APPENDIX A: CONTRACT DOCUMENTS/REQUIREMENTS

Appendix A02 - Arsenic Rule

Chapter 296-848 WAC
ARSENIC

Last Update: 11/6/18

WAC

DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

296-848-500 Definitions. [Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-500, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 05-01-173, § 296-848-500, filed 12/21/04, effective 5/1/05.] Repealed by WSR 18-22-116, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060.

WAC 296-848-099 Definitions. Action level. An airborne concentration of inorganic arsenic of 5 micrograms per cubic meter ($\mu g/m^3$) of air calculated as an eight-hour time-weighted average.

Authorized personnel. Individuals specifically permitted by the employer to enter the exposure control area to perform duties, or to observe employee exposure evaluations as a designated representative.

Breathing zone. The space around and in front of an employee's nose and mouth, forming a hemisphere with a 6- to 9-inch radius.

CAS (chemical abstract service) number. CAS numbers are internationally recognized and used on safety data sheets (SDSs) and other documents to identify substances. For more information see http://www.cas.org/about.

Day. Any part of a calendar day.

Designated representative. Any one of the following:

(a) Any individual or organization to which an employee gives written authorization.

(b) A recognized or certified collective bargaining agent without regard to written employee authorization.

(c) The legal representative of a deceased or legally incapacitated employee.

Emergency. Any event that could or does result in the unexpected significant release of inorganic arsenic. Examples of emergencies include equipment failure, container rupture, or control equipment failure.

Exposure. The contact an employee has with inorganic arsenic, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes

of entry such as inhalation, ingestion, skin contact, or skin absorption.

Inorganic arsenic. Elemental arsenic (As), copper aceto-arsenite, and inorganic compounds containing arsenic (measured as As), except arsine. Inorganic compounds do not contain the element carbon.

Licensed health care professional (LHCP). An individual whose legally permitted scope of practice allows him or her to provide some or all of the health care services required for medical evaluations.

Permissible exposure limits (PELs). PELs are employee exposures to toxic substances or harmful physical agents that must not be exceeded. PELs are also specified in WISHA rules found in other chapters. The PEL for inorganic arsenic is an eight-hour time-weighted average (TWA_8) of 10 micrograms per cubic meter ($\mu g/m^3$).

Time-weighted average (TWA_8). An exposure limit averaged over an 8-hour period that must not be exceeded during an employee's workday.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-099, filed 11/6/18, effective 12/7/18.]

WAC 296-848-100 Scope. This chapter applies to all occupational exposure to inorganic arsenic.

Definitions:

Inorganic arsenic. Elemental arsenic (As), copper aceto-arsenite, and inorganic compounds containing arsenic (measured as As), except arsine. Inorganic compounds do not contain the element carbon.

Exposure. The contact an employee has with inorganic arsenic, whether or not protection is provided by respirators or other personal protective equipment (PPE). Exposure can occur through various routes of entry such as inhalation, ingestion, skin contact, or skin absorption.

Exemptions: This chapter does not apply to any of the following:
1. Exposures during agricultural operations.
2. Pesticide applications, including the treatment of wood with preservatives.
3. Use of wood treated with inorganic arsenic.
4. Arsine, a gas identified by Chemical Abstract Service (CAS) Registry No. 7784-42-1.
5. Inorganic arsenic present in a form and handled in such a way that airborne exposures could not occur. For example, inorganic arsenic present in glass is fused in the material. Due to the fused form, airborne exposure can not occur when the glass is scored and subsequently broken.

All requirements in this chapter will not apply to every workplace with an occupational exposure. The following steps will show you which requirements apply to your workplace.

Step 1: Follow requirements in the basic rules sections, WAC 296-848-20010 through 296-848-20090.

• This includes completing an exposure evaluation, as specified in Exposure evaluations, WAC 296-848-20060, to:

– Obtain employee eight-hour exposure monitoring results of airborne inorganic arsenic; and

– Determine if employee exposure monitoring results are above, at, or below these values:

■ Eight-hour time-weighted average (TWA_8) . . . . . 10 micrograms per cubic meter ($\mu g/m^3$).

■ Eight-hour action level (AL) . . . . . 5 $\mu g/m^3$.

Step 2: Use employee exposure monitoring results from Step 1 and follow Table 1 to find out which additional sections of this chapter apply to your workplace.

Table 1
Sections That Apply To Your Workplace

If:	Then continue to follow the Basic Rules, and these additional requirements:
• Employee exposure monitoring results are above the TWA_8	• Training, exposure monitoring, and medical monitoring, WAC 296-848-30005 through 296-848-30080; **AND** • Exposure control areas, WAC 296-848-40005 through 296-848-40045.
• Employee exposure monitoring results are: – At or below the TWA_8; **AND** – At or above AL	• Training, exposure monitoring, and medical monitoring, WAC 296-848-30005 through 296-848-30080.
• Employee exposure monitoring results are below the AL; **AND** • Eye or skin irritation from exposure to inorganic arsenic cannot occur	• No additional requirements apply if exposures remain stable.
• Employees could experience eye or skin irritation from exposure to inorganic arsenic	• Training in WAC 296-848-30005. • Washing, showering, and changing in WAC 296-848-40030. • Personal protective equipment (PPE) in WAC 296-848-40040.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-100, filed 11/6/18, effective 12/7/18; WSR 06-02-060, § 296-848-100, filed 1/3/06, effective 4/1/06; WSR 05-01-173, § 296-848-100, filed 12/21/04, effective 5/1/05.]

WAC 296-848-200 Basic rules.

Summary:

Your responsibility:

To measure and minimize employee exposure to inorganic arsenic.

IMPORTANT:

The sections listed in basic rules apply to all employers covered by the scope of this chapter, WAC 296-848-100. To find additional sections that may apply to you, go to the Scope, WAC 296-848-100, and follow Table 1.

You must meet the requirements ...	in this section:
Preventive practices	WAC 296-848-20010
Washing facilities	WAC 296-848-20025

You must meet the requirements ...	in this section:
Exposure evaluations	WAC 296-848-20060
Notification	WAC 296-848-20070
Exposure records	WAC 296-848-20090

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-200, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-200, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20010 Preventive practices. (1) You must effectively communicate the hazards of inorganic arsenic by doing both of the following:

(a) Keep container labels free of statements that contradict or detract from the labels' hazard warning.

Note: You may use labels required by other laws, rules, or ordinances in addition to, or in combination with, labels required by this section.

(b) Labels are not required when the inorganic arsenic in the product is bound in such a manner so as to make unlikely the possibility of airborne exposure to inorganic arsenic. (Possible examples of products not requiring labels are semiconductors, light emitting diodes and glass.)

Note:
1. You should keep containers tightly covered when not in use to help prevent unnecessary exposure and accidental spills.
2. Contaminated items should be handled and disposed of to prevent further exposure in the workplace. For example, vacuuming or wet wiping contaminated equipment helps prevent the release of dust into the air.

Reference: Additional requirements are found in other chapters:
1. For spills, leaks, or other releases, go to Emergency response, chapter 296-824 WAC.
2. For labeling go to WAC 296-901-140, Hazardous communication.

(2) You must establish safe and effective housekeeping and maintenance practices by doing all the following:

(a) Develop and keep a written housekeeping and maintenance plan that lists appropriate frequencies for:

(i) Housekeeping operations; and

(ii) Cleaning and maintaining dust collection equipment.

(b) Keep surfaces free of accumulations of inorganic arsenic, to the degree feasible.

(c) When cleaning floors and other accessible surfaces:

(i) Use vacuuming or other cleaning methods that minimize the release of inorganic arsenic into the air.

(ii) Do not use compressed air.

(iii) Select vacuums that have high efficiency particulate air (HEPA) filters.

(iv) Use and empty vacuums in a way that minimizes the release of inorganic arsenic back into the workplace.

Note:
1. Shoveling or brushing may be used only when vacuuming or other cleaning methods have not been effective.
2. Using non-HEPA vacuums will increase inorganic arsenic contamination in air and on area surfaces.

(3) You must maintain ventilation systems, including dust collection equipment, to make sure they are effective. Do all of the following:

(a) Perform periodic inspections for effectiveness.

(b) Periodically clean the equipment.

(c) Keep a note of the most recent inspection for effectiveness, and cleaning or maintenance.

(4) Prevent eye or skin contact with:

(a) Arsenic trichloride; and

(b) Liquid or particulate forms of inorganic arsenic when contact could cause eye or skin irritation.

Note: Arsenic trichloride is corrosive and can be quickly absorbed through skin.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-20010, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-20010, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 05-01-173, § 296-848-20010, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20025 Washing facilities. You must provide washing facilities for employees exposed to inorganic arsenic.

References: For additional washing facility requirements, go to another chapter, the Safety and health core rules, chapter 296-800 WAC, and find the section titled, Provide convenient and clean washing facilities, WAC 296-800-23025.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 18-22-116, § 296-848-20025, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-20025, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20060 Exposure evaluations.

IMPORTANT:

1. This section applies when workplace operations create potential airborne exposure to inorganic arsenic.

2. When you conduct an exposure evaluation in a workplace where an employee uses a respirator, the protection provided by the respirator is not considered.

3. Following this section will fulfill the requirements to identify and evaluate respiratory hazards found in chapter 296-841 WAC, Airborne contaminants.

(1) You must conduct an employee exposure evaluation to accurately determine airborne concentrations of inorganic arsenic by completing Steps 1 through 5 of the Exposure Evaluation Process, each time any of the following apply:

(a) No evaluation has been conducted.

(b) Changes have occurred in any of the following areas that may result in new or increased exposures:

(i) Production.

(ii) Processes.

(iii) Exposure controls such as ventilation systems or work practices.

(iv) Personnel.

(c) You have any reason to suspect new or increased exposure may occur.

(2) You must provide affected employees and their designated representatives an opportunity to observe exposure monitoring during Step 4 of the Exposure Evaluation Process.

(a) Make sure observers do not interfere with exposure measurements.

(b) Make sure observers are entitled to:

(i) An explanation of your exposure measurement and monitoring procedures;

(ii) Observe all tasks of exposure measurement performed at the workplace; and

(iii) Receive a copy of the exposure measurement results when you obtain them; or are allowed to record the exposure measurement results, if made during observations.

(c) Make sure observers who enter areas with inorganic arsenic exposure:

(i) Are provided with and use the same protective clothing, respirators, and other personal protective equipment (PPE) that employees working in the area are required to use; and

(ii) Follow safety and health requirements that apply.

Exposure Evaluation Process

IMPORTANT:

Following the Exposure Evaluation Process is not necessary when you have documentation conclusively demonstrating inorganic arsenic exposures for a particular operation and material, cannot exceed the action level (AL) during any conditions reasonably anticipated. Documentation can be based on quantitative information such as soil test results OR qualitative information such as observations of how inorganic arsenic-containing materials are handled.

- Retain this documentation for as long as you rely on it.

Step 1: Identify all employees who have potential airborne exposure to inorganic arsenic in your workplace.

Step 2: Select employees from those identified in Step 1 who will have their eight-hour exposures monitored.

• Make sure the exposures of the employees selected represent eight-hour exposures for all employees identified in Step 1, including each job classification, work area, and shift.

Note: A written description of the procedure used for obtaining representative employee exposure monitoring results needs to be kept as part of your exposure records required by this chapter in Exposure records, WAC 296-848-20090. This description can be created while completing Steps 2 through 4 of this exposure evaluation process.

Step 3: Determine how you'll obtain employee exposure monitoring results.

• Select and use a method that meets the following criteria for accuracy:

- ±25%, with a confidence level of 95%, when concentrations are potentially at or above an eight-hour time-weighted average of 10 micrograms per cubic meter (µg/m^3); or

- ±35%, with a confidence level of 95%, when concentrations are potentially between the eight-hour time-weighted averages of 5 µg/m^3 and 10 µg/m^3.

Note: Here are examples of methods that meet this accuracy requirement:
1. OSHA Method ID105 found by going to http://www.osha.gov/dts/sltc/methods/.
2. NIOSH method 7901 found by going to http://www.cdc.gov/niosh/homepage.html and linking to the NIOSH Manual of Analytical Methods.

Step 4: Obtain employee exposure monitoring results by collecting air samples representing employees identified in Step 1.

• Sample at least one shift representative of the eight-hour exposure, for each employee selected in Step 2.

• Make sure samples are collected from each selected employee's breathing zone.

Note: 1. You may use any sampling method that meets the accuracies specified in Step 3. Examples of these methods include:
a. Real-time monitors that provide immediate exposure monitoring results.
b. Equipment that collects samples that are sent to a laboratory for analysis.
2. The following are examples of methods for collecting samples representative of eight-hour exposures.
a. Collect one or more continuous samples, for example, a single eight-hour sample or four two-hour samples.
b. Take a minimum of 4 to 7 brief samples, such as fifteen-minute samples, during the work shift and at times selected randomly.
3. For work shifts longer than eight hours, monitor the continuous eight-hour portion of the shift expected to have the highest average exposure concentration.

Step 5: Have the samples you collected analyzed to obtain monitoring results representing eight-hour exposures.

• Go to the Scope of this chapter, WAC 296-848-100, and compare employee exposure monitoring results to the values found in Step 1 and follow Step 2 to determine if additional sections of this chapter apply.

Note:
1. You may contact your local DOSH consultant for help:
a. Interpreting data or other information.
b. Determining eight-hour employee exposure monitoring results.
2. To contact a WISHA consultant:
a. Go to the Safety and health core rules, chapter 296-800 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-20060, filed 11/6/18, effective 12/7/18; WSR 07-06-005, § 296-848-20060, filed 2/22/07, effective 4/1/07; WSR 05-01-173, § 296-848-20060, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20070 Notification. (1) You must provide written notification of exposure monitoring results, including notification about whether exposures exceed the permissible exposure limit (PEL), to employees represented by your exposure evaluation, within five business days after the monitoring results become known to you.

(a) In addition, when employee exposure monitoring results are above the permissible exposure limit (PEL), provide written notification of all the following within fifteen business days after these exposure monitoring results become known to you.

(i) Corrective actions being taken and a schedule for completion; and

(ii) Any reason why exposures cannot be lowered to below the PEL.

Note:
1. You can notify affected employees either individually or post the notifications in areas readily accessible to affected employees.
2. When notifying employees about corrective actions, your notification may refer them to a separate document that is available and provides the required information.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-20070, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-20070, filed 12/21/04, effective 5/1/05.]

WAC 296-848-20090 Exposure records. (1) You must establish and keep complete and accurate records for all exposure monitoring conducted under this chapter. Make sure the record includes, at least:

(a) The name, Social Security number or other unique identifier, and job classification of the employee sampled and all other employees represented by the sampled employee.

(b) A description of the methods used to obtain exposure monitoring results and evidence of the method's accuracy.

(c) A description of the procedure used to obtain representative employee exposure monitoring results.

(d) The date, number, duration, location, and the result of each sample taken.

(e) Any environmental conditions that could affect exposure concentration measurements.

Note: It's useful to record any personal protective equipment worn by the employee in addition to the type of respirator worn.

(2) You must keep exposure monitoring records for at least thirty years.

Reference: 1. To see additional requirements for employee exposure records including access and transfer requirements, go to another chapter, Employee medical and exposure records, chapter 296-802 WAC.
2. Exposure monitoring records need to be kept longer than thirty years for employees participating in medical monitoring. Go to Medical records, WAC 296-848-30080, found within this chapter.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-20090, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-20090, filed 12/21/04, effective 5/1/05.]

WAC 296-848-300 Training, exposure monitoring, and medical monitoring.

Summary:

Your responsibility:

To detect any significant changes in employee health and exposure monitoring results.

IMPORTANT:

1. These sections apply when skin or eye irritation could occur or when employee exposure monitoring results are either:

a. At or above the action level (AL) of 5 micrograms per cubic meter (µg/m^3) for inorganic arsenic; or

b. Above the permissible exposure limit (PEL) of 10 µg/m^3 for inorganic arsenic.

You must meet the requirements ...	in this section:
Training	WAC 296-848-30005
Communication of hazards	WAC 296-848-30007
Periodic exposure evaluations	WAC 296-848-30010
Medical evaluations	WAC 296-848-30030
Medical records	WAC 296-848-30080

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-300, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-300, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 05-01-173, § 296-848-300, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30005 Training. (1) You must train employees:

(a) Who are exposed above the action level (AL) of 5 micrograms per cubic meter (µg/m^3) of air; or

(b) Who could experience eye or skin irritation from exposure.

(2) You must provide training:

(a) At the time of initial assignment; and

(b) At least every twelve months after initial training.

(3) You must make sure training and information includes all of the following:

(a) A review of WAC 296-848-100 through 296-848-40045, and 296-848-500.

(b) The following health information about inorganic arsenic:

(i) Inorganic arsenic is a poison and can affect your body if it's swallowed or inhaled.

(ii) Exposure to airborne concentrations of inorganic arsenic may cause lung cancer and can be a skin irritant.

(iii) Arsenic trichloride can be absorbed readily through your skin and is especially dangerous.

(iv) Wash hands thoroughly before eating or smoking to help minimize your risk for swallowing inorganic arsenic.

(c) The purpose for medical evaluations and a description of how you are fulfilling the medical evaluation requirements of this chapter found in Medical evaluations, WAC 296-848-30030.

(4) You must make a copy of this chapter readily available to all employees required to be trained under this section.

Reference:

1. To see additional training and information requirements in other chapters, go to the:
   a. Respirators rule, chapter 296-842 WAC.
   b. WAC 296-901-140, Hazardous communication.
2. When following these requirements, include specific information about potential exposures to inorganic arsenic, such as the types of operations, locations, quantities, exposure sources, exposure controls, inorganic arsenic use, and storage.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 18-22-116, § 296-848-30005, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-30005, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 07-03-153, § 296-848-30005, filed 1/23/07, effective 6/1/07; WSR 05-01-173, § 296-848-30005, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30007 Communication of hazards.

Hazard communication - General.

(1) Chemical manufacturers, importers, distributors and employers must comply with all requirements of the Hazard Communication Standard (HCS), WAC 296-901-140 for inorganic arsenic.

(2) In classifying the hazards of inorganic arsenic at least the following hazards are to be addressed: Cancer; liver effects; skin effects; respiratory irritation; nervous system effects; and acute toxicity effects.

(3) You must include inorganic arsenic in the hazard communication program established to comply with the HCS, WAC 296-901-140. Employers must ensure that each employee has access to labels on containers of inorganic arsenic and to safety data sheets, and is trained in accordance with the requirements of HCS and WAC 296-848-30005.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-30007, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-30007, filed 3/18/14, effective 5/1/14.]

WAC 296-848-30010 Periodic exposure evaluations.

Exemption:

- Periodic exposure evaluations aren't required if exposure monitoring results conducted to fulfill requirements in Exposure evaluation, WAC 296-848-20060, are below the action level (AL).

You must obtain employee exposure monitoring results as specified in Table 2 by repeating Steps 2, 4, and 5 of the Exposure Evaluation Process found within this chapter, in Exposure evaluations, WAC 296-848-20060.

Note: If you document that one work shift consistently has higher exposure monitoring results than another for a particular operation, then you limit sample collection to the work shift with higher exposures and can use results to represent all employees performing the operation on other shifts.

Table 2
Periodic Exposure Evaluation Frequencies

If 8-hour employee exposure monitoring results:	Then:
Are between the: – Action level (AL) of 5 micrograms per cubic meter (µg/m^3); **AND** – Permissible exposure limit (PEL) of 10 µg/m^3	Conduct additional exposure evaluations at least every six months for the employees represented by the monitoring results.
Are above the PEL	Conduct additional exposure evaluations at least every three months for the employees represented by the monitoring results.
For employees previously above the PEL, have decreased: – To a concentration between the PEL and AL; **AND** – The decrease is demonstrated by two consecutive exposure evaluations made at least seven days apart	You may decrease your evaluation frequency to every six months for the employees represented by the monitoring results.
Have decreased to below the AL; **AND** The decrease is demonstrated by two consecutive exposure evaluations made at least seven days apart	You may stop periodic employee exposure evaluations for employees represented by the monitoring results.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-30010, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-30010, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30030 Medical evaluations.

IMPORTANT:

Medical evaluations conducted under this section will satisfy the medical evaluation requirement found in another chapter, Respirators, chapter 296-842 WAC.

(1) You must make medical evaluations available to current employees who have been, are, or will be exposed to inorganic arsenic concentrations above the AL:

(a) At least thirty days in any twelve-month period; or

(b) A total of ten years or more of combined employment with you or previous employers with at least thirty days of exposure per year.

(2) You must make medical evaluations available at no cost to employees.

(3) You must pay all costs, including travel costs and wages associated with any time spent outside of the employee's normal work hours.

(4) You must make medical evaluations available at reasonable times and places.

(5) You must make medical evaluations available by completing Steps 1 through 6 of the Medical Evaluation Process for each employee covered.

Note: 1. Employees who wear respirators need to be medically evaluated to make sure the respirator will not harm them, before they are assigned work in areas requiring respirators. Employees who decline to receive medical examination and testing to monitor for health effects caused by inorganic arsenic are not excluded from receiving a separate medical evaluation for a respirator use.
2. If employers discourage participation in medical monitoring for health effects caused by inorganic arsenic, or in any way interfere with an employee's decision to continue with this program, this interference may represent unlawful discrimination under RCW 49.17.160, Discrimination against employee filing, instituting proceeding, or testifying prohibited—Procedure—Remedy.

Medical Evaluation Process

Step 1: Identify employees who qualify, as stated above, for medical evaluations.

Step 2a: Make medical evaluations available for employees identified in Step 1 at the following times:

• Initially, when employees are assigned to work in an area where exposure monitoring results are, or will likely be, above the action level for at least thirty days in a twelve-month period.

• Periodically as specified in Table 3.

• When employment with exposure ends, if the employee has not had an evaluation within the six-month period before exposure ends. Include in these evaluations the same content as specified in Table 4 for initial evaluations, excluding a chest X-ray.

Table 3
Frequencies for Periodic Medical Evaluations

For:	Provide periodic medical evaluations every:
Employees less than forty-five years old with less than ten years of exposure above the AL	Twelve months;
Employees forty-five or older; **AND** Employees with more than ten years of exposure above the AL	Six months; **AND** Twelve months to obtain a fourteen by seventeen-inch posterior-anterior chest X-ray for monitoring purposes, unless the LHCP has determined a different frequency for periodic X-rays.

Step 2b: Provide appropriate medical examination and emergency treatment when an employee identified in Step 1 develops signs or symptoms commonly associated with inorganic arsenic exposure.

Step 3: Select a licensed health care professional (LHCP) who will conduct or supervise examinations and procedures.

Step 4: Make sure the LHCP receives all of the following before the medical evaluation is performed:

• A copy of this chapter.

• A description of the duties of the employee being evaluated and how these duties relate to inorganic arsenic exposure.

• The anticipated or representative exposure monitoring results for the employee being evaluated.

• A description of the personal protective equipment (PPE) each employee being evaluated uses or will use.

• Information from previous employment-related examinations when this information is not available to the examining LHCP.

• Instructions that the written opinions the LHCP provides you be limited to the following information:

– Results from examinations and tests.

– The LHCP's opinion about whether or not medical conditions were found that would increase the employee's risk for impairment from exposure to inorganic arsenic.

– Any recommended limitations for:

■ Inorganic arsenic exposure; and

■ Use of respirators or other PPE.

– A statement that the employee has been informed of medical results and medical conditions caused by inorganic arsenic exposure requiring further examination or treatment.

Step 5: Make the medical evaluation available to the employee. Make sure it includes the content listed in Table 4, Content of Medical Evaluations.

Step 6: Obtain the LHCP's written opinion for the employee's medical evaluation and give a copy to the employee.

• Make sure the written opinion is limited to the information specified for written opinions in Step 4.

Note: If the written opinion contains specific findings or diagnoses unrelated to occupational exposure, send it back and obtain a revised version without the additional information.

Table 4
Content of Medical Evaluations

When conducting:	Include:
An initial evaluation	• A work history and medical history including: – Smoking history. – The presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing. • A physical examination that includes: – A fourteen by seventeen-inch posterior-anterior chest X-ray and the International Labor Office UICC/Cincinnati (ILO U/C) rating. – A nasal and skin examination. • Additional examinations the licensed health care professional (LHCP) believes appropriate based on the employee's exposure to inorganic arsenic or respirator use.
Periodic evaluations for employees less than forty-five years old with less than ten years of exposure above the action level (AL)	• The same content as specified for initial evaluations repeated every twelve months.

When conducting:	Include:
Periodic evaluations for employees: • Forty-five or older; **OR** • With more than ten years of exposure above the AL	• The following content repeated every six months: – A work history and medical history including: ■ Smoking history. ■ The presence and degree of respiratory symptoms such as breathlessness, cough, sputum production, and wheezing. – A physical examination that includes a nasal and skin examination. – Additional examinations the LHCP believes appropriate based on the employee's exposure to inorganic arsenic or respirator use. • A physical examination, repeated every twelve months, that obtains a fourteen by seventeen-inch posterior-anterior chest X-ray and the International Labor Office UICC/Cincinnati (ILO U/C) rating.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-30030, filed 11/6/18, effective 12/7/18; WSR 07-03-153, § 296-848-30030, filed 1/23/07, effective 6/1/07; WSR 05-01-173, § 296-848-30030, filed 12/21/04, effective 5/1/05.]

WAC 296-848-30080 Medical records.

IMPORTANT:

This section applies when a medical evaluation is performed, or any time a medical record is created for an employee exposed to inorganic arsenic.

(1) You must establish and maintain complete and accurate medical records for each employee receiving a medical evaluation and make sure the records include all the following:

(a) The employee's name and Social Security number, or other unique identifier.

(b) A description of the employee's duties.

(c) A copy of the licensed health care professional's (LHCP's) written opinions.

(d) The anticipated or representative employee exposure monitoring results provided to the LHCP for the employee.

(2) You must maintain medical evaluation records for the duration of employment plus thirty years.

Note: Your medical provider may keep these records for you. Other medical records, such as the employee's medical history or X-ray, need to be kept as a confidential record by the medical provider and accessed only with the employee's consent.

Reference: To see additional requirements for employee medical record, including access and transfer requirements, go to Employee medical and exposure records, chapter 296-802 WAC.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-30080, filed 11/6/18, effective

12/7/18; WSR 05-01-173, § 296-848-30080, filed 12/21/04, effective 5/1/05.]

WAC 296-848-400 Exposure control areas.

Summary:

Your responsibility:

To protect employees from exposure to inorganic arsenic by using feasible exposure controls and appropriate respirators.

IMPORTANT:

These sections apply when employee exposure monitoring results are above the permissible exposure limit (PEL) of 10 micrograms per cubic meter (µg/m^3) of air.

You must meet the requirements ...	in this section:
Exposure control plan	WAC 296-848-40005
Exposure controls	WAC 296-848-40020
Exposure control areas	WAC 296-848-40025
Clean-up facilities and lunchrooms	WAC 296-848-40030
Personal protective equipment (PPE)	WAC 296-848-40040
Respirators	WAC 296-848-40045

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-400, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-400, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40005 Exposure control plan.

IMPORTANT:

Use of employee rotation to control exposures is not advisable since inorganic arsenic is a known carcinogen.

(1) You must establish and implement a complete written exposure control plan that includes at least the following, for exposure control areas:

(a) A description of each operation releasing inorganic arsenic, for example:

(i) Crew size.

(ii) Current exposure controls.

(iii) Materials processed.

(iv) Machinery used.

(v) Operating procedures.

(vi) Maintenance practices.

(b) Exposure evaluation data.

(c) A report of the technology considered for exposure controls.

(d) Engineering plans and studies used as a basis for selecting exposure controls.

(e) A detailed schedule for implementing:

(i) Feasible exposure controls, if immediate implementation is not possible.

(ii) Changes to enhance current exposure controls, when necessary.

(f) An analysis of the effectiveness of the exposure controls considered, when controls will not reduce exposures to or below the permissible exposure limit (PEL).

