



# **APPENDIX J**

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## **Acronyms and Glossary**



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<b>Abbreviation/Acronym</b>	<b>Definition</b>
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act of 1990, as amended
AHPA	Archaeological and Historic Preservation Act
APE	area of potential effect
Ballona Reserve	Ballona Wetlands Ecological Reserve
BMP	best management practice
CAA	Clean Air Act, as amended
CAAQS	California Ambient Air Quality Standards
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Occupational Safety and Health Administration
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
Conceptual Plan	Ballona Wetlands Conceptual Habitat Restoration and Adaptive Management Plan
Corps	U.S. Army Corps of Engineers
CSLC	California State Lands Commission
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel
DBH	Los Angeles County Department of Beaches and Harbors
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
I-405	Interstate 405; San Diego Freeway
IPM	Integrated Pest Management
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Department of Public Works-Los Angeles County Flood Control District
LACVCD	Los Angeles County Vector Control District
LACWD	Los Angeles County Waterworks District
LADWP	City of Los Angeles Department of Water and Power
LAPD	City of Los Angeles Police Department
LARWQCB	Los Angeles Regional Water Quality Control Board
LEDPA	Least Environmentally Damaging Practicable Alternative
LEED	Leadership in Energy and Environmental Design
MLLW	Mean Lower Low Water
MSL	mean sea level
NAHC	Native American Heritage Commission
NAVD	National American Vertical Datum of 1988



<b>Abbreviation/Acronym</b>	<b>Definition</b>
NEP	National Estuary Program
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOA	notice of availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOI	notice of intent
NOP	notice of preparation
NPDES	National Pollution Discharge Elimination System
O&M	operations and maintenance
PDR	Preliminary Design Report
PMT	project management team
Regional Strategy	Regional Restoration Strategy
Reserve	Ballona Wetlands Ecological Reserve
RHA	Rivers and Harbors Act
ROD	Record of Decision
RWQCB	Regional Water Quality Control Board
SAC	Science Advisory Committee
SCAQMD	South Coast Air Quality Management District
SCC	State Coastal Conservancy
SHPO	State Historic Preservation Officer
SMBRC	Santa Monica Bay Restoration Commission
SoCalGas	Southern California Gas Company
SR	State Route
SR-90	State Route 90; the Marina Freeway
State	State of California
TMDL	total maximum daily load
U.S.	United States
USC	U.S. Code
USDA	U. S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WRP	Southern California Wetlands Recovery Project
ZNE	zero net energy

## Glossary

### **100-year flood**

A stream flow caused by a discharge that is exceeded, on the average, only once in 100 years. A 100-year flood has a 1% chance of occurrence in any given year.

### **500-year flood**

A flood that has a 0.2% chance of occurring in any given year.

### **Acre foot**

The amount of water necessary to cover an acre (43,560 sq. feet) to a depth of one foot, or 43,560 cubic feet, which is equivalent to 325,828 gallons.

### **Aggradation** (of a stream channel bed)

When sediment supply is in excess of sediment-transport capacity, the stream bed elevation rises.

### **Air quality standard**

The specified average concentration of an air pollutant in ambient air during a specified time period, at or above which level the public health may be at risk; equivalent to AAQS.

### **Alkalinity**

The capability of a base element to neutralize acids. An example is lime added to lakes to decrease acidity.

### **Alluvial**

Sediments deposited by flowing water.

### **Alluvium**

Soil, sand, gravel, and other materials that have been transported and deposited by flowing water. An alluvial feature is formed by material that has been deposited by water.

### **Ambient air**

Any unconfined portion of the atmosphere; the outside air.

### **Ambient noise level**

Noise from sources, near and far. ANL constitutes the normal or existing level of environmental noise at a given location.

### **Aquifer**

A permeable geologic unit, sand or gravel containing water and transmits it readily.

### **Attainment area**

An area having air quality as good as or better than the national ambient air quality standards as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

**Average**

As a measure, the sum of the measurements (over a specified period) divided by the number of measurements.

