Attachment 1 List of Preparers

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Name/Affiliation	Project Role	Education	Years of Experience
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Bill Bumback/ICF Jones & Stokes	Deputy Environmental Manager	MS, Environmental Science; BS, Natural Resources Planning	11
Brandie Henry/CH2M HILL	GIS Analyst	BA, Geography	3
Brenda Holt/Parametrix	Editor and Production Associate	AAS, General Studies	28
Carter Danne/Parametrix	Author, Transportation Appendix	BS, Civil Engineering	15
Chad Jacobson/Parametrix	Graphic Artist/GIS Analyst	BS, GIS/Cartography	9
Charlie Wisdom/Parametrix	Author, Water Resources and Navigable Waterways Appendices	PhD, Chemical Ecology; BA, Biology	25
Christopher Hetzel/ICF Jones & Stokes	Author, Cultural Resources Appendix	BA, History; MA, Public History and Historic Preservation	14
Cyrus Bullock/Parametrix	Contributor, Ecosystems Appendix (Fisheries and Aquatic Habitat)	BS, Environmental Science	11
Debbie Fetherston/Parametrix	Graphic Artist and Production Associate		14
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Name/Affiliation	Project Role	Education	Years of Experience
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Jaime Crawford/CH2M HILL	Lead GIS Analyst	MS, Environmental Science; BS, Environmental Science	10
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Jim Koloszar/Parametrix	Contributor, Ecosystems Appendix (Wildlife)	BS, Wildlife Science	20
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Marcella Ripich/CH2M HILL	Author, Hazardous Materials Appendix	MS, Geosciences; BS, Geology	9

Name/Affiliation	Project Role	Education	Years of Experience
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Randolph Everett/FHWA	Major Projects Oversight Manager	BS, Civil Engineering	18
Rebecca King/CH2M HILL	Author, Air Quality Appendix	BS, Earth and Atmospheric Science	9
Rene Rodriguez Lara/CH2M HILL	GIS Analyst	BA, Geography	5
Rob Rodland/CH2M HILL	Author, Public Services and Utilities Appendix	BA, Geography	5
Robin Senner/CH2M HILL	Technical Lead Reviewer and Author, Indirect and Cumulative Effects	PhD, Public Policy; BS, Biology and English	32
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Name/Affiliation	Project Role	Education	Years of Experience
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Shawna Holman/Parametrix	Author, Transportation Appendix	Certificate, Environmental Law and Regulation; BA, Psychology BA, Sociology	2
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Susan Wessman/Parametrix	Author, Visual Quality and Aesthetics Appendix	MLS, Landscape Architecture	12
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Attachment 2 Distribution List

Attachment 2 Distribution List

Federal Agencies

Federal Highway Administration
NOAA National Marine Fisheries Service
U.S. Army Corps of Engineers
U.S. Coast Guard
U.S. Department of Interior
U.S. Environmental Protection Agency
U.S. Fish and Wildlife

State Agencies

Department of Archaeology and Historic Preservation
Department of Ecology
Department of Fish and Wildlife
Department of Natural Resources

Regional Agencies

Northwest Indian Fisheries Commission
Olympic Region Clean Air Agency
Sound Transit

Native American Tribes

The Confederated Tribes of the Chehalis Reservation
Hoh Tribe
Puyallup Tribe
Quinault Indian Nation
Shoalwater Bay Tribe
Skokomish Tribal Nation
Squaxin Island Tribe

Local Agencies

City of Aberdeen
City of Hoquiam
City of Tacoma
Grays Harbor County
Pierce County
Port of Grays Harbor
Port of Tacoma

Libraries

Aberdeen Timberland Library
Grays Harbor College Library
Hoquiam Timberland Library
Montesano Timberland Library
Seattle Public Library, Central Branch
Tacoma Main Library
University of Washington Suzzallo-Allen Library
Washington State Library
WSDOT Headquarters Library

Community and Special Interest Groups

Coalition of Coastal Fisheries
Coastal Dungeness Crab Advisory Board
Grays Harbor Chamber of Commerce
Grays Harbor College
Grays Harbor Council of Governments
Grays Harbor Economic Development Council
Grays Harbor Historical Seaport Authority
Hoquiam Development Association
Olympia Master Builders Association, Twin Harbors Chapter
Polson Museum
Satsop Development Park
WorkSource, Aberdeen

Attachment 3 References

Attachment 3 References

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Attachment 4 Glossary

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100-year flood. The probability of a flood occurring on average once every 100 years and thus has a 1 percent chance of occurring in a given year.