(g) Other relevant information.

(2) You must review and update your exposure control plan at least every six months to keep it current.

(3) You must implement exposure controls on the quickest schedule feasible if controls will not reduce exposure to or below the PEL.

(4) You must provide a copy of your exposure control plan to affected employees and their designated representatives, when they ask to review or copy it.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-40005, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-40005, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40020 Exposure controls.

IMPORTANT:

1. Use of employee rotation to control exposures is not advisable since inorganic arsenic is a known carcinogen.

2. Respirators and other personal protective equipment (PPE) do not substitute for feasible exposure controls.

You must use feasible exposure controls to reduce exposures to or below the permissible exposure limit (PEL), or as low as achievable.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-40020, filed 11/6/18, effective 12/7/18; WSR 07-06-005, § 296-848-40020, filed 2/22/07, effective 4/1/07; WSR 05-01-173, § 296-848-40020, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40025 Exposure control areas. (1) You must establish temporary or permanent exposure control areas where airborne concentrations of inorganic arsenic are above the permissible exposure limit (PEL) by doing all the following:

(a) Distinguish the boundaries of exposure control areas from the rest of the workplace in any way that minimizes employee access.

(b) Allow only authorized personnel to enter exposure control areas.

(c) Post signs at access points to exposure control areas that include this warning:

DANGER
INORGANIC ARSENIC
MAY CAUSE CANCER
DO NOT EAT, DRINK OR SMOKE
WEAR RESPIRATORY PROTECTION IN THIS AREA
AUTHORIZED PERSONNEL ONLY

(i) Make sure signs are kept clean and well lit so they are easy to read.

(ii) Keep signs and areas near them free of statements that contradict or detract from their message.

Note: This requirement does not prevent you from posting signs required by other laws, rules, or ordinances.

(2) You must make sure employees entering exposure control areas have an appropriate respirator.

(3) You must prevent all of the following activities from occurring in exposure control areas unless they are conducted in required lunchrooms, change rooms, or showers:

(a) Eating food or drinking beverages.

(b) Smoking.

(c) Chewing tobacco or gum.

(d) Applying cosmetics.

Note: 1. You may use permanent or temporary enclosures, caution tape, ropes, painted lines on surfaces, or other materials to visibly distinguish exposure control areas or separate them from the rest of the workplace.
2. When distinguishing exposure control areas, you should consider factors such as:
a. The level and duration of airborne exposure.
b. Whether the area is permanent or temporary.
c. The number of employees in adjacent areas.

Reference: To see other requirements for respirators within this chapter, go to Respirators, WAC 296-848-40045.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 18-22-116, § 296-848-40025, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-40025, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 05-01-173, § 296-848-40025, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40030 Clean-up facilities and lunchrooms. (1) You must provide the following facilities for employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:

(a) Clean change rooms with separate storage for street clothes and personal protective equipment (PPE).

(b) Shower facilities.

(2) You must make sure employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas:

(a) Shower at the end of the work shift; and

(b) Wash their hands and face before eating.

(3) You must provide lunchrooms for employees working in exposure control areas that are:

(a) Located so they are readily accessible to the employees.

(b) Temperature controlled.

(c) Under positive pressure compared to surrounding areas.

(d) Provided with a filtered air supply.

Note: Lunchrooms may be located within exposure control areas, but are considered separate from the exposure control area.

(4) You must do the following when exposures in exposure control areas exceed an eight-hour time-weighted average of 100 micrograms of arsenic per cubic meter of air ($\mu g/m^3$):

(a) Provide facilities for employees working in exposure control areas where they can remove excess contamination from protective clothing and shoes.

(b) Make sure employees vacuum protective clothing and clean or change shoes before entering showers, change rooms, or lunchrooms.

Reference: To see additional requirements for hygiene facilities:
1. Go to the Safety and health core rules, chapter 296-800 WAC.
2. Find Drinking water, bathrooms, washing facilities, and waste disposal, WAC 296-800-230.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-40030, filed 11/6/18, effective 12/7/18; WSR 05-01-173, § 296-848-40030, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40040 Personal protective equipment (PPE). (1) You must provide PPE at no cost to employees, make sure employees use, and maintain their PPE as follows:

(a) Provide clean and dry protective clothing to employees who could experience eye or skin irritation from exposure to inorganic arsenic or who work in exposure control areas.

(b) Provide impervious protective clothing to employees exposed to arsenic trichloride.

Note:
1. Arsenic trichloride is corrosive and can be rapidly absorbed through skin.
2. Examples of protective clothing appropriate for inorganic arsenic exposures include:
a. Coveralls or similar full-body work clothing.
b. Gloves, and shoes or coverlets.
c. Face shields or vented goggles when necessary to prevent eye irritation.

(c) Make sure employees do not remove inorganic arsenic from PPE by blowing or shaking.

(d) Make sure protective clothing is removed:

(i) In change rooms; and

(ii) At the end of the work shift.

(e) Make sure contaminated protective clothing that will be cleaned, laundered, or disposed of, is placed in a closed container located in the change room.

Make sure the container prevents the release of inorganic arsenic.

(f) Launder protective clothing:

(i) At least weekly if employees work in areas where exposure monitoring results of inorganic arsenic are below an eight-hour time-weighted average concentration of 100 micrograms per cubic meter (µg/m^3); or

(ii) Daily if employees work in areas where either exposure monitoring results of inorganic arsenic are above an eight-hour time-weighted average concentration of 100 µg/m^3 or when more frequent washing is needed to prevent skin irritation.

(g) Maintain the effectiveness of PPE by repairing or replacing it, as needed:

(i) Dispose of protective clothing if it will not be repaired.

(2) You must inform individuals who clean or launder protective clothing about the possible health effects associated with inorganic arsenic, including carcinogenic effects, by doing the following:

(a) Provide the information in writing; and

(b) Label containers of contaminated PPE with the following warning:

DANGER:

CONTAMINATED WITH INORGANIC ARSENIC.

MAY CAUSE CANCER.

DO NOT REMOVE DUST BY BLOWING OR SHAKING.

DISPOSE OF INORGANIC ARSENIC CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE OR FEDERAL REGULATIONS

Reference: To see additional Personal protective equipment requirements go to the Safety and health core rules, chapter 296-800 WAC, and find the section titled, PPE, WAC 296-800-160.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-40040, filed 11/6/18, effective 12/7/18. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060 and 29 C.F.R. 1910 Subpart Z. WSR 14-07-086, § 296-848-40040, filed 3/18/14, effective 5/1/14. Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 09-05-071, § 296-848-40040, filed 2/17/09, effective 4/1/09; WSR 05-01-173, § 296-848-40040, filed 12/21/04, effective 5/1/05.]

WAC 296-848-40045 Respirators.

IMPORTANT:

1. The requirements in this section are in addition to the requirements found in other chapters:

a. Airborne contaminants, chapter 296-841 WAC.

b. Respirators, chapter 296-842 WAC.

(1) You must provide each employee with an appropriate respirator that complies with the requirements of this section, and require that employees use them in circumstances where exposure is above the permissible exposure limit (PEL), including any of the following circumstances:

(a) Employees are in an exposure control area.

(b) Feasible exposure controls are being put in place.

(c) Where you determine that exposure controls are not feasible.

(d) Feasible exposure controls do not reduce exposures to, or below, the PEL.

(e) Emergencies.

(2) You must provide high-efficiency particulate air (HEPA) filters or N-, R-, or P-100 filters for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators.

(3) You must provide a powered air-purifying respirator (PAPR) to employees required to use respirators when:

(a) The employee chooses to use this type of respirator or a licensed health care professional (LHCP) recommends this type of respirator in their written opinion; and

(b) It will provide proper protection.

(4) You must follow these additional specifications for inorganic arsenic compounds with significant vapor pressure such as arsenic trichloride and arsenic phosphide:

(a) Select front- or back-mounted gas masks equipped with HEPA filters and acid gas canisters or any full facepiece supplied-air respirator, when concentrations are at or below 500 mg/m^3.

(b) Select for powered air-purifying respirators (PAPRs) and negative-pressure air-purifying respirators equipped with HEPA (or equivalent) filters and acid gas cartridges when concentrations are at or below 100.

(5) You must prohibit the use of half-facepiece respirators for protection against arsenic trichloride. This is because arsenic trichloride is corrosive and rapidly absorbed through the skin.

Note: When selecting air-purifying respirators for protection against inorganic arsenic, you'll need to consider whether other contaminants could be present at levels above permissible exposure limits and determine if a combination filter/gas-sorbent cartridge or canister is appropriate.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, 49.17.060. WSR 18-22-116, § 296-848-40045, filed 11/6/18, effective 12/7/18; WSR 09-15-145, § 296-848-40045, filed 7/21/09, effective 9/1/09; WSR

07-05-072, § 296-848-40045, filed 2/20/07, effective 4/1/07; WSR 05-01-173, § 296-848-40045, filed 12/21/04, effective 5/1/05.]

WAC 296-848-60010 Health information about inorganic arsenic. (1) You must make this section readily available to employees as required in Training, WAC 296-848-30005.

(2) You must provide this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-848-30030.

Table 5
General Health Information About Inorganic Arsenic

What is inorganic arsenic?
In this chapter, "inorganic arsenic" means: – The element arsenic; – Arsenic-containing compounds that don't contain the element carbon; – Copper aceto-arsenite. Arsine is a gaseous inorganic arsenic compound not addressed by requirements in this chapter. It's addressed in a separate chapter, Respiratory hazards, chapter 296-841 WAC.
How does inorganic arsenic get into my body?
Inorganic arsenic enters your body when you: – Breath in **(inhale)** airborne particles such as dusts, fume, sprays, or other aerosols that contain inorganic arsenic. You will also inhale inorganic arsenic particles when you smoke tobacco products that have become contaminated from contact with inorganic arsenic at work. Some compounds, including arsenic trichloride, can be inhaled as a vapor; – Swallow **(ingest)** food, drink, cosmetics such as lip balm, sweat and other substances that become contaminated from contact with inorganic arsenic at work. Inorganic arsenic particles brought home on your clothes, shoes, or body can be inhaled or ingested by household members. Some inorganic arsenic compounds enter your body when **eye or skin contact** occurs. Arsenic trichloride is one example of a compound that is readily **absorbed** through the eyes and skin.
What happens after inorganic arsenic enters my body?
Once inorganic arsenic enters your body, some of it is changed into a less harmful organic form by the liver. Both the organic and inorganic forms leave your body in urine. Most of the arsenic will be gone within several days, although some will remain in your body for several months and even longer.
Why is medical monitoring necessary?

Although exposure to inorganic arsenic is associated with various health effects, the most serious health effects are **lung and skin cancer.** The medical monitoring requirements in this chapter are established to minimize your risk for these diseases.

To learn more about the medical monitoring process, see Medical evaluation, WAC 296-848-30030.

What health effects and symptoms are linked with exposure to inorganic arsenic?

Exposure to inorganic arsenic is associated with various health effects ranging from **temporary local** effects such as skin irritation to **lasting systematic** effects due to gradual (chronic) or sudden (acute) poisoning. Such effects should not occur if the requirements in this chapter are followed.

Skin Health Effects:

Arsenic trioxide, arsenic trichloride, and other trivalent compounds can cause **skin irritation** from direct contact.

- The following moist mucous membranes are most sensitive to irritation:
  - Eye and inner eyelid (conjunctiva);
  - Linings inside the nose, mouth, and respiratory system.
- Other sites most vulnerable irritation also include:
  - Eyelids;
  - Angles (the space between 2 planes) of the ears, nose, and mouth;
  - Moist and macerated (softened by moisture) areas of skin;
  - Wrists;
  - Genitalia, if personal hygiene is poor.

Inorganic arsenic is also capable of causing keratoses **(small corns or warts),** especially on palms and soles.

Trivalent arsenic compounds are **corrosive** to skin:

- Brief contact won't cause irritation, but prolonged contact causes localized engorgement (hyperemia) which later forms vesicular (blister-like) or pustular (pimple-like) eruptions.
- Exposure can create perforations (holes) in the nasal septum (the tissue dividing the nasal cavity in half).

Arsenic trioxide and arsenic pentoxide exposure have been linked to **skin sensitization** (acquired sensitivity or allergy) **and contact dermatitis** (inflammation due to allergic or irritant reaction).

Acute Poisoning Effects:

Acute poisoning is usually linked to ingestion, not inhalation, of inorganic arsenic. Cases of acute poisoning **rarely** occur in occupational settings and inhalation-related cases are exceedingly rare.

When acute poisoning is due to **ingestion,** the following gastrointestinal symptoms develop within 1/2 to 4 hours:

- Tightening (constriction) of the throat followed by difficulty or inability to swallow (dysphagia), pain in the region above the belly button (epigastric pain), vomiting, and watery diarrhea. Blood may appear in vomit and stools;

- Shock may develop due to severe fluid loss when the amount of inorganic arsenic swallowed is sufficiently high. Death can occur in 24 hours.

When acute poisoning is due to inhalation:

- The following symptoms develop first:
  - Cough;
  - Chest pain;
  - Shortness of breath (dyspnea);
  - Giddiness;
  - Headache;
  - Extreme general weakness.
- Gastrointestinal symptoms will follow.

Chronic Poisoning Effects:

Cases of chronic poisoning caused by **ingestion** are also rare. Symptoms are:

- Weight loss;
- Nausea and diarrhea alternating with constipation;
- Skin pigmentation and eruptions;
- Hair loss;
- Numbness in hands and feet, "pins and needles" sensation, muscle weakness, and other symptoms resulting from peripheral neuritis;
- Horizontal white lines (striations) on fingernails and toenails.

Inhalation of inorganic arsenic is the most common cause of chronic poisoning in occupational settings. Symptoms associated with this condition are divided into 3 phases.

- 1st phase, earliest symptoms:
  - Weakness;
  - Loss of appetite;
  - Some nausea;
  - Occasional vomiting;
  - Sense of heaviness in the stomach;
  - Some diarrhea.
- 2nd phase symptoms:
  - Inflammation of the eyes and inner eyelid (conjunctivitis);
  - Inflammation, accompanied by an abundant discharge from mucous membranes (a catarrhal state) of the nose, larynx, and respiratory passage;
  - Symptoms associated with the common cold (Coryza), hoarseness, and mild tracheobronchitis may occur;
  - Skin lesions are common (eczematoid and allergic in type). Perforations (holes) in the nasal septum (the tissue dividing the nasal cavity in half) are the most typical lesions of the upper respiratory tract.
- 3rd phase symptoms (related to peripheral neuritis):
  - Numbness in hands and feet, "pins and needles" sensation, muscle weakness.

■ In severe cases, motor paralyses occur: Initially affecting the toe extensors and the peronei (outer portion of the lower leg). ■ "Wrist drop" or "foot drop" (resulting from paralysis of flexor muscles of feet and hands) **only occurs in the most severe cases.**

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-60010, filed 11/6/18, effective 12/7/18; WSR 07-03-153, § 296-848-60010, filed 1/23/07, effective 6/1/07.]

WAC 296-848-60020 Medical guidelines. (1) You must make this section readily available to employees as required in Training, WAC 296-848-30005.

(2) You must provide this section to the licensed health care professional (LHCP) as required in Step 4 of the medical evaluation process found in Medical evaluations, WAC 296-848-30030.

Table 6
Medical Guidelines
For Evaluating Employees With Exposure

Part 1: DOSH's Requirements
In addition to requiring employers to train employees and protect them from inorganic arsenic exposure, this chapter (the Arsenic rule) requires employers to monitor their employees' health with assistance from licensed health care professionals (LHCPs). • For employees who will use respirators, the LHCP will also need to provide the employer with a written medical opinion clearing the employee for workplace respirator use. These guidelines were designed to support an informed partnership between the LHCP and the employer when monitoring the health of employees exposed to inorganic arsenic. The employer initiates this partnership by providing the LHCP with a copy of the chapter and other supporting information about the employee and job conditions. The LHCP can then become familiar with the medical monitoring requirements found in WAC 296-848-30030 and 296-848-30080, which address: • Frequency and content for routine (initial and periodic) medical examinations and consultations; • Emergency and other unplanned medical follow-up; • Medical opinions; • Medical records retention and content.
Part 2: Inorganic Arsenic Toxicology
Health information about inorganic arsenic, WAC 296-848-50020 provides **basic information** about the health effects and symptoms associated with inorganic arsenic exposure. In addition, consider the following information: **Acute Poisoning**

Exfoliative dermatitis and peripheral neuritis may develop in patients who survive health effects due to acute poisoning (by ingestion).

Acute toxic symptoms of trivalent arsenical poisoning are caused by severe inflammation of the mucous membranes and greatly increased permeability of the blood capillaries.

Acute and Chronic Poisoning

In cases of acute and chronic poisoning, toxic effects to the myocardium (the middle layer of the heart) reported on EKG changes are now largely discounted and are attributed to electrolyte disturbances concomitant with arsenicalism.

Arsenic has a depressant effect upon bone marrow, with disturbances of both red blood cell production (erythropoiesis) and myclopoiesis.

Chronic Poisoning

Cases of chronic poisoning caused by ingestion are generally linked to patients taking prescribed medications. However, sputum from inhaled inorganic arsenic can be swallowed in addition to other ingested inorganic arsenic due to hand-to-mouth transfer.

Skin lesions are usually melanotic and keratotic and may occasionally take the form of an intradermal cancer of the squamous cell type, but without infiltrative properties.

Chronic hepatitis and cirrhosis have been described. Liver damage is still debated and as yet the question is unanswered.

Polyneuritis may be the prominent feature, but more frequently there are numbness and parasthenias of "glove and stocking" distribution. Horizontal white lines (striations) on the fingernails and toenails are commonly seen and are considered a diagnostic accompaniment of arsenical polyneuritis.

References:

- Other sources for toxicology information include:
  - ToxFAQs™ and the Toxicological Profile for Arsenic. Both of these free documents are available from the Agency for Toxic Substances and Disease Registry (ATSDR) and can be obtained by:
    - Visiting http://www.atsdr.cdc.gov/toxprofiles

      OR
    - Calling 1-888-422-8737.
  - A variety of technical resources on arsenic, available from the National Institutes for Occupational Safety and Health (NIOSH) by visiting http://www.cdc.niosh/topics/chemicals.html

Part 3: Clinical Evaluation of Employees Exposed to Inorganic Arsenic

IMPORTANT:

- When an employee will use a respirator during work, the LHCP will need to determine whether the employee can safely wear a respirator and what limitations, if any, apply.

Guidance for Physical Examinations

In addition to its immediate diagnostic usefulness, a patient's initial examination will provide a baseline for comparing future test results.

This chapter establishes the minimum content for medical examinations. Additional tests such as lateral and oblique X-rays or pulmonary function test may be useful.

You should also include palpation of superficial lymph nodes and a complete blood count when employees are exposed to any of the following compounds:

- Copper aceto-arsenite;
- Potassium arsenite;
- Sodium arsenite;
- Other arsenicals associated with lymphatic cancer.

Arsenic trioxide and other inorganic arsenical dusts don't give rise to radiological evidence or pneumoconiosis.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 18-22-116, § 296-848-60020, filed 11/6/18, effective 12/7/18; WSR 07-03-153, § 296-848-60020, filed 1/23/07, effective 6/1/07.]

APPENDIX B: PERMITS AND PERMITTING CONDITIONS

Issuance Date: November 18, 2020
Effective Date: January 1, 2021
Expiration Date: December 31, 2025

CONSTRUCTION STORMWATER GENERAL PERMIT

National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge General Permit for Stormwater Discharges Associated with Construction Activity

State of Washington
Department of Ecology
Olympia, Washington 98504

In compliance with the provisions of
Chapter 90.48 Revised Code of Washington
(State of Washington Water Pollution Control Act)
and
Title 33 United States Code, Section 1251 et seq.
The Federal Water Pollution Control Act (The Clean Water Act)

Until this permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this general permit are authorized to discharge in accordance with the special and general conditions that follow.

Vincent McGowan, P.E.
Water Quality Program Manager
Washington State Department of Ecology

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SUMMARY OF PERMIT REPORT SUBMITTALS

Refer to the Special and General Conditions within this permit for additional submittal requirements. Appendix A provides a list of definitions. Appendix B provides a list of acronyms.

Table 1 Summary of Required Submittals

Permit Section	Submittal	Frequency	First Submittal Date
S5.A and S8	High Turbidity/Transparency Phone Reporting	As Necessary	Within 24 hours
S5.B	Discharge Monitoring Report	Monthly*	Within 15 days following the end of each month
S5.F and S8	Noncompliance Notification – Telephone Notification	As necessary	Within 24 hours
S5.F	Noncompliance Notification – Written Report	As necessary	Within 5 Days of non-compliance
S9.D	Request for Chemical Treatment Form	As necessary	Written approval from Ecology is required prior to using chemical treatment (with the exception of dry ice, CO_2 or food grade vinegar to adjust pH)
G2	Notice of Change in Authorization	As necessary	
G6	Permit Application for Substantive Changes to the Discharge	As necessary	
G8	Application for Permit Renewal	1/permit cycle	No later than 180 days before expiration
S2.A	Notice of Permit Transfer	As necessary	
G19	Notice of Planned Changes	As necessary	
G21	Reporting Anticipated Non-compliance	As necessary	

NOTE: *Permittees must submit electronic Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology monthly, regardless of site discharge, for the full duration of permit coverage. Refer to Section S5.B of this General Permit for more specific information regarding DMRs.

Table 2 Summary of Required On-site Documentation

Document Title	Permit Conditions
Permit Coverage Letter	See Conditions S2, S5
Construction Stormwater General Permit (CSWGP)	See Conditions S2, S5
Site Log Book	See Conditions S4, S5
Stormwater Pollution Prevention Plan (SWPPP)	See Conditions S5, S9
Site Map	See Conditions S5, S9

SPECIAL CONDITIONS

S1. PERMIT COVERAGE

A. Permit Area

This Construction Stormwater General Permit (CSWGP) covers all areas of Washington State, except for federal operators and Indian Country as specified in Special Condition S1.E.3 and 4.

B. Operators Required to Seek Coverage Under this General Permit

1. Operators of the following construction activities are required to seek coverage under this CSWGP:

    a. Clearing, grading and/or excavation that results in the disturbance of one or more acres (including off-site disturbance acreage related to construction-support activity as authorized in S1.C.2) and discharges stormwater to surface waters of the State; and clearing, grading and/or excavation on sites smaller than one acre that are part of a larger common plan of development or sale, if the common plan of development or sale will ultimately disturb one acre or more and discharge stormwater to surface waters of the State.

        i. This category includes forest practices (including, but not limited to, class IV conversions) that are part of a construction activity that will result in the disturbance of one or more acres, and discharge to surface waters of the State (that is, forest practices that prepare a site for construction activities); and

    b. Any size construction activity discharging stormwater to waters of the State that the Washington State Department of Ecology (Ecology):

        i. Determines to be a significant contributor of pollutants to waters of the State of Washington.

        ii. Reasonably expects to cause a violation of any water quality standard.

2. Operators of the following activities are not required to seek coverage under this CSWGP (unless specifically required under Special Condition S1.B.1.b, above):

    a. Construction activities that discharge all stormwater and non-stormwater to groundwater, sanitary sewer, or combined sewer, and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.

    b. Construction activities covered under an Erosivity Waiver (Special Condition S1.F).

    c. Routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

C. Authorized Discharges

1. ***Stormwater Associated with Construction Activity.*** Subject to compliance with the terms and conditions of this permit, Permittees are authorized to discharge stormwater associated with construction activity to surface waters of the State or to a storm sewer system that drains to surface waters of the State. (Note that "surface waters of the

State" may exist on a construction site as well as off site; for example, a creek running through a site.)

2. ***Stormwater Associated with Construction Support Activity.*** This permit also authorizes stormwater discharge from support activities related to the permitted construction site (for example, an on-site portable rock crusher, off-site equipment staging yards, material storage areas, borrow areas, etc.) provided:

    a. The support activity relates directly to the permitted construction site that is required to have an NPDES permit; and

    b. The support activity is not a commercial operation serving multiple unrelated construction projects, and does not operate beyond the completion of the construction activity; and

    c. Appropriate controls and measures are identified in the Stormwater Pollution Prevention Plan (SWPPP) for the discharges from the support activity areas.

3. ***Non-Stormwater Discharges.*** The categories and sources of non-stormwater discharges identified below are authorized conditionally, provided the discharge is consistent with the terms and conditions of this permit:

    a. Discharges from fire-fighting activities.

    b. Fire hydrant system flushing.

    c. Potable water, including uncontaminated water line flushing.

    d. Hydrostatic test water.

    e. Uncontaminated air conditioning or compressor condensate.

    f. Uncontaminated groundwater or spring water.

    g. Uncontaminated excavation dewatering water (in accordance with S9.D.10).

    h. Uncontaminated discharges from foundation or footing drains.

    i. Uncontaminated or potable water used to control dust. Permittees must minimize the amount of dust control water used.

    j. Routine external building wash down that does not use detergents.

    k. Landscape irrigation water.

The SWPPP must adequately address all authorized non-stormwater discharges, except for discharges from fire-fighting activities, and must comply with Special Condition S3. At a minimum, discharges from potable water (including water line flushing), fire hydrant system flushing, and pipeline hydrostatic test water must undergo the following: dechlorination to a concentration of 0.1 parts per million (ppm) or less, and pH adjustment to within 6.5 – 8.5 standard units (su), if necessary.

D. Prohibited Discharges

The following discharges to waters of the State, including groundwater, are prohibited:

1. Concrete wastewater

2. Wastewater from washout and clean-up of stucco, paint, form release oils, curing compounds and other construction materials.

3. Process wastewater as defined by 40 Code of Federal Regulations (CFR) 122.2 (See Appendix A of this permit).

4. Slurry materials and waste from shaft drilling, including process wastewater from shaft drilling for construction of building, road, and bridge foundations unless managed according to Special Condition S9.D.9.j.

5. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance.

6. Soaps or solvents used in vehicle and equipment washing.

7. Wheel wash wastewater, unless managed according to Special Condition S9.D.9.

8. Discharges from dewatering activities, including discharges from dewatering of trenches and excavations, unless managed according to Special Condition S9.D.10.

E. Limits on Coverage

Ecology may require any discharger to apply for and obtain coverage under an individual permit or another more specific general permit. Such alternative coverage will be required when Ecology determines that this CSWGP does not provide adequate assurance that water quality will be protected, or there is a reasonable potential for the project to cause or contribute to a violation of water quality standards.

The following stormwater discharges are not covered by this permit:

1. Post-construction stormwater discharges that originate from the site after completion of construction activities and the site has undergone final stabilization.

2. Non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance, from which there is natural runoff as excluded in 40 CFR Subpart 122.

3. Stormwater from any federal operator.

4. Stormwater from facilities located on ***Indian Country*** as defined in 18 U.S.C.§1151, except portions of the Puyallup Reservation as noted below.

   Indian Country includes:

   a. All land within any Indian Reservation notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation. This includes all federal, tribal, and Indian and non-Indian privately owned land within the reservation.

   b. All off-reservation Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same.

   c. All off-reservation federal trust lands held for Native American Tribes.

Puyallup Exception: Following the *Puyallup Tribes of Indians Land Settlement Act of 1989*, 25 U.S.C. §1773; the permit does apply to land within the Puyallup Reservation except for discharges to surface water on land held in trust by the federal government.

5. Stormwater from any site covered under an existing NPDES individual permit in which stormwater management and/or treatment requirements are included for all stormwater discharges associated with construction activity.

6. Stormwater from a site where an applicable Total Maximum Daily Load (TMDL) requirement specifically precludes or prohibits discharges from construction activity.

F. Erosivity Waiver

Construction site operators may qualify for an Erosivity Waiver from the CSWGP if the following conditions are met:

1. The site will result in the disturbance of fewer than five (5) acres and the site is not a portion of a common plan of development or sale that will disturb five (5) acres or greater.