**Average discharge**

The average of all complete water years of record, whether or not they are consecutive. Average discharge is not published for less than 5 years of record. The term “average” is generally reserved for average of record and “mean” is used for averages of shorter periods, namely, daily mean discharge.

**Backfill**

Earth that is replaced after excavation.

**Background level**

The concentration of a substance in an environmental media (air, water, or soil) that occurs naturally or is not the result of human activities. In exposure assessment the concentration of a substance in a defined control area, during a fixed period of time before, during, or after a data-gathering operation.

**Base flow**

The fair-weather or sustained flow of streams; that part of stream discharge not attributable to direct runoff from precipitation, snowmelt, or a spring. Discharge entering streams channels as effluent from the groundwater reservoir. Also referred to as groundwater flow.

**Baseline**

A set of existing conditions against which change is to be described and measured.

**Beach**

The zone of unconsolidated material that extends landward from the low water line to the place where there is marked change in material or physiographic form, or to the line of permanent vegetation (usually the effective limit of storm waves). The seaward limit of a beach-- unless otherwise indicated-- is the mean low water line.

**Bed forms**

Local topographical interruptions to the uniformity of a channel bed occurring during the passage of a stream flow. Antidunes are an example of bed forms.

**Bed load**

Sediment particles resting on or near the channel bottom that are pushed or rolled along by the flow of water.

**Berm**

A narrow shelf, path, or ledge typically at the top or bottom of a slope; also, an earthen, mounded wall.

**Best available control technology (BACT)**

For any specific source, the currently available technology producing the greatest reduction of air pollutant emissions, taking into account energy, environmental, economic, and other costs.

**Best management practice (BMP)**

Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

**Biodegradable**

Capable of decomposing under natural conditions.

**Biodiversity**

Refers to the variety and variability among living organisms and the ecological complexes in which they occur. Diversity can be defined as the number of different items and their relative frequencies. For biological diversity, these items are organized at many levels, ranging from complete ecosystems to the biochemical structures that are the molecular basis of heredity. Thus, the term encompasses different ecosystems, species, and genes.

**Biomass**

All of the living material in a given area; often refers to vegetation.

**Biota**

Living organisms.

**Brackish**

Pertaining to water, generally estuarine, in which the salinity ranges from 0.5 to 17 parts per thousand by weight.

**Channel lining**

Artificial hardening of the sides and/or bed of a stream channel to prevent erosion. Concrete, soil cement and rock riprap are typical channel linings.

**Clay soil**

Soil material containing more than 40 percent clay, less than 45 percent sand, and less than 40 percent silt.

**Cleared Strip**

Vegetation area that is cleared or mowed annually.

**Coastal block**

Geologic term describing area adjacent to the coast, which may be faulted or fractured.

**Coastal zone**

Lands and waters adjacent to the coast that exert an influence on the uses of the sea and its ecology, or whose uses and ecology are affected by the sea. Also, coastal land under the jurisdiction of the California Coastal Act.

**Colluvium**

Rock detritus and soil accumulated at the foot of a slope.

**Community**

In ecology, an assemblage of populations of different species within a specified location in space and time. Sometimes, a particular sub-grouping may be specified, such as the fish community in a lake or the soil arthropod community in a forest.

**Concentration**

The relative amount of a substance mixed with another substance. An example is 5 ppm of carbon monoxide in air or 1 mg/l of iron in water.

**Concentration point**

A downstream convergence point for storm runoff in a drainage area. See Concentration Time.

**Concentration time**

The period of time required for storm runoff to flow from the most remote point of a drainage area to the outlet or point under consideration. Concentration time varies with depth of flow and channel condition.

**Confined aquifer**

An aquifer in which ground water is confined under pressure which is significantly greater than atmospheric pressure.

**Conglomerate**

Consolidated (sedimentary) stone composed primarily of large, gravel-sized particles.

