

## **Appendix A**

### **Project Design Information**

## **Appendix A – Project Design Information**

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Carpinteria Oil & Gas Plant Inventory August 2020 (updated March 2021) .....	A-1





## Carpinteria Oil & Gas Plant Inventory August 2020 (updated March 2021)

Operational Area	Plant Area No. (if Applicable)	Type	Equipment No.	Equipment Description	Dimension	Quantity	System/Comment	On Map
<b>Buildings, Concrete Pads, Asphalt, Misc.</b>								
Main Plant Area	9	Building	IR Bldg	IR Compressor Building	30' X 170' X 27'	5,100 SQFT	Cinder block construction, 188' long x 17' high cinder block wall at NE corner and along east side of building with (4) 6' gaps and (1) 8' gap (156' total linear feet x 17' high) and (6) 8' X 13' high cinder block partitions; Buidling has 44" high perimeter footing above ground surface and 18" X 18" support columns on 15' centers that correlate to (11) rebar and concrete reinforced A-frame supports; A-frame supports are 14" X 18" at eye level that increase in thickness vertically; (2) 1' X 6" X ~170' I-beams run the length of the building; Metal grating covers approx 75% of the raised floor and pier supported concrete and (5) compressor footings cover the remaining surface area; metal grating walkway extends 6' from west wall; (2) 10' X 10' doors located on either end of bldg (1) metal and (1) wood; 5' X 5' circulation fans located in wood / metal siding at south end of bldg; (6) standard metal doors; (6) IR Compressors	
Main Plant Area	10	Building	Cooper Bldg	Cooper Compressor Building	30' X 48' X 24'	1,440 SQFT	Cinder block contrsuction, but north wall is wood siding and 10' X 12' rollup door; (4) 8" X 12" I-Beam A-Frames from N-S; (2) 4" X 12" I-Beam N-S; (1) 4" X 12" I-Beam E-W, (2) 6" X 6" lateral support I-beams N-S, Cooper Compressor rests on massive concrete foundation 7' X 20'; (3) metal doors, Two (2) control panel Units 1.5' X 4' x 6.5' and 1' X 3' X 6' located within next to Lube Oil tank.	
Main Plant Area	10	Building	M-Cooper Bldg	Mini-Cooper Silencer Building	8' X 11' X 10'	88 SQFT	Cinder block contrsuction; (1) standard door; concrete floor	
Main Plant Area		Building	Cntrl Bldg	Control Building	24' X 67' X 10'	1,608 SQFT	Cinder block contrsuction; (5) double wide doors and (3) standard doors; 50'L X 5'W awning with metal supports; 20' X 20' sheet metal awning with metal supports	
Main Plant Area		Building		Control Building Leg	5' X 8' X 8'		Extension at NW corner of Cntrl Bldg, three cinder block walls with flat metal/wood roof	
Shop and Maintenance Area		Building	Maint Shop	Maintenance Shop	30' X 100' X 12'	3,000 SQFT	I-Beam A-Frames (4) from E-W, (8) metal lateral support beams from N-S, shallow pitched roof to support narrow second story office area; Sheet metal siding and roof; 30' X 5' wood and sheet metal awning and 21' X 11' sheet metal awning with post supports; (4) 10' X 10' metal rollup doors; (8) 3' x 7' metal doors, concrete floor, a 2,000-lb. jib crane is located at SW corner adjacent canopy.	X
Shop and Maintenance Area		Building	Covering East / Weld Shp West	Welding Shop Area Coverings	23' X 34', 24' X 40'	1,742 SQFT	(W) 3-4" metal pipe framing on ~5' centers N-S, sheet metal roof; (E) I-beam framing (4) 3" X 12" X 23' I-beams N-S and (8) 2" X 5" X 35' C-beams E-W; sheet metal roof;	X
Chevron Pipeline Area		Building	CPL-Bldg	Pipeline Office	15' X 34' X 10.5'	510 SQFT	Cinder block contrsuction; 37 of the 98 linear feet of building is metal framing, glass windows, and doors; 23' X 25' metal roof/awning; 20'L X 10'H attached cinder block screens, 3' X 9' x 7' Electrical panelboard located within.	X

Chevron Pipeline Area		Building		Stormwater Sump and Canopy	10' X 15'		Canopy covers XXX-gal concrete sump and motor/pump, (4) 8' metal posts	X
Former Marketing Terminal Area		Building	Annex Office	Shorebase Office Bldg	13' X 83' X 10'	1,079 SQFT	Metal siding, roof extends 2' beyond buldg footprints; (5) metal doors and (7) 5' X 5' windows, wood and drywall build out, LBP and potential ACM	
Former Marketing Terminal Area		Building	Annex Wrhse	Shorebase Warehouse Bldg	19' X 70' X 15'	1,330 SQFT	Metal siding, (2) 12' X 14' rollup doors at either end, concrete floor, LPB and potential ACM	
Shop and Maintenance Area		Building	Kiosk	Guard Kiosk	7' X 12' X10'	84 SQFT	Metal Construction shell rests on minimum 6 concrete footings, glass windows on west end	
MSRC Lease Area		Building	MSRC Offc / Conf Bldgs	MSRC Office / Conference Bldgs	60' X 48' X 12'	2880 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (2) 10' X 10' metal rollup doors, (1) 3' X 7' standard door; Conference Bldg has wood and drywall build out, galley and 2 restrooms; 20' X 35' sheet metal roofed awning with wood framing and steel support posts, plywood south wall with steel door; 10' X 25' sheet metal roofed awning with wood framing and support posts	
MSRC Lease Area		Building	MSRC Maint Shop	MSRC Maintenance Shop	25' X 30' X 16'	975 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (1) 10' X 10' metal rollup doors, (1) 6' X 7' double door, loft, wood and paneling build out, 4' X 15' sheet metal awning	
MSRC Lease Area		Building	MSRC Fab / Strge Bldg	MSRC Fabrication and Storage Building	15' X 80' X 16'	1,200 SQFT	Metal siding and steel beam construction "Butler building", Concrete slab foundation, (8) 15' X 15' metal rollup doors	
MSRC Lease Area		Carport	MSRC Carport	Carport	25' X 35' X 15'	875 SQFT	Metal shell and framing with pitched roof, Concrete slab foundation	
Casitas Pier		Building	Pier OB-1	Pier Out-Building #1	20' X 10'	200 SQFT		
Casitas Pier		Building	Pier OB-2	Pier Out-Building #2	15' X 8'	120 SQFT		
Casitas Pier		Building	Pier OB-3	Pier Out-Building #3	11' X 7'	77 SQFT		
Main Plant Area		Concrete		Concrete, Plant		7,782 SQYD	Inside Plant area only	
Main Plant Area		Asphalt		Asphalt, Plant		25,802 SQYD	Inside Plant area only	
Former Marketing Terminal Area		Asphalt		Asphalt, Dump Rd. to RR Tracks		6,222 SQYD		
Former Marketing Terminal Area		Asphalt		Asphalt, Shorebase		4,000 SQYD		
Pier Parking Lot		Asphalt		Asphalt, Pier Area from RR Tracks		7,405 SQYD		
		Concrete		Concrete, Castias Pier			Causeway: 20' x 30' = 600' x 13' = 7800 SF. Pier: 152' x 44.5' = 6764 SF  Total SF: 14, 564.	
		Fire Hydrants		Fire Hydrants		9		
		Fire Hose Reels		Fire Hose Reels		25		
		Deluge Sprinklers		Deluge Sprinklers		6		
		UG Firewater Piping		Underground Firewater Piping		5,300'	Pier firewater tied into Plant system	
		Storm Drains		Stormwater Drains		5		
		Towers		Towers		1	Wind/Weather, 40', next to plant control room	
		Light Towers		Light Towers		27		
		Concrete Vessel Supports		Concrete Vessel Supports		1,000 CUFT		
		Concrete Vertical Pipe Supports		Concrete Vertical Pipe Supports		24	18" x 18" x 15' HT	
		Power Poles		Power Poles		12		
				<b>Compressors/Pumps/Filters</b>				
Main Plant Area	9	Compressor	IR-1	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-2	Ingorsoll Rand - Electric	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-3	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-4	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	9	Compressor	IR-5	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	

Main Plant Area	9	Compressor	IR-6	Ingorsoll Rand - IC Engine	10' x 25'	1	Gas Processing System, IR Compressor Building	
Main Plant Area	10	Compressor	K-3	COOPER BESSEMER COMPRESSOR	10 x 30'	1	Gas Processing System, Cooper Compressor Building	
Main Plant Area	10	Compressor	K-30 (C-1)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Cooper Compressor Bldg.	
Main Plant Area	9	Compressor	K-40 (C-2)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Main Compressor Bldg.	
Main Plant Area	9	Compressor	K-50 (C-3)	AIR COMPRESSOR	5' x 5'	1	Utility Air, Main Compressor Bldg.	
Chevron Pipeline Area		Pump	P-1	WATER SKIM PUMP, T861	5' x 5'	1	T861, 20hp, 440 V	
Main Plant Area	6	Pump	P-17	COOLING WATER PUMP	5' x 5'	1	Therminol System, 3 HP, 230 V	
Main Plant Area	6	Pump	P-22A	THERMINOL CIRCULATION PUMP	5' x 5'	1	Therminol System,15 HP, 230 V	
Main Plant Area	6	Pump	P-22B	THERMINOL CIRCULATION PUMP	5' x 5'	1	15 HP, 230 V	
Main Plant Area	3	Pump	P-28	PIPELINE BOTTOM PUMP	5' x 5'	1	LACT UNIT	
Main Plant Area	9	Pump	P-31	IR 1 & 2 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-32	IR 3 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-33	IR 4 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-34	IR 5 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Main Plant Area	9	Pump	P-35	IR 6 JACKET WATER PUMP	5' x 5'	1	IR Compressor Building	
Chevron Pipeline Area		Pump	P-4	SHIPPING PUMP	5' x 10'	1	T-861 Shipping Pump	X
Chevron Pipeline Area		Pump	P-5	SHIPPING PUMP	5' x 10'	1	T-861 Shipping Pump	X
Chevron Pipeline Area		Pump	P-42	SKIM OIL RECYCLE PUMP	5' x 5'	1	T1 & T1 Waste Water System, 7.5 HP, 230 V	
Chevron Pipeline Area		Pump	P-5090	CENTRIFUGAL PUMP	5' x 5'	1	T-861, 12,000GPM, 350 HP, 480 V	
Main Plant Area	9	Pump	P-52	GLYCOL STRIPPER FEED PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-53	GLYCOL STRIPPER FEED PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-56	GLYCOL CIRCULATION PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Main Plant Area	9	Pump	P-57	GLYCOL CIRCULATION PUMP	5' x 5'	1	Glycol Regeneration System, 6 GPM	
Chevron Pipeline Area		Pump	P-FS	FIELD SERVICES SUMP PUMP	5' x 5'	1	T1 & T2 Waste Water System	X
				<b>Vessels</b>				
Main Plant Area	6	Vessel	V-13	FREE WATER KNOCKOUT	8' OD X 37'	1	VRU System	X
Main Plant Area	6	Vessel	V-61	DRIP POT	16" X 3'	1	Glycol Regeneration System	
Main Plant Area	6	Vessel	V-530	GLYCOL FLASH DRUM	20" X 10'	1	Glycol Regeneration System	X
Main Plant Area	6	Vessel	V-16	BLOW DOWN	8' OD X 28'	1	VRU System	
Main Plant Area	9	Vessel	V-2	LOW VAPOR RECIEVER	24" X 9'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-3	HI VAPOR INTAKE SCRUBBER	48" X 10'	1	VRU System	
Main Plant Area	9	Vessel	V-4	LOW PRESSURE INTAKE SCRUBBER	3' X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-5	LOW FIELD 500# DISCHARGE SCRUBBER	48" X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-6	LTS INTAKE SCRUBBER	5' X 12'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-7	H. P. INTAKE SCRUBBER	36" X 10'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-9	ACCUMULATOR	16' X 4'	1	Gas Processing System	
Main Plant Area	9	Vessel	V-50	PULSATION DAMPENR	2' X 20'	1	Gas Processing System	
Main Plant Area	9	Vessel	A-RECEIVER	AIR PRESSURE TANK	30" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel	B-RECEIVER	AIR PRESSURE TANK	30" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel	C-INSTRUMENT AIR	AIR PRESSURE TANK	20" DIA x 17' HT	1	Compressor Utility System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
Main Plant Area	9	Vessel		Vessel	24" DIA X 17 HT		Gas Processing System	
				<b>Heat/Air Exchangers/Coolers/Heaters/Dryers</b>				
Main Plant Area	9	Fin Fan	E-20	OIL COOLING FAN	6' X 14'	1	Compressor Utility System	
Main Plant Area	9	Fin Fan	E-28	OIL COOLING FAN	6' X 14'	1	Compressor Utility System	
Main Plant Area	9	Cooler	E-50	Air Discharge Cooler	4' X 5.5' X 4'	1	Compressor Utility System, 30" high metal frame support, LBP?	
Main Plant Area	9	Reboiler	E-109	GLYCOL CIRCULATION REBOILER	15" X12'	1	Glycol Rengeneration System	
Main Plant Area	9	Heat Exchanger	E-115	HEAT EXCHANGER	15" X 24'	1	Gas Processing System	
Main Plant Area	9	Heat Exchanger	E-117	GLYCOL PIPE JACKET HEAT EXCHANGER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Fin Fan	E-118	COOLING FAN	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Fin Fan	E-119	COOLING FAN	6' X 14'	1	Gas Processing System	

Main Plant Area	9	Cooler	E-140	100# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Cooler	E-160	LOW FIELD 500# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	9	Cooler	E-180	LOW FIELD 500# DISCHARGE COOLER	6' X 14'	1	Gas Processing System	
Main Plant Area	6	Heater	H-101	THERMINOL HEATER	8' X 20'	1	Therminol System	
Main Plant Area	9	Vessel		IR 1 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 3 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 5 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 6 HEAT EXCHANGER VESSEL	2' DIA x 6' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, set in 5.5' X 3.5' x 3' rack comprised of 4.5" steel pipe, LBP?	
Main Plant Area	9	Vessel		IR 1 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 3 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 5 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 6 HEAT EXCHANGER VESSEL	2' DIA x 8' Long	1	Compressor Utility System, vessels connected to 10-inch steel pipe, steel mesh protective cages at 2 locations, LBP?	
Main Plant Area	9	Vessel		IR 4 HEAT EXCHANGER VESSEL	2.5' DIA x 10' Long	1	Compressor Utility System, vessel connected to 10-inch steel pip, LBP?	
Main Plant Area	9	Exhaust		Air Exhaust	2.5' X 2.5' X 1.5'	5	4 way screened intake unit connected to 10-inch steel pipe	
				<b>Pipeways/Tanks</b>				
		Pipeline		Small (<6") AG Line		16,000'		
		Pipeline		Small (<6") BG Line		TBD'	TBD	
		Pipeline		Large (>=6") AG Line		6,500'		
		Pipeline		Large (>=6") AG Line		TBD'	TBD	
		Pipeline		Small (<6") AG Insulated Line		2,000'		
		Pipeline		Large (>=6") AG Insulated Line		900'		
Main Plant Area	6	Tank	T-102	GLYCOL SURGE TANK	15" X 10'		Glycol Regeneration System	
Main Plant Area	6	Tank	T-103	EXPANSION TANK	4' X 8'		Therminol System	
Chevron Pipeline Area		Tank	T-1	WASTE WATER TANK	30' DIA x 10' HT		Waste Water System, 2000 BBL	X
Chevron Pipeline Area		Tank	T-2	WASTE WATER TANK	30' DIA x 10' HT		Waste Water System, 2000 BBL	X
Main Plant Area	3	Tank	T-25380	WASTE WATER TANK	35' DIA X 30' HT		Chevron Pipeline Area	X
Chevron Pipeline Area		Tank	T-861	STORAGE TANK, Floating Roof	180' DIA X 48' HT		Crude Oil Shipping Syste, 217,000 BBL	X
Main Plant Area	9	Tank		Lube Oil Tank	5' DIA X 5' HT		IR Compressors, rests on 9' X 9' elevated bolted metal frame platform, +55-gal drum of compressor oil	
Main Plant Area	10	Tank		Lube Oil Tank	3' DIA X 15' Long		Cooper Compressor, rests on 8' L X 2' W x 9' H rack	
Chevron Pipeline Area		Tank	CF-185-5	Foam Tank	42" DIA X 10' HT		Red Foam tank on concrete padf, connected to 4.5" pipe (13') and 3.5" pipe (10')	X
Shop and Maintenance Area		Tank	AST-Diesel	Diesel Fuel AST	3.5'L X 4'W X 4'HT		350-gal capacity AST to contain Diesel Fuel	
Chevron Pipeline Area		Tank	AST-MS	Above Ground Storage Tank	3.5'L X 4'W X 4'HT		350-gal capacity AST to contain Mineral Spirits, in concrete secondary containment	X
				<b>Electrical</b>				
Main Plant Area		Electrical Cabinet	E-8 (MCC-1)	Electrical Cabinet	8' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area		Sub-station		Sub-Station and Chain link pen	30' X 30' X 10'		Sub-Station with metal framing on concrete slab, High Voltage	
Main Plant Area	10	Electrical Cabinet	E-1 (MCC-2)	Electrical Cabinet	30' X 4' X 8'		Electrical Cabinet, High Voltage	
Main Plant Area	10	Generator		Backup Generator	15' X 6' X 7'		Generator on concrete slab	

Main Plant Area	7/8	Electrical Cabinet	E-4 (MCC-3)	Electrical Cabinet	13' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	7/8	Chain Link Pen		Sub-Station and Chain link pen	30' X 13' X 10'		(3) transformers with PCB-containing oils; and substation on concrete slab inside the chain link fence pen	
Main Plant Area	7/8	Shed		Shed	15' X 10' X 8'		Corrugated metal roof and walls with metal angle iron and pipe framing	
Main Plant Area	8	Electrical Cabinet	E-3 (MCC-4)	Electrical Cabinet	10' X 4' X 8'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	8	Electrical Cabinet		Electrical Cabinet	8' X 5' X 9'		High Voltage, Electrical Cabinet on concrete slab	
Main Plant Area	8	Transformer		Transformer (1)	7' x 7' x 6'		(1) transformer on concrete slab,	
		Canopy		Metal Canopy	11' X 11' X 8'		with 11' X 11' X 8' metal canopy constructed of (4) 4.5-inch diameter X 8' vertical support pipes and roof contains (7) 3-inch diameter X 11' pipe	
Main Plant Area	10	Electrical Cabinet	E-7 (MCC-5)	Electrical Cabinet	9' X 4' X 8'		North of Control Room, Electrical Cabinet on concrete slab	
Chevron Pipeline Area		Chain Link Pen	E-12 (CPL Electrical Equipment)	Electrical Cabinet	11' X 5' X 8'		On concrete slab	X
Chevron Pipeline Area		Chain Link Pen		Electrical Cabinet	5' X 2' X 8'		On concrete slab	X
Chevron Pipeline Area		Chain Link Pen		Electrical Cabinet	6' X 3' X 7'		On concrete slab	X
Chevron Pipeline Area		Transformer		(5) Transformers			(3) large transiomers (similar to MCC-3), (1) transformer 6' X 3' X 4.5' (similar to MCC-4), and (1) 1' X 3' small can syle transformer, all on on concrete slabs	X
Chevron Pipeline Area		Chain Link Pen		Chain link pen	33' X 25' X 11'			X
Main Plant Area		Elec Cabinet	E-11 (Main Switchgear)	High Voltage	27' X 13' X 8'		High Voltage, on concrete slab with (8) 6.5-inch diameter X 6' metal pipe crash posts (4' above ground),	
Main Plant Area	8/9	Vessel	E-2	Electrical panel (I/O#1)			Electrical panel in P/L corridor between IR Builing and frm White Compressors; pitched metal frame and sheet metal roof canopy; panels mounted on post supported metal backing	
Main Plant Area	7	Elec Panel	E-5	Electrical panel			Electrical panel in fmr Gasoline Recovery Plant	
Main Plant Area	7	Elec Panel	E-6	Electrical panel			Electrical panel in fmr Gasoline Recovery Plant	
Main Plant Area	3	Elec Panel	E-9	Electrical panel			Electrical panel immediately west of tank 25380	
Main Plant Area		Elec Panel	E-10	Electrical panel			Electrical panel south of tank 25380	
Main Plant Area		Elec Panel	E-13	Electrical panel			Electrical panel immediately east of fmr Deisel Fuel UST	
Main Plant Area		Elec Panel	E-14	Electrical panel			Electrical panel in southeast corner of Site	
MSRC Lease Area		Elec Panel	E-15	Electrical panel (Abndnd)	4' X 8'			X
MSRC Lease Area		Sub-station		Sub-station			Wood and metal framing on concrete slab, no transformers	
MSRC Lease Area		Chain Link Pen		Chain link pen	20' X 20 X 11'		Electrical panel mounted on post supported metal backing	X

## **Appendix B**

### **Air Quality Calculations**

**Appendix B – Air Quality Calculations**

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Carpinteria Oil & Gas Processing Facilities Decommissioning Emissions Calculations.....	B-1

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Chevron Pipeline Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	576	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.233	0.022	0.008	0.006	0.149	69.680	0.004	0.002
Wheeled loader (Caterpillar 966)	Diesel	278	2	720	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.484	0.044	0.016	0.014	0.208	84.029	0.005	0.002
Dozer (Caterpillar D6)	Diesel	215	1	120	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.054	0.005	0.003	0.003	0.041	6.441	0.000	0.000
Backhoe	Diesel	104	1	720	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.088	0.009	0.005	0.004	0.108	16.101	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	240	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.074	0.008	0.004	0.004	0.055	8.299	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	416	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.017	0.001	0.000	0.000	0.034	5.596	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.975	0.091	0.037	0.032	0.607	194.480	0.0104	0.0050

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	2440	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0055	0.0008	0.0001	0.0001	0.0571	17.4877	0.0002	0.0004
Heavy-duty truck (equipment/piping)	25	88	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0031	0.0000	0.0000	0.0000	0.0002	3.4866	0.0000	0.0004
Heavy-duty truck (surface materials)	25	200	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0071	0.0001	0.0001	0.0001	0.0006	7.9242	0.0000	0.0008
Heavy-duty truck (surface materials-oil spray)	50	60	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0042	0.0001	0.0001	0.0001	0.0003	4.7545	0.0000	0.0005
Heavy-duty truck (soil removal-hazardous)	201	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0006	0.0000	0.0000	0.0000	0.0000	0.6371	0.0000	0.0001
Heavy-duty truck (soil removal-non-hazardous)	50	58	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0041	0.0001	0.0001	0.0000	0.0003	4.5960	0.0000	0.0005
Heavy-duty truck (backfill)	45	60	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0038	0.0001	0.0000	0.0000	0.0003	4.2791	0.0000	0.0004
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.0284	0.0011	0.0004	0.0003	0.0589	43.2	0.0003	0.0031
SB County											0.0068	0.0008	0.0001	0.0001	0.0572	18.97	0.0002	0.0005
Ventura Co											0.0211	0.0003	0.0003	0.0003	0.0017	23.72	0.0000	0.0025
LA County											0.0001	0.0000	0.0000	0.0000	0.0000	0.12	0.0000	0.0000
Kern County											0.0003	0.0000	0.0000	0.0000	0.0000	0.29	0.0000	0.0000
Kings County											0.0001	0.0000	0.0000	0.0000	0.0000	0.06	0.0000	0.0000
Off-Road & On-Road Source Totals											1.003	0.092	0.038	0.032	0.666	237.6	0.0106	0.0080

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	212.183	0.009	0.007
CO2E	212.183	0.265	1.895
Total CO2E			214.3



Carpinteria Oil & Gas Processing Facilities Decommissioning  
Former Marketing Terminal Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	160	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.065	0.006	0.002	0.002	0.041	19.356	0.001	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	700	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.471	0.043	0.016	0.014	0.202	81.695	0.004	0.002
Dozer (Caterpillar D6)	Diesel	215	1	240	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.108	0.011	0.006	0.005	0.081	12.882	0.001	0.000
Backhoe	Diesel	104	1	700	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.086	0.008	0.005	0.004	0.105	15.654	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	240	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.074	0.008	0.004	0.004	0.055	8.299	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	120	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.005	0.000	0.000	0.000	0.010	1.614	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.832	0.078	0.034	0.029	0.507	143.833	0.0076	0.0037

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1840	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0042	0.0006	0.0000	0.0000	0.0431	13.1874	0.0002	0.0003
Heavy-duty truck (equipment/piping)	25	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.0792	0.0000	0.0000
Heavy-duty truck (surface materials)	25	260	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0092	0.0001	0.0001	0.0001	0.0007	10.3014	0.0000	0.0011
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0057	0.0001	0.0001	0.0001	0.0005	6.3710	0.0000	0.0007
Heavy-duty truck (soil removal-non-hazardous)	50	1864	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.1316	0.0020	0.0017	0.0016	0.0105	147.7067	0.0001	0.0154
Heavy-duty truck (backfill)	45	1884	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.1197	0.0018	0.0015	0.0014	0.0096	134.3624	0.0001	0.0140
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.2704	0.0046	0.0034	0.0032	0.0643	312.0	0.0004	0.0314
SB County											0.0155	0.0008	0.0002	0.0002	0.0440	25.90	0.0002	0.0016
Ventura Co											0.2507	0.0037	0.0031	0.0030	0.0200	281.39	0.0002	0.0293
LA County											0.0010	0.0000	0.0000	0.0000	0.0001	1.17	0.0000	0.0001
Kern County											0.0026	0.0000	0.0000	0.0000	0.0002	2.92	0.0000	0.0003
Kings County											0.0006	0.0000	0.0000	0.0000	0.0000	0.64	0.0000	0.0001
Off-Road & On-Road Source Totals											1.102	0.082	0.037	0.032	0.571	455.8	0.0080	0.0350

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	407.001	0.007	0.031
CO2E	407.001	0.200	8.291
Total CO2E			415.5

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Shop and Maintenance Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	80	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.032	0.003	0.001	0.001	0.021	9.678	0.001	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	240	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.161	0.015	0.005	0.005	0.069	28.010	0.002	0.001
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	1	240	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.029	0.003	0.002	0.001	0.036	5.367	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	80	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.025	0.003	0.001	0.001	0.018	2.766	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	40	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.012	0.001	0.000	0.000	0.006	2.167	0.000	0.000
Boomlift	Diesel	75	1	40	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.002	0.000	0.000	0.000	0.003	0.538	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	2	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators (2)	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													0.297	0.028	0.012	0.010	0.181	52.820	0.0028	0.0013

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	8	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0003	0.0000	0.0000	0.0000	0.0000	0.3170	0.0000	0.0000
Heavy-duty truck (surface materials)	25	286	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0101	0.0001	0.0001	0.0001	0.0008	11.3316	0.0000	0.0012
Heavy-duty truck (surface materials-oil spray)	50	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Heavy-duty truck (soil removal-hazardous)	201	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0006	0.0000	0.0000	0.0000	0.0000	0.6371	0.0000	0.0001
Heavy-duty truck (soil removal-non-hazardous)	50	38	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0027	0.0000	0.0000	0.0000	0.0002	3.0112	0.0000	0.0003
Heavy-duty truck (backfill)	45	40	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0025	0.0000	0.0000	0.0000	0.0002	2.8527	0.0000	0.0003
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.0182	0.0004	0.0002	0.0002	0.0154	23.2	0.0001	0.0021
SB County											0.0024	0.0002	0.0000	0.0000	0.0141	5.52	0.0001	0.0002
Ventura Co											0.0154	0.0002	0.0002	0.0002	0.0012	17.25	0.0000	0.0018
LA County											0.0001	0.0000	0.0000	0.0000	0.0000	0.12	0.0000	0.0000
Kern County											0.0003	0.0000	0.0000	0.0000	0.0000	0.29	0.0000	0.0000
Kings County											0.0001	0.0000	0.0000	0.0000	0.0000	0.06	0.0000	0.0000
Off-Road & On-Road Source Totals											0.315	0.028	0.012	0.010	0.196	76.1	0.0029	0.0034

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of work in the subject area

Greenhouse Gas Emissions Summary

Metric Tons	67.912	0.003	0.003
CO2E	67.912	0.072	0.806
Total CO2E			68.8

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Marketing/Marine Terminal Pipeline Bundle

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	150	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.050	0.005	0.002	0.001	0.022	8.753	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	160	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.020	0.002	0.001	0.001	0.024	3.578	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	120	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.009	0.001	0.000	0.000	0.006	1.112	0.000	0.000
Air compressor	Diesel	20	1	100	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.927	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.103	0.008	0.005	0.005	0.030	6.517	0.000	0.003
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.629</b>	<b>0.255</b>	<b>0.135</b>	<b>0.123</b>	<b>1.556</b>	<b>202.615</b>	<b>0.0063</b>	<b>0.0108</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0022</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0141</b>	<b>5.2</b>	<b>0.0001</b>	<b>0.0002</b>
SB County											<b>0.0014</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0140</b>	<b>4.37</b>	<b>0.0001</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.631</b>	<b>0.255</b>	<b>0.135</b>	<b>0.123</b>	<b>1.570</b>	<b>207.9</b>	<b>0.0064</b>	<b>0.0110</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	185.581	0.006	0.010
CO2E	185.581	0.160	2.593
Total CO2E			<b>188.3</b>



Carpinteria Oil & Gas Processing Facilities Decommissioning  
Marketing/Marine Terminal Pipeline Bundle - Port Hueneme Disposal Option

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	150	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.050	0.005	0.002	0.001	0.022	8.753	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	160	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.020	0.002	0.001	0.001	0.024	3.578	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	120	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.009	0.001	0.000	0.000	0.006	1.112	0.000	0.000
Air compressor	Diesel	20	1	100	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.927	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.103	0.008	0.005	0.005	0.030	6.517	0.000	0.003
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.660</b>	<b>0.257</b>	<b>0.136</b>	<b>0.124</b>	<b>1.565</b>	<b>204.609</b>	<b>0.0064</b>	<b>0.0109</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	600	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0014	0.0002	0.0000	0.0000	0.0140	4.3003	0.0001	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (pipe disposal)	14	56	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0011	0.0000	0.0000	0.0000	0.0001	1.2425	0.0000	0.0001
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0033</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0142</b>	<b>6.5</b>	<b>0.0001</b>	<b>0.0003</b>
SB County											<b>0.0014</b>	<b>0.0002</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0140</b>	<b>4.37</b>	<b>0.0001</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.664</b>	<b>0.258</b>	<b>0.136</b>	<b>0.124</b>	<b>1.579</b>	<b>211.1</b>	<b>0.0064</b>	<b>0.0112</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 25 hour round trip (POLB-Carpinteria-Port Hueneme-POLB) and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port Hueneme

Greenhouse Gas Emissions Summary

Metric Tons	188.470	0.006	0.010
CO2E	188.470	0.161	2.645
Total CO2E			<b>191.3</b>

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	120	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.040	0.004	0.001	0.001	0.017	7.002	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	150	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.018	0.002	0.001	0.001	0.022	3.354	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	80	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.006	0.001	0.000	0.000	0.004	0.741	0.000	0.000
Air compressor	Diesel	20	1	150	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.011	0.001	0.000	0.000	0.007	1.391	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	63	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.494	0.039	0.025	0.022	0.143	31.400	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	120	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.154	0.012	0.008	0.007	0.045	9.775	0.000	0.004
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.670</b>	<b>0.258</b>	<b>0.137</b>	<b>0.125</b>	<b>1.565</b>	<b>203.993</b>	<b>0.0063</b>	<b>0.0122</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0009	0.0001	0.0000	0.0000	0.0094	2.8668	0.0000	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0017</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>3.8</b>	<b>0.0000</b>	<b>0.0002</b>
SB County											<b>0.0010</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>2.94</b>	<b>0.0000</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.672</b>	<b>0.258</b>	<b>0.137</b>	<b>0.125</b>	<b>1.574</b>	<b>207.8</b>	<b>0.0063</b>	<b>0.0123</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	185.531	0.006	0.011
CO2E	185.531	0.159	2.915
Total CO2E			<b>188.6</b>





Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle - Port Hueneme Disposal Option

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	120	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.024	0.002	0.001	0.001	0.016	7.258	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	1	120	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.040	0.004	0.001	0.001	0.017	7.002	0.000	0.000
Dozer (Caterpillar D6)	Diesel	215	1	16	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.007	0.001	0.000	0.000	0.005	0.859	0.000	0.000
Backhoe	Diesel	104	1	150	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.018	0.002	0.001	0.001	0.022	3.354	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	80	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.006	0.001	0.000	0.000	0.004	0.741	0.000	0.000
Air compressor	Diesel	20	1	150	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.011	0.001	0.000	0.000	0.007	1.391	0.000	0.000
Dive compressor	Diesel	50	1	160	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.018	0.003	0.001	0.001	0.022	2.407	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	200	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.101	0.009	0.004	0.004	0.042	12.566	0.001	0.000
Derrick barge tug generator	Diesel	150	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.131	0.012	0.006	0.005	0.053	8.296	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Derrick barge winch	Diesel	200	1	120	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.087	0.008	0.004	0.004	0.036	5.531	0.000	0.000
Derrick barge generators	Diesel	200	2	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.348	0.033	0.015	0.014	0.143	22.124	0.001	0.001
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	65	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.510	0.040	0.025	0.022	0.147	32.397	0.001	0.001
Materials barge tug generator	Diesel	200	1	240	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.174	0.016	0.008	0.007	0.071	11.062	0.000	0.001
Crew/support vessel mains	Diesel	640	3	80	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.492	0.038	0.025	0.023	0.143	31.281	0.001	0.001
Crew/support vessel generator	Diesel	34	1	240	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.021	0.005	0.002	0.002	0.017	1.399	0.000	0.000
Dive support vessel	Diesel	400	1	120	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.154	0.012	0.008	0.007	0.045	9.775	0.000	0.004
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	8	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.002	0.026	0.009	0.008	0.592	1.200	0.000	0.000
Cement pump	Diesel	175	1	40	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.005	0.000	0.000	0.000	0.007	1.171	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	160	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.021	0.004	0.001	0.001	0.025	11.025	0.001	0.000
													<b>2.701</b>	<b>0.260</b>	<b>0.138</b>	<b>0.126</b>	<b>1.574</b>	<b>205.986</b>	<b>0.0063</b>	<b>0.0122</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0009	0.0001	0.0000	0.0000	0.0094	2.8668	0.0000	0.0001
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	2	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0001	0.0000	0.0000	0.0000	0.0000	0.1426	0.0000	0.0000
Heavy-duty truck (pipe disposal)	14	228	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0045	0.0001	0.0001	0.0001	0.0004	5.0588	0.0000	0.0005
Heavy-duty truck (flush water disposal)	25	20	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Totals =>											<b>0.0062</b>	<b>0.0002</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0098</b>	<b>8.9</b>	<b>0.0000</b>	<b>0.0007</b>
SB County											<b>0.0010</b>	<b>0.0001</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0094</b>	<b>2.94</b>	<b>0.0000</b>	<b>0.0001</b>
Ventura Co											<b>0.0008</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>0.87</b>	<b>0.0000</b>	<b>0.0001</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>2.707</b>	<b>0.261</b>	<b>0.139</b>	<b>0.126</b>	<b>1.584</b>	<b>214.8</b>	<b>0.0064</b>	<b>0.0129</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 25 hour round trip (POLB-Carpinteria-Port Hueneme-POLB) and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port Hueneme

Greenhouse Gas Emissions Summary

Metric Tons	191.828	0.006	0.012
CO2E	191.828	0.160	3.060
Total CO2E			<b>195.0</b>

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Main Plant Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	1200	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.486	0.046	0.016	0.013	0.310	145.166	0.008	0.004
Wheeled loader (Caterpillar 966)	Diesel	278	2	1000	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.673	0.061	0.022	0.019	0.289	116.707	0.006	0.003
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	2	1000	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.244	0.024	0.015	0.011	0.300	44.725	0.002	0.001
Grader (Caterpillar 120M3)	Diesel	145	1	80	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.025	0.003	0.001	0.001	0.018	2.766	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	80	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.023	0.002	0.001	0.001	0.013	4.334	0.000	0.000
Boomlift	Diesel	75	1	360	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.015	0.001	0.000	0.000	0.029	4.842	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	40	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.002	0.000	0.000	0.000	0.001	0.282	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													1.505	0.140	0.058	0.048	0.987	323.117	0.0172	0.0082

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	3900	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0088	0.0013	0.0001	0.0001	0.0912	27.9516	0.0004	0.0006
Heavy-duty truck (equipment/piping)	25	234	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0083	0.0001	0.0001	0.0001	0.0007	9.2713	0.0000	0.0010
Heavy-duty truck (surface materials)	25	274	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0097	0.0001	0.0001	0.0001	0.0008	10.8561	0.0000	0.0011
Heavy-duty truck (surface materials-oil spray)	50	28	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0020	0.0000	0.0000	0.0000	0.0002	2.2188	0.0000	0.0002
Heavy-duty truck (soil removal-hazardous)	201	56	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0159	0.0002	0.0002	0.0002	0.0013	17.8389	0.0000	0.0019
Heavy-duty truck (soil removal-non-hazardous)	50	5484	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.3872	0.0057	0.0049	0.0046	0.0309	434.5620	0.0003	0.0452
Heavy-duty truck (backfill)	45	5540	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.3521	0.0052	0.0044	0.0042	0.0281	395.0996	0.0002	0.0411
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											0.7839	0.0128	0.0098	0.0094	0.1531	897.8	0.0009	0.0911
SB County											0.0415	0.0018	0.0005	0.0005	0.0939	64.60	0.0004	0.0044
Ventura Co											0.7307	0.0108	0.0092	0.0088	0.0583	819.98	0.0005	0.0853
LA County											0.0029	0.0000	0.0000	0.0000	0.0002	3.28	0.0000	0.0003
Kern County											0.0073	0.0001	0.0001	0.0001	0.0006	8.17	0.0000	0.0009
Kings County											0.0016	0.0000	0.0000	0.0000	0.0001	1.78	0.0000	0.0002
Off-Road & On-Road Source Totals											2.289	0.153	0.068	0.057	1.140	1220.9	0.0181	0.0993

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	1090.103	0.016	0.089
CO2E	1090.103	0.452	23.506
Total CO2E			1114.1



Carpinteria Oil & Gas Processing Facilities Decommissioning  
MSRC Lease Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	360	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.146	0.014	0.005	0.004	0.093	43.550	0.002	0.001
Wheeled loader (Caterpillar 966)	Diesel	278	2	360	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.242	0.022	0.008	0.007	0.104	42.015	0.002	0.001
Dozer (Caterpillar D6)	Diesel	215	1	40	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.018	0.002	0.001	0.001	0.014	2.147	0.000	0.000
Backhoe	Diesel	104	2	480	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.117	0.011	0.007	0.005	0.144	21.468	0.001	0.001
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	40	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.012	0.001	0.000	0.000	0.006	2.167	0.000	0.000
Boomlift	Diesel	75	1	40	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.002	0.000	0.000	0.000	0.003	0.538	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													<b>0.549</b>	<b>0.051</b>	<b>0.022</b>	<b>0.018</b>	<b>0.373</b>	<b>113.268</b>	<b>0.0060</b>	<b>0.0029</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1200	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0027	0.0004	0.0000	0.0000	0.0281	8.6005	0.0001	0.0002
Heavy-duty truck (equipment/piping)	25	6	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0002	0.0000	0.0000	0.0000	0.0000	0.2377	0.0000	0.0000
Heavy-duty truck (surface materials)	25	334	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0118	0.0002	0.0001	0.0001	0.0009	13.2334	0.0000	0.0014
Heavy-duty truck (surface materials-oil spray)	50	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0007	0.0000	0.0000	0.0000	0.0001	0.7924	0.0000	0.0001
Heavy-duty truck (soil removal-hazardous)	201	10	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0028	0.0000	0.0000	0.0000	0.0002	3.1855	0.0000	0.0003
Heavy-duty truck (soil removal-non-hazardous)	50	884	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0624	0.0009	0.0008	0.0007	0.0050	70.0497	0.0000	0.0073
Heavy-duty truck (backfill)	45	894	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0568	0.0008	0.0007	0.0007	0.0045	63.7579	0.0000	0.0066
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											<b>0.1375</b>	<b>0.0024</b>	<b>0.0017</b>	<b>0.0016</b>	<b>0.0388</b>	<b>159.9</b>	<b>0.0002</b>	<b>0.0159</b>
SB County											<b>0.0087</b>	<b>0.0005</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0286</b>	<b>15.35</b>	<b>0.0001</b>	<b>0.0009</b>
Ventura Co											<b>0.1267</b>	<b>0.0019</b>	<b>0.0016</b>	<b>0.0015</b>	<b>0.0101</b>	<b>142.15</b>	<b>0.0001</b>	<b>0.0148</b>
LA County											<b>0.0005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.59</b>	<b>0.0000</b>	<b>0.0001</b>
Kern County											<b>0.0013</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0001</b>	<b>1.46</b>	<b>0.0000</b>	<b>0.0002</b>
Kings County											<b>0.0003</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.32</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>0.687</b>	<b>0.054</b>	<b>0.024</b>	<b>0.020</b>	<b>0.412</b>	<b>273.1</b>	<b>0.0062</b>	<b>0.0188</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	243.861	0.006	0.017
CO2E	243.861	0.156	4.450
Total CO2E			<b>248.5</b>





Carpinteria Oil & Gas Processing Facilities Decommissioning  
Pier Parking Lot Area

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Total English Tons							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	0	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wheeled loader (Caterpillar 966)	Diesel	278	2	80	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	0.054	0.005	0.002	0.002	0.023	9.337	0.001	0.000
Dozer (Caterpillar D6)	Diesel	215	1	80	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.036	0.004	0.002	0.002	0.027	4.294	0.000	0.000
Backhoe	Diesel	104	2	320	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.078	0.008	0.005	0.004	0.096	14.312	0.001	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	40	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.012	0.001	0.001	0.001	0.009	1.383	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	20	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.006	0.000	0.000	0.000	0.003	1.083	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
													<b>0.186</b>	<b>0.018</b>	<b>0.009</b>	<b>0.008</b>	<b>0.158</b>	<b>30.409</b>	<b>0.0016</b>	<b>0.0008</b>

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total English Tons							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	1400	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.0032	0.0005	0.0000	0.0000	0.0328	10.0339	0.0001	0.0002
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (surface materials)	25	580	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0205	0.0003	0.0003	0.0002	0.0016	22.9801	0.0000	0.0024
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Heavy-duty truck (backfill)	45	100	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0064	0.0001	0.0001	0.0001	0.0005	7.1318	0.0000	0.0007
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Totals =>											<b>0.0300</b>	<b>0.0009</b>	<b>0.0004</b>	<b>0.0004</b>	<b>0.0349</b>	<b>40.1</b>	<b>0.0002</b>	<b>0.0034</b>
SB County											<b>0.0051</b>	<b>0.0005</b>	<b>0.0001</b>	<b>0.0001</b>	<b>0.0329</b>	<b>12.19</b>	<b>0.0001</b>	<b>0.0004</b>
Ventura Co											<b>0.0249</b>	<b>0.0004</b>	<b>0.0003</b>	<b>0.0003</b>	<b>0.0020</b>	<b>27.96</b>	<b>0.0000</b>	<b>0.0029</b>
LA County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kern County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Kings County											<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.00</b>	<b>0.0000</b>	<b>0.0000</b>
Off-Road & On-Road Source Totals											<b>0.216</b>	<b>0.019</b>	<b>0.010</b>	<b>0.008</b>	<b>0.193</b>	<b>70.6</b>	<b>0.0018</b>	<b>0.0041</b>

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

Greenhouse Gas Emissions Summary

Metric Tons	62.996	0.002	0.004
CO2E	62.996	0.044	0.975
Total CO2E			<b>64.0</b>



# Carpinteria Oil & Gas Processing Facilities Decommissioning Air Pollutant and Greenhouse Gas Emissions Totals

Task/Area	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	CO2E
1. Chevron Pipeline Area	1.00	0.09	0.04	0.03	0.67	212.2	0.009	0.007	214.3
2. Former Marketing Terminal Area	1.10	0.08	0.04	0.03	0.57	407.0	0.007	0.031	415.5
3. Shop and Maintenance Area	0.32	0.03	0.01	0.01	0.20	67.9	0.003	0.003	68.8
4. Marketing/Marine Terminal Pipeline Bundle	2.63	0.26	0.13	0.12	1.57	185.6	0.006	0.010	188.3
5. Gail and Grace Pipeline Bundle	2.67	0.26	0.14	0.12	1.57	185.5	0.006	0.011	188.6
6. Main Plant Area	2.29	0.15	0.07	0.06	1.14	1090.1	0.016	0.089	1114.1
7. MSRC Lease Area	0.69	0.05	0.02	0.02	0.41	243.9	0.006	0.017	248.5
8. Pier Parking Lot Area	0.22	0.02	0.01	0.01	0.19	63.0	0.002	0.004	64.0
<b>Total</b>	<b>10.91</b>	<b>0.94</b>	<b>0.46</b>	<b>0.41</b>	<b>6.32</b>	<b>2455.2</b>	<b>0.054</b>	<b>0.171</b>	<b>2502.1</b>

Peak 12-month Period	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
Task/Area 4 through 7	8.28	0.72	0.36	0.32	4.70	1705.1	0.033	0.126	1739.5
SBAPCD Rule 202 Threshold	25	25	25	25	NA	-	-	-	-
SBAPCD Stationary Source Threshold									10000

Peak Day: All Emissions	Pounds/Peak Day				
Gail and Grace Pipeline Bundle	228.2	20.1	10.8	9.9	82.9
SBCAPCD Threshold	240	240	80	NA	NA

Peak Day: Motor Vehicle Emissions	Pounds/Peak Day				
Main Plant Area: soil removal	13.6	0.2	0.2	0.2	2.0
SBCAPCD Threshold	25	25	NA	NA	NA

**Carpinteria Oil & Gas Processing Facilities Decommissioning**  
**Air Pollutant and Greenhouse Gas Emissions Totals - Port Hueneme Pipe Disposal Option**

Task/Area	Air Pollutants: Total English Tons					GHG: Total Metric Tons			
	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	CO2E
1. Chevron Pipeline Area	1.00	0.09	0.04	0.03	0.67	212.2	0.009	0.007	214.3
2. Former Marketing Terminal Area	1.10	0.08	0.04	0.03	0.57	407.0	0.007	0.031	415.5
3. Shop and Maintenance Area	0.32	0.03	0.01	0.01	0.20	67.9	0.003	0.003	68.8
4. Marketing/Marine Terminal Pipeline Bundle	2.66	0.26	0.14	0.12	1.58	188.5	0.006	0.010	191.3
5. Gail and Grace Pipeline Bundle	2.71	0.26	0.14	0.13	1.58	191.8	0.006	0.012	195.0
6. Main Plant Area	2.29	0.15	0.07	0.06	1.14	1090.1	0.016	0.089	1114.1
7. MSRC Lease Area	0.69	0.05	0.02	0.02	0.41	243.9	0.006	0.017	248.5
8. Pier Parking Lot Area	0.22	0.02	0.01	0.01	0.19	63.0	0.002	0.004	64.0
<b>Total</b>	<b>10.98</b>	<b>0.95</b>	<b>0.46</b>	<b>0.41</b>	<b>6.34</b>	<b>2464.4</b>	<b>0.054</b>	<b>0.172</b>	<b>2511.5</b>

**Peak 12-month Period**

Task/Area 4 through 7	8.35	0.72	0.37	0.33	4.71	1714.3	0.033	0.127	1748.9
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Carpinteria Oil & Gas Processing Facilities Decommissioning  
Main Plant Area - Peak Day

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Peak Day Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Pounds							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	2	8	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	6.48	0.61	0.22	0.17	4.13	1935.6	0.100	0.048
Wheeled loader (Caterpillar 966)	Diesel	278	2	8	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	10.76	0.98	0.36	0.31	4.63	1867.3	0.102	0.049
Dozer (Caterpillar D6)	Diesel	215	1	8	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	7.17	0.71	0.40	0.34	5.40	858.8	0.040	0.019
Backhoe	Diesel	104	2	8	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	3.91	0.38	0.23	0.18	4.79	715.6	0.038	0.018
Grader (Caterpillar 120M3)	Diesel	145	1	8	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	4.96	0.52	0.28	0.24	3.68	553.3	0.027	0.013
Soil compactor (Caterpillar 815K)	Diesel	248	1	8	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	4.66	0.38	0.16	0.14	2.54	866.7	0.046	0.022
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Air compressor	Diesel	20	1	0	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Dive compressor	Diesel	50	1	0	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Welding machine	Diesel	25	1	0	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge crane <sup>6</sup>	Diesel	375	1	0	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge tug generator	Diesel	150	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge winch	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Derrick barge generators	Diesel	200	2	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	0	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Materials barge tug generator	Diesel	200	1	0	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Crew/support vessel mains	Diesel	640	3	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Crew/support vessel generator	Diesel	34	1	0	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Dive support vessel	Diesel	400	1	0	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	0	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
													37.96	3.57	1.64	1.39	25.17	6797.3	0.353	0.169

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Peak Day One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Total Pounds							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	20	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.09	0.01	0.00	0.00	0.94	286.7	0.004	0.006
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (soil removal-non-hazardous) <sup>7</sup>	50	96	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	13.56	0.20	0.17	0.16	1.08	15214.4	0.009	1.583
Heavy-duty truck (backfill)	45	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Totals =>											13.65	0.21	0.17	0.16	2.02	15501.1	0.0132	1.5895
SB County											0.63	0.02	0.01	0.01	0.98	895.3	0.0042	0.0697
Ventura Co											13.01	0.19	0.16	0.16	1.04	14605.8	0.0090	1.5198
LA County											0.00	0.00	0.00	0.00	0.0	0.000	0.0000	0.0000
Kern County											0.00	0.00	0.00	0.00	0.00	0.0	0.0000	0.0000
Kings County											0.00	0.00	0.00	0.00	0.00	0.0	0.0000	0.0000
Off-Road & On-Road Source Totals											51.6	3.8	1.8	1.6	27.2	22298.4	0.3658	1.7581

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

<sup>7</sup> Peak day truck trips based on 16 truck fleet making 3 round trips (96 one-way trips)

Carpinteria Oil & Gas Processing Facilities Decommissioning  
Gail and Grace Pipeline Bundle - Peak Day

OFF-ROAD SOURCES

Source	Fuel	BHP	Number	Total Hours per Source	Emission Factors: pounds/BHP-hr <sup>1</sup>								Pounds							
					NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NO <sub>x</sub>	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Excavator (Caterpillar 330)	Diesel	272	1	8	0.00149	0.00014	0.00005	0.00004	0.00095	0.44475	0.000023	0.000011	3.24	0.30	0.11	0.09	2.07	967.8	0.050	0.024
Wheeled loader (Caterpillar 966)	Diesel	278	1	8	0.00242	0.00022	0.00008	0.00007	0.00104	0.41981	0.000023	0.000011	5.38	0.49	0.18	0.16	2.31	933.7	0.051	0.024
Dozer (Caterpillar D6)	Diesel	215	1	0	0.00417	0.00041	0.00023	0.00020	0.00314	0.49930	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Backhoe	Diesel	104	1	0	0.00235	0.00023	0.00014	0.00011	0.00288	0.43005	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Grader (Caterpillar 120M3)	Diesel	145	1	0	0.00428	0.00045	0.00024	0.00021	0.00317	0.47698	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Soil compactor (Caterpillar 815K)	Diesel	248	1	0	0.00235	0.00019	0.00008	0.00007	0.00128	0.43685	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Boomlift	Diesel	75	1	0	0.00111	0.00007	0.00003	0.00003	0.00215	0.35869	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Flush pump	Diesel	20	1	0	0.00735	0.00100	0.00035	0.00032	0.00500	0.92681	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Air compressor	Diesel	20	1	8	0.00734	0.00092	0.00033	0.00030	0.00479	0.92733	0.000023	0.000011	1.17	0.15	0.05	0.05	0.77	148.4	0.004	0.002
Dive compressor	Diesel	50	1	6	0.00452	0.00082	0.00024	0.00022	0.00539	0.60167	0.000023	0.000011	1.36	0.25	0.07	0.07	1.62	180.5	0.007	0.003
Welding machine	Diesel	25	1	4	0.00447	0.00061	0.00021	0.00019	0.00285	0.56383	0.000023	0.000011	0.45	0.06	0.02	0.02	0.29	56.4	0.002	0.001
Derrick barge crane <sup>6</sup>	Diesel	375	1	8	0.00268	0.00023	0.00011	0.00010	0.00112	0.33508	0.000023	0.000011	8.04	0.69	0.33	0.30	3.36	1005.2	0.069	0.033
Derrick barge tug generator	Diesel	150	1	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	13.07	1.22	0.58	0.54	5.35	829.6	0.020	0.038
Derrick barge tug mains <sup>5</sup>	Diesel	1500	2	2	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	31.38	2.46	1.56	1.38	9.06	1993.7	0.042	0.090
Derrick barge winch	Diesel	200	1	8	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	11.62	1.09	0.51	0.48	4.75	737.5	0.018	0.034
Derrick barge generators	Diesel	200	2	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	34.85	3.26	1.54	1.44	14.26	2212.4	0.053	0.101
Materials barge tug mains <sup>5</sup>	Diesel	1500	2	2	0.00523	0.00041	0.00026	0.00023	0.00151	0.33228	0.000007	0.000015	31.38	2.46	1.56	1.38	9.06	1993.7	0.042	0.090
Materials barge tug generator	Diesel	200	1	12	0.00726	0.00068	0.00032	0.00030	0.00297	0.46091	0.000011	0.000021	17.42	1.63	0.77	0.72	7.13	1106.2	0.026	0.050
Crew/support vessel mains	Diesel	640	3	4	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000018	49.23	3.84	2.46	2.30	14.28	3128.1	0.061	0.138
Crew/support vessel generator	Diesel	34	1	12	0.00510	0.00133	0.00048	0.00045	0.00408	0.34300	0.000022	0.000015	2.08	0.54	0.20	0.18	1.66	139.9	0.009	0.006
Dive support vessel	Diesel	400	1	6	0.00641	0.00050	0.00032	0.00030	0.00186	0.40731	0.000008	0.000180	15.38	1.20	0.77	0.72	4.46	977.5	0.019	0.432
Survey vessel (2 outboards <sup>2</sup> )	Gasoline	150	2	0	0.00153	0.02185	0.00770	0.00700	0.49320	1.00000	0.000023	0.000010	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Cement pump	Diesel	175	1	0	0.00136	0.00009	0.00006	0.00005	0.00193	0.33452	0.000023	0.000011	0.00	0.00	0.00	0.00	0.00	0.0	0.000	0.000
Toyo pump (300KW generator)	Diesel	400	1	8	0.00066	0.00013	0.00003	0.00003	0.00077	0.34452	0.000023	0.000011	2.11	0.42	0.10	0.08	2.46	1102.5	0.074	0.035
													228.16	20.06	10.79	9.90	82.89	17513.0	0.5469	1.1017

ON-ROAD SOURCES

On Road Sources	Miles/One-way Trip	Total One-Way Trips	Emission Factors, grams/mile <sup>3</sup>								Pounds							
			NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O	NOx	ROG	PM10	PM2.5	CO	CO2	CH4	N2O
Light-duty truck (workers) <sup>4</sup>	20	0	0.10250	0.01498	0.00121	0.00111	1.06130	325.0990	0.00439	0.00720	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (equipment/piping)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (surface materials)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (surface materials-oil spray)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (soil removal-hazardous)	201	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (soil removal-non-hazardous)	50	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (backfill)	45	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Heavy-duty truck (flush water disposal)	25	0	1.28113	0.01901	0.01607	0.01537	0.10224	1437.7630	0.00088	0.14961	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Totals =>											0.000	0.000	0.000	0.000	0.000	0.0	0.0000	0.0000
SB County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Ventura Co											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
LA County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kern County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Kings County											0.0000	0.0000	0.0000	0.0000	0.0000	0.00	0.0000	0.0000
Off-Road & On-Road Source Totals											228.163	20.065	10.792	9.903	82.888	17513.0	0.5469	1.1017

Notes:

<sup>1</sup> Emission factors from OFFROAD 2017 (ver 1.0.1) for Santa Barbara County, except diesel vessel factors from San Pedro Bay Ports Emissions Inventory

<sup>2</sup> Emission factors from 2010 Federal standards for outboard motors (average of 2-stroke and 4-stroke)

<sup>3</sup> Emission factors from EMFAC 2021 for Santa Barbara County year 2022 annual emissions

<sup>4</sup> Based on an average of 20 one-way trips per day over the duration of onshore work in the subject area

<sup>5</sup> Hours based on 23 hour round trip and 2 hours per work day for moving barge

<sup>6</sup> Includes 40 hours for offloading pipe at Port of LA/LB

## **Appendix C**

### **Biological Studies**

## **Appendix C – Biological Studies**

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## **Appendix C-1**

### **Terrestrial Biological Resources Study**



**TERRESTRIAL BIOLOGICAL RESOURCES STUDY**

**DECOMMISSIONING AND REMEDIATION OF THE  
CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

June 2021  
Revision 1: December 2021  
Revision 2: December 2022

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## 1.0 REPORT SUMMARY

This Terrestrial Biological Resources Study (Study) has been prepared on behalf of Chevron U.S.A. Inc. (Chevron) for the Carpinteria Oil and Gas Processing Facilities (Project Site). The Project Site is divided into 12 Operational Areas, as listed in Table 1, and presented in Figure 1. The Study is a compilation of biological survey and biological monitoring data collected at different portions of the Project Site from 1998 (as originally documented in 2004) present in support of various operational, maintenance, demolition, and interim soil cleanup activities conducted onsite.

This survey includes the Onshore Processing Facility both north and south of the Union Pacific Railroad right-of-way out to the edge of the bluffs along its southern boundary. The beach crossing, intertidal and offshore pipeline corridor areas are addressed in a separate study. Current conditions at the Project Site are presented in this Study, unless otherwise indicated for historical context. Where appropriate, the inventory of biological resources at the Project Site is denoted by which of the Operational Areas each resource was observed at or is expected to occur.

**Table 1. Operational Areas of the Project Site (in alphabetical order)**

Name	Description
Buffer Zone	Mostly undeveloped, but actively managed open-space and a City-designated Environmentally Sensitive Habitat Area.
Chevron Pipeline Area	Comprised mainly of a large, former oil storage tank and earthen containment basin.
Drainage Area No. 4	Contiguous with the Buffer Zone at its lower extent and a City-designated Environmentally Sensitive Habitat Area. Has undergone substantial revegetation efforts in the last decade.
Former Marketing Terminal Area	Mostly developed <sup>1</sup> , but also contains a concrete drainage ditch, and has undergone substantial revegetation efforts in its southern portion.
Former Nursery Area	Mostly undeveloped, but contains a remnant portion of asphalt road, historically cultivated, but fallow for over 20 years, and was seeded with annual grasses and native herbs in 2012.
Former Sandblast Area	Mostly undeveloped, having undergone past remediation and revegetation.
Main Plant Area	Entirely developed, with various tree windrow divisions.
MSRC Lease Area	Entirely developed, bordered by tree windrows.
Peninsula Area	Northeast access route beneath tree windrows.
Pier Parking Lot	Mostly developed bordered by Tar Pits Park and Carpinteria Bluffs Trail revegetation.
Pipeline Bluffs Crossing Area	Within or adjacent to eastern extent of Tar Pits Park and Carpinteria Bluffs Trail.
Shop and Maintenance Area	Mostly developed, with ornamental or native (planted) trees.

<sup>1</sup> The term "developed" is used to describe areas supporting buildings or other structures or surfaced with pavement or gravel that do not support vegetation, or at most, patchy ruderal vegetation

## **2.0 SETTING**

### **2.1 REGIONAL SETTING**

The Project Site is in the coastal zone within the City of Carpinteria in southeastern Santa Barbara County, California. The Project Site is bounded by the beach/coastal strand adjoining the Santa Barbara Channel, an east-west trending channel in the eastern Pacific Ocean. The Project Site is located on the coastal plain of Carpinteria Valley, adjacent to open space and agricultural lands. However, much of the area surrounding the Project Site has been developed into residential land uses adjacent to or within remnants of coastal scrub, annual grasslands or mature, mixed woodland areas (e.g., planted and native trees consisting of eucalyptus, sycamore, cottonwood, cypress, pine, and oak, and willow trees). The coastal plain is bordered to the north by the Santa Ynez Mountains, an east-west trending mountain range, which drains small, steep watersheds onto the coastal terrace. Carpinteria Creek is located approximately 0.5 miles west of the Project Site and has been designated as an Environmentally Sensitive Habitat Area (ESHA). Other biologically important areas include the Carpinteria Salt Marsh (located approximately 1.5 miles to the northwest) and Carpinteria Bluffs (located approximately 1,500 feet to the east).

### **2.2 APPLICABLE CITY GENERAL PLAN POLICIES**

The City of Carpinteria General Plan and Local Coastal Plan (2003) identified portions of the Project Site as being part of the Carpinteria Bluffs ESHA, including the Buffer Zone, Pier Parking Lot, Former Sand Blast Area, and Pipeline Bluffs Crossing Area. In addition, the eucalyptus windrow bordering the eastern edge of the Project Site and the agricultural field east of the Project Site were mapped as ESHA in the General Plan and Local Coastal Plan. Note, however, that portions of some of these areas are developed and the General Plan and Local Coastal Plan states, “the designations of the land use plan are not definitive and are to be supplemented with subsequent program and project level resources study and mapping.”

According to the City of Carpinteria General Plan 2019 Annual Progress Report (accepted May 11, 2020), “the City’s Land Use Map (2016) designates environmentally sensitive habitat areas within and surrounding Carpinteria. These natural areas are often protected as open space and/or recreation zones, include the bluffs, wetlands, salt marsh, beaches, tidelands, subtidal reefs, harbor seal rookery and haulouts, creekways and riparian habitats, native plant communities, and butterfly habitat.” The City’s Land Use Map’s Open Space/Recreation land use designation presumably delineates the ESHA boundaries within the Project Site to currently be limited to the Buffer Zone and Pipeline Bluffs Crossing Area. The remaining areas listed above formerly as ESHA, in addition to other developed portions of the Project Site that were formerly not designated ESHA are zoned as Coastal Dependent Industry or Planned Unit Development.

Objective OSC-1 of the City of Carpinteria General Plan and Local Coastal Plan is to “Protect, preserve and enhance local natural resources and habitats.” This includes prohibiting activities that could damage or destroy ESHA, and establishing and supporting preservation and restoration programs for ESHA. Objective OSC-1 includes a list of Implementation Policies requiring compliance with the California Environmental Quality Act (CEQA), and maintaining an ESHA Overlay zoning district intended to provide maximum protection to sensitive resources. The ESHA Overlay district applies to any parcel identified as ESHA either on an official resource map adopted by the City or through the City’s development review process, any parcel meeting the ESHA criteria provided in the General Plan and Local Coastal Plan, and any parcel located within 250 feet of a parcel so designated or determined to be ESHA.

Objective OSC-2 of the City of Carpinteria General Plan and Local Coastal Plan is to “Preserve and restore the natural resources of the Carpinteria Bluffs.” Policy OSC-2i under Objective OSC-2 states:

“Preserve all windrow trees as one part of a contiguous and naturally preserved open space system across the whole of the Carpinteria Bluffs. Thinning, pruning and removal of trees shall be limited to what is necessary to maintain the trees in a healthful condition and to remove any hazardous condition. When a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. Replacement trees that fail to survive within the first five years after planting shall be replaced. Planting of native trees is encouraged as are programs for phased removal and replacement of tamarisk windrows in favor of native tree windrows. Development or other activity proposed on parcels including windrows shall be setback a minimum of 10 feet from the drip line of the trees and shall not result in compacting of soil or other potential damage to the trees’ root system or water source.”

According to the City of Carpinteria Guidelines for the Implementation of the California Environmental Quality Act (CEQA) for impacts to biological resources, specimen trees are defined in the City’s Municipal Code as:

“those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet. For trees that do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter...All native tree species, regardless of size, should be considered to be biologically valuable. In particular, young oak trees which do not meet the definition of specimen trees are a significant biological resource due to declining oak populations.”

## 2.3 LOCAL SETTING

### 2.3.1 Trees

Based on the importance of certain tree windrows expressed in the City's General Plan and Local Plan Policy OSC-2i and City Guidelines, a tree inventory was completed in 2004 for the interim remediation measures conducted within the Buffer Zone (including Drainage Area No. 4) and Former Nursery Area. It was noted at the time that most of the oaks were saplings, 1 to 3 inches in diameter at breast height, and the largest oak was only 12 inches in diameter at breast height. Since that time, many of these trees within the Buffer Zone have grown in stature or have sustained their windrow composition and areal coverage. Notably, however, many of the Monterey pine (*Pinus radiata*) trees have naturally died off and have been felled to eliminate safety hazards. Recent vegetation management of a 30-foot-wide swath along the western fence line of the Former Nursery Area and Buffer Zone for defensible space against fire also removed two (2) Mexican fan palm (*Washingtonia robusta*) trees. To obtain an accurate tally of all the trees currently present within the Project Site, a follow-up inventory of all the remaining Operational Areas was completed in April 2021. Table 2 provides the current totals of live tree quantities per species at the Project Site. Additional information on tree windrows is provided in the Vegetation section below.

**Table 2. Tree Inventory of the Project Site**

Common Name	Scientific Name	Tally (2021)	Origin
Blue gum	<i>Eucalyptus globulus</i>	677	Non-native, planted, some on-site reproduction
Monterey pine	<i>Pinus radiata</i>	42	Introduced, planted
Aleppo pine	<i>Pinus halepensis</i>	2	Non-native, planted
Monterey cypress	<i>Cupressus macrocarpa</i>	38	Introduced, planted
Coast live oak	<i>Quercus agrifolia</i>	225	Native, colonized site, planted, on-site reproduction
London plane tree	<i>Platanus x. acerifolia</i>	4	Introduced, planted
Western sycamore	<i>Platanus racemosa</i>	80	Native, planted, on-site reproduction
Arroyo willow	<i>Salix lasiolepis</i>	51	Native, colonized site
Mexican fan palm	<i>Washingtonia robusta</i>	4	Non-native, colonized site
Norfolk Island pine	<i>Araucaria heterophylla</i>	1	Non-native, planted
Victorian box	<i>Pittosporum undulatum</i>	31	Non-native, planted
Myoporum	<i>Myoporum laetum</i>	10	Non-native, planted
Brazilian pepper	<i>Schinus terebinthifolius</i>	5	Non-native, planted
Oregon ash	<i>Fraxinus latifolia</i>	9	Introduced, planted
Athel tamarisk	<i>Tamarix aphylla</i>	93	Non-native, planted
Dawn redwood	<i>Metasequoia glyptostroboides</i>	7	Non-native, planted
Avocado	<i>Persea americana</i>	5	Non-native, planted
Sydney golden wattle	<i>Acacia longifolia</i>	12	Non-native, planted
Chinese elm	<i>Ulmus parvifolia</i>	7	Non-native, planted

Common Name	Scientific Name	Tally (2021)	Origin
Toyon	<i>Heteromeles arbutifolia</i>	135	Native, planted, on-site reproduction
Various fruit	<i>Not specified</i>	6	Non-native, planted
Other ornamental	<i>Not specified</i>	4	Non-native, planted
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	52	Native, planted, on-site reproduction
<b>Total:</b>		<b>1,500</b>	

### 2.3.2 Vegetation

The majority of the Project Site has been historically cleared for various oil and gas industrial or municipal purposes or was planted with fruit/nut trees and landscaping trees (Buffer Zone) or nursery stock (Former Nursery Area), and thus is highly disturbed from a biological perspective. Vegetation, where present, primarily consists of stands of non-native trees and non-native grasses or ruderal fields, with exception to several native plant restoration areas within Drainage Area No. 4, the southern end of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, and at the Former Sandblast Area. Native scrub and non-native iceplant mats are also present along the bluffs to the east and west of the Pier Parking Lot.

The following paragraphs describe on-site vegetation, classify each vegetation type to the extent feasible according to the California Native Plant Society (CNPS) A Manual of California Vegetation Online (MCV Online, source: <https://vegetation.cnps.org>), and identify plant species of which they are composed. Table 3 provides the acreage and locations of each vegetation type throughout the Project Site. Where labeled with an asterisk in the State/Global Rarity Rank column and/or described as “planted” within the last 15 years, the MCV Online classification provided is considered the closest approximation to the natural vegetation community it represents, based on dominant species present. Figures 2a through 2c provide a vegetation map of the Project Site.

**Table 3. Vegetation of the Project Site**

General Category/Map Code	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Tree Windrows / EUC	<i>Eucalyptus</i> spp. – <i>Ailanthus altissima</i> – <i>Robinia pseudoacacia</i> Woodland Semi-Natural Alliance (Eucalyptus – tree of heaven – black locust groves)	Unranked	7.6	Buffer Zone, Former Nursery Area, Shop & Maintenance Area, MSRC Lease Area, Peninsula Area, Drainage Area No. 4, Former Marketing Terminal Area, Chevron Pipeline Area, and Main Plant Area.
Tree Windrows / TAM	<i>Tamarix</i> spp. Shrubland Semi-Natural Alliance (Tamarisk thickets)	Unranked	0.6	Main Plant Area, and MSRC Lease Area.

**Table 3. (Continued)**

General Category/Map Code	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Arroyo Willow Thicket / WIL	<i>Salix lasiolepis</i> Shrubland Alliance (Arroyo willow thickets)	S4/G4	0.4	Drainage Area No. 4, Chevron Pipeline Area, Pipeline Bluff Crossing Area, and Former Sandblast Area.
Mixed Woodland / OAK	<i>Quercus agrifolia</i> Forest & Woodland Alliance (Coast live oak woodland and forest)	S4/G5	5.8	Buffer Zone, Shop & Maintenance Area, and Drainage Area No. 4. Several emergent western sycamores are present in an upland area within the Buffer Zone.
Coastal Scrub / CS	<i>Artemisia californica</i> – ( <i>Salvia leucophylla</i> ) Shrubland Alliance (California sagebrush – [purple sage] scrub)	S5/G5	0.8	Buffer Zone, Drainage Area No. 4, and Former Marketing Terminal Area. Several emergent (planted) blue elderberry trees are present.
Coastal Scrub / SB	<i>Atriplex lentiformis</i> Shrubland Alliance (Quailbush scrub)	S4/G4	1.8	Pipeline Bluff Crossing Area, Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub / CB	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote brush scrub)	S5/G5	2.1	Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub / MF	<i>Baccharis salicifolia</i> Shrubland Alliance (Mulefat thickets)	S4/G4*	0.06	Planted in Drainage Area No. 4.
Coastal Scrub / GB	<i>Isocoma menziesii</i> Shrubland Alliance (Menzies's golden bush scrub)	S3/G3	0.4	Pier Parking Lot bluff edge.
Chaparral / TOY	<i>Heteromeles arbutifolia</i> – <i>Artemisia californica</i> Association (37.911.02)	S4/G5*	0.9	Toyon planted in Drainage Area No. 4, with California sagebrush and coyote brush as co-dominants.
Chaparral / LB	<i>Rhus integrifolia</i> Shrubland Alliance (Lemonade berry scrub)	S3/G3*	0.7	Planted along Pier Parking Lot, and growing naturally along the Former Sandblast Area bluff edge.
Iceplant Mat / IP	<i>Mesembryanthemum</i> spp. - <i>Carpobrotus</i> spp. Herbaceous Semi-Natural Alliance (Ice plant mats)	Unranked	1.6	Pipeline Bluff Crossing Area, and Pier Parking Lot, dominated by <i>Carpobrotus edulis</i> .
Annual Grassland / AG	<i>Brassica nigra</i> – <i>Centaurea (solstitialis, melitensis)</i> Herbaceous Semi-Natural Alliance (Upland mustards or star-thistle fields)	Unranked	6.6	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.



**Table 3. (Continued)**

General Category	MCV Online Classification	State/Global Rarity Ranks	Onsite Acreage	Present at:
Annual Grassland / AG	<i>Avena</i> spp. – <i>Bromus</i> spp. Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands)	Unranked	2.5	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Developed Land / DEV	Not specified (mostly bare ground or patchy ruderal vegetation)	Unranked	23.9	Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area.

State and global rarity ranks for the vegetation types:

S3: Vulnerable in the state

S4: Apparently Secure - Uncommon but not rare in the state

S5: Secure - Common, widespread, and abundant in the state

G3: Vulnerable - At moderate risk of extinction

G4: Apparently Secure - Uncommon but not rare

G5: Secure - Common; widespread and abundant

**Tree Windrows** MCV Online: *Eucalyptus* spp. – *Ailanthus altissima* – *Robinia pseudoacacia* Woodland Semi-Natural Alliance (Eucalyptus – tree of heaven – black locust groves) (No State/Global Rarity Rank); *Tamarix* spp. Shrubland Semi-Natural Alliance (Tamarisk thickets) (No State/Global Rarity Rank). Tree windrows comprised mostly of blue gum (*Eucalyptus globulus*), and to a lesser degree of athel tamarisk (*Tamarix aphylla*), occur between the Buffer Zone and Former Marketing Terminal Area, along both sides of Dump Road, on both sides of the MSRC Lease Area, and along the east edge of the entire Project Site from the Peninsula Area, south along the Main Plant Area.

The eastern edge of the Former Marketing Terminal Area also supports a row of Chinese elm (*Ulmus parvifolia*) trees. Some of the more densely planted stands provide cover, roosting and nesting habitat for a number of bird species (e.g., red-tailed hawk, Anna's hummingbird, and yellow-rumped warbler), and historically, the windrow between the Buffer Zone and Former Marketing Terminal Area has supported roosting Monarch butterflies, particularly on the Buffer Zone (west) side of the windrow. Tree windrows were first introduced at the Project Site as windbreaks for agricultural fields, and later to screen oil and gas facilities.

**Mixed Woodland** MCV Online: *Quercus agrifolia* Forest & Woodland Alliance (Coast live oak woodland and forest) (S4/G5). Trees and intervening areas of non-native grassland occur within the Buffer Zone, form a woodland community. The trees include coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*), but are also intermixed with Monterey pine, Monterey cypress (*Hesperocyparis macrocarpa*) trees, or abut Eucalyptus groves or tree windrows within the Buffer Zone. Open areas between tree clusters support perennial rye grass (*Festuca perennis*), slender wild oats (*Avena barbata*), and hare barley (*Hordeum murinum*). The trees provide cover and roosting habitat for a number of bird species and historically for Monarch butterflies. Grass areas provide foraging habitat for small reptiles and mammals, as well as birds. This area was planted to provide a buffer between the Former

Marketing Terminal and the Concha Loma residential neighborhood to the west subsequent to row crop and orchard tree farming in the early to mid-20<sup>th</sup> century based on historical aerial imagery interpretation.

Smaller, more isolated patches of mixed woodland trees occur along the margins of the Shop and Maintenance Area, supporting coast live oak, Oregon ash and non-native dawn redwood trees abutting the tamarisk and eucalyptus windrows. Stands of non-native trees including these species in addition to London plane (*Platanus x acerifolia*) are labeled as Ornamental on the attached vegetation map.

**Coastal Scrub and Chaparral** MCV Online: *Artemisia californica* – (*Salvia leucophylla*) Shrubland Alliance (California sagebrush – [purple sage] scrub) (S5/G5); *Atriplex lentiformis* Shrubland Alliance (Quailbush scrub) (S4/G4); *Baccharis pilularis* Shrubland Alliance (Coyote brush scrub) (S5/G5); *Baccharis salicifolia* Shrubland Alliance (Mulefat thickets) (S4/G4); *Isocoma menziesii* Shrubland Alliance (Menzies's golden bush scrub) (S3/G3); *Heteromeles arbutifolia* – *Artemisia californica* Association (Toyon – California sagebrush scrub or chaparral) (S4G5); *Rhus integrifolia* Shrubland Alliance (Lemonade berry scrub) (S3/G3). Portions of the southern end of the Project Site support historically or recently restored areas of coastal scrub and chaparral communities based on aerial imagery dating back to the early to mid-20<sup>th</sup> century, including at Drainage Area No. 4, the southernmost portion of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, Former Sandblast Area, and Pipeline Bluffs Crossing Area.

Dominant or co-dominant species in these areas include coyote brush (*Baccharis pilularis*), bush sunflower (*Encelia californica*), purple sage (*Salvia leucophylla*), toyon (*Heteromeles arbutifolia*), quailbush (*Atriplex lentiformis*), California sagebrush (*Artemisia californica*), Menzies's golden bush (*Isocoma menziesii*), blue elderberry (*Sambucus nigra ssp. caerulea*) and lemonadeberry (*Rhus integrifolia*).

Notably, in the Pipeline Bluffs Crossing Area are monotypic and mixed stands of quailbush scrub, mixed stands of coyote brush scrub and Menzies's golden bush scrub, all of which have undergone some level of disturbance, including recolonization subsequent to former row crops extending to the bluff edge and the former presence of a refuse dump. In Drainage Area No. 4 are a planted mulefat thicket, toyon chaparral, and naturally colonized California sagebrush scrub. The southern portion of the Former Marketing Terminal Area supports a mature thicket of blue elderberry, lemonadeberry and California sagebrush. These shrub-dominated vegetation types provide cover, roosting and nesting habitat for a number of bird, reptile and small mammal species.

**Iceplant Mat** MCV Online: *Mesembryanthemum spp.* - *Carpobrotus spp.* Herbaceous Semi-Natural Alliance (Ice plant mats) (No State/Global Rarity Rank). The Pipeline Bluffs Crossing Area supports a large mat of non-native iceplant (*Carpobrotus edulis* and *Mesembryanthemum sp.*), which, where present, has frequently become a naturalized and typically dominant component of bluff scrub communities.

**Annual Grasslands and Ruderal Vegetation** MCV Online: *Brassica nigra* – *Centaurea (solstitialis, melitensis)* Herbaceous Semi- Natural Alliance (Upland mustards or star-thistle fields) (No State/Global Rarity Rank); *Avena spp.* – *Bromus spp.* Herbaceous Semi-Natural Alliance (Wild oats and annual brome grasslands) (No State/Global Rarity Rank). The Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area, which are all formerly graded, bermed, or degraded asphalt, supports patches of predominantly non-native herbaceous species such as summer mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis ssp. rubens*), ripgut brome (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), onionweed (*Asphodelus fistulosus*), bristly ox-tongue (*Helminthotheca echioides*), cheeseweed (*Malva parviflora*), perennial ryegrass, freeway iceplant, Terracina spurge (*Euphorbia terracina*), smilo grass (*Stipa mileacea*), bur-clover (*Medicago polymorpha*) and English plantain (*Plantago lanceolata*). Native species were also observed throughout these areas, but in lesser concentration, including horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), coyote brush, and small-flowered evening primrose (*Camissoniopsis micrantha*).

The Former Nursery Area supports an assemblage of weedy non-native species typical of repeated disturbance. Dominant species originally observed in 2004 included cheeseweed, wild radish (*Raphanus sativus*) and summer mustard. The Former Nursery Area was hydroseeded with a native herbaceous seed mix following removal of pesticide-affected soils in 2012 but has since become mostly recolonized with its former non-native dominants, in addition to the emergence of succulent lupine (*Lupinus succulentus*) and California poppy (*Eschscholzia californica*) included in the seed mix. Similar conditions supporting non-native annual grasses and other herbaceous cover (e.g., English plantain and Terracina spurge, but little or no native species) are present in the Former Marketing Terminal Area immediately south of its developed portion.

**Arroyo Willow Thicket** MCV Online: *Salix lasiolepis* Shrubland Alliance (Arroyo willow thickets) (S4G4). The Project Site supports three (3) small patches of arroyo willow thicket with arroyo willow (*Salix lasiolepis*) as the dominant tree species in the overstory. Understory vegetation typically includes western ragweed (*Ambrosia psilostachya*), tall flatsedge (*Cyperus eragrostis*, in wetter years), bristly ox-tongue (*Picris echioides*), and/or curly dock (*Rumex crispus*) or is bare of understory vegetation due to a thick, closed canopy. Wetland plant species found within this vegetation type during the Wetland Delineation (separate report) include English plantain (*Plantago lanceolata*), western sycamore, arroyo willow and mulefat (*Baccharis salicifolia*).

This vegetation type provides cover, roosting and nesting habitat for a number of bird, reptile and small mammal species, including at least one (1) big-eared woodrat nest at the Former Sandblast Area.

### **2.3.3 Environmentally Sensitive Habitat Areas (ESHA)**

Sections 30230, 30231, and 30233 of the Coastal Act of 1976 require protection of marine resources and estuaries. The City's General Plan/Local Coastal Land Use Plan identifies the following areas within or adjacent to the Project site as ESHA:

- Monarch butterfly roost at the Project site
- Buffer Zone
- Harbor seal rookery near the Casitas Pier
- Onshore areas seaward of the Union Pacific Railroad tracks (Carpinteria Bluffs)
- Intertidal and nearshore areas (including rocky reefs and kelp beds) near the Project site, extending up to about 3,000 feet offshore

Policies OSC-1a through OSC-1d of the City's General Plan/Local Coastal Land Use Plan provide protection for ESHA within the City (also see Section 2.2).

### **2.3.4 Site Flora**

A botanical inventory was prepared in May 2011 in support of soil remediation activities conducted within the Buffer Zone, Drainage Area No. 4, Former Nursery Area, Former Sandblast Area, and Railroad Ditch Area. A botanical survey of the entire Project site was conducted in April 2021 to update the inventory and include all potential impact areas. A total of 163 vascular plant species were observed, including 51 (31 percent) native species and 112 (69 percent) non-native or introduced species. Of the 112 non-native species identified, 54 are considered invasive by the California Invasive Plant Council, including five species rated as highly invasive, 27 species rated as moderately invasive, and 22 species rated as limited invasiveness.