2. Calculation of Erosivity "R" Factor and Regional Timeframe:

    a. The project's calculated rainfall erosivity factor ("R" Factor) must be less than five (5) during the period of construction activity, (See the CSWGP homepage http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html for a link to the EPA's calculator and step by step instructions on computing the "R" Factor in the *EPA Erosivity Waiver Fact Sheet*). The period of construction activity starts when the land is first disturbed and ends with final stabilization. In addition:

    b. The entire period of construction activity must fall within the following timeframes:

        i. For sites west of the Cascades Crest: June 15 – September 15.

        ii. For sites east of the Cascades Crest, excluding the Central Basin: June 15 – October 15.

        iii. For sites east of the Cascades Crest, within the Central Basin: no timeframe restrictions apply. The Central Basin is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches. For a map of the Central Basin (Average Annual Precipitation Region 2), refer to: http://www.ecy.wa.gov/programs/wq/stormwater/construction/resourcesguidance.html.

3. Construction site operators must submit a complete Erosivity Waiver certification form at least one week before disturbing the land. Certification must include statements that the operator will:

    a. Comply with applicable local stormwater requirements; and

    b. Implement appropriate erosion and sediment control BMPs to prevent violations of water quality standards.

4. This waiver is not available for facilities declared significant contributors of pollutants as defined in Special Condition S1.B.1.b or for any size construction activity that could

reasonably expect to cause a violation of any water quality standard as defined in Special Condition S1.B.1.b.ii.

5. This waiver does not apply to construction activities which include non-stormwater discharges listed in Special Condition S1.C.3.

6. If construction activity extends beyond the certified waiver period for any reason, the operator must either:

    a. Recalculate the rainfall erosivity "R" factor using the original start date and a new projected ending date and, if the "R" factor is still under 5 *and* the entire project falls within the applicable regional timeframe in Special Condition S1.F.2.b, complete and submit an amended waiver certification form before the original waiver expires; *or*

    b. Submit a complete permit application to Ecology in accordance with Special Condition S2.A and B before the end of the certified waiver period.

S2. APPLICATION REQUIREMENTS

A. Permit Application Forms

1. *Notice of Intent Form*

a. Operators of new or previously unpermitted construction activities must submit a complete and accurate permit application (Notice of Intent, or NOI) to Ecology.

b. Operators must apply using the electronic application form (NOI) available on Ecology's website (http://ecy.wa.gov/programs/wq/stormwater/construction/index.html). Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

> Department of Ecology
> Water Quality Program - Construction Stormwater
> PO Box 47696
> Olympia, Washington 98504-7696

c. The operator must submit the NOI at least 60 days before discharging stormwater from construction activities and must submit it prior to the date of the first public notice (See Special Condition S2.B, below, for details). The 30-day public comment period begins on the publication date of the second public notice. Unless Ecology responds to the complete application in writing, coverage under the general permit will automatically commence on the 31st day following receipt by Ecology of a *completed* NOI, or the issuance date of this permit, whichever is later; unless Ecology specifies a later date in writing as required by WAC173-226-200(2). See S8.B for Limits on Coverage for New Discharges to TMDL or 303(d)-Listed Waters.

d. If an applicant intends to use a Best Management Practice (BMP) selected on the basis of Special Condition S9.C.4 ("demonstrably equivalent" BMPs), the applicant must notify Ecology of its selection as part of the NOI. In the event the applicant selects BMPs after submission of the NOI, the applicant must provide notice of the

selection of an equivalent BMP to Ecology at least 60 days before intended use of the equivalent BMP.

e. Applicants must notify Ecology if they are aware of contaminated soils and/or groundwater associated with the construction activity. Provide detailed information with the NOI (as known and readily available) on the nature and extent of the contamination (concentrations, locations, and depth), as well as pollution prevention and/or treatment BMPs proposed to control the discharge of soil and/or groundwater contaminants in stormwater. Examples of such detail may include, but are not limited to:

   i. List or table of all known contaminants with laboratory test results showing concentration and depth,

   ii. Map with sample locations,

   iii. Related portions of the Stormwater Pollution Prevention Plan (SWPPP) that address the management of contaminated and potentially contaminated construction stormwater and dewatering water,

   iv. Dewatering plan and/or dewatering contingency plan.

2. ***Transfer of Coverage Form***

The Permittee can transfer current coverage under this permit to one or more new operators, including operators of sites within a Common Plan of Development, provided:

   i. The Permittee submits a complete Transfer of Coverage Form to Ecology, signed by the current and new discharger and containing a specific date for transfer of permit responsibility, coverage and liability (including any Administrative Orders associated with the permit); and

   ii. Ecology does not notify the current discharger and new discharger of intent to revoke coverage under the general permit. If this notice is not given, the transfer is effective on the date specified in the written agreement.

When a current discharger (Permittee) transfers a portion of a permitted site, the current discharger must also indicate the remaining permitted acreage after the transfer. Transfers do not require public notice.

3. ***Modification of Coverage Form***

Permittees must notify Ecology regarding any changes to the information provided on the NOI by submitting an Update/Modification of Permit Coverage form in accordance with General Conditions G6 and G19. Examples of such changes include, but are not limited to:

   i. Changes to the Permittee's mailing address,

   ii. Changes to the on-site contact person information, and

   iii. Changes to the area/acreage affected by construction activity.

B. Public Notice

For new or previously unpermitted construction activities, the applicant must publish a public notice at least one time each week for two consecutive weeks, at least 7 days apart, in a newspaper with general circulation in the county where the construction is to take place. The notice must be run after the NOI has been submitted and must contain:

1. A statement that "*The applicant is seeking coverage under the Washington State Department of Ecology's Construction Stormwater NPDES and State Waste Discharge General Permit*."
2. The name, address, and location of the construction site.
3. The name and address of the applicant.
4. The type of construction activity that will result in a discharge (for example, residential construction, commercial construction, etc.), and the total number of acres to be disturbed over the lifetime of the project.
5. The name of the receiving water(s) (that is, the surface water(s) to which the site will discharge), or, if the discharge is through a storm sewer system, the name of the operator of the system and the receiving water(s) the system discharges to.
6. The statement: *Any persons desiring to present their views to the Washington State Department of Ecology regarding this application, or interested in Ecology's action on this application, may notify Ecology in writing no later than 30 days of the last date of publication of this notice. Ecology reviews public comments and considers whether discharges from this project would cause a measurable change in receiving water quality, and, if so, whether the project is necessary and in the overriding public interest according to Tier II antidegradation requirements under WAC 173-201A-320. Comments can be submitted to: Department of Ecology, PO Box 47696, Olympia, Washington 98504-7696 Attn: Water Quality Program, Construction Stormwater*.

S3. COMPLIANCE WITH STANDARDS

A. Discharges must not cause or contribute to a violation of surface water quality standards (Chapter 173-201A WAC), groundwater quality standards (Chapter 173-200 WAC), sediment management standards (Chapter 173-204 WAC), and human health-based criteria in the Federal water quality criteria applicable to Washington. (40 CFR Part 131.45) Discharges that are not in compliance with these standards are prohibited.

B. Prior to the discharge of stormwater and non-stormwater to waters of the State, the Permittee must apply All Known, Available, and Reasonable methods of prevention, control, and Treatment (AKART). This includes the preparation and implementation of an adequate SWPPP, with all appropriate BMPs installed and maintained in accordance with the SWPPP and the terms and conditions of this permit.

C. Ecology presumes that a Permittee complies with water quality standards unless discharge monitoring data or other site-specific information demonstrates that a discharge causes or contributes to a violation of water quality standards, when the Permittee complies with the following conditions. The Permittee must fully:

1. Comply with all permit conditions, including; planning, sampling, monitoring, reporting, and recordkeeping conditions.

2. Implement stormwater BMPs contained in stormwater management manuals published or approved by Ecology, or BMPs that are demonstrably equivalent to BMPs contained in stormwater management manuals published or approved by Ecology, including the proper selection, implementation, and maintenance of all applicable and appropriate BMPs for on-site pollution control. (For purposes of this section, the stormwater manuals listed in Appendix 10 of the *Phase I Municipal Stormwater Permit* are approved by Ecology.)

D. Where construction sites also discharge to groundwater, the groundwater discharges must also meet the terms and conditions of this CSWGP. Permittees who discharge to groundwater through an injection well must also comply with any applicable requirements of the Underground Injection Control (UIC) regulations, Chapter 173-218 WAC.

S4. MONITORING REQUIREMENTS, BENCHMARKS, AND REPORTING TRIGGERS

A. Site Log Book

The Permittee must maintain a site log book that contains a record of the implementation of the SWPPP and other permit requirements, including the installation and maintenance of BMPs, site inspections, and stormwater monitoring.

B. Site Inspections

Construction sites one (1) acre or larger that discharge stormwater to surface waters of the State must have site inspections conducted by a Certified Erosion and Sediment Control Lead (CESCL). Sites less than one (1) acre may have a person without CESCL certification conduct inspections. (See Special Conditions S4.B.3 and B.4, below, for detailed requirements of the Permittee's CESCL.)

Site inspections must include all areas disturbed by construction activities, all BMPs, and all stormwater discharge points under the Permittee's operational control.

1. The Permittee must have staff knowledgeable in the principles and practices of erosion and sediment control. The CESCL (sites one acre or more) or inspector (sites less than one acre) must have the skills to assess the:

    a. Site conditions and construction activities that could impact the quality of stormwater; and

    b. Effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges. The SWPPP must identify the CESCL or inspector, who must be present on site or on-call at all times. The CESCL (sites one (1) acre or more) must obtain this certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology. (See BMP C160 in the manual, referred to in Special Condition S9.C.1 and 2.)

2. The CESCL or inspector must examine stormwater visually for the presence of suspended sediment, turbidity, discoloration, and oil sheen. BMP effectiveness must be evaluated to

determine if it is necessary to install, maintain, or repair BMPs to improve the quality of stormwater discharges.

Based on the results of the inspection, the Permittee must correct the problems identified, by:

a. Reviewing the SWPPP for compliance with Special Condition S9 and making appropriate revisions within 7 days of the inspection.

b. Immediately beginning the process of fully implementing and maintaining appropriate source control and/or treatment BMPs, within 10 days of the inspection. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

c. Documenting BMP implementation and maintenance in the site log book.

3. The CESCL or inspector must inspect all areas disturbed by construction activities, all BMPs, and all stormwater discharge points at least once every calendar week and within 24 hours of any discharge from the site. (For purposes of this condition, individual discharge events that last more than one (1) day do not require daily inspections. For example, if a stormwater pond discharges continuously over the course of a week, only one (1) inspection is required that week.) Inspection frequency may be reduced to once every calendar month for inactive sites that are temporarily stabilized.

4. The Permittee must summarize the results of each inspection in an inspection report or checklist and enter the report/checklist into, or attach it to, the site log book. At a minimum, each inspection report or checklist must include:

   a. Inspection date and time.

   b. Weather information.

   c. The general conditions during inspection.

   d. The approximate amount of precipitation since the last inspection.

   e. The approximate amount of precipitation within the last 24 hours.

   f. A summary or list of all implemented BMPs, including observations of all erosion/sediment control structures or practices.

   g. A description of:

      i. BMPs inspected (including location).

      ii. BMPs that need maintenance and why.

      iii. BMPs that failed to operate as designed or intended, and

      iv. Where additional or different BMPs are needed, and why.

   h. A description of stormwater discharged from the site. The Permittee must note the presence of suspended sediment, turbidity, discoloration, and oil sheen, as applicable.

i. Any water quality monitoring performed during inspection.

j. General comments and notes, including a brief description of any BMP repairs, maintenance, or installations made following the inspection.

k. An implementation schedule for the remedial actions that the Permittee plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

l. A summary report of the inspection.

m. The name, title, and signature of the person conducting the site inspection, a phone number or other reliable method to reach this person, and the following statement: *I certify that this report is true, accurate, and complete to the best of my knowledge and belief.*

Table 3 Summary of Primary Monitoring Requirements

Size of Soil Disturbance[1]	Weekly Site Inspections	Weekly Sampling w/ Turbidity Meter	Weekly Sampling w/ Transparency Tube	Weekly pH Sampling[2]	CESCL Required for Inspections?
Sites that disturb less than 1 acre, but are part of a larger Common Plan of Development	Required	Not Required	Not Required	Not Required	No
Sites that disturb 1 acre or more, but fewer than 5 acres	Required	Sampling Required – either method[3]		Required	Yes
Sites that disturb 5 acres or more	Required	Required	Not Required[4]	Required	Yes

[1] Soil disturbance is calculated by adding together all areas that will be affected by construction activity. Construction activity means clearing, grading, excavation, and any other activity that disturbs the surface of the land, including ingress/egress from the site.

[2] If construction activity results in the disturbance of 1 acre or more, and involves significant concrete work (1,000 cubic yards of concrete or recycled concrete placed or poured over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer stormwater collection system that drains to other surface waters of the State, the Permittee must conduct pH sampling in accordance with Special Condition S4.D.

[3] Sites with one or more acres, but fewer than 5 acres of soil disturbance, must conduct turbidity or transparency sampling in accordance with Special Condition S4.C.4.a or b.

[4] Sites equal to or greater than 5 acres of soil disturbance must conduct turbidity sampling using a turbidity meter in accordance with Special Condition S4.C.4.a.

C. Turbidity/Transparency Sampling Requirements

1. Sampling Methods

    a. If construction activity involves the disturbance of five (5) acres or more, the Permittee must conduct turbidity sampling per Special Condition S4.C.4.a, below.

    b. If construction activity involves one (1) acre or more but fewer than five (5) acres of soil disturbance, the Permittee must conduct either transparency sampling *or* turbidity sampling per Special Condition S4.C.4.a or b, below.

2. Sampling Frequency

    a. The Permittee must sample all discharge points at least once every calendar week when stormwater (or authorized non-stormwater) discharges from the site or enters any on-site surface waters of the state (for example, a creek running through a site); sampling is not required on sites that disturb less than an acre.

    b. Samples must be representative of the flow and characteristics of the discharge.

    c. Sampling is not required when there is no discharge during a calendar week.

    d. Sampling is not required outside of normal working hours or during unsafe conditions.

    e. If the Permittee is unable to sample during a monitoring period, the Permittee must include a brief explanation in the monthly Discharge Monitoring Report (DMR).

    f. Sampling is not required before construction activity begins.

    g. The Permittee may reduce the sampling frequency for temporarily stabilized, inactive sites to once every calendar month.

3. Sampling Locations

    a. Sampling is required at all points where stormwater associated with construction activity (or authorized non-stormwater) is discharged off site, including where it enters any on-site surface waters of the state (for example, a creek running through a site).

    b. The Permittee may discontinue sampling at discharge points that drain areas of the project that are fully stabilized to prevent erosion.

    c. The Permittee must identify all sampling point(s) in the SWPPP and on the site map and clearly mark these points in the field with a flag, tape, stake or other visible marker.

    d. Sampling is not required for discharge that is sent directly to sanitary or combined sewer systems.

    e. The Permittee may discontinue sampling at discharge points in areas of the project where the Permittee no longer has operational control of the construction activity.

4. Sampling and Analysis Methods

   a. The Permittee performs turbidity analysis with a calibrated turbidity meter (turbidimeter) either on site or at an accredited lab. The Permittee must record the results in the site log book in nephelometric turbidity units (NTUs).

   b. The Permittee performs transparency analysis on site with a 1¾ inch diameter, 60 centimeter (cm)-long transparency tube. The Permittee will record the results in the site log book in centimeters (cm).

Table 4 Monitoring and Reporting Requirements

Parameter	Unit	Analytical Method	Sampling Frequency	Benchmark Value
Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs
Transparency	Cm	Manufacturer instructions, or Ecology guidance	Weekly, if discharging	33 cm

5. Turbidity/Transparency Benchmark Values and Reporting Triggers

   The benchmark value for turbidity is 25 NTUs. The benchmark value for transparency is 33 centimeters (cm). Note: Benchmark values do not apply to discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus; these discharges are subject to a numeric effluent limit for turbidity. Refer to Special Condition S8 for more information and follow S5.F – Noncompliance Notification for reporting requirements applicable to discharges which exceed the numeric effluent limit for turbidity.

   a. Turbidity 26 – 249 NTUs, or Transparency 32 – 7 cm:

      If the discharge turbidity is 26 to 249 NTUs; or if discharge transparency is 32 to 7 cm, the Permittee must:

      i. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs, and no later than 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

      ii. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the date the discharge exceeded the benchmark.

      iii. Document BMP implementation and maintenance in the site log book.

   b. Turbidity 250 NTUs or greater, or Transparency 6 cm or less:

      If a discharge point's turbidity is 250 NTUs or greater, or if discharge transparency is less than or equal to 6 cm, the Permittee must complete the reporting and adaptive

management process described below. For discharges which are subject to a numeric effluent limit for turbidity, see S5.F – Noncompliance Notification.

i. Within 24 hours, telephone or submit an electronic report to the applicable Ecology Region's Environmental Report Tracking System (ERTS) number (or through Ecology's Water Quality Permitting Portal [WQWebPortal] – Permit Submittals when the form is available), in accordance with Special Condition S5.A.

- **Central Region** (Okanogan, Chelan, Douglas, Kittitas, Yakima, Klickitat, Benton): (509) 575-2490
- **Eastern Region** (Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman): (509) 329-3400
- **Northwest Region** (Kitsap, Snohomish, Island, King, San Juan, Skagit, Whatcom): (425) 649-7000
- **Southwest Region** (Grays Harbor, Lewis, Mason, Thurston, Pierce, Clark, Cowlitz, Skamania, Wahkiakum, Clallam, Jefferson, Pacific): (360) 407-6300

These numbers and a link to the ERTS reporting page are also listed at the following website: http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html.

ii. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems within 10 days of the date the discharge exceeded the benchmark. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when the Permittee requests an extension within the initial 10-day response period.

iii. Sample discharges daily until:

a) Turbidity is 25 NTUs (or lower); or

b) Transparency is 33 cm (or greater); or

c) The Permittee has demonstrated compliance with the water quality standard for turbidity:

1) No more than 5 NTUs over background turbidity, if background is less than 50 NTUs, or

2) No more than 10% over background turbidity, if background is 50 NTUs or greater; or

*Note: background turbidity in the receiving water must be measured immediately upstream (upgradient) or outside of the area of influence of the discharge.

d) The discharge stops or is eliminated.

iv. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within seven (7) days of the date the discharge exceeded the benchmark.

v. Document BMP implementation and maintenance in the site log book.

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with permit benchmarks.

D. pH Sampling Requirements – Significant Concrete Work or Engineered Soils

If construction activity results in the disturbance of 1 acre or more, *and* involves significant concrete work (significant concrete work means greater than 1000 cubic yards placed or poured concrete or recycled concrete used over the life of a project) or the use of engineered soils (soil amendments including but not limited to Portland cement-treated base [CTB], cement kiln dust [CKD], or fly ash), and stormwater from the affected area drains to surface waters of the State or to a storm sewer system that drains to surface waters of the State, the Permittee must conduct pH sampling as set forth below. Note: In addition, discharges to segments of water bodies on Washington State's 303(d) list (Category 5) for high pH are subject to a numeric effluent limit for pH; refer to Special Condition S8.

1. The Permittee must perform pH analysis on site with a calibrated pH meter, pH test kit, or wide range pH indicator paper. The Permittee must record pH sampling results in the site log book.

2. During the applicable pH monitoring period defined below, the Permittee must obtain a representative sample of stormwater and conduct pH analysis at least once per week.

    a. For sites with significant concrete work, the Permittee must begin the pH sampling period when the concrete is first placed or poured and exposed to precipitation, and continue weekly throughout and after the concrete placement, pour and curing period, until stormwater pH is in the range of 6.5 to 8.5 (su).

    b. For sites with recycled concrete where monitoring is required, the Permittee must begin the weekly pH sampling period when the recycled concrete is first exposed to precipitation and must continue until the recycled concrete is fully stabilized with the stormwater pH in the range of 6.5 to 8.5 (su).

    c. For sites with engineered soils, the Permittee must begin the pH sampling period when the soil amendments are first exposed to precipitation and must continue until the area of engineered soils is fully stabilized.

3. The Permittee must sample pH in the sediment trap/pond(s) or other locations that receive stormwater runoff from the area of significant concrete work or engineered soils before the stormwater discharges to surface waters.

4. The benchmark value for pH is 8.5 standard units. Anytime sampling indicates that pH is 8.5 or greater, the Permittee must either:

    a. Prevent the high pH water (8.5 or above) from entering storm sewer systems or surface waters of the state; *or*

    b. If necessary, adjust or neutralize the high pH water until it is in the range of pH 6.5 to 8.5 (su) using an appropriate treatment BMP such as carbon dioxide (CO_2) sparging, dry ice or food grade vinegar. The Permittee must obtain written approval from Ecology before using any form of chemical treatment other than CO_2 sparging, dry ice or food grade vinegar.

S5. REPORTING AND RECORDKEEPING REQUIREMENTS

A. High Turbidity Reporting

Anytime sampling performed in accordance with Special Condition S4.C indicates turbidity has reached the 250 NTUs or more (or transparency less than or equal to 6 cm), high turbidity reporting level, the Permittee must notify Ecology within 24 hours of analysis either by calling the applicable Ecology Region's Environmental Report Tracking System (ERTS) number by phone or by submitting an electronic ERTS report (through Ecology's Water Quality Permitting Portal (WQWebPortal) – Permit Submittals when the form is available). See the CSWGP website for links to ERTS and the WQWebPortal. (http://www.ecy.wa.gov/programs/wq/stormwater/construction/index.html) Also, see phone numbers in Special Condition S4.C.5.b.i.

B. Discharge Monitoring Reports (DMRs)

Permittees required to conduct water quality sampling in accordance with Special Conditions S4.C (Turbidity/Transparency), S4.D (pH), S8 (303[d]/TMDL sampling), and/or G12 (Additional Sampling) must submit the results to Ecology.

Permittees must submit monitoring data using Ecology's WQWebDMR web application accessed through Ecology's Water Quality Permitting Portal.

Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper copy DMR at:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

Permittees who obtain a waiver not to use WQWebDMR must use the forms provided to them by Ecology; submittals must be mailed to the address above. Permittees must submit DMR forms to be received by Ecology within 15 days following the end of each month.

If there was no discharge during a given monitoring period, all Permittees must submit a DMR as required with "no discharge" entered in place of the monitoring results. DMRs are required for the full duration of permit coverage (from the first full month following the effective date of permit coverage up until Ecology has approved termination of the coverage). For more information, contact Ecology staff using information provided at the following website: www.ecy.wa.gov/programs/wq/permits/paris/contacts.html.

C. Records Retention

The Permittee must retain records of all monitoring information (site log book, sampling results, inspection reports/checklists, etc.), Stormwater Pollution Prevention Plan, copy of the permit coverage letter (including Transfer of Coverage documentation) and any other documentation of compliance with permit requirements for the entire life of the construction project and for a minimum of five (5) years following the termination of permit coverage. Such information must include all calibration and maintenance records, and records of all data used to complete the application for this permit. This period of retention must be extended during

the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by Ecology.

D. Recording Results

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

1. Date, place, method, and time of sampling or measurement.
2. The first and last name of the individual who performed the sampling or measurement.
3. The date(s) the analyses were performed.
4. The first and last name of the individual who performed the analyses.
5. The analytical techniques or methods used.
6. The results of all analyses.

E. Additional Monitoring by the Permittee

If the Permittee samples or monitors any pollutant more frequently than required by this permit using test procedures specified by Special Condition S4 of this permit, the sampling results for this monitoring must be included in the calculation and reporting of the data submitted in the Permittee's DMR.

F. Noncompliance Notification

In the event the Permittee is unable to comply with any part of the terms and conditions of this permit, and the resulting noncompliance may cause a threat to human health or the environment (such as but not limited to spills or fuels or other materials, catastrophic pond or slope failure, and discharges that violate water quality standards), or exceed numeric effluent limitations (see S8 – Discharges to 303(d) or TMDL Waterbodies), the Permittee must, upon becoming aware of the circumstance:

1. Notify Ecology within 24 hours of the failure to comply by calling the applicable Regional office ERTS phone number (refer to Special Condition S4.C.5.b.i, or go to https://ecology.wa.gov/About-us/Get-involved/Report-an-environmental-issue to find contact information for the regional offices.)
2. Immediately take action to prevent the discharge/pollution, or otherwise stop or correct the noncompliance, and, if applicable, repeat sampling and analysis of any noncompliance immediately and submit the results to Ecology within five (5) days of becoming aware of the violation (See S5.F.3, below, for details on submitting results in a report).
3. Submit a detailed written report to Ecology within five (5) days of the time the Permittee becomes aware of the circumstances, unless requested earlier by Ecology. The report must be submitted using Ecology's Water Quality Permitting Portal (WQWebPortal) – Permit Submittals, unless a waiver from electronic reporting has been granted according to S5.B. The report must contain a description of the noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Permittee must report any unanticipated bypass and/or upset that exceeds any effluent limit in the permit in accordance with the 24-hour reporting requirement contained in 40 C.F.R. 122.41(l)(6).

Compliance with these requirements does not relieve the Permittee from responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply. Upon request of the Permittee, Ecology may waive the requirement for a written report on a case-by-case basis, if the immediate notification is received by Ecology within 24 hours.

G. Access to Plans and Records

1. The Permittee must retain the following permit documentation (plans and records) on site, or within reasonable access to the site, for use by the operator or for on-site review by Ecology or the local jurisdiction:

    a. General Permit

    b. Permit Coverage Letter

    c. Stormwater Pollution Prevention Plan (SWPPP)

    d. Site Log Book

    e. Erosivity Waiver (if applicable)

2. The Permittee must address written requests for plans and records listed above (Special Condition S5.G.1) as follows:

    a. The Permittee must provide a copy of plans and records to Ecology within 14 days of receipt of a written request from Ecology.

    b. The Permittee must provide a copy of plans and records to the public when requested in writing. Upon receiving a written request from the public for the Permittee's plans and records, the Permittee must either:

        i. Provide a copy of the plans and records to the requester within 14 days of a receipt of the written request; *or*

        ii. Notify the requester within 10 days of receipt of the written request of the location and times within normal business hours when the plans and records may be viewed; and provide access to the plans and records within 14 days of receipt of the written request; *or*

            Within 14 days of receipt of the written request, the Permittee may submit a copy of the plans and records to Ecology for viewing and/or copying by the requester at an Ecology office, or a mutually agreed location. If plans and records are viewed and/or copied at a location other than at an Ecology office, the Permittee will provide reasonable access to copying services for which a reasonable fee may be charged. The Permittee must notify the requester within 10 days of receipt of the request where the plans and records may be viewed and/or copied.

S6. PERMIT FEES

The Permittee must pay permit fees assessed by Ecology. Fees for stormwater discharges covered under this permit are established by Chapter 173-224 WAC. Ecology continues to assess permit fees until the permit is terminated in accordance with Special Condition S10 or revoked in accordance with General Condition G5.

S7. SOLID AND LIQUID WASTE DISPOSAL

The Permittee must handle and dispose of solid and liquid wastes generated by construction activity, such as demolition debris, construction materials, contaminated materials, and waste materials from maintenance activities, including liquids and solids from cleaning catch basins and other stormwater facilities, in accordance with:

A. Special Condition S3, Compliance with Standards.

B. WAC 173-216-110.

C. Other applicable regulations.

S8. DISCHARGES TO 303(d) OR TMDL WATERBODIES

A. Sampling and Numeric Effluent Limits For Certain Discharges to 303(d)-Listed Water Bodies

1. Permittees who discharge to segments of water bodies listed as impaired by the State of Washington under Section 303(d) of the Clean Water Act for turbidity, fine sediment, high pH, or phosphorus, must conduct water quality sampling according to the requirements of this section, and Special Conditions S4.C.2.b-f and S4.C.3.b-d, and must comply with the applicable numeric effluent limitations in S8.C and S8.D.

