

Fact Sheet for State Waste Discharge Permit No. ST0045515

Edison Wastewater Treatment Facility Skagit County – Edison Clean Water Subarea

Permit Effective Date: March 1, 2020

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 the Edison Clean Water Subarea District (the District), Wastewater Treatment Facility. The permit allows the discharge of treated wastewater to two adjacent drainfields, referred to as Drainfield #1 and Drainfield #2, and to an Emergency Upflow Trench.

State law requires any domestic wastewater facility to obtain a permit before discharging waste or chemicals to waters of the state, which includes groundwater.

Ecology makes the draft permit and fact sheet available for public review and comment at least thirty (30) days before it issues the final permit to the facility operator. Copies of the fact sheet and draft permit for the District, State Waste Discharge permit ST0045515, were available for public review and comment from January 23, 2019, until the close of business May 6, 2019.

For more details on preparing and filing comments about these documents, please see

Appendix A - Public Involvement Information.

The District reviewed the draft permit and fact sheet for factual accuracy. Ecology corrected any errors or omissions regarding the facility's location, history, wastewater discharges, or receiving water prior to publishing this draft fact sheet for public notice.

After the public comment period closes, Ecology summarizes substantive comments and our responses to them. Ecology included our summary and responses to comments to this fact sheet as **Appendix E - Response to Comments**. 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

The Edison Wastewater Treatment Facility (WWTF) treats domestic wastewater using a septic tank effluent pumping (STEP) system, a recirculating gravel filter, and UV disinfection. Treated effluent is disposed of in two drainfields and one Emergency Upflow Trench. The WWTF is located just east of Edison Elementary School, on the south side of Edison Slough.

Ecology issued the previous permit on January 28, 2013. This was the first permit issued to Edison Clean Water Subarea for the Edison WWTF and was a State Waste Discharge to Ground permit. The previous permit included effluent technology-based limits for Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), Fecal Coliform, and pH, prior to disposal to the drainfields. Ecology is proposing to reissue a State Waste Discharge to Ground permit and the proposed permit contains the same effluent technology-based limits.

In addition, the proposed permit contains several new requirements and changes from the previous permit. The proposed permit includes:

- Increase to monthly monitoring of influent BOD₅ & TSS.
- Removal of quarterly effluent nutrient monitoring.
- A maximum daily flow limit on the Emergency Upflow Trench.
- A slight reduction in the maximum daily flow limit to Drainfield #1.
- A capacity plan to address exceedances in wastewater treatment facility design criteria.
- Groundwater monitoring.
- A compliance schedule for obtaining a Group I operator.

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I. Introduction

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

Ecology adopted rules describing how it exercises its authority:

- State waste discharge program (chapter 173-216 WAC).
- Water quality standards for ground waters of the state of Washington (chapter 173-200 WAC).
- Discharge standards and effluent limits for domestic wastewater facilities (chapter 173-221 WAC).
- Submission of plans and reports for construction of wastewater facilities (chapter 173-240 WAC).

These rules require any domestic wastewater facility to obtain a State Waste Discharge permit before discharging wastewater to state waters. They also help define the basis for limits on each discharge and for 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 thirty 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

Table 1. General Facility Information

Facility Information	
Applicant:	Skagit County – Edison Clean Water Subarea
Facility Name and Address:	Edison Wastewater Treatment Facility 5801 Main Avenue Bow, WA 98232
Contact at Facility	Name: Alison P. Mohns, Skagit County Planning and Development Services Telephone #: (360) 416-1322
Responsible Official	Name: Tim Holloran Title: Skagit County Administrator Address: Planning and Development Services 1800 Continental Place Mount Vernon, WA 98273 Telephone #: 360-416-1300
Type of Treatment:	Septic tank effluent pumping (STEP) system, recirculating gravel filter with UV disinfection, and drainfield disposal
Facility Location (NAD83/WGS84 reference datum)	Outfall 001: Post UV (effluent monitoring location) Latitude: 48.5616 Longitude: -122.43566
Land Application Area	Outfall 01A: Drainfield #1 – 48.5618, -122.4343 Outfall 01B: Drainfield #2 – 48.5600, -122.4349 Outfall 01C: Emergency Upflow Trench – 48.5622, -122.4343
Permit Status	
Issuance Date of Previous Permit	January 28, 2013
Application for Permit Renewal Submittal Date	September 25, 2017
Date of Ecology Acceptance of Application	October 20, 2017
Inspection Status	
Date of Last Sampling Inspection	February 20, 2018
Date of Last Non-sampling Inspection Date	April 12, 2016

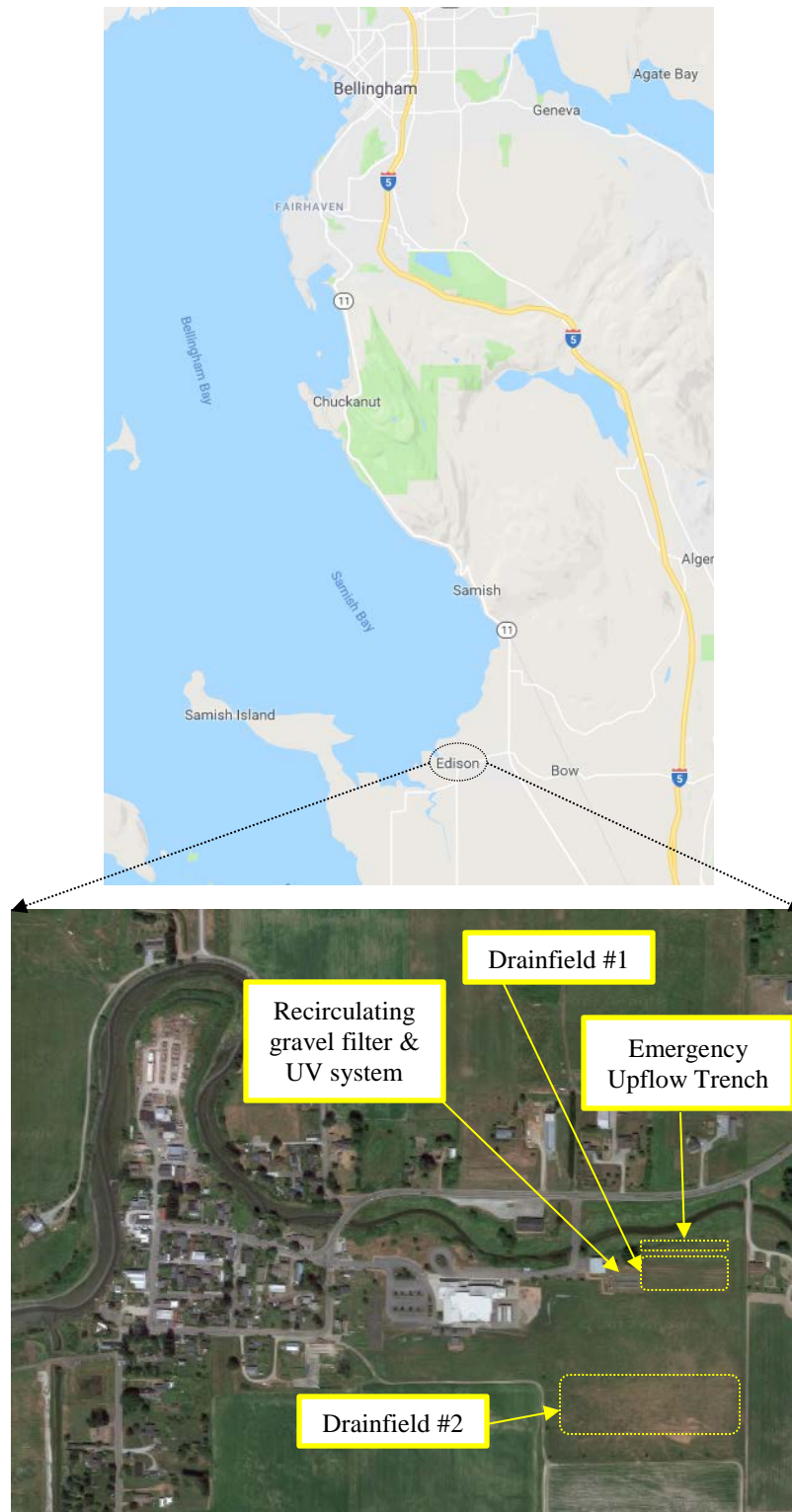


Figure 1. Facility location map

A. Facility description

History

Domestic waste in the community of Edison historically received minimal treatment, if any at all. Prior to installation of the sewerage system, many homes discharged wastewater to street drains that flowed to Edison Slough after minimal treatment in septic tanks. Newer homes tended to have functioning septic tanks but small lot sizes prevented adequate drainage and soil treatment. Some homes had questionable septic tanks that functioned properly only when the groundwater level was at its lowest. Other homes discharged raw sewage directly into Edison Slough.

Beginning in 1993, Department of Health (DOH) shellfish monitoring results showed high fecal coliform levels in Samish Bay and Edison Slough. Fecal coliform levels in Samish Bay often exceeded the 14 fecal organisms/100mL (geometric mean) standard for approved shellfish growing areas. DOH restricted harvesting of shellfish in the Samish Bay.

The community of Edison was identified as one of the sources of fecal contamination. A system survey throughout the community indicated a septic tank failure rate of 65%. The community applied for and received financial assistance from Ecology, the Community Development Block Grant, and the Rensselaerville Institute. Skagit County then formed the Edison Subarea Clean Water District (the District) to oversee a new sewer and wastewater system and provide recommendations to the County. The community wanted a wastewater system that would retain the small town atmosphere and not be detrimental to the local shellfish industry. The community decided against an outfall discharge to surface water in order to protect commercial shell fishing operations in Samish Bay.

In 1996, the District completed construction of the WWTF (recirculating gravel filters and UV disinfection system), Drainfield #1, and the Edison Elementary School septic tanks and conveyance to the new WWTF. The WWTF operated well with the school as the sole contributor. In 1997, the District began connecting the residential and business community to the gravel filter. The Emergency Upflow Trench was added in late 1998 because Drainfield #1 was unable to accommodate flows from the fully connected community. The installation of the upflow trench was intended for short-term use until another drainfield could be installed. In 2001, geotechnical engineers for the District verified that Drainfield #1 was located above a relatively impervious layer that prevented adequate infiltration for the quantity of water produced by the community. In addition, the Emergency Upflow Trench was unable to accommodate the volume of wastewater it was initially designed for. The District constructed a second drainfield, Drainfield #2, in 2003.

Ecology and DOH visited the facility on May 24, 2011, to evaluate permitting alternatives. DOH concluded that the facility falls under Ecology's permitting purview since effluent could potentially migrate to land surface and surface waters (WAC 246-272B-01200(f)). In addition, at times there is zero vertical separation between Drainfields #1 and #2 discharge chambers and groundwater when the water table is high. This leads to discharges directly to groundwater. DOH requires large on-site sewage systems to have a minimum of three feet separation (WAC 246-272B-06100).

The Edison WWTF was often referred to as the Edison Large On-site Sewage System (LOSS) in the previous permit and previous communications. LOSS is a DOH term, definition found in WAC 246-272-01100, and comes with operating requirements under DOH purview. Ecology utilizes the definition of domestic wastewater facility, found in WAC 173-216-030, to describe the Edison system. The Ecology definition for domestic wastewater facility includes systems that use subsurface disposal. Since Ecology permits the Edison WWTF, and to avoid confusion of what operating requirements apply to this facility, Ecology will no longer refer to the Edison system as a LOSS. The Edison WWTF is subject to the requirements for domestic wastewater facilities with subsurface disposal under Ecology rules, Chapter 173 WAC.

Geography

Edison WWTF sits on the banks of Edison Slough, a tidewater slough, about one mile from Samish Bay. The water level in Edison Slough is controlled with an agricultural gate to maintain adequate groundwater levels for local farms. Samish Bay is a mud-bottom marine water body that supports hundreds of acres of commercial and recreational shellfish beds (manila clams, geoduck clams, and pacific oysters). The ground elevation in Edison is between 3 and 10 feet above mean sea level. The groundwater is often a foot or less below the ground surface in winter months. The area around the drainfields is relatively flat, with the northern section sloping gently towards the slough and the southern section sloping slightly towards the southwest.

Collection system status

The District installed a small diameter combined gravity and pressure STEP collection system in 1997 to transport septic effluent from homes and restaurants to the treatment plant. The system serves approximately seventy-two connections, including seven food sites and one school (no cooking cafeteria). The District required the restaurants to install grease traps. There are no industrial users connected to the system. There are nine stubs remaining for future connections. The system's only lift station pumps wastewater from the town through a force main to the recirculating gravel filter.

Wastewater treatment process (prior to discharge to ground)

The treatment process includes individual septic tanks, a recirculating gravel filter, and UV disinfection prior to disposal in drainfields. Most of the individual septic tanks are 1000-gallon fiber-reinforced plastic tanks that provide primary sedimentation, floating solids removal, oil and grease removal, anaerobic decomposition of solids, physical filtration of non-settleable particles, and nominal one-day storage for pipeline cleaning and recirculating tank sludge removal. The commercial restaurants have 1500-gallon fiber-reinforced plastic septic tanks. All restaurants have grease traps installed to remove fats, oils, and greases prior to being introduced into the collection system. The recirculating gravel filter further removes TSS, BOD, some FOG (fats, oils, and grease) and some nitrogen, using physical, chemical, and biological processes. The filter has four zones and wastewater passes through the filter and recollects in the recirculation tanks on average five times before flowing from the gravel filter through the main settling tank, to a smaller secondary settling tank, and finally through the UV disinfection system and out to the disposal fields. The Trojan UV system sits in a stainless steel channel and consists of three modules in parallel with two lamps per module.

The WWTF has a backup diesel generator on-site that is capable of running the entire process, including the pump station, in the event of a power outage. This generator is owned, tested, and maintained by the school. The school tests the generator under load every week.

Distribution system (drainfield)

The District originally installed a subsurface drip irrigation disposal field, Drainfield #1, directly east of the recirculating gravel filter and approximately 200 feet south of Edison Slough. Drainfield #1 contains two irrigation zones. Drainfield #1 operated satisfactorily with the school as the only contributor in the first year of operation. However, when the entire community came on-line, the District noticed that the treated wastewater sent to the drainfield tended to surface and flow overland towards Edison Slough. The Emergency Upflow Trench was installed as a quick measure to add additional disposal area until another drainfield could be planned and installed. The trench, also with two dosing zones, is located 90 feet north of Drainfield #1 between the drainfield and Edison Slough. In planning for Drainfield #2, an investigation found that the Drainfield #1 area has poor infiltration due to an impervious layer of very fine material that lies just below the emitters. In addition, the Emergency Upflow Trench did not have the assimilative capacity as originally designed. The District installed a second, chambered drainfield set on pea gravel in 2003. Drainfield #2 consists of six distribution zones. The District now uses both drainfields, with an average flow of 1,000 gallons per day (gpd) being sent to Drainfield #1 and the remaining flow being sent to Drainfield #2. The Emergency Upflow Trench is intended to be used in emergency situations when flow to Drainfields #1 and #2 is limited or restricted. The Emergency Upflow Trench was utilized 16 times from March 2013 to December 2017, for emergency situations (4 times in November 2015, 7 times in December 2015, 4 times in February 2016, and 1 time in December 2017).

Staff

Ecology requires wastewater treatment facilities to be operated by individuals certified by the state according to WAC 173-230. The previous permit used the term “large onsite sewage system (LOSS)”. However, the Department of Health clarified its definition of onsite sewer systems in WAC 246-272B-01100 in 2011. An on-site sewer system means an integrated system of components, located on or nearby the property it serves, that conveys, stores, treats, and **provides subsurface soil treatment** and disposal of domestic sewage. It consists of a collection system, a treatment component or treatment sequence, and a drainfield. It may or may not include a mechanical treatment system. A drainfield that provides subsurface soil treatment must include unsaturated, vertical separation from groundwater. The Edison WWTF is not a LOSS. This factsheet provides clarification regarding the facility’s treatment type and classification as a wastewater treatment facility. The recirculating gravel filter is considered a biofiltration treatment type. WAC 173-230-330 classifies biofiltration treatment plants with design flows of less than 1-million gallons per day as Class II facilities. Therefore, the operator of the Edison WWTF must be certified as a Group II operator (WAC 173-230-330). However, WAC 173-230-330 allows Ecology to classify a plant in an alternative group if it has characteristics that make operation less complex than other similar plants of the same flow range. Ecology believes a Group I operator could operate the Edison WWTF since it is not as complex as typical biofiltration facilities.

The District currently contracts with the Drain Doctor to provide the required preventive maintenance for the septic tanks, collection system, recirculating gravel filter, and disposal fields. However, Drain Doctor personnel are not Ecology-certified wastewater treatment plant operators.

The previous permit established a 5-year timeline for the District to train and certify an operator to the Group I level. The District did not attain a Group I operator by the final deadline of February 28, 2018.

The Edison WWTF had a Group I operator under an Ecology-issued temporary certification. The certification was good for one year and expired on July 19, 2019. The temporary certification is not transferable or renewable, therefore, the Permittee was required to have a permanent Group I operator in place, prior to the expiration of the temporary certification. The District did not attain a Group I operator prior to the July 19, 2019 deadline.

B. Description of the groundwater

The Edison WWTF is located in the Skagit Valley. The site lies along the south bank of Edison Slough, about one mile upstream of Samish Bay on the delta of the Samish River. The elevation of the site is roughly 10 feet above sea level. The drain field area is relatively flat with the northern section sloping gently northward toward the Edison Slough and the southern portion sloping to the southwest. Data from site well logs show very fine material classified as silt or silty clay underlying the WWTF.

Ecology's Environmental Assessment Program (EAP) conducted a comprehensive characterization of groundwater at the site from 2014 to 2016, during the previous permit term. In April 2018, EAP finalized and issued the *Wastewater Treatment System Groundwater Assessment for Edison, Washington (Groundwater Assessment)* report. The purpose of the study was to:

- Conduct a thorough hydrogeologic assessment of the site.
- Establish background groundwater quality.
- Assess whether Ground Water Standards (WAC 173-200) are being met.

The assessment found a complex hydrogeologic system. The horizontal, shallow groundwater flow direction is from east to the southwest during the months of November through May. This then switches to a south to north flow during the months of June through September. In October, groundwater flows radially from the center of the Drainfield #2. Water level elevations also varied seasonally. As expected, water levels are highest in the rainy winter months from November to March. Levels ranged from at or above the tops of the wells to approximately 3.4 feet below ground surface. Water levels in the summer months ranged from approximately 4 to 9 feet below ground surface. Tidal gates installed in the slough approximately 1,000 feet west of the site are operated to maintain a higher water level in Edison Slough. Tidal gates, heavy winter precipitation, and the tidal fluctuations from Samish Bay likely lead to an increase in the elevation of groundwater at the site.

The rate of groundwater flow, or hydraulic conductivity, is varied by 5 orders of magnitude across the site. Hydraulic conductivity provides an indication of the ease with which water moves through the subsurface and is used to calculate the rate of groundwater movement. Results in the northern portion of the site (beneath Drainfield #1 and the Emergency Upflow Trench) were higher than results from southern areas of the site (beneath Drainfield #2). As a result, the *Groundwater Assessment* concluded that groundwater beneath the northern portion of the site moves at a faster rate than groundwater at the southern end of the site.

Several monitoring wells were discovered to be highly saline and tidally influenced. These wells are along the west and south boundaries of Skagit County and Burlington-Edison School District property. The chemical composition of groundwater from these wells can potentially augment or degrade groundwater quality data. In addition, several wells were installed in areas of potential contamination from overland flow, tidal effects, agricultural land use, surface drains, or the nearby Edison Slough. With the potential for multiple sources of contamination, further investigation is necessary to parse out the wastewater treatment plant's contribution. Additional information on background groundwater quality can be found in Section III.C.

Due to the extreme complexity of the site's hydrogeology and geochemistry, representative background water quality was not sufficiently established for compliance purposes. Spatial and temporal variability limited the designation of up gradient and down gradient wells necessary to measure changes in groundwater quality.

The *Groundwater Assessment* begins to characterize the subsurface hydrogeology but to develop compliance limits, additional groundwater monitoring, expanding on the *Groundwater Assessment*, is necessary. The full *Groundwater Assessment* report can be read at <https://fortress.wa.gov/ecy/publications/documents/1803007.pdf>

Decision on permit type

Permit writers in some cases must decide if the discharge of a pollutant onto the ground near a surface water is subject to an NPDES permit or State Waste Discharge permit. Ecology believes the best guidance on this issue comes from the United States District Court Eastern District of Washington (Washington Wilderness Coalition v. Hecla Mining, 870 F. Supp 983, 990). The court held that since the goal of the Clean Water Act (CWA) is to protect the quality of surface waters, any pollutant, which enters such waters, whether directly or through groundwater, is subject to regulation by NPDES permit. The court went on to hold, "It is not sufficient to allege groundwater pollution, and then to assert a general hydrological connection between all waters. Rather, pollutants must be traced from their source to surface waters, in order to come within the purview of the CWA." The decision on hydraulic continuity depends upon the pollutant (type and mobility in soils), pollutant loading, soils at the site, and hydrology of the site.

Ecology decided to issue the first permit as a State Waste Discharge Permit and not an NPDES Permit for this site because there was no direct, scientific evidence that wastewater pollutants reach surface waters. Data collected over the last permit cycle reported no direct, scientific evidence that wastewater pollutants reaches surface water and therefore Ecology decided to reissue the proposed permit as a State Waste Discharge Permit. Ecology will revisit this decision if data or other information shows a wastewater pollutant from Edison WWTF reaches surface water.

C. Wastewater influent characterization

The data shown in Table 2 represents the quality of the influent to the recirculating gravel filters from March 1, 2013, to December 31, 2017. The District reported the concentration of influent pollutants in discharge monitoring reports.

Table 2. Wastewater influent characterization

Parameter	Units	Average Value	Maximum Value
Flow	gpd	7,337.6	57,020
Biochemical Oxygen Demand (BOD ₅)	mg/L	50.6	132
BOD ₅	lbs/day	5.12	65.0
Total Suspended Solids (TSS)	mg/L	38.5	86.0
TSS	lbs/day	2.82	21.0

D. Wastewater effluent characterization

The data shown in Table 3 represents the quality of the effluent discharged after the UV disinfection system (prior to disposal to drainfields) from March 1, 2013, through December 31, 2017. The District reported the concentration of pollutants in the discharge in discharge monitoring reports.

Table 3. Wastewater effluent characterization

Parameter	Units	Average Value	Maximum Value
Flow, Drainfield #1	gpd	1,014	1,380
Flow, Drainfield #2	gpd	5,449	55,660
Emergency Upflow Trench	gpd	5,244	20,650
BOD ₅	mg/L	2.55	28.0
TSS	mg/L	7.92	31.0
Nitrate+Nitrite Nitrogen	mg/L	60.3	110

Parameter	Units	Average Monthly Geometric Mean	Maximum Monthly Geometric Mean
Fecal Coliforms	cfu/100mL	44.5	1700
Total Coliforms	cfu/100mL	21.8	110

Parameter	Units	Minimum Value	Maximum Value
pH	standard units	6.00	6.91

E. Summary of compliance with previous permit issued January 28, 2013

The previous permit placed effluent limits on BOD₅, TSS, fecal coliform, and pH.

The District has not consistently complied with design criteria, permit limits, and permit conditions throughout the duration of the permit issued on January 28, 2013. Ecology assessed compliance based on its review of the WWTF's discharge monitoring reports (DMRs).

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

Table 4. Violations/Exceedance

Begin Date	Parameter	Units	Value	Limit Min/Max	Violation/Exceedance
4/1/2013	Influent Flow	gpd	24910	20000	Exceedance of Design Criteria
11/1/2013	Influent Flow	gpd	21100	20000	Exceedance of Design Criteria
11/1/2013	Flow to Drainfield #2	gpd	18810	18000	Exceedance of Design Criteria
12/1/2013	Effluent Fecal Coliform	cfu/100mL	1700	-/200	Numeric effluent violation
2/1/2014	Influent Flow	gpd	23530	20000	Exceedance of Design Criteria
2/1/2014	Influent Flow	gpd	29060	20000	Exceedance of Design Criteria
3/1/2014	Influent Flow	gpd	24400	20000	Exceedance of Design Criteria
3/1/2014	Flow to Drainfield #2	gpd	18850	18000	Exceedance of Design Criteria
5/1/2014	Influent Flow	gpd	35140	20000	Exceedance of Design Criteria
5/1/2014	Flow to Drainfield #2	gpd	18800	18000	Exceedance of Design Criteria
5/1/2014	Influent Flow	gpd	32060	20000	Exceedance of Design Criteria
5/1/2014	Flow to Drainfield #2	gpd	18800	18000	Exceedance of Design Criteria
11/1/2014	Influent Flow	gpd	22050	20000	Exceedance of Design Criteria
1/1/2015	Flow to Drainfield #2	gpd	55660	18000	Exceedance of Design Criteria
1/1/2015	Flow to Drainfield #2	gpd	27150	18000	Exceedance of Design Criteria
1/1/2015	Influent BOD ₅	mg/L	65	56	Exceedance of Design Criteria
1/1/2015	Influent Flow	gpd	57020	20000	Exceedance of Design Criteria
1/1/2015	Influent Flow	gpd	27510	20000	Exceedance of Design Criteria
1/1/2015	Influent Flow	gpd	22330	20000	Exceedance of Design Criteria
2/1/2015	Effluent Solids (Residue)	mg/L	31	-/30	Numeric effluent violation
4/1/2015	Influent Flow	gpd			Analysis not Conducted; Frequency of Sampling Violation
4/1/2015	Flow to Drainfield #2	gpd			Analysis not Conducted; Frequency of Sampling Violation
4/1/2015	Flow to Drainfield #1	gpd			Analysis not Conducted; Frequency of Sampling Violation
5/1/2015	Influent Flow	gpd			Analysis not Conducted; Frequency of Sampling Violation
5/1/2015	Flow to Drainfield #2	gpd			Analysis not Conducted; Frequency of Sampling Violation
5/1/2015	Flow to Drainfield #1	gpd			Analysis not Conducted; Frequency of Sampling Violation
2/1/2016	Influent Flow	gpd	22470.3	20000	Exceedance of Design Criteria
11/1/2016	Flow to Drainfield #2	gpd	23670	18000	Exceedance of Design Criteria
3/1/2017	Flow to Drainfield #2	gpd	34160	18000	Exceedance of Design Criteria

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

Table 5. Permit submittals

Submittal Name	Submittal Status	Due Date	Received Date
Application for permit renewal	Received late	8/31/2017	9/25/2017
Operator certification – Group 1 *temporary certification	Received late	2/28/2018	7/12/2018

F. 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). Dischargers must treat wastewater using all known, available, reasonable methods of prevention, control, and treatment (AKART). Ecology and Washington State Department of Health have adopted technology-based (AKART) criteria for municipal systems that discharge to ground (WA Department of Health, 1994).
- Operations and best management practices necessary to meet applicable water quality standards to preserve or protect beneficial uses for groundwaters.
- Ground water quality standards (Ecology, 1996).
- Applicable requirements of other local, state and federal laws.

Ecology applies the most stringent of technology and water quality-based 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, and irrigation/crop management). 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 WWTF's effluent discharge conditions may change from those conditions reported in the permit application. The WWTF must notify Ecology if significant changes occur in any constituent. Until Ecology modifies the permit to reflect additional discharges of pollutants, a permitted WWTF could be violating its permit.

A. Design criteria

Under WAC 173-216-110 (4), flows and waste loadings must not exceed approved design criteria. Ecology approved design criteria for this facility's treatment system and drainfields in the engineering reports listed in Table 6. Table 7 outlines the design criteria.