### **2.3.5 Special-Status Plant Species**

Several special-status plant species have been identified in the project area by a literature search conducted by Padre and review of the California Department of Fish and Wildlife Natural Diversity Data Base (CNDDB, 2021) for the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute USGS quadrangle maps. Table 4 below describes these plants, their habitat associations, listing status, and nearest known location. Special-status plant species observed or reported at the Project Site include southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*, a CNPS rare plant rank 4 species) and yerba mansa (*Anemopsis californica*, a regionally rare species within Santa Barbara County). Monterey cypress (*Hesperocyparis macrocarpa*, a CNPS rare plant rank 1.2 species where naturally occurring) is also present in multiple locations at the Project Site, but these individuals are planted or are seedling and sapling recruits, and are not considered rare or endangered due to their introduced origin. Figure 3 provides the approximate location of special-status plant species as reported by the California Natural Diversity Data Base.

**Table 4. Special-Status Plant Species of the Carpinteria Area**

Common Name (Scientific Name)	Habitat Associations	Status	Nearest Known Location
Coulter's saltbush ( <i>Atriplex coulteri</i> )	Coastal bluff scrub, coastal dunes, coastal scrub, ocean bluffs, ridgetops, as well as alkaline areas	CRPR 1B.2	Carpinteria, along ocean bluff (CNDDDB, 2021);
Nuttall's scrub oak ( <i>Quercus dumosa</i> )	Closed-cone coniferous forest, chaparral, coastal scrub.	CRPR 1B.1	Toro and Santa Monica Canyons, northwest of Carpinteria (CNDDDB, 2021);
Late-flowered Mariposa lily ( <i>Calochortus weedii</i> var <i>vestus</i> )	Chaparral, dry, open coastal woodland.	CRPR 1B.2	Franklin Canyon, north of Carpinteria (CNDDDB, 2021);
Sonoran maiden fern ( <i>Thelypteris puberula</i> var <i>sonorensis</i> )	Meadows and seeps, along streams	CRPR 2.2	Romero Canyon, Santa Ynez Mountains (CNDDDB, 2021);
Southern tarplant ( <i>Centromadia parryi</i> ssp <i>australis</i> )	Marshes and swamps, valley and foothill grassland, often in disturbed sites near the coast.	CRPR 1B.1	Alongside rail lines, Pitas Point Quad (CNDDDB, 2021);
Cliff malacothrix ( <i>Malacothrix saxitilis</i> ssp. <i>saxitilis</i> )	Coastal bluff scrub, coastal scrub	CRPR 4	Carpinteria Bluffs (Padre, 2004)
Woolly sea-blite ( <i>Suaeda taxifolia</i> )	Margins of salt marshes	CRPR 4	Carpinteria Bluffs (Padre, 2004), Berms in the Carpinteria Salt Marsh (SBCFCWCD, 2003);
Southern California black walnut ( <i>Juglans californica</i> )	Chaparral, cismontane woodland, coastal scrub/alluvial	CRPR 4	Carpinteria Creek (Padre, 2005)
Salt marsh bird's beak ( <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> )	High marsh habitats with sandy substrate	FE, SE, CRPR 1B.2	Carpinteria Salt Marsh (Padre, 2020a);
Coulter's goldfields ( <i>Lasthenia glabrata</i> )	Margins of salt pans	CRPR 1B.1	Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003);
Estuary sea-blite ( <i>Suaeda esteroa</i> )	Coastal salt marshes	CRPR 1B.2	Presumed extirpated from Carpinteria Salt Marsh (SBCFCWCD, 2003).
Red sand verbena ( <i>Abronia maritima</i> )	Sand dune habitats	CRPR 4	Re-established in sand dunes at Carpinteria Salt Marsh Nature Park (Padre, 2004)
Southwestern spiny rush ( <i>Juncus acutus</i> ssp. <i>leopoldii</i> )	Fringes or transition habitats in salt or brackish marshes	CRPR 4	Onsite: Pipeline Bluffs Crossing Area (Padre, 2021)
Yerba mansa ( <i>Anemopsis californica</i> )	Transition habitats along edges of marshes	Regionally Rare	Onsite: Pipeline Bluffs Crossing Area (Padre, 2021)
Watson's saltbush ( <i>Atriplex watsonii</i> )	Transition habitats along edges of marshes	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Alkali barley ( <i>Hordeum depressum</i> )	Salt marsh transition and grassland habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);

**Table 4. (Continued)**

<b>Common Name (Scientific Name)</b>	<b>Habitat Associations</b>	<b>Status</b>	<b>Nearest Known Location</b>
Prostrate hutchinsia ( <i>Hutchinsia procumbens</i> )	High salt marsh habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Basket rush ( <i>Juncus textilis</i> )	Brackish marsh habitats	Regionally Rare	Drainage ditches along Sand Point Road, and successfully established at Carpinteria Salt Marsh Nature Park (SBCFCWCD, 2003);
Seaside arrowgrass ( <i>Triglochin coccinea</i> )	High salt marsh habitats	Regionally Rare	Carpinteria Salt Marsh (SBCFCWCD, 2003);
Ventura marsh milk-vetch ( <i>Astragalus pycnostachys</i> <i>var. lanosissimus</i> )	Coastal salt marshes, rarely near seeps on sandy bluffs	FE, SE, CRPR 1B.1	Introduced to the Carpinteria Salt Marsh (Meyer, 2012)
Davidson's saltscale ( <i>Atriplex serenana</i> <i>var.</i> <i>davidsonii</i> )	Coastal bluff, coastal scrub	CRPR 1B.2	Hendry's Beach (aka, Arroyo Burro Beach) (CNDDDB, 2021)
Santa Barbara morning glory ( <i>Calystegia sepium</i> <i>ssp.</i> <i>binghamiae</i> )	Coastal marsh	CRPR 1A	Burton Mound, Santa Barbara. Possibly extirpated (CNDDDB, 2021)
Umbrella larkspur ( <i>Delphinium umbraculorum</i> )	Cismontane woodland, mesic sites, 400 to 1600 m (1,300 to 5,300 ft) elevation	CRPR 1B.3	Escondido Canyon, Los Padres National Forest (CNDDDB, 2021)
Ojai fritillary ( <i>Fritillaria ojaiensis</i> )	Broadleaf forest, chaparral, lower montane coniferous forest	CRPR 1B.2	Santa Ynez Mountains, west of Ojai (CNDDDB, 2021)
Mesa horkelia ( <i>Horkelia cuneata</i> <i>ssp.</i> <i>puberula</i> )	Chaparral, cismontane woodland, coastal scrub, 70 to 810 m (230 to 2,700 ft)	CRPR 1B.1	Cold Spring Trail, near Santa Barbara (CNDDDB, 2021)
Santa Barbara honeysuckle ( <i>Lonicera subspicata</i> <i>var.</i> <i>subspicata</i> )	Chaparral, cismontane woodland, coastal scrub, 35 to 1,000 m (110 to 3,300 ft)	CRPR 1B.2	San Roque Canyon, Los Padres National Forest (CNDDDB, 2021)
Gambel's water cress ( <i>Nasturtium gambelii</i> )	Freshwater and brackish marshes at the edges or lakes or streams	FE, ST, CRPR 1B.1	Historically mapped in vicinity of Santa Barbara, but extirpated (CNDDDB, 2021)
Peninsular nolina ( <i>Nolina cismontane</i> )	Chaparral and coastal scrub, 140 to 1,275 m (460 to 4,200 ft)	CRPR 1B.2	Coyote Creek in vicinity of Lake Casitas (CNDDDB, 2021)
Southern jewel-flower ( <i>Streptanthus campestris</i> )	Chaparral, lower montane coniferous forest, pinyon- juniper forest	CRPR 1B.3	Divide Peak, Santa Ynez Mountains (CNDDDB, 2021)
Santa Ynez false lupine ( <i>Thermopsis macrophylla</i> )	Chaparral	CRPR 1B.3	Camino Cielo Road & La Cumbre Lookout Road, Santa Ynez Mountains (CNDDDB, 2021)

**Table 4. (Continued)**

Common Name (Scientific Name)	Habitat Associations	Status	Nearest Known Location
Monterey cypress ( <i>Hesperocyparis macrocarpa</i> )	Headlands and sheltered areas near the coast	CRPR 1B.2	Onsite (planted), but outside of its natural geographic range.

Status codes: CNPS Rare Plant Rank (CRPR) 1A Presumed extinct in California  
 CRPR 1B Plants rare, threatened or endangered in California  
 CRPR 2 Plants rare, threatened or endangered in California, more common elsewhere  
 CRPR 4 Plants of limited distribution  
 .1 - Seriously endangered in California.  
 .2 – Fairly endangered in California.  
 .3 – Not very endangered in California.  
 FE Federal Endangered  
 SE State Endangered  
 ST State Threatened  
 Regionally Rare: According to the Santa Barbara Botanic Garden

### 2.3.6 Wildlife

A list of wildlife species observed at the Project Site is provided in Attachment B. A majority of these wildlife sightings occurred in the Buffer Zone, with much lower biodiversity observed in the more developed portions of the Project Site.

**Amphibians and Reptiles.** Baja California tree frogs were observed in the drainage within the Buffer Zone in May 1998 (Padre, 2002a), were heard calling from the Project Site during the November 2004 field survey, and again in February 2012. Western toad was also observed in the Buffer Zone in 2012. Both species are expected to currently occur at the Project Site, particularly in lesser developed areas.

Western fence lizard and side-blotched lizard were commonly observed throughout the Project Site, typically using gopher and ground squirrel buffers as refugia. Other reptiles less commonly observed within the Buffer Zone included gopher snake, alligator lizard, and ringneck snake as recently as winter 2021. California king snake may also be expected to occur at the Project Site.

**Birds.** Tree clusters at the Project Site are known to be areas of high avian diversity. Grasslands in the Project Site are used for foraging and hunting by several species as well. Birds observed during numerous surveys from 1998 to 2021 by Padre collectively included a total of 58 species. Bird activity primarily occurs in the trees or areas of scrubby vegetation. Birds commonly observed included (in order of decreasing abundance) yellow-rumped warbler, bushtit, Anna's hummingbird, mourning dove, northern flicker, black phoebe, Hutton's vireo, northern mockingbird, American crow, and red-tailed hawk. Evidence of roosting by great horned owl was observed within the Buffer Zone in 1998 (ADL, 1999), owl pellets were found onsite in 2012, and a great horned owl fledgling was observed in the Buffer Zone in 2019 (Padre pers. obs., 2019). Cooper's hawk and red-shouldered hawk have also been commonly

observed roosting and foraging in the Buffer Zone, but no nests have been recorded at the Project Site.

Observations of nesting activity by passerines have included Anna's hummingbird, California towhee, cliff swallow, and house finch, some of which were on manufactured structures or equipment, or in trees near those items. Hawks are commonly observed roosting in large trees within the Buffer Zone and adjacent portions of the Former Nursery Area. At least three (3) raptor nests of varying sizes (one of which was active as recently as 2021) were observed at the Project Site in various years. A pair of mating red-tailed hawks was observed in the eucalyptus treetop above the MSRC Lease Area in April 2021.

Other species known from the area (e.g., Carpinteria Bluffs) include white-tailed kite, sharp-shinned hawk, barn owl, turkey vulture, and loggerhead shrike, which may forage at the Project Site.

**Mammals.** Ground squirrel and pocket gopher burrows were commonly observed throughout the Project Site. Raccoon, coyote, and domestic dog tracks have been observed within the Buffer Zone during numerous field surveys. An individual coyote was also directly observed in November 2020 within the Buffer Zone. Red fox has been commonly observed in the Buffer Zone and Chevron Pipeline Area in numerous years. Domestic cat is also frequently observed in the Buffer Zone, returning to homes along Arbol Verde Drive. A single, big-eared woodrat nest is present in the arroyo willow thicket at the bluff's edge within the Former Sandblast Area. Other mammals expected to occur at the Project Site include black rat, deer mouse, and house mouse.

**Invertebrates.** Monarch butterfly (*Danaus plexippus*) is the only insect species in the world that is known to exhibit long-distance, seasonal migrations. These butterflies maintain a summer range across North America. Milkweeds (*Asclepias* spp.) serve as their main source of food, and are where females lay their eggs. Every fall, the Monarch butterflies fly west and south to over-wintering sites in coastal California and central Mexico.

Groves of eucalyptus and Monterey pine serve as the predominant Monarch butterfly over-wintering sites in California. Other trees including coast live oak, sycamore, and Monterey cypress also serve as over-wintering habitat. A protective microclimate is typically provided by densely clustered trees and understory vegetation (i.e., shrubs, grasses) at over-wintering roost sites selected by Monarch butterflies. These sites typically provide a degree of protection from wind and storms, and exhibit more stable temperature, wind velocity, humidity, and sunlight intensity compared to adjacent areas. Monarch butterflies are known to move around selected groves of trees depending on variations in the microclimatic conditions.

The same over-wintering sites, and even the same trees, are often used year after year by Monarch butterflies. However, wide variations in the use of over-wintering sites do occur. Some sites may be used only periodically, while others are used every or almost every year. The number of Monarch butterflies using a given roost site can fluctuate dramatically on a day-to-day and year-to-year basis. Also, the duration for which a particular site is used can vary. Autumnal roost sites are used only temporarily in the fall by relatively small numbers of



butterflies, while permanent roost sites are used for the entire winter by up to tens of thousands of individuals. Autumnal sites are typically abandoned for permanent roost sites in the beginning of the winter. Both types of roost sites are important to Monarch butterflies. However, permanent roost sites are more important, as they sustain the butterfly populations by providing food and protection from the weather through the winter. It is important to note that a given roosting site may serve as an autumnal site one year, and a permanent site in another, and vice versa.

Monarch butterflies are regularly observed at the Project Site during the fall. They also occur in the winter, but may be a result of dispersion from the large Carpinteria Creek overwintering site. A cluster of approximately 50 Monarch butterflies were observed in the blue gum windrow on the east side of Dump Road on October 25, 1990. Many Monarch butterflies were observed flying over the Project Site, but no clusters were found on January 6, 1991 (Calvert, 1991). Clusters of Monarchs totaling over 2,000 individuals were observed in the Buffer Zone on November 8, 1998 (ADL, 1999). Approximately 60 Monarchs were observed in the Buffer Zone in February 1999 (Meade, 1999). Padre biologists observed two clusters totaling about 100 Monarchs on a blue gum tree in the Buffer Zone, with another 30 to 50 flying within the Buffer Zone on November 15, 2004. At that time, this site was considered an autumnal roost, possibly a congregation site associated with the overwintering site at Carpinteria Creek.

In fall 2011, Monarch butterflies were observed patrolling the Buffer Zone and began aggregating in October 2011. By January 2012 Monarch butterflies were observed aggregating in at least two trees (blue gum and pine) in excess of approximately 5,000 individuals (by visual estimation). Observations were made of the aggregations moving north (further into the Buffer Zone from its more exposed, southern end) before beginning their dispersal (and potential mating activity) in February 2012 (Padre, 2012). Conversely, in winter 2020/2021, observations were limited to very few patrolling Monarchs and no aggregations at the Buffer Zone or other locations within the Project Site (Padre, 2020 and Padre, 2021a), which may be consistent with a long-term decline in the population abundance at North American overwintering sites.

These observations are generally consistent with the Xerces Society Western Monarch Thanksgiving Count at Site 2800 (Oil & Gas Buffer Zone, Carpinteria, Xerces Society, 2020), which observed as many as 5,990 Monarchs in 2016, and steadily declined to observe only three (3) Monarchs in 2020. This decline has led to the petition of the U.S. Fish and Wildlife Service (USFWS) to list the monarch butterfly for protection under the Endangered Species Act of 1973, as amended, but although warranted for listing, is currently precluded by higher priority listing actions (USFWS, 2020a).

In support of the petition, the U.S. Fish and Wildlife Service (USFWS) conducted a species status assessment (SSA), which analyzed numerous expert predictions of increases or decreases in impacts to western monarchs over the next 20 years (USFWS, 2020b). The SSA determined that predictions of *non-habitat-mediated* climate change effects range from a 6% decrease in impacts due to increases in temperatures potentially improving reproduction, or conversely, to a 50% increase in impacts due to more severe increases in temperatures and

precipitation events hindering reproduction and increasing mortality. The SSA also determined that predictions of *habitat-mediated* climate change effects range from an 8% decrease in impacts due to the potential for small increases in milkweed availability in some portions of the range, or conversely to a 65% increase in impacts due to greater losses of monarch habitat from increased temperatures and drought (USFWS, 2020b). From a local perspective, these effects are not markedly apparent due to the mild, coastally influenced weather of the region, and relatively intact condition of vegetation within the Buffer Zone in recent documented history. Thus, the disappearance of aggregating Monarchs at the Buffer Zone may potentially be caused by the effects described above at other sections of their migratory route.

### 2.3.7 Special-Status Wildlife

Special-status wildlife species listed by CDFW and/or USFWS have the potential to occur in the vicinity of the Project Site. Query or review of the CNDDDB (2021) for the Carpinteria, Santa Barbara, White Ledge Peak, and Pitas Point 7.5-minute USGS quadrangle maps, documentation of past onsite biological survey and monitoring activities, sight records from other environmental documents, and range maps including Zeiner et al. (1988, 1990a, 1990b) and Lehman (2019) were used to determine the potential presence of these species. Table 5 lists special-status wildlife species that are known to occur or have the potential to occur at the Project Site. Figure 3 provides the approximate location of special-status wildlife species as reported by the California Natural Diversity Data Base.

**Table 5. Special-Status Wildlife Species of the Carpinteria/Montecito Area**

Common Name (Scientific Name)	Status	Nearest Known Location
Monarch butterfly ( <i>Danaus plexippus</i> )	SA, PD	On-site (fall and late winter). Buffer Zone supports a historical aggregation site, with as many as 5,990 individuals observed in 2016, but only 3 individuals observed in 2020 (Xerces Society, 2020)
Sandy Beach tiger beetle ( <i>Cicindela hirticollis grvida</i> )	SA	Carpinteria area (historic, now extirpated, CNDDDB, 2021)
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	FE, SSC	Carpinteria Creek, 0.2 miles to the west (Padre, 2016)
Southern steelhead ( <i>Oncorhynchus mykiss</i> )	FE, SSC	Carpinteria Creek below State Route 192, 0.2 miles to the northwest (Stoecker et al., 2002)
California newt ( <i>Taricha torosa</i> )	SSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)
California red-legged frog ( <i>Rana draytonii</i> )	FT, SSC	Santa Monica Creek, 2.7 miles to the north-northwest (Z. Abbey, personal observation, 2020)
Southwestern pond turtle ( <i>Actinemys pallida</i> )	SSC	Lower Carpinteria Creek, 0.2 miles to the west (Padre, 2016)
Two-striped garter snake ( <i>Thamnophis hammondi</i> )	SSC	Carpinteria Creek, 0.3 miles to the north (Padre, 2016)
Coast horned lizard ( <i>Phrynosoma coronatum</i> ssp. <i>frontale</i> )	SSC	Known from the region

**Table 5. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Location
Light-footed clapper rail ( <i>Rallus longirostris levipes</i> )	FE, SE	Carpinteria Salt Marsh (historic, now extirpated)
Belding's savanna sparrow ( <i>Passerculus sandwichensis beldingi</i> )	SE	Carpinteria Salt Marsh, 1.2 miles to the northwest (Padre, 2020a)
American peregrine falcon ( <i>Falco peregrinus anatum</i> )	FP (nesting)	Uncommon fall/winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
Western snowy plover ( <i>Charadrius alexandrinus</i> )	FT, SSC	Winters on the beaches in the Carpinteria area (Lehman, 2019). Observed at Carpinteria State Beach in 2021 (eBird.org). Nearest breeding site is near the Santa Clara River mouth, approximately 17.7 miles to the southeast.
California brown pelican ( <i>Pelecanus occidentalis californicus</i> )	SA, D	Carpinteria Salt Marsh (SBCFCWCD, 2003). Observed overhead (Padre, 2020)
California least tern ( <i>Sterna antillarum browni</i> )	FE, SE	Transient, post-breeding visitor in the region (Lehman, 2019), nearest breeding at McGrath State Beach.
Northern harrier ( <i>Circus cyaneus</i> )	SSC	Uncommon transient and winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
American bittern ( <i>Botaurus lentiginosus</i> )	SA	Rare to very rare transient and winter visitor in the region (Lehman, 2019) observed at the Carpinteria Salt Marsh (SBCFCWCD, 2003)
Long-billed curlew ( <i>Numenius americanus</i> )	WL	Uncommon fall migrant in the region, (Lehman, 2019), Observed at harbor seal haul-out near the Project site in 2021 (eBird.org).
Osprey ( <i>Pandion haliaetus</i> )	WL	Rare fall/winter transient in the region (Lehman, 2019), Observed from Tar Pits Park in 2021 (eBird.org).
Merlin ( <i>Falco columbarius</i> )	WL	Very uncommon winter visitor in the region, (Lehman, 2019), reported from the Carpinteria Salt Marsh
Yellow warbler ( <i>Dendroica petechia</i> )	SSC (nesting)	Toro Canyon (SAIC, 2000), and Carpinteria Creek (Padre, 2002b); On-site (foraging only in Buffer Zone; Padre, 2012)
Yellow-breasted chat ( <i>Icteria virens</i> )	SSC (nesting)	Toro Canyon (SAIC, 2000)
White-tailed kite ( <i>Elanus caeruleus</i> )	FP (nesting)	Carpinteria Bluffs (Padre, 2004; eBird, 2021); Carpinteria Salt Marsh (SBCFCWCD, 2003)
Loggerhead shrike ( <i>Lanius ludovicianus</i> )	SSC (nesting)	Rare and irregular breeder in the Project area (Lehman, 2019). Observed at Carpinteria Bluffs in 2021 (eBird.org).
Cooper's hawk ( <i>Accipiter cooperi</i> )	WL (nesting)	Carpinteria Creek (Padre, 2002b); On-site (foraging only in Buffer Zone, Padre obs. 2021)
Arroyo toad ( <i>Anaxyrus californicus</i> )	FE, SSC	Santa Ynez River above Gibraltar Reservoir (CNDDB, 2021)
Globose dune beetle ( <i>Coelus globosus</i> )	SA	Carpinteria sand dunes (historic [1934], likely extirpated)
San Diego desert woodrat ( <i>Neotoma lepida intermedia</i> )	SSC	North side of SPRR-ROW & US 101, Pitas Point (CNDDB, 2021)

**Table 5. (Continued)**

Common Name (Scientific Name)	Status	Nearest Known Location
Townsend's big-eared bat ( <i>Corynorhinus townsendi</i> )	SSC, WBWG-H	Carpinteria Salt Marsh (historic, 1941) (CNDDDB, 2021)
Yuma myotis ( <i>Myotis yumanensis</i> )	WBWG-LM	Night roost under the Carpinteria Avenue bridge, 0.2 miles to the north (Padre, 2016)
Big free-tailed bat ( <i>Nyctinomops macrotis</i> )	SSC	Santa Barbara (CNDDDB, 2021)
Foothill yellow-legged frog ( <i>Rana boylei</i> )	SE	Santa Ynez River at Juncal Campground (CNDDDB, 2021)
Bank swallow ( <i>Riparia riparia</i> )	ST	Hendry's Beach (aka Arroyo Burro Beach), Santa Barbara (CNDDDB, 2021)
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE, SE	Santa Ynez River at Juncal Campground (CNDDDB, 2021)
Northern California legless lizard ( <i>Anniella pulchra</i> )	SSC	Carpinteria State Beach (CNDDDB, 2021)

Status codes:

FSC	Federal Species of Concern	FE	Federal Endangered
FT	Federal Threatened	SSC	California Species of Special Concern
SA	Special Animal (CDFW)	SE	State Endangered
PD	Petition for ESA listing deferred (USFWS)	ST	State Threatened
D	Delisted from the ESA (USFWS)	WL	Watch List (CDFW)
FP	Fully Protected (CDFW)	WBWG-H	Western Bat Working Group, high concern
		WBWG-LM	Western Bat Working Group, low-medium concern

**Monarch Butterfly.** See discussion under Wildlife.

**Sandy Beach Tiger Beetle.** This species is recorded in the CNDDDB as having been identified in back-dune areas near Carpinteria greater than 20 years ago and is considered extirpated from the area. Suitable back-dune habitats are absent within the Project Site, and based on lack of more recent records, sandy beach tiger beetle is not expected to occur at the Project Site.

**Globose Dune Beetle.** This species was reported from dunes in the Carpinteria area in 1934. Although recorded in the CNDDDB as presumed extant, it likely to have become extirpated as development has occurred and beach use has substantially increased since then. At the Project Site, the bluff cliff directly meets the beach face, and does not support suitable sandy beach dune habitat; therefore, globose dune beetle is not expected to occur at the Project Site.

**Southern Steelhead.** This species is an anadromous form of rainbow trout, meaning it reproduces in freshwater, but spends much of its life cycle in the ocean, where greater feeding opportunities provide a greater growth rate and size. Steelhead has been divided into 15 evolutionary significant units (ESU) based on similarity in life history, location and genetic markers. Southern steelhead are likely to have greater physiological tolerances to warmer water and more variable conditions in comparison to populations in other ESUs. The southern

California ESU includes 16 populations from the Santa Ynez River in the north to San Mateo Creek in the south. Carpinteria Creek supports a steelhead population, with juveniles seen every year since the 1980's, primarily above the confluence with Gobernador Creek (National Marine Fisheries, 2003). A 28-inch adult female was caught illegally near the Creek mouth on February 27, 2000. Dual-frequency identification sonar (DIDSON) counts have been initiated by CDFW in Carpinteria Creek in 2014, but data are not yet available (National Marine Fisheries Service, 2016). Due to the lack of habitat and barriers between the Project Site and the ocean, this species does not occur at the Project Site.

**Tidewater Goby.** This species was found in lower Carpinteria Creek in 1995, and in 2009 during the construction of the 8<sup>th</sup> Street pedestrian bridge (Padre, 2016). However, tidewater gobies have not been collected in the Carpinteria Salt Marsh since 1923, apparently because brackish-water habitats are no longer sustained in the estuary. Due to the lack of habitat and barriers between the site and the ocean, tidewater goby does not occur on the Project Site.

**California Newt.** This species was observed in upper Carpinteria Creek (Padre, 2002b), upper Rincon Creek (Padre, 2001), and upper Santa Monica Creek (Padre pers. obs., 2020). California newt occurs in foothill areas with intact riparian habitat and pools for breeding, which do not occur at the Project Site. Therefore, California newt is considered absent from the Project Site.

**California Red-legged Frog.** This species is known to occur in permanent and temporary freshwater bodies, but also to travel extensive distances over upland areas. It has been reported in upper Santa Monica Creek, two miles north of Carpinteria Salt Marsh (Padre, 2003, Padre pers. obs., 2020). This species was not found in Romero Creek following completion of protocol surveys (Padre, 2001). Due to lack of suitable habitat, California red-legged frog is not expected to occur within close proximity to the Project Site.

**Foothill Yellow-legged Frog.** This species typically occupies perennial streams or rivers of woodlands, chaparral, or forest. It has historically been reported in the Santa Ynez River watershed at the southern end of its range. This species is now apparently extinct from the southern border of Monterey County throughout southern California based on the lack of records since 1970-1971, despite intensive search (Stebbins, 2003). Due to lack of suitable habitat and recent sight records in southern California, foothill yellow-legged frog is not expected to occur at the Project Site.

**Arroyo Toad.** This species is known to occupy sandy riverbanks, washes and arroyos including within the upper Santa Ynez River and Santa Clara River watersheds. Riverbed, arroyo or other suitable riparian habitat is absent from the Project Site, and arroyo toad is not expected to occur at the Project Site.

**Southwestern Pond Turtle.** This species is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities, but requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas or more shallow pools provided some plant or debris cover is

available. This species has been reported in Cold Springs Creek (Tierney and Storrer, 1990), upper Rincon Creek (Padre, 2001), upper Santa Monica Creek (Padre pers. obs., 2020), and lower Carpinteria Creek (Padre, 2016). Due to lack of suitable habitat, southwestern pond turtle is not expected to occur within close proximity to the Project Site.

**Two-striped Garter Snake.** This species is an aquatic snake found in or near permanent fresh water, often along streams with rocky beds and riparian growth. Two-striped garter snake has been found in many streams along the Santa Barbara County coast, including San Ysidro and Montecito Creeks (Tierney and Storrer, 1990), and recently in upper Santa Monica Creek (Padre pers. obs., 2020) and upper Carpinteria Creek (Padre, 2016). Due to lack of suitable habitat, two-striped garter snake is not expected to occur within close proximity to the Project Site.

**Coast Horned Lizard.** This species is known from the region and could occur in sandy patches in openings of scrub habitats, such as what is found at the Carpinteria Bluffs. Therefore, there may be a low potential for coast horned lizard to occur in the southern portions of the Project Site.

**Northern California Legless Lizard.** This species has multiple historical records in the CNDDB in the Carpinteria area, occupying moist, loose soil beneath sand dune vegetation and the duff layer of oak woodlands. Therefore, there may be a low to moderate potential for legless lizard to occur in the lesser disturbed portions of the Project Site (i.e., the Buffer Zone and low-lying areas of vegetated bluffs).

**Ringneck Snake.** This species has been observed on the Project Site in the Buffer Zone. The San Bernardino subspecies has been designated by the U.S. Forest Service as a sensitive species. However, no other Federal, State or local agency or organization considers this species as needing protection. Therefore, the San Bernardino ringneck snake may not meet the definition of rare or endangered under Section 15380 of the State CEQA Guidelines. According to the subspecific designations and geographic distributions developed in 1942 (including six subspecies in California), the Project Site is located in an intergradation area between the San Bernardino ringneck snake and the Monterey ringneck snake. More recent research (Fontanella et al., 2021) indicates this species should be separated into only three subspecies in California, with the project area included within the western California subspecies, which does not include the formerly designated geographic distribution of the San Bernardino ringneck snake. Therefore, ringneck snakes found on the Project Site do not have any special-status.

**Light-footed Clapper Rail.** The Final EIR prepared in 2003 for the Carpinteria Salt Marsh Enhancement Plan considered light-footed Ridgway's (Clapper) Rail (*Rallus obsoletus levipes*) as present in the Marsh, at least in Basins 2 and 3, based on incidental observations in 1995 and 1999. Yearly census for light-footed Ridgway's rail have been performed at sites throughout southern California since 1980. This species has not been observed at Carpinteria Salt Marsh since 2002 (Zembal et al., 2016). Therefore, this species is now considered extirpated from the Marsh. Due to lack of suitable habitat, light-footed clapper rail is not expected to occur within close proximity to the Project Site.

**Belding's Savanna Sparrow.** This species is an obligate saltmarsh resident and occurs within the Carpinteria Salt Marsh. Due to lack of suitable habitat, Belding's savanna sparrow is not expected to occur within close proximity to the Project Site.

**American Peregrine Falcon.** This species was removed from the Federal and State endangered species lists due to apparent population increases but remains on the State list as Fully Protected. Peregrine falcons nest on ledges or "potholes" in cliffs, usually near water. In the project area, peregrine falcons may be found foraging along the Santa Barbara coastline, including Carpinteria Salt Marsh, but only on an infrequent basis (SBCFCWCD, 2003). This species may have a low potential to occur within close proximity to the Project Site, and likely be limited to foraging.

**Western Snowy Plover.** This species inhabits sandy beaches, especially in areas with low foredunes that are not inundated at high tide. Western snowy plovers are an occasional winter visitor to areas in the vicinity of the Carpinteria Salt Marsh and have been observed on the beach below Carpinteria Bluffs. Carpinteria Beach was formerly designated as Critical Habitat by the U.S. Fish and Wildlife Service for wintering snowy plovers but has since been removed in 2012. Snowy plovers may be expected to forage, but not nest on the beach below the bluff portions of the Project Site.

**California Brown Pelican.** This species does not nest in mainland Santa Barbara County. Most nesting takes place in Baja California, but some occurs on the Channel Islands (primarily Anacapa Island). Areas favored for congregating generally have freshwater for bathing (such as river mouths), quiet places for resting and preening, and often are adjacent to ocean waters with good fish populations. Although aerial observations of brown pelican are common along the Project Site's coastline, due to lack of suitable habitat, this species is not expected to occur directly within the Project Site.

**California Least Tern.** This species is found breeding in colonies on beaches, sandbars or other flat exposed areas. It has been observed foraging at the Carpinteria Salt Marsh in the vicinity of the estuary mouth (SBCFCWCD, 2003). Ocean waters adjacent to the Project Site may be visited by California least terns. Due to lack of suitable habitat, this species is not expected to occur at the Project Site.

**Northern Harrier.** Northern harriers inhabit marshes and meadows where they feed on small mammals. This species is not known to breed along the Santa Barbara south coast but is expected at Carpinteria Salt Marsh as a transient and winter visitor (SBCFCWCD, 2003). Thus, northern harriers may forage in the general vicinity of the Project Site.

**Merlin.** This medium-sized falcon is a winter visitor to Santa Barbara County, especially the Carpinteria Salt Marsh, where it has been observed perching on low vegetation or foraging for prey. Thus, merlins may potentially forage in the general vicinity of the Project Site.

**Yellow Warbler.** This species nests in riparian woodlands and has been reported as nesting within the upper reaches of Romero Creek, Montecito Creek, Toro Canyon and San Ysidro Creek (Tierney and Storrer, 1990). This species has been observed foraging in the

Buffer Zone (Padre, 2012), but due to lack of suitable habitat, this species is not expected to nest at the Project Site.

**Yellow-breasted Chat.** This species prefers riparian woodlands for use as nesting habitat and has been observed in the past in several of the larger streams along the South Coast. It has been observed nesting in Toro Canyon and is considered rare as a breeder in the project area (Tierney and Storrer, 1990). Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Least Bell's Vireo.** This species is known to occur in extensive thickets of willow or other riparian vegetation, including within the Santa Ynez River watershed (CNDDDB, 2021). However, due to the absence of riparian forest and lack of breeding records in the region, least Bell's vireo is not likely to occur at or near the Project Site.

**White-Tailed Kite.** White-tailed kite breeding sites are uncommon in southern Santa Barbara County, but this species regularly forages along the coast during fall and winter, especially in grasslands in the vicinity of nocturnal communal roost sites in willow groves, oaks, avocado and citrus orchards, and eucalyptus (Lehman, 2019). White-tailed kite forages in grasslands along the Carpinteria Bluffs and within the Carpinteria Salt Marsh. Thus, white-tailed kites may forage in the vicinity of the Project Site.

**Loggerhead Shrike.** This species frequents grassland and open shrubland and has been observed at the Carpinteria Bluffs. Loggerhead shrike may forage at the Project Site.

**Cooper's Hawk.** This species is a very uncommon, local breeder in foothill riparian habitats in Santa Barbara County (Lehman, 2019). Cooper's hawk may be seen regularly in spring and summer in the Carpinteria area, suggesting that nesting may occur in Santa Monica Canyon to the north of the project area. This species was observed foraging at the Project Site in April 2021 and may be expected to forage and to a lesser degree, potentially nest at the Project Site.

**American Bittern.** This species is a very uncommon, local transient and winter visitor along the southern Santa Barbara County coastline (Lehman, 2019). This species prefers fresh- and salt-water marshes, and has been observed at the Carpinteria Salt Marsh. Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Long-billed Curlew.** This species is an uncommon visitor to southern Santa Barbara County, but occurs regularly at Carpinteria Salt Marsh (Lehman, 2019). This species is found in a variety of habitats including sandy beaches, sloughs, river mouths, pastureland, agricultural fields, and dry grassland. Due to lack of suitable habitat, this species is not expected to occur within close proximity to the Project Site.

**Osprey.** This species is primarily a fall transient to the southern Santa Barbara County coastline (Lehman, 2019). Ospreys are observed at lakes, ponds, sloughs, river mouths, and over nearshore ocean waters. Thus, osprey may occur within the Carpinteria Salt Marsh and



forage within ocean waters adjacent to the Project Site. Due to lack of suitable habitat, this species is not expected to occur at the Project Site.

**Bank Swallow.** This species nests in large colonies, excavating nest burrows in steep riverbank cliffs, gravel pits, and highway cuts (National Geographic Society, 1987). It has been observed at Hendry's Beach (also known as Arroyo Burro Beach) in Santa Barbara (CNDDDB, 2021). Suitable habitat does not occur within the Project Site and this species is not expected to occur at the Project Site.

**San Diego Desert Woodrat.** This species typically occurs in rocky terrain intermixed with chaparral or prickly pear cactus (*Opuntia* sp.) where it occupies elaborate dens built from sticks, twigs, cacti, dung, or other plant materials and man-made debris. Suitable habitat for San Diego desert woodrat is absent from the Project Site, and this species is not expected to occur at the Project Site.

**Big Free-tailed Bat.** This species prefers rugged, rocky canyons and cliffs, roosts in crevices and cracks in high canyon walls (and to a lesser degree in buildings), and is known to forage over water sources. Big free-tailed bat has been observed in the Santa Barbara area; however, the CDFW Wildlife Habitat Relationships System indicates that this species mainly occurs in New Mexico, southern Arizona and Texas, and probably does not breed in California (CWHR Program Staff, 2002). Due to the absence of suitable bat roosting habitat and lack of sight records in the region, big free-tailed bat is not expected to occur at the Project Site.

**Townsend's Big-eared Bat.** This species is primarily a cave dweller but may roost in mine tunnels and abandoned buildings with cave-like attics (Pierson et al., 2002). There are a few historic museum records of Townsend's big-eared bat in the Santa Barbara area. Buildings on-site are not abandoned and do not provide attic-like habitat. Due to the absence of suitable roosting habitat, this species is not expected to occur at the Project Site.

**Yuma Myotis.** This species is predominately a crevice dweller, commonly associated with man-made structures including bridges and barns, and may also roost in caves, mines and swallow nests (Pierson et al., 2002). Yuma myotis uses the underside of the Carpinteria Avenue bridge as a night roost (Padre, 2016), and has been observed by Padre biologists in expansion joints and other crevices in numerous bridges in the region. Due to the absence of suitable crevice roosting habitat, this species is not expected to occur at the Project Site.

**Migratory Birds.** A list of migratory birds protected under the Migratory Bird Treaty Act of 1918 is contained in 50 CFR 10.13, and includes five raptor species known from the project area (great horned owl, red-tailed hawk, red-shouldered hawk, Cooper's hawk, and American kestrel), other potential bird species listed above, and a majority of the bird species listed in Attachment B. The focus of the Act was the:

"Establishment of a Federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or

cause to be carried by any means whatever, received for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention for the protection of migratory birds, or any part, nest or egg of any such bird" (16 USC 703).

These species are also protected under Section 3503 and 3503.5 of the California Fish and Game Code which state, respectively: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto", and "It is unlawful to take, possess, or destroy any birds of the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by the Code or any regulation adopted pursuant thereto." Migratory birds are common in the area and are known or expected to breed at the Project Site.

### 3.0 REFERENCES

- Arthur D. Little (ADL). 1999. Environmental Assessment, Chevron Carpinteria Interim Source Removal Remedial Action Plan.
- California Department of Fish and Wildlife. 2021. California Natural Diversity Data Base (RAREFIND5), Carpinteria, Santa Barbara, White Ledge, and Pitas Point 7.5' quadrangles.
- California Department of Transportation. 2012. Natural Environment Study South Coast 101 High Occupancy Vehicle (HOV) Project (05-0N7000). January.
- California Herps. 2021. San Bernardino Ring-necked Snake - *Diadophis punctatus modestus* <http://www.californiaherps.com/snakes/pages/d.p.modestus.html>.
- City of Carpinteria. 2003. General Plan/Local Coastal Land Use Plan & Environmental Impact Report. State Clearinghouse Number 1997121111. April
- City of Carpinteria. 2016. Land Use Map. As described in Local Coastal Plan Amendments.
- City of Carpinteria. 2020. General Plan 2019 Annual Progress Report. Accepted by City Council, May 11.
- Condor Environmental Planning Services. 1996. Carpinteria Bluffs Biological Resources and Environmentally Sensitive Habitat, prepared for City of Carpinteria Community Development Department.
- Cowardin, L. M., Carter, W., Golet, F.C., and La Roe, E.T. 1979. Classification of Wetland and Deepwater Habitats of the United States. USFWS Report FWS/OBS-79/31.
- Dahl, T. E. 1990. Wetland losses in the United States 1780's to 1980's. U. S. Fish and Wildlife Service, Washington, DC, USA.
- eBird. 2021. Bird Sightings for Santa Barbara, California, U.S. <https://ebird.org/region/US-CA-083?yr=all>.
- Fontanella, F.M., Miles, E., and Strott, P. 2021. Integrated analysis of the ringneck snake *Diadophis punctatus* complex (Colubridae: Dipsadidae) in a biodiversity hotspot provides the foundation for conservation reassessment. Department of Biology, University of West Georgia, Carrollton, GA. Published in The Linnean Society of London, Biological Journal of the Linnean Society, 2021, XX, 1-15.
- Lehman, P.E. 1994 (updated 2019). The Birds of Santa Barbara County, California. Vertebrate Museum, University of California, Santa Barbara, California.
- Meade, D.E. 1999. Monarch Butterfly Overwintering Sites in Santa Barbara County California.

- Meyer, M. 2012. Ten Years After: Assessment of Experimental Outplantings of the Endangered Ventura Marsh Milkvetch (*Astragalus pycnostachyus* var. *lanosissimus*).
- National Marine Fisheries Service. 2003. Southern California Steelhead ESU Current Stream Habitat Distribution Table. [swr.ucsd.edu/hcd/soCalDistrib.htm](http://swr.ucsd.edu/hcd/soCalDistrib.htm).
- National Marine Fisheries Service. 2016. South-Central/Southern California Coast Steelhead Recovery Planning Domain 5-Year Review: Summary and Evaluation of Southern California Coast Steelhead Distinct Population Segment.
- Padre Associates, Inc. 2001. Biological Evaluation/Biological Assessment for the Thompson Rincon Creek, Surface Water Diversion Special Use Permit, Los Padre National Forest. Prepared for Chuck Thompson.
- Padre Associates, Inc. 2002a. Draft Environmental Impact Report for the Carpinteria Oil and Gas Plant Area General Plan and Local Coastal Plan Amendment. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2002b. Carpinteria Creeks Preservation Program. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2003. Final Environmental Impact Report for the Carpinteria Valley Water District's Water Storage Tank and Rancho Monte Alegre Annexation, prepared for the Carpinteria Valley Water District.
- Padre Associates, Inc. 2004a. Final Environmental Impact Report for the South Coast Beach Communities Septic to Sewer Project. Prepared for the Carpinteria Sanitary District.
- Padre Associates, Inc. 2004b. Biological Impact Study Carpinteria Gas Plant Pesticide Remediation. Prepared for Chevron Environmental Management Company. December.
- Padre Associates, Inc. 2009. 2009 Wetland Delineation East-West Earthen Channel in the Buffer Zone Area West of the Former Chevron Carpinteria Marketing Terminal. Prepared for County of Santa Barbara Planning and Development. June.
- Padre Associates, Inc. 2010. Addendum to the Biological Impact Study (December 2004) for the Carpinteria Gas Plant Pesticide Remediation. Prepared for County of Santa Barbara Planning and Development, Energy Division. August.
- Padre Associates, Inc. 2011. Botanical Survey Report for the Carpinteria Source Removal Project (Project 04-1167-DP/CDP). Prepared for Chevron Environmental Management Company. May.

- Padre Associates, Inc. 2012. Project Completion Report for Biological Survey, Monitoring and Restoration Oversight for Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project (Final Report, No. 10), CDFG Notification No. 1600-2011-0088-R5. Prepared for Chevron Environmental Management Company. February.
- Padre Associates, Inc. 2015. Year 3 Monitoring Report for On-site Mitigation for the Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project, 04-1167-DP/CDP. Prepared for Chevron Environmental Management Company. September.
- Padre Associates, Inc. 2016. Final Environmental Impact Report for the Carpinteria Avenue Bridge (51C-172) Replacement Project. Prepared for the City of Carpinteria.
- Padre Associates, Inc. 2020. Chevron Biological Survey and Habitat Impact Review Form. 14 December.
- Padre Associates, Inc. 2021a. Chevron Biological Survey and Habitat Impact Review Form. 2 February.
- Pierson E., P. Collins, W. Rainey, P. Heady and C. Corben. 2002. Final Report on the Distribution, Status and Habitat Associations of Bat Species on Vandenberg Air Force Base, Santa Barbara County, California.
- Santa Barbara Botanic Garden. 2012. Rare Plants of Santa Barbara County. Prepared by Central Coast Center for Plant Conservation, Santa Barbara. November 1.
- Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD). 2003. Carpinteria Salt Marsh Enhancement Plan Draft Environmental Impact Report.
- Sawyer, J. O., et al. 2022. A Manual of California Vegetation, Online Edition. California Native Plant Society Press, Sacramento, California.
- Science Applications International Corporation (SAIC). 1998. Wetland Delineation Report Buffer Parcel West of Former Chevron Carpinteria Marketing Terminal. Prepared for Arthur D. Little.
- Science Applications International Corporation (SAIC). 2000. Toro Canyon Plan Final Environmental Impact Report. Prepared for the County of Santa Barbara Planning and Development Department.
- Stoecker, M.W. 2002. Steelhead Assessment and Recovery Opportunities in Southern Santa Barbara County, California. [www.conceptioncoast.org](http://www.conceptioncoast.org).
- Tierney, R. and J. Storrer. 1990. Montecito Planning Area Biological Resources Study, prepared for County of Santa Barbara Comprehensive Planning Department.

- U.S. Army Corps of Engineers. 2018. National Wetland Plant List (Arid West Region), version 3.4. <http://wetland-plants.usace.army.mil/>. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH.
- U.S. Fish and Wildlife Service. 2020a. Monarch Butterfly. <https://www.fws.gov/savethemonarch/>
- U.S. Fish and Wildlife Services. 2020b. Monarch (*Danaus plexippus*) Species Status Assessment Report, version 2.1. September.
- Westree (October 13, 2004). Letter Report to Donna Hebert of Padre Associates, Inc. regarding Tree Survey Addendum – Soil Remediation at Venoco, Inc. Carpinteria Gas Facility.
- Westree (December 6, 2004). Letter Report to Donna Hebert of Padre Associates, Inc. regarding Tree Survey – Soil Remediation at Venoco, Inc. Carpinteria Gas Facility.
- Xerces Society. 2020. Western Monarch Thanksgiving Count 1997-2020. [www.westernmonarchcount.org](http://www.westernmonarchcount.org).
- Zeiner, David C., William F. Laudenslayer, Jr. and Kenneth E. Mayer. 1988. California Department of Fish and Game, California's Wildlife, Volume I, Amphibians and Reptiles.
- Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White. 1990a. California Department of Fish and Game, California's Wildlife, Volume II, Birds.
- Zeiner, David C., William F. Laudenslayer, Jr., Kenneth E. Mayer, and Marshall White. 1990b. California Department of Fish and Game, California's Wildlife, Volume III, Mammals.
- Zemba, R., S. Hoffman, C. Gailband and J. Konecny. 2016. Light-footed Ridgway's (Clapper) Rail Management, Study and Zoological Breeding in California, 2016 Season. California Department of Fish and Wildlife Nongame Wildlife Program Report No. 2016-04.

## FIGURES





#### LEGEND:

- Operational Area
- Project Site

#### MAP EXTENT:







**LEGEND:**

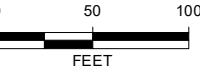
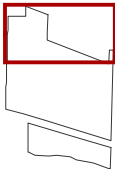
- Operational Area
- Vegetation Types**
- AG - Annual grassland or mustards

- CB - Coyote brush scrub
- CS - California sagebrush scrub
- CYP - Monterey cypress trees

- DEV - Developed (pavement, gravel, structures)
- EUC - Eucalyptus groves or windrows
- OAK - Coast live oak woodland

ORN - Ornamental trees

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: December 2022

**VEGETATION MAP**

FIGURE  
2A

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2022.mxd 12/14/2022





**LEGEND:**

Operational Area

**Vegetation Types**

AG - Annual grassland or mustards

AG/DIST - Disturbed annual grassland or mustards

CS - California sagebrush scrub

DEV - Developed (pavement, gravel, structures)

EUC - Eucalyptus groves or windrowsEUC/TAM - Eucalyptus and Tamarisk thickets or windrowsMF - Mulefat thicketOAK - Coast live oak woodlandORN - Ornamental treesTOY - Toyon ChaparralWIL - Arroyo willow thickets

**MAP EXTENT:**

0 50 100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: December 2022

VEGETATION MAP

FIGURE 2B

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2022.mxd 10/14/2022





# **LEGEND:**

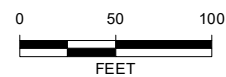
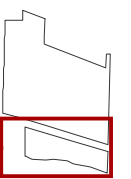
- Operational Area
- Vegetation Types**
- AG - Annual grassland or mustards
- BARE - Bare ground

- CB - Coyote brush scrub
- CS - California sagebrush scrub
- CYP - Monterey cypress trees
- DEV - Developed (pavement, gravel, structures)

- EUC - Eucalyptus groves or windrows
- GB - Golden bush scrub
- IP - Iceplant mats
- LB - Lemonade berry scrub

- SB - Saltbush (Quailbush) scrub
- WIL - Arroyo willow thickets

## **MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: December 2022

## **VEGETATION MAP**

FIGURE  
2C



## **ATTACHMENT A PROJECT SITE PLANT LIST**

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X		X			X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium canescens ssp. microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia peplus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuschia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-capre</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOSPORACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys</i> var. <i>scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheuchzeria palustris</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus</i> ssp. <i>leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			
Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	



**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

N: Native (to the region)

I: Introduced

Invasiveness Notes

Invasiveness Rating from California Invasive Plant Inventory (2020)

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species

## **ATTACHMENT B PROJECT SITE WILDLIFE LIST**

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
<b>AMPHIBIANS AND REPTILES</b>		
Baja California Tree Frog	<i>Pseudacris hypochondriaca hypochondriaca</i>	Native
Western Toad	<i>Anaxyrus boreas halophilus</i>	Native
San Diego Gopher Snake	<i>Pituophis catenifer annectens</i>	Native
Ringneck Snake	<i>Diadophis punctatus (western California clade)</i>	Native
Southern Alligator Lizard	<i>Elgaria multicarinata</i>	Native
Common Side-blotched Lizard	<i>Uta stansburiana</i>	Native
Western Fence Lizard	<i>Sceloporus occidentalis</i>	Native
<b>BIRDS</b>		
<b>Quails</b>		
California Quail	<i>Callipepla californica</i>	MBTA
<b>Pelicans &amp; Cormorants</b>		
Double-crested Cormorant (overhead)	<i>Phalacrocorax auritus</i>	WL, MBTA
California Brown Pelican (overhead)	<i>Pelecanus occidentalis californicus</i>	FP, D, MBTA
<b>Hérons &amp; Egrets</b>		
Great Blue Heron	<i>Ardea herodias</i>	MBTA
<b>Vultures</b>		
Turkey Vulture (overhead)	<i>Cathartes aura</i>	MBTA
<b>Hawks &amp; Eagles</b>		
Cooper's Hawk	<i>Accipiter cooperii</i>	WL, MBTA
Red-tailed Hawk	<i>Buteo jamaicensis</i>	MBTA
Red-shouldered Hawk	<i>Buteo lineatus</i>	MBTA
<b>Falcons</b>		
American Kestrel	<i>Falco sparverius</i>	MBTA
<b>Shorebirds &amp; Gulls</b>		
Unidentified Gull sp. (overhead)	<i>Larus</i> sp.	MBTA
<b>Pigeons &amp; Doves</b>		
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	MBTA
Rock Pigeon	<i>Columba livea</i>	Introduced
Mourning Dove	<i>Zenaida macroura</i>	MBTA

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
Eurasian Collared Dove	<i>Streptopelia decaocto</i>	Introduced
<b>Owls</b>		
Great Horned Owl	<i>Bubo virginianus</i>	MBTA
<b>Swifts &amp; Hummingbirds</b>		
Anna's Hummingbird	<i>Calypte anna</i>	MBTA
Allen's Hummingbird	<i>Selasphorus sasin</i>	MBTA
<b>Woodpeckers</b>		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	MBTA
Downy Woodpecker	<i>Picoides pubescens</i>	MBTA
Northern Flicker	<i>Colaptes auratus</i>	MBTA
Nuttall's Woodpecker	<i>Picoides nuttallii</i>	MBTA
<b>Flycatchers</b>		
Black Phoebe	<i>Sayornis nigricans</i>	MBTA
Say's Phoebe	<i>Sayornis saya</i>	MBTA
Cassin's Kingbird	<i>Tyrannus vociferans</i>	MBTA
<b>Shrikes &amp; Vireos</b>		
Hutton's Vireo	<i>Vireo huttoni</i>	MBTA
<b>Jays, Crows &amp; Ravens</b>		
California Scrub Jay	<i>Apelocoma californica</i>	MBTA
American Crow	<i>Corvus brachyrhynchos</i>	MBTA
Common Raven	<i>Corvus corax</i>	MBTA
<b>Swallows</b>		
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	MBTA
Cliff Swallow	<i>Hirundo pyrrhonota</i>	MBTA
<b>Titmouse &amp; Nuthatches</b>		
Oak Titmouse	<i>Parus inornatus</i>	MBTA
Bushtit	<i>Psaltiriparus minimus</i>	MBTA
White-breasted Nuthatch	<i>Sitta carolensis</i>	MBTA
<b>Wrens, Kinglets &amp; Gnatcatchers</b>		
House Wren	<i>Troglodytes aedon</i>	MBTA
Bewick's Wren	<i>Thryomanes bewickii</i>	MBTA
Ruby-crowned Kinglet	<i>Regulus calendula</i>	MBTA
Wrentit	<i>Chamaea fasciata</i>	MBTA

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	MBTA
<b>Thrushes</b>		
Western Bluebird	<i>Sialia mexicana</i>	MBTA
Hermit Thrush	<i>Catharus guttatus</i>	MBTA
American Robin	<i>Turdus migratorius</i>	MBTA
<b>Thrashers</b>		
Northern Mockingbird	<i>Mimus polyglottos</i>	MBTA
<b>Starlings</b>		
European Starling	<i>Sturnus vulgaris</i>	Introduced
<b>Warblers</b>		
Yellow Warbler	<i>Setophaga petechia</i>	SSC (where nesting), MBTA
Yellow-rumped Warbler	<i>Setophaga coronata</i>	MBTA
Common Yellowthroat	<i>Geothlypis trichas</i>	MBTA
<b>Sparrows</b>		
Spotted Towhee	<i>Pipilo maculatus</i>	MBTA
California Towhee	<i>Melospiza crissalis</i>	MBTA
House Sparrow	<i>Passer domesticus</i>	Introduced
Song Sparrow	<i>Melospiza melodia</i>	MBTA
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	MBTA
<b>Tanagers, Grosbeaks &amp; Buntings</b>		
Western Tanager	<i>Piranga ludoviciana</i>	MBTA
<b>Blackbirds, Meadowlark &amp; Orioles</b>		
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	MBTA
Hooded Oriole	<i>Icterus cucullatus</i>	MBTA
<b>Finches</b>		
House Finch	<i>Haemorhous mexicanus</i>	MBTA
Lesser Goldfinch	<i>Spinus psaltria</i>	MBTA
Purple Finch	<i>Haemorhous purpureus</i>	MBTA
<b>MAMMALS</b>		
Audubon's Cottontail	<i>Sylvilagus audubonii</i>	Native
Big-eared Woodrat	<i>Neotoma macrotis</i>	Native
Botta's Pocket Gopher	<i>Thomomys bottae</i>	Native

## ATTACHMENT B

### CARPINTERIA OIL AND GAS PROCESSING FACILITIES - WILDLIFE LIST

COMMON NAME	SCIENTIFIC NAME	STATUS
California Ground Squirrel	<i>Otospermophilus beecheyi</i>	Native
Coyote	<i>Canis latrans</i>	Native
Domestic Dog	<i>Canis lupus familiaris</i>	Introduced
Domestic Cat	<i>Felis catus</i>	Introduced
Raccoon	<i>Procyon lotor</i>	Native
Red Fox	<i>Vulpes vulpes</i>	Introduced
Striped Skunk	<i>Mephitis mephitis</i>	Native
Virginia Opossum	<i>Didelphis virginiana</i>	Introduced
<b>INVERTEBRATES</b>		
Monarch Butterfly	<i>Danaus plexippus</i>	SA, PD

Notes: MBTA: Migratory Bird Treaty Act and Fish and Game Code 3503; 3503.5 Protection  
 WL: CDFW Watch List Species  
 FP: CDFW Fully Protected  
 SSC: California Species of Special Concern (for birds: where nesting)  
 SA: CDFW Special Animal  
 PD: Petition for Federal Endangered Species Act Listing Deferred (USFWS)  
 D: Delisted from the Federal Endangered Species Act (USFWS)

## **Appendix C-2**

### **Tree Report**

**TREE REPORT**

**DECOMMISSIONING AND REMEDIATION OF  
THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

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**DECEMBER 2021**





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## LIST OF ATTACHMENTS

TREE INVENTORY MAP

TREE SURVEY DATA

TREE PHOTOGRAPHIC APPENDIX

## 1.0 REPORT PURPOSE AND SUMMARY

This Tree Report was prepared at the request of the Chevron Environmental Management Company (Chevron) to support an application for the decommissioning of the Carpinteria Oil and Gas Processing Facility (Project Site), located in the City of Carpinteria, California. The Project Site supports approximately 1,500 trees comprised of least 21 species; 45 percent of which (677 trees) are non-native blue gum (*Eucalyptus globulus*). Completion of decommissioning activities at the Project Site are expected to require the removal of approximately 60 blue gum and two (2) Monterey cypress (*Cupressus macrocarpa*) trees, or 4.1 percent of the Project Site's entire tree total; both species of which are planted specimens and are non-native or introduced to the region. None of the trees expected to be removed are located within Environmentally Sensitive Habitat Area (ESHA).

## **2.0 TREE PRESERVATION AND PROTECTION GUIDELINES**

The assessment of potential tree impacts associated with the decommissioning activity are required to comply with the City of Carpinteria General Plan and Local Coastal Plan, and the California Environmental Quality Act (CEQA). Objective OSC-2 of the City of Carpinteria General Plan and Local Coastal Plan is to “Preserve and restore the natural resources of the Carpinteria Bluffs.” Policy OSC-2i under Objective OSC-2 states:

“Preserve all windrow trees as one part of a contiguous and naturally preserved open space system across the whole of the Carpinteria Bluffs. Thinning, pruning and removal of trees shall be limited to what is necessary to maintain the trees in a healthful condition and to remove any hazardous condition. When a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. Replacement trees that fail to survive within the first five years after planting shall be replaced. Planting of native trees is encouraged as are programs for phased removal and replacement of tamarisk windrows in favor of native tree windrows. Development or other activity proposed on parcels including windrows shall be setback a minimum of 10 feet from the drip line of the trees and shall not result in compacting of soil or other potential damage to the trees’ root system or water source.”

According to the City of Carpinteria Guidelines for the Implementation of the California Environmental Quality Act (CEQA) for impacts to biological resources, specimen trees are defined in the City’s Municipal Code as:

“those with a diameter of at least six inches measured four feet above the ground with a minimum height of at least six feet. For trees that do not have a single trunk, the diameter of all upright woody stems should be combined for the measurement of the diameter...All native tree species, regardless of size, should be considered to be biologically valuable. In particular, young oak trees which do not meet the definition of specimen trees are a significant biological resource due to declining oak populations.”

### 3.0 METHODOLOGY

All protected trees located on the subject parcels were identified and tallied by species or general type throughout the entire Project Site. The proportion of trees that may require removal of the trees due to their location within an anticipated work footprint were given an additional physical and horticultural evaluation. Components of the tree evaluation included:

- Identification of tree species, including;
  - Geographic origin (native vs. non-native to California, or native to California but introduced to the Project Site's region)
  - Invasiveness rating (if applicable) or other determination according to the California Invasive Plant Council (Cal-IPC) Inventory and its supplements for species native to part of California but invasive in other parts of the state, or species pending assessment;
- Assignment of a tree number, and nailing a numbered aluminum tree tag to the trunk;
- Measurement of all trunks at 4.5 feet above the root crown unless noted otherwise due to trunk anomalies;
- Estimation of the maximum tree canopy spread;
- Estimation of tree height;
- Assignment of health, vigor, and appearance ratings, where:
  - "A" = Outstanding (a healthy and vigorous tree characteristic of its species and reasonably free of any visible signs of stress, disease or pest infestation, or physical defects)
  - "B" = Above Average (a healthy and vigorous tree with minor visible signs of stress, disease and/or pest infestation, or physical defects)
  - "C" = Average (although healthy in overall appearance there is an abnormal amount of stress or disease and/or pest infestation, or physical defects)
  - "D" = Below Average/Poor (A tree characterized by exhibiting a greater degree of stress, disease and/or pest infestation, or physical defects than normal and appears to be in a state of rapid decline. The degree of decline may vary greatly in signs of dieback, disease and pest infestation and appears to be in an advanced state of decline), or
  - "F" = Dead (A tree exhibiting no signs of life whatsoever);
- Calculation of an index score from the health, vigor and appearance ratings, by averaging the three scores (adding together, then dividing by 3), where:
  - "A" = 4 out of 4 points
  - "B" = 3 out of 4 points
  - "C" = 2 out of 4 points
  - "D" = 1 out of 4 points

"F" = 0 out of 4 points

- Identification of the tree location by operational area, windrow, or other geographic markers; and
- Color digital photograph of single trees or small groups of trees.

## 4.0 TREE SURVEY RESULTS

A total of 1,500 specimen trees were tallied by species throughout the entire Project Site in April 2021 and are presented in Table 1 below. The locations of protected trees (windrows, stands or individuals) found within the Project Site are provided on the attached Tree Inventory Map.

**Table 1. Tree Inventory of the Project Site**

Common Name	Scientific Name	Tally	Origin	Cal-IPC Invasiveness Rating <sup>1</sup>
Blue gum	<i>Eucalyptus globulus</i>	677	Non-native, planted, some on-site reproduction	Limited
Monterey pine	<i>Pinus radiata</i>	42	Native to California but introduced to this region, planted	Problematic native; Moderately invasive in NW California
Aleppo pine	<i>Pinus halepensis</i>	2	Non-native, planted	Assessed, not on inventory
Monterey cypress	<i>Cupressus macrocarpa</i>	38	Native to California but introduced to this region, planted	Problematic native; Moderately invasive in NW California
Coast live oak	<i>Quercus agrifolia</i>	225	Native, colonized site, planted, on-site reproduction	Not applicable
Western sycamore	<i>Platanus racemosa</i>	80	Native, planted, on-site reproduction	Not applicable
London plane	<i>Platanus x acerifolia</i>	4	Non-native, planted	Not applicable
Arroyo willow	<i>Salix lasiolepis</i>	51	Native, colonized site	Not applicable
Fan palm	<i>Washingtonia filifera</i>	4	Non-native, colonized site	No rating
Norfolk Island pine	<i>Araucaria heterophylla</i>	1	Non-native, planted	No rating
Victorian box	<i>Pittosporum undulatum</i>	31	Non-native, planted	Watch
Myoporum	<i>Myoporum laetum</i>	10	Non-native, planted	Moderate
Brazilian pepper	<i>Schinus terebinthifolius</i>	5	Non-native, planted	Moderate
Oregon ash	<i>Fraxinus latifolia</i>	9	Introduced, planted	No rating
Athel tamarisk	<i>Tamarix aphylla</i>	93	Non-native, planted	Limited
Dawn redwood	<i>Metasequoia glyptostroboides</i>	7	Non-native, planted	No rating
Avocado	<i>Persea americana</i>	5	Non-native, planted	No rating
Sydney golden wattle	<i>Acacia longifolia</i>	12	Non-native, planted	Watch
Chinese elm	<i>Ulmus parvifolia</i>	7	Non-native, planted	Assessed, not on inventory

Toyon	<i>Heteromeles arbutifolia</i>	135	Native, planted, on-site reproduction	Not applicable
Various fruit	<i>Not specified</i>	6	Non-native, planted	No rating
Other ornamental	<i>Not specified</i>	4	Non-native, planted	No rating
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	52	Native, planted, on-site reproduction	Not applicable
<b>Total:</b>		<b>1,500</b>		

<sup>1</sup>Cal-IPC Invasiveness Ratings (<https://www.cal-ipc.org/plants/inventory/>):

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Alert – An Alert is listed on species with High or Moderate impacts that have limited distribution in California, but may have the potential to spread much further.

Watch – These species have been assessed as posing a high risk of becoming invasive in the future in California.

A summary of tree data of estimated impacts due to complete removal are provided in Table 2 below. Tree data recorded for each tree anticipated for removal are summarized in Table 3 below and are provided in the attached Tree Survey Data spreadsheet. Photographs of each tree or small groups of trees are also provided as an attachment.

**Table 2. Tree Impact (Removal) Summary According to Tree Health, Vigor & Appearance Index Scores**

TREE SCORE:	4 (A)	3 (B)	2 (C)	1 (D)	TOTAL
Anticipated Tree Impacts (Removals)	3	16	27	16	<b>62</b>
Percent of Impacted Trees by Score	5%	26%	43%	26%	<b>100%</b>
Project Site Tree Tally	NT	NT	NT	NT	<b>1,500</b>
Percent of Impacted Trees within Project Site	0.2%	1.1%	1.8%	1.1%	<b>4.1%</b>

NT: Not taken (only the trees anticipated for removal were evaluated for health, vigor, and appearance)

Based on the proposed work activity limits, here is a summary of the tree survey, and anticipated impacts metrics:

- A total of 62 live trees and 0 dead trees were evaluated. Tree survey data described above was recorded for all 62 live trees.
- Sixty (60) of the trees evaluated are blue gum (*Eucalyptus globulus*) trees, which are planted in the Main Plant Area middle east-west windrow, the Main Plant Area southern north-south windrow, and in the Chevron Pipeline Area east-west windrow.
- Two (2) of the trees evaluated are Monterey cypress (*Cupressus macrocarpa*) trees, which are planted in the southern portion of the Main Plant Area, adjacent to the fence that borders the Union Pacific railroad right-of-way.
- 69 percent of the trees evaluated received a health-vigor-appearance index score of 2 out of 4 points (C rating) or worse, predominantly due to thinning crown, lopsided canopy, and evidence of previous topping.
- Anticipated impacts to these 62 trees are complete removals.
- Tree impacts (removals) are estimated at 4.1% of the entire tree population at the Project Site.
- Zero (0) trees expected to be removed are located within Environmentally Sensitive Habitat Area (ESHA).



**Table 3. Tree Data Summary**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant Middle E-W Row	1	<i>Eucalyptus globulus</i>	41	30	60	2825	A	A	B	4	Yes at 30 ft
Main Plant Middle E-W Row	2	<i>Eucalyptus globulus</i>	41	30	55	2826	A	A	B	4	Yes at 30 ft
Main Plant Middle E-W Row	3	<i>Eucalyptus globulus</i>	41	35	65	2827	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	4	<i>Eucalyptus globulus</i>	42	30	65	2827	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	5	<i>Eucalyptus globulus</i>	26	20	60	2828	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	6	<i>Eucalyptus globulus</i>	32	20	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	7	<i>Eucalyptus globulus</i>	31	30	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	8	<i>Eucalyptus globulus</i>	30	30	60	2829	C	C	C	2	Yes at 30 ft
Main Plant Middle E-W Row	9	<i>Eucalyptus globulus</i>	28	30	60	2829	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	10	<i>Eucalyptus globulus</i>	25	30	55	2030	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	11	<i>Eucalyptus globulus</i>	19	20	60	2030	D	D	D	1	Yes at 30 ft
Main Plant Middle E-W Row	12	<i>Eucalyptus globulus</i>	38	30	60	2030	B	C	C	2	Yes at 30 ft
Main Plant South N-S Row	13	<i>Eucalyptus globulus</i>	8	15	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	14	<i>Eucalyptus globulus</i>	10	15	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	15	<i>Eucalyptus globulus</i>	10,7	10	20	2031	B	B	D	2	Yes at 20 ft
Main Plant South N-S Row	16	<i>Eucalyptus globulus</i>	29	20	20	2833	D	D	D	1	Yes at 20 ft

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	17	<i>Eucalyptus globulus</i>	17	15	40	2835	D	D	D	1	No
Main Plant South N-S Row	18	<i>Eucalyptus globulus</i>	16	15	40	2835	D	D	D	1	No
Main Plant South N-S Row	19	<i>Eucalyptus globulus</i>	23 at Base	30	20	2835	D	D	D	1	Yes at 15 ft
Main Plant South N-S Row	20	<i>Eucalyptus globulus</i>	27	35	60	2836	C	C	B	2	No
Main Plant South N-S Row	21	<i>Eucalyptus globulus</i>	41	35	60	2837	B	B	B	3	No
Main Plant South N-S Row	22	<i>Eucalyptus globulus</i>	8,8,7,11, 9,9	20	35	2837	D	D	D	1	Yes at 30 and 20 ft
Main Plant South N-S Row	23	<i>Eucalyptus globulus</i>	22	35	70	2837, 2838	B	B	B	3	No
Main Plant South N-S Row	24	<i>Eucalyptus globulus</i>	29	40	65	2838	B	B	B	3	No
Main Plant South N-S Row	25	<i>Eucalyptus globulus</i>	29	40	65	2838	B	B	B	3	No
Main Plant South N-S Row	26	<i>Eucalyptus globulus</i>	14	25	35	2838	C	B	D	2	Yes at 15 ft
Main Plant South N-S Row	27	<i>Eucalyptus globulus</i>	24	25	60	2838, 2839	C	C	D	2	Yes at 10 ft
Main Plant South N-S Row	28	<i>Eucalyptus globulus</i>	35	35	55	2839	C	C	C	2	No
Main Plant South N-S Row	29	<i>Eucalyptus globulus</i>	15,9	20	45	2839	C	C	D	2	No
Main Plant South N-S Row	30	<i>Eucalyptus globulus</i>	19	15	30	2839	C	C	D	2	Yes at 30 ft
Main Plant South N-S Row	31	<i>Eucalyptus globulus</i>	17	20	55	2839	D	D	D	1	No
Main Plant South N-S Row	32	<i>Eucalyptus globulus</i>	26	30	55	2839	B	B	B	3	No

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	33	<i>Eucalyptus globulus</i>	33	25	50	2840	B	B	C	3	Yes at 30 ft
Main Plant South N-S Row	34	<i>Eucalyptus globulus</i>	21	30	45	2840	B	B	C	3	No
Main Plant South N-S Row	35	<i>Eucalyptus globulus</i>	31	35	60	2840	B	B	C	3	No
Main Plant South N-S Row	36	<i>Eucalyptus globulus</i>	26	30	60	2840	B	B	C	3	No
Main Plant South N-S Row	37	<i>Eucalyptus globulus</i>	18	30	50	2840	B	B	C	3	No
Main Plant South N-S Row	38	<i>Eucalyptus globulus</i>	19	25	45	2841	B	B	C	3	Yes at 30 ft
Main Plant South N-S Row	39	<i>Eucalyptus globulus</i>	24	25	45	2841	B	B	C	3	No
Main Plant South N-S Row	40	<i>Eucalyptus globulus</i>	29 at 3 ft	20	50	2841	C	C	D	2	No
Main Plant South N-S Row	41	<i>Eucalyptus globulus</i>	25	25	55	2841, 2842	C	D	C	2	No
Main Plant South N-S Row	42	<i>Eucalyptus globulus</i>	17	20	50	2842	C	C	D	2	No
Main Plant South N-S Row	43	<i>Eucalyptus globulus</i>	26	25	50	2842	C	C	D	2	No
Main Plant South N-S Row	44	<i>Eucalyptus globulus</i>	26	40	40	2842	B	B	C	3	Yes at 20 ft
Main Plant South N-S Row	45	<i>Eucalyptus globulus</i>	13	10	15	2843	B	B	D	2	Yes at 10 ft
Main Plant South N-S Row	46	<i>Eucalyptus globulus</i>	16	15	30	2843	D	D	D	1	Yes at 15 ft
Main Plant South N-S Row	47	<i>Eucalyptus globulus</i>	11	15	45	2843	D	D	D	1	No
Main Plant South N-S Row	48	<i>Eucalyptus globulus</i>	18	20	50	2844	D	D	D	1	No

**Table 3. (Continued)**

Location	Tree Number	Species	Diameter (in)	Maximum Canopy Spread (ft)	Approximate Height	Photograph Number(s)	Health Rating	Vigor Rating	Aesthetics Rating	Index Score	Previously Topped?
Main Plant South N-S Row	49	<i>Eucalyptus globulus</i>	27 at 2 ft	30	55	2844	B	B	B	3	No
Main Plant South N-S Row	50	<i>Eucalyptus globulus</i>	10	10	45	2845	C	C	D	2	Yes at 20 ft
Main Plant South N-S Row	51	<i>Eucalyptus globulus</i>	32,29	35	60	2846	A	A	B	4	No
Main Plant South N-S Row	52	<i>Eucalyptus globulus</i>	51	35	45	2846	D	D	D	1	No - Leaning, pruned
Main Plant South N-S Row	53	<i>Eucalyptus globulus</i>	9,9,9,10, 6	25	35	2847	B	B	D	2	Yes at ground
Main Plant along Railroad	54	<i>Cupressus macrocarpa</i>	33 at 1 ft	30	25	2848	B	B	B	3	Pruned lower branches
Main Plant along Railroad	55	<i>Cupressus macrocarpa</i>	27	40	25	2849, 2850	D	D	C	1	Deadwood
Chevron Pipeline Area E-W Row	56	<i>Eucalyptus globulus</i>	30	25	45	2851	B	B	D	2	Lopsided
Chevron Pipeline Area E-W Row	57	<i>Eucalyptus globulus</i>	40	30	60	2851	B	B	B	3	No
Chevron Pipeline Area E-W Row	58	<i>Eucalyptus globulus</i>	29	35	60	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	59	<i>Eucalyptus globulus</i>	28	30	55	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	60	<i>Eucalyptus globulus</i>	30	35	60	2852	C	C	C	2	No
Chevron Pipeline Area E-W Row	61	<i>Eucalyptus globulus</i>	20	10	25	2852	D	D	D	1	Yes at 10 ft
Chevron Pipeline Area E-W Row	62	<i>Eucalyptus globulus</i>	23	15	30	2852	D	D	D	1	Yes at 20 ft

Decommissioning activities at the Project Site including belowground pipeline removals, surface asphalt and concrete slab removals, and remedial soil excavations may be expected to encroach into the critical root zones of other trees not evaluated in Tables 2 and 3 above, but these additional trees would not be expected to require removal. Table 4 provides an estimate of approximately 296 trees including 232 blue gum, 35 athel tamarisk, 10 coast live oak, 7 Chinese elm, 7 dawn redwood, and 5 Monterey cypress trees that may undergo varying degrees of root zone encroachment according to a comparison of the tree inventory data and Figures 7.1-2, 7.1-3, and 7.1-4 in the Project Description (Padre, October 2021). Tree protection measures for trees undergoing encroachment are provided in Section 5 below.

**Table 4. Tree Impact (Encroachment) Estimation for Decommissioning Activities**

Location	Species	Estimated Quantity	Proposed Activity		
			Pipeline Removal	Asphalt or Concrete Removal	Remedial Soil Excavation
Former Marketing Terminal Area	Blue gum ( <i>E. globulus</i> )	75		X	X
Former Marketing Terminal Area	Chinese elm ( <i>U. parvifolia</i> )	7		X	X
Shop & Maintenance Area	Blue gum ( <i>E. globulus</i> )	55	X	X	X
Shop & Maintenance Area	Coast live oak ( <i>Q. agrifolia</i> )	10	X		
Shop & Maintenance Area	Dawn redwood ( <i>M. glyptostroboides</i> )	7	X		
MSRC Lease Area	Blue gum ( <i>E. globulus</i> )	70		X	X
Main Plant Area	Blue gum ( <i>E. globulus</i> )	20	X	X	
Main Plant Area	Athel tamarisk ( <i>T. aphylla</i> )	35	X	X	X
Main Plant Area	Monterey cypress ( <i>C. macrocarpa</i> )	1	X		
Chevron Pipeline Area	Blue gum ( <i>E. globulus</i> )	12	X	X	X
Chevron Pipeline Area	Monterey cypress ( <i>C. macrocarpa</i> )	4	X	X	X
<b>Total:</b>		<b>296</b>			

## 5.0 TREE PROTECTION MEASURES

Trees that may be encroached upon, but not removed by decommissioning activities would be expected to survive as long as the encroachment is not too severe (i.e., impacts to their root zone, trunks or canopy are minimized), and sufficient measures are taken to protect the trees in place. The following protection measures are proposed to ensure their survival:

- If feasible, grading plans should be adjusted to avoid the critical root zone of some or all of these trees. If some or all of these trees are still considered candidates for encroachment upon final approval of the grading plans, temporary staking or flagging will be placed along the grading limits prior to initiation of construction for clear identification and to ensure tree impacts are minimized.
- Tree protection areas will be marked in the field in collaboration with a certified arborist or qualified biologist using fencing and/or flagging, which may coincide or overlap with the staked/flagged grading limits.
- All ground disturbance within 10 feet of the canopy dripline of affected trees will be monitored by a certified arborist or qualified biologist with tree care experience.
- Staging of equipment and vehicles shall be located outside of the tree protection areas. Placement of heavy equipment for earthwork shall be as far away from the tree protection zones as feasible and should never be less than 6 feet from the trunk of each specimen tree.
- Overhead branches that conflict with Project activities may be pruned by a qualified tree trimmer according to International Society of Arboriculture (ISA) pruning standards.
- Excavation activities within tree protection areas will be allowed if soil sampling indicates soils exceed remediation targets and work is conducted with hand tools only, including hydro-excavation. To the extent feasible, hydro-excavation shall not be used in direct contact of roots to avoid damaging the root epidermis and root hair connections of smaller absorptive roots.
- If cutting of roots that are intertwined with belowground features is required, roots shall be saw-cut to avoid tearing, and conducted as far from the trunk as possible.
- Soil removed from critical root zones will be replaced with imported clean soil within 48 hours of completion of excavation. If excavations are required to remain open for greater than 48 hours, roots will be temporarily wrapped or draped in burlap and kept moist until the excavation is backfilled.
- All trees affected by excavation within the critical root zone will be monitored quarterly to detect any loss of vigor.

- Willows within the FSBA and DA4 will be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing will occur around each stand of trees throughout the duration of work.

The City of Carpinteria General Plan and Local Coastal Plan encourages the planting of native trees to replace non-native tree removals. The Project Site currently supports approximately 225 coast live oak (*Quercus agrifolia*), 80 western sycamore (*Platanus racemosa*), 52 blue elderberry (*Sambucus nigra ssp. caerulea*), and 135 toyon (*Heteromeles arbutifolia*) trees (or shrubs that may become trees). Replacement of non-native trees with these native species at a ratio of 1:1 or greater is recommended in areas that would expand native vegetation onsite, or possibly to create new habitat patches within portions of the property that are not slated for any developmental purpose. No monarch butterfly roosting habitat trees (e.g., blue gum trees within the BZA) are proposed for removal; therefore, replacement of tree removals with additional non-native trees such as blue gum are not recommended or proposed.

## 6.0 PREPARERS

Data collection was supervised and/or collected by, and the Tree Report was prepared by Mr. Chris Dunn, a biologist with 23 years of professional experience, including over 10 years as an International Society of Arboriculture (ISA) Certified Arborist. Collection of field data was also performed by Michaela Hoffman, Shannon Gonzales and Ryan Newkirk, professional biologists, each with tree evaluation and scientific data collection experience.



