

Issuance Date: XXX XX, 2021
Effective Date: XXX XX, 2021
Expiration Date: XXX XX, 2026

State Waste Discharge Permit Number ST0005174

State of Washington
DEPARTMENT OF ECOLOGY
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

In compliance with the provisions of the
State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington, as amended,

Schenk Packing Co., Inc.

8204 - 288th Street NW
Stanwood, WA 98292

is authorized to discharge wastewater in accordance
with the Special and General Conditions that follow.

Facility Location: 8204 - 288 th Street NW Stanwood, WA 98292 Snohomish County	Discharge Location: Latitude: 48.257317 Longitude: -122.344573
Treatment Type: Oil skimmer, aerated and aerobic lagoons, land treatment	Legal Description: SE ¼ of the NW ¼ of Section 18 and part of the W ½ of NW1/4 of the SE ¼ of Section 18, Township 32N, Range 4E, W.M.
Industry Type: Large Slaughterhouse	SIC Code: 2011 NAICS Code: 311612 Categorical Industry: Complex Slaughterhouse

Rachel McCrea
Water Quality Section Manager
Northwest Regional Office
Washington State Department of Ecology

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Summary of Permit Report Submittals

Refer to the Special and General Conditions of this permit for additional submittal requirements.

Permit Section	Submittal	Frequency	First Submittal Date
S3.A.10.b.	Monthly Discharge Monitoring Report (DMR)	Monthly	XXX XX, 2021
S3.A.10.c.	Quarterly DMR	Quarterly	XXX XX, 2021
S3.A.10.d.	Semiannual DMR	Semiannual	XXX XX, 2021
S3.A.10.e.	Annual DMR	Annual	XXX XX, 2022
S3.F	Reporting Permit Violations	As necessary	
S4.A	Operations and Maintenance Manual Update	1/permit cycle	XXX XX, 2021
S4.B	Reporting Bypasses	As necessary	
S4.C	Best Management Practices	As necessary	
S5.C	Solid Waste Control Plan Update	1/permit cycle	XXX XX, 2021
S6	Application for Permit renewal	1/permit cycle	XXX XX, 2026
S7	Non-Routine Discharge Report	As necessary	
S8	Stormwater Pollution Prevention Plan	As necessary	
S11	Vadose Zone Investigation Scope of Work	1/permit cycle	October 31, 2021
S12	Groundwater Monitoring Wells	As necessary	
S13	Irrigation and Crop Management Plan	1/year	March 1, 202X
G1	Notice of Change in Authorization	As necessary	Prior to or contemporaneous with first submittal under pen of new signatory authority
G4	Permit Application for Substantive Changes to the Discharge	As necessary	At least 60 days prior to adoption of changed practice
G5	Engineering Report for Construction or Modification Activities	As necessary	At least 60 days prior to commencement of construction
G7	Notice of Permit Transfer	As necessary	Within 30 days following date of transfer
G10	Duty to Provide Information	As necessary	Within 60 days of assessment

Special Conditions

S1. Discharge limits

S1.A. Effluent limits

All discharges and activities authorized by this permit must comply with the terms and conditions of this permit. The discharge of any of the following pollutants more frequently than, or at a concentration in excess of, that authorized by this permit violates the terms and conditions of this permit.

Beginning on the effective date, the Permittee is authorized to apply process wastewater to the designated land treatment site via spray irrigation not to exceed the agronomic rates for nitrogen and water, and at rates for any other wastewater constituents to protect background water quality. The Permittee should make every effort to apply treated wastewater on days with minimal precipitation between October and April.

The Permittee is authorized to apply process wastewater for final treatment on the following designated land treatment sites:

Approximately 45 acres located at 8204 - 288th Street NW in Stanwood, WA, approximately 1.6 miles northeast of the city of Stanwood, and within the SE $\frac{1}{4}$ of the NW $\frac{1}{4}$ of Section 18 and part of the W $\frac{1}{2}$ of the NW $\frac{1}{4}$ of the SE $\frac{1}{4}$ of Section 18, T. 32N, R. 04E W.M.

Total nitrogen and water applied to the land treatment site must not exceed the crop requirements as determined by the Permittee's Irrigation and Crop Management Plan, Special Condition S11.

The Permittee must operate the spray fields in is such a manner as to:

1. Protect the existing and future beneficial uses of both groundwater and surface water.
2. Not cause a violation of the groundwater standards (chapter 173-200 WAC) or the surface water quality standards (chapter 173-201A WAC).

Discharges are subject to the following limits:

Table 1- Effluent Limits: Outfall # 001

(Irrigation Wastewater Prior to Application to Spray-fields) Latitude: 48.2577778 Longitude: -122.3461111		
Parameter	Average Monthly ^a	Maximum Daily ^b
Flow	80,000 gallons per day (gpd)	85,000 gpd
Total Nitrogen	81 milligrams per Liter (mg/L)	134 mg/L
	Minimum	Maximum
pH	6.5 Standard Units (SU)	8.5 SU
Parameter	Monthly geometric mean	7- day geometric mean
Total Coliform Bacteria ^c	200 CFU ^d / 100 milliliter (mL)	400 CFU /100 mL
^a	Average monthly effluent limit means the highest allowable average of daily discharges over a calendar month. To calculate the discharge value to compare to the limit, you add the value of each daily discharge measured during a calendar month and divide this sum by the total number of daily discharges measured.	
^b	Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. For pollutants with limits expressed in units of mass, calculate the daily discharge as the total mass of the pollutant discharged over the day. For other units of measurement, the daily discharge is the average measurement of the pollutant over the day. This does not apply to pH.	
^c	Ecology provides directions to calculate the monthly and the 7-day geometric mean in Publication No. 04-10-020, Information Manual for Treatment Plant Operators available at: https://fortress.wa.gov/ecy/publications/SummaryPages/0410020.html	
^d	CFU = Colony Forming Units	

In addition to the average monthly and maximum daily limits listed in the table above, total nitrogen is subject to an application limit for each crop type. This limit is to ensure that nitrogen is not over applied to any one crop.

This limit is applied on a rolling 12-month average. This rolling average is calculated each month by summing the current month plus the previous 11 months' total nitrogen results. This moving total must not exceed the lbs. N/acre/yr. shown for each field type in the following table.

Table 2 - Effluent Limits: Outfall # 001 – Rolling 12-month Average

(Irrigation Wastewater Prior to Application to Spray-fields)				
Latitude: 48.2577778 Longitude: -122.3461111				
Parameter	Field Type	Monthly Average Concentration ^a	Daily Maximum Concentration ^b	Annual Maximum Loading ^c
Total Nitrogen ^d	Grass/Hay	81 mg/L	134 mg/L	328 lbs./acre/yr. ^c
Total Nitrogen	Poplar			343 lbs./acre/yr.
Total Nitrogen	Fir/Alder			61 lbs./acre/yr.
a	Monthly average concentration is the average of the total nitrogen concentration in wastewater applied to all spray-fields for the month.			
b	Daily maximum concentration is the highest daily value for total nitrogen concentration in wastewater applied to all spray-fields for the month.			
c	Annual maximum nitrogen loading is based on a rolling 12-month total, calculated each month by summing the current month plus the previous 11 months' total nitrogen results. This moving total must not exceed the lbs. N/acre/yr. shown for each field type.			
d	Total nitrogen is sum of ammonia-N, total kjeldahl nitrogen (TKN), and nitrite + nitrate.			

