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## List of Acronyms

AAM	annual arithmetic mean
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
AB 1807	Assembly Bill 1807-Tanner Air Toxics Act
AB 2588	Assembly Bill 2588-Air Toxics Hot Spots Information Assessment Act of 1987
Ac	Alviso silty clay loam
ADRR	Archaeological Data Recovery Report
ADT	Average Annual Daily Traffic
AES	Aesthetics
AF	Acre Feet
AGR	agricultural supply
AMBAG	Association of Monterey Bay Area Government
APE	Archaeological Area of Potential Effect
AQMP	Air Quality Management Plan
AQ	Air Quality
ARB	California Air Resources Board
Archaeological Survey Report	<i>Carmel Lagoon Project, Carmel-by-the-Sea, Monterey County, California, prepared by Anthropological Studies Center, February 2016</i>
ARDTP	Archaeological Research Design and Treatment Plan
ASBS	Area of Biological Significance
ASC	Anthropological Studies Center
ASCE	American Society of Civil Engineers
ATR	Archaeological Testing Report
B	boron
BAAQMD	Bay Area Air Quality Management District
Basin Plan	RWQCB's Water Quality Control Plans
BAU	business-as-usual
BI	Beneficial Impact
BIO	Biological Resources
Bio Memo	Memorandum To Whitson Engineers for Feasibility Report: <i>Carmel River Lagoon Ecosystem Protective Barrier and Scenic Road Protection Project, Environmental Assessment Focusing on Biological Evaluations and Permitting Issues</i> , prepared by H.T. Harvey & Associates, May 2013
BIOL	preservation of biological habitats of special significance
Biosolids	sewage sludge
BMPs	Best Management Practices
BO	Biological Opinion
BSC	Building Standards Commission
C <sub>2</sub> F <sub>6</sub>	perfluoroethane
C <sub>2</sub> H <sub>3</sub> Cl	vinyl chloride
C <sub>3</sub> F <sub>8</sub>	perfluoropropane
C <sub>4</sub> F <sub>10</sub>	perfluorobutane
C <sub>4</sub> F <sub>8</sub>	perfluorocyclobutane
C <sub>5</sub> F <sub>12</sub>	perfluoropentane

C <sub>6</sub> F <sub>14</sub>	perfluorohexane
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Prevention
Cal-Am	California-American Water Company
CalEEMod	California Emission Estimator Model
Cal-EPA	California Environmental Protection Agency
CalGreen Standards	California Green Building Standard Codes
CalRecycle	Department of Resources, Recycling, and Recovery
Caltrans	California Department of Transportation
CAWD	Carmel Area Wastewater District
CAWD facility	Carmel Area Wastewater District Wastewater Treatment Facility
CBC	California Building Code
CBSC	California Building Standards Code
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCoWS	Central Coast Watershed Studies Team
CCR	California Code of Regulations
CDFA	California Department of Food and Agriculture
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit
CEC	California Energy Commission
Central Coast Basin Plan	RWQCB's Water Quality Control Plan for the Central Coast Basin
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CESA	California Endangered Species Act
CF <sub>4</sub>	perfluoromethane
CFC	California Fire Code
CFP	California Fully Protected
CFPD	Cypress Fire Protection District
CFR	Code of Federal Regulations
CRFREE	Carmel River Floodplain Restoration and Environmental Enhancement Project
cfs	cubic feet per second
CH <sub>4</sub>	methane
City	City of Carmel-by-the-Sea
CIWMB	California Integrated Waste Management Board
Cl	chloride
CLOMR	FEMA Conditional Letter of Map Revision
Cm	Coastal beaches
CNDDB	California Natural Diversity Data Base
CNEL	the Community Equivalent Noise Level
CNMP	Construction Noise Mitigation Plan
CNPPA	California Native Plant Protection Act
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalents