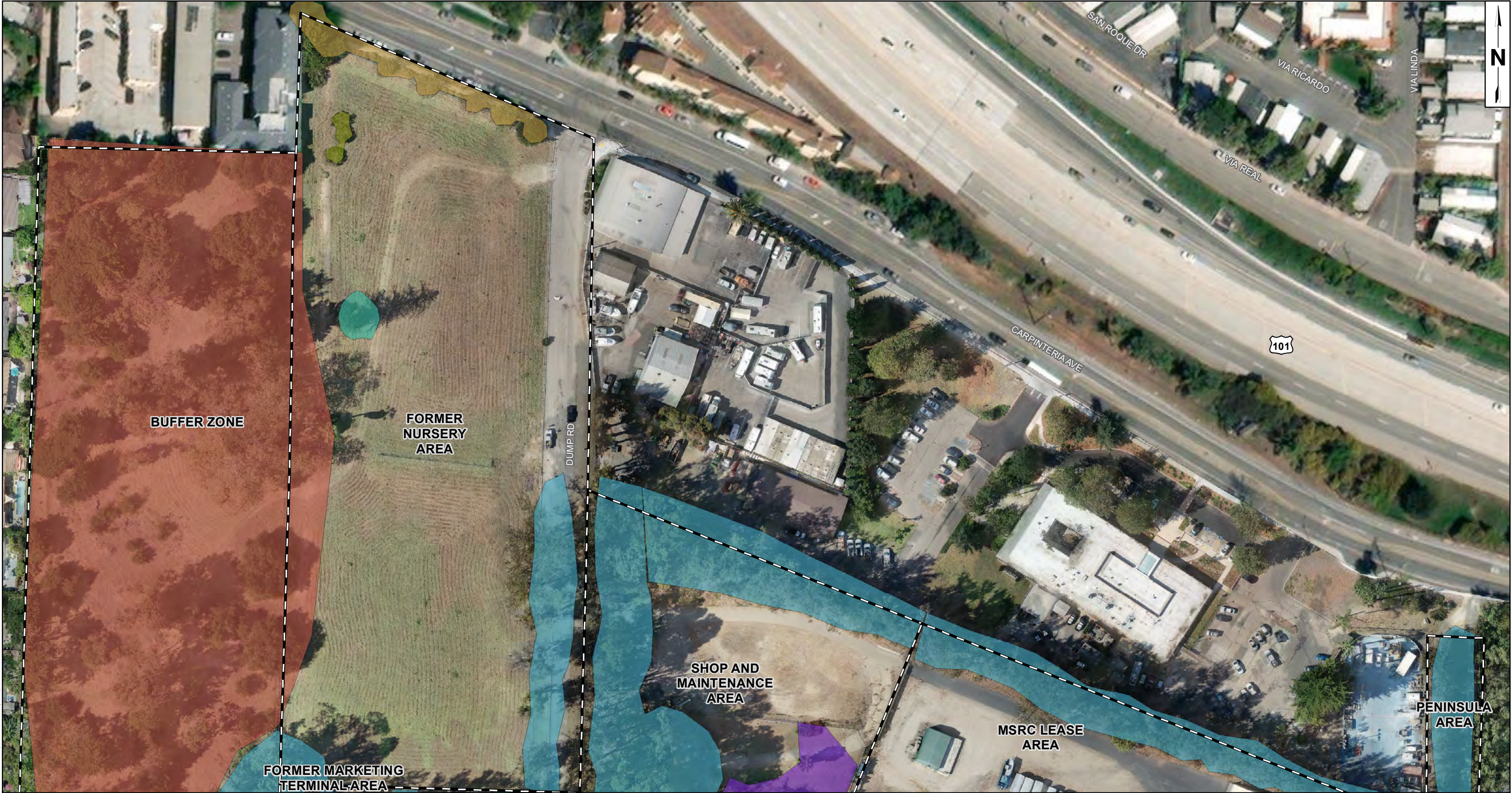
December 14, 2021

Chris Dunn  
ISA Certified Arborist No. WE-9525A  
(805) 644-2220 ext. 12



## **Tree Inventory Map**





**LEGEND:**

Operational Area

**Tree Types:**

Cypress, Sycamore, Ash, & Sage

Island Pine

Tam, Orn, Palm, & Oak

Coyote Brush

Eucalyptus

Mixed Woodland

**MAP EXTENT:**

0 50 100  
FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER: 2002-5211

DATE: May 2021

**TREE INVENTORY MAP**

**FIGURE 1**

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility Tree Inventory Map 2021.mxd 5/24/2021





**LEGEND:**

Operational Area

Tagged Tree Location

**Tree Types:**

Ash, Avocado, & Fruit	Cypress	Eucalyptus & Pine	Orn
Avocado	Dawn Redwood	Eucalyptus & Tam	Tam, Orn, Palm, & Oak
Coast Live Oak	Eucalyptus	Fruit	Willow
	Eucalyptus & Elm	Mixed Woodland	

**MAP EXTENT:**

0 50 100  
FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

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**TREE INVENTORY MAP**

FIGURE  
2







## **Tree Survey Data**

COGPC Tree Tally Estimate

	Blue gum	Monterey pine	Aleppo pine	Monterey cypress	Coast oak	live	Western sycamore	Arroyo willow	Fan palm	Norfolk Island pine	Victorian box	Myoporium	Brazilian pepper	Oregon ash	tamarisk	dawn redwood	avocado	Sydney golden wattle	Chinese elm	Toyon	Fruit	Ornamental	Elderberry	Total per area:
Operational Area																								
Buffer Zone*	100	30		13	135		30	1			20	10	5											344
Chevron Pipeline Area				4																				4
Chevron Pipeline Area E-W row	19																	1						20
Chevron Pipeline Area N-S row	50																							50
Drainage Area No. 4*	57	10		2	55		30	3	1											131			33	322
Former Marketing Terminal Area north E-W row	54										3						1							58
Former Marketing Terminal Area N-S rows	28			1														1	7					37
Former Nursery Area*	10			2			4		1	1				1										19
Former Sandblast Area				2	1		5	16																24
Main Plant				3	1																1			5
Main Plant-Middle E-W row	12																							12
Main Plant-North E-W row	18										1					36								55
Main Plant-North N-S row	22																							22
Main Plant-South N-S row	41																							41
MSRC Lease Area E-W row	70															2		1				1		74
MSRC Lease Area N-S row					1																			1
Peninsula Area	45															34								79
Pier Parking Lot				1	3		8																	12
Pipeline Landing Area	23	1	1	10			6	31			1													73
Railroad Ditch Area			1																					1
Shop and Maintenance Area		1			25				2	5				8	18	7	4			1	5	3		79
Shop and Maintenance E-W row	44														3									47
Shop and Maintenance N-S row	63				1																			64
<i>subtotal</i>																								<b>1443</b>

Additional Survey Areas																								
Former Marketing Terminal Area-Buffer Zone North N-S row	109																							109
Former Marketing Terminal Area-Buffer Zone South N-S row	67				3		1				1							8						80
Former Market Terminal Area Restoration Area	2																	1		3			19	25

	834	42	2	38	225	84	51	4	1	31	10	5	9	93	7	5	12	7	135	6	4	subtotal	214
Corrected redundancy:	677	42	2	38	225	84	51	4	1	31	10	5	9	93	7	5	12	7	135	6	4	52	1657
																							1500

\*: Data from 2004 tree survey and 2015 monitoring report. No new survey proposed due to lack of proposed work in BZ.

Tree Survey Data. Carpinteria Oil & Gas Processing Facility, May 14, 2021.

Location	Tree		Maximum Canopy		Approximate Height	Photograph number(s)	Health Rating	Vigor Rating	Aesthetics		Index Score	Previously Topped?	=4	=3	=2	=1
	Number	Species	Diameter (in)	Spread (ft)					Rating	Rating						
Main Plant Middle E-W Row	1	Eucalyptus globulus	41	30	60	2825	A	4	A	4	B	3	4	Yes at 30 ft		
Main Plant Middle E-W Row	2	Eucalyptus globulus	41	30	55	2826	A	4	A	4	B	3	4	Yes at 30 ft	1	
Main Plant Middle E-W Row	3	Eucalyptus globulus	41	35	65	2827	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	4	Eucalyptus globulus	42	30	65	2827	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	5	Eucalyptus globulus	26	20	60	2828	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	6	Eucalyptus globulus	32	20	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	7	Eucalyptus globulus	31	30	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	8	Eucalyptus globulus	30	30	60	2829	C	2	C	2	C	2	2	Yes at 30 ft		1
Main Plant Middle E-W Row	9	Eucalyptus globulus	28	30	60	2829	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	10	Eucalyptus globulus	25	30	55	2030	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	11	Eucalyptus globulus	19	20	60	2030	D	1	D	1	D	1	1	Yes at 30 ft		1
Main Plant Middle E-W Row	12	Eucalyptus globulus	38	30	60	2030	B	3	C	2	C	2	2	Yes at 30 ft		1
Main Plant South N-S Row	13	Eucalyptus globulus	8	15	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	14	Eucalyptus globulus	10	15	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	15	Eucalyptus globulus	10,7	10	20	2031	B	3	B	3	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	16	Eucalyptus globulus	29	20	20	2833	D	1	D	1	D	1	1	Yes at 20 ft		1
Main Plant South N-S Row	17	Eucalyptus globulus	17	15	40	2835	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	18	Eucalyptus globulus	16	15	40	2835	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	19	Eucalyptus globulus	23 at Base	30	20	2835	D	1	D	1	D	1	1	Yes at 15 ft		1
Main Plant South N-S Row	20	Eucalyptus globulus	27	35	60	2836	C	2	C	2	B	3	2	No		1
Main Plant South N-S Row	21	Eucalyptus globulus	41	35	60	2837	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	22	Eucalyptus globulus	8,8,7,11,9,9	20	35	2837	D	1	D	1	D	1	1	Yes at 30 and 20 ft		1
Main Plant South N-S Row	23	Eucalyptus globulus	22	35	70	2837, 2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	24	Eucalyptus globulus	29	40	65	2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	25	Eucalyptus globulus	29	40	65	2838	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	26	Eucalyptus globulus	14	25	35	2838	C	2	B	3	D	1	2	Yes at 15 ft		1
Main Plant South N-S Row	27	Eucalyptus globulus	24	25	60	2838, 2839	C	2	C	2	D	1	2	Yes at 10 ft		1
Main Plant South N-S Row	28	Eucalyptus globulus	35	35	55	2839	C	2	C	2	C	2	2	No		1
Main Plant South N-S Row	29	Eucalyptus globulus	15,9	20	45	2839	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	30	Eucalyptus globulus	19	15	30	2839	C	2	C	2	D	1	2	Yes at 30 ft		1
Main Plant South N-S Row	31	Eucalyptus globulus	17	20	55	2839	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	32	Eucalyptus globulus	26	30	55	2839	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	33	Eucalyptus globulus	33	25	50	2840	B	3	B	3	C	2	3	Yes at 30 ft		1
Main Plant South N-S Row	34	Eucalyptus globulus	21	30	45	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	35	Eucalyptus globulus	31	35	60	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	36	Eucalyptus globulus	26	30	60	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	37	Eucalyptus globulus	18	30	50	2840	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	38	Eucalyptus globulus	19	25	45	2841	B	3	B	3	C	2	3	Yes at 30 ft	1	
Main Plant South N-S Row	39	Eucalyptus globulus	24	25	45	2841	B	3	B	3	C	2	3	No	1	
Main Plant South N-S Row	40	Eucalyptus globulus	29 at 3 ft	20	50	2841	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	41	Eucalyptus globulus	25	25	55	2841, 2842	C	2	D	1	C	2	2	No		1
Main Plant South N-S Row	42	Eucalyptus globulus	17	20	50	2842	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	43	Eucalyptus globulus	26	25	50	2842	C	2	C	2	D	1	2	No		1
Main Plant South N-S Row	44	Eucalyptus globulus	26	40	40	2842	B	3	B	3	C	2	3	Yes at 20 ft	1	
Main Plant South N-S Row	45	Eucalyptus globulus	13	10	15	2843	B	3	B	3	D	1	2	Yes at 10 ft		1
Main Plant South N-S Row	46	Eucalyptus globulus	16	15	30	2843	D	1	D	1	D	1	1	Yes at 15 ft		1
Main Plant South N-S Row	47	Eucalyptus globulus	11	15	45	2843	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	48	Eucalyptus globulus	18	20	50	2844	D	1	D	1	D	1	1	No		1
Main Plant South N-S Row	49	Eucalyptus globulus	27 at 2 ft	30	55	2844	B	3	B	3	B	3	3	No	1	
Main Plant South N-S Row	50	Eucalyptus globulus	10	10	45	2845	C	2	C	2	D	1	2	Yes at 20 ft		1
Main Plant South N-S Row	51	Eucalyptus globulus	32,29	35	60	2846	A	4	A	4	B	3	4	No	1	
Main Plant South N-S Row	52	Eucalyptus globulus	51	35	45	2846	D	1	D	1	D	1	1	No - Leaning, pruned		1
Main Plant South N-S Row	53	Eucalyptus globulus	9,9,9,10,6	25	35	2847	B	3	B	3	D	1	2	Yes at ground		1
Main Plant along Railroad	54	Cupressus macrocarpa	33 at 1 ft	30	25	2848	B	3	B	3	B	3	3	Pruned lower branches	1	
Main Plant along Railroad	55	Cupressus macrocarpa	27	40	25	2849, 2850	D	1	D	1	C	2	1	Deadwood		1
Chevron Pipeline Area E-W Row	56	Eucalyptus globulus	30	25	45	2851	B	3	B	3	D	1	2	Lopsided		1
Chevron Pipeline Area E-W Row	57	Eucalyptus globulus	40	30	60	2851	B	3	B	3	B	3	3	No (CATO Nesting)	1	
Chevron Pipeline Area E-W Row	58	Eucalyptus globulus	29	35	60	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	59	Eucalyptus globulus	28	30	55	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	60	Eucalyptus globulus	30	35	60	2852	C	2	C	2	C	2	2	No		1
Chevron Pipeline Area E-W Row	61	Eucalyptus globulus	20	10	25	2852	D	1	D	1	D	1	1	Yes at 10 ft		1
Chevron Pipeline Area E-W Row	62	Eucalyptus globulus	23	15	30	2852	D	1	D	1	D	1	1	Yes at 20 ft		1
													3	16	27	16

## **Tree Photographic Appendix**





**Photo 1.** Tree 1, *Eucalyptus globulus* (IMG\_2825\_Tree1.JPG).





**Photo 2.** Tree 2, *Eucalyptus globulus* (IMG\_2826\_Tree2.JPG).





**Photo 3.** Trees 3 and 4, *Eucalyptus globulus* (IMG\_2827\_Trees3&4).





**Photo 4.** Trees 4, 5, and 6, *Eucalyptus globulus* (IMG\_2828\_Tree5 middle).





**Photo 5.** Trees 6, 7, 8 and 9, *Eucalyptus globulus* (IMG\_2829\_Trees6-9).





**Photo 6.** Trees 10, 11, and 12, *Eucalyptus globulus* (IMG\_2830\_Trees10-12).





**Photo 7.** Trees 13, 14, and 15, *Eucalyptus globulus* (IMG\_2831\_Trees13-15).





**Photo 8.** Tree 16, *Eucalyptus globulus* (IMG\_2833\_Tree16).





**Photo 9.** Trees 17, 18, and 19, *Eucalyptus globulus* (IMG\_2835\_Trees17-19).





**Photo 10.** Trees 18, 19, 20, and 21, *Eucalyptus globulus* (IMG\_2836\_Tree20).





**Photo 11.** Trees 21, 22, 23, and 24, *Eucalyptus globulus* (IMG\_2837\_Trees21-23).





**Photo 12.** Trees 23, 24, 25, 26, and 27, *Eucalyptus globulus* (IMG\_2838\_Trees23-27).





**Photo 13.** Trees 27, 28, 29, 30, 31, and 32, *Eucalyptus globulus* (IMG\_2839\_Trees27-32).





**Photo 14.** Trees 33, 34, 35, 36, and 37, *Eucalyptus globulus* (IMG\_2840\_Trees33-37).





**Photo 15.** Trees 38, 39, 40, and 41, *Eucalyptus globulus* (IMG\_2841\_Trees38-41).





**Photo 16.** Trees 41, 42, 43, and 44, *Eucalyptus globulus* (IMG\_2842\_Trees41-44).





**Photo 17.** Trees 45, 46, and 47, *Eucalyptus globulus* (IMG\_2843\_Trees45-47).





**Photo 18.** Trees 48 and 49, *Eucalyptus globulus* (IMG\_2844\_Trees48,49).





**Photo 19.** Tree 50 (in center of photo), *Eucalyptus globulus* (IMG\_2845\_Tree50).





**Photo 20.** Trees 49, 50, 51, and 52, *Eucalyptus globulus* (IMG\_2846\_Trees49-52).





**Photo 21.** Tree 53, *Eucalyptus globulus* (IMG\_2847\_Tree53).



**Photo 22.** Tree 54, *Cupressus macrocarpa* (IMG\_2848\_Tree54).





**Photo 23.** Tree 55, *Cupressus macrocarpa* (IMG\_2850\_Tree55).



**Photo 24.** Trees 56, 57, and 58, *Eucalyptus globulus* (IMG\_2851\_Trees56-58).





**Photo 25.** Trees 58, 59, 60, 61, and 62, *Eucalyptus globulus* (IMG\_2852\_Trees58-62).



## **Appendix C-3**

### **Tree Maintenance and Hazard Reduction Plan**

**TREE MAINTENANCE AND HAZARD REDUCTION PLAN**

**CARPINTERIA OIL AND GAS PROCESSING FACILITIES**  
**CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 1901-0505**

**Prepared for:**

Chevron U.S.A  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**JUNE 2023**  
**REV. 1**



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## LIST OF TABLES

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## LIST OF ATTACHMENTS

TREE MAINTENANCE INVENTORY MAP

BIOLOGICAL SURVEY REPORT



## 1.0 PLAN PURPOSE AND SUMMARY

This Tree Maintenance and Hazard Reduction Plan (Plan) was prepared at the request of Chevron U.S.A (Chevron) to support a significant tree maintenance activity for the elimination of safety hazards at the Carpinteria Oil and Gas Processing Facility (Project Site), located in the City of Carpinteria, California. Recent storms during the 2022-2023 winter season have resulted in significant tree instability and several tree failures (a total of 12 trees to date) at the Project Site or falling onto the Project Site from adjacent land, with targets being subject to hazardous conditions, including high voltage transmission lines, buildings, pedestrians, and vehicles.

As a result, Chevron elected to have the trees evaluated for risk of failure and determine proper mitigation measures to reduce or eliminate hazardous conditions. This evaluation was conducted by an International Society of Arboriculture (ISA) Certified Arborist and Certified Tree Care Professional (Branch Out Tree Care). A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance (see Attachment A). The evaluation identified that in some instances, the cause of recent tree failures and potential additional failures was high soil saturation in conjunction with structural weakness caused by fungal root decay. The evaluation also determined that many trees that have been topped in the past have weakly connected sprout heads and are also prone to failure from above.

The Project Site supports a total of approximately 1,500 trees comprised of at least 21 species; 45 percent of which (677 trees) are non-native blue gum (*Eucalyptus globulus*). Completion of tree maintenance activities at the Project Site are expected to require major pruning or topping of approximately 522 blue gum trees, and removal of approximately 22 dead, leaning or decaying blue gum or athel tamarisk (*Tamarix aphylla*) trees, both species of which are planted specimens and are non-native or introduced to the region. The total tree work is on approximately 544 trees, or 36 percent of the Project Site's entire tree population.

Approximately 110 trees planned for tree maintenance are located along the southeast margin of the Buffer Zone, within or immediately adjacent to city-defined Environmentally Sensitive Habitat Area (ESHA), but none of these trees are planned for removal. According to conversations onsite with Branch Out Tree Care, trees within this area exhibiting hazardous conditions would be topped and/or trimmed of lateral branches extending toward sensitive targets below (e.g., the Former Marketing Terminal Area and the Union Pacific Railroad), but their remaining lower canopy would be left intact to maintain suitable cover and visual screening. The larger proportion of trees in ESHA would be protected in place to maintain monarch butterfly, avian and other wildlife habitat.

A qualified biologist has conducted pre-activity surveys and will provide regular oversight for protection of nesting birds or other sensitive biological resources.

## **2.0 TREE PRESERVATION AND PROTECTION GUIDELINES**

An assessment of potential tree impacts associated with the proposed Plan has been conducted to ensure compliance with the City of Carpinteria General Plan and Local Coastal Plan. However, implementation of the Plan for the protection of life and property is paramount, as there are significant public and workforce safety hazards associated with the tree instability observed at the Project Site. To the extent feasible, the Plan will comply with City Objectives and Guidelines.

### **3.0 NESTING BIRD PROTECTIONS**

The U.S. Fish and Wildlife Service (USFWS) administers the Federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). The purpose of the MBTA is the “establishment of a federal prohibition, unless permitted by regulations, to pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention for the protection of migratory birds, or any part, nest or egg of any such bird” (16 USC 703). Implementing regulations at 50 CFR 10 list the migratory birds covered under the MBTA.

The California Department of Fish and Wildlife (CDFW) administers State laws designed to protect wildlife and plants, including those laws stated within Fish and Game Code (FGC) Section 3511, 3503, 3503.5. Under Section 3511 of the Fish and Game Code, CDFW designates species that are afforded “fully protected” status. Under this protection, designated species can only be taken or possessed with a permit. Fish and Game Code 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird. Section 3503.5 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Pre-activity biological surveys were performed by Padre Associates, Inc. on Friday, Monday, and Tuesday, March 3, 6, and 7, 2023, with follow-up visits on March 20, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19, and 25, 2023. Thirty-six (36) of the 39 bird species observed during the pre-activity biological surveys are protected by the MBTA and FGC 3503 and 3503.5 when nesting (see Attachment 2). The Plan will uphold Federal and State nesting bird protections throughout its implementation, as described in Sections 4 and 5 below.



## **4.0 PLAN METHODOLOGY AND IMPLEMENTATION**

Implementation of the proposed Plan includes the following tasks in the general order they are conducted:

Hazard Evaluation. Branch Out Tree Care conducted a field evaluation to classify risk of tree failures for recommendations to prioritize tree maintenance activities. A total of approximately 608 trees were evaluated throughout 12 areas within the Project Site to identify the needs for maintenance. A majority of these trees have undergone previous topping (and have weakly attached regenerated branches that are prone to failure), and have signs of root and decay fungi, as well as substantial decay cavities. The evaluation was performed in January and February 2023 following the failure of several trees, including some that contacted power transmission and communications lines and narrowly missed the publicly accessible Dump Road. Additional tree failures occurred following subsequent storm events, which were followed up by additional tree evaluations in March 2023.

Land Survey. WM Surveys, Inc. conducted a land survey in March 2023 to map the location of the trees planned for maintenance activities, focusing on the highest priority trees, which are provided on the attached maps.

Biological Survey. Padre conducted a pre-activity biological survey of the Project Site on March 3, 6, and 7, 2023, focusing mainly on nesting birds, and in particular, raptor (bird-of-prey), activity. Follow-up site visits were performed on March 20, 2023, March 27 through 31, April 1, 3, 4, 10, 12, 13, 18, and 24, and May 19 and 25, 2023. Nesting bird activity was observed by Anna's hummingbird, bushtit, lesser goldfinch, red-tailed hawk (including one active nest which became unoccupied in mid-May, and one inactive nest [occupied in previous years]), California scrub-jay, hooded oriole, American crow, and western bluebird, and these locations are provided on the attached maps. As time progresses, these nests will become inactive, but additional nesting bird activity may be observed throughout the spring and summer months. Bird nest protection measures are provided in Section 5 below.

Tree Maintenance Activities. Branch Out Tree Care will implement tree maintenance activities according to their initial and follow-up evaluations after several additional trees failed. Work is scheduled to begin as soon as April 2023 pending approval, focusing first on actual tree failures and the trees with the highest potential risk of failure in areas where a target and/or threat to public safety exists. The project goal is to minimize the risk of additional tree failures, including failure at ground level and failure of large limbs aloft. Generally, the recommended method to accomplish this goal is to "top" the trees at a height of approximately 40 to 50 feet above ground level, and to trim lateral branches overhanging sensitive targets below by 12 to 15 feet. In areas adjacent to wildlife habitat, vegetated branches in the lower canopy of the trees will be left intact to maintain suitable cover and visual screening. A total of 21 blue gum and one (1) tamarisk trees, most of which are dead or dying, will be completely removed due to high-risk conditions and sensitive targets nearby. A biologist will provide regular oversight to survey and monitor for nesting bird activity and provide direction on avoiding disruption, nest abandonment, or direct mortality.

A crane will service the tree trimming crew, and where high voltage transmission lines are present, they will be de-energized. As the tree maintenance work is performed, areas will be closed to pedestrians and vehicles that are not part of the work. At times, these closures may impact public access to portions of Dump Road. All woody material will be chipped and stockpiled at various locations onsite for later reuse and spreading on unpaved road access routes within the Buffer Zone or for shipping offsite to a recycling/compositing facility. Table 1 below provides a tally of the trees requiring maintenance in each of the 12 areas evaluated within the Project Site. The locations of these trees are provided on the attached Tree Maintenance Inventory Map.

**Table 1. Tree Maintenance Activities Planned at the Project Site**

Project Area	Tree Common Name (Scientific Name)	Tally	Planned Work	Site Hazards & Sensitive Targets
1. Dump Road	Blue Gum ( <i>Eucalyptus globulus</i> )	142	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 2 trees.	High-voltage transmission lines, pedestrians, vehicular traffic
2. Tank 861 Area	Blue Gum ( <i>Eucalyptus globulus</i> )	18	Reduce height of 14 trees to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 1 tree with visible wood decay fungi to ground level.	Valves and electrical equipment, and storage tank. Gate 2 will be temporarily blocked.
3. East Property Line	Blue Gum ( <i>Eucalyptus globulus</i> )	41	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	High-voltage transmission lines along adjacent property.
4. Center East Property	Blue Gum ( <i>Eucalyptus globulus</i> )	12	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Pipelines and equipment, brick structure.
5. Ingersoll Rand Building	Blue Gum ( <i>Eucalyptus globulus</i> )	4	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Pipelines and equipment, high voltage lines, large brick structure.
6. North Property Area	Blue Gum ( <i>Eucalyptus globulus</i> )	7	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane. Remove 1 leaning tree.	MSRC building.
7. Mid-Plant Area	Blue Gum ( <i>Eucalyptus globulus</i> ) Athel Tamarisk ( <i>Tamarix aphylla</i> )	2	Reduce height of blue gum to approximately 50-feet and remove tamarisk leaning on the blue gum.	Leaning tree and associated pressure points.

Project Area	Tree Common Name (Scientific Name)	Tally	Planned Work	Site Hazards & Sensitive Targets
8. Communication Line Pole Area (north of Tank 861)	Blue Gum ( <i>Eucalyptus globulus</i> )	8	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Communication line and supporting pole. Equipment in area will need to be moved.
9. Gate 1 Entry Area	Blue Gum ( <i>Eucalyptus globulus</i> )	13	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane.	Gates, fencing, high voltage lines, Dump Road traffic. Gate 1 will be closed temporarily. Dump Rd. closed intermittently and for up to 2 days.
10. Shorebase Area	Blue Gum ( <i>Eucalyptus globulus</i> )	105 of 155	Reduce height to approximately 50-feet and side trim large lateral branches by 12-15 feet with crane, while considering raptor nesting protection.	Pipes and equipment. Known raptor nest trees and buffer require protection. Adjacent trees to be protected in place as ESHA.
11. MSRC North Property Line Area	Blue Gum ( <i>Eucalyptus globulus</i> )	133	Reduce height of trees to approximately 40-feet and side trim large lateral branches by 12-15 feet with crane. Remove 18 failing, failed, or dead trees.	City Hall parking, electrical and communication lines, gas valve.
12. Buffer Zone	Blue Gum ( <i>Eucalyptus globulus</i> ) (Others present)	59 of 73	Reduce height of trees in gas valve and railroad track area to approximately 50- feet and side trim large lateral branches by 12-15 with crane. Two (2) trees in northwest buffer zone will be reduced in height to approximately 65-feet to contain any tree failures to within buffer zone.	Gas valve, railroad tracks, pedestrians on railroad tracks. Adjacent trees to be protected in place as ESHA.
<b>Total:</b>		<b>544 of 608</b>	<b>522 Topping/Pruning 22 Removals</b>	



## **5.0 RESOURCE PROTECTION MEASURES**

The following protection measures will be implemented to ensure compliance with ISA standards, and nesting bird regulations (MBTA and FGC 3503 and 3503.5). The measures are intended to provide a prescriptive formula addressing trees that require immediate attention, while balancing the need for protections during the nesting season:

- Proposed work areas will be predetermined by the Project's Certified Arborist/Certified Tree Care Specialist utilizing the ISA Tree Risk Assessment methodology. Trees that threaten public safety or significant property damage will be the initial priority for proposed work activities. High priority trees outside of nesting bird protective buffers will be the focus of current maintenance activities and the remainder of the work activities will be reserved to a time after the active nesting season.
- Tree pruning shall be conducted by a qualified tree trimmer according to International Society of Arboriculture (ISA) Best Management Practices for at-risk trees.
- All native trees at the Project Site will be afforded protection from work activities on nearby non-native trees, including direction of felled limbs, staging of equipment, fueling and maintenance, and parking vehicles.
- A qualified biologist will perform a thorough nesting bird survey one week prior to the start of work as a follow-up to the previous surveys already performed. Ongoing breeding/nesting bird surveys will be performed by a qualified biologist throughout the duration of the project as the crew works through different areas.
- Active bird nests will be provided temporary protective buffers of a minimum of 75 feet for passerines, depending on species (some species are more acclimated to human activities than others), and 500 feet for raptors. At the discretion of the biologist, temporary buffers may be increased to avoid disturbing nesting behavior. Work within the buffers will not be initiated until a biologist has confirmed that nesting is complete, and the juveniles have fledged and are independent of the nest.
- A permanent buffer of 25-feet will be provided around raptor nest trees to protect the nests from increased wind exposure. Only very limited tree maintenance will be performed within this buffer, and only when the nests are inactive.
- A Chevron representative and the tree maintenance crew will be provided a biological orientation by a biologist to discuss bird breeding/nesting behavior and required protections.
- Trees on the western edge of the north-south windrow in the Buffer Zone and Drainage Area No. 4 areas will be protected in place to ensure protection of historical monarch butterfly roosting areas.

- The biologist will visit the Project Site and be in direct contact with the tree trimming crew at least once each day for the duration of the activity. Prior to initiating tree maintenance at each location, a tree care specialist will inspect the tree and its surroundings while ascending in the crane and obtaining aerial vantage points. If potential or known breeding/nesting bird activity is observed, the crew will safely stop work, and their findings will be discussed with the biologist before proceeding. If nesting is confirmed, the crew will move to another location outside the buffer established by the biologist.
- Areas of active nest activity will be avoided at all times unless significant danger from a tree fall is evident that threatens public safety or significant property damage. In the rare instance that the hazard tree supports an active nest and cannot be cordoned off until after nesting activity is complete, Chevron will contact CDFW for emergency consultation. With CDFW authorization, all attempts will be made to either leave the nest in place if still intact, or salvage the eggs or chicks and deliver them to a bird rehabilitation center immediately after the tree is felled and the safety concern is eliminated.

## **6.0 PREPARERS**

This Plan was prepared by Mr. Chris Dunn, a biologist with 24 years of professional experience, including over 11 years as an International Society of Arboriculture (ISA) Certified Arborist, with reference to professional recommendations and tree risk evaluations provided by Mr. Chris Newton, owner of Branch Out Tree Care and ISA Certified Arborist WE-7331A and Certified Tree Care Professional #03517. Land survey mapping of tree locations and quantities was provided by WM Surveys, Inc. Biological survey data was collected by Mr. Ryan Newkirk, and Mr. Ken Gilliland, Padre Associates, Inc. professional biologists with experience conducting nesting bird and other wildlife surveys, tree evaluations and scientific data collection.

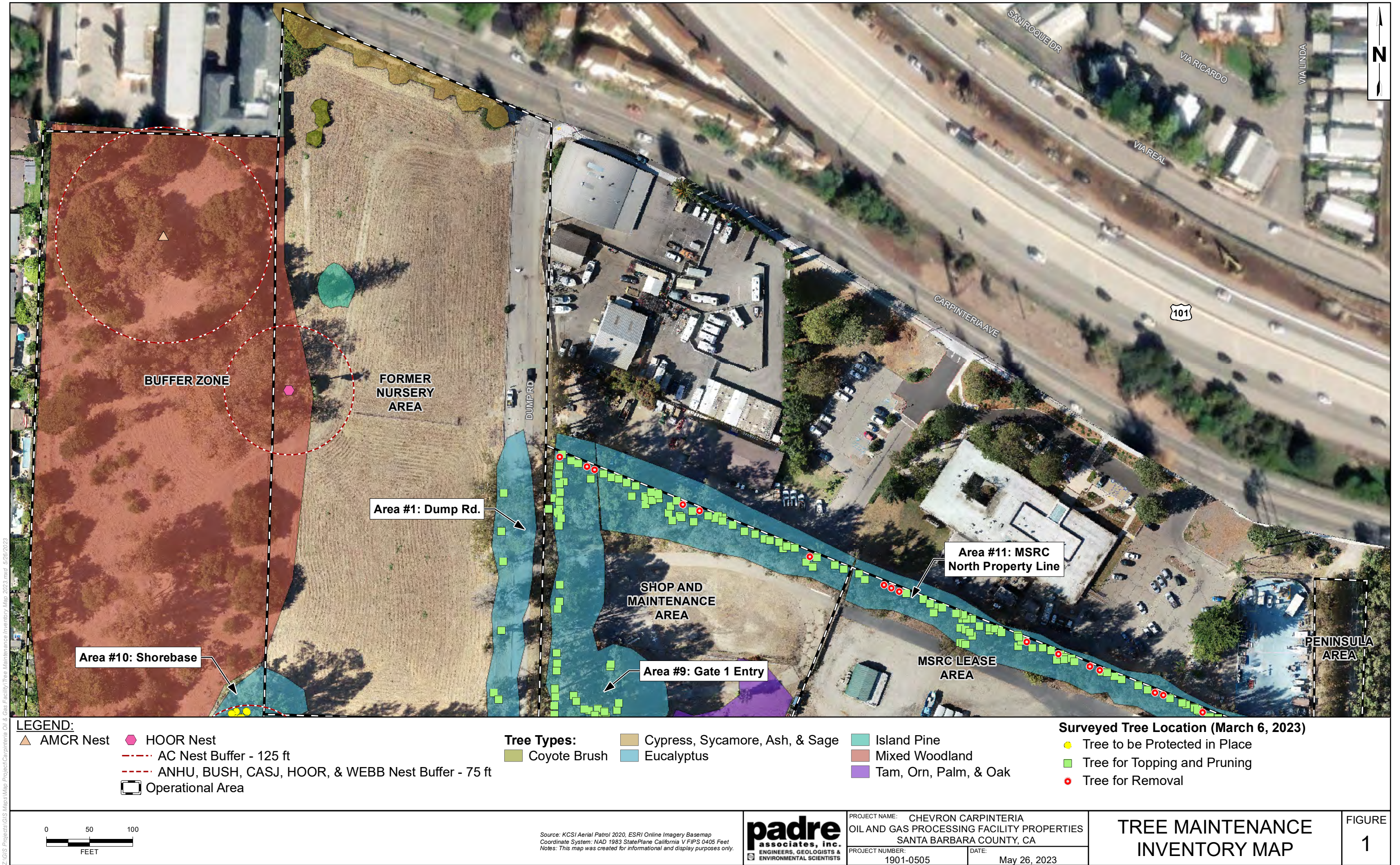
June 1, 2023

Chris Dunn  
Senior Project Manager/Biologist  
ISA Certified Arborist No. WE-9525A  
(805) 644-2220 ext. 412

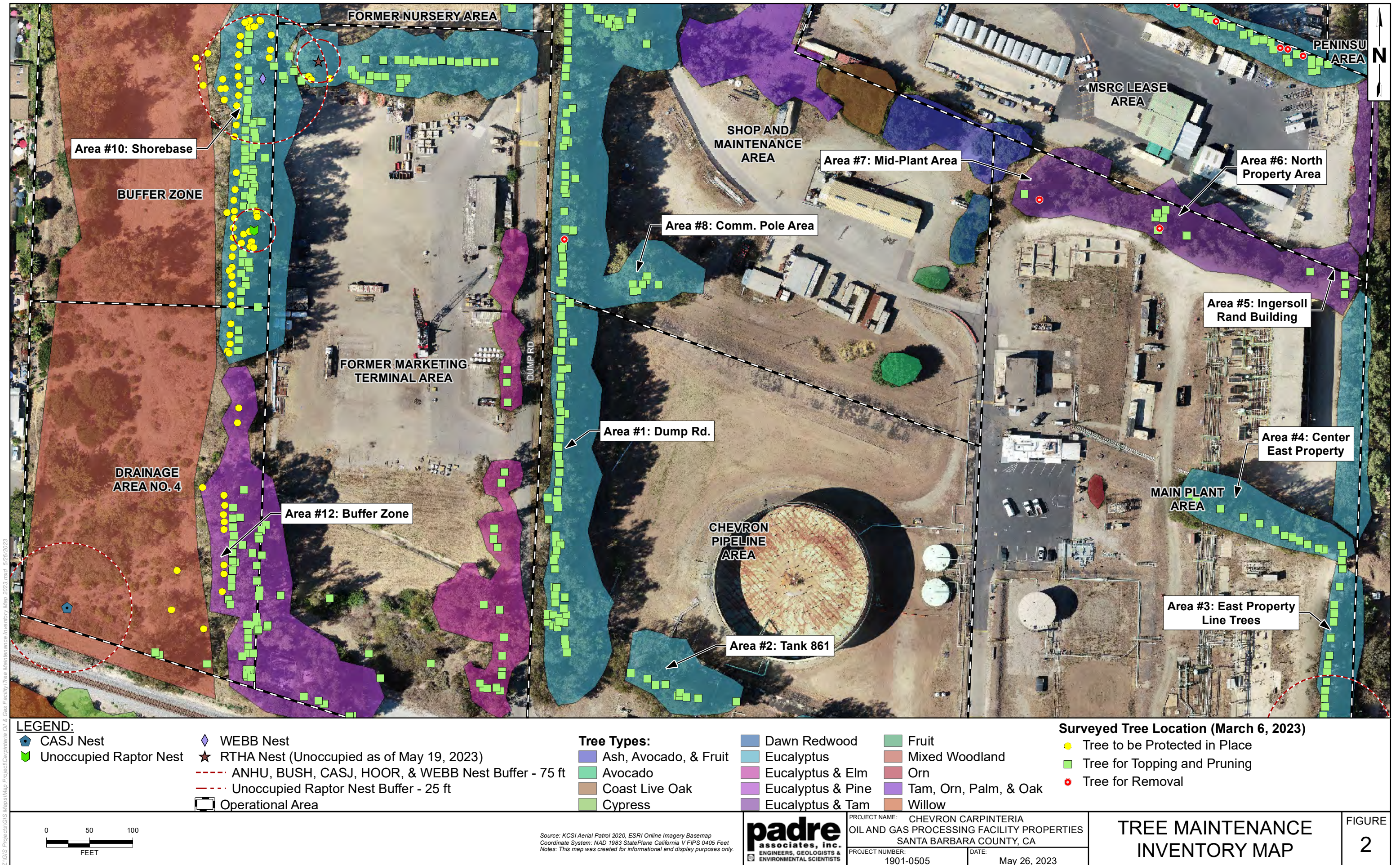


## TREE MAINTENANCE INVENTORY MAP













**LEGEND:**

▲ ANHU Nest

◆ BUSH Nest

● LEGO Nest

--- ANHU, BUSH, CASJ, HOOR, & WEBB Nest Buffer - 75 ft

□ Operational Area

**Tree Types:**

Arroyo Willow Thicket

Cypress

Eucalyptus

Eucalyptus & Elm

Eucalyptus & Pine

Mixed Woodland

Sycamore

Willow

**Surveyed Tree Location (March 6, 2023)**

■ Tree for Topping and Pruning



## BIOLOGICAL SURVEY REPORT

CHEVRON BIOLOGICAL SURVEY AND HABITAT IMPACT REVIEW FORM

SURVEY INFORMATION	Prepared for: Mr. Chris Penza		Dates: 03/03/23 03/06/23 03/07/23		Times: 0830-1245 0730-1445 0730-1345	
	Prepared by: Ryan Newkirk					
	Field/Area: Carpinteria, CA		Lease/Property: Carp Oil & Gas Processing Facility properties		<input checked="" type="checkbox"/> Fee <input type="checkbox"/> Federal	
	Section/T/R(s): East and west of Dump Road		Weather: 45-56°F/0-5mph/mostly clear			
	Project Location and Description: 12 project areas within Carpinteria Oil and Gas Plant Property: Area #1: east side of Dump Rd., Area #2: south of T861, Area #3: east property line, Area #4: center east property line, Area #5: northeast of Ingersoll-Rand building, Area #6: south of MSRC office building, Area #7: south of Control Room, Area #8: north of Tank 861, Area #9: Gate 1 entry area, Area #10: Shorebase area, Area #11: MSRC north property line, Area #12: Buffer Zone area – Downed tree removal and live tree trimming to be conducted by Branch Out Tree Care on behalf of Chevron/Beacon West Energy Group LLC.					
		<b>Project Footprint Sq. ft. / acres</b>	<b>Undisturbed Habitat</b>	<b>Not Habitat or Significantly Disturbed</b>	<b>Total Calculated Impact</b>	
	Permanent	0	0	0	0	
	Temporary	45.5 acres	0 sq. ft	45.5 acres	45.5 acres	
<b>The conversion factor is 1 acre = 43,560 sq. ft. Use either acres or sq. ft.</b>						
SURVEY METHOD	<input type="checkbox"/> Pads or locations - Impact area plus 100' buffer with transects spaced at: _____ feet					
	<input type="checkbox"/> Linear projects - Centerline plus corridor to either side out to: _____					
	<input checked="" type="checkbox"/> Other - describe: Proposed project areas surveyed on foot and with 10x42 binoculars. Nearby trees and areas of opportunity surveyed within 100' buffer of impact areas. Focus on identifying nesting birds within or near the trees proposed for trimming or removal. Blue gum ( <i>Eucalyptus globulus</i> ) and athel tamarisk ( <i>Tamarix aphylla</i> ) proposed for trimming or removal throughout property were surveyed over 3 separate survey visits, moving from areas of high priority to areas of lower priority, as identified by Branch Out Tree Care. Immediate area surrounding trees within project areas surveyed on foot and with binoculars, while canopies were scanned with binoculars. Area around and within the fallen branches of one (1) recently downed <i>Eucalyptus globulus</i> within Area #6 surveyed extensively for the presence of sensitive species. Additionally, duff was repeatedly disturbed by hand to survey for the presence of fossorial reptiles.					
TOPOGRAPHY	<input type="checkbox"/> All sensitive burrows/dens were marked with: _____					
	<input checked="" type="checkbox"/> Flat Terrain <input type="checkbox"/> Rolling Hills <input type="checkbox"/> Floodplain <input type="checkbox"/> Steep Hills <input type="checkbox"/> Potential CDFW Streambed <input type="checkbox"/> Potential ACOE Waters of the U.S.					
	Comments (include elevation if known, and amount of existing disturbance): All areas surveyed occur between 37 and 62 feet in elevation (MSL). Tree trimming and removal locations are located throughout the facility, and all areas have undergone various temporary disturbances in the past including soil cleanup, weed abatement, dead tree felling, stormwater management, and vegetation restoration. The ongoing remediation of Tank 861, located ~150 ft. to the east of Dump Rd. and adjacent to several survey locations, was occurring during each survey date.					
VEGETATION OBSERVED AT PROJECT SITE	<input checked="" type="checkbox"/> Non-Native Grassland <input type="checkbox"/> Coastal Sage Scrub <input type="checkbox"/> Chaparral <input checked="" type="checkbox"/> Ruderal <input type="checkbox"/> Riparian (stream)					
	<input type="checkbox"/> Oak woodland		<input checked="" type="checkbox"/> Other: Eucalyptus, London plane, Monterey cypress, and coast live oak habitats observed within to the survey areas (see Figure 1 below).			
	Dominant shrub or tree layer (an "*" indicates a non-native species) - Common Name ( <i>Scientific Name</i> ): blue gum eucalyptus* ( <i>Eucalyptus globulus</i> ), Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ), athel tamarisk ( <i>Tamarix aphylla</i> ), western sycamore ( <i>Platanus racemosa</i> ), London plane ( <i>Platanus x Acerifolia</i> ), longleaf wattle* ( <i>Acacia longifolia</i> ), coyote brush ( <i>Baccharis pilularis</i> ), tree tobacco* ( <i>Nicotiana glauca</i> ), and myoporum* ( <i>Myoporum laetum</i> ).					
	Dominant herb layer (an "*" indicates a non-native species) - Common Name ( <i>Scientific Name</i> ): wood sorrel* ( <i>Oxalis pes-caprae</i> ), cheeseweed* ( <i>Malva parviflora</i> ), California sagebrush ( <i>Artemisia californica</i> ), felt-leaf everlasting ( <i>Pseudognaphalium microcephalum</i> ), California bush sunflower ( <i>Encelia californica</i> ), lemonadeberry ( <i>Rhus integrifolia</i> ), prickly sow thistle* ( <i>Sonchus asper</i> ), white sweet clover* ( <i>Melilotus albus</i> ), English plantain* ( <i>Plantago lanceolata</i> ), curly dock* ( <i>Rumex crispus</i> ), common sow-thistle* ( <i>Sonchus oleraceus</i> ), Italian thistle ( <i>Carduus pycnocephalus</i> ), and onion-leaved asphodel* ( <i>Asphodelus fistulosus</i> ).					
	Sensitive	<input type="checkbox"/> None Observed		<input type="checkbox"/> Coast live oak		<input type="checkbox"/> Plummer's baccharis
	Plants:	<input type="checkbox"/> Mariposa lily sp.		<input type="checkbox"/> S. CA black walnut		<input checked="" type="checkbox"/> Other: (describe below)
Was survey performed at appropriate time for detection of sensitive annual plants? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No						



	Plant Comments: Proposed impact areas are largely ruderal, with live and recently fallen blue gum eucalyptus ( <i>Eucalyptus globulus</i> ) and Monterey cypress ( <i>Hesperocyparis macrocarpa</i> ) making up much of the overstory. Ruderal herbaceous vegetation has colonized some of the understory, with large swaths of bare ground covered in eucalyptus duff and tree litter. A sparse mix of native and non-native vegetation surrounds the large eucalyptus windrows on either side of Dump Rd.		
WILDLIFE HABITAT AND/OR SIGN OBSERVED AT PROJECT SITE	<input type="checkbox"/> None Observed <input type="checkbox"/> Western Pond Turtle <input type="checkbox"/> Coast Patch-nosed Snake <input type="checkbox"/> Western Whiptail <input type="checkbox"/> Least Bell's Vireo <input type="checkbox"/> Two-striped Garter Snake <input type="checkbox"/> Raptors (nesting) <input type="checkbox"/> Legless Lizard <input type="checkbox"/> CA Gnatcatcher <input checked="" type="checkbox"/> Other (describe below)		
	Wildlife Comments: Special focus paid to presence or absence of nesting passerine birds and raptors, monarch butterfly aggregations, and reptiles. Species observed (an "*" indicates a non-native species): California scrub jay, red-tailed hawk, yellow-rumped warbler, mourning dove, Anna's hummingbird, American crow, bushtit, house finch, western gull, Eurasian starling, Allen's hummingbird, mallard, turkey vulture, house sparrow, lark sparrow, Eurasian collared dove, song sparrow, white-crowned sparrow, California towhee, snowy egret, Cassin's kingbird, house finch, acorn woodpecker, western bluebird, lesser goldfinch, western gull, black phoebe, band-tailed pigeon, American pipit, Say's phoebe, downy woodpecker, western kingbird, bushtit, northern flicker, rock dove, house wren, ruby-crowned kinglet, California ground squirrel, Audubon's cottontail, western fence lizard, red fox (den).		
SURVEY RESULTS	<input checked="" type="checkbox"/> The project <b>should not</b> result in direct impacts to threatened or endangered species provided that standard Chevron precautionary measures are implemented along with the specific directions listed below in the comments section.		
	<input type="checkbox"/> Additional survey and/or follow-up is required; Follow-up results completed by a Qualified Biologist must be attached prior to proceeding with project.		
	Were any modifications made to project as a result of this survey? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
	Survey Comments: Particular attention was paid to the presence of nesting avian species, monarch butterflies, and fossorial reptiles. Individual monarch butterflies were observed within and around the proposed work area, but no aggregations were observed. Three (3) active avian nests were documented during the survey: <ul style="list-style-type: none"> <li>- One (1) active Anna's hummingbird (<i>Calypte anna</i>) nest was observed ~10 feet up within a blue gum eucalyptus in the N-S windrow of Area #3. Nesting behavior observed included nest defense behavior and incubation, indicating the presence of eggs within the nest (see figure 1, photos below). Accordingly, I recommend the establishment of a 75-foot buffer around the nest, within which no work should occur while the nest is active.</li> <li>- One (1) active bushtit (<i>Psaltriparus minimus</i>) nest was observed ~6 feet up, also within a blue gum eucalyptus in the N-S windrow of Area #3, ~75 feet south of the Anna's hummingbird nest. Two adults were actively constructing the nest and nest defense behavior was also noted (see figure 1, photos below). Accordingly, I recommend the establishment of a 75-foot buffer around the nest, within which no work should occur while the nest is active.</li> <li>- One (1) active red-tailed hawk (<i>Buteo jamaicensis</i>) nest was observed ~100 feet up within the E-W windrow of Area #10. Nesting behavior included pair-bonding behavior and nest material deliveries from adults (see figure 1, photos below). Accordingly, I recommend the establishment of a 200-foot buffer around the nest, within which no work should occur, while the nest is active, and the tree supporting the nest should be left intact over the long-term.</li> </ul> Survey recommendations: <ul style="list-style-type: none"> <li>- Follow the buffer recommendations as highlighted above. Passage through these buffers by personnel on foot and vehicles is acceptable, but no other work should occur within the buffer (i.e. parking, staging, vegetation removal, etc.) while the nest is active.</li> <li>- Limit the removal of duff (fallen leaves and organic matter) beneath eucalyptus to keep their shallow root and mycorrhizal systems intact and avoid potential impacts to fossorial (burrowing) reptiles (e.g., legless lizard and ring-neck snake). If fossorial reptiles are encountered, crews should immediately contact a qualified biologist to provide rapid and accurate conservation recommendations.</li> <li>- Should aggregations of monarch butterflies be observed within any trees due to be trimmed or removed, work should be stopped and crews should contact a qualified biologist to provide conservation recommendations.</li> </ul>		
FOLLOW-UP SURVEY	Target Species/Issues		Timeframe:
	Surveyor Name:		Company: Padre Associates, Inc.     Date:
FORM DISTRIBUTION:	<input type="checkbox"/>	<input checked="" type="checkbox"/> HES SJVBU Staff - 9525 Camino Media Kacy Twist (KacyOMalley@chevron.com)	<input checked="" type="checkbox"/> Other: Mr. James Tolar, Kevin Duganne



**Figure 1.** Project areas surveyed 3/3/23, 3/6/23, and 3/7/23.





**Photo 1.** View to the southeast, showing Area #1 eucalyptus windrow along Dump Rd. March 3, 2023



**Photo 2.** View to the northeast of Area #2, south of Tank 861. Visible are several recently "topped" blue gum eucalyptus. March 3, 2023



**Photo 3.** View to the southeast of Area #3 eucalyptus windrow running north-south. March 7, 2023



**Photo 4.** View to the northwest of Area #4, showing dense stand of eucalyptus. March 7, 2023





**Photo 5.** View to the north of Area #5, showing trees in proximity to high voltage cables. March 7, 2023



**Photo 6.** View to the northeast of Area #6. Trees are located just south of MSRC office building. March 7, 2023



**Photo 7.** View to the northwest of Area #7, showing large eucalyptus with tamarisk proposed for removal leaning onto it. March 3, 2023



**Photo 8.** View to the east of Area #8, showing dense stand of eucalyptus surrounding communications pole. March 6, 2023





**Photo 9.** View to the northwest of Area #9, showing stand of eucalyptus near the Gate 1 entryway. March 6, 2023



**Photo 10.** View to north of east-west windrow within Shorebase area, showing very large eucalyptus. An active red-tailed hawk nest (barely visible) is indicated by a red arrow. March 6, 2023



**Photo 11.** View to northwest of Area #11, showing east-west eucalyptus windrow north of the MSRC yard. March 6, 2023



**Photo 12.** View to the south of a section of Area #12, showing buffer zone area with large eucalyptus. March 7, 2023





**Photo 13.** View of Anna's hummingbird adult incubating on a nest within Area #3. March 7, 2023



**Photo 14.** View of bushtit nest located within Area #3. March 7, 2023



**Photo 15.** View to the east of pink flagging (highlighted by a red circle) indicating location of Anna's hummingbird nest within Area #3. March 7, 2023



**Photo 16.** Binocular view of red-tailed hawk nest located ~100 feet up within a eucalyptus in Area #10. March 3, 2023



## **Appendix C-4**

### **Coastal Wetlands Delineation Report**

# **COASTAL WETLANDS DELINEATION REPORT**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

### **CARPINTERIA, SANTA BARBARA COUNTY**

Project No. 2002-5211

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**JUNE 2021  
REVISED DECEMBER 2021**



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## ATTACHMENTS

- A Carpinteria Oil and Gas Processing Facility Plant List
- B Wetland Determination Data Forms



## **1.0 INTRODUCTION**

This Coastal Wetlands Delineation Report has been prepared by Padre Associates, Inc. (Padre) on behalf of Chevron USA (Chevron). The term “coastal wetlands” is used in this Report to refer to wetlands as defined in the California Coastal Act and California Coastal Commission policies. This Report has been developed to document coastal wetlands in areas that may be affected by implementation of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (see Onshore Facilities Map). This Report has been written in support of the Project’s application for a Conditional Use Permit/Coastal Development Permit that is being filed with the City of Carpinteria and County of Santa Barbara.

### **1.1 PROJECT SUMMARY**

The Project’s purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any contaminated soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site’s potential future redevelopment.

### **1.2 BACKGROUND**

The Project site is located within an area that has been historically utilized for agricultural production and more recently for oil and gas development support activities. Historical agricultural production activities documented at the Project site from the 1920’s through 1959 included dry farming, row crop production, orchards (fruit trees and nuts), and commercial flower production (plant nursery). The Carpinteria Oil and Gas Processing Facility has been in operation since 1959 and historically supported offshore Platforms Hazel, Hilda, Hope and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to receive oil and gas from Platform Gail until approximately 2017.



## 2.0 REGULATORY SETTING

The term wetland is used to describe a particular landscape characterized by inundation or saturation with water for a sufficient duration to result in the alteration of physical, chemical, and biological elements relative to the surrounding landscape. Wetland areas are characterized by prevalence of vegetation typically adapted for life in saturated soil conditions.

### 2.1 FEDERAL REGULATIONS

Federal regulatory agencies with jurisdiction over wetlands include the U.S. Army Corps of Engineers (Corps) with authority to enforce two Federal regulations involving wetland preservation; the Clean Water Act (Section 404), which regulates the disposal of dredge and fill materials in waters of the U.S., and the Rivers and Harbors Act of 1899 (Section 10), which regulates diking, filling, and placement of structures in navigable waterways.

Under Corps and U.S. Environmental Protection Agency regulations, wetlands are defined as:

*"those areas that are inundated or saturated by surface or groundwater 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, bogs, and similar areas."*

### 2.2 STATE OF CALIFORNIA REGULATIONS

State regulatory agencies with jurisdiction over wetlands include the State Water Quality Control Board that enforces compliance with the Federal Clean Water Act (Section 401) regulating water quality and the California Coastal Commission (CCC), which regulates development within the coastal zone as stipulated in the California Coastal Act (Sections 30230, 30231, 30233, and 30240 apply to preservation and protection of wetlands).

The Coastal Commission's regulations establish a "one parameter definition" that only requires evidence of a single parameter to establish coastal wetland conditions:

*Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577).*

The Coastal Commission's regulations provide general decision rules for establishing the upland boundary of coastal wetlands:

- The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover.



- The boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or
- In the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not (14 CCR Section 13577).

## **2.3 CITY OF CARPINTERIA**

The City uses the Coastal Act (Section 30121) definition of wetlands:

*"Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.*

## **3.0 DESCRIPTION OF SURFACE WATERS**

Regional drainage features (such as Carpinteria Creek or its tributaries) do not occur within or traverse the Project site. On-site drainage features handle local storm run-off only, which is highly subdivided by berms used to contain potential oil spills. Storm run-off from the western portion of the Project site is directed along the east side of Dump Road into a 36-inch diameter above-ground pipe that traverses the Former Marketing Terminal Area and the Drainage No. 4 Area to the Railroad Ditch which runs along the north side of the Union Pacific Railroad embankment. The Railroad Ditch extends from the Project site approximately 750 feet to the west where it flows under the Union Pacific Railroad tracks in a box culvert and disperses over the bluff area.

## **4.0 FIELD METHODS**

Field methods were taken from the Arid West Supplement to the Corps of Engineers Wetland Delineation Manual.

### **4.1 SURVEY AREA**

The survey area was selected to encompass all operational areas (see Figure W-1) that may be affected by decommissioning activities including:

- Drainage No. 4
- Buffer Zone
- Former Marketing Terminal Area
- Former Nursery Area
- Chevron Pipeline Area
- Shop and Maintenance Area
- MSRC Lease Area
- Main Plant Area
- Pipeline Bluff Crossing Area

- Pier Parking Lot
- Former Sandblast Area

## **4.2 HYDROPHYTIC VEGETATION**

Vegetation of the survey area was assessed in coordination with preparation of the Biological Resources Study and in consultation with Padre Associates biologists that have extensive knowledge of the biological resources of the site. A plant list for all onshore facilities is provided as Attachment A and represents a compilation of the results of botanical surveys conducted over the past 15 years. All areas supporting hydrophytes were inspected and sampled when needed to verify hydrophytic status. The location of each sample point is provided on Figure W-1.

The dominance of hydrophytic vegetation was determined at each sample point, dominant plant species within each stratum (tree, sapling/shrub, herbaceous, and woody vine) at the sample point location were identified using The Jepson Manual (second edition). The hydrophytic indicator status of the species was determined in accordance with the 2018 National Wetland Plant List, Arid West Region as facultative (FAC), facultative-wetland (FACW) or obligate (OBL) wetland species. The vegetation was then analyzed using the dominance test to determine if greater than 50 percent of the dominant species were hydrophytic and the prevalence index calculation to determine if the prevalence index was less than or equal to 3.0. Wetland Determination Data Forms are provided in Attachment B for each sample point.

## **4.3 WETLAND HYDROLOGY**

Wetland hydrology was examined in areas not already considered coastal wetlands based on hydrophytic vegetation. Hydrologic characteristics of the sample points were evaluated by identifying evidence of inundation, and the presence of surface water, soil saturation, sediment deposits/sorting, salt crusts, drift deposits and local drainage patterns.

## **4.4 HYDRIC SOILS**

Soil information (including excavation of soil pits) was collected where needed to determine the presence of hydric soil, primarily in areas supporting hydrophytic vegetation that did not meet the dominance or prevalence tests (see Section 3.2).

# **5.0 COASTAL WETLANDS DELINEATION RESULTS**

## **5.1 HYDROPHYTIC VEGETATION**

Hydrophytic plant species found within the survey area are listed in Table 1. Most sampling points that met either the dominance or prevalence test for hydrophytic vegetation supported arroyo willow (sample points 5, 7, 10, 10A, 13, 15, 16, 17, 18, 19) or brass buttons and English plantain (sample points 1 and 2). However, sample point 20 represents pure stands of quail bush (FAC) in the Pier Parking Lot area. Areas dominated by quail bush but also supporting non-hydrophytic plant species (such as *Encelia californica* or *Rhus integrifolia*) failed the dominance or prevalence tests and are not considered hydrophytic vegetation.

**Table 1. Hydrophytic Plant Species of the Survey Area**

Common Name	Scientific Name	Hydrophytic Status*	Sample Points Where Found
Curly dock	<i>Rumex crispus</i>	FAC	1,2
Brass buttons	<i>Cotula coronopifolia</i>	OBL	1,2
English plantain	<i>Plantago lanceolata</i>	FAC	1,2,5,8
Tall flat sedge	<i>Cyperus eragrostis</i>	FACW	1
Boconne's sand-spurrey	<i>Spergularia bocconi</i>	FACW	1
Western sycamore	<i>Platanus racemosa</i>	FAC	3,12
Arroyo willow	<i>Salix lasiolepis</i>	FACW	4,5,6,7,10,10A,13,15,16,17,18,19
Mulefat	<i>Baccharis salicifolia</i>	FAC	9,11
California bulrush	<i>Schoenoplectus californicus</i>	OBL	11
California wild rose	<i>Rosa californica</i>	FAC	12,13
California blackberry	<i>Rubus ursinus</i>	FAC	12,13
Spiny rush	<i>Juncus acutus</i>	FACW	14
Quail bush	<i>Atriplex lentiformis</i>	FAC	20

\*Listed as OBL (obligate wetland: almost always occurs in wetlands, >99% probability); FACW (facultative-wetland: usually occurs in wetlands, 67-99% probability); FAC (facultative: equally likely to occur in wetlands or non-wetlands, 34-66% probability)

## 5.2 WETLAND HYDROLOGY

Wetland hydrology indicators were found only in the following sample points:

- Tank containment area within the Chevron Pipeline Area (sample points 1 and 2, sediment deposits)
- Patch of California bulrush at terminus of railroad ditch (sample point 11, soil saturation and drainage patterns)

These two areas were considered coastal wetlands based on hydrophytic vegetation, such that wetland hydrology did not result in additional areas being included as coastal wetlands.



### 5.3 HYDRIC SOILS

Hydric soil indicators were not found during the coastal wetland delineation. However, sampling was mostly limited to areas not meeting other wetland criteria. It is expected that sample point 11 supports hydric soils due to seasonal periods of soil saturation.

### 5.4 COASTAL WETLANDS DELINEATION RESULTS

The coastal wetlands delineation results at each of the sample points is summarized in Table 2. Areas meeting the coastal wetlands definition (sum of all areas exhibiting dominance by hydrophytic vegetation, indicators of wetland hydrology and hydric soils) are mapped on Figure W-1) and the area of each wetland polygon is quantified in Table 3. A total of 1.67 acres of coastal wetlands were found within the survey area.

**Table 2. Wetlands Sample Point Data Summary**

Sample Point no.	Site Area	Hydrophytic Vegetation Criterion met?	Hydric Soils Criterion met?	Wetland Hydrology Criterion met?	Coastal Wetland?
1	Chevron Pipeline Area	Yes	No	Yes	Yes
2	Chevron Pipeline Area	Yes	No, based on soils data collected at nearby sample point 1	No	Yes
3	Drainage No. 4	No	No, based on soils data collected at nearby sample point 5	No	No
4	Drainage No. 4	No	No, based on soils data collected at nearby sample point 5	No	No
5	Drainage No. 4	Yes	No	No	Yes
6	Drainage No. 4	No	No	No	No
7	Drainage No. 4	Yes	No, based on soils data collected at nearby sample point 6	No	Yes
8	Drainage No. 4	No	No, based on soils data collected at nearby sample point 6	No	No
9	Drainage No. 4	No	No	No	No

Sample Point no.	Site Area	Hydrophytic Vegetation Criterion met?	Hydric Soils Criterion met?	Wetland Hydrology Criterion met?	Coastal Wetland?
10	Former Sandblast Area	Yes	No data	No	Yes
10A	Former Sandblast Area	Yes	No data	No	Yes
11	Tarpits Park/Bluffs	Yes	No data	Yes	Yes
12	Tarpits Park/Bluffs	Yes	No data	No	Yes
13	Tarpits Park/Bluffs	Yes	No data	No	Yes
14	Tarpits Park/Bluffs	Yes	No data	No	Yes
15	Tarpits Park/Bluffs	No	No data	No	No
16	Tarpits Park/Bluffs	Yes	No data	No	Yes
17	Tarpits Park/Bluffs	Yes	No data	No	Yes
18	Tarpits Park/Bluffs	Yes	No data	No	Yes
19	Tarpits Park/Bluffs	Yes	No data	No	Yes
20	Pier Parking Lot	Yes	No data	No	Yes

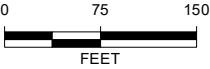
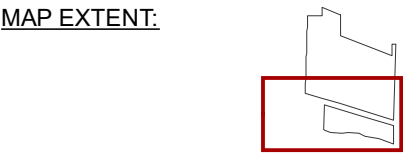
**Table 3. Wetlands Delineation Results**

<b>Wetland no.</b>	<b>Location</b>	<b>Area (acres)</b>
W-1	Chevron Pipeline Area	0.17
W-2	Drainage No. 4 Area	0.02
W-3	Drainage No. 4 Area	0.03
W-4	Former Sandblast Area	0.08
W-5	Pier Parking Lot	0.65
W-6	Pier Parking Lot (in part)	0.13
W-7	Pier Parking Lot	0.11
W-8	Tarpits Park/Bluffs	0.05
W-9	Tarpits Park/Bluffs	0.11
W-10	Tarpits Park/Bluffs	0.08
W-11	Tarpits Park/Bluffs	0.03
W-12	Tarpits Park/Bluffs	0.07
W-13	Tarpits Park/Bluffs	0.10
W-14	Tarpits Park/Bluffs	0.04
<b>Total</b>		<b>1.67</b>





**LEGEND:**  
● Wetland Sampling Point    Coastal Wetland    Operational Area    Project Boundary



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

COASTAL WETLAND MAP

FIGURE  
W-1



## **ATTACHMENT A**

### **CARPINTERIA OIL AND GAS PROCESSING FACILITY PLANT LIST**

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**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X					X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X



**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X
Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia peplus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	
<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuchsia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-caprae</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOSPORACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X
<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys var. scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheonoplectus californicus</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus ssp. leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			



**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITY - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot and/or Pipeline Landing
Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	X
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	
Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

Invasiveness Notes

N: Native (to the region)

Invasiveness Rating from California Invasive Plant Inventory (2020)

I: Introduced

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species

## **ATTACHMENT B**

### **WETLAND DETERMINATION DATA FORMS**

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# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
 Applicant/Owner: Chevron State: CA Sampling Point: 1  
 Investigator(s): Ingamelle Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38792 Long: 119.50824 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	(COASTAL)
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>40</u> x 1 = <u>40</u>
3. _____	_____	_____	_____	FACW species <u>10</u> x 2 = <u>20</u>
4. _____	_____	_____	_____	FAC species <u>15</u> x 3 = <u>45</u>
5. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
_____ = Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: <u>10' diameter</u> )				Column Totals: <u>80</u> (A) <u>155</u> (B)
1. <u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	Prevalence Index = B/A = <u>1.9</u>
2. <u>Cotula coronopifolia</u>	<u>40</u>	<u>Yes</u>	<u>OBL</u>	
3. <u>Plantago lanceolata</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Cyperus eragrostis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
5. <u>Medicago polymorpha</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
6. <u>Spergularia bocconi</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
_____ = Total Cover				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
_____ = Total Cover				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>



Sampling Point: 1

## HYDROLOGY

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# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 2  
 Investigator(s): Ingramm Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38832 Long: 119.50828 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	(COASTAL)
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____			
2. _____			
3. _____			
4. _____			
_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: _____)			
1. _____			
2. _____			
3. _____			
4. _____			
5. _____			
_____ = Total Cover			
Herb Stratum (Plot size: <u>10' diameter</u> )			
1. <u>Cotula coronopifolia</u>	<u>30</u>	<u>Yes</u>	<u>OBL</u>
2. <u>Plantago lanceolata</u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Melicargo polymorpha</u>	<u>5</u>	<u>No</u>	<u>FACU</u>
4. <u>Rumex crispus</u>	<u>2</u>	<u>No</u>	<u>FAC</u>
5. _____			
6. _____			
7. _____			
8. _____			
<u>87</u> = Total Cover			
Woody Vine Stratum (Plot size: _____)			
1. _____			
2. _____			
_____ = Total Cover			
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____		
Remarks:			

### Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

### Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>30</u>	x 1 = <u>30</u>
FACW species _____	x 2 = _____
FAC species <u>52</u>	x 3 = <u>156</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species _____	x 5 = _____
Column Totals: <u>87</u> (A)	<u>206</u> (B)
Prevalence Index = B/A = <u>2.4</u>	

### Hydrophytic Vegetation Indicators:

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

\_\_\_\_ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

\_\_\_\_ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

### Hydrophytic Vegetation Present?

Yes ☒ No ☐

Sampling Point: 2

[illegible]

### Indicators for Problematic Hydric Soils<sup>3</sup>:

☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

## HYDROLOGY

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input checked="" type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input checked="" type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

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# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 3  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38867 Long: 119.51027 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (CORSTAL) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Platanus racemosa</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>80</u> x 3 = <u>240</u> FACU species _____ x 4 = _____ UPL species <u>45</u> x 5 = <u>225</u> Column Totals: <u>125</u> (A) <u>465</u> (B) Prevalence Index = B/A = <u>3.7</u>
3. _____				
4. _____				
5. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Heteromeles arbutifolia</u>	<u>15</u>	<u>Yes</u>	<u>UPL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
= Total Cover				
Herb Stratum (Plot size: <u>10' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Bromus diandrus</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

Sampling Point: 3

## HYDROLOGY

Primary Indicators (minimum of one required; check all that apply)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 4  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38803 Long: 119.51036 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (COASTAL)
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>40</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>40</u> x 2 = <u>80</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>80</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>3.5</u>
1. <u>Heteromeles arbutifolia</u>	<u>30</u>	<u>yes</u>	<u>UPL</u>	
2. <u>Baccharis pilularis</u>	<u>10</u>	<u>yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Herb Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 <sup>1</sup> ___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Woody Vine Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<b>% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____</b>				
Remarks:				



Sampling Point: 4

[illegible]

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes \_\_\_\_\_ No ☒Wetland Hydrology Present? Yes No *8*

No indicators

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
Applicant/Owner: Chevron State: CA Sampling Point: 5  
Investigator(s): Ingramella Section, Township, Range: T9N R25W  
Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
Subregion (LRR): LRR-C Lat: 34.38806 Long: 119.51016 Datum: WGS 84  
Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA  
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	within a Wetland?		
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	(COASTAL)		
Remarks:					

Tree Stratum (Plot size: <u>30' diameter</u> )		Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1.	<u>Salix lasiolepis</u>	<u>80</u>	<u>Yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2.					Total Number of Dominant Species Across All Strata:	<u>5</u> (B)
3.					Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>40%</u> (A/B)
4.		<u>80</u>	= Total Cover			
Sapling/Shrub Stratum (Plot size: _____)						
1.						
2.						
3.						
4.						
5.						
					= Total Cover	
Herb Stratum (Plot size: <u>10' diameter</u> )						
1.	<u>Ambrosia psilostachya</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>		
2.	<u>Spp. mileneae</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>		
3.	<u>Plantago lanceolata</u>	<u>2</u>	<u>Yes</u>	<u>FAC</u>		
4.	<u>Artemisia californica (seedlings)</u>	<u>2</u>	<u>Yes</u>	<u>UPL</u>		
5.						
6.						
7.						
8.		<u>34</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)						
1.						
2.						
					= Total Cover	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____						
Remarks:						

Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species _____ x 1 =	
FACW species <u>80</u> x 2 = <u>160</u>	
FAC species <u>2</u> x 3 = <u>6</u>	
FACU species <u>25</u> x 4 = <u>100</u>	
UPL species <u>7</u> x 5 = <u>35</u>	
Column Totals: <u>114</u> (A)	<u>301</u> (B)
Prevalence Index = B/A = <u>2.6</u>	
Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> Dominance Test is >50%	
<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>	
<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

## SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	7.5YR 4/3		7.5YR 4/2	5			sandy loam	Very faint redox depletions
6-12	7.5YR 4/3						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)
- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 6  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38797 Long: 119.51036 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum	Plot size: <u>30' diameter</u>	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)																																			
1. <u>Salix lasiolepis</u>		<u>100</u>	<u>Yes</u>	<u>FACW</u>																																				
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% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____																																								
Remarks:																																								

## SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-6	7.5YR 4/3		7.5YR 4/2	2			<del>loamy</del> sandy loam	
6-12	7.5YR 4/3						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (Inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

very faint redox depletions

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 7  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38786 Long: 119.51043 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____				
Sapling/Shrub Stratum (Plot size: <u>15'</u> diameter) = Total Cover				Prevalence Index worksheet:
1. <u>Salix lasiolepis</u>	<u>90</u>	<u>Yes</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Heteromeles arbutifolia</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	OBL species _____ x 1 = _____
3. _____				FACW species <u>90</u> x 2 = <u>180</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
Herb Stratum (Plot size: <u>10'</u> diameter) = Total Cover				UPL species <u>8</u> x 5 = <u>40</u>
1. <u>Bromus diandrus</u>	<u>5</u>	<u>Yes</u>	<u>UPL</u>	Column Totals: <u>98</u> (A) <u>220</u> (B)
2. _____				Prevalence Index = B/A = <u>2.2</u>
3. _____				Hydrophytic Vegetation Indicators:
4. _____				<input type="checkbox"/> Dominance Test is >50%
5. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
6. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
7. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____				
Woody Vine Stratum (Plot size: _____) = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				



## SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 8  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38779 Long: 119.51025 Datum: NAD83  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
= Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species <u>60</u> x 3 = <u>180</u> FACU species _____ x 4 = _____ UPL species <u>50</u> x 5 = <u>250</u> Column Totals: <u>110</u> (A) _____ (B) Prevalence Index = B/A = <u>3.9</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15'</u> diameter)</b> 1. <u>Artemisia californica</u> <u>25</u> <u>yes</u> <u>UPL</u> 2. <u>Baccharis pilularis</u> <u>5</u> <u>yes</u> <u>UPL</u> 3. _____ 4. _____ 5. _____				
= Total Cover				
<b>Herb Stratum (Plot size: <u>10'</u> diameter)</b> 1. <u>Plantago lanceolata</u> <u>60</u> <u>yes</u> <u>FAC</u> 2. <u>Medicago polymorpha</u> <u>20</u> <u>yes</u> <u>UPL</u> 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____				
= Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> _____ Dominance Test is >50% _____ Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
<b>Hydrophytic Vegetation Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				
Remarks:				

## SOIL

Sampling Point: 8

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

## Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |                                       |                                |
|---------------------------------------|--------------------------------|
| ___ Histosol (A1)                     | ___ Sandy Redox (S5)           |
| ___ Histic Epipedon (A2)              | ___ Stripped Matrix (S6)       |
| ___ Black Histic (A3)                 | ___ Loamy Mucky Mineral (F1)   |
| ___ Hydrogen Sulfide (A4)             | ___ Loamy Gleyed Matrix (F2)   |
| ___ Stratified Layers (A5) (LRR C)    | ___ Depleted Matrix (F3)       |
| ___ 1 cm Muck (A9) (LRR D)            | ___ Redox Dark Surface (F6)    |
| ___ Depleted Below Dark Surface (A11) | ___ Depleted Dark Surface (F7) |
| ___ Thick Dark Surface (A12)          | ___ Redox Depressions (F8)     |
| ___ Sandy Mucky Mineral (S1)          | ___ Vernal Pools (F9)          |
| ___ Sandy Gleyed Matrix (S4)          |                                |

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

## Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes No ☒

Remarks:

## HYDROLOGY

### Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                          | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) <b>(Riverine)</b>        |
| <input type="checkbox"/> High Water Table (A2)                       | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) <b>(Riverine)</b>  |
| <input type="checkbox"/> Saturation (A3)                             | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) <b>(Riverine)</b>     |
| <input type="checkbox"/> Water Marks (B1) <b>(Nonriverine)</b>       | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) <b>(Nonriverine)</b> | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) <b>(Nonriverine)</b>    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                    | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)   | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                   | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No ✓ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O+G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 9  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38785 Long: 119.57052 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? ( <u>COASTAL</u> )	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet:
1. <u>Baccharis salicifolia</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FAC species <u>75</u> x 3 = <u>225</u>
5. _____				FACU species <u>25</u> x 4 = <u>100</u>
= Total Cover				UPL species <u>55</u> x 5 = <u>275</u>
Herb Stratum (Plot size: <u>10' diameter</u> )				Column Totals: <u>155</u> (A) <u>800</u> (B)
1. <u>Bromus diandrus</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	Prevalence Index = B/A = <u>3.9</u>
2. <u>Geranium dissectum</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	Hydrophytic Vegetation Indicators:
3. <u>Medicago polymorpha</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>	___ Dominance Test is >50%
4. _____				___ Prevalence Index is ≤3.0 <sup>1</sup>
5. _____				___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
6. _____				___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____				
2. _____				
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

## SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	7.5 YR 4/3						loamy sand	
6-712	7.5 YR 4/4						loamy sand	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No ☒

Remarks:

No indicators

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☒ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 10  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38576 Long: 119.50619 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks: <u>(coastal)</u>	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diam</u> )				Prevalence Index worksheet:
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species <u>100</u> x 2 = <u>200</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
= Total Cover				UPL species _____ x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals: <u>100</u> (A) <u>200</u> (B)
1. _____				Prevalence Index = B/A = <u>2.0</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____				<input checked="" type="checkbox"/> Dominance Test is >50%
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks:				



## SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

No data

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/12  
 Applicant/Owner: Chevron State: CA Sampling Point: 10A  
 Investigator(s): Ingamelle Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38584 Long: 119.50606 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? <u>(Coastal)</u> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> 1. <u>Salix lasiolepis</u> <u>100</u> Yes <u>FACW</u>				
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
<b>Herb Stratum (Plot size: <u>10' diameter</u>)</b> 1. <u>Oxalis pes-caprae</u> <u>40</u> Yes <u>UPL</u>				<b>Hydrophytic Vegetation Indicators:</b> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input checked="" type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) _____ <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

## SOIL

Sampling Point: 10A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

*No data*

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒  
 Water Table Present? Yes \_\_\_\_\_ No ☒  
 Saturation Present? Yes \_\_\_\_\_ No ☒  
 (includes capillary fringe) Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

*No indicators*



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 11  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38781 Long: 119.51221 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (CONTAL) Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks:		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: OBL species <u>95</u> x 1 = <u>95</u> FACW species _____ x 2 = _____ FAC species <u>15</u> x 3 = <u>45</u> FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>110</u> (A) <u>140</u> (B) Prevalence Index = B/A = <u>1.3</u>
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				
1. <u>Baccharis salicifolia</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: <u>10' diameter</u> )				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <u>Schoenoplectus californicus</u>	<u>95</u>	<u>Yes</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point:

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[illegible]<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> 1 cm Muck (A9) (LRR C)     |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> 2 cm Muck (A10) (LRR B)    |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Reduced Vertic (F18)       |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |   |
- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problem area

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

No data

### Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input checked="" type="checkbox"/> Saturation (A3)                | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input checked="" type="checkbox"/> Drainage Patterns (B10)        |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Saturation Present? Yes ☒ No ☐ Depth (inches): 3  
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 12  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38790 Long: 119.51233 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>Platanus racemosa</u>	<u>100</u>	<u>yes</u>	<u>FAC</u>		Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet:	
1. <u>Rosa californica</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>		
2. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
3. _____	_____	_____	_____	OBL species _____ x 1 = _____	
4. _____	_____	_____	_____	FACW species _____ x 2 = _____	
5. _____	<u>60</u>	_____	_____	FAC species <u>195</u> x 3 = <u>585</u>	
Herb Stratum (Plot size: _____)				FACU species _____ x 4 = _____	
1. _____	_____	_____	_____	UPL species _____ x 5 = _____	
2. _____	_____	_____	_____	Column Totals: <u>195</u> (A) <u>585</u> (B)	
3. _____	_____	_____	_____	Prevalence Index = B/A = <u>3.0</u>	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
6. _____	_____	_____	_____		<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
7. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
8. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)	
Woody Vine Stratum (Plot size: <u>15' diameter</u> )				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>Rubus <del>chrysanthemifolius</del> ursinus</u>	<u>35</u>	<u>yes</u>	<u>FAC</u>		
2. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____					

Remarks:



SOIL Sampling Point: 12

Sampling Point: 12

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
---	--

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)                     | <input type="checkbox"/> Sandy Redox (S5)           | <input type="checkbox"/> 1 cm Muck (A9) (LRR C)     |
| <input type="checkbox"/> Histic Epipedon (A2)              | <input type="checkbox"/> Stripped Matrix (S6)       | <input type="checkbox"/> 2 cm Muck (A10) (LRR B)    |
| <input type="checkbox"/> Black Histic (A3)                 | <input type="checkbox"/> Loamy Mucky Mineral (F1)   | <input type="checkbox"/> Reduced Vertic (F18)       |
| <input type="checkbox"/> Hydrogen Sulfide (A4)             | <input type="checkbox"/> Loamy Gleyed Matrix (F2)   | <input type="checkbox"/> Red Parent Material (TF2)  |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C)    | <input type="checkbox"/> Depleted Matrix (F3)       | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D)            | <input type="checkbox"/> Redox Dark Surface (F6)    |   |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) |   |
| <input type="checkbox"/> Thick Dark Surface (A12)          | <input type="checkbox"/> Redox Depressions (F8)     |   |
| <input type="checkbox"/> Sandy Mucky Mineral (S1)          | <input type="checkbox"/> Vernal Pools (F9)          |   |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4)          |   |   |
- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):	
---------------------------------	--

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Hydric Soil Present? Yes No

Remarks:

No drink

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
--	---

## Secondary Indicators (2 or more required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Blotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Field Observations:	
---------------------	--

Surface Water Present? Yes ☐ No ☒ Depth (inches):                     

Water Table Present? Yes ☐ No ☒ Depth (inches):           

Saturation Present? Yes ☐ No ☒ Depth (inches): \_\_\_\_\_ Wetland Hydrology Present? Yes ☐ No ☒

Wetland Hydrology Present? Yes \_\_\_\_\_ No     

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: B  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38780 Long: 119.57200 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>15</u>	<u>No</u>	<u>FACW</u>	
2. <u>Platanus racemosa</u>	<u>85</u>	<u>Yes</u>	<u>FAC</u>	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____				
<u>100</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Rosa californica</u>	<u>75</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species <u>15</u> x 2 = <u>30</u>
4. _____				FAC species <u>185</u> x 3 = <u>555</u>
5. _____				FACU species _____ x 4 = _____
<u>75</u> = Total Cover				UPL species _____ x 5 = _____
				Column Totals: <u>200</u> (A) <u>585</u> (B)
				Prevalence Index = B/A = <u>2.9</u>
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. _____				
2. _____				<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup>
3. _____				<input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____				<input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>13' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>Rubus ursinus</u>	<u>25</u>	<u>Yes</u>	<u>FAC</u>	
2. _____				
<u>25</u> = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

Sampling Point: 13

## HYDROLOGY

Arid West – Version 2.0



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 14  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38772 Long: 119.51180 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (CORITAC)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.0</u>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>% Bare Ground in Herb Stratum</b> _____ <b>% Cover of Biotic Crust</b> _____				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
_____ = Total Cover				
<b>Remarks:</b> <u>Patch ~ 25' x 100' along south side of Trail</u>				

## SOIL

Sampling Point:

[illegible]

## HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		<b>Wetland Hydrology Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: <div style="text-align: center; font-size: 1.2em;">No <del>hydrology</del> indicators</div>		

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 15  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38271 Long: 119.51169 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	(COASTAL)
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Salix lasiolepis</u>	<u>95</u>	<u>Yes</u>	<u>FACW</u>	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25%</u> (A/B)
4. _____				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				Prevalence Index worksheet:
1. <u>Encelia californica</u>	<u>40</u>	<u>Yes</u>	<u>UPL</u>	Total % Cover of: _____ Multiply by: _____
2. <u>Rhus integrifolia</u>	<u>10</u>	<u>Yes</u>	<u>UPL</u>	OBL species _____ x 1 = _____
3. _____				FACW species <u>95</u> x 2 = <u>190</u>
4. _____				FAC species _____ x 3 = _____
5. _____				FACU species _____ x 4 = _____
Herb Stratum (Plot size: <u>10' diameter</u> )				UPL species <u>100</u> x 5 = <u>500</u>
1. <u>Bromus diandrus</u>	<u>50</u>	<u>Yes</u>	<u>UPL</u>	Column Totals: <u>195</u> (A) <u>690</u> (B)
2. _____				Prevalence Index = B/A = <u>3.5</u>
3. _____				Hydrophytic Vegetation Indicators:
4. _____				___ Dominance Test is >50%
5. _____				___ Prevalence Index is ≤3.0 <sup>1</sup>
6. _____				___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
7. _____				___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
8. _____				
Woody Vine Stratum (Plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
2. _____				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:



Sampling Point: 15

## HYDROLOGY

US Army Corps of Engineers C-174 Arid West – Version 2.0

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 16  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38765 Long: 119.51141 Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (COASTAL)
Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diam</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>100</u> = Total Cover <b>Sapling/Shrub Stratum</b> (Plot size: _____)				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2.0</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover <b>Herb Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover <b>Woody Vine Stratum</b> (Plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

Sampling Point:

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix.