Table 6. Approved engineering documents with design criteria

Facility	Document
Recirculating Gravel Filter and UV Disinfection System	<i>Engineering Report/Facility Plan for Wastewater Collection, Treatment, and Disposal for Edison Washington</i> , Willson Engineering, February 1996, revised April 1996 <i>Plans & Specifications, Edison Subarea Phase I Sewer Improvements</i> , Wilson Engineering, April 1996 <i>O&M Manual, Volume 2: Gravel Filter, Treatment, Disinfection, and Disposal System</i> , Gray & Osborne, Inc., October 2003
Drainfield #1 and Emergency Upflow Trench	<i>Plans & Specifications, Skagit County Clean Water District, Edison Subarea Phase I Sewer Improvements</i> , Wilson Engineering, April 1996 <i>Hydrogeological Evaluation – Edison Wastewater Treatment Facility Drainfield</i> , HWA GeoSciences, Inc., Project #2001-023, September 10, 2002
Drainfield #2	<i>Plans & Specifications, Edison Subarea Wastewater Disposal Field Improvements</i> , Gray & Osborne, Inc., March 2003 <i>O&M Manual, Volume 2: Gravel Filter, Treatment, Disinfection, and Disposal System</i> , Gray & Osborne, Inc., October 2003

Table 7. Design criteria

Parameter	Recirculating Gravel Filter and UV Disinfection	Drainfield #1	Emergency Upflow Trench ^a	Drainfield #2
Peak (max) daily flow	24,000 gpd	1,650 gpd	1,846 gpd	18,000 gpd
Monthly average flow (maximum month)	--	--	--	12,000 gpd (2,000 gpd/zone)
Daily max BOD ₅ loading	56 lbs/day	--	--	--
Daily max TSS loading	56 lbs/day	--	--	--
Number of dosing zones	--	2	2	6
Documentation	1996 P&S	2002 Hydrogeo Eval	2002 Hydrogeo Eval	2003 P&S

The maximum daily flows for the above parameters are listed as the permitted capacity in the proposed permit.

B. Technology-based effluent limits

Waste discharge permits issued by Ecology specify conditions requiring the facility to use all known available and reasonable methods of prevention, control, and treatment of discharges AKART before discharging to waters of the state (RCW 90.48). Ecology defines AKART for domestic wastewater facilities in chapter 173-221 WAC, Discharge Standards and Effluent Limits for Domestic Wastewater Facilities.

Ecology approved design criteria for this WWTF and drainfields in the engineering reports listed in Table 6.

Ecology evaluated the report for technology-based requirements using the:

- Discharge standards and effluent limits for domestic wastewater facilities.
- *Criteria for Sewage Works Design*, Ecology, 2008.

Ecology determined that the WWTF meets the minimum requirements demonstrating compliance with the AKART standard if the District operates the treatment and disposal system as described in the approved engineering report and any subsequent Ecology-approved reports.

Ecology also evaluated the report for water quality-based requirements which is described in the next section of the fact sheet.

Wastewater treatment (prior to discharge to ground) requirements

Ecology based the technology-based effluent limits on Chapter 173-221 WAC. Weekly limits were not included in the permit since Ecology is proposing effluent BOD₅ and TSS monitoring once per month.

Table 8. Technology-based limits

Parameter	Average Monthly Limit
BOD ₅	30 mg/L 85% removal of influent BOD ₅
TSS	30 mg/L 85% removal of influent TSS

Parameter	Monthly Geometric Mean Limit
Fecal Coliform Bacteria	200 organisms/100 mL

Parameter	Daily Minimum	Daily Maximum
pH	6.0 standard units	9.0 standard units

According to WAC 173-221-050(4), domestic wastewater facilities which receive less concentrated influent wastewater may be allowed a lower percent removal limit than the discharge standards set forth in WAC 173-221-040. Agency guidance outlined in the *Permit Writer's Manual* states that the Permittee will be presumed to be in compliance with the percent removal requirement in the permit if the permit effluent concentration limit is met and there is no excessive inflow and infiltration. The proposed permit includes a requirement to conduct a Capacity Plan. The Capacity Plan includes an evaluation of inflow and infiltration contributions and the overall treatment capacity of the WWTF. Ecology will evaluate compliance to the percent removal requirement based on compliance with the effluent concentration limits for BOD₅ and TSS. Therefore, the proposed permit does not include a percent removal limit.

C. Groundwater quality based effluent limits

In order to protect existing water quality and preserve the designated beneficial uses of Washington's groundwaters including the protection of human health, WAC 173-200-100 requires Ecology to condition discharge permits in such a manner as to authorize only activities that will not cause violations of the groundwater quality standards. The goal of the groundwater quality standards is to maintain the highest quality of the State's groundwaters and to protect existing and future beneficial uses of the groundwater through the reduction or elimination of the discharge of contaminants to groundwater [WAC 173-200-010(4)]. Ecology achieves this goal by:

- Applying AKART to any discharge.
- Applying the antidegradation policy of the groundwater standards.
- Establishing numeric and narrative criteria for the protection of human health and the environment in the groundwater quality standards.

Antidegradation Policy

The state of Washington's ground water quality standards (GWQS) require preservation of existing and future beneficial uses of groundwater through the antidegradation policy, which includes the two concepts of antidegradation and non-degradation.

Antidegradation

Antidegradation is not the same as non-degradation (see below). Antidegradation applies to calculation of permit limits in groundwater when background (see below) contaminant concentrations are less than criteria in the GWQS. Ecology has discretion to allow the concentrations of contaminants at the point of compliance to exceed background concentrations but not exceed criteria in the GWQS. Ecology grants discretion through an approved AKART engineering analysis of treatment alternatives. If the preferred treatment alternative predicts that discharges to groundwater will result in contaminant concentrations that fall between background concentrations and the criteria, then the preferred treatment alternative should protect beneficial uses and meet the antidegradation policy. In this case, the predicted concentrations become the permit limits. If the preferred alternative will meet background contaminant concentrations, background concentrations become the permit limits. Permit limits must protect groundwater quality by preventing degradation beyond the GWQS criteria. If discharges will result in exceedance of the criteria, facilities must apply additional treatment before Ecology can permit the discharge.

Non-degradation

Non-degradation applies to permit limits in groundwater when background contaminant concentrations exceed criteria in the GWQS. Non-degradation means that discharges to groundwater must not further degrade existing water quality. In this case, Ecology considers the background concentrations as the water quality criteria and imposes the criteria as permit limits.

You can obtain more information on antidegradation and non-degradation by referring to the *Implementation Guidance for the Ground Water Quality Standards (Implementation Guidance)*, Ecology Publication #96-02 (available at <https://fortress.wa.gov/ecy/publications/SummaryPages/9602.html>).

Background water quality

Background groundwater quality is determined by a statistical calculation of constituent concentrations without the impacts of the proposed activity. The calculation requires an adequate amount of groundwater quality data and determining the mean and standard deviation of the data, as described in the *Implementation Guidance*. Following the procedure in the *Implementation Guidance*, Ecology then defines background water quality for most contaminants as the 95 percent upper tolerance limit. This means that Ecology is 95 percent confident that 95 percent of future measurements will be less than the upper tolerance limit. There are a few exceptions to the use of the upper tolerance limit. For pH, Ecology will calculate both an upper and a lower tolerance limit resulting in an upper and lower bound to the background water quality.

As part of the *Groundwater Assessment*, eleven monitoring wells were sampled at the site. Samples were collected bimonthly from each well along with Edison WWTF effluent from October 2014 through April 2016. Results varied widely between wells. Water quality testing indicated the following 3 main groundwater types:

- Wells in the north and east had the most dilute concentrations of ions and water quality parameters.
- Wells in the south and west had very high concentrations of ions, including chloride, bromide, potassium, and ammonium.
- The wells north and west, the well adjacent to Edison Slough, and the effluent had a somewhat higher ionic strength than the northern/eastern group but far lower than the southern/western group.

However, due to the seasonality in horizontal flow, monitoring well locations, potential contaminant sources, and the superimposition of a groundwater mound from the Edison WWTF, Ecology is unable to adequately determine background groundwater quality for compliance purposes at this time.

D. Comparison of effluent limits with the previous permit issued on January 28, 2013

Table 9. Comparison of effluent limits with previous permit

		Previous Effluent Limits: Outfall # 001	Proposed Effluent Limits: Outfall # 001
Parameter	Basis of Limit	Average Monthly	Average Monthly
BOD ₅	Technology	30 mg/L	30 mg/L
TSS	Technology	30 mg/L	30 mg/L
Parameter	Basis of Limit	Monthly Geometric Mean Limit	Monthly Geometric Mean Limit
Fecal Coliform Bacteria	Technology	200 cfu/100 mL	200 cfu/100 mL
Parameter	Basis of Limit	Daily Minimum	Daily Maximum
pH	Technology	6.0 – 9.0 standard units	6.0 – 9.0 standard units

IV. Monitoring Requirements

Ecology requires monitoring, recording, and reporting (WAC 173-216-110) to verify that the treatment process functions correctly.

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). The Permittee does not have an accredited lab on-site and will send the following to an accredited lab for analysis: BOD₅, TSS, and fecal coliform. The Permittee will analyze pH in-house.

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. The permit proposes monthly influent and effluent monitoring. This monitoring schedule is less frequent than the agency guidance given in Ecology's *Permit Writer's Manual* of weekly monitoring. The treatment process at the Edison WWTF is less complex and has minimal variability. The proposed permit requires additional monitoring during non-standard discharge events.

Total coliform, dissolved oxygen, TKN, nitrate+nitrite, and total phosphorus effluent monitoring have been removed from the proposed permit. Effluent monitoring of BOD₅, TSS, pH, and fecal coliform is sufficient to track the efficiency of treatment at the WWTF.

C. Sludge monitoring

Monitoring of sludge quantity and quality is necessary to determine the appropriate uses of the sludge. Biosolids monitoring is required by the current state and local solid waste management program and also by EPA under 40 CFR 503.

D. Groundwater monitoring

Ecology requires groundwater monitoring at the site in accordance with the Ground Water Quality Standards, chapter 173-200 WAC. Ecology has determined that this discharge has a potential to pollute the groundwater.

This permit includes conditions for the development of a groundwater monitoring well network and sampling plan. The purpose of these permit conditions to monitor for degradation to groundwater quality. In developing the groundwater monitoring well network and sampling plan, the Permittee must consider the following:

- Monitoring wells screened within the same hydrogeologic unit.
- Hydraulic conductivity.
- Size of area being investigated to provide adequate spatial and temporal coverage of the site.
- Groundwater movement, direction, and volume.
- Collection of a sufficient number of samples to demonstrate that the analytical results do not correlate with either time of collection or nearby wells.
- Known sources of contamination that may contaminate background data.

V. Other Permit Conditions

A. Reporting and record keeping

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).

B. Prevention of facility and drainfield overloading

Overloading of the treatment plant and/or drainfields is a violation of the terms and conditions of the permit. Special Condition S4 restricts the amount of flow, BOD₅, and TSS to the treatment WWTF and the amount of flow to the drainfields. To prevent this from occurring, RCW 90.48.110 and WAC 173-216-110 require Edison WWTF to:

- Take the actions detailed in proposed permit Special Condition S4.
- Design and construct expansions or modifications for increasing capacity.
- Report and correct conditions that could result in new or increased discharges of pollutants.

C. Operations and maintenance

Ecology requires dischargers to take all reasonable steps to properly operate and maintain their WWTF in accordance with state regulations (WAC 173-240-080 and WAC 173-216-110). Edison prepared and retains an operation and maintenance (O&M) manual for the WWTF.

Implementation of the procedures in the operation and maintenance manual ensures the WWTF's compliance with the terms and limits in the permit and ensures the WWTF provides AKART to the waste stream.

D. Pretreatment

Duty to enforce discharge prohibitions

This provision prohibits the publicly owned treatment works (POTW) from authorizing or permitting an industrial discharger to discharge certain types of waste into the sanitary sewer.

- The first section of the pretreatment requirements prohibits the POTW from accepting pollutants which causes "pass-through" or "interference". This general prohibition is from 40 CFR §403.5(a). **Appendix C** of this fact sheet defines these terms.
- The second section reinforces a number of specific state and federal pretreatment prohibitions found in WAC 173-216-060 and 40 CFR §403.5(b). These reinforce that the POTW may not accept certain wastes, which:
 - a. Are prohibited due to dangerous waste rules.
 - b. Are explosive or flammable.
 - c. Have too high or low of a pH (too corrosive, acidic or basic).
 - d. May cause a blockage such as grease, sand, rocks, or viscous materials.
 - e. Are hot enough to cause a problem.
 - f. Are of sufficient strength or volume to interfere with treatment.
 - g. Contain too much petroleum-based oils, mineral oil, or cutting fluid.
 - h. Create noxious or toxic gases at any point.

40 CFR Part 403 contains the regulatory basis for these prohibitions, with the exception of the pH provisions, which are based on WAC 173-216-060.

- The third section of pretreatment conditions reflects state prohibitions on the POTW accepting certain types of discharges unless the discharge has received prior written authorization from Ecology. These discharges include:
 - a. Cooling water in significant volumes.
 - b. Stormwater and other direct inflow sources.
 - c. Wastewaters significantly affecting system hydraulic loading, which do not require treatment.

Federal and state pretreatment program requirements

Ecology administers the pretreatment program under the terms of the addendum to the “Memorandum of Understanding between Washington Department of Ecology and the United States Environmental Protection Agency, Region 10” (1986) and 40 CFR, Part 403. Under this delegation of authority, Ecology issues wastewater discharge permits for significant industrial users (SIUs) discharging to POTWs which have not been delegated authority to issue wastewater discharge permits. Ecology must approve, condition, or deny new discharges or a significant increase in the discharge for existing significant industrial users (SIUs) [40 CFR 403.8 (f)(1)(i) and(iii)].

Industrial dischargers must obtain a permit from Ecology before discharging waste to the Edison WWTF [WAC 173-216-110(5)]. Industries discharging wastewater that is similar in character to domestic wastewater do not require a permit.

Routine identification and reporting of industrial users

The permit requires non-delegated POTWs to take “continuous, routine measures to identify all existing, new, and proposed significant industrial users (SIUs) and potential significant industrial users (PSIUs)” discharging to their sewer system. Examples of such routine measures include regular review of water and sewer billing records, business license and building permit applications, advertisements, and personal reconnaissance. System maintenance personnel should be trained on what to look for so they can identify and report new industrial dischargers in the course of performing their jobs. The POTW may not allow SIUs to discharge prior to receiving a permit, and must notify all industrial dischargers (significant or not) in writing of their responsibility to apply for a State Waste Discharge Permit. The POTW must send a copy of this notification to Ecology.

E. Solid wastes

To prevent water quality problems, the WWTF is required in Special Condition S7 to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and state water quality standards.

The final use and disposal of sewage sludge from this WWTF is regulated by U.S. EPA under 40 CFR 503 “Standards for Use of Disposal of Sewage Sludge”, and by Ecology under chapter 70.95J RCW “Municipal Sewage Sludge – Biosolids”, chapter 173-308 WAC “Biosolids Management,” and chapter 173-350 WAC “Solid Waste Handling Standards.” The disposal of other solid waste is under the jurisdiction of the Skagit County Health Department.

F. Compliance schedule

Ecology is allowing additional time for the District to train and certify (or contract) a Group I operator. By the date tabulated below, the Permittee must complete the following task. If the permittee fails to meet the date below, a letter must be sent outlining the reasons for delay and the steps it is taking to return to the established schedule.

Table 10. Compliance schedule

Tasks	Due Date
Submit a letter including the name of the Group I operator and date that the operator status was attained.	March 1, 2021

G. 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. Permit Issuance Procedures

A. Permit modifications

Ecology may modify this permit to impose numerical limits, if necessary, to comply with water quality standards for groundwaters, based on new information from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

Ecology may also modify this permit to comply with new or amended state regulations.

B. Proposed permit issuance

This proposed permit meets all statutory requirements for Ecology to authorize a wastewater discharge. The permit includes limits and conditions to protect human health and aquatic life, and the beneficial uses of waters of the state of Washington. Ecology proposes to issue this permit for a term of 5 years.

VII. References for Text and Appendices

Gavlak, R., D. Horneck, R.O. Miller, and J. Kotuby-Amacher.

3rd edition 2005. *Soil, Plant And Water Reference Methods For The Western Region*

Washington State Department of Ecology.

2018. *Wastewater Treatment System Groundwater Assessment for Edison, Washington*, Ecology Publication Number 18-03-007

<https://fortress.wa.gov/ecy/publications/documents/1803007.pdf>

1993. *Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems*, Ecology Publication Number 93-36. 20 pp.

<https://fortress.wa.gov/ecy/publications/summarypages/9336.html>

Laws and Regulations (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information (<https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-quality-permits>)

Revised October 2005. *Implementation Guidance for the Ground Water Quality Standards*, Ecology Publication Number 96-02.

<https://fortress.wa.gov/ecy/publications/SummaryPages/9602.html>

Revised August 2008. *Criteria for Sewage Works Design*. Publication Number 98-37.

<https://fortress.wa.gov/ecy/publications/summarypages/9837.html>

December 2011. *Permit Writer's Manual*. Publication Number 92-109

(<https://fortress.wa.gov/ecy/publications/summarypages/92109.html>)

November 2004. *Guidance on Land Treatment of Nutrients in Wastewater, with Emphasis on Nitrogen*, Ecology Publication Number 04-10-081;

<https://fortress.wa.gov/ecy/publications/summarypages/0410081.html>

Washington State Department of Health.

February 1994. *Design Criteria for Municipal Wastewater Land Treatment Systems for Public Health Protection*.

Appendix A--Public Involvement Information

Ecology proposes to issue a permit to the Edison Wastewater Treatment Facility. 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 Draft on January 23, 2019, in the *Skagit Valley Herald* to inform the public and to invite comment on the proposed draft State Waste Discharge permit and fact sheet.

The notice:

- Told where copies of the draft Permit and Fact Sheet were available for public evaluation (a local public library, the closest Regional or Field Office, posted on our website).
- Offered to provide the documents in an alternate format to accommodate special needs.
- Urged people to submit their comments, in writing, before the end of the Comment Period.
- Told how to request a public hearing of comments about the proposed state waste discharge permit.
- Explained the next step(s) in the permitting process.

Ecology has published a document entitled *Frequently Asked Questions about Effective Public Commenting*, which is available on our website at

<https://fortress.wa.gov/ecy/publications/documents/0307023.pdf>.

You may obtain further information from Ecology by telephone, (425) 649-7000, or by writing to the address listed below.

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

The primary authors of this permit and fact sheet are Maia Hoffman and Stephanie Allen.

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 SE Lacey, WA 98503	Department of Ecology Attn: Appeals Processing Desk PO Box 47608 Olympia, WA 98504-7608
Pollution Control Hearings Board 1111 Israel RD SW STE 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) -- The 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 month's 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% upper tolerance interval with a 95% 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 BOD₅ 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% by volume and the receiving water 90%.

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 calculated as the average measurement of the pollutant over the 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 % 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 $(1, 2, \text{ or } 5) \times 10^n$, 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 year(s), 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 BOD₅ -- 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 BOD₅ 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 BOD₅ 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--Monitoring Data Summary

Discharge Monitoring Data, March 2013 to December 2017

Facility: Edison
Permit
No.ST0045515

Influent						
Date	Flow, GPD	Flow, GPD	TSS, ppd	TSS, mg/L	Total BOD5, ppd	Total BOD5, mg/L
	Mon Ave	Daily Max	Mon Ave	Mon Ave	Mon Ave	Mon Ave
Mar-13	8709	17200				
Apr-13	9256	24910	2.54	32	9.12	115
May-13	8496	12690				
Jun-13	8043	13800				
Jul-13	6785	9530	1.65	33	6.61	132
Aug-13	7151	9170				
Sep-13	7418	12380				
Oct-13	7228	8420	1.05	16	2.55	39
Nov-13	8514	21100				
Dec-13	8266	16380				
Jan-14	9023	19790	5.1	68	1.2	16
Feb-14	10499	29060				
Mar-14	10089	24400				
Apr-14	8478	15680	2.8	41	1.84	26
May-14	10777	35140				
Jun-14	7788	10290				
Jul-14	7105	9510	2.07	35	1.83	31
Aug-14	6715	8930				
Sep-14	3783	7520				
Oct-14	6585	13180	0.325	6	0.271	5
Nov-14	9253	22050				
Dec-14	8672	18600				
Jan-15	10878	57020	21	21	65	65
Feb-15	8557	16810				
Mar-15	8736	14840				
Apr-15			4.4	76	5.5	95
May-15	7000	7000				
Jun-15	6070	7641				
Jul-15	5734	7443	1.379	78	0.143	24
Aug-15	5841	8628				

Sep-15	6283	8114				
Oct-15	6092	9505	0.293	37	0.024	3
Nov-15	6219	7461				
Dec-15	8028	18823				
Jan-16	6450	7653	0.751	11	3.279	48
Feb-16	7431	22470				
Mar-16	6528	11882				
Apr-16	6246	7883	0.0004	29	0.001	128
May-16	6137	7103				
Jun-16	6113	8217				
Jul-16	6037	8180	0.0004	44	0.00007	8.9
Aug-16	6351	8291				
Sep-16	7432	9343				
Oct-16	7377	9616	0.0002	24	0.0001	21
Nov-16	9404	17665				
Dec-16	7602	9751				
Jan-17	8637	13573	0.00012	15	0.00011	14
Feb-17	7232	12887				
Mar-17	6856	13451				
Apr-17	6147	8551	0.00025	30	0.00015	18
May-17	6159	7448				
Jun-17	5722	7424				
Jul-17	5363	8330	0.0004	50	0.001	127
Aug-17	5567	8013				
Sep-17	6050	8425				
Oct-17	5874	7275	0.00071	86	0.00037	45
Nov-17	6140	9013				
Dec-17	7313	14625				
Min	3783	7000	0.00012	6	0.00007	3
Max	10878	57020	21	86	65	132
Average	7338	13510	2.28213	39	5.12473	51
Median	7151	9616	0.751	33	0.271	31
95th Percentile	10171	25740	6.69	79	14.708	128

LIMIT:

DESIGN: 20000 56 56

exceeds design limits

Facility: Edison

Permit No. ST0045515

Effluent																				
Date	Dissolved Oxygen, mg/L	Dissolved Oxygen, mg/L	Fecal Coliform, #/100ml	Nitrate + Nitrite, mg/L	Nitrate + Nitrite	pH, Standard Units	pH, Standard Units	TSS, mg/L	TSS, mg/L	TKN, mg/L	Total BOD5, mg/L	Total BOD5, mg/L	Total Coliforms, #/100ml	Total Phosphorus, mg/L	Drainfield No. 1, GPD	Drainfield No. 1, GPD	Drainfield No. 2, GPD	Drainfield No. 2, GPD	Emergency Upflow Trench, GPD	Emergency Upflow Trench, GPD
	Mon Ave	Min	GEM	Max	Maximum	Max	Min	Mon Ave	Max	Max	Mon Ave	Max	Max	Max	Mon Ave	Daily Max	Mon Ave	Daily Max	Mon Ave	Daily Max
Mar-13			33			6.1	6.1	5	5		2	2			1128	1370	4552	9420		
Apr-13	7.8	7.8	2	35.9	35.9	6.3	6.3	11	11	2.0	2	2	1.8	9.1	1148	1360	3636	11420		
May-13			2			6.2	6.2	10	10		3	3			1161	1370	3888	8830		
Jun-13			49			6.4	6.4	9	9		3	3			1263	1370	4552	10450		
Jul-13	3.8	3.8	8	42.1	42.1	6.8	6.8	8	8	2.9	4	4	23.0	8.9	1298	1360	5810	8380		
Aug-13			2			6.4	6.4	10	10		3	3			1271	1370	5562	7990		
Sep-13			9			6.2	6.2	6	6		0	0			1318	1370	6221	10770		
Oct-13	5.8	5.8	2	61.0	61	6.3	6.3	8	8	0.0	2	2	1.8	9.6	1285	1360	5971	8060		
Nov-13			2			6.1	6.1	0	0		2	2			1297	1370	7419	18810		
Dec-13			1700			6.3	6.3	0	0		2	2			1308	1370	6460	13290		
Jan-14	9.3	9.3	2	42.4	42.4	6.7	6.7	1	1	0.8	1	1	1.0	6.3	1209	1370	5236	13700		
Feb-14			2			6.1	6.1	1	1		1	1			1131	1370	6055	15000		
Mar-14			22			6.5	6.5	8	8		2	2			1103	1370	5188	18850		
Apr-14	7.3	7.3	2	56.0	56	6.3	6.3	17	17	0.5	3	3	33.0	8.9	1116	1370	4162	10100		
May-14			8			6.1	6.1	9	9		2	2			1263	1370	5556	18800		
Jun-14			2			6.2	6.2	5	5		0	0			1033	1370	4836	11200		
Jul-14	3.0	3.0	2	59.8	59.8	6.4	6.4	8	8	2.7	6	6	13.0	10.8	1258	1380	4016	8510		
Aug-14			4			6.6	6.6	11	11		5	5			1288	1370	3806	8260		
Sep-14			4			6.1	6.1	6	6		2	2			1214	1370	3246	7200		
Oct-14	8.8	8.8	33	56.9	53.2	6.4	6.4	5	5	1.2	2	2	49.0	7.4	1122	1370	5363	13920		

Nov-14			2			6.6	6.6	0	0		3	3			1228	1370	6906	14800		
Dec-14			2		48.2	6.9	6.9	6	6		3	3			1037	1370	6890	13670		
Jan-15	10.7	10.7	2	49.6		6.1	6.1	0	0	3.5	0	0	2.0	7.6	1611	1360	10138	55660		
Feb-15			2		34.3	6.3	6.3	31	31		28	28			1296	1370	8096	15370		
Mar-15			2			6.2	6.2	4	4		3	3			1317	1370	7998	14920		
Apr-15	7.1	7.1	2	110.0	86.9	6.2	6.2	9	9	0.7	3	3	4.5	9.6						
May-15			49			6.0	6.0	6	6		2	2			1000	1000	7000	7000		
Jun-15			2		61.5	6.3	6.3	9	9		3	3			736	960	4384	6080		
Jul-15	4.0	4.0	8	63.4		6.6	6.6	29	29	2.6	3	3	79.0	10.6	864	1310	4409	6240		
Aug-15			23		63.6	6.7	6.7	4	4		0	0			852	950	4545	7560		
Sep-15			2			6.5	6.5	0	0		0	0			861	960	5022	6680		
Oct-15	5.4	5.4	130	77.8		6.3	6.3	1	1	0.0	14	14	17.0	10.0	867	940	4926	8860		
Nov-15			170		31.4	6.4	6.4	1	1		1	1			802	930	5431	8300	1316	3922
Dec-15			170			6.4	6.4	4	4		2	2			859	950	5824	11310	7099	17700
Jan-16	9.9	9.9	17	59.7		6.6	6.6	1	1	0.0	1	1	110.0	9.1	853	950	5330	7840		
Feb-16			13		62.4	6.1	6.1	5	5		1	1			854	960	4742	9720	12713	20650
Mar-16			2			6.8	6.8	5	5		2	2			865	960	5037	10650		
Apr-16	7.0	7.0	2	64.2	60.6	6.5	6.5	8	8	2.2	2	2	1.8	8.2	862	940	5694	7180		
May-16			2			6.1	6.1	11	11		2	2			815	940	5264	6410		
Jun-16			2			6.3	6.3	14	14		2	2			842	950	4999	8470		
Jul-16	5.4	5.4	2	66.7	66.7	6.4	6.4	8	8	0.0	0	0	4.5	9.3	835	940	4528	6160		
Aug-16			2			6.5	6.5	30	30		0	0			831	940	4799	6420		
Sep-16			2			6.6	6.6	6	6		0	0			853	950	5686	7430		
Oct-16	6.4	6.4	8	80.7	80.7	6.3	6.3	0	0	0.0	0	0	13.0	10.2	846	940	5764	8270		
Nov-16			49			6.9	6.9	0	0		0	0			837	950	7990	23670		
Dec-16			33			6.7	6.7	0	0		0	0			851	950	6225	11600		
Jan-17	8.6	8.6	5	41.5	41.5	6.4	6.4	0	0	0.4	2	2	4.5	6.1	840	950	6715	13370		
Feb-17			5			6.3	6.3	0	0		3	3			858	950	5171	8000		
Mar-17			17			6.5	6.5	0	0		0	0			842	960	6940	34160		
Apr-17	7.3	7.3	2	47.4	47.4	6.1	6.1	6	6	0.0	3	3	4.5	7.2	863	970	4962	6560		

