

## **Fact Sheet for NPDES Permit WA0991041**

**Chevron Environmental Management Company  
Bridge Way North 95439  
(Former Chevron Station 95439)**

**Permit Effective Date: October 1, 2021**

### **Purpose of this fact sheet**

This fact sheet explains and documents the decisions the Department of Ecology (Ecology) made in drafting the proposed National Pollutant Discharge Elimination System (NPDES) permit for Chevron Environmental Management Company's former Chevron Station 95439 located at Bridge Way North, Seattle, WA.

This fact sheet complies with Section 173-220-060 of the Washington Administrative Code (WAC), which requires Ecology to prepare a draft permit and accompanying fact sheet for public evaluation before issuing an NPDES permit.

Ecology made the draft permit and fact sheet available for public review and comment at least thirty (30) days before issuing the final permit. Copies of the fact sheet and draft permit for Bridge Way North, NPDES permit WA0991041, were available for public review and comment from July 19, 2021 until August 18, 2021. For more details on preparing and filing comments about these documents, please see *Appendix A – Public Involvement Information*.

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

After the public comment period closes, Ecology will summarize substantive comments and provide responses to them.

### **Summary**

Chevron Environmental Management Company (CEMC) is performing an independent remedial action at this site. This 1.3-acre site is located in a mixed residential-commercial area of the Fremont neighborhood in north-central Seattle. The cleanup is prompted by leaking underground storage tanks (UST) from Former Olens Chevron station, which was in operation from 1961 to 1980. The USTs were removed in 1981. CEMC proposes to conduct groundwater remediation at the site using a dual-phase extraction, electric catalytic oxidizer for vapor, oil water separation and granular activated carbon for water treatment. The treated water will be discharged to the existing catch basin on-site, which drains to the City of Seattle storm sewer system and ultimately discharges to Lake Union.

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Ecology proposes to issue an NPDES Permit to authorize the discharge of treated water to Lake Union via City of Seattle storm sewer system. The discharge permit contains effluent limits and monitoring requirements for flow, pH, benzene, BTEX, Total Petroleum Hydrocarbons-gasoline, and Total Petroleum Hydrocarbons-diesel range.

Extracted soil vapor will be treated through an electric catalytic oxidizer. Emissions from the catalytic oxidizer are regulated by Puget Sound Clean Air Agency (PSCAA).

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## I. Introduction

The Federal Clean Water Act (FCWA, 1972, and later amendments in 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One mechanism for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), administered by the federal Environmental Protection Agency (EPA). The EPA authorized the state of Washington to manage the NPDES permit program in our state. Washington State legislature accepted the delegation and assigned the power and duty for conducting NPDES permitting and enforcement to Ecology. The Legislature defined Ecology's authority and obligations for administration of the wastewater discharge permit program in 90.48 RCW (Revised Code of Washington).

The following regulations apply to industrial NPDES permits:

- Procedures Ecology follows for issuing NPDES permits (Chapter 173-220 WAC).
- Water quality criteria for surface waters (Chapter 173-201A WAC).
- Water quality criteria for ground waters (Chapter 173-200 WAC).
- Whole effluent toxicity testing and limits (Chapter 173-205 WAC).
- Sediment management standards (Chapter 173-204 WAC).
- Submission of plans and reports for construction of wastewater facilities (Chapter 173-240 WAC).

These rules require any industrial facility owner/operator to obtain an NPDES 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 NPDES permit program and in response to a completed and accepted permit application, Ecology must prepare a draft permit and accompanying fact sheet, and make them available for public review before final issuance. Ecology must also publish an announcement (public notice) telling people where they can read the draft permit, and where to send their comments, during a period of thirty days (WAC 173-220-050). (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 NPDES 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	Chevron Environmental Management Company
Facility name and location	Bridge Way North 95439 (Former Chevron Station 95439) 3876 Bridge Way North Seattle, WA 98103
Contact at facility	Name: Peter Campbell Telephone #: (206) 910-0217
Industry type	Independent cleanup in residential-commercial area
Type of treatment	Dual Phase separation, electric catalytic oxidizing, bag filtration and carbon polishing.
SIC code	4959, Groundwater Site Remediation Devices
NAIC Code	562910 Remediation and cleanup of contaminated buildings, mine sites, soil or groundwater
Permit Fee Category (WAC 173-224)	Hazardous Waste Clean Up Sites: a) LUST: 2) NPDES Permit issued post 7/1/94
Facility location (NAD83/WGS84 reference datum)	Latitude: 47.653760 °N Longitude: 122.343521 °W
Discharge waterbody name and location (NAD83/WGS84 reference datum)	City of Seattle Storm sewer line to Lake Union Outfall 001: City of Seattle Storm Sewer Latitude: 47.653889 °N Longitude: 122.343333 °W  Outfall 002: Lake Union Latitude: 47.647994 °N Longitude: 122.342778 °W
Permit Status	
Application for permit submittal date	March 5, 2021 and amended on March 15, 2021 (new permit)
Date of Ecology acceptance of application	March 26, 2021