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- <sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

No data

### Wetland Hydrology Indicators:

Secondary Indicators (2 or more required)

- Wetland Hydrology Present? Yes No

No indicators



# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 17  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes _____ No _____		
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>67%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> 1. <u>Encelia californica</u> <u>100</u> = Total Cover <u>yes</u> <u>UPL</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>105</u> x 2 = <u>210</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>120</u> (A) <u>285</u> (B) Prevalence Index = B/A = <u>2.4</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<b>Herb Stratum (Plot size: <u>10' diameter</u>)</b> 1. <u>Salix lasiolepis (seedling)</u> <u>15</u> = Total Cover <u>yes</u> <u>FACW</u>				<b>Hydrophytic Vegetation Indicators:</b> <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ <u>5</u> = Total Cover _____ 2. _____ _____ = Total Cover _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No _____				

Remarks:

## SOIL

Sampling Point:

17

**Profile Description:** (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

### Indicators for Problematic Hydric Soils<sup>3</sup>:

- |                                       |                                |
|---------------------------------------|--------------------------------|
| ___ Histosol (A1)                     | ___ Sandy Redox (S5)           |
| ___ Histic Epipedon (A2)              | ___ Stripped Matrix (S6)       |
| ___ Black Histic (A3)                 | ___ Loamy Mucky Mineral (F1)   |
| ___ Hydrogen Sulfide (A4)             | ___ Loamy Gleyed Matrix (F2)   |
| ___ Stratified Layers (A5) (LRR C)    | ___ Depleted Matrix (F3)       |
| ___ 1 cm Muck (A9) (LRR D)            | ___ Redox Dark Surface (F6)    |
| ___ Depleted Below Dark Surface (A11) | ___ Depleted Dark Surface (F7) |
| ___ Thick Dark Surface (A12)          | ___ Redox Depressions (F8)     |
| ___ Sandy Mucky Mineral (S1)          | ___ Vernal Pools (F9)          |
| ___ Sandy Gleyed Matrix (S4)          |                                |

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

No data

## HYDROLOGY

### Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Salt Crust (B11)                              | <input type="checkbox"/> Water Marks (B1) (Riverine)               |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Biotic Crust (B12)                            | <input type="checkbox"/> Sediment Deposits (B2) (Riverine)         |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Aquatic Invertebrates (B13)                   | <input type="checkbox"/> Drift Deposits (B3) (Riverine)            |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine)            | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)      | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine)         | <input type="checkbox"/> Presence of Reduced Iron (C4)                 | <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Surface Soil Cracks (B6)                  | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7)                        | <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 | <input type="checkbox"/> Other (Explain in Remarks)                    | <input type="checkbox"/> FAC-Neutral Test (D5)                     |

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (Inches): \_\_\_\_\_

Saturation Present?      Yes      No      ☒      Depth (inches):

(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 18  
 Investigator(s): Ingamells Section, Township, Range: T4N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38749 Long: 119.51074 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? (COASTAL)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks:			

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diameter</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<b>Sapling/Shrub Stratum (Plot size: <u>15' diameter</u>)</b> 1. <u>Rhus integrifolia</u> <u>40</u> = Total Cover <u>Yes</u> <u>UPL</u>				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
<b>Herb Stratum (Plot size: _____)</b> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ _____ = Total Cover				
<b>Woody Vine Stratum (Plot size: _____)</b> 1. _____ 2. _____ _____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☒ No ☐



Sampling Point:

18

## HYDROLOGY

US Army Corps of Engineers

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 19  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: WGS 84  
 Soil Map Unit Name: Xerothent, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_, Soil \_\_\_\_\_, or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? (COASTAL) Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes _____ No _____	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks:		

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30' diam</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>yes</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Sapling/Shrub Stratum (Plot size: <u>15' diam</u> )				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>100</u> x 2 = <u>200</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species <u>40</u> x 5 = <u>200</u> Column Totals: <u>140</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>2.9</u>
1. <u>Rhus integrifolia</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
2. <u>Encelia californica</u>	<u>20</u>	<u>yes</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 <sup>1</sup> _____ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
Woody Vine Stratum (Plot size: _____)				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

Sampling Point: 19

## HYDROLOGY

Arid West – Version 2.0

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Carpinteria O + G Facility City/County: Carpinteria Sampling Date: 4/20/21  
 Applicant/Owner: Chevron State: CA Sampling Point: 20  
 Investigator(s): Ingamells Section, Township, Range: T9N R25W  
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): <2  
 Subregion (LRR): LRR-C Lat: 34.38682 Long: 119.50916 Datum: WGS 84  
 Soil Map Unit Name: Xerothents, cut and fill areas NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Remarks:	

## VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	
= Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15' diameter</u> )				
1. <u>Atriplex lentiformis</u>	<u>100</u>	<u>Yes</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	<u>100</u>	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Remarks:				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**Prevalence Index worksheet:**

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species <u>100</u>	x 3 = <u>300</u>
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: <u>100</u> (A)	<u>300</u> (B)

Prevalence Index = B/A = 3.0

**Hydrophytic Vegetation Indicators:**

☒ Dominance Test is >50%

☒ Prevalence Index is ≤3.0<sup>1</sup>

☐ Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐



## SOIL

Sampling Point: 20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5) (LRR C)  
☐ 1 cm Muck (A9) (LRR D)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Sandy Mucky Mineral (S1)  
☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Loamy Mucky Mineral (F1)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR C)  
☐ 2 cm Muck (A10) (LRR B)  
☐ Reduced Vertic (F18)  
☐ Red Parent Material (TF2)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No \_\_\_\_\_

Remarks:

No data

## HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)  
☐ High Water Table (A2)  
☐ Saturation (A3)  
☐ Water Marks (B1) (Nonriverine)  
☐ Sediment Deposits (B2) (Nonriverine)  
☐ Drift Deposits (B3) (Nonriverine)  
☐ Surface Soil Cracks (B6)  
☐ Inundation Visible on Aerial Imagery (B7)  
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)  
☐ Biotic Crust (B12)  
☐ Aquatic Invertebrates (B13)  
☐ Hydrogen Sulfide Odor (C1)  
☐ Oxidized Rhizospheres along Living Roots (C3)  
☐ Presence of Reduced Iron (C4)  
☐ Recent Iron Reduction in Tilled Soils (C6)  
☐ Thin Muck Surface (C7)  
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)  
☐ Sediment Deposits (B2) (Riverine)  
☐ Drift Deposits (B3) (Riverine)  
☐ Drainage Patterns (B10)  
☐ Dry-Season Water Table (C2)  
☐ Crayfish Burrows (C8)  
☐ Saturation Visible on Aerial Imagery (C9)  
☐ Shallow Aquitard (D3)  
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Water Table Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_Saturation Present? Yes \_\_\_\_\_ No ☒ Depth (inches): \_\_\_\_\_  
(Includes capillary fringe)Wetland Hydrology Present? Yes \_\_\_\_\_ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No indicators

## **Appendix C-5**

### **Marine Biological Resources Study**

# **MARINE BIOLOGICAL RESOURCES STUDY**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, California 93003

**DECEMBER 2021**



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## **ATTACHMENTS**

- Attachment A. USFWS and NMFS Species Lists
- Attachment B. Site Photographs

## **1.0 INTRODUCTION**

This Marine Biological Resources Study (Study) has been prepared on behalf of Chevron USA (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility, as well as subsea pipeline removal from the shore out to State Waters (three nautical miles) (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery.

This Study includes a description of the proposed offshore Project activities, followed by the study methodology section, which describes desktop study and analytical methods used to assess the biological resources within the Project site. The methodology section includes a review of literature concerning historical site use, special-status species, sensitive habitats, and general biological site conditions. The environmental setting describes abiotic and biotic conditions at the Project site including climate, substrates, typical habitats and associated algal, marine plant and wildlife species, and special-status species reported in or near the Project Site. A review of regulatory requirements is then provided, and the final section summarizes the avoidance and minimization measures currently proposed by Chevron to reduce Project impacts to less than significant levels.

## **2.0 BACKGROUND**

Chevron is planning the decommissioning of onshore and offshore oil and gas facilities associated with the Carpinteria Oil and Gas Facility. Given the marine biological nature of this Study, the following Project description focuses on the beach, nearshore and offshore components of the Project. A summary of terrestrial biological resources is provided in a separate report. Decommissioning and remediation of the Carpinteria Oil and Gas Processing Facilities from the beach to the boundary of State Waters (three nautical miles) will include:

### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal
- Removal of offshore Project pipeline segments out to 3-mile State waters limit
- Removal of nearshore beach crossing pipeline segments
- Recycling/disposal of all materials removed from the Project site(s)
- Restoration in accordance with the Site Restoration Plan (once approved)

## **2.1 LOCATION AND LAND USE**

The onshore Project Site is located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean. The offshore Project site is located between the onshore Project Site and the State water boundary within the Santa Barbara Channel (Figure 2-1 - Offshore Project Site and Study Area). The onshore facilities developed at the Project Site historically have been used to process oil and gas produced from the Summerland, Carpinteria, Santa Clara, and Sockeye Fields located within the Santa Barbara Channel. The associated offshore pipelines area located within State Lease Nos. PRC 3133, 3150, 7911, and 4000 on submerged lands leased from the City (from shore to 2 miles offshore) and County (from 2 to 3 miles offshore). Ownership of the Project Site was originally obtained by Chevron (formerly Standard Oil Company) in 1959 and subsequently sold to Venoco in 1999. Chevron reacquired ownership of the Project Site in an agreement between Chevron and Venoco in 2017.

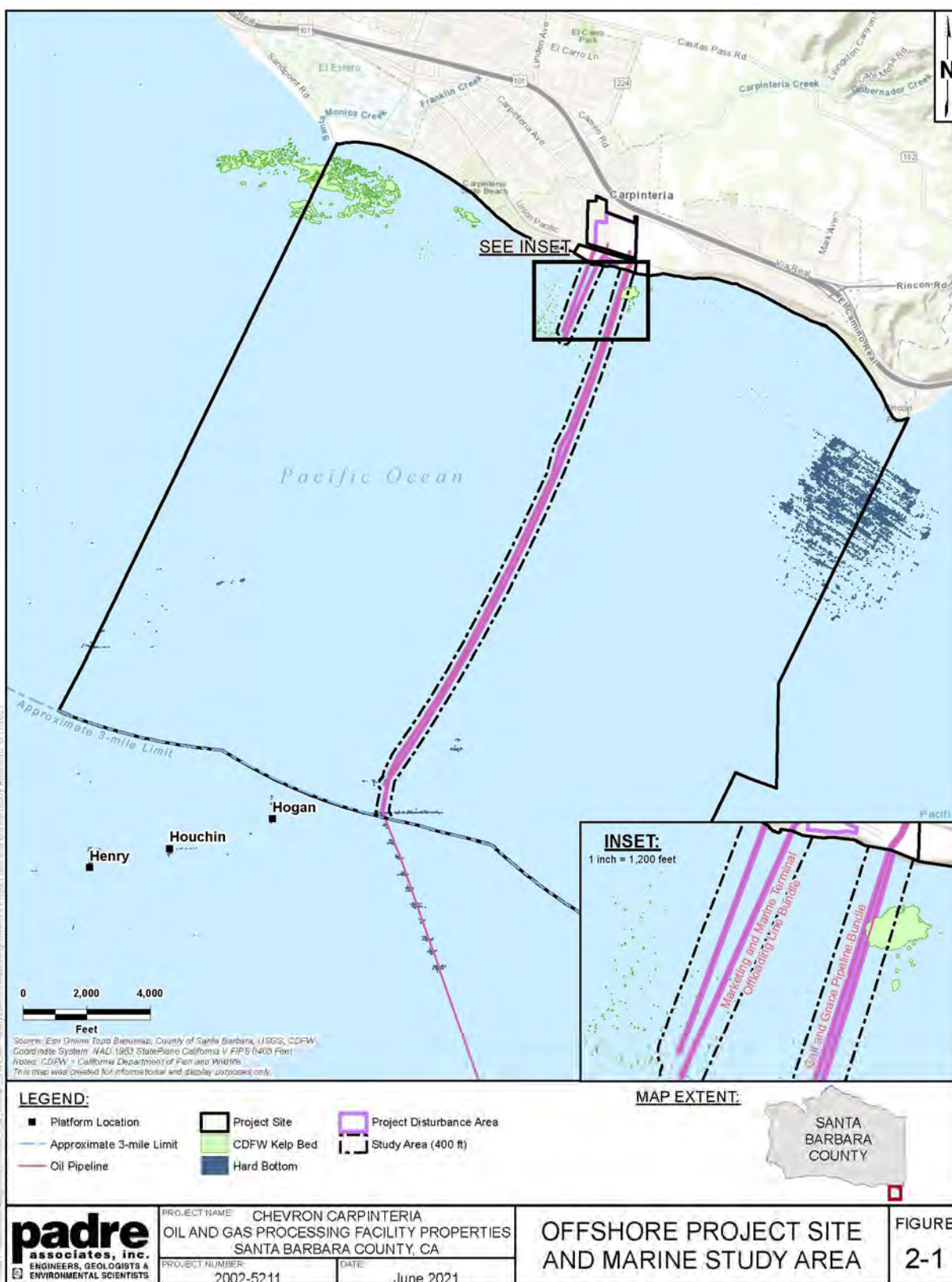


Figure 2-1. Offshore Project Site and Study Area



## 2.2 PROJECT DESCRIPTION SUMMARY

Demolition and remediation activities will be broken into three primary areas according to their respective location and supporting construction methodologies. The three areas include the Onshore Processing Facility (including the area extending to the bluff face), Beach Crossing (bluff face to mean high tide line), and Offshore Pipeline Segments (mean high tide out to 3 nm State waters limit). Due to the marine biological nature of this Study, the following Project Description will focus on two Project areas: The Beach Crossing and Offshore Pipeline Segments. A full description of beach and offshore Project activities can be found in the Project Description (Padre, 2021).

### 2.2.1 Beach Crossing and Offshore Pipeline Decommissioning

Two operational areas are present within the beach crossing and offshore Project site: The Marketing and Marine Terminal Offloading Lines Bundle and the Gail and Grace Pipeline Bundle/10-inch oil pipeline area. Table 2-1 below lists the pipeline components for each operational area, lengths of pipeline to be removed, and the anticipated removal methods.

The proposed Project will require the mobilization of an offshore marine equipment spread consisting of either a dynamically positioned or anchored work barge(s) with support vessels. A commonly used offshore spread for pipeline removal projects consists of a derrick barge with deck crane (i.e., M/V Salta Verde or equivalent sized vessel) and tending tug, a materials barge (M/V Abalone Pt. or equivalent sized vessel) and tending tug, and a crew boat for transit between the nearest harbor and the offshore Project Site. In addition, a commercial dive support vessel and an offshore survey and surface navigation vessel may be required to locate and track progress during pipeline recovery operations. The derrick barge and dive vessel spread will include a vessel crane and mounted-winch, jet pump, air lift, cutting equipment, and recovery rigging to provide options for uncovering, pulling, cutting and recovery. When working in shallow depths, the derrick barge will require an anchor-handling vessel to run all the vessels anchors to pre-determined anchor locations. Anchoring along the pipeline bundles' corridors will be limited to sandy areas of the seafloor and will not occur on hard-bottom areas.

**Table 2-1. Proposed Offshore Final Disposition Summary**

Offshore Operational Area	Bundle Components	Pipeline Corridor Length (approximate feet)	Proposed Removal Methods
Gail and Grace Bundle/10-inch Oil Pipeline Area	10-inch oil pipeline 10-inch gas pipeline	19,030	<b>Offshore:</b> Reverse installation/under running pipeline utilizing crane barge to lift and cut pipe into sections on barge deck. Removal out to State Waters boundary (three nautical miles).
	10-inch oil pipeline (on risers)	17,909	<b>Surf Zone:</b> Shore-side and dive crews, remove concrete armoring, excavate

Offshore Operational Area	Bundle Components	Pipeline Corridor Length (approximate feet)	Proposed Removal Methods
			and recover pipelines to an offshore derrick barge.  <b>Bluff:</b> Shore-side crews remove concrete armoring and recover concrete pieces and pipelines to the top of bluff via crane.
Marketing and Marine Terminal Offloading Line Bundle	10-inch offloading crude oil line 2, 4-inch subdrain pipelines 6-inch wastewater pipeline	2,843	<b>Offshore:</b> Diver-directed hydraulic pipe shear to cut into sections on seafloor and pipe grapple to recover pipe sections to barge deck. Removal out to existing offshore termini.
	20" crude oil pipeline 6" wastewater pipeline 8" wastewater pipeline Valve box (on bluff)	3,285	<b>Surf Zone:</b> Shore-side and dive crews, excavate, as needed, in surf zone and on beach, and recover pipelines to a derrick barge. Alternatively, pipe could be recovered to top of the bluff via winch and crane (2 locations). Alternatively, a derrick barge could be utilized.  <b>Bluff:</b> Shore-side crews remove rip rap armoring and recover boulders and pipelines to the top of bluff via crane and/or heavy equipment. Excavate and remove valve box following pipeline removal.

### **3.0 METHODOLOGY**

#### **3.1 LITERATURE REVIEW**

Padre biologists reviewed available facility design information, historic Carpinteria Oil and Gas Processing Facilities reports and seafloor maps, as well as regional marine biological geographic information systems (GIS) data from California Department of Fish and Wildlife (CDFW) and bathymetric mapping from U.S. Geological Survey (USGS) (CDFW, 2021, Johnson et al., 2013). A list of federally listed Threatened and Endangered species was obtained from the U.S. Fish and Wildlife Service (USFWS) and from the National Marine Fisheries Service (NMFS), and are included under Attachment A. The Multi-Agency Rocky Intertidal Network (MARINe) and Partnership of Interdisciplinary Studies of Coastal Oceans (PISCO) Databases were reviewed to assess the potential for biological resources and to determine the likelihood of occurrence for special-status species and/or sensitive and regulated habitats on the site. Special-status taxa that are known to exist or have the potential to exist on the Project site were also identified through a review of relevant literature.

#### **3.2 DESKTOP STUDY**

A biological resources study area was identified prior to beginning desktop studies. The study area includes all temporary disturbance areas, vessel and barge spread area and a 400-foot buffer from potential anchor locations (based on water depth). Boundaries of the study area are depicted in Figure 2-1. Reconnaissance surveys were conducted to familiarize with the layout and spatial limits of the study area; however, no focused field surveys were conducted within the study area at this time.

## **4.0 ENVIRONMENTAL SETTING**

The offshore Project site is located between the onshore Project Site bluff edge and out to the State Waters line within northern side of the Santa Barbara Channel. The Marketing and Marine Terminal offloading line bundle terminates at approximately a 60-foot (18-meter) water depth, while the Gail and Grace pipeline bundle extends from its landfall at the Project site then out into City of Carpinteria and County of Santa Barbara deeded tidelands, continuing to the three-mile State Waters boundary and then eventually southward to Platforms Grace and Gail. Water depths within the offshore Project Site range between zero and approximately 150 feet (46 meters). The local climate of nearshore and offshore waters of the Project Site is comprised of temperatures averaging between 55 to 65 degrees Fahrenheit and winds from the west, that range from eight to 16 miles per hour (mph); however, winds speed near the coast can be much lower than those in open waters (Argonne National Laboratory, 2019). The Project site lies southeast of regionally important coastal migration and topographic landmarks, Point Conception, Point Arguello and Santa Ynez Mountains, and north of the California Channel Islands. The region is a major biogeographic transition zone offshore, where the cold-temperature waters of the Oregonian Province meet with the warm-temperate waters of the San Diego Province. This transition zone has resulted in the development of distinctive communities and foraging grounds for migrating wildlife.

### **4.1 MARINE HABITAT DESCRIPTIONS**

#### **4.1.1 Sandy Beach Habitat**

The Project Site is located at Carpinteria Beach/Tar pits Park, which is heavily utilized by the public during most of the year. The beach habitat within this area is comprised of a gradually sloping sandy beach area that is located to the south of the bluff within the study area and extends to the intertidal zone. Due to regular inundation of saltwater from high tides and wave activity, wind, and dynamic soils, the sand beach habitat does not support vegetation. However, deposits of kelp detritus and driftwood from extreme high tide periods provide cover for a variety of avifauna and marine invertebrates in portions of this habitat. The amount of available habitat from these deposits of kelp detritus and driftwood debris fluctuates throughout the year based on ocean tides and wave activity.

#### **4.1.2 Intertidal Habitats**

The intertidal zone within the study area consists primarily of sand with a mosaic of intermittent low- to medium-relief rocks and soft-bottom sediments. In addition, the Casitas Pier pilings provide submerged artificial substrates in the intertidal zone. The intertidal zone is a dynamic environment influenced in part by daily tidal fluctuations (leading to high concentrations of sunlight, and periods of aerial exposure) and wave forces. Organisms residing within the intertidal zone are characterized by hardy species that are capable of withstanding stresses associated with waves and daily tidal fluxes. Where it occurs, hard substrate provides habitat structure and a semi-permanent surface that algae, benthic, and sessile organisms may attach to. Areas with hard substrate within the intertidal zone (i.e., rocky intertidal) can be areas of rich species diversity and abundance; however, due to the seasonal deposition and retreat of sand from the beach, relatively few specialized species live in the dynamic sand habitat within the study



area. Commonly documented species include crustaceans such as sand crab (*Emerita analoga*), echinoderms, arthropods, polychaetes, and mollusks. Common intertidal species found on exposed rocks and pier pilings include mussels (*Mytilus californianus*), barnacles (*Balanus* spp.), various species of red and brown turf algae, and other biofouling bryozoans and non-native species.

The intertidal substrates throughout the nearshore study area includes mixed substrate types consisting of sand and exposed bedrock, as well as low to medium-relief rock reefs along the mean low-tide line. In general, substrate types are similar along the length of the shoreline within the study area with exposed rock located along the western edge of the lease boundary and on the east side of Casitas Pier where exposed rock reef provides haul-out habitat for a Pacific harbor seal (*Phoca vitulina richardii*) rookery.

Surf grass beds (*Phyllospadix* sp.) are commonly found along the southern California intertidal reefs and are known to provide cover and habitat structure for intertidal invertebrates and marine alga. Surf grass can be observed from shore growing on the surface of intertidal rocks in the study area and previous site visits during low tide events have identified surf grasses in subtidal habitats; however, its presence may fluctuate on a seasonal basis depending on the intensity of sand deposition or wave action. Further study will be required to determine if eelgrasses (*Zostera* sp.) is present in the study area. The nearest monitored eelgrass bed at a southern facing coastline is located approximately 18.5 miles northwest of the Project Site, in 20 to 25 feet of water offshore Goleta Beach (Santa Barbara Channelkeeper, 2010).

#### 4.1.3 Subtidal Habitats

As with the intertidal zone, the mixed sedimentary and rock reef habitat continues offshore along the subtidal study area. Wave exposure, sediment grain size, and depth are the main physical factors that influence the composition of subtidal benthic communities. Soft substrate habitats with small sand grain size within the subtidal zone typically have a lower diversity and abundance of species than those areas with hard substrate. However, the sandy subtidal environments support communities of organisms that are unique to this environment, and as such are important to marine ecosystems. Organisms typically found in sandy subtidal environments include but are not limited to tube worms (*Diopatra ornate*), sand dollars (*Dendraster excentricus*), and various species of crabs, sea stars, snails, and demersal fish. The Casitas Pier is located within soft substrate habitat; therefore, the seafloor beneath the Pier is expected to be dominated by soft substrate species. In addition, the pier pilings provide man-made structure for subtidal organisms to attached to including mussels, barnacles, tunicates, bryozoa, porifera, anemones (*Anthopleura elegantissima*), decorator crabs (*Loxorhynchus grandis* and *L. crispatus*), sea stars (*Pisaster* sp., *Patiria miniata*) red rock crabs (*Cancer* spp.), and rock scallop (*Crassedoma giganteum*).

In subtidal areas off the southern California coast where hard/rocky substrate is available, giant kelp (*Macrocystis pyrifera*) communities (i.e., kelp forests) are often present. Kelp forests are an important part of the marine ecosystem in that they provide habitat structure and substrate surfaces for many epibiotic, benthic and sessile organisms, and provide food, shelter, and nursery habitat for migratory and resident species of fish, marine mammals, and invertebrates. Recent site visits and a historic review of satellite imagery (June 2002 through March 2020), as well as kelp bed data from CDFW identified a kelp bed located approximately 470 feet east from the

offshore end the Casitas Pier (Figure 2-1). Common fish species may utilize the kelp bed and near-by pier structure and shallow rock reefs for foraging and breeding. Species that are likely to occur include surfperches (*Embiotoca jacksoni*, *Rhacochilus vacca*), wrasses (*Oxyjulis californica*, *Halichoeres semicinctus*), and adult and young-of-year-rockfish (*Sebastes* spp.). In addition, there is the potential that juvenile bocaccio (*Sebastes paucispinis*), a CDFW managed special-status rockfish species, may occur within the subtidal study area.

#### 4.1.4 Pelagic and Benthic Habitats

The open water habitat within the offshore pipeline corridors support migration and foraging habitat for marine mammals, reptiles, and avifauna. Water depth between the subtidal zone and the boundary of California State waters (three nautical miles) ranges between approximately 30 to 148 feet (9 to 45 meters) and therefore would support species that are adapted to live at those depths. The primary substrates within the offshore segments of the pipeline corridor have been characterized as fine- to medium-grained smooth sediments, with infrequent areas of mixed smooth sediment and bedrock, coarse-grained sand, gravel, cobbles (Johnson et al., 2013). Remote Operated Vehicle (ROV) surveys have reported that the majority of the pipeline corridor is buried under soft sediments from approximately -45 to -140 feet and then intermittently exposed to the State waters limit (-148 feet) (Aqueos, 2019). Epifauna of deeper waters in sedimentary habitats and those species found growing or foraging on exposed pipeline segments include plumose anemone (*Metridium senile*), bat stars (*Patiria miniate*), and rockfish (*Sebastes* sp.).

## 4.2 WILDLIFE

The nearshore rocky coastline, sedimentary benthic seafloor, and open water habitat within the study area provide habitat for a wide variety of resident and migratory wildlife species. Special-status wildlife species (i.e., endangered, threatened, rare, or other special-status species) occurring, or potentially occurring, within the Project site and surrounding area are discussed in Section 4.5 below.

The composition, topography, water depth and other physical characteristics of marine communities determine the diversity and abundance of wildlife species residing in the study area. Wildlife species known to occur within the habitats present within the beach and offshore Project Site are discussed below.

### 4.2.1 Birds

Many bird species rely on intertidal and subtidal habitats and surf grass beds as places to rest or forage for food. Bird species with the potential to occur along the beach and intertidal habitat include semipalmated plover (*Charadrius semipalmatus*), whimbrel (*Numenius phaeopus*), marbled godwit (*Limosa fedoa*), sandpiper (*Calidris* spp.), and gulls (*Larus* spp.). Bird species that have a potential to occur within the subtidal habitat include but are not limited to western grebe (*Aechmophorus occidentalis*), surf scoter (*Melanitta perspicillata*), cormorants (*Phalacrocorax* spp.), and California brown pelicans (*Pelecanus occidentalis*).

Bird species commonly associated with nearshore open waters of the central and southern California coast have the potential to occur in the open waters of the Project site. These birds include but are not limited to western grebes, brown pelicans, loons (*Gavia* sp.), Cassin's auklet (*Ptychoramphus aleuticus*), cormorants, gulls, surf scoters, eiders (*Somateria spectabilis*), and

murres (*Uria aalge*). These marine bird species feed on small schooling fish, squid, and zooplankton, and forage in open water where prey is concentrated near the water's surface. In addition, several special-status species have the potential to migrate and/or forage in the offshore study area including California least terns (*Sterna antillarum*), Ashy storm petrels (*Oceanodroma homochroa*), and black storm petrels (*Oceanodroma melania*).

#### 4.2.2 Marine Invertebrates

The epifauna of the shallower sedimentary habitats typically includes several species of macro-invertebrates, including sea stars, Pacific sand dollars (*Dendraster excentricus*), and slender crabs (*Cancer gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota, comprised of macrophytic algae, urchins (*Strongylocentrotus* spp.), sea stars, and cnidarians (anemones and solitary corals).

Abalone are known to inhabit nearshore rocky reef habitats along the southern California coast. Black and white abalone (*Haliotis cracherodii* and *H. sorenseni*) are both federally endangered species protected under FESA and are considered rare in the study area. Black abalone live in rocky intertidal and subtidal reefs (out to 18 feet deep) where they are generally found in rock crevices and feed on drifting giant kelp (*Macrocystis*) and feather boa kelp (*Egregia menziesii*). White abalone live on rocky substrates alongside sand channels and are found at depths of 50 to 180 feet. They feed on algae that accumulates within the sand channels between deep rock reefs and are more often found out of crevices but camouflaged by the algae that grows on their shells. Other abalone species that could be found in the study area include red (*H. rufescens*), pink (*H. corrugate*), green (*H. fulgens*), and pinto (*H. kamtschatkana*), whose populations are managed by CDFW.

#### 4.2.3 Fish

Fish assemblages off southern California are comprised of both year-round residents and migratory species. The abundance of some year-round residents, such as northern anchovy (*Engraulis mordax*), may fluctuate considerably as new cohorts of juveniles migrate inshore or develop from larvae during spring and summer months. Substrate composition, wave exposure, depth, and presence of kelp or seagrass often determine fish species composition in a particular area. The study area provides habitat for demersal species, such as sanddabs (*Citharichthys* spp.), California halibut (*Paralichthys californicus*), or Pacific staghorn sculpin (*Leptocottus armatus*) that are associated with soft substrates. Other species such as white croaker (*Genyonemus lineatus*) or barred surfperch (*Amphistichus argenteus*) inhabit the water column but feed on invertebrates living in the substrate. Still others are restricted mainly to the water column, such as anchovy, sardine (*Sardinops sagax*), topsmelts (*Atherinidae*), striped bass (*Morone saxatilis*), or white seabass (*Atractoscion nobilis*), where they feed on midwater plankton or other midwater fishes. Isolated hard substrate features may occur at a small portion of the open water study area. These hardbottom deeper reefs attract different assemblages of fishes, primarily rockfish (*Sebastes* sp.), which could transit through the region during localized movements.

Grunion (*Leuresthes tenuis*) is a member of the silverside family (*Atherinidae*) that uses sandy beaches from Monterey Bay to Central Baja California for spawning. Twice a month, at new and full moons between March and early September, grunions come ashore during the two or three nights following the highest tide. Grunion bury their eggs four to five inches below the surface, with maturation occurring in ten days. The next spring high tide reaches the eggs, induces

them to hatch, and carries the larvae offshore where they mature. Grunion runs are more common along northern Santa Barbara County Beaches; however, there is the potential the species may occur seasonally within the study area.

#### 4.2.4 Marine Mammals and Sea Turtles

Baleen whales, toothed whales (including dolphins), and pinnipeds (California sea lion [*Zalophus californianus*] and Pacific harbor seal [*Phoca vitulina richardsi*]), could occur in the study area, in addition to an active rookery for Pacific harbor seal on the exposed rock and sandy beach on the east side of the Casitas Pier. The harbor seal rookery is discussed further below in Section 4.4.1.3 (Pinniped Haul-Outs). Some species of marine wildlife are seasonally present within the study area while others are resident species. All marine mammals are protected by the Marine Mammal Protection Act (MMPA) of 1972, and all sea turtles in U.S. waters are listed under the Federal Endangered Species Act (FESA). These laws are overseen by the National Marine Fisheries Service (NMFS). Marine mammals and sea turtle are discussed below in Sections 4.3, 4.4, and 4.5. Although rarely encountered, marine turtles occasionally are reported within waters off the southern California coast, and could potentially occur within the study area. Populations of marine turtles have been greatly reduced due to over harvesting and loss of nesting sites in tropical coastal areas. Sea turtles breed at sea and the females return to their natal beaches to lay their eggs; however, sea turtles do not nest anywhere along the California coast. The four listed sea turtles that may occur within the study area include the endangered Leatherback turtle (*Dermochelys coriacea*) and Loggerhead turtle (*Caretta caretta*), and the threatened Green turtle (*Chelonia mydas*) and Olive Ridley turtle (*Lepidochelys olivacea*). Although several occurrences of sea turtles have been documented off the southern California coast, the likelihood of their occurrence in the study area is considered low.

##### 4.2.4.1 Marine Mammal Hearing and Noise Thresholds

NMFS, in coordination with National Oceanic and Atmospheric Administration (NOAA), has identified acoustic threshold (received sound level) criteria above which marine mammals are predicted to experience changes in their hearing sensitivity, either permanent or temporary hearing threshold shifts (PTS or TTS, respectively). Physiological responses such as auditory or non-auditory tissue injuries are known as Level A Harassment in the MMPA and harm in the FESA. Level A Harassment becomes a concern when the sound levels from human-made sounds reach or exceed the acoustic thresholds associated with auditory injury in marine species. PTS is a permanent, irreversible increase in an animal's auditory threshold within a given frequency band or range of the animal's normal hearing. TTS is a temporary, reversible increase in the threshold of audibility at a specific range of frequencies. While TTS is not an injury, it is considered Level B Harassment by the MMPA and harassment by the FESA. In addition, along with TTS, Level B harassment includes behavioral impacts. Several variables can characterize sound, including frequency and intensity. Frequency describes the pitch of a sound and is measured in hertz (Hz), while intensity describes the loudness of a sound (i.e., sound pressure level [SPL]) and is measured in decibels (dB), which are measured using a logarithmic scale (e.g., a 10-dB increase represents a 10-fold increase in sound intensity). Sound intensity for underwater applications is typically expressed in dB referenced to in units of pressure in micropascals (1  $\mu\text{Pa}$ <sup>1</sup>).

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<sup>1</sup> 1  $\mu\text{Pa}$  is the reference sound pressure for sound in water.



General underwater Project activities such as jetting, pipe-cutting, vessel transit, as well as construction equipment on the surface, have the potential to temporarily increase ambient noise levels in the local marine environment. While tidal currents and waves produce hydrodynamic sounds, which register at very low frequencies (<100 Hz), ship traffic and underwater construction noise can range from 10 to 1000 Hz (USACE 2015).

Disturbing, harassing, injuring, or killing a protected species is prohibited by the MMPA. General underwater construction noise levels, related to pipe cutting and underwater excavation, are not anticipated to exceed harassment thresholds published by NMFS in the *Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing*. The major contributors to underwater noise from excavation jetting include sounds involving the movement of sediment, water, and air against the seabed, and ship machinery sounds associated with the lowering and lifting of equipment. Project vessels produce noise primarily with their propellers, motors, and gears. The faster the propeller rotates the more cavitation noise, and the higher the frequency of noise produced (i.e., a slowly rotating propeller generates low frequencies [below 10 Hz] and a faster spinning propeller can produce frequencies up to 20 kilohertz [kHz]). Noise levels from marine vessels can range from <150 dB re 1  $\mu$ Pa<sub>2s</sub> to over 190 dB re 1  $\mu$ Pa<sub>2s</sub> at 1 meter from the sound source (USACE 2015). Underwater pipe-cutting and shearing can increase noise levels in the immediate work area with disturbance of sediments and operating machinery; however, the noise levels differ from site to site depending on seafloor substrates, water depth and specific equipment. At close ranges, underwater equipment sound levels can have physiological and behavioral effects on fish and marine wildlife; however, marine wildlife will likely avoid underwater work areas and equipment and would not stay close enough to the equipment to experience injury or mortality. Marine wildlife will likely leave the area of their own volition and disperse to available and suitable habitat within the greater Project region; therefore, marine wildlife are not expected to experience impacts from underwater construction noise.

Beach/bluff and Surf Zone construction noise, related to operating heavy equipment, concrete demolition and ground disturbance has the potential to temporarily increase noise levels adjacent to the harbor seal rookery discussed in detail in Section 4.4.1.3. The NMFS has established in-air sound thresholds for sea lion and harbor seals that are set at 100 dB and 90 dB, respectively. The harbor seal rookery is largely abandoned in the summer and fall, due to unrestricted, seasonal public access and beach activities, which will correspond to when the proposed beach and offshore Project activities will occur; therefore, Project activities are not expected to cause incidental harassment of marine mammals.

#### **4.2.5 Non-Native Aquatic Species**

Non-native aquatic species (NAS), also known as non-indigenous species, include plants, animals, and micro-organisms that have been introduced to new regions through various human activities. In coastal environments, commercial shipping is the most significant vector for invasions, and vessel biofouling and ballast water are considered the primary contributors of NAS. Once established, NAS can cause significant ecological, economic, and human health problems in the receiving environment, including altering the structure and function of ecosystems, causing declines in native and commercial fisheries, and spreading human pathogens. CDFW recognizes 347 NAS with established populations in California coastal waters (CDFW Office of Spill Prevention and Response [OSPR], 2014). The origin of many NAS is unknown; however, the

majority of NAS in California appear to be native to the northwest Pacific or northeast Atlantic. NAS could be present on the pilings of Casitas Pier or on exposed segments of Project pipelines.

*Caulerpa taxifolia* is an invasive alga with bright green, feathery, fern-like fronds that is native to tropical waters and has been a nuisance in southern California harbors. It can form dense mats and grow up to three inches per week, displacing native aquatic plants and animals. *Caulerpa* has the potential to significantly reduce the native diversity and abundance of marine algae and animals once it has invaded. *Caulerpa taxifolia* can grow in shallow coastal lagoons as well as in deeper ocean waters, possibly to depths of greater than 150 feet (nearly 50 meters). Prior to offshore decommissioning activities, focused marine biological surveys will be completed to determine the presence or absence of *Caulerpa* within the offshore the Project site in accordance with the standard resource agency requirements.

#### **4.3 WILDLIFE CORRIDORS**

Multiple species of cetaceans (whales and dolphins,), marine turtles, and pinnipeds (seals and sea lions) have been recorded within the State waters offshore Santa Barbara County. Most of the species can occur for long durations within the greater Project region, although seasonal abundances of these taxa vary; pinnipeds and some dolphins are year-round residents. For example, Pacific harbor seals and California sea lions are year-round residents within the study area and utilized several beaches, rocky headlands, as well as floating docks and pier loading decks as haul-out areas.

Other marine species are migratory, such as the gray whale (*Eschrichtius robustus*), or seasonal, such as the humpback whales (*Megaptera novaeangliae*) and are more abundant during specific months. Large, baleen whales are known to spend the summer months feeding in northern latitudes building up fat stores to sustain them through the winter and then migrating to warmer, sheltered waters in Baja California, Mexico, Hawaii, and/or Central America for calving and breeding during winter months. Large baleen whales may be present in the study area during their migrations through the Santa Barbara Channel in areas where convergence zone produce large aggregations of prey, such as krill, small schooling fish, and squid. There are no known cetacean breeding areas offshore California; however, there are several Biologically Important Areas (BIAs) for blue and humpback whales offshore of the Project area, which are based on known areas for high-concentration of feeding animals. BIAs for gray whales are based on their migratory corridor as they transit between primary feeding areas located in northern latitudes and breeding areas offshore Mexico (Calambokidis et al., 2015). The BIAs are primarily centered along areas near the continental shelf edge in waters that are deeper than the Project area. Whales are at their highest densities in these areas from June to October when prey species present and water temperatures are favorable.

Blue and Humpback whale feeding BIAs are located within the Santa Barbara Channel and around San Miguel Island. Blue whales are seasonally more likely to occur in the Project area and within the greater Santa Barbara Channel between June and October, while Humpback whales are seasonally more likely to occur between March and September (Calambokidis, 2015).

Gray whale migration BIAs are present along the entire coast of California. The migration corridor used by most gray whales is within 6 miles (10 kilometers) of the coast, including the Channel Islands, and those whales with calves will migrate closer to the coast during their

Northbound transit (Calambokidis et al., 2015). Gray whales can be seasonally present in the Project area during their southern migration from October to March and then again from late January to July, peaking in April.

In addition to the regional convergence zones that provide coastal upwelling and foraging opportunities, the California Channel Islands provide essential nesting and feeding grounds for 99 percent of breeding seabirds in Southern California (Argonne National Laboratory, 2019). The Project region supports a diverse assemblage of birds due to the area's unique location along the Pacific Flyway migration corridor. Over 400 species of bird are recorded migrating to the Channel Islands which provide essential feeding and nesting grounds for 99 percent of the breeding seabirds in Southern California, and important wintering areas and stop over points for shore birds (Argonne National Laboratory, 2019). The spring coastal seabird northern migration, which begins in late February, is in full swing by mid-February, with the peak movement of hundreds of individual birds occurring between late March and early May (Lehman, 2019). Pelagic species begin to arrive offshore in early May to mid-June, such as phalaropes, jaegers, several alcid, Black-footed Albatross, shearwaters, and storm-petrels. During early June the last of the shorebirds and coastal seabirds are still moving north. Southbound transient and migrant shorebirds begin to arrive in Santa Barbara County by late June and large numbers are present by the end of July; however, due to the region's temperate climate fall migration is quite protracted, with large numbers of migrants still present between mid-August and mid-November, as well. However, southbound transients pass slightly farther offshore and are harder to detect in large numbers from along the southern coast of Santa Barbara County.

The Project Site does not include areas around the Channel Islands; however, the Project region is known as a migration corridor between offshore foraging and island nesting areas.

#### **4.4 SENSITIVE HABITATS AND PROTECTED AREAS**

##### **4.4.1.1 Marine Protected Areas**

MPAs are afforded protection with the CDFW under the Marine Life Protection Act. The following designations are managed within the West Coast MPA network: State Marine Reserve (SMR), State Marine Conservation Area (SMCA), and State Marine Recreational Management Area (SMRMA). The closest MPA to the Project site is the Goleta Slough SMCA, which is located approximately 19 miles (mi) (30 kilometers [km]) west of the study area. Project activities will not occur within an MPA.

##### **4.4.1.2 Critical Habitats**

The study area is not within a designated critical habitat area for marine species. The nearest aquatic critical habitat is designated for southern California steelhead and is located approximately one mile west of the study area within Carpinteria Lagoon as well as Rincon Creek, located approximately two miles southeast of the study area (Hydrologic subarea 331534); however, Project activities will not occur within critical habitat areas (NMFS, 2005).

##### **4.4.1.3 Pinniped Haul-Outs**

The California south coast provides a diversity of haul-out locations such as rocky shorelines, sandy beaches, estuaries and mudflats. California sea lion and harbor seals have several haul-outs along beaches and on shallow, rocky outcroppings.

The Carpinteria Harbor Seal Rookery and Preserve (rookery) is located adjacent to the study area approximately 160 feet east of the Casitas Pier (Figure 4-1). The rookery is accessible to the public during low tides to the west from Carpinteria Beach State Park and from Rincon Point to the east. The bluffs overlooking the colony are on private property now owned by Chevron, who continues to allow public access for viewing of the harbor seal rookery. The next nearest mainland harbor seal rookery is at the Mugu Lagoon, at Pt. Mugu Naval Air Warfare Center in Ventura County, making the Carpinteria rookery one of a few known active harbor seal rookeries in Southern-central California.

In addition to year-round Federal and State protections, the City of Carpinteria closes the beach surrounding the rookery for 750 feet (230 meters) to the east and west of the colony from December 1 through May 31 of each year to protect breeding seals and seal pups. Public access and projects related to oil field operations are not allowed on this part of the beach during the seasonal closure. In addition, waters out to 1,000 feet (305 meters) offshore from the closed beach area is restricted to personalized watercraft; however, offshore oil-field related crew and supply vessels are exempt from this law. In addition to the City legislation, the Coastal Land Use Plan for Santa Barbara County includes marine mammal haul-out and pupping grounds as environmentally sensitive habitat areas (ESHA).

The local harbor seal population has been monitored and counted on annual basis since 1982 (MRS, 2008). In addition, the Carpinteria Seal Watch volunteers provide counts on a daily basis during the harbor seal breeding season (end of January to late-May). Due in large part to the beach closure ordinance and the efforts of the Seal Watch volunteers, the local breeding population has continued to expand from 13 seals in 1977 to a maximum of 240 seals (adults and pups) recorded in May 2017 (MRS, 2008; Carpinteria Seal Watch, 2021). However, these numbers are potentially underestimating the overall local population given that the best time to assess population numbers is during molting season in the summer and fall, when the greatest number of animals haul-out (MRS, 2008). Since the beach is open to the public during the molting season, this rookery is largely abandoned in the summer and fall, which will correspond to when the proposed beach and offshore Project activities will occur. The most recent State-wide count of harbor seals was conducted in 2012 and estimated there are 27,348 seals and that the population has been stable since 2009 but decreased since counts in 2004.



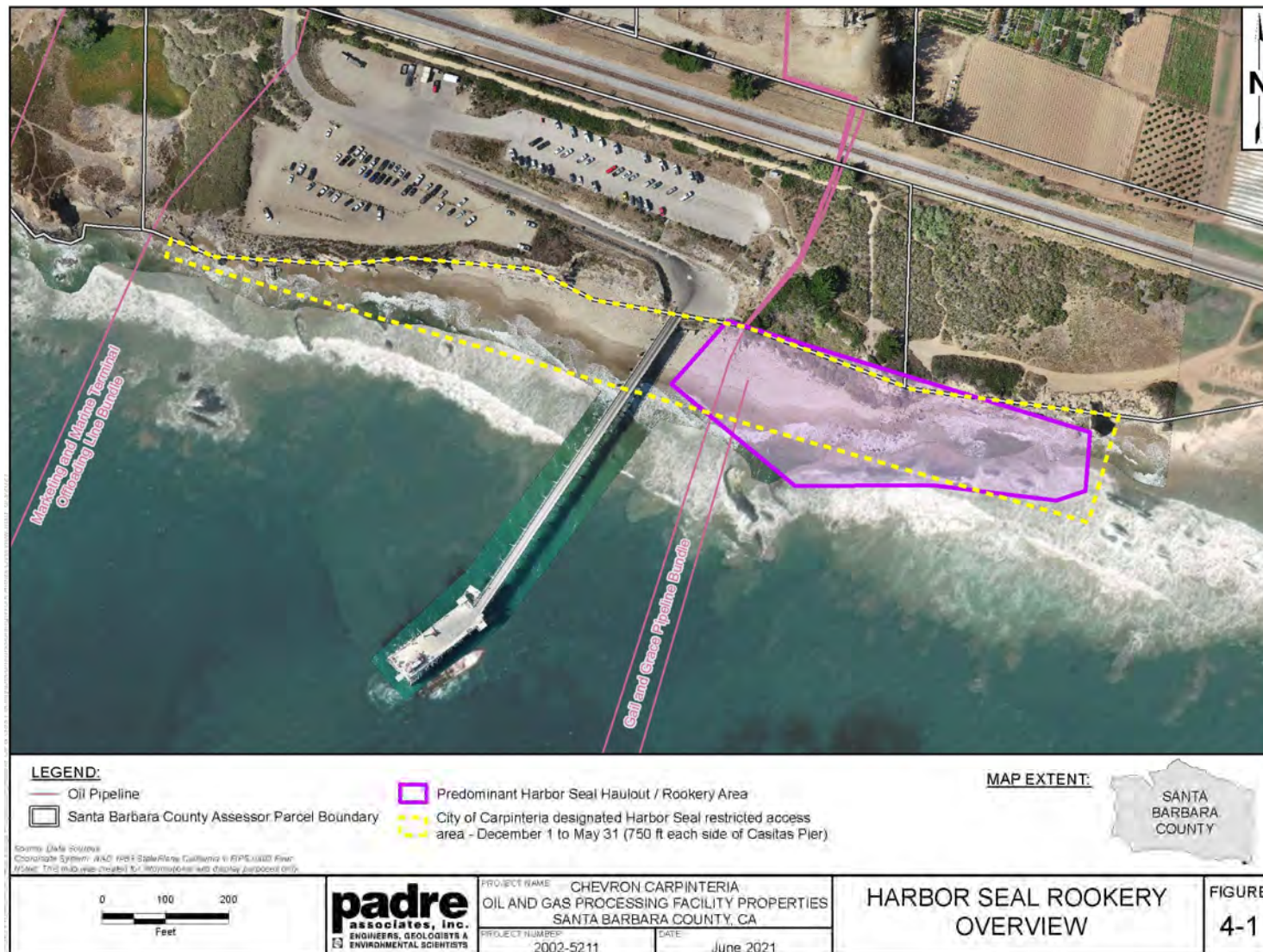


Figure 4-1. Harbor Seal Rookery Overview

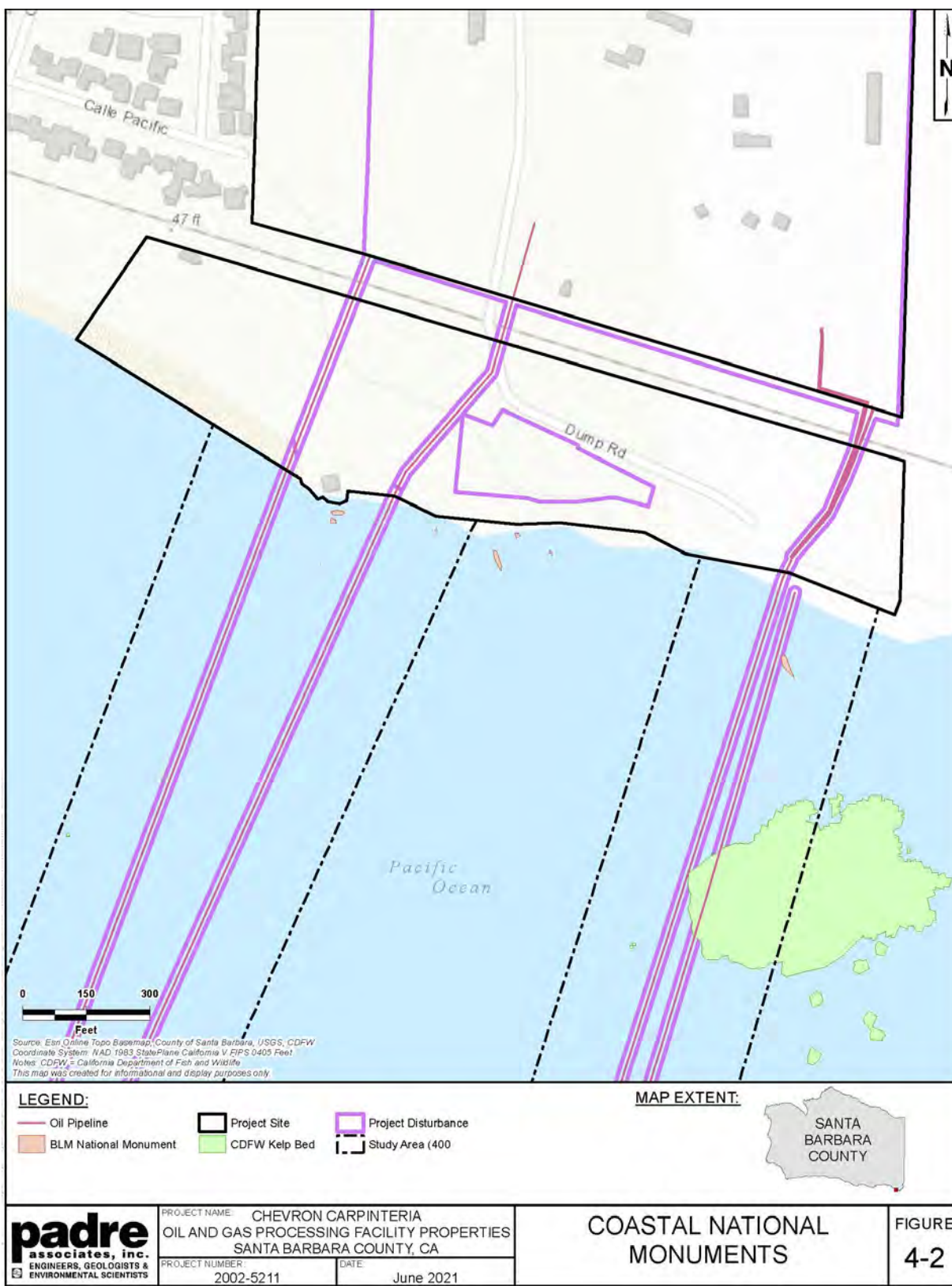
#### 4.4.1.4 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) defined essential fish habitat (EFH) as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” According to the NMFS, EFH can include sediment, hard bottom, underwater structures, and associated biological communities (PFMC, 2005). Section 303, subdivision (a)(7) of the MSA requires fishery management councils to identify EFH. EFH that is judged to be particularly important to the long-term productivity of populations of one or more managed species, or to be particularly vulnerable to degradation, should be identified as habitat areas of particular concern (HAPC).

Based on the proposed activities and the assessment of existing habitats, only the adjacent kelp beds within the eastern side of the study area represent essential habitat for managed species (see inset on Figure 2-1). By avoiding these features, the impacts related to removal of the pipelines and associated diver activities are not considered significant impact to the EFH of any of the managed species that could occur within the area. There are no HAPCs designated for highly migratory or coastal pelagic species; and there will be no impacts to EFH for those species. Offshore decommissioning activities will be limited to narrow corridors and distinct anchor points within a sedimentary or sandy seafloor. The sedimentary bottom will be disturbed only during removal activities and Project vessels will not anchor in hard bottom habitat or within areas of sensitive resources. Refer to Appendix C4 - Essential Fish Habitat for a detailed analysis of EFH within the study area.

#### 4.4.1.5 California Coastal National Monument

The California Coastal National Monument managed by the Bureau of Land Management (BLM) provides unique habitat for marine-dependent species on more than 20,000 rocks, islands, exposed reefs, and pinnacles, as well as 7,924 acres of public land at six onshore units: Trinidad Head, Waluph-Lighthouse Ranch, Lost Coast Headlands, Point Arena-Stornetta, Cotoni-Coast Daires, and Piedras Blancas. The rocky headlands within the California Coastal National Monument provide foraging and roosting areas, nesting habitat for breeding seabirds and haul-outs for marine mammals. The offshore rocks included in the Monument are those exposed above mean high tide within 12 nautical miles of the California mainland. Approximately seven rock features of Monument land, are present within the study area (Figure 4-2). The Monument rock features partially correspond with the protected harbor seal haul-out and rookery and intertidal habitat located within the surf zone. Monument lands will be avoided and will not be disturbed or altered during Project decommissioning activities.



**Figure 4-2. Coastal National Monument in Study Area**



#### 4.5 SPECIAL-STATUS SPECIES

For the purposes of this Study, a special-status species is a plant or animal species that is:

- Listed as endangered, threatened, or a candidate species under the Federal Endangered Species Act (FESA);
- Listed as endangered, threatened, or a candidate species under the California Endangered Species Act (CESA);
- Listed as a species of special concern by the CDFW;
- Marine mammal species afforded protection by National Marine Fisheries Service (NMFS) under the Marine Mammal Protection Act (MMPA);
- A species that would occur in Habitat Areas of Particular Concern (HAPC) within Essential Fish Habitat (EFH); and/or
- Considered rare, threatened, or endangered under California Environmental Quality Act (CEQA) Guidelines 15380(d) as the species' survival is in jeopardy due to loss or change in habitat.

Based on the literature review and species lists obtained from USFWS (IPaC Trust Resource Report) (Consultation code: 08EVEN00-2021-SLI-0413) and from NMFS (NMFS, 2021) for the Carpinteria quadrangle, a list of special-status species that have been reported within a five-mile radius surrounding the Project site has been compiled. Special-status species with occurrences within five miles of the site that were considered for potential occurrence on the Project site are listed in Table 4-1. Table 4-1 also includes rationale for why certain species were considered unlikely to occur or absent from the study area.

An analysis of the likelihood of occurrence for each species was conducted on the basis of species ranges, previous observations, contemporary sightings, and presence of suitable habitat elements. The Project may be located outside of the known range of some species, or within the geographic range for a certain species, but suitable habitat, such as nesting, migrating corridors or deep-water habitats are absent from the study area.



**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>PLANTS</b>				
<i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Salt Marsh Bird's-beak	FE	Marshes and swamps, coastal dunes, limited to the higher zones of salt marsh habitat.	<b>Absent.</b> No suitable habitat present.
<i>Phyllospadix</i> spp.	Surf grass	HAPC	Intertidal rocky substrate in areas with turbulent surf.	<b>Present.</b> Species observed on intertidal rocks within study area.
<i>Zostera marina</i> and <i>Zostera pacifica</i>	Eelgrass	HAPC	Soft or sandy sheltered seafloor typically in shallow bays or estuaries 0.5 ft to 12 feet (0.1 to 3.7 meters) ( <i>Zostera marina</i> ) and subtidal habitats along protected coastlines ( <i>Zostera pacifica</i> ) from 13 to 56 feet (4 to 17 meters).	<b>Moderate.</b> Suitable habitat occurs within study area. Nearest recorded bed occurs in the Ventura Marina, approximately 17 miles southeast of the study area (Sherman and DeBruyckere, 2018).
<b>INVERTEBRATES</b>				
<i>Haliotis cracherodii</i>	Black abalone	FE	Intertidal and subtidal habitats from upper intertidal to 20 feet (6 meters) depth between Point Arena, California to Bahia Tortugas, Mexico. Most commonly observed in complex habitats with deep crevices and drift macroalgae.	<b>Low.</b> Suitable habitat is patchy within study area. Nearest occurrence is located at Coal Oil Point Reserve, approximately 21 miles west of the study area (MARINE, 2021).
<i>Haliotis sorenseni</i>	White abalone	FE	Low relief, rock reefs or boulder habitat surrounded by sand between 98 and 196-foot (30 and 60-meter) depths.	<b>Low.</b> Lack of suitable habitat within preferred depths within study area. Patchy habitat and small populations are present along Santa Barbara coasts; however, exact occurrence location information is not available.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>FISH</b>				
<i>Acipenser medirostris</i>	Green sturgeon – Southern DPS	FT, CSC	Anadromous fish species found in near shore marine and estuarine environments from Alaska to Baja California, Mexico. Juveniles have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin Rivers. Green sturgeon depend on large rivers to spawn, typically in deep pools in large turbulent mainstem rivers. Spawning is documented in Sacramento River, but little is known about specific spawning locations.	<b>Low.</b> The Project is outside of the species' known spawning range. A small number of green sturgeons have been historically reported from the southern California coast. A mature green sturgeon was reported to be caught near Dana Point, Orange County in 1978, but there are no recent observation of green sturgeon within the study area.
<i>Oncorhynchus mykiss</i>	Southern California steelhead	FE	Marine dispersal and rearing habitats consist of nearshore vegetative cover for shelter and prey base near natal rivers/streams.	<b>Low.</b> Minimal suitable dispersal habitat present in nearshore study area. Historically present in Carpinteria and Rincon Creeks, approximately one to two miles from the study area, respectively.
<i>Eucyclogobius newberri</i>	Tidewater goby	FT	Lagoons and estuaries where water salinity is less than 12 parts per million and water depth between 3 and 9 feet (one and 3 meters) deep. Marine dispersal is rare and species has no dependency on marine habitats.	<b>Absent.</b> No suitable habitat present in study area.
<i>Sebastes paucispinis</i>	Bocaccio	FE (Puget Sound/Georgi a Basin DPS), CSC	Shallow water to over 1,000 ft (305 m) deep, over rocky-reefs and soft bottom habitats, but there is strong site fidelity to rocky bottoms and outcroppings	<b>High.</b> Suitable habitat areas of exposed pipeline, at deep rock reefs or dispersing through the offshore Project site. Bocaccio are commonly observed beneath Platforms Gail and Grace. (Love et al., 2012).

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>REPTILES</b>				
<i>Chelonia mydas</i>	Green sea turtle	FT	Nest at high energy beaches on Ascension Island, Aves Island, Costa Rica and Florida in the U.S. Utilize pelagic convergence zones as juveniles and shallow coastal zones as adults. Small populations inhabit southern San Diego Bay and Long Beach/Seal Beach harbors in Southern California.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Green turtles are rarely observed north of Port of Long Beach in California.
<i>Caretta caretta</i>	Loggerhead sea turtle	FT	Inhabit tropical and temperate waters along continental shelves and estuaries. Rarely observed in Southern California. Nests along coasts of Florida up to North Carolina.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Loggerhead turtles are rarely observed north of San Diego.
<i>Lepidochelys olivacea</i>	Olive Ridley sea turtle	FT	Oceanic and neritic zone migrations in eastern Pacific. Rarely observed along the southcentral coast of California. Nesting from Sonora, Mexico to Columbia and the Galapagos Islands in large arribadas.	<b>Low.</b> No suitable nesting or foraging habitat present. Potential migration corridor in offshore study area. Olive Ridley turtles are rarely observed north of San Diego.
<i>Dermochelys coriacea</i>	Leatherback sea turtle	FE	Western Pacific leatherbacks nest in Indonesia and Papua New Guinea and migrate to California central coast following prey jellyfish and sea nettles. Observed offshore central California coast May through December.	<b>Low.</b> No suitable nesting habitat present. Potential migration and foraging opportunities based on prey availability within study area; however, leatherback turtles are rarely observed offshore Santa Barbara County.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<b>BIRDS</b>				
<i>Phoebastria (=Diomedea) albatrus</i>	Short-tail albatross	FE, CSC	Breeding colony occurs on Torishima Island off Japan. Non-breeding population utilized pelagic habitat along Pacific Rim to Gulf of Alaska. Primarily juveniles will use California coastal waters to feed on squid, crustaceans, and fish.	<b>Low.</b> Breeding habitat does not occur in study area. Low potential for juvenile birds to occur in study area during fall and early winter (Argonne National Lab, 2019).
<i>Brachyramphus marmoratus</i>	Marbled murrelet	FT, SE	Nest in old growth forests in San Francisco area and Pacific Northwest. Forage in nearshore marine habitats on pelagic fish and invertebrates.	<b>Low.</b> Potential nearshore foraging habitat present during late summer/fall migration. Nesting habitat is not present in the study area.
<i>Synthliboramphus scrippsi</i>	Scripps's Murrelet	ST	Pelagic birds that nest on islands in southern California including San Miguel, Santa Cruz, Anacapa, Santa Catalina, San Clemente, and Santa Barbara island. Feed offshore on schooling fish and zooplankton in ocean fronts where prey aggregates.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.
<i>Oceanodroma homochroa</i>	Ashy Storm Petrel	CSC	Pelagic; feed at night on cephalopods, crustaceans, and small fish at waters surface. Nests on South Farallon, Santa Barbara, Prince, and Santa Cruz Islands.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.



**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Oceanodroma melania</i>	Black storm petrel	CSC	Pelagic; forage over open water for larval spiny lobster, cephalopods, small fish and crustaceans. Nests on Santa Barbara Island and Sutil Island.	<b>High.</b> Suitable foraging and migrating habitat present in study area. Nesting habitat is not present in study area.
<i>Sterna antillarum browni</i>	California least tern	FT	Breeds on sandy beaches with minimal vegetation close to estuaries and embayments. Nearest breeding colony is located at McGrath Beach, approximately 17 miles south of the study area.	<b>Moderate.</b> Potential nearshore foraging habitat present during early spring migration. Nesting habitat is not present in the study area.
<i>Charadrius nivosus nivosus</i>	Western snowy plover	FT, CSC	Nests above the drift zone in sandy depressions on dune-backed, sparsely vegetated beaches. Forages for invertebrates from the swash zone to the macrophyte wrack line, on salt flats and along edges of salt marshes and salt ponds.	<b>Present.</b> Species observed during non-breeding season (fall and winter) on beaches in study area. Suitable nesting habitat is not present in study area.
<b>MAMMALS</b>				
<i>Delphinus capensis</i>	Long-beaked common dolphin	MMPA	Pelagic; found in large pods (100 to 500 individuals) in shallow, tropical, subtropical, and warmer temperate waters within 50 to 100 miles of the coast and along the continental shelf.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Delphinus delphis</i>	Short-beaked common dolphin	MMPA	Pelagic; found in large groups up to thousands in cool temperate water along continental slope in waters 650 to 6,500 feet deep, but in California are common from coast to 300 miles offshore.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.
<i>Tursiops truncatus</i>	Bottlenose dolphin	MMPA	Coastal and Pelagic; circumglobally temperate and tropical waters in harbors, bays, estuaries, as well as nearshore coastal waters, and deeper waters over the continental shelf.	<b>High.</b> Suitable foraging habitat present in offshore study area within nearshore water depths. Commonly observed in surf zone offshore Santa Barbara County and in the Santa Barbara Channel.
<i>Grampus griseus</i>	Risso's dolphin	MMPA	Pelagic; prefer deeper water (3,300 feet) but can be found feeding around continental shelf following primary prey, squid.	<b>High.</b> Suitable foraging habitat present in offshore study area within deeper water depths. Commonly observed in the Santa Barbara Channel.
<i>Balaenoptera musculus</i>	Blue whale	FE	Pelagic; Inhabit broad areas throughout the eastern North Pacific. Concentrations of blue whales have been documented feeding off California each summer and fall.	<b>Moderate.</b> Migration habitat is present offshore study area. Blue whales are commonly observed outside the study area in deeper waters, foraging around oil and gas platforms.
<i>Eschrichtius robustus</i>	California gray whale	MMPA	Coastal and Pelagic; migrate through coastal shallow waters in fall and early spring. Breed in warm, shallow lagoons in Baja California. Feed in shallow softbottom habitats on benthic and epibenthic invertebrates by filtering sediments.	<b>High.</b> Migration corridors and suitable foraging habitat located in study area. Most likely to be present in study area mid-February through May. Breeding grounds are not present within study area.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Megaptera novaeangliae</i>	Humpback whale	FE (Central America DPS) FT (Mexico DPS) <sup>3</sup>	Coastal; feed in convergence zones where aggregations of krill occur. Populations off California migrate from Mexico DPS and Central America DPS to feed during summer and fall.	<b>High.</b> Suitable migration and foraging habitat are present in offshore and nearshore study area. Commonly observed offshore Santa Barbara County and in Santa Barbara Channel during summer and fall.
<i>Balaenoptera acutorostrata</i>	Minke whale	MMPA	Coastal and pelagic; prefer temperate to boreal waters but are found in tropical and subtropical areas. Minke whales in California/Oregon/Washington are considered residents that do not migrate and establish home ranges. Feed on schools of small fish, crustaceans, and plankton.	<b>High.</b> Suitable foraging habitat is present in offshore and nearshore study area. Commonly observed offshore Santa Barbara County and in Santa Barbara Channel during summer and fall.
<i>Balaenoptera physalus</i>	Fin whale	FE	Pelagic migrations from Arctic and Antarctic feeding areas in summer to tropical breeding and calving areas in the winter.	<b>Low.</b> Suitable migration and foraging water depths are not present within study area. Fin whales are observed west of the Channel Islands.
<i>Eubalaena glacialis</i>	Northern right whale	FE	Mostly occur in central North Pacific and Bering sea. Spend summers in far northern feeding grounds and migrate south to warmer water in southern California.	<b>Low.</b> Species rarely observed offshore Santa Barbara County. Migration routes/patterns unknown. Observations have been recorded in southern California during winter months.
<i>Physeter macrocephalus</i>	Sperm whale	FE	Offshore deep waters, with highest abundance off California from April to mid-June and from August to mid-November.	<b>Low.</b> Suitable migrating and foraging water depths are not present in study area. Sperm whales are occasionally observed west of Channel Islands.

**Table 4-3. Special-Status Species Occurring Within Five Miles of the Offshore Study Area and Considered for Potential Occurrence in the Vicinity of the Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Balaenoptera borealis</i>	Sei whale	FE	Offshore deep waters away from the coastline. Unpredictable distribution. Breeding areas unknown.	<b>Low.</b> Suitable foraging water depths are not present in the study area. Rarely observed offshore California. Migration patterns and breeding areas are not well understood.
<i>Orcinus orca</i>	Southern resident Killer Whale	FE	Southern resident killer whale stock consists of a small population off British Columbia, Washington and Oregon. Forage widely along the outer coast of the North Pacific where they follow chinook salmon runs as well as inland waters of the Puget Sound in spring and summer.	<b>Low.</b> Study area is outside of the range of federally endangered Southern Resident killer whale DPS.
	West Coast Transient killer whales	MMPA	The West Coast Transient killer whales can be observed in offshore Monterey Bay from April through June feeding on marine mammals and migrating Gray Whale calves. This stock is not a federally listed species.	<b>Moderate:</b> Suitable migrating and foraging habitat for west coast transient killer whale occurs in study area. Sighting of transient killer whales are rare but are occasionally observed near Channel Islands.
<i>Zalophus californianus</i>	California sea lion	MMPA	Coastal and beach areas; feed in coastal areas and influenced by anthropogenic structures and fishing activity. Prefer sandy beaches for haul-out or rocky coves for breeding.	<b>High.</b> Suitable foraging and haul-out habitat is present in study area. The study area does not support any known rookeries.
<i>Phoca vitulina richardsi</i>	Pacific harbor seal	MMPA	Coastal and beach areas; temperate and coastal habitats within 15 to 31 miles of their natal areas. Perform shallow and deep dives for fish, shellfish, and crustaceans.	<b>Present.</b> Rookery and haul-out site present in study area on east side of Casitas Pier, Carpinteria Beach.



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Scientific Name	Common Name	Status <sup>1,2</sup>	Habitat	Probability of Occurrence
<i>Arctocephalus townsendi</i>	Guadalupe fur seal	FT	Offshore southern California and the Pacific Coast of Mexico. Breed on coastal rocky habitats and caves of Guadalupe Island, Mexico. Recently, few pups have been born on San Miguel Island.	<b>Low.</b> Suitable haul-out and rookery habitat is not present in study area and non-breeding season distribution is not well understood. Rare strandings of immature Guadalupe fur seal can occur on beaches between California and Washington states.
<i>Callorhinus ursinus</i>	Northern fur seal	MMPA	Pelagic and coastal; spend most of the year in the ocean. Nocturnal and solitary species. Breeds on rocky and sand beaches of San Miguel Island. May migrate north during summer or some animals are residents around San Miguel Island.	<b>Moderate.</b> Suitable haul-out and rookery habitat is present in study area; however, fur seals have not been observed utilizing mainland habitats. Potential foraging habitat available in offshore study area.
<i>Enhydra lutris nereis</i>	Southern sea otter	FT	Coastal; forage and breed in shallow coastal waters associated with giant kelp beds ( <i>Macrocystis</i> ) and bull kelp ( <i>Nerocystis</i> ). Feed on shallow water invertebrates and crustaceans. Current range extends from Pigeon Point to Gaviota Beach, northern Santa Barbara (Hatfield et al., 2019).	<b>Low.</b> Minimal suitable habitat present and study area is south of current known range.
<sup>1</sup> Status: FE = Federal Endangered FT = Federal Threatened FC = Federal Candidate SE = California State Endangered ST = California State Threatened			SC = California State Candidate FP = CDFW Fully Protected CSC = California Species of Special Concern BCC = USFWS Bird of Conservation Concern HAPC = Habitat Area of Particular Concern (HAPCs are defined as discrete subsets of EFH that provide important ecological functions and/or are especially vulnerable to degradation)	
<sup>2</sup> All marine mammals are Federally protected under the Marine Mammal Protection Act (MMPA).				
<sup>3</sup> Individuals from both the Central America and Mexico DPS are known to feed along the California coast.				

## **5.0 REGULATORY SETTING**

### **5.1 FEDERAL**

#### **5.1.1 Special-Status Species**

The Federal Endangered Species Act (FESA), administered by the USFWS and the NMFS, provides protection to species listed as Threatened (FT) or Endangered (FE), or proposed for listing as Threatened (PFT) or Endangered (PFE). The Services maintain lists of species that are neither formally listed nor proposed but could be listed in the future. These Federal candidate species (FC) include taxa for which substantial information on biological vulnerability and potential threats exists and are maintained in order to support the appropriateness of proposing to list the taxa as an endangered or threatened species. The FESA makes it unlawful to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect an endangered species, or to attempt to engage in any such conduct. Anyone violating the provisions of the ESA and regulations is subject to a fine and imprisonment. An “endangered species” is any species, which the Secretaries of the Department of the Interior and/or the Department of Commerce determine is in danger of extinction throughout all or a portion of its range. A “threatened species” is any species, which the Secretaries determine is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

The United States (U.S.) Marine Mammal Protection Act (MMPA) of 1972, amended 1994, protects all marine mammals, including cetaceans (whales, dolphins, and porpoises), pinnipeds (seals and sea lions), sirenians (manatees and dugongs), sea otters, and polar bears within the waters of the U.S. Specifically, the MMPA prohibits the intentional killing or harassment of these marine mammals; however, incidental harassment, with authorization from the appropriate federal agency, may be permitted. National Oceanic and Atmospheric Administration (NOAA) Fisheries (or National Marine Fisheries Service [NMFS]) is responsible for enforcing the MMPA.

#### **5.1.2 Essential Fish Habitat**

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act protects Essential Fish Habitat (EFH) which is defined as “...those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity.” “Waters,” as used in this definition, are defined to include “aquatic areas and their associated physical, chemical, and biological properties that are used by fish.” These may include “...areas historically used by fish where appropriate; ‘substrate’ to include sediment, hard bottom, structures underlying the waters, and associated biological communities.” “Necessary” means, “the habitat required to support a sustainable fishery and the managed species’ contribution to a healthy ecosystem.” EFH is described as a subset of all habitats occupied by a species (NOAA, 1998).

The National Oceanic and Atmospheric Administration (NOAA) identifies four Habitats of Particular Concern (HAPC) within the southern central California area: estuaries, rocky reefs, seagrass beds, and kelp beds. HAPCs are defined as discrete subsets of EFH that provide important ecological functions and/or are especially vulnerable to degradation. The HAPC designation does not necessarily confer additional protection or restrictions upon an area, but it helps prioritize and focus conservation efforts.

### **5.1.3 Waters and Wetlands**

The Corps and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredge and fill material into jurisdictional “waters of the United States” (WoUS) and wetlands under Section 404 of the Clean Water Act.

The Corps is responsible for the issuance of permits for the placement of dredged or fill material into WoUS pursuant to Section 404 of the Clean Water Act (33 USC 1344). As defined by the Corps at 33 CFR 328.3(a)(3), WoUS are those waters that are used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide; tributaries and impoundments to such waters; interstate waters including interstate wetlands; and territorial seas.

The Corps asserts jurisdiction over traditional navigable waters (TNW) and adjacent wetlands. Under Corps and EPA regulations, wetlands are defined as: “those areas that are inundated or saturated by surface or groundwater 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, bogs, and similar areas.”

### **5.1.4 Section 10 of the Rivers and Harbors Act of 1899 (33USC 403)**

In addition to Section 404, the Corps regulates activities affecting “navigable waters of the United States” under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403). Navigable waters are defined as “...*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[a]).” Structures or work under or over a navigable WoUS is considered to have an impact on the navigable capacity of the waterbody (33 CFR 322.3[a]).

## **5.2 STATE**

### **5.2.1 Special-Status Species**

The CDFW administers a number of laws and programs designed to protect the State’s fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA) (Fish and Game Code Section 2050), which regulates the listing and take of State endangered (SE) and threatened species (ST). Under Section 2081 of CESA, CDFW may authorize an incidental take permit allowing the otherwise unlawful take of a SE or ST species.

CDFW maintains lists of Candidate-Endangered species (SCE) and Candidate-Threatened species (SCT). These candidate species are afforded the same level of protection as listed species. CDFW designates Species of Special Concern (SSC) that are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species but may be added to official lists in the future. The SSC list is intended by CDFW as a management tool for consideration in future land use decisions.

## **5.2.2 Marine Life Protection Act**

California adopted the Marine Life Protection Act (MLPA) in 1999 to provide improved protection for the diversity and abundance of California's ocean habitats through a network of marine protected areas (MPAs) with the goals of sustaining, conserving and protecting marine life populations; protecting marine ecosystems; improving recreational, educational and study opportunities provided by marine ecosystems; and protecting marine natural heritage. There is strong scientific evidence that marine protected areas restore and protect the natural diversity and abundance of marine life, and the structure, function and integrity of marine ecosystems.

## **5.3 LOCAL AND REGIONAL**

### **5.3.1 City of Carpinteria**

City of Carpinteria Municipal Code 12.24.090 closes the beach 750 feet (228 meters) east and west of the Carpinteria Harbor Seal rookery on Carpinteria Beach from December 1 through May 31 each year. The closure area also extends out to 1,000 feet (304 meters) offshore during this period.

### **5.3.2 County of Santa Barbara**

The County of Santa Barbara's Coastal Plan defines environmentally sensitive habitat areas as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

Habitats which are found in the County's coastal zone include: rare and endangered species habitats (as identified by the California Department of Fish and Wildlife), wetlands, streams, near shore reefs, tidepools, offshore rocks, native plant communities, dunes, kelp beds, harbor seal rookeries and hauling out grounds, and seabird roosting and nesting areas.

County policy 30230 (based on the California Coastal Act) requires that marine resources shall be maintained, enhanced, and, where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

County policy 30240(a) requires that environmentally sensitive habitat areas will be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas.



## 6.0 AVOIDANCE AND MINIMIZATION MEASURES

The proposed Project has the potential to cause temporary impacts to marine biological species and habitats during pipeline removal activities including impacts from vessel operations, and disturbances during breeding season, sensitive habitat disturbance, oil spills, and introduction of non-native aquatic species. To reduce the likelihood of significant impacts to marine biological resources, the following avoidance and minimization measures will be implemented by Chevron during beach, nearshore, and offshore Project activities.

**AMM 1: Environmental Awareness Training.** The approved biological monitor(s) will be responsible for conducting an environmental awareness training for all Project personnel to familiarize workers with surrounding common and special-status species and their habitats, applicable regulatory requirements, and measures that must be implemented to avoid or minimize potential impacts to biological resources.

**AMM 2: Delineation of Work Limits.** Prior to the start of the Project, beach decommissioning work area perimeters will be clearly flagged to ensure heavy equipment and vehicles stay within the permitted disturbance area, minimizing footprints to the extent necessary for equipment staging and activity, and to notify the public to avoid the active work zone. Signage will be posted on each sides of the active work zone alerting pedestrians of the hazards. Natural areas outside of the work zone shall not be disturbed. Designated equipment staging and fueling areas shall also be delineated at this time.

**AMM 3: Marine Wildlife Contingency Plan Implementation.** A Project Marine Wildlife Contingency Plan (MWCP) will be implemented during all offshore Project activities. A Marine Wildlife Monitor (MWM) shall be present on the offshore Project vessel and within the Beach and Offshore Operational Areas to monitor designated avoidance zones and have the authority to halt Project activities that may impact marine wildlife.

**AMM 4. Harbor Seal Monitoring and Protection Plan.** The Project Harbor Seal Monitoring and Protection Plan (Appendix C5) will be implemented during decommissioning activities on the bluff/beach and surf zone areas to reduce disturbances to harbor seals in the area. The Plan will include scheduling bluff/beach and surf zone project activities outside of the harbor seal breeding season and beach closure period from December 1 through May 31.

**AMM 5: Pre-Decommissioning Marine Biological Dive Surveys.** No more than 90 days prior to commencement of offshore activities, Chevron will conduct a pre-decommissioning marine biological survey of the sensitive habitat areas adjacent to the nearshore pipeline corridors. If sensitive seagrass species are identified, anchor locations will be relocated to avoid impacts to these protected habitats and post-decommissioning surveys would be conducted to verify seagrass beds had not been impacted by Project-related activities. Adjustments to decommissioning methodologies in sensitive habitats may be made to reduce impacts to these areas. In addition, ROV or multi-beam geophysical surveys will be conducted at each anchor location to confirm the absence of hard-bottom habitat.

**AMM 6: Oil Spill Response and Contingency Plan Implementation.** An Oil Spill Response and Contingency Plan (OSRCP) will be implemented during all Project activities in the event of a release of oil or contaminants.

**AMM 7: Prevent Introduction of Non-Native Aquatic Species (NAS).** All Project vessels will be in compliance with California's state ballast management regulations.