Coastal Act	California Coastal Act
CO-CAT	Coastal Ocean Working Group of the California Climate Action Team
Coastal Analysis	<i>Carmel River Lagoon Biological Assessment Coastal Engineering Analysis</i> , prepared by Moffatt & Nichol, August 2013
COLD	cold water habitat
COMM	commercial and sport fishing
County	County of Monterey
CPT	Cone Penetrometer Test
CPUC	California Public Utilities Commission
CR	Cultural Resources
CRHR	California Register of Historical Resources
CRLEP	Carmel River Lagoon Enhancement Project
CRLF	California red-legged frog
CRMB	Carmel River Mitigation Bank
CRPR	California Rare Plant Rank
CRSA	Carmel River Steelhead Association
CRWC	Carmel River Watershed Conservancy
CSC	California Species of Concern
CSLC	California State Lands Commission
CSUMB	California State University Monterey Bay
CUPA	Certified Unified Program Agency
CUSD	Carmel Unified School District
CVMP	Construction Vibration Mitigation Plan
CWA	Federal Clean Water Act
cy	cubic yards
CZARA	Coastal Zone Act Reauthorization Amendments
CZMA	Federal Coastal Zone Management Act of 1972
dB	Decibel
dba	A-weighted decibel
DD&A	Denise Duffy & Associates, Inc.
DE	Design Earthquake
DH	exploratory drill holes
DHS	California Department of Human Services
Diesel Exhaust PM	Diesel Exhaust Particulate Matter
District	Monterey Bay Unified Air Pollution Control District
DNL	Day-Night average noise level
DPM	Diesel Exhaust Particulate Matter
DPS	Distinct Population Segment
Draft EIR	Draft Environmental Impact Report
Draft RPA	draft reasonable and prudent alternative
DRRP	Diesel Risk Reduction Plan
DSOD	California Division of Safety of Dams
DTSC	California Department of Toxic Substances Control
DWA Associates	D.W. ALLEY & Associates
DWR	California Department of Water Resources
EbC	Elder very fine sandy loam, 2-9% slopes
EFH	Essential Fish Habitat
EIR	Environmental Impact Report



EPA	United States Environmental Protection Agency
EPB	Ecosystem Protection Barrier
ESA	Federal Endangered Species Act
ESHA	Environmentally Sensitive Habitat Area
EST	estuarine habitat
°F	degrees Fahrenheit
FCCA	Federal Clean Air Act
FE	Federally Endangered
Feasibility Report	<i>Carmel River Lagoon Ecosystem Protective Barrier (EPB) and Scenic Road Protection Structure (SRPS) Projects Feasibility Report</i> prepared by Whitson Engineers, May 2013
FEMA	Federal Emergency Management Agency
FHWA	United States Department of Transportation Federal Highway Administration
FHWG	Fisheries Hydroacoustic Working Group
FIMA	Flood Insurance and Mitigation Administration
FIRM	Flood Insurance Rate Map
Fisheries Report	Fisheries Analysis for the Carmel River Lagoon Biological Assessment Report prepared by D.W. ALLEY & Associates, March 2014
FMP	Forest Management Plan
FR	Federal Register
FRESH	freshwater replenishment
FRP	fiber reinforced polymer
FT	Federally Threatened
ft-lbs	foot-pounds
g/L	grams per liter
General Construction Permit	NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity
Geotechnical Report	<i>Feasibility Geotechnical Investigation, Proposed Ecosystem Protection Barrier and Scenic Road Protection Structure, Monterey County, California</i> , prepared by Pacific Geotechnical Engineering, May 2013
GHG	Greenhouse Gas
GS	Geology, Soils, and Seismicity
GWP	global warming potential
GWR	groundwater recharge
H <sub>2</sub> S	hydrogen sulfide
HAPC	Habitat Area of Particular Concern
HAP	Hazardous Air Pollutant
HAZ	Hazards and Hazardous Materials
HCP	Habitat Conservation Plan
HDP	Historic Properties Directory
HELM	Homeowners for Effective Lagoon Management
HFCs	hydrofluorocarbons
HPD	Historic Properties Directory
HMBP	Hazardous Materials Business Plan
HMMP	Habitat Mitigation and Monitoring Plan
Hp	horsepower
HTH	H.T. Harvey & Associates