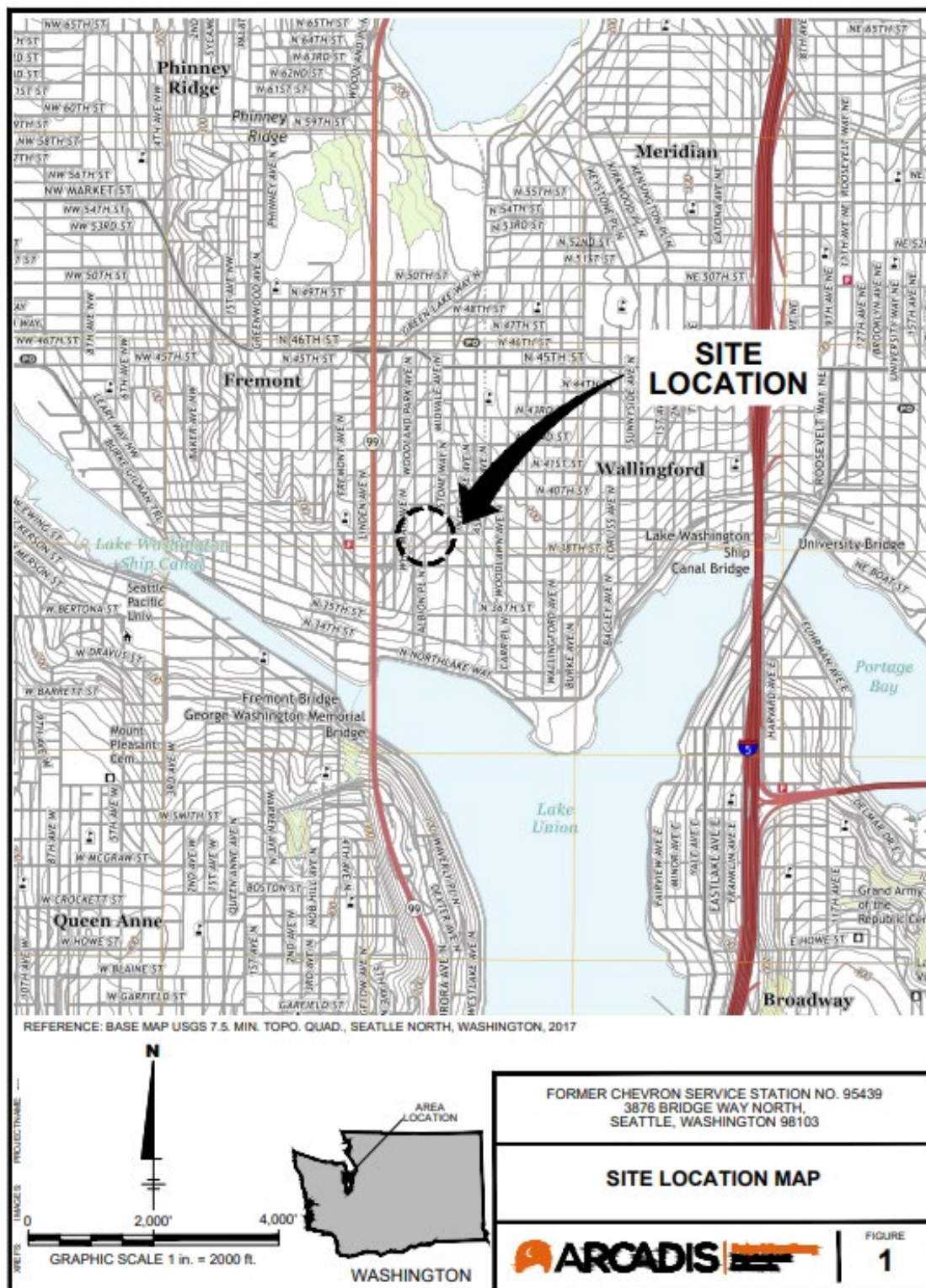


Figure 1 - Facility Location Map

## **A. Facility description**

### **Background**

Chevron Environmental Management Company (CEMC) is conducting an independent remedial action at this 1.3 acre site (refer to as the Site). This Site is located in a mixed residential-commercial area of the Fremont neighborhood in north-central Seattle. The former Chevron station 95439 that is the subject of this cleanup was located on the northwestern corner of the block, at 3876 Bridge Way. The property is currently owned by Northlake Commons, LLC and is occupied by commercial tenants. Most of the Site is paved or covered by buildings, and the overall slope is toward the southeast. CEMC is the responsible party of this NPDES permit.

The Site was formerly occupied by residential dwellings, while the Olens Chevron station was located north of the site, across 39th Street. In 1961, Olens Chevron moved south to the 3876 Bridge Way property and operated there until approximately 1980. The station had three gasoline underground storage tanks (USTs) (between 2000 and 6000 gallons), two pump islands, and two 550-gallon USTs for heating and waste oil. In approximately 1981, the station building was removed and the Site underwent a large excavation to remove the USTs. The excavation was backfilled with clean soil in preparation for construction of the current Bridge Way Building. This four-story building includes a warehouse on the ground floor, professional offices on the second and third floors, a residence on the third floor, and a patio area with cell tower on the fourth floor. South of this property is the Stoneway Apartment Complex and west of the property is Union View Property containing a warehouse and several commercial buildings.

### **Regulatory Status / History**

The Site was initially entered into the VCP in July 2004. The former Chevron station property is currently undergoing cleanup as an independent action with limited Ecology involvement.

### **Hydrogeologic Summary**

The lithologic variation in soil borings is due in part to separate grading and filling events at the Site, along with glacially derived units underlying the fill. The lithologic units beneath the entire Site consist of a variety of fill materials which are thicker under the Bridge Way Building. This is underlain by mixed silt, sand, and gravel. These are underlain by glacial outwash (sand/gravel), silt, and glacial till. Dense till forms the “basement” lithology at the Site.



Groundwater depths generally range between approximately 7 and 22 feet below ground surface (bgs). The estimated regional groundwater flow direction in the vicinity of the Site is south, toward Lake Union. Groundwater elevation data from recent groundwater sampling events indicate that groundwater flows toward the southeast at a gradient of approximately 0.04 to 0.08 feet per foot.

Surface water bodies nearest to the Site are Lake Union approximately 1,700 feet to the south, and Green Lake approximately 6,500 feet to the north (Figure 1). Stormwater runoff on and in the vicinity of the Site disperses via sheet flow to catch basins connected to the City of Seattle storm sewer system.

### **Proposed groundwater extraction and treatment system**

The facility submitted the conceptual plan and the plans and specifications for the selected pre-engineered Dual-Phase Extraction (DPE) treatment system to Ecology for review. Ecology reviewed and accepted the conceptual plan for the treatment system. The DPE system is being constructed by Fliteway Technologies, Inc., and will be equipped with an electric catalytic oxidizer to treat petroleum hydrocarbons in the vapor stream extracted from the subsurface. There are 14, 4-inch diameter DPE extraction wells ranging at a depth of 24 to 29 feet bgs with 15-foot screen intervals. The remediation system will operate groundwater extraction pumps in up to 8 wells at a time. The pumps will depress the groundwater table and simultaneously apply vapor extraction to remove hydrocarbon impacts within the dewatered soils. It is expected that the groundwater extraction rate from wells will range from 0.5 to up to 5 gallons per minute (GPM), with a maximum discharge rate of 40 GPM.

