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LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
ADTs	Average Daily Trips
AIS	Aquatic invasive species
AMM	Avoidance and Minimization Measure
APCD	Air Pollution Control District
APTR	Analysis of Impacts to Public Trust Resources and Values
AQMP	Air Quality Management Plan
ASBS	Areas of Special Biological Significance
ATE	Associated Transportation Engineers
ATU	Aerobic Treatment Units
avg	Average
B	Beneficial Effect
BBGHAD	Broad Beach Geologic Hazard Abatement District
BEACON	Beach Erosion Authority for Clean Oceans and Nourishment
BHMP	Beach Habitat Management Plan
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCA	Critical Coastal Area
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCMP	California Coastal Management Program
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CF	Chlorofluorocarbon
CFC	Coastal Frontiers Corporation, Inc.
CFR	Code of Federal Regulations
CH_4	Methane
CINMS	Channel Islands National Marine Sanctuary
cm	centimeter
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Services
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2E	CO_2 equivalent
COP	California Ocean Plan
COTP	Captain of the Port
CRPR	California Rare Plant Rank
CSLC	California State Lands Commission
CSMW	Coastal Sediment Management Workgroup
CUP	Conditional Use Permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
cy	cubic yard(s)
cy/yr	cubic yards per year
CZMA	Coastal Zone Management Act
dB	decibel(s)
dBA	A-weighted decibel(s)
DDT	Dichlorodiphenyltrichloroethane
DIP	Ductile Iron Pipe
DoD	Department of Defense
DPM	Diesel particulate matter
DPR	Department of Parks and Recreation
DPS	Distinct Population Segment
DSL	Deep Scattering Layer
DWR	Department of Water Resources
EAP	Emergency Action Plan
EIR	Environmental Impact Report
ENSO	El Niño Southern Oscillation
EO	Executive Order
EPA	Environmental Protection Agency
ERL	Effects-Range Low
ERM	Effect-Range Median
ESA	Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
$F^{\underline{M}}$	Trancas Formation
FCAA	Federal Clean Air Act
FSAP	Final Sampling and Analysis Plan
FTA	Federal Transit Authority

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

GENESIS	Generalized Model for Simulating Shoreline Change
GHAD	Geologic Hazard Abatement District
GHG	Greenhouse Gas
gpd	gallons per day
GPS	Global Positioning System
GWP	Global warming potential
H_2S	Hydrogen sulfide
HFC	Hydrofluorocarbon
HIC	Chronic health index
HRA	Health Risk Assessment
↑I	Increased Intensity
IMO	International Maritime Organization
IPCC	Intergovernmental Panel on Climate Change
JWPCP	Joint Water Pollution Control Plant
Ldn	Day-Night Average Noise Level
Leq	Equivalent Sound Level
LACDPW	Los Angeles County Department of Public Works
LAE	Lateral Access Easement
LARWQCB	Los Angeles Regional Water Quality Control Board
lb	pound
LCP	Local Coastal Program
LIP	Local Implementation Plan
LOS	Level of Service
LUP	Land Use Plan
LVMWD	Las Virgenes Municipal Water District
M_{MAX}	Maximum Magnitude Earthquake
M_W	Earthquake Momentum Magnitude
MARPOL	Marine Pollution
MBTA	Migratory Bird Treaty Act
MDP	Master Drainage Plan
MHHW	Mean Higher High Water
MHTL	Mean High Tide Line
Mi	Minor Adverse Effect
mi^2	Square miles
MICR	Maximum individual cancer risk
Mj	Major Adverse Effect
MLLW	Mean Lower Low Water
MLPA	Marine Life Protection Act
mm	Millimeter
mm/year	Millimeters per Year
MMA	Marine Managed Areas
MMPA	Marine Mammal Protection Act
MMT	Million metric ton
mph	miles per hour
MPO	Metropolitan Planning Organizations
MR	Maintenance Reach
MSL	Mean Sea Level
MT	Metric ton
N	Negligible Effect
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NAVD88	North American Vertical Datum - 1988
NCDC	National Climatic Data Center
NE	Noise Element
NGVD29	National Geodetic Vertical Datum - 1929
NISA	National Invasive Species Act
nm	Nautical Miles
NMFS	National Marine Fisheries Service
NO; NO_x	Nitrogen Oxide; Nitrogen Oxides
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	National Response Corporation
NWCLA	Northwest Coastal Los Angeles
O_3	Ozone
OCS	Outer Continental Shelf
OEHHA	Office of Environmental Health Hazard Assessment
OFR	Office of the Federal Register
OHWM	Ordinary High Water Mark
OSPRA	Oil Spill Prevention and Response Act
OTD	Offer to Dedicate
OWTS	Onsite Wastewater Treatment System
PAAP	Public Access Action Plan
Pb	Lead
PCB	Polychlorinated biphenyl
PCE	Passenger car equivalents
PCH	Pacific Coast Highway
PM	Particulate Matter
PM_{10}	Particulate Matter Less Than 10 Microns in Diameter
$PM_{2.5}$	Particulate Matter Less Than 2.5 Microns in Diameter