Adverse effects. The totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which might include, but are not limited to bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment impacts; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of U.S. Department of Transportation programs, policies, or activities.

Aggregate. Granular materials used in construction, including but not limited to sand, gravel, and crushed stone that, when mixed with water and Portland cement, produce concrete.

Air emissions. Pollutants emitted into the air, such as carbon monoxide, nitrogen oxide, nitrogen dioxide, sulfur dioxide, and others.

Air pollutant. Any substance in air that could, in high enough concentration, harm people, animals, vegetation, or materials. They may be in the form of solid particles, liquid droplets, gases, or a combination thereof. Generally, they fall into two main groups: (1) those emitted directly from identifiable sources and (2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric elements.

Air quality standards. The level of pollutants prescribed by regulations that cannot be exceeded during a given time in a defined area.

Air toxics. Air pollutants known or suspected to cause health problems. Potential health effects include cancer, birth defects, lung damage, immune system damage, and nerve damage.

Alluvium. Sediments or soils deposited by a river or stream; can contain silt, clay, sand, or gravel.

Amphipods. A group of small crustaceans, generally less than 2 centimeters long, including many species that are laterally compressed and elongated. Amphipods are commonly present in intertidal and shallow subtidal estuarine habitats where they provide a food source for juvenile salmon and other fishes.

Attainment area. An area considered to have air quality as good as or better than the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act. An area may be an attainment area for one pollutant and a nonattainment area for others.

Average response time. A time calculated from the time the department receives the call to the time the fire department personnel arrive.

Ballast. Gravel or broken stone used as a component of concrete.

Basic water quality treatment. A stormwater treatment system that deposits sediment on the bottom of a vault or pond. The WSDOT *Highway Runoff Manual* performance goal for basic treatment best management practices is 80 percent removal of total suspended solids.

Basic water quality treatment with flow control. A basic water treatment system that also temporarily stores the stormwater to control flow rates.

Berm. Mound or wall of earth, in this case used to protect a site from wave action.

Biofiltration swale. A vegetated channel or strip of land with a slope similar to that of standard storm drains channels but are wider and shallower to maximize flow residence time and promote pollutant removal by filtration through the use of properly selected vegetation and settling.

Best management practices for water quality. Practices and treatment technologies or methods that can be used to meet water quality criteria. There are many different types of best management practices. Some are treatment technologies such as wet vaults and stormwater treatment wetlands. Others are maintenance measures that can be implemented as part of a project, such as sweeping streets of debris. Some best management practices are permanent features of a project; others can be temporary measures employed during construction.

Built environment. The manmade surroundings that provide the setting for human activity, ranging from the large-scale civic surroundings to personal places.

Carbon monoxide. A colorless, odorless, toxic gas produced by incomplete combustion.

Casting basin. A construction facility built next to a navigable waterway that consists of a concrete slab built deep below ground level and surrounded by high concrete walls.

Category III wetlands. Wetlands with a moderate level of functions that have been generally disturbed in some ways, and are often less diverse or more isolated from other natural resources in the landscape.

Census Tract Block Group. A subdivision of a Census Tract, a Block Group consists of all the blocks within a Census Tract with the same beginning number. In urban areas, a Block Group typically encompasses two to four city blocks.

Chitosan. A biodegradable, nontoxic extract from shellfish shells used in water purification systems.

Community cohesion. The ability of people to communicate and interact with each other in ways that lead to a sense of community, as reflected in the neighborhood's ability to function and be recognized as a singular unit.

Comprehensive land use plans. Documents that provide a guide for the future development of their respective communities over a 20-year period. These plans are a framework of official policies agreed upon by citizens, government, business, and industry to coordinate public and private investment within the community. These plans also provide the foundation for the Cities' development regulations pertaining to zoning, subdivision of land, critical areas protection, and other city ordinances.