The extracted groundwater will then be collected within a main header pipe and collected in a batch tank. A pump will then transfer the collected groundwater through two sets of two bag filters in parallel before being treated through a minimum of two 1000-lb granular activated carbon vessels. Appendix D, Figure 3 depicts the planned location of the DPE system and extraction wells, while Figure 4 provides a schematic of the DPE treatment system.

### **Outfall**

The treated groundwater will be discharged via a connection to the existing catch-basin located next to the proposed treatment system, eventually reaching Lake Union via the City of Seattle storm sewer. The connection to the existing catch basin is identified as Outfall 001 in the permit.

## **Stormwater**

Stormwater from the Site is collected in catch basins on-site, and discharged into the City of Seattle storm sewer. Stormwater discharge is covered under the City's Phase I Municipal Stormwater Permit, WAR044501.

## **B. Description of the receiving water**

The treated groundwater is discharged to Lake Union via City of Seattle storm sewer system. Lake Union (WRIA 8) is the smallest of the three major lakes in King County. The Lake Union watershed is the most heavily urbanized of the three, draining residential, commercial, and industrial neighborhoods.

The designated uses listed in WAC 173-201A for Lake Union are as follow: aquatic life uses include core summer salmonid habitat; water supply uses include domestic, industrial, agricultural, and stock and wildlife habitat; recreation uses includes extraordinary primary contact recreation; and miscellaneous uses include harvesting, commerce/navigation, boating, and aesthetics.

Other nearby point source outfalls include the Seattle CSO and Yatchfish Marine.

## **C. Wastewater characterization**

The facility reported concentration of pollutants in the discharge based on the design removal efficiency for the proposed treatment system as provided by the vendor. The effluent concentrations are estimated in the table below.

**Table 2 - Effluent concentrations**

<b>Parameter</b>	<b>Units</b>	<b>Maximum Reported Value</b>
Benzene	µg/L	5.1
TPH	mg/L	0.734
Ethylbenzene	µg/L	8.2
Toluene	µg/L	7.2
Xylene	µg/L	19
TSS	mg/L	15
BOD5	mg/L	5
Temperature	°C	15°C in summer, 10°C in winter
pH	Standard Units	Between 6 and 8

#### **D. State environmental policy act (SEPA) compliance**

To meet the intent of SEPA, new discharges must undergo SEPA review during the permitting process.

The facility filed for a SEPA checklist with Puget Sound Clean Air Agency (PSCAA) on March 20, 2020, and PSCAA issued a determination of non-significance on June 5, 2020 for the project.

### **III. Proposed Permit Limits**

Federal and state regulations require that effluent limits in an NPDES permit must be either technology- or water quality-based.

Technology-based limits are based upon the treatment methods available to treat specific pollutants. Technology-based limits are set by the EPA and published as a regulation, or Ecology may develop the limit on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC).

Water quality-based limits are calculated so that the effluent will comply with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC), Model Toxics Control Act Cleanup Levels (Chapter 173-340 WAC), or the National Toxics Rule (40 CFR 131.36).

Ecology must apply the most stringent of these limits to each parameter of concern. These limits are described below.

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

Ecology does not usually develop limits for pollutants not reported in the permit application but which may be present in the discharge. The permit does not authorize discharge of the non-reported pollutants. During the five-year permit term, the facility's effluent discharge conditions may change from those conditions reported in the permit application. The facility must notify Ecology if significant changes occur in any constituent [40 CFR 122.42(a)]. Until Ecology modifies the permit to reflect additional discharge of pollutants, a permitted facility could be violating its permit.

## A. Design criteria/outfalls flow rates

Under WAC 173-220-150(1)(g), neither flows nor waste loadings may exceed approved design criteria. The facility proposes to install the DPE remedial treatment system with a design flow rate of 57,600 gpd. Thus, the daily maximum flow limit for the discharge is therefore set at this design flow rate.

**Table 3 - Design criteria for the treatment system**

Parameter	Design Quantity
Maximum design flow rate	57,600 gpd (40 gpm)

## B. Technology-based effluent limits

Ecology must ensure that facilities provide all known, available, and reasonable methods of prevention, control, and treatment (AKART) when it issues a discharge permit. The technology-based effluent limits proposed in this permit are as follows:

**Table 4 - Technology-based effluent limits**

Parameter	Maximum Daily Limit	
Flow	57,600 gpd	
BTEX	100 µg/L	
TPH-G	1.0 mg/L	
TPD-D	5 mg/L	
Parameter	Daily Minimum	Daily Maximum
pH	6.0 standard units	9.0 standard units

The effluent limit for BTEX, TPH-G, TPH-D, and pH are based on the performance of similar facilities, the application of AKART, which consists of oil water separation, filtration and activated carbon treatment. The flow limit is based on the design flow rate of the treatment system.

## C. Surface water quality-based effluent limits

The Washington State surface water quality standards (Chapter 173-201A WAC) are designed to protect existing water quality and preserve the beneficial uses of Washington's surface waters. Waste discharge permits must include conditions that ensure that the discharge will meet the surface water quality standards (WAC 173-201A-510). Water quality-based effluent limits may be based on an individual waste load allocation or on a waste load allocation developed during a basin wide total maximum daily load study (TMDL).

### **Numerical criteria for the protection of aquatic life and recreation**

Numerical water quality criteria are listed in the Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the maximum levels of pollutants allowed in receiving water to protect aquatic life and recreation in and on the water. Ecology uses numerical criteria along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limits, the discharge must meet the water quality-based limits.