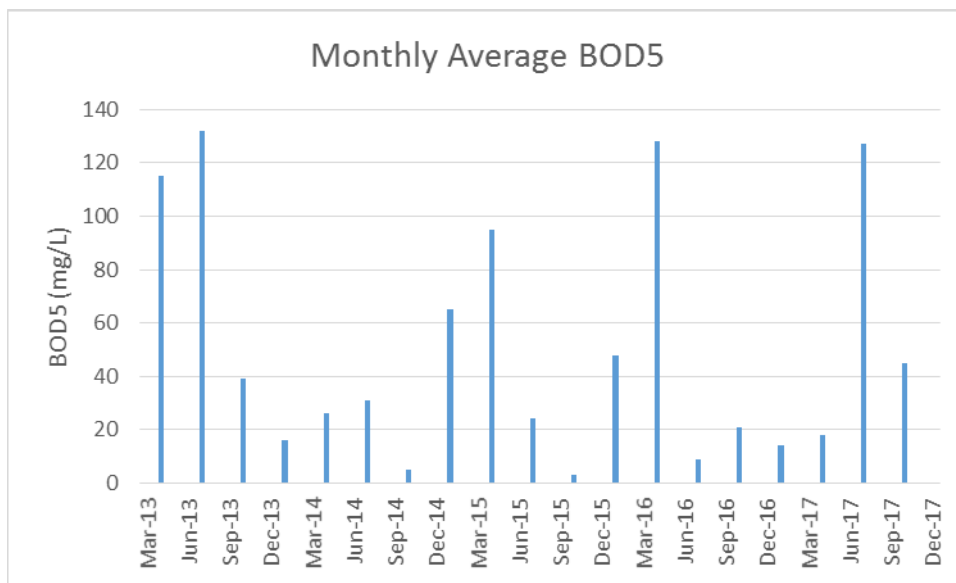
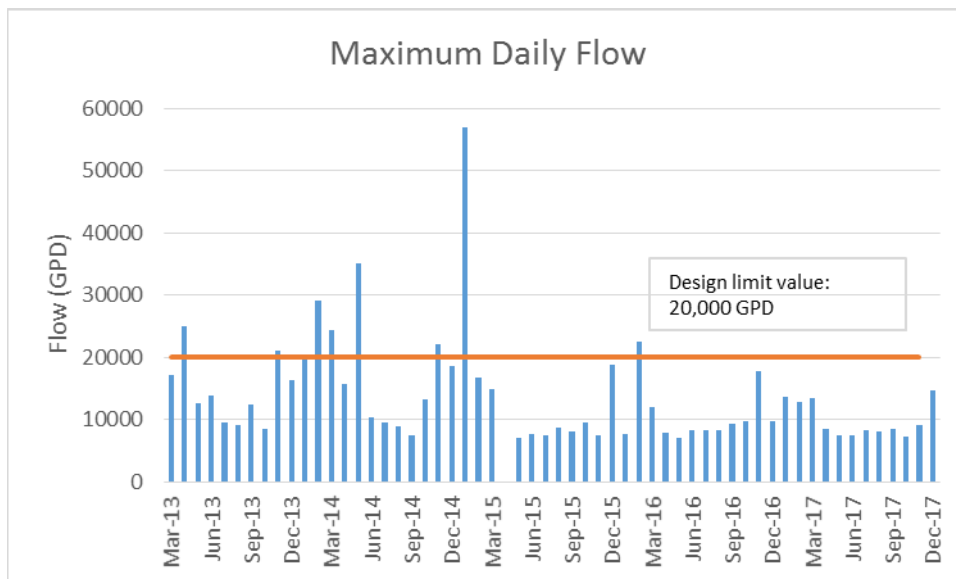
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Jul-17	4.4	4.4	2	53.5	53.5	6.3	6.3	17	17	0.2	2	2	49.0	12.5	835	950	4077	7090		
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Sep-17			2			6.3	6.3	13	13		0	0			816	960	4445	6760		
Oct-17	6.4	6.4	2	78.0	78	6.0	6.0	11	11	0.0	2	2	1.8	16.8	831	940	4567	5870		
Nov-17			4			6.9	6.9	13	13		2	2			839	930	5148	9900		
Dec-17			2			6.5	6.5	7	7		0	0			833	950	6174	16390	10340	10340
Min	3.0	3.0	2	35.9	31.4	6.0	6.0	0	0	0.0	0	0	1.0	6.1	736	930	3246	5870	0	0
Max	10.7	10.7	1700	110.0	86.9	6.9	6.9	31	31	3.5	28	28	110.0	16.8	1611	1380	10138	55660	12713	20650
Average	6.8	6.8	46	60.3	55.6	6.4	6.4	8	8	1.0	3	3	21.8	9.4	1014	1141	5449	11424	5245	8769
Median	7.0	7.0	2	59.7	56	6.3	6.3	6	6	0.5	2	2	4.5	9.1	864	960	5188	8830	4207	7131
95th Percentile	10.0	10.0	136	83.6	80.7	6.8	6.8	27	27	3.0	5	5	82.1	12.9	1310	1370	7992	19814	12119	19913

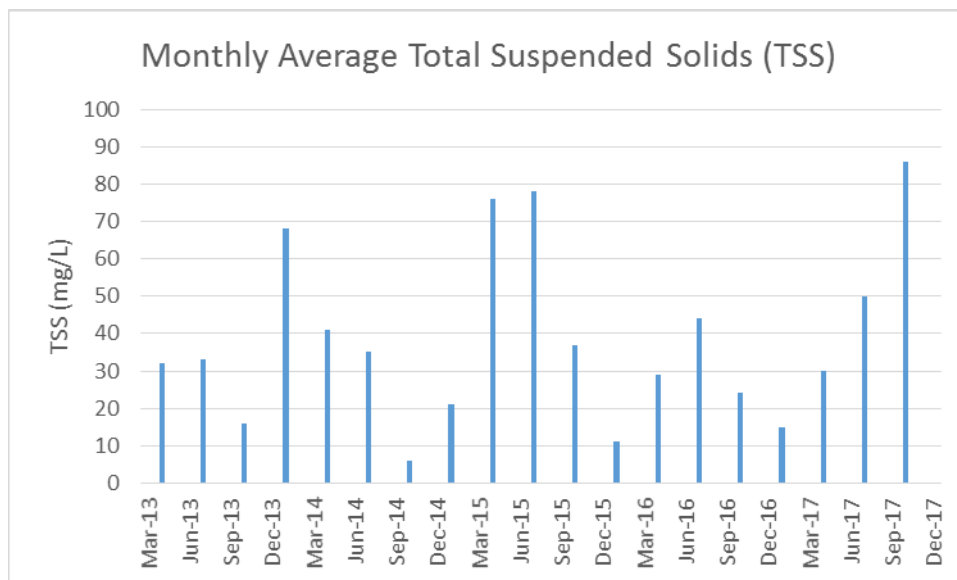
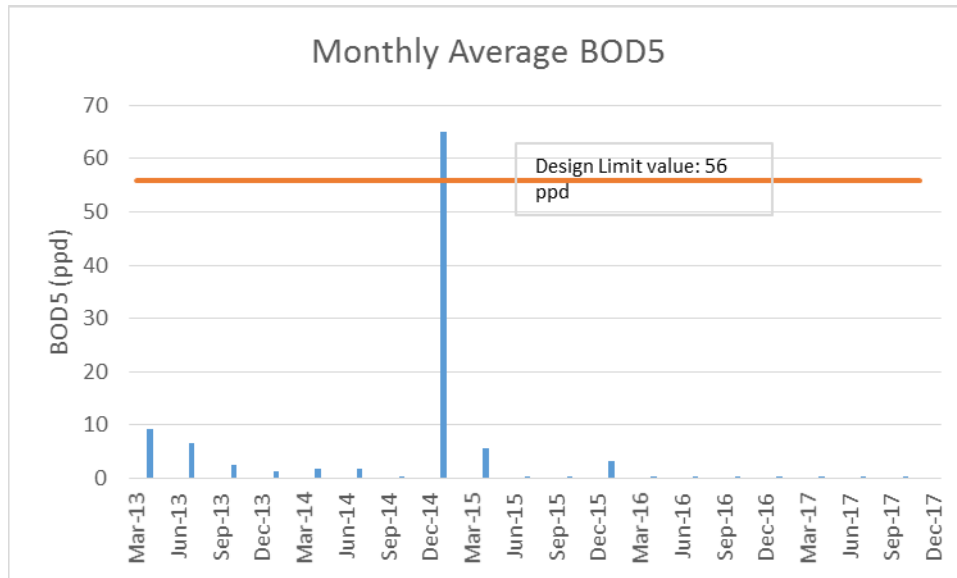
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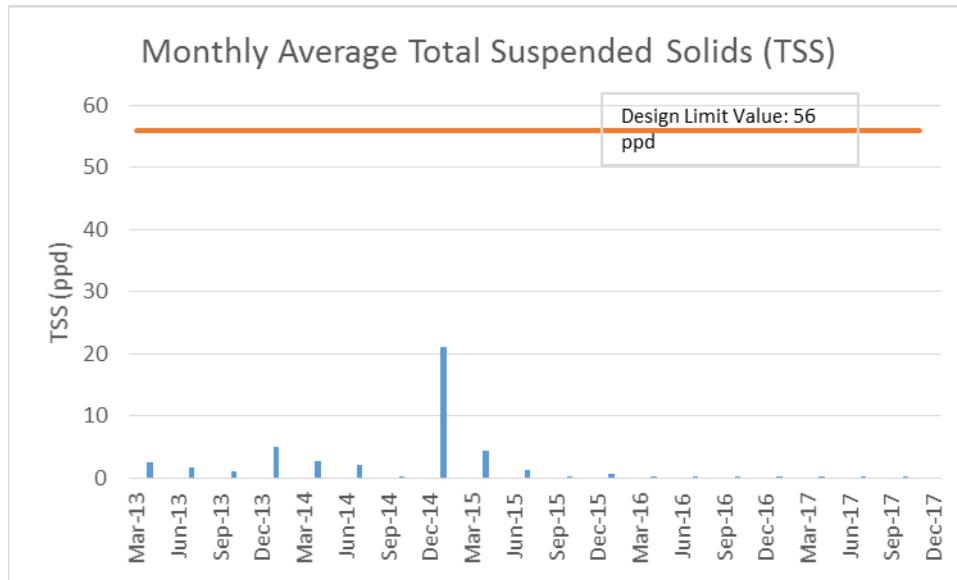
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exceed permit or design limits

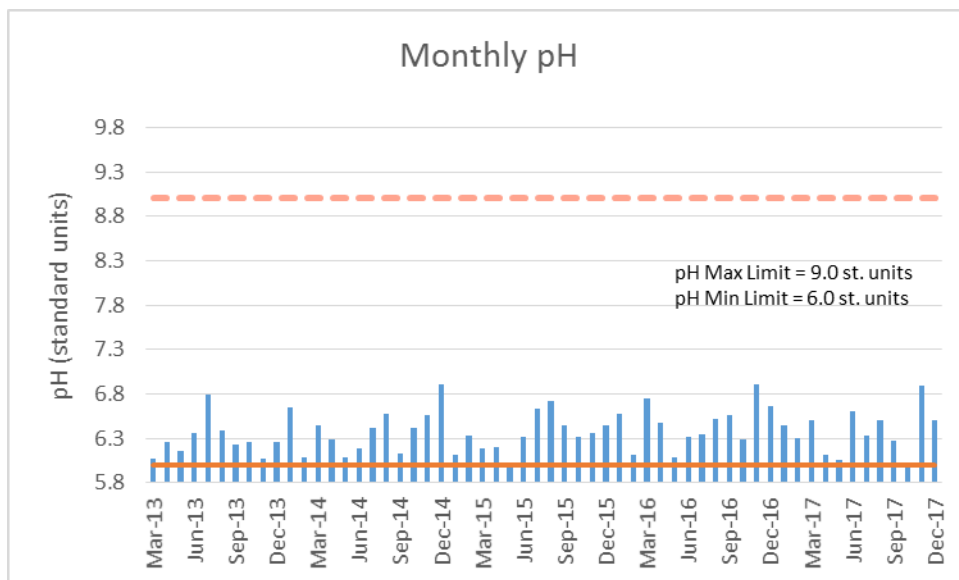
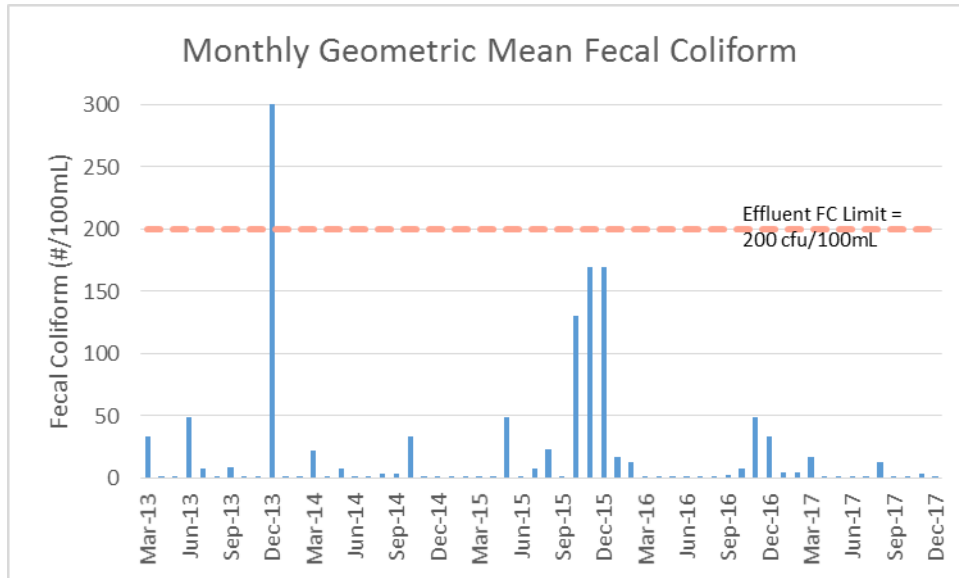
Discharge Monitoring Influent Data, March 2013 to December 2017

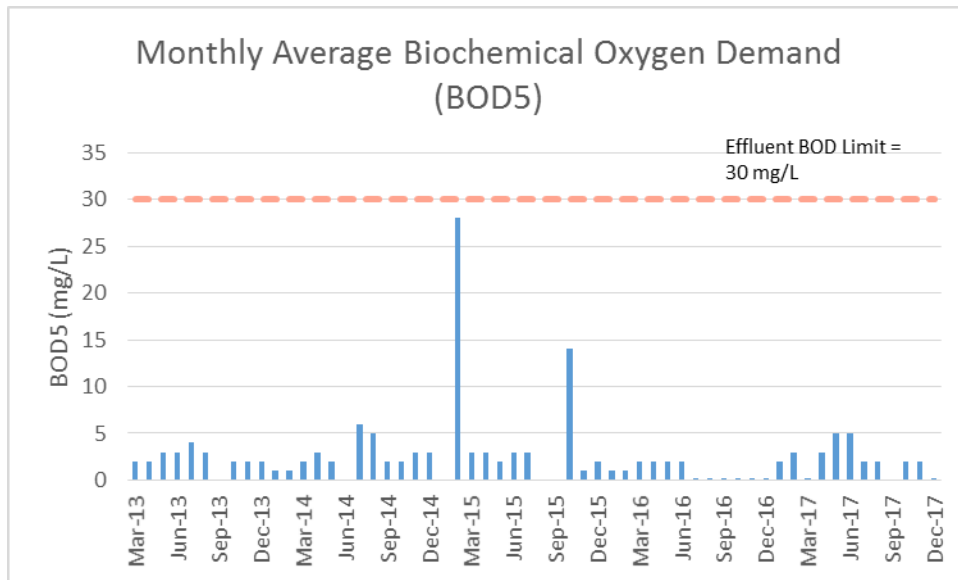
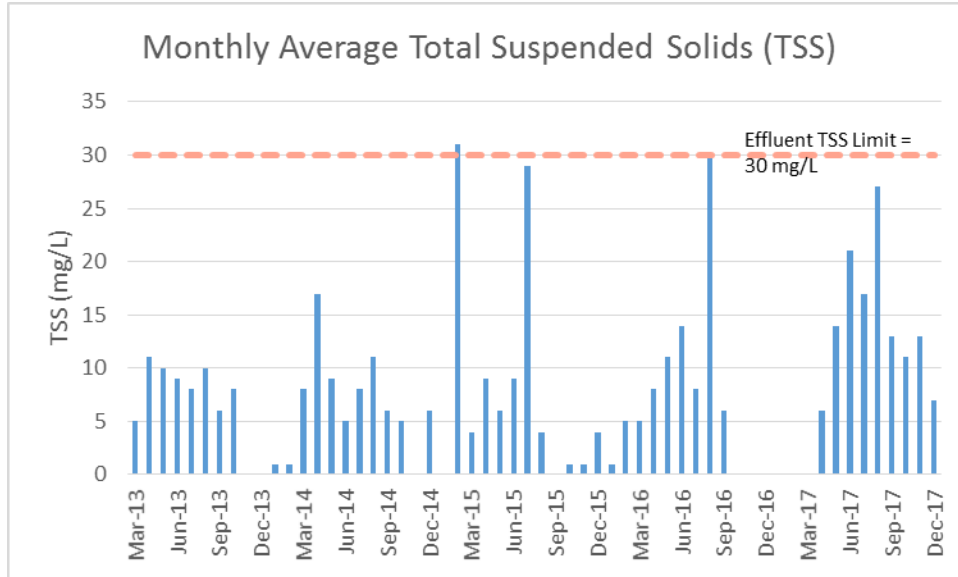


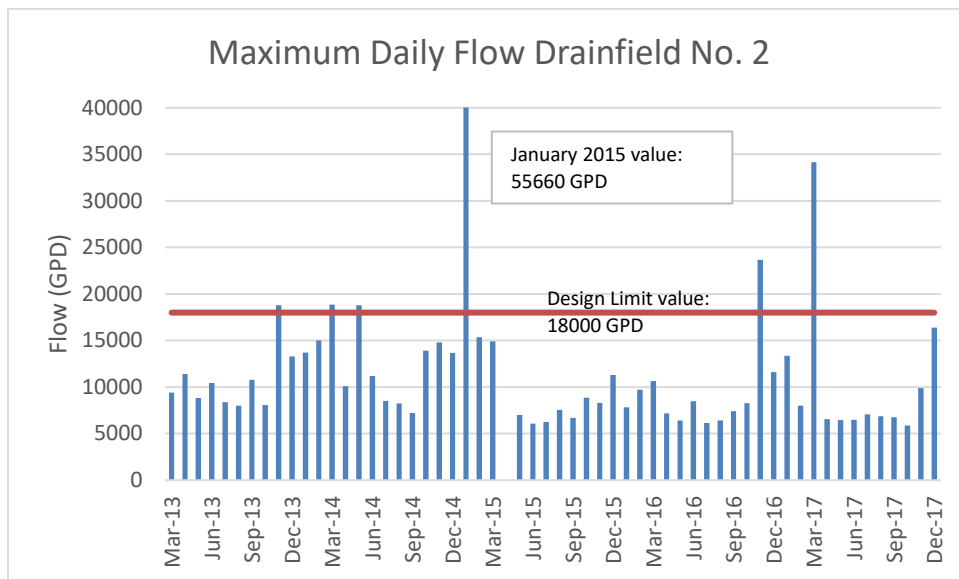
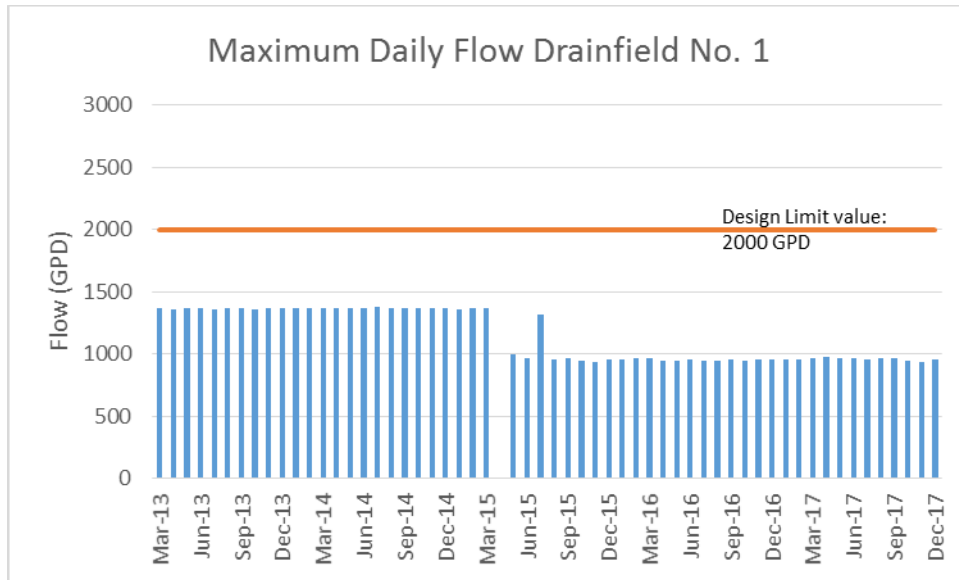


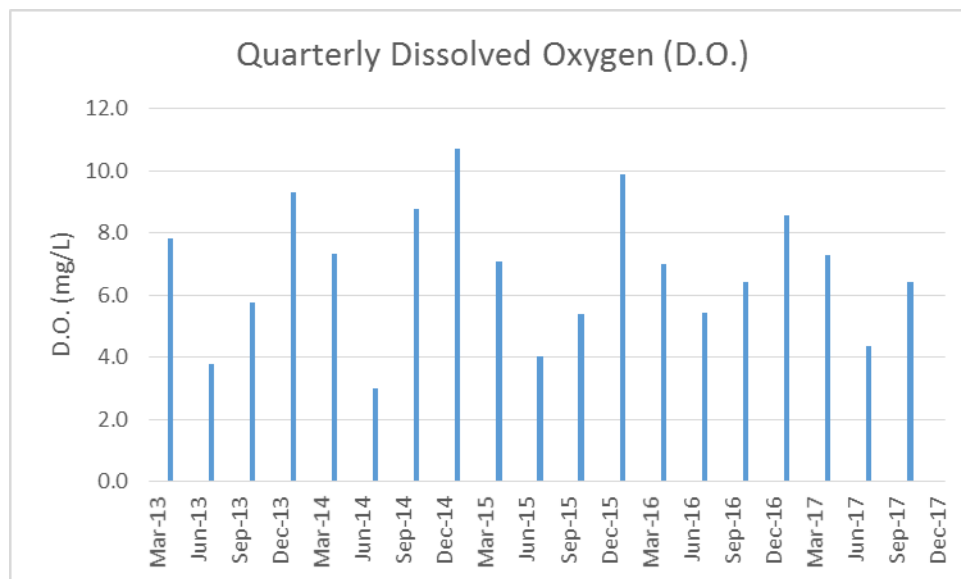
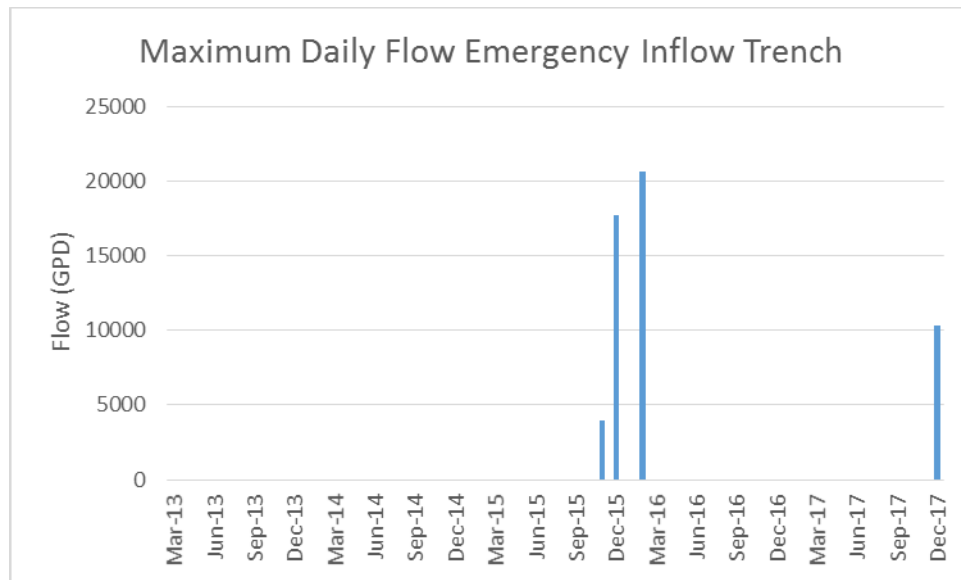