S1.B. Early warning values

The following parameters show a reasonable potential to affect groundwater quality, but are well below the water quality standards or have no standard. Because they show a reasonable potential, they are given early warning values (benchmarks). Two consecutive exceedances of an early warning value for the same parameter may indicate a change in conditions and will require further investigation to address. Exceedance of EWW's does not constitute a violation of the permit, but must be reported under Special Condition S3.F.

Table 3 - Effluent Early Warning Values (EWWs) ^a

Parameter	Units	Average Monthly	Daily Maximum
Ammonia	mg/L	201	101
Application Rate	inches / day	0.06	0.07
Hydraulic Loading Rate	inches / month	2.09	2.72
Biochemical Oxygen Demand (BOD ₅)	mg/L	88	176
Nitrate + Nitrite	mg/L	29	66
Oil & Grease	mg/L	8.2	13.2
Total Kjeldahl Nitrogen (TKN)	mg/L	58	111
Total Suspended Solids (TSS)	mg/L	210	105
Total Dissolved Solids (TDS)	mg/L	801	923
^a	Early warning values (EWWs) are based on those constituents that show a reasonable potential to impact groundwater, and are determined for the effluent as calculated in Appendix D.		
^b	Average Monthly concentration is the average of all daily values for the reporting month.		
^c	Maximum Daily concentration is the maximum allowable for any single day during a reporting month.		
^d	Application Rate values are in inches (of water) per day (inches/day).		
^e	Hydraulic Loading values are in inches (of water) per month (inches/month).		

S1.C. Best management practices – land treatment site

The Permittee must comply with the following best management practices (BMPs) to prevent pollution to waters of the State:

1. Do **not** commingle process wastewater streams with sanitary (domestic) sewage.
2. Do **not** discharge in excess of the hydraulic capacity of the spray fields to prevent ponding or surface runoff occur.

3. Do **not** discharge priority pollutants, dangerous wastes, or toxics in toxic amounts.
4. Do **not** allow spray irrigation practices to result in runoff of wastewater to any surface waters of the state or to any land not owned by or under its control.
5. Do **not** apply wastewater to the irrigation lands in quantities that would:
 - a. Significantly reduce or destroy the long-term infiltration rate of the soil.
 - b. Cause long-term anaerobic conditions in the soil.
 - c. Cause ponding of wastewater and produce objectionable odors, or support insects or other vectors.
 - d. Cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the wastewater, partial decomposition products, or soil constituents that would alter groundwater quality in amounts that would affect current and future beneficial uses.
6. Use recognized good practices, and all available and reasonable procedures to control odors from the land application system.
7. Implement measures to reduce odors to a reasonable minimum when notified by Ecology.
8. Maintain all irrigation agreements for lands not owned for the duration of the permit cycle. Any reduction in irrigation lands by termination of any irrigation agreements may result in permit modification or revocation.
9. Immediately inform Ecology in writing of any proposed changes to existing irrigation agreements.
10. Meet the leaching requirement using precipitation and/or fresh water whenever leaching is required to control soil salinity.

S2. Monitoring requirements

S2.A. Irrigation wastewater monitoring

The Permittee must sample at a location that best represents the discharge pumped and applied to the spray fields. The sampling point for the irrigated wastewater is at the irrigation pump house before discharge

to the spray fields. The Permittee must report results in the annual Irrigation and Crop Plan under Section S11.

The Permittee must monitor in accordance with the following schedule and the requirements specified in Appendix A.

Table 4 - Irrigation Wastewater Monitoring

Parameter	Units & Speciation	Sampling Frequency	Sample Type
Flow	gallons/day (gpd)	Continuous ^a	Metered ^b
Hydraulic Loading	inches/month	Daily ^c	Calculated ^d
Application Rate	inches/day	Daily	Calculated
Application ^e	gallons per field	Daily	Calculated
Water Usage	Gallons	-- ^f	Metered
BOD ₅	mg/L	Monthly ^g	Grab ^h
BOD ₅	lbs./day	Monthly	Grab
Total Suspended Solids (TSS)	mg/L	Monthly	Grab
Total Dissolved Solids (TDS)	mg/L	Monthly	Grab
TDS	lbs./day	Monthly	Calculated
pH	Standard Units	Monthly	Measured ⁱ
Ammonia Nitrogen	mg/L as N	Monthly	Grab
Total Kjeldahl Nitrogen (TKN)	mg/L as N	Monthly	Grab
Nitrate plus Nitrite Nitrogen	mg/L as N	Monthly	Grab
Phosphorous, Total	mg/L	Monthly	Grab
Fecal Coliform	CFU/100 mL ^j	Monthly	Grab
Total Coliform	CFU/100 mL	Monthly	Grab
Oil and Grease	mg/L	Monthly	Grab
Total Nitrogen (as N)	mg/L as N	Monthly	Grab
Total Nitrogen (as N)	lbs./day as N	Monthly	Calculated
Sodium	mg/L	Monthly	Grab
Specific Conductivity	micromhos/cm	Monthly	Measured
Total Nitrogen (as N) (Cumulative Monthly Total)	lbs./acre/month	Monthly	Calculated
Total Nitrogen (as N) (Cumulative Annual Total)	lbs./acre/year	Monthly	Calculated
Bicarbonate Alkalinity	mg/L	Annually ^k	Grab
Hardness	mg/L	Annually	Grab
Calcium	mg/L	Annually	Grab
Iron	mg/L	Annually	Grab
Magnesium	mg/L	Annually	Grab
Manganese	mg/L	Annually	Grab
Potassium	mg/L	Annually	Grab
Chloride	mg/L	Annually	Grab
Sulfate	mg/L	Annually	Grab
^a	Continuous means the parameter is measured continuously by a calibrated instrument, such as a totalizing flow meter. A reading is recorded once per day at approximately the same time.		

Parameter	Units & Speciation	Sampling Frequency	Sample Type
b	Metered means the parameter is measured by a calibrated instrument, such as a flow meter.		
c	Daily means a sample for the parameter is collected once per day.		
d	Calculated means a value for the parameter is calculated from other parameters.		
e	Application (in gallons per field) is calculated by subtracting the totalizing flow meter reading at the end of wastewater application to a field from the flow meter reading at the start of wastewater application to the field. The field to which wastewater was applied must also be included.		
f	Water usage shall be as recorded on water bills at the frequency billing is done by the utility.		
g	Monthly means a sample for the parameter is collected once per month.		
h	Grab means the sample for the parameter is collected in less than 15 minutes' time - more or less represents instantaneous conditions.		
i	Measured means the parameter is measured in the field or on site at the point of discharge with a field kit, etc.		
j	CFU/100 mL \equiv Colony forming units per 100 milliliters.		
k	Annually means a sample for the parameter is collected once per year.		

S2.B. Vadose zone monitoring

The sampling point for the vadose zone is directly above the underlying till layer (at approximately 5 feet depth).

Beginning on **July 1, 2022**, the Permittee must monitor the vadose zone according to the following schedule:

Table 5 - Vadose Zone Monitoring

Parameter	Units & Speciation	Sampling Frequency	Sample Type
Moisture Content	Percent	Daily ^a	Field Measurement ^b
Other ^c		Daily	Field Measurement
Matric Potential	kPa ^d	Weekly	Measurement / Calculated ^e
^a	Daily means a value for the parameter is measured once per day. For vadose zone monitoring moisture readings are to be collected from each station downhill the field(s) that are irrigated that day. Readings shall be taken within one hour after irrigation stops.		
^b	Field Measurement means the parameter is measured in the field or on site at the point of discharge with a field kit, calibrated instrument, etc.		
^c	Depending on the vadose zone monitoring equipment installed other parameters, such as temperature and pH, may also be available. Daily readings shall be made for all available parameters.		
^d	kPa = kilopascals.		
^e	Calculated means the value is calculated from another parameter result.		