### **Numerical criteria for the protection of human health**

Effective numeric water quality criteria for the protection of human health are promulgated in Chapter 173-201A WAC and 40 CFR 131.45. These criteria are designed to protect humans from exposure to pollutants linked to cancer and other diseases, based on consuming fish and shellfish and drinking contaminated surface waters. The water quality standards also include radionuclide criteria to protect humans from the effects of radioactive substances.

### **Narrative criteria**

Narrative water quality criteria (e.g., WAC 173-201A-240(1); 2006) limit the toxic, radioactive, or other deleterious material concentrations that the facility may discharge to levels below those which have the potential to:

- Adversely affect designated water uses.
- Cause acute or chronic toxicity to biota.
- Impair aesthetic values.
- Adversely affect human health.

Narrative criteria protect the specific designated uses of all fresh waters (WAC 173-201A-200, 2006) and of all marine waters (WAC 173-201A-210, 2006) in the state of Washington.

### **Antidegradation**

**Description**--The purpose of Washington's Antidegradation Policy (WAC 173-201A-300-330; 2006) is to:

- Restore and maintain the highest possible quality of the surface waters of Washington.

- Describe situations under which water quality may be lowered from its current condition.
- Apply to human activities that are likely to have an impact on the water quality of surface water.
- Ensure that all human activities likely to contribute to a lowering of water quality, at a minimum, apply all known, available, and reasonable methods of prevention, control, and treatment (AKART).
- Apply three tiers of protection (described below) for surface waters of the state.

Tier I ensures existing and designated uses are maintained and protected and applies to all waters and all sources of pollutions. Tier II ensures that waters of a higher quality than the criteria assigned are not degraded unless such lowering of water quality is necessary and in the overriding public interest. Tier II applies only to a specific list of polluting activities. Tier III prevents the degradation of waters formally listed as "outstanding resource waters," and applies to all sources of pollution.

A Tier II analysis must be conducted when all three of the following conditions are met:

- The facility is planning a new or expanded action.
- Ecology regulates or authorizes the action.
- The action has the potential to cause measurable degradation to existing water quality at the edge of a chronic mixing zone.

**Facility specific requirements—** Ecology determined that the applicant must meet Tier II requirements. It meets the requirements because the possible lowering of water quality from remediating a contaminated site. Antidegradation includes "prevention or remediation of environmental or public health threats" as an item of "Necessary and overriding public interest" in the Water Quality Standards. A Tier II analysis focuses on evaluating feasible alternatives that would eliminate or significantly reduce the level of degradation. The analysis also includes a review of the benefits and costs associated with alternative to lowering of water quality. New discharges and facility expansions are prohibited from lowering water quality without providing overriding public benefits.

The applicant is requesting discharge authorization from Ecology to discharge treated groundwater into Lake Union via the City of Seattle storm sewer. The City of Seattle is authorizing the discharge to its storm sewer if Ecology issues and regulates the discharge.

After reviewing the information submitted by the facility, Ecology proposes to issue an NPDES Permit for this facility that authorizes a new discharge. Therefore, the facility must comply with Tier II requirements of the anti-degradation policy. Under Tier II (WAC 173-201A-320), a new or expanded action is allowed if the action will not result in a “measurable change” in the quality of the receiving water, or if there is an overriding public interest that makes the action necessary.

After reviewing the facility’s submitted information including the plans and specifications for the DPE treatment system, Ecology has made a finding of overriding public interest. The basis for this finding includes the following:

- 1) Groundwater monitoring data collected for this Site indicates concentrations exceeding Model Toxics Control Act Cleanup levels and Water Quality Standards;
- 2) Because there is hydraulic continuity between groundwater and surface water, the groundwater contamination has the potential to migrate to surface water;
- 3) There is a greater benefit to the environment if the Permittee addresses the contamination by employing AKART (all known, available, reasonable treatment technologies) to treat the contaminated water before reaching surface water;
- 4) The treated water will meet surface water standards and MTCA Method A cleanup levels prior to discharge to Lake Union.

Ecology made this determination as allowed under Chapter 173-201A-320. Ecology did not evaluate the measurable change in conventional parameters (dissolved oxygen, temperature, pH change, and turbidity increase) in the receiving water. These parameters are not expected to have a measureable change in the receiving water due to the low volume of treated water discharging into the City of Seattle storm drain system and mixing with the stormwater from the drainage area before entering into the receiving water. Removing the toxic contaminants from the groundwater plume will decrease the concentration levels in the plume from reaching surface water. Ecology’s consideration of the net benefit of issuing the permit include the following:

- If Ecology does not issue a discharge permit to authorize the discharge of treated water from the proposed groundwater cleanup site, the contaminated groundwater will migrate off-site into surface water and pollute the surface water with toxic chemicals potentially above the water quality standards.
- If Ecology issues this discharge permit to authorize the discharge of treated water resulting from the proposed cleanup activity, the contamination in

groundwater will be contained and removed through the remediation pump and treat system, and reduce the transport of pollutants to surface water. Improving the groundwater quality will prevent migration of toxic pollutants to surface water. The environmental net benefit is greater if the discharge permit is issued to allow the cleanup activity to proceed because the resulting treated water meets surface water quality standards.

- By undertaking this project, the environmental values are more likely to be enhanced than if the project were not to be undertaken. This project will improve and promote a healthy environment and waterbody for the area and community.

### **Mixing zones**

A mixing zone is the defined area in the receiving water surrounding the discharge port(s), where wastewater mixes with receiving water. Within mixing zones the pollutant concentrations may exceed water quality numeric standards, so long as the discharge doesn't interfere with designated uses of the receiving water body (for example, recreation, water supply, and aquatic life and wildlife habitat, etc.) The pollutant concentrations outside of the mixing zones must meet water quality numeric standards.

State and federal rules allow mixing zones because the concentrations and effects of most pollutants diminish rapidly after discharge, due to dilution. Ecology defines mixing zone sizes to limit the amount of time any exposure to the end-of-pipe discharge could harm water quality, plants, or fish.