Concrete curing process. A process by which concrete solidifies and hardens in a chemical reaction after being mixed with water. Concrete is cured to achieve the best strength and hardness, and the curing process involves keeping the concrete moist while it hardens. To keep the concrete moist, plastic or wet tarps might be used to wrap the wet concrete. Proper curing can take about a week for the concrete to reach maximum hardness.

Consolidated soil. Soil that has been compressed by geologic processes. An unconsolidated soil is an uncompressed soft soil that is prone to settlement.

Contaminated media. Soil, sediment, groundwater, surface water, or air that has been contaminated by a release of a hazardous material, hazardous or dangerous waste, or hazardous substance. These may be regulated under the federal Comprehensive Environmental Response, Compensation, and Liability Act and Resource Conservation and Recovery Act or state model Toxics Control Act regulations.

Cowardin system. A comprehensive system of classifying wetlands and deepwater habitats that was developed by the U.S. Fish and Wildlife Service in 1979. Wetland ecologists used the Cowardin system to classify wetland habitat—such as forested, scrub-shrub, and emergent—at both SR 520 Pontoon Construction Project alternatives. State and local jurisdictions also recognize and use this classification system.

Criteria pollutants. The six pollutants for which the U.S. Environmental Protection Agency has identified and set standards to protect human health under the Clean Air Act: ozone, carbon monoxide, total suspended particulates, sulfur dioxide, lead, and nitrogen oxide.

Critical aquifer recharge area. A geographic area that has a critical recharging effect on aquifer(s) used for drinking water supply.

Cross pontoon. The deepest draft (up to 18 feet) pontoons slightly shorter than longitudinal pontoons (approximately 240 feet long by 75 feet wide), cross pontoons are placed perpendicular to the longitudinal pontoons at each end of the bridge in the final bridge alignment and support half of each eastside and westside transition span as it connects the column supported roadway to the floating bridge.

Dangerous waste. Solid wastes that are toxic or harmful are regulated by federal Resource Conservation and Recovery Act and state Dangerous Waste regulations. These wastes include those that are characteristically reactive, corrosive, toxic, or ignitable as well as specified “listed” wastes.

Dewatering. The removal of water from solid material or soil. The bottom of the proposed casting basin will be lower than the normal in-ground water level at each alternative. If left alone, water will naturally make its way into the casting basin. In order to keep the casting basin dry WSDOT will need to continuously dewater the soils surrounding the casting basin.

Direct effects. Effects caused as a direct result of project activities. Direct effects are usually short-term and temporary and can be placed into the following categories: environmental effects on sensitive areas, alteration potential of contaminant migration zones, property acquisition, and construction effects.

Disproportionately high and adverse effect. An adverse effect that: (1) is predominately borne by a minority population and/or a low-income population, or (2) would be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority population and/or non-low-income population. Mitigation and project benefits in environmental justice analyses are addressed as follows: *In making determinations regarding disproportionately high and adverse impacts on minority and low-income populations, mitigation and enhancements measures that would be taken and all offsetting benefits to the affected minority and low-income populations may be taken into account, as well as the design, comparative impacts, and the relevant number of similar existing system elements in non-minority and non-low-income areas.*

Down-drag load. A load that occurs when soil around a deep foundation settles, causing the soil to exert extra downward force on the foundation.

Drawdown. A lowering of the water table due to pumping of a well.

Ecology 303(d) list. Identifies surface water body segments (lakes, streams, and ponds) with degraded water quality. The Washington State Department of Ecology assembles available water quality data and publishes this list, as required under Section 303(d) of the federal Clean Water Act.

Ecology 305(b) Report. A report prepared by the Washington State Department of Ecology to inform the U.S. Congress and the public about the current condition of the state's waters. This report describes the status of all waters in the state, while the 303(d) list reports only the impaired waters in the state.

Emergent vegetation. Vegetation that root underwater but have upper parts above the surface of the water, such as cattail and reed canary grass.