## 7.0 REFERENCES

- Allen, S., J. Mortenson, and, S. Webb. 2011. *Field Guide to Marine Mammals of the Pacific Coast: Baja, California, Oregon, Washington, British Columbia*. University of California Press. Berkeley and Los Angeles, California.
- Argonne National Laboratory. 2019. Environmental Setting of the Southern California OCS Planning Area. US Department of the Interior, Bureau of Ocean Energy Management. OCS Report BOEM 2019-038. 215 p.
- Aqueos Corporation (Aqueos). 2019. Chevron Platform Gail to Grace/Grace to Shore External Subsea Pipeline Inspection Report. November 2019.
- Bonnell, M.L., and M.D. Dailey. 1993. *Ecology of the Southern California Bight: A Synthesis and Interpretation*, Berkeley, CA: University of California Press.
- Bonnell, M.L., R.G. Ford. 1987. *California sea lion distribution: A statistical analysis of aerial transect data*, J. Wildl. Manage, 51(1):13-20.
- Calambokidis, J., G.H. Steiger, C. Curtice, J. Harrison, M.C. Ferguson, E. Becker, M. DeAngelis, and S.M Van Parijs. 2015. Biologically Important Areas for Selected Cetaceans within U.S. Waters – West Coast Region. *Aquatic Mammals* 41(1), p. 39-53.
- California Department of Fish and Wildlife. 2021. MarineBIOS Marine and Coastal Data Viewer. Accessed: June 10, 2021. Website available at: <https://wildlife.ca.gov/Conservation/Marine/GIS/MarineBIOS>
- California Department of Fish and Wildlife (CDFW) California Interagency Wildlife Task Group (CWHR). 2014. CWHR version 9.0 personal computer program. Sacramento, CA.
- Carpinteria Seal Watch. 2021. Carpinteria Seal Water, Seal Counts. Website: <https://carpinteriasealwatch.org/about/>. Accessed: April 28, 2021.
- Carretta, J.V., K.A. Forney, E.M Oleson, D.W. Weller, A.R. Lang, J. Baker, M.M. Muto, B. Hanson, A.J. Orr, H. Huber, M.S. Lowry, J. Barlow, J.E. Moore, D. Lynch, L. Carwell, R.L. Brownell Jr. 2020. Draft U.S. Pacific Marine Mammal Stock Assessments: 2020. NOAA-TM-NMFS-SWFSC-XXX. Revised August 2020.
- Danos, A., J. Kelly, J. Chalfin, and J. DuBois. 2020. 2019 Field Season Summary for the Sturgeon Population Study. California Department of Fish and Wildlife Bay Delta Region (Stockton). January 2020.
- Dohl, T.P., R.C. Guess, M.L. Duman, and R.C. Helm. 1983. *Cetaceans of central and northern California, 1980-1983: Status, abundance, and distribution*, prepared for U.S. Department of the Interior, Minerals Management Service, Pacific OCS Region, OCS Study MMS 84-0045, 284 pp.
- Hatfield, B.B., Yee, J.L., Kenner, M.C., and Tomoleoni, J.A.. 2019. California sea otter (*Enhydra lutris nereis*) census results, spring 2019: U.S. Geological Survey Data Series 1118, 12 p., <https://doi.org/10.3133/ds1118>.
- Johnson, S.Y., Dartnell, P., Cochrane, G.R., Golden, N.E., Phillips, E.L., Ritchie, A.C., Kvitek, R.G., Greene, H.G., Endris, C.A., Seitz, G.G., Sliter, R.W., Erdey, M.D., Wong, F.L.,

- Gutierrez, C.I., Krigsman, L.M., Draut, A.E., and Hart, P.E. (S.Y. Johnson and S.A. Cochran, eds.). 2013, California State Waters Map Series—Offshore of Carpinteria, California: U.S. Geological Survey Scientific Investigations Map 3261, 42 p., 10 sheets, scale 1:24,000, <https://pubs.usgs.gov/sim/3261/>.
- Lehman, P. 2019. The Birds of Santa Barbara County, California. June 2019.
- Love, M.S. and M. M. Nishimoto. 2012. Completion Of Fish Assemblage Surveys Around Manmade Structures and Natural Reefs off California. BOEM OCS Study 2012-020 Marine Science Institute, University of California, Santa Barbara, California. BOEM Cooperative Agreement No.: M10AC2001.
- Milton, S, P. Lutz, and G. Shigenaka. 1984. Oil and Sea Turtles: Biology, Planning, and Response. Planning for Environmental Emergencies. NOAA's Ocean Service Office of Response and Restoration. 23 Aug. 2004. Web. 14 July 2010.
- Moyle, P.B., Foley, P.J., and Yoshiama, R.M. 1992. Status of Green Sturgeon *Accipenser medirostris* in California. Final Report submitted to National Marine Fisheries Service. University of California Davis.
- National Marine Fisheries Service. 2005. Designation of Critical Habitat for Seven Evolutionarily Significant Units of Pacific Salmon and Steelhead in California. FR Vol. 70, No. 170 September 2005.
- 2011. Green Sturgeon (*Acipenser medirostris*). Office of Protected Resources <http://www.nmfs.noaa.gov/pr/species/fish/greensturgeonhtm#documents>.
- 2012. Southern California Steelhead Recovery Plan. Southwest Region, Protected Resources Division, Long Beach, California.
- 2015. Status Review of the Green Turtle (*Chelonia mydas*) Under the Endangered Species Act. March 2015. NOAA-TM-NMFS-SWFSC-539.
- 2017. Rockfish Recovery Plan: Puget Sound / Georgia Basin yelloweye rockfish (*Sebastes ruberrimus*) and bocaccio (*Sebastes paucispinis*). National Marine Fisheries Service. Seattle, WA.
- 2018. Recovery Plan for the Southern Distinct Population Segment of North American Green Sturgeon (*Acipenser medirostris*). National Marine Fisheries Service West Coast Region California Central Valley Office, Sacramento, California.
- Padre, 2021. Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – Project Description. June 2021.
- Santa Barbara Channelkeeper. 2010. The Role of Eelgrass Beds As Fish and Invertebrate Habitat 2009-2010 Final Report.
- Sherman, K., and L.A. DeBruyckere. 2018. Eelgrass habitats on the U.S. West Coast. State of the Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent. A publication prepared by the Pacific Marine and Estuarine Fish Habitat Partnership for The Nature Conservancy. 67pp.
- Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate



conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency (USACE). 2015. Clean Water Rule: Definition of "Waters of the United States." Final Rule. Federal Register 80 (124): 37054-37127.

U.S. Fish and Wildlife Service (USFWS). 2009. Species Assessment and Listing Priority Assignment Form - Xantus's murrelet (*Synthliboramphus hypoleucus*). [http://ecos.fws.gov/docs/candforms\\_pdf/r8/B098\\_V01.pdf](http://ecos.fws.gov/docs/candforms_pdf/r8/B098_V01.pdf).

## **ATTACHMENT A**

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### **USFWS AND NMFS SPECIES LISTS**

## **Chevron Carpinteria Oil and Gas Processing Facilities Decommissioning Project**

Following is the copy/pasted results of the informal search of NMFS database to generate a list of species that may be present in the Carpinteria, California Quadrangle. Query performed on June 10, 2021.

Quad Name **Carpinteria**

Quad Number **34119-D5**

- **ESA Anadromous Fish**

SONCC Coho ESU (T) -  
CCC Coho ESU (E) -  
CC Chinook Salmon ESU (T) -  
CVSR Chinook Salmon ESU (T) -  
SRWR Chinook Salmon ESU (E) -  
NC Steelhead DPS (T) -  
CCC Steelhead DPS (T) -  
SCCC Steelhead DPS (T) -  
SC Steelhead DPS (E) - **X**  
CCV Steelhead DPS (T) -  
Eulachon (T) -  
sDPS Green Sturgeon (T) - **X**

- **ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -  
CCC Coho Critical Habitat -  
CC Chinook Salmon Critical Habitat -  
CVSR Chinook Salmon Critical Habitat -  
SRWR Chinook Salmon Critical Habitat -  
NC Steelhead Critical Habitat -  
CCC Steelhead Critical Habitat -  
SCCC Steelhead Critical Habitat -  
SC Steelhead Critical Habitat - **X**  
CCV Steelhead Critical Habitat -  
Eulachon Critical Habitat -  
sDPS Green Sturgeon Critical Habitat -



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Ventura Fish And Wildlife Office  
2493 Portola Road, Suite B  
Ventura, CA 93003-7726  
Phone: (805) 644-1766 Fax: (805) 644-3958



In Reply Refer To:

June 09, 2021

Consultation Code: 08EVEN00-2021-SLI-0413

Event Code: 08EVEN00-2021-E-01380

Project Name: Carpinteria Oil and Gas Processing Facilities Decommissioning Project -offshore component

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

#### To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project\*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve



conflicts with respect to threatened or endangered species or their critical habitat prior to a written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[\*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.]

Attachment(s):

- Official Species List

## Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Ventura Fish And Wildlife Office**

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

## Project Summary

Consultation Code: 08EVEN00-2021-SLI-0413

Event Code: 08EVEN00-2021-E-01380

Project Name: Carpinteria Oil and Gas Processing Facilities Decommissioning Project  
-offshore component

Project Type: OIL OR GAS

Project Description: Decommissioning and removal of surface and subsurface offshore facilities

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@34.3659627,-119.52806893151833,14z>



Counties: Santa Barbara County, California



## Endangered Species Act Species

There is a total of 16 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
California Condor <i>Gymnogyps californianus</i> Population: U.S.A. only, except where listed as an experimental population There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8193">https://ecos.fws.gov/ecp/species/8193</a>	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/8104">https://ecos.fws.gov/ecp/species/8104</a>	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/5945">https://ecos.fws.gov/ecp/species/5945</a>	Endangered
Light-footed Clapper Rail <i>Rallus longirostris levipes</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6035">https://ecos.fws.gov/ecp/species/6035</a>	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/4467">https://ecos.fws.gov/ecp/species/4467</a>	Threatened
Short-tailed Albatross <i>Phoebastria (=Diomedea) albatrus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/433">https://ecos.fws.gov/ecp/species/433</a>	Endangered
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened

## Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad <i>Anaxyrus californicus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/3762">https://ecos.fws.gov/ecp/species/3762</a>	Endangered
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Fishes

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/57">https://ecos.fws.gov/ecp/species/57</a>	Endangered

## Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened

## Flowering Plants

NAME	STATUS
Gambel's Watercress <i>Rorippa gambellii</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4201">https://ecos.fws.gov/ecp/species/4201</a>	Endangered
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/2229">https://ecos.fws.gov/ecp/species/2229</a>	Endangered
Salt Marsh Bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6447">https://ecos.fws.gov/ecp/species/6447</a>	Endangered
Ventura Marsh Milk-vetch <i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/1160">https://ecos.fws.gov/ecp/species/1160</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

- **ESA Marine Invertebrates**

Range Black Abalone (E) - **X**

Range White Abalone (E) - **X**

- **ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

- **ESA Sea Turtles**

East Pacific Green Sea Turtle (T) - **X**

Olive Ridley Sea Turtle (T/E) - **X**

Leatherback Sea Turtle (E) - **X**

North Pacific Loggerhead Sea Turtle (E) - **X**

- **ESA Whales**

Blue Whale (E) - **X**

Fin Whale (E) - **X**

Humpback Whale (E) - **X**

Southern Resident Killer Whale (E) - **X**

North Pacific Right Whale (E) - **X**

Sei Whale (E) - **X**

Sperm Whale (E) - **X**

- **ESA Pinnipeds**

Guadalupe Fur Seal (T) - **X**

Steller Sea Lion Critical Habitat -

- **Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH -

Groundfish EFH - **X**

Coastal Pelagics EFH - **X**

Highly Migratory Species EFH - **X**



- **MMPA Species (See list at left)**
- **ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office  
562-980-4000**

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

**ATTACHMENT B**

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**SITE PHOTOGRAPHS**



Photo 1. Study area on west side of Casitas Pier and Marketing and Marine Terminal Offloading line bundle (buried). Date: April 20, 2021, aspect east.



Photo 2. Study area on east side of Casitas Pier with Gail and Grace pipeline bundle (buried) and exposed concrete armament. Date: April 20, 2021, aspect west.





Photo 3. Casitas Pier and overview of harbor seal rookery on the east side of the Pier. Date: April 20, 2021, aspect southeast.



Photo 4. Overview of typical intertidal habitat dominated by mussels (*Mytilus* sp.) within study area. Date: April 20, 2021, aspect south.



## **Appendix C-6**

### **Carpinteria Harbor Seal Rookery Monitoring and Protection Plan**

# **CARPINTERIA HARBOR SEAL ROOKERY MONITORING AND PROTECTION PLAN**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**DECEMBER 2021**



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## **1.0 INTRODUCTION**

This Carpinteria Harbor Seal Monitoring and Protection Plan (Plan) has been prepared on behalf of Chevron U.S.A. (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery. This Plan outlines avoidance and minimization measures intended to reduce the potential for Project-related impacts on the harbor seals during temporary construction activities.

### **1.1 BEACH AND BLUFF PIPELINE DECOMMISSIONING SUMMARY**

The nearshore worksite contains two pipeline decommissioning areas (Figure 1-1). East of the Casitas Pier, the Platform Gail and Grace Pipeline Bundle includes a concrete encased 10-inch oil and 10-inch gas pipeline bundle which originate from Platforms Grace and Gail (formerly through Platform Hope). Additionally, a 10-inch idled oil pipeline from the former Platform Hope, is located on risers east of the Grace and Gail pipelines. The pipelines continue northward up the bluffs and through the Former Sandblast Area, then under the Union Pacific Railroad and into the Main Plant Area.

Additionally, the former Marketing and Marine Terminal Offloading Line Bundle is located west of the Casitas Pier. The Marketing and Marine Terminal mooring area supported two separate pipeline corridors from the onshore facilities which transported refined products from the Marketing Terminal and a separate crude oil line from the onshore Tank 861. The pipelines transect the beach and enter into a rock rip rap revetment below the edge of the bluff. The pipelines are buried within the bluff and leading into the Former Marketing Terminal Area.

#### **1.1.1 Gail and Grace Bundle Pipeline Decommissioning**

Beginning at the shoreward termination, in approximately 15 feet of water, the Gail and Grace pipeline bundle will be removed from the surf zone utilizing a combination of shore side construction crews and offshore dive crews. Surf zone and associated beach pipeline removal operations will be scheduled during seasonal work windows with the least amount of sand cover, avoiding the harbor seal rookery beach closure (December 1 through May 31st), and at extreme low tides when necessary, to facilitate safe recovery of each pipeline out to the mean low-low water (MLLW) line.

Working from the beach and the adjacent Casitas Pier, shore side crews will first have to remove the concrete armoring from the 10- -inch pipelines that run to Platform Gail and Grace. The concrete currently protects the pipelines from damage through the surf zone and up to the base of the bluff.



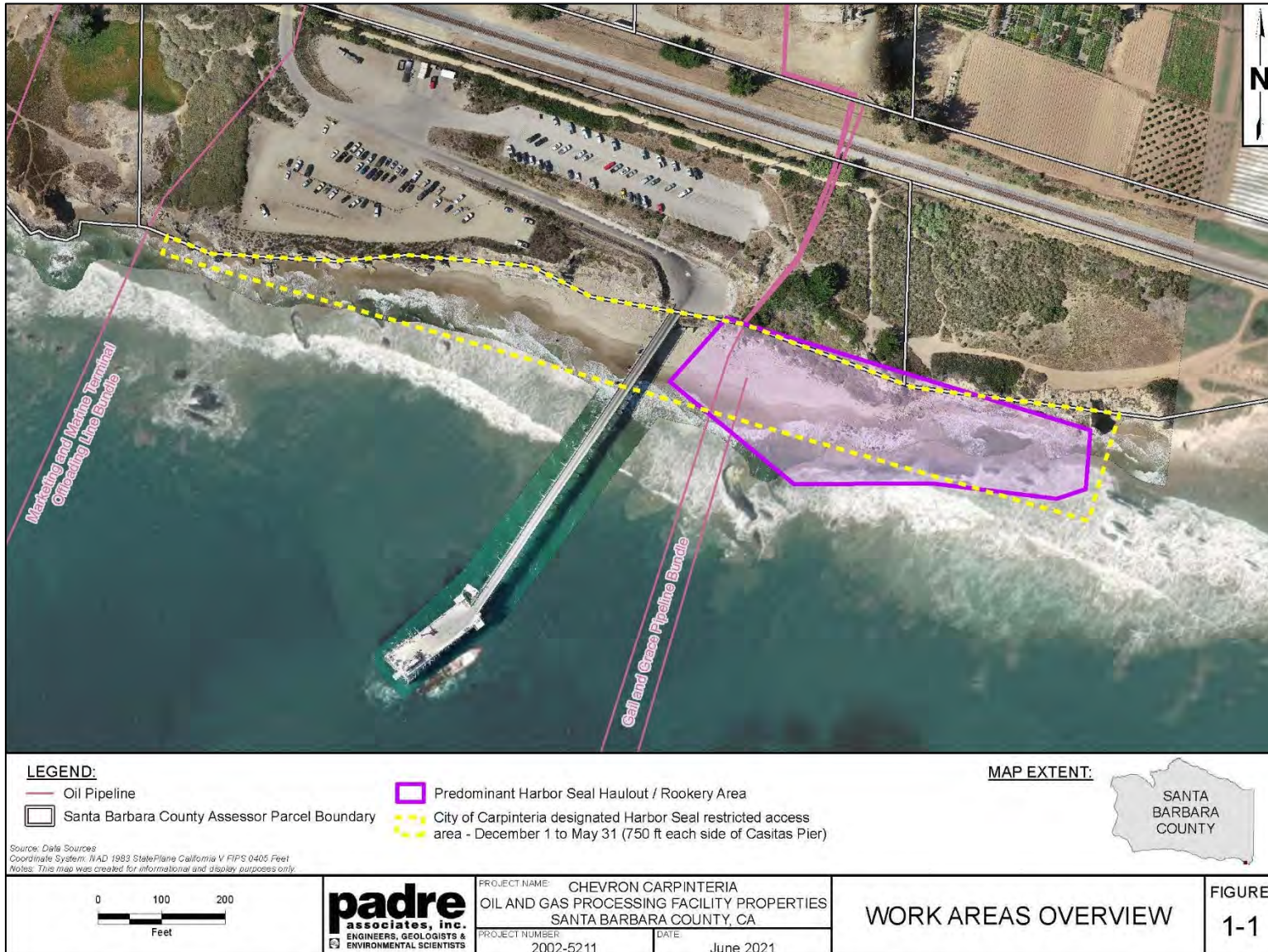


Figure 1-1. Site Location Map

Removal of the concrete armoring will require concrete saws and/or jack hammers and will be done with precision, in order to protect the pipelines underneath. As they are removed, pieces of concrete will be loaded into containers and lifted by the existing pier crane and transported to the asphalt staging area adjacent to the north end of the Casitas Pier for transport/disposal.

Pipelines will ideally be pulled from the surf zone onto an anchored derrick barge with dive support vessels stationed at a safe distance offshore. Divers will then locate the cut end of each pipeline and excavate as needed to prepare the pipe to be pulled offshore. Each nearshore pipeline will be attached to a pull winch or crane and lifted to the deck of the derrick barge.

The decommissioning of the Gail and Grace Bundle to the top of the bluff will be scheduled following the removal of the offshore and surf zone pipelines. All concrete armoring currently surrounding the Gail and Grace pipeline bundle up the bluff will be removed using similar methods as surf zone removal. Concrete pieces will be systematically cut, from the top of the bluff down, and placed into a container suspended from a crane, to be lifted to the staging area. Exposure and removal of the pipeline bundle through the bluff may require trenching techniques into the bluff face, dependent on bluff stability and depth of burial, to expose the pipelines and winch them to a safe location away from the bluff or into the adjacent asphalt staging area at the north end of the Casitas Pier, where they can be cut into disposable pieces and loaded into transport trucks.

The pipeline segments located across the Former Sand Blast Area and leading into the Onshore Processing Facility will be abandoned-in-place, with exception of the portion located beneath the Union Pacific Railroad right-of-way, which will be removed.

### **1.1.2 Marketing and Marine Terminal Offloading Line Bundle Pipeline Decommissioning**

The former Marketing and Marine Terminal Offloading Line Bundle pipeline segments will be removed by sectioning the pipeline on the seafloor and lifting the cut pipe segments to the deck of the barge one section at a time. The offshore segment removal work will be terminated at approximately the 15-foot bathymetric contour line.

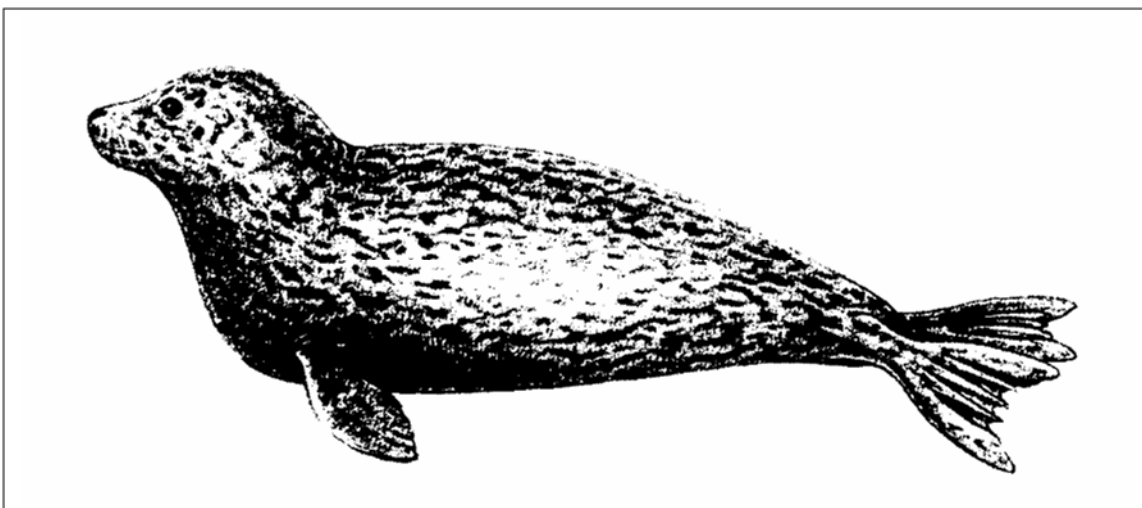
Beginning at the shoreline termination, the Marketing and Marine Terminal Offloading Line Bundle will be removed from the surf zone utilizing a combination of shore side construction crews and offshore dive crews. Surf zone removal operations will be scheduled during seasonal work windows with the least amount of sand cover and at extreme low tides to facilitate safe recovery of each pipeline out to the MLLW line. A derrick barge and dive support vessel will be mobilized and positioned at the offshore cut end of the pipelines. Due to shallow depths, the derrick barge will require an anchor-handling vessel to run all the vessels anchors to pre-determined anchor locations. Divers will then locate the previously cut end of each pipeline and excavate as needed to prepare the pipe to be pulled toward the offshore spread, similar to the Gail and Grace Bundle.

Working from the beach, shore side crews will expose each buried pipeline on the beach, if needed, from the shoreward extent of rip rap at the base of the bluffs to the MLLW line. Each pipe will be uncovered as far into the surf zone as safely practicable. The decommissioning of the pipelines within the bluff and vault along the top of the bluff will be scheduled following the removal of the offshore and surf zone pipelines as well as any pipeline segments that run south from the Project plant facilities toward the shore. The removal of pipelines from the bluff will require an excavator, positioned safely away from the bluff edge, to dig a trench to uncover buried segments

of pipe. In addition, all rip rap currently surrounding the 20-inch loading line and associated pipelines will be removed to expose the bluff face. Rip rap will be systematically removed up the bluff to extent necessary with an approved lifting and rigging plan, an excavator with a thumb and soft sling attachments, and loader positioned safely on the bluff. Once the pipelines are fully exposed in the bluff, they will be lifted or winched to a safe location away from the bluff where they can be cut again into disposable pieces.

## 2.0 CARPINTERIA HARBOR SEAL POPULATION AND REGULATIONS

The beach adjacent to the Gail and Grace Bundle Project Site is a documented Pacific harbor seal (*Phoca vitulina richardsii*) haul out area and rookery (Figure 2-1). This beach is one of four harbor seal rookeries in California and documentation suggests that harbor seals have used the site as a rookery for over 100 years MMCG (2002). Use of the area by harbor seals varies seasonally, with pupping predominately occurring between February and March. During the summer months, the area is used as a nighttime haul out. To protect the seals during haul-out and pupping periods, the City of Carpinteria closes the beach to the public from December 1st through May 31st. The beach is closed within 750 feet west and east of the rookery, as well as out to 1,000 feet offshore (Figure 2-1).



**Figure 2-1. Pacific Harbor Seal (Depiction)**

The Pacific harbor seal ranges from Cedros Island (Baja California) through the Aleutian Islands and to the Pribilof Islands. There are approximately 27,000 harbor seals along the California Coast (Carretta et al., 2015). Daugherty, 1985 and Yates, 1988 characterize the Pacific harbor seal as chunky-shaped, with a spotted coat, large eyes, and square muzzle; the front flippers are small, and the hind flippers are backward-pointing. Males, which can be up to six feet long and weigh over 300 pounds, are slightly larger than females. Pups wean within four to six weeks of birth and individuals of this species have been known to reach 40 years of age.

The Carpinteria harbor seal rookery is located adjacent to Casitas Pier, which operates daily in support of offshore oil and gas activities. The seals in the area are acclimated, to an extent, to regular human activity around the Pier. During previous repair and construction work around the rookery, harbor seals have been exposed to disturbances including vehicle and boat sounds, machinery, hammering or grinding on the pier, vibratory pile driving and crane activities, and concrete demolition. In addition, human disturbances around the rookery when the beach is open include people walking, jogging, fishing, intentional harassment by children or dogs (on and off leash), low-flying helicopters, and use of watercraft (kayaks, boat, and paddleboards) (California Coastal Commission, 2020).



Current reports indicate that approximately 100 to 150 adults and up to 60 pups can be found at the Carpinteria rookery in February and March (Carpinteria Seal Watch <https://carpinteriasealwatch.org/about/>). Table 2-1 below provides 2021 month counts from the rookery.

**Table 2-1. 2021 Seal Watch Totals**

Month	Week	High adult count	High pup count
<b>January</b>	Jan 1 - Jan 3	129	0
	Jan 4 - Jan 10	68	0
	Jan 11 - Jan 17	77	0
	Jan 18 - Jan 24	102	1
	Jan 25 – Jan 31	102	1
<b>February</b>	Feb 1 - Feb 7	87	2
	Feb 8 - Feb 14	92	3
	Feb 15 - Feb 21	92	10
	Feb 22 - Mar 28	91	27
<b>March</b>	Mar 1 - Mar 7	122	45
	Mar 8 - Mar 14	143	53
	Mar 15 - Mar 21	137	50+
	Mar 22 - Apr 28	153	59
<b>April</b>	Mar 29 – Apr 4	137	56
	Apr 5 – Apr 11	122	20+
	Apr 12 – Apr 18	182	10
	Apr 19 – Apr 25	169	2
<b>May</b>	Apr 26 – May 2	169	0
	May 3 – May 9	220	0
	May 10 – May 16	178	0

Harbor seals are a protected species under the Marine Mammal Protection Act of 1972 (MMPA). Under the requirements of the MMPA the take of protected marine mammals is prohibited. Take is defined “to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal.” Harassment is defined in the 1994 amendments to the MMPA as “...any act of pursuit, torment or annoyance...” and has two levels: Level A has the potential to injure a marine mammal or marine mammal stock, and Level B has the potential to disturb a marine mammal in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding or sheltering. Penalties for violating any provision of the MMPA range from \$10,000 to \$20,000 and imprisonment for no more than one year per incident.

### **3.0 POTENTIAL IMPACTS**

The Carpinteria harbor seal rookery is located approximately 270 feet from the east side of the Gail and Grace pipeline bundle and approximately 1,200 feet east of the Marketing and Marine Terminal Offloading Line Bundle beach and surf zone pipeline removal area(s). Project decommissioning activities, including removal of cement armaments, removal of rip rap, cutting of the pipe into sections and pulling of pipe sections offshore, have the potential to cause a significant disturbance to harbor seals if they are hauled-out on the beach during Project activities. Although no injury or mortality is expected to occur, even Project-related foot traffic on the beach may cause hauled-out harbor seals to startle and flush into the water, which could qualify as a Level B harassment as defined by National Marine Fisheries Service (NMFS) (disrupting behavioral patterns).

The proposed Project will require personnel and small equipment to access and temporarily utilize a portion of the beach. Project activities could result in noise from demolition and from the physical presence of workers and equipment in proximity to the rookery. Due to the sensitivity of hauled-out seals, particularly mother and newborn pups, protective measures will be required to reduce these potential impacts to the maximum extent feasible as described in Section 4.0 (Avoidance and Protection Measures).

#### 4.0 AVOIDANCE AND PROTECTION MEASURES

The Project would occur within the beach and nearshore areas of Casitas Pier. The decommissioning activities will be conducted by a work crew utilizing hand tools and potentially small equipment. Staging of equipment and trucks will occur within the paved parking area east of Casitas Pier. No trucks or equipment will be staged on the beach. Electric and air lines will be run, as needed, from the Project staging area to the immediate work area on the beach and removed each day following work activities. No tools or equipment will remain on the beach overnight.

Project activities will be scheduled during low tide windows and limited to daylight hours only to maximize visibility and ensure safety during repair work. In addition, a Marine Wildlife Monitor (MWM) will remain onsite during all work to ensure that activities are limited to the immediate work area. All Project activities will be conducted in accordance with standard Chevron best management practices (BMPs) and in accordance with all laws and regulations.

Given the biological sensitivity of the Project area, a number of marine wildlife protection measures have been incorporated by Chevron into the Project. These measures have been developed based upon protection measures adhered to during previous work activities in the Project area, as well as direct input from responsible agencies; including the National Marine Fisheries Service (NMFS,) California Coastal Commission (CCC), and City of Carpinteria, as well as input from the Carpinteria Seal Watch Organization. The following marine wildlife protection measures would be followed during the proposed Project activities:

- **Project Timing:** It will be a priority of the Project to schedule activities outside of the pupping season. However, there is the potential the proposed decommissioning Project activities will occur for a short period during the period that the beach is closed to the public. Project activities adjacent to the rookery during pupping season (December 1 through May 31) will be minimized to the maximum extent feasible to conduct pipeline decommissioning activities.
- **Carpinteria Seal Watch Coordination:** Given their extensive database of information regarding the local harbor seal population in this area, the Carpinteria Seal Watch organization will be notified prior to initiation of Project activities on the bluff or beach to best coordinate timing and initiation of work activities. One of the onsite marine mammal monitors will work directly with Seal Watch volunteers present at the overlook to coordinate direct observation of harbor seal activities during Project-related activities.
- **Pre-Project Notifications:** Once coordination with Carpinteria Seal Watch has been completed, Chevron will immediately notify Ms. Tina Fahy (NMFS) regarding upcoming work activities. Additionally, Chevron will notify Ms. Fahy at least 48 hours prior to initiation of bluff or beach Project activities and will include information on the location of mother/pups pairs in relationship to the work area. This notification will be copied to all other responsible agencies, including; but not limited to the California Coastal Commission, U.S. Army Corps of Engineers, Regional Water Quality Control Board, and the City of Carpinteria.

- **Project Personnel:** The number of on-beach personnel will be minimized. Work crews will access the work site to the west of the pier and approach the area adjacent to the foot of the bluff. A marine wildlife monitor will be present at all times during required work activities, including activities scheduled outside of pupping season (June 1 through November 30), until the surf zone and bluff pipeline removal has been completed and all equipment/personnel have left the area.
- **Equipment Storage:** Required equipment will be stored on the paved parking lot above the beach and away from the bluff edge.
- **Marine Wildlife Sensitivity Training:** Prior to the initiation of the Project, personnel will be given marine wildlife sensitivity training. This training will include specifics regarding Project restrictions, operational limits, and ingress/egress methodology. The crews will be instructed to wear neutral colored clothing, and to move slowly during ingress/egress as well as minimize hand gestures or signals during work activities to avoid startling the harbor seals.
- **Minimization of the Work Zone:** Project-related activities on the bluff and beach will be restricted to the minimum area necessary to conduct work.
- **Place a Screen Between the Work Area and Seal Rookery Area:** Due to its close proximity to the harbor seal rookery, Chevron would erect a temporary visual screen between the Gail and Grace pipeline bundle work area and seal rookery area to further reduce the potential for behavioral changes of nearby harbor seals. Installation of the visual screen would be considered if determined to be necessary during pupping season to mitigate visual impacts and conducted in coordination with Carpinteria Seal Watch and a qualified Marine Wildlife Observer. The screen would be approximately 8-feet high by 30-feet wide, would be maintained taut to avoid flapping or excessive movement due to wind or wave action, and would be positioned to screen the immediate Project area from view of the rookery area. The screen would be placed, maintained, and removed in a manner and at times that avoid disturbance to seal present on the beach; for example, placing it before first light on the first day of work and removing it after last light on the final day of work.
- **Minimization of Noise:** Communications between Project personnel will be kept to a minimum. Except in an emergency, no shouting will be allowed. Low volume radio transmissions will be used to reduce potential disturbance to the rookery. Any concrete demolition will be performed outside of the pupping season to minimize noise impacts to nursing seals. Additional noise dampening shields in addition to a temporary screen may be constructed around the work area to reduce the level of noise emitted during work.
- **Best Management Practices:** Repair activities will be performed with the implementation of all Best Management Practices (BMPs). No trash will be discarded on the beach and all trash will be secured in bins with lids. Any Project-generated debris will be removed from the beach and taken to an appropriate disposal facility.



- **Stop-Work Authority:** The on-site MWM will have the authority to stop all operations to avoid harassment of seals. Harassment is defined by the sudden flushing of seals into the water, potentially separating nursing cow and pup pairs, or any abnormal or aggressive behaviors. The monitor will record, photograph, and report compliance with the protective measures throughout the pipeline decommissioning activities.
- **In the Event of Interaction:** In the event of any signs of distress are noted during Project activities, the monitor will notify the construction supervisor and operations will immediately stop Project operations. The monitor will also contact a pre-determined contact at National Oceanic and Atmospheric Administration (NOAA) Fisheries and work activities will not resume until NOAA Fisheries has agreed with any proposed changes to the work procedures.

#### 4.1 NOTIFICATIONS

Chevron will notify applicable agencies, included NOAA Fisheries and California Coastal Commission within 14 days prior to the start of work. Agency notification will include a summary of Project activities that need to be completed and the anticipated work schedule. Additional impact avoidance and minimization measures will be added (if required) following consultation with NOAA Fisheries.

#### 4.2 DATA COLLECTION AND REPORTING

The MWM will ensure that the Project is in compliance with all necessary permits, and that Best Management Practices are followed. The MWM will also be responsible for recording the activities and, if necessary, for stopping the activities in the event that significant changes to harbor seal activities are observed. In addition to briefing all Project personnel on the protective measures prior to initiating work each day, the monitor will delineate the equipment and personnel ingress/egress corridors.

#### 4.3 DATA COLLECTION

Prior to repair activities, the MWM will count and record the number and species of all marine mammals that are within the Project area (within visual range along the beach) and take photographs of the Project site and access route. At regular intervals during the day, the monitor will record the number and location of harbor seals and document the decommissioning activities. Changes in the behavior or number of individuals and/or their proximity to the Project site prior to, during, and immediately following noise-producing activities will be recorded and photographed. The type of activity that promulgated changes in harbor seal abundance or behavior will also be recorded.

During the repair activities, the MWM will also take notes on the weather (i.e. wind direction and speed, percent cloud cover, wave height and direction), non-project human activities, and ex-limital (outside the Project boundaries) observations of avifauna and marine mammals. Although none is expected, should the monitor observe any activity that are considered to be harassment of a marine mammal, that activity will be stopped immediately, and the Chevron Project Manager and NOAA Fisheries representative will be contacted immediately via cell phone.

#### **4.4 REPORTING**

Data and observations that were recorded during the removal activities will be presented in tabular and text format in a technical report that will also include copies of photographs. The report will summarize the Project decommissioning activities as well as protective measures and their effectiveness. The technical report will be provided to the regulatory agencies within 30 days of completion of the final beach or bluff decommissioning activities.

## 5.0 REFERENCES

- California Coastal Commission. 2020. Staff Report Follow-on Authorization from an emergency permit to replace to piles at Casitas Pier. May 2020.
- Carretta, James V., Karin. A. Forney, Erin M. Oleson, David W. Weller, Aimee R. Lang, Jason Baker, Marcia M. Muto, Brad Hanson, Anthony J. Orr, Harriet Huber, Mark S. Lowry, Jay Barlow, Jeffrey E. Moore, Deanna Lynch, Lilian Carswell, and Robert L. Brownell Jr. 2020. U.S. Pacific Marine Mammal Stock Assessments: 2019, U.S. Department of Commerce, NOAA Technical Memorandum NMFS-SWFSC-629.
- Daugherty, A. E., 1985. *Marine Mammals of California*. California Dept. of Fish & Game, Sacramento, CA. Species Booklet Series. 86 pp.
- Harbor Seal Website, 2021. <https://carpinteriasealwatch.org/>
- Yates, S., 1988. *Marine Wildlife of Puget Sound, the San Juans, and the Strait of Georgia*. The Globe Pequot Press, Chester, Conn. 262

## **Appendix C-7**

### **Preliminary Restoration/Revegetation Plan**



# **PRELIMINARY RESTORATION/REVEGETATION PLAN**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

### **CARPINTERIA, SANTA BARBARA COUNTY**

**Project No. 2002-5211**

**Prepared for:**

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**JUNE 2021**



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CARPINTERIA OIL & GAS PROCESSING FACILITIES – PLANT LIST

CARPINTERIA OIL & GAS PROCESSING FACILITIES – VEGETATION MAP

## **1.0 INTRODUCTION**

The following Restoration/Revegetation Plan (Plan) has been prepared by Padre Associates, Inc. (Padre) on behalf of Chevron USA (Chevron). This Plan has been developed to outline the restoration process for the areas identified for equipment demolition and soil removal during the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project) located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (Project Site) (Figure 1-1). This Plan has been written in support of the Project's application for a Conditional Use Permit (CUP)/Coastal Development Permit (CDP) that is being filed with the City of Carpinteria and County of Santa Barbara. Additional details related to the history and purpose of the Project can be found in the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project Description (Padre, 2021a).

This Plan addresses the proposed revegetation that will occur within applicable portions of the Project Site after remediation activities are complete. The Plan provides guidelines for erosion control revegetation or habitat restoration implementation, as appropriate, depending on future potential redevelopment or conservation for each Operational Area. The Plan also provides guidelines for restoration success criteria, monitoring and maintenance, and reporting. The restoration implementation section includes guidelines for the plant palette, plant materials, planting methods, and irrigation. The restoration monitoring and reporting section provides details on performance criteria to measure the success of the restoration, monitoring of restoration progress, reporting requirements and triggers for adaptive management.

### **1.1 PROJECT SUMMARY**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any contaminated soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site's potential future redevelopment or land use modification to open space along the ocean bluff.

### **1.2 BACKGROUND**

The Project Site is located within an area that has been historically utilized for agricultural production and more recently for oil and gas development support activities. Historical agricultural production activities documented at the Project Site from the 1920's through 1959 included dry farming, row crop production, orchards (fruit trees and nuts), and commercial flower production (plant nursery). The Carpinteria Oil and Gas Processing Facility has been in operation since 1959 and historically supported offshore Platforms Hazel, Hilda, Hope and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996. Although Platform Grace ceased production in 1998, the Plant and Tank 861 continued to receive oil and gas from Platform Gail until approximately 2017.

Most recently, portions of the Project Site were remediated and restored in 2012 to mitigate for impacts related to pesticide impacted soil. The following sites were revegetated



during Winter 2011/2012, completed their monitoring period in Spring 2015 and remain restored and vacant:

- Buffer Zone Area (BZA) –Restored with additional native trees and remained a mosaic of mix woodland and annual grassland following soil remediation.
- Former Nursery Area (FNA) –Restored to pre-project conditions with annual grasses and native herbs following soil remediation. The margins of the sidewalk along Carpinteria Avenue at the northern extent of the FNA were also planted with native shrubs and western sycamore (*Platanus racemosa*).
- Drainage Area No. 4 (DA4) – Restored to support an ephemeral drainage of native facultative wetland species and a mesic wetland plant community with mature native woodland trees.
- Former Sand Blast Area (FSBA) – Restored to native coastal scrub species to blend into surrounding habitat following soil remediation.

Other revegetation activities historically or recently performed by others throughout the Project Site include:

- BZA - A large scale planting of coast live oak (*Quercus agrifolia*) and other trees for creation of a wooded buffer between the Processing Facilities and the homes along Arbol Verde Street to the west of the Project Site.
- Former Marketing Terminal Area (FMTA) – The southern portion of this area was restored with native coastal scrub and chaparral species.
- FSBA, Pier Parking Lot, and Pipeline Bluff Crossing Area – The City of Carpinteria planted both margins of the newly constructed or improved Carpinteria Bluffs trail with native coastal scrub and chaparral species, and western sycamore trees.





#### LEGEND:

- Operational Area
- Project Site

#### MAP EXTENT:





## **2.0 BASELINE BOTANICAL SURVEYS**

Existing biological resources on the Project Site have been periodically compiled during the course of numerous biological surveys, biological monitoring events, and wetland delineation data collected at different portions of the Project Site from 1998 (as originally documented in 2004) through 2021 in support of various operational, maintenance, demolition, and interim soil cleanup activities conducted during that period. The results of these studies were used to determine the plant palette and performance criteria target values presented in this Plan.

### **2.1 METHODS**

The desktop review included a query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) to identify reported occurrences of special-status plant and wildlife species and sensitive habitats within the region, as well as review of previous survey reports completed by Padre in support of prior activities on the Project Site (Padre, 2012). Field survey methods consisted of walking systematic transects throughout each Operational Area. The most recent field surveys were conducted in April and May 2021, within the typical blooming period for most plant species including potentially occurring special-status annual plant species. All identifiable plant species observed at the Project Site were documented and the Project Site's botanical inventory derived from previous surveys was updated to include observations of species specific to the Project Operational Areas (Attachment A).

Vegetation mapping of the Project Site was also completed during the April and May 2021 field surveys according to the Manual of California Vegetation, Second Edition (Sawyer et. al, 2009) and is documented in the Terrestrial Biological Resources Study (Padre, 2021b).

### **2.2 FINDINGS**

The majority of the Project Site has been historically cleared for various oil and gas industrial purposes or was planted with landscaping trees (windrows), and thus is highly disturbed from a biological perspective. Vegetation, where present, primarily consists of stands of non-native trees and non-native grasses or ruderal fields, with exception to several native plant restoration areas. Native scrub and non-native groundcover species are also present along the bluffs to the east, west, and south of the Pier Parking Lot. Table 2-1 provides the acreage and locations of each vegetation type throughout the Project Site. The following paragraphs describe on-site vegetation communities in more detail. Figures 2a through 2c provide a vegetation map of the Project Site (Attachment B).

**Table 2-1. Vegetation of the Project Site**

General Category	MCV2 Classification	Onsite Acreage	Present at:
Tree Windrows	<i>Eucalyptus globulus</i> or <i>camuldulensis</i> Semi-Natural Woodland Stands (Eucalyptus groves)	7.6	Buffer Zone, Former Nursery Area, Shop & Maintenance Area, MSRC Lease Area, Peninsula Area, Drainage Area No. 4, Former Marketing Terminal Area, Chevron Pipeline Area, and Main Plant Area.
Tree Windrows	<i>Tamarix</i> spp. Semi-natural Shrubland Stands (Tamarisk thickets)	0.6	Main Plant Area, and MSRC Lease Area.
Mixed Woodland	<i>Quercus agrifolia</i> Woodland Alliance (Coast live oak woodland)	4.7	Buffer Zone, Shop & Maintenance Area, and Drainage Area No. 4.
Mixed Woodland	<i>Platanus racemosa</i> – <i>Quercus agrifolia</i> Woodland Alliance (California sycamore woodlands)	0.9	Buffer Zone, and Former Sandblast Area.
Arroyo Willow Thicket	<i>Salix lasiolepis</i> Shrubland Alliance (Arroyo willow thickets)	0.4	Drainage Area No. 4, Chevron Pipeline Area, Pipeline Bluff Crossing Area, and Former Sandblast Area.
Coastal Scrub	<i>Artemisia californica</i> Shrubland Alliance (California sagebrush scrub)	0.6	Buffer Zone, Drainage Area No. 4, and Former Marketing Terminal Area.
Coastal Scrub	<i>Atriplex lentiformis</i> Shrubland Alliance (Quailbush scrub)	1.8	Pipeline Bluff Crossing Area, Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub	<i>Baccharis pilularis</i> Shrubland Alliance (Coyote brush scrub)	2.1	Pier Parking Lot, and Former Sandblast Area.
Coastal Scrub	<i>Baccharis salicifolia</i> Shrubland Alliance (Mulefat thickets)	0.06	Drainage Area No. 4.
Coastal Scrub	<i>Isocoma menziesii</i> Shrubland Alliance (Menzies's golden bush scrub)	0.4	Pier Parking Lot.
Chaparral	<i>Heteromeles arbutifolia</i> Shrubland Alliance (Toyon chaparral)	0.9	Drainage Area No. 4.



Chaparral	<i>Rhus integrifolia</i> Shrubland Alliance (Lemonade berry scrub)	0.7	Pier Parking Lot, and Former Sandblast Area.
Chaparral	<i>Sambucus nigra</i> Shrubland Alliance (Blue elderberry stands)	0.2	Former Marketing Terminal Area.
Iceplant Mat	<i>Carpobrotus edulis</i> or Other Ice Plants Semi-Natural Herbaceous Stands (Ice plant mats)	1.6	Pipeline Bluff Crossing Area, and Pier Parking Lot.
Annual Grassland	<i>Brassica (nigra)</i> and Other Mustards Semi-Natural Herbaceous Stands (Upland mustards)	6.6	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Annual Grassland	<i>Bromus diandrus</i> or <i>hordaceous</i> Semi-Natural Herbaceous Stands (Annual brome grasslands)	2.5	Former Nursery Area, Former Marketing Terminal Area, and Chevron Pipeline Area.
Developed Land	Not specified (mostly bare ground or patchy ruderal vegetation)	23.9	Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area.

**Tree Windrows** (MCV2: *Eucalyptus globulus* or *camaldulensis* Semi-Natural Woodland Stands [Eucalyptus groves]; *Tamarix* spp. Semi-natural Shrubland Stands [Tamarisk thickets]). Tree windrows comprised mostly of blue gum (*Eucalyptus globulus*), and to a lesser degree of athel tamarisk (*Tamarix aphylla*), occur between the Buffer Zone and Former Marketing Terminal Area, along both sides of Dump Road, on both sides of the MSRC Lease Area, and along the east edge of the entire Project Site from the Peninsula Area, south along the Main Plant Area. The eastern edge of the Former Marketing Terminal Area also supports a row of Chinese elm (*Ulmus parvifolia*) trees. Tree windrows were first introduced at the Project Site as windbreaks for agricultural fields, and later to screen oil and gas facilities.

**Mixed Woodland** (MCV2: *Quercus agrifolia* Woodland Alliance [Coast live oak woodland]; *Platanus racemosa* – *Quercus agrifolia* Woodland Alliance [California sycamore woodlands]). Trees and intervening areas of non-native grassland occur within the Buffer Zone, form a woodland community. The trees include coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*), but are also intermixed with Monterey pine, Monterey cypress (*Hesperocyparis macrocarpa*) trees, or abut Eucalyptus groves or tree windrows within the Buffer Zone. Open areas between tree clusters support perennial rye grass (*Festuca perennis*), slender wild oats (*Avena barbata*), and hare barley (*Hordeum murinum*). This area was planted to provide a buffer between the Former Marketing Terminal and the Concha Loma residential neighborhood to the west.

Smaller, more isolated patches of mixed woodland trees occur along the margins of the Shop and Maintenance Area, supporting coast live oak, Oregon ash and non-native dawn

redwood trees abutting the tamarisk and eucalyptus windrows. Stands of non-native trees are labeled as Ornamental on the attached vegetation map.

**Coastal Scrub and Chaparral** (MCV2: *Artemisia californica* Shrubland Alliance [California sagebrush scrub]; *Atriplex lentiformis* Shrubland Alliance [Quailbush scrub]; *Baccharis pilularis* Shrubland Alliance [Coyote brush scrub]; *Baccharis salicifolia* Shrubland Alliance [Mulefat thickets]; *Isocoma menziesii* Shrubland Alliance [Menzies's golden bush scrub]; *Heteromeles arbutifolia* Shrubland Alliance [Toyon chaparral]; *Rhus integrifolia* Shrubland Alliance [Lemonade berry scrub]; *Sambucus nigra* Shrubland Alliance [Blue elderberry stands]). Portions of the southern end of the Project Site support remnant natural stands and restored areas of coastal scrub and chaparral communities, including at Drainage Area No. 4, the southernmost portion of the Former Marketing Terminal Area, the entrance to the Pier Parking Lot, Former Sandblast Area, and Pipeline Bluffs Crossing Area. Dominant or co-dominant species in these areas include coyote brush (*Baccharis pilularis*), bush sunflower (*Encelia californica*), purple sage (*Salvia leucophylla*), toyon (*Heteromeles arbutifolia*), quailbush (*Atriplex lentiformis*), California sagebrush (*Artemisia californica*), Menzies's golden bush (*Isocoma menziesii*), blue elderberry (*Sambucus nigra* ssp. *caerulea*) and lemonadeberry (*Rhus integrifolia*).

Notably, in the Pipeline Bluffs Crossing Area are monotypic and mixed stands of quailbush scrub, mixed stands of coyote brush scrub and Menzies's golden bush scrub, which all have undergone some level of disturbance. In Drainage Area No. 4 are a planted mulefat thicket, toyon chaparral, and naturally colonized California sagebrush scrub. The southern portion of the Former Marketing Terminal Area supports a mature thicket of blue elderberry, lemonadeberry and California sagebrush.

**Iceplant Mat** (MCV2: *Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands [Ice plant mats]). The Pipeline Bluffs Crossing Area supports a large mat of non-native iceplant (*Carpobrotus edulis* and *Mesembryanthemum* sp.), which, where present, has frequently become a naturalized and typically dominant component of bluff scrub communities.

**Annual Grasslands and Ruderal Vegetation** (MCV2: *Brassica (nigra)* and Other Mustards Semi-Natural Herbaceous Stands [Upland mustards]; *Bromus diandrus* or *hordaceous* Semi-Natural Herbaceous Stands [Annual brome grasslands]). The Main Plant Area, Shop and Maintenance Area, and Chevron Pipeline Area, which are all formerly graded, bermed, or degraded asphalt, supports patches of predominantly non-native herbaceous species such as summer mustard (*Hirschfeldia incana*), red brome (*Bromus madritensis* ssp. *rubens*), ripgut brome (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), onionweed (*Asphodelus fistulosus*), bristly ox-tongue (*Helminthotheca echinoides*), cheeseweed (*Malva parviflora*), perennial ryegrass, freeway iceplant, Terracina spurge (*Euphorbia terracina*), smilo grass (*Stipa mileacea*), bur-clover (*Medicago polymorpha*) and English plantain (*Plantago lanceolata*). Native species were also observed throughout these areas, but in lesser concentration, including horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), coyote brush, and small-flowered evening primrose (*Camissoniopsis micrantha*).

The Former Nursery Area supports an assemblage of weedy non-native species typical of repeated disturbance. Dominant species originally observed in 2004 included cheeseweed,

wild radish (*Raphanus sativus*) and summer mustard. The Former Nursery Area was hydroseeded with a native herbaceous seed mix following removal of pesticide-affected soils in 2012 but has since become mostly recolonized with its former non-native dominants, in addition to the emergence of succulent lupine (*Lupinus succulentus*) and California poppy (*Eschscholzia californica*) included in the seed mix. Similar conditions supporting non-native annual grasses and other herbaceous cover (e.g., English plantain and Terracina spurge, but little or no native species) are present in the Former Marketing Terminal Area immediately south of its developed portion.

**Arroyo Willow Thicket (MCV2: *Salix lasiolepis* Shrubland Alliance [Arroyo willow thickets])**. The Project Site supports three (3) small patches of arroyo willow thicket with arroyo willow (*Salix lasiolepis*) as the dominant tree species in the overstory. Understory vegetation typically includes western ragweed (*Ambrosia psilostachya*), tall flatsedge (*Cyperus eragrostis*, in wetter years), bristly ox-tongue (*Picris echioides*), and/or curly dock (*Rumex crispus*) or is bare of understory vegetation due to a thick, closed canopy.

### 3.0 TREE RESTORATION

For the purposes of this section, “protected trees” refers to native trees (including western sycamore, coast live oak, and arroyo willows), as well as windrow trees that are part of a contiguous open space system across the Carpinteria bluffs including various locations throughout the Project Site. In accordance with the City of Carpinteria General Plan and Local Coastal Plan (Policy OSC-2i) when a tree is approved by the City for removal, it shall be required to be replaced at a ratio appropriate to ensure infill of any gap created in the windrow and with a tree type and size to be approved by the City. As part of Project Site restoration, Chevron proposes to replace the removed trees with native tree species to replace the canopy habitat that will be temporarily lost.

#### 3.1 TREE REPLACEMENT

A total of 62 live trees were tallied within the Project disturbance footprint: Sixty of the trees evaluated are blue gum (*Eucalyptus globulus*) trees, which are planted in the Main Plant Area middle east-west windrow, the Main Plant Area southern north-south windrow, and in the Chevron Pipeline Area east-west windrow. Two of the trees evaluated are Monterey cypress (*Hesperocyparis macrocarpa*) trees, which are planted in the southern portion of the Main Plant Area, adjacent to the fence that borders the Union Pacific railroad right-of-way. Tree impacts (removals) are estimated at 4.1 percent of the entire tree population at the Project Site (Padre, 2021c).

Native replacement trees will be planted to offset Project-related losses of canopy habitat for raptors and songbirds. Tree windrows known to historically house a monarch butterfly aggregation in the Buffer Zone Area will not be affected by Project activities. The Project Site currently supports approximately 225 coast live oak, 84 western sycamore, 52 blue elderberry (*Sambucus nigra ssp. caerulea*), and 135 toyon (*Heteromeles arbutifolia*) trees (or shrubs that may become trees). Replacement of non-native trees with these native species at a ratio of 1:1 is proposed in areas that would expand native vegetation onsite, or possibly to create new habitat patches within portions of the property that are not slated for any developmental purpose (Padre, 2021c). Replacement trees will be maintained and monitored similarly as described below for other container plants.

#### 3.2 TREE PROTECTION

All ground disturbance within 10 feet of the canopy dripline of protected trees (protected zone) will be monitored by a certified arborist or qualified biologist with tree care experience. Protected zones will be marked in the field using fencing and/or flagging. Excavation activities within the protected zone will be allowed if soil sampling indicates soils within the protected zone exceed remediation targets and work is conducted with hand tools only. Soil removed from the protected zone will be replaced with imported clean soil within 48 hours of completion of excavation. All trees affected by excavation within the protected zone will be monitored quarterly to detect any loss of vigor.



### **3.3 WILLOW PRESERVATION**

Willows within the FSBA and DA4 will be preserved through complete avoidance of the Operational Area in which the willow thicket occurs, or if necessary, temporary installation of construction fencing around each stand of trees throughout the duration of work.

## **4.0 IMPLEMENTATION PLAN**

### **4.1 RESTORATION AREA DESCRIPTIONS**

The onshore facility and associated Project components comprise an area of approximately 55-acres that exists as an oil and gas processing facility owned and formerly operated by Chevron USA, Inc. Within the onshore facility, there are a number of functional Operational Areas that contain above ground and subsurface equipment, piping, and appurtenant facilities that will be removed entirely as part of the decommissioning Project. Following decommissioning, each Operational Area will be restored, or at a minimum, revegetated for erosion control, to the extent required to support future land use designations. The Project Site is bisected by the Union Pacific Railroad (UPRR), which divides the proposed restoration areas into northern and southern groups. The future potential land uses of each parcel will determine the final disposition and revegetation objectives for each restoration area.

#### **4.1.1 Northern Restoration Areas**

##### **4.1.1.1 Main Oil and Gas Processing Facility**

The Main Oil and Gas Processing Facility (Main Plant Area) is located on an approximately 9-acre parcel (APN 001-170-014) north of the UPRR right-of-way along the Project Site's eastern boundary. An 850-foot-long windrow of blue gum eucalyptus trees lines the eastern border of the Main Plant Area, and a 200-foot-long windrow of blue gum eucalyptus trees lines bisects the Main Plant Area in an east-west orientation. The trees located along the eastern Main Plant Area boundary are parallel to an adjacent offsite windrow on the parcel to the east of the Project Site.

Following remediation, the surface soils will be backfilled and compacted to regulatory specifications. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils. In order to remediate contaminated soil present within the Main Plant Area, approximately 500 feet of eucalyptus windrow will need to be removed from the southeastern corner of the Main Plant Area (41 trees) and 200 feet from between equipment areas 8 and 9 (12 trees). An additional two (2) Monterey cypress trees will be removed along the southern fence line. The trees will be replaced with native trees at an appropriate location on the Project Site that will not conflict with future uses.

##### **4.1.1.2 Chevron Pipeline Area (Including Tank 861)**

The Chevron Pipeline Area is located within APN 001-170-022, which is a 5.51-acre parcel located on the southern boundary of the Project Site adjacent to the UPRR right-of-way. The Chevron Pipeline Area contains Tank 861 (T861), which is a 217,000-barrel capacity aboveground storage tank, as well as Tank 1 and Tank 2, which are both 2,000-barrel capacity aboveground storage tanks, as well as a 1,260 square foot (sq. ft.) pipeline office. All above ground equipment will be removed from the Project Site and soil remediation will be conducted throughout the Operational Area. An intermittent drainage is located along the western edge of the Chevron Pipeline Area. Approximately 0.17 acres of wetland will be impacted during remediation activities within the Chevron Pipeline Area (Padre, 2021d).

Following remediation, the upland surface soils will be backfilled and compacted to regulatory specifications. A soil binder and annual grass and native herb seed mix will be utilized

on bare ground to stabilize any exposed soils. Approximately seven (7) blue gum eucalyptus trees are proposed for removal within the Chevron Pipeline Area to allow for remediation of contaminated soils. Elevations that support drainage in this area will be included in the final grading plans for the Project Site. Any losses of wetland in this area will be mitigated by expanding the wetland area in Drainage Area No. 4 with a wetland seed mix (Table 4-1) and by encouraging the proliferation of existing wetland vegetation (e.g., willows and mulefat) at that location. The removed trees will be replaced with native trees at an appropriate location on the Project Site that will not conflict with future uses.

#### 4.1.1.3 Former Marketing Terminal Area

The Former Marketing Terminal Area (FMTA) is located within the southern half of APN 001-170-004, which is approximately 11.27 acres in total. The FMTA was used for bulk storage of Chevron gasoline and diesel fuel products. These products were subsequently loaded into tanker trucks at the Marketing Terminal for distribution to retail gas stations and other fuel users. The above ground storage tanks (ASTs), underground storage tanks (USTs), and associated appurtenances were removed from the site in 1999. An office building and shop (Annex Building), numerous, storage containers, and an equipment yard remain.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the FMTA, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.4 Shop and Maintenance Area

The Shop and Maintenance Area is located north of the Chevron Pipeline Area within APN 001-170-023. This parcel is approximately 10.80 acres and includes the primary entrance to the Oil and Gas Processing Facility and a 4,255 sq. ft. maintenance shop building. A welding shop area, including two smaller structures that are 2,314 sq. ft. total is also present. Plant Area 1 is located along the western boundary of this parcel. Plant Area 1 is an undeveloped area located at the western portion of the Shop and Maintenance Area and is known as the "Boneyard". The Shop and Maintenance Area is bounded by native, ornamental, and fruit trees including a stand of Oregon ash, coast live oak, tamarisk, dawn redwood and avocado. Tree removal is not proposed within the Shop and Maintenance Area.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the Shop and Maintenance Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.5 Marine Spill Response Corporation Lease Area

The Marine Spill Response Corporation (MSRC) Lease Area is located in the northeastern portion of APN 001-170-023. The area is approximately 3.4 acres and was formerly leased to Clean Seas but is now utilized by MSRC who supports local oil spill response operations and maintains this area for storage of oil spill response equipment. This area contains an office/conference room building as well as a small 64 sq. ft. storage building and a larger 2,100 sq. ft. garage and maintenance building. A large portion of this area is paved with asphalt. An

approximately 970-foot-long windrow of blue gum eucalyptus trees lines the northern boundary between the MSRC Area and the City Hall, as well as an approximately 260-foot-long windrow of eucalyptus and tamarisk bordering the property to the east. Tree removal is not proposed in the MSRC area.

After removal of surface facilities and equipment, demolition of asphalt and concrete, and remediation within the MSRC Lease Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils.

#### 4.1.1.6 Peninsula Area

The Peninsula Area extends northward from the MSRC Lease Area and former Sales Gas Area within APN 001-170-023. The Peninsula Area is a narrow strip of land, approximately 0.25 acres in size, and was formerly developed and utilized in support of Southern California Gas (SoCalGas) transmission pipelines corridor and access to the Sales Gas Facility and Marine Spill Response Corporation (MSRC) Lease Area. Decommissioning of any remaining facilities within the Peninsula area will be the responsibility of SoCalGas, however soil remediation is planned within this area as part of the Project. An approximately 200-foot-long windrow of non-native trees lines the eastern boundary between Peninsula Area and the neighboring property. This windrow will be removed as part of a City recreational project (skate park), however tree removal is not part of this Project.

After soil remediation within the Peninsula Area, the soil will be backfilled and compacted to regulatory standards. A soil binder and annual grass and native herb seed mix will be utilized on bare ground to stabilize any exposed soils. Work within the Peninsula Area will be completed in coordination with the City based on their project timing.

### 4.1.2 Southern Restoration Areas

#### 4.1.2.1 Former Sandblast Area

The Former Sandblast Area (FSBA) is located on the eastern portion of APN 001-170-021; a 10.02-acre parcel located south of the UPRR right-of-way and north of the beach along the bluffs. The FSBA contains a series of shallow subsurface pipelines that are proposed for removal. The FSBA was previously restored and revegetated following soil remediation activities completed in 2011. The existing plant community consists of coastal bluff scrub species including coyote brush, bush sunflower, purple sage, toyon, big saltbush, California sagebrush and lemonadeberry.

Following the removal of subsurface pipelines, the FSBA will be backfilled and graded to match the existing topography of the area. The FSBA will be planted with native shrubs and seeded with a native shrub seed mix to match the existing vegetation along the bluff. The soil may be augmented, if needed.

#### 4.1.2.2 Gravel Pier Parking Lot

The Pier Parking Lot is located within the middle to eastern portion of APN 001-170-021 (10.02 acres total and 2.5 acres of restoration area) and is comprised of a paved access roadway from Dump Road, an upper paved lot and lower gravel parking lot, and access roadway to the



Casitas (Carpinteria) Pier causeway. Due to on-going use of the upper paved lot and the roadway to the pier, only the lower gravel parking lot will be removed and restored.

The gravel parking lot will be disced, ripped to reduce soil compaction, soil augmented, planted with native shrubs and seeded with a native shrub seed mix to match the existing native shrubs and vegetation along the bluff and adjacent Carpinteria Tar Pits Park and Vista Trail.

#### 4.1.2.3 Bluff and Cliff Side Area (Pipeline Crossings)

The Bluff Area is located within the eastern edge of Tar Pits Park and will consist of ground disturbance within the pipeline corridor associated with the removal of the Marine/Marketing Terminal Pipeline Bundles. The plant communities in the Bluff Area are dominated by invasive ice plant (*Carpobrotus edulis* and *Mesembryanthemum* spp.) within a community of coastal scrub species. The Bluff Area is not expected to require soil remediation and consists of two ground-level vaults with minor above ground infrastructure. Decommissioning activities in the Bluff Area will consist primarily of excavation and removal of subsurface pipelines. Restoration of the bluff area will consist of native seed mix and planted shrubs to match the existing native vegetation along the bluff and adjacent Carpinteria Tar Pits Park and Vista Trail. Aside from revegetation of the access routes and excavation limits, the bluff area will be left as-is. For the removal of pipelines from the bluff and cliff, an analysis of the potential for coastal erosion processes was performed (Padre, 2021e). Additional restoration and soil control methods may be implemented consistent with this analysis to reduce the potential for failure of the cliff side following disturbance along the bluff, cliff and beach.

## 4.2 REVEGETATION GOALS

### 4.2.1 Northern Operational Areas

Operational Areas within the Main Plant Facilities (north of the Union Pacific Railroad) consist of ruderal vegetation, non-native tree windrows and are primarily disturbed by the ongoing oil and gas operations. Following the decommissioning of all equipment and removal of Project facilities, the Project Site will likely be zoned for Planned Unit Development (PUD) and will be revegetated in such a manner to support future land uses at the Project Site. The goal for the Main Plant Facilities areas will be to support herbaceous vegetation that will reduce wind and water erosion until final disposition of the property is determined.

To facilitate soil remediation, removal of 53 non-native blue gum eucalyptus trees and two (2) Monterey cypress trees will be conducted along the interior, eastern, and southern borders of the Main Plant Area, and an additional seven (7) blue gum eucalyptus trees will be removed from the southern edge of the Chevron Pipeline Area. Removal of non-native trees and replacement with native trees will increase the native species diversity on the Project Site, reduce the loss of canopy and roosting habitat, and be beneficial for coastal migratory and resident birds.

### 4.2.2 Pier Parking Lot and Former Sandblast Area

Following surface and subsurface facilities demolition (including asphalt removal) and subsurface pipeline removal, both the Gravel Pier Parking Lot Area and Former Sandblast Area will be restored and revegetated to coastal sage scrub habitats. These two Operational Areas will likely be zoned in support of recreational land uses, adjacent to the Carpinteria Vista Bluff

Trail and Tar Pits Park, and therefore, will be restored to support a native plant community that is consistent with nearby undisturbed bluff areas and adjacent native plant communities.

#### **4.2.3 Bluff Pipeline Crossing Area**

Following subsurface pipeline removal, the Bluff Pipeline Crossing Area will be restored to pre-Project conditions and will continue to serve a beneficial aesthetic purpose along the Carpinteria Vista Bluff Trail. This area will be planted with native species present in adjacent areas, to blend into the surrounding habitat.

#### **4.3 SCHEDULE**

The implementation schedule will be devised to maximize the potential for success. Soil removal and backfill is currently scheduled to begin Summer 2022 and will occur intermittently over the course of three years. Hydroseeding will be completed following soil remediation prior to winter rains of each work year. Planting will be conducted in fall and early winter, to the extent feasible, to take advantage of rainfall. Irrigation will be provided as needed through the first dry season after planting.

#### **4.4 SITE PREPARATION**

Each Restoration Area will be backfilled with clean soil, as needed, and assessed for excessive soil compaction. If needed, the Restoration Area will be ripped to a depth of 12 inches, with ripping teeth spaced no more than 18 inches apart. If the period between completion of backfill and seeding is expected to be more than two months, a pre-emergent herbicide will be applied to the excavated areas immediately after backfilling is completed.

#### **4.5 SOIL AMENDMENTS**

The source of backfill material is not known at this time. Backfilled areas will be assessed for soil texture and soil organic matter content. If determined to be necessary to support plant growth, soil amendments will be added as part of ripping or within individual planting holes. Soil amendments may include compost, sand and/or weed-free pre-prepared topsoil.

#### **4.6 REVEGETATION METHODS**

##### **4.6.1 Northern Restoration Areas**

To support future land use and prevent erosion, each area north of the UPRR will be hydroseeded with an annual grass and native herb seed mix (Table 4-1). Hydroseeding will be conducted to prevent seed predation, reduce weed colonization and reduce erosion. The planting area will be watered prior to hydroseeding. A mixture of seed, legume inoculant, appropriate binder, wood fiber (500 pounds per acre) and compost (1,200 pounds per acre) will be applied using a hydroseeder. Seed will be added to the hydroseeder tank immediately prior to hydroseeding to minimize seed mortality and enhance germination.

Native tree replacements will be planted to reduce the loss of canopy coverage originally provided by the non-native tree windrows or individual trees planned for removal. Native tree replacement will consist of coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*) and will be planted to benefit the species diversity and partially wooded setting of the Project Site. To ensure a complete 1:1 replacement ratio of trees removed at the Project Site, a 1.5:1 planting ratio is proposed.

#### 4.6.2 Southern Restoration Areas

Areas south of the UPRR that are impacted by surface and subsurface demolition and other soil remediation disturbance will be planted with coastal bluff scrub species to blend into the surrounding plant community (Table 4-1).

The larger restoration area within the Gravel Pier Parking Lot will also be broadcast seeded or hydroseeded with native shrubs. In addition, over time native colonization of scrub species from the adjacent coastal scrub plant communities are expected to provide additional cover within the restoration areas.

**Table 4-1. Plant Palette**

Species	Planting Method <sup>1</sup>
<b>Tree Replacements<sup>2</sup></b>	
Coast live oak ( <i>Quercus agrifolia</i> )	5-gallon container
Western sycamore ( <i>Platanus racemosa</i> )	5-gallon container
<b>Annual Grass and Native Herb Seed Mix</b>	
Blando brome ( <i>Bromus hordaceus</i> )	Seed (pure, live)
Rose clover ( <i>Trifolium hirtum</i> )	Seed (pure, live)
Zorro annual fescue ( <i>Vulpia myuros</i> )	Seed (pure, live)
California poppy ( <i>Eschscholzia californica</i> )	Seed (pure, live)
Succulent lupine ( <i>Lupinus succulentus</i> )	Seed (pure, live)
Narrow-leaf milkweed ( <i>Asclepias fascicularis</i> )	Seed (pure, live)
<b>Native Shrub Seed Mix<sup>3</sup></b>	
California bush sunflower ( <i>Encelia californica</i> )	Seed (pure, live)
Coyote brush ( <i>Baccharis pilularis</i> )	Seed (pure, live)
Purple sage ( <i>Salvia leucophylla</i> )	Seed (pure, live)
California buckwheat ( <i>Eriogonum fasciculatum</i> )	Seed (pure, live)
<b>Coastal Scrub Plantings</b>	
Big saltbush ( <i>Atriplex lentiformis</i> )	1-gallon container
Coyote brush ( <i>Baccharis pilularis</i> )	1-gallon container
California bush sunflower ( <i>Encelia californica</i> )	1-gallon container
Lemonadeberry ( <i>Rhus integrifolia</i> )	1-gallon container
<b>Wetland Seed Mix</b>	
Mulefat ( <i>Baccharis salicifolia</i> )	Seed (pure, live)

Species	Planting Method <sup>1</sup>
Toad rush ( <i>Juncus bufonius</i> )	Seed (pure, live)
Bent-grass ( <i>Agrostis exarata</i> )	Seed (pure, live)
Willow dock ( <i>Rumex salicifolius</i> )	Seed (pure, live)
Willow weed ( <i>Polygonum lapithifolium</i> )	Seed (pure, live)
<p>Notes: <sup>1</sup> The quantity and source of native seed mix and individual plants will be prepared when disturbance areas and land use designations are finalized and will be adjusted as needed based on the actual disturbance area and post-soil removal site conditions.</p> <p><sup>2</sup> Native tree replacements may not necessarily be planted in the same Restoration Area from which the non-native windrow tree was removed from.</p> <p><sup>3</sup> To be used in the Southern Restoration Areas only.</p>	

#### 4.7 IRRIGATION

The source of irrigation water will be on-site potable supply lines. A drip irrigation system will be installed and maintained, including above-ground headers to tree and shrub plantings. Alternatively, a pump-fed portable water tank may be used with temporary sprinklers to irrigate these plantings. Container plants in the Bluff Pipeline Crossing Area may require manual watering utilizing personal backpack sprayers or a portable water buffalo. The irrigation system and/or supplemental watering will be used to water container stock immediately after planting, and as needed until root systems are fully established. The intent will be to water deeply and sparingly, to facilitate development of a deep root system and terminate irrigation as soon as possible. Additional irrigation will be conducted as needed during the first spring and summer after planting, or longer, depending on evaluations of plant stress. The irrigation plan will be reviewed by a registered geotechnical engineer to ensure bluff erosion from run-off is avoided.

Irrigation is not planned in the seeded Northern Restoration Areas because the hydroseed mixes are drought tolerant and seeding will be scheduled in the fall or early winter to take advantage of rainfall.



## **5.0 MONITORING PLAN**

### **5.1 PERFORMANCE GOALS AND REMEDIAL ACTIONS**

The following performance goals and remedial actions are recommended to ensure survival and to meet agency requirements for restoration success, once established.

#### **5.1.1 Percent Plant Cover**

The seeded portions of the Northern Restoration Areas should attain at least 50 to 75 percent (or greater) total plant cover within 3 years. The seeded portions of the Southern Restoration Areas should attain at least 50 to 75 percent (or greater) native plant cover within 3 years. If the percent survival performance standard (see below) is met in areas that were also planted with container plants, the plant cover standard does not apply. Additional planting should be conducted if the native plant cover standard is not met.

#### **5.1.2 Percent Survival**

For shrubs, at least 80 percent of container plants should survive the first year after planting; with 90 percent survival thereafter. If the plant cover performance standard is met in areas that were also planted with container plants, the percent survival standard for shrubs does not apply. Additional planting should be conducted if this standard is not met.

For trees, survival should be monitored for a minimum of 3 years to confirm their establishment. By the end of the 3-year period, the number of live trees planted should be at least equal to the number of trees removed, equaling 100 percent survival or greater. To ensure the success of this goal, a planting ratio of 1.5:1 is proposed.

#### **5.1.3 Invasive Plants**

No woody invasive species should be present, and herbaceous invasive species cover should not exceed 5 percent. For the purposes of this standard, "invasive species" means the species is scored as medium or high by the California Invasive Plant Council.

### **5.2 MONITORING ACTIVITIES**

#### **5.2.1 Northern Restoration Areas**

Qualitative botanical surveys will be conducted by identifying dominant plant species in the restoration areas and preparing a list of native and non-native species found. The intent is to document the success of the annual grass and native herb seed mix and tree plantings and excluding invasive plants with periodic weeding or timely herbicide spraying.

##### **5.2.1.1 Methods**

A general walking survey of the area will be conducted to record observations of germination, estimates of native and non-native cover, and identify maintenance needs. Photo-monitoring stations will be established during Year 0 at representative locations throughout the Restoration Areas, to document baseline conditions and progress toward the performance criteria. These permanent photo-monitoring stations will be marked in the field and/or recorded with a Global Positioning System (GPS) unit. Photographs will be taken at least annually in the spring from the photo-monitoring stations.

Survival surveys of native tree plantings will be conducted annually. Survival surveys will be conducted by counting the number of live and dead trees. This task will also include an evaluation of the adequacy of irrigation, extent of weed infestation and herbivory losses. These surveys will be conducted in late spring-early summer to document increase in cover associated with spring growth.

### **5.2.2 Southern Restoration Areas**

Monitoring activities will include establishment of photo-documentation stations, survival surveys, botanical surveys, and line intercept surveys. Photographs will be taken during each monitoring visit at established stations to document overall progress. Survival surveys will be conducted to determine percent mortality of each planted species. Botanical surveys will be conducted to document the increase in the number and proportion of native species over time. Line intercept surveys will be conducted where container stock was installed to determine the percent cover of planted species, and the cover of invasive species.

#### **5.2.2.1 Methods**

Color photographs will be taken at established, permanent monitoring stations. The compass direction, time, date, photograph number and location will be recorded and documented on data sheets.

Survival surveys will be conducted by counting the number of live and dead container plants. This task will also include an evaluation of the adequacy of irrigation, extent of weed infestation and herbivory losses. These surveys will be conducted in late spring-early summer to document increase in cover associated with spring growth.

Botanical surveys will be conducted by identifying each plant species in the restoration areas and preparing a list of native and non-native species found. The intent is to document the success of native plants in excluding non-native plants and periodic weeding.

Line transects will be established, and plant species identity and length of intercept will be determined for the entire transect. The development of a native plant community and eradication of non-native plant species will be documented by the percent cover and percent native species in the restoration areas as it changes over time and approaches that of undisturbed adjacent vegetation. Transect data will be collected at the time of the survival surveys.

### **5.2.3 Personnel**

Qualified biologists will be used to conduct all monitoring activities. Staff turnover will be minimized to ensure continuity of activities and methodology is maintained.

## **5.3 MONITORING SCHEDULE**

Restoration will be monitored for three years following planting in each Operational Area. Monitoring events will be scheduled within the blooming season appropriate for each year, as well as follow-up site visits to track invasive plant populations and potential maintenance requirements.

## **5.4 ADAPTIVE MANAGEMENT**

Adaptive management will be implemented to improve restoration success and achieve the performance criteria. Adaptive management will be based upon observations made during

monitoring visits and/or additional site visits, as needed. Revegetation areas that are not achieving the performance criteria will be identified and the cause addressed. Adaptive management may include but is not limited to, changes to the planting/seeding palette, irrigation methods, use of soil amendments, and invasive plant removal methods. Recommendations for adaptive management will be made by the restoration biologist.

## **5.5 ANNUAL REPORTS**

### **5.5.1 Number of Reports**

Annual reports will be submitted for a period of three years after planting.

### **5.5.2 Contents**

The annual report will include the following (as a minimum):

- Project name and applicant name, address and phone number;
- Coastal permit numbers;
- Summary of project impacts and dates of construction period;
- Summary of restoration activities during reporting period;
- Names and qualifications of all monitoring personnel;
- Reporting forms and photographs;
- Discussion of monitoring methods and dates activities were completed;
- Comparison of collected data to the success criteria;
- Discussion of problems encountered, and probable reasons success criteria were or were not attained;
- Discussion of activities conducted to remediate restoration areas which failed to meet the success criteria;
- Recommendations to modify the success criteria based on past performance;
- Recommendations for adaptive management methods to minimize future mortality, excessive weeds, herbivory losses, slow growth and human impacts; and
- Discussion of storm-related damage (if any), activities conducted to repair damage and recommendations to minimize future damage.

## 6.0 REFERENCES

- Padre Associates, Inc. 2010. Addendum to the Biological Impact Study (December 2004) for the Carpinteria Gas Plant Pesticide Remediation. Prepared for County of Santa Barbara Planning and Development, Energy Division. August.
- \_\_\_\_\_. 2011. Botanical Survey Report for the Carpinteria Source Removal Project (Project 04-1167-DP/CDP). Prepared for Chevron Environmental Management Company. May.
- \_\_\_\_\_. 2012. Project Completion Report for Biological Survey, Monitoring and Restoration Oversight for Carpinteria Oil and Gas Processing Facility Soil Remediation/Restoration Project (Final Report, No. 10), CDFG Notification No. 1600-2011-0088-R5. Prepared for Chevron Environmental Management Company. February.
- \_\_\_\_\_. 2021a. Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project Description, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021b. Terrestrial Biological Resources Study, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021c. Tree Report, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021d. Wetland Delineation Report, Carpinteria Oil and Gas Processing Facilities, City of Carpinteria, Santa Barbara County, California. June.
- \_\_\_\_\_. 2021e. Bluff Retreat Evaluation Report, Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Carpinteria, Santa Barbara County, California. June.