2. All references and requirements associated with Section 303(d) of the Clean Water Act mean the most current listing by Ecology of impaired waters (Category 5) that exists on January 1, 2021, or the date when the operator's complete permit application is received by Ecology, whichever is later.

B. Limits on Coverage for New Discharges to TMDL or 303(d)-Listed Waters

Construction sites that discharge to a TMDL or 303(d)-listed waterbody are not eligible for coverage under this permit *unless* the operator:

1. Prevents exposing stormwater to pollutants for which the waterbody is impaired, and retains documentation in the SWPPP that details procedures taken to prevent exposure on site; *or*

2. Documents that the pollutants for which the waterbody is impaired are not present at the site, and retains documentation of this finding within the SWPPP; *or*

3. Provides Ecology with data indicating the discharge is not expected to cause or contribute to an exceedance of a water quality standard, and retains such data on site with the SWPPP. The operator must provide data and other technical information to Ecology that sufficiently demonstrate:

    a. For discharges to waters without an EPA-approved or -established TMDL, that the discharge of the pollutant for which the water is impaired will meet in-stream water quality criteria at the point of discharge to the waterbody; *or*

    b. For discharges to waters with an EPA-approved or -established TMDL, that there is sufficient remaining wasteload allocation in the TMDL to allow construction stormwater discharge and that existing dischargers to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards.

    Operators of construction sites are eligible for coverage under this permit only after Ecology makes an affirmative determination that the *discharge will not cause or contribute to the existing impairment or exceed the TMDL.*

C. Sampling and Numeric Effluent Limits for Discharges to Water Bodies on the 303(d) List for Turbidity, Fine Sediment, or Phosphorus

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for turbidity, fine sediment, or phosphorus must conduct turbidity sampling in accordance with Special Condition S4.C.2 and comply with either of the numeric effluent limits noted in Table 5 below.

2. As an alternative to the 25 NTUs effluent limit noted in Table 5 below (applied at the point where stormwater [or authorized non-stormwater] is discharged off-site), Permittees may choose to comply with the surface water quality standard for turbidity. The standard is: no more than 5 NTUs over background turbidity when the background turbidity is 50 NTUs or less, or no more than a 10% increase in turbidity when the background turbidity is more than 50 NTUs. In order to use the water quality standard requirement, the sampling must take place at the following locations:

    a. Background turbidity in the 303(d)-listed receiving water immediately upstream (upgradient) or outside the area of influence of the discharge.

    b. Turbidity at the point of discharge into the 303(d)-listed receiving water, inside the area of influence of the discharge**.**

3. Discharges that exceed the numeric effluent limit for turbidity constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit must sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

Table 5 Turbidity, Fine Sediment & Phosphorus Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled	Unit	Analytical Method	Sampling Frequency	Numeric Effluent Limit[1]
• Turbidity • Fine Sediment • Phosphorus	Turbidity	NTU	SM2130	Weekly, if discharging	25 NTUs, at the point where stormwater is discharged from the site; ***OR*** In compliance with the surface water quality standard for turbidity (S8.C.2.a)

[1] Permittees subject to a numeric effluent limit for turbidity may, at their discretion, choose either numeric effluent limitation based on site-specific considerations including, but not limited to, safety, access and convenience.

D. Discharges to Water Bodies on the 303(d) List for High pH

1. Permittees who discharge to segments of water bodies on the 303(d) list (Category 5) for high pH must conduct pH sampling in accordance with the table below, and comply with the numeric effluent limit of pH 6.5 to 8.5 su (Table 6).

Table 6 pH Sampling and Limits for 303(d)-Listed Waters

Parameter identified in 303(d) listing	Parameter Sampled/Units	Analytical Method	Sampling Frequency	Numeric Effluent Limit
High pH	pH /Standard Units	pH meter	Weekly, if discharging	In the range of 6.5 – 8.5 su

2. At the Permittee's discretion, compliance with the limit shall be assessed at one of the following locations:

   a. Directly in the 303(d)-listed waterbody segment, inside the immediate area of influence of the discharge; *or*

   b. Alternatively, the Permittee may measure pH at the point where the discharge leaves the construction site, rather than in the receiving water.

3. Discharges that exceed the numeric effluent limit for pH (outside the range of 6.5 – 8.5 su) constitute a violation of this permit.

4. Permittees whose discharges exceed the numeric effluent limit must sample discharges daily until the violation is corrected and comply with the non-compliance notification requirements in Special Condition S5.F.

E. Sampling and Limits for Sites Discharging to Waters Covered by a TMDL or another Pollution Control Plan

1. Discharges to a waterbody that is subject to a Total Maximum Daily Load (TMDL) for turbidity, fine sediment, high pH, or phosphorus must be consistent with the TMDL. Refer to http://www.ecy.wa.gov/programs/wq/tmdl/TMDLsbyWria/TMDLbyWria.html for more information on TMDLs.

    a. Where an applicable TMDL sets specific waste load allocations or requirements for discharges covered by this permit, discharges must be consistent with any specific waste load allocations or requirements established by the applicable TMDL.

        i. The Permittee must sample discharges weekly, unless otherwise specified by the TMDL, to evaluate compliance with the specific waste load allocations or requirements.

        ii. Analytical methods used to meet the monitoring requirements must conform to the latest revision of the *Guidelines Establishing Test Procedures for the Analysis of Pollutants* contained in 40 CFR Part 136.

        iii. Turbidity and pH methods need not be accredited or registered unless conducted at a laboratory which must otherwise be accredited or registered.

    b. Where an applicable TMDL has established a general waste load allocation for construction stormwater discharges, but has not identified specific requirements, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

    c. Where an applicable TMDL has not specified a waste load allocation for construction stormwater discharges, but has not excluded these discharges, compliance with Special Conditions S4 (Monitoring) and S9 (SWPPPs) will constitute compliance with the approved TMDL.

    d. Where an applicable TMDL specifically precludes or prohibits discharges from construction activity, the operator is not eligible for coverage under this permit.

S9. STORMWATER POLLUTION PREVENTION PLAN

The Permittee must prepare and properly implement an adequate Stormwater Pollution Prevention Plan (SWPPP) for construction activity in accordance with the requirements of this permit beginning with initial soil disturbance and until final stabilization.

A. The Permittee's SWPPP must meet the following objectives:

1. To identify best management practices (BMPs) which prevent erosion and sedimentation, and to reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.

2. To prevent violations of surface water quality, groundwater quality, or sediment management standards.

3. To control peak volumetric flow rates and velocities of stormwater discharges.

B. General Requirements

1. The SWPPP must include a narrative and drawings. All BMPs must be clearly referenced in the narrative and marked on the drawings. The SWPPP narrative must include documentation to explain and justify the pollution prevention decisions made for the project. Documentation must include:

    a. Information about existing site conditions (topography, drainage, soils, vegetation, etc.).

    b. Potential erosion problem areas.

    c. The 13 elements of a SWPPP in Special Condition S9.D.1-13, including BMPs used to address each element.

    d. Construction phasing/sequence and general BMP implementation schedule.

    e. The actions to be taken if BMP performance goals are not achieved—for example, a contingency plan for additional treatment and/or storage of stormwater that would violate the water quality standards if discharged.

    f. Engineering calculations for ponds, treatment systems, and any other designed structures. When a treatment system requires engineering calculations, these calculations must be included in the SWPPP. Engineering calculations do not need to be included in the SWPPP for treatment systems that do not require such calculations.

2. The Permittee must modify the SWPPP if, during inspections or investigations conducted by the owner/operator, or the applicable local or state regulatory authority, it is determined that the SWPPP is, or would be, ineffective in eliminating or significantly minimizing pollutants in stormwater discharges from the site. The Permittee must then:

    a. Review the SWPPP for compliance with Special Condition S9 and make appropriate revisions within 7 days of the inspection or investigation.

    b. Immediately begin the process to fully implement and maintain appropriate source control and/or treatment BMPs as soon as possible, addressing the problems no later than 10 days from the inspection or investigation. If installation of necessary treatment BMPs is not feasible within 10 days, Ecology may approve additional time when an extension is requested by a Permittee within the initial 10-day response period.

    c. Document BMP implementation and maintenance in the site log book.

    The Permittee must modify the SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the State.

C. Stormwater Best Management Practices (BMPs)

BMPs must be consistent with:

1. *Stormwater Management Manual for Western Washington* (most current approved edition at the time this permit was issued), for sites west of the crest of the Cascade Mountains; *or*

2. *Stormwater Management Manual for Eastern Washington* (most current approved edition at the time this permit was issued), for sites east of the crest of the Cascade Mountains; *or*

3. Revisions to the manuals listed in Special Condition S9.C.1 & 2, or other stormwater management guidance documents or manuals which provide an equivalent level of pollution prevention, that are approved by Ecology and incorporated into this permit in accordance with the permit modification requirements of WAC 173-226-230; *or*

4. Documentation in the SWPPP that the BMPs selected provide an equivalent level of pollution prevention, compared to the applicable stormwater management manuals, including:

    a. The technical basis for the selection of all stormwater BMPs (scientific, technical studies, and/or modeling) that support the performance claims for the BMPs being selected.

    b. An assessment of how the selected BMP will satisfy AKART requirements and the applicable federal technology-based treatment requirements under 40 CFR part 125.3.

D. SWPPP – Narrative Contents and Requirements

The Permittee must include each of the 13 elements below in Special Condition S9.D.1-13 in the narrative of the SWPPP and implement them unless site conditions render the element unnecessary and the exemption from that element is clearly justified in the SWPPP.

1. Preserve Vegetation/Mark Clearing Limits

    a. Before beginning land-disturbing activities, including clearing and grading, clearly mark all clearing limits, sensitive areas and their buffers, and trees that are to be preserved within the construction area.

    b. Retain the duff layer, native topsoil, and natural vegetation in an undisturbed state to the maximum degree practicable.

2. Establish Construction Access

    a. Limit construction vehicle access and exit to one route, if possible.

    b. Stabilize access points with a pad of quarry spalls, crushed rock, or other equivalent BMPs, to minimize tracking sediment onto roads.

    c. Locate wheel wash or tire baths on site, if the stabilized construction entrance is not effective in preventing tracking sediment onto roads.

    d. If sediment is tracked off site, clean the affected roadway thoroughly at the end of each day, or more frequently as necessary (for example, during wet weather). Remove sediment from roads by shoveling, sweeping, or pickup and transport of the sediment to a controlled sediment disposal area.

    e. Conduct street washing only after sediment removal in accordance with Special Condition S9.D.2.d.

    f. Control street wash wastewater by pumping back on site or otherwise preventing it from discharging into systems tributary to waters of the State.

3. Control Flow Rates

    a. Protect properties and waterways downstream of construction sites from erosion and the associated discharge of turbid waters due to increases in the velocity and peak volumetric flow rate of stormwater runoff from the project site, as required by local plan approval authority.

    b. Where necessary to comply with Special Condition S9.D.3.a, construct stormwater infiltration or detention BMPs as one of the first steps in grading. Assure that detention BMPs function properly before constructing site improvements (for example, impervious surfaces).

    c. If permanent infiltration ponds are used for flow control during construction, protect these facilities from sedimentation during the construction phase.

4. Install Sediment Controls

    The Permittee must design, install and maintain effective erosion controls and sediment controls to minimize the discharge of pollutants. At a minimum, the Permittee must:

    a. Construct sediment control BMPs (sediment ponds, traps, filters, infiltration facilities, etc.) as one of the first steps in grading. These BMPs must be functional before other land disturbing activities take place.

    b. Minimize sediment discharges from the site. The design, installation and maintenance of erosion and sediment controls must address factors such as the amount, frequency, intensity and duration of precipitation, the nature of resulting stormwater runoff, and soil characteristics, including the range of soil particle sizes expected to be present on the site.

    c. Direct stormwater runoff from disturbed areas through a sediment pond or other appropriate sediment removal BMP, before the runoff leaves a construction site or before discharge to an infiltration facility. Runoff from fully stabilized areas may be discharged without a sediment removal BMP, but must meet the flow control performance standard of Special Condition S9.D.3.a.

    d. Locate BMPs intended to trap sediment on site in a manner to avoid interference with the movement of juvenile salmonids attempting to enter off-channel areas or drainages.

    e. Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible.

    f. Where feasible, design outlet structures that withdraw impounded stormwater from the surface to avoid discharging sediment that is still suspended lower in the water column.

5. Stabilize Soils

    a. The Permittee must stabilize exposed and unworked soils by application of effective BMPs that prevent erosion. Applicable BMPs include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, erosion

control fabrics and matting, soil application of polyacrylamide (PAM), the early application of gravel base on areas to be paved, and dust control.

b. The Permittee must control stormwater volume and velocity within the site to minimize soil erosion.

c. The Permittee must control stormwater discharges, including both peak flow rates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion.

d. Depending on the geographic location of the project, the Permittee must not allow soils to remain exposed and unworked for more than the time periods set forth below to prevent erosion.

West of the Cascade Mountains Crest
During the dry season (May 1 - September 30): 7 days
During the wet season (October 1 - April 30): 2 days

East of the Cascade Mountains Crest, except for Central Basin*
During the dry season (July 1 - September 30): 10 days
During the wet season (October 1 - June 30): 5 days

The Central Basin*, East of the Cascade Mountains Crest
During the dry Season (July 1 - September 30): 30 days
During the wet season (October 1 - June 30): 15 days

***Note: The Central Basin** is defined as the portions of Eastern Washington with mean annual precipitation of less than 12 inches.

e. The Permittee must stabilize soils at the end of the shift before a holiday or weekend if needed based on the weather forecast.

f. The Permittee must stabilize soil stockpiles from erosion, protected with sediment trapping measures, and where possible, be located away from storm drain inlets, waterways, and drainage channels.

g. The Permittee must minimize the amount of soil exposed during construction activity.

h. The Permittee must minimize the disturbance of steep slopes.

i. The Permittee must minimize soil compaction and, unless infeasible, preserve topsoil.

6. Protect Slopes

a. The Permittee must design and construct cut-and-fill slopes in a manner to minimize erosion. Applicable practices include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, and roughening slope surfaces (for example, track walking).

b. The Permittee must divert off-site stormwater (run-on) or groundwater away from slopes and disturbed areas with interceptor dikes, pipes, and/or swales. Off-site stormwater should be managed separately from stormwater generated on the site.

c. At the top of slopes, collect drainage in pipe slope drains or protected channels to prevent erosion.

i. West of the Cascade Mountains Crest: Temporary pipe slope drains must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate predicted by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the Western Washington Hydrology Model (WWHM) to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Temporary pipe slope drains must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

d. Place excavated material on the uphill side of trenches, consistent with safety and space considerations.

e. Place check dams at regular intervals within constructed channels that are cut down a slope.

7. Protect Drain Inlets

a. Protect all storm drain inlets made operable during construction so that stormwater runoff does not enter the conveyance system without first being filtered or treated to remove sediment.

b. Clean or remove and replace inlet protection devices when sediment has filled one-third of the available storage (unless a different standard is specified by the product manufacturer).

8. Stabilize Channels and Outlets

a. Design, construct and stabilize all on-site conveyance channels to prevent erosion from the following expected peak flows:

i. West of the Cascade Mountains Crest: Channels must handle the peak 10-minute flow rate from a Type 1A, 10-year, 24-hour frequency storm for the developed condition. Alternatively, the 10-year, 1-hour flow rate indicated by an approved continuous runoff model, increased by a factor of 1.6, may be used. The hydrologic analysis must use the existing land cover condition for predicting flow rates from tributary areas outside the project limits. For tributary areas on the project site, the analysis must use the temporary or permanent project land cover condition, whichever will produce the highest flow rates. If using the WWHM to predict flows, bare soil areas should be modeled as "landscaped area."

ii. East of the Cascade Mountains Crest: Channels must handle the expected peak flow rate from a 6-month, 3-hour storm for the developed condition, referred to as the short duration storm.

b. Provide stabilization, including armoring material, adequate to prevent erosion of outlets, adjacent stream banks, slopes, and downstream reaches at the outlets of all conveyance systems.

9. Control Pollutants

Design, install, implement and maintain effective pollution prevention measures to minimize the discharge of pollutants. The Permittee must:

a. Handle and dispose of all pollutants, including waste materials and demolition debris that occur on site in a manner that does not cause contamination of stormwater.

b. Provide cover, containment, and protection from vandalism for all chemicals, liquid products, petroleum products, and other materials that have the potential to pose a threat to human health or the environment. Minimize storage of hazardous materials on-site. Safety Data Sheets (SDS) should be supplied for all materials stored. Chemicals should be kept in their original labeled containers. On-site fueling tanks must include secondary containment. Secondary containment means placing tanks or containers within an impervious structure capable of containing 110% of the volume of the largest tank within the containment structure. Double-walled tanks do not require additional secondary containment.

c. Conduct maintenance, fueling, and repair of heavy equipment and vehicles using spill prevention and control measures. Clean contaminated surfaces immediately following any spill incident.

d. Discharge wheel wash or tire bath wastewater to a separate on-site treatment system that prevents discharge to surface water, such as closed-loop recirculation or upland land application, or to the sanitary sewer with local sewer district approval.

e. Apply fertilizers and pesticides in a manner and at application rates that will not result in loss of chemical to stormwater runoff. Follow manufacturers' label requirements for application rates and procedures.

f. Use BMPs to prevent contamination of stormwater runoff by pH-modifying sources. The sources for this contamination include, but are not limited to: bulk cement, cement kiln dust, fly ash, new concrete washing and curing waters, recycled concrete stockpiles, waste streams generated from concrete grinding and sawing, exposed aggregate processes, dewatering concrete vaults, concrete pumping and mixer washout waters. (Also refer to the definition for "concrete wastewater" in Appendix A – Definitions.)

g. Adjust the pH of stormwater or authorized non-stormwater if necessary to prevent an exceedance of groundwater and/or surface water quality standards.

h. Assure that washout of concrete trucks is performed off-site or in designated concrete washout areas only. Do not wash out concrete truck drums onto the ground, or into storm drains, open ditches, streets, or streams. Washout of small concrete handling equipment may be disposed of in a formed area awaiting concrete where it will not contaminate surface or groundwater. Do not dump excess concrete on site, except in designated concrete washout areas. Concrete spillage or concrete discharge directly to groundwater or surface waters of the State is

prohibited. At no time shall concrete be washed off into the footprint of an area where an infiltration BMP will be installed.

i. Obtain written approval from Ecology before using any chemical treatment, with the exception of CO_2, dry ice or food grade vinegar, to adjust pH.

j. Uncontaminated water from water-only based shaft drilling for construction of building, road, and bridge foundations may be infiltrated provided the wastewater is managed in a way that prohibits discharge to surface waters. Prior to infiltration, water from water-only based shaft drilling that comes into contact with curing concrete must be neutralized until pH is in the range of 6.5 to 8.5 (su).

10. Control Dewatering

a. Permittees must discharge foundation, vault, and trench dewatering water, which have characteristics similar to stormwater runoff at the site, in conjunction with BMPs to reduce sedimentation before discharge to a sediment trap or sediment pond.

b. Permittees may discharge clean, non-turbid dewatering water, such as well-point groundwater, to systems tributary to, or directly into surface waters of the State, as specified in Special Condition S9.D.8, provided the dewatering flow does not cause erosion or flooding of receiving waters. Do not route clean dewatering water through stormwater sediment ponds. Note that "surface waters of the State" may exist on a construction site as well as off site; for example, a creek running through a site.

c. Other dewatering treatment or disposal options may include:

i. Infiltration

ii. Transport off site in a vehicle, such as a vacuum flush truck, for legal disposal in a manner that does not pollute state waters.

iii. Ecology-approved on-site chemical treatment or other suitable treatment technologies (See S9.D.9.i, regarding chemical treatment written approval).

iv. Sanitary or combined sewer discharge with local sewer district approval, if there is no other option.

v. Use of a sedimentation bag with discharge to a ditch or swale for small volumes of localized dewatering.

d. Permittees must handle highly turbid or contaminated dewatering water separately from stormwater.

11. Maintain BMPs

a. Permittees must maintain and repair all temporary and permanent erosion and sediment control BMPs as needed to assure continued performance of their intended function in accordance with BMP specifications.

b. Permittees must remove all temporary erosion and sediment control BMPs within 30 days after achieving final site stabilization or after the temporary BMPs are no longer needed.

12. Manage the Project

    a. Phase development projects to the maximum degree practicable and take into account seasonal work limitations.

    b. Inspect, maintain and repair all BMPs as needed to assure continued performance of their intended function. Conduct site inspections and monitoring in accordance with Special Condition S4.

    c. Maintain, update, and implement the SWPPP in accordance with Special Conditions S3, S4, and S9.

13. Protect Low Impact Development (LID) BMPs

    The primary purpose of on-site LID Stormwater Management is to reduce the disruption of the natural site hydrology through infiltration. LID BMPs are permanent facilities.

    a. Permittees must protect all LID BMPs (including, but not limited to, Bioretention and Rain Garden facilities) from sedimentation through installation and maintenance of erosion and sediment control BMPs on portions of the site that drain into the Bioretention and/or Rain Garden facilities. Restore the BMPs to their fully functioning condition if they accumulate sediment during construction. Restoring the facility must include removal of sediment and any sediment-laden bioretention/ rain garden soils, and replacing the removed soils with soils meeting the design specification.

    b. Permittees must maintain the infiltration capabilities of LID BMPs by protecting against compaction by construction equipment and foot traffic. Protect completed lawn and landscaped areas from compaction due to construction equipment.

    c. Permittees must control erosion and avoid introducing sediment from surrounding land uses onto permeable pavements. Do not allow muddy construction equipment on the base material or pavement. Do not allow sediment-laden runoff onto permeable pavements or base materials.

    d. Permittees must clean permeable pavements fouled with sediments or no longer passing an initial infiltration test using local stormwater manual methodology or the manufacturer's procedures.

    e. Permittees must keep all heavy equipment off existing soils under LID BMPs that have been excavated to final grade to retain the infiltration rate of the soils.

E. SWPPP – Map Contents and Requirements

The Permittee's SWPPP must also include a vicinity map or general location map (for example, a USGS quadrangle map, a portion of a county or city map, or other appropriate map) with enough detail to identify the location of the construction site and receiving waters within one mile of the site.

The SWPPP must also include a legible site map (or maps) showing the entire construction site. The following features must be identified, unless not applicable due to site conditions.

1. The direction of north, property lines, and existing structures and roads.

2. Cut and fill slopes indicating the top and bottom of slope catch lines.

3. Approximate slopes, contours, and direction of stormwater flow before and after major grading activities.

4. Areas of soil disturbance and areas that will not be disturbed.

5. Locations of structural and nonstructural controls (BMPs) identified in the SWPPP.

6. Locations of off-site material, stockpiles, waste storage, borrow areas, and vehicle/equipment storage areas.

7. Locations of all surface water bodies, including wetlands.

8. Locations where stormwater or non-stormwater discharges off-site and/or to a surface waterbody, including wetlands.

9. Location of water quality sampling station(s), if sampling is required by state or local permitting authority.

10. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.

11. Location or proposed location of LID facilities.

S10. NOTICE OF TERMINATION

Partial terminations of permit coverage are not authorized.

A. The site is eligible for termination of coverage when it has met any of the following conditions:

1. The site has undergone final stabilization, the Permittee has removed all temporary BMPs (except biodegradable BMPs clearly manufactured with the intention for the material to be left in place and not interfere with maintenance or land use), and all stormwater discharges associated with construction activity have been eliminated; *or*

2. All portions of the site that have not undergone final stabilization per Special Condition S10.A.1 have been sold and/or transferred (per Special Condition S2.A), and the Permittee no longer has operational control of the construction activity; *or*

3. For residential construction only, the Permittee has completed temporary stabilization and the homeowners have taken possession of the residences.

B. When the site is eligible for termination, the Permittee must submit a complete and accurate Notice of Termination (NOT) form, signed in accordance with General Condition G2, to:

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

When an electronic termination form is available, the Permittee may choose to submit a complete and accurate Notice of Termination (NOT) form through the Water Quality Permitting Portal rather than mailing a hardcopy as noted above.

The termination is effective on the 31st calendar day following the date Ecology receives a complete NOT form, unless Ecology notifies the Permittee that termination request is denied because the Permittee has not met the eligibility requirements in Special Condition S10.A.

Permittees are required to comply with all conditions and effluent limitations in the permit until the permit has been terminated.

Permittees transferring the property to a new property owner or operator/Permittee are required to complete and submit the Notice of Transfer form to Ecology, but are not required to submit a Notice of Termination form for this type of transaction.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this general permit must be consistent with the terms and conditions of this general permit. Any discharge of any pollutant more frequent than or at a level in excess of that identified and authorized by the general permit must constitute a violation of the terms and conditions of this permit.

G2. SIGNATORY REQUIREMENTS

A. All permit applications must bear a certification of correctness to be signed:

1. In the case of corporations, by a responsible corporate officer.
2. In the case of a partnership, by a general partner of a partnership.
3. In the case of sole proprietorship, by the proprietor.
4. In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

B. All reports required by this permit and other information requested by Ecology (including NOIs, NOTs, and Transfer of Coverage forms) must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to Ecology.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

C. Changes to authorization. If an authorization under paragraph G2.B.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph G2.B.2 above must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a document under this section must make the following certification:

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

G3. RIGHT OF INSPECTION AND ENTRY

The Permittee must allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law:

A. To enter upon the premises where a discharge is located or where any records are kept under the terms and conditions of this permit.

B. To have access to and copy, at reasonable times and at reasonable cost, any records required to be kept under the terms and conditions of this permit.

C. To inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, methods, or operations regulated or required under this permit.

D. To sample or monitor, at reasonable times, any substances or parameters at any location for purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act.

G4. GENERAL PERMIT MODIFICATION AND REVOCATION

This permit may be modified, revoked and reissued, or terminated in accordance with the provisions of Chapter 173-226 WAC. Grounds for modification, revocation and reissuance, or termination include, but are not limited to, the following:

A. When a change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this permit.

B. When effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this permit.

C. When a water quality management plan containing requirements applicable to the category of dischargers covered under this permit is approved, or

D. When information is obtained that indicates cumulative effects on the environment from dischargers covered under this permit are unacceptable.

G5. REVOCATION OF COVERAGE UNDER THE PERMIT

Pursuant to Chapter 43.21B RCW and Chapter 173-226 WAC, the Director may terminate coverage for any discharger under this permit for cause. Cases where coverage may be terminated include, but are not limited to, the following:

A. Violation of any term or condition of this permit.

B. Obtaining coverage under this permit by misrepresentation or failure to disclose fully all relevant facts.

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

D. Failure or refusal of the Permittee to allow entry as required in RCW 90.48.090.

E. A determination that the permitted activity endangers human health or the environment, or contributes to water quality standards violations.

F. Nonpayment of permit fees or penalties assessed pursuant to RCW 90.48.465 and Chapter 173-224 WAC.

G. Failure of the Permittee to satisfy the public notice requirements of WAC 173-226-130(5), when applicable.

The Director may require any discharger under this permit to apply for and obtain coverage under an individual permit or another more specific general permit. Permittees who have their coverage revoked for cause according to WAC 173-226-240 may request temporary coverage under this permit during the time an individual permit is being developed, provided the request is made within ninety (90) days from the time of revocation and is submitted along with a complete individual permit application form.

G6. REPORTING A CAUSE FOR MODIFICATION

The Permittee must submit a new application, or a supplement to the previous application, whenever a material change to the construction activity or in the quantity or type of discharge is anticipated which is not specifically authorized by this permit. This application must be submitted at least sixty (60) days prior to any proposed changes. Filing a request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not relieve the Permittee of the duty to comply with the existing permit until it is modified or reissued.

G7. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in this permit will be construed as excusing the Permittee from compliance with any applicable federal, state, or local statutes, ordinances, or regulations.