**Contaminant**

Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

**Contamination**

Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use.

**Corrosion**

The dissolution and wearing away of metal caused by a chemical reaction such as between water and the pipes, chemicals touching a metal surface, or contact between two metals.

**Corrosive**

A chemical agent that reacts with the surface of a material causing it to deteriorate or wear away.

**Criteria pollutants**

The 1970 amendments to the Clean Air Act required EPA to set National Ambient Air Quality Standards for certain pollutants known to be hazardous to human health. EPA has identified and set standards to protect human health and welfare for six pollutants: ozone, carbon monoxide,



total suspended particulates, sulfur dioxide, lead, and nitrogen oxide. The term, “criteria pollutants” derives from the requirement that EPA must describe the characteristics and potential health and welfare effects of these pollutants. It is on the basis of these criteria that standards are set or revised.

**Decibel (dB)**

A logarithmic unit that describes the wide range of sound intensities to which the human ear is sensitive.

**Decibel A-weighted (dBA)**

Decibel unit scale that is modified to better represent the relative insensitivity of the human ear to low-pitched sounds.

**Degradation (of a stream channel bed)**

Lowering of streambed elevation, caused by sediment-transport capacity in excess of the sediment supply. Degradation can be long-term (after the passage of many stream flows) or short-term (caused by a single stream flow).

**Diffusion**

The movement of suspended or dissolved particles (or molecules) from a more concentrated to a less concentrated area. The process tends to distribute the particles or molecules more uniformly.

**Diffusion model**

A model, calculated by formula, graphs, or computer, that estimates the dilution of an air pollutant as it is carried downwind. The models are based on physical principles with various simplifications to aid solvability.

**Discharge**

Flow of surface water in a stream or canal or the outflow of ground water from a flowing artesian well, ditch, or spring. Can also apply to discharge of liquid effluent from a facility or to chemical emissions into the air through designated venting mechanisms.

**Dredging**

Removal of soils from the bottom of water bodies. Dredging activities may be subject to regulation under Section 404 of the Clean Water Act.

**Ecology**

The relationship of living things to one another and their environment, or the study of such relationships.

**Ecosystem**

The interacting system of a biological community and its non-living environmental surroundings.

**Effluent**

Wastewater--treated or untreated--that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged into surface waters.

**Emission**

Unwanted substances released by human activity into air or water.

**Emission inventory**

A listing, by source, of the amount of air pollutants discharged into the atmosphere of a community; used to establish emission standards.

**Emission, primary**

An emission that is treated as inert (non-reactive).

**Emission, secondary**

Unwanted substances that are chemical byproducts of reactive primary emissions.

**Endangered species**

Animals, birds, fish, plants, or other living organisms threatened with extinction by anthropogenic (man-caused) or other natural changes in their environment. Requirements for declaring a species endangered are contained in the Endangered Species Act.

**Environmental Assessment (EA)**

An environmental analysis prepared pursuant to the National Environmental Policy Act to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

**Environmental Impact Report (EIR)**

A document required of state and local agencies by the California Environmental Quality Act for public or private projects that have the potential to significantly affect the physical environment.

**Environmental Impact Statement (EIS)**

A document required of federal agencies by the National Environmental Policy Act for major projects or legislative proposals significantly affecting the environment. A tool for decision making, it describes the positive and negative effects of the undertaking and cites alternative actions.

**Environmentally superior alternative**

Alternative selected by the CEQA lead agency that provides an overall environmental advantage over the other alternatives.

**Erosion**

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

**Estuary**

Widening area at seaward end of river where its current is met and influenced by ocean tides.

**Ethnohistoric**

Ethnological information collected during historic times, for instance, that from the Spanish mission registers.

**Eutrophication**

The slow aging process during which a lake, estuary, or bay evolves into a bog or marsh and eventually disappears. During the later stages of eutrophication the water body is choked by abundant plant life due to higher levels of nutritive compounds such as nitrogen and phosphorus. Human activities can accelerate the process.