## **CARPINTERIA OIL & GAS PROCESSING FACILITIES – PLANT LIST**

**ATTACHMENT A**  
**CARPINTERIA OIL AND GAS PROCESSING FACILITIES - PLANT LIST**

**FAMILY**

Common Name	Scientific Name	Growth Habit	Wetland Indicator Status	Native Status	Invasiveness Rating	FSBA	Railroad Ditch	BZ and/or DA4	FNA and/or FMTA	Shop, Plant and/or CPL	Pipeline Bluff Crossing Area	Pier Lot
<b>CUPRESSACEAE (Cypress Family)</b>												
Monterey cypress	<i>Hesperocyparis macrocarpa</i>	T	NL	I		X	X	X		X	X	X
Dawn redwood	<i>Metasequoia glyptostroboides</i>	T	NL	I						X		
<b>PINACEAE (Pine Family)</b>												
Aleppo pine	<i>Pinus halepensis</i>	T	NL	I			X				X	
Monterey pine	<i>Pinus radiata</i>	T	NL	I				X	X	X		
<b>TAXODIACEAE (Bald Cypress Family)</b>												
Redwood	<i>Sequoia sempervirens</i>	T	NL	I			X					
<b>ARAUCARIACEAE (Araucaria Family)</b>												
Norfolk island pine	<i>Araucaria excelsa</i>	T	NL	I					X			
<b>ADOXACEAE (Muskroot Family)</b>												
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	T	FACU	N				X	X			X
<b>AIZOACEAE (Fig-Marigold Family)</b>												
Crystalline iceplant	<i>Mesembryanthemum crystallinum</i>	H	FACU	I	Moderate						X	
Baby sun rose	<i>Mesembryanthemum cordifolium</i>	V	NL	I			X					
Freeway iceplant	<i>Carpobrotus edulis</i>	S	NL	I	High					X	X	X
<b>ANACARDIACEAE (Sumac or Cashew Family)</b>												
Laurel sumac	<i>Malosma laurina</i>	S	NL	N		X						
Lemonade berry	<i>Rhus integrifolia</i>	S	NL	N		X		X	X		X	X
Brazilian pepper tree	<i>Schinus terebinthifolius</i>	T	NL	I	Moderate		X	X				
<b>APIACEAE (Carrot Family)</b>												
Poison hemlock	<i>Conium maculatum</i>	H	FACW	I	Moderate	X		X				
Fennel	<i>Foeniculum vulgare</i>	H	NL	I	Moderate	X						X
<b>APOCYNACEAE (Dogbane Family)</b>												
Oleander	<i>Nerium oleander</i>	S	NL	I			X	X				
<b>ARALIACEAE (Ginseng Family)</b>												
English ivy	<i>Hedera helix</i>	V	NL	I	High		X	X				
<b>ASPARAGACEAE (Asparagus Family)</b>												
Century plant	<i>Agave americana</i>	S	UPL	I						X		
Dracaena	<i>Dracaena sp.</i>	S	NL	I						X		
<b>ASPHODELACEAE (Asphodel Family)</b>												
Aloe	<i>Aloe sp.</i>	S	NL	I						X		
Onionweed	<i>Asphodelus fistulosus</i>	H	NL	I	Moderate	X				X		X
<b>ASTERACEAE (Sunflower Family)</b>												
Western ragweed	<i>Ambrosia psilostachya</i>	H	FACU	N		X		X	X	X	X	X
California sagebrush	<i>Artemisia californica</i>	H	NL	N		X			X		X	X
Mugwort	<i>Artemisia douglasiana</i>	H	FAC	N		X		X			X	
Coyote brush	<i>Baccharis pilularis</i>	S	NL	N		X		X	X	X	X	X
Mule fat	<i>Baccharis salicifolia</i>	S	FAC	N				X			X	
Italian thistle	<i>Carduus pycnocephalus</i>	H	NL	I	Moderate		X	X				
Tocalote	<i>Centaurea melitensis</i>	H	NL	I	Moderate	X						X
Bull thistle	<i>Cirsium vulgare</i>	H	FACU	I	Moderate							X
Brass buttons	<i>Cotula coronopifolia</i>	H	OBL	I	Limited					X		
Artichoke	<i>Cynara scolymus</i>	H	NL	I				X				
German Ivy	<i>Delairea odorata</i>	V	NI	I	High	X		X				
California bush sunflower	<i>Encelia californica</i>	S	NL	N		X				X	X	X
Horseweed	<i>Erigeron canadensis</i>	H	FACU	N						X		
Crown daisy	<i>Glebionis coronaria</i>	H	NL	I	Moderate					X		
Bristly ox-tongue	<i>Helminthotheca echioides</i>	H	FAC	I	Limited		X	X	X	X		
Telegraph weed	<i>Heterotheca grandiflora</i>	H	NL	N						X		X
Rough cat's-ear	<i>Hypochaeris radicata</i>	H	NL	I	Moderate			X	X			X
Coastal golden-bush	<i>Isocoma menziesii</i>	S	NL	N		X				X		X

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Prickly lettuce	<i>Lactuca serriola</i>	H	FACU	I		X		X		X		
Narrowleaf cottonrose	<i>Logfia gallica</i>	H	NL	I						X		
Green everlasting	<i>Pseudognaphalium californicum</i>	H	NL	N		X				X		
Cudweed	<i>Pseudognaphalium canescens ssp. microcephalum</i>	H	FACU	N		X				X		
Cotton-batting plant	<i>Pseudognaphalium stramineum</i>	H	FAC	N						X		
Milk thistle	<i>Silybum marianum</i>	H	NL	I	Limited					X		
Prickly sow thistle	<i>Sonchus asper</i>	H	FAC	I		X						
Common sow thistle	<i>Sonchus oleraceus</i>	H	UPL	I			X	X		X		X
<b>BIGNONIACEAE (Bignonia Family)</b>												
Trumpet creeper	<i>Campsis radicans</i>	V	NL	I				X				
Cape honeysuckle	<i>Tecoma capensis</i>	S	NL	I				X	X			
<b>BORAGINACEAE (Borage Family)</b>												
Large-flowered popcorn flower	<i>Cryptantha intermedia</i>	H	NL	N						X		
Pride of Madeira	<i>Echium candicans</i>	S	NL	I	Limited			X		X		
Branching phacelia	<i>Phacelia ramosissima</i>	H	FACU	N						X	X	X
<b>BRASSICACEAE (Mustard Family)</b>												
Shepherd's purse	<i>Capsella bursa-pastoris</i>	H	FACU	I						X		
Summer mustard	<i>Hirschfeldia incana</i>	H	NL	I	Moderate	X	X	X	X	X	X	X
Wild radish	<i>Raphanus sativus</i>	H	NL	I	Limited		X	X	X	X		
London rocket	<i>Sisymbrium irio</i>	H	NL	I	Limited					X		
<b>CACTACEAE (Cactus Family)</b>												
Mission prickly-pear	<i>Opuntia ficus-indica</i>	S	NL	I						X		
<b>CARYOPHYLLACEAE (Pink Family)</b>												
Sand-spurrey	<i>Spergularia bocconi</i>	H	FACW	I						X		
Four-leaved all-seed	<i>Polycarpon tetraphyllum</i>	H	NL	I			X					
<b>CHENOPODIACEAE (Goosefoot Family)</b>												
Big saltbush, quailbush	<i>Atriplex lentiformis</i>	S	FAC	N		X			X		X	X
Five-hook bassia	<i>Bassia hyssopifolia</i>	S	FACU	I	Limited		X		X	X		
Pitseed goosefoot	<i>Chenopodium berlandieri</i>	H	NL	N						X		
Nettle leaf goosefoot	<i>Chenopodium murale</i>	H	FACU	I						X		
Russian thistle	<i>Salsola tragus</i>	H	FACU	I	Limited				X	X		
<b>CONVOLVULACEAE (Morning-Glory Family)</b>												
Chaparral morning-glory	<i>Calystegia macrostegia ssp. intermedia</i>	V	NL	N		X	X	X				X
Bindweed	<i>Convolvulus arvensis</i>	H	NL	I			X			X		
<b>CRASSULACEAE (Stonecrop Family)</b>												
Pygmy weed	<i>Crassula connata</i>	H	FAC	N						X		
Jade plant	<i>Crassula ovata</i>	H	NL	I						X		
<b>EUPHORBIACEAE (Spurge Family)</b>												
Spotted spurge	<i>Chamaesyce maculata</i>	H	FACU	I			X			X		
Caper spurge	<i>Euphorbia lathyris</i>	H	NL	I			X					
Petty spurge	<i>Euphorbia peplus</i>	H	NL	I			X	X		X		
Carnation spurge	<i>Euphorbia terracina</i>	H	NL	N	Limited				X	X	X	
Castor bean	<i>Ricinus communis</i>	H	FACU	I	Limited		X	X	X		X	X
<b>FABACEAE (Legume Family)</b>												
Sydney golden wattle	<i>Acacia longifolia</i>	T	NL	I	Watch				X	X		
Strigose lotus	<i>Acmispon strigosus</i>	H	NL	N						X		
Miniature lupine	<i>Lupinus bicolor</i>	H	NL	N						X		
Succulent lupine	<i>Lupinus succulentus</i>	H	NL	N					X			
Collared annual lupine	<i>Lupinus truncatus</i>	H	NL	N						X		
California bur-clover	<i>Medicago polymorpha</i>	H	NL	I	Limited			X		X		
Yellow sweet clover	<i>Melilotus indicus</i>	H	FACU	I		X			X	X		X
Spring vetch	<i>Vicia sativa</i>	H	FACU	I				X	X		X	

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<b>FAGACEAE (Oak Family)</b>												
Coast live oak	<i>Quercus agrifolia</i>	T	NL	N		X	X	X	X	X		X
Scrub oak	<i>Quercus berberidifolia</i>	T	NL	N								X
<b>GERANIACEAE (Geranium Family)</b>												
Red-stemmed filaree	<i>Erodium cicutarium</i>	H	NL	I	Limited	X	X		X	X	X	
White-stemmed filaree	<i>Erodium moschatum</i>	H	NL	I						X		
Cut-leaf geranium	<i>Geranium dissectum</i>	H	NL	I	Limited			X		X		
Geranium	<i>Pelargonium sp.</i>	H	NL	I				X				
<b>GROSSULARIACEAE (Gooseberry Family)</b>												
Fuschia-flowered gooseberry	<i>Ribes speciosum</i>	S	NL	N					X			
<b>LAMIACEAE (Mint Family)</b>												
Horehound	<i>Marrubium vulgare</i>	H	FACU	I	Limited	X				X		
Rosemary	<i>Rosmarinus officianalis</i>	S	NL	I			X					
Black sage	<i>Salvia mellifera</i>	S	NL	N					X		X	
Purple sage	<i>Salvia leucophylla</i>	S	NL	N		X		X			X	X
<b>LAURACEAE (Laurel Family)</b>												
Avocado	<i>Persea americana</i>	T	NL	I						X		
<b>MAGNOLIACEAE (Magnolia Family)</b>												
Southern magnolia	<i>Magnolia grandiflora</i>	T	NL	I						X		
<b>MALVACEAE (Mallow Family)</b>												
Bull mallow	<i>Malva nicaeensis</i>	H	NL	I			X	X	X	X		
Cheeseweed	<i>Malva parviflora</i>	H	NL	I				X	X	X	X	
<b>MYOPORACEAE (Myoporum Family)</b>												
Myoporum	<i>Myoporum laetum</i>	T	NL	I	Moderate			X	X	X		
<b>MYRTACEAE (Myrtle Family)</b>												
Blue gum	<i>Eucalyptus globulus</i>	T	NL	I	Moderate			X	X	X	X	
Scarlet gum	<i>Eucalyptus ficifolia</i>	T	NL	I				X				
<b>NYCTAGINACEAE (Four O'Clock Family)</b>												
Bougainvillea	<i>Bougainvillea spectabilis</i>	S	NL	I				X	X	X		
<b>OLEACEAE (Olive Family)</b>												
Oregon ash	<i>Fraxinus latifolia</i>	T	FACW	I				X		X		
Olive	<i>Olea europaea</i>	T	NL	I	Limited			X				
<b>ONAGRACEAE (Evening Primrose Family)</b>												
Small evening primrose	<i>Camissoniopsis micrantha</i>	H	NL	N						X		X
<b>OXALIDACEAE (Oxalis Family)</b>												
Creeping wood sorrel	<i>Oxalis corniculata</i>	H	FACU	I		X	X					X
Bermuda buttercup	<i>Oxalis pes-capre</i>	H	NL	I	Moderate		X	X	X	X	X	X
<b>PAPAVERACEAE (Poppy Family)</b>												
California poppy	<i>Eschscholzia californica</i>	H	NL	N					X	X		
<b>PITTOSPORACEAE (Pittosporum Family)</b>												
Victorian box	<i>Pittosporum undulatum</i>	T	NL	I			X	X		X		
<b>PLANTAGINACEAE (Plantain Family)</b>												
English plantain	<i>Plantago lanceolata</i>	H	FAC	I	Limited	X		X	X	X	X	
Common plantain	<i>Plantago major</i>	H	FAC	I				X				
<b>PLATANACEAE (Sycamore Family)</b>												
Western sycamore	<i>Plantanus racemosa</i>	T	FAC	N		X		X		X	X	X
<b>POLYGONACEAE (Buckwheat Family)</b>												
California buckwheat	<i>Eriogonum fasciculatum</i>	S	NL	N								X
Seacliff buckwheat	<i>Eriogonum parvifolium</i>	S	NL	N							X	X
Common knotweed	<i>Polygonum aviculare ssp. depressum</i>	H	FAC	I				X				
Curly dock	<i>Rumex crispus</i>	H	FAC	I	Limited		X	X	X	X	X	
<b>MYRSINACEAE (Myrsine Family)</b>												
Scarlet pimpernel	<i>Anagallis arvensis</i>	H	FAC	I		X	X			X		X



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<b>RANUNCULACEAE (Buttercup Family)</b>												
Virgin's bower	<i>Clematis ligusticifolia</i>	V	FAC	N			X			X		
<b>ROSACEAE (Rose Family)</b>												
California rose	<i>Rosa californica</i>	S	FAC	N							X	
California blackberry	<i>Rubus ursinus</i>	PV	FAC	N							X	
Cotoneaster	<i>Cotoneaster pannosa</i>	S	NL	I	Moderate			X		X		
Toyon	<i>Heteromeles arbutifolia</i>	S	NL	N				X	X		X	
Peach	<i>Prunus persica</i>	S	NL	I			X	X		X		
Firethorn	<i>Pyracantha koidzumii</i>	S	NL	I				X				
Blackberry	<i>Rubus pensilvanicus</i>	V	NL	I			X	X				
<b>RUBIACEAE (Madder Family)</b>												
Common bedstraw	<i>Galium aparine</i>	H	FACU	N						X		
<b>SALICACEAE (Willow Family)</b>												
Arroyo willow	<i>Salix lasiolepis</i>	T	FACW	N		X	X	X		X		X
<b>SAURURACEAE (Lizards-tail Family)</b>												
Yerba mansa	<i>Anemopsis californica</i>	H	OBL	N							X	
<b>SOLANACEAE (Nightshade Family)</b>												
Tree tobacco	<i>Nicotiana glauca</i>	S	FAC	I	Moderate					X		X
Nightshade	<i>Solanum douglasii</i>	H	FAC	N			X	X				
Black nightshade	<i>Solanum nigrum</i>	H	FACU	I		X						
Purple nightshade	<i>Solanum xanti</i>	S	NL	N								X
<b>TAMARICACEAE (Tamarisk Family)</b>												
Athel tamarisk	<i>Tamarix aphylla</i>	T	FAC	I	Limited					X		
<b>TROPAEOLACEAE (Nasturtium Family)</b>												
Garden nasturtium	<i>Tropaeolum majus</i>	H	NL	I			X	X	X			
<b>ULMACEAE (Elm family)</b>												
Chinese elm	<i>Ulmus parvifolia</i>	T	UPL	I					X			
<b>URTICACEAE (Nettle Family)</b>												
Dwarf nettle	<i>Urtica urens</i>	H	NL	I						X		
<b>VERBENACEAE (Vervain Family)</b>												
Verbena	<i>Verbena lasiostachys</i> var. <i>scabrida</i>	H	FAC	N		X						X
<b>ARECACEAE (Palm Family)</b>												
Canary Island palm	<i>Phoenix canariensis</i>	T	NL	I	Limited			X				
Mexican fan palm	<i>Washingtonia robusta</i>	T	NL	I	Moderate				X			
<b>CYPERACEAE (Sedge Family)</b>												
Tall cyperus	<i>Cyperus eragrostis</i>	H	FACW	N			X	X		X		
California bulrush	<i>Scheuchzeria palustris</i>	H	OBL	N							X	
<b>JUNCACEAE (Rush Family)</b>												
Spiny rush	<i>Juncus acutus</i> ssp. <i>leopoldii</i>	H	FACW	N							X	
<b>POACEAE (Grass Family)</b>												
Slender wild oat	<i>Avena barbata</i>	G	NL	I	Moderate	X	X	X	X	X		
Wild oat	<i>Avena fatua</i>	G	NL	I	Moderate		X	X	X			
Brachypodium	<i>Brachypodium distachyon</i>	G	NL	I	Moderate	X						
Rescue grass	<i>Bromus catharticus</i>	G	NL	I			X	X				
Ripgut grass	<i>Bromus diandrus</i>	G	NL	I	Moderate	X	X	X	X		X	X
Soft cheat	<i>Bromus hordeaceus</i>	G	FACU	I	Limited			X		X	X	
Red brome	<i>Bromus madritensis</i> ssp. <i>rubens</i>	G	UPL	I	High	X				X		X
Pampas grass	<i>Cortaderia selloana</i>	G	FACU	I	High	X	X	X				X
Bermuda grass	<i>Cynodon dactylon</i>	G	FACU	I	Moderate				X			X
Giant wildrye	<i>Elymus condensatus</i>	G	FACU	N								X
Erect veldt grass	<i>Ehrharta erecta</i>	G	NL	I	Moderate		X					
Italian ryegrass	<i>Festuca perennis</i>	G	FAC	I	Moderate			X	X			
Farmer's foxtail	<i>Hordeum murinum</i> ssp. <i>leporinum</i>	G	NI	I	Moderate	X	X	X	X	X	X	

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Goldentop grass	<i>Lamarckia aurea</i>	G	FACU	I						X		
Dallis grass	<i>Paspalum dilatatum</i>	G	FAC	I				X				
Kikuyu grass	<i>Pennisetum clandestinum</i>	G	FACU	I	Limited		X	X				
Fountain grass	<i>Pennisetum setaceum</i>	G	NL	I	Moderate							X
Pennisetum	<i>Pennisetum villosum</i>	G	NL	I	Watch	X				X		X
Annual bluegrass	<i>Poa annua</i>	G	FAC	I			X					
Smilo grass	<i>Stipa mileacea</i>	G	NL	I	Limited			X	X	X		
Purple needlegrass	<i>Stipa pulchra</i>	G	NL	N		X						
Cultivated wheat	<i>Triticum aestivum</i>	G	NL	I					X			
Rattail fescue	<i>Festuca myuros</i>	G	FACU	I	Moderate	X					X	X

Native Status Notes

N: Native (to the region)

I: Introduced

Invasiveness Notes

Invasiveness Rating from California Invasive Plant Inventory (2020)

Wetland Notes

OBL: Obligate wetland species, occurs almost always in wetlands (>99% probability)

FACW: Facultative wetland species, usually found in wetlands (67-99% probability)

FAC: Facultative species, equally likely to occur in wetland and non-wetlands (34-66% probability)

FACU: Facultative upland species, not usually found in wetlands (1-33% probability)

UPL: Upland species, almost never found in wetlands (<1% probability)

NI: No indicator has been assigned due to a lack of information to determine indicator status

NL: Not listed, assumed upland species

## **CARPINTERIA OIL & GAS PROCESSING FACILITIES – VEGETATION MAP**





**LEGEND:**



Operational Area



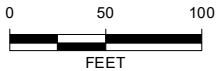
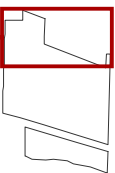
Vegetation Types  
AG - Annual grassland or mustards  
CB - Coyote brush scrub

CS - California sagebrush scrub  
CYP - Monterey cypress trees  
DEV - Developed (pavement, gravel, structures)

EUC - Eucalyptus groves or windrows  
OAK - Coast live oak woodland  
ORN - Ornamental trees

SYC - California sycamore woodland

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

**VEGETATION MAP**

FIGURE  
2A





**LEGEND:**

Operational Area

Vegetation Types

AG - Annual grassland or mustards

AG/DIST - Disturbed annual grassland or mustards

CS - California sagebrush scrub

DEV - Developed (pavement, gravel, structures)

ELD - Blue elderberry stands

EUC - Eucalyptus groves or windrows

EUC/TAM - Eucalyptus and Tamarisk thickets or windrows

MF - Mulefat thicket

OAK - Coast live oak woodland

ORN - Ornamental trees

SYC - California sycamore woodland

TOY - Toyon Chaparral

WIL - Arroyo willow thickets

**MAP EXTENT:**

050100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
associates, inc.  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME:

CHEVRON CARPINTERIA  
OIL AND GAS PROCESSING FACILITY PROPERTIES  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER:

2002-5211

DATE:

June 2021

VEGETATION MAP

FIGURE 2B

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map-2021.mxd 6/2/2021

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**LEGEND:**

Operational Area

Vegetation Types

AG - Annual grassland or mustards

BARE - Bare ground

CB - Coyote brush scrub

CS - California sagebrush scrub

CYP - Monterey cypress trees

DEV - Developed (pavement, gravel, structures)

EUC - Eucalyptus groves or windrows

GB - Golden bush scrub

IP - Iceplant mats

LB - Lemonade berry scrub

SB - Saltbush (Quailbush) scrub

SYC - California sycamore woodland

WIL - Arroyo willow thickets

**MAP EXTENT:**

0

50

100

FEET

Source: KCSI Aerial Patrol 2020, ESRI Online Imagery Basemap

Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet

Notes: This map was created for informational and display purposes only.

**padre**

associates, inc.

ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

PROJECT NAME:

CHEVRON CARPINTERIA OIL AND GAS PROCESSING FACILITY PROPERTIES SANTA BARBARA COUNTY, CA

PROJECT NUMBER:

2002-5211

DATE:

June 2021

VEGETATION MAP

FIGURE 2C

Z:\GIS Projects\GIS Maps\Map Project\Carpinteria Oil & Gas Facility\Terrestrial Biological Resources Study\Vegetation Map 2021.mxd 6/3/2021

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## **Appendix C-8**

### **Essential Fish Habitat Assessment**

# **ESSENTIAL FISH HABITAT ASSESSMENT**

## **DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**OCTOBER 2021**



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## 1.0 INTRODUCTION

This Essential Fish Habitat (EFH) assessment has been developed to support the proposed Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project) located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 State waters limited within the Pacific Ocean (Project Site) (Figure 1-1). This assessment is prepared in accordance with 50 Code of Federal Regulations (CFR) 600.920(g)(2) and addresses the managed fish and invertebrate taxa that could occur at the Project site.

EFH is defined as "...those waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity." "Waters," as used in this definition, are defined to include "aquatic areas and their associated physical, chemical, and biological properties that are used by fish." These may include "...areas historically used by fish where appropriate; 'substrate' to include sediment, hard bottom, structures underlying the waters, and associated biological communities." "Necessary" means, "the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem." EFH is described as a subset of all habitats occupied by a species (NOAA, 1998).

### 1.1 PROPOSED ACTION

The onshore Project Site is located in the eastern portion of the City of Carpinteria, California, between U.S. Highway 101 and the Pacific Ocean (Figure 1-1). The onshore Project Site does not support any aquatic habitats. The offshore components of the Project site are located in the adjacent nearshore waters out to the State water limits (three nautical miles) in water depths from zero to 148 feet (45 meters).

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the Project Site's potential future redevelopment. Offshore pipelines will be removed using reverse installation techniques with the help of divers excavating sections of buried pipeline, as needed. The pipelines will be lifted onto an offshore barge spread and cut into segments on the deck of the barge. Alternatively, some sections of pipeline may require cutting on the seafloor and lifting segments of pipe to the Project barge. Pipeline segments within the surf zone will be excavated (if necessary), cut, and pulled offshore for recovery to the barge deck and disposal.

### 1.2 SITE CHARACTERISTICS

**Physical Characteristics.** The offshore environmental setting for the Project includes nearshore, shallow water depths out to the continental shelf offshore Santa Barbara County. The primary substrates within the offshore segments of the pipeline corridor have been characterized as fine- to medium-grained smooth sediments, with infrequent areas of mixed smooth sediment and bedrock, coarse-grained sand, gravel, cobbles (Johnson et al., 2013). The marine habitats and biota are typical of those found in similar water depths within the Southern California Bight (SCB). The intertidal and subtidal habitats within the Project Site consists primarily of sand with a mosaic of intermittent low- to medium-relief rocks and soft-bottom sediments. In addition, the Casitas pier pilings provide submerged artificial substrates in the intertidal zone.



**Vegetative Characteristics.** Surf grass beds (*Phyllospadix* sp.) are commonly found along the southern California coastal areas in rocky intertidal substrate and are known to provide cover and habitat structure for intertidal invertebrates and marine alga. Surf grass is present on the surface of intertidal rocks in the study area and previous site visits during low tide events have identified surf grasses in subtidal habitats; however, its presence may fluctuate on a seasonal basis depending on the intensity of sand deposition or wave action. Eelgrass (*Zostera* spp.) is a type of marine flowering seagrass that grows in temperate marine environments and possesses important nursery and refuge qualities that are important for juvenile fish. Further study will be required to determine if eelgrasses (*Zostera* sp.) is present in the study area. The nearest recorded eelgrass bed is present in northern Ventura Harbor, approximately 16.5 miles southeast of the study area (Sherman and DeBruyckere, 2018).

Kelp beds, which are designated Habitat Areas of Particular Concern (HAPC) and serve as important groundfish habitat, are seasonally present immediately adjacent to the pipeline corridors within the Project site (Figure 1-2). The Gail and Grace pipeline bundle and 10-inch oil pipeline partially intersects with a kelp bed is located approximately 470 feet east of the Casitas Pier. Fish that utilize these kelp beds could be present in the Project site during decommissioning activities.

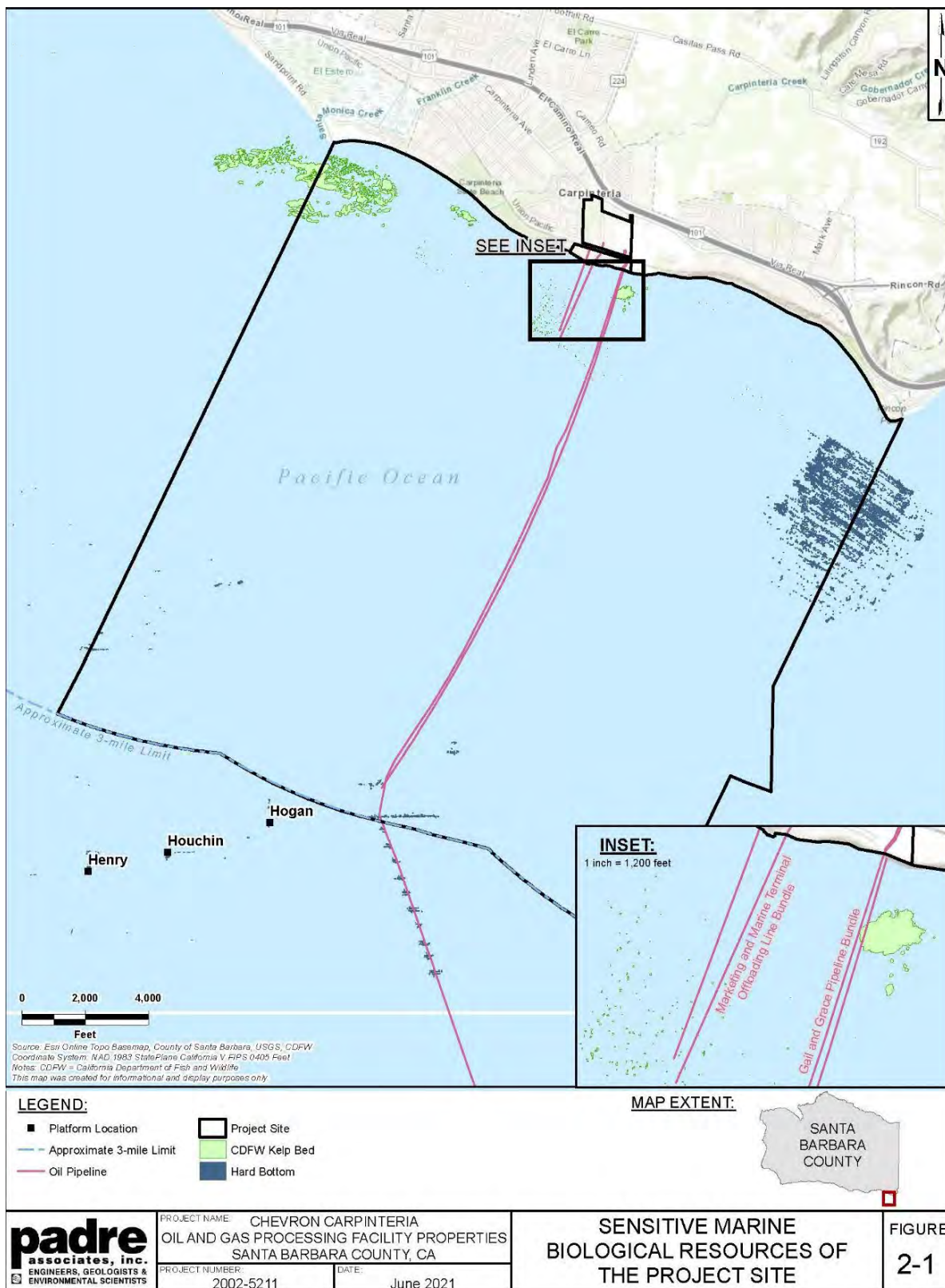
**Wildlife Characteristics.** The epifauna of the shallower sedimentary habitats typically includes several species of macro-invertebrates, including sea stars, Pacific sand dollars (*Dendraster excentricus*), and slender crabs (*Cancer gracilis*), as well as polychaete worms and mollusks. The rocky substrata tend to support a generally more diverse epibiota, dominated by mussels (*Mytilus californianus*) within the intertidal zone, as well as macrophytic algae, urchins (*Strongylocentrotus* spp.), sea stars, and cnidarians (anemones and solitary corals) in subtidal and water depths from 10 to 100 feet (approximately three to 30 meters). Epifauna of deeper waters in sedimentary habitats and those species found growing or foraging on exposed pipeline segments include plumose anemone (*Metridium senile*), bat stars (*Patiria miniate*), and rockfish (*Sebastes* sp.).

The open water habitat within the offshore Project pipeline corridors support migration and foraging habitat for fish, marine mammals, reptiles, and avifauna. Water depth between the subtidal zone and the boundary of California State waters (three nautical miles) ranges between approximately 30 to 148 feet and therefore would support species that are adapted to live at those depths. Remote Operated Vehicle (ROV) surveys have reported that the majority of the pipeline corridor is buried under soft sediments from approximately -45 to -140 feet and then intermittently exposed to the State waters limit (-148 feet).



**Figure 1-1. Project Location**





**Figure 1-2. Sensitive Marine Resources in Project Area**

## 2.0 MANAGED SPECIES OF INTEREST

The National Marine Fisheries Service (NMFS) EFH online mapper was utilized to identify which management units are located within the offshore Project area (NMFS, 2021). Species distribution and habitat information was used to develop Table 2-1 which lists the managed species that could occur within the geographical region, water depth range, and habitat types found within the Project area (McCain et al., 2019).

The Pacific Fishery Management Council (PFMC) manages economically important fish under four Fishery Management Plans: 1) Coastal Pelagics Fishery Management Plan (CPFMP); 2) Pacific Salmon Fishery Management Plan; 3) Pacific Groundfish Fishery Management Plan (PGFMP); and 4) Highly Migratory Species Fishery Management Plan (HMS FMP). A list of managed species that could be found during all or part of their life cycle within the Project area is provided in Table 2-1. At least 46 species listed under the PGFMP, seven species listed under the CPFMP, and two species under the HMS FMP frequent kelp beds, rock reefs, benthic, and open water habitats in less than 148 feet (45 meters) of water off the coast of Santa Barbara, California, and could be present during some life stages in the nearshore Project area. The pelagic species could be present for short-time periods as schooling adults whereas many of the groundfish species could be present for longer time periods as both juveniles and adults. The juveniles of many rockfish species use the shallow-water algae and kelp canopies during early development before settling over deeper water or to the bottom. Benthic rockfish juveniles could be found in Sargassum and algae beds. Cabezon, lingcod, and greenlings could be present as adults, in egg masses (nests) on substrate, and as settled juveniles in adjacent kelp beds (CDFW, 2001; Love, 1996).

**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
<b>Fin Fish Managed under CPFMP</b>	Northern anchovy	<i>Engraulis mordax</i>
	Pacific mackerel	<i>Scomber japonicus</i>
	Jack mackerel	<i>Trachurus symmetricus</i>
	Pacific sardine	<i>Sardinops sagax caerulea</i>
	Krill	<i>Thysanoessa spinifera</i>
		<i>Euphausia pacifica</i>
	Market squid	<i>Doryteuthis (Loligo) opalescens</i>
	<b>Total</b>	<b>7</b>
<b>Groundfish Managed under PGFMP</b>	<b>Flatfish</b>	
	Arrowtooth flounder	<i>Atheresthes stomias</i>
	Butter sole	<i>Isopsetta isolepis</i>
	Curlfin sole	<i>Pleuronichthys decurrens</i>
	Dover sole	<i>Microstomus pacificus</i>
	English sole	<i>Parophrys vetulus</i>
	Flathead sole	<i>Hippoglossoides elassodon</i>
	Pacific sanddab	<i>Citharichthys sordidus</i>
	Petrable sole	<i>Eopsetta jordani</i>



**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
	Rex sole	<i>Glyptocephalus zachirus</i>
	Rock sole	<i>Lepidopsetta bilineata</i>
	Sand sole	<i>Psettichthys melanostictus</i>
	Starry flounder	<i>Platichthys stellatus</i>
	<b>Rockfish and Scorpaeniform Roundfishes</b>	
	Kelp greenling	<i>Hexagrammos decagrammus</i>
	Lingcod	<i>Ophiodon elongates</i>
	Bank rockfish	<i>Sebastes rufus</i>
	Black Rockfish	<i>Sebastes melanops</i>
	Black-and-yellow rockfish	<i>Sebastes chrysomelas</i>
	Blue rockfish	<i>Sebastes mystinus</i>
	Bocaccio	<i>Sebastes paucispinis</i>
	Brown rockfish	<i>Sebastes auriculatus</i>
	Calico rockfish	<i>Sebastes dalli</i>
	California scorpionfish	<i>Scorpaena guttata</i>
	Canary rockfish	<i>Sebastes pinniger</i>
	Chilipepper	<i>Sebastes goodei</i>
	China rockfish	<i>Sebastes nebulosus</i>
	Copper rockfish	<i>Sebastes caurinus</i>
	Cabazon	<i>Scorpaenichthys marmoratus</i>
	Cowcod	<i>Sebastes levis</i>
	Darkblotched rockfish	<i>Sebastes crameri</i>
	Dusky rockfish	<i>Sebastes variabilis</i>
	Dark rockfish	<i>Sebastes ciliatus</i>
	Flag rockfish	<i>Sebastes rubrivinctus</i>
	Gopher rockfish	<i>Sebastes carnatus</i>
	Grass rockfish	<i>Sebastes rastrelliger</i>
	Greenblotched rockfish	<i>Sebastes rosenblatti</i>
	Greenspotted rockfish	<i>Sebastes chlorostictus</i>
	Greenstriped rockfish	<i>Sebastes elongatus</i>
	Harlequin rockfish	<i>Sebastes variegatus</i>
	Honeycomb rockfish	<i>Sebastes umbrosus</i>
	Kelp rockfish	<i>Sebastes atrovirens</i>
	Mexican rockfish	<i>Sebastes macdonaldi</i>
	Olive rockfish	<i>Sebastes serranoides</i>
	Pacific Ocean perch	<i>Sebastes alutus</i>
	Quillback rockfish	<i>Sebastes maliger</i>
	Rosethorn rockfish	<i>Sebastes helvomaculatus</i>
	Rosy rockfish	<i>Sebastes rosaceus</i>
	Rougheye rockfish	<i>Sebastes aleutianus</i>
	Shortracker rockfish	<i>Sebastes borealis</i>
	Shortspine thornyhead	<i>Sebastolobus alascanus</i>

**Table 2-1. Fish Species Managed Under Pacific Fishery Management Plans**

Management Plan	Common Name	Scientific Name
	Speckled rockfish	<i>Sebastes ovalis</i>
	Squarespot rockfish	<i>Sebastes hopkinsi</i>
	Starry rockfish	<i>Sebastes constellatus</i>
	Tiger rockfish	<i>Sebastes nigrocinctus</i>
	Treefish rockfish	<i>Sebastes serriceps</i>
	Vermilion rockfish	<i>Sebastes miniatus</i>
	Widow rockfish	<i>Sebastes entomelas</i>
	Yelloweye rockfish	<i>Sebastes ruberrimus</i>
	Yellowtail rockfish	<i>Sebastes flavidus</i>
	<b>Roundfish</b>	
	Pacific cod	<i>Gadus macrocephalus</i>
	<b>Sharks and Rays</b>	
	Leopard shark	<i>Triakis semifasciata</i>
	Longnose skate	<i>Raja rhina</i>
	<b>Total</b>	<b>46</b>
<b>Migratory Fish Managed under HMS FMP</b>	Common Thresher Shark	<i>Alopias vulpinus</i>
	Dorado	<i>Coryphaena hippurus</i>
	<b>Total</b>	<b>2</b>

### 3.0 IMPACT ASSESSMENT

The rocky substrate within the immediate Project area is limited and, when present, appears to be routinely subjected to substantial sand scour and supports only a limited algal and invertebrate community. In the case that rocky substrate occurs in the pipeline decommissioning area(s), potential damage to that substrate from removing pipelines or from diver activities uncovering buried pipelines could result in short-term impacts to EFH. Further, kelp, eelgrass, and algae-covered rocky substrates are included in the group of Habitats of Particular Concern (HAPC) called “shallow water living substrates” and are considered important for some managed groundfish species (Dobrzynski and Johnson, 2001). Damage to that habitat could be considered significant to essential habitat for some of the nearshore rockfish listed in Table 2-1.

**Habitat Areas of Particular Concern.** Based on the proposed activities and the assessment of existing habitats, only the adjacent kelp beds adjacent to the Project area represent essential habitat and potential HAPC for managed species. By avoiding these features (see Section 4.0, Mitigation), potential impacts related to removal of the pipelines and associated diver activities would not result in a significant impact to the EFH of any of the managed species that could occur within the area. Specifically, anchoring of any work vessel will only occur in sedimentary habitats and will be situated so that anchor lines will not impact kelp or algae-covered rocks. In small sections where pipeline bundles intersect with kelp beds, removal operations will avoid existing kelp beds. To avoid impacts to kelp and hardbottom, the pipeline segment will be lifted or floated to the surface further offshore and outside of the kelp canopy to ensure that no interaction would result or damage to hardbottom will occur. There are no HAPCs designated for highly migratory or coastal pelagic species; and there will be no permanent impacts to EFH for those species. Offshore decommissioning activities will be limited to narrow corridors of primarily sedimentary seafloor within which the pipelines will be removed. The sedimentary bottom will be disturbed only during removal activities and Project vessels will not anchor in deep-water hard bottom habitat or within areas of sensitive resources.

**Turbidity/Suspended Sediments.** Potential underwater activities associated with decommissioning of structures includes anchoring, underwater cutting, excavating and securing the pipelines to the lifting equipment and recovering pipelines to an offshore barge. Resuspended sandy sediments are expected to settle quickly to the seafloor after disturbance. Little, if any, long-term water column turbidity is expected.

The sandy and exposed bedrock habitat that characterizes most of the seafloor within the area immediately adjacent to the pipelines and within the proposed anchor locations is not unique and is common throughout the region. Impacts to that habitat are expected to be short-term and insignificant to the EFH of managed species that may utilize it.

## **4.0 MITIGATION**

An anchor pre-plot will be developed specific to the Project site and Project activities, will be submitted with the Contractor Project Work and Safety Plan (PWSP) for review and approval. The anchor pre-plot will identify designated anchoring locations that avoid hard-bottom habitat. In addition, all anchors will be lowered vertically to the seafloor in a controlled manner. Each anchor will be recovered using a crown line to pull it vertically through the water column. Those methods will reduce sediment resuspension, seafloor alteration, and potential damage to rocky substrate. In addition, pre-decommissioning nearshore marine biological surveys will be conducted to identify any sensitive sea grass beds or rocky reef habitats that intersect with the pipeline corridors. Avoidance of these areas will reduce or eliminate impacts sensitive habitats.

The depression in the sedimentary seafloor that is expected to result from removal of the pipelines offshore or toward the shore is expected to quickly fill with surrounding sediments driven by near-bottom currents and by wave-generated currents. The Project area is an exposed coastline and is subject to storm waves. As mitigated, only short-term effects (sediment resuspension) are expected. No long-term impacts to the essential fish habitat, which consists of sedimentary and rocky habitats and the water column, are expected to result from the proposed action as mitigated.



## 5.0 REFERENCES

- California Department of Fish and Game (CDFG). 2001. California's Living Marine Resources: A Status Report, eds. Leet, W., Dewees, C.M., Klingbeil, R., Larson, E.J. December 2001.
- McCain, B., Miller, S.D., and Wakefield II, W.W. 2019. Life Histories, Geographical Distribution, and Habitat Associations of Pacific Coast Groundfish species. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington groundfish fishery, Appendix B, part 2. Pacific Fishery Management Council, June 2019.
- Dobrzynski, T. and Johnson, K. 2001. Regional Council Approaches to the Identification and Protection of Habitat Areas of Particular Concern. White Paper for NOAA/National Marine Fisheries Service, Office of Habitat Conservation, Silver Spring, Maryland. May 2001. 17 pp.
- Love, M. S. 1996. Probably more than you want to know about the fishes of the Pacific coast. Really Big Press, Santa Barbara, California. 215 p.
- Miller, D. J. and Lea, R. N. 1972. Guide to the Coastal Marine Fishes of California. California Department of Fish and Game Fish Bulletin No. 157.
- National Marine Fisheries Service (NMFS). 2019. Essential Fish Habitat Mapper v3.0. website: <http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>. Accessed May 7, 2019.
- National Oceanic and Atmospheric Association (NOAA). 1998. A Primer for Federal Agencies. Essential Fish Habitat: New Marine Fish Habitat Conservation Mandate for Federal Agencies. EHF Federal Primer. November 1998.
- Padre Associates, Inc. (Padre). 2018. Pre-Construction Marine Biological Dive Survey Letter-Report for the California Resources Corporation Grubb Lease Decommissioning of Intake/Outfall Structure. November 2018. pp. 19
- Sherman, K., and L.A. DeBruyckere. 2018. Eelgrass habitats on the U.S. West Coast. State of the Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent. A publication prepared by the Pacific Marine and Estuarine Fish Habitat Partnership for The Nature Conservancy. 67pp.

## **Appendix C-9**

# Supplemental Marine Surveys and Habitat Characterization Technical Report

December 16, 2022  
Project No. 2002-5211

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, California 93105

Attention: Ms. Becky Trujillo, Regulatory Affairs Manager

Subject: Supplemental Marine Surveys and Habitat Characterization Technical Letter-Report  
for Carpinteria Oil and Gas Offshore Pipelines, Carpinteria, Santa Barbara County

Dear Ms. Trujillo:

Padre Associates, Inc. (Padre) is pleased to provide this letter-report on behalf of Chevron USA (Chevron) in support of the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities Project (Project). The letter-report was prepared following review of offshore surveys that provided additional information of the existing conditions in the Project pipeline corridors. The objective of this letter-report is to supplement the habitat characterization included in the Project's Marine Biological Resources Study (Padre, 2021) and provide additional analysis regarding potential impacts to marine habitats during the proposed Project as presented in the California Environmental Quality Act (CEQA) Initial Study.

The proposed Project includes demolition of surface and subsurface facilities and remediation of any subsurface soil and groundwater contamination at the Carpinteria Onshore Oil and Gas Processing Facility, as well as subsea pipeline removal from the shore out to State Waters (three nautical miles) (Project Site). The Project will also include the removal of pipelines from the bluff and beach areas adjacent to the Casitas Pier and west of the Carpinteria Harbor Seal Rookery. Due to the marine nature of this letter-report the following section details the background information needed to include a complete discussion of the offshore Project site and Project activities that have the potential to impact the marine environment.

## **BACKGROUND**

The offshore Project site is located between the onshore Project Site and the State Water boundary within the Santa Barbara Channel (Attachment 1 – Figures, Offshore Project Site and Study Area). Two operational areas are present within the beach crossing and offshore Project site: The Marketing and Marine Terminal Offloading Lines Bundle and the Gail and Grace Pipeline Bundle/10-inch oil pipeline area.

As part of the Project's Coastal Development Permit Application, a Marine Biological Resources Study was finalized in June 2021; however, subsequent geophysical and remote operated vehicle (ROV) surveys were conducted of the Project's pipeline corridors in the later part of June and August 2021, respectively. The geophysical surveys were conducted along the Marketing and Marine Terminal Offloading Line Bundle as well as partially along the Gail and Grace Bundle, while the ROV surveys included only the Gail and Grace Bundled pipelines. In an effort to provide a comprehensive characterization of the marine habitats associated with the

Project site, Padre marine biologists reviewed the offshore survey reports, videos and mapping, with a focus of characterizing the biological marine resources present and have summarized the methods and results in following sections.

## METHODS

Chevron contracted Fugro USA Marine Incorporated (FUSAMI) and Aqueos Corporation (Aqueos) to perform offshore surveys of the Project pipeline corridors. FUSAMI completed geophysical surveys from June 23 through 27, 2021 along the Marketing and Marine Terminal Offloading Line Bundle, and along the inshore portion of the Gail and Grace Bundle. Geophysical surveys equipment included magnetometer, multibeam echosounder, sub-bottom profiler, and side scan sonar which was deployed from the *M/V Julie Ann*. Aqueos completed ROV surveys from August 4 through 14, 2021 of the Gail and Grace Bundled pipelines starting from the State Waters boundary. Surveys were conducted from the *M/V Clean Ocean* using an ROV camera to record survey video and a side scan sonar to track pipeline location on the seafloor.

The surveys' combined objectives were to complete required external inspections and to identify any the location of exposed or spanning pipeline, debris, and hard bottom habitats that may occur along each pipeline bundle; however, the FUSAMI survey was limited to geophysical data collection, while the Aqueos survey was only a visual survey.

## RESULTS

The surveys resulted in the mapping provided in Attachment 1 as well as approximately nine hours of video taken of the Gail and Grace Bundled Pipelines in State Waters. Both surveys found that the pipelines in their respective survey areas were primarily buried under sand sediments. In areas where the pipelines were exposed, it was exposed for short distances and was mostly devoid of marine life. The vessel size and equipment dictated the water depths that were included in each survey. Table 1 summarizes the depth ranges that each survey covered within State Waters.

**Table 1. 2021 Offshore Pipeline Surveys in State Waters**

Company and Survey Type	Pipeline Bundle	Depth Range (feet)
Aqueos ROV Survey	Gail and Grace Bundle	50 to 145
FUSAMI Geophysical Survey	Gail and Grace Bundle	28 to 74
	Marketing and Marine Terminal Offloading Line Bundle	18 to 61

**Aqueos ROV Survey.** In water depths of approximately -50 to -115 feet, the Aqueos ROV surveys recorded the Grace and Gail Bundle alignment continuously buried under sand and silt sediments. As the survey moved offshore, the pipelines continued to be primarily buried but have five areas of short exposure until they cross the Hogan to Shore pipeline bundle in -145 feet of water near the State Waters boundary line. Low visibility made it difficult to identify any species to taxa; however, the Gail and Grace Bundle alignment was mostly devoid of marine life aside from small schooling fish occasionally observed swimming above the pipeline alignment. Minor debris was noted, but nothing that compromised the integrity of the pipelines.



**FUSAMI Geophysical Surveys.** Multibeam imagery from the FUSAMI surveys found the seafloor gradually sloping from water depths of -13 feet in the nearshore region to -74 feet at the edge of the survey area. Sub-bottom profiler depth of burial measurements found that, on average, the Gail and Grace Bundled pipelines are buried between one to three feet deep inshore of 74 feet and the Marketing and Marine Terminal Offloading Line bundle is also buried one to three feet inshore of 60 feet. There were no refractions of rock reef or marine vegetation identified within the pipeline corridors on the multibeam or side scan sonar data. The side scan sonar data identified 17 individual targets within the Marketing and Marine Terminal Offload Line and Gail and Grace Bundles. Sixteen of those targets were identified as “unknown targets” ranging in length from 3.0 to 32.1 feet with an unknown linear target along the 20-inch loading pipeline that potentially shows the only area of pipeline exposure. The potential pipeline exposure area is 31.8 feet long and 2.6 feet wide. There is no video footage of this area of exposed pipeline, but neither multibeam or side scan sonar indicate any presence of marine vegetation or other hard substrates.

## CONCLUSION

Results from the both the ROV and geophysical surveys showed that the Gail and Grace Bundle and Marketing and Marine Terminal Offloading Line Bundle were primarily buried in sand and silt sediments along their alignment within State Waters, with infrequent and short lengths of exposure. There were no observations of hard substrates, kelp, or surf grass attached to the pipelines or within the pipeline corridors during either survey. Given the pipelines’ depth of burial in sand, it is unlikely that suitable habitat would be present for sensitive marine species; therefore, direct impacts are not expected to sensitive marine resources within the survey areas and depths presented above.

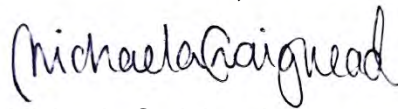
However, shallow water depths precluded surveys from encroaching into water depths less than 18 feet along the Marketing and Marine Terminal Bundle and 28 feet along the Gail and Grace Bundle. Past visual surveys of the beach pipeline crossing areas have recorded rock outcroppings along the shoreline; therefore, assuming the bedrock remains at a similar depth in the un-surveyed area, it is likely that intertidal and nearshore habitats may consist of mixed sand and rock outcropping habitat in the surf zone as well (Attachment 2 – Site Photographs); however, to what extent these habitats overlap with the Project pipeline corridors remains undetermined.

In mixed sand and rock marine habitats, wave exposure, sediment grain size, and water depth are the main physical factors that influence the composition of intertidal and subtidal benthic communities. In addition, seasonal sand deposits and retractions create dynamic substrates that preclude the recruitment and establishment of marine vegetation and reef forming species that create rare rock reef and Essential Fish Habitats (i.e., kelp beds, surf grasses, eelgrass, turf algae). The deposition and retraction of sand on pipelines further offshore would also explain while even in areas of exposure little to no marine growth is present on the pipelines. Due to these physical factors, soft substrate habitats within the intertidal and subtidal zone typically lack vegetation and have a lower diversity and abundance of species than those areas with perennially exposed hard substrate. The lack of marine vegetation reduces the habitat structure available to recruit common reef invertebrates and fish, as well as protected marine species such as abalone; therefore, direct impacts to established sensitive habitats and protected species are unlikely to occur in the Project site.

In accordance with the Project's Marine Biological Resources Study's assessment and CEQA Initial Study, MM BIO-6: Essential Fish Habitat Avoidance, would still require pre-decommissioning marine biological dive surveys to be conducted of the nearshore pipeline corridors to identify and avoid any sensitive habitats that may have yet to be identified inshore of the ROV and geophysical surveys detailed in this letter report. In addition, although unlikely to occur, pre-decommissioning eelgrass surveys would also be conducted as part of MM BIO-6 in accordance with the California Eelgrass Mitigation Policy and in consultation with the National Marine Fisheries Service.

Sincerely,

Padre Associates, Inc.



Michaela Craighead  
Project Marine Biologist

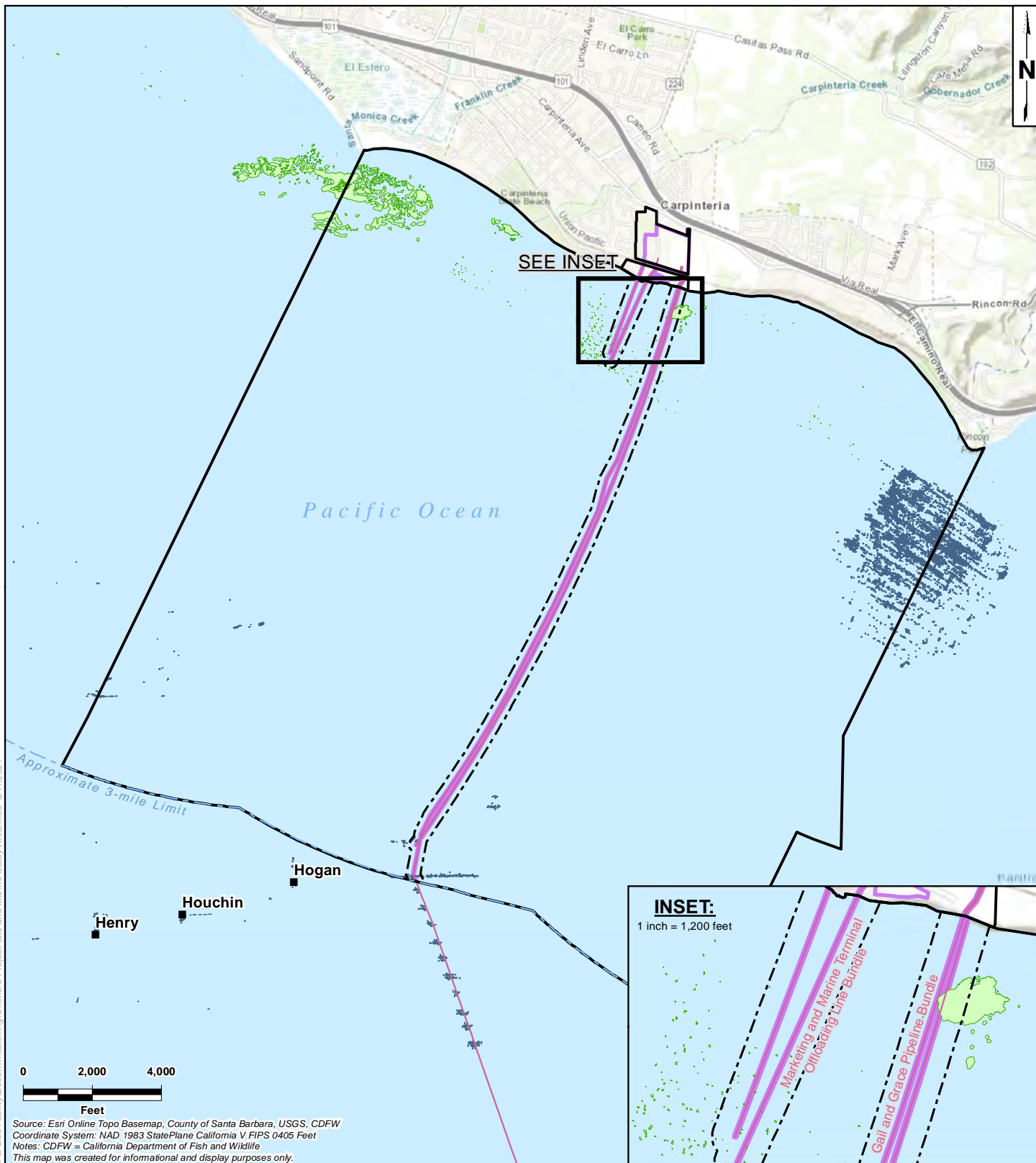
Attachment: 1 Figures  
2 Site Photographs

c:

## **ATTACHMENT 1**

---

### **FIGURES**



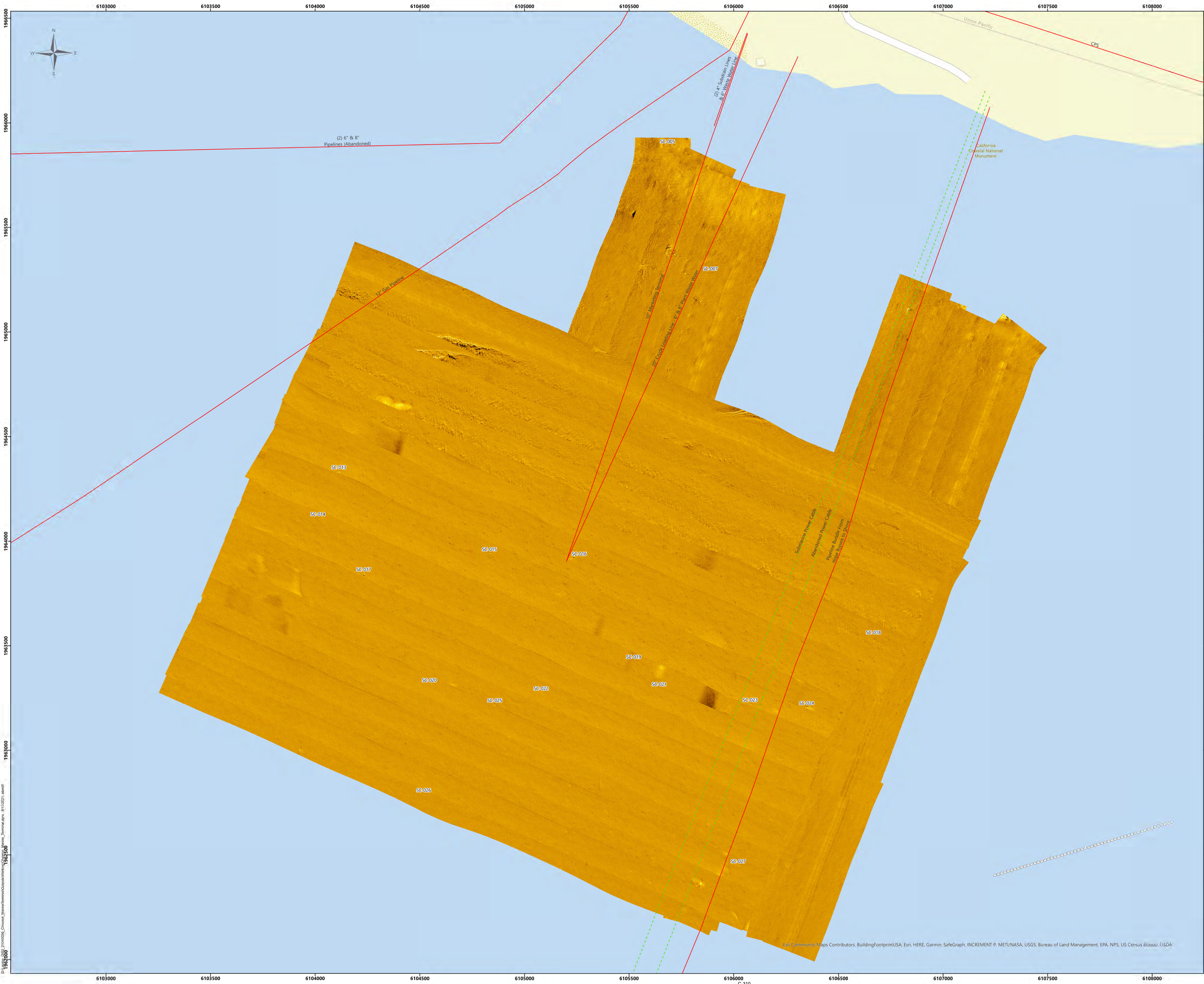
#### LEGEND:

- Platform Location
- Approximate 3-mile Limit
- Oil Pipeline
- Project Site
- CDFW Kelp Bed
- Hard Bottom
- Project Disturbance Area
- Study Area (400 ft)

#### MAP EXTENT:







Legend

- Current Map Extent (Key Map)
- Side Scan Sonar Contact

Infrastructure

- Pipeline
- Inferred Power Cable
- Mooring

NOTES:

- Bathymetric contours are in feet and referenced to MLLW based on tide observations for Santa Barbara, CA (Tide station 9411340).
- Survey equipment utilized during data acquisition included the following systems:
  - Fugro G4+ Signal Primary Positioning Signal
  - Applanix POS MV Inertial Navigation System Oceanmaster
  - Norbit iWBMSH STX Multibeam System
  - Edgetech 4125 Digital Dual Frequency Side Scan Sonar
  - Geometrics G-882 Magnetometer Towfish
  - Edgetech 3200 Sub-Bottom Profiler with SB-216S Towfish
- Survey data were collected on June 23 - 27, 2021 aboard the M/V Julie Ann.
- Existing features including as-built pipelines, cable locations and seafloor features are compiled from as-built and historical data, as well as seamless Fugro ENC database and NOAA charts.

This document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for that commission. Unauthorized use of this document in any form whatsoever is prohibited. Not for navigational use.

GEODETTIC INFORMATION

DATUM: NAD83  
PROJECTION: California Coordinate System (CCS)  
(Lambert Conformal Conic Projection)  
  
ZONE: Zone 5  
UNITS: U.S. Survey Feet  
  
VERTICAL DATUM: MLLW



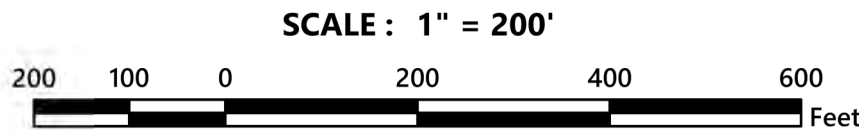
**FUGRO** **FUGRO USA MARINE**  
4820 McGrath St., Suite 100  
Ventura, California 93003  
Tel: (805) 650-7000  
www.fugro.com



CARPINTERIA MARINE TERMINAL  
GEOPHYSICAL SURVEY

SIDE SCAN SONAR MOSAIC

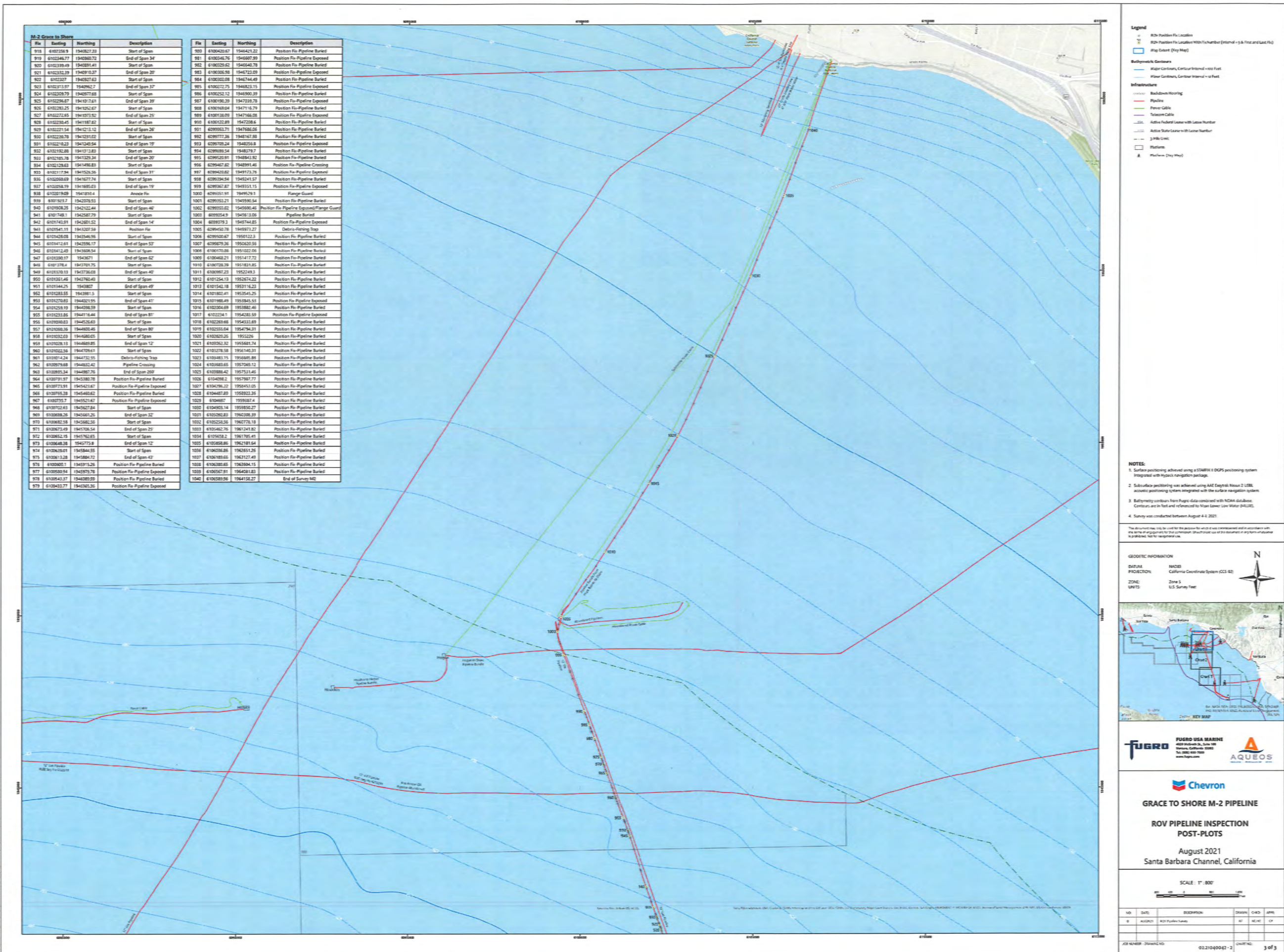
OFFSHORE CARPINTERIA, CA  
JUNE 2021



REV NO:	DATE:	DESCRIPTION:	DRAWN:	CHKD:	APPR:
0	JUNE2021	MBES, Side Scan Sonar, Mag and Sub-Bottom Profiler Survey	AT	DE/KC	CP

JOB NUMBER - DRAWING NUMBER: 02.21040036 - 1 CHART NO: 2 of 2







## **ATTACHMENT 2**

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### **SITE PHOTOGRAPHS**



Photo 1. West side of Casitas Pier and Marketing and Marine Terminal pipeline bundle area (buried). Date: April 20, 2021, aspect east.



Photo 2. East side of Casitas Pier with Gail and Grace pipeline bundle (buried) and exposed concrete armament. Date: April 20, 2021, aspect west.





Photo 3. Overview of typical intertidal habitat dominated by mussels (*Mytilus* sp.) within original Marine Biological Resources Study area. Marketing and Marine Terminal Offloading Line Bundle out of frame (buried) to the west of the rock outcroppings. Date: April 20, 2021, aspect south.



Photo 4. Imagery from 2021 Aqueos ROV survey. Debris crab trap noted adjacent exposed pipeline near State Waters boundary.



Photo 5. Imagery from 2021 Aqueos ROV survey. Exposed pipeline with minimal marine growth.

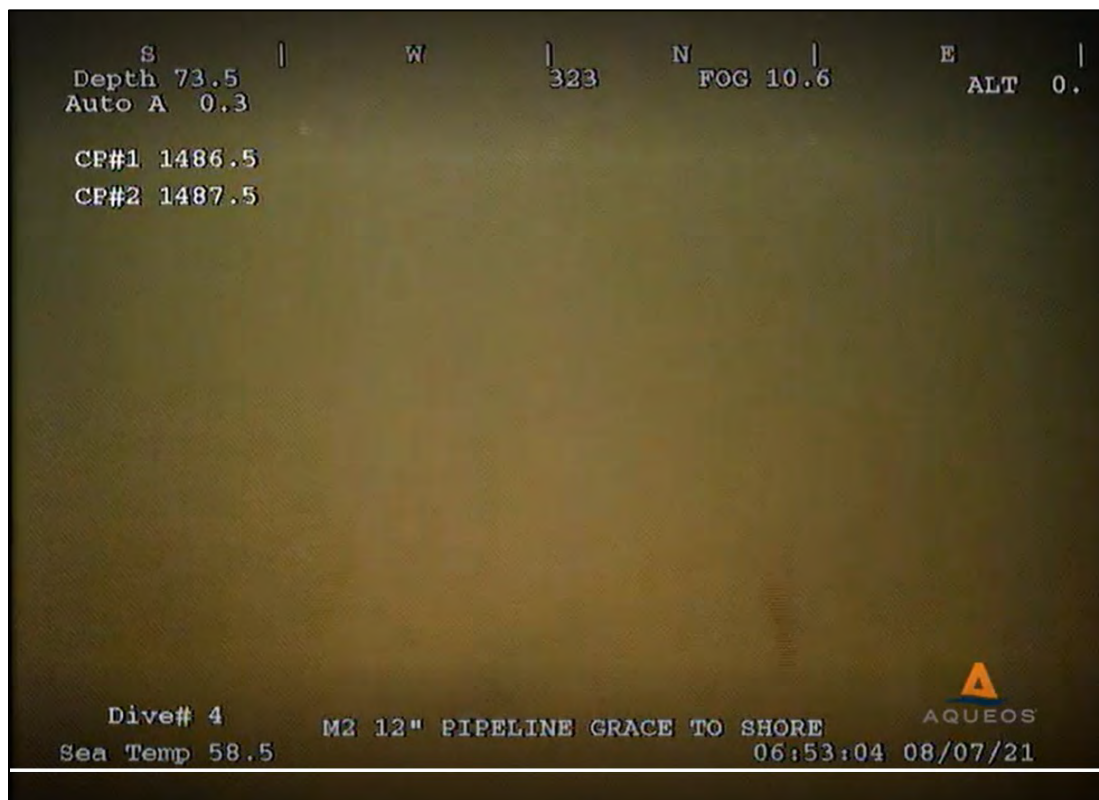


Photo 6. ROV imagery from 2021 Aqueos survey. Sand/mud bottom surrounding the area of buried pipeline at 73.5 feet.

## **Appendix D**

### **Notice of Preparation and Initial Study Supporting Information**

## **Appendix D – Notice of Preparation and Initial Study Supporting Information**

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Santa Barbara County Air Pollution Control District Comment Letter .....	D-85
The Sportfishing Conservancy Comment Letter .....	D-93
Susan Allen Comment Letter .....	D-95
Susan Mailheau Comment Letter .....	D-97
Location of Comment Discussion in Draft EIR Table .....	D-100



## NOTICE OF PREPARATION

TO: State Clearinghouse  
Governor's Office of Planning and Research  
1400 Tenth Street  
Sacramento, CA 95812

FROM: Steve Goggia  
City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

**SUBJECT:** Notice of Preparation of a Draft Environmental Impact Report

**PROJECT NAME:** Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility.

**PROJECT LOCATION:** 5675 and 5663 Carpinteria Avenue, Carpinteria, CA

**PROJECT CASE #:** 2128

**PROJECT APPLICANT:** Chevron

The City of Carpinteria will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Project identified above and all interested agencies, organizations and individuals are invited by the City to comment on the scope and content of the EIR. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed Project. The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives.

The Project description, location and the potential environmental effects are contained in the attached Initial Study.

For the convenience of property owners and residents in the Project area, comments can be provided via email as detailed below. The Scoping comments should be limited to understanding the proposed Project and associated environmental concerns, including potential mitigation measures and possible alternatives to the Project. The attached Initial Study will be used as a starting point for discussion within the Draft EIR, but other environmental concerns may be raised by the public.

For current Project information, the following page has been established on the City's website:  
<https://carpinteriaca.gov/city-hall/community-development/oil-gas-information/oil-processing-facility-decommissioning/>

Due to the time limits mandated by State law, your response must be received at the earliest possible date, but not later than 30 days after receipt of this notice.

Please send your response to Steve Goggia, Community Development Director, at the address shown above or email to the email address below.



Date: August 1, 2022

Planner: Steve Goggia, [steveg@carpinteriaca.gov](mailto:steveg@carpinteriaca.gov)

Department: Community Development

Telephone: (805) 755-4414

cc: Clerk of the Board (please post for 30 days)

Encl: Initial Study

**Decommissioning and Remediation  
Of the Chevron Carpinteria  
Oil and Gas Processing Facility  
Project #2128**

**Initial Study**

**July 2022**

**Prepared by:**

City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

And

MRS Environmental  
1306 Santa Barbara St  
Santa Barbara, CA 93101

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## 1.0 INTRODUCTION

### 1.1 Project Overview

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use). It should be noted that cleanup levels do not include removal of the existing legacy wells on the site, nor the potential contamination associated with those wells.

The Project is subject to analysis pursuant to the California Environmental Quality Act (CEQA). In accordance with CEQA Guidelines Section 15367, the City of Carpinteria (City) is the lead agency with principal responsibility for considering the Project for approval (14 CCR 15000 et seq.).

### 1.2 California Environmental Quality Act Compliance

CEQA, a statewide environmental law contained in California Public Resources Code (PRC) Sections 21000–21177, applies to most public agency decisions to carry out, authorize, or approve actions that have the potential to adversely affect the environment (PRC Section 21000 et seq.). The overarching goal of CEQA is to protect the physical environment. To achieve that goal, CEQA requires that public agencies identify the environmental consequences of their discretionary actions and consider alternatives and mitigation measures that could avoid or reduce significant adverse impacts when avoidance or reduction is feasible. It also gives other public agencies and the public an opportunity to comment on the project. If significant adverse impacts cannot be avoided, reduced, or mitigated to below a level of significance, the public agency is required to prepare an environmental impact report (EIR) and balance the project's environmental concerns with other goals and benefits in a statement of overriding considerations.

This initial study (IS) has been prepared by the City as the lead agency, in accordance with the CEQA Guidelines, to evaluate potential environmental effects and to determine whether an environmental impact report (EIR), a negative declaration, or a mitigated negative declaration (MND) should be prepared for the proposed project.

### 1.3 Preparation and Processing of this Initial Study

The City's Community Development Department directed and supervised preparation of this Initial Study (IS). Although prepared with assistance from the consulting firm MRS Environmental, Inc., the content contained, and the conclusions drawn within this IS reflect the independent judgment of the City. The IS was prepared with the assistance of the following documentation submitted by the applicant as part of the Project application package:

- *Project Description, Padre and Associates Inc., October 2021;*
- *Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – Volume III – Initial Study, Padre Associates Inc., October 2021;*
- *Summary of Remedial Action Plan, Padre Associates Inc.;*
- *Marine Biological Resources Study, Padre Associates Inc., June 2021;*
- *Essential Fish Habitat Assessment , Padre Associates Inc., October 2021;*
- *Carpinteria Harbor Seal Rookery Monitoring and Protection Plan, Padre Associates Inc., June 2021;*
- *Terrestrial Biological Resources Study , Padre Associates Inc., June 2021;*
- *Tree Report, Padre Associates Inc., Padre Associates Inc., June 2021;*
- *Bluff Retreat Evaluation Report, Padre Associates Inc., June 2021;*
- *Coastal Wetland Delineation Report, Padre Associates Inc., October 2021;*
- *Preliminary Restoration/ Vegetation Plan, Padre Associates Inc., June 2021;*
- *Carp O&G Plant Decommissioning Emissions Calcs June 2021, Padre Associates Inc., ;*
- *Policy Consistency Analysis, October 2021;*
- *Cultural Resources Assessment, Padre Associates Inc., October 2021;*
- *Noise Management Plan, Padre Associates Inc., June 2021;*
- *Traffic, Parking and VMT Analysis, Associated Transportation Engineers, June 2021; and,*
- *Description of Facilities not Included in Project Activities.*

### 1.4 Initial Study Checklist

MRS Environmental, Inc., under the City's guidance, prepared the project's Environmental Checklist (i.e., Initial Study) per CEQA Guidelines Sections 15063–15065. The CEQA Guidelines include a suggested checklist to indicate whether a project would have an adverse impact on the environment. The checklist is found in Section 3, Initial Study, of this document. Following the Environmental Checklist, Sections 3.1 through 3.21 include an explanation and discussion of each significance determination made in the checklist for the project.

For this Initial Study, one of the following four responses is possible for each environmental issue area:

1. Potentially Significant Impact
2. Less-Than-Significant Impact with Mitigation Incorporated
3. Less-Than-Significant Impact
4. No Impact

The checklist and accompanying explanation of checklist responses provide the information and analysis necessary to assess relative environmental impacts of the project. In doing so, the City will determine the extent of additional environmental review for the project.

## **1.5 Point of Contact**

The City of Carpinteria is the lead agency for this environmental document. Any questions about preparation of this IS, its assumptions, or its conclusions should be referred to the following:

Name: Steve Goggia  
Community Development Director  
City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, California 93013  
Phone: (805) 755-4414

The point of contact for the applicant is as follows:

Becky Trujillo, CPL  
Chevron Regulatory Affairs Manager  
3916 State Street, Suite 200  
Santa Barbara, California, 93105

## 2.0 PROJECT DESCRIPTION

### 2.1 Project Location

Access to the Project site is from U.S. Highway 101 to Bailard Avenue and west onto Carpinteria Avenue to Dump Road. The site is bisected by Dump Road (a private, two-lane roadway) from west to east, and by the Union Pacific Railroad from north to south. The eastern portion of the Project site remains predominantly developed by oil and gas processing equipment, ancillary equipment, and other support facilities/buildings. A large above-ground tank (Tank 861) is the predominant feature onsite. The western portion of the site is primarily open space. The southern third of the site is open space along the bluffs, and two large parking areas utilized in support of the Casitas Pier operations.

The nearshore beach area along Tar Pits Park/Carpinteria State Beach provides public recreational access. A known harbor seal rookery is located approximately 70 feet to the east of Casitas Pier. The City of Carpinteria closes public access to the beach from December 1st to May 31st per ordinance 12.24.090 to avoid human interference with harbor seal pupping at the rookery. However, during the open season, the beach is accessible to the public at low tides from both the west and east. The pipelines and utilities that cross the beach in this area are in some cases above ground, on risers, or are seasonally exposed to view. Offshore water depths range up to 148 feet out to Federal waters.

### 2.2 Historical Site Use

Historical use at the Project site included both agricultural and oil and gas development. The Project Site is located within CA-SBA-6, a large prehistoric shell midden and lithic scatter that indicates seasonal prehistoric habitation. Archaeologist David Rogers initially recorded CA-SBA-6 in 1929 as three distinct loci. He described the site as a dense shell midden between the sea cliff and the railroad with a hunting camp and a cemetery (Rogers, 1929). Agricultural uses included dry farming, row crops, orchards and commercial flower production. Oil and gas processing began in 1959 as part of the offshore Summerland oil field with the installation of Platform Hazel. Oil was stored in Tank 861 and processed gas was sold to the Southern California Gas Company.

The Chevron facility consisted of offices, production pipelines from offshore platforms, separation, processing, and storage infrastructure. Historical processing levels reached up to 20,000 barrels of oil per day and 20 million standard cubic feet per day (MMSCF) of natural gas. The oil was shipped to Ventura via pipeline and the natural gas sold to Southern California Gas Company. Refined products were also transferred from the facility via marine tanker. From 1960 to 1989, the oil and gas plant received oil and gas from several other offshore platforms constructed in the Santa Barbara Channel, including Hilda, Hope, Hazel, and Heidi (Carpinteria Field), and Grace and Gail (Santa Clara Field and Sockeye Field). Abandonment of the wells and decommissioning/removal of offshore Platforms Hazel, Hilda, Hope, and Heidi (4H Platforms) from the Santa Barbara Channel were completed in 1996.



Chevron sold its Santa Barbara Channel assets to Venoco, Inc. in 1998. Platform Grace ceased operations in 1998 and Platform Gail in 2017.

**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**



Source: Project Description October 2021.

**Project Location**

## **2.3 Environmental Setting**

### **Existing Project Site**

The Project site encompasses seven parcels (APN Nos. 001-170-003, 001-170-004, 001-170-014, 001-170-021, 001-170-022, and 001-170-023), that total approximately 64.28 acres. The Project site is located on a relatively flat coastal terrace, and slopes slightly downward to the south and west. Coastal bluffs of between 35 and 50 feet in height descend from the terrace to a narrow sand beach (Tar Pits Park at Carpinteria State Beach) and the Pacific Ocean.

### **Surrounding Land Uses**

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

## **2.4 Proposed Project**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use). Primary Project tasks are summarized in the list below:

### **Onshore**

- Idling and removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant;
- Removal of concrete foundations, asphalt, oil spray and road base;
- Excavation/remediation of any impacted soil;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal;
- Removal of offshore Project pipeline segments out to 3-mile State waters limit;
- Potential nighttime activities in surf zone due to tidal restrictions;
- Removal of nearshore beach crossing pipeline segments;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

### **Project Objectives**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Any residually impacted soils at the Project Site will be remediated to a unrestricted land use standard consistent with the approvals from the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA) to facilitate reuse of the property for land use acceptable under the City's current Draft General Plan/Local Coastal Plan Update (anticipated to be Planned Unit Development and Open Space/Recreation). Nearshore and offshore pipeline segments will be removed.

## **2.5 Construction Schedule**

Based on the proposed Project application package, the Project is expected to require 670 days over a three year period. Daily schedule is estimated at Monday through Friday for eight to ten hours for onshore components and up to seven day a week and twelve hours per day for offshore components. The applicant has submitted the following schedule in the table below.

<b>Project Activity Location</b>	<b>Approximate Date Range</b>
Project Initiation	October 2022
<b>Onshore</b>	
Chevron Pipeline Area	October 2022 – December 2022
Former Marketing Terminal	April 2023 – August 2023
Shop and Maintenance Area	August 2023 – October 2023
Main Plant Area	May 2024 – March 2025
MSRC Lease Area	June 2024 – August 2024
<b>Offshore</b>	
Former Marketing Terminal/Marine Terminal Offloading Bundle	August 2024 – November 2024
Gail and Grace Pipeline Bundle	September 2024 – December 2024
<b>Grading and Revegetation</b>	
Pier Parking Lot Area	December 2024 – March 2025
Final Site Grading and Revegetation	March 2025 – May 2025
Project Completion	May 2025

Source: Chevron Project Description, October 2021 .



**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**

**2.6 Project Approvals**

The proposed Project would require review and or approval from local, state and federal public agencies. The table below submitted by the applicant provides a comprehensive list of the potential public agencies for the proposed Project. CalGEM has been added to the list for consultation and guidance on the legacy wells located on the Project site.