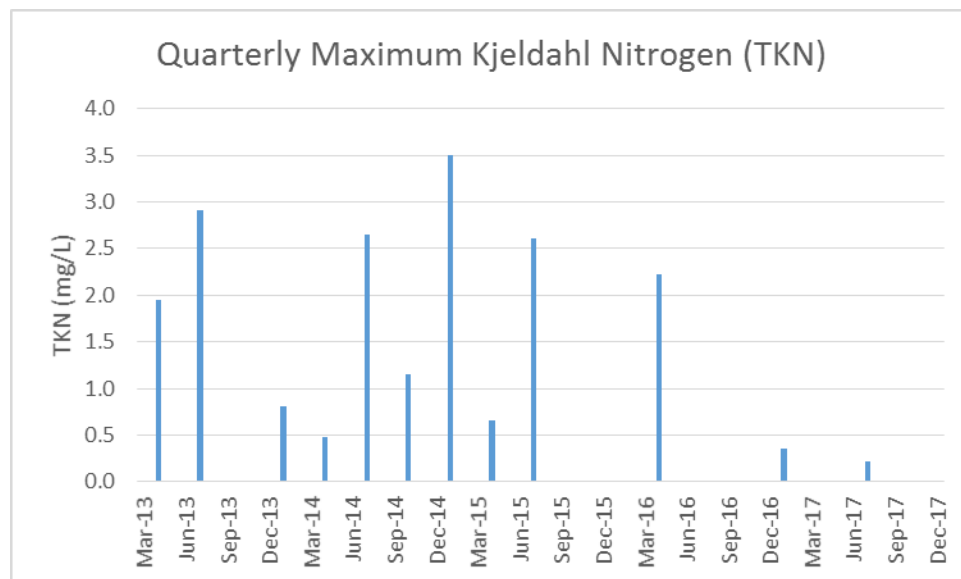
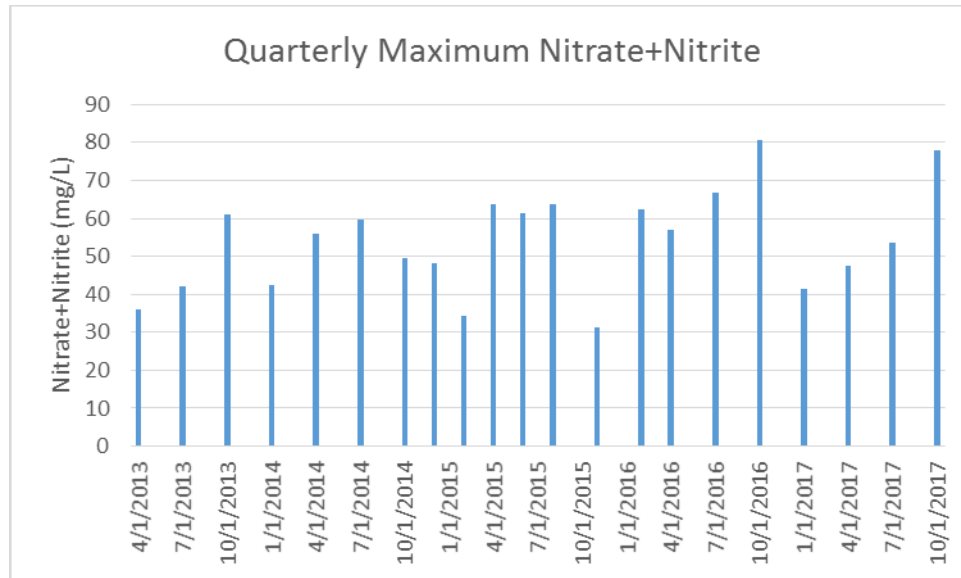
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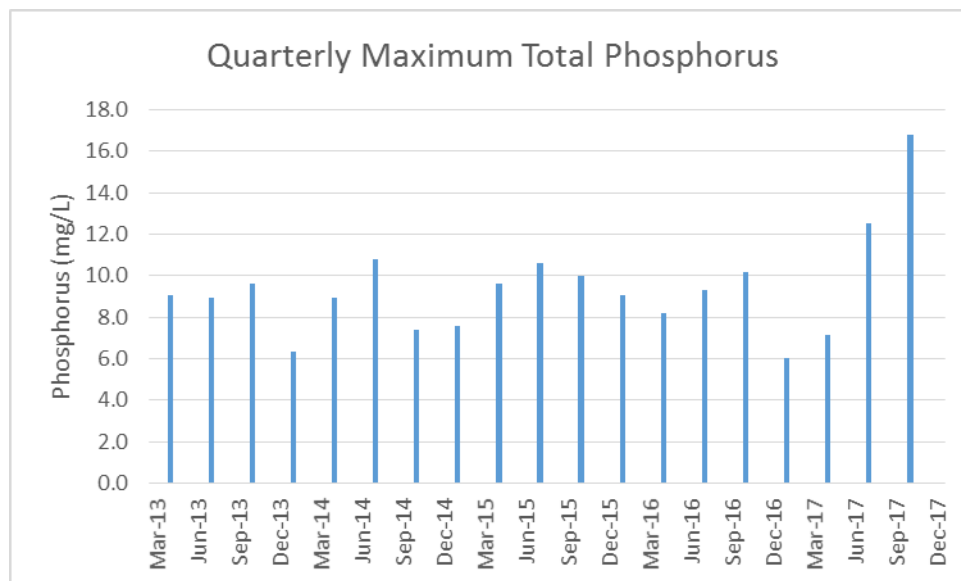
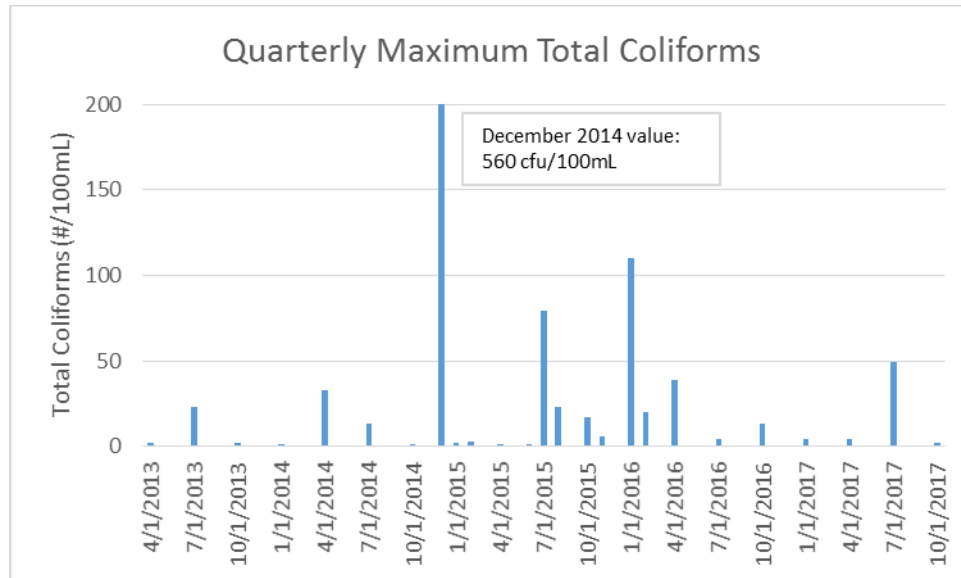


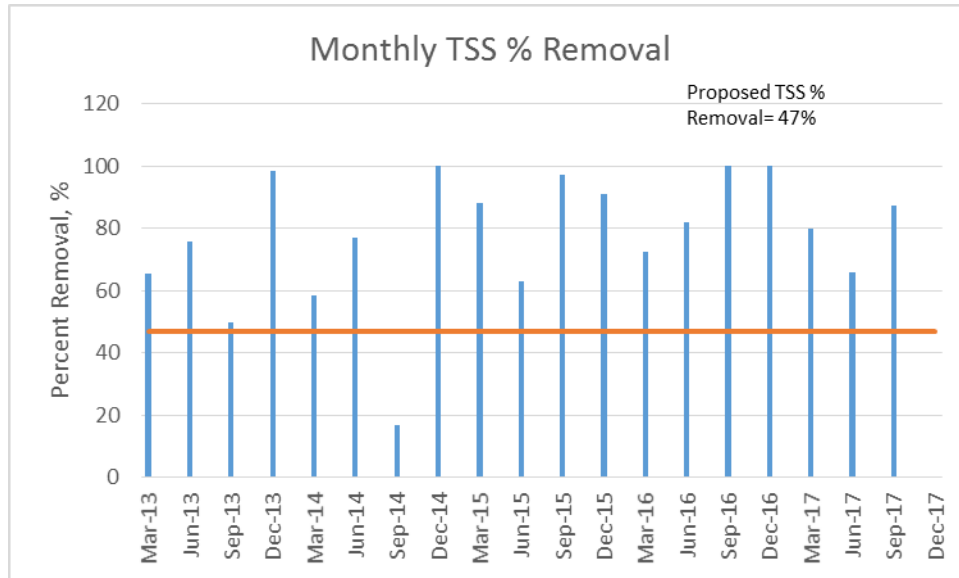






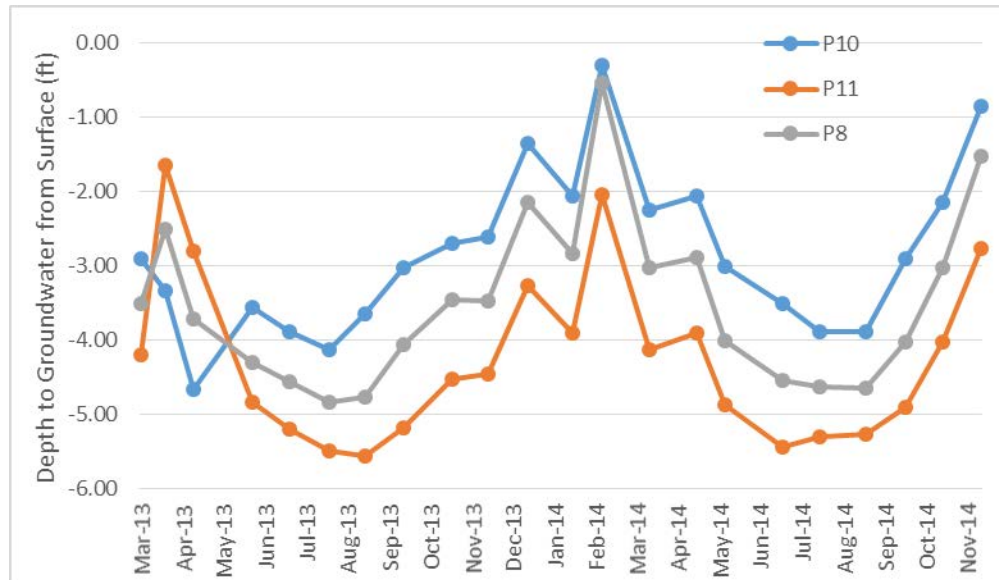






Depth to Groundwater Monitoring Data, March 2013 to December 2014

Date	Sample Location P10	Sample Location P11	Sample Location P8
	Depth (ft)	Depth (ft)	Depth (ft)
Mar-13	-2.91	-4.19	-3.51
Apr-13	-3.33	-1.64	-2.51
May-13	-4.66	-2.79	-3.72
Jun-13	-3.56	-4.83	-4.29
Jul-13	-3.89	-5.19	-4.56
Aug-13	-4.13	-5.48	-4.83
Sep-13	-3.64	-5.56	-4.77
Oct-13	-3.03	-5.18	-4.05
Nov-13	-2.69	-4.53	-3.46
Dec-13	-2.60	-4.46	-3.47
Jan-14	-1.35	-3.26	-2.14
Feb-14	-2.05	-3.91	-2.83
Mar-14	-0.30	-2.04	-0.54
Apr-14	-2.25	-4.13	-3.03
May-14	-2.05	-3.90	-2.88
Jun-14	-3.00	-4.87	-4.00
Jul-14	-3.50	-5.44	-4.54
Aug-14	-3.89	-5.29	-4.63
Sep-14	-3.89	-5.26	-4.65
Oct-14	-2.91	-4.90	-4.03
Nov-14	-2.15	-4.02	-3.03
Dec-14	-0.85	-2.76	-1.52



Appendix E—Response to Comments

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1. Comments Received during Hearing – April 29, 2019

Mike Tamman (male speaker)

Scott Mangold (male speaker)

John Rupp (male speaker)

Jeff Haddox (male speaker)

Rick Hayley (male speaker)

Alison Mohns (female speaker)

Betsy Stevenson (female speaker)

Greg Young (male speaker)

Tom Skinner (male speaker)

Dave Hall (male speaker)

Julie Nicoll (female speaker)

Ron Wesen (male speaker)

Bernie Alonso (male speaker)

April 29, 2019 Hearing

Tricia Shoblom: Thank you. Go. Okay. Let the record show that on April 29 2019 this hearing is being held at the Edison Elementary School in the multipurpose room for the Edison wastewater treatment permit number s t zero zero four five five one five a and five eight zero one main avenue Bo Washington nine eight two three two notices is hearing were published in the Skagit Valley Harold on March 28th, 2019 email to interested parties in the Skagit county region and also posted on the Ecology's website. Please speak clearly so that we can get a good recording of your testimony and we will begin with Mr [inaudible]. Please go ahead when you're ready.

1.1.Mike Tamman

My name is Mike Tamman. We are the monitoring company. My name is Mike and we are the monitoring company for the innocent Subarea. Then contracted for plus or minus 10 years through that time with the association has worked very well at the Skagit county. Um, we've done a lot of really substantial upgrades to the system that was permitted and 99, um, at the request of Ecology we put a cover over the re circulation filter that has proven to eliminate thousands of gallons and just rainwater. That tarp is working very well today. Part of our scheduling is every June we assess every tank in town, commercial and residential. We look for leaks, whatever. And they were surveyed last year and some of those that were surveyed this last winter are going to get riser extensions because of ground water intrusion. It's a constant battle with the elevation Edison, with the king tides. We've had the 15 foot tides. Um, and I am very high rainfalls so we're, we're kind of getting some, um, it's, it appears to be new situations. These 15 foot tides in conjunction with these big brains have been giving us grief as far as ground water intrusion. We missed our window last year trying to get all of our ducks in order. This winter we are going to split the town in sections. We're going to place die around all the inlets and outlets of the tanks around the baffles. And then we will come back in a couple of days again to check to

see if there's been any ground or die that has been introduced into the tank. And we want to check it fairly fast before it has a to cross over into the other side. Um, uh, um, uh, monthly we checked all this commercial septic tanks and grease tanks, all the water meters, seven times a year. We take random samples from the commercial establishments for oils and grease and BOD ODs. And then as I said again, a yearly, we inspect the entire town. The biggest thing it seems to me that Ecology is, um, uh, is concerned with is our exceedance in and uh, flows. Uh, they can't seem to prove that we're degrading the water quality. I was there 18 months study, didn't come up with anything that I am aware of. So part of it has dye tests and everything is winter. It's installation or a tarp is strictly designed to get rid of your seniors and your groundwater. And our flows. We, like I say, it's a short window when the tides are up and it's raining hard, we can look and see what's there. The rest of the year we're stymied because we do not have a ground water table to prove or water is entering in. So we just had this little short window and I just want to make it Ecology you aware of that? So yeah. Thank you.

Ecology's Response to Mike Tamman's Testimony

Ecology acknowledges the on-going work the Drain Doctor does in cooperation with Skagit County to address water quality and water quantity issues at the Edison Wastewater Treatment Facility (WWTF). Ecology is concerned with the nature and volume of flows because we need to ensure that the WWTF is operating within its designed capacity, in order to prevent water quality problems caused by overloading. ("The permittee shall not permit flows or waste loadings to exceed approved design criteria or approved revisions thereto (WAC 173-216-110(4)).") Condition S4.B of the permit is intended to evaluate ways to mitigate capacity issues at the site.

Tricia Shoblom: Next time list is Scott Mangold. I just want to reiterate, it's four minutes for each person that's coming up to take, give a testimony. So I will be holding up the sign when you're okay.

1.2.Scott Mangold

Hi, I'm Scott Mangold. I sit on the advisory board to the Edison. First of all I'd like to thank you, calls you for modifying the fact sheet to uh, continue to include that we were designed to operate without a full time operator. Uh, also we'd like to say that I appreciate, um, your willingness to work with us in good faith. I'm finding, um, okay. There's one other thing I would like to request to add to the fact sheet in the staffing section. The previous discharge permit, uh, included, um, a statement about us not fitting with Ecology as much as with the Department of Health. Uh, this is the statement, Ecology requires all waste water treatment plants to be operated by operators certified by the state according to WAC17323. Oh, um, large onsite systems are not typically permitted by a call to you and therefore there are no classifications that adequately covered these types of plants. The closest classification is biofiltration. Yeah, I'm asking for that to be added because it maintains the history of our system really not fitting with ecologies regulations. And I think that that's one of the issues that we have here is that we're an inbetweenner. We, we don't, uh, we don't fit with existing regulations as I, as far as I can tell now a Ecology doesn't really seem to be willing to include us in a different way within the regulations instead trying to modify the regulations around us. Um, and so this would help to demonstrate that in congruency between our operation and the knowledge and training that I'm a certified group one operator receives in order to operate our system. I'll get back to that. Uh, in light, in light of the additional expense that a certified operator would add to our budget and the fact that our original design was approved by the Department of Ecology without the need for an onsite operator. Uh, we really are having difficulty seeing the added benefit that a certified operator would provide to our system for the additional costs, cost benefit analysis. I know that that's probably not critical, uh, governmentally, but, uh, it's important to us as a small town trying to, um, trying to really keep the water clean and our bag just to psychology schools are, uh, we wonder what physical duties, uh, a certified operator would perform that aren't currently being achieved with our existing staff and our contracted operation maintenance. Uh, we understand that per the whack, um, there would be a lack of formal training on, for a system without this operator. But on that same note, um, we've won, we've proposed a position to local operators in the area and had them out on site to see the system. And the two that I'm aware of that came

out didn't really understand how our system operated and these were higher than group one level certified operator. Um, it's not in their training to work with a bio blurb, but perhaps is in their training to work with a biofilm filtration system but not with a drain field. Uh, and not with septic leading into it. Uh, I then took a moment to review the class one and two operator criteria from links through the Ecology website. And, uh, there was two pieces of information I can find. One was from a place called ABC, which is the Association of Boards of certification and provides a need to know a pamphlet for wastewater treatment operators, class one. So that's a requirement. There isn't, um, a listing of trickle filtration or biofiltration anywhere in here. There's no discussion of drain fields and most is dealing with equipment, uh, managing aeration systems, chemical feed systems, glorification systems, um, and analyzing data, which that might be helpful that we're already doing that. Um, and so I'm not sure that a certified operator actually fits the application of what we're, how we're treating our water. I think we could get that classification, but I, again, I don't think that it fits with what we do.

Ecology's Response to Scott Mangold's Testimony

The requested statement has been returned to the permit's fact sheet with additional language for clarification.

As stated in WAC 173-230-210 (1) the purpose of this regulation is to protect public health and the environment, including waters of the state, by ensuring wastewater treatment plants are properly operated and maintained. By requiring certification of wastewater treatment plant operators, the department ensures they demonstrate competence to operate and maintain wastewater treatment plants or reclaimed water facilities.

WAC 173-230-330 designates plant classification and operator in responsible charge based on treatment type and design flow rate. The regulation does allow for plants to be classified in a group other than indicated if certain exceptions apply, the applicable exceptions being 1 & 3:

- 1) They have characteristic that make operation less complex or more difficult than other similar plants of the same flow range;
- 3) They use an approved method of wastewater treatment that is not included in this section.

The flexibility for satisfying Edison's operator requirement is within these two exceptions. Within this framework Ecology has reduced the required operator certification from a Group II to a Group I and concurs with the WWTF approved O&M manual that a part-time operator is sufficient. Ecology has encouraged pathways for certification that preserve institutional knowledge of the WWTF, including but not limited to, certification of County employees and or advisory board members.

Tricia Shoblom: Yeah. John. Okay.

1.3. John Rupp

Good evening. Uh, oh. I was like, please state your name for the record and yeah, sorry. State please state your name for the record. I'm sorry. My name is John Rupp. I'm the hydrogeologist for Skagit county public works. Thank you. Is it on? Is it on that? There we go. All right, so I'm hearing just to discuss it a little bit about the, uh, ground water assessment and how that might work going forward. This is the ground water assessment from 2014 to 2016 that Ecology performed a lot of the highlights from this was just that there was a variation in the groundwater flow direction, uh, namely three, uh, during the wet season. There was one flow during the dry season. Um, another flow when we're to the south. And the real problem was during, um, the dry time of the year where the wastewater treatment discharge created a male and creative radial flow. Um, so what I am trying to just say is that the site is really complex and uh, we feel that after reviewing your assessment that it's unlikely that any further excite character characterization station completed in the future probably would not achieve different results. We don't know really what the precipitation and title flow combinations with might be in the future. Um, so what we are proposing is to utilize the current groundwater monitoring network, the wells that were installed by Ecology and to

propose alternate points of the compliance for each drain field. So based on the recommendations, okay. Of these propose points on the compliance. Um, we would determine what wells would act as background wells and what wells would as downgraded wells showing any potential impairment of the groundwater. We would use the study's findings to develop a frequency of monitoring the flow and which wells we would use as background wells and points of compliance to the drain fields as well as uh, the specific constituents that would need to be salmon for this would be put into more detail in a scope of work and hopefully we would be able to get ecologies feedback on that plan. And so that's basically just what I wanted to talk. Thanks. Okay. Thank you.

Ecology's Response to John Rupp's Testimony

Edison's permit contains a condition (S8. Groundwater Monitoring Plan) that includes scoping for a groundwater monitoring plan. This allows the County and the community an opportunity to actively participate in the development of groundwater monitoring at the site. Through the review process, Ecology will provide comment on this plan. Utilizing the existing groundwater monitoring network was presented as an option early in permit development. Ecology believes the highlights of the above presented proposal are reasonable and looks forward to seeing more on Edison's proposed groundwater monitoring plan.

Tricia Shoblom: Jeff Haddox.

1.4. Jeff Haddox

My name's Jeff Maddox I represent the school district. I guess I'm a big concern for us is additional costs for an operator monitoring wells. Yeah. We're concerned about where those wells are being placed on school property. We just wanted to make sure that they're safe and then uh, we need to have a procedure in place for anybody accessing school property that I keep that students and staff safe. And that's all I have. Thank you.

Ecology's Response to Jeff Haddox's Testimony

To address concerns regarding groundwater monitoring well locations, Ecology encourages the BE School District to work with the community of Edison and Skagit County during the development of the Groundwater Monitoring Plan. All new groundwater monitoring wells are installed in accordance with the Washington Well Construction Act (Chapter 18.104 RCW). Ecology will exercise the greatest flexibility allowable within state regulations to issue a permit that will ensure a safe environment for students and staff.

Tricia Shoblom: Rick. Hayley

1.5. Rick Haley

Rick Haley water quality analyst in water resources team leader for Skagit county public works. And I just want to quit the medicine. Treatment systems, bacteria contributions in decline. Two tracks with what we've seen in the sandwich. Um, today is the 11th anniversary of a very bad water sample that we took out in the sandwich, wherever that kicked off what we call the clean sandwich initiative. Um, we had very high levels of bacteria in the sandwich, a river and subsequent sampling show very high bacteria levels all over the sandwich basin. So since that day we have been all over the sandwich basin with a fine tooth tooth. We can you for bacteria sources in surface waters, tons of seal. When we've contacted dozens scores of landowners, we've provided fixes for people to prevent pollution. We say a whole ever since Lou here at the school, every two weeks for our regular program and during storm events, um, as part of the clean sandwich in, it should do at no point during this 11 years. And we suspected that ever since the treatment system as being a source of bacteria to surface waters around here. So what I wanted to say was that we are paying attention out here and we have not found any sign of a problem from the Edison treatment system. Thank you. Yeah.

Ecology's Response to Rick Haley's Testimony

Ecology appreciates the input, and the vigilance of Skagit County's surface water monitoring program. State law requires any domestic wastewater facility to obtain a permit before discharging waste or chemicals to water of the state, which includes groundwater (WAC 173-216). A permit is required to use public resources for wastewater disposal. Monitoring of the WWTF and groundwater are requirements to demonstrate, to the regulated community and other interested parties, the permittee is in compliance with the terms and conditions of their state waste discharge permit.

Tricia Shoblom: Is it Mohns, Allison Mohns

1.6. Alison Mohns

Alison Mohns, Skagit County Planning and development services. I'm here to talk about the meters and the requests that the inflow and outflow meters be pulled here. Leave for recertification. I have spoken with the installer ATS who recommends that the meters would be left in places as follow the industry recommendations for the monitor phone numbers are watched both monthly and on daily oversight. The magnetometers per anacon who are the suppliers should also stay in place and be monitored through the daily and the monthly flow numbers. If they are pulled we are looking at \$7,800 additional costs to have a secondary set on hand so the plan can continue to function plus an additional 600 plus dollars per time that the system has the flow meter and the end and the flow meters checked. I would also request that the upwelling trench is allowed to have a 200 gallon per day seating for the bio mat in place so that it's such time and her from urgency uses required or needed that that Biomet is in place and functioning. Without the seating there will be no bio mat which causes an additional risk. Okay. Also as a point of fact, the October, 2018 decommissionings done through Ecology's approval, we're on three point wells that were placed in a farm field that is no a portion of the land that had been purchased by the system for the chamber. S drainfield. They were placed for what season? Review a farm field and they comprised a safety issue to the school for being more than a foot, two feet above ground and they had also been run over multiple times. They were not new wells. They were just tacked recently.

Ecology's Response to Alison Mohn's Testimony

See condition S2.C.2 of the permit. Flow meters should be calibrated and maintained according to manufacturer's recommendations and O&M Manual procedures; they do not necessarily have to be removed from service.

Design criteria for the emergency upflow trench allows up to 1,846 GPD. The intent of the emergency upflow trench is to be used when flow to Drainfields #1 and #2 are restricted but the under this limit, the permittee can continue to provide the biomat 200 GPD of treated effluent. See S1.B. Best management practices/pollution prevention, of the permit.

Comment about October 2018 decommissionings noted.

Tricia Shoblom: Betsy Stevenson. Hi,

1.7. Betsy Stevenson

My name is, my name is Betsy Stevenson. I'm a senior planner in team supervisor of the natural resources team at the Skagit county planning and development services. And I too would just like to say thank you for holding this hearing on our behalf and giving us the opportunity to come and testify in my comments will be brief. I own, um, I can just im hoping that you will consider our thoughts in terms of an operator and what the purpose is and what we actually need and can use out here in the system. Um, the fact sheet from the previous permit which was done in January of 2013 states, Ecology anticipates that the Department of health loss permitting program will be further developed at that time. Meaning when this new, this next permit cycle came into play and a decision on operator certification requirements for the Edison facility can take into consideration certification requirements of other cinema, similar loss facilities in the state. Um, to follow up with that, I just went and found the wax that the department of

Health have in place in terms of operator qualifications. So I would just like to say that under number two, which I think fits for the system and whack two 46 dash two seven two Dash Oh zero seven two zero zero number two states shall employ one or more operators approved by a local health jurisdiction in Washington state. Um, and those are systems that are of the right size and flow that don't, um, use mechanical treatment, which I think this facility would comply with. So I guess I would just like to say the system was done historically and I think you've heard a bit about that already. Um, between department of Health, the citizens, the county, the Department of Ecology to solve a water quality problem that close the shellfish beds. Um, we knew it was kind of a hybrid and something different and not a normal animal that you would have to deal with. So we would hope that you can be flexible and continue seeing us as something different. This was the fact sheet from Ecology. Um, your laws haven't changed since it was done before. So we're hoping you will still consider that and maybe not require us to have the type of operator you're asking for, but maybe somebody qualified who understands the large onsite septic systems. Thank you. Thank you

Ecology's Response to Betsey Stevenson's Testimony

Under WAC 173-230 the Edison Wastewater Treatment Facility (WWTF) has been classified as a biofiltration/gravel filtration wastewater treatment facility. All treatment of domestic sewage is complete, and monitored for compliance, before discharging to the drainfields for disposal. Because of this quality, the Edison WWTF does not meet the definition of a LOSS system under the Department of Health (DOH) because it is not designed to provide subsurface soil treatment as part of the treatment process (refer to WAC 246-272B-01100¹). Furthermore, there is less than three feet between the infiltrative surface of the drainfield bed and the highest seasonal groundwater table. This does not meet DOH vertical separation requirements (refer to WAC 246-272B-06100), therefore it does not meet DOH LOSS system design standards. In addition, LOSS systems, regulated by DOH designed to treat over 14,500 gpd and having mechanical operations, are now generally required by DOH to acquire an Ecology Class I wastewater certification.

“Mechanical treatment” is a DOH term. Edison’s recirculating gravel filter utilizes mechanical components to treat influent flow. Within the recirculating gravel filter, wastewater from the recirculating tank is dispersed on the filter media through a series of perforated pipes under pressure created by four (4) recirculation chamber pumps. Because the gravel filter requires pumps to manage the flow path in the filter, allowing biology on the fixed media filter to remove BOD, TSS and convert ammonia to nitrate, this qualifies as mechanical treatment.

Ecology reviews the permit and fact sheet for regulatory compliance and correctness at the time of reissuance. We used the term “large on-site septic” in the previous fact sheet as a hold-over from earlier years. It was incorrect in 2013 to use that term, as DOH had revised and clarified their regulation in 2011. Ecology has removed references to the Edison system as a LOSS in the proposed fact sheet.

¹ The definition of a LOSS per WAC 246-272B-01100 is “...an on-site sewage system (OSS) with design flows of three thousand five hundred (3,500) gpd up to and including on hundred thousand (100,000) gpd”. An on-site sewage system (WAC 246-272B-01100) is “...an integrated system of components, located on or nearby the property it serves, that conveys, stores, treats and **provides subsurface soil treatment** and disposal of domestic sewage. It consists of a collection system, a treatment component or treatment sequence, and a drainfield. It may or may not include a mechanical treatment system. An OSS...”.