The state's water quality standards allow Ecology to authorize mixing zones for the facility's permitted wastewater discharges only if those discharges already receive all known, available, and reasonable methods of prevention, control, and treatment (AKART). Mixing zones typically require compliance with water quality criteria within a specified distance from the point of discharge and must not use more than 25% of the available width of the water body for dilution [WAC 173-201A-400 (7)(a)(ii-iii)].

Ecology uses modeling to estimate the amount of mixing within the mixing zone. Through modeling Ecology determines the potential for violating the water quality standards at the edge of the mixing zone and derives any necessary effluent limits. Steady-state models are the most frequently used tools for conducting mixing zone analyses. Ecology chooses values for each effluent and for receiving water variables that correspond to the time period when the most critical condition is likely to occur (see Ecology's *Permit Writer's Manual*). Each critical condition parameter, by itself, has a low probability of occurrence and the resulting dilution factor is conservative. The term "reasonable worst-case" applies to these values.



*There is no mixing zone granted in this permit for this discharge because the discharge will meet water quality standards at the end of pipe.*

#### D. Designated uses and surface water quality criteria

Applicable designated uses and surface water quality criteria are defined in Chapter 173-201A WAC. In addition, the U.S. EPA set human health criteria for toxic pollutants (EPA 1992). The tables included below summarize the criteria applicable to this facility's discharge.

Aquatic Life Uses are designated based on the presence of, or the intent to provide protection for the key uses. All indigenous fish and non-fish aquatic species must be protected in waters of the state in addition to the key species. The Aquatic Life Uses and the associated criteria for this receiving water are identified below.

**Table 5 - Freshwater aquatic life uses and associated criteria**

Core Summer Salmonid Habitat	
Temperature Criteria – Highest 7-DAD MAX	16°C (60.8°F)
Dissolved Oxygen Criteria	9.5 mg/L
Turbidity Criteria	<ul style="list-style-type: none"> <li>• 5 NTU over background when the background is 50 NTU or less; or</li> <li>• A 10 percent increase in turbidity when the background turbidity is more than 50 NTU.</li> </ul>
Total Dissolved Gas Criteria	Total dissolved gas must not exceed 110 percent of saturation at any point of sample collection.
pH Criteria	The pH must measure within the range of 6.5 to 8.5, with a human-caused variation within the above range of less than 0.2 units.

The *recreational uses* for this receiving water are identified below.

**Table 6 - Recreational uses and associated criteria**

Recreational Use	Criteria
Primary Contact Recreation (effective 1/1/2021)	Enterococci organism levels within an averaging period must not exceed a geometric mean of 30 CFU <sup>a</sup> or MPN <sup>b</sup> per 100 mL, with not more than 10 percent of all samples (or any single sample when less than ten sample values exist) obtained within the averaging period exceeding 110 CFU or MPN per 100 mL.
a	CFU = Colony Forming Units.
b	MPN = Most Probable Number.

- The *water supply uses* are domestic, agricultural, industrial, and stock watering.

- The *miscellaneous freshwater uses* are wildlife habitat, harvesting, commerce and navigation, boating, and aesthetics.

#### **E. Water quality impairments**

Ecology has not documented any water quality impairments in Lake Union.

#### **F. Evaluation of surface water quality-based effluent limits for numeric criteria**

Ecology has not authorized a mixing zone in the permit for Outfall 001.

Historical groundwater contamination resulting from USTs can often detect lead in concentrations above water quality standards. However, this Site does not have lead monitoring data for Ecology to evaluate whether the discharge has a reasonable potential to exceed water quality standards for lead. In order to protect surface water quality, Ecology proposes lead to be monitored in this permit cycle and need for a permit limit evaluated the next permit cycle.

#### **G. Human health**

Washington's water quality standards include numeric human health-based criteria for 97 priority pollutants that Ecology must consider when writing NPDES permits.

Ecology has determined the effluent contains chemicals of concern for human health, based on data or information indicating the discharge contains regulated chemicals.

**Table 7 - Effluent limit for Benzene**

Parameter	Daily Maximum Limit
Benzene	0.44 µg/L (human health water quality standard

The approved test method for benzene is EPA test method 624. Ecology requires a minimum detection limit of 1 µg/L and a quantitation limit of 2 µg/L to be achieved using this test method. Since the effluent limit falls below the method detection and quantitation limits, the quantitation limit (2 µg/L) will be used for assessment of compliance with this effluent limit.

Ecology has determined not to set a water quality-based human health effluent limit for ethylbenzene or toluene. Rather, a technology-based effluent limit for the volatile compounds of BTEX (benzene, toluene, ethylbenzene, and xylene) will be set in the permit instead (See Table 4). This is because the technology-based limit is more stringent than the individual or combined water quality-based standards for BTEX.

## **H. Sediment quality**

The aquatic sediment standards (Chapter 173-204 WAC) protect aquatic biota and human health. Under these standards Ecology may require a facility to evaluate the potential for its discharge to cause a violation of sediment standards (WAC 173-204-400). You can obtain additional information about sediments at the [Aquatic Lands Cleanup Unit](#) available at: [Sediment-cleanups](#)

Through a review of the discharger characteristics and of the effluent characteristics, Ecology determined that this discharge has no reasonable potential to violate the sediment management standards.

## **I. Groundwater quality limits**

The groundwater quality standards (Chapter 173-200 WAC) protect beneficial uses of groundwater. Permits issued by Ecology must not allow violations of those standards (WAC 173-200-100).

This facility does not discharge wastewater to the ground; therefore no groundwater quality limit is set in this permit. The groundwater at this site is contaminated and the purpose of this permit is to extract contaminated groundwater and treat it prior to discharge to surface water.

## **J. Whole effluent toxicity**

The water quality standards for surface waters forbid discharge of effluent that has the potential to cause toxic effects in the receiving waters. Many toxic pollutants cannot be measured by commonly available detection methods. However, laboratory tests can measure toxicity directly by exposing living organisms to the wastewater and measuring their responses. These tests measure the aggregate toxicity of the whole effluent, so this approach is called whole effluent toxicity (WET) testing. Some WET tests measure acute toxicity and other WET tests measure chronic toxicity.