**Exotic species**

A species that is not indigenous to a region.

**Fault**

A fracture or zone of fractures in rock strata which have undergone movement that displaces the sides relative to each other, usually in a direction parallel to the fracture. Abrupt movement on faults is a cause of most earthquakes.

**Fauna**

Animals or animal life.

**Fill**

Man-made deposits of natural soils or rock products and waste materials.

**Flood capacity**

The flow carried by a stream or floodway at bankfull water level. Also, the storage capacity of the flood pool at a reservoir.

**Flood frequency**

A statistical expression or measure of how often a hydrologic event of a given size or magnitude should, on an average, be equaled or exceeded. For example, a 50-year frequency flood (2 percent change of occurrence) should be equaled or exceeded, on the average, once in 50 years.

**Floodplain**

A strip of relatively smooth land bordering a stream, built of sediment carried by the stream and dropped in the slack water beyond the influence of the swiftest current. The lowland that borders a stream or river, usually dry but subject to flooding.

**Flora**

Plants or plant life.

**Freeboard**

Vertical distance from the normal water surface to the top of a confining wall.

**Fugitive dust**

Airborne pulverized soil particles.

**Geomorphology**

The geographical study of the form of the earth. Geomorphic means of or pertaining to the shape of the earth or its topographic features.

**Ground water**

The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs.

**Habitat**

The place where a population (e.g., human, animal, plant, microorganism) lives and its surroundings, both living and non-living.

**Hazardous substance**

Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. Also, any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the U.S. or is otherwise released into the environment.

**Hazardous waste**

By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

**Herbicide**

A chemical pesticide designed to control or destroy plants, weeds, or grasses.

**Herbivore**

An animal that feeds on plants.

**Hydraulic analysis**

A mathematical evaluation of the capacity of a flood control channel or river to convey flow. The evaluation is typically prepared by applying the laws of physics to compute the flow depth along the channel or river for a given rate of flow. The calculations account for the size and shape of the channel cross section, the slope of the channel or river, and the flow resistance caused by the material comprising the channel boundary, as well as by obstructions such as bridges and vegetation. The computed flow depths are compared to the depth of channel or the height of a levee along the river to determine the peak rate of flow, in cubic feet per second, that the channel or river can convey without overflowing.

**Hydrocarbons**

Compounds composed principally of carbon and hydrogen; they occur in petroleum, natural gas, coal, and bitumens.

**Hydrocarbons, nonmethane**

Mixture or concentration of hydrocarbons with the methane fraction ignored. One of many formulations for reactive hydrocarbons.

**Hydrocarbons, reactive**

Mixture or concentration of hydrocarbons with fraction assumed to be nonreactive removed from consideration. See VOC.

**Hydrogeological cycle**

The natural process recycling water from the atmosphere down to (and through) the earth and back to the atmosphere again.

**Hydrogeology**

The geology of ground water, with particular emphasis on the chemistry and movement of water.

**Hydrologic cycle**

Movement or exchange of water between the atmosphere and earth.

**Hydrology**

The science dealing with the properties, distribution, and circulation of water.

**Igneous**

Igneous refers to a type of rock that is formed from the cooling and solidification of molten rock. Molten rock (magma) is produced due to the high internal core temperature of the earth. Upon cooling, magma becomes igneous rock. Granite and basalt are two common forms of igneous rock.

**Infiltration**

The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls.

**Infiltration rate**

The quantity of water that can enter the soil in a specified time interval.

**Inventory, emission**

A list of daily or annual emissions, listed by pollution source category (e.g., trains, refineries, agriculture, etc.).

**Invertebrate**

Animals that lack a spinal column.

**Leachate**

Water that collects contaminants as it trickles through wastes, pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

**Leaching**

The process by which soluble constituents are dissolved and filtered through the soil by a percolating fluid.