³ WAC 246-272B-06100 is “A vertical separation of at least three feet is required between the infiltrative surface of the drainfield bed or trench and: (a) The highest seasonal water table;...”

Tricia Shoblom: (21:02) Greg Young.

1.8.Greg Young

when you, my name is a Greg Young, I'm the district administrator on a holder professional service contract with Skagit county. I, uh, started with the district in 2001 when we were closing out the Department of Ecology grant to build the system. I was hired to administer the doe grant for reimbursement of following that I stayed on and helped the folks here, uh, to develop the rules and regulations, which the county of denture eventually adopted as chapter 12.64. The Skagit county code, which regulates the, uh, the Edison clean water district. During this time, I been exceedingly impressed with how much the citizens of Edison and especially the board members who work on a volunteer basis care about the Ecology of this area. They live here. Their families are here. They have a history here that in fact they banded together and I think they're rightfully proud of the grassroots efforts they took to not only put together the system but to operate the system since 2001 when we started, we've developed a lot of internal policies to address issues that came up. Uh, we've gone out for service contracts and tried to find the best maintenance contractor that we could. We've always tried to find value for the money, realizing that we have less than 60 connections in town. And so we're asking our citizens to pay for a system, uh, with a very small customer base. Back in 2001, we had a budget of \$25,000, mostly because we were just beginning to operate and we weren't exactly sure what all of our costs were going to be back then. Uh, an average home paid about \$360 a year. Okay. Today, our budget is what we try to collect about \$85,000 a year. And right now, uh, a normal resident pays closer to \$700 a year. So over the years things do get worse, but see that was 18 years ago. Uh, but additional regulations have come on board and we've tried our best to keep our services reasonably priced, efficient and effective. As noted, we actually have found out that our system our size and we purchase a five acre parcel, it tastes to the school and built up large dream. Uh, just recently we put a cover on it, grab a filter and we again tried to do this and the most economic way and I wanted to impress upon we that this is a small community that's dedicated to the Ecology of the area. They have banded together, they assess themselves every year for the operation. We try to run things efficiently and effectively and some of the newer regulations, especially the monitoring and the operator in some ways are going to be adding costs without much financial benefit, especially the operator. We were told at the last day, a week a public meeting that a level one operator would need to be here one hour a month for one hour a month. That is truly formal per substance. One hour a month. When we operate on a 24 hour cycle, the operator is simply, we're paying for someone to have their name on, I want a piece of paper so we call it, you could check a box. I don't see that there's value and I liked her Ecology to use some of the discretion that they have. Uh, it's, I know it's hard for regulators to not want to regulate. Uh, and doe certainly has a regulatory hammer, but we're not necessarily a nail.

Ecology's Response to Greg Young's Testimony

Ecology recognizes the Edison WWTF as a success story but it's important to ensure qualified staff are available to keep the plant running well for the next 20 years and beyond. As mentioned in Mike Tamman's testimony, increasing amounts of rainfall and king tides present challenges to the system. Some of this we saw over the last permit cycle, in the monthly Discharge Monitoring Reports (DMRs), as exceedances in flow to the gravel filter and loss of discharge capacity in the drainfields. As John Rupp's testimony pointed out, the hydrogeology at the site is very complex, as verified in a recent groundwater assessment conducted by Ecology (see VII. References for Text and Appendices of the permit factsheet). The changing climate, complex site conditions and aging infrastructure present unique challenges for performing in compliance with its state waste discharge permit. The community and wastewater system will benefit from the knowledge and resources of a certified wastewater professional. Thank you and other volunteer board members for your commitment, past and present, to maintaining responsible care for clean water in the Edison Community.

Tricia Shoblom: Tom Skinner, did you work at any content information? Pardon me? Contact Information. Would you want to like put down an email or I'm in a board member. I already get. Okay. All right. So go ahead and state your name.

1.9. Tom Skinner

Tom Skinner. Edison said award member. I've been with the board and the sewer citizen since its beginning prior to 96. I think our first meeting was in Blanchard community hall where the Health Department informants that we would be in violation until something was done. And in the meantime we took it upon ourselves to try and figure this out. Okay. So the points being made today are the certified operator. Um, okay. Ecology was very influential in the design of the system. We had cooperative with ward members from the Department of the Ecology who oversaw an approved design. Ken Ziebert indeed was just a financial person, but he was also available with his expertise. Um, so okay. Ecology was as big a player in the beginning and the and construction of this system. We've has anyone else, the county or the citizens, um, now they seem to be arbitrarily assigning us a certified operator. Scott mangled did the research is very clear that there's inconsistency in your testimony prior to and up to this date. So I think everyone else here at Greg just now have made it quite clear that this is an expense that is unnecessary. So as a board member, I will be, uh, asking the, we do remain in out of compliance with the certified operator and hopefully, uh, we can find an answer even if we have to take it as far as going to court to define our system, which is pretty much one of a kind and has shown itself to be functioning and well cared for and operating as well today is, and with a large reserve fund to make sure that anything that Michael wrong can be covered, that we won't be left begging for money. Uh, we were required to increase the sampling and the, you know, as a group, we really do, uh, cooperate with the Ecology and believe in their goals and we would like to see and participate in the groundwater study to arrive at a concluded that is acceptable. Uh, I think that within a year or two we can show that the ground water needs to be only a survey once each permit cycle. That's our goal as far as the rainwater and infiltration. We spend a great deal of money and time and continue to monitor that. They'll help, uh, make our system more effective in ecologies eyes. Um, and the meters that Allison's spoke to, of course do not need be calibration. So I think you're having a, a rock and a hard place. I don't know. The big bureaucracy is what of what we see, how the decisions are very bureaucratic. Thank you.

Ecology's Response to Tom Skinner's Testimony

Ecology hopes the community of Edison will continue to work cooperatively with the department under their permitting obligations. As commented, Ecology was instrumental in engineering and funding a solution for the community during project inception. Once the WWTF was constructed and began discharging pollutants to waters of the state, a permit to operate was required. This falls under Ecology's authority as well. So Ecology's involvement at Edison has transitioned from a primarily technical/financial assistance role to a regulatory role under Washington State Law and the State Waste Discharge Permit (ST0045515). An operator is a requirement of wastewater treatment facilities (WAC 173-230). You have a right to appeal this permit. Appeal to the Pollution Control Hearing Board within 30 days of the date of receipt of the final permit. Language providing more details regarding this process will be included in the appendix of the permit factsheet.

Tricia Shoblom: Okay. No, you don't have to have every month. Okay. I'll, okay. David Hall. All right.

1.10. David Hall

I'm David Hall Community member and a former advisory work member. There's been a lot of break presentation today and technical and otherwise that I can't really add to that. So I'll make this very brief. I mean we're doing what we can with certain situations. We boys taken pride in our community system and I think the main phone where I have, which you probably a lot of other community members have is if it's not broke, why are we being required to fix it? Thank you. Okay.

Ecology's Response to Dave Hall's Testimony

Discharge Monthly Reports (DMRs) submitted by the County contain water quality and quantity data. The WWTF is permitted to treat and discharge a maximum amount of effluent daily, as well as discharge specific pollutants, to groundwater. Based on this information, over the last permit cycle, the WWTF discharged effluent with water quality in compliance with the permit but repeatedly exceeded the capacity of the gravel filter and drainfields.

New conditions in the permit target compliance monitoring for meeting groundwater quality standards, evaluating capacity issues and the acquisition of a Group I certified operator. Groundwater monitoring is an ongoing activity for all wastewater treatment facilities that dispose treated wastewater to ground. The groundwater is monitored for degradation of quality. The capacity plan is for identifying sources of inflow for controlling peak flows to the WWTF. A certified operator provides assurance that the WWTF is maintained and performs within design criteria. An operator can have both a technical role, administrative role and a requirement for those who own a wastewater treatment facility.

Tricia Shoblom: Yeah. Julie Nicoll.

1.11. Julie Nicoll

Good afternoon. Julie Nicoll, Skagit county prosecuting attorney's office. I am the attorney for the Skagit county planning department. I just want to say thank you to Ecology on all their efforts with this permanent, I know that there's, this has been a lot of work for everyone at a Ecology. You especially given the large staff turnover, this system has a long history one that I'm still learning as well. Um, and it has and has involved, you know, in a changing regulatory landscape. I think we're all trying to navigate through that changing landscape as well together. Um, but I think as other commenters have already stated tonight, the system doesn't seem to fit. Um, you know, to this day, if you search for that as in system on Ecology's website, it's still refers to it as a loss, a large onsite septic system. And we all know that this isn't a typical wastewater treatment system. So we're all very frustrated and trying to navigate through this, um, this permitting process together. And when this issue was initially brought to me, I wanted to see what the prior permit looked like because other clients I've worked with on these types of permitting issues, we looked at the, usually you look at the changes from the prior permit, what information have you learned over the years and that informs the next version of the permit. And usually there that many changes based on reason information. So this one came as a real surprise to me that there was sort of a one 80 done. Um, and a whole new template was used and you know, even the nomenclature for the system changed. So I think everyone is still trying to process all that information and we've been having a very difficult time and, but we do appreciate a Ecology's efforts and, and helping us navigate that. Um, we were also really surprised not only from the permit text, but we were also surprised by the data that Ecology is groundwater assessment provided. When I read through that groundwater is math assessment, I thought, wow, this is really good news. It shows that our system is not contributing negatively to the bay just surrounding groundwater. And in fact it's diluting it. It's actually providing a good environmental benefit. Um, so that was another reason we were surprised to see that there were even more requirements, environmental requirements that would add additional costs and additional requirements to the system. Um, so we're just a little, we're still perplexed at too as to why we have to incur these additional costs with little environmental benefit. Um, you know, the community as well as the county and Ecology all share the same goal and keeping the bay and groundwater clean. Um, and we strive to do that every day. We have qualified operation and maintenance team to accomplish these goals. And, uh, so we're here today to ask for regulatory flexibility. We asked that Ecology follow the permit writers manual. There are regulations and applicable statutes and ask that they have, they use their broad discretion to protect water quality. Um, within that discretion to Ecology, you can utilize a cost benefit analysis and consider the financial impacts to the small community of Edison. We hope we can continue to work collaboratively with Ecology to achieve these goals. Thank you. Thank you

Ecology's Response to Julie Nicoll's Testimony

A State Waste Discharge permit is valid for 5 years as issued under 90.48 RCW. Permit language is regularly updated to reflect changing regulation and new information. Although Ecology was not able to provide an exact point-by-point comparison to the previous permit, the special and general permit conditions and the format of the fact sheet are substantially the same as the 2013 permit and fact sheet.

Ecology requires groundwater monitoring in accordance with Groundwater Quality Standards, Chapter 173-200 WAC. The goal is to monitor the WWTF's pollutant contribution and groundwater quality over the long term for the application of the groundwater antidegradation policy. The Edison Wastewater Treatment Facility has been discharging to the groundwater for over 20 years. Only the last 5 years has been under a permit. To evaluate overall impacts to groundwater from the wastewater system, it's important to monitor the entire site at a minimum quarterly sampling frequency to capture seasonality over the permit cycle. The groundwater monitoring permit condition (S8) allows Edison/Skagit County to design and submit an appropriate monitoring plan.

Procedures for authorizing less stringent standards should be generally consistent with the overriding public interest processes Ecology uses in justifying exceptions to the ground water criteria WAC 173-200. The determination of "detrimental to the public interest" will be made on a case-by-case basis. The RCW does not allow an exception for removing the operator certification requirement because the rule applies to all wastewater treatment plant owners (WAC 173-230-220). Ecology has applied discretion relaxing the regulation to the greatest extent allowable within WAC 173-230-330 by permitting a Group I certification instead of a Group II certification.

Tricia Shoblom: Ron. Wesen.

1.12. Ron Wesen

Good evening. Thank you very much. What do you mean I'm wrong. Louis from Skagit county commissioner for district one, which is out here. In the other scenario I would also want to read what the other people said about how important the system is a community here and I agree with our staff then this come forward. The regulatory flexibility I think is very, very important. We're a small community. Um, I haven't been a lifetime resident here over fourth generation. I'm also with drainage sisters commissioner, which is the district is in charge of the agriculture drainage theory was can we do with water all the time? We do come a lot of water necessary. Uh, one thing I think people need to realize this town of medicine here was formed in 1889. That was a long time ago. And the water district in this area, where did you go? There's some water. Just, it was 1954. Okay. They used to have a high school here was ever since high school. They merge with Burlington, a Burlington Edison high school. So this community has a huge history of you coming together, working to solve the problems that is there. As long as they give the availability to make that solution happen. So please allow the flexibility of the regulations that are in Ecology. He had us do, we help this community going forward in the future I think is very good. These people worked really hard. I'm going to go look at the system, put it in and getting grants to someone to help build the system. So we need to help them to get the regulatory flexibility needed to make the system still thrive in here. Thank you very much.

Ecology's Response to Ron Wesen's Testimony

See Ecology's response to Greg Young's testimony (1.8).

Tricia Shoblom: Bernie Alonso.

1.13. Bernie Alonso

Hi, my name is Bernie Alonso and uh, the Edison sub, the area of water district in order district board, one of the resident members. And I've worked with the county and with the other board members, uh, to put together information about our system to communicate. Uh, the, what we see is as the implications of the, uh, draft permit as it stands today. And, and, uh, I did a cost model, um, working with the team, uh, in order to begin to get our heads around the, uh, around the budget implications.

So I think it was mentioned earlier tonight. Uh, we have a limited number of rate payers or users, uh, neighbors, uh, and for residential a connection to the system. Everybody paid \$693 and 61 cents. This here, uh, the commercial users paid on average \$6,300 this year. Uh, many were higher, some were lower. And built into that commercial group is also this school, this school operates or is able to operate because they have access and connection to the septic system as well. So, uh, looking at those initial numbers and looking at really a couple of key areas of cost, we've tried to keep separate the capital cost or new construction, whether we have to put in a well or do some other hard costs. I think Alison mentioned adding more redundant, uh, uh, flow meters. Uh, those, those costs are one component. Another component is ongoing operational costs. And so there are two areas of cost. Um, the operator would be an ongoing cost and we've modeled it a couple of different ways. On the low end, it might be about \$9,600 per year. Uh, and on the high end about twice that, um, the groundwater and testing, uh, it has, we've modeled it at roughly a \$12,000 cost as, as John laid out what we've proposed to do. Uh, and that's for ongoing testing. So as you've all heard, we've produced clean water for quite some time. All evidence suggests that we'll continue to produce clean water. So, uh, again, uh, reiterating Julie's point, we would look to, um, the Department of Ecology for, um, uh, discretion in, in terms of sunseting or reducing over time, the amount of reassembling that were. We need to do a within that permit cycle. Uh, and then, uh, there's the capacity and flow reductions in. And as Mike mentioned, we've been looking at and continuing to work on different ways to reduce flow is that's a major component and basically almost all of our exceedences, we're in the measure of flow, uh, not in quality of discharge. Um, so to put that in in context and there's a sheet at the back table for you if you want to take it home and look at these numbers, uh, in more detail and I'm happy to explain them to you or talk you through how we develop this rate model. Um, on the high side, uh, and again, I use 2020 is just a year. If we don't actually implement the, um, groundwater study that might be pushed off, but, uh, nonetheless as, as a rate increase on the low model, that will be about 44% for residential user and about 34% year over year. And on the high side it'd be 73, four residential customer and 57 on the commercial side. That equates to an annual increase on the low side of \$308 for the residences and \$507 for, uh, on the high side. For the commercial on the low side, it would be about \$2,200 per year and it would be roughly \$3,600 per year. On the high side. Uh, obviously we're working with preliminary numbers and estimates and will ultimately be refining this model but put it in sort of order of magnitude or range of for context. Thank

Ecology's Response to Bernie Alonso's Testimony

Thank you for presenting the findings of the cost model. As previously discussed with the board and County, a board member or county staff may become a Group I operator and potentially reduce ongoing operational costs to rate payers.

It is the permit program goal to require sufficient monitoring to meet environmental objectives but to avoid excessive monitoring that translate into costs.

Tricia Shoblom: Thank you. Is there anyone else that would like to give public testimony at this time? Thank you.

Tricia Shoblom: Okay. If you would like to send to Ecology your written comments, please remember, Oh, I'm sorry. Sorry. Okay. If you would like to send Ecology written comments, please remember they must be submitted or postmark by 11:59 PM by May six 2017 we except the following written comments in the following ways here with the meeting during public testimony. Also by email to the permit coordinator or you can email Trisha Miller at the following email address or mailed to that address above. So okay, so all testimony received at this hearing as well as written comments received by 11:59 PM on May six 2019 we'll be a part of the official hearing record. All comments received will be added to the edits in the wastewater treatment system fashion. If you would like to receive a copy of the final permit, but do not give us your contact information, please let one of the staff know or contact my Hoffman. The next step is to consider the comments, respond to comments, and finalize the issue of state wasted. Just charge per minute depending on all comments received. Ecology will finalize the Edison waste water

treatment system, state waste discharge permit within the next few months. If we can be of further help to you, please do not hesitate to ask or you can contact Maya or, or if you have other questions on behalf of the Department of Ecology. Thank you for coming. I appreciate your cooperation and courtesy. Let the record show that this hearing is adjourned. 6:42 PM thank you.

1. Table 1: Hearing Attendance List

	First Name	Last Name	Organization	Email Address
1	Mike	Tamman	The Drain Doctor	thedraindoctorn.w.@gmail.com
2	Scott	Mangold	Subarea Advisory Board	scott@breadfarm.com
3	John	Rupp	SCPW	johnr@co.skagit.wa.us
4	Jeff	Haddox	BESD	jhaddox@be.wednet.edu
5	Rick	Haley	Skagit Co. P.W.	rickh@co.skagit.wa.us
6	Alison	Mohns	Skagit Co. PDS	allisonm@co.skagit.wa.us
7	Michael	Conn		
8	Betsy	Stevenson	SC Planning	betsyds@co.skagit.wa.us
9	Greg	Young	Ravenhead Muni	youngest@comcast.net
10	Tom	Bajema	tombajema@gmail.com	
11	Tom	Skinner	Advisory Board	
12	Doris	Robbins		dorista305@gmail.com
13	Linda	Robbins		larjardakota@gmail.com
14	John	Robbins		larjardakota@gmail.com
15	David	Hall	Homeowner	dhall@studioedison.com
16	Julie	Nicoll	Skagit County	julien@co.skagit.wa.us
17	John	Burke	Skagit County	jburke@co.skagit.wa.us
18	Steve	Walle		
19	Hal	Hart	Skagit County	
20	Lisa	Janicki	Skagit County	ljanicki@co.skagit.wa.us
21	Mike	Janicki	Skagit County	
22	Chris	Unreadable	skinner@fidalgo.net	
23	Travis	Radich	Skagit County	radicht@hotmail.com
24	Ron	Wesen	Skagit County	ronw@co.skagit.wa.us
25	Tom	Perry		
26	Christy	Erickson		christy@hedgerowedison.com
27	Jim & Bette	Robbins		edisonboy.jr@email.com
28	Jim & Bette	Robbins		edisonboy.jr@email.com
29	Bernie	Alonzo	SCWD	bernie.alonzo@gmail.com
30	Bill	Cindi	Redding	reddbill@gmail.com
31	Toni Ann	Rust	Edison Community	edisoneye@wavecable.com
32	Robert	Pare	Edison Resident	rwpare@seanet.com
33	Tony	Carter	The Longhorn Sallon	tonycarter65@gmail.com
34	Suzet	Bergeron	The Longhorn Saloon	suzetmbergeron@gmail.com
35	Mandy	Turner	ladysunflower.blue@gmail.com	
36	Evan	Grimes	evandanielgrimes@gmail.com	
37	Wendy	Pare		
38	Sarah	Smith		
39	Maggie	Kvistad		
40	Ty	Ouellette	Resident	tyouellette@yahoo.com
41	Erich	Nus	Resident	jetcs5@gmail.com
42	Jill	Bailey	Resident	jetcs5@gmail.com
43	Micheal	Conn		5979 Farm to Market Rd

2. Comments from Skagit County



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May 6, 2019

Via E-mail Only at: tricia.miller@ecy.wa.gov

Ms. Tricia Miller, Permit Administrator
Washington State Department of Ecology – NWRO
3190 160th Avenue SE
Bellevue, WA 98008

Re: Comments on Draft State Waste Discharge Permit No. ST0045515 - Edison Wastewater Treatment System

Dear Ms. Miller:

Enclosed please find comments from Skagit County with respect to the Draft State Waste Discharge Permit No. ST0045515 for the Edison Wastewater Treatment System. Skagit County was surprised to learn this draft permit included so many changes and additional permit requirements, despite the positive data about the system's effectiveness contained in Ecology's April 2018 Groundwater Assessment Report for Edison. Skagit County is committed to protecting the water quality of Samish Bay and ensuring the long-term success of the Edison system. Skagit County maintains the system under partnership with the Edison Subarea, serving the Burlington-Edison School District and a limited number of commercial and residential users. These groups have worked in partnership since the 1990s to make this system a success.

The proposed draft conditions will cause a significant increase in operating costs and will not result in any improvement in water quality. These changes will significantly burden the community of Edison since any increases in operating costs will be borne by a limited number of users. These changes are directly contrary to the original intent of Ecology's Small Town Environmental Program under which this system was established -- affordability for a rural community. While Skagit County shares Ecology's goals of clean water in the Samish Bay, we ask that Ecology consider the costs and benefits of these additional proposed requirements.

1) History

This system was originally designed in partnership with the Edison community and the Departments of Health and Ecology as a repair to failing individual septic systems. Ecology issued the first permit for the system in 2013. For a more detailed discussion of the history of the system see Exhibit 1.



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This proposed draft permit represents a major rewrite of the 2013 permit with increased costly requirements including, but not limited to:

- Increasing influent and effluent monitoring to monthly instead of quarterly
- Development of a Groundwater Quality Evaluation
- Obtaining Group I Operator
- Annual meter calibration

Ecology has broad regulatory discretion under RCW 90.48 to control and prevent pollution to waters of the state. Skagit County requests Ecology exercise its regulatory discretion and limit the burdensome requirements contained in the draft permit that will not have any impact on water quality.

2) Monitoring Requirements (Permit Condition S2)

The 2013 draft permit previously proposed monthly influent and effluent monitoring. As noted in the 2013 Fact Sheet, Ecology changed the monitoring frequency from monthly to quarterly given the concerns from the community about increased costs. Ecology decided the added expense could not be justified as outlined in Appendix F to the 2013 Fact Sheet. Ecology has proposed similar changes in the current draft permit, yet the circumstances have not changed. Accordingly, Skagit County requests the new draft permit maintain quarterly monitoring. Ecology should agree that quarterly monitoring is sufficient to show permit compliance, as has been the practice during the previous permit term.

The importance of considering the overall costs of a permit and the financial burden to the permittee is outlined in Ecology's Permit Writer's Manual, which states "the permit writer should recognize the costs of monitoring while deciding how much is enough for an adequate characterization." (Chapter 13, page 388). It further states that "consulting with individuals, including the permittee, who are knowledgeable about the facility or type of operation will save time on appeals, enforcement and future permit renewal or modification efforts." (Chapter 13, page 388). Skagit County requests that Ecology adhere to the Permit Writer's Manual guidelines and limit the frequency of monitoring to quarterly instead of monthly.

3) Groundwater Quality Evaluation (Permit Condition S8)

Condition S8 of the proposed draft permit includes a significant new requirement to prepare a Groundwater Quality Evaluation for Ecology's review and approval during the first year of the permit to be implemented during the next permit cycle. This requirement includes the evaluation of whether the effluent alters ambient groundwater quality surrounding Drainfield #1, Drainfield #2, and the Emergency Upflow Trench.



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Based on the conclusions of Ecology's Groundwater Assessment for Edison published in April 2018, which studied the site from 2014 to 2016, Skagit County has the following concerns related to the Draft Permit proposal for further groundwater characterization at the site.

An extensive site characterization demonstrated that groundwater elevations within the property boundary are influenced by the shallow nature of the groundwater table, tidal fluctuations at the adjacent Edison Slough, precipitation, and surface water runoff related to adjoining agricultural operations (Ecology, April 2018, pages 33 and 56). Groundwater flow across the site was generally from the east to west (winter – high precipitation), south to north (summer – declining water levels), and radially (late fall – lowest water levels) (Ecology, April 2018, pages 34-36). It is unclear how additional subsurface investigation will improve our understanding of the site within the property boundaries.

Ecology's Groundwater Assessment concluded that the discharge of treated wastewater was not having a deleterious effect on the groundwater quality at well locations downgradient of the active drainfields (Ecology, April 2018, page 79). The Groundwater Assessment indicates that the treated waste water discharges were in fact diluting high saline levels associated with sea water intrusion at the site (Ecology, April 2018, pages 61-64). Assuming that all treated effluent sample results are in compliance with discharge permit requirements, it is unlikely that any exceedances in the downgradient groundwater locations would be attributable to the Edison system. Again, it is unclear how additional subsurface investigation and the installation of more groundwater monitoring wells will improve our understanding of the site within the property boundaries.

The Draft Permit proposes modifying the existing monitoring wells with above-ground well casings. At this time, Skagit County does not have the authority to change the Burlington-Edison School District's policies that restrict the use of modified well casings within the school property that may be a hazard to the health and safety of the students.

Based on the recommendations of Ecology's Groundwater Assessment, Skagit County proposes to develop a groundwater monitoring work plan to include the following:

- Utilizing the existing nine groundwater monitoring wells at the site including AHT085, AHT086, AHT087, AHT088, AHT089, AHT090, AKY469, AKY470, and AKY472. The existing groundwater monitoring network would be used to evaluate the seasonal variations in groundwater flow across the site within the current property boundaries.
- Based on the calculated seasonal hydraulic gradients for the site, Skagit County would determine the position of down gradient well locations to act as alternative points of compliance for the two drainfields. Additionally, Skagit County will attempt to determine



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(if possible) well locations that are up gradient in order to evaluate background water quality conditions.

- Skagit County proposes collecting groundwater samples using Standard Operating Procedures for low-flow sampling typically purging the well casing water until certain water quality parameters stabilize and/or at least three well casing volumes have been evacuated. An alternative sampling protocol will be suggested (i.e. passive groundwater sampling system) for wells that produce little water and do not recharge to a specified level within 24 hours.
- Skagit County proposes analyzing groundwater monitoring well samples for ammonium-N, nitrate, total coliform and fecal coliform bacteria, chloride, and total dissolved solids. In addition to laboratory analyses, direct measurements of water quality parameters including temperature, specific conductivity, dissolved oxygen, pH, turbidity, and redox will be measured at the time of sampling.
- Skagit County proposes conducting groundwater monitoring and sampling at a frequency to capture the seasonality of groundwater flow across the site within the property boundaries (i.e. March, June, September, and December). Groundwater sampling will occur concurrently with effluent sampling at the treatment vaults.
- In addition to the groundwater sampling and analysis, collect synoptic water levels and surface water samples at up gradient and down gradient locations (stations SCMP36 and SCMP37) along Edison Slough.
- Skagit County proposes an initial groundwater monitoring period of one year, or four consecutive quarters. If results of the groundwater samples collected during this period indicate that the treated wastewater effluent is not degrading the groundwater quality downgradient of the two drainfields Skagit County would then request a reduced sample frequency (i.e semi-annual or seasonal basis).

Skagit County seeks Ecology's approval on the above scope of work to be incorporated into the final permit to allow Skagit County and the Edison Subarea to budget for future expenses that will impact Edison residents.



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4) Request for Reduction in Monitoring

Condition S2.F of the 2013 Permit provided a process to request a reduction in monitoring, as follows:

S2.F. Request for reduction in monitoring

The Permittee may request, in writing, a reduction of the sampling frequency after twelve (12) months of monitoring. Ecology will consider reducing the monitoring frequency to the "post-characterization" frequency listed in Table 2. After twelve (12) months of monitoring at the post-characterization frequency, the Permittee may request an additional reduction of the sampling frequency. At this point Ecology will review each request and at its discretion grant the request when it reissues the permit or by a permit modification.