Using the screening criteria in chapter 173-205-040 WAC, Ecology determined that toxic effects caused by unidentified pollutants in the effluent are unlikely. Therefore, this permit does not require WET testing.

Ecology may require WET testing in the future if it receives information indicating that toxicity may be present in this effluent.

## **IV. Monitoring Requirements**

Ecology requires monitoring, recording, and reporting (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and that the discharge complies with the permit's effluent limits. Ecology has determined that the monitoring frequency listed in Special Condition S2 of the permit is adequate.

If a facility uses a contract laboratory to monitor wastewater, it must ensure that the laboratory uses the approved analytical methods that meet or exceed the method detection levels required by the permit. The permit describes when facilities may use alternative methods, and 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 limits (DL), and quantitation level (QL) on the discharge monitoring report or in the required report.

### **A. Wastewater monitoring frequencies**

The monitoring schedule is detailed in the proposed permit under Special Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

## **V. Other Permit Conditions**

### **A. Reporting and record keeping**

Ecology based Special Condition S3 on its authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 173-220-210).

### **B. Treatment system operating plan**

Ecology requires industries to take all reasonable steps to properly operate and maintain their wastewater treatment system in accordance with state and federal regulations [40 CFR 122.41(e) and WAC 173-220-150 (1)(g)]. The facility must submit a treatment system operating plan as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150).

### **C. Groundwater quality annual evaluation**

The purpose of this requirement is to require the Permittee to evaluate the effectiveness of the groundwater remediation system, and report the groundwater quality data collected during the previous calendar year from wells distributed across the site, to evaluate long-term groundwater quality trends, and to support future development of site remediation planning efforts. The data should not just be presented in table format, but should also be presented on drawings by mapping the distribution (sample date and measured concentration) in groundwater for each contaminant. One map for each contaminant shall be presented in an annual report submitted to Ecology.

### **D. General conditions**

Ecology bases the standardized General Conditions on state and federal law and regulations. They are included in all individual industrial NPDES 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 surface waters, with sediment quality standards, or with water quality standards for groundwater, after obtaining 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 or federal regulations.

### **B. Proposed permit issuance**

This proposed permit includes 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**

**Chevron Environmental Management Company (Former Chevron Station 95439 at Bridge Way North in Seattle)**

2021. National Pollutant Discharge Elimination System Waste Discharge Permit Application, EPA forms 1 and 2D, and supplemental information package.

2020 Dual-Phase Extraction System Plans and Specifications.

2020 SEPA checklist for the project site.

### **Environmental Protection Agency (EPA)**

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. *Water Quality Standards Handbook*. USEPA Office of Water, Washington, D.C.

1972. *Characterization of Stream Reaeration Capacity*. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

1979. *In-stream Deoxygenation Rate Prediction*. Journal Environmental Engineering Division, ASCE. 105(EE2). (Cited in EPA 1985 op.cit.)

### **Washington State Department of Ecology.**

July 2018. [Permit Writer's Manual](https://apps.ecology.wa.gov/publications/documents/92109.pdf). Publication Number 92-109  
(<https://apps.ecology.wa.gov/publications/documents/92109.pdf>)

September 2011. [Water Quality Program Guidance Manual – Supplemental Guidance on Implementing Tier II Antidegradation](https://apps.ecology.wa.gov/publications/summarypages/1110073.html). Publication Number 11-10-073  
(<https://apps.ecology.wa.gov/publications/summarypages/1110073.html>)

October 2010 (revised). [Water Quality Program Guidance Manual – Procedures to Implement the State's Temperature Standards through NPDES Permits](https://apps.ecology.wa.gov/publications/summarypages/0610100.html). Publication Number 06-10-100  
(<https://apps.ecology.wa.gov/publications/summarypages/0610100.html>)

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February 2007. [\*Focus Sheet on Solid Waste Control Plan, Developing a Solid Waste Control Plan for Industrial Wastewater Discharge Permittees.\*](#)  
[Publication Number 07-10-024.](#)  
(<https://apps.ecology.wa.gov/publications/documents/0710024.pdf>) Wright,  
R.M., and A.J. McDonnell.

#### [Laws and Regulations](#)

(<http://leg.wa.gov/LawsAndAgencyRules/Pages/default.aspx>)

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

## **Appendix A - Public Involvement Information**

Ecology proposes to issue a discharge permit to Bridge Way North Retail Shops. 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 July 19, 2021 in the Seattle Times to inform the public and to invite comment on the proposed draft National Pollutant Discharge Elimination System 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 NPDES permit.
- Explained the next step(s) in the permitting process.

Ecology has published a document entitled [Frequently Asked Questions about Effective Public Commenting](https://apps.ecology.wa.gov/publications/SummaryPages/0307023.html) which is available on our website at <https://apps.ecology.wa.gov/publications/SummaryPages/0307023.html>

You may obtain further information from Ecology by telephone at (206) 594-0167, or by writing to the address listed below.

Water Quality Permit Coordinator  
Department of Ecology  
Northwest Regional Office  
PO Box 330316  
Shoreline, WA 98133-9716

The primary author of this permit and fact sheet is Jeanne Tran, P.E.



## **Appendix B - Your Right to Appeal**

You have a right to appeal this permit to the Pollution Control Hearing Board (PCHB) within thirty (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**

<b>Street Addresses</b>	<b>Mailing Addresses</b>
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

**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).

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

**Average monthly discharge limit** -- The average of the measured values obtained over a calendar months' 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 BOD<sub>5</sub> 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.

**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.

**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.

**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.

**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 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 storm water 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.

**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.

**Method detection level (MDL)** -- See Detection Limit.

**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.

**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.

**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).

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

**Soluble BOD<sub>5</sub>** -- Determining the soluble fraction of Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of soluble organic material present in an effluent that is utilized by bacteria. Although the soluble BOD<sub>5</sub> test is not specifically described in Standard Methods, filtering the raw sample through at least a 1.2  $\mu\text{m}$  filter prior to running the standard BOD<sub>5</sub> 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 storm water 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 maximum daily load (TMDL)** -- A determination of the amount of pollutant that a water body can receive and still meet water quality standards.