HYD	hydrology/water quality
Hydrology Report	<i>The Geomorphic Role of Riverine Processes in Carmel Lagoon Water Surface Elevation and Sand Bar Breaching Dynamics for the Carmel River-Lagoon Biological Assessment Report</i> prepared by Balance Hydrologics, Inc., January 2014
Hz	hertz
IBC	2006 International Building Code
lbs/day	pounds per day
IFC	International Fire Code
in/sec	Inches per second
IND	industrial service supply
IPCC	International Panel on Climate Change
IS/MND	Initial Study/Mitigated Negative Declaration
ISMP	Interim Sandbar Management Plan
JO	Jeopardy Opinion
km	kilometer
Lagoon	Carmel River Lagoon
lbs/day	pounds per day
LCFS	Low Carbon Fuel Standard
LCP	Local Coastal Programs
L <sub>dn</sub>	day-night average noise level
L <sub>eq</sub>	energy-equivalent noise level (correction to be made in Section 4.10 under heading “Ambient Noise Environment”)
lf	linear feet
LID	Low Impact Development
L <sub>max</sub>	Maximum Noise Level
L <sub>min</sub>	Minimum Noise Level
LOMR	FEMA Letter of Map Revision
LOS	level of service
LS	Less than Significant
LSM	Less than Significant with Mitigation
LU	Land Use Planning
MBNMS	Monterey Bay National Marine Sanctuary
MBTA	Migratory Bird Treaty Act of 1918
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MCMAD	Monterey County Mosquito Abatement District
MCWRA	Monterey County Water Resources Agency
Mf	Metz fine sandy loam
mg/L	Milligrams per liter
µg/m <sup>3</sup>	microgram per cubic meter
MHHW	mean higher high water
MHW	mean high water
MIGR	migration of aquatic organisms
Mission Ranch	Homestead Inn/Mission Ranch
MLD	most likely descendent
MLLW	mean lower low water
MLW	mean low water
MMPA	Marine Mammal Protection Act

MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MMTCo <sub>2e</sub>	million metric tons of Carbon Dioxide equivalents
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
mph	miles per hour
MPWMD	Monterey Peninsula Water Management District
MRF	Material Recovery Facility
MRP	RWQCB San Francisco Bay Region Municipal Regional Stormwater NPDES Permit
MRSWMP	Monterey Regional Stormwater Management Program
MRWMD	Monterey Regional Waste Management District
MRWPCA	Monterey regional Water Pollution Control Agency
MS4	Municipal Separate Storm Sewer Systems
MST	Monterey Salinas Transit
MTCO <sub>2e</sub> /year	Metric tons of Carbon Dioxide equivalents per year
MTL	mean tide level
MUN	municipal and domestic supply
MURP	Model Urban Runoff Program
N <sub>2</sub> O	nitrous oxide
Na	sodium
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NAVD88	North American Vertical Datum of 1988
NcC	Narlon loamy fine sand, 2-9% slopes
NCCAB	North Central Coast Air Basin
NCCP	Natural Community Conservation Plan
NESHAPs	National Emission Standards for Hazardous Air Pollutants
NF <sub>3</sub>	nitrogen trifluoride
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NI	No Impact
NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO <sub>x</sub>	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRC	National Research Council
NRHP	National Register of Historic Places
NV	Noise and Vibration
NWIC	Northwest Information Center of Sonoma State University
O&M	operation and maintenance
O <sub>3</sub>	ozone