Emergent wetlands. A vegetative class as defined by Cowardin et al (1979). The emergent wetland class is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.

Emission. Pollution discharged into the atmosphere from smokestacks, other vents, surface, vehicles, and other sources.

Emission factor. A representative value that relates the quantity of a pollutant released to the atmosphere with the activity that is associated with the release.

Enhanced water quality treatment. A system that removes pollutants bound to sediments from stormwater and some dissolved pollutants by passing the stormwater through an additional treatment filter, pond, or wetland before it is discharged.

Enhanced water quality treatment with flow control. An enhanced water treatment system that also temporarily stores the stormwater to control flow rates.

Environmental justice. The process of identifying and addressing, as appropriate, disproportionately high and adverse human health and/or environmental effects on minority and/or low-income populations.

Endangered Species Act. An Act of Congress passed in 1973 that governs how animal and plant species whose populations are dangerously in decline or close to extinction will be protected and recovered.

Estuarine. Deepwater tidal habitats and adjacent tidal wetlands that are usually semienclosed by land but have open, partly obstructed, or sporadic access to the ocean, with ocean-derived water at least occasionally diluted by freshwater runoff from the land. The upstream and landward limit is where ocean-derived salts measure less than .5 parts per thousand during the period of average annual low flow. The seaward limit is (1) an imaginary line closing the mouth of a river, bay, or sound; and (2) the seaward limit of wetland emergents, shrubs, or trees, when not included in (1).

Fecal coliform bacteria. Bacteria present in human and animal (both domestic and wildlife) feces. These bacteria can indicate the potential presence of other bacteria and viruses that may cause disease.

Floodplain. Land adjacent to water bodies that can regularly be inundated by floodwater.

Greenhouse gas. A gas that contributes to global warming.

Groundwater. Water found underground in the saturated zone. The saturated zone is that layer of soil that is soaked, or loaded, to capacity with water.

Haul-out site. Beaches, rocky areas, floats, and other areas where seals can rest, give birth, and nurse.

Hazardous air pollutants. Air pollutants that are not covered by ambient air quality standards but which, as defined in the Clean Air Act, may reasonably be expected to cause or contribute to irreversible illness or death.

Hazardous materials. Materials in use that are toxic or harmful to human health or the environment and are regulated under federal Clean Air Act, Clean Water Act, Toxic Substances Control Act, or Resource Conservation and Recovery Act regulations. Examples include asbestos, lead-based paint, and toxic chemicals such as polychlorinated biphenyls.

Hazardous substances. Materials that are in use that may be toxic or harmful to the environment, but are not regulated by the rules cited above. Examples include petroleum products such as gasoline, diesel, and oils.

Hazardous waste. Solid wastes that are toxic or harmful are regulated by federal Resource Conservation and recovery Act and state Dangerous Waste regulations. These wastes include those that are characteristically reactive, corrosive, toxic, or ignitable as well as specified "listed" wastes.

High impact. This risk level identifies sites that may be substantially contaminated and will create a major liability for WSDOT. These sites usually have large volumes of contaminated soil, groundwater, or sediment and have complex types of contaminants that require special handling requiring disposal that is expensive to manage.

Intactness. The degree to which the landscape is free of eyesores or elements that do not fit with the overall landscape.

Lateral spreading. Lateral movement of level or near-level ground associated with liquefaction of soil during an earthquake.

Level of Service. A measurement rate to determine how well traffic operates on a given transportation facility (such as a road or exit ramp). For freeways, the level of service is a measure of traffic congestion typically based on volume-to-capacity ratios. For local intersections, level of service is based on how long it takes a typical vehicle to clear the intersection. Other criteria also may be used to gauge the operating performance of transit, non-motorized, and other transportation modes. The rating scale uses the letters A through F, similar to grading scales in schools where A is the best grade and F is the worst. The ratings are assigned based on the levels of delay that drivers experience at an intersection. The letter A represents the least delayed conditions, and F represents the longest delays.

Limited-English proficiency populations threshold. A public involvement plan needs to include consideration of limited-English proficiency. If demographics indicate that 5 percent or 1,000 persons or more in a study area (generally by census block group) speak a language other than English, project materials should be translated into that language.