For these additional requests 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.*

This language does not appear in the current proposed draft permit. According to Ecology's Water Quality Program Permit Writer's Manual (revised July 2018, publication no. 92-109) Chapter 13 at page 394:

The concept of tiered monitoring should be considered for all permits. It is a permit program goal to require sufficient monitoring to meet the objectives mentioned earlier but to avoid excessive monitoring. Tiered monitoring requires that implementation of additional monitoring methods or reduction of certain monitoring frequencies be based on the results of previous monitoring. This step-wise approach could lead to lower monitoring costs for the permittee while still providing an adequate degree of protection for the receiving environment and human health. The term "tiering" for this chapter means a reduction or increase in frequency of monitoring within a permit cycle. The conditions for increase and decrease are explained in the permit.

Skagit County requests that a similar provision to S2.F in the 2013 Permit be added to the proposed draft permit to allow an opportunity for Skagit County to reduce future monitoring frequency based on the data collected. Inclusion of this provision will greatly reduce the financial burden of unnecessary monitoring on the limited number of users of the system.



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5) Operator (Permit Conditions S5.A and S9)

The 2013 permit provided for Skagit County to work towards retention of a Group I Operator for the facility. Pursuant to the 2013 Fact Sheet, “the District designed the facility to run with minimum maintenance and without a full time on-site operator.” (Page 8). WAC 173-230-020(24) defines “wastewater treatment plant” as a “facility used to treat any liquid or waterborne waste of domestic origin or a combination of domestic, commercial or industrial origin, and that, by its design, requires the presence of an operator of its operation.” Since this facility was designed to run without an on-site operator, it does not meet the definition of a wastewater treatment plant under WAC 173-230-020(24). Skagit County argues that no certified Group I operator is required.

As noted in the 2013 Fact Sheet (pg. 8), Skagit County contracts with The Drain Doctor to provide the required preventative maintenance for the septic tanks, collection system, recirculating gravel filter, and disposal fields. The operators at the Edison facility are not certified as wastewater treatment plant operators by the State; however, the system is overseen by a certified *Onsite Sewage System Maintenance Specialist* and Washington State Department of Licensing *Onsite Inspector*. Skagit County and the Edison Subarea have had bad experiences with contract operators in the past. Contract operators from outside the community had little vested interest in keeping the system running well and this showed in lack of maintenance and care for the facility. As described by Ecology in the 2013 Fact Sheet, the facility has been operating noticeably better since the community has taken control of operations and maintenance. The local operators have a history with and in-depth knowledge of the facility. As such, Skagit County requests that Ecology reconsider its position with respect to the increased operator requirements.

Despite the recognition of these issues in the 2013 Fact Sheet, the current draft permit requires Skagit County to obtain a Group I Operator by July 19, 2019. Attempting to comply with the 2013 Permit requirements, Skagit County and the Edison Subarea have made numerous attempts to secure a Group I Operator, including but not limited to:

- Services from Water and Wastewater Services, LLC were previously utilized at the facility. Significant problems were encountered, including lost and missing equipment, failure to perform maintenance to on-site tanks and filters, causing damage to individual sites and home interiors, operator errors, lack of follow through on Edison Subarea Board requests, gates on school grounds being left open, buildings and facilities left open after maintenance calls with students on site, disconnected power lines causing damage and personal harm, etc. As a result of Water and Wastewater Services’ poor service, the company was trespassed by the Burlington-Edison School District and representatives of the company are not allowed on school grounds for any reason. This company cannot be utilized by Skagit County as suggested by Ecology.



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- Skagit County reached out to one of the licensed operators from the City of Burlington who is retiring soon. After careful review, the operator decided to fully retire and was not willing to be retained by Skagit County.
- Skagit County reached out to a current operator employed with the City of Burlington, who expressed interest in performing work, but the City of Burlington is not willing to allow their operator to take another position outside the City at this time.
- Skagit County contracts with Mike Tamman (The Drain Doctor) who is licensed to perform operations and maintenance at the facility. Mr. Tamman checked with both Orcas (another private licensed-operator) and WOSSA (Washington On-Site Sewage Association), neither of which produced a suitable or willing operator candidate.
- Greg Young, Edison Subarea Administrator, reached out to the City of Ferndale to find out about use of an operator, no leads were provided.
- Two Edison town residents spent time investigating the schooling and testing requirements to secure Group I licensing, and found the academic requirements to be beyond their capacity.
- Skagit County previously issued an RFP/RFQ for the administration and operation and maintenance positions. Skagit County received numerous responses, but in every case the respondents demanded full-time County employment and benefits. The minimum bid received during that process was for \$25,000 per year.

Skagit County has made numerous attempts to retain a Group I operator, with no success to date. Skagit County respectfully requests that Ecology eliminate the Ecology-certified Operator requirement and find the current operator's qualifications sufficient. The existing compliance deadline of July 19, 2019, is not feasible considering the lack of available local contract operators and limited scope of work (approximately 1 hour per month of oversight at facility). In the alternative, Skagit County requests an extension for its "Operator-in-Training" authorization to July 19, 2020 to provide additional time to retain the services of a Group I operator.

6) Exceedances (Fact Sheet Table 4)

The proposed draft fact sheet at page 13 states that "the District has not consistently complied with the effluent limits and permit conditions throughout the duration of the permit issued on January 28, 2013. Ecology assessed compliance based on its review of the facility's discharge monitoring reports (DMRs)." Attached as Exhibit 2 is a table representing an annotated version



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of the draft Fact Sheet Table 4 with Skagit County's comments added in the far right column. It should be noted that the results in Table 4 were prior to the installation of a rain cover over the gravel filter in November 2017, which has subsequently prevented rainwater from entering into the system. The rain cover has been effective at reducing influent flow into the system. **Skagit County requests that Ecology correct the fact sheet to clarify these sampling results and violations.** It should also be noted that the results listed by Ecology are primarily flow-related and do not reflect poor water quality results.

7) Meter Calibration (Permit Condition S2.C)

Ecology previously included as a permit condition the requirement of annual calibration of the facility's flow meters in the 2013 Draft Permit. However, Ecology changed this requirement. In the 2013 Fact Sheet (Appendix F-Response to Comments), Ecology stated it removed the requirement to calibrate flow meters annually and suggested that Skagit County follow the manufacturer's recommendations for calibration.

The proposed draft Permit at Page 7 Condition S2.C includes the condition that the facility's flow meters be pulled annually and recalibrated. This request is unreasonable as it is clearly excessive for a facility of this capacity. Skagit County would incur an approximate cost of \$7,800 just to purchase replacement flow meters to be used to swap annually for recalibration. Further, Skagit County would incur approximately \$600 for labor per change of meters. The purchase of replacement meters as well as the cost incurred each time a meter would be pulled and swapped is an unreasonable expense for Skagit County to incur when such action is contrary to the recommendations of the meter manufacturer.

Skagit County has communicated with the manufacturer of the meters who has confirmed that the facility's flow meters have no moving parts that wear and do not require recertification on an annual basis. Additionally, both the meter manufacturer and the Engineer of record for the system (Harry Sellers, designer of chambered Drain Field #2) recommended that the meters be left in place to monitor the inflow and outflow volumes, with recalibration and certification occurring pursuant to manufacturer's recommendations.

Pursuant to manufacturer's recommendation, the meters should be monitored for sufficient performance and only pulled and/or replaced if shown to not be performing correctly. It is reasonable for Ecology to agree that calibration of flow meters will be according to manufacturer's recommendations, and not annually absent a showing of necessity. **Skagit County requests that the proposed permit language be revised to reflect the manufacturer's recommendations, which do not require annual calibration.**



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8) School Access/Monitoring Well Installations

Access to the facility and groundwater monitoring well network is provided through the Edison Elementary School grounds owned by the Burlington-Edison School District. The School District has been a cooperative partner in facility operations and Skagit County has no reason to believe the positive relationship with the School District will be any different in the future. However, as discussed above, the School District has very strict guidelines for access across school grounds.

As discussed in Jeff Haddox's comment letter attached as Exhibit 4, the Burlington-Edison School District is concerned about any above-grade monitoring well installations on school grounds that may pose a safety hazard to students, school employees, and community members. The School District has made it very clear that it will not allow any above-grade monitoring well installations. Accordingly, Skagit County has no choice but to install below-grade monitoring wells on school grounds. Ecology's proposed permit should be revised to reflect this restriction.

9) Capacity Evaluation (Permit Condition S4.B)

Draft Permit condition S4.B requires Skagit County to prepare a capacity evaluation report to identify sources of inflow or excessive flows causing potential design capacity exceedances. In addition, the report must review and plan for additional treatment and/or disposal capacity. However, Skagit County has no intention of adding disposal capacity to this system, so no such analysis will be provided. Skagit County has been actively working with the Edison Subarea to address flow issues.

10) Conclusion

Please note that also included are comment letters from Rick Haley, Skagit County Public Works, Jeff Haddox, Burlington-Edison School District, and Harry Sellers, Professional Engineer of record at the facility for your consideration.

In conclusion, Skagit County respectfully requests the following from Ecology:

- Approval of the proposed Groundwater Quality Evaluation;
- Decrease proposed influent and effluent monitoring from monthly to quarterly;
- Add language to permit to allow request for future reduction in monitoring;
- Accept current operator as sufficient to meet requirements (in the alternative, extend "Operator-in-Training" authorization to July 19, 2020);



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- Correct fact sheet to clarify prior sampling results and violations; and
- Amend permit to require meters to be calibrated pursuant to manufacturer's recommendations (eliminate annual calibration requirement).

Thank you for your consideration and attention to this matter. Skagit County staff are available to meet in person or by phone to discuss these comments further prior to issuance of a final permit.

Sincerely,

A handwritten signature in blue ink that reads "Hal Hart".

Hal Hart

Director, Skagit County Planning & Development Services

Exhibits:

1. Edison Story (history)
2. Skagit County's Comments on Exceedances - Proposed Draft Fact Sheet Table 4
3. Comment Letter from Rick Haley, Skagit County Public Works
4. Comment Letter from Jeff Haddox, Burlington-Edison School District
5. Comment letter from Harry Sellers, Engineer of Record

cc: Tim Holloran, Skagit County Administrator
Julie Nicoll, Skagit County Prosecuting Attorney's Office
Maia Hoffman, Washington State Department of Ecology
Rachel McCrea, Washington State Department of Ecology

Exhibit 1

The Edison Story – Ron Palmer May 1, 2019

A Sanitary Survey of Edison (and surrounding areas) was conducted in August through October in 1993 on 65 homes. The survey yielded a 42 to 62 % failure rate based upon the predicted percentage that will fail during the rainy season. The actual failure rate in the rainy season that was calculated per Ordinance 16177 was a 65% failure rate. Most of the drainfields and sewer lines surveyed were said to have been constructed around the 1940's. The construction was mostly conventional septic systems to gravity drainfields, however many had overflow pipes which flowed directly to Edison Slough or discharged into storm drains which discharged to the slough. Successful repair of the on-site failing sewage disposal systems was largely prevented by small lot sizes, poor soils and inadequate depth to the water table due to high tides.

The source of high fecal coliform counts in the Samish Bay commercial shellfish beds implicated the Edison Slough and town of Edison as the likely source. Because of this, the Planning and Permit Center, which was responsible for the on-site sewage program began a sanitary survey investigation in the towns of Edison and Blanchard in 1993 through the months of August through October but investigations continued until 1995. The determined failure rate was at about 65% during the wet season. High fecal counts in the commercial shellfish beds over the winter continued and the sources implicated were the Edison Slough, the Samish River, Blanchard and Colony Creek, and outfalls from drainage ditch pump stations. These water bodies were monitored by Skagit County and the shellfish beds were closely monitored by the Shellfish Division of the State Department of Health followed by repeated closures to portions of Samish Bay to commercial oyster harvest. On April 21, 1994, the State Health Department closed Samish Bay to shellfish harvesting due to an illness outbreak involving 48 people eating oysters from Samish Bay. The source of the disease was later determined to be from Norwalk Virus from sewage contamination of the oysters.

The citizens of Edison, employees of the County, State Health Department, and State Department of Ecology and Wilson Engineering from Bellingham started looking for solutions to correct the health hazards caused by the failures within Edison. The usual solution to repair failing systems is to construct onsite sewage disposal systems on the properties, but in Edison many on-site problems prevented this from being the permanent solution (e.g. small lots sizes, poor, shallow and saturated soils, and high water tables due to high tides). Added to the physical constraints to repair the on-site sewage disposal systems was the poverty level of most of the residents. Many solutions were explored, including pumping the sewage to the Burlington municipal treatment plant but that option was cost prohibitive. The proposed construction of the Edison Community Treatment System was facilitated by the creation of Skagit County Code (SCC) 12.64 Clean Water District-Edison Subarea (Edison Sewer Use Ordinance 16177) created on May 28, 1996. The ordinance allowed for the district to get money through grants and loans for property purchases, hiring of contractors and consultants.

The solution to repair the problem was to construct a Large On-site Sewage System (LOSS)—a system referred to as a Sewage Treatment Effluent Pump System—A STEP System. Preliminary treatment for this system begins where the sewage is generated (e.g. residences, restaurants, commercial buildings). The sewage is pre-treated on-site at the building properties via an anaerobic Septic Tank (food services and other systems with a high strength waste were required to provide additional treatment with an additional tank functioning as a grease trap). Sewage from the residences and commercial buildings is piped via gravity or pumped to a centrally located pump station and then to a large community settling tank. Effluent from the large settling tank is pumped across an aerobic gravel filter bed the equivalent of 5 dosings (passes over the gravel). The original system was a pressure distribution system which provided equal distribution over the gravel by pumping sewage out of orifices in pressure pipe into 4" diameter orifice spray shields. These orifice holes are spaced about 24" apart and act to distribute the sewage over the gravel which is covered by a biological mat which serves to treat the sewage aerobically. Water which has returned from the gravel filter is passed through an Ultraviolet Disinfection trough and is then pumped to drainfields in the soil for final disposal. The original system pumped the effluent to a subsurface drip field which was originally designed to treat the entire 24,000 gpd. The soils in the area of this drip field were classified as Mount Vernon fine sandy loam, Type IV. While this classification of soil is generally good for subsurface treatment of sewage effluent these soils exhibited denser and consolidated lensing which were somewhat restrictive to soil permeability and also had an abundance of fly larvae activity (specifically crane fly) which permeated the profile allowing the sewage effluent to migrate vertically when loaded heavily, causing surfacing of effluent. This drip system continues to be used but with a reduced maximum daily dosage of 1300 gallons. With this light loading this drip field functions satisfactorily.

Seven acres of ground was purchased in 2003 and a system utilizing infiltration trenches was constructed where 6 drainfield trenches were dosed using chambers (product name "Infiltrators"). While the spray distribution in the gravel field was working well, Skagit County staff who were maintaining the Edison System and the Drain Doctor, Edison's Operation and Maintenance professional, observed when checking the gravel in the filter that the spray shields used to distribute the effluent over the gravel bed limited the treatment area covered from 4" at the top of the gravel to about 12" at the bottom. It was obvious that the original method of effluent distribution was not providing for maximum coverage of much of the gravel filter. Above ground testing revealed that by installing ½ dome pipe over the pressure pipe and by spraying effluent into the dome the wetted treatment area of the gravel was increased to cover almost all of the gravel filter. The results of this testing was shared with the systems' consulting engineer who concurred that by removing the 4" spray shields and installing 12" wide ½ pipe, distribution over the gravel would increase the treatment area of the gravel filter increasing its efficiency. It is hoped that the increase in treatment area will increase the life of the gravel filter which has been in use without replacement or repair since 1996. This method of distribution was installed a few years ago and seems to be working very well. By using this system we hope to get additional life out of the gravel bed before having to replace it. We are told that the average lifespan for most of the gravel beds for sewage systems with similarly constructed gravel filters in use is about 10 years. The Edison gravel bed was checked a few years ago and shows no sign of plugging. It is our belief however that one of the reasons some of the gravel beds have had to be replaced prematurely is due to improper dosing. The biggest likely threat to the lifespan of the system is grease from the food service establishments, something our Operation & Maintenance Professionals are constantly battling. About 16 years ago a clarifier tank was installed after the main mixing septic tank and ahead of the ultraviolet

(U-V) disinfection trough to clear up some of the sediment ahead of the U-V tank and the final soil disposal. The original engineering and design approval did not include the ultraviolet disinfection system. There was consensus with everyone involved with the original construction that it would be a good idea to include final U-V disinfection so that the soil disposal would act more for effluent disposal and not for final treatment. We never expected it to be a condition of permit approval. Originally the Department of Ecology approved the system with 1 foot of vertical separation. Because of high water tables in the winter (due to high tides) there are no properties in the vicinity of the town of Edison that have enough depth of soil to provide 3 feet of separation for system repair. The site of the Edison system repair is on some of the highest soil around. Jurisdiction for the system was through the Department of Ecology because the flows were expected to exceed 14,500 gpd, but the design was based upon criteria established by the Washington State Department of Health Technical Review Committee for failing systems not meeting vertical and horizontal separation and sites adjacent to marine shorelines. The required treatment standard as defined by WAC 246-272 Treatment Standard VI (now found in WAC 246-272B-06250) was used for treatment systems not meeting vertical and horizontal separation to ground water. A treatment standard 2 was required which is a BOD₅ = 10 mg/l, TSS = 10 mg/l and Fecal Coliform = 800 mg/l per 100 mls.

The Edison repair began as a partnership with the Burlington Edison School District. Original design flows for the town and school was a Maximum Daily Flow of 24,000 gpd. The partnership between the school and the town has provided cost sharing to the benefit of both parties; sharing some of the property, public water system, building space (bus barn), power, computers, emergency backup power, trained maintenance staff for emergencies and security assistance.

Exhibit 2

Skagit County's Comments on Exceedances- Proposed Draft Fact Sheet Table 4

The below table represents an annotated version of the proposed draft Fact Sheet Table 4 with Skagit County's comments added in the far right column. Also included below are notes referenced in Skagit County's comments.

It should be noted that the results in Table 4 were prior to the installation of a rain cover over the gravel filter in November 2017, which has subsequently prevented rainwater from entering into the treatment system. The rain cover has been effective at reducing influent flow into the system.

Notes in Skagit County's Comments below:

Influent Note 1: The 2013 permit does not include a specific design criteria for influent, so we are confused as to why Ecology is considering this a violation. Condition S4 of the 2013 permit includes design criteria for maximum day flow to drainfields #1 and #2- therefore this requirement only relates to effluent flow, not influent. We respectfully request that Ecology re-consider its position with respect to the influent results.

Flow to Drainfield #2 Note: It is our understanding that the permit requires 18,000 gpd maximum day flow to drainfield #2. The 2013 fact sheet defines maximum day design flow as the largest volume of flow anticipated to occur during a one-day period, expressed as a daily average. Since the other hourly flow data from the computer for that date was not averaged in the results, it is unclear that these are in fact violations.

Table 4. Violations/permit triggers

Begin Date	Parameter	Units	Value	Limit Min/Max	Violation	Skagit County Comments
4/1/2013	Influent Flow	gpd	24910	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
11/1/2013	Influent Flow	gpd	21100	20000	Exceedance of Design Criteria	No design criteria exceedance, see note above - 18,810 gpd outflow recorded on 11/1/2013 during very high tides and large rain event

1

Begin Date	Parameter	Units	Value	Limit Min/Max	Violation	Skagit County Comments
11/1/2013	Flow to Drainfield #2	gpd	18810	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above
12/1/2013	Effluent Fecal Coliform	cfu/100mL	1700	<200	Numeric effluent violation	Retested 1/3/2014 at 1.8 cfu/100mL
2/1/2014	Influent Flow	gpd	23530	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
2/1/2014	Influent Flow	gpd	29060	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
3/1/2014	Influent Flow	gpd	24400	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
3/1/2014	Flow to Drainfield #2	gpd	18850	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above
5/1/2014	Influent Flow	gpd	35140	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
5/1/2014	Flow to Drainfield #2	gpd	18800	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above
5/1/2014	Influent Flow	gpd	32060	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
5/1/2014	Flow to Drainfield #2	gpd	18800	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above
11/1/2014	Influent Flow	gpd	22050	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
1/1/2015	Flow to Drainfield #2	gpd	55660	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above; extreme high tides over dike with town flooding
1/1/2015	Flow to Drainfield #2	gpd	27150	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above; extreme high tides over dike with town flooding
1/1/2015	Influent BOD ₅	mg/L	65	56	Exceedance of Design Criteria	Extreme high tides over dike with town flooding

2

Begin Date	Parameter	Units	Value	Limit Min/Max	Violation	Skagit County Comments
1/1/2015	Influent Flow	gpd	57020	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above; extreme high tides over dike with town flooding
1/1/2015	Influent Flow	gpd	27510	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above; extreme high tides over dike with town flooding
1/1/2015	Influent Flow	gpd	22330	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above; extreme high tides over dike with town flooding
2/1/2015	Effluent Solids (Residue)	mg/L	31	-/30	Numeric effluent violation	Settling tank was pumped after these results were received
4/1/2015	Influent Flow	gpd			Analysis not Conducted; Frequency of Sampling Violation	No design criteria exceedance, see influent note 1 above
4/1/2015	Flow to Drainfield #2	gpd			Analysis not Conducted; Frequency of Sampling Violation	Loss of power – unable to sample
4/1/2015	Flow to Drainfield #1	gpd			Analysis not Conducted; Frequency of Sampling Violation	Loss of power – unable to sample
5/1/2015	Influent Flow	gpd			Analysis not Conducted; Frequency of Sampling Violation	Loss of power – unable to sample
5/1/2015	Flow to Drainfield #2	gpd			Analysis not Conducted; Frequency of Sampling Violation	Loss of power – unable to sample

Begin Date	Parameter	Units	Value	Limit Min/Max	Violation	Skagit County Comments
5/1/2015	Flow to Drainfield #1	gpd			Analysis not Conducted; Frequency of Sampling Violation	Loss of power – unable to sample
2/1/2016	Influent Flow	gpd	22470.3	20000	Exceedance of Design Criteria	No design criteria exceedance, see influent note 1 above
11/1/2016	Flow to Drainfield #2	gpd	23670	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above; extreme high tides over dike with town flooding
3/1/2017	Flow to Drainfield #2	gpd	34160	18000	Exceedance of Design Criteria	See flow to drainfield #2 note above; leak subsequently detected at site #46, which was repaired

Exhibit 3

Rick Haley comments on Edison Treatment System (May 3, 2019)

The Samish Bay watershed has had problems with excessive coliform bacteria pollution leading to the Samish Bay shellfish growing area at least since the 1990s, and reducing coliform bacteria pollution in the bay was the original impetus for the construction of the Edison treatment system.

In 2008, routine monitoring by Skagit County Public Works detected coliform bacteria pollution in the Samish River far in excess of previous estimates. Subsequent enhanced water quality monitoring confirmed the basin-wide scope of the problem. These events led to the creation of the Clean Samish Initiative, a partnership of over 20 federal, state, local, tribal, private, and non-profit organizations dedicated to eliminating coliform bacteria pollution in the Samish Basin. Since its inception, partners in the Clean Samish Initiative have conducted intensive water quality monitoring and property evaluations throughout the Samish Bay watershed to locate and remediate sources of coliform bacteria pollution. Many sources of pollution have been identified and addressed, including mismanaged livestock and failing single-family home septic systems. At no time since the beginning of the Clean Samish Initiative has any evidence pointed to the Edison treatment system as a source of coliform bacteria to surface waters.

Skagit County and its Clean Samish partners continue to pursue extensive water quality monitoring in Edison Slough and the drainage infrastructure around Edison, as well as the rest of the Samish Bay watershed. Surface water monitoring data continues to show no detectable effect on coliform bacteria pollution from the Edison treatment system.

Rick Haley
Water Quality Analyst/Water Resources Team Lead
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Exhibit 4



Jeffrey M. Haddox,
Auxiliary Services
Assistant Director
Work: (360) 757-3387
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May 1, 2019

Department of Ecology
Ms. Trisha Miller, Water Quality Permit Coordinator
3190 – 160th Avenue SE
Bellevue, WA 98008

RE: Application; Permit #ST0045515

Dear Ms. Miller;

My name is Jeff Haddox, I have been employed with the Burlington-Edison School District #100 (B-ESD) for 18 years. I have been involved with maintenance and operations of the Edison LOSS. During this time there have been many improvements made to the WWTS located at the Edison Elementary school bus garage.

These improvements include;

- New flow meters have been installed which are very accurate in tracking and recording volumes.
- Computer/automation system has been upgraded, which allows better direction and tracking of influent and effluent. This system also provides email/text alerts to multiple people in case of emergency alerts, of which I am listed.
- A rain cover has been installed over the gravel filter reducing the introduction of rain water to the system.
- This system has performed above design expectations since the additional drain field was added.

The B-ESD has a number of concerns regarding the new permit requirements. The first would be the safety and security of our students and staff. The B-ESD would need to work with DOE and Skagit County Planning and Development to have a procedure in place for contractors/employees entering B-ESD property, which could possibly include background checks. The second issue would be any new monitoring wells installed on B-ESD property.

B-ESD would also require the top of the well heads to be level with surrounding grade/ground elevations, as these above ground well heads create student safety and maintenance issues.

The final issues would be the potential costs related to a part-time certified operator and the cost of an on-going monitoring well network. We do not see the value of a certified operator. We currently monitor, track, report and test the following: effluent limits (BOD, TSS, etc.), influent and effluent flows and reporting and recording required for the LOSS/WWTS.

The previous DOE study found no evidence of ground water contamination related to the Edison WWTS. Rather than install and monitor a costly new network of wells, we would propose using existing wells. If, in the future these wells indicate a problem with contamination that would be the time to address the need for additional wells and monitoring.

I believe the Edison Community works very hard to ensure this system works correctly and meets, or exceeds, requirements for effluent discharge. The health of the Samish Bay is very important to this community and surrounding communities. As long-time residents, we strive to protect the Samish Bay and surrounding waters for future generations.

We look forward to working with the DOE to comply with the new permit requirements for the Edison Clean Water Subarea.

Respectfully,



Jeff Haddox
Assistant Director
Auxiliary Services
Burlington-Edison S.D. #100

Exhibit 5

Alison Mohns

From: HARRY SELLERS <HESELLERS@msn.com>
Sent: Tuesday, January 22, 2019 8:21 AM
To: Alison Mohns
Subject: Comments
Attachments: Comments Edison Permit No. ST0045515.odt

CAUTION: This email originated from an external email address. Do not click links or open attachments unless you recognize the sender, you are expecting this email and attachments, and you know the content is safe.

Alison,

I read through the new and old permit and fact sheets several times and have prepared a few comments, which are attached.

The two most significant items are the capacity evaluation and the groundwater assessment. The capacity evaluation is basically looking to locate inflow sources into the collection system. This will be difficult to do without the right conditions and then will require a little luck to find them. We already know smoke testing is not feasible due to check valves. I believe the permit condition for the groundwater assessment is vaguely written and confusing. At least establish a starting point. That is, start totally anew or build on the extensive report completed in 2018. Based on its report, Ecology should know better than anyone else what additional work is required.

I organized my comments as General and then followed Ecology's list of permit changes, found in the Fact Sheet, as additional comments. I hope these are useful.