**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 - Site maps

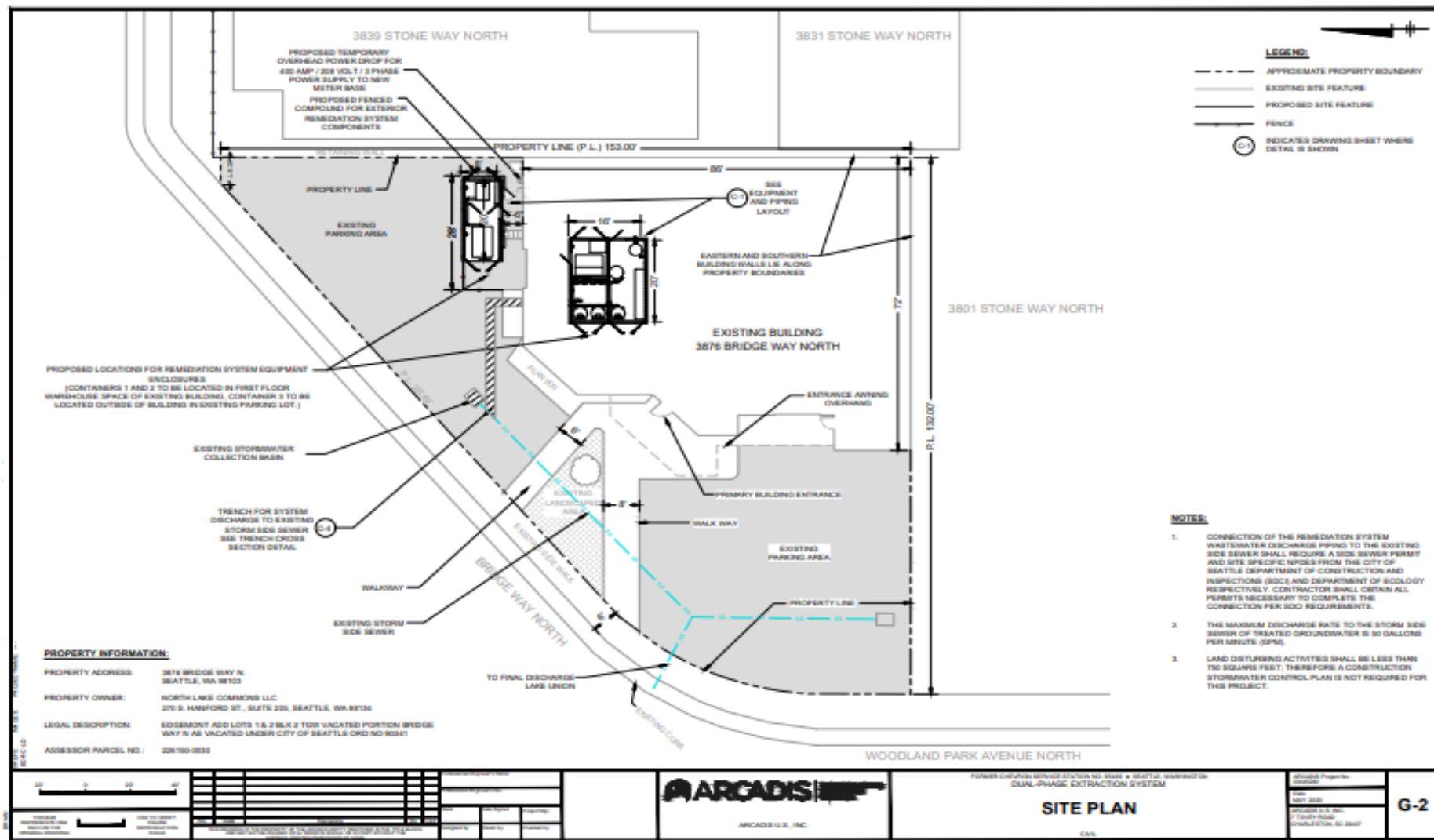


Figure 2 – Site Plan

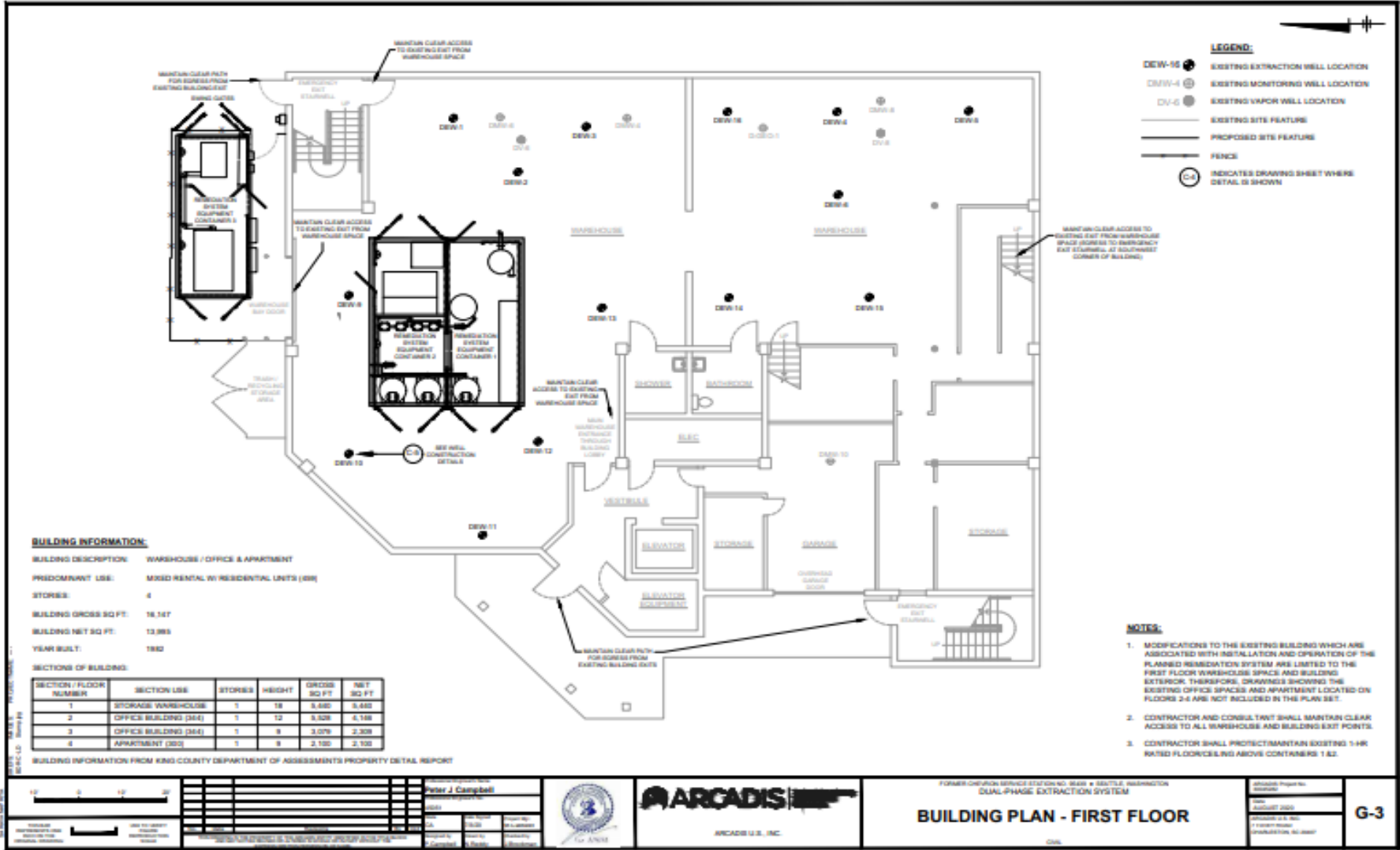


Figure 3 – Site Plan With Extraction Well Location