Limited-English proficient (LEP). A person who was not born in the United States or whose native language is a language other than English and comes from an environment where a language other than English is dominant; or who is a native resident of the outlying areas and comes from an environment where a language other than English has had a significant effect on such individual's level of English language proficiency and who has sufficient difficulty speaking, reading, writing, or understanding the English language and whose difficulties may deny such individual the opportunity to meaningfully engage in the transportation decision-making process.

Liquefaction. A phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. Liquefaction occurs in saturated soils, that is, soils in which the space between individual particles is completely filled with water.

Longitudinal pontoon. The largest pontoons (approximately 360 feet long by 75 feet wide) that are connected end to end in a linear fashion when placed in the bridge alignment.

Low income. A person whose median household income is at or below the Department of Health and Human Services poverty guidelines for that size of household.

Low to moderate impact. This risk level identifies sites where potential contamination is known or where it can be reasonably predicted. These sites are typically small to medium in size, contaminants are not extremely toxic or difficult to treat, and remediation options are straightforward.

Low-income population. Any readily identifiable group of low-income persons who live in geographic proximity, and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who would be similarly affected by a proposed U.S. Department of Transportation program, policy, or activity.

Maintenance area. Area that has met the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act and is being managed to continue to meet the National Ambient Air Quality Standards.

Minority. A person who is:
- Black (a person having origins in any of the black racial groups of Africa)
- Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or the Spanish culture or origin, regardless of race)
- Asian (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands)
- American Indian or Alaskan Native (a person having origins in any of the original peoples of North America, and who maintains cultural identification through tribal affiliation or community recognition).

Minority population. Any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed U.S. Department of Transportation program, policy, or activity.

Mean higher high water. The average of the higher of the two high tides each day on a 19-year cycle.

Mean lower low water. The average of the lower of the two low tides each day on a 19-year cycle.

Mobile source air toxics. Air toxics that are emitted from highway vehicles and non-road equipment.

Mooring dolphin. Any buoy, pile, or group of piles unconnected to the shoreline that is used for mooring boats.

National Ambient Air Quality Standards. Standards established by the U.S. Environmental Protection Agency under the Clean Air Act for pollutant concentrations in outside air throughout the country. See also "criteria pollutants."

Navigable waterways. Waters that are subject to the ebb and flow of the tide and/or are used for the transport of interstate or foreign commerce either historically, currently, or in the future.

Nitrogen oxides. A product of combustion from transportation and stationary sources resulting from nitric oxide combining with oxygen in the atmosphere; a contributor to the formation of ozone, which is a major component of photochemical smog. This includes NO (nitric oxide) and NO_2 (nitrogen dioxide).

Nonattainment area. An area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.

Nephelometric turbidity unit. International standard units for the measurement of turbidity. Turbidity is a measure of the light scattering element of liquids resulting from suspended materials.

Ozone. The upper atmosphere ozone that protects the earth from harmful radiation, but ground-level ozone (commonly known as smog) is unhealthy. Ozone can seriously impair the respiratory system and is one of the most widespread of all the criteria pollutants regulated under the Clean Air Act. Ozone in the upper atmosphere is produced through complex chemical reactions of nitrogen oxides, which are among the primary pollutants emitted by combustion sources: hydrocarbons released into the atmosphere through the combustion, handling and processing of petroleum products, and sunlight.

Palustrine. All nontidal wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and all such tidal wetlands where ocean-derived salinities below .5 parts per thousand.

Part(s) per million. A measure of concentration based on weight or volume.

Particulates. Matter that includes sea salt, pollen, smoke from forest fires and wood stoves, road dust, industrial emissions, and agricultural dust. Some particles may be small enough to be drawn deep into the respiratory system where they can contribute to infection and reduced resistance to disease.

Pollutant-generating impervious surfaces. Impervious surfaces that are a source of pollutants in stormwater runoff. Study area pollutant-generating impervious surfaces include roadways that receive direct rainfall or the run-on or blow-in of rainfall.