**Limnology**

The study of the physical, chemical, hydrological, and biological aspects of fresh water bodies.

**Liquefaction**

The process of making or becoming liquid (soils).

**Lithology**

Mineralogy, grain size, texture, and other physical properties of granular soil, sediment, or rock.

**Local scour**

Lowering of a channel bed as a result of a local disturbance to flow, such as bridge piers, a sudden drop or a sharp channel bend.

**Low flow**

Low rate of water flow due to scant rainfall and low runoff.

**Low-flow channel**

Formation of a local, small channel inside a larger stream channel as a result of low-discharge flows.

**Macroinvertebrate**

Pertaining to invertebrates that are visible to the naked eye.

**Maintained Vegetation.**

Vegetation group comprised of wetland (bulrush, sedges, and cattails), and riparian (willows, mulefat, cottonwood, and sycamore trees) vegetation allowed to mature undisturbed within the flow conveyance zone, but would be managed as indicated in the plan for annual and rotational clearing. Sediment may need to be cleared periodically.

**Marsh**

A type of wetland that does not accumulate appreciable peat deposits and is dominated by herbaceous vegetation. Marshes may be either fresh or saltwater, tidal or non-tidal.

**Maximum probable flood**

The largest flood for which there is any reasonable expectancy.

**Median**

The mid-value is a series of values, with half having greater value and half lower value. To be distinguished from “average.”

**Metamorphic**

Metamorphic refers to rocks that have been altered from their original form by heat and pressure.

**Methane**

A colorless, nonpoisonous, flammable gas created by anaerobic decomposition of organic compounds. A major component of natural gas used in the home.

**Microclimate**

Distinctive climate within a small geographic area.

**Micron**

One millionth of a meter.

**Mobile source**

Any non-stationary source of air pollution such as cars, trucks, motorcycles, buses, airplanes, and locomotives.

**Monitoring station**

A mobile or fixed site equipped to measure instantaneous or average ambient air pollutant concentrations.

**National Ambient Air Quality Standards (NAAQS)**

Standards established by EPA that apply for outdoor air throughout the country.

**National Pollutant Discharge Elimination System (NPDES)**

A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

**National Priorities List (NPL)**

EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under Superfund. The list is based primarily on the score a site receives from the Hazard Ranking System. EPA is required to update the NPL at least once a year. A site must be on the NPL to receive money from the Trust Fund for remedial action.

**Navigable waters of the United States**

Navigable waters of the United States generally include those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark, and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce (33 CFR 322.2).

**New Source Review (NSR)**

A Clean Air Act requirement that State Implementation Plans must include a permit review that applies to the construction and operation of new and modified stationary sources in nonattainment areas to ensure attainment of national ambient air quality standards.

**Nitrate**

A compound containing nitrogen that can exist in the atmosphere or as a dissolved gas in water and which can have harmful effects on humans and animals. Nitrates in water can cause severe illness in infants and domestic animals. A plant nutrient and inorganic fertilizer, nitrate is found in septic systems, animal feed lots, agricultural fertilizers, manure, industrial waste waters, sanitary landfills, and garbage dumps.

**Nitrogen oxides**

A gaseous mixture of nitric oxide (NO) and nitrogen dioxide (NO<sub>2</sub>) and symbolically represented as NO<sub>x</sub>.

**Noise level, median**

The level of noise exceeded 50 percent of the time. Usually specified as either the daytime or the nighttime median noise level. Also given the designation L50.

**Non-attainment area**

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.

**Non-point sources**

Diffuse pollution sources (i.e., without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by storm water. Common non-point sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

**Nourishment**

The process of replenishing a beach. It may be brought about naturally by longshore transport, or artificially by the deposition of dredged materials.

**Nutrient**

Any substance assimilated by living things that promotes growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also applied to other essential and trace elements.

**Organic**

Referring to or derived from living organisms. In chemistry, any compound containing carbon.