S2.C. Groundwater monitoring

The Permittee may be required to monitor the groundwater at the newly installed monitoring wells in accordance with the following schedule and

the requirements specified in Appendix A. Determination of final groundwater monitoring will be determined from the findings of the vadose zone report in S10.5 and results of the vadose zone monitoring in S2.B. Ecology will modify the permit or issue an administrative order if it determines that groundwater monitoring is needed.

Table 6 - Groundwater Monitoring

Parameter	Units & Speciation	Sampling Frequency	Sample Type
Measured Depth to Groundwater	Feet (nearest 0.01 ft.)	^a	Field Measurement ^b
pH	Standard Units	^a	Field Measurement
Conductivity	µmhos/cm	^a	Field Measurement
Dissolved Oxygen	mg/L	^a	Field Measurement
Oxidation Reduction Potential (ORP)	Millivolts/L	^a	Field Measurement
Temperature	Degrees C	^a	Field Measurement
Turbidity	NTU	^a	Field Measurement
Biochemical Oxygen Demand	mg/L	^a	Grab ^c
Total Coliform Bacteria	CFU/100 mL ^d	^a	Grab
Total Dissolved Solids	mg/L	^a	Grab
Total Organic Carbon	mg/L	^a	Grab
Total Suspended Solids	mg/L	^a	Grab
Chloride	mg/L	^a	Grab
Sulfate	mg/L	^a	Grab
Nitrate + Nitrite	mg/L as N	^a	Grab
Total Kjeldahl Nitrogen	mg/L as N	^a	Grab
Bicarbonate Alkalinity	mg/L as CaCO ₃	Semi-Annually ^e	Grab
Carbonate Alkalinity	mg/L as CaCO ₃	Semi-Annually	Grab
Hardness	mg/L as CaCO ₃	Semi-Annually	Grab
Calcium (Total)	mg/L	Semi-Annually	Grab
Iron (Total)	mg/L	Semi-Annually	Grab
Magnesium (Total)	mg/L	Semi-Annually	Grab
Manganese (Total)	mg/L	Semi-Annually	Grab
Potassium (Total)	mg/L	Semi-Annually	Grab
Sodium (Total)	mg/L	Semi-Annually	Grab
^a	Initial sample frequency will be established after well installation and will depend on the amount of water the well collects. Depth of water shall be measured daily until sufficient volume is accumulated to allow for collection and analysis of all parameters. See Section IV.D. of the fact sheet accompanying this permit for more information.		
^b	Field Measurement means the parameter is measured in the field or on site at the point of discharge with a field kit, calibrated instrument, etc.		
^c	Grab means the sample for the parameter is collected in less than 15 minutes time - more or less represents instantaneous conditions.		
^d	CFU/100 mL ≡ Colony forming units per 100 milliliters.		

Parameter	Units & Speciation	Sampling Frequency	Sample Type
^e	Semi-Annually means a sample for the parameter is collected once every six months (twice per year).		

S2.D. Soil monitoring

The Permittee must monitor soil on the land treatment site as follows; the Permittee must:

1. Monitor once per year unless otherwise specified.
2. Locate sampling sites so they represent each land treatment site. Sampling sites should include one sampling site in the center of a spray field of each type of crop, including: 1) Harvested pasture grass (02S1, 02S2, 02S3, 02S4), 2) Poplar plantation (03S1, 03S2, 03S3, 03S4), and 3) Fir/Alder plantation (04S1, 04S2, 04S3, 04S4).
3. Locate sampling sites in the same vicinity each year if possible.
4. Submit a schematic drawing showing the locations where sampling will occur and locations appropriately labeled.
5. Collect samples at a time that best represents soil conditions at the end of the crop-growing season (preferably in September).
6. Test soil at each sampling site on one-foot soil increments.
7. Submit results annually with the Irrigation and Crop Management Plan.
8. Composite a minimum of four (4) core samples at the six depth increments as defined in the table below (or until auger refusal).

The Permittee must monitor the soils in all the spray fields according to the following schedule:

Table 7 - Soil Monitoring

Parameter	Units & Speciation	Sample Point ^a	Depth Increments ^b
Exchangeable Sodium Percentage	%	Each field	1, 2, 3, 4
Cation Exchange Capacity	meq/100g	Each field	1, 2, 3, 4
Organic Matter	%	Each field	1, 2, 3, 4
Moisture Content	%	Each field	1, 2, 3, 4
Ammonia Nitrogen	mg/Kg as N	Each field	1, 2, 3, 4
Total Kjeldahl Nitrogen (TKN)	mg/Kg as N	Each field	1, 2, 3, 4
Nitrate plus Nitrite Nitrogen	mg/Kg as N	Each field	1, 2, 3, 4
Phosphorus (Total)	mg/Kg	Each field	1, 2, 3, 4
Conductivity	micromhos/cm	Each field	1, 2, 3, 4

Parameter	Units & Speciation	Sample Point ^a	Depth Increments ^b
Calcium (Total)	meq/100g	Each field	1, 2, 3, 4
Magnesium (Total)	meq/100g	Each field	1, 2, 3, 4
Potassium (Total)	mg/Kg	Each field	1, 2, 3, 4
Sodium (Total)	meq/100g	Each field	1, 2, 3, 4
Iron (Total)	mg/Kg	Each field	1, 2, 3, 4
Manganese (Total)	mg/Kg	Each field	1, 2, 3, 4
Sulfate	mg/Kg as S	Each field	1, 2, 3, 4
pH	Standard Units	Each field	1, 2, 3, 4
^a	There are five sample points in each field for each plantation type. One sample location in the center of the spray field and four randomly selected locations.		
^b	Depth increment (inches) vs. Depth increment (ft.) for composite samples:		
Increment 1	0 -12 inches (1ft)		
Increment 2	12-24 inches (2ft)		
Increment 3	24-36 inches (3ft)		
Increment 4	36-48 inches (4ft)		

S2.E. Crop monitoring

The following applies to any field from which a crop is harvested. The Permittee must:

1. Monitor the crops for the parameters listed below on each field once per harvest.
2. Comprise composite samples of at least ten (10) random samples collected from each field harvested.
3. Submit results annually with the Irrigation and Crop Management Plan.

Table 8 - Crop Monitoring

Parameter	Units, Speciation, & Measurement Basis
Crop Production	dry tons/acre
Moisture Content	%
Nitrate Plus Nitrite Nitrogen	mg/Kg as N (dry weight)

S2.F. Sampling and analytical procedures

Samples and measurements taken to meet the requirements of this permit must represent the volume and nature of the monitored parameters, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets and maintenance-related conditions affecting effluent quality.

Groundwater sampling must conform to the latest protocols in the *Implementation Guidance for the Ground Water Quality Standards*, (Ecology 2005).

Sampling and analytical methods used to meet the water and wastewater monitoring requirements specified in this permit must conform to the latest revision of the following rules and documents unless otherwise specified in this permit or approved in writing by Ecology.

- Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136
- Standard Methods for the Examination of Water and Wastewater (APHA)

The Permittee must conduct and report all soil analysis in accordance with the *Western States Laboratory Plant, Soil and Water Analysis Manual, Soil, Plant And Water Reference Methods for The Western Region*, 4th Edition, 2013. You can find more information at:

<http://www.naptprogram.org/files/napt/publications/method-papers/western-states-methods-manual-2013.pdf>.