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

ppb	parts per billion
ppm	parts per million
ppt	parts per thousand
ROC	Reactive organic compound
ROG	Reactive organic gas
RSM	Regional Sediment Management
RWQCB	Regional Water Quality Control Board
SANDAG	San Diego Association of Governments
SB	Senate Bill
SBCFD	Santa Barbara County Fire Department
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCB	Southern California Bight
SCS	Sustainable Community Strategies
sf	Square feet
SFM	Single Family Medium
SHPO	State Historic Preservation Officer
SLR	Sea Level Rise
SMBWMA	Santa Monica Bay Watershed Management Area
SMCA	State Marine Conservation Area
SMR	State Marine Reserve
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
SPCCP	Spill Prevention Control and Countermeasure Plan
SR	State Route
SSC	Species of Special Concern
SVOC	Semi-Volatile Organic Compounds
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TPH	Total Petroleum Hydrocarbons
TPOA	Trancas Property Owners Association
U.S.	United States
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geologic Survey
V/C	Volume/Capacity
VOC	Volatile Organic Compound

GLOSSARY OF TERMS

anthropogenic -- Caused by humans.

armor size -- The size of boulders used in a revetment.

aromatic hydrocarbons -- Hydrocarbons with alternating double and single bonds between carbon atoms, many of which have strong, pungent aromas. Many aromatic hydrocarbons are toxic, and they are among the most widespread organic pollutants.

Avoidance and Minimization Measure (AMM) -- A measure intended to avoid or reduce the intensity of an identified impact.

backpassing -- The process of using heavy equipment to excavate sand from the downdrift "sand rich" area of a beach and transport it to the updrift eroding area of the beach.

bathymetry -- Undersea topography.

beach berm -- A nearly horizontal plateau on the beach face or backshore, formed by the deposition of beach material by wave action, or by means of mechanical deposition as part of a beach nourishment project.

beach nourishment -- process by which sediment (usually sand) lost through longshore drift or erosion is replaced from sources outside of the eroding beach.

benthic -- Relating to the bottom of a sea or lake or to the organisms that live there.

Best Management Practices (BMPs) -- Methods or techniques found to be the most effective and practical means in achieving an objective (such as preventing or minimizing pollution) while making the optimum use of resources.

candidate species -- Under the Federal Endangered Species Act candidate species are defined as plants and animals that have been studied proposed for addition to the Federal endangered and threatened species list by the U.S. Fish and Wildlife Service. Section 2068 of the California Fish and Game Code describes candidate species as native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

coastal access -- A location or area, including vertical access, lateral access, coastal bluff top trails, and upland trails that lead to the shore or traverse inland parklands within the coastal zone.

cultural resources -- The collective evidence of the past activities and accomplishments of people.

depth of closure (closure depth) -- The littoral cell offshore boundary at which no seasonal sand movement occurs whether offshore or onshore.

design water level -- The sea water level that is considered during coastal engineering design and analysis, the basis of which is provided by extreme still water level measurements combined with sea level rise projections.

dike -- A barrier constructed to contain the flow of water or to keep out the sea.

downdrift -- In the direction of the net longshore transport.

easement -- (1) an interest in land owned by another that entitles its holder to a specific limited use or enjoyment, such as right of passage and (2) an area of land covered by an easement.

El Niño Southern Oscillation (ENSO) -- Global-scale climatic variations which tend to occur at frequencies ranging from every 2 to 7 years. In California, these events elevate water levels, increase storm intensity, and generate larger waves from a more westerly direction.

endangered species -- As defined in Section 3 of the Federal Endangered Species Act The term "endangered species" means any species which is in danger of extinction throughout all or a significant portion of its range. Similarly under Section 2062 of the California Fish and Game Code an endangered species is defined as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease. For this Project, species listed as endangered under the federal Endangered Species Act or the California Endangered Species Act.

environmental justice -- The fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies.

estuary -- A water passage where the tide meets a river current; an arm of the sea at the lower end of a river.

euphotic -- Of, relating to, or being the uppermost layer of a body of water that receives sufficient light for photosynthesis and the growth of green plants.

geotextile -- Any strong synthetic fabric used in civil engineering, as to retain an embankment.

infauna -- Aquatic animals that live in the substrate of a body of water, especially in a soft sea bottom.

intertidal -- Of denoting the area of seashore that is covered at high tide and uncovered at low tide. This area is part of the public trust in California.

intertidal zone -- Of, relating to, or being the part of the zone lying above the low-tide mark but below the high-tide line.

isobath -- A line on a map connecting points of equal underwater depth.

lagoon -- A shallow sound, channel, or pond near or communicating with a larger body of water.

land use -- Natural conditions or human-modified activities occurring at a particular location.

lateral access -- Coastal access along a beach.