**Organic chemicals/compounds**

Naturally occurring (animal or plant-produced or synthetic) substances containing mainly carbon, hydrogen, nitrogen, and oxygen.

**Organic matter**

Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources.

**Organism**

Any form of animal or plant life.

**Outfall**

The place where effluent is discharged into receiving waters.



**Oxidant**

A mixture of chemically oxidizing compounds formed from ultraviolet stimulated reactions in the atmosphere, with ozone a principal fraction.

**Ozone**

A molecule of three oxygen atoms -- O<sub>3</sub>. A principal component of “oxidant” in photochemically polluted atmospheres.

**Particulate matter (particulates)**

Very fine sized solid matter or droplets, typically averaging one micron or smaller in diameter. Also called “aerosol.”

**Peak flow**

The maximum instantaneous discharge of a stream or river at a given location. It usually occurs at or near the time of maximum stage.

**Perched water**

Zone of unpressurized water held above the water table by impermeable rock or sediment.

**Percolation**

The movement of water downward and radially through subsurface soil layers, usually continuing downward to ground water. Can also involve upward movement of water.

**Photochemical pollutant**

Reactive organic compounds (ROC) and nitrogen oxides (NO<sub>x</sub>), photochemical pollutants that absorb energy from the sun and react chemically to form ozone (O<sub>3</sub>).

**Point source**

A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution; e.g., a pipe, ditch, ship, ore pit, factory smokestack.

**Pollutant**

Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems.

**Preferred alternative**

Alternative selected by the NEPA lead agency considering all environmental and economic information associated with the project and alternatives.

**Proposed Action**

Plan that contains sufficient details about the intended actions to be taken, or that will result, to allow alternatives to be developed and its environmental impacts analyzed (40 CFR §1508.23). This EIS/EIR refers to Alternative 1 as the “Proposed Action” because it is the proposal described in CDFW’s and LACDPW’s permit applications to the Corps. However, use of this term does not in any way indicate the Lead Agencies’ preference for Alternative 1. Rather, the term is used to facilitate the discussion and comparison of Alternatives 1 through 4 as presented



in this EIR/EIS. As an informational document, an EIS/EIR does not recommend approval or denial of any specific alternative.

**Recharge**

The process by which water is added to a zone of saturation, usually by percolation from the soil surface; e.g., the recharge of an aquifer.

**Reservoir**

Any natural or artificial holding area used to store, regulate, or control water.

**Return frequency**

A measure of the how often a given event, such as a flood, is expected to occur. The term refers to the period of time during which the magnitude of a flood is expected to be equaled or exceeded only once, on the average. For example, the 100-year flood is expected to be equaled or exceeded only once every hundred years, on the average. Also known as flood frequency, recurrence frequency, or return interval. The same measure can also be expressed in terms of either probability or percent chance of occurrence. For example, the 100-year flood has a probability of 0.01, or a 1 percent chance, of being equaled or exceeded in any given year. Mathematically, the probability of occurrence is equal to one divided by the return frequency; for example, the probability of the 100-year flood is 1 divided by 100, or 0.01.

**Riparian**

Area along the banks of a river or lake supporting specialized plant and animal species.

**Rip rap**

A protective layer or facing of quarry-stone, usually well graded within wide size limit, randomly placed to prevent erosion, scour, or sloughing of an embankment of bluff; also the stone so used. The quarry-stone is paced in a layer at least twice the thickness of the 50 percent size, or 1.25 times the thickness of the largest size stone in the gradation.

**River basin**

The land area drained by a river and its tributaries.

**Salinity**

The percentage of salt in water.

**Sediment yield**

The quantity of sediment arriving at a specific location.

**Sedimentation**

Letting solids settle out of wastewater by gravity during treatment.

**Sediment**

Soil, sand, and minerals washed from land into water, usually after rain. They pile up in reservoirs, rivers and harbors, destroying fish and wildlife habitat, and clouding the water so that

sunlight cannot reach aquatic plants. Careless farming, mining, and building activities will expose sediment materials, allowing them to wash off the land after rainfall.