Harry

**COMMENTS EDISON PERMIT NO. ST0045515
JANUARY 2019**

General:

1. Fact Sheet, Page 9. If the gravel filters are now covered, this improvement should be acknowledged in the Fact Sheet.
2. Fact Sheet, Page 10. There a very minimal description of the operation of Drainfield #2. It includes a large control panel to control flow to each of the zones. There are also level sensors in the drainfield to shutoff flow to a specific zone when activated.
3. Fact Sheet, Page 13. Table 3 shows the flows to Drainfields #1 and #2 also the Upflow Trench. The table presents a misleading comparison. Drainfields #1 and #2 are used daily whereas the Upflow Trench is used intermittently or as needed. The average of 5,244 gpd represents a specific number of events. A note would clarify the table.
4. Fact Sheet, Page 16. Under Emergency Upflow Trench, what does superscript "a" refer to.
5. Fact Sheet, Page 51. This table used well designations P10, P11, and P8. The Groundwater Assessment Report, Figure 6, used completely different well ID's. No where in the Fact Sheet or Permit are the locations of P10, P11 or P8 shown nor could I locate the reference. Some of the information shows high groundwater at times for certain wells. However, nothing actually confirms high groundwater in the trenches. Checking the water level at the cleanouts for each trench would confirm if groundwater is at, or above, trench level. **Note: Fig. 2 of previous Fact Sheet (2013) shows the location of P10, P11, and P8. The current Fact Sheet does not.**
6. Draft Permit, Page 7, Condition S2.C. The condition to to calibrate flow monitoring devices once per year appears excessive for a facility of this capacity. Once per permit cycle should be sufficient.

Fact Sheet, Page 2: Proposed Changes in the Permit- Comments

1. Increase to monthly monitoring of influent BOD5 and TSS. Actually this draft permit increases to monthly monitoring both for influent and effluent.
2. Removal of quarterly effluent nutrient monitoring. No comment.
3. A maximum daily flow limit on the Emergency Upflow Trench. This limit is now 1,846 gpd. I did not find any rationale for this limit in the Fact Sheet.
4. A slight reduction in the maximum daily flow limit to Drainfield #1. The previous limit was 2,000 gpd; it is now 1,650 gpd. This is not a large change but also no stated rationale in the Fact Sheet.
5. A capacity evaluation of the system exceedances in design criteria. There are 10 items listed on page 13 of the draft permit. Item 10 refers to an evaluation of modifications to the drainfields. This task is partly dependent on the groundwater evaluation requirement, Condition S8 of the permit, so

likely cannot be completed as part of the capacity evaluation report. While most of the listed items for capacity evaluation report are reasonable, locating the one or two or three contributing sources will be extremely difficult. It could well be an open pipe under a house that takes on significant inflow during high groundwater or flooding events. Generally the project piping began outside of the building foundation and did not address building plumbing. This report should cover at least two wet seasons.

6. The development of a groundwater monitoring network and monitoring plan. This proposed permit requirement is the most significant item. Ecology prepared an extensive Groundwater Assessment for Edison (April 2018). While it is an extensive report, it failed to achieve 2 out of 3 of its goals: 1) establish background quality and 2) assess whether groundwater criteria are being met. In light of this report, it is not clear what Edison is expected to do with a further groundwater quality evaluation. Start over? Supplement the April 2018 report? Install all new wells? The 2014-16 study used 12 wells. Can some or all of these wells be utilized? As stated on Page 22, "the Permittee must install new wells, as needed..." How does the District know how many new wells are needed? After Ecology's 2018 Assessment, they know better than anyone else what additional work is required to achieve the 2 goals indicated above. At a minimum the scope of work should be a joint effort between Ecology and the District and that the scope should build on the previous work rather than start over. The key step in the scope is establishing well locations, particularly any new locations. In my view, Section S8 is very vaguely written with no reference to the previous assessment.
7. A compliance schedule for obtaining a Group I operator. The draft permit shows a compliance date of July 19, 2019. Unless a Group I operator has already been selected, this date is not feasible considering the required classes and test. At other locations, some facilities have contracted with established facilities such as Burlington and Mt. Vernon. They, of course, would have to agree to do so. There is one local person who has at least a Group I license, but the District's experience years ago was not good. Unless a Group I operator has already been selected, I suggest requesting an extension to the July 19, 2019 date.

Ecology's Response to Skagit County Comments

Response to Comment 1

Ecology appreciates the history of the Edison wastewater project and will continue to work with the Town to achieve compliance with all applicable water quality laws and regulations. Ecology does apply enforcement discretion, especially when working with small communities; however, this does not extend to providing a complete waiver from Washington State rules.

Response to Comment 2

The State Waste Discharge Permit (ST0045515), issued January 28, 2013, included quarterly sampling of wastewater influent and daily, monthly and quarterly sampling of wastewater effluent. The new permit does not increase effluent sampling frequency. The new permit only increases influent sampling frequency from quarterly to monthly. Samples and measurements taken to meet permit requirements must represent the volume and nature of monitored parameters, including representative sampling of any unusual discharge or discharge conditions.

Ecology permitted monthly influent sampling based on the assumption that the WWTF operated at half the hydraulic capacity of the gravel filter and that the WWTF would not approach capacity in the next five years. Over the last permit cycle the WWTF reported 8 months where influent flow exceeded the gravel filter's design limit. Only 1 of the 8 months captured water quality samples. See Comment 1.

As Skagit County notes, overall cost is one of many considerations Ecology takes into account in establishing monitoring frequency. Other considerations include nature and effect of the discharge and compliance history. Additionally, more frequent monitoring is recommended in areas of frequent upset.

Response to Comment 3

The intent of permit condition S8. Groundwater Monitoring Plan is to allow the permittee to design and propose a groundwater monitoring program as appropriate for the community and the site. This allows the County and the community an opportunity to actively participate in the development of groundwater monitoring at the site. Through the review process, Ecology will provide comment on this plan. Utilizing the existing groundwater monitoring network was presented as an option early in permit development. Ecology appreciates the work done to compile a proposed monitoring plan and looks forward to working with the community on this option. See Ecology's Response to John Rupp's Testimony.

Ecology requires groundwater monitoring at the site in accordance with the Ground Water Quality Standards, chapter 173-200 WAC. The Ecology Groundwater Assessment was conducted to better characterize the site for future compliance monitoring. Renovation and disinfection of wells, including a well renovation completion report, are a recommendation from Ecology's groundwater assessment for existing monitoring wells with continued sampling. The concern is overland flow is entering the wells because of the flush mount contaminating the wells resulting in bacterial samples not representative of groundwater. The proposed permit does not include a requirement for raising existing monitoring wells above ground.

Response to Comment 4

Condition S2.F from the previous permit has been added to the new permit as S2.E.

Response to Comment 5

The 2013 permit required Skagit County to obtain a Group I operator per WAC 173-230. Wastewater treatment facilities require operators to be certified by the state in order to protect public health and water resources, and ensure proper operation and maintenance of the facility. RCW 70.95B.030; WAC 173-230.

The Edison WWTF, as designed and constructed, is a domestic wastewater treatment facility as defined in WAC 173-216, 230 and 240. The definition of a wastewater treatment facility used in updated WAC 173-230-200 was intended for determining operator experience for wastewater treatment system operators. It defines a "wastewater treatment plant" as "a facility used to treat any liquid or waterborne waste of domestic origin or a combination of domestic, commercial or industrial origin, and that, by its design, requires the presence of an operator for its operation." WAC 173-230-020. The Edison Wastewater Treatment facility collects and treats solid waste using individual septic tanks, a recirculating gravel filter and UV disinfection before disposal to drain fields. Due to this design, the WWTF was classified as a bio-filtration treatment plant. WAC 173-230-330. Because the Edison WWTF is a wastewater treatment plant, it requires a certified operator. WAC 173-230-210.

Ecology recognizes that before the current permit issuance, the WWTF was sometimes referred to as a Large Onsite Sewage System (LOSS) falling under Department of Health (DOH). WAC 246-272B. However, in 2011, DOH and Ecology evaluated permitting options. Since the WWTF does not provide subsurface soil treatment as part of the treatment process and the vertical separation is not adequate to allow for such treatment as required by WAC 246-272B-06100(1), a LOSS classification was not applicable. Additionally, effluent discharges could potentially migrate to land surface or into surface water, and under flood conditions, the infiltration trench could find a relatively quick pathway to the Edison Slough. Due to these conditions, the facility was classified as a domestic wastewater treatment facility. DOH can require facilities to apply for a state waste discharge permit under the above conditions. WAC 246-272B-07450(4)(c). Additionally, DOH requires a Class I operator certification for LOSS systems with a design capacity over 14,500 gpd. The Edison WWTF's design capacity is 24,000 gpd.

The legal requirement is clear and cannot be waived. Ecology has relaxed the regulation to the greatest extent allowable within WAC 173-230-330. The regulations allow for some flexibility by requiring "the presence" of an operator and allowing facilities to be classified in a group other than indicated in the regulation when they have characteristics that make operation less complex. WAC 173-230-330(5)(a).

Ecology recognized the lower level of complexity of the Edison WWTF in the prior permit cycle. For that reason, Ecology relaxed the certification requirement by allowing Group I instead of Group II, and by allowing for a five-year compliance schedule. Throughout the permit period, Ecology also worked with the Edison community to help develop alternative pathways towards certification and provide resources to meet minimum training and testing requirements. As demonstrated in Ecology's letter to Skagit County dated May 7, 2018, Ecology identified six other treatment plants of similar size, complexity and flow rate. Edison is the only one without an operator as required.

The expiration date for the temporary Group I operator certification is valid for one year and non-renewable. The 2013 State Waste Discharge permit was issued on January 28, 2013. Condition S5.A of the permit, requiring a Group I certification, has not changed over the life of the permit. Edison has had since permit issuance, January 28, 2013, to find an operator. Additionally, the WWTF has been aware of this requirement since 2003. The O&M manual, dated October 2003, states, "If a permit is required, a licensed operator will be needed for the wastewater treatment facility."

Ecology recognizes and appreciates the attempts Skagit County and the Edison Board have made to acquire an operator with a Group I certification, but as stated in the response to Greg Young's testimony, Ecology must ensure qualified staff are available to keep the plant running into the future. Increasing amounts of rainfall, rising tides, and aging infrastructure present unique challenges for performing in compliance with its state waste discharge permit. Ecology cannot waive this requirement in the new permit.

Response to Comment 6

Ecology added clarification to Table 4 and language in the draft factsheet. Under S4.A of the 2013 permit, the WWTF is listed with a design criteria of 20,000 gpd. This value is "Overall Facility Maximum Day Flow with 2 Drainfields". Table 2 of the 2013 permit requires monitoring of wastewater influent flow. Reporting

of influent flow is included in the Permittee's Discharge Monitoring Report (DMR). The Permittee's DMR tracks influent flow as IN1 with a Design Limit (DL) of 20,000 gpd. Because this parameter is Report Only (RO), any flow greater than 20,000 gpd is an exceedance of the design criteria, not a violation. Ecology changed Table 4's column titled "Violations" to "Violation/Exceedance".

The design criteria for Drainfield No. 2 is a maximum daily flow of 18,000 gpd. The definition of Maximum Day Design Flow as presented in the 2013 fact sheet is defined as "The largest volume of flow anticipated to occur during a one-day period, expressed as a daily average." The units of measurement for reporting maximum day design flow on the Permittee's DMR is gallons per day (gpd). Therefore the hourly flow data is irrelevant. But as described above, because the parameter is RO, any flow greater than 18,000 gpd is an exceedance of the design criteria, not a violation. Ecology changed Table 4's column titled "Violations" to "Violation/Exceedance".

Response to Comment 7

Flow meters should be calibrated and maintained according to manufacturer's recommendations and O&M Manual procedures; they do not necessarily have to be removed from service. This has been clarified in permit condition S2.C. See Ecology's response to Alison Mohn's Testimony (1.6).

Response to Comment 8

Several of the County's monitoring wells are located on, and accessible through, County property (parcel's P111727 and P120567) per Skagit County iMap. Renovation and disinfection of wells, are recommendations from Ecology's groundwater flow study for existing monitoring wells with continued sampling. As stated in Response to Comment 3, the permit does not include a requirement for raising existing monitoring wells above ground.

Response to Comment 9

Comment noted. See permit factsheet for justification of the Capacity Plan.

The 2013 permit included a plan for maintaining adequate capacity if design flow is exceeded. See S4.B.1 Plans for Maintaining Adequate Capacity, Conditions triggering plan submittal stating that "The Edison wastewater treatment system is currently approaching full capacity due to hydraulic limitations of the drainfields. If plant flows or loadings are projected to exceed drainfield or gravel filter capacity within five years, the Permittee must submit to Ecology a plan and a schedule for increasing capacity of the affected component(s)." The Edison WWTF is permitted to treat up to 20,000 gpd. Last cycle, the WWTF exceeded permit capacity eight times. Due to these exceedances, Edison must submit a plan and schedule for increasing capacity as required by the previous and current permits.

Response to Comment 10

Requests noted and addressed in *Response to Comments 1-9*. Ecology included the attached exhibits to this response.

3. Comments from Skagit County Board of Commissioners



Skagit County Board of Commissioners

Ron Wesen, First District
Kenneth A. Dahlstedt, Second District
Lisa Janicki, Third District

May 6, 2019

Via E-mail Only at: tricia.miller@ecy.wa.gov

Ms. Tricia Miller, Permit Administrator
Washington State Department of Ecology – NWRO
3190 160th Avenue SE
Bellevue, WA 98008

Re: Comments on Draft State Waste Discharge Permit No. ST0045515 - Edison Wastewater Treatment System

Dear Ms. Miller:

As noted in the testimony provided at the April 29, 2019 hearing, Edison's system has been in operation since the 1990s with oversight from the Department of Health and Ecology. The community system was designed as a repair to individual failing septic systems and has been proven effective at protecting water quality in the Samish Bay. The Edison Subarea was developed to support this system and is one of the first model community plans developed under direction of Ecology's Small Town Environmental Program (STEP). This self-help program was designed to reduce infrastructure costs for small communities. Skagit County, Burlington-Edison School District, and the community of Edison have worked cooperatively over the years to make this system a success.

In 2013, Ecology required Edison to obtain its first permit for the system. The State Waste Discharge Permit requirements have increased system operating costs, which are borne by a limited number of commercial and residential users. After years of study, Ecology published a Groundwater Assessment for Edison in April 2018, finding that "the effluent is not degrading groundwater quality." Accordingly, we were surprised that Ecology's proposed Draft Permit included more costly permit conditions. These new conditions will not result in additional environmental benefits and will significantly burden the community of Edison. These changes are directly contrary to the original intent of Ecology's Small Town Environmental Program -- affordability for a rural community. While we share Ecology's goals of clean water in the Samish Bay, we ask that Ecology consider the costs and benefits of these additional proposed requirements.

Thank you for your consideration.

Sincerely,

**BOARD OF COUNTY COMMISSIONERS
SKAGIT COUNTY, WASHINGTON**

Handwritten signature of Lisa Janicki in blue ink.

Lisa Janicki, Chair
Commissioner

Handwritten signature of Ron Wesen in blue ink.

Ron Wesen
Commissioner

Handwritten signature of Kenneth A. Dahlstedt in blue ink.

Kenneth A. Dahlstedt
Commissioner

Ecology's Response to Skagit County Board of Commissioner's Comments

Conditions included in the new permit follow criteria required in the Washington Administrative Code for operating a domestic wastewater treatment facility. To summarize, the new conditions are aimed at protecting the community's investment for future generations. Requirements are intended to ensure the WWTF remains in compliance with state and federal standards and therefore remain in operation. The intent of the permit is not to burden the community with additional costs but to maintain sound operation of the WWTF, monitor its environmental impact while keeping costs from becoming excessive.

4. Comments from Burlington-Edison School District



Jeffrey M. Haddox,
Auxiliary Services
Assistant Director
Work: (360) 757-3387
Fax: (360) 757-2946

Auxiliary Services
491 N. Burlington Blvd.
Burlington, WA 98233
www.be.wednet.edu

May 1, 2019

Department of Ecology
Ms. Trisha Miller, Water Quality Permit Coordinator
3190 – 160th Avenue SE
Bellevue, WA 98008

RE: Application; Permit #ST0045515

Dear Ms. Miller;

My name is Jeff Haddox, I have been employed with the Burlington-Edison School District #100 (B-ESD) for 18 years. I have been involved with maintenance and operations of the Edison LOSS. During this time there have been many improvements made to the WWTS located at the Edison Elementary school bus garage.

These improvements include;

- New flow meters have been installed which are very accurate in tracking and recording volumes.
- Computer/automation system has been upgraded, which allows better direction and tracking of influent and effluent. This system also provides email/text alerts to multiple people in case of emergency alerts, of which I am listed.
- A rain cover has been installed over the gravel filter reducing the introduction of rain water to the system.
- This system has performed above design expectations since the additional drain field was added.

The B-ESD has a number of concerns regarding the new permit requirements. The first would be the safety and security of our students and staff. The B-ESD would need to work with DOE and Skagit County Planning and Development to have a procedure in place for contractors/employees entering B-ESD property, which could possibly include background checks. The second issue would be any new monitoring wells installed on B-ESD property.

B-ESD would also require the top of the well heads to be level with surrounding grade/ground elevations, as these above ground well heads create student safety and maintenance issues.

The final issues would be the potential costs related to a part-time certified operator and the cost of an on-going monitoring well network. We do not see the value of a certified operator. We currently monitor, track, report and test the following: effluent limits (BOD, TSS, etc.), influent and effluent flows and reporting and recording required for the LOSS/WWTS.

The previous DOE study found no evidence of ground water contamination related to the Edison WWTS. Rather than install and monitor a costly new network of wells, we would propose using existing wells. If, in the future these wells indicate a problem with contamination that would be the time to address the need for additional wells and monitoring.

I believe the Edison Community works very hard to ensure this system works correctly and meets, or exceeds, requirements for effluent discharge. The health of the Samish Bay is very important to this community and surrounding communities. As long-time residents, we strive to protect the Samish Bay and surrounding waters for future generations.

We look forward to working with the DOE to comply with the new permit requirements for the Edison Clean Water Subarea.

Respectfully,



Jeff Haddox
Assistant Director
Auxiliary Services
Burlington-Edison S.D. #100

Ecology's Response to Burlington-Edison School District's Comments

Ecology understands Skagit County has a cooperative and trusted relationship with the Burlington-Edison School district for operating the nearby WWTF. An operator would work within their agreement with Skagit County. Above ground wellheads are not included in the permit.

The purpose of having a certified operator is to protect public health and the environment by ensuring wastewater treatment plants are properly operated and maintained (WAC 173-230-210). It's prudent the community of Edison address this staffing need with the WWTF's location next to the school's athletic fields. When the discharge exceeds drainfield capacity due to high groundwater, tides or large rain events, the potential for treated wastewater to surface and pond increases thereby increases the risk of student & staff exposure.

A certified operator is designated to run the WWTF. A certified operator has the technical expertise and experience to troubleshoot and problem solve wastewater treatment issues as well as handle administrative matters and record keeping. They typically are the point of contact for the facility and all facility related matters.

See Ecology's Response to John Rupp's Testimony (1.3).

5. Comments from Taylor Shellfish Farms

130 SE LYNCH ROAD, SHELTON, WA 98584

WWW.TAYLORSHELLFISH.COM



P: 360.426.6178 • F: 360.427.0327

WWW.TAYLOROYSTERBARS.COM

May 6, 2019

Tricia Miller, Permit Administrator
WA State Dept of Ecology - NWRO
3190 - 160th Avenue SE
Bellevue, WA 98008

Re: Comments on draft permit no ST0045515 - Edison Wastewater Treatment System

Dear Ms. Miller:

I have been following with interest the renewal of the Waste Discharge Permit from Ecology for the Edison community septic system. I have been involved for over 30 years on efforts to address water quality issues in Samish Bay. For the past 28 years that has been as the Director of Public Affairs for Taylor Shellfish Farms who owns or leases 2,000 acres of tidelands in Samish Bay and has a retail facility on Chuckanut Drive. I also own my own shellfish farm (Chuckanut Shellfish, Inc.) in Samish bay and have a home on Samish Island.

During the 1990s when the Edison and Blanchard communities were working to address the failed onsite sewage systems I served on the Edison Sewerage Committee and Blanchard Poop Group. I took the lead in writing a Community Development Block Grant that got a half million dollars to assist the communities with installing new systems including portions of the Edison STEP system. I currently serve on the Clean Samish Initiative Executive Committee.

Unfortunately I have been unable to attend either of the informational meetings that DOE has hosted regarding the permit reissuance. I have a sense of some of the challenges after reading the fact sheet and communicating with county staff.

I understand the county has had a challenge finding an operator certified by the state of Washington for a Class I WWTP. The District currently contracts with the Drain Doctor. While the Drain Doctor personnel are not Ecology-certified wastewater treatment plant operators they may be more qualified than a WWTP Operator since the system is more akin to a septic system than a traditional WWTP. I encourage Ecology to continue to work with the county and provide some flexibility on this requirement.

There is a history of flow exceedence violations with the system. Edison's growth as a tourist destination will no doubt confound this problem. Ensuring measures are in place to address nuisance flows (running toilets etc.), downspout connections, leaking STEP tank lids and tide gate function and performance will be critical to minimize flow exceedences in the future particularly during the winter months. I encourage you to work with the County to incorporate such measures in the permit. Similarly I encourage you to work with them on the groundwater monitoring/sampling program to ensure flow exceedences are not resulting in inadequately treated sewage impacting groundwater and potentially Samish Bay.

TAYLOR SHELLFISH CO.

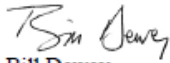
TAYLOR TIMBER INVESTMENT CO.

TAYLOR RESTAURANTS

Taylor Shellfish Farms comments on Permit No. ST0045515
Page 2

After 30 years of working with the Edison and Blanchard communities, Skagit County agencies and Commissioners, WDOE, WDOH, WDOA, EPA, the Puget Sound Partnership and the Governor's Office the thing that stands out to me the most is the persistence and commitment of all to address the water quality impacting Samish Bay. I have no doubt that commitment is foremost on the minds of people involved in the permit development process. In light of that I am confident the permit will provide appropriate environmental protections and that hopefully will not result in major fee increases to the residents and businesses in Edison.

Sincerely,



Bill Dewey
Director of Public Affairs

TAYLOR SHELLFISH CO.

TAYLOR TIMBER INVESTMENT CO.

TAYLOR RESTAURANTS

Ecology's Response to Taylor Shellfish Farm's Comments

See Ecology's Response to Skagit County's Board of Commissioners comments (4.).

6. Comments from Greg Young

SKAGIT COUNTY CLEAN WATER DISTRICT

“The Edison Sewer System”

May 3, 2019

Ms. Tricia Miller
Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue WA 98008-5452

Re: Draft State Waste Discharge Permit
Edison LOSS System, Permit No. ST0045515

Dear Ms. Miller:

As the contracted District Administrator for the Edison Sewer System, I am submitting the following formal comments on Draft Permit No. ST0045515. These written comments are in addition to verbal testimony provided at the Public Hearing held at the Edison Elementary School on April 29, 2017.

I would first like to thank your staff members with whom we have been working with and who were at the Public Hearing. A review of the over 20-year operating history of the Edison system will reflect that there has traditionally been a very positive and cooperative relationship between the County, its volunteer Board and the Department of Ecology (DOE). We have for more than two decades shared a deep desire to improve the water quality in Skagit County and maintain the high operating standards of the Edison System that has consistently and appropriately treated the domestic and commercial effluent in the Town so as to be a positive factor in the reopening of the area's shellfish beds.

As noted in DOE's *“Wastewater Treatment System Groundwater Assessment for Edison, Washington”* (Publication No. 18-03-007, dated April 2018), the Edison System is operating as intended and is not contributing to groundwater contamination. The hydrogeologic team who authored this study was clear in this regard as follows:

- Page 9 (the Abstract portion of the report) states in part: “...*Low concentrations of most water quality parameters in the monitoring wells closest to the drainfield indicate that the **wastewater discharge was not degrading groundwater quality** and in fact have been diluting the underlying highly saline groundwater.*” (emphasis and underlining added).
- Page 80 of the report states: “*Lower concentrations of most non-bacterial water quality constituents in the wells downgradient and closest to the drainfields, compared with wells further downgradient or cross gradient from the drainfields indicate that the **effluent is not degrading groundwater quality**. *Effluent may, in fact, be diluting ion concentration in ambient groundwater such as chlorine, bromide, and ammonium.*” (emphasis and underlining added).*

This report, the culmination of DOE's 18-month effort to examine the effect that the Edison System has on groundwater has clearly demonstrated that our system should be viewed and treated as the overwhelming success story that it is – this report is **Best Available Science** and should form the foundation for our new Permit.

It is with this underpinning that we find ourselves perplexed and frustrated with what we see as attempts by DOE to foist unnecessary and expensive additional Permit requirements that will a) not improve water quality b) not increase the effective operation of the system and c) add cost without benefit. What follows are the specific new Permit requirements that has caused us pause:

Meter Calibration

As you are aware, we have both an influent as well as an effluent meter. The Draft Permit is requiring that we periodically remove and re-calibrate these meters. We find this requirement to be unnecessary and cost prohibitive. Conversations and documentation from the meter's manufacturer have shown that, with no moving parts and calibration at the factory, they recommend that the meters remain in place unless there is evidence of potential error. We would offer the following as rationale for removal of this re-calibration requirement:

- As noted, the manufacturer states that under most circumstances, re-calibration is not needed.
- Since we have two meters whose readings are submitted to DOE, unless there is an unexplained material difference between the readings, they should be considered accurate and can serve as a cross-check on each other.
- Not only would we be burdened with the cost of unnecessary re-calibration, but we would also need to purchase and install a replacement meter for use when a meter is pulled.

Capacity Analysis

The Edison system consists of an underground initial collection system (STEP Tanks) as well as a subsurface transmission system (pipes and pumps). With Edison being located at the edge of a large tidally influenced river delta that experiences significant annual rainfall, Infiltration and Inflow (I&I) has been a constant target for mitigation and one that the Edison Board has and will continue to invest significant effort to address.

Not only have we periodically attempted to smoke test the system, maintain a monthly tank inspection regimen, and have installed a cover over our gravel filter, but we also keep in contact with our system users to alert them to the need to take steps to reduce I&I into our system. We plan on continuing our efforts to address I&I to include dye testing roof gutters to ascertain if any downspouts are connected to our system. In short, we stand committed to continue our efforts to mitigate I&I within the Edison System.

With that said, we feel that the evolving Permit condition regarding Capacity Evaluation has the effect of ratcheting up what has been a Best Practice activity of the Board to a Regulatory Mandate from DOE. For example, our current permit (as of January 2013) said that we needed to submit a schedule for increasing capacity if we experienced excessive flows. This was increased in our June 2018 Draft Permit to say that the trigger would be 3 consecutive days of excess flow (also said we could not add connections to our closed system) and now our January 2019 Draft Permit has taken away any criteria for triggering a capacity evaluation by directly stating that "Capacity evaluation required within permit term". We feel that this is leading to automatic enforcement by DOE should our on-going efforts prove to not be acceptable.

As noted, we will continue to work to limit I&I into our system and would like the permit language altered so we can continue to feel that we have a partner in DOE – not just a regulatory agency slowly and incrementally moving to enforcement action.

Groundwater Monitoring

In the opening section of my comments, I reflected how the experts hired by DOE to complete a Groundwater Assessment concluded that our system is not contributing to groundwater contamination and in fact, is diluting existing groundwater contaminants. Despite these findings, we now see a new Permit requirement for us to establish a groundwater monitoring network and submit a proposed monitoring plan. We find this new requirement to be unnecessary and cost prohibitive.

The above noted Assessment had three desired outcomes – 1) assess background groundwater quality, 2) determine groundwater flow characteristics, and 3) determine the effect the Edison System has on groundwater quality. While the Study succeeded in determining the second and third component, the first component's (background groundwater quality) result was, as we have been told by DOE, "inconclusive". This we have been informed was due to the "highly complex hydrology in Edison". We have no reason to doubt that this is true – as we have said, you have the mouth of a river delta, excessive (and ever-increasing) tides, and seasonally excessive rainfall – it is not surprising that the hydrology of Edison is "complex" and therefore difficult if not practically impossible to definitively assess groundwater quality.