Lateral Access Easement (LAE) -- All easements, deed restrictions, or other legal documents providing lateral public access to Broad Beach.

leach field -- Septic drain fields are used to remove contaminants and impurities from the liquid that emerges from the septic tank.

liquefaction -- A phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading.

littoral cell -- A littoral cell is a coastal compartment that contains a complete cycle of sedimentation including sources, transport paths, and sinks, generally bound by geographic features such as headlands or submarine canyons that limit the movement of sand between cells.

littoral drift -- See littoral transport.

littoral process -- The physical process, resulting from the interaction of winds, waves, currents, tides, sediments, and other phenomena, that moves sediment along the coastal region.

littoral transport -- The transport of sediments, i.e. mainly sand, along the shoreline due to the action of the breaking waves and the longshore current. The littoral transport is also called the longshore transport or littoral drift.

longshore transport -- See littoral transport.

mean high tide line (MHTL) -- Long-term average of shoreline position at high tide

mean lower low water (MLLW) -- Long-term average of shoreline position at lower low tide

non-point discharge -- Discharges of water and air pollution from diffuse sources.

onsite wastewater treatment systems (OWTS) -- Systems used for the treatment of sewage effluent, typically septic systems, but also includes other types of systems such as drywells and aerobic treatment units.

ordinary high water mark (OHWM) -- Generally measured at the mean high tide line, except where there has been fill or artificial accretions, or where the boundary has been fixed by agreement or court decision.

Pacific Decadal Oscillation (PDO) -- A pattern of long-term climate variability in the Pacific Ocean that shifts every 20 to 30 years and is described as being in either a warm or cool phase. The phases are associated with changes in sea surface temperatures north of 20° N in the Pacific Ocean that result in changes to the jet stream path and resulting weather patterns.

paleontological resources -- Fossilized remains of extinct plants and animals, and associated deposits.

point source discharge -- Any discernible confined and discrete conveyance including but not limited to a pipe, ditch, channel, or conduit from which pollutants are or may be discharged.

public access easement -- An easement used specifically for the right of public access.

public trust -- Trust created for the promotion of public welfare and not for the benefit of one or more individuals.

Public Trust Doctrine -- Public Trust Doctrine refers to a common law doctrine creating the legal right of the public to use certain lands and waters. The right may be concurrent with private ownership. The rights of the public are vested in each state as owner and trustee of Trust lands.

public trust lands -- Lands owned by the state and held in trust for the benefit of the public, including tidelands, submerged lands, and lands under navigable waterways.

revetment -- A revetment is a facing of stone, concrete units or slabs, etc., built to protect a scarp, the foot of a cliff or a dune, a dike or a seawall against erosion by wave action, storm surge and currents.

run-up -- The upper level reached by a wave on a beach, or coastal structure.

sand trap -- An obstruction to littoral transport that results in the accumulation of sediment, often constructed at harbors to prevent harbor entrance infilling.

seawall -- A structure separating land and water areas, designed to resist the full force of waves and storm surge in order to prevent coastal erosion and other damage.

sediment transport -- The movement of solid particles (sediment), typically due to a combination of the force of gravity acting on the sediment, and/or the movement of the fluid in which the sediment is entrained.

septic system -- An onsite waste water treatment system, usually comprising a septic tank which promotes the biological digestion of the waste, and a leach field which is designed to let the left over liquid soak into the ground.

Species of Special Concern (SSC) -- A species, subspecies, or distinct population of an animal native to California that meets the State's definition for threatened or endangered, or is in danger of becoming threatened or endangered, but has not been formally listed.

still water level -- Average water surface elevation at any instant, excluding local variation due to waves and wave set-up, but including the effects of tides and storm surges.

submarine canyon -- A steep-sided valley cut into the sea floor of the continental slope, sometimes extending well onto the continental shelf.

submerged lands -- Land extending from mean low water seaward out to 3 nautical miles offshore. In California, these are public trust lands.

subtidal -- Of, relating to, or being the part of the zone lying below the low-tide mark but still shallow and close to shore.

swell -- An ocean wave system not raised by the local wind blowing at the time of observation, but raised at some distance away due to wind blowing there, with long waves that have smoother and flatter wave crests than local wind-generated waves.

swell decay distance -- The distance over which a swell travels as the energy of the swell dissipates.

take -- To harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

threatened species -- Section 3 of the Federal Endangered Species Act defines threatened species as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Similarly Section 2067 of the California Fish and Game Code describes threatened species as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. For the Project, species listed as threatened under the federal Endangered Species Act or California Endangered Species Act.

tide -- The periodic rise and fall in the level of the water in oceans and seas as a result of the gravitational attraction of the sun and moon.

tidelands -- Lands generally covered and uncovered by the daily rise and fall of the tide, lying between the mean high tide line and the mean low water. In California, these are public trust lands. Also knows as the intertidal zone.

training dike -- A longitudinal structure designed to change the flow direction of flood waters, debris flows or avalanches in order to protect a particular area.

turbidity -- The cloudiness or haziness of a fluid caused by individual particles (suspended solids) that are generally invisible to the naked eye.

updrift -- The direction which is opposite the prevailing movement of littoral transport.

upwelling -- An oceanographic phenomenon that involves wind-driven motion of dense, cooler, and usually nutrient-rich water towards the ocean surface, replacing the warmer, usually nutrient-depleted surface water.

vertical access -- Coastal access from an upland street, parking area, buff, or public park to the beach.

wave run-up -- The rush of water up a beach or coastal structure that is caused by or associated with wave-breaking.