The Permittee must also participate in a proficiency testing program such as the North American Proficiency Testing Program. You can find more information at: <http://www.naptprogram.org/>.

S2.G. Flow measurement, field measurement, and continuous monitoring devices

The Permittee must:

1. Select and use appropriate flow measurement, field measurement, and continuous monitoring devices and methods consistent with accepted scientific practices.
2. Install, calibrate, and maintain these devices to ensure the accuracy of the measurements is consistent with the accepted industry standard, the manufacturer's recommendation, and approved O&M manual procedures for the device and the waste stream.
3. Calibrate continuous monitoring instruments weekly unless it can demonstrate a longer period is sufficient based on monitoring records.
The Permittee:
 - a. May calibrate apparatus for continuous monitoring of dissolved oxygen by air calibration.

- b. Must calibrate continuous pH measurement instruments using a grab sample analyzed in the lab with a pH meter calibrated with standard buffers and analyzed within 15 minutes of sampling.
 - c. Must calibrate continuous chlorine measurement instruments using a grab sample analyzed in the laboratory within 15 minutes of sampling.
- 4. Use field measurement devices as directed by the manufacturer and do not use reagents beyond their expiration dates.
 - 5. Establish a calibration frequency for each device or instrument in the O&M manual that conforms to the frequency recommended by the manufacturer.
 - 6. Calibrate flow monitoring devices at a minimum frequency of at least one calibration per year.
 - 7. Maintain calibration records for at least three years.

S2.H. Laboratory accreditation

The Permittee must ensure that all monitoring data required by Ecology for permit specified parameters is prepared by a laboratory registered or accredited under the provisions of chapter 173-50 WAC, Accreditation of Environmental Laboratories. Flow, temperature, settleable solids, conductivity, pH, and internal process control parameters are exempt from this requirement.

Crops and soils data are process control parameters, which do not require preparation by an accredited laboratory. However, the Permittee must obtain this data from a reputable agricultural test lab that is an active participant in a nationally recognized agricultural laboratory proficiency testing program.

S2.I. Request for reduction in monitoring

The Permittee may request a reduction of the sampling frequency after twelve (12) months of monitoring. Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

The Permittee must:

- 1. Provide a written request.
- 2. Clearly state the parameters for which it is requesting reduced monitoring.

3. Clearly state the justification for the reduction.

S3. Reporting and recording requirements

The Permittee must monitor and report in accordance with the following conditions. Falsification of information submitted to Ecology is a violation of the terms and conditions of this permit.

S3.A. Discharge monitoring reports

The first monitoring period begins on the effective date of the permit (unless otherwise specified). The Permittee must:

1. Summarize, report, and submit monitoring data obtained during each monitoring period on the electronic discharge monitoring report (DMR) form provided by Ecology within the Water Quality Permitting Portal. Include data for each of the parameters tabulated in Special Condition S2 and as required by the form. Report a value for each day sampling occurred (unless specifically exempted in the permit) and for the summary values (when applicable) included on the electronic form.

To find out more information and to sign up for the Water Quality Permitting Portal, go to: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Water-quality-permits-guidance/WQWebPortal-guidance>.

2. Enter the “No Discharge” reporting code for an entire DMR, for a specific monitoring point, or for a specific parameter as appropriate, if the Permittee did not discharge wastewater or a specific pollutant during a given monitoring period.
3. Report single analytical values below detection as “less than the detection level (DL)” by entering < followed by the numeric value of the detection level (e.g. < 2.0) on the DMR. If the method used did not meet the minimum DL and quantitation level (QL) identified in the permit, report the actual QL and DL in the comments or in the location provided.
4. **Not** report zero for bacteria monitoring. Report as required by the laboratory method.
5. Calculate and report an arithmetic average value for each day for bacteria if multiple samples were taken in one day.
6. Calculate the geometric mean values for bacteria (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all bacteria samples measured above the detection value except when it took multiple samples in one day. If the Permittee takes multiple samples in one day, it must

use the arithmetic average for the day in the geometric mean calculation.

- b. The detection value for those samples measured below detection.
7. Report the test method used for analysis in the comments if the laboratory used an alternative method not specified in the permit and as allowed in Appendix A.
 8. Calculate average values and calculated total values (unless otherwise specified in the permit) using:
 - a. The reported numeric value for all parameters measured between the agency-required detection value and the agency-required quantitation value.
 - b. One-half the detection value (for values reported below detection) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
 - c. Zero (for values reported below detection) if the lab did not detect the parameter in another sample for the reporting period.
 9. Ensure that DMRs are electronically submitted no later than the dates specified below, unless otherwise specified in this permit.
 10. Submit DMRs for parameters with the monitoring frequencies specified in S2 (monthly, quarterly, annual, etc.) at the reporting schedule identified below. The Permittee must:
 - a. Parameters with **daily** and **weekly** monitoring frequency are reported on DMRs by the 28th day of the following month.
 - b. Submit **monthly** DMRs by the 28th day of the following month.
 - c. Submit **quarterly** DMRs, unless otherwise specified in the permit, by the 28th day of the month following the monitoring period. Quarterly sampling periods are January through March, April through June, July through September, and October through December. The Permittee must submit the first quarterly DMR on **April 28, 2021**, for the quarter beginning on **January 1, 2021**.
 - d. Submit **semiannual** DMRs, unless otherwise specified in the permit, by July 28 and January 28 of each year. Semiannual sampling periods are January through June, and July through December.
 - e. Submit **annual** DMRs, unless otherwise specified in the permit, by January 28 for the previous calendar year. The annual sampling period is the calendar year.

S3.B. Permit submittals and schedules

The Permittee must use the Water Quality Permitting Portal – Permit Submittals application (unless otherwise specified in the permit) to submit all other written permit-required reports by the date specified in the permit.

When another permit condition requires submittal of a paper (hard copy) report, the Permittee must ensure that it is postmarked or received by Ecology no later than the dates specified by this permit. Send these paper reports to Ecology at:

Water Quality Permit Coordinator
WA State Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

The Permittee must ensure that all other written permit-required reports are postmarked or received by Ecology no later than the dates specified in the permit. Send these paper reports to Ecology at the address included above in Special Condition S3.A.

S3.C. Records retention

The Permittee must retain records of all monitoring information for a minimum of three (3) years. Such information must include all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit. The Permittee must extend this period of retention during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

S3.D. Recording of results

For each measurement or sample taken, the Permittee must record the following information:

1. The date, exact place, method, and time of sampling or measurement
2. The individual who performed the sampling or measurement
3. The dates the analyses were performed
4. The individual who performed the analyses
5. The analytical techniques or methods used

6. The results of all analyses

S3.E. Additional monitoring by the Permittee

If the Permittee monitors any pollutant more frequently than required by Special Condition S2 of this permit, then the Permittee must include the results of such monitoring in the calculation and reporting of the data submitted in the Permittee's DMR unless otherwise specified by Special Condition S2.

S3.F. Reporting permit violations

The Permittee must take the following actions when it violates or is unable to comply with any permit condition:

1. Immediately take action to stop, contain, and cleanup unauthorized discharges or otherwise stop the noncompliance and correct the problem.
2. If applicable, immediately repeat sampling and analysis. Submit the results of any repeat sampling to Ecology within thirty (30) days of sampling.

a. Immediate reporting

The Permittee must immediately report to the Department of Ecology and Snohomish County Surface Water Management (at the numbers listed below), for any overflows or leaks of transmission or irrigation pipelines that discharge to a waterbody or municipal storm water system. Contact the County Health District if the waterbody is used as a source of drinking or irrigation water.