G8. DUTY TO REAPPLY

The Permittee must apply for permit renewal at least 180 days prior to the specified expiration date of this permit. The Permittee must reapply using the electronic application form (NOI) available on Ecology's website. Permittees unable to submit electronically (for example, those who do not have an internet connection) must contact Ecology to request a waiver and obtain instructions on how to obtain a paper NOI.

Department of Ecology
Water Quality Program - Construction Stormwater
PO Box 47696
Olympia, WA 98504-7696

G9. REMOVED SUBSTANCE

The Permittee must not re-suspend or reintroduce collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to the final effluent stream for discharge to state waters.

G10. DUTY TO PROVIDE INFORMATION

The Permittee must submit to Ecology, within a reasonable time, all information that Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Permittee must also submit to Ecology, upon request, copies of records required to be kept by this permit [40 CFR 122.41(h)].

G11. OTHER REQUIREMENTS OF 40 CFR

All other requirements of 40 CFR 122.41 and 122.42 are incorporated in this permit by reference.

G12. ADDITIONAL MONITORING

Ecology may establish specific monitoring requirements in addition to those contained in this permit by administrative order or permit modification.

G13. PENALTIES FOR VIOLATING PERMIT CONDITIONS

Any person who is found guilty of willfully violating the terms and conditions of this permit shall be deemed guilty of a crime, and upon conviction thereof shall be punished by a fine of up to ten thousand dollars ($10,000) and costs of prosecution, or by imprisonment at the discretion of the court. Each day upon which a willful violation occurs may be deemed a separate and additional violation.

Any person who violates the terms and conditions of a waste discharge permit shall incur, in addition to any other penalty as provided by law, a civil penalty in the amount of up to ten thousand dollars ($10,000) for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be deemed to be a separate and distinct violation.

G14. UPSET

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

An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of the following paragraph are met.

A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that: 1) an upset occurred and that the Permittee can identify the cause(s) of the upset; 2) the permitted facility was being properly operated at the time of the upset; 3) the Permittee submitted notice of the upset as required in Special Condition S5.F, and; 4) the Permittee complied with any remedial measures required under this permit.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

G15. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.

G16. DUTY TO COMPLY

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

G17. TOXIC POLLUTANTS

The Permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if this permit has not yet been modified to incorporate the requirement.

G18. PENALTIES FOR TAMPERING

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than two years per violation, or by both. If a conviction of a person is for a violation committed after a first conviction of such person under this condition, punishment shall be a fine of not more than $20,000 per day of violation, or imprisonment of not more than four (4) years, or both.

G19. REPORTING PLANNED CHANGES

The Permittee must, as soon as possible, give notice to Ecology of planned physical alterations, modifications or additions to the permitted construction activity. The Permittee should be aware that, depending on the nature and size of the changes to the original permit, a new public notice and other permit process requirements may be required. Changes in activities that require reporting to Ecology include those that will result in:

A. The permitted facility being determined to be a new source pursuant to 40 CFR 122.29(b).

B. A significant change in the nature or an increase in quantity of pollutants discharged, including but not limited to: a 20% or greater increase in acreage disturbed by construction activity.

C. A change in or addition of surface water(s) receiving stormwater or non-stormwater from the construction activity.

D. A change in the construction plans and/or activity that affects the Permittee's monitoring requirements in Special Condition S4.

Following such notice, permit coverage may be modified, or revoked and reissued pursuant to 40 CFR 122.62(a) to specify and limit any pollutants not previously limited. Until such modification is effective, any new or increased discharge in excess of permit limits or not specifically authorized by this permit constitutes a violation.

G20. REPORTING OTHER INFORMATION

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

G21. REPORTING ANTICIPATED NON-COMPLIANCE

The Permittee must give advance notice to Ecology by submission of a new application or supplement thereto at least forty-five (45) days prior to commencement of such discharges, of any facility expansions, production increases, or other planned changes, such as process modifications, in the permitted facility or activity which may result in noncompliance with permit limits or conditions. Any maintenance of facilities, which might necessitate unavoidable interruption of

operation and degradation of effluent quality, must be scheduled during non-critical water quality periods and carried out in a manner approved by Ecology.

G22. REQUESTS TO BE EXCLUDED FROM COVERAGE UNDER THE PERMIT

Any discharger authorized by this permit may request to be excluded from coverage under the general permit by applying for an individual permit. The discharger must submit to the Director an application as described in WAC 173-220-040 or WAC 173-216-070, whichever is applicable, with reasons supporting the request. These reasons will fully document how an individual permit will apply to the applicant in a way that the general permit cannot. Ecology may make specific requests for information to support the request. The Director will either issue an individual permit or deny the request with a statement explaining the reason for the denial. When an individual permit is issued to a discharger otherwise subject to the construction stormwater general permit, the applicability of the construction stormwater general permit to that Permittee is automatically terminated on the effective date of the individual permit.

G23. APPEALS

A. The terms and conditions of this general permit, as they apply to the appropriate class of dischargers, are subject to appeal by any person within 30 days of issuance of this general permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this general permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within 30 days of the effective date of coverage of that discharger. Consideration of an appeal of general permit coverage of an individual discharger is limited to the general permit's applicability or nonapplicability to that individual discharger.

C. The appeal of general permit coverage of an individual discharger does not affect any other dischargers covered under this general permit. If the terms and conditions of this general permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

G24. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

G25. BYPASS PROHIBITED

A. Bypass Procedures

Bypass, which is the intentional diversion of waste streams from any portion of a treatment facility, is prohibited for stormwater events below the design criteria for stormwater management. Ecology may take enforcement action against a Permittee for bypass unless one of the following circumstances (1, 2, 3 or 4) is applicable.

1. Bypass of stormwater is consistent with the design criteria and part of an approved management practice in the applicable stormwater management manual.

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

Bypass is authorized if it is for essential maintenance and does not have the potential to cause violations of limitations or other conditions of this permit, or adversely impact public health.

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

   This bypass is permitted only if:

   a. Bypass is unavoidable to prevent loss of life, personal injury, or severe property damage. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, maintenance during normal periods of equipment downtime (but not if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance), or transport of untreated wastes to another treatment facility.

   c. Ecology is properly notified of the bypass as required in Special Condition S5.F of this permit.

4. A planned action that would cause bypass of stormwater and has the potential to result in noncompliance of this permit during a storm event.

   The Permittee must notify Ecology at least thirty (30) days before the planned date of bypass. The notice must contain:

   a. A description of the bypass and its cause

   b. An analysis of all known alternatives which would eliminate, reduce, or mitigate the need for bypassing.

   c. A cost-effectiveness analysis of alternatives including comparative resource damage assessment.

   d. The minimum and maximum duration of bypass under each alternative.

   e. A recommendation as to the preferred alternative for conducting the bypass.

   f. The projected date of bypass initiation.

   g. A statement of compliance with SEPA.

   h. A request for modification of water quality standards as provided for in WAC 173-201A-110, if an exceedance of any water quality standard is anticipated.

   i. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the bypass.

5. For probable construction bypasses, the need to bypass is to be identified as early in the planning process as possible. The analysis required above must be considered during

preparation of the Stormwater Pollution Prevention Plan (SWPPP) and must be included to the extent practical. In cases where the probable need to bypass is determined early, continued analysis is necessary up to and including the construction period in an effort to minimize or eliminate the bypass.

Ecology will consider the following before issuing an administrative order for this type bypass:

a. If the bypass is necessary to perform construction or maintenance-related activities essential to meet the requirements of this permit.

b. If there are feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, stopping production, maintenance during normal periods of equipment down time, or transport of untreated wastes to another treatment facility.

c. If the bypass is planned and scheduled to minimize adverse effects on the public and the environment.

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

B. Duty to Mitigate

The Permittee is required to take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

APPENDIX A – DEFINITIONS

AKART is an acronym for "**A**ll **K**nown, **A**vailable, and **R**easonable methods of prevention, control, and **T**reatment." AKART represents the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants and controlling pollution associated with a discharge.

Applicable TMDL means a TMDL for turbidity, fine sediment, high pH, or phosphorus, which was completed and approved by EPA before January 1, 2021, or before the date the operator's complete permit application is received by Ecology, whichever is later. TMDLs completed after a complete permit application is received by Ecology become applicable to the Permittee only if they are imposed through an administrative order by Ecology, or through a modification of permit coverage.

Applicant means an *operator* seeking coverage under this permit.

Benchmark means a pollutant concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not water quality standards and are not numeric effluent limitations; they are indicator values.

Best Management Practices (BMPs) means 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 stormwater associated with construction activity, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Buffer means an area designated by a local jurisdiction that is contiguous to and intended to protect a sensitive area.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

Calendar Day A period of 24 consecutive hours starting at 12:00 midnight and ending the following 12:00 midnight.

Calendar Week (same as **Week**) means a period of seven consecutive days starting at 12:01 a.m. (0:01 hours) on Sunday.

Certified Erosion and Sediment Control Lead (CESCL) means a person who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by Ecology (See BMP C160 in the SWMM).

Chemical Treatment means the addition of chemicals to stormwater and/or authorized non-stormwater prior to filtration and discharge to surface waters.

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

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

Common Plan of Development or Sale means a site where multiple separate and distinct construction activities may be taking place at different times on different schedules and/or by different contractors, but still under a single plan. Examples include: 1) phased projects and projects with multiple filings or lots, even if the separate phases or filings/lots will be constructed under separate contract or by separate owners (e.g., a development where lots are sold to separate builders); 2) a development plan that may be phased over multiple years, but is still under a consistent plan for long-term development; 3) projects in a contiguous area that may be unrelated but still under the same contract, such as construction of a building extension and a new parking lot at the same facility; and 4) linear projects such as roads, pipelines, or utilities. If the project is part of a common plan of development or sale, the disturbed area of the entire plan must be used in determining permit requirements.

Composite Sample means 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 increases while maintaining a constant time interval between the aliquots.

Concrete Wastewater means any water used in the production, pouring and/or clean-up of concrete or concrete products, and any water used to cut, grind, wash, or otherwise modify concrete or concrete products. Examples include water used for or resulting from concrete truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and road surfacing). When stormwater comingles with concrete wastewater, the resulting water is considered concrete wastewater and must be managed to prevent discharge to waters of the State, including groundwater.

Construction Activity means land disturbing operations including clearing, grading or excavation which disturbs the surface of the land (including off-site disturbance acreage related to construction-support activity). Such activities may include road construction, construction of residential houses, office buildings, or industrial buildings, site preparation, soil compaction, movement and stockpiling of topsoils, and demolition activity.

Construction Support Activity means off-site acreage that will be disturbed as a direct result of the construction project and will discharge stormwater. For example, off-site equipment staging yards, material storage areas, borrow areas, and parking areas.

Contaminant means any hazardous substance that does not occur naturally or occurs at greater than natural background levels. See definition of “hazardous substance” and WAC 173-340-200.

Contaminated soil means soil which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Contaminated groundwater means groundwater which contains contaminants, pollutants, or hazardous substances that do not occur naturally or occur at levels greater than natural background.

Demonstrably Equivalent means that the technical basis for the selection of all stormwater BMPs is documented within a SWPPP, including:

1. The method and reasons for choosing the stormwater BMPs selected.
2. The pollutant removal performance expected from the BMPs selected.

3. The technical basis supporting the performance claims for the BMPs selected, including any available data concerning field performance of the BMPs selected.
4. An assessment of how the selected BMPs will comply with state water quality standards.
5. An assessment of how the selected BMPs will satisfy both applicable federal technology-based treatment requirements and state requirements to use all known, available, and reasonable methods of prevention, control, and treatment (AKART).

Department means the Washington State Department of Ecology.

Detention means the temporary storage of stormwater to improve quality and/or to reduce the mass flow rate of discharge.

Dewatering means the act of pumping groundwater or stormwater away from an active construction site.

Director means the Director of the Washington State Department of Ecology or his/her authorized representative.

Discharger means an owner or operator of any facility or activity subject to regulation under Chapter 90.48 RCW or the Federal Clean Water Act.

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such groundwater infiltration or surface waters as may be present.

Ecology means the Washington State Department of Ecology.

Engineered Soils means the use of soil amendments including, but not limited, to Portland cement treated base (CTB), cement kiln dust (CKD), or fly ash to achieve certain desirable soil characteristics.

Equivalent BMPs means operational, source control, treatment, or innovative BMPs which result in equal or better quality of stormwater discharge to surface water or to groundwater than BMPs selected from the SWMM.

Erosion means the wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Erosion and Sediment Control BMPs means BMPs intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, filter fences, sediment traps, and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.

Federal Operator is an entity that meets the definition of "Operator" in this permit and is either any department, agency or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States, or another entity, such as a private contractor, performing construction activity for any such department, agency, or instrumentality.

Final Stabilization (same as **fully stabilized** or **full stabilization**) means the completion of all soil disturbing activities at the site and the establishment of permanent vegetative cover, or equivalent permanent stabilization measures (such as pavement, riprap, gabions, or geotextiles) which will prevent erosion. See the applicable Stormwater Management Manual for more information on vegetative cover expectations and equivalent permanent stabilization measures.

Groundwater means water in a saturated zone or stratum beneath the land surface or a surface waterbody.

Hazardous Substance means any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) and (6), or any dangerous or extremely dangerous waste as designated by rule under chapter 70.105 RCW; any hazardous sub-stance as defined in RCW 70.105.010(14) or any hazardous substance as defined by rule under chapter 70.105 RCW; any substance that, on the effective date of this section, is a hazardous substance under section 101(14) of the federal cleanup law, 42U.S.C., Sec. 9601(14); petroleum or petroleum products; and any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a threat to human health or the environment if released into the environment. The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

Injection Well means a well that is used for the subsurface emplacement of fluids. (See **Well**.)

Jurisdiction means a political unit such as a city, town or county; incorporated for local self-government.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington State Department of Ecology.

Notice of Intent (NOI) means the application for, or a request for coverage under this general permit pursuant to WAC 173-226-200.

Notice of Termination (NOT) means a request for termination of coverage under this general permit as specified by Special Condition S10 of this permit.

Operator means any party associated with a construction project that meets either of the following two criteria:

- The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
- The party has day-to-day operational control of those activities at a project that are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., they are authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

Permittee means individual or entity that receives notice of coverage under this general permit.

pH means a liquid's measure of acidity or alkalinity. A pH of 7 is defined as neutral. Large variations above or below this value are considered harmful to most aquatic life.

pH Monitoring Period means the time period in which the pH of stormwater runoff from a site must be tested a minimum of once every seven days to determine if stormwater pH is between 6.5 and 8.5.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which pollutants are or may be discharged to surface waters of the State. This term does not include return flows from irrigated agriculture. (See the Fact Sheet for further explanation)

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the CWA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the CWA.

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the State; including change in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the State as will or is likely to create a nuisance or render such waters harmful, detrimental or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

Process Wastewater means any non-stormwater which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with process wastewater, the commingled water is considered process wastewater.

Receiving Water means the waterbody at the point of discharge. If the discharge is to a storm sewer system, either surface or subsurface, the receiving water is the waterbody to which the storm system discharges. Systems designed primarily for other purposes such as for groundwater drainage, redirecting stream natural flows, or for conveyance of irrigation water/return flows that coincidentally convey stormwater are considered the receiving water.

Representative means a stormwater or wastewater sample which represents the flow and characteristics of the discharge. Representative samples may be a grab sample, a time-proportionate *composite sample*, or a flow proportionate sample. Ecology's Construction Stormwater Monitoring Manual provides guidance on representative sampling.

Responsible Corporate Officer for the purpose of signatory authority means: (i) 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 (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Sanitary Sewer means a sewer which is designed to convey domestic wastewater.

Sediment means the fragmented material that originates from the weathering and erosion of rocks or unconsolidated deposits, and is transported by, suspended in, or deposited by water.

Sedimentation means the depositing or formation of sediment.

Sensitive Area means a waterbody, wetland, stream, aquifer recharge area, or channel migration zone.

SEPA (State Environmental Policy Act) means the Washington State Law, RCW 43.21C.020, intended to prevent or eliminate damage to the environment.

Significant Amount means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or groundwater quality or sediment management standards.

Significant Concrete Work means greater than 1000 cubic yards placed or poured concrete or recycled concrete used over the life of a project.

Significant Contributor of Pollutants means a facility determined by Ecology to be a contributor of a significant amount(s) of a pollutant(s) to waters of the State of Washington.

Site means the land or water area where any "facility or activity" is physically located or conducted.

Source Control BMPs means physical, structural or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.

Stabilization means the application of appropriate BMPs to prevent the erosion of soils, such as, temporary and permanent seeding, vegetative covers, mulching and matting, plastic covering and sodding. See also the definition of Erosion and Sediment Control BMPs.

Storm Drain means any drain which drains directly into a *storm sewer system*, usually found along roadways or in parking lots.

Storm Sewer System means a means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains designed or used for collecting or conveying stormwater. This does not include systems which are part of *a combined sewer* or Publicly Owned Treatment Works (POTW), as defined at 40 CFR 122.2.

Stormwater means 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 waterbody, or a constructed infiltration facility.

Stormwater Management Manual (SWMM) or **Manual** means the technical Manual published by Ecology for use by local governments that contain descriptions of and design criteria for BMPs to prevent, control, or treat pollutants in stormwater.

Stormwater Pollution Prevention Plan (SWPPP) means a documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of stormwater.

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Temporary Stabilization means the exposed ground surface has been covered with appropriate materials to provide temporary stabilization of the surface from water or wind erosion. Materials include, but are not limited to, mulch, riprap, erosion control mats or blankets and temporary cover crops. Seeding alone is not considered stabilization. Temporary stabilization is not a substitute for the more permanent “final stabilization.”

Total Maximum Daily Load (TMDL) means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. Percentages of the total maximum daily load are allocated to the various pollutant sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The TMDL calculations must include a "margin of safety" to ensure that the waterbody can be protected in case there are unforeseen events or unknown sources of the pollutant. The calculation must also account for seasonable variation in water quality.

Transfer of Coverage (TOC) means a request for transfer of coverage under this general permit as specified by Special Condition S2.A of this permit.

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, and constructed wetlands.

Transparency means a measurement of water clarity in centimeters (cm), using a 60 cm transparency tube. The transparency tube is used to estimate the relative clarity or transparency of water by noting the depth at which a black and white Secchi disc becomes visible when water is released from a value in the bottom of the tube. A transparency tube is sometimes referred to as a “turbidity tube.”

Turbidity means the clarity of water expressed as nephelometric turbidity units (NTUs) and measured with a calibrated turbidimeter.

Uncontaminated means free from any contaminant. See definition of “contaminant” and WAC 173-340-200.

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

Waste Load Allocation (WLA) means the portion of a receiving water’s loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality based effluent limitation (40 CFR 130.2[h]).

Water-Only Based Shaft Drilling is a shaft drilling process that uses water only and no additives are involved in the drilling of shafts for construction of building, road, or bridge foundations.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt

waters, and all other surface waters and water courses within the jurisdiction of the state of Washington.

Well means a bored, drilled or driven shaft, or dug hole whose depth is greater than the largest surface dimension. (See **Injection Well**.)

Wheel Wash Wastewater means any water used in, or resulting from the operation of, a tire bath or wheel wash (BMP C106: Wheel Wash), or other structure or practice that uses water to physically remove mud and debris from vehicles leaving a construction site and prevent track-out onto roads. When stormwater comingles with wheel wash wastewater, the resulting water is considered wheel wash wastewater and must be managed according to Special Condition S9.D.9.

APPENDIX B – ACRONYMS

AKART	All Known, Available, and Reasonable Methods of Prevention, Control, and Treatment
BMP	Best Management Practice
CESCL	Certified Erosion and Sediment Control Lead
CFR	Code of Federal Regulations
CKD	Cement Kiln Dust
cm	Centimeters
CPD	Common Plan of Development
CTB	Cement-Treated Base
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
ERTS	Environmental Report Tracking System
ESC	Erosion and Sediment Control
FR	Federal Register
LID	Low Impact Development
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
RCW	Revised Code of Washington
SEPA	State Environmental Policy Act
SWMM	Stormwater Management Manual
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UIC	Underground Injection Control
USC	United States Code
USEPA	United States Environmental Protection Agency
WAC	Washington Administrative Code
WQ	Water Quality
WWHM	Western Washington Hydrology Model

APPENDIX C: SITE CONDITIONS DOCUMENTS

DEPARTMENT OF ECOLOGY
State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: 00497100012900
Property Address: 2303 7TH ST

DU - A (2154 sq	0-6"	6-12"	12-18"	18-24"
Dig Decision	dig at 12"			
Results Determining Dec	maximum & average			
Average	--	30	20	8.8
Maximum	--	57	33.1	20.1

DU - B (3954 sq	0-6"	6-12"	12-18"	18-24"
Dig Decision	no dig			
Results Determining Dec	n/a			
Average	14	9.3	7.5	6.8
Maximum	21.9	20.5	18	15.2

DU	Sample ID	Depth Horizon (inches)	Arsenic (ppm)					Average Exceeds Action Limit	Sample Result Exceeds Action Limit
			Average Result for DU at Depth	Average Action Limit	Sample Result	Qualifier	Sample Action Limit		
A	309-A-01-B-1	6 – 12	30	20	**35**		40	yes	
A	309-A-02-B-1	6 – 12	30	20	21.8		40	yes	
A	309-A-03-B-1	6 – 12	30	20	**57**		40	yes	yes
A	309-A-04-B-1	6 – 12	30	20	12.3		40	yes	
A	309-A-05-B-1	6 – 12	30	20	22.7		40	yes	
A	309-A-01-C-1	12 – 18	20	60	33.1		150		
A	309-A-02-C-1	12 – 18	20	60	31.4		150		
A	309-A-03-C-1	12 – 18	20	60	6.4		150		
A	309-A-04-C-1	12 – 18	20	60	4.6		150		
A	309-A-05-C-1	12 – 18	20	60	22.5		150		
A	309-A-01-D-1	18 – 24	8.8	60	7.1		150		
A	309-A-02-D-1	18 – 24	8.8	60	<LOD		150		
A	309-A-03-D-1	18 – 24	8.8	60	3.7		150		
A	309-A-04-D-1	18 – 24	8.8	60	4.4		150		
A	309-A-05-D-1	18 – 24	8.8	60	20.1		150		
B	309-B-01-A-1	0 – 6	14	20	9.8		40		
B	309-B-02-A-1	0 – 6	14	20	16.3		40		
B	309-B-03-A-1	0 – 6	14	20	4.8		40		
B	309-B-04-A-1	0 – 6	14	20	21.9		40		
B	309-B-05-A-1	0 – 6	14	20	15.8		40		
B	309-B-01-B-1	6 – 12	9.3	20	6.3		40		
B	309-B-02-B-1	6 – 12	9.3	20	<LOD		40		
B	309-B-03-B-1	6 – 12	9.3	20	5.1		40		
B	309-B-04-B-1	6 – 12	9.3	20	5.4		40		
B	309-B-05-B-1	6 – 12	9.3	20	20.5		40		
B	309-B-01-C-1	12 – 18	7.5	60	4.1		150		
B	309-B-02-C-1	12 – 18	7.5	60	5.0		150		
B	309-B-03-C-1	12 – 18	7.5	60	7.3		150		
B	309-B-04-C-1	12 – 18	7.5	60	2.9		150		
B	309-B-05-C-1	12 – 18	7.5	60	18.0		150		

B	309-B-01-D-1	18 – 24	6.8	60	3.9		150		
B	309-B-02-D-1	18 – 24	6.8	60	4.3		150		
B	309-B-03-D-1	18 – 24	6.8	60	6.7		150		
B	309-B-04-D-1	18 – 24	6.8	60	3.9		150		
B	309-B-05-D-1	18 – 24	6.8	60	15.2		150		

<LOD = less than the limit of detection
CS = crawl space sample
DU = decision unit
EX = excavation base sample
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
na = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

DEPARTMENT OF ECOLOGY State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **00497100013100**
Property Address: **2315 7TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Yes Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	33.5/ *20*	33.3/ *20*	35.7/ *60*	12.1/ *60*
Sample (Result/*Action Limit*)	52.8/ *40*	84/ *40*	64.7/ *150*	22.2/ *150*

DU - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Yes Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	42.4/ *20*	43.8/ *20*	18.5/ *60*	17.7/ *60*
Sample (Result/*Action Limit*)	60.8/ *40*	56.8/ *40*	48.7/ *150*	60.3/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	311_A_1	0 - 6	16.2	40	33.5	20		Yes
A	311_A_2	0 - 6	30.9	40	33.5	20		Yes
A	311_A_3	0 - 6	52.8	40	33.5	20	Yes	Yes
A	311_A_4	0 - 6	20.5	40	33.5	20		Yes
A	311_A_5	0 - 6	46.9	40	33.5	20	Yes	Yes
A	311_A_1	6 - 12	6	40	33.3	20		Yes
A	311_A_2	6 - 12	13.1	40	33.3	20		Yes
A	311_A_3	6 - 12	84	40	33.3	20	Yes	Yes
A	311_A_4	6 - 12	17.6	40	33.3	20		Yes
A	311_A_5	6 - 12	46	40	33.3	20	Yes	Yes
A	311_A_1	12 - 18	10.6	150	35.7	60		
A	311_A_2	12 - 18	15.6	150	35.7	60		
A	311_A_3	12 - 18	64.7	150	35.7	60		
A	311_A_4	12 - 18	26.9	150	35.7	60		
A	311_A_5	12 - 18	60.9	150	35.7	60		
A	311_A_1	18 - 24	7	150	12.1	60		
A	311_A_2	18 - 24	10.4	150	12.1	60		
A	311_A_3	18 - 24	11.5	150	12.1	60		
A	311_A_4	18 - 24	22.2	150	12.1	60		
A	311_A_5	18 - 24	9.2	150	12.1	60		
B	311_B_1	0 - 6	60.8	40	42.4	20	Yes	Yes
B	311_B_2	0 - 6	33.9	40	42.4	20		Yes
B	311_B_3	0 - 6	34.1	40	42.4	20		Yes
B	311_B_4	0 - 6	43.2	40	42.4	20	Yes	Yes
B	311_B_5	0 - 6	39.8	40	42.4	20		Yes
B	311_B_1	6 - 12	38.6	40	43.8	20		Yes

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	311_B_2	6 - 12	44.7	40	43.8	20	Yes	Yes
B	311_B_3	6 - 12	30.3	40	43.8	20		Yes
B	311_B_4	6 - 12	56.8	40	43.8	20	Yes	Yes
B	311_B_5	6 - 12	48.5	40	43.8	20	Yes	Yes
B	311_B_1	12 - 18	19.4	150	18.5	60		
B	311_B_2	12 - 18	18.1	150	18.5	60		
B	311_B_3	12 - 18	6.4	150	18.5	60		
B	311_B_4	12 - 18	Refusal	150	18.5	60		
B	311_B_5	12 - 18	48.7	150	18.5	60		
B	311_B_1	18 - 24	8.5	150	17.7	60		
B	311_B_2	18 - 24	8.6	150	17.7	60		
B	311_B_3	18 - 24	11.3	150	17.7	60		
B	311_B_4	18 - 24	Refusal	150	17.7	60		
B	311_B_5	18 - 24	60.3	150	17.7	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Yes Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Yes decision based on a discrete sample result exceeding the action limit.
average	Yes decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Yes decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100013600**
Property Address: **2206 7th Street**

Decision Unit - A (5413 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum & Average			
Average *(Result/ Action Limit)*	**24**/20	**23**/20	**20**/60	**12**/60
Sample *(Result/ Action Limit)*	**43**/40	**53**/40	**35.9**/150	**22.8**/150

