forty-five days from the date of mailing.

Detection limit - The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the pollutant concentration is above zero and is determined from analysis of a sample in a given matrix containing the pollutant.

Dilution factor (DF) - A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction, for example, a dilution factor of 10 means the effluent comprises 10 percent by volume and the receiving water 90 percent.

Distribution uniformity - The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Early warning value - The concentration of a pollutant set in accordance with WAC 173-200-070 that is a percentage of an enforcement limit. It may be established in the effluent, groundwater, surface water, the vadose zone or within the treatment process. This value acts as a trigger to detect and respond to increasing contaminant concentrations prior to the degradation of a beneficial use.

Enforcement limit - The concentration assigned to a contaminant in the groundwater at the point of compliance for the purpose of regulation, [WAC 173-200-020(11)]. This limit assures that a groundwater criterion will not be exceeded and that background water quality will be protected.

Engineering report - A document that thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report must contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal coliform bacteria - Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab sample - A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Groundwater - Water in a saturated zone or stratum beneath the surface of land or below a surface water body.

Industrial user - A discharger of wastewater to the sanitary sewer that is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial wastewater - Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated stormwater and, also, leachate from solid waste facilities.

Interference - A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

- Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

- Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local limits - Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Major facility - A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum daily discharge limit - The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is the maximum discharge of a pollutant measured during a calendar day.

Maximum day design flow (MDDF) - The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average.

Maximum month design flow (MMDF) - The largest volume of flow anticipated to occur during a continuous 30-day period, expressed as a daily average.

Maximum week design flow (MWDF) - The largest volume of flow anticipated to occur during a continuous 7-day period, expressed as a daily average.

Method detection level (MDL) - See Detection Limit.

Minor facility - A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing zone - An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The permit specifies the area of the authorized mixing zone that Ecology defines following procedures outlined in state regulations (chapter 173-201A WAC).

National pollutant discharge elimination system (NPDES) - The NPDES (Section 402 of the Clean Water Act) is the federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the state of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both state and federal laws.

pH - The pH of a liquid measures its acidity or alkalinity. It is the negative logarithm of the hydrogen ion concentration. A pH of 7 is defined as neutral and large variations above or below this value are considered harmful to most aquatic life.

Pass-through - A discharge which exits the POTW into waters of the State in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of State water quality standards.

Peak hour design flow (PHDF) - The largest volume of flow anticipated to occur during a one-hour period, expressed as a daily or hourly average.

Peak instantaneous design flow (PIDF) - The maximum anticipated instantaneous flow.

Point of compliance - The location in the groundwater where the enforcement limit must not be exceeded and a facility must comply with the Ground Water Quality Standards. Ecology determines this limit on a site-specific basis. Ecology locates the point of compliance in the groundwater as near and directly downgradient from the pollutant source as technically, hydrogeologically, and geographically feasible, unless it approves an alternative point of compliance.

Potential significant industrial user (PSIU) - A potential significant industrial user is defined as an Industrial User that does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

a. Exceeds 0.5 percent of treatment plant design capacity criteria and discharges <25,000 gallons per day or;

b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass through or interference at the POTW (e.g. facilities which develop photographic film

or paper, and car washes). Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation level (QL) - Also known as Minimum Level of Quantitation (ML) – The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that the lab has used all method-specified sample weights, volumes, and cleanup procedures. The QL is calculated by multiplying the MDL by 3.18 and rounding the result to the number nearest to (1,2, or 5) x 10^n, where n is an integer. (64 FR 30417).

ALSO GIVEN AS:

The smallest detectable concentration of analyte greater than the Detection Limit (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose. (Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs Submitted to the US Environmental Protection Agency December 2007).

Reasonable potential - A reasonable potential to cause a water quality violation, or loss of sensitive and/or important habitat.

Responsible corporate officer - A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sample Maximum - No sample may exceed this value.

Significant industrial user (SIU) --

1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N and;

2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement [in accordance with 40 CFR 403.8(f)(6)].

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug discharge - Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate that may cause interference or pass through with the POTW or in any way violate the permit conditions or the POTW's regulations and local limits.

Soil scientist - An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3, or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Solid waste - All putrescible and non-putrescible solid and semisolid wastes including, but not limited to, garbage, rubbish, ashes, industrial wastes, swill, sewage sludge, demolition and construction wastes, abandoned vehicles or parts thereof, contaminated soils and contaminated dredged material, and recyclable materials.

Soluble BOD_5 . Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD_5 test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2 um filter prior to running the standard BOD_5 test is sufficient to remove the particulate organic fraction.

State waters - Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater - That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a stormwater drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based effluent limit - A permit limit based on the ability of a treatment method to reduce the pollutant.

Total coliform bacteria - A microbiological test, which detects and enumerates the total coliform group of bacteria in water samples.

Total dissolved solids - That portion of total solids in water or wastewater that passes through a specific filter.

Total maximum daily load (TMDL) - A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

Total suspended solids (TSS) - Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any

toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Upset - An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water quality-based effluent limit - A limit imposed on the concentration of an effluent parameter to prevent the concentration of that parameter from exceeding its water quality criterion after discharge into receiving waters.

APPENDIX D - TECHNICAL CALCULATIONS

APPENDIX E - RESPONSE TO COMMENTS

[Ecology will complete this section after the public notice of draft period.]