Northwest Regional Office	425-649-7000
Snohomish County Surface Water Management	425-388-3464
Snohomish County Health District	425-339-5200

b. Twenty-four-hour reporting

The Permittee must report the following occurrences of noncompliance by telephone, to Ecology at the telephone numbers listed above, within 24 hours from the time the Permittee becomes aware of any of the following circumstances. The Permittee must report:

1. Any noncompliance that may endanger health or the environment, unless previously reported under immediate reporting requirements.

2. Any unanticipated bypass that causes an exceedance of an effluent limit in the permit (See Part S4.B., "Bypass Procedures").
3. Any upset that causes an exceedance of an effluent limit in the permit. Upset means 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, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
4. Any violation of a maximum daily or instantaneous maximum discharge limit for any of the pollutants in Section S1.A of this permit.
5. Any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limit in the permit. This requirement does not include industrial process wastewater overflows to impermeable surfaces that are collected and routed to the treatment works.
6. When a monitoring well exceeds an enforcement limit for the same parameter in two consecutive sampling events.

c. Report within five days

The Permittee must also submit a written report within five days of the time that the Permittee becomes aware of any reportable event under subparts a or b, above. The report must contain:

1. A description of the noncompliance and its cause.
2. Maps, drawings, aerial photographs, or pictures to show the location and cause(s) of the non-compliance.
3. The period of noncompliance, including exact dates and times.
4. The estimated time the Permittee expects the noncompliance to continue if not yet corrected.
5. Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
6. If the noncompliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.

d. Waiver of written reports

Ecology may waive the written report required in subpart c, above, on a case-by-case basis upon request if the Permittee has submitted a timely oral report.

e. All other permit violation reporting

The Permittee must report all permit violations, which do not require immediate or within 24 hours reporting, when it submits monitoring reports for S3.A ("Reporting"). The reports must contain the information listed in subpart c, above. Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

S3.G. Other reporting

a. Spills of oil or hazardous materials

The Permittee must report a spill of oil or hazardous materials in accordance with the requirements of RCW 90.56.280 and chapter 173-303-145. You can obtain further instructions at the following website: <https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue/Report-a-spill>.

b. Failure to submit relevant or correct facts

Where the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to Ecology, it must submit such facts or information promptly.

S3.H. Maintaining a copy of this permit

The Permittee must keep a copy of this permit at the facility and make it available upon request to Ecology inspectors.

S4. Operation and maintenance

The Permittee must, at all times, properly operate and maintain all facilities or systems of treatment and control (and related appurtenances) which are installed to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes keeping a daily operation logbook (paper or electronic), adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or

auxiliary facilities or similar systems, which are installed by a Permittee only when the operation is necessary to achieve

S4.A. Operations and maintenance (O&M) manual

a. O&M manual submittal and requirements

The Permittee must:

1. Update the O&M manual that follows requirements of 173-240-150 WAC as appropriate and submit it to Ecology for review by **March 31, 2021**. The Permittee must submit a paper copy and an electronic copy (preferably in a portable document format (PDF)).
2. Submit to Ecology for review and approval substantial changes or updates to the O&M manual whenever it incorporates them into the manual.
3. Keep the approved O&M manual at the permitted facility.
4. Follow the instructions and procedures of this manual.

b. O&M manual components

The O&M manual should be consistent with the requirements of WAC 173-240-150, and the guidance in Table G1-3 in the *Criteria for Sewage Works Design* (Orange Book), 2008. The O&M manual must include:

1. Emergency procedures for plant shutdown and cleanup in the event of a wastewater system upset or failure including pipeline leaks.
2. Irrigation system operational controls and procedures.
3. Wastewater system maintenance procedures that contribute to the generation of wastewater.
4. Any directions to maintenance staff when cleaning, or maintaining other equipment or performing other tasks which are necessary to protect the operation of the wastewater system (for example, defining maximum allowable discharge rate for draining a tank, blocking all floor drains before beginning the overhaul of a stationary engine.)
5. Treatment plant process control monitoring schedule.
6. Wastewater sampling protocols and procedures for compliance with the sampling and reporting requirements in the wastewater discharge permit.

7. Minimum staffing adequate to operate and maintain the treatment processes and carry out compliance monitoring required by the permit.
8. Protocols and procedures for groundwater monitoring network, vadose zone, and soil sampling and testing.
9. Preventative maintenance schedule and procedures for the irrigation system pump, lagoon mixers and aerators, and lagoon solids removal.
10. A baseline operating condition, which describes the operating parameters and procedures, used to meet the effluent limits of S1 at the production levels used in developing these limits.
11. In the event of production rates, which are below the baseline levels used to establish these limits, the plan must describe the operating procedures and conditions needed to maintain design treatment efficiency. The monitoring and reporting must be described in the plan.
12. In the event of an upset, due to plant maintenance activities, severe storm water events, startups or shut downs, or other causes, the plan must describe the operating procedures and conditions employed to mitigate the upset. The monitoring and reporting must be described in the plan.
13. A description of any regularly scheduled maintenance or repair activities at the facility which would affect the volume or character of the wastes discharged to the wastewater treatment system and a plan for monitoring and treating/controlling the discharge of maintenance-related materials (such as cleaners, degreasers, solvents, etc.).

d. Spill control

The Permittee must summarize the following information in the O&M manual entitled in a chapter entitled the "Spill Control and Response." For the purposes of this permit, Spill Control and Response is a concise summary of specifically defined elements of the O&M manual.

The spill control chapter must include the following:

1. A list of all oil and petroleum products and other materials used and/or stored on-site, which when spilled, or otherwise released into the environment, designate as dangerous waste (DW) or extremely hazardous waste (EHW) by the procedures set forth in WAC 173-303-070. Include other materials used and/or stored on-

site, which may become pollutants or cause pollution upon reaching state's waters.

2. A description of preventive measures and facilities (including an overall facility plot showing drainage patterns) which prevent, contain, or treat spills of these materials.
3. A description of the reporting system the Permittee will use to alert responsible managers and legal authorities in the event of a spill.
4. A description of operator training to implement the plan.

S4.B. Bypass procedures

This permit prohibits a bypass, which is the intentional diversion of waste streams from any portion of a treatment facility. Ecology may take enforcement action against a Permittee for a bypass unless one of the following circumstances (1, 2, or 3) applies.

1. Bypass for essential maintenance without the potential to cause violation of permit limits or conditions.

This permit authorizes a bypass if it allows for essential maintenance and does not have the potential to cause violations of limits or other conditions of this permit, or adversely affect public health as determined by Ecology prior to the bypass. The Permittee must submit prior notice, if possible, at least ten (10) days before the date of the bypass.

2. Bypass is unavoidable, unanticipated, and results in noncompliance of this permit.

This permit authorizes such a bypass only if:

- a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which would cause them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass.
- b. No feasible alternatives to the bypass exist, such as:
 - The use of auxiliary treatment facilities.
 - Retention of untreated wastes.
 - Stopping production.
 - Maintenance during normal periods of equipment downtime, but not if the Permittee should have installed adequate backup

equipment in the exercise of reasonable engineering judgment to prevent a bypass.

- Transport of untreated wastes to another treatment facility.
- The Permittee has properly notified Ecology of the bypass as required in Special Condition S3.F of this permit.