Particulate matter PM_{10}. A standard for measuring the amount of solid or liquid matter suspended in the atmosphere, specifically, particulate matter less than 10 microns in diameter. Smaller PM_{10} particles can penetrate to the deeper portions of the lung, affecting sensitive population groups such as individuals with respiratory ailments and children.

Particulate matter $PM_{2.5}$. A standard for measuring the amount of solid or liquid matter suspended in the atmosphere, specifically, particulate matter less than 2.5 microns in diameter. Very small $PM_{2.5}$ particles can penetrate deeper into the lungs that PM_{10}, increasing their potential for health risks.

Priority habitats. Habitat types or elements with unique or significant value to a diverse group of species.

Priority species. Species that are priorities for conservation and management. Priority species include state endangered, threatened, sensitive, and candidate species; animal aggregations considered vulnerable; and those species of recreational, commercial, or tribal importance that are vulnerable.

Public service. Fire, police, communications, water/stormwater, sewer/solid waste, and other governmental services or utilities as elements of the built environment that are considered during the environmental review process.

Radius of influence. The radial distance from a well to a point away from the well where there is no lowering of the water table.

Riparian habitat. The aquatic and terrestrial habitat adjacent to streams, lakes, estuaries, or other waterways.

Riprap. Rocks, large rock fragments, or other hard material used to armor shorelines against erosion.

Riverine. All wetlands and deepwater habitats contained within a channel except those wetlands (1) dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, and (2) which have habitats with ocean-derived salinities in excess of .5 parts per thousand.

Salmonid. A fish of the family *Salmonidae*, such as salmon, trout, and char.

Section 4(f). Part of the U.S. Department of Transportation Act of 1966 that prohibits the Federal Highway Administration from approving a project or program that uses land from a significant public park, recreation area, wildlife refuge, or historic site unless: (1) There is no feasible and prudent alternative to the use of the land; and (2) The project includes all possible planning to minimize harm to the property.

Sediment trap. A temporary ponding area formed by an earthen embankment or an excavation. Both silt fences and sediment traps are designed to slow the flow of water, allowing sediment to settle out.

Seiche. A wave that swings back and forth in an enclosed body of water such as a lake or bay. A seiche can last from a few minutes to a few hours and is often caused by earthquakes.

Silica fume. A very fine form of silica, which is a chemical compound known for its hardness and used as a supplement in concrete production. Adding silica fume improves the concrete strength in general as well as its bonding strength.

Silt fence. A a temporary sediment barrier made of synthetic fabric stretched between posts, with a shallow trench located upslope. The silt fence is "keyed" into the ground to prevent water from running under the fence. Both silt fences and sediment traps are designed to slow the flow of water, allowing sediment to settle out.

Solid waste. Discarded materials that include solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, and household activities. Excluded are domestic sewage, industrial discharges, and nuclear materials.

Sparging. The practice of bubbling a gas through a liquid. This practice is used to treat high pH (greater than 8.5) water that has been in contact with curing concrete. Bubbling carbon dioxide through this water acts to neutralize these high pHs to meet the permit effluent limits.

State implementation plan. A Plan developed by state government to attain and maintain compliance with the National Ambient Air Quality Standards.

Stormwater. Water that includes stormwater runoff, snow melt runoff, and surface runoff and drainage. Drainage can flow across the ground in open ditches, in pipes, or below the surface as interflow.

Study area. The area specifically evaluated for environmental effects. The study area may vary for different elements of the built and natural environments.

Total maximum daily load. The pollutant loading from point, nonpoint, and background sources for a segment of water that results in an ambient concentration equal to the numerical concentration limit required for that pollutant by numerical or narrative criteria in the water quality standards.

Treaty Indian tribes. Tribes that are recognized by the United States government, with usual and accustomed fishing grounds, whose fishing rights were reserved under a treaty and have been affirmed by a federal court.

Total suspended solids. All the solid particles in water that cannot pass through a filter. Field data show that most total suspended solid particles are very small (less than 125 microns in diameter). To comply with Ecology's stormwater regulations, all treatment facilities must remove at least 80 percent of the total suspended solids associated with stormwater. Most pollutants, such as metals, found in stormwater are attached to the sediment particles, though there are also some dissolved in the water column.