OaD	Oceano loamy sand, 2-15% slopes
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
OCEN	Ohlone/Costanoan-Esselen Nation
OHAS	Ohlone/Costanoan-Esselen Nation Ancestral Heritage Site
OHP	California Office of Historic Preservation
OHW	Ordinary High Water
OR	Open Space Recreation
OSHA	Occupational Safety and Health Administration
Pa	Pacheco clay loam
Pb	lead
PCE(s)	Primary Constituent Element(s)
PERP	Portable Equipment Registration Program
Pf	Pico fine sandy loam
PFCs	perfluorocarbons
PG&E	Pacific Gas & Electric
PGA	calculated peak ground acceleration
PM	Particulate Matter
PM <sub>10</sub>	Inhalable Particulate Matter
PM <sub>2.5</sub>	Fine particulate matter/Suspended Particulate Matter
PM <sub>2.5-10</sub>	Inhalable course particles
Porter-Cologne	Porter-Cologne Water Quality Control Act of 1969
POTW	Publicly Owned Treatment Works
ppb	parts per billion
ppm	parts per million
ppv	Peak-particle velocity
PRC	Public Resources Code
Program Elements	Unified Program required administrative consolidation of six hazardous materials and waste programs
proposed project	Carmel Lagoon Ecosystem Protective Barrier (EPB), Scenic Road Protection Structure (SRPS), and Interim Sandbar Management Plan (ISMP) Project
PS	Public Services, Recreation, and Utilities
Public Works	Monterey County Department of Public Works
PWA	Philip Williams & Associates, Ltd.
RARE	rare, threatened, or endangered species
RC	Resource Conservation
RCRA	Resources Conservation and Recovery Act
REC1	water contact recreation
REC2	non-contact water recreation
ROG	reactive organic gases
RWD	Reports of Waste Discharge
RWQCB	Regional Water Quality Control Board
RWQCB's	Regional Water Quality Control Board's
RWQCB-CCR	California Regional Water Quality Control Board, Central Coast Region
SB	Senate Bill
SbA	Salinas clay loam, 0-2% slopes
SBB	Smith's blue butterfly
SC	State Candidate species for listing

SCAQMD	South Coast Air Quality Management District
S-CCC steelhead	South-Central California Coast steelhead
SDC	Seismic Design Category
SDC A	very small seismic vulnerability
SDC E/F	very high seismic vulnerability and near a major fault
SEL	Sound Exposure Level
SF <sub>6</sub>	sulfur hexafluoride
ShD	Santa Ynez fine sandy loam, 9-15% slopes
SIPs	State Implementation Plans
SLOAPCD	San Luis Obispo County Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMP	Sandbar Management Plan
SO <sub>2</sub>	sulfur dioxide
SO <sub>4</sub> <sup>2-</sup>	sulfate
SoE	Sheridan coarse sandy loam, 15-30% slopes
SOx	sulfur oxides
SO <sub>4</sub>	sulfate
SPWN	spawning, reproduction, and/or early development
sq. ft.	square feet
SRPS	Scenic Road Protection Structure
State Board	State Water Resources Control Board
State Parks	California Department of Parks and Recreation
SU	Significant Unavoidable
SUM	Significant and Unavoidable with Mitigation
Superfund	Comprehensive Environmental Response, Compensation, and Liability Act of 1980
SVP	Society of Vertebrate Paleontology
SWMP	stormwater management plan
SWPPP	stormwater pollution prevention plan
SWRCB	California State Water Resources Control Board
TACs	Toxic Air Contaminants
TAMC	Transportation Agency for Monterey County
TBACT	Toxic best available control technology
TDS	Total Dissolved Solids
TOG	Total Organic Gases
TRA	Traffic and Transportation
UFP	Ultrafine particles
UNFCCC	United Nations Framework Convention on Climate Change
Unified Program	The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
USACE	U.S. Army Corps of Engineers
USA North	Underground Service Alert North
USDA	United States Department of Agriculture
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
VCM	vinyl chloride

VOC	Volatile organic compounds
W	Water
WARM	warm fresh water habitat
Waters of the U.S.	Waters of the United States
WDR	Waste Discharge Requirements
WEAP	Worker Educational Awareness Program
WGCEP	Working Group on California Earthquake Probabilities
WILD	wildlife habitat
Xd	Xerothents, dissect