After consideration of the above and the adverse effects of the proposed bypass and any other relevant factors, Ecology will approve or deny the request. Ecology will give the public an opportunity to comment on bypass incidents of significant duration, to the extent feasible. Ecology will approve a request to bypass by issuing an administrative order under RCW 90.48.120.

S4.C. Irrigation land application best management practices

The Permittee must:

1. Operate the spray fields system to protect the existing and future beneficial uses of the groundwater, and not cause a violation of the groundwater standards.
2. Not allow spray irrigation practices to result in runoff of wastewater to any surface waters of the state or to any land not owned by or under its control.
3. Use recognized good practices, and all available and reasonable procedures to control odors from the land application system.
4. Implement measures to reduce odors to a reasonable minimum when notified by Ecology.
5. Not apply wastewater to the land treatment sites in quantities that:
 - a. Significantly reduce or destroy the long-term infiltration rate of the soil.
 - b. Would cause long-term anaerobic conditions in the soil.
 - c. Would cause ponding of wastewater and produce objectionable odors or support insects or vectors.
 - d. Would cause leaching losses of constituents of concern beyond the treatment zone or in excess of the approved design. Constituents of concern are constituents in the wastewater, partial decomposition products, or soil constituents that would alter groundwater quality in amounts that would affect current and future beneficial uses.

6. Maintain all irrigation agreements for lands not owned for the duration of the permit cycle. Any reduction in irrigation lands by termination of any irrigation agreements may result in permit modification or revocation.
7. Immediately inform Ecology in writing of any proposed changes to existing irrigation agreements.
8. Maintain a viable and healthy cover crop on all fields that receive wastewater.
9. Use supplemental water or precipitation to meet the leaching requirement to control soil salinity.
10. Adjust irrigation plans during high precipitation events to minimize percolate losses.
11. Discontinue operation during periods of heavy or prolonged rainfall to prevent ground saturation and runoff.

S5. Solid wastes

S5.A. Solid waste handling

The Permittee must handle and dispose of all solid waste material in such a manner as to prevent its entry into state ground or surface water.

S5.B. Leachate

The Permittee must not allow leachate from its solid waste material to enter state waters without providing all known, available, and reasonable methods of treatment, nor allow such leachate to cause violations of the State Surface Water Quality Standards, Chapter 173-201A WAC, or the State Ground Water Quality Standards, Chapter 173-200 WAC. The Permittee must apply for a permit or permit modification as may be required for such discharges to state ground or surface waters unless specifically authorized by Special Condition S2 of this permit.

S5.C. Solid waste control plan

The Permittee must submit all proposed revisions or modifications to the solid waste control plan to Ecology for review at least 30 days prior to implementation. The Permittee must comply with the solid waste control plan and any modifications. The Permittee must submit an update of the solid waste control plan by **April 1, 2021**.

S6. Application for permit renewal or modification for facility changes

The Permittee must submit an application for renewal of this permit by xx,xx, 2026.

The Permittee must also submit a new application or addendum at least sixty (60) days prior to commencement of discharges, resulting from the activities listed below, which may result in permit violations. These activities include any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility.

S7. Facility loading design criteria

The flows or waste loads to the treatment system must not exceed the following design criteria on a monthly average basis:

Maximum Month Design Flow (MMDF)	100,000 gpd
TSS Influent	2,500 mg/L
BOD ₅ Influent	3,500 mg/L
Fats, Oil, Grease (FOG)	500 mg/L

S8. Non-routine and unanticipated wastewater

1. Beginning on the effective date of this permit, the Permittee is authorized to discharge non-routine wastewater or unanticipated wastewater and therefore not listed on the permit application, on a case-by-case basis if approved by Ecology. Prior to any such discharge, the Permittee must contact Ecology and **at a minimum** provide the following information:
 - a. The proposed discharge location.
 - b. The nature of the activity that will generate the discharge.
 - c. Any alternatives to the discharge, such as reuse, storage, or recycling of the water.
 - d. The total volume of water it expects to discharge.
 - e. The results of the chemical analysis of the water.
 - f. The date of proposed discharge.
 - g. The expected rate of discharge discharged, in gallons per minute.
2. The Permittee must analyze the water for all constituents limited for the discharge and report them as required by subpart 1.e, above. The Permittee must also analyze for any additional parameters that can reasonably be

expected in the discharge. The analysis must also include any parameter deemed necessary by Ecology. All discharges must comply with the effluent limits as established in Special Condition S1 of this permit, water quality standards, and any other limits imposed by Ecology.

3. The Permittee must limit the discharge rate, as referenced in subpart 1.g, above, so it will not cause erosion of ditches or structural damage to culverts and their entrances or exits.
4. The discharge cannot proceed until Ecology has reviewed the information provided and has authorized the discharge by letter to the Permittee or by an Administrative Order. Once approved and if the proposed discharge is to a municipal storm drain, the Permittee must obtain prior approval from the municipality and notify it when it plans to discharge.

S9. Industrial stormwater permit coverage

If the Permittee discharges storm water exposed to industrial activities to surface waters or to a storm sewer system that drains to surface water, the permittee must apply for coverage under the NPDES Industrial Stormwater General Permit.

Facilities are eligible for a conditional no exposure (CNE) Exemption if there is "no exposure" of industrial materials and activities to rain, snow, snow melt, and/or runoff. To obtain a CNE Exemption, the permittee must submit an online No Exposure Certification Form to Ecology.

Information about the permit and CNE and application forms are available at [Industrial Stormwater General Permit](#).

S10. Best management practices

S10.A. Maintenance of hoses, augers, and piping

The Permittee must:

1. Immediately replace or repair leaking connections, valves, pipes, and hoses, carrying either water or wastewater.
2. Maintain augers and hose connections for paunch or other material transfer to prevent dust emissions or spillover.

S10.B. Chemical storage

The Permittee must store solid chemicals, chemical solutions, paints, oils, solvents, acids, caustic solutions, and waste materials, in a manner which will prevent the inadvertent entry of these materials into waters of the state, including ground water. Storage methods must prevent spills due to

overfilling, tipping, or rupture. In addition, the Permittee must use the following practices:

1. Store all liquid products on durable impervious surfaces and within bermed containment capable of containing 110% of the largest single container in the storage area. Segregate and secure incompatible or reactive materials stored in separate containment areas to prevent inadvertent mixing and reaction of spilled chemicals.
2. Store waste liquids and solids under cover to prevent mixing with rain using tarpaulins, roofed structures, container lids, etc.
3. Not allow batch discharge of disinfection chemicals to the treatment system.

S10.C. Pollutant source control guidelines

1. Water-conserving devices (e.g. pressure washers, trigger-handled spray nozzles, automatic barrel cleaners, stainless steel tanks, and smooth floors) should be used to minimize wastewater generation.
2. Use of cleaning chemicals should be minimized. Less toxic ozonated washwater and oxygen-based cleaners are preferred.
3. Settling agents and other residual solids should be disposed as solid waste and excluded from the spray field system.

S10.D. Prohibitions

1. The discharge of any wastewater to surface waters is prohibited.
2. The discharge of wastewater other than process wastewater (e.g. domestic wastewater) into a surface treatment and disposal system is prohibited.
3. The discharge of untreated wastewater to the spray field is prohibited.
4. Do not discharge concentrated wastewater or spilled chemicals to the land application system or state waters.
5. Keep all dumpsters under cover or fit with a lid that will keep precipitation from entering the dumpster. Covers must remain closed when not in use.
6. Immediately clean up outdoor spills and leaks (e.g., using absorbents, vacuuming) to prevent the discharge of pollutants.
7. Minimize the exposure of material storage areas (including loading and unloading, storage, and disposal) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings.