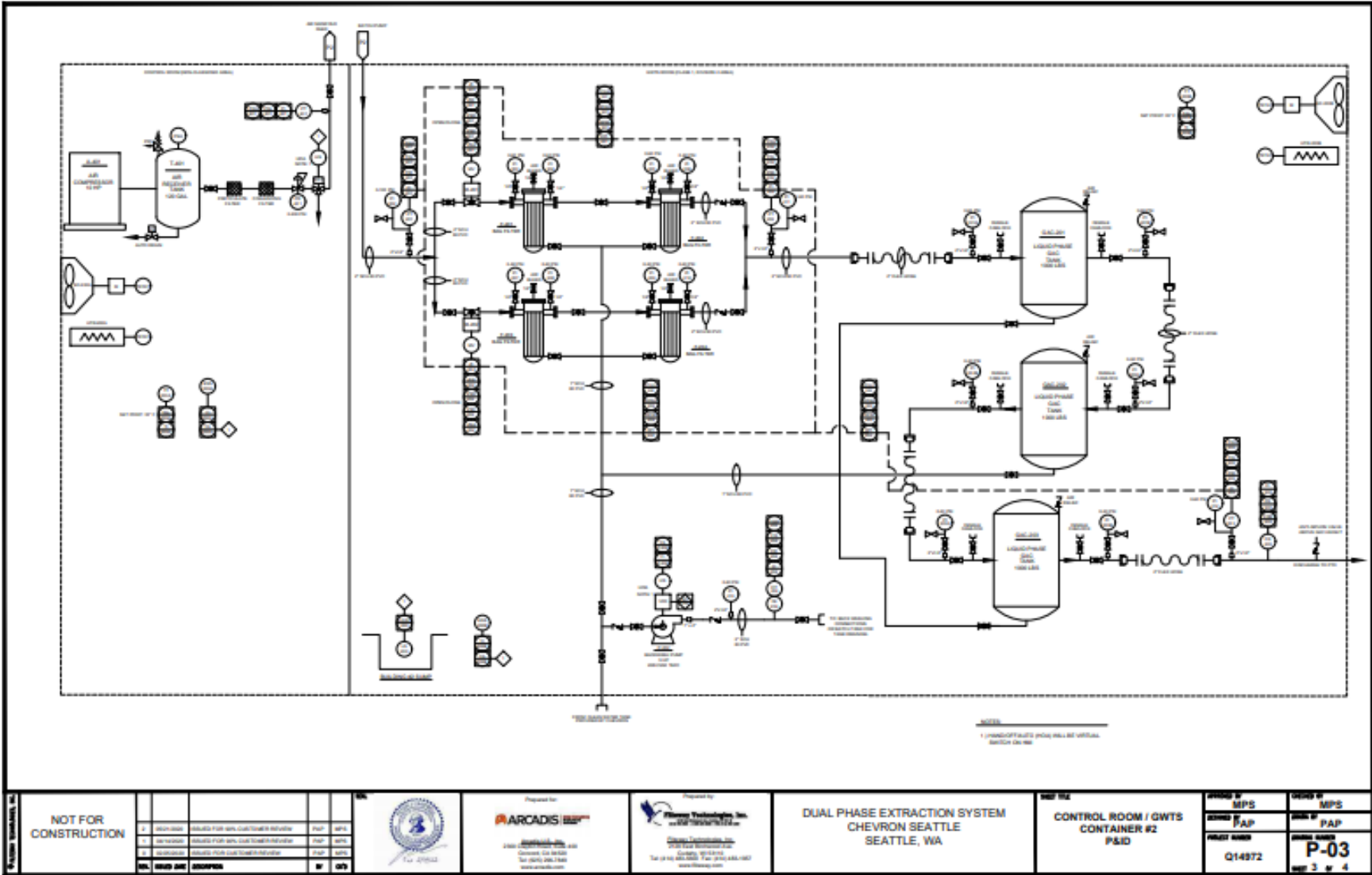


Figure 4 – DPE Treatment System Layout

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## **Appendix E - Response to Comments**

No comments were received by Ecology during the public comment period.