This condition is exactly why we take issue with this Permit requirement – you are asking us to a) attempt to determine something for which a professional hydrologists and her team hired by DOE at tremendous expense could not do in 18 months (determine ambient groundwater quality) and b) continue to prove a negative (we are not contaminating groundwater). It has already been shown by DOE's own experts that we are diluting existing groundwater contaminants. This burdensome Permit requirement appears to have no end – that is, we will be asked to expend precious financial resources forever with little actual hope of success.

At the DOE public workshop held on April 11, 2019 at the Edison Elementary School when we brought up that DOE's own hydrogeologists who wrote the Study's findings concluded that we are not contributing to groundwater contamination (i.e. – we are "diluting"), the response was that the authors of the Study did not appreciate the potential regulatory effect of their findings. We found this to be astonishing – as if DOE staff was saying "if the authors knew that their words might actually give credence to the lessening of Permit requirements, they would not have said it".

We contend that it is *because* the professional hydrologists who authored the Study did not "appreciate" how their findings might affect a future Permit that their findings and conclusions should be relied upon and this Permit requirement eliminated. This Study concluded that we are not contributing to groundwater contamination and therefore the April 2018 Study should be considered Best Available Science. Skagit County has little hope of determining that which the DOE scientists could not, it will be excessively expensive on a system with less than 70 users, and at best, we will continue to prove a negative.

Operator Requirement

This last component of our Draft Permit is one that, more than the others, seems mired in strict bureaucratic adherence without astute reflection as to cost/benefit rationale or appropriate use of regulatory judgement. Put another way, even though we have asked on numerous occasions, we have yet to be told two aspects of the requirement for an Operator. First, what is not being done (and done

well) now. Secondly, what would an Operator do – we do not employ mechanical treatment techniques, we use no chemicals (i.e. – chlorine), we do not use flocculants, we have no aeration ponds, we have no biosolids to manage.

As should be clear, we are a Large *Off-Site* Septic System (perhaps somewhat different than a traditional LOSS) – A classification that we completely understand is not contained within the normal DOE wastewater classification system. The unfortunately reality of this is that rather than acknowledge that we have been this type of system for over 20 years, have a stellar operating history, and have demonstrated our ability to operate and maintain our system, we are being forced into a classification and resulting regulatory scheme that is now requiring us to expend money with no public benefit.

Again, returning to the public meeting of April 11, 2019 – when we asked for clarification as to the parameters of the Operator requirement, we were told two confounding things. First, that Operator 1 is the lowest level – so even if it did not make sense to have an operator, you can't go below level 1 and secondly that the Operator would only have to be at the plant *1 hour per month!* It was as if even the DOE staff members realized how silly it was to even have an Operator, but they were obligated to “check the box” to ensure strict compliance.

As hard as it is for this to be written, I can appreciate how hard it must be to justify. We have a little under 70 users on our system. Everybody has a septic tank in their yard, and we have a 5-acre drainfield. We do not need an Operator (as you know, the system was designed to operate without an Operator). We have a remotely monitored telemetry system and a qualified maintenance contractor on-call. The residents pay about \$60/month for their sewer system – how are we going to tell them that we need to “rent” an Operator's license when nothing will change except for their bill.

We are respectfully requesting that our 20-year history be given some weight, that you acknowledge that we also care about the environment, are committed to keeping our system running well and that you ascertain how to not require an Operator – a situation that DOE somehow did for over two decades.

We look forward to your considered deliberations. Thank you for your time and attention.

Sincerely,

Greg Young
District Administrator
Skagit County Clean Water District

Ecology's Response to Greg Young's Comments

Meter Calibration: See condition S2.C.2 of the permit. Flow meters should be calibrated and maintained according to manufacturer's recommendations and O&M Manual procedures; they do not necessarily have to be removed from service.

Capacity Analysis: The Capacity Plan is the result of increasing exceedances reported in the WWTF's DMRs demonstrating that the WWTF received peak flows above its design capacity multiple times over the last permit cycle (see Table 4 of the Permit Factsheet). In addition it repeatedly disposed of flow greater than permitted drainfield capacity; relying on the emergency overflow trench for added capacity.

The emergency overflow trench is for emergency only. Its design and proximity to the slough is not intended for regular use. Instead of requiring a potentially costly upgrade, Ecology thought a separate evaluation focusing on inflow to the WWTF would be less costly and more practical. The intent of this plan is to identify sources to prevent permit exceedances and enhance best practice activity under permit condition S1.B. Best management practices/pollution prevention and S5. H. Land application best management practices.

Groundwater Monitoring: Ecology requires groundwater monitoring in accordance with Groundwater Quality Standards, Chapter 173-200 WAC. The goal is to monitor the WWTF's pollutant contribution and groundwater quality over the long term for the application of the groundwater antidegradation policy. The Edison WWTF has been discharging to the groundwater for over 20-years. Only the last 5-years has been under a permit. To evaluate overall impacts to groundwater from the WWTF, it's important to monitor the entire site at a minimum quarterly sampling frequency to capture seasonality over the permit cycle. The groundwater monitoring permit condition (S8) allows Edison/Skagit County to design and submit an appropriate monitoring plan with review and input from Ecology.

Operator Requirement: Within this framework of its regulations, Ecology has reduced the required operator certification from a Group II to a Group I and concurs with the WWTF approved O&M manual that a part-time operator is sufficient. Ecology has encouraged pathways for certification that preserve institutional knowledge of the WWTF, including but not limited to, certification of County employees and or advisory board members.

Ecology does not take enforcement lightly. Ecology's mission is to protect, preserve, and enhance Washington's environment, and to promote the wise management of our air, land, and water for the benefit of current and future generations. Education, technical assistance, and administrative enforcement actions are all used to gain compliance with environmental laws. Since many regulations are complicated, Ecology is responsible to help the regulated community understand how to comply. We achieve voluntary compliance through education and technical assistance as we advise and consult on permits, conduct inspections, perform on-site technical visits, or provide regulator guidance materials.

7. Comments from Linda Robbins

May 5, 2019

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

From: John and Linda Robbins
14091 McTaggart Ave.
Edison, WA 98232

Attention: Tricia Miller

This letter is in regards to the Dept. of Ecology, Water Quality State Waste Discharge Permit Reissue for the Edison Wastewater Treatment System (Edison Sewer).

We attended the April 29th meeting at Edison School and appreciated the presentation by Dept. of Ecology staff there and listened carefully to all of the testimony given by Skagit County representatives who know our system, as well as three of our local advisory board, our county commissioner and others.

In 1983 we purchased a home in Edison. After a four year remodel we moved into our home in summer of 1987 and have lived here ever since. We have seen first hand the great benefit of all of the time and enthusiastic effort that community members as well as county and state staff put into the planning and building of the Edison Sewer. We join others who gave testimony to request that the Edison Sewer system permit be re-issued continuing to operate with the current monitoring and operating requirements and without hiring a permanent operator.

Respectfully,
John and Linda Robbins

Ecology's Response to Linda Robbin's Comments

See Ecology's Response to Dave Hall's Testimony (1.10).

8. Comments from Bernie Alonzo

From: Bernie Alonzo <bernie.alonzo@gmail.com>

Sent: Monday, May 6, 2019 11:07 PM

To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>; Bernie Alonzo <bernie.alonzo@gmail.com>; Scott Mangold <scott@breadfarm.com>; Thomas Skinner <skinner@fidalgo.net>; Darryl & Maggie Kvistad <dkvistad@gmail.com>; Greg Young <youngest@comcast.net>; Jeff Haddox <jhaddox@be.wednet.edu>; Julie S. Nicoll <julien@co.skagit.wa.us>

Subject: Edison Subarea Clean Water District: Comment on WA DOE Draft Permit ST0045515

May 6, 2019 Via E-mail Only at: tricia.miller@ecy.wa.gov Ms. Tricia Miller, Permit Administrator Washington State Department of Ecology – NWRO 3190 160th Avenue SE Bellevue, WA 98008
Re: Comments on Draft State Waste Discharge Permit No. ST0045515 - Edison Wastewater Treatment System Dear Ms. Miller: Please accept this message as written documentation of and elaboration on the comments I provided at the public hearing for Permit No. ST0045515 - Edison Wastewater Treatment System on April 29, 2019 held at Edison Elementary School in Edison, Washington.

Specifically, I provided testimony concerning potential rate increases associated with the currently proposed permit requirements. The table, figure 1, expresses the range of rate increases analyzed. Please note, that the table includes costs associated with groundwater monitoring and testing requirements in 2020 dollars as though the cost would be incurred immediately. I recognize that the implementation and testing costs will not be incurred until the next permit cycle. The intent is to capture a value for the cost so that the implication and order of magnitude impact to rates could be understood prior to permit adoption.

	RATE YEAR 2019	RATE YEAR 2020 - Low	RATE YEAR 2020 - High	ANNUAL INCREASE - LOW	PERCENT INCREASE - LOW	MONTHLY INCREASE - LOW	ANNUAL INCREASE - HIGH	PERCENT INCREASE - HIGH	MONTHLY INCREASE - HIGH
Residential	\$ 693.61	\$ 1,002.54	\$ 1,201.13	\$ 308.93	44.54%	\$ 25.74	\$ 507.53	73.17%	\$ 42.29
Commercial	\$ 6,317.04	\$ 8,513.20	\$ 9,925.02	\$ 2,196.16	34.77%	\$ 183.01	\$ 3,607.97	57.11%	\$ 300.66

Figure 1.

There are two areas of focus in my comments due the distance between the requirements and the value provided to the citizens of Edison and, more broadly, those who live, work, and recreate in the watershed downstream of the Edison Wastewater Treatment System. The first area is the requirement to employ a Wastewater Treatment System Operator with a Group 1 license. The second is the requirement to develop a groundwater monitoring plan and on-going testing.

The first requirement for an operator is effective immediately upon adoption of the permit. The attached spreadsheet estimates the cost of employing the operator at \$9,600 per year on the low end and \$19,200 per year on the high end. This ongoing cost will be passed on to the fifty-nine local residential and seven commercial rate payers. This requirement alone accounts for a 12% to 23% increase in rates. Unfortunately, it is unclear that this additional cost provides any greater performance of our system or, framed another way, the absence of this requirement will result in no greater likelihood of an exceedance. The Edison Wastewater System exceedances have, with only limited

exceptions, been due to water volume, not quality. The operator license requirements are not relevant to septic systems with discharge to ground and there are no actions that an operator can take that will reduce the upstream flow that reaches our system and that results in a discharge volume exceedance.

To address the flow exceedances, the ESCWD installed a cover over the gravel treatment beds and is implementing a program to identify and reduce excess inflows. I believe a proactive program to reduce unwanted and unnecessary flows is more beneficial and cost effective than the operator requirement.

The second, new permit requirement, is for a groundwater monitoring and testing protocol to be developed and proposed by the ESCWD for the Washington State Department of Ecology to review and approve during the upcoming permit cycle with implementation to occur in the following permit cycle. This requirement will incur costs to develop the study, record easements or secure access rights, implement any required infrastructure, and for on-going testing. These costs are difficult to quantify until the study is more clearly defined. However, as currently drafted, the testing requirements would continue in perpetuity. Given that the Department of Ecology's April 2018 report on groundwater found that "the effluent is not degrading groundwater quality," the requirement appears punitive and without grounds in demonstrated need.

I ask that the requirement for on-going groundwater testing be allowed to sunset after twelve months of testing demonstrating the continued successful performance of the Edison Wastewater System.

As you review these comments and finalize the permit requirements, please know that I fundamentally share the common goal of assuring clean, healthy water for all. I look forward to working with you to achieve this goal and ask that you carefully consider the permit requirements so as to maximize the limited dollars available from our small, rural community.

Respectfully submitted,

Bernie Alonzo ASLA, PLA, LEED AP BD+C

Residential Representative - Edison Subarea Clean Water District

Attachment: ESCWD - Rate Study.xlsx

Ecology's Response to Bernie Alonzo's Comments

The community of Edison's proactive approach to management of their WWTF is highly admirable and an outstanding model for small community initiative. Discharging to waters of the state is a privilege, not a right. Ecology's mission is to protect, preserve, and enhance Washington's environment, and to promote the wise management of our air, land, and water for the benefit of current and future generations. Many regulations are complex. Ecology is responsible for helping the regulated community understand how to comply. Several informational meetings were provided to the community, advisory board and County through the permit drafting process to discuss new permit expectations. The Group I operator requirement is an expectation for competency at the site. Groundwater monitoring in this permit is necessary to monitor pollutants discharged to ground to ensure that pollutants accumulating in the groundwater are not exceeding groundwater quality standards.

The associated costs of operation varies depending on rate payer and assumptions built into the cost model. Court opinions on Section 308 of the Clean Water Act confirm there are no requirements in the statute that the cost of monitoring must somehow be proportional to the value of the data expected to be obtained. But discretion is left to the permitting agency and a goal of the water quality permit program is to require sufficient monitoring to meet environmental objectives but to avoid excessive monitoring that translate into costs. Ecology has relaxed effluent monitoring, groundwater monitoring and operator requirements to the greatest extent permissible under RCW 90.48.

9. Comments from Darryl Kvistad

From: Darryl Kvistad <dkvistad@gmail.com>

Sent: Monday, May 6, 2019 10:28 PM

To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>

Subject: Edison Response to Permit

To: Ms Tricia Miller

Date: May 5, 2019

Dept: Department of Ecology

Re: Edison Site Draft State Wastewater Permit

Dear Ms Miller,

A bit of history:

The communities of Edison and Blanchard were in dire straights back in February of 1992 when DOE shut down Samish Bay because of high counts of coliform and knew we had a sewer problem. Most, if not all homes, had a drain lines that ran straight to the Edison Slough. Some homes and businesses didn't even have septic tanks. That's when several people rolled up their sleeves and decided something needed to be done to somehow tackle this mess and clean it up.

It was a long process, but we were able to obtain grants, hire Wilson Engineering Firm and slowly see the LOSS plant coming together to be ready for the new Edison School to use in the fall of 1996. Everything seemed to work fine in the initial stage.

Strider Construction was hired to install septic tanks on each property and install lines to the Lift Station behind the Edison Café in 1997. That work took several months and the town was finally using the new sewer system. It all worked great until someone saw water ponding on our drain field in March of 1998. Why was water pooling/ponding? Evidently, the soil had a clay lens about 18" deep and our emitters were on top of the clay lens. So the drain water couldn't infiltrate deeper into the soil like it was planned. Too much water was being emitted to the drain field and if it couldn't go deeper into the soil as planned, it saturated the soil and eventually pooled on the surface.

A year or two later, an upwelling trench was placed between the drain field and the slough. Water would over flow the trench when filled and drain into the slough. This worked well for sometime until we needed to expand our drain field. The trench is still used.

Our system has been working now for nearly 23 years. The plant was designed to operate without an operator. And it has for a long time. I'm surprised that Ecology has decided to rewrite their rules and mandate that an operator be hired. What will be the cost benefit for this operator? He'll be operating a plant that operates its self?? The cost of operating this plant has escalated over the years and it looks like it will take another jump in operating costs. The board has estimated that the cost per household may increase up to 30% in this next billing cycle.

I was thinking about this increase in cost and began looking around my neighborhood. I live on Farm to Market Rd. There are 11 homes on Farm to Market Rd connected to our system. Only 3 homes still have people in the work force. The rest of us have retired to a much lower income. I know we are beginning to feel a strain of our resources. I counted 7 more homes in the 4 square blocks of Edison. A total of 15 homes – 23% of our community has retired. It looks as though Edison is becoming a retirement community.

Edison is a unique area – close to Samish Bay. We have done our part to clean up the bay and will continue to do so in the years to come. Taylor Shellfish and Blau Oysters appreciate the clean water in Samish Bay so they can keep operating and not shutting down due to high levels of coliform detected in the bay. We all want clean water!

Remember that Edison is unique and not like other LOSS systems. So take a good look at us. We may require different rules than others. I feel we may be a “square peg” and are being pounded into a “round” hole by DOE.

One problem that we’ve dealt with is I&I. There are times we have had a large amount of water come into the recirculation tank. We have investigated this large inflow after rain storms. So how is this water entering the system? Entering through the gravel filter? Is it entering through septic tank lids? Years ago, during heavy rains, my yard would flood and the lids were under water. So I had risers placed on my septic tanks and it isn’t a problem anymore. But what about the other residences?

I planned to visit all sites this last winter after heavy rains to see which lids may be below water. I was using my yard as a gauge. When it flooded, it was time to examine the other tank lids. However, the heavy rains didn’t come. There was no Pineapple Express coming through the neighborhood this year. But I’ll be ready to make inspections in 2019-2020 when it does.

I’ve been involved in every aspect of this sewer since the bay was shut down in 1992. I think it’s amazing what has occurred and what has been accomplished by this tiny community during the last 26 years. But I haven’t heard much from DOE. No pats on the back. Not much of anything positive about what has been done. I think that’s a shame!

What other tiny community has done what Edison has accomplished?

Thanks for listening,

Darryl Kvistad

Edison Clean Water Board Commissioner

Ecology’s Response to Darryl Kvistad’s Comments

Ecology recognizes the Edison WWTF as a success story but it’s important to ensure qualified staff are available to keep the plant running well for the next 20 years and beyond. The conditions of the permit are not a penalty. The permit is designed to allow the discharge of a pollutant in a manner that doesn’t negatively impact human health and the environment. In other words, serves two purposes: allowing the community to provide sewer service and to protect you. Thank you and other volunteer board members for your commitment, past and present, to maintaining responsible care for clean water in the Edison Community.

10. Comments from James Robbins

From: James Robbins <edisonboy.jr@gmail.com>

Sent: Monday, May 6, 2019 6:00 PM

To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>

Subject: Comment on Edison Sewer, from public hearing on April, 29, 2019

Hello, my name is James Robbins and my wife, Bette, and I have lived in Edison since June of 1984. Being long time residents, we have seen lots of changes in our village. The sewer project is of utmost importance to us and our neighbors. A great improvement to the water quality being discharged has been realized. Friends and associates are on the advisory board and we have had many conversations with them throughout the years regarding the quality of our system and its impact on Samish and Chuckanut Bays. After hearing all the testimony last week, it seems apparent that the system is functioning very well and therefore we feel that any changes at this point are unnecessary.

We are appreciative of the Department of Ecology being concerned for our Rural Village's sewer and waste water oversight. At the same time, we feel that adding unnecessary testing and more complex management would make our system cost prohibitive for individual home owners and businesses in this small community.

Thank you for taking our testimony, James and Bette Robbins

Ecology's Response to James Robbin's Comments

See Ecology's Response to Dave Hall's testimony (1.10).

11. Comments from Ken Deering

From: Ken Deering <ken@kdeering.com>
Sent: Sunday, May 5, 2019 9:36 PM
To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>
Subject: Permit ST0045515 for Edison Subarea Water District

Ken Deering
14129 Doser Street
Edison WA 98232

To:

Tricia Miller
Permit Coordinator
Washington State Department of Ecology
Northwest Regional Office
3190 - 160th Avenue SE
Bellevue, WA 98008

Re: Water Quality State Waste Discharge Permit Reissue

I was not able to attend the April 29th Public Hearing to express my support for certain elements of the proposed permit and my concerns for costly requirements likely to provide little quantitative benefits.

I am a Director of the Blanchard Edison Water Association and understand the importance of water quality. I am for clean water and financially prudent measures that will help improve water quality. I'm sceptical that additional groundwater monitoring and testing by the ESCWD will be able to conclusively solve the riddle of the seasonal changes in groundwater movement. My understanding is the testing may add as much as 20% to the ESCWD members' annual costs and it is incumbent for DOE to articulate how the testing will provide an actionable path to cleaner water otherwise this is a highly burdensome cost with provide no tangible benefit. Costly testing that will provide no actionable outcomes is to be avoided.

I oppose the wasteful and unnecessary new Operator 1 requirements that add cost and will not improve operations due to the disconnect between the license/testing requirements and the real world functioning of a septic system.

It is accepted fact that the ESCWD produces cleaner water than adjacent properties and the Edison Slough. Therefore, sunseting any required monitoring must be part of any monitoring plan developed during the permit cycle.

Yours sincerely,

Ken Deering

Ecology's Response to Den Deering's Comments

Groundwater Monitoring: Ecology requires groundwater monitoring in accordance with Groundwater Quality Standards, Chapter 173-200 WAC. The goal is to monitor the WWTF's pollutant contribution and groundwater quality over the long term for the application of the groundwater antidegradation policy. The Edison WWTF has been discharging to the groundwater for over 20 years. Only the last 5 years it has been under a permit. To evaluate overall impacts to groundwater from the WWTF, it's important to monitor the

entire site at a minimum quarterly sampling frequency to capture seasonality over the permit cycle. The groundwater monitoring permit condition (S8) allows Edison/Skagit County to design and submit an appropriate monitoring plan with review and input from Ecology.

Operator Requirement: The Edison Wastewater Treatment Facility does not meet the definition of a septic system, because no treatment is provided by the soil. Within the framework of its regulations, Ecology has reduced the required operator certification from a Group II to a Group I and concurs with the WWTF approved O&M manual that a part-time operator is sufficient. Ecology has encouraged pathways for certification that preserve institutional knowledge of the WWTF, including but not limited to, certification of County employees and or advisory board members.

Please see Ecology's Response to Greg Young's Testimony and Ecology's Response to the Burlington-Edison School District's Comments.

12. Comments from Robert Pare

From: rwpare@seanet.com <rwpare@seanet.com>

Sent: Saturday, May 4, 2019 5:58 PM

To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>

Cc: rwpare@seanet.com

Subject: Proposed SWD permit Edison WTS, Permit #AT0045515

4 May 2019

Dear M. Miller,

The Padilla Bay Research Center, a Department of Ecology facility, has been the hub for regular sampling of waterways by the Skagit Conservation District's Storm and Stream Teams. There is data that seems to be not included that has direct bearing on the hydrology's analysis.

There are two sets of documentation that should be included as part of the study. The first done by the Storm Team was a two year basin wide study during storm events. These were triggered by a one half inch rain event not connected by the same storm system. A sample sheet is attached. For ground water analysis, there are sample times and locations that surround the Edison School. This data could be correlated with the then current tides and amount of rainfall which could bear light as to the nature of any ground water movement observed recently. Especially noticeable is the surrounding contamination. What sort of background water table exists without the sewer system in place?

The second, also credited to the Storm Team, is work done for the department of Shellfish Safety. This "citizen scientist" sampled the Samish River at cresting events that caused automatic closure of Samish Bay shellfish harvest on weekends, furlough work days, and holidays. The samples were prepared at Padilla Bay's lab and the results were reported after incubation of 24 hours. The critical aspect of this is a term called "Loading". The fecal count could be well over 100FC/100ml if the volume of the river was low and the bay could and usually was opened due to a less than threshold loading. If there was a very high flow rate the benchmark 100FC/100ml could be too high to reopen the bay.

It is important to note that the 100FC/100ml benchmark is a number arrived at by an educated guess and that the importance of that number is determined by the loading of contamination to the bay.

Please reconsider the new requirements for permit approval. I do not feel that the efforts done by this community should not be stood aside due to the lack of conclusive test results and the inconsideration of many volunteers' data collection over the years.

Thank You,

Robert Pare
14114 Doser St., Bow
Skagit County, WA 98232
rwpare@seanet.com

Ecology's Response to Robert Pare's Comments

Ecology requires groundwater monitoring in accordance with Groundwater Quality Standards, Chapter 173-200 WAC. The goal is to monitor the WWTF's pollutant contribution and groundwater quality to prevent groundwater degradation. The Edison WWTF has been discharging to the groundwater for over 20 years. Only the last 5 years it has been under a permit. To evaluate overall impacts to groundwater from the WWTF, it's important to monitor the entire site.

13. Comments from Toni Ann Rust Comments

Public Comment Form

Proposed draft State Waste Discharge permit for
Edison Wastewater Treatment System, Permit No. ST0045515

Submitted by: Toni Ann Rust, 5800 Cains Court, Edison WA 98232

Email: edisoneye@wavecable.com

Date completed: April 30, 2019

In 1974, my husband and I bought the large commercial building now painted white in the downtown area of Edison on Cains Court. I rent space to a gallery and to Tweets Café and live in the building as well. I was there at the very beginning, the stage where we initially asked ourselves what will we do to eliminate the pollution in Samish Bay affecting the shellfish industry. Many of the original meetings were at my dining room table. The community members involved had concerns for the bay but also for the environment surrounding our community and for the preservation of farmland. Preserving the quality of life in Edison was of utmost importance to us and we believed that limiting growth was important to this goal. Over the years I have seen Edison change from being almost a ghost town to a thriving community of creative, enterprising people running small, artisanal businesses. Throughout the year Edison attracts many visitors charmed by the uniqueness of our town. Because it provides a sewer system that is affordable, the Edison Community Sewer System has been a major player in the way this community has evolved. As a small business owner, I can tell you that we cannot continue as we are at present with the increased rates that will be incurred by the requirements that the Department of Ecology is placing on us. We will either go out of business or be faced with making changes that will bring more people, more money and especially with the food establishments, more effluent. That kind of growth will place more pressure on our sewer system, more pressure on the ground water and the bay, the opposite of what I believe we all hope to achieve.

Ecology's Response to Toni Ann Rust's Comments

Please see Ecology's Response to Bernie Alonzo's Comments.

14. Comments from Tracy Ouellette

From: Tracy Ouellette <tracyjouellette@gmail.com>

Sent: Thursday, May 2, 2019 4:12 PM

To: Miller, Tricia (ECY) <TMIL461@ECY.WA.GOV>

Subject: Proposed state waste discharge permit for Edison Wastewater Treatment System

Regarding Permit No. ST0045515

I am a resident of the town of Edison and participate in the Edison septic system. I have heard much about the septic system over the years, and it is apparent that the system is working and significantly improving the quality of wastewater and discharge into Chuckanut Bay. It is a unique community septic system and not a sewer system, and therefore the rules and monitoring appropriate for a sewer system are not appropriate for this system. Experts in sewer and septic systems have agreed that the system is working, and that it does not require the additional oversight of an operator. Potential operators have indicated that they do not have experience with this type of system. The manufacturer of the system has indicated that the system does not require the maintenance suggested by the department of ecology, such as calibration of the flowmeters. In fact such maintenance may decrease the effectiveness of the system. I would suggest that rather than imposing inappropriate maintenance requirements on a unique system that do not improve its function and may in fact be detrimental, a better use of resources would be to addend the state regulations to include a section specific to this system. Edison found a unique and effective solution to a problem years ago that remains unique and effective to this day. Rather than reworking a problem that has already been solved, ecology could include in its regulations information and appropriate maintenance recommendations as suggested by the manufacturer and engineers with knowledge about this specific system, which may encourage and assist other communities if this system would be appropriate elsewhere.

Thank you for your attention. Edison is proud of its history of improving water quality in Skagit County, and we realize that we do not fit into other categories of wastewater treatment, so please reflect our specific system in your regulations.

Tracy Ouellette
14078 MacTaggart Ave,
Edison, WA 98232
tracyjouellette@gmail.com

Ecology's Response to Tracy Ouellette's Comments

Please see Ecology's response to Alison Mohn's and Betsy Stevenson's separate testimonies. The Edison Wastewater Treatment Facility does not meet the definition of a septic system, because no treatment is provided by the soil. Within the framework of its regulations, Ecology has reduced the required operator certification from a Group II to a Group I and concurs with the WWTF approved O&M manual that a part-time operator is sufficient. Ecology has encouraged pathways for certification that preserve institutional knowledge of the WWTF, including but not limited to, certification of County employees and or advisory board members.