Decision Unit (DU)	Sample ID Number	Depth Horizon (in.)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	312-A-01-A-1	0 – 6	18.7	40	24	20		yes
A	312-A-02-A-1	0 – 6	9.8	40	24	20		yes
A	312-A-03-A-1	0 – 6	17.8	40	24	20		yes
A	312-A-04-A-1	0 – 6	18.7	40	24	20		yes
A	312-A-05-A-1	0 – 6	**43**	40	24	20	yes	yes
A	312-A-06-A-1	0 – 6	18.9	40	24	20		yes
A	312-A-07-A-1	0 – 6	**23**	40	24	20		yes
A	312-A-08-A-1	0 – 6	**42**	40	24	20	yes	yes
A	312-A-01-B-1	6 – 12	12.4	40	23	20		yes
A	312-A-02-B-1	6 – 12	25.5	40	23	20		yes
A	312-A-03-B-1	6 – 12	19.4	40	23	20		yes
A	312-A-04-B-1	6 – 12	8.7	40	23	20		yes
A	312-A-05-B-1	6 – 12	17.8	40	23	20		yes
A	312-A-06-B-1	6 – 12	**44**	40	23	20	yes	yes
A	312-A-07-B-1	6 – 12	5.5	40	23	20		yes
A	312-A-08-B-1	6 – 12	**53**	40	23	20	yes	yes
A	312-A-01-C-1	12 – 18	4.1	150	20	60		
A	312-A-02-C-1	12 – 18	33.7	150	20	60		

Decision Unit (DU)	Sample ID Number	Depth Horizon (in.)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	312-A-03-C-1	12 – 18	12.3	150	20	60		
A	312-A-04-C-1	12 – 18	5.1	150	20	60		
A	312-A-05-C-1	12 – 18	22.5	150	20	60		
A	312-A-06-C-1	12 – 18	25.8	150	20	60		
A	312-A-07-C-1	12 – 18	22.7	150	20	60		
A	312-A-08-C-1	12 – 18	35.9	150	20	60		
A	312-A-01-D-1	18 – 24	4.9	150	12	60		
A	312-A-02-D-1	18 – 24	10.7	150	12	60		
A	312-A-03-D-1	18 – 24	<LOD	150	12	60		

A	312-A-04-D-1	18 – 24	3.1	150	12	60		
A	312-A-05-D-1	18 – 24	11.2	150	12	60		
A	312-A-06-D-1	18 – 24	22.8	150	12	60		
A	312-A-07-D-1	18 – 24	17.6	150	12	60		
A	312-A-08-D-1	18 – 24	15.7	150	12	60		
X	Comp-312-X-A-1	0 – 2	27.7	na	28	na		

Key:

<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100013900**
Property Address: **2205 8th Street**

Decision Unit - A (2569 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum & Average			
Average *(Result/ Action Limit)*	n/a	**32**/20	**15**/60	**18**/60
Sample *(Result/ Action Limit)*	n/a	**58**/40	**23.6**/150	**35.6**/150

Decision Unit - B (4468 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	No Dig			
Results Determining Decision	N/A			
Average *(Result/ Action Limit)*	**20**/20	**19**/20	**9**/60	**9.6**/60
Sample *(Result/ Action Limit)*	**34**/40	**34**/40	**13.2**/150	**12.8**/150

Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	315-A-01-B-1	6 – 12	25.5	40	32	20		yes
A	315-A-02-B-1	6 – 12	**37**	40	32	20		yes
A	315-A-03-B-1	6 – 12	21.6	40	32	20		yes
A	315-A-04-B-1	6 – 12	17.3	40	32	20		yes
A	315-A-05-B-1	6 – 12	**58**	40	32	20	yes	yes
A	315-A-01-C-1	12 – 18	23.6	150	15	60		
A	315-A-02-C-1	12 – 18	13.1	150	15	60		
A	315-A-03-C-1	12 – 18	8.3	150	15	60		
A	315-A-04-C-1	12 – 18	12.5	150	15	60		
A	315-A-05-C-1	12 – 18	17.5	150	15	60		
A	315-A-01-D-1	18 – 24	35.6	150	18	60		
A	315-A-02-D-1	18 – 24	5.0	150	18	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	315-A-03-D-1	18 – 24	14.9	150	18	60		
A	315-A-04-D-1	18 – 24	13.5	150	18	60		
A	315-A-05-D-1	18 – 24	19.2	150	18	60		
B	315-B-01-A-1	0 – 6	21.3	40	20	20		
B	315-B-02-A-1	0 – 6	18.9	40	20	20		
B	315-B-03-A-1	0 – 6	9.7	40	20	20		
B	315-B-04-A-1	0 – 6	13.1	40	20	20		
B	315-B-05-A-1	0 – 6	**34**	40	20	20		

B	315-B-06-A-1	0 – 6	23.1	40	20	20		
B	315-B-01-B-1	6 – 12	23.2	40	19	20		
B	315-B-02-B-1	6 – 12	7.2	40	19	20		
B	315-B-03-B-1	6 – 12	13.5	40	19	20		
B	315-B-04-B-1	6 – 12	6.5	40	19	20		
B	315-B-05-B-1	6 – 12	**32**	40	19	20		
B	315-B-06-B-1	6 – 12	**34**	40	19	20		
B	315-B-01-C-1	12 – 18	4.4	150	9.0	60		
B	315-B-02-C-1	12 – 18	12.1	150	9.0	60		
B	315-B-03-C-1	12 – 18	8.8	150	9.0	60		
B	315-B-04-C-1	12 – 18	9.3	150	9.0	60		
B	315-B-05-C-1	12 – 18	6.2	150	9.0	60		
B	315-B-06-C-1	12 – 18	13.2	150	9.0	60		
B	315-B-01-D-1	18 – 24	12.7	150	9.6	60		
B	315-B-02-D-1	18 – 24	5.9	150	9.6	60		
B	315-B-03-D-1	18 – 24	9.5	150	9.6	60		
B	315-B-04-D-1	18 – 24	9.9	150	9.6	60		
B	315-B-05-D-1	18 – 24	6.5	150	9.6	60		
B	315-B-06-D-1	18 – 24	12.8	150	9.6	60		

Key:

<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100013400**
Property Address: **2304 7th Street**

Decision Unit - A (1798 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	No Dig			
Results Determining Decision	N/A			
Average *(Result/ Action Limit)*	**16**/20	**15**/20	**11**/60	**4.6**/60
Sample *(Result/ Action Limit)*	**29**/40	**37**/40	**39.7**/150	**5.2**/150

Decision Unit - B (5045 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum			
Average *(Result/ Action Limit)*	**11**/20	**17**/20	**9.7**/60	**9**/60
Sample *(Result/ Action Limit)*	**15.3**/40	**63**/40	**26.9**/150	**27.8**/150

Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	317-A-01-A-1	0 – 6	9.3	40	16	20		
A	317-A-02-A-1	0 – 6	**29**	40	16	20		
A	317-A-03-A-1	0 – 6	12.7	40	16	20		
A	317-A-04-A-1	0 – 6	13.7	40	16	20		
A	317-A-05-A-1	0 – 6	15.0	40	16	20		
A	317-A-01-B-1	6 – 12	3.6	40	15	20		
A	317-A-02-B-1	6 – 12	<LOD	40	15	20		
A	317-A-03-B-1	6 – 12	4.8	40	15	20		
A	317-A-04-B-1	6 – 12	<LOD	40	15	20		
A	317-A-05-B-1	6 – 12	**37**	40	15	20		
A	317-A-01-C-1	12 – 18	3.2	150	11	60		
A	317-A-02-C-1	12 – 18	4.9	150	11	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	317-A-03-C-1	12 – 18	4.4	150	11	60		
A	317-A-04-C-1	12 – 18	4.5	150	11	60		
A	317-A-05-C-1	12 – 18	39.7	150	11	60		
A	317-A-01-D-1	18 – 24	4.3	150	4.6	60		
A	317-A-02-D-1	18 – 24	4.5	150	4.6	60		
A	317-A-03-D-1	18 – 24	4.3	150	4.6	60		
A	317-A-04-D-1	18 – 24	5.2	150	4.6	60		

A	317-A-05-D-1	18 – 24	4.6	150	4.6	60		
B	317-B-01-A-1	0 – 6	8.3	40	11	20		
B	317-B-02-A-1	0 – 6	13.6	40	11	20		
B	317-B-03-A-1	0 – 6	7.3	40	11	20		
B	317-B-04-A-1	0 – 6	15.3	40	11	20		
B	317-B-05-A-1	0 – 6	11.2	40	11	20		
B	317-B-06-A-1	0 – 6	5.8	40	11	20		
B	317-B-07-A-1	0 – 6	9.6	40	11	20		
B	317-B-08-A-1	0 – 6	14.1	40	11	20		
B	317-B-01-B-1	6 – 12	11.4	40	17	20		
B	317-B-02-B-1	6 – 12	18.9	40	17	20		
B	317-B-03-B-1	6 – 12	4.3	40	17	20		
B	317-B-04-B-1	6 – 12	14.3	40	17	20		
B	317-B-05-B-1	6 – 12	10.6	40	17	20		
B	317-B-06-B-1	6 – 12	6.4	40	17	20		
B	317-B-07-B-1	6 – 12	4.8	40	17	20		
B	317-B-08-B-1	6 – 12	**63**	40	17	20	yes	
B	317-B-01-C-1	12 – 18	26.9	150	9.7	60		
B	317-B-02-C-1	12 – 18	8.9	150	9.7	60		
B	317-B-03-C-1	12 – 18	9.0	150	9.7	60		
B	317-B-04-C-1	12 – 18	4.6	150	9.7	60		
B	317-B-05-C-1	12 – 18	6.6	150	9.7	60		
B	317-B-06-C-1	12 – 18	14.4	150	9.7	60		
B	317-B-07-C-1	12 – 18	3.1	150	9.7	60		
B	317-B-08-C-1	12 – 18	3.9	150	9.7	60		
B	317-B-01-D-1	18 – 24	27.8	150	9.0	60		
B	317-B-02-D-1	18 – 24	3.3	150	9.0	60		
B	317-B-03-D-1	18 – 24	16.0	150	9.0	60		
B	317-B-04-D-1	18 – 24	5.0	150	9.0	60		
B	317-B-05-D-1	18 – 24	6.9	150	9.0	60		
B	317-B-06-D-1	18 – 24	3.4	150	9.0	60		
B	317-B-07-D-1	18 – 24	5.0	150	9.0	60		
B	317-B-08-D-1	18 – 24	4.5	150	9.0	60		

Key:

<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100013300**
Property Address: **2310 7th Street**

Decision Unit - A (2239 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum			
Average *(Result/ Action Limit)*	**23**/20	**16**/20	**5.3**/60	**4.6**/60
Sample *(Result/ Action Limit)*	**42**/40	**47**/40	**7.6**/150	**6**/150

Decision Unit - B (5237 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum			
Average *(Result/ Action Limit)*	**37**/20	**19**/20	**6.9**/60	**6.9**/60
Sample *(Result/ Action Limit)*	**54.3**/40	**42**/40	**25.6**/150	**22.6**/150

Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	318-A-01-A-1	0 – 6	**27**	40	23	20		yes
A	318-A-02-A-1	0 – 6	**42**	40	23	20	yes	yes
A	318-A-03-A-1	0 – 6	12.5	40	23	20		yes
A	318-A-04-A-1	0 – 6	20.1	40	23	20		yes
A	318-A-05-A-1	0 – 6	12.7	40	23	20		yes
A	318-A-01-B-1	6 – 12	11.4	40	16	20		
A	318-A-02-B-1	6 – 12	**47**	40	16	20	yes	
A	318-A-03-B-1	6 – 12	12.5	40	16	20		
A	318-A-04-B-1	6 – 12	4.0	40	16	20		
A	318-A-05-B-1	6 – 12	4.9	40	16	20		
A	318-A-01-C-1	12 – 18	6.2	150	5.3	60		
A	318-A-02-C-1	12 – 18	7.6	150	5.3	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	318-A-03-C-1	12 – 18	4.8	150	5.3	60		
A	318-A-04-C-1	12 – 18	4.4	150	5.3	60		
A	318-A-05-C-1	12 – 18	3.4	150	5.3	60		
A	318-A-01-D-1	18 – 24	4.3	150	4.6	60		
A	318-A-02-D-1	18 – 24	6.0	150	4.6	60		
A	318-A-03-D-1	18 – 24	4.7	150	4.6	60		
A	318-A-04-D-1	18 – 24	4.5	150	4.6	60		
A	318-A-05-D-1	18 – 24	3.7	150	4.6	60		

B	318-B-01-A-1	0 – 6	50.3	40	37	20	yes	yes
B	318-B-02-A-1	0 – 6	21.7	40	37	20		yes
B	318-B-03-A-1	0 – 6	45.0	40	37	20	yes	yes
B	318-B-04-A-1	0 – 6	35.2	40	37	20		yes
B	318-B-05-A-1	0 – 6	46.3	40	37	20	yes	yes
B	318-B-06-A-1	0 – 6	54.3	40	37	20	yes	yes
B	318-B-07-A-1	0 – 6	14.7	40	37	20		yes
B	318-B-08-A-1	0 – 6	27.5	40	37	20		yes
B	318-B-01-B-1	6 – 12	**40**	40	19	20		
B	318-B-02-B-1	6 – 12	25.8	40	19	20		
B	318-B-03-B-1	6 – 12	12.3	40	19	20		
B	318-B-04-B-1	6 – 12	**42**	40	19	20	yes	
B	318-B-05-B-1	6 – 12	3.7	40	19	20		
B	318-B-06-B-1	6 – 12	5.3	40	19	20		
B	318-B-07-B-1	6 – 12	4.3	40	19	20		
B	318-B-08-B-1	6 – 12	18.7	40	19	20		
B	318-B-01-C-1	12 – 18	25.6	150	6.9	60		
B	318-B-02-C-1	12 – 18	6.9	150	6.9	60		
B	318-B-03-C-1	12 – 18	4.6	150	6.9	60		
B	318-B-04-C-1	12 – 18	3.7	150	6.9	60		
B	318-B-05-C-1	12 – 18	4.5	150	6.9	60		
B	318-B-06-C-1	12 – 18	2.6	150	6.9	60		
B	318-B-07-C-1	12 – 18	3.0	150	6.9	60		
B	318-B-08-C-1	12 – 18	4.6	150	6.9	60		
B	318-B-01-D-1	18 – 24	3.3	150	6.9	60		
B	318-B-02-D-1	18 – 24	3.0	150	6.9	60		
B	318-B-03-D-1	18 – 24	6.8	150	6.9	60		
B	318-B-04-D-1	18 – 24	22.6	150	6.9	60		
B	318-B-05-D-1	18 – 24	3.6	150	6.9	60		
B	318-B-06-D-1	18 – 24	4.5	150	6.9	60		
B	318-B-07-D-1	18 – 24	<LOD	150	6.9	60		
B	318-B-08-D-1	18 – 24	4.6	150	6.9	60		
X	Comp-318-X-A-1	0 – 2	18.8	na	19	na		

Key:
<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100014100**
Property Address: **2303 8th Street**

Decision Unit - A (2034 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Average			
Average *(Result/ Action Limit)*	n/a	**26**/20	**31**/60	**15**/60
Sample *(Result/ Action Limit)*	n/a	**36**/40	**57.1**/150	**37.3**/150

Decision Unit - B (4246 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	No Dig			
Results Determining Decision	N/A			
Average *(Result/ Action Limit)*	**14**/20	**11**/20	**7.8**/60	**7.8**/60
Sample *(Result/ Action Limit)*	**33**/40	**19.9**/40	**11.6**/150	**15.4**/150

Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	321-A-01-B-1	6 – 12	13.9	40	26	20		yes
A	321-A-02-B-1	6 – 12	**33**	40	26	20		yes
A	321-A-03-B-1	6 – 12	24.1	40	26	20		yes
A	321-A-04-B-1	6 – 12	**36**	40	26	20		yes
A	321-A-05-B-1	6 – 12	21.7	40	26	20		yes
A	321-A-01-C-1	12 – 18	6.6	150	31	60		
A	321-A-02-C-1	12 – 18	37.8	150	31	60		
A	321-A-03-C-1	12 – 18	15.2	150	31	60		
A	321-A-04-C-1	12 – 18	38.9	150	31	60		
A	321-A-05-C-1	12 – 18	57.1	150	31	60		
A	321-A-01-D-1	18 – 24	4.9	150	15	60		
A	321-A-02-D-1	18 – 24	17	150	15	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	321-A-03-D-1	18 – 24	11	150	15	60		
A	321-A-04-D-1	18 – 24	37.3	150	15	60		
A	321-A-05-D-1	18 – 24	3.4	150	15	60		
B	321-B-01-A-1	0 – 6	8.8	40	14	20		
B	321-B-02-A-1	0 – 6	16.4	40	14	20		
B	321-B-03-A-1	0 – 6	5	40	14	20		
B	321-B-04-A-1	0 – 6	5.1	40	14	20		
B	321-B-05-A-1	0 – 6	14.6	40	14	20		

B	321-B-06-A-1	0 – 6	**33**	40	14	20		
B	321-B-01-B-1	6 – 12	5.8	40	11	20		
B	321-B-02-B-1	6 – 12	14.1	40	11	20		
B	321-B-03-B-1	6 – 12	5.5	40	11	20		
B	321-B-04-B-1	6 – 12	7.9	40	11	20		
B	321-B-05-B-1	6 – 12	14.5	40	11	20		
B	321-B-06-B-1	6 – 12	19.9	40	11	20		
B	321-B-01-C-1	12 – 18	4.5	150	7.8	60		
B	321-B-02-C-1	12 – 18	7.9	150	7.8	60		
B	321-B-03-C-1	12 – 18	4.7	150	7.8	60		
B	321-B-04-C-1	12 – 18	7.3	150	7.8	60		
B	321-B-05-C-1	12 – 18	11.6	150	7.8	60		
B	321-B-06-C-1	12 – 18	10.7	150	7.8	60		
B	321-B-01-D-1	18 – 24	5.7	150	7.8	60		
B	321-B-02-D-1	18 – 24	10.2	150	7.8	60		
B	321-B-03-D-1	18 – 24	6.4	150	7.8	60		
B	321-B-04-D-1	18 – 24	3.2	150	7.8	60		
B	321-B-05-D-1	18 – 24	5.7	150	7.8	60		
B	321-B-06-D-1	18 – 24	15.4	150	7.8	60		
X	Comp-321-X-A-1	0 – 2	7.2	na	7.2	na		

Key:
<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

DEPARTMENT OF ECOLOGY State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **00497100014200**
Property Address: **2309 8th Street**

Decision Unit - A (3664 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Average			
Average *(Result/ Action Limit)*	n/a	**22**/20	**31**/60	**12**/60
Sample *(Result/ Action Limit)*	n/a	**37**/40	**44.7**/150	**23.5**/150

Decision Unit - B (2464 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	No Dig			
Results Determining Decision	N/A			
Average *(Result/ Action Limit)*	**12**/20	**11**/20	**8.9**/60	**4.7**/60
Sample *(Result/ Action Limit)*	**16.6**/40	**20.6**/40	**28.9**/150	**6.9**/150

Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	322-A-01-B-1	6 – 12	**31**	40	22	20		yes
A	322-A-02-B-1	6 – 12	**37**	40	22	20		yes
A	322-A-03-B-1	6 – 12	13.7	40	22	20		yes
A	322-A-04-B-1	6 – 12	9.2	40	22	20		yes
A	322-A-05-B-1	6 – 12	19.5	40	22	20		yes
A	322-A-01-C-1	12 – 18	44.7	150	31	60		
A	322-A-02-C-1	12 – 18	38.7	150	31	60		
A	322-A-03-C-1	12 – 18	13.6	150	31	60		
A	322-A-04-C-1	12 – 18	28.4	150	31	60		
A	322-A-05-C-1	12 – 18	28.2	150	31	60		
A	322-A-01-D-1	18 – 24	7.2	150	12	60		
A	322-A-02-D-1	18 – 24	23.5	150	12	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	322-A-03-D-1	18 – 24	15.2	150	12	60		
A	322-A-04-D-1	18 – 24	5.3	150	12	60		
A	322-A-05-D-1	18 – 24	11.2	150	12	60		
B	322-B-01-A-1	0 – 6	16.6	40	12	20		
B	322-B-02-A-1	0 – 6	13.0	40	12	20		
B	322-B-03-A-1	0 – 6	3.7	40	12	20		
B	322-B-04-A-1	0 – 6	13.2	40	12	20		
B	322-B-05-A-1	0 – 6	14.8	40	12	20		

B	322-B-01-B-1	6 – 12	5.5	40	11	20		
B	322-B-02-B-1	6 – 12	16.0	40	11	20		
B	322-B-03-B-1	6 – 12	3.7	40	11	20		
B	322-B-04-B-1	6 – 12	10.3	40	11	20		
B	322-B-05-B-1	6 – 12	20.6	40	11	20		
B	322-B-01-C-1	12 – 18	4.0	150	8.9	60		
B	322-B-02-C-1	12 – 18	5.1	150	8.9	60		
B	322-B-03-C-1	12 – 18	3.4	150	8.9	60		
B	322-B-04-C-1	12 – 18	3.0	150	8.9	60		
B	322-B-05-C-1	12 – 18	28.9	150	8.9	60		
B	322-B-01-D-1	18 – 24	4.9	150	4.7	60		
B	322-B-02-D-1	18 – 24	4.4	150	4.7	60		
B	322-B-03-D-1	18 – 24	3.7	150	4.7	60		
B	322-B-04-D-1	18 – 24	3.8	150	4.7	60		
B	322-B-05-D-1	18 – 24	6.9	150	4.7	60		

Key:

<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100014300**
Property Address: **2315 8th Street**

Decision Unit - A (2521 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 12 inches of soil			
Results Determining Decision	Maximum & Average			
Average *(Result/ Action Limit)*	n/a	**22**/20	**18**/60	**15**/60
Sample *(Result/ Action Limit)*	n/a	**42**/40	**34.1**/150	**29.7**/150

Decision Unit - B (3806 sqft)	**0-6"**	**6-12"**	**12-18"**	**18-24"**
Dig Decision	Remove the top 6 inches of soil			
Results Determining Decision	Average			
Average *(Result/ Action Limit)*	**21**/20	**15**/20	**11**/60	**14**/60
Sample *(Result/ Action Limit)*	**23**/40	**22.2**/40	**29.7**/150	**27**/150

Decision Unit (DU)	Sample ID Number	Depth Horizon (in.)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	323-A-01-B-1	6 – 12	**42**	40	22	20	yes	yes
A	323-A-02-B-1	6 – 12	**24**	40	22	20		yes
A	323-A-03-B-1	6 – 12	20.4	40	22	20		yes
A	323-A-04-B-1	6 – 12	14.5	40	22	20		yes
A	323-A-05-B-1	6 – 12	9.3	40	22	20		yes
A	323-A-01-C-1	12 – 18	14.5	150	18	60		
A	323-A-02-C-1	12 – 18	34.1	150	18	60		
A	323-A-03-C-1	12 – 18	33.0	150	18	60		
A	323-A-04-C-1	12 – 18	3.8	150	18	60		
A	323-A-05-C-1	12 – 18	5.6	150	18	60		
A	323-A-01-D-1	18 – 24	7.7	150	15	60		
A	323-A-02-D-1	18 – 24	29.7	150	15	60		
Decision Unit (DU)	**Sample ID Number**	**Depth Horizon (in.)**	**Arsenic (ppm)**				**Sample Result Exceeds Action Limit**	**Average Exceeds Action Limit**
			Sample Result	**Sample Action Limit**	**Average Result for DU at Depth**	**Average Action Limit**		
A	323-A-03-D-1	18 – 24	26.8	150	15	60		
A	323-A-04-D-1	18 – 24	4.8	150	15	60		
A	323-A-05-D-1	18 – 24	4.0	150	15	60		
B	323-B-01-A-1	0 – 6	14.7	40	21	20		yes
B	323-B-02-A-1	0 – 6	**22**	40	21	20		yes
B	323-B-03-A-1	0 – 6	20.4	40	21	20		yes
B	323-B-04-A-1	0 – 6	22.5	40	21	20		yes
B	323-B-05-A-1	0 – 6	**23**	40	21	20		yes
B	323-B-01-B-1	6 – 12	8.2	40	15	20		

B	323-B-02-B-1	6 – 12	14.0	40	15	20		
B	323-B-03-B-1	6 – 12	12.7	40	15	20		
B	323-B-04-B-1	6 – 12	22.2	40	15	20		
B	323-B-05-B-1	6 – 12	15.5	40	15	20		
B	323-B-01-C-1	12 – 18	2.5	150	11	60		
B	323-B-02-C-1	12 – 18	10.3	150	11	60		
B	323-B-03-C-1	12 – 18	9.3	150	11	60		
B	323-B-04-C-1	12 – 18	29.7	150	11	60		
B	323-B-05-C-1	12 – 18	4.2	150	11	60		
B	323-B-01-D-1	18 – 24	3.7	150	14	60		
B	323-B-02-D-1	18 – 24	15.0	150	14	60		
B	323-B-03-D-1	18 – 24	10.7	150	14	60		
B	323-B-04-D-1	18 – 24	27.0	150	14	60		
B	323-B-05-D-1	18 – 24	<LOD	150	14	60		

Key:

<LOD = less than the limit of detection
DU = decision unit
ICP-MS = inductively coupled plasma - mass spectrometry
ID = identification
n/a = not applicable
ppm = parts per million
XRF = x-ray fluorescence

Notes: There are no data qualifiers in this dataset.
Results in bold were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: 00497100004700
Property Address: 2214 8TH ST

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	26.7/ *20*	30.4/ *20*	27.3/ *60*	17.5/ *60*
Sample (Result/*Action Limit*)	48.5/ *40*	52.8/ *40*	102/ *150*	32/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	341_A_1	0 - 6	26.1	40	26.7	20		Yes
A	341_A_2	0 - 6	25.2	40	26.7	20		Yes
A	341_A_3	0 - 6	20.5	40	26.7	20		Yes
A	341_A_4	0 - 6	38.9	40	26.7	20		Yes
A	341_A_5	0 - 6	21.8	40	26.7	20		Yes
A	341_A_6	0 - 6	14.7	40	26.7	20		Yes
A	341_A_7	0 - 6	25.5	40	26.7	20		Yes
A	341_A_8	0 - 6	19.2	40	26.7	20		Yes
A	341_A_9	0 - 6	48.5	40	26.7	20	Yes	Yes
A	341_A_1	6 - 12	16.4	40	30.4	20		Yes
A	341_A_2	6 - 12	25.6	40	30.4	20		Yes
A	341_A_3	6 - 12	20.5	40	30.4	20		Yes
A	341_A_4	6 - 12	22.3	40	30.4	20		Yes
A	341_A_5	6 - 12	38.1	40	30.4	20		Yes
A	341_A_6	6 - 12	17.6	40	30.4	20		Yes
A	341_A_7	6 - 12	52.8	40	30.4	20	Yes	Yes
A	341_A_8	6 - 12	39.4	40	30.4	20		Yes
A	341_A_9	6 - 12	40.7	40	30.4	20	Yes	Yes
A	341_A_1	12 - 18	13.1	150	27.3	60		
A	341_A_2	12 - 18	13.6	150	27.3	60		
A	341_A_3	12 - 18	15.7	150	27.3	60		
A	341_A_4	12 - 18	15	150	27.3	60		
A	341_A_5	12 - 18	36.8	150	27.3	60		
A	341_A_6	12 - 18	13.7	150	27.3	60		
A	341_A_7	12 - 18	20.8	150	27.3	60		
A	341_A_8	12 - 18	102	150	27.3	60		
A	341_A_9	12 - 18	14.7	150	27.3	60		
A	341_A_1	18 - 24	25.4	150	17.5	60		
A	341_A_2	18 - 24	13.6	150	17.5	60		
A	341_A_3	18 - 24	11.8	150	17.5	60		
A	341_A_4	18 - 24	12.4	150	17.5	60		