Unity. The degree to which the landscape is a harmonious mix of elements.

Upland. Ground elevated above mean higher high water of tidally influenced.

Utility. A term denoting electric power, communication, cable television, water, gas, oil, petroleum products, steam, chemicals, sewage, drainage, irrigation, fire or police signal systems, and similar lines. Also, the term "utility" includes those utility-type facilities that are owned or leased by a government agency for its own use or otherwise dedicated solely to governmental use. The term utility does not include utility-type facilities required for the support, control, operation, and maintenance of the highway system if they are owned and controlled by the highway authority. The facilities may be privately, publicly, or cooperatively owned.

Viewer response. A combination of viewer exposure and viewer sensitivity. Viewer exposure considers the combined effect of the physical location of viewer groups, the number of people exposed to a view, and the duration of their view. Viewer sensitivity is the combined effect of the activities a viewer is engaged in, the visual context, and the values, expectations, and interests of a group of persons or a person involved in a particular activity or context.

Viewers. The people who have views of or from the project. Viewers are discussed in terms of general categories of activities, such as resident, boater, jogger, or motorist, and in terms of their sensitivity to views.

Views. What can be seen from the project site and what can be seen of the project site from the surrounding areas and are described or assessed from a given vantage point, called the viewpoint.

Visual character. Defined by the nature of existing elements in the landscape and the relationships between them. These relationships are typically described in terms of dominance, scale, diversity, and continuity.

Visual quality. The assessed value of a visual experience. The assessment assigns a value (low, moderate, or high) to three descriptors: vividness, unity, and intactness. The difference between the existing quality and the post-project quality is an indication of the degree of impact that the project could or would have on a view.

Vividness. A measure of the memorability or distinctiveness of the landscape.

Water quality design storm. Defined in the *Stormwater Management Manual for Western Washington* as "a 24-hour storm with a 6-month return frequency (also known as the 6-month, 24-hour storm)."

Water quality treatment, basic. A stormwater treatment system that deposits sediment on the bottom of a vault or pond. The WSDOT *Highway Runoff Manual* performance goal for basic treatment best management practices is 80 percent removal of total suspended solids.

Water quality treatment, enhanced. A system that removes pollutants bound to sediments from stormwater and removes some dissolved pollutants by passing the stormwater through an additional treatment filter, pond, or wetland before it is discharged.

Water resources. Collectively refers to marine and freshwater surface water bodies (e.g., lakes and streams), stormwater, and groundwater. When the issue under consideration applies to only one element, either "surface water bodies, "stormwater," or "groundwater" will be used to identify the specific resource being discussed.

Water table. The level at which the ground water pressure is equal to atmospheric pressure. As water infiltrates through pore spaces in soil, it first passes through unsaturated soil. At increasing depths, water fills in the pore spaces until the zone of saturation is reached. The relatively horizontal plane atop this zone constitutes the water table.

Wetland. Federal, state, and local regulations that typically define wetlands as "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs, and similar areas." State and local regulations may add to this definition.

Wetland buffer. A regulatory tool intended to protect the naturally occurring functions of a wetland from outside influences. The buffer extends outward from the wetland edge. The width of the buffer is defined by the wetland category, as determined by the local jurisdiction.

Wetland hydrogeomorphic classification. A classification system for wetlands based on the three fundamental factors that influence how wetlands function: general topography, water source, and the movement of water.

Water Resource Inventory Area. Washington State is divided into 62 Water Resource Inventory Area for water and aquatic resource management issues. A Water Resource Inventory Area can include more than one watershed. However, the terms “WRIA” and “watershed” are frequently used interchangeably.

Zone of influence. The drawdown produced at and around pumping well results in a “cone” shape of water table levels, referred to as a cone of depression.