S10.E. Training

The Permittee must conduct annual training for employees who work with the wastewater treatment system and spray fields. At a minimum, the training shall include:

1. The Operations and Maintenance Manual requirements in S4.A.b.
2. Spill response procedures in Spill control in S4.A.d, including good housekeeping, maintenance requirements, and material management practices.
3. A log of the dates on which specific employees received training.

S10.F. Structural source control BMPs

Use BMPs to minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings.

The Permittee shall:

1. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas.
2. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent storm water runoff and run-on, also that capture any overspray.
3. Ensure that all wash water drains to a collection system that directs the wash water to further treatment or storage and not to the storm water drainage system.

S10.G. General prohibited discharges

Permittees shall manage storm water to prevent the discharge of:

1. Synthetic, natural, or processed oil or oil-containing products as identified by an oil sheen; and
2. Trash and floating debris.

S11. Vadose zone investigation

Because of continued suspected releases of land-applied wastewater, the Permittee must complete the tasks in Table 9 to include a schedule for

installation, procedure(s) for recording vadose zone information, potential installation of a groundwater monitoring network, and ongoing monitoring.

Table 9 – Compliance Schedule

Task	Description	Due Date
1.	Submit a scope of work for installation of a vadose zone monitoring network (S10.1) to Ecology for review and approval.	October 31, 2021
2.	Ecology review and approval.	November 30, 2021
3.	Complete installation of vadose zone monitoring network	July 1, 2022
4.	Submit a report on monitoring well installation (S10.3)	October 1, 2022
5.	Submit a report on vadose zone saturation conditions.	November 30, 2023

1. The Permittee must submit a scope of work to Ecology for the installation of a vadose zone monitoring network. The scope of work must include the method(s) proposed for monitoring the vadose zone and equipment specifications for proposed vadose zone monitoring equipment. The scope of work should generally conform to *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology 1993.
2. Upon approval of the scope of work by Ecology, the Permittee must install the vadose zone monitoring equipment and begin collecting data.
3. The Permittee must submit a report on the installation of the vadose zone monitoring equipment. The report must include a map with locations of installed equipment, the equipment installed, depth of installations, any calibration information used on the equipment, and any problems encountered during installation.
4. Monitoring of vadose zone equipment will be done daily for a minimum of one year and at least through one wet season (October to April). Daily monitoring shall be done for all stations downhill of field(s) irrigated that day. Collect vadose zone monitoring data within one hour after irrigation stops. Measure the same stations as early as practicable the following morning, but must be before any new irrigation begins on that field.
5. Upon completion of the initial year of monitoring, the Permittee will submit a report on results of the daily vadose zone monitoring. The report shall include information on moisture content at the soil/till boundary at each station, any

trends noted, and an interpretation of potential connections between irrigation and vadose zone moisture conditions.

6. If moisture content shows consistently dry or only slightly wet conditions, the Permittee may request to discontinue vadose zone monitoring at that location. Any request to discontinue monitoring must follow Special Condition S2.I.

S12. Groundwater monitoring wells

Ecology will make a determination on the need for groundwater monitoring wells based on the final report discussed in S11.5 above. If Ecology determines that groundwater monitoring is needed the Permittee will be required to:

1. Install monitoring wells in accordance with the requirements of Chapters 173-160 and 173-162 WAC during well construction.
2. Complete well installation by **June 1, 2023** and commence sampling by **July 1, 2023**.
3. After all wells are installed, the Permittee must submit a report on the monitoring well installation of the. The report must include a map with locations of installed wells, depth of well installations, a completed construction and lithologic diagram for the well, Ecology the tag numbers, latitude and longitude (NAD83/WGS84 datum), top-of-casing elevations (NAVD88 datum), and any problems encountered during well installation.

S12. Irrigation and crop management plan

The Permittee must submit an irrigation and crop management plan by **March 1, 2022** and annually thereafter by March 1st each year for Ecology review. The plan must be prepared by a soil scientist and must generally conform to the *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology 1993.

The irrigation and crop management plan must include an annual summary of farm operations for the previous year and a cropping and irrigation schedule for the upcoming year as described in the sections below.

S12.A. Annual summary of farm operations for previous year

The annual summary must include:

1. For each crop grown, the total acreage and quantity harvested.
2. Calculated balances for biological oxygen demand, nitrate + nitrite, total nitrogen, and TDS. The calculations must include crop consumptive use, wastewater loadings of biological oxygen demand, nitrate + nitrite,

total nitrogen, and TDS, contributions from commercial fertilizers applied, and supplemental water.

3. A **water balance**, including the following calculations:
 - a. Irrigation system efficiency and application uniformity.
 - b. The quantity of supplemental irrigation water and wastewater applied.
 - c. Crop consumptive use.
 - d. Water stored in the soil profile outside the normal growing season.
 - e. Salt leaching requirements.
 - f. The leaching fraction for each field.
4. A comparison of the actual total net nitrogen, water, fixed dissolved solids, (other parameters) loads, and the leaching fractions for each field to the estimated values presented in the previous year's irrigation and crop plan.
5. A summary and evaluation of the **soil testing results**.
6. A summary and evaluation of the **crop testing results**.
7. A summary of groundwater monitoring test results and an evaluation of whether the current operation of the land treatment site is protecting groundwater quality.
8. A detailed list of changes or improvements in the management of the land treatments practices to comply with agronomic rates and leaching requirements.

S12.B. Cropping and irrigation schedule for upcoming year

This schedule must include:

1. Crop management information including:
 - a. The proposed acreage for each crop.
 - b. Cultivation and harvesting requirements.
 - c. Expected crop yields.
 - d. Methods for establishing a crop.
 - e. Proposed schedule for herbicide, pesticide, and fertilizer application.
2. Irrigation management information including:

- a. The frequency and timing of wastewater and supplemental irrigation water application (including harvest and non-harvest periods).
 - b. Recommended rest cycles for wastewater application where organic or hydraulic loading is of concern.
 - c. An estimation of the leaching requirement for each field and the plan to meet the requirement.
3. The estimated annual total net nitrogen and water load capacity, and the total dissolved solids and BOD₅ load to each field based on the estimated wastewater discharge and planned crop rotation.

General Conditions

G1. Signatory requirements

All applications, reports, or information submitted to Ecology must be signed as follows:

1. All permit applications must be signed by either a principal executive officer or ranking elected official.
2. All reports required by this permit and other information requested by Ecology must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by the person described above and is submitted to Ecology at the time of authorization, and
 - b. The authorization specifies either a named individual or any individual occupying a named position.
3. Changes to authorization. If an authorization under paragraph G1.2, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this section must make the following certification:

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering 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 fine and imprisonment for knowing violations."

G2. Right of entry

Representatives of Ecology have the right to enter at all reasonable times in or upon any property, public or private, for the purpose of inspecting and investigating conditions relating to the pollution or the possible pollution of any waters of the state. Reasonable times include normal business hours; hours during which production, treatment, or discharge occurs; or times when Ecology suspects a violation requiring immediate inspection. Representatives of Ecology

must be allowed to have access to, and copy at reasonable cost, any records required to be kept under terms and conditions of the permit; to inspect any monitoring equipment or method required in the permit; and to sample the discharge, waste treatment processes, or internal waste streams.