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	341_A_5	18 - 24	22	150	17.5	60		
A	341_A_6	18 - 24	12.9	150	17.5	60		
A	341_A_7	18 - 24	11.9	150	17.5	60		
A	341_A_8	18 - 24	32	150	17.5	60		
A	341_A_9	18 - 24	15.7	150	17.5	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100004800**
Property Address: **2304 8TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	No Dig	No Dig	No Dig	No Dig
Results Determining Decision	n/a			
Average (Result/*Action Limit*)	17.3/ *20*	17.3/ *20*	16.8/ *60*	18.1/ *60*
Sample (Result/*Action Limit*)	20/ *40*	20.9/ *40*	20.8/ *150*	26.3/ *150*

DU - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	No Dig	No Dig	No Dig
Results Determining Decision	Average	n/a		
Average (Result/*Action Limit*)	22.7/ *20*	15.7/ *20*	16.1/ *60*	18.4/ *60*
Sample (Result/*Action Limit*)	33.9/ *40*	19.5/ *40*	24.5/ *150*	26.5/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	342_A_1	0 - 6	15.9	40	17.3	20		
A	342_A_2	0 - 6	13.3	40	17.3	20		
A	342_A_3	0 - 6	18	40	17.3	20		
A	342_A_4	0 - 6	19.2	40	17.3	20		
A	342_A_5	0 - 6	20	40	17.3	20		
A	342_A_1	6 - 12	14.7	40	17.3	20		
A	342_A_2	6 - 12	13.4	40	17.3	20		
A	342_A_3	6 - 12	20.4	40	17.3	20		
A	342_A_4	6 - 12	20.9	40	17.3	20		
A	342_A_5	6 - 12	17.2	40	17.3	20		
A	342_A_1	12 - 18	11.6	150	16.9	60		
A	342_A_2	12 - 18	Refusal	150	16.9	60		
A	342_A_3	12 - 18	18.2	150	16.9	60		
A	342_A_4	12 - 18	20.8	150	16.9	60		
A	342_A_5	12 - 18	16.8	150	16.9	60		
A	342_A_1	18 - 24	10.9	150	18.1	60		
A	342_A_2	18 - 24	Refusal	150	18.1	60		
A	342_A_3	18 - 24	19.5	150	18.1	60		
A	342_A_4	18 - 24	26.3	150	18.1	60		
A	342_A_5	18 - 24	15.8	150	18.1	60		
B	342_B_1	0 - 6	19.9	40	22.7	20		Yes
B	342_B_2	0 - 6	18.2	40	22.7	20		Yes
B	342_B_3	0 - 6	24.4	40	22.7	20		Yes
B	342_B_4	0 - 6	17.2	40	22.7	20		Yes
B	342_B_5	0 - 6	33.9	40	22.7	20		Yes
B	342_B_1	6 - 12	17.8	40	15.7	20		

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	342_B_2	6 - 12	18.3	40	15.7	20		
B	342_B_3	6 - 12	12.7	40	15.7	20		
B	342_B_4	6 - 12	10.4	40	15.7	20		
B	342_B_5	6 - 12	19.5	40	15.7	20		
B	342_B_1	12 - 18	16.8	150	16.1	60		
B	342_B_2	12 - 18	24.5	150	16.1	60		
B	342_B_3	12 - 18	8.1	150	16.1	60		
B	342_B_4	12 - 18	10.3	150	16.1	60		
B	342_B_5	12 - 18	20.7	150	16.1	60		
B	342_B_1	18 - 24	18.1	150	18.4	60		
B	342_B_2	18 - 24	26.5	150	18.4	60		
B	342_B_3	18 - 24	21.1	150	18.4	60		
B	342_B_4	18 - 24	16.8	150	18.4	60		
B	342_B_5	18 - 24	9.7	150	18.4	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100004900**
Property Address: **2310 8TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	No Dig	No Dig	No Dig
Results Determining Decision	Average	n/a		
Average (Result/*Action Limit*)	20.7/ *20*	14.6/ *20*	15.8/ *60*	17.7/ *60*
Sample (Result/*Action Limit*)	32/ *40*	22.5/ *40*	25.8/ *150*	32.4/ *150*

DU - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	35.5/ *20*	34.9/ *20*	26.3/ *60*	21.7/ *60*
Sample (Result/*Action Limit*)	45.6/ *40*	49.2/ *40*	44.6/ *150*	44.3/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	343_A_1	0 - 6	12.4	40	20.7	20		Yes
A	343_A_2	0 - 6	20.8	40	20.7	20		Yes
A	343_A_3	0 - 6	20	40	20.7	20		Yes
A	343_A_4	0 - 6	18.2	40	20.7	20		Yes
A	343_A_5	0 - 6	32	40	20.7	20		Yes
A	343_A_1	6 - 12	11.4	40	14.6	20		
A	343_A_2	6 - 12	13.5	40	14.6	20		
A	343_A_3	6 - 12	10.8	40	14.6	20		
A	343_A_4	6 - 12	22.5	40	14.6	20		
A	343_A_5	6 - 12	14.6	40	14.6	20		
A	343_A_1	12 - 18	12.2	150	15.8	60		
A	343_A_2	12 - 18	24.4	150	15.8	60		
A	343_A_3	12 - 18	5	150	15.8	60		
A	343_A_4	12 - 18	25.8	150	15.8	60		
A	343_A_5	12 - 18	11.5	150	15.8	60		
A	343_A_1	18 - 24	11.6	150	17.7	60		
A	343_A_2	18 - 24	19	150	17.7	60		
A	343_A_3	18 - 24	7	150	17.7	60		
A	343_A_4	18 - 24	32.4	150	17.7	60		
A	343_A_5	18 - 24	18.4	150	17.7	60		
B	343_B_1	0 - 6	19.4	40	35.5	20		Yes
B	343_B_2	0 - 6	45.6	40	35.5	20	Yes	Yes
B	343_B_3	0 - 6	37.9	40	35.5	20		Yes
B	343_B_4	0 - 6	36.8	40	35.5	20		Yes
B	343_B_5	0 - 6	37.8	40	35.5	20		Yes
B	343_B_1	6 - 12	7.9	40	34.9	20		Yes

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	343_B_2	6 - 12	49.2	40	34.9	20	Yes	Yes
B	343_B_3	6 - 12	45.3	40	34.9	20	Yes	Yes
B	343_B_4	6 - 12	40.3	40	34.9	20	Yes	Yes
B	343_B_5	6 - 12	31.8	40	34.9	20		Yes
B	343_B_1	12 - 18	9.5	150	26.3	60		
B	343_B_2	12 - 18	44.6	150	26.3	60		
B	343_B_3	12 - 18	33.8	150	26.3	60		
B	343_B_4	12 - 18	27.1	150	26.3	60		
B	343_B_5	12 - 18	16.5	150	26.3	60		
B	343_B_1	18 - 24	9.3	150	21.7	60		
B	343_B_2	18 - 24	44.3	150	21.7	60		
B	343_B_3	18 - 24	18.5	150	21.7	60		
B	343_B_4	18 - 24	20.3	150	21.7	60		
B	343_B_5	18 - 24	16.2	150	21.7	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: '00497100005000
Property Address: 2314 8TH ST

DU - A	0 - 6"	6 - 12"	12 - 18"	18 - 24"
Dig Decision	Dig	No Dig	No Dig	No Dig
Results Determining Decision	Average	n/a		
Average (Result/*Action Limit*)	21.1/ *20*	19.8/ *20*	24.7/ *60*	22.4/ *60*
Sample (Result/*Action Limit*)	27.5/ *40*	32.8/ *40*	41.1/ *150*	48.9/ *150*

DU - B	0 - 6"	6 - 12"	12 - 18"	18 - 24"
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	38.7/ *20*	36.9/ *20*	25.1/ *60*	13.1/ *60*
Sample (Result/*Action Limit*)	45.3/ *40*	53/ *40*	36.8/ *150*	18.5/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	344_A_1	0 - 6	22.7	40	21.1	20		Yes
A	344_A_2	0 - 6	17.1	40	21.1	20		Yes
A	344_A_3	0 - 6	23.6	40	21.1	20		Yes
A	344_A_4	0 - 6	14.7	40	21.1	20		Yes
A	344_A_5	0 - 6	27.5	40	21.1	20		Yes
A	344_A_1	6 - 12	24.9	40	19.8	20		
A	344_A_2	6 - 12	15.6	40	19.8	20		
A	344_A_3	6 - 12	19.4	40	19.8	20		
A	344_A_4	6 - 12	6.1	40	19.8	20		
A	344_A_5	6 - 12	32.8	40	19.8	20		
A	344_A_1	12 - 18	39.7	150	24.7	60		
A	344_A_2	12 - 18	19.6	150	24.7	60		
A	344_A_3	12 - 18	15.1	150	24.7	60		
A	344_A_4	12 - 18	7.8	150	24.7	60		
A	344_A_5	12 - 18	41.1	150	24.7	60		
A	344_A_1	18 - 24	48.9	150	22.4	60		
A	344_A_2	18 - 24	26	150	22.4	60		
A	344_A_3	18 - 24	18	150	22.4	60		
A	344_A_4	18 - 24	8.5	150	22.4	60		
A	344_A_5	18 - 24	10.7	150	22.4	60		
B	344_B_1	0 - 6	45.3	40	38.7	20	Yes	Yes
B	344_B_2	0 - 6	39.6	40	38.7	20		Yes
B	344_B_3	0 - 6	41.4	40	38.7	20	Yes	Yes
B	344_B_4	0 - 6	27.6	40	38.7	20		Yes
B	344_B_5	0 - 6	39.6	40	38.7	20		Yes
B	344_B_1	6 - 12	38	40	36.9	20		Yes
B	344_B_2	6 - 12	53	40	36.9	20	Yes	Yes
B	344_B_3	6 - 12	45.1	40	36.9	20	Yes	Yes

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	344_B_4	6 - 12	28	40	36.9	20		Yes
B	344_B_5	6 - 12	20.3	40	36.9	20		Yes
B	344_B_1	12 - 18	21.7	150	25.1	60		
B	344_B_2	12 - 18	36.8	150	25.1	60		
B	344_B_3	12 - 18	23	150	25.1	60		
B	344_B_4	12 - 18	24.8	150	25.1	60		
B	344_B_5	12 - 18	19.2	150	25.1	60		
B	344_B_1	18 - 24	14.1	150	13.1	60		
B	344_B_2	18 - 24	18.1	150	13.1	60		
B	344_B_3	18 - 24	18.5	150	13.1	60		
B	344_B_4	18 - 24	15	150	13.1	60		
B	344_B_5	18 - 24	0	150	13.1	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

DEPARTMENT OF ECOLOGY State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **497100005100**
Property Address: **2318 8TH ST**
Property Owner: **LAURA BARNES & DAVID JOHNSON**

Decision Unit - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average	Maximum	n/a	n/a
Average (Result/*Action Limit*)	27.1/ *20*	16.3/ *20*	9.7/ *60*	8.9/ *60*
Sample (Result/*Action Limit*)	34.1/ *40*	41.2/ *40*	10.9/ *150*	11.5/ *150*

Decision Unit - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	No dig	No Dig	No Dig
Results Determining Decision	Maximum & Average	n/a	n/a	n/a
Average (Result/*Action Limit*)	38.9/ *20*	17.8/ *20*	31.3/ *60*	24.3/ *60*
Sample (Result/*Action Limit*)	97.0/ *40*	28.6/ *40*	75.0/ *150*	47.4/ *150*

Decision Unit Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the Decision Unit
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the Decision Unit at the
maximum & average	Dig decision based on a discrete sample result and the average concentration for the Decision Unit exceeding action limits.

Decision Unit (DU)	Sample Identification Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	**346_A_1**	0 - 6	34.1	40	27.1	20		Yes
A	346_A_2	0 - 6	30.4	40	27.1	20		Yes
A	346_A_3	0 - 6	10.9	40	27.1	20		Yes
A	346_A_4	0 - 6	28	40	27.1	20		Yes
A	**346_A_5**	0 - 6	32.3	40	27.1	20		Yes
A	**346_A_1**	6 - 12	41.2	40	16.3	20		
A	346_A_2	6 - 12	8.6	40	16.3	20		
A	346_A_3	6 - 12	4.2	40	16.3	20		
A	346_A_4	6 - 12	11.3	40	16.3	20		
A	346_A_5	6 - 12	16.3	40	16.3	20		
A	346_A_2	12 - 18	7.2	150	9.7	60		
A	346_A_3	12 - 18	10.1	150	9.7	60		

A	346_A_4	12 - 18	10.9	150	9.7	60		
A	346_A_5	12 - 18	10.6	150	9.7	60		
A	346_A_2	18 - 24	8.4	150	8.9	60		
A	346_A_3	18 - 24	8.6	150	8.9	60		
A	346_A_4	18 - 24	7.1	150	8.9	60		
A	346_A_5	18 - 24	11.5	150	8.9	60		
B	346_B_1	0 - 6	18.9	40	38.9	20		Yes
B	346_B_2	0 - 6	38.8	40	38.9	20		Yes
B	346_B_3	0 - 6	22.5	40	38.9	20		Yes
B	346_B_4	0 - 6	17.2	40	38.9	20		Yes
B	**346_B_5**	0 - 6	97	40	38.9	20	Yes	Yes
B	346_B_1	6 - 12	5.8	40	17.8	20		
B	346_B_2	6 - 12	24.8	40	17.8	20		
B	346_B_3	6 - 12	28.6	40	17.8	20		
B	346_B_4	6 - 12	8.1	40	17.8	20		
B	346_B_5	6 - 12	21.8	40	17.8	20		
B	346_B_1	12 - 18	21.8	150	31.3	60		
B	346_B_2	12 - 18	7.1	150	31.3	60		
B	346_B_3	12 - 18	43.9	150	31.3	60		
B	346_B_4	12 - 18	8.7	150	31.3	60		
B	346_B_5	12 - 18	75	150	31.3	60		
B	346_B_1	18 - 24	47.4	150	24.3	60		
B	346_B_2	18 - 24	6.9	150	24.3	60		
B	346_B_3	18 - 24	36.4	150	24.3	60		
B	346_B_4	18 - 24	5.4	150	24.3	60		
B	346_B_5	18 - 24	25.6	150	24.3	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes

There are no data qualifiers in this dataset.

Results in **bold** were analyzed by ICP-MS per EPA 6020.

All other results were analyzed by XRF per EPA 6200.

Property Tax ID: **497100005200**
Property Address: **2404 8TH ST**

Decision Unit - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	No Dig	No Dig	No Dig
Results Determining Decision	Maximum	n/a	n/a	n/a
Average (Result/*Action Limit*)	22.6/ *20*	*9.6/ 20*	*10.0/ 60*	*10.7/ 60*
Sample (Result/*Action Limit*)	26.1/ *40*	12.3/ *40*	*12.0/ 150*	*14.0/ 150*

Decision Unit - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Average	Maximum & Average	n/a	n/a
Average (Result/*Action Limit*)	24.8/ *20*	23.2/ *20*	18.2/ *60*	21.0/ *60*
Sample (Result/*Action Limit*)	33.0/ *40*	60.5/ *40*	31.6/ *150*	34.9/ *150*

Decision Unit Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the Decision Unit
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the Decision Unit at the
maximum & average	Dig decision based on a discrete sample result and the average concentration for the Decision Unit exceeding action limits.

Decision Unit (DU)	Sample Identification Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	345-A-1	0 - 6	22	40	22.6	20		Yes
A	345-A-2	0 - 6	19.2	40	22.6	20		Yes
A	345-A-3	0 - 6	22.2	40	22.6	20		Yes
A	345-A-4	0 - 6	26.1	40	22.6	20		Yes
A	345-A-5	0 - 6	23.4	40	22.6	20		Yes
A	345-A-1	6 - 12	9.1	40	9.6	20		
A	345-A-2	6 - 12	11.2	40	9.6	20		
A	345-A-3	6 - 12	6.7	40	9.6	20		
A	345-A-4	6 - 12	8.7	40	9.6	20		
A	345-A-5	6 - 12	12.3	40	9.6	20		
A	345-A-1	12 - 18	12	150	10.0	60		
A	345-A-2	12 - 18	12	150	10.0	60		
A	345-A-3	12 - 18	6.7	150	10.0	60		
A	345-A-4	12 - 18	7.5	150	10.0	60		
A	345-A-5	12 - 18	12	150	10.0	60		

A	345-A-1	18 - 24	14	150	10.7	60		
A	345-A-2	18 - 24	13.4	150	10.7	60		
A	345-A-3	18 - 24	6.5	150	10.7	60		
A	345-A-4	18 - 24	8.7	150	10.7	60		
B	345-B_1	0 - 6	33	40	24.8	20		Yes
B	345-B_2	0 - 6	26.8	40	24.8	20		Yes
B	345-B_3	0 - 6	26.1	40	24.8	20		Yes
B	345-B_4	0 - 6	31.7	40	24.8	20		Yes
B	345-B_5	0 - 6	6.5	40	24.8	20		Yes
B	345-B_1	6 - 12	26.2	40	23.2	20		Yes
B	345-B_2	6 - 12	9.7	40	23.2	20		Yes
B	345-B_3	6 - 12	6.6	40	23.2	20		Yes
B	345-B_4	6 - 12	60.5	40	23.2	20	Yes	Yes
B	345-B_5	6 - 12	13	40	23.2	20		Yes
B	345-B_1	12 - 18	31.6	150	18.2	60		
B	345-B_2	12 - 18	8.9	150	18.2	60		
B	345-B_4	12 - 18	16.5	150	18.2	60		
B	345-B_5	12 - 18	15.9	150	18.2	60		
B	345-B_1	18 - 24	34.9	150	21.0	60		
B	345-B_4	18 - 24	7.1	150	21.0	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes

There are no data qualifiers in this dataset.

Results in **bold** were analyzed by ICP-MS per EPA 6020.

All other results were analyzed by XRF per EPA 6200.

Property Tax ID: **00497100005300**
Property Address: **2406 8TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	39.5/ *20*	39.2/ *20*	39/ *60*	24.7/ *60*
Sample (Result/*Action Limit*)	53.7/ *40*	54.6/ *40*	60.6/ *150*	47.2/ *150*

DU - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	39.4/ *20*	44.2/ *20*	37.8/ *60*	31.9/ *60*
Sample (Result/*Action Limit*)	64.1/ *40*	73/ *40*	71.8/ *150*	72.5/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	347_A_1	0 - 6	31.6	40	39.5	20		Yes
A	347_A_2	0 - 6	53.7	40	39.5	20	Yes	Yes
A	347_A_3	0 - 6	37.9	40	39.5	20		Yes
A	347_A_4	0 - 6	35.6	40	39.5	20		Yes
A	347_A_5	0 - 6	38.7	40	39.5	20		Yes
A	347_A_1	6 - 12	30.8	40	39.2	20		Yes
A	347_A_2	6 - 12	54.6	40	39.2	20	Yes	Yes
A	347_A_3	6 - 12	35.7	40	39.2	20		Yes
A	347_A_4	6 - 12	26	40	39.2	20		Yes
A	347_A_5	6 - 12	48.7	40	39.2	20	Yes	Yes
A	347_A_1	12 - 18	60.6	150	39.0	60		
A	347_A_2	12 - 18	28.1	150	39.0	60		
A	347_A_3	12 - 18	45.9	150	39.0	60		
A	347_A_4	12 - 18	7.1	150	39.0	60		
A	347_A_5	12 - 18	53.4	150	39.0	60		
A	347_A_1	18 - 24	39.4	150	24.7	60		
A	347_A_2	18 - 24	20.3	150	24.7	60		
A	347_A_3	18 - 24	47.2	150	24.7	60		
A	347_A_4	18 - 24	8.1	150	24.7	60		
A	347_A_5	18 - 24	8.7	150	24.7	60		
B	347_B_1	0 - 6	27.1	40	39.4	20		Yes
B	347_B_2	0 - 6	40.9	40	39.4	20	Yes	Yes
B	347_B_3	0 - 6	24.8	40	39.4	20		Yes
B	347_B_4	0 - 6	40	40	39.4	20		Yes
B	347_B_5	0 - 6	64.1	40	39.4	20	Yes	Yes
B	347_B_1	6 - 12	23.4	40	44.2	20		Yes

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	347_B_2	6 - 12	46.9	40	44.2	20	Yes	Yes
B	347_B_3	6 - 12	37.8	40	44.2	20		Yes
B	347_B_4	6 - 12	39.9	40	44.2	20		Yes
B	347_B_5	6 - 12	73	40	44.2	20	Yes	Yes
B	347_B_1	12 - 18	22.2	150	37.8	60		
B	347_B_2	12 - 18	45.5	150	37.8	60		
B	347_B_3	12 - 18	36.1	150	37.8	60		
B	347_B_4	12 - 18	13.6	150	37.8	60		
B	347_B_5	12 - 18	71.8	150	37.8	60		
B	347_B_1	18 - 24	8.6	150	31.9	60		
B	347_B_2	18 - 24	52	150	31.9	60		
B	347_B_3	18 - 24	15.3	150	31.9	60		
B	347_B_4	18 - 24	11.1	150	31.9	60		
B	347_B_5	18 - 24	72.5	150	31.9	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

DEPARTMENT OF ECOLOGY
State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **00497100005400**
Property Address: **2412 8TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Average		n/a	
Average (Result/*Action Limit*)	22.1/ *20*	25.9/ *20*	34.2/ *60*	41.9/ *60*
Sample (Result/*Action Limit*)	24.5/ *40*	32.3/ *40*	65.1/ *150*	101/ *150*

DU - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Average	Maximum & Average	n/a	
Average (Result/*Action Limit*)	35.2/ *20*	32.5/ *20*	23.9/ *60*	18/ *60*
Sample (Result/*Action Limit*)	38.5/ *40*	44.8/ *40*	47.8/ *150*	37.9/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	348_A_1	0 - 6	17.2	40	22.1	20		Yes
A	348_A_2	0 - 6	24.5	40	22.1	20		Yes
A	348_A_3	0 - 6	21.2	40	22.1	20		Yes
A	348_A_4	0 - 6	23.2	40	22.1	20		Yes
A	348_A_5	0 - 6	24.4	40	22.1	20		Yes
A	348_A_1	6 - 12	31.5	40	25.9	20		Yes
A	348_A_2	6 - 12	32.3	40	25.9	20		Yes
A	348_A_3	6 - 12	27	40	25.9	20		Yes
A	348_A_4	6 - 12	20.5	40	25.9	20		Yes
A	348_A_5	6 - 12	18.4	40	25.9	20		Yes
A	348_A_1	12 - 18	13.2	150	34.2	60		
A	348_A_2	12 - 18	65.1	150	34.2	60		
A	348_A_3	12 - 18	34.3	150	34.2	60		
A	348_A_4	12 - 18	38.5	150	34.2	60		
A	348_A_5	12 - 18	20.1	150	34.2	60		
A	348_A_1	18 - 24	10.3	150	41.9	60		
A	348_A_2	18 - 24	101	150	41.9	60		
A	348_A_3	18 - 24	47.1	150	41.9	60		
A	348_A_4	18 - 24	43.9	150	41.9	60		
A	348_A_5	18 - 24	7.1	150	41.9	60		
B	348_B_1	0 - 6	38.5	40	35.2	20		Yes
B	348_B_2	0 - 6	35.1	40	35.2	20		Yes
B	348_B_3	0 - 6	31.3	40	35.2	20		Yes
B	348_B_4	0 - 6	35.1	40	35.2	20		Yes
B	348_B_5	0 - 6	35.8	40	35.2	20		Yes

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
B	348_B_1	6 - 12	34.1	40	32.5	20		Yes
B	348_B_2	6 - 12	44.8	40	32.5	20	Yes	Yes
B	348_B_3	6 - 12	30.1	40	32.5	20		Yes
B	348_B_4	6 - 12	24.2	40	32.5	20		Yes
B	348_B_5	6 - 12	29.5	40	32.5	20		Yes
B	348_B_1	12 - 18	47.8	150	23.9	60		
B	348_B_2	12 - 18	34.4	150	23.9	60		
B	348_B_3	12 - 18	18.4	150	23.9	60		
B	348_B_4	12 - 18	7.7	150	23.9	60		
B	348_B_5	12 - 18	11.4	150	23.9	60		
B	348_B_1	18 - 24	37.9	150	18.0	60		
B	348_B_2	18 - 24	14.7	150	18.0	60		
B	348_B_3	18 - 24	14.4	150	18.0	60		
B	348_B_4	18 - 24	13.1	150	18.0	60		
B	348_B_5	18 - 24	9.8	150	18.0	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

DEPARTMENT OF ECOLOGY
State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **00497100005500**
Property Address: **2420 8TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	
Average (Result/*Action Limit*)	50.2/ *20*	47.8/ *20*	36.2/ *60*	17.2/ *60*
Sample (Result/*Action Limit*)	89.3/ *40*	101.9/ *40*	84.8/ *150*	27.9/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	349_A_1	0 - 6	24.5	40	50.2	20		Yes
A	349_A_2	0 - 6	26.6	40	50.2	20		Yes
A	349_A_3	0 - 6	16.7	40	50.2	20		Yes
A	349_A_4	0 - 6	85	40	50.2	20	Yes	Yes
A	349_A_5	0 - 6	89.3	40	50.2	20	Yes	Yes
A	349_A_6	0 - 6	24.3	40	50.2	20		Yes
A	349_A_7	0 - 6	61.9	40	50.2	20	Yes	Yes
A	349_A_8	0 - 6	73.5	40	50.2	20	Yes	Yes
A	349_A_1	6 - 12	22	40	47.8	20		Yes
A	349_A_2	6 - 12	24.1	40	47.8	20		Yes
A	349_A_3	6 - 12	17.6	40	47.8	20		Yes
A	349_A_4	6 - 12	78.8	40	47.8	20	Yes	Yes
A	349_A_5	6 - 12	101.9	40	47.8	20	Yes	Yes
A	349_A_6	6 - 12	29.1	40	47.8	20		Yes
A	349_A_7	6 - 12	29	40	47.8	20		Yes
A	349_A_8	6 - 12	80	40	47.8	20	Yes	Yes
A	349_A_1	12 - 18	19.5	150	36.2	60		
A	349_A_2	12 - 18	48.8	150	36.2	60		
A	349_A_3	12 - 18	29.7	150	36.2	60		
A	349_A_4	12 - 18	84.8	150	36.2	60		
A	349_A_5	12 - 18	49	150	36.2	60		
A	349_A_6	12 - 18	32.6	150	36.2	60		
A	349_A_7	12 - 18	9	150	36.2	60		
A	349_A_8	12 - 18	16.1	150	36.2	60		
A	349_A_1	18 - 24	Refusal	150	17.2	60		
A	349_A_2	18 - 24	27.9	150	17.2	60		
A	349_A_3	18 - 24	17	150	17.2	60		
A	349_A_4	18 - 24	27.2	150	17.2	60		
A	349_A_5	18 - 24	7.6	150	17.2	60		
A	349_A_6	18 - 24	17.9	150	17.2	60		

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	349_A_7	18 - 24	13.4	150	17.2	60		
A	349_A_8	18 - 24	9.1	150	17.2	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

ID = identification

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

DU Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the DU at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the DU at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the DU exceeding action limits.