Attachment 5 Acronyms and Abbreviations

Attachment 5 Acronyms and Abbreviations

$\mu g/m^3$	microgram(s) per cubic meter
APE	Area of Potential Effects
BTU	British thermal unit
CAA	Clean Air Act
CAO	Critical Area Ordinance
CFR	Code of Federal Regulations
CTC	Concrete Technology Corporation, Inc.
CTED	Washington State Department of Community, Trade, and Economic Development
CWA	Clean Water Act
DAHP	Washington State Department of Archaeology and Historic Preservation
dB	decibel
dBA	A-weighted decibel
DDT	dichlorodiphenyltrichloroethane
DPS	Distinct Population Species
Ecology	Washington State Department of Ecology
EIS	environmental impact statement
e-mail	electronic mail
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FINDS	Facility Index System
FR	Federal Register
FTA	Federal Transit Authority

GIS	geographic information system
HGM	hydrogeomorphic
HOV	high-occupancy vehicle
I-5	Interstate 5
ICR	independent cleanup report
IDD #1	Port of Grays Harbor Industrial Development District #1
L_{eq}	energy equivalent sound pressure level metric
L_{max}	maximum sound level over a preset measurement period
LOS	level of service
LUST	leaking underground storage tank
MBtu	million British thermal unit
MHHW	mean higher high water
MLLW	mean lower low water
mpg	miles per gallon
mph	miles per hour
MSAT	Mobile Source Air Toxics
MTCA	Model Toxics Control Act
$MtCO_2e$	metric ton carbon dioxide equivalent
MWh	megawatt hour
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCPACT	Pontoon Construction Project Agency Coordination Team

PM	particulate matter
PM_{10}	particulate matter less than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter less than or equal to 2.5 microns in diameter
ppm	part(s) per million
RCW	Revised Code of Washington
RMS	root mean square
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users Section 6002
SEPA	State Environmental Policy Act
SHPO	State Historic Preservation Office (*or* Officer)
SR 520 Program	SR 520 Bridge Replacement and HOV Program
SR	State Route
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TEQ	toxicity equivalency
TMDL	total maximum daily load
TPH	total petroleum hydrocarbon
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VMT	vehicle miles traveled
VOC	volatile organic compound
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

Attachment 6 Index

Attachment 6 Index

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Attachment 7 Appendices

Appendices

The following appendices are provided on the CD on the inside back cover of this report:

- Appendix A, Agency Coordination and Public Involvement Discipline Report
- Appendix B, Description of Alternatives and Construction Techniques Discipline Report
- Appendix C, Ecosystems Discipline Report
- Appendix D, Geology and Soils Technical Memorandum
- Appendix E, Hazardous Materials Technical Memorandum
- Appendix F, Water Resources Discipline Report
- Appendix G, Air Quality Technical Memorandum
- Appendix H, Energy Technical Memorandum
- Appendix I, Cultural Resources Discipline Report
- Appendix J, Economics Technical Memorandum
- Appendix K, Navigable Waterways Technical Memorandum
- Appendix L, Noise Technical Memorandum
- Appendix M, Public Services and Utilities Technical Memorandum
- Appendix N, Land Use Technical Memorandum
- Appendix O, Social Elements Technical Memorandum
- Appendix P, Transportation Technical Memorandum
- Appendix Q, Visual Quality and Aesthetics Technical Memorandum
- Appendix R, Section 4(f) Resources Technical Memorandum
- Appendix S, Indirect and Cumulative Effects Methods Memorandum

Appendices for the following discipline reports are available from WSDOT upon request:

- Cultural Resources Discipline Report
  - Appendix A, Personnel
  - Appendix B, Correspondence
  - Appendix C, Ethnographic Study
  - Appendix D, Geological Coring Study
  - Appendix E, Historic Property Inventory Forms
  - Appendix F, Hylebos Bridge DAHP Eligibility Concurrence Letter
  - Appendix G, Archaeological Trench Data

- Appendix H, Results from Beta Analytic, Inc.
- Appendix I, Archaeological Site Inventory Forms

- Hazardous Materials Technical Memorandum
  - Appendix A, Phase II ESA Report: Anderson & Middleton and Aberdeen Log Yard Properties
  - Appendix B, Sediment Characterization Report: Anderson & Middleton and Aberdeen Log Yard Properties
  - Appendix C, Draft Supplemental Soil and Groundwater Investigation: Anderson & Middleton and Aberdeen Log Yard Properties
  - Appendix D, EDR Reports