G3. Permit actions

This permit is subject to modification, suspension, or termination, in whole or in part by Ecology for any of the following causes:

1. Violation of any permit term or condition;
2. Obtaining a permit by misrepresentation or failure to disclose all relevant facts;
3. A material change in quantity or type of waste disposal;
4. A material change in the condition of the waters of the state; or
5. Nonpayment of fees assessed pursuant to RCW 90.48.465.

Ecology may also modify this permit, including the schedule of compliance or other conditions, if it determines good and valid cause exists, including promulgation or revisions of regulations or new information.

G4. Reporting a cause for modification

The Permittee must submit a new application at least one hundred eighty (180) days before it wants to discharge more of any pollutant, a new pollutant, or more flow than allowed under this permit. The Permittee should use the State Waste Discharge Permit application, and submit required plans at the same time. Required plans include an Engineering Report, Plans and Specifications, and an Operations and Maintenance manual, (see Chapter 173-240 WAC). Ecology may waive these plan requirements for small changes, so contact Ecology if they do not appear necessary. The Permittee must obtain the written concurrence of the receiving POTW on the application before submitting it to Ecology. The Permittee must continue to comply with the existing permit until it is modified or reissued. Submitting a notice of dangerous waste discharge (to comply with Pretreatment or Dangerous Waste rules) triggers this requirement as well.

G5. Plan review required

Prior to constructing or modifying any wastewater control facilities, an engineering report and detailed plans and specifications must be submitted to Ecology for approval in accordance with Chapter 173-240 WAC. Engineering reports, plans, and specifications should be submitted at least 180 days prior to the planned start of construction. Facilities must be constructed and operated in accordance with the approved plans.

G6. Compliance with other laws and statutes

Nothing in the permit excuses the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G7. Transfer of this permit

This permit is automatically transferred to a new owner or operator if:

1. A written agreement between the old and new owner or operator containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to Ecology;
2. A copy of the permit is provided to the new owner; and
3. Ecology does not notify the Permittee of the need to modify the permit.

Unless this permit is automatically transferred according to Section 1, above, this permit may be transferred only if it is modified to identify the new Permittee and to incorporate such other requirements as determined necessary by Ecology.

G8. Payment of fees

The Permittee must submit payment of fees associated with this permit as assessed by Ecology. Ecology may revoke this permit if the permit fees established under Chapter 173-224 WAC are not paid.

G9. Penalties for violating permit conditions

Any person who is found guilty of willfully violating the terms and conditions of this permit is guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars and costs of prosecution, or by imprisonment in the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit incurs, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars for every such violation. Each and every such violation is a separate and distinct offense, and in case of a continuing violation, every day's continuance is a separate and distinct violation.

G10. Duty to provide information

The Permittee must submit to Ecology, within a reasonable time, all information that Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology upon request, copies of records required to be kept by this permit.

G11. Duty to comply

The Permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of chapter 90.48 RCW and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

Appendix A

LIST OF POLLUTANTS WITH ANALYTICAL METHODS, DETECTION LIMITS AND QUANTITATION LEVELS

The Permittee must use the specified analytical methods, detection limits (DLs) and quantitation levels (QLs) in the following table for permit and application required monitoring unless:

- Another permit condition specifies other methods, detection levels, or quantitation levels.
- The method used produces measurable results in the sample and EPA has listed it as an EPA-approved method in 40 CFR Part 136.

If the Permittee uses an alternative method, not specified in the permit and as allowed above, it must report the test method, DL, and QL on the discharge monitoring report or in the required report.

If the Permittee is unable to obtain the required DL and QL in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a quantitation limit (QL) to Ecology with appropriate laboratory documentation.

When the permit requires the Permittee to measure the base neutral compounds in the list of priority pollutants, it must measure all of the base neutral pollutants listed in the table below. The list includes EPA required base neutral priority pollutants and several additional polynuclear aromatic hydrocarbons (PAHs). The Water Quality Program added several PAHs to the list of base neutrals below from Ecology's Persistent Bioaccumulative Toxics (PBT) List. It only added those PBT parameters of interest to Appendix A that did not increase the overall cost of analysis unreasonably.

Ecology added this appendix to the permit in order to reduce the number of analytical "non-detects" in permit-required monitoring and to measure effluent concentrations near or below criteria values where possible at a reasonable cost.

The lists below include conventional pollutants (as defined in CWA section 502(6) and 40 CFR Part 122.), toxic or priority pollutants as defined in CWA section 307(a)(1) and listed in 40 CFR Part 122 Appendix D, 40 CFR Part 401.15 and 40 CFR Part 423 Appendix A), and nonconventionals. 40 CFR Part 122 Appendix D (Table V) also identifies toxic pollutants and hazardous substances which are required to be reported by dischargers if expected to be present. This permit Appendix A list does not include those parameters.

CONVENTIONAL POLLUTANTS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL)¹ <i>µg/L unless specified</i>	Quantitation Level (QL)² <i>µg/L unless specified</i>
Biochemical Oxygen Demand		SM5210-B		2 mg/L
Fecal Coliform		SM 9221E,9222	N/A	Specified in method - sample aliquot dependent
Oil and Grease (HEM) (Hexane Extractable Material)		1664 A or B	1,400	5,000
pH		SM4500-H+B	N/A	N/A

CONVENTIONAL POLLUTANTS

Pollutant	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ $\mu\text{g/L}$ unless specified	Quantitation Level (QL) ² $\mu\text{g/L}$ unless specified
Total Coliform		SM 9221B, 9222B, 9223B This Protocol is not in PARIS	N/A	Specified in method - sample aliquot dependent
Total Dissolved Solids		SM2540 C		20 mg/L
Total Suspended Solids		SM2540-D		5 mg/L

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ $\mu\text{g/L}$ unless specified	Quantitation Level (QL) ² $\mu\text{g/L}$ unless specified
Alkalinity, Total		SM2320-B		5 mg/L as CaCO_3
Ammonia, Total (as N)		SM4500-NH ₃ -B and C/D/E/G/H		20
Chloride		SM4500-Cl B/C/D/E and SM4110 B		Sample and limit dependent
Dissolved oxygen		SM4500-OC/OG		0.2 mg/L
Flow		Calibrated device		
Hardness, Total		SM2340B		200 as CaCO_3
Nitrate + Nitrite Nitrogen (as N)		SM4500-NO ₃ - E/F/H		100
Nitrogen, Total Kjeldahl (as N)		SM4500-N _{org} B/C and SM4500NH ₃ -B/C/D/EF/G/H		300
Phosphorus, Total (as P)		SM 4500 PB followed by SM4500-PE/PF This Protocol is not in PARIS	3	10
Sulfate (as mg/L SO ₄)		SM4110-B		0.2 mg/L
Temperature		Analog recorder or use micro-recording devices known as thermistors		0.2° C
Total Organic Carbon		SM5310-B/C/D		1 mg/L
Metals³				
Calcium		200.7	1	
Iron	7439-89-6	200.7	12.5	50
Magnesium	7439-95-4	200.7	10	50
Manganese	7439-96-5	200.8	0.1	0.5
Potassium		258.1 This analytical	1	

NONCONVENTIONAL POLLUTANTS

Pollutant & CAS No. (if available)	CAS Number (if available)	Recommended Analytical Protocol	Detection (DL) ¹ µg/L <i>unless specified</i>	Quantitation Level (QL) ² µg/L <i>unless specified</i>
		protocol is not in PARIS		
Sodium		200.7	3	

1. Detection level (DL) or detection limit means the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B.
2. 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 10ⁿ, 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).
3. Detection Limit for all metals is for total metal concentration.