Property Tax ID: **00497100008700**
Property Address:: **2504 6TH ST**

DU - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig		No Dig	
Results Determining Decision	Maximum & Average		n/a	
Average (Result/Action Limit)	55.5/ *20*	52.1/ *20*	49.2/ *60*	37/ *60*
Sample (Result/Action Limit)	98.8/ *40*	79.7/ *40*	71.6/ *150*	68.9/ *150*

Decision Unit (DU)	Sample ID Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	419_A_1	0 - 6	17	40	55.5	20		Yes
A	419_A_2	0 - 6	69.8	40	55.5	20	Yes	Yes
A	419_A_3	0 - 6	74.4	40	55.5	20	Yes	Yes
A	419_A_4	0 - 6	61.2	40	55.5	20	Yes	Yes
A	419_A_5	0 - 6	98.8	40	55.5	20	Yes	Yes
A	419_A_6	0 - 6	59.2	40	55.5	20	Yes	Yes
A	419_A_7	0 - 6	59.7	40	55.5	20	Yes	Yes
A	419_A_8	0 - 6	40.3	40	55.5	20	Yes	Yes
A	419_A_9	0 - 6	19	40	55.5	20		Yes
A	419_A_1	6 - 12	60.5	40	52.1	20	Yes	Yes
A	419_A_2	6 - 12	65.8	40	52.1	20	Yes	Yes
A	419_A_3	6 - 12	79.7	40	52.1	20	Yes	Yes
A	419_A_4	6 - 12	36.6	40	52.1	20		Yes
A	419_A_5	6 - 12	50.2	40	52.1	20	Yes	Yes
A	419_A_6	6 - 12	72.6	40	52.1	20	Yes	Yes
A	419_A_7	6 - 12	40.4	40	52.1	20	Yes	Yes
A	419_A_8	6 - 12	33	40	52.1	20		Yes
A	419_A_9	6 - 12	30.4	40	52.1	20		Yes
A	419_A_1	12 - 18	58.1	150	49.2	60		
A	419_A_2	12 - 18	68.2	150	49.2	60		
A	419_A_3	12 - 18	70.8	150	49.2	60		
A	419_A_4	12 - 18	14.5	150	49.2	60		
A	419_A_5	12 - 18	43	150	49.2	60		
A	419_A_6	12 - 18	71.6	150	49.2	60		
A	419_A_7	12 - 18	37.8	150	49.2	60		
A	419_A_8	12 - 18	29.2	150	49.2	60		
A	419_A_9	12 - 18	49.2	150	49.2	60		
A	419_A_1	18 - 24	53.9	150	37.0	60		
A	419_A_2	18 - 24	68.9	150	37.0	60		
A	419_A_3	18 - 24	23.2	150	37.0	60		
A	419_A_4	18 - 24	13.9	150	37.0	60		
A	419_A_5	18 - 24	Refusal	150	37.0	60		
A	419_A_6	18 - 24	32	150	37.0	60		
A	419_A_7	18 - 24	13.6	150	37.0	60		
A	419_A_8	18 - 24	38	150	37.0	60		
A	419_A_9	18 - 24	52.7	150	37.0	60		

DEPARTMENT OF ECOLOGY State of Washington

Everett Smelter Cleanup: Sampling Results

Property Tax ID: **497100013200**
Property Address: **2316 7TH ST**

Decision Unit - A	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	No Dig
Results Determining Decision	Maximum & Average		n/a	n/a
Average (Result/*Action Limit*)	42.4/ 20	27.9/ 20	16.9/ *60*	21.3/ *60*
Sample (Result/*Action Limit*)	55.0/ 40	*43/ 40*	*34.9/ 150*	*61.9/ 150*

Decision Unit - B	**0 - 6"**	**6 - 12"**	**12 - 18"**	**18 - 24"**
Dig Decision	Dig	Dig	No Dig	Dig
Results Determining Decision	Maximum & Average		n/a	Maximum
Average (Result/*Action Limit*)	36.9/ *20*	29.6/ *20*	14.5/ *60*	48.7/ *60*
Sample (Result/*Action Limit*)	62.5/ *40*	62.3/ *40*	42.0/ *150*	*192.0/ 150*

Decision Unit Results Determining Dig Decisions

n/a	Discrete sample results and the average concentration for the Decision Unit at a depth horizon are below action limits.
maximum	Dig decision based on a discrete sample result exceeding the action limit.
average	Dig decision based on the average concentration for the Decision Unit at the depth horizon exceeding the action limit.
maximum & average	Dig decision based on a discrete sample result and the average concentration for the Decision Unit exceeding action limits.

Decision Unit (DU)	Sample Identification Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	319_A_1	0 - 6	55	40	42.4	20	Yes	Yes
A	319_A_2	0 - 6	24.7	40	42.4	20		Yes
A	319_A_3	0 - 6	27.1	40	42.4	20		Yes
A	**319_A_4**	0 - 6	50.7	40	42.4	20	Yes	Yes
A	319_A_5	0 - 6	54.4	40	42.4	20	Yes	Yes
A	319_A_1	6 - 12	6.2	40	27.9	20		Yes
A	319_A_2	6 - 12	14.4	40	27.9	20		Yes
A	319_A_3	6 - 12	40	40	27.9	20		Yes
A	319_A_4	6 - 12	36	40	27.9	20		Yes
A	**319_A_5**	6 - 12	43	40	27.9	20	Yes	Yes
A	319_A_2	12 - 18	6.2	150	16.9	60		
A	319_A_3	12 - 18	34.9	150	16.9	60		
A	319_A_4	12 - 18	5.9	150	16.9	60		
A	319_A_5	12 - 18	20.4	150	16.9	60		
A	319_A_2	18 - 24	7.2	150	21.3	60		

Decision Unit (DU)	Sample Identification Number	Depth Horizon (inches)	Arsenic (ppm)				Sample Result Exceeds Action Limit	Average Exceeds Action Limit
			Sample Result	Sample Action Limit	Average Result for DU at Depth	Average Action Limit		
A	319_A_3	18 - 24	8.7	150	21.3	60		
A	319_A_4	18 - 24	7.4	150	21.3	60		
A	319_A_5	18 - 24	61.9	150	21.3	60		
B	319_B_1	0 - 6	29.1	40	36.9	20		Yes
B	319_B_2	0 - 6	43.7	40	36.9	20	Yes	Yes
B	319_B_3	0 - 6	21.1	40	36.9	20		Yes
B	**319_B_4**	0 - 6	28.3	40	36.9	20		Yes
B	319_B_5	0 - 6	62.5	40	36.9	20	Yes	Yes
B	319_B_1	6 - 12	55.2	40	29.6	20	Yes	Yes
B	319_B_2	6 - 12	62.3	40	29.6	20	Yes	Yes
B	319_B_3	6 - 12	6.8	40	29.6	20		Yes
B	319_B_4	6 - 12	<LOD	40	29.6	20		Yes
B	319_B_5	6 - 12	23.8	40	29.6	20		Yes
B	319_B_1	12 - 18	9.7	150	14.5	60		
B	319_B_2	12 - 18	42	150	14.5	60		
B	319_B_3	12 - 18	9.3	150	14.5	60		
B	319_B_4	12 - 18	4.7	150	14.5	60		
B	319_B_5	12 - 18	7	150	14.5	60		
B	319_B_1	18 - 24	192	150	48.7	60	Yes	
B	319_B_2	18 - 24	28.1	150	48.7	60		
B	319_B_3	18 - 24	6.4	150	48.7	60		
B	319_B_4	18 - 24	4.9	150	48.7	60		
B	319_B_5	18 - 24	12	150	48.7	60		

Key

<LOD = less than the limit of detection

DU = decision unit

ICP-MS = inductively coupled plasma - mass spectrometry

Refusal = sample could not be obtained

ppm = parts per million

XRF = x-ray fluorescence

Notes

There are no data qualifiers in this dataset.
Results in **bold** were analyzed by ICP-MS per EPA 6020.
All other results were analyzed by XRF per EPA 6200.

APPENDIX D: INADVERTENT DISCOVERY PLAN

INADVERTENT DISCOVERY PLAN

PLAN AND PROCEDURES FOR THE DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS

To request ADA accommodation, including materials in a format for the visually impaired, call Ecology at 360-407-6000 or visit https://ecology.wa.gov/accessibility. People with impaired hearing may call Washington Relay Service at 711. People with a speech disability may call TTY at 877-833-6341.

Site Name(s): Everett Smelter Location: North Everett

Project Lead/Organization: TCP-NWRO County: Snohomish

If this Inadvertent Discovery Plan (IDP) is for multiple (batched) projects, ensure the location information covers all project areas.

1. INTRODUCTION

The IDP outlines procedures to perform in the event of a discovery of archaeological materials or human remains, in accordance with applicable state and federal laws. An IDP is required, as part of Agency Terms and Conditions for all grants and loans, for any project that creates disturbance above or below the ground. An IDP is not a substitute for a formal cultural resource review (Executive 21-02 or Section 106).

Once completed, **the IDP should always be kept at the project site** during all project activities. All staff, contractors, and volunteers should be familiar with its contents and know where to find it.

2. CULTURAL RESOURCE DISCOVERIES

A cultural resource discovery could be prehistoric or historic. Examples include (see images for further examples):

- An accumulation of shell, burned rocks, or other food related materials.
- Bones, intact or in small pieces.
- An area of charcoal or very dark stained soil with artifacts.
- Stone tools or waste flakes (for example, an arrowhead or stone chips).
- Modified or stripped trees, often cedar or aspen, or other modified natural features, such as rock drawings.
- Agricultural or logging materials that appear older than 50 years. These could include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, and many other items.
- Clusters of tin cans or bottles, or other debris that appear older than 50 years.
- Old munitions casings. ***Always assume these are live and never touch or move.***
- Buried railroad tracks, decking, foundations, or other industrial materials.
- Remnants of homesteading. These could include bricks, nails, household items, toys, food containers, and other items associated with homes or farming sites.

The above list does not cover every possible cultural resource. When in doubt, assume the material is a cultural resource.

3. ON-SITE RESPONSIBILITIES

If any employee, contractor, or subcontractor believes that they have uncovered cultural resources or human remains at any point in the project, take the following steps to ***Stop-Protect-Notify***. **If you suspect that the discovery includes human remains, also follow Sections 5 and 6.**

STEP A: Stop Work.

All work must stop immediately in the vicinity of the discovery.

STEP B: Protect the Discovery.

Leave the discovery and the surrounding area untouched and create a clear, identifiable, and wide boundary (30 feet or larger) with temporary fencing, flagging, stakes, or other clear markings. Provide protection and ensure integrity of the discovery until cleared by the Department of Archaeological and Historical Preservation (DAHP) or a licensed, professional archaeologist.

Do not permit vehicles, equipment, or unauthorized personnel to traverse the discovery site. Do not allow work to resume within the boundary until the requirements of this IDP are met.

STEP C: Notify Project Archaeologist (if applicable).

If the project has an archaeologist, notify that person. If there is a monitoring plan in place, the archaeologist will follow the outlined procedure.

STEP D: Notify Project and Washington Department of Ecology (Ecology) contacts.

Project Lead Contacts

Primary Contact		Alternate Contact	
Name:	Shreejita Basu	Name:	Meredith Waldref
Organization:	Ecology	Organization:	Ecology
Phone:	206-773-7950	Phone:	425-229-3683
Email:	sbas461@ecy.wa.gov	Email:	meredith.waldref@ecy.wa.gov

Ecology Contacts (completed by Ecology Project Manager)

Ecology Project Manager		Alternate or Cultural Resource Contact	
Name:	Sandra Matthews	Name:	Sarah Wollwage
Program:	TCP-NWRO	Program:	TCPO
Phone:	425-223-1999	Phone:	360-481-9101
Email:	smat461@ecy.wa.gov	Email:	swol461@ecy.wa.gov

STEP E: Ecology will notify DAHP.

Once notified, the Ecology Cultural Resource Contact or the Ecology Project Manager will contact DAHP to report and confirm the discovery. To avoid delay, the Project Lead/Organization will contact DAHP if they are not able to reach Ecology.

DAHP will provide the steps to assist with identification. DAHP, Ecology, and Tribal representatives may coordinate a site visit following any necessary safety protocols. DAHP may also inform the Project Lead/Organization and Ecology of additional steps to further protect the site.

Do not continue work until DAHP has issued an approval for work to proceed in the area of, or near, the discovery.

DAHP Contacts:

Name: Rob Whitlam, PhD
Title: State Archaeologist
Cell: 360-890-2615
Email: Rob.Whitlam@dahp.wa.gov
Main Office: 360-586-3065

Human Remains/Bones:

Name: Guy Tasa, PhD
Title: State Anthropologist
Cell: 360-790-1633 (24/7)
Email: Guy.Tasa@dahp.wa.gov

4. TRIBAL CONTACTS

In the event cultural resources are discovered, the following tribes will be contacted. See Section 10 for Additional Resources.

Tribe:	Stillaguamish Tribe of Indians	Tribe:	Samish Indian Nation
Name:	Kerry Lyste	Name:	Jackie Ferry
Title:	THPO, Cultural Resources	Title:	Tribal Historic Preservation Officer
Phone:	360-652-7362 ext. 226	Phone:	360-293-6404 ext. 126
Email:	klyste@stillaguamish.com	Email:	jferry@samishtribe.nsn.us
Tribe:	Muckleshoot Indian Tribe	Tribe:	Sauk-Suiattle Tribe
Name:	Laura Murphy	Name:	Kevin Joseph
Title:	Archaeologist Cultural Resources	Title:	Tribal Historic Preservation Officer
Phone:	253-876-3272	Phone:	360-436-0333
Email:	laura.murphy@muckleshoot.nsn.us	Email:	kJoseph@sauk-suiattle.com

Please provide contact information for additional tribes within your project area, if needed, in Section 11.

5. FURTHER CONTACTS (if applicable)

If the discovery is confirmed by DAHP as a cultural or archaeological resource, or as human remains, and there is a partnering federal or state agency, Ecology or the Project Lead/Organization will ensure the partnering agency is immediately notified.

Federal Agency:		State Agency:	
Agency:		Agency:	
Name:		Name:	
Title:		Title:	
Phone:		Phone:	
Email:		Email:	

6. SPECIAL PROCEDURES FOR THE DISCOVERY OF HUMAN SKELETAL MATERIAL

Any human skeletal remains, regardless of antiquity or ethnic origin, will at all times be treated with dignity and respect. Follow the steps under ***Stop-Protect-Notify.*** For specific instructions on how to handle a human remains discovery, see: *RCW 68.50.645: Skeletal human remains—Duty to notify—Ground disturbing activities—Coroner determination—Definitions*.

Suggestion: If you are unsure whether the discovery is human bone or not, contact Guy Tasa with DAHP, for identification and next steps. Do not pick up the discovery.

Guy Tasa, PhD State Physical Anthropologist
Guy.Tasa@dahp.wa.gov
(360) 790-1633 (Cell/Office)

For discoveries that are confirmed or suspected human remains, follow these steps:

1. Notify law enforcement and the Medical Examiner/Coroner using the contacts below. **Do not call 911** unless it is the only number available to you.

   Enter contact information below (required):
   - Local Medical Examiner or Coroner name and phone: J. Matthew Lacy,MD;425-438-6200
   - Local Law Enforcement main name and phone: Dan Templeman, Chief of Police;425-257-8400
   - Local Non-Emergency phone number (911 if without a non-emergency number): 425-407-3970
2. The Medical Examiner/Coroner (with assistance of law enforcement personnel) will determine if the remains are human or if the discovery site constitutes a crime scene and will notify DAHP.
3. **DO NOT speak with the media, allow photography or disturbance of the remains, or release any information about the discovery on social media.**
4. If the remains are determined to be non-forensic, Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection and to shield them from being photographed by others or disturbed.

Further activities:

- Per RCW 27.44.055, RCW 68.50, and RCW 68.60, DAHP will have jurisdiction over non-forensic human remains. Ecology staff will participate in consultation. Organizations may also participate in consultation.
- Documentation of human skeletal remains and funerary objects will be agreed upon through the consultation process described in RCW 27.44.055, RCW 68.50, and RCW 68.60.
- When consultation and documentation activities are complete, work in the discovery area may resume as described in Section 8.

If the project occurs on federal lands (such as a national forest or park or a military reservation) the provisions of the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) apply and the responsible federal agency will follow its provisions. Note that state highways that cross federal lands are on an easement and are not owned by the state.

If the project occurs on non-federal lands, the Project Lead/Organization will comply with applicable state and federal laws, and the above protocol.

7. DOCUMENTATION OF ARCHAEOLOGICAL MATERIALS

Archaeological resources discovered during construction are protected by state law RCW 27.53 and assumed eligible for inclusion in the National Register of Historic Places under Criterion D until a formal Determination of Eligibility is made.

The Project Lead/Organization must ensure that proper documentation and field assessment are made of all discovered cultural resources in cooperation with all parties: the federal agencies (if any), DAHP, Ecology, affected tribes, and the archaeologist.

The archaeologist will record all prehistoric and historic cultural material discovered during project construction on a standard DAHP archaeological site or isolate inventory form. They will photograph site overviews, features, and artifacts and prepare stratigraphic profiles and soil/sediment descriptions for minimal subsurface exposures. They will document discovery locations on scaled site plans and site location maps.

Cultural features, horizons, and artifacts detected in buried sediments may require the archaeologist to conduct further evaluation using hand-dug test units. They will excavate units in a controlled fashion to expose features, collect samples from undisturbed contexts, or to interpret complex stratigraphy. They may also use a test unit or trench excavation to determine if an intact occupation surface is present. They will only use test units when necessary to gather information on the nature, extent, and integrity of subsurface cultural deposits to evaluate the site's significance. They will conduct excavations using standard archaeological techniques to precisely document the location of cultural deposits, artifacts, and features.

The archaeologist will record spatial information, depth of excavation levels, natural and cultural stratigraphy, presence or absence of cultural material, and depth to sterile soil, regolith, or bedrock for each unit on a standard form. They will complete test excavation unit level forms, which will include plan maps for each excavation level and artifact counts and material types, number, and vertical provenience (depth below

surface and stratum association where applicable) for all recovered artifacts. They will draw a stratigraphic profile for at least one wall of each test excavation unit.

The archaeologist will screen sediments excavated for purposes of cultural resources investigation through 1/8-inch mesh, unless soil conditions warrant 1/4-inch mesh.

The archaeologist will analyze, catalogue, and temporarily curate all prehistoric and historic artifacts collected from the surface and from probes and excavation units. The ultimate disposition of cultural materials will be determined in consultation with the federal agencies (if any), DAHP, Ecology, and the affected tribe(s).

Within 90 days of concluding fieldwork, the archaeologist will provide a technical report describing any and all monitoring and resultant archaeological excavations to the Project Lead/Organization, who will forward the report to Ecology, the federal agencies (if any), DAHP, and the affected tribe(s) for review and comment.

If assessment activities expose human remains (burials, isolated teeth, or bones), the archaeologist and Project Lead/Organization will follow the process described in **Section 6**.

8. PROCEEDING WITH WORK

The Project Lead/Organization shall work with the archaeologist, DAHP, and affected tribe(s) to determine the appropriate discovery boundary and where work can continue.

Work may continue at the discovery location only after the process outlined in this plan is followed and the Project Lead/Organization, DAHP, any affected tribe(s), Ecology, and the federal agencies (if any) determine that compliance with state and federal laws is complete.

9. ORGANIZATION RESPONSIBILITY

The Project Lead/Organization is responsible for ensuring:

- This IDP has complete and accurate information.
- This IDP is immediately available to all field staff at the sites and available by request to any party.
- This IDP is implemented to address any discovery at the site.
- That all field staff, contractors, and volunteers are instructed on how to implement this IDP.

10. ADDITIONAL RESOURCES

Informative Video

Ecology recommends that all project staff, contractors, and volunteers view this informative video explaining the value of IDP protocol and what to do in the event of a discovery. The target audience is anyone working on the project who could unexpectedly find cultural resources or human remains while excavating or digging. The video is also posted on DAHP's inadvertent discovery language website.

Ecology's IDP Video (https://www.youtube.com/watch?v=ioX-4cXfbDY)

Informational Resources

DAHP (https://dahp.wa.gov)

Washington State Archeology (DAHP 2003)
(https://dahp.wa.gov/sites/default/files/Field%20Guide%20to%20WA%20Arch_0.pdf)

Association of Washington Archaeologists (https://www.archaeologyinwashington.com)

Potentially Interested Tribes

Interactive Map of Tribes by Area
(https://dahp.wa.gov/archaeology/tribal-consultation-information)

WSDOT Tribal Contact Website
(https://wsdot.wa.gov/tribal/TribalContacts.htm)

11. ADDITIONAL INFORMATION

Please add any additional contact information or other information needed within this IDP.

Additional Tribes to be contacted:

Tribe:Suquamish Tribe
Name:Dennis Lewarch
Title:THPO
Phone: 360.394.8529
Email:dlewarch@Suquamish.nsn.us

Tribe:Snoqualmie Indian Tribe
Name:Steven Mullen-Moses
Title:Director
Phone:425-292-0249x2010
Email:steve@snoqualmietribe.us

Tribe:Swinomish Indian Tribal Community
Name:Josephine Jefferson
Title:CR Technician
Cultural Resource Protection Office
Phone:360-466-7352
Email:jpeters@swinomish.nsn.us

Implement the IDP if you see…

Chipped stone artifacts.

Examples are:

- Glass-like material.
- Angular material.
- “Unusual” material or shape for the area.
- Regularity of flaking.
- Variability of size.

Stone artifacts from Oregon.

Stone artifacts from Washington.

Biface-knife, scraper, or pre-form found in NE Washington. Thought to be a well knapped object of great antiquity. Courtesy of Methow Salmon Rec. Foundation.

Implement the IDP if you see…

Ground stone artifacts.

Examples are:

- Unusual or unnatural shapes or unusual stone.
- Striations or scratching.
- Etching, perforations, or pecking.
- Regularity in modifications.
- Variability of size, function, or complexity.

Above: Fishing Weight - credit CRITFC Treaty Fishing Rights website.

Artifacts from unknown locations (left and right images).

Implement the IDP if you see…

Bone or shell artifacts, tools, or beads.

Examples are:

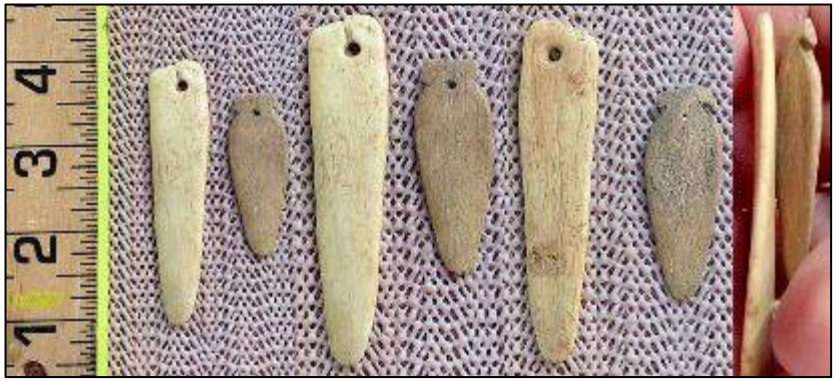
- Smooth or carved materials.
- Unusual shape.
- Pointed as if used as a tool.
- Wedge shaped like a “shoehorn”.
- Variability of size.
- Beads from shell (dentalium) or tusk.

Upper Left:*Bone Awls from Oregon.*

Upper Center: *Bone Wedge from California.*

Upper Right: *Plateau dentalium choker and bracelet, from Nez Perce National Historical Park, 19th century, made using Antalis pretiosa shells Credit: Nez Perce - Nez Perce National Historical Park, NEPE 8762, Public Domain.*

Above: *Tooth Pendants. Right: Bone Pendants. Both from Oregon and Washington.*



Implement the IDP if you see…

Culturally modified trees, fiber, or wood artifacts.

Examples are:

- Trees with bark stripped or peeled, carvings, axe cuts, de-limbing, wood removal, and other human modifications.
- Fiber or wood artifacts in a wet environment.
- Variability of size, function, and complexity.

Left and Below: *Culturally modified tree and an old carving on an aspen (Courtesy of DAHP).*

Right, Top to Bottom: *Artifacts from Mud Bay, Olympia: Toy war club, two strand cedar rope, wet basketry*.

Implement the IDP if you see…

Strange, different, or interesting looking dirt, rocks, or shells.

Human activities leave traces in the ground that may or may not have artifacts associated with them. Examples are:

- "Unusual" accumulations of rock (especially fire-cracked rock).
- "Unusual" shaped accumulations of rock (such as a shape similar to a fire ring).
- Charcoal or charcoal-stained soils, burnt-looking soils, or soil that has a "layer cake" appearance.
- Accumulations of shell, bones, or artifacts. Shells may be crushed.
- Look for the "unusual" or out of place (for example, rock piles in areas with otherwise few rocks).

Shell Midden pocket in modern fill discovered in sewer trench.

Underground oven. Courtesy of DAHP.

Shell midden with fire cracked rock.

Hearth excavated near Hamilton, WA.

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Agricultural or logging equipment. May include equipment, fencing, canals, spillways, chutes, derelict sawmills, tools, etc.
- Domestic items including square or wire nails, amethyst colored glass, or painted stoneware.

Left: Top to Bottom: *Willow pattern serving bowl and slip joint pocket knife discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Right: *Collections of historic artifacts discovered during excavations in eastern Washington cities.*

Implement the IDP if you see…

Historic period artifacts (historic archaeology considered older than 50 years).

Examples are:

- Railway tokens, coins, and buttons.
- Spectacles, toys, clothing, and personal items.
- Items helping to understand a culture or identity.
- Food containers and dishware.

Main Image: *Dishes, bottles, workboot found at the North Shore Japanese bath house (ofuro) site, Courtesy Bob Muckle, Archaeologist, Capilano University, B.C. This is an example of an above ground resource.*

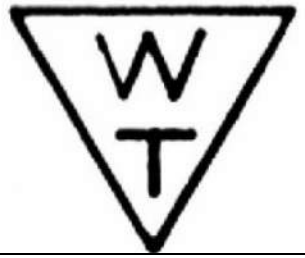
Right, from Top to Bottom: *Coins, token, spectacles and Montgomery Ward pitchfork toy discovered during Seattle Smith Cove shantytown (45-KI-1200) excavation.*

Implement the IDP if you see…

- Old munition casings – if you see ammunition of any type – ***always assume they are live and never touch or move!***
- Tin cans or glass bottles with an older manufacturer's technique – maker's mark, distinct colors such as turquoise, or an older method of opening the container.

Far Left: .303 British cartridge found by a WCC planting crew on Skagit River. Don't ever touch something like this!
Left: Maker's mark on bottom of old bottle.

Right: *Old beer can found in Oregon. ACME was owned by Olympia Brewery. Courtesy of Heather Simmons.*



Logo employed by Whithall Tatum & Co. between 1924 to 1938 (Lockhart et al. 2016).

Can opening dates, courtesy of W.M. Schroeder.

Implement the IDP if you see…

You see historic foundations or buried structures.

Examples are:

- Foundations.
- Railroad and trolley tracks.
- Remnants of structures.

Counter Clockwise, Left to Right: *Historic structure 45KI924, in WSDOT right of way for SR99 tunnel. Remnants of Smith Cove shantytown (45-KI-1200) discovered during Ecology CSO excavation, City of Spokane historic trolley tracks uncovered during stormwater project, intact foundation of historic home that survived the Great Ellensburg Fire of July 4, 1889, uncovered beneath parking lot in Ellensburg.*

Implement the IDP if you see...

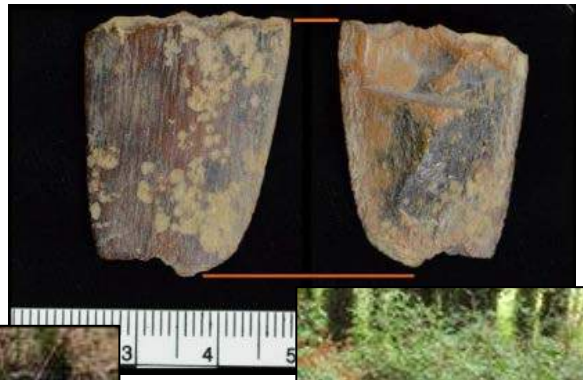
Potential human remains.

Examples are:

- Grave headstones that appear to be older than 50 years.
- Bones or bone tools--intact or in small pieces. It can be difficult to differentiate animal from human so they must be identified by an expert.
- These are all examples of animal bones and are not human.

Center: *Bone wedge tool, courtesy of Smith Cove Shantytown excavation (45KI1200).*

Other images (Top Right, Bottom Left, and Bottom) Center: Courtesy of DAHP.



Directly Above: This is a real discovery at an Ecology sewer project site.

What would you do if you found these items at a site? Who would be the first person you would call?

Hint: *Read the plan!*