Agency	Regulated Activity	Project Components	Authority	Permit Approval
<b>Local</b>				
City of Carpinteria	Removal of project components located onshore and within City deeded tidelands (beach & offshore segments). Activities within designated coastal zone	Onshore operations and deeded tidelands	California Coastal Act and CSLC deeded tidelands, CEQA lead agency	Certification of CEQA Documentation Coastal Development Permit for onshore facilities removals and remediation Demolition and Grading Permit for onshore facilities removals and remediation Approval of Facility decommissioning plan within City Deeded Tidelands and Issuance of a Lease Quit Claim
Santa Barbara County Department of Planning and Building	Removal of project components located within County deeded tidelands. Activities within designated coastal zone	Deeded tidelands	California Coastal Act and CSLC deeded tidelands	Approval of Pipeline Right of Way Lease Agreement within County Deeded Tidelands
Santa Barbara County Public Health Department, Environmental Health Services Department	Establishment of remediation levels for any onshore impacted soil	Onshore Facilities	Onsite Hazardous Waste Treatment ("Tiered Permit") - Authority: HSC Chapter 6.5 & Title 22 CCR Division 4.5; California Accidental Release Prevention ("CalARP") - Authority: Chapter 6.95, Article 2 & Title 19 CCR Chapter 4.5	Approval of Remedial Action Plan
Santa Barbara County Air Pollution Control District	Air emissions	Marine and onshore operations	1990 Clean Air Act CEQA Review	CEQA Review Portable Engine Permits for onshore facilities
<b>State</b>				

**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**

Agency	Regulated Activity	Project Components	Authority	Permit Approval
California Coastal Commission	Any development within the coastal zone	Marine and onshore within coastal zone	California Coastal Act Coastal Zone Management Act	Federal Consistency Determination for all Federal approvals and permits. Coastal Development Permit for actions within State Waters Appeal jurisdiction of Coastal Development Permits issued for onshore activities with the Coastal Zone
California Department of Fish and Wildlife	Activities affecting State Waters biological resources Onshore activities affecting onshore biological resources including streams and wetlands	Marine component and onshore facilities within Coastal Zone	State Endangered Species Act Section 1601	Consultation under State Endangered Species Act Section 1601 approval for work within designated waterways
Regional Water Quality Control Board (RWQCB)	Discharges that may affect surface and ground water quality in waters of the state Discharges associated with flushing pipes; runoff from facilities during storms Sanitary and domestic waters from the platforms or vessels Establishment of remediation targets of any impacted groundwater	Marine and onshore operations	Clean Water Act Porter-Cologne State Water Quality Act	Section 401 certification in association with 404 Permit Approvals Stormwater permits for all onshore excavations Approval of Remedial Action Plan
California State Office of Historic Preservation (OHP) and the State Historical Preservation Office (SHPO)	Impacts to historic and pre-historic resources	None identified to date	National Historic Preservation Act Protection of Historic Resources (36CCR800)	Consultation under Section 106
California State Fire Marshal, Hazardous Liquid Pipeline Safety Division	Pipeline inspections and safety	Onshore and offshore pipelines	Federal 49 CFR Part 195 State CCR/Chapter 5.5 Sections 51010 through 51019	Consultation with CalGEM and California States Lands Commission (CSLC)
CalGEM	To be determined	Legacy wells	California Health and Safety Code Division 3 Oil and Gas Article 4.1 Abandoned Wells	To be determined

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<b>Agency</b>	<b>Regulated Activity</b>	<b>Project Components</b>	<b>Authority</b>	<b>Permit Approval</b>
<b>Federal</b>				
U.S. Army Corps of Engineers (U.S. ACOE)	Discharge of dredged or fill material into waters of the U.S. during construction. Jurisdictional waters include territorial seas, tidelands, rivers, streams and wetlands Structures or work in or affecting navigable waters of the U.S. Review and issuance concurrent with Section 404	Marine components	Section 404 Clean Water Act (33 USC 1344)  Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) (Section 4(f) of the OCS Act of 1953)	Issuance of a 404 Permit associated with excavation and related bottom disturbance  Issuance of a Section 10 Permit associated with excavation and related bottom disturbance in navigable waters
United States Fish & Wildlife Service (USFWS)	Impacts to federally-listed endangered and threatened species and species proposed for listing	Both terrestrial & marine components	16 USCA 1513 50 CFR Section 17	Consultation under the Endangered Species Act (Section 7) and Issuance of Biological Opinion/Incidental Take Permit (if necessary)
National Oceanic & Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS)	Impacts to federally-listed and species proposed for listing. Protection of Marine Mammals Managed Marine Fish Resources	Marine components	16 USCA 1513 50 CFR Section 17	Consultation under the Federal Endangered Species Act, Section 7, Marine Mammal Protection Act, Essential Fish Habitat Assessment Issuance of Biological Opinion/Incidental Take Permit (if necessary)
U.S. Environmental Protection Agency (EPA)	Discharges that may affect surface and ground water quality Establish remediation levels for onshore PCB-impacted soil and groundwater	Both terrestrial & marine components	Clean Water Act 40 CFR 761.61(a) 40 CFR 761.61(c)	Issuance of NPDES permit (if necessary) for offshore discharges. Termination of existing NPDES Permits associated with facility operations Approval of remedial activities for PCBs
United States Coast Guard (USCG)	Activities that may affect navigable waters	Activities in navigable waters	33 CFR Part 62, 67 and 153 OPA 90	Notice to Mariners

Source: Chevron Project Description, October 2021 .

## 3.0 INITIAL STUDY CHECKLIST

**1. Project title:**

Decommissioning and Remediation Of the Chevron Carpinteria Oil and Gas Processing Facility

**2. Lead agency name and address:**

City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, California 93013

**3. Contact person and phone number:**

Name: Steve Goggia  
Community Development Director  
Phone: (805) 755-4414  
Email: [steveg@ci.carpinteria.ca.us](mailto:steveg@ci.carpinteria.ca.us)

**4. Project location:**

5675 and 5663 Carpinteria Avenue, Carpinteria, CA

**5. Project sponsor's name and address:**

Becky Trujillo, CPL  
Chevron Regulatory Affairs Manager  
3916 State Street, Suite 200  
Santa Barbara, California, 93105

**6. General plan designation:** Coastal Dependent Industrial

**7. Zoning:** The Project site is Coastal Dependent Industry (CDI) and Recreation (Rec).

**8. Description of project:**

The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Remediation is intended to achieve the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department (SBCEHS), Regional Water Quality Control Board (RWQCB) and U.S. Environmental Protection Agency (USEPA), while preserving existing site resources, including mature trees and bluffs, and while respecting site constraints including buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses (or equally protective contaminant-specific, agency-approved levels) provide the standard for on-site soil remediation,



consistent with Chevron's rigorous clean up objectives. Although relevant agencies with jurisdiction will establish required clean up levels, by assuming the most stringent clean up level, soil excavation and truck trip estimates are higher. This assumption affects the reasonably foreseeable scope of environmental impacts because the most stringent clean up levels would require more intensive remediation activities (e.g., truck trips, site activities). The most stringent clean up levels would also result in greater flexibility for development on the site meeting the most rigorous standards (e.g., unrestricted land use).

**Surrounding Land Uses and Setting:**

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

**9. Other public agencies whose approval is required: (e.g., permits, financing approval, or participation agreement.)**

See Section 2.5, Project Approvals, for details.

**10. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?**

The City will contact the appropriate Native American tribe representative as part of the noticing of the proposed Project and preparation of the environmental document. The Project site does have an identified archaeological resource (cultural resource CA-SBA-06) and the Project will have mitigation measures including a Native American monitor to protect CA-SBA-06 and other potential cultural resources.

**Environmental Factors Potentially Affected**

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Energy
<input checked="" type="checkbox"/> Geology & Soils	<input checked="" type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards & Hazardous Materials
<input checked="" type="checkbox"/> Hydrology & Water Quality	<input checked="" type="checkbox"/> Land Use & Planning	<input type="checkbox"/> Mineral Resources

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- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Noise             | <input type="checkbox"/> Population & Housing      | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Recreation                   | <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources          |
| <input type="checkbox"/> Utilities & Services Systems | <input type="checkbox"/> Wildfire                  | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

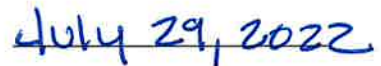
## Determination:

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature



Date

## Evaluation of Environmental Impacts:

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors, as well as general standards (e.g., the project would not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on- site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
4. “Negative Declaration: Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analyses Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project’s environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>I. AESTHETICS.</b> Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>II. AGRICULTURE AND FORESTRY RESOURCES.</b> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY.</b> Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES.</b> Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>V. CULTURAL RESOURCES.</b> Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VI. ENERGY.</b> Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII. GEOLOGY AND SOILS.</b> Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>VIII. GREENHOUSE GAS EMISSIONS. Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than-Significant Impact	No Impact
<b>IX. HAZARDS AND HAZARDOUS MATERIALS.</b> Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. HYDROLOGY AND WATER QUALITY.</b> Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would				
i) result in a substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XI. LAND USE AND PLANNING.</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>XII. MINERAL RESOURCES.</b> Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>XIII. NOISE.</b> Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIV. POPULATION AND HOUSING.</b> Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XV. PUBLIC SERVICES.</b> Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study**

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
<b>XVI. RECREATION.</b>				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>XVII. TRANSPORTATION. Would the project:</b>				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVIII. TRIBAL CULTURAL RESOURCES.</b>				
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIX. UTILITIES AND SERVICE SYSTEMS. Would the project:</b>				



	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a determination by the waste water treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XX. WILDFIRE.</b> If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less-Than- Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XXI. MANDATORY FINDINGS OF SIGNIFICANCE.</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### 3.1 Aesthetics

**a) *Would the project have a substantial adverse effect on a scenic vista?***

**Less than Significant.** The Carpinteria Bluffs and Carpinteria Avenue view sheds are considered important scenic vistas to the City. No new structures are part of the proposed Project, rather, existing structures (surface and subsurface infrastructure of the oil and gas facility) are proposed for removal.

The proposed Project includes limited tree removal, four percent or approximately 40 trees along the north-south orientated windrow along the eastern Project boundary. These trees are part of a parallel set of two rows of trees, therefore, removal of a small percentage of the trees would not significantly alter the visual effect of the tree windrow or degrade the view scape.

Temporary stockpiling of soils, parking and storage of construction equipment at the Project site would potentially be visible during the three year Project duration. These features would be partially screened by the windrow trees or other vegetation but may be potentially seen by the public from certain viewpoints. Given the fact that the primary view sheds in the Project area are the Carpinteria Bluffs, Tar Pits Park, and the ocean, temporary impacts to the overall area scenic vistas from the Project would be less than significant.

Offshore portions of the Project would include the use of large work vessels, barges, and other types of work boats. These vessels would be visible from the bluffs, beach and ocean users and would be an increase of existing vessel traffic. However, the potential impact to coastal views would be temporary and therefore the short term impact to the coastal scenic vista would be less than significant.

**b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings in a state scenic highway?***

**Less than Significant.** Views from Highway 101 of the Project site are broken up by trees, therefore, views of the Project site from moving vehicles on Highway 101 would be less than significant. The proposed Project will require the removal 62 non-native trees for soil excavation and remediation. None of the trees are located in City designated Open Space or ESHA areas. The City considers the loss of ten percent of trees of biological value on a project site a potentially significant impact. The Tree Report for the proposed Project documented 1,500 total trees on the Project site, therefore, the loss of 62 trees equates to approximately four percent which is less than the ten percent of the City guideline and would not be expected to have a significant impact on a viewshed. The proposed Project involves removal of oil and gas processing equipment infrastructure, therefore, would not damage any scenic resources such as trees, rock outcroppings, or historic buildings.

**c) *Would the project, in nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?***

**Less than Significant.** The Project site is zoned as Coastal Industry District (M-CD), and Recreation (REC). The Project would remove the oil and gas processing equipment infrastructure and remediate the area to undeveloped conditions. Therefore, the Project would not conflict with zoning or City regulations or policies related to scenic quality. The construction activities associated with the Project would potentially cause short term impacts to public views of the scenic area, however, these impacts would be temporary and therefore less than significant.

**d) *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

**Less Than Significant with Mitigation.** The Project would involve the short term use of lighting during critical work activities. Existing site vegetation, including the trees located in the Buffer Zone, would

help minimize lighting disturbance to adjacent neighborhoods such as Concha Loma. Onshore Project lighting impacts to Carpinteria Avenue and Highway 101 would be minimized by existing fencing and vegetation.

Construction activities on the beach areas may include nighttime lighting to work with tidal and weather conditions. Lights from these activities would be visible from the Carpinteria Bluffs and adjacent neighborhoods but could be mitigated with standard light minimization techniques such as the use of low intensity lights and light shielding. With the use of these types of light minimization methods, the short term degradation of nighttime views would be less than significant with mitigation.

### 3.2 Agriculture and Forestry Resources

- a) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?*

**No Impact.** The Project site has been used for agriculture in the past, however, the site currently has no agricultural uses. The site has not been identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, the proposed Project would not convert farmland to a non-agricultural use.

- b) *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

**No Impact.** The Project site is not currently zoned agricultural and is not located within or adjacent to parcels enrolled in Williamson Act contracts.

- c) *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

**No Impact.** The Project site is not currently zoned in support of forest lands or timberlands. The Project site is not located within or adjacent to forest land as defined in the PRC Sections noted above.

- d) *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

**No Impact.** The proposed Project does not involve forest land, therefore, would not impact or convert forest land to a non-forest use.



- e) ***Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?***

**No Impact.** The proposed Project may proceed future re-zoning to a residential or other use, however, the Project would not result in conversion of any farmland or forest land uses.

### 3.3 Air Quality

- a) ***Would the project conflict with or obstruct implementation of the applicable air quality plan?***

**No Impact.** The proposed Project does not involve any type of development; the Project would remove of oil and gas processing equipment infrastructure and remediate the area to natural, undeveloped conditions. Emissions associated with the Project involve construction equipment on a temporary basis, therefore, the Project would not conflict or impact the implementation of any air quality plan.

- b) ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?***

**Less than Significant.** The applicant submitted emissions calculations as part of the application package to the City (*Appendix E – Carp O&G Plant Decommissioning Emissions Calcs June 2021*). A summary of those emissions estimated for the construction equipment for the decommissioning activities along with applicable Santa Barbara APCD and County thresholds is listed in the table below.

Emissions Scenario	NO <sub>x</sub>	ROC	PM <sub>10</sub>
Peak 12 Month (tons/year)	8.35	0.72	0.37
Peak Day (pounds/day)	228.2	20.1	10.8
Peak Day Motor Vehicle Only (pounds/day)	13.6	0.2	0.2
SBCAPCD Rule 202 Construction Emissions (tons/year)	25	25	25
SBCAPCD Motor Vehicle Only (pounds/day)	25	25	---
SB County Motor Vehicle Only (pounds/day)	25	---	---

Source: Chevron Appendix E, – Carp O&G Plant Decommissioning Emissions Calcs June 2021 .

As listed in the table above, construction/decommissioning emissions associated with the Project are below the SBCAPCD and SB County thresholds for construction activities, therefore, the emissions of criteria pollutants from the Project would be less than significant.

- c) ***Would the project expose sensitive receptors to substantial pollutant concentrations?***

**Less than Significant.** As noted above, the proposed Project emissions are estimated to be below both the SBAPCD and SB County thresholds for construction activity emissions. The closest residential community to the Project site, the Concha Loma neighborhood, is approximately 300 feet from the Former Marketing Terminal (FMT) section of the Project. Construction activities in the FMT area very

short term with an anticipated schedule of 90 days. Other Project work areas are at least 500 feet from the Concha Loma neighborhood. In addition, SBAPCD Rule 345, Control of Fugitive Dust from Construction and Demolition Activities, would apply to the Project and would minimize offsite particulate matter impacts. Therefore, the proposed Project pollutant concentrations to sensitive receptors would be less than significant.

**d) *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?***

***Less than Significant with Mitigation.*** The proposed Project has the potential for hydrocarbon related odors from the decommissioning and demolition of pipelines, tanks, contaminated soils, and other oil and gas processing infrastructure. Pipelines and tanks are proposed to be flushed to remove any residual hydrocarbons with the flush water to be disposed to permitted and approved disposal facilities. The Project does not propose to do any venting of storage tanks. As noted above, contaminated soil activities would be subject to dust control measure per SBCAPCD and the trucks transporting soils would be required to be covered. In addition, the nearest residential location is 300 feet from the Project site and other areas are at least 500 feet away. Therefore, the potential for offsite impacts of hydrocarbon from the Project would not be expected to impact a significant number of people. The added mitigation measures for dust control and odor controls should result in impacts that are less than significant with mitigation.

### **3.4 Biological Resources**

The applicant included the following reports in support of analyzing the potential Project impacts to biological resources:

- *Essential Fish Habitat Assessment*, Padre Associates Inc., October 2021;
- *Terrestrial Biological Resources Study*, Padre Associates Inc., June 2021;
- *Tree Report*, Padre Associates Inc., June 2021;
- *Carpinteria Harbor Seal Rookery Monitoring and Protection Plan*, Padre Associates Inc., June 2021;
- *Coastal Wetland Delineation Report*, Padre Associates Inc., October 2021; and
- *Preliminary Restoration/Vegetation Plan*, Padre Associates Inc., June 2021.

**a) *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

***Potentially Significant.*** The analysis contained in the reports noted above determined potential impacts from the proposed Project to the following species:

- Monarch Butterfly;
- Southern California Legless Lizard;
- Western Snowy Plover;

- Cooper's Hawk;
- White-tailed Kite;
- Loggerhead Shrike;
- Sharp-shinned Hawk;
- Scripp's Murrelet;
- Ashy Storm Petrel;
- Black Storm Petrel;
- Marine Mammals; and,
- Carpinteria Harbor Seal Rookery.

It should be noted that Southern California Legless Lizard has a Low-Moderate potential to occur at the site since the potential scrub habitat is highly disturbed. The biological resource assessments and analysis further identified the following types of mitigation to reduce the potential impacts to the species noted above to less than significant:

- Twice monthly surveys for the Monarch butterfly along with avoidance measures if roosting Monarch butterflies are found;
- A nesting bird survey and buffer zones if nesting birds are observed;
- A Marine Wildlife Contingency and Training Plan; and,
- Harbor Seal Rookery Monitoring and Protection Plan.

With the implementation of the mitigation measures noted above, and other mitigation measures that may be needed for other species, impacts to candidate, sensitive, or special status species would be reduced, however, any impacts to these biological resources from the overall decommissioning and the release of hydrocarbons would be considered potentially significant.

***b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

***Potentially Significant.*** The biological resource assessments and analysis for the proposed Project identified the Environmental Sensitive Habitat Areas (ESHAs) as the following:

- A small patch of willows occurs in the Drainage No. 4 area identified as potential riparian habitat;
- Potential Monarch butterfly roost areas;
- Harbor seal rookery;
- Essential fish habitat areas;
- Rocky intertidal and nearshore areas; and,
- Carpinteria Bluffs.

No Project activities are proposed for the Drainage No. 4 area. The potential for impacts to the Monarch butterfly roost areas would be addressed by the twice monthly survey and avoidance measures noted above. Potential impacts to the Harbor Seal Rookery would be mitigated by a Harbor Seal Rookery Monitoring and Protection Plan, however, a release of hydrocarbons from pipeline construction activities would be potentially significant.

The Essential Fish Habitat Assessment identified potential impacts to rocky intertidal/nearshore areas and fish habitat from boat anchors, pipeline removal equipment, underwater cutting and associated sedimentation of the water column. These potential impacts could be mitigated with a Essential Fish Habitat Avoidance Plan. The plan would include a pre-project biological survey and mapped anchoring locations to avoid hard bottom locations. Impacts to the water column from sedimentation would be temporary and short term. However, even with the implementation of as Essential Fish Habitat Avoidance Plan, impacts to rocky intertidal, nearshore areas and fish habitat from a hydrocarbon release could be potentially significant.

Potential impacts to the Carpinteria Bluffs could result from the pipeline removal from the bluff face and the potential for increase in run-off and bluff erosion from soil removal. The proposed Project stormwater management plan, habitat restoration plan, and bluff stabilization methods such as compaction, revegetation, or other measures identified by a geotechnical engineer would minimize the potential for accelerated bluff retreat to less than significant. A release of hydrocarbons to the ESHA area of the Carpinteria Bluffs from the removal of pipelines in the sensitive has the potential to be significant impact.

- c) *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

**Less than Significant with Mitigation.** The Coastal Wetland Delineation Report for the proposed Project identified two wetland areas:

- Area around Tank 861 and associated pipelines identified as Wetland W-1; and,
- Area around the bluff face identified as Wetland W-5.

The wetland associated with Tank 861 is due to the secondary containment berm for the tank itself, therefore, removal of the tank and associated infrastructure would permanently remove the wetland. Mitigation for this impact is identified in the Coastal Wetland Delineation Report in the form of a coastal wetland replacement by enhancement of the wetland area at Drainage No. 4 area. With this or similar mitigation the loss of the man-made wetland associated with the secondary containment of Tank 861 would be reduced to less than significant.

The potential impact to the hydrophytic vegetation at the bluff face, known as Wetland W-5, would be temporary with the vegetation expected to grow back at the bluff face.

- d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

**Less than Significant.** The proposed Project site onshore does not connect to two habitat areas and is primarily developed. As noted above, the vegetation at the bluff face disturbed by pipeline removal



activities is expected to grow back. Pipeline removal offshore would be limited to the pipeline right of way and adjacent areas and would not prevent fish or marine mammals from moving about in the Santa Barbara Channel. Noise from underwater construction and demolition activities has the potential to impact whales and other marine mammals, however, a marine mammal watch and avoidance program or other similar mitigation program would minimize potential marine mammal impacts to less than significant. Noise also has the potential to impact the harbor seal rookery but noise mitigation measures can reduce the noise impact to less than significant. Therefore, the potential impact to the movement of fish or wildlife species and migratory wildlife corridors would be less than significant.

- e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?***

***Less than Significant.*** The proposed Project will require the removal 62 non-native trees for soil excavation and remediation. None of the trees are located in City designated Open Space or ESHA areas. The City considers the loss of ten percent of trees of biological value on a project site a potentially significant impact. The Tree Report for the proposed Project documented 1,500 total trees on the Project site, therefore, the loss of 62 trees equates to approximately four percent which is less than the ten percent of the City guideline. In addition, the Project site is primarily developed and would be remediated , therefore, the Project would not conflict with any ordinances protecting biological resources or tree protection.

- f) *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

**No Impact.** The Project site is not subject to a habitat conservation plan, natural community conservation plan, or other habitat conservation plan.

### **3.5 Cultural Resources**

- a) *Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?***

***Potentially significant.*** The applicant submitted a Cultural Resources Assessment for the proposed Project. In 1980, CA-SBA-6 was evaluated and determined eligible for listing on the National Register of Historic Places (NRHP); thus, CA-SBA-6 qualifies as a historical resource under the California Environmental Quality Act (CEQA). Previous cultural resource studies and testing have identified intact deposits related to CA-SBA-6 within the Former Marketing Terminal Area, the Chevron Pipeline Area, the Pier Parking Lot Area, the Railroad Ditch Area, and the Former Nursery Area; however, no Project impacts are proposed for the Railroad Ditch Area or the Former Nursery Area.. Mitigation measures for historical resources, also applicable to cultural resources impacts and are included below and are expected to be able to mitigate the impact to less than significant:

MM CUL-1: Cultural Resources Management Plan (CRMP). The applicant shall retain an archaeologist that meets the minimum professional qualifications standards set forth by the U.S. Secretary of the Interior to prepare a comprehensive Project CRMP. The purpose of the CRMP is to document the actions and procedures to be followed to ensure avoidance or minimization of impacts to cultural resources consistent with CEQA Guidelines Section 15126.4(b). The CRMP shall include at a minimum and shall implement the performance standards in MM CUL-3 through 8:

- A description of the roles and responsibilities of cultural resources personnel (including Native American representatives), and the reporting relationships with Project construction management, including lines of communication and notification procedures.
- Description of how the monitoring shall occur.
- Description of frequency of monitoring (e.g., full-time, part time, spot checking).
- High-resolution maps for use by cultural resource monitors to identify locations of intact cultural deposits.
- Description of what resources are expected to be encountered.
- Description of circumstances that would result in the halting of work.
- Description of procedures for halting work on the site and notification procedures.
- Procedures for the appropriate treatment of human remains.
- Description of artifact collection, retention/disposal, and curation policies, including a statement that all cultural materials retained will be curated in accordance with the requirements of an identified, qualified curatorial facility, and that the applicant shall be responsible for all expenses associated with the curation of the materials at the qualified curatorial facility; and
- A description of monitoring reporting procedures including the requirement that reports resulting from the Project be filed with the Central Coast Information Center within one year of Project completion.

Plan Requirements/Timing: The CRMP shall be submitted to the City and approved prior to the initiation of any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-2: Worker Cultural Resources Awareness Program. The applicant shall develop and implement a worker cultural resources awareness program for all applicant staff, consultants, contractors, subcontractors, and other workers, with subsequent training sessions to accommodate new personnel becoming involved in the Project. The program may be conducted together with other environmental or safety awareness and education programs for the Project, provided that the program elements pertaining to cultural resources are provided by a qualified archaeologist. The awareness program shall address:

- The cultural sensitivity of the Project site and how to identify these types of resources.
- Specific procedures to be followed in the event of an inadvertent discovery.
- Safety procedures when working with monitors; and,
- Consequences in the event of noncompliance.

Plan Requirements/Timing: The worker cultural resources awareness program shall be submitted to the City and approved prior to the initiation of any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-3: Cultural Resources Monitoring and Avoidance. Cultural resources monitoring shall be conducted during Project-related ground-disturbing activities for the purpose of identifying and avoiding impacts to cultural resources, consistent with the CRMP. The monitoring shall be conducted under the supervision of a City-approved archaeologist and a Native American representative. In the event of any inadvertent discovery of prehistoric or historic period archaeological resources during construction, all work within 50 feet of the discovery shall immediately cease (or greater or lesser distance as needed to protect the discovery and determined in the field by the Project archaeologist). The applicant shall immediately notify the City of Carpinteria. The Project archaeologist shall evaluate the significance of the discovery prior to resuming any activities that could impact the site/discovery. If the Project archaeologist determines that the find may qualify for listing in the CRHR, the site shall be avoided or shall be subject to a mitigation program, such as data recovery excavations, and funded by the applicant. Work shall not resume until authorization is received from the City.

Plan Requirements/Timing: Cultural resources monitoring requirements shall be documented in the approved CRMP.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-4: Avoidance of Inadvertent Impacts to Cultural Resources. The applicant shall ensure that Project-related activities are limited to permitted areas to avoid inadvertent impacts to Site CA-SBA-6. An exclusion zone shall be designated around each intact portion of CA-SBA-6 within the Project site. An exclusion zone is a fenced area where construction equipment and personnel are not permitted. The exclusion zone fencing shall be installed (and later removed) under the direction of a City-approved archaeologist and a Native American representative and shall be placed one meter beyond the boundary of the defined area to avoid inadvertent damage to cultural resources during installation.

Plan Requirements/Timing: Exclusion zones shall be documented in the approved CRMP and fenced prior to ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-5: Identification of Discovered Human Remains. Human remains and burials have been encountered during previous cultural resources studies within the Project site. The applicant shall retain

a forensic anthropologist (or functional equivalent) to examine and identify bone fragments as human or not human. The forensic anthropologist may be available on an on call basis and not need to be present during all ground disturbance. Additionally, if numerous bone fragments are encountered during ground-disturbing activities, arrangements shall be made for the forensic anthropologist to make regularly scheduled (i.e., weekly, monthly) visits.

Plan Requirements/Timing: A forensic anthropologist (or functional equivalent) shall be under contract prior to any ground disturbance.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-6: Avoidance of Human Remains. If human remains are unearthed, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. The City shall be immediately notified of any human remains found. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission.

Plan Requirements/Timing: Notification requirements and contacts shall be documented in the approved CRMP.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-7: Curation of Cultural Materials. Prior to any ground disturbance, the applicant shall identify a single accredited repository at which to curate all archaeological materials recovered from the Project Site. The repository shall be located in southern California so that the materials are available locally to Tribal members and researchers and shall meet the standards provided in the California State Historical Resources Commission's Guidelines for the Curation of Archaeological Collections. The applicant shall work with the identified local curatorial facility to transfer curation of materials currently in their possession or currently housed at a nonlocal facility, to the agreed-upon accredited local repository such that the materials can be accessioned as a unified collection. Subsequently, materials transferred from a non-local facility may require evaluation using current analytic methods to re-analyze artifacts and faunal remains that were recovered from CA-SBA-6 during previous excavations. If it is determined that there is no southern California curation facility that can accommodate the entire CA-SBA-6 collection, other accredited facilities in the State of California may be considered.

Plan Requirements/Timing: Curation requirements and contacts shall be documented in the approved CRMP.



Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

MM CUL-8: Phase III Data Recovery. Any potentially intact portions of CA-SBA-6 that may be impacted by the Project shall first be mitigated with Phase III data recovery excavations prior to ground disturbance. The Phase III data recovery excavations shall be conducted under the direction of a research design and testing plan and may consist of a combination of Data Recovery Excavation Units and Shovel Test Probes.

Plan Requirements/Timing: The approved CRMP shall identify conditions when a Phase III data recovery program is required and methods for implementation.

Monitoring: Implementation of this measure shall be initiated by the applicant project manager and monitored by the designated cultural resources monitor.

**b) *Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?***

***Less than Significant with Mitigation.*** The Cultural Resources Assessment identified archaeological resources at the Project site (cultural resource CA-SBA-06). CA-SBA-6, is a large prehistoric shell midden and lithic scatter that indicates seasonal prehistoric habitation. Archaeologist David Rogers initially recorded CA-SBA-6 in 1929 as three distinct loci. He described the site as a dense shell midden between the sea cliff and the railroad with a hunting camp and a cemetery (Rogers, 1929). The report details the resource as disturbed to heavily disturbed dependent on the location within the Project site. Given the presence of a cultural resource and the ground disturbing activities of the proposed Project, potential for impacts to previously undisturbed resources is possible without mitigation. Mitigation Measures CUL-1 to CUL-8 detailed above would reduce the potential for impacts to archaeological resources to less than significant.

**c) *Would the project disturb any human remains, including those interred outside of dedicated cemeteries?***

***Potentially Significant.*** Due to the potential to disturb known human remains from the ground disturbing activities of the proposed Project, mitigation measures such as a Cultural Resources Management Plan and worker training for cultural resource awareness would be required to reduce potential impacts (see MM CUL-1 to CUL-8 above). However, because the majority of the Project Site is a burial site and known cemetery with a substantial number of human remains, excavation impacts are considered to be significant.

### 3.6 Energy

- a) *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

**Less Than Significant Impact.** The proposed Project will use energy for the construction equipment, vehicles and marine vessels to remove and transport the oil and gas processing infrastructure and potential contaminated soils. However, this short term energy use would not be considered to be wasteful, inefficient or unnecessary. The Project proposes to remediate the area to natural, undeveloped conditions so there would be no energy use associated with operations.

- b) *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

**No Impact.** The proposed Project does not involve any energy use outside of the short term construction activities and thus would not obstruct with any state or local renewable energy plan impact energy efficiency.

### 3.7 Geology and Soils

- a) *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*
- ii) *Strong seismic ground shaking?*
- iii) *Seismic-related ground failure, including liquefaction?*
- iv) *Landslides?*

**No Impact.** The proposed Project is not located on an area designated as a known earthquake fault on the Alquist-Priolo Earthquake Fault Zoning map. The proposed Project would not cause adverse effects or exposure to ground shaking, liquification or landslides because it does not involve the development of any structures or facilities at the Project site.

- b) *Would the project result in substantial soil erosion or the loss of topsoil?*

**Less Than Significant Impact.** The proposed Project would include the removal of contaminated soils and replacement of those soils with clean imported fill material. The remediated areas would be graded

to pre-project natural topography and treated with soil binders and or seed mix to prevent erosion. The site is not zoned for agriculture and so there would be no significant impact to topsoil.

- c) ***Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?***

***Less Than Significant Impact with Mitigation.*** The proposed Project involves the removal of pipeline sections from the Carpinteria Bluffs. Based on a report (*Bluff Retreat Evaluation Report Padre Associates Inc. June 2021*) submitted by the applicant, the bluff retreat rate is estimated at 14 centimeters per year. Pipeline removal activities in the bluff area could accelerate the bluff retreat rate without mitigation measures. Bluff stabilization methods such as compaction, revegetation, or other measures identified by a geotechnical engineer would minimize the potential for accelerated bluff retreat to less than significant.

- d) ***Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?***

***No Impact.*** Based on regional soil mapping, the Project site does not support expansive soils. The proposed Project does not involve the development of any structures or facilities at the Project site and therefore would not create an increase of risk to life or property.

- e) ***Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?***

***No Impact.*** The Project does not involve any development that would generate municipal wastewater or require the use of septic tanks or alternative wastewater disposal systems.

- f) ***Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

***Less than Significant with Mitigation.*** The proposed Project would not involve excavation with the Monterey Formation or tar seeps, however, as noted above the site does have the potential to disturb cultural resources including cultural resource CA-SBA-06. The implementation of mitigation measures such as a Cultural Resources Management Plan and worker training for cultural resource awareness would be reduce the potential impact to less than significant.

### 3.8 Greenhouse Gas Emissions

- a) ***Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?***

***Less than Significant with Mitigation.*** The applicant submitted emissions calculations as part of the application package to the City (*Appendix E – Carp O&G Plant Decommissioning Emissions Calcs June 2021*). GHG emissions were estimated for each major Project phase to identify the peak 12-month period. Maximum annual emissions were associated with the option to dispose of offshore pipe at Port Hueneme instead of the Port of Long Beach estimated at 1,749 metric tons per year CO<sub>2</sub> equivalent. Thus, worst case annual average GHG emissions for the project are less than 20% of the SBCAPCD threshold of 10,000 metric tons per year CO<sub>2</sub> equivalent for a stationary source. However, the Santa Barbara County threshold for GHG emissions is 1,000 metric tons per year and the Project would exceed this threshold (the City would need to determine if it wants to adopt this threshold). Consistent with other projects, coordination with the City, the SBCAPCD, and the applicant could identify applicable mitigation measures such as a GHG mitigation plan or offsets to mitigate this impact. The GHG emissions for the Project would be short term temporary construction emissions and although the worst case annual emissions exceed the Santa Barbara County stationary source threshold, mitigation measures are available to mitigation GHG emissions, therefore, Project GHG emissions would be less than significant with mitigation.

**b) *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

***Less than Significant with mitigation.*** As noted above, the proposed Project GHG emissions are short term construction emissions and worst case annual emissions are less than the SBCAPCD threshold for stationary sources. However, the projected GHG emissions would exceed Santa Barbara County thresholds. Although the City does not have its own thresholds, the City chooses to use the more stringent GHG threshold established by the County. Therefore, the proposed Project would conflict with the County's GHG regulations aimed at reducing GHG gases.

The Santa Barbara County Energy and Climate Action Plan (ECAP) identifies GHG Reduction Measures with goals to reduce GHG measures to various target percentages by year. Measure BE 10 is applicable to the proposed Project because it applies to the operation of the heavy construction equipment that would be used for decommissioning and remediation activities:

*Construction Equipment Operations (BE 10) Measure: Implement best management practices (BMPs) for construction equipment operation; examples of BMPs include reduced equipment idling, use of alternative fuels or electrification of equipment, and proper maintenance and labeling of equipment.*

The Project Description does not propose the use of electrically powered heavy construction equipment or alternative fuels as the use of such equipment is not widely available at this time. However, the proposed Project would include reduced equipment idling and properly maintained equipment and therefore would be consistent with the County ECAP. All fuels purchased as part of the Project would be covered by the Cap-and-Trade program and would therefore be covered by and comply with an applicable GHG policy.



### 3.9 Hazards and Hazardous Materials

- a) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

***Less than Significant Impact with Mitigation.*** The proposed Project does not involve any development that would create the routine transport, use or disposal of any hazardous materials. The proposed Project would involve the excavation and transportation of contaminated soils. These soils would be handled and transported as described in the Project Description and Interim Remedial Action Plan to minimize public exposure, including dust suppression, sweeping of roadways to limit off-site migration of dust, soil sampling during excavation, segregation and stockpiling of soils considered hazardous, transportation in covered bins or truck beds, and disposal at an appropriate facility, based on contamination levels and constituents. Onshore facilities have been inventoried and sampled for the presence of asbestos and lead-based paint. Subsurface pipelines (contents and any coating materials) would be assessed for the presence of contaminated materials for waste characterization and removal planning purposes. Removal would be accomplished utilizing an excavator and/or hydro-excavation methods to safely excavate buried pipelines in consideration of other potential adjacent uses or lines, and the pipelines would be removed and cut into sections appropriate for hauling. If contaminated materials (i.e., asbestos) are present, the pipelines would be managed accordingly as directed by a certified hazardous materials oversight specialist.

The Project use of the heavy haul trucks on the City's roads, particularly Carpinteria Avenue and Dump Road, has the potential for impacts to the road surface which could cause future safety impacts for other road users. Potential impacts to the road surface can be mitigated with pre and post Project surveys of the road surface and applicant sponsored road repair if road damage is identified.

- b) *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

***Potentially Significant Impact.***

The proposed Project process of the removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant has the potential to release hydrocarbons to the environment. The potential for such a release can be mitigated with the implementation of an oil spill contingency plan, however, a release of hydrocarbons to the ESHA area of the Carpinteria Bluffs from the removal of pipelines in sensitive resources has the potential to be a significant impact.

The pigging, flushing, and removal of the nearshore beach crossing and offshore areas out to the three mile State waters limit pipeline segments also have the potential to release hydrocarbons to the

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Initial Study**

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environment. Any release of hydrocarbons to these ESHA or marine areas would be a significant impact. The use of an anchoring plan can reduce the potential for impacts to the pipeline segments during offshore construction activities. An anchoring plan to avoid potential work boat anchor impacts to Project pipelines along with an oil spill contingency plan that could include response vessels located in the immediate area, would reduce the potential for a release of hydrocarbons to the ocean environment; however, any release would be considered significant, therefore, the potential release of hazardous materials to the environment would be a potentially significant impact.

The proposed Project site also contains oil and gas wells from previous operations as summarized in the table below that are not slated for plugging and abandonment or remediation as part of this Project.

Well Name	API	Status	Year Drilled
P.C. Higgins No. 1	0408304644	Idle with metal well vault cover.	1913
Carpinteria Community Well No. 1	0408304313	Idle with concrete, wood, and plastic tarp cover.	1924
Caitlin Fletcher No. 1	0408304297	Plugged dry hole.	1951
Thornbury-Community Well Number: 1	0428304313	Plugged dry hole.	Unknown
Thornbury-Community Well Number: 3	0408304315	Plugged dry hole.	1949
Nugent No. 1	0408304327	Plugged dry hole.	1925
Nugent No. 2	0408304328	Plugged dry hole.	1925

Source: Chevron Appendix I, Description of Facilities Not Include in Project Activities.

As noted in the table, the age of these wells indicate that it is likely that the plugging and abandonment of the wells was not performed to current CalGEM requirements. In addition, details and documentation on the plugging and abandonment of several of these wells is not available or unknown. Therefore, there is a potential of a release of hydrocarbons from one of these wells in the future and any release of hydrocarbons from one of these wells could be a significant impact to any future use or development at the Project location. Release of gas from these wells could cause public health impacts and would be a significant impact.

The applicant noted in the application submittal package that the wells are not part of the Project and are the responsibility of CalGEM. In addition, the agencies listed as required for review or permitting of the proposed Project contained in the application package does not include CalGEM. In order for the City to determine the Project site as suitable for a future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed. Therefore, the City will seek correspondence and coordination with CalGEM to review the current status of the legacy wells on the Project site and develop a path forward for a final disposition of the wells that meets the needs of the City and protects the health and safety of the public.

Construction activities could encounter asbestos during the excavation and removal of pipelines. However, the use of an asbestos minimization plan and a certified hazardous materials oversight specialist would minimize the potential for a release of asbestos to the environment to less than significant.

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

**No Impact.** The proposed Project area and transportation route for the removal of project infrastructure and contaminated soils are not within one quarter mile of an existing or proposed school.

- d) *Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

**No Impact.** The proposed Project site is not listed as a hazardous materials site pursuant to Government Code Section 65962.5 (DTSC, 2021).

- e) *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?***

**No Impact.** The proposed Project is not located with an airport land use plan nor within two miles of a public or public use airport.

- f) *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

**Less than Significant.** Ingress and egress to the proposed Project site is via Dump Road, which is also the access route to MSRC, the Carpinteria Oil and Gas Processing Facility, City of Carpinteria Tar Pits Park and open space areas, and the Casitas Pier employee parking lot. The additional traffic from the project will not significantly impact Dump Road's ability to function as an egress route for these land uses during an emergency. The Project will not interfere with any adopted evacuation or emergency response plan.

- g) *Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?***

**No Impact.** The Project site is not located within or near a Very High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. In addition, the Project site is located within a low fire hazard area as defined within the City General Plan.

### 3.10 Hydrology and Water Quality

- a) ***Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?***

***Less than Significant.*** The proposed Project would include Remedial Action Plan and a Storm Water Pollution Prevention Plan (SWPPP). The controls and mitigation measures in these documents would minimize the potential for releases of diesel fuel, gasoline, coolant, hydraulic oil, and lubricants associated with the use of heavy construction equipment. Water associated with flushing or cleaning of facility infrastructure and any water encountered during excavation activities would be tested and disposed of in one of three ways:

- Discharged to surface waters under Regional Water Quality Control Board (RWCAQB) Waste Discharge Requirements for Discharges with Low Threat to Surface Waters where the effluent limitations are met;
- Discharged to the Carpinteria Sanitary District municipal wastewater collection system to be treated and discharged to the Pacific Ocean (via the existing outfall pipeline) under an existing NPDES permit; or,
- Trucked off-site to Buttonwillow (Clean Harbors) or Fontana (World Oil) as hazardous liquid waste (oily water).

The proposed Project would not be expected to impact waters of the Carpinteria Groundwater Basin aquifer because those aquifers are located too deep to be affected by Project excavations. Therefore, the proposed Project would not significantly impact water quality standards or waste discharge requirements.

- b) ***Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?***

***Less than Significant.*** The proposed Project water use would be limited to potable water used for dust control, soil compaction and site restoration. This water use is temporary and short term, the applicant has estimated this water use to a few thousand gallons per day. This short term and temporary water use would not be a significant impact to groundwater supplies or interfere with groundwater recharge.

- c) ***Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:***

- i) ***result in a substantial erosion or siltation on- or off-site?***



- ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?*
- iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- iv) impede or redirect flood flows?*

**Less than Significant with Mitigation.** The Project proposed to remediate impacted areas and grade the site to pre-project natural topography. The Project does not involve the installation of any impervious surfaces and would involve the removal of concrete and other impervious surfaces. An updated Project SWPPP would minimize erosion or siltation associated with storm water run-off. Excavated areas would be backfilled with clean soil and compacted to minimize potential future erosion. Therefore, the Project would not alter the existing drainage pattern, increase erosion, or stormwater runoff patterns.

- d) Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

**No Impact.** The proposed Project locations on the bluffs and landward are not located in a tsunami inundation hazard zone. The Project locations seaward of the bluffs are unlikely to be impacted by tsunami or floods, however, the proposed Project is to remove contaminated materials from the site, therefore, the potential for release of pollutants is not likely. In addition, the Project is short term and it is unlikely that a tsunami would occur during that time and impact the project site. If a tsunami were to impact the Project site after the Project has been completed, impacts would have been avoided since the contaminants would have been removed.

- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

**Less than Significant.** As discussed above, Project-related storm water, pipeline flush water or other waters would be discharged under RWQCB or NPDES permitted methods with applicable waste discharge requirements. . The proposed Project does not involve any long term use of water; therefore, the Project would not conflict with a Water Quality Control Plan for the Central Coast Basin.

### 3.11 Land Use and Planning

- a) Would the project physically divide an established community?*

**No Impact.** The proposed Project includes demolition of oil and gas processing equipment and other structures onsite as well as remediation of contaminated soils. No structures are proposed, and the Project would not have the potential to divide an established community.

- b) *Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?*

**Less than Significant with Mitigation.** The proposed Project involves the demolition of oil and gas processing equipment and other structures onsite, the remediation of contaminated soils, and grading to return the Project area to pre-development natural topography. With the mitigation measures identified for cultural resources, hazards, and noise the proposed Project would have a less than significant impact on any land use plan, policy or regulation.

The applicant submitted a policy consistency summary analysis (Policy Consistency Analysis, October 2021) as part of the proposed Project application package. The analysis confirms consistency with California Coastal Commissions and City of Carpinteria land use documents.

### 3.12 Mineral Resources

- a) *Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?*

**No Impact.** The proposed Project does not involve the use of mineral resources or have the potential to impact the availability of any mineral resources.

- b) *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

**No Impact.** The proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

### 3.13 Noise

- a) *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

**Less than Significant with Mitigation.** The applicant included a noise assessment (Padre Associates Carpinteria Noise Management Plan, Behrens and Associates, Inc., June 7, 2021) as part of the application package submittal. Ambient noise levels were measured at three different locations at the north, west and south property boundaries of the proposed Project site. Results of the ambient monitoring was also used to assign ambient noise levels for at seven different receptor locations. Noise modeling was then completed to estimate the peak day construction noise for maximum noise generating equipment at the Former Marketing Terminal Area, the nearest proposed work area to residential areas. The noise modeling also included the noise from heavy-duty trucks using Dump Road to export contaminated soil and import

clean fill. Results of the noise modeling was used to calculate the existing ambient noise levels plus proposed worst case Project construction noise levels for the seven offsite receptors. Results are shown in the table below.

Receptor Number	Location	Noise Levels dBA CNEL		
		Project Construction Impact	Ambient + Project	Increase over Ambient
R1	Holiday Inn	53.2	68.6	0.1
R2	5615 Carpinteria Multi Family Residential	52.6	68.6	0.1
R3	5585 Carpinteria Multi Family Residential	51.2	60.9	0.5
R4	Residence Arbol Verde Drive	52.7	61.1	0.7
R5	Residence Arbol Verde Drive	57.2	62.1	1.7
R6	Residence at Eastern Terminus of Calle Pacific	56.9	62.0	1.6
R7	Carpinteria Bluffs Trail	52.1	67.8	0.1

Source: Padre Associates Carpinteria Noise Management Plan, Behrens and Associates, Inc., June 7, 2021.

The table indicates the City's 75 dBA CNEL construction noise standard would not be exceeded. Further, construction Project-related noise increases would be less than 2 dBA over existing levels and would not exceed City thresholds for temporary construction noise. Nighttime construction activities may be necessary in the surf zone due to tidal access issues, however, these activities would be temporary and short term. The proposed Project does not involve a permanent noise source, therefore, generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project would be less than significant with the addition of mitigation measures to reduce noise.

**b) *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?***

***Less than Significant Impact.*** The applicant estimated vibration levels from a worst case construction/demolition activity of the operation of a large dozer at the MSRC Lease Area and the closest potential structure receptor, City Hall located approximately 95 feet to the south. The construction/demolition related vibration was estimated using methodology provided by the California Department of Transportation (2013), which indicates vibration (based on use of a large dozer) would generate a PPV of 0.016 inches/second, which would be barely perceptible to humans and would not cause any damage to structures. Therefore, vibration impacts would be less than significant.

**c) *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

***No Impact.*** The Project site is not located within two miles of an airport and is not subject to an airport land use plan. No increase in aviation-related noise would occur.

### 3.14 Population and Housing

- a) *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

**No Impact.** The proposed Project does not involve any development of new homes, businesses, roads or other infrastructure. The Project would not induce any population growth.

- b) *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

**No Impact.** The proposed Project would not displace people or housing.

### 3.15 Public Services

- a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services, including: fire protection, police protection, schools, parks, or other public facilities?*

**No Impact.** The proposed Project involves removal of petroleum processing, storage and transportation facilities and related flammable materials, such that fire protection requirements would decrease at the site. New or altered fire protection facilities, police protection, schools, parks, or other public facilities are not included in the Project and would not be required to serve the site.

### 3.16 Recreation

- a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

**Less than Significant.** The proposed Project would not increase the use of any neighborhood parks, regional parks, or other recreational facilities. The Project would not change any access or use of Tar Pits Park of the Carpinteria Bluffs Trail. During offshore work activities the Project has the potential to impact recreational boating activities for several months due to the increase in work boat and barge use to remove the offshore pipeline sections. This use would be short term, temporary and limited to the immediate area near the pipeline routes, therefore, would not be a significant impact to offshore recreational boating activities.



- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

**Less than Significant.** The proposed Project does not involve the development or expansion of recreational facilities or generate the need for additional recreational facilities. As noted above, the Project would not change any access or use of Tar Pits Park of the Carpinteria Bluffs Trail, however, Project activities have the potential for a short term interruption in trail use. However, the interruption in trail use would be short term and temporary and therefore less than significant.

### 3.17 Transportation

Senate Bill 743 (2013) required the Governor's Office of Planning and Research (OPR) to develop alternative methods of measuring transportation impacts under CEQA. At a minimum, the new methods must apply within areas that are served by transit. Once the new transportation guidelines are adopted, automobile delay (often referred to as Level of Service or LOS analysis) generally would no longer be considered to be an environmental impact under CEQA. The OPR added CEQA Guidelines Section 15064.3 which provided that, in most cases, vehicle miles travelled is the most appropriate measure of transportation impacts.

- a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities**

**Less than Significant:** The proposed Project does not involve any permanent change or increase in traffic or change to any circulation system or transit, roadway, bicycle, or pedestrian facility. The applicant included a traffic analysis for the proposed Project as part of the application submittal package (*Traffic, Parking and VMT Analysis, Associated Transportation Engineers, June 2021*). The traffic analysis estimated peak hour traffic increases at local intersections as provided in table below.

Intersection	Peak Hour LOS	Project Added Trips	Consistent Yes/No
A.M. Peak Hour			
U.S Highway 101 NB/Bailard Ave.	LOS C	6	Yes
U.S Highway 101 SB/Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Casitas Pass Rd.	LOS C	7	Yes
P.M. Peak Hour			
U.S Highway 101 NB/Bailard Ave.	LOS B	6	Yes
U.S Highway 101 SB/Bailard Ave.	LOS C	6	Yes
Carpinteria Ave./Bailard Ave.	LOS B	6	Yes
Carpinteria Ave./Casitas Pass Rd.	LOS C	7	Yes

Source: Traffic, Parking and VMT Analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – City of Carpinteria, Associated Transportation Engineers, June 2021.

The traffic analysis also estimated the ADT, Average Daily Traffic, for the proposed Project trip generation as summarized in the table below.

Project Component	Number per Day	Shift Schedule	Trip Generation		
			ADT	AM Peak	PM Peak
Employees	15	7:00 am to 5:00 pm	26	13	13
Haul Trucks	16	9:00 am to 4:00 pm	32	0	0
Deliveries	2	9:00 am to 4:00 pm	4	0	0
Totals			62	13	13

Source: Traffic, Parking and VMT Analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities – City of Carpinteria, Associated Transportation Engineers, June 2021.

The addition of six to seven additional trips to intersections operating at Level B or C would not cause a change to the level of service at the intersections noted above and therefore would be consistent with the City's thresholds regarding LOS.

The proposed Project daily one-way trip total of 62 is also below the Office of Planning and Research (OPR) Technical Advisory for the evaluation of transportation impacts 110 one-way trips per day threshold. Therefore, the Project would not conflict with any transportation plan, policy or ordinance.

**b) *Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?***

***Less than Significant.***

CEQA Guidelines § 15064.3(b) generally requires that a project's transportation impacts be evaluated for CEQA purposes using vehicle miles traveled, however, as noted above projects that generate less than 110 on-way trips and is a construction, not an operational, project and therefore are not expected to cause as significant impact pursuant to CEQA guidelines.

**c) *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

***Less than Significant with Mitigation.*** The traffic analysis prepared for the proposed Project analyzed intersection design, intersection operations, and intersection site distance. Although the traffic study did not identify any potential conflicts with haul truck use, any increase in traffic at the Carpinteria Avenue/Dump Road intersection could be significant and may require temporary traffic controls such as flaggers. The Project does not involve any incompatible uses such as farm equipment.

**d) *Would the project result in inadequate emergency access?***

**No Impact:** The proposed Project would not alter any existing emergency access road, Carpinteria Avenue would remain open during all Project activities.

### 3.18 Tribal Cultural Resources

- a) *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:*
- i) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

**Less than Significant with Mitigation.** The Cultural Resources Assessment identified archaeological resources at the Project site (cultural resource CA-SBA-06). The report details the resource as disturbed to heavily disturbed dependent on the location within the Project site. Given the presence of a cultural resource and the ground disturbing activities of the proposed Project, potential for impacts to previously undisturbed resources is possible without mitigation. Standard mitigation techniques for cultural resources such as a Cultural Resources Management Plan and worker training for cultural resource awareness would reduce the potential for impacts to archaeological resources to less than significant.

- ii) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

**No Impact.** The City has not identified any tribal cultural resources beyond that identified by other agencies.

### 3.19 Utilities and Service Systems

The State CEQA Guidelines and Checklist have been amended for Utilities and Service Systems. The previous question a) was removed and questions b), c), h), and i) were consolidated. Question d) and f) were reworded. The modifications to the checklist resulted in fewer questions. Previous environmental review has been consolidated accordingly.

- a) *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

**No Impact.** The proposed Project does not involve the construction of any infrastructure.

- b) ***Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?***

***Less than Significant.*** The proposed Project water use would be limited to potable water used for dust control, soil compaction and site restoration. This water use is temporary and short term, the applicant has estimated this water use to a few thousand gallons per day. This short term and temporary water use would not be a significant impact to groundwater supplies or interfere with groundwater recharge.

- c) ***Would the project result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

**No Impact.** Workers employed at the Project site would use portable restrooms which would be emptied and transported to an appropriate sanitary district disposal facility by a commercial third party vendor.

- d) ***Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?***

***Less than Significant.*** The proposed Project would generate solid waste in the form of equipment and piping, concrete, asphalt, gravel and contaminated soil. Equipment, piping and related metal materials would be recycled at an appropriate facility. Concrete, asphalt and gravel would be recycled at State Ready Mix. Non-hazardous contaminated soils would be transported to the Simi Valley Landfill. Hazardous contaminated soils would be transported to the Kettleman or McKittrick disposal sites. These facilities have adequate capacity to receive Project-related solid waste and recycle these wastes to the extent feasible. Therefore, the proposed Project would not impact the attainment of any State-mandated solid waste reduction goals by the City or Santa Barbara County.

- e) ***Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?***

**No Impact.** The proposed Project would dispose of recovered materials at solid waste disposal facilities approved and permitted by the California Department of Resources Recycling and Recovery.

## 3.20 Wildfire

The State CEQA Guidelines were amended in July 2015 and the CEQA Checklist has been amended since the December 2013 Final MND was prepared to specifically include a separate section on wildfire impacts. Nonetheless, the potential for wildfires were addressed in the December 2013 Final MND under Hazards.

***If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:***



- a) *Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?*

**No Impact.** The proposed Project would not involve the closure of either public or private roadways, therefore, would not impact ingress or egress for emergency access and thus not impact an emergency response or evacuation plan.

- b) *Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

- c) *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

- d) *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

**No Impact.** The proposed Project site is not located within a designated High Fire Hazard Severity Zone as designed by the California Department of Forestry and Fire Protection. The City General Plan Seismic and Safety Element identifies the Project site as within a low fire hazard area. The beach and offshore Project site are not subject to wildfires. The Project does not involve any development of infrastructure that could increase the spread of a wildfire. The Project site does not include any steep slopes or major drainages that may cause downstream flooding, landslides, excessive run-off or post-fire slope instability in the event the Project site was affected by wildfire.

### 3.21 Mandatory Findings of Significance

- a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As addressed throughout this Initial Study, the proposed Project would have no impact, a less-than-significant impact, a less-than-significant impact with mitigation incorporated, or a potentially significant impact as indicated for each issue area. Impact areas Agriculture/Forestry, Minerals, Public Services and Wildfire were found to have no potential impact. Potential impacts to Air Quality, Energy, Noise, Recreation, Transportation/Circulation, Utilities were found to be less than significant. Cultural Resources, Geology, Greenhouse Gases, Hydrology, Land Use and Tribal Resources were determined to be less than significant with mitigation.

Due to the potential for an oil spill or release of hydrocarbons from infrastructure demolition, flushing and pigging of pipelines, removal of pipelines or a release from one of the legacy onsite oil wells impacts to Biological Resources and Hazardous Materials was determined to be potentially significant. Mitigation

measures would reduce the potential for such an impact; however, the potential could still remain and the impact to the environment could be significant.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)*

The proposed Project is short term with temporary demolition and construction type activities over a project schedule of approximately three years. No other large construction projects are currently scheduled in the immediate Project area nor are any oil and gas remediation projects. Upon conclusion of the proposed Project the Project site would be remediated and graded back to a natural state with no development, a net benefit for the environment and community. Therefore, the proposed Project would not have a cumulatively considerable impact.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

**Less than Significant.** While the potential impact to the environment from a release of hydrocarbons could have significant impacts, these potential impacts would not have a direct or indirect substantial adverse effect on human beings.

## **References**

- Associated Transportation Engineers, 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility – Traffic, Parking and VMT Analysis. June 2021.
- City of Carpinteria, 2021. Project Application for the Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility. October 2021.
- City of Carpinteria, 1994. Environmental Review Guidelines. January 1994.
- City of Carpinteria, 2003. General Plan/Local Coastal Land Use Plan & Environmental Impact Report. April 2003.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix B Summary of Remedial Action Plan. October 2021.
- Padre Associates Inc., 20231. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C1 Part 1 Marine Biological Resources Study, June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C1 Part 2 Terrestrial Biological Resources Study. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C2 Tree Report. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C3 Preliminary Restoration/Vegetation Plan. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C4 Essential Fish Habitat Assessment. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C5 Carpinteria Harbor Seal Rookery Monitoring and Protection Plan. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix C6 Coastal Wetland Delineation Report. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix E Carp O&G Plant Decommissioning Emissions Calcs. June 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix F Cultural Resources Assessment. October 2021.
- Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix G Bluff Retreat Evaluation Report. June 2021.

***Chevron Carpinteria Oil and Gas Facility Decommissioning  
Initial Study***

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Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix H Noise Management Report. June 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix I Description of Facilities not Included in Project Activities. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Appendix J Policy Consistency Analysis. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility Project Description. October 2021.

Padre Associates Inc., 2021. Decommissioning and Remediation of the Carpinteria Gas and Oil Processing Facility - Volume III Initial Study. October 2021.

**CALIFORNIA COASTAL COMMISSION**

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August 15, 2022

Steve Goggia  
Director  
Community Development  
City of Carpinteria  
5775 Carpinteria Avenue  
Carpinteria, CA 93013

Re: Chevron Carpinteria Oil and Gas Facility Decommissioning Initial Study (IS)

Dear Mr. Goggia:

Commission staff appreciates the opportunity to review and provide comment on the draft IS for the Chevron Carpinteria Oil and Gas Facility decommissioning, posted on August 1 and available for comment through September 1. The proposed project would include demolition and removal of surface and subsurface facilities and subsequent remediation of impacted soils, occupying 64.28 acres of land. A coastal development permit (CDP) would be required from the City of Carpinteria (City) for those portions of the project located onshore and within the City's local coastal program jurisdiction while a separate CDP would be required from the California Coastal Commission (Commission) for project components located offshore below the Mean High Tide Line (MHTL). Because a portion of the project is within the Commission's retained jurisdiction the project could also be processed as a consolidated CDP should the applicant, the City and the Commission all consent to consolidation.

As stated in Section 3.0 of the draft IS the determination is that the project may have a significant effect on the environment, and an environmental impact report (EIR) is required. Commission staff support the City's determination that an EIR is required and we look forward to coordinating with the City on the development of the EIR and the CDP process.

Please contact Wesley Horn at [Wesley.Horn@coastal.ca.gov](mailto:Wesley.Horn@coastal.ca.gov) if you have any questions regarding this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Horn", is positioned above the printed name.

Wesley Horn  
Environmental Scientist





State of California – Natural Resources Agency  
 DEPARTMENT OF FISH AND WILDLIFE  
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 3883 Ruffin Road  
 San Diego, CA 92123  
 (858) 467-4201  
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GAVIN NEWSOM, Governor  
 CHARLTON H. BONHAM, Director



August 30, 2022

Steve Goggia  
 Community Development Director  
 City of Carpinteria  
 5775 Carpinteria Avenue  
 Carpinteria, CA 93013  
[SteveG@carpinteriaca.gov](mailto:SteveG@carpinteriaca.gov)

**Subject: Comments on the Notice of Preparation of a Draft Program Environmental Impact Report for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project #2128, SCH #2022080026, Santa Barbara County**

Dear Steve Goggia:

The California Department of Fish and Wildlife (CDFW) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility Project #2128 (Project). The City of Carpinteria (City) is the lead agency preparing a DEIR pursuant to the California Environmental Quality Act (CEQA; Pub. Resources Code, § 15082 et. seq.) with the purpose of informing decision-makers and the public regarding potential environmental effects related to the Project.

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

### **CDFW's Role**

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & Game Code, §§ 711.7, subdivision (a) & 1802; Public Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect state fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Public Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & Game Code, § 1600 et seq.). Likewise, to the extent

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 City of Carpinteria  
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implementation of the Project as proposed may result in “take” (see Fish & Game Code, § 2050) of any species protected under the California Endangered Species Act (CESA; Fish & Game Code, § 2050 *et seq.*) or the Native Plant Protection Act (NPPA; Fish & Game Code, § 1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

**Project Location:** Access to the Project site is from U.S. Highway 101 to Bailard Avenue and west onto Carpinteria Avenue to Dump Road. The site is bisected by Dump Road from west to east, and by the Union Pacific Railroad from north to south. The eastern portion of the Project site remains mainly developed by oil and gas processing equipment. The western portion of the site is primarily open space. The southern third of the site is open space along the bluffs with two large parking areas available for the Casitas Pier operations.

Surrounding land uses include the Carpinteria City Hall, Carpinteria Avenue, and U.S. Highway 101 to the north, the Pacific Ocean to the south, the Concha Loma single-family residential neighborhood to the west, and a public golf driving range, agriculture, and open space to the east.

**Project Description/Objectives:** The Project's purpose is to demolish and remove surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment. Remediation is targeted to the most stringent clean up levels as determined by the Santa Barbara County Public Health Department, Environmental Health Services Department, Regional Water Quality Control Board, and U.S. Environmental Protection Agency, while preserving existing site resources, including mature trees and bluffs, and buffer zones adjacent to the railroad right-of-way. Tier 1 Environmental Screening Levels for residential uses are being used as the standard for on-site soil remediation, consistent with Chevron's clean up objectives. Project objectives include:

#### **Onshore**

- Idling and removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant;
- Removal of concrete foundations, asphalt, oil spray and road base;
- Excavation/remediation of any impacted soil;
- Recycling/disposal of all materials removed from the Project site(s); and
- Site restoration.

#### **Beach Crossing and Offshore Pipelines (State Waters)**

- Pig and flush pipelines in preparation for removal;
- Removal of offshore Project pipeline segments out to 3-mile State waters limit;
- Potential nighttime activities in surf zone due to tidal restrictions;
- Removal of nearshore beach crossing pipeline segments;
- Recycling/disposal of all materials removed from the Project site(s); and,
- Site restoration.

Based on the proposed Project application package, the Project is expected to require 670 days over a three-year period.

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## COMMENTS AND RECOMMENDATIONS

CDFW offers the following comments and recommendations to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

### Marine Comments

#### Sensitive Marine Habitats

According to the Project's Marine Biological Resources Report (Report), the following sensitive marine habitats occur or may occur in the Project area: rocky reefs, kelp forest, eelgrass (*Zostera* spp.) beds, and surf grass (*Phyllospadix* spp.) beds. These habitats have been designated as habitat areas of particular concern (HAPC) within the Pacific Coast Groundfish Fishery Management Plan under the Magnuson-Stevens Fishery Conservation and Management Act. HAPC, a subset of Essential Fish Habitat, are habitats of special importance to fish populations due to their rarity, vulnerability to development and anthropogenic degradation, and/or ability to provide key ecological functions. Eelgrass is further protected under state and federal "no-net-loss" policies for wetland habitats. Additionally, the importance of eelgrass protection and restoration as well as the ecological benefits of eelgrass are identified in the California Public Resources Code, section 35630.

In-water Project activities may impact sensitive marine habitats. Kelp or surf grass attached to the pipelines would be directly affected by pipeline removal. Similarly, in sections where the pipelines are buried, eelgrass growing in those sediments would likely be uprooted as the pipelines are excavated. The resuspension and distribution of sediments by underwater excavation methods such as jetting may also impact sensitive marine habitats via direct burial/smothering, increased turbidity, and/or decreased light availability.

CDFW agrees with the Report that further study is needed to determine whether eelgrass is present near the Project area. CDFW recommends conducting eelgrass surveys in accordance with the California Eelgrass Mitigation Policy (NMFS 2014) and in consultation with the National Marine Fisheries Service. Further study is also needed to determine if kelp, eelgrass, or surf grass are growing on or above the pipelines. The DEIR should document these findings as well as all sensitive marine habitats within the Project area. Project activities should avoid sensitive marine habitats to the greatest extent possible. If these habitats cannot be avoided, the DEIR should include appropriate mitigation measures.

#### Sensitive Marine Species Surveys and Monitoring

CDFW agrees with the Report that California grunion (*Leuresthes tenuis*) may occur seasonally within the Project area. California grunion are endemic to California and Baja California and support a culturally important recreational fishery. Grunion are known to regularly spawn on several nearby beaches during the spawning season (March–August). Project activities occurring below the highest tide line (e.g., sand moving, use of heavy equipment) during this timeframe may disturb or bury incubating grunion eggs and larvae. In-water activities in the surf zone/nearshore that generate high underwater sound levels or turbidity may also deter grunion from spawning.

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Project activities on the beach (below the highest tide line) and in the surf zone during March–August should be avoided to the greatest extent feasible. If work during this time cannot be avoided, the DEIR should provide measures to mitigate for the Project’s potential impacts on California grunion. CDFW recommends that a qualified biological observer monitor the work site prior to the start of activities in the intertidal zone during the previous forecast grunion run period (3–4 nights in a row). If grunion is observed at the work site, the Project should suspend activities below the highest tide line for at least two weeks to allow grunion eggs to incubate and hatch out. The expected run schedule and further information about grunion can be found on CDFW’s website: <https://wildlife.ca.gov/Fishing/Ocean/Grunion>.

The Report also identifies black abalone (*Haliotis cracherodii*) and white abalone (*Haliotis sorenseni*) as special-status species that may occur in the Project area. There is some probability that abalone could be found on the pipelines themselves in unburied sections. For this reason, CDFW recommends conducting abalone surveys on the unburied sections of pipeline prior to removal under consultation with the National Marine Fisheries Service. The DEIR should consider the potential impacts to abalone that may be found on the pipelines and include appropriate mitigation measures.

### **Underwater Noise**

Some Project activities, such as jack hammering and cutting of the pipelines, may generate underwater noise (e.g., high underwater sound levels) that is harmful to marine mammals and/or fish. For assessing impacts of underwater noise on fish, CDFW relies on guidance from the Fisheries Hydroacoustic Working Group to set safe sound pressure level (SPL) criteria (FHWG 2008). The criteria include a peak SPL of 206 decibels and a cumulative sound exposure (SEL) level of 187 decibels for fish two grams and heavier or a cumulative SEL of 183 decibels for fish lighter than two grams. While these criteria were developed for pile driving, they are applicable to any noise-producing underwater activity.

The DEIR should discuss potential impacts to marine mammals and fish from underwater noise-producing activities and include an analysis of anticipated underwater sound levels for these activities. If activities will generate high underwater sound levels, CDFW recommends using a “soft-start” technique for these activities so that any marine mammals or fish present may vacate the area before injury occurs. CDFW appreciates AMM 3 (Marine Wildlife Contingency Plan Implementation), which includes the presence of a Marine Wildlife Monitor during Project activities offshore and on the beach and looks forward to reviewing this document once it is available. CDFW recommends that the Marine Wildlife Contingency Plan include exclusion zones for marine mammals, which should be developed in consultation with the National Marine Fisheries Service and CDFW.

### **Oil Spill Response**

CDFW appreciates the inclusion of AMM 6 (Oil Spill Response and Contingency Plan Implementation) and recommends coordinating closely with CDFW’s Office of Spill Prevention and Response (OSPR) while developing this plan.

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## Marine Life on Pipelines

CDFW expects that a variety of marine life is currently growing on or attached to the pipelines proposed for removal. These organisms may include, but are not limited to, mussels, barnacles, hydroids, surf grass, kelp, and other marine algae. The DEIR should explain in detail what the Project plans to do with the marine life attached to the pipelines; for instance, if organisms will be removed, how and where they will be removed, etc. Special consideration should be given to special-status species, such as black abalone, and what mitigation measures may be required. CDFW recommends that the Project proponent consult with CDFW on what authorizations may be required for the removal of species attached to the pipelines.

## Terrestrial Comments

CDFW uses natural communities, as found in the online version of the Manual of California Vegetation (2022), to track vegetation communities of California as well as their rarity. Many of the alliances listed in the NOP were not able to be verified in either the current Manual of California Vegetation 2022 (online version) or the CDFW list of natural community alliances and associations list (links provided below). CDFW is unable to verify the rarity ranking or determine if these natural communities (alliances/association) are Sensitive Natural Communities without the proper nomenclature. Alliances and associations are continuously updated; as such, the book version published in 2009 should no longer be solely relied on as accurate.

Section 3.4 (b) of the NOP lists several alliances without any ranking, and some alliances whose names CDFW could not verify as currently existing alliances/associations. Of the alliances listed in the NOP, CDFW has designated the following Manual of California Vegetation (2022 version; MCV) alliances and associations as Sensitive Natural Communities.

Alliance Listed in NOP	Ranking	Issue
Platanus racemosa – Quercus agrifolia Alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.
Artemisia californica shrubland alliance/California sagebrush scrub	Not a recognized alliance	This appears to be an older alliance name that is no longer used. The NOP should use current nomenclature for natural communities to allow CDFW to assess the rarity ranking of the habitat.
Atriplex lentiformis alliance	S4 - CEQA locally rare	CDFW considers this alliance locally rare in Carpinteria and coastal Santa Barbara County due to high levels of loss.
Baccharis pilularis alliance	S5 - CEQA locally rare	CDFW considers this alliance locally rare in Carpinteria and coastal Santa Barbara County due to high levels of loss.
Isocoma menziesii alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.



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"Heteromeles arbutifolia shrubland alliance" and "toyon chaparral"	Not a recognized alliance	The NOP should update to currently recognized nomenclature. The Heteromeles arbutifolia (Provisional Association 37.912.01) might be a good fit, and this alliance has been given a rare rank and should be considered a sensitive natural community. CDFW is not clear if this was the association found onsite as the naming is unclear.
Rhus integrifolia Shrubland Alliance	S3	This alliance is considered rare by CDFW. The NOP should include this ranking information.
"Sambucus nigra alliance"	Not a recognized alliance	The NOP should update to currently recognized nomenclature. The Sambucus nigra association (63.410.01) might be a good fit, and this alliance is listed as rare. CDFW is not clear if this was the association found onsite as the naming is unclear.

CDFW recommends re-assessing the natural communities on-site using current MCV online (2022) nomenclature. CDFW recommends avoiding all sensitive natural communities. The complete list of alliances/associations can be found here <https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities> or here: <https://vegetation.cnps.org/search?>

### General Comments

- 1) California Endangered Species Act (CESA). Project-related activities may adversely impact potential habitat for this species. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or State-listed rare plant species that results from the Project is prohibited, except as authorized by State law (Fish and Game Code, §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project, Project construction, or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

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- 2) Fully Protected Species. CDFW cannot authorize the take of any fully protected species as defined by State law. State fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for its take except for collecting those species for necessary scientific research and relocation of the bird species for protection of livestock (Fish & G. Code, §§ 3511, 4700, 5050, 5515). Take of any species designated as fully protected under the Fish and Game Code is prohibited.
- 3) Project Description and Alternatives. To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR:
  - a) A complete discussion of the purpose and need for, and description of, the proposed Project, including all staging areas and access routes to the construction and staging areas; and,
  - b) A range of feasible alternatives to Project component location and design features to ensure that alternatives to the proposed Project are fully considered and evaluated. The alternatives should avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas.
- 4) Lake and Streambed Alteration (LSA) Agreements. As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow; or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream; or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to section 1600 *et seq.* of the Fish and Game Code. Based on this notification and other information, CDFW determines whether a LSA Agreement with the applicant is required prior to conducting the proposed activities. CDFW's issuance of an LSA Agreement for a project that is subject to CEQA will require related environmental compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the CEQA document prepared by the local jurisdiction (Lead Agency) for the Project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the DEIR should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement<sup>1</sup>.
  - a) The Project area supports aquatic, riparian, and wetland habitats; therefore, a preliminary jurisdictional delineation of the streams and their associated riparian habitats should be included in the DEIR. The delineation should be conducted pursuant to the U. S. Fish and Wildlife Service (USFWS) wetland definition adopted by the CDFW (Cowardian, 1970). Some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' section 404 permit and Regional Water Quality Control Board section 401 Certification.
  - b) In areas of the Project site which may support ephemeral streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of

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<sup>1</sup> A notification package for a LSA may be obtained by accessing the CDFW's web site at [www.wildlife.ca.gov/habcon/1600](http://www.wildlife.ca.gov/habcon/1600).

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ephemeral channels and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately-sized vegetated buffer areas adjoining ephemeral drainages.

- c) Project-related changes in drainage patterns, runoff, and sedimentation should be included and evaluated in the DEIR.
- 5) Wetlands Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's policies. The Wetlands Resources policy (<http://www.fgc.ca.gov/policy/>) of the Fish and Game Commission "...seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."
- a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, the Project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in the DEIR and these measures should compensate for the loss of function and value.
  - b) The Fish and Game Commission's Water policy guides CDFW on the quantity and quality of the waters of this state that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this state; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & Game Code, § 5650).
- 6) Biological Baseline Assessment. To provide a complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying

Steve Goggia  
 Community Development Director  
 City of Carpinteria  
 August 30, 2022  
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endangered, threatened, sensitive, regionally and locally unique species, and sensitive habitats, the DEIR should include the following information:

- a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)];
- b) A thorough, recent, floristic-based assessment of special status plants and natural communities, following CDFW's *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (see <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>). Anyone who collects scientific plant specimens of state-listed species, or who may encounter a state-listed species that needs to be identified during field surveys should have a plant voucher collection permit (see <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=44384&inline>);
- c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at the Project site and within the neighboring vicinity. *The Manual of California Vegetation* online edition should also be used to inform this mapping and assessment (<https://vegetation.cnps.org/search?>). Adjoining habitat areas should be included in this assessment where site activities could lead to direct or indirect impacts offsite. Habitat mapping at the alliance level will help establish baseline vegetation conditions;
- d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by the project. CDFW's California Natural Diversity Data Base (CNDDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat. CDFW recommends that CNDDDB Field Survey Forms be completed and submitted to CNDDDB to document survey results. Online forms can be obtained and submitted at [http://www.dfg.ca.gov/biogeodata/cnddb/submitting\\_data\\_to\\_cnddb.asp](http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp);
- e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California SSC and California Fully Protected Species (Fish & Game Code, §§ 3511, 4700, 5050 and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with CDFW and the USFWS; and,
- f) A recent, wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of two years, in non-drought conditions. Some aspects of the proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame, or in phases.

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- 7) Biological Direct, Indirect, and Cumulative Impacts. To provide a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, the following should be addressed in the DEIR:
- a) A discussion of potential adverse impacts from lighting, noise, human activity, exotic species, and drainage. The latter subject should address Project-related changes on drainage patterns and downstream of the project site; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the project site. The discussion should also address the proximity of the extraction activities to the water table, whether dewatering would be necessary and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;
  - b) A discussion regarding indirect Project impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands (e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish & Game Code, § 2800 et. seq.). Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR;
  - c) An analysis of impacts from land use designations and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DEIR; and,
  - d) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
- 8) Avoidance, Minimization, and Mitigation for Sensitive Plants. The DEIR should include measures to fully avoid and otherwise protect sensitive plant communities from Project-related direct and indirect impacts. CDFW considers these communities to be imperiled habitats having both local and regional significance. Plant communities, alliances, and associations with a statewide ranking of S-1, S-2, S-3 and S-4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by querying the CNDDDB and are included in MCV.
- 9) Compensatory Mitigation. The DEIR should include mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of Project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and



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Community Development Director  
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dedicated to a qualified entity for long-term management and monitoring. Under Government Code section 65967, the lead agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

- 10) Long-Term Management of Mitigation Lands. For proposed preservation and/or restoration, the DEIR should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the Project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.
- 11) Nesting Birds. CDFW recommends that measures be taken to avoid Project impacts to nesting birds. Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Title 50, § 10.13, Code of Federal Regulations). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). Proposed Project activities including (but not limited to) staging and disturbances to native and nonnative vegetation, structures, and substrates should occur outside of the avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors) to avoid take of birds or their eggs. If avoidance of the avian breeding season is not feasible, CDFW recommends surveys by a qualified biologist with experience in conducting breeding bird surveys to detect protected native birds occurring in suitable nesting habitat that is to be disturbed and (as access to adjacent areas allows) any other such habitat within 300-feet of the disturbance area (within 500-feet for raptors). Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.
- 12) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual from the Project site and permanently moving it to a new location. CDFW generally does not support the use of translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.
- 13) Moving out of Harm's Way. The proposed Project is anticipated to result in clearing of natural habitats that support many species of indigenous wildlife. To avoid direct mortality, we recommend that a qualified biological monitor approved by CDFW be on-site prior to and during ground and habitat disturbing activities to move out of harm's way special status species or other wildlife of low mobility that would be injured or killed by grubbing or Project-related construction activities. It should be noted that the temporary relocation of on-site wildlife does not constitute effective mitigation for the purposes of offsetting project impacts

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 Community Development Director  
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associated with habitat loss. If the project requires species to be removed, disturbed, or otherwise handled, we recommend that the DEIR clearly identify that the designated entity shall obtain all appropriate state and federal permits.

- 14) Revegetation/Restoration Plan. Plans for restoration and re-vegetation should be prepared by persons with expertise in southern California ecosystems and native plant restoration techniques. Plans should identify the assumptions used to develop the proposed restoration strategy. Each plan should include, at a minimum: (a) the location of restoration sites and assessment of appropriate reference sites; (b) the plant species to be used, sources of local propagules, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) a local seed and cuttings and planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific, measurable success criteria; (h) a detailed qualitative monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. Monitoring of restoration areas should extend across a sufficient time frame to ensure that the new habitat is established, self-sustaining, and capable of surviving drought. Monitoring should demonstrate a positive trend for native species cover, diversity, and abundance, and a negative trend for non-native species cover with no further manipulation of the site occurring during this period. If manipulation of the site is still occurring (replacing dead plants, irrigation, weeding) then this is still considered the installation period and should not be used as monitoring data to determine success. The monitoring period should start after the installation period has been completed and the site is not being actively manipulated, as manipulation of the site skews any data collection toward prematurely meeting success criteria that might not have been met had the site been left alone.
- a) CDFW recommends that local on-site propagules from the Project area and nearby vicinity be collected and used for restoration purposes. On-site seed collection should be initiated in the near future to accumulate sufficient propagule material for subsequent use in future years. On-site vegetation mapping at the alliance and/or association level should be used to develop appropriate restoration goals and local plant palettes. Reference areas should be identified to help guide restoration efforts. Specific restoration plans should be developed for various Project components as appropriate.
  - b) Restoration objectives should include providing special habitat elements where feasible to benefit key wildlife species. These physical and biological features can include (for example) retention of woody material, logs, snags, rocks and brush piles (see Mayer and Laudenslayer, 1988).

## CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the City in identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact Kelly Schmoker, Senior Environmental Scientist, at (626) 848-8382 or by email at [Kelly.Schmoker@wildlife.ca.gov](mailto:Kelly.Schmoker@wildlife.ca.gov).

Steve Goggia  
Community Development Director  
City of Carpinteria  
August 30, 2022  
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Sincerely,

DocuSigned by:

  
B6E58CFE24724F5...

Erinn Wilson-Olgin  
Environmental Program Manager I  
South Coast Region

cc: CDFW

Steve Gibson, Los Alamitos – [Steve.Gibson@wildlife.ca.gov](mailto:Steve.Gibson@wildlife.ca.gov)  
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CEQA Program Coordinator, Sacramento – [CEQACommentLetters@wildlife.ca.gov](mailto:CEQACommentLetters@wildlife.ca.gov)  
Office of Planning and Research  
State Clearinghouse, Sacramento – [State.Clearinghouse@opr.ca.gov](mailto:State.Clearinghouse@opr.ca.gov)

## References

[FHWG] Fisheries Hydroacoustic Working Group. 2008. Interim Criteria for Injury of Fish Exposed to Pile Driving Operations: Memorandum. Washington: Federal Highway Administration. Available from: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/ser/bio-fhwg-criteria-agree-a11y.pdf>.

[NMFS] National Marine Fisheries Service. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA Fisheries West Coast Region (October 2014). Available from: [https://media.fisheries.noaa.gov/dam-migration/comp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/comp_oct_2014_final.pdf)

[NMFS] National Marine Fisheries Service. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA Fisheries West Coast Region (October 2014). Available from: [https://media.fisheries.noaa.gov/dam-migration/comp\\_oct\\_2014\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/comp_oct_2014_final.pdf).

Sawyer, J. O., Keeler-Wolf, T., and Evens J.M. 2022. A manual of California Vegetation online version, accessed at <https://vegetation.cnps.org/>



**Rebecca Trujillo**  
Regulatory Affairs Manager  
West Coast Decommissioning Program

September 27, 2022

Mr. Steve Goggia  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Ave  
Carpinteria, CA 93013

**RE: Chevron U.S.A. Inc. Comment to Notice of Preparation for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities  
Project No. 21-2128-DP/CDP  
5675 and 5663 Carpinteria Avenue (APNs 101-170-003, -004, -014, -021, -022, and -023)**

Dear Mr. Goggia:

Thank you again for your consideration of our application. Chevron appreciates the opportunity to provide comments on the City's Initial Study and Notice of Preparation of a Draft Environmental Impact Report sent to the State Clearinghouse in the Governor's Office of Planning and Research posted on August 1, 2022.

Chevron has reviewed the City's Initial Study prepared in compliance with the California Environmental Quality Act (CEQA), and supports the City's recommendation to prepare an Environmental Impact Report (EIR) to support further CEQA review. Chevron requests that the City consider the following points and clarifications regarding the scope and content of the EIR for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities, Project No. 21-2128-DP/CDP (Project):

- **Project Acreage**

- The Chevron property encompasses the APNs referenced above, including APNs 101-170-003, -004, -014, -021, -022, and -023. The Operational Project Areas within the site, however, are limited to the ~55 acres within APNs 101-170-004, -014, -021, -022, and -023.
- The City's Initial Study identifies APN 101-170-003 as part of the Project Site, increasing the Project Site to ~64.28 acres.<sup>1</sup> To be clear, APN 101-170-003 is not part of the Project Site and will not be affected by Project activities.
- Chevron requests that the EIR clarify that the Project Site, in which Project activities will take place, consists only of the Operational Project Areas within Chevron's property (~55 acres within APNs 101-170-004, -014, -021, -022, and -023).