**Sedimentary**

Sedimentary refers to a type of rock that is formed by the consolidation of rock particles. These particles are usually transported from their source by forces of erosion, such as wind, water, and glaciers. Over time, the particles become cemented or consolidated into rock. Shale and sandstone are two forms of sedimentary rock.

**Seedbank**

The layer of topsoil containing native plant seed material, which is frequently used as a “seed bank” for revegetation of native plants.

**Seismicity**

The relative frequency and distribution of earthquakes.

**Senescence**

The aging process. Sometimes used to describe lakes or other bodies of water in advanced stages of eutrophication. Also used to describe plants and animals.

**Sensitive receptor**

That segment of the population that because of age or weak health is more susceptible to the effects of air pollution, noise, oil spill, etc., than the population at large.

**Shrink-swell potential**

The expansion or contraction of primarily clay-rich soils during alternating wetting and drying cycles.

**Silt**

Sedimentary materials composed of fine or intermediate-sized mineral particles.

**Slough**

A place of deep mud or mire; bog. A stagnant swamp, backwater, bayou inlet, or pond in which water backs up.

**Standard project flood (SPF)**

The flood that may be expected from the most severe combination of meteorological and hydrological conditions considered reasonably characteristic of the geographical area in which the drainage basin is located, excluding extremely rare combinations.

**Stationary source**

A fixed-site producer of pollution, mainly power plants and other facilities using industrial combustion processes.

**Stream scour**

Lowering of a streambed during the passage of a single stream flow. Stream scour can be local in nature or more widespread.

**Substrate**

Geologic term describing soil or geologic layers underlying a project site or construction area.

**Sulfates**

Compounds in air or water that contain four oxygen atoms for each sulfur atom. See SO<sub>x</sub>.

**Sulfur oxides**

A gaseous mixture of sulfur dioxide (SO<sub>2</sub>) and sulfur trioxide (SO<sub>3</sub>) and symbolically represented as SO<sub>x</sub>. Can include particulate species such as sulfate compounds (-SO<sub>4</sub>).

**Surface water**

All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.).

**Terrestrial**

Related to or living on land. Terrestrial biology deals with upland areas as opposed to shorelines or coastal habitats.

**Thalweg**

The lowest thread along the axial part of a valley or stream channel.

**Topography**

The physical features of a surface area including relative elevations and the position of natural and man-made (anthropogenic) features.

**Toxic substance**

A chemical or mixture that may present an unreasonable risk of injury to human or animal health or the environment.

**Transpiration**

The process by which water vapor is lost to the atmosphere from living plants. The term can also be applied to the quantity of water thus dissipated.

**Turbidity**

Cloudiness or muddiness of water or ocean, resulting from suspended or stirred up particles.

**Vector**

An organism, often an insect or rodent, that carries disease.

**Vehicle miles traveled (VMT)**

A measure of the extent of motor vehicle operation; the total number of vehicle miles traveled within a specific geographic area over a given period of time.

**Wastewater**

The spent or used water from a home, community, farm, or industry that contains dissolved or suspended matter.

**Water table**

The sub-surface elevation of groundwater.

**Watershed**

The land area that drains into a stream; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common point.

**Weir**

A wall or plate placed in an open channel to measure the flow of water.

**Wetland**

Lands transitional between upland and aquatic environments. Wetlands are generally highly productive environments with abundant fish, wildlife, aesthetic, and natural resource values. For this reason, coupled with the alarming rate of their destruction, they are considered valuable resources, and several regulations and laws have been implemented to protect them.

**Wetland Vegetation**

Vegetation group consisting of flexible vegetation, bulrush, sedges, cattails, mulefat, and other species, that would easily bend over with water flow, usually less than ½ inch diameter.

**Zooplankton**

Microscopic marine/aquatic animals generally carried within a water mass.



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