- **Referenced Soil Remediation Targets**

- As specified in Chevron's October 2021 project application, the goal is to remediate the Project Site to an unrestricted, residential level that would allow for a broad range of future reuse opportunities. The specific remediation targets necessary to allow for future redevelopment on the Project Site will be established via consultation with the appropriate regulatory agencies.
  - Chevron's project application explains that: "The unrestricted land use cleanup goals (Soil Cleanup Goals) are conservative and used to develop an anticipated upper threshold for Project specific characteristics of expected soil volume and ancillary factors for traffic/truck

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<sup>1</sup> 2.3 Environmental Setting, p. 8<sup>2</sup> Project Description, p. 6-6

trips and potential air emission impacts. Actual cleanup levels will be developed in consultation with the appropriate regulatory agency and will/may/could differ from those presented here.”<sup>2</sup>

- The City’s Initial Study categorizes Chevron’s objective as achieving Tier 1 Environmental Screening Levels to meet the “most stringent” clean up objectives.<sup>3</sup> The phrase “most stringent” is undefined.
- Chevron requests that the EIR clarify that Chevron’s actual intended objective is to achieve an unrestricted, residential target. The project application states that the Tier 1 ESLs used to analyze project impacts are based on residential use and that other levels used in the analysis were also based on future residential use. To be clear, the EIR should state that the analysis of the reasonably foreseeable scope of environmental impacts is based on remediation activity assumptions (e.g., truck trips, soil excavation and other site activities) that are specifically necessary to achieve an unrestricted, residential target.<sup>4</sup>

- **Referenced Project Execution Schedule**

- The schedule included with our application in October 2021 reflected an execution schedule we believed to be achievable in 2022.<sup>5</sup> Given that we are approaching one year since the submission of our application and we are supportive of the City’s recommendation to prepare and EIR for our Project, the execution schedule will need to be amended. Once the City establishes its updated CEQA schedule, Chevron will incorporate that information into its current schedule and deliver an updated proposed execution schedule to the City. To the extent the City’s schedule is further revised, Chevron anticipates additional revisions to its proposed execution schedule.

- **Greenhouse Gas Emissions**

- The Initial Study states that “worst case annual average GHG emissions for the Project are less than 20% of the SBCAPCD threshold of 10,000 metric tons per year CO<sub>2</sub> equivalent for a stationary source. However, the Santa Barbara County threshold for GHG emissions is 1,000 metric tons per year and the Project would exceed this threshold (the City would need to determine if it wants to adopt this threshold).”<sup>6</sup>
- As the relevant air quality agency in the project area, the SBCAPCD threshold is more applicable to the Project. In addition, the Santa Barbara County threshold is designed to address industrial stationary sources, specifically oil and gas production and surface mining projects, and not short-term remediation or decommissioning activities such as those contemplated by the Project.
- Chevron requests that the City adopt the SBCAPD threshold.

- **Significant Impact decisions for Biological Resources, Cultural Resources, and Hazards and Hazardous Materials**

- While Chevron supports the enhanced level of environmental review via the EIR, Chevron has concerns about the rationale used to characterize some impacts as potentially significant.
  - Under Biological Resources (3.4), the City’s Initial Study describes the potential release of hydrocarbons during the decommissioning activities as potentially significant<sup>7</sup>.
    - As described in Chevron’s project application, the liquids pipelines are currently out of service and were previously pigged and flushed of hydrocarbons. The gas pipeline is currently flowing refined natural dry gas from shore to the offshore platform, and also

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<sup>2</sup> Project Description, p. 6-6

<sup>3</sup> 2.4 Proposed Project, p. 8

<sup>4</sup> 2.4 Proposed Project, p. 8

<sup>5</sup> 2.5 Construction Schedule, p. 9

<sup>6</sup> 3.8 Greenhouse Gas Emissions, p. 41.

<sup>7</sup> 3.4 Biological Resources, p. 31-34



contains no liquid hydrocarbons. There is no risk of a significant release of hydrocarbons from the pipeline activities.

- Chevron requests that the EIR analysis of potential releases from pipeline decommissioning re-evaluate the negligible risk of actual/probable impact.
- Under Cultural Resources (3.5) <sup>8</sup>, Chevron requests the following modifications to the City's proposed mitigations:
  - MM CUL-4 describes exclusion zones which must be documented and fenced prior to ground disturbance. However:
    - Intact subterranean cultural resources may be located in areas where no ground disturbance is planned but where staging of people, or equipment may occur on the surface, potentially making fencing infeasible.
    - Since submitting its October 2021 application, Chevron has learned that soil impacts and facilities that must be addressed may be within areas of identified subterranean cultural resources.
    - Chevron requests that the City, in consultation with Tribal members, work with Chevron to identify the appropriate scope and boundaries of Cultural Resources mitigation to achieve the Project's decommissioning and remediation objectives.
  - MM CUL-6 describes the requirements under California Public Resources Code §5097.98 that must be met if Chevron encounters Human Remains while executing their Proposed Project Activities.
    - Chevron requests that, in addition to the time period (24 hours) that the coroner has to notify the Native American Heritage Commission, MM CUL-4 should also reflect the 48-hour turnaround the descendants must be given to complete their investigation and make their recommendation in accordance with California Public Resources Code §5097.98.
- Under Hazards and Hazardous Materials (3.9), the City's Initial Study describes potential release of hazardous materials during pipeline construction activities as well as relating to the Legacy Wells.<sup>9</sup>
  - As previously described, the risk of a release of hydrocarbons during the pipeline construction (removal) activities is extraordinarily low. Chevron will have pigged and flushed all pipelines prior to the execution of the Proposed Project Activities.
  - The presence of Legacy Wells on the Project site is an existing baseline condition for purposes of CEQA analysis. Chevron has not included any activity as part of the Project that will disturb the Legacy Wells; the environmental risk of the Legacy Wells is no greater during Chevron's Proposed Project Activities than exists today.
  - Chevron requests that the EIR analysis of potential releases from pipeline decommissioning re-evaluate the negligible risk of actual/probable impact. Chevron further requests that the EIR scope specifically exclude any existing risks concerning the Legacy Wells as a baseline condition under CEQA and acknowledge that there is no greater environmental risk from Legacy Wells as a result of Chevron's Proposed Project Activities.

- **Legacy Wells**

- In Chevron's Project application, Chevron included the Historic Onsite Idle Wells (Legacy Wells) in the Facilities Not Included in Proposed Project Activities.

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<sup>8</sup> 3.5 Cultural Resources, p. 36-37

<sup>9</sup> 3.9 Hazards and Hazardous Materials, p. 42-43

- Chevron bears no obligation or responsibility for the abandonment of the Legacy Wells (Cal. Pub. Rec. Code § 3237), and has no intention of disturbing these Wells as part of the Decommissioning and Remediation of the Project Site.
- The City's Initial Study stated that "In order for the City to determine the Project site as suitable for future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed."
  - Under Project Approvals, the City has added CalGEM to the list for consultation and guidance on the Legacy Wells for which Chevron bears no responsibility.<sup>10</sup>
  - Under Hazards and Hazardous Materials, the City has further identified the Legacy Wells as a hazard that could involve "...the release of hazardous materials into the environment."<sup>11</sup>
    - The City further adds, "In order for the City to determine the Project site as suitable for a future land use, the potential impact to public health and safety related to the potential for leakage of gas or other hazardous substances to the surface from the wells must be assessed."
- It is Chevron's intention only "... to demolish and remove surface and subsurface facilities and subsequent remediation of any impacted soils at the onshore Carpinteria Oil and Gas Processing Facility to accommodate the site's potential future redevelopment<sup>12</sup>."
  - Chevron has not made any future sale, development, or use decisions for the Project site, and only desires to achieve a remediation standard that allows the site to be used for a variety of potential future uses.
    - Chevron has not requested Project approval for future use, nor would that be appropriate at this time when such use is unknown. For these reasons, the action subject to this CEQA EIR review is limited to approval of permits related to decommissioning and remediation only.
    - The Proposed Project does not include or require determination of the Project Site as suitable for any future land use or assessment of any potential impact or potential leakage from Legacy Wells that may affect a future land use.
    - Chevron has elected to remediate the property to achieve an unrestricted, residential target, which will help facilitate future land uses that may be advanced at a later date in another project, potentially by another project proponent. However, any future land use that may be proposed in a later, separate project is presently unknown and speculative, not part of this Proposed Project being undertaken by Chevron.
- Chevron requests that the City's EIR reflect the appropriate scope of decommissioning and remediation, and exclude speculative future land uses and the Legacy Wells for which Chevron bears no responsibility from the EIR scope.

Chevron appreciates your attention to our comments. Please reach out to me directly if you would like to discuss any questions or concerns further. Thank you.

Sincerely,



Rebecca Trujillo  
Regulatory Affairs Manager

<sup>10</sup> 2.6 Project Approvals, p. 10-11

<sup>11</sup> 3.9 Hazards and Hazardous Materials, p. 43

<sup>12</sup> Project Description, 1.5 Purpose and Objectives, p. 1-2

**From:** Julie Tumamait-Stenslie <[jtumamait@hotmail.com](mailto:jtumamait@hotmail.com)>

**Sent:** Saturday, September 03, 2022 8:41 PM

**To:** Steve Goggia <[steveg@carpinteriaca.gov](mailto:steveg@carpinteriaca.gov)>

**Subject:** Chevron Carpinteria Oil and Gas

Greetings Steve,

I hope this finds you well.

This has been awhile in the making.

There has been changes in the Tribal organization

I am no longer Chair.

But I can still consult under section 106 as interested party.

If you went through the NAHC you would see the chairs contact info.

I would like to see a map.

Also recommend that there be a Phase 1 done for the project.

Ultimately I would recommend monitoring by a qualified Archaeologist and a qualified Native Chumash monitor.

Any ground disturbance including demolition.

In AB- 52, the chair of a Band can consult, the others on the NAHC are people who may have information on cultural resources Absence or Presence. This list is not a monitoring list. The BVBMI does not employ monitors.

We are all Independent contractors.

Hope this helps.

Julie Tumamait Stenslie

805 701 6152.



## NATIVE AMERICAN HERITAGE COMMISSION

August 4, 2022

Steve Goggia, Community Development Director  
City of Carpinteria  
5775 Carpinteria Ave.  
Carpinteria, CA 93013

**Re: 2022080026, Chevron Carpinteria Oil and Gas Facility Decommissioning Project, Santa Barbara County**

Dear Mr. Goggia:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit. 14, § 15064.5 (b) (CEQA Guidelines § 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

**Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.**

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Luiseño

VICE CHAIRPERSON  
**Reginald Pagaling**  
Chumash

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**Russell Attebery**  
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COMMISSIONER  
**William Mungary**  
Paiute/White Mountain  
Apache

COMMISSIONER  
**Isaac Bojorquez**  
Ohlone-Costanoan

COMMISSIONER  
**Buffy McQuillen**  
Yokayo Pomo, Yuki,  
Nomlaki

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**Wayne Nelson**  
Luiseño

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CITY OF CARPINTERIA

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. **Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:** Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
  - a. A brief description of the project.
  - b. The lead agency contact information.
  - c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
  - d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).
2. **Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report:** A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
  - a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).
3. **Mandatory Topics of Consultation If Requested by a Tribe:** The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
  - a. Alternatives to the project.
  - b. Recommended mitigation measures.
  - c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).
4. **Discretionary Topics of Consultation:** The following topics are discretionary topics of consultation:
  - a. Type of environmental review necessary.
  - b. Significance of the tribal cultural resources.
  - c. Significance of the project's impacts on tribal cultural resources.
  - d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).
5. **Confidentiality of Information Submitted by a Tribe During the Environmental Review Process:** With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).
6. **Discussion of Impacts to Tribal Cultural Resources in the Environmental Document:** If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
  - a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
  - b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).



- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
  - A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- Avoidance and preservation of the resources in place, including, but not limited to:
    - Planning and construction to avoid the resources and protect the cultural and natural context.
    - Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - Protecting the cultural character and integrity of the resource.
    - Protecting the traditional use of the resource.
    - Protecting the confidentiality of the resource.
  - Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - Protecting the resource. (Pub. Resource Code §21084.3 (b)).
  - Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
  - Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
  - The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
  - The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: [http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation\\_CalEPAPDF.pdf](http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf)

## SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: [https://www.opr.ca.gov/docs/09\\_14\\_05\\_Updated\\_Guidelines\\_922.pdf](https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf).

Some of SB 18's provisions include:

1. **Tribal Consultation:** If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. **No Statutory Time Limit on SB 18 Tribal Consultation.** There is no statutory time limit on SB 18 tribal consultation.
3. **Confidentiality:** Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. **Conclusion of SB 18 Tribal Consultation:** Consultation should be concluded at the point in which:
  - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
  - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

## NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center ([https://ohp.parks.ca.gov/?page\\_id=30331](https://ohp.parks.ca.gov/?page_id=30331)) for an archaeological records search. The records search will determine:
  - a. If part or all of the APE has been previously surveyed for cultural resources.
  - b. If any known cultural resources have already been recorded on or adjacent to the APE.
  - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
  - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
  - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
  - a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
  - b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.
4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
  - a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
  - b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
  - c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

[Cody.Campagne@nahc.ca.gov](mailto:Cody.Campagne@nahc.ca.gov).

Sincerely,

*Cody Campagne*

Cody Campagne  
Cultural Resources Analyst

cc: State Clearinghouse

August 26, 2022

Steve Goggia  
City of Carpinteria  
Community Development Department  
5775 Carpinteria Avenue  
Carpinteria, CA 93013

Sent via Email: [SteveG@carpinteriaca.gov](mailto:SteveG@carpinteriaca.gov)

**Re: Santa Barbara County Air Pollution Control District Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility, Project Case #2128**

Dear Steve Goggia:

The Santa Barbara County Air Pollution Control District (District) appreciates the opportunity to provide comments on the Notice of Preparation (NOP) of a Draft Environmental Impact Report (EIR) for the referenced project. The project proposal is for removal of surface and subsurface facilities and subsequent remediation of impacted soils at the onshore Carpinteria Oil and Gas Processing Facility. Project activities at the onshore location include: removal of all existing surface and subsurface equipment, piping, and structures within the Oil and Gas Processing Plant; removal of concrete foundations, asphalt, oil spray, and road base; excavation/remediation of any impacted soil; recycling/disposal of all materials removed from the project site; and site restoration. The project also proposes an offshore pipeline component in state waters which includes: pigging and flushing pipelines in preparation for removal; removal of offshore project pipeline segments out to the 3-mile state water limit; potential nighttime activities in the surf zone; removal of nearshore beach crossing pipeline segments; recycling/disposal of all materials removed from the project site; and site restoration. Project activities are expected to occur for 670 days over a three-year period between October 2022 and May 2025. The project site encompasses several parcels (APNs 001-070-003, -004, -014, -021, -022, and -023) over an approximately 64.28-acre site located at 5675 and 5663 Carpinteria Avenue in the City of Carpinteria.

District staff reviewed the NOP and concur that air quality and climate change impacts may be potentially significant. The proposed project includes equipment and/or operations that may be subject to District permit requirements and prohibitory rules. Therefore, the **District may be a responsible agency under the California Environmental Quality Act (CEQA) and will rely on the EIR when evaluating any District permits for proposed equipment.** To avoid additional CEQA documentation related to District permit issuance, the EIR should include the air pollutant emissions for all proposed operations and equipment in the project's air quality and GHG analysis and include mitigation as appropriate to reduce the impacts. The District's guidance document, entitled *Scope and Content of Air Quality Sections in Environmental Documents*, is available online at [www.ourair.org/land-use/](http://www.ourair.org/land-use/). This document should be referenced for general guidance in assessing air quality and climate change impacts in the EIR. The District should be contacted directly for specific guidance as needed.

**The EIR should evaluate the following potential impacts related to the project:**

1. Increase in Criteria Pollutant and Greenhouse Gas Emissions. Decommissioning activities may involve air quality and climate change impacts associated with the following potential activities:

- Construction activities,
- Support/utility boat main propulsion and auxiliary engines,
- Operation of oil storage tanks/vessels,
- Operation of support/utility boat main work engines (water blasters, welding, jet pumps, rotoscrows, compressors, pumps, winches, cranes),
- Operation of derrick barge/heavy lift vessel work engines (main power, winches, hoists, cranes, compressors, welding, backup power),
- Operation of other portable and stationary engines and equipment,
- Transportation of materials and equipment by on-road trucks,
- Worker commute trips from light duty trucks and passenger vehicles,
- Indirect emissions from electricity use, water use, and waste disposal.

Air pollutant emissions from all proposed operations and equipment require quantification and disclosure in the EIR. Please ensure that the analysis is based on the most up-to-date project description and activity data. Air pollutants that may be examined include criteria pollutants, greenhouse gases and toxic air contaminants (such as diesel particulate matter, hydrogen sulfide, and other toxic or hazardous air pollutants). Any associated combustion exhaust, fugitive hydrocarbons, and/or fugitive dust generation from these activities should also be included in the analysis. Air quality impacts are based on project-specific information and supported by technical studies whenever possible.

The EIR should present significance thresholds for ozone precursor emissions (reactive organic compounds [ROC], and oxides of nitrogen [NO<sub>x</sub>]), particulate matter, and carbon dioxide equivalent (CO<sub>2</sub>e) and determine whether the proposed project will produce emissions in excess of the thresholds. The District's *Environmental Review Guidelines for the Santa Barbara County APCD* (available at [www.ourair.org/landuse/](http://www.ourair.org/landuse/)) contains the District Board-adopted criteria for evaluating the significance of air quality and greenhouse gas impacts for District projects. In the absence of locally-adopted thresholds, the District recommends that these thresholds be used to determine significance of air quality impacts.

The emissions scenario for a peak year/day should include all project activities that could reasonably occur in a given year/day. The EIR should ensure that project tasks that could occur concurrently are included in the peak year/day compared to CEQA thresholds. To the extent possible, the District recommends that the methodology used to estimate stationary-source emissions be consistent with calculations that will need to be performed to fulfill requirements of the permitting process. Emissions from mobile, area, and stationary sources should be summed before comparing to a threshold of significance.

2. Attainment Status and Consistency with the District's Ozone Plan. Attainment status for the County is posted on the District website at [www.ourair.org/air-quality-standards](http://www.ourair.org/air-quality-standards). The most recent Ozone Plan (previously known as the Clean Air Plan) was adopted in December 2019 and is available at



[www.ourair.org/clean-air-plans](http://www.ourair.org/clean-air-plans). The District website should be consulted for the most up-to-date air quality information prior to the release of the public Draft EIR.

Consistency with local and regional plans, including the District's 2019 Ozone Plan, is required under CEQA for all projects. Consistency with the Ozone Plan should be evaluated on a case-by-case basis, and the EIR should include an assessment of whether the proposed project will be consistent with the Ozone Plan. The Ozone Plan relies primarily on land use, population, and on-road emissions projections provided by the California Air Resources Board (CARB) as a basis for vehicle emission forecasting. All development projects should be evaluated to determine whether direct and indirect emissions associated with the project are accounted for in the Ozone Plan's emissions growth assumptions, and whether the project is consistent with policies adopted in the Ozone Plan.

Commercial or industrial stationary source projects will generally be considered consistent with the Ozone Plan if they are consistent with District rules and regulations. Large industrial stationary sources may be found inconsistent if their emissions are not considered in the Plan's stationary source emission inventory.

3. Impacts to Air Quality Standard Attainment. If the project has the potential to cause or contribute to a violation of an air quality standard, an Air Quality Impact Assessment (AQIA) should be performed to determine whether project emissions will violate any air quality standard or contribute substantially to an existing or projected air quality violation. The AQIA should be performed pursuant to District Rule 805 and the District's *Modeling Guidelines for Air Quality Impact Assessments*, available at [www.ourair.org/wp-content/uploads/aqia.pdf](http://www.ourair.org/wp-content/uploads/aqia.pdf). For the purposes of CEQA analysis the modeling should include stationary, mobile, and fugitive dust emission sources. For more information on AQIAs, please refer to the District's webpage [www.ourair.org/air-quality-impact-assessment](http://www.ourair.org/air-quality-impact-assessment).

4. Impacts to Sensitive Receptors and Potential for Nuisance Issues. The EIR should examine whether any of the operations associated with the proposed project will result in air quality impacts by exposing sensitive receptors (e.g. residential, childcare facilities, schools, or senior living communities) to substantial pollutant concentrations. Examples of this type of impact include odors, dust, or toxic or hazardous air pollutants. Specifically, pipeline flushing operations could generate unpleasant odors. Please see the "Pipeline Purging" section on page 5 for measures to reduce the potential of odor impacts from this activity. Any measures implemented to control odors should be included in the project description, as a mitigation measure, or by some other enforceable mechanism.

If the project has the potential to emit toxic or hazardous air pollutants, or is located in close proximity to sensitive receptors, the EIR should determine the potential level of risk associated with their operations by conducting an HRA in accordance with the District's *Modeling Guidelines for Health Risk Assessments*, Form-15i, available at [www.ourair.org/wp-content/uploads/apcd-15i.pdf](http://www.ourair.org/wp-content/uploads/apcd-15i.pdf). More information on HRAs can be found at [www.ourair.org/air-toxics-for-business](http://www.ourair.org/air-toxics-for-business).

5. Mitigation. If impacts are found to be significant, mitigation should be applied to reduce those emissions as appropriate under CEQA. Mitigation measures should be made enforceable through permit conditions, agreements, or other legally binding instruments. The EIR should include a Mitigation Monitoring and Reporting Plan that explicitly states the required mitigations and establishes a mechanism for enforcement. Section 6 of the District's Scope and Content document offers ideas for air quality mitigation. In addition, CAPCOA has published the *Handbook for Analyzing Greenhouse Gas*

*Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*, an extensive sector-by-sector compendium of project-specific mitigation measures, including quantification methods to calculate GHG reductions. The Handbook is available at [www.caleemod.com/handbook/index.html](http://www.caleemod.com/handbook/index.html). Additionally, the District has identified some potential strategies for local GHG mitigation that could be implemented in Santa Barbara County. These strategies are summarized and posted on the District's website at [www.ourair.org/ghgmitigation-sbc](http://www.ourair.org/ghgmitigation-sbc). Project-specific measures may be developed that are pertinent to the specific project and are enforceable by the District.

6. Asbestos Reporting Requirements. Since the project will involve demolition and renovation of existing structures, the EIR should include a discussion of how materials will be removed in compliance with District Rule 1001 – *National Emission Standards for Hazardous Air Pollutants (NESHAP) – Asbestos*. Advance notification to the District is required before asbestos is disturbed and/or removed. For additional information regarding asbestos notification requirements, please visit our website at [www.ourair.org/asbestos](http://www.ourair.org/asbestos).

**District staff has the following regulatory advisories:**

1. New Source Review: The District will evaluate the emissions from the project to determine which New Source Review (NSR) requirements will apply as part of the District ATC application review. NSR requirements may include Best Available Control Technology (BACT), Air Quality Impact Analysis (AQIA), Health Risk Assessment (HRA), and/or Emission Reduction Credits (ERCs). The District permit process can take several months. To avoid delay, the applicant is encouraged to submit their Authority to Construct permit application to the District as soon as possible, see [www.ourair.org/permit-applications/](http://www.ourair.org/permit-applications/) to download the necessary permit application(s).
2. Contaminated Soils. District Authority to Construct and/or Permit to Operate permits will be required for the proposed contaminated soil remediation activities. See [www.ourair.org/csc-projects](http://www.ourair.org/csc-projects) for more information on contaminated soil clean-up.
3. Diesel Engines. All portable diesel-fired construction engines rated at 50 brake horsepower or greater must have either statewide Portable Equipment Registration Program (PERP) certificates or District permits prior to grading/building permit issuance. Construction engines with PERP certificates are exempt from the District permit, provided they will be on-site for less than 12 months.
4. Marine Engines. Per District Rule 202.F.8., marine vessel engines may be subject to NSR requirements if activities exceed 12 consecutive months or the potential to emit of such engines exceeds 10 tons per stationary source of NO<sub>x</sub>, SO<sub>x</sub>, ROCs, or particulate matter.
5. Asbestos. The applicant is required to complete and submit an Asbestos Demolition/Renovation Notification or an EXEMPTION from Notification for Renovation and Demolition (District Form ENF-28 or District Form ENF-28e), which can be downloaded at [www.ourair.org/compliance-forms](http://www.ourair.org/compliance-forms) for each regulated structure to be demolished or renovated. Demolition notifications are required regardless of whether asbestos is present or not. The completed exemption or notification should be presented, mailed, or emailed to the District with a minimum of 10 working days advance notice prior to disturbing asbestos in a renovation or starting work on a demolition. The applicant should visit [www.ourair.org/asbestos](http://www.ourair.org/asbestos) to determine whether the project triggers asbestos notification requirements or whether the project qualifies for an exemption.

6. Onsite Storage. If there is any planned or potential storage of ROC-containing liquids or solids (e.g. ROC-impacted soils), the applicant must obtain a District permit or written exemption for permit.

7. Pipeline Purging. Pipeline purging operations have the potential for odor generation. In order to prevent odors from causing a violation of District Rule 303, *Nuisance*, the District recommends that carbon canisters or a thermal oxidizer be employed to control vapors released during pipeline decommissioning activities. Some companies already have permits with the District for thermal oxidizer units. The applicant should consider using an already permitted unit through a company, or could contact the District to obtain a permit or written permit exemption.

8. Fugitive Dust. Construction/demolition activities are subject to District Rule 345, *Control of Fugitive Dust from Construction and Demolition Activities*. This rule establishes limits on the generation of visible fugitive dust emissions at demolition and construction sites, includes measures for minimizing fugitive dust from on-site activities, and from trucks moving on- and off-site. Please see [www.ourair.org/wp-content/uploads/rule345.pdf](http://www.ourair.org/wp-content/uploads/rule345.pdf). Activities subject to Rule 345 are also subject to Rule 302 (*Visible Emissions*) and Rule 303 (*Nuisance*). To reduce the potential for violations of these District Rules, standard dust mitigations (**Attachment A**) are recommended for all construction and/or grading activities. The name and telephone number of an on-site contact person must be provided to the District prior to grading/building permit issuance.

9. Equipment Exhaust. The State of California considers particulate matter emitted by diesel engines carcinogenic. Therefore, during project grading, construction, and hauling, construction contracts must specify that contractors shall adhere to the requirements listed in **Attachment B** to reduce emissions of particulate matter (as well as of ozone precursors) from diesel equipment. Recommended measures should be implemented to the maximum extent feasible.

10. Idling. At all times, idling of heavy-duty diesel trucks should be minimized; auxiliary power units should be used whenever possible. State law requires that:

- Drivers of diesel-fueled commercial vehicles shall not idle the vehicle's primary diesel engine for greater than 5 minutes at any location.
- Drivers of diesel-fueled commercial vehicles shall not idle a diesel-fueled auxiliary power system (APS) for more than 5 minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle. Trucks with 2007 or newer model year engines must meet additional requirements (verified clean APS label required).
- See [www.arb.ca.gov/noidle](http://www.arb.ca.gov/noidle) for more information.


We hope you find our comments useful. We would appreciate the opportunity to review and provide feedback on the air quality and GHG analyses and an internal draft of the Draft EIR before it is released for public review. If you have any questions or wish to discuss these comments, please contact me at (805) 979-8334 or by e-mail at [WaddingtonE@sbcapcd.org](mailto:WaddingtonE@sbcapcd.org).

*District Comments on the NOP to prepare an EIR for Decommissioning and Remediation of the Chevron Carpinteria Oil and Gas Processing Facility, Project Case #2128*

*August 26, 2022*

*Page 6 of 6*

Sincerely,

A handwritten signature in black ink, appearing to read "Emily Waddington". The signature is fluid and cursive, with the first name "Emily" and last name "Waddington" clearly distinguishable.

Emily Waddington  
Air Quality Specialist  
Planning Division

Attachments: Fugitive Dust Control Measures  
Diesel Particulate and NO<sub>x</sub> Emission Measures

cc: Becky Trujillo, Chevron Regulatory Affairs Manager [email only]  
David Harris, Manager, District Engineering Division [email only]  
William Sarraf, Supervisor, District Engineering Division [email only]  
Planning Chron File



**ATTACHMENT A**  
**FUGITIVE DUST CONTROL MEASURES**

These measures should be required for all projects involving earthmoving activities regardless of the project size or duration. Projects are expected to manage fugitive dust emissions such that emissions do not exceed APCD's visible emissions limit (APCD Rule 302), create a public nuisance (APCD Rule 303), and are in compliance with the APCD's requirements and standards for visible dust (APCD Rule 345).

- During construction, use water trucks, sprinkler systems, or dust suppressants in all areas of vehicle movement to prevent dust from leaving the site and from exceeding the APCD's limit of 20% opacity for greater than 3 minutes in any 60 minute period. When using water, this includes wetting down areas as needed but at least once in the late morning and after work is completed for the day. Increased watering frequency should be required when sustained wind speed exceeds 15 mph. Reclaimed water should be used whenever possible. However, reclaimed water should not be used in or around crops for human consumption.
- Onsite vehicle speeds shall be no greater than 15 miles per hour when traveling on unpaved surfaces.
- Install and operate a track-out prevention device where vehicles enter and exit unpaved roads onto paved streets. The track-out prevention device can include any device or combination of devices that are effective at preventing track out of dirt such as gravel pads, pipe-grid track-out control devices, rumble strips, or wheel-washing systems.
- If importation, exportation, and stockpiling of fill material is involved, soil stockpiled for more than one day shall be covered, kept moist, or treated with soil binders to prevent dust generation. Trucks transporting fill material to and from the site shall be tarped from the point of origin.
- Minimize the amount of disturbed area. After clearing, grading, earthmoving, or excavation is completed, treat the disturbed area by watering, OR using roll-compaction, OR revegetating, OR by spreading soil binders until the area is paved or otherwise developed so that dust generation will not occur. All roadways, driveways, sidewalks etc. to be paved should be completed as soon as possible.
- Schedule clearing, grading, earthmoving, and excavation activities during periods of low wind speed to the extent feasible. During periods of high winds (>25 mph) clearing, grading, earthmoving, and excavation operations shall be minimized to prevent fugitive dust created by onsite operations from becoming a nuisance or hazard.
- The contractor or builder shall designate a person or persons to monitor and document the dust control program requirements to ensure any fugitive dust emissions do not result in a nuisance and to enhance the implementation of the mitigation measures as necessary to prevent transport of dust offsite. Their duties shall include holiday and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the Air Pollution Control District prior to grading/building permit issuance and/or map clearance.

**PLAN REQUIREMENTS:** All requirements shall be shown on grading and building plans and/or as a separate information sheet listing the conditions of approval to be recorded with the map. **Timing:** Requirements shall be shown on plans prior to grading/building permit issuance and/or recorded with the map during map recordation. Conditions shall be adhered to throughout all grading and construction periods.

**MONITORING:** The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.





**ATTACHMENT B**  
**DIESEL PARTICULATE AND NO<sub>x</sub> EMISSION REDUCTION MEASURES**

Particulate emissions from diesel exhaust are classified as carcinogenic by the state of California. The following is a list of regulatory requirements and control strategies that should be implemented to the maximum extent feasible.

The following measures are required by state law:

- All portable diesel-powered construction equipment greater than 50 brake horsepower (bhp) shall be registered with the state's portable equipment registration program OR shall obtain an APCD permit.
- Fleet owners of diesel-powered mobile construction equipment greater than 25 hp are subject to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets Regulation (Title 13, California Code of Regulations (CCR), §2449), the purpose of which is to reduce oxides of nitrogen (NO<sub>x</sub>), diesel particulate matter (DPM), and other criteria pollutant emissions from in-use off-road diesel-fueled vehicles. Off-road heavy-duty trucks shall comply with the State Off-Road Regulation. For more information, see [www.arb.ca.gov/msprog/ordiesel/ordiesel.htm](http://www.arb.ca.gov/msprog/ordiesel/ordiesel.htm).
- Fleet owners of diesel-fueled heavy-duty trucks and buses are subject to CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation (Title 13, CCR, §2025), the purpose of which is to reduce DPM, NO<sub>x</sub> and other criteria pollutants from in-use (on-road) diesel-fueled vehicles. For more information, see [www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm](http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm).
- All commercial off-road and on-road diesel vehicles are subject, respectively, to Title 13, CCR, §2449(d)(3) and §2485, limiting engine idling time. Off-road vehicles subject to the State Off-Road Regulation are limited to idling no more than five minutes. Idling of heavy-duty diesel trucks during loading and unloading shall be limited to five minutes, unless the truck engine meets the optional low-NO<sub>x</sub> idling emission standard, the truck is labeled with a clean-idle sticker, and it is not operating within 100 feet of a restricted area.

The following measures are recommended:

- Diesel equipment meeting the CARB Tier 3 or higher emission standards for off-road heavy-duty diesel engines should be used to the maximum extent feasible.
- On-road heavy-duty equipment with model year 2010 engines or newer should be used to the maximum extent feasible.
- Diesel powered equipment should be replaced by electric equipment whenever feasible. Electric auxiliary power units should be used to the maximum extent feasible.
- Equipment/vehicles using alternative fuels, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel, should be used on-site where feasible.
- Catalytic converters shall be installed on gasoline-powered equipment, if feasible.
- All construction equipment shall be maintained in tune per the manufacturer's specifications.
- The engine size of construction equipment shall be the minimum practical size.
- The number of construction equipment operating simultaneously shall be minimized through efficient management practices to ensure that the smallest practical number is operating at any one time.
- Construction worker trips should be minimized by requiring carpooling and by providing for lunch onsite.
- Construction truck trips should be scheduled during non-peak hours to reduce peak hour emissions whenever feasible.
- Proposed truck routes should minimize to the extent feasible impacts to residential communities and sensitive receptors.
- Construction staging areas should be located away from sensitive receptors such that exhaust and other construction emissions do not enter the fresh air intakes to buildings, air conditioners, and windows.

**PLAN REQUIREMENTS AND TIMING:** Prior to grading/building permit issuance and/or map recordation, all requirements shall be shown as conditions of approval on grading/building plans, and/or on a separate sheet to be recorded with the map. Conditions shall be adhered to throughout all grading and construction periods. The contractor shall retain the Certificate of Compliance for CARB's In-Use Regulation for Off-Road Diesel Vehicles onsite and have it available for inspection.

**MONITORING:** The Lead Agency shall ensure measures are on project plans and/or recorded with maps. The Lead Agency staff shall ensure compliance onsite. APCD inspectors will respond to nuisance complaints.



100 N. Hope Ave. Suite 3-B  
Santa Barbara, CA. 93110  
(805) 895-3000

Steve Goggia  
Community Development Director  
City of Carpinteria  
5775 Carpinteria Avenue  
Carpinteria, CA. 93013

Dear Steve:

The Sportfishing Conservancy has a proud history of coastal and marine conservation, habitat enhancement and restoration efforts. Our efforts within the fishing community have consistently focused on employing “best practices” in the pursuit of their sport. Understanding the value of marine habitat, we have dedicated our efforts in support of other local organizations that specialize in marine habitat enhancement and restoration. For more than a decade we have supported local Santa Barbara county non-profit organizations including the Land Trust for Santa Barbara County (with their Carpinteria Salt Marsh restoration and enhancement efforts), South Coast Habitat Restoration (with their steelhead habitat enhancement efforts) and the Gaviota Coast Conservancy (with their coastal recreation/preservation efforts). We raise funds and contribute these directly to these organizations for their ongoing efforts. With this as background, we are happy to see the Chevron decommissioning efforts underway. Done well, these efforts can provide an environmental benefit to both our coastal landscape and marine seascape. The biggest threat to these benefits is prolonged legal wrangling. History shows that work that should take 36 months to complete quite literally drags on for years or decades, benefitting no one beyond the attorneys. Going through your analysis, it is clear that the proposed actions have little, if any negative environmental impact and yet potentially large benefits with the project moving forward as described. As noted, the only significant impact was a possible accidental release of potential hydrocarbons during the removal process. This work will be done by a skilled workforce and in full public view. And should an accidental release happen, it clearly could be immediately stopped and mitigated if necessary.

Therefore, we suggest it is time to “fish or cut bait,” and mercifully forego the legal wrangling’s that do more damage than good. It is time to move forward with a mitigated negative declaration.

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Raftican". The signature is stylized with a cursive, flowing script. The first name "Tom" is written in a simple, slightly slanted cursive. The last name "Raftican" is more complex, with a large, sweeping 'R' and a long, horizontal tail that extends to the right.

Tom Raftican  
President, The Sportfishing Conservancy

-----Original Message-----

From: Susan Allen <[dlssallen@aol.com](mailto:dlssallen@aol.com)>

Sent: Sunday, September 25, 2022 10:49 PM

To: Steve Goggia <[steveg@ci.carpinteria.ca.us](mailto:steveg@ci.carpinteria.ca.us)>

Subject: Comments on the NOP decommissioning the Chevron plant

Please acknowledge receipt. Thank you. Susan Allen Comments on the NOP

In light of the odor nuisance violation issued in September 2022 and previous other odor violations the public should have notice if and when an odor incident occurs through the city newsletter, social media and news releases.

Temporary signage along Dump Road and the hiking /biking trail should give current updates of the nature of the work and who to contact for any questions or concerns.

Where are the historic and current cathodic wells located and how will they be monitored and abandoned?

What if any recent testing has occurred in the Sandblast area (east of the ocean sideparking area?) When that area was cleaned years ago it was reported that a foot of soil was removed but in my observations only a few inches were removed.

A large tower type piece of equipment was removed a number of years ago at the east side of the operations area and to my knowledge without permit. Can that piece of equipment and its usage be identified and has adequate soil testing been done in that area?

Have drainage issues been addressed? Often there is water in the cement drainage ditch west of Dump Rd but no water is visible on the east side. Pipes gathering drainage from the bluffs 1 area are thought to cross the Chevron property.

Parking for employees working on decommissioning the plant area should occur north of the RR tracks to avoid possible increased disturbance of the harbor seals. This would also apply to all equipment or supply storage. As a safety measure it will also cut down on traffic crossing RR tracks and interface with folks using the hiking/biking trail.

During non drought years the retention basin around tank 861 has had substantial water collection. Why has it not been included in the wetlands analysis? It once held wetlands species.

How will historic pedestrian and bike traffic be handled on Dump Rd during decommissioning?

Will the native plants covering the metal topped vault located on the bluffs edge west of the pier be replaced?

How will the pipelines left in place be abandoned? Filled with concrete? If left in place and not filled will pipes eventually corrode and create sinkholes? I believe this has happened in an area in Tar pits Park.

## SEALS

Suggest that western most pipes be removed first. This will give workers and MM observers an opportunity to assess how best such work can quickly proceed to avoid unnecessary seal disturbance. Note that the offshore rocks are also a seal haulout site. (One of the three Carpinteria haulout locations.)

Exactly what pipes are in the cement bundle....isn't there a water outfall pipe in that location? Where is the electrical line for Gail and Grace located?

No work should occur during city beach closure. In recent years Sealwatch has noted a decline in the population and to date have not been able to discern a cause. All work must be done outside the beach closure window.

A minimum of two well qualified MM observers must be required and video cameras installed so that interested members of the public can be assured that the seals are being fully protected. Members of Sealwatch have witnessed too many occasions when the seals have not been fully protected.

Placing a screen on the beach will need more research and monitoring. Has this been done with harbor seals in other areas and has it been effective?

Data collection should be made public on a daily basis.

How long will concrete removal on the beach take and will the crane be moved closer to shore for this operation? Will the crane be moved away when not in use— what effect may a new large structure near the haulout have on the seals even when not in motion?

Has the drainage pipe and concrete at the west corner of the Seal Sanctuary overlook been included in any study?

Pupping has been as early as January and as late as May with surviving pups.



## Comment on the Carpinteria CEQA Initial Study of Chevron's Decommissioning

The **CEQA Initial Study** concerns me in that the decommissioning will place an unacceptable burden on our environment. I am commenting from two standpoints:

1. As a Veterinarian who works closely with Seal Watch and CIMWI (Channel Islands Marine and Wildlife Institute) I would like to fortify and add to Padre and Associates Inc. conclusions regarding the Harbor Seal Rookery; and
2. The Intergovernmental Panel on Climate Change determined we are in a CLIMATE CODE RED ALERT. If we do not greatly curb Greenhouse Gas Emissions ASAP, we will not be able to avoid the rise of temperature which will carry catastrophic results.

### Item 1 Harbor Seals

- The numbers in the Carpinteria Harbor Seal rookery are in decline;
- This is one of only two remaining rookeries on Southern California coast where harbor seals can be viewed by the public;
- Harbor seals have a low reproductive rate. During the projects anticipated course, jeopardizing the three years during which maturing seals could have given birth, were it not for being underweight and diminishing healthy pups will adversely affect the colony;
- Their habitat will become uninhabitable with sediment, pollution, noise and ongoing disturbance pollution.

The Carpinteria Harbor Seal Rookery Monitoring and Protection Plan by Padre Associates Inc. of June 2021 identified that activities to be undertaken would require applying for a take. In other words, loss of seals was anticipated.

That alone indicates that this plan is not acceptable for the seals who have already adapted their physiology and behavior to tolerate Chevron's pier activities. Wild animals gauge potential threat by a Predatory Imminence Continuum under which their stress levels are tolerable. Changing the timing, noise levels, light levels, and predictability will quite possibly push this stressed colony to engage in energetically expensive, aversive behaviors (i.e. increase vigilance, decreased foraging, etc.).

In February of 2019, PACOPS was performing emergency repair in the seal rookery, at a time that seals were giving birth. There were people assigned to monitor seal reactions. I monitored independently. To those without in-depth knowledge of seal physiology and behavior, stress and reactions were repeatedly underscored.

### Item 2 Climate Crisis

Climate action must take precedence for governments, agencies, and individuals over all other activities, including Chevron's obligation to decommission its oil and gas processing plant. Carpinteria and the surrounding highway expansion have instead greatly **added to GHG Emissions**, and in order to decommission to Tier 1, the trucking, concrete demolition, soil excavation, grade and fill activities and deforestation will further set us back. But there are laws such as the California Marine Resources Legacy Act can assist in removing much of the additional harm by converting platforms to reefs; and the newly signed Climate Resiliency Districts could and should be used to the fullest possible extent to avoid further destruction.

### Our Obligation as a City and as Citizens

I URGE YOU TO PROTECT OUR SEALS, OUR LAND AND OCEAN BY ABANDONING THE FACILITY FOR OPEN SPACE INSTEAD OF DECOMMISSIONING TO TIER 1

#### HOW THE DECOMMISSIONING CEQA INITIAL STUDY RELATES TO CLIMATE CHANGE

Climate change is hurtling forward when it is our responsibility - all of us- to do what we can to mollify its effects. Carpinteria has made no visible climate abatement efforts. To its credit, Carpinteria has determined that an EIR is called for with Chevron's CEQA Initial Study. Therefore, Chevron - a representative of the industry which set climate change on a fast course - and is responsible for remediation of the oil and gas processing plant - can be tasked with a major role in climate change mitigation. The mechanism I propose is explained at the close of my comments through the use of a new California Law providing Climate Resiliency Districts.

Soon after the determination was made that climate change is rapidly proceeding, a multitude of environmental organizations put into play a list of potential mitigations. This statement, taken from one of the many organizations (Sea Doc Society), sums up the obligation of Chevron to take responsibility for their industry's role in the destruction of our planet:

**WHEREAS**, such necessary measures to restore a safe climate include:

- a. A rapid, just, managed phase-out of fossil fuels;
- b. Ending greenhouse gas emissions as quickly as possible to establish a zero-emissions economy;
- c. A rapid transition to a 100% renewable energy system across all economic sectors;
- d. A widespread effort to safely drawdown excess carbon from the atmosphere;
- e. A full transition to a regenerative agriculture system; and
- f. An end to the Sixth Mass Extinction through widespread conservation and restoration of ecosystems;

They go on to state:

**BE IT FURTHER RESOLVED**, the [CITY/COUNTY] Council directs all departments, proprietaries, and commissions to identify and prioritize climate adaptation and mitigation strategies that are people-centered, including but not limited to:

**1. Clean and renewable energy**, which involves deploying and efficiently using clean, renewable and locally sourced electricity generated on site or transmitted through the power grid; including upgrading public and private facilities to 100% renewable energy such as solar and battery storage.

**2. Community-wide electrification and fossil fuel phase out**, which involves upgrading and replacing carbon-intensive, fossil fuel-based infrastructure, including buildings, heating sources, appliances, and combustion power with efficient, energy-saving infrastructure powered by clean, renewably-generated electric power.

**3. Carbon sequestration**, which involves drawing down carbon dioxide and other greenhouse gases from the atmosphere through ecological and/or technological methods and capturing and safely storing them in plants, soils, water systems, and other solid forms;

**4. Transportation, mobility, and connectivity**, which involves developing and enhancing land use patterns that foster safe, multimodal, accessible, equitable, intelligent, and clean motorized and non- motorized travel options, infrastructure, and community connectivity; including updating zoning codes to allow compatible residential infill and neighborhood-oriented commercial uses so that services like bakeries, grocery stores, and coffee shops are accessible to residents by foot or bike;

**5. Resource conservation and the elimination of waste**, which involves conserving natural and manufactured resources by means of responsible production, consumption, reuse, and recycling; including developing a community-wide Zero Waste Plan; adopting the "food recovery hierarchy" citywide through educational programs and policies to first promote the reduction of surplus food, and then ensure excess food is use to feed the hungry, animals, or composted before it ends in the landfill; expanding [CITY/COUNTY'S] conservation programs to further reduce water and resource use;

**6. Green infrastructure and restorative ecology**, which involves incorporating green infrastructure (trees, capture and use of stormwater runoff) into community design, and restoring, rehabilitating, and restoring/repurposing damaged ecosystems through active intervention to maximize biodiversity and the drawdown and sequestration of carbon dioxide;

**7. Climate adaptation and resilience**, which involves preparing for, learning from, and adapting to the effects of climate change through proactive and holistic planning and response at the infrastructural, cultural, and institutional levels, including limiting/restricting development in areas that are vulnerable to flooding, landslides, and wildfires, increasing the number of community cooling centers for vulnerable populations during extreme heat, incorporating changing climatic conditions and climate hazards into emergency response and recovery programs and ensuring affordable housing units are available for vulnerable communities.

Carpinteria's CEQA Initial Study documents a number a ways that this decommissioning will not only fail to mitigate climate change, but will in fact worsen it significantly.

Chevron's operations over the 62+ acres of Carpinteria and the surrounding ocean ecosystems have wreaked destruction that may never be truly be remediated.

The Decommissioning that Chevron proposes **should not be allowed to further worsen our crisis**. The Initial Study reveals many plans which will do just that:

Item d. above calls for the drawdown of excess atmospheric carbon. The buffer zone on Bluffs 0 has been fallow, and effectively rewilding. Trees and vegetation, many of which are native, are currently sequestering carbon. The soil has a high content of organic matter. With a 2% organic matter, 42 tons per acre of atmospheric carbon is sequestered - trapped in aggregates with water-holding capacity, providing shade, cooling, and diminishing evaporation and acting as a buffer when a fire breaks out. The Bluffs 0 has been estimated to have 3% or 4% organic matter. If released you lose that soil health.

To propose converting this property to Tier 1 would incur trucking, grade and fill activities that cannot possibly remediate when it is in fact contributing still more Greenhouse Gas Emissions.

Chevron should be encouraged to do the following to fulfill their obligations instead of attempting to return the land to original state at the environmental cost that would incur.

1. We should evaluate and preserve the existing tree inventory and develop a planting program to renew and extend a native tree canopy, restoring habitat for bees, bats, and birds;

SUSAN MAILHEAU, DVM

9/28/22

## Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
California Coastal Commission	Commission staff support the City's determination that an EIR is required and we look forward to coordinating with the City on the development of the EIR and the CDP process.	Section 1.0
California Department of Fish and Wildlife	CDFW agrees with the Report that further study is needed to determine whether eelgrass is present near the Project area. CDFW recommends conducting eelgrass surveys in accordance with the California Eelgrass Mitigation Policy (NMFS 2014) and in consultation with the National Marine Fisheries Service. Further study is also needed to determine if kelp, eelgrass, or surf grass are growing on or above the pipelines. The DEIR should document these findings as well as all sensitive marine habitats within the Project area. Project activities should avoid sensitive marine habitats to the greatest extent possible. If these habitats cannot be avoided, the DEIR should include appropriate mitigation measures.	Section 4.3
California Department of Fish and Wildlife	Project activities on the beach (below the highest tide line) and in the surf zone during March–August should be avoided to the greatest extent feasible. If work during this time cannot be avoided, the DEIR should provide measures to mitigate for the Project's potential impacts on California grunion. CDFW recommends that a qualified biological observer monitor the work site prior to the start of activities in the intertidal zone during the previous forecast grunion run period (3–4 nights in a row). If grunion is observed at the work site, the Project should suspend activities below the highest tide line for at least two weeks to allow grunion eggs to incubate and hatch out. The Report also identifies black abalone ( <i>Haliotis cracherodii</i> ) and white abalone ( <i>Haliotis sorenseni</i> ) as special-status species that may occur in the Project area. There is some probability that abalone could be found on the pipelines themselves in unburied sections. For this reason, CDFW recommends conducting abalone surveys on the unburied sections of pipeline prior to removal under consultation with the National Marine Fisheries Service. The DEIR should consider the potential impacts	Section 4.3
California Department of Fish and Wildlife	The DEIR should discuss potential impacts to marine mammals and fish from underwater noise-producing activities and include an analysis of anticipated underwater sound levels for these activities. If activities will generate high underwater sound levels, CDFW recommends using a "soft-start" technique for these activities so that any marine mammals or fish present may vacate the area before injury occurs. CDFW appreciates AMM 3 (Marine Wildlife Contingency Plan Implementation), which includes the presence of a Marine Wildlife Monitor during Project activities offshore and on the beach and looks forward to reviewing this document once it is available. CDFW recommends that the Marine Wildlife Contingency Plan include exclusion zones for marine mammals, which should be developed in consultation with the National Marine Fisheries Service and CDFW.	Section 4.3
California Department of Fish and Wildlife	CDFW appreciates the inclusion of AMM 6 (Oil Spill Response and Contingency Plan Implementation) and recommends coordinating closely with CDFW's Office of Spill Prevention and Response (OSPR) while developing this plan.	Section 4.3

## Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
California Department of Fish and Wildlife	CDFW expects that a variety of marine life is currently growing on or attached to the pipelines proposed for removal. These organisms may include, but are not limited to, mussels, barnacles, hydroids, surf grass, kelp, and other marine algae. The DEIR should explain in detail what the Project plans to do with the marine life attached to the pipelines; for instance, if organisms will be removed, how and where they will be removed, etc. Special consideration should be given to special-status species, such as black abalone, and what mitigation measures may be required. CDFW recommends that the Project proponent consult with CDFW on what authorizations may be required for the removal of species attached to the pipelines.	Section 4.3
California Department of Fish and Wildlife	CDFW recommends re-assessing the natural communities on-site using current MCV online (2022) nomenclature. CDFW recommends avoiding all sensitive natural communities.	Section 4.3
California Department of Fish and Wildlife	General Comments on 1) California Endangered Species Act (CESA); 2) Fully Protected Species; 3) Project Description and Alternatives; 4) Lake and Streambed Alteration (LSA) Agreements; 5) Wetlands Resources; 6) Biological Baseline Assessment; 7) Biological Direct, Indirect, and Cumulative Impacts 8) Avoidance, Minimization, and Mitigation for Sensitive Plants; 9) Compensatory Mitigation; 10) Long-Term Management of Mitigation Lands; 11) Nesting Birds; 12) Translocation/Salvage of Plants and Animal Species; 13) Moving out of Harm's Way; 14) Revegetation/Restoration Plan	Section 4.3
Chevron	Chevron requests that the City consider the following points and clarifications regarding the scope and content of the EIR <ul style="list-style-type: none"> <li>• Project Acreage</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Referenced Project Execution Schedule</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Referenced Soil Remediation Targets</li> </ul>	Section 2.0
Chevron	<ul style="list-style-type: none"> <li>• Greenhouse Gas Emissions</li> </ul>	Section 4.6
Chevron	<ul style="list-style-type: none"> <li>• Significant Impact decisions for Biological Resources, Cultural Resources, and Hazards and Hazardous Materials</li> </ul>	Sections 4.3, 4.4, and 4.7
Chevron	<ul style="list-style-type: none"> <li>• Legacy Wells</li> </ul>	Section 4.7
Julie Tumamait Stenslie	I would like to see a map. Also recommend that there be a Phase 1 done for the project. Ultimately I would recommend monitoring by a qualified Archaeologist and a qualified Native Chumash monitor. Any ground disturbance including demolition. In AB- 52, the chair of a Band can consult, the others on the NAHC are people who may have information on cultural resources Absence or Presence. This list is not a monitoring list. The BVBMI does not employ monitors. We are all independent contractors.	Section 4.12
Native American Heritage Commission	The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.	Section 4.12



## Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
Santa Barbara County Air Pollution Control District	The EIR should evaluate the following potential impacts related to the project: <ol style="list-style-type: none"> <li>1. Increase in Criteria Pollutant and Greenhouse Gas Emissions.</li> <li>2. Attainment Status and Consistency with the District's Ozone Plan.</li> <li>3. Impacts to Air Quality Standard Attainment.</li> <li>4. Impacts to Sensitive Receptors and Potential for Nuisance Issues.</li> <li>5. Mitigation.</li> <li>6. Asbestos Reporting Requirements.</li> </ol>	Sections 4.2 and 4.6
The Sportfishing Conservancy	We suggest it is time to "fish or cut bait," and mercifully forego the legal wrangling's that do more damage than good. It is time to move forward with a mitigated negative declaration.	Section 1.0
Susan Allen	In light of the odor nuisance violation issued in September 2022 and previous other odor violations the public should have notice if and when an odor incident occurs through the city newsletter, social media and news releases.	Section 4.2
Susan Allen	Temporary signage along Dump Road and the hiking/biking trail should give current updates of the nature of the work and who to contact for any questions or concerns.	
Susan Allen	Where are the historic and current cathodic wells located and how will they be monitored and abandoned?	Section 4.7
Susan Allen	What if any recent testing has occurred in the Sandblast area (east of the oceanside parking area?) When that area was cleaned years ago it was reported that a foot of soil was removed but in my observations only a few inches were removed.	Section 4.7
Susan Allen	A large tower type piece of equipment was removed a number of years ago at the east side of the operations area and to my knowledge without permit. Can that piece of equipment and its usage be identified and has adequate soil testing been done in that area?	Section 4.7
Susan Allen	Have drainage issues been addressed? Often there is water in the cement drainage ditch west of Dump Rd but no water is visible on the east side. Pipes gathering drainage from the bluffs 1 area are thought to cross the Chevron property.	Section 4.8
Susan Allen	Parking for employees working on decommissioning the plant area should occur north of the RR tracks to avoid possible increased disturbance of the harbor seals. This would also apply to all equipment or supply storage. As a safety measure it will also cut down on traffic crossing RR tracks and interface with folks using the hiking/biking trail.	Section 4.3, Section 4.11
Susan Allen	During non drought years the retention basin around tank 861 has had substantial water collection. Why has it not been included in the wetlands analysis? It once held wetlands species.	Section 4.3
Susan Allen	How will historic pedestrian and bike traffic be handled on Dump Rd during decommissioning?	Section 4.11
Susan Allen	Will the native plants covering the metal topped vault located on the bluffs edge west of the pier be replaced?	Section 4.3

## Location of Comment Discussion in Draft EIR

Commenting Agency	Comment	Location of Comment Discussion in Draft EIR
Susan Allen	How will the pipelines left in place be abandoned? Filled with concrete? If left in place and not filled will pipes eventually corrode and create sinkholes? I believe this has happened in an area in Tarpits Park.	Section 2.0, Section 4.7
Susan Allen	Suggest that western most pipes be removed first. This will give workers and MM observers an opportunity to assess how best such work can quickly proceed to avoid unnecessary seal disturbance. Note that the offshore rocks are also a seal haulout site. (One of the three Carpinteria haulout locations.)	Section 2.0
Susan Allen	Exactly what pipes are in the cement bundle....isn't there a water outfall pipe in that location? Where is the electrical line for Gail and Grace located?	Section 2.0
Susan Allen	No work should occur during city beach closure. In recent years Sealwatch has noted a decline in the population and to date have not been able to discern a cause. All work must be done outside the beach closure window.	Section 2.0
Susan Allen	A minimum of two well qualified MM observers must be required and video cameras installed so that interested members of the public can be assured that the seals are being fully protected. Members of Sealwatch have witnessed too many occasions when the seals have not been fully protected.	Section 4.3
Susan Allen	Placing a screen on the beach will need more research and monitoring. Has this been done with harbor seals in other areas and has it been effective?	Section 4.3
Susan Allen	Data collection should be made public on a daily basis.	Section 2.0
Susan Allen	How long will concrete removal on the beach take and will the crane be moved closer to shore for this operation? Will the crane be moved away when not in use— what effect may a new large structure near the haulout have on the seals even when not in motion?	Section 2.0, Section 4.3
Susan Allen	Has the drainage pipe and concrete at the west corner of the Seal Sanctuary overlook been included in any study?	Section 4.3
Susan Allen	Pupping has been as early as January and as late as May with surviving pups.	Section 4.3
Susan Mailheau	I urge you to protect our seals, our land and ocean by abandoning the facility for open space instead of decommissioning to Tier 1. Chevron should be encouraged to do the following to fulfill their obligations instead of attempting to return the land to original state at the environmental cost that would incur. 1. We should evaluate and preserve the existing tree inventory and develop a planting program to renew and extend a native tree canopy, restoring habitat for bees, bats, and birds	Section 2.0, Section 4.3

## **Appendix E**

### **Bluff Retreat Evaluation Report**

**Appendix E – Bluff Retreat Evaluation Report**

<b><u>Section</u></b>	<b><u>Page #</u></b>
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**BLUFF RETREAT EVALUATION REPORT**

**DECOMMISSIONING AND REMEDIATION OF  
THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES  
CARPINTERIA, SANTA BARBARA COUNTY, CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
3916 State Street, Suite 200  
Santa Barbara, CA 93105

**Prepared by:**

Padre Associates, Inc.  
369 Pacific Street  
San Luis Obispo, California 93401

**JUNE 2021**





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1	Site Location Map
2	Site Vicinity Map
3	Regional Geology Map
4	Edge of Bluff 2020, 2018, and 1998
5	Bluff Retreat

## **1.0 INTRODUCTION**

The following Bluff Retreat Evaluation Study has been prepared in support of the proposed pipeline removal located within the coastal bluff area of the Chevron Oil and Gas Processing Facility (OGPF), 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California (Project Site). The Project location is shown on Plate 1 - Site Location Map.

## 2.0 PROJECT UNDERSTANDING

The Project Site is located along the coastal bluffs that comprise the southern property boundary of the Chevron OGPF located adjacent to Dump Road in the City of Carpinteria. Currently, Chevron is planning for the removal, future abandonment, and restoration of the OGPF Project Site. Removal of three outfall pipeline bundles from the coastal bluffs is included in the planning of the overall abandonment, remediation, and restoration of the Project Site.

The purpose of this study is to estimate an average annual retreat rate of the coastal bluffs to aide in planning for the removal of the pipeline outfalls located at the Project Site. . Whereas, for the purposes of this study, coastal bluffs will be defined as the edge of sea-cliff located at the crest of the coastal bluff. The bluff retreat rates contained in this study were estimated based on the retreat of the edge of sea-cliff.

### **3.0 WORK PERFORMED**

The scope of work for this investigation was developed through correspondence with Chevron and was conducted in general accordance with our proposal dated April 21, 2020. The services provided by Padre included the following tasks for this study:

- Review of available historical: geologic reports and maps relevant to the Project Site; documented local retreat rates; aerial photography; elevation data (i.e., light detection and range [LiDAR]); and groundwater data;
- Mapping of historical edge of sea-cliff;
- Estimating an average annual retreat rate for use by designers in evaluating an appropriate setback from the top of bluff; and
- Preparation of this report presenting our data and findings.

## **4.0 FINDINGS**

### **4.1 SITE LOCATION**

The Chevron OGPf is comprised of approximately 55-acres of land located within the City of Carpinteria, Santa Barbara County, California. Project related facilities located in proximity to the coastal bluffs include the former marine terminal pipelines and the Platform Grace and Gail pipeline bundle (refer to Plate 2). Approximate latitude and longitude at the center of the coastal bluffs Project Site are:

- Latitude 34° 23' 9.174" North
- Longitude -119° 30' 28.468" West

### **4.2 SITE CONDITIONS**

#### **4.2.1 Existing Land Uses**

The Project Site is located within the Carpinteria Valley within an area that has been historically utilized for agricultural production and oil and gas development support activities. The Project Site was historically operated by Chevron to receive, process, and transport oil and gas produced from offshore oil platforms located within the Santa Barbara Channel beginning in approximately 1959 (Plates 1 and 2). Venoco, Inc. owned and operated the facility from approximately 1999 to 2017. The Project Site was re-acquired by Chevron U.S.A. in 2017 (Padre, 2021).

#### **4.2.2 Topography and Drainage Conditions**

Ground surface elevations at the Project Site range from approximately 5 to 57 feet AMSL south of the Union Pacific Railroad (UPRR) property. The Project Site is bordered by the UPRR, the pier parking lot, and FSBA to the north; the Tee-Time golf driving range and agricultural property to the northeast; Tar pits Park to the west; a residential neighborhood to the northwest; and the Pacific Ocean to the south.

### **4.3 GEOLOGIC CONDITIONS**

#### **4.3.1 Regional Setting**

The Project Site is located along the south margin of the Transverse Ranges Geomorphic Province. These mountains represent a large east-west-trending anticline that has been complexly faulted. The Santa Ynez Mountains and adjacent coastal lowlands, on which the Project Site is situated, are composed of sedimentary rocks ranging in age from Eocene to Holocene (Geotechnical Consultants, 1976; Plate 3).

Quaternary marine terrace deposits that consist primarily of silty and sandy clays to coarse-grained sands underlie the Project Site. These marine terrace deposits overlie the



Miocene Monterey Formation, which consists of marine shales and siltstones. The regional structure of the Monterey Formation in this area is complex with a series of northwest-trending flexures mapped in the sea cliff south of the Project Site. Beneath the Project Site the Monterey Formation is thought to have a near vertical dip (Patry, 1983). The Monterey Formation has been upthrown along the east-west-trending Carpinteria Fault, which is a south-dipping reverse fault. This fault forms the southeastern boundary of the Carpinteria Basin, a faulted syncline containing Eocene through Miocene sediments and up to 4,000 feet of Plio-Pleistocene and younger sediments (Patry, 1983). The Carpinteria Basin has been divided into two distinct areas by the southerly-dipping Rincon Creek thrust fault, which is located approximately 0.4 mile north of the site (Maltby, 1984).

#### **4.3.2 Local Geology**

The maximum depth of recent soil assessment activities completed at the Project Site was approximately 30 feet below ground surface (bgs). Earth materials encountered during assessment activities generally consisted of unconsolidated sediments including poorly-graded sand, well-graded sand, silty sand, clayey sand, silt, and subordinate layers of clay. Native soil at certain areas of the Project Site is covered by thin layers (approximately 6- to 24-inches) of imported fill material and/or concrete. The underlying weathered bedrock surface of the Monterey Formation (logged as siltstone, shale, or hard silt / weathered bedrock) was observed at several drill hole locations at depths ranging from approximately 12 feet to 25 feet bgs. Tar and/or oil seep deposits consistent with documented naturally-occurring petroleum hydrocarbon deposits were found locally in the Monterey Formation. Bedrock materials of the Monterey Formation are typically known and documented to contain naturally-occurring petroleum hydrocarbons that are present at and below the Project Site, as evidenced in the wave-cut platform and sea-cliff. Naturally occurring petroleum hydrocarbons are present as seeps and tar sands, as well as, solidified along bedding planes and in bedrock joints and fractures that are exposed on the sea-cliff (Padre, 2021).

#### **4.4 GROUNDWATER CONDITIONS**

##### **4.4.1 Site Specific Hydrogeology**

Quaternary marine terrace deposits (silty and sandy clays to coarse-grained sands) underlie the Chevron OGPF to depths of approximately 10 to 25 feet bgs. These materials overlie the Miocene Monterey Formation, which is approximately 1,450 feet thick and is classified as a non-water bearing formation due to its low storage capacity (Geotechnical Consultants, 1976). Groundwater was generally not encountered within drill holes that Padre has historically advanced at the northern and eastern areas of the OGPF during soil and groundwater assessment activities. Where present, first subsurface water was encountered in the marine terrace deposits within the western portions of the OGPF at depths ranging from approximately 5 feet to 22 feet bgs and is perched above the Monterey Formation. Depth to water measurements recorded at the OGPF groundwater monitoring well locations on February 20, 2019, ranged from 4.73 feet (MW-O/G-8) to 19.02 feet (MW-O/G-10) below the tops of the well casings, corresponding to groundwater elevations of 37.92 feet and 44.12 feet AMSL, respectively. Potentiometric surface elevation data collected on February 20, 2019, at the

existing groundwater monitoring well network indicate that the groundwater flow direction beneath the OGPF is toward the north to northwest.

## 5.0 METHODS

### 5.1 LIDAR DATA ANALYSIS

LiDAR elevation data was obtained for the years of 2020, 2018, and 1998 (Table 1). The LiDAR data was collected via aircraft using laser scanning technology to capture coordinate location data as northing, easting, and elevation data as a point cloud. The point cloud data was interpolated by the data collection agencies and provided to Padre as polyline feature contour data delineating the sea-cliff at the Project Site. The edge of sea-cliff was delineated in geographic information systems (GIS) from the contour LiDAR data for each data set: 2020; 2018; and 1998 (Plate 4).

**Table 1. Summary of LiDAR Data**

Year	Source
2020	KCSI Aerial Patrol
2018	NOAA USGS Lidar: Southern CA Wildfires (Job629750_ca2018_wildfires)
1998	NASA/NOAA/USGS ATM Lidar: West Coast, Post-El Nino (CA, OR, WA) (Job629769_1998_SpringWC)

### 5.2 HISTORICAL AERIAL PHOTOGRAPH ANALYSIS

Historical aerial photographs corresponding to the years of LiDAR data were used to fine tune the delineation of the top edge of the coastal bluff (Table 2). Aerial photographs were viewed in two-dimension (2D or planar view) and in three-dimension (3D) in ArcMap and Google Earth Pro, respectively. It should be noted that a 1998 aerial photograph of sufficient quality for analysis was unavailable for use at the time of this study; however, a 1994 aerial photograph was available from Google Earth Pro that generally agreed with the 1998 edge of coastal bluff and was used as background imagery for display purposes (Plate 4).

**Table 2. Summary of Historical Aerial Photographs**

Year	Source
2020	KCSI Aerial Patrol
2018	Google Earth Pro Image
1994	Google Earth Pro Image

### 5.3 ESTIMATED AVERAGE ANNUAL RETREAT RATE

Annual retreat rates for the edge of the coastal bluff at the Project Site were estimated at eleven points that were selected based on proximity to the proposed pipeline landfall removal locations (Plate 5). Additionally, retreat rates were estimated at locations between the pipeline

landfall locations where significant retreat was evidenced by the historical LiDAR data and aerial photographs. Estimated annual retreat rates shown on Plate 5 were calculated using the change in distance of the 2020 and 1998 LiDAR defined edge of bluff divided by the 22 years separating the collection of the data sets. An estimated average annual retreat rate of 14 centimeters per year (cm/yr) for the Project Site was calculated based upon the average of the eleven point specific retreat rates displayed on Plate 5.

## 6.0 DISCUSSION

The Project Site is composed of a non-water bearing Miocene aged Monterey Shale coastal bluff that is continually exposed to the effects of coastal processes contributing to weathering and erosion of the bluff. Whereas, the Monterey is non-water bearing, ground water does not influence the internal weathering of the shale unit. Therefore, wave action is the primary hydraulic weathering process affecting the coastal bluff at the Project Site, with the changing tides and wave action expanding existing fractures and joints to loosen material that is eroded away. Large winter storm events are the primary source of bluff erosion and generally remove enough material in one or two events to equal the estimated average annual erosion rate: bluff erosion and retreat generally do not take place as incremental events happening over the course of the year, but rather the result of one or two major events (von Thury, 2013). It should be noted that major erosional events may not occur annually. The retreat rates estimated in this study are based on LiDAR data collected in the most recent 20 years; therefore, if LiDAR were available over a larger time period, the rates may vary. Although, vegetation removal or tree falls; rainfall and associated runoff; and anthropogenic installations such as drainage outfalls and irrigation can contribute to weathering and erosional processes, they are not considered to be major factors contributing to bluff erosion and retreat at the Project Site.

Additional factors such as aspect, tidal influence, and rock strength also contribute to the range of estimated retreat rates at the Project Site: 6 to 28 cm/yr (Plate 5). The retreat rates at the lower end of the range are found at locations where the bluff has been armored at the toe with riprap (large boulders) or the bluff top edge of cliff was reinforced with a concrete pad. In general, higher rates of retreat were associated with sections of the bluff with a western aspect.

An estimated average annual retreat rate of 14 cm/yr was calculated for the Project Site from a comparison of 2020 versus (vs.) 1998 LiDAR data. In 2013, a University of California, Santa Barbara Master of Science Thesis, *Using Laser Scanning Technology to Monitor Coastal Erosion and Sea-Cliff Retreat in Southern Santa Barbara County, California*, estimated regional erosion rates for the stretch of bluff in the vicinity of Tar Pits Park, the Carpinteria Pier, and the Carpinteria Bluffs Nature Preserve to be approximately 11 cm/yr. The 2013 study calculated estimated annual erosion rates using 2010 vs. 1998 and 1997 NOAA LiDAR data. The 1998 NOAA LiDAR data set used in the 2013 study is the same elevation data set that was used in the current study conducted by Padre (von Thury, 2013). The retreat rates estimated for both this study and the von Thury 2013 study generally agree with a 2005 study by Gary Griggs et al that calculated retreat rates based on monument measurements at various locations in southern Santa Barbara County between Point Conception and Rincon Point to range from 8 to 30 cm/yr.



## **7.0 CLOSURE AND LIMITATIONS**

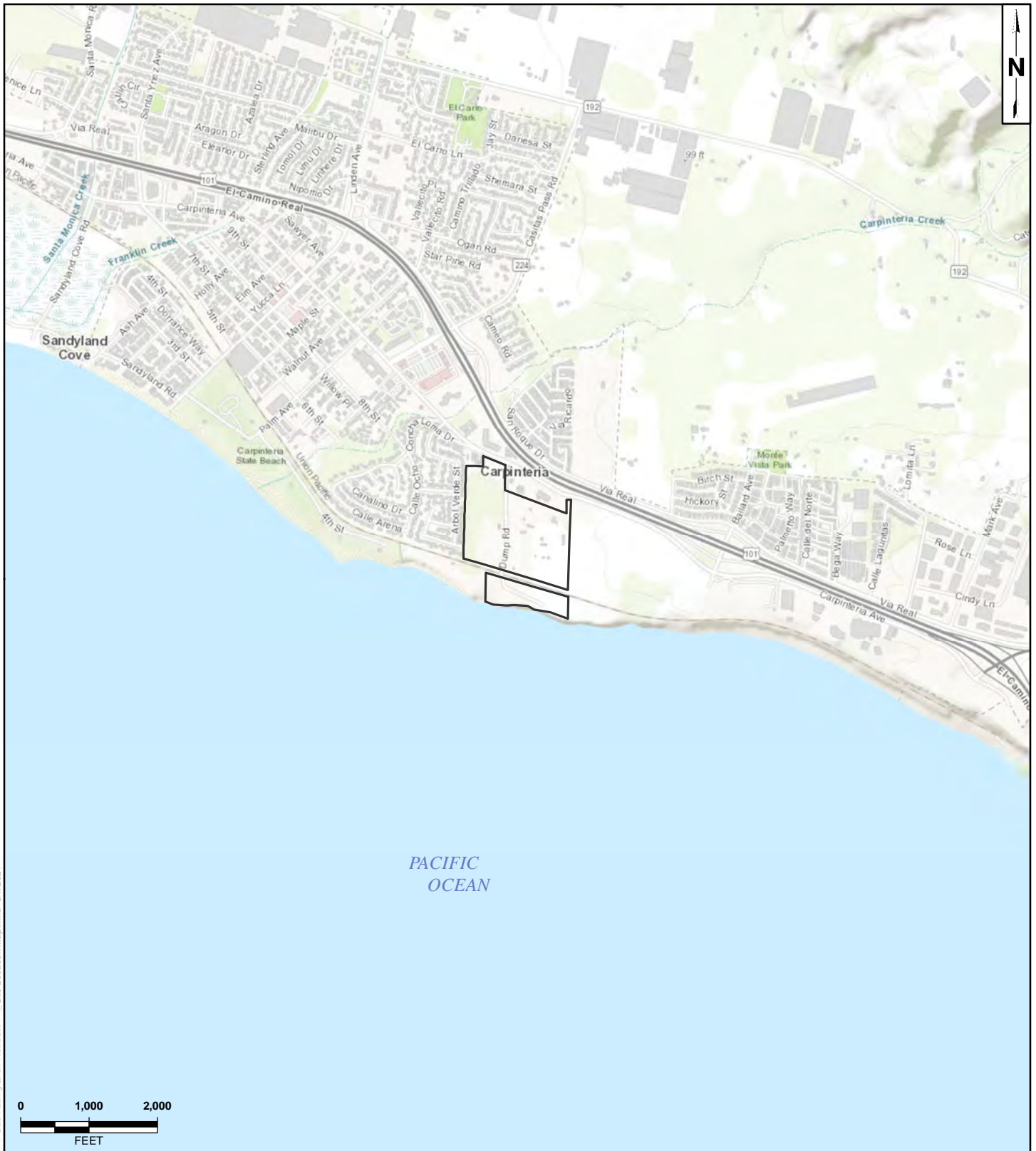
Padre prepared the findings and data presented herein in accordance with generally accepted geologic and geotechnical engineering practices at the time and location that this report was prepared. No other warranty, express or implied, is made.

Soil and rock materials are typically not homogenous in type, strength, and other geotechnical properties and can vary between points of observation and exploration. In addition, groundwater and soil moisture conditions can vary seasonally and for other reasons. Padre does not and cannot have a complete knowledge of the subsurface conditions underlying a site. The data presented in this report are based upon the findings at the points of interpolation and extrapolation of information between and beyond those points of analysis.


## 8.0 REFERENCES

- Geotechnical Consultants (1976), Hydrogeologic Investigation of Carpinteria Groundwater Basin for Carpinteria Water District, dated June 1976.
- Google Earth Pro (2020), Historical Imagery: 2018 and 1994, program accessed May 21 - 28, 2021.
- Griggs, Gary B., K. Patsch, and L. Savoy (2005), Living with the California Coast, University of California Press, Los Angeles, pages 87, 356, 362, 371, 378, 382, and 391.
- KCSI Aerial Patrol (2020), Topographic and Aerial Photography Survey.
- Maltby, D., 1984, Map of the Carpinteria Area and Vicinity, Santa Barbara County, California, Showing Water Level Contours for March 1982, USGS Water Resources Investigations Report 83-4273.
- Minor, S.A., Kellogg, K.S., Stanley, R.B., Gurrola, L.D., Keller, E.A., and Brandt, T.R. (2009), Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California, 1:25,000, 2009.
- NOAA (2021), Data Access Viewer <https://coast.noaa.gov/dataviewer/#/>, site accessed May 21, 25, and 27, 2021. NOAA USGS Lidar: Southern CA Wildfires (Job629750\_ca2018\_wildfires) NASA/NOAA/USGS ATM Lidar: West Coast, Post-El Nino (CA, OR, WA) (Job629769\_1998\_SpringWC)
- Padre Associates, Inc. (2021), Sampling and Analysis Plan / Interim Remedial Action Plan, Carpinteria Oil and Gas Processing Facility, 5675 Carpinteria Avenue, Carpinteria, Santa Barbara County, California, January 2021.
- Patry, J.J. (1983), Property Transfer, Chevron USA Production Department, Carpinteria, California. von Thury, Eva E. (2013), Using Laser Scanning Technology to Monitor Coastal Erosion and Sea-Cliff Retreat in Southern Santa Barbara County, California (Master's thesis), University of California, Santa Barbara, June 2013. Available from ProQuest Dissertations & Theses Global database. (UMI No. 1545851) <[http://gateway.proquest.com/openurl?url\\_ver=Z39.88-2004&rft\\_val\\_fmt=info:ofi/fmt:kev:mtx:dissertation&res\\_dat=xri:pqm&rft\\_dat=xri:pqdiss:1545851](http://gateway.proquest.com/openurl?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:dissertation&res_dat=xri:pqm&rft_dat=xri:pqdiss:1545851)>

## PLATES



**LEGEND:**

 Approximate Limits of Chevron-Owned Land

**MAP EXTENT:**



Source: Esri Online Topo Basemap, County of Santa Barbara  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.

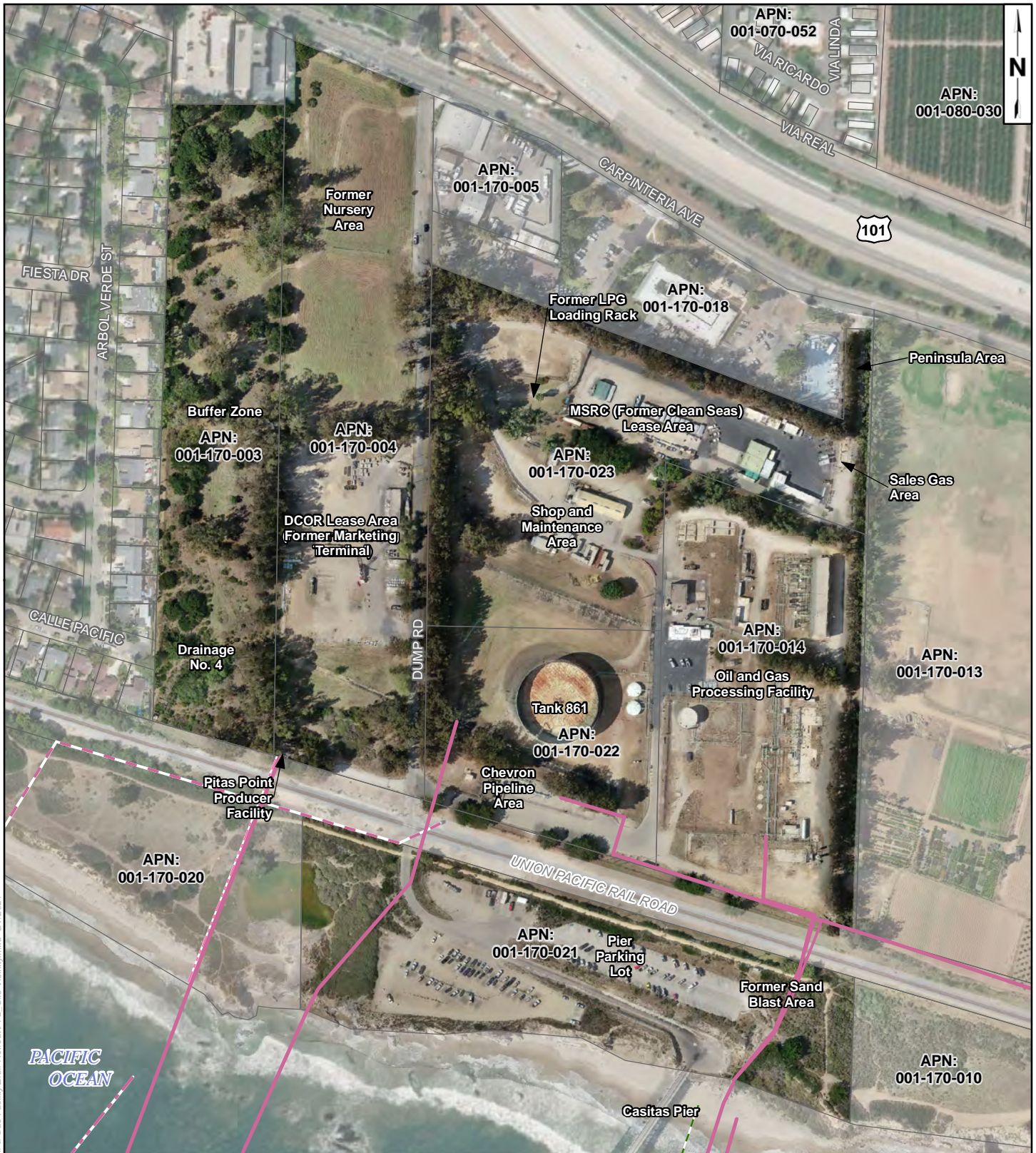
**padre**  
 associates, inc.  
 ENGINEERS, GEOLOGISTS &  
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY CARPINTERIA PLANT DECOMMISSIONING SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

# SITE LOCATION MAP

PLATE  
1





# LEGEND:

Assessor Parcel Boundary

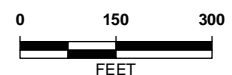
Abandoned Power Cable

Abandoned Pipeline Created from 2013 NOAA Chart

Oil Pipeline

Abandoned Pipeline

Inferred Pipeline



Source: KCSI Aerial Patrol 2020, Assessor parcels downloaded from County of Santa Barbara  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Notes: This map was created for informational and display purposes only.

**padre**  
**associates, inc.**  
ENGINEERS, GEOLOGISTS &  
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY  
CARPINTERIA PLANT DECOMMISSIONING  
SANTA BARBARA COUNTY, CA

PROJECT NUMBER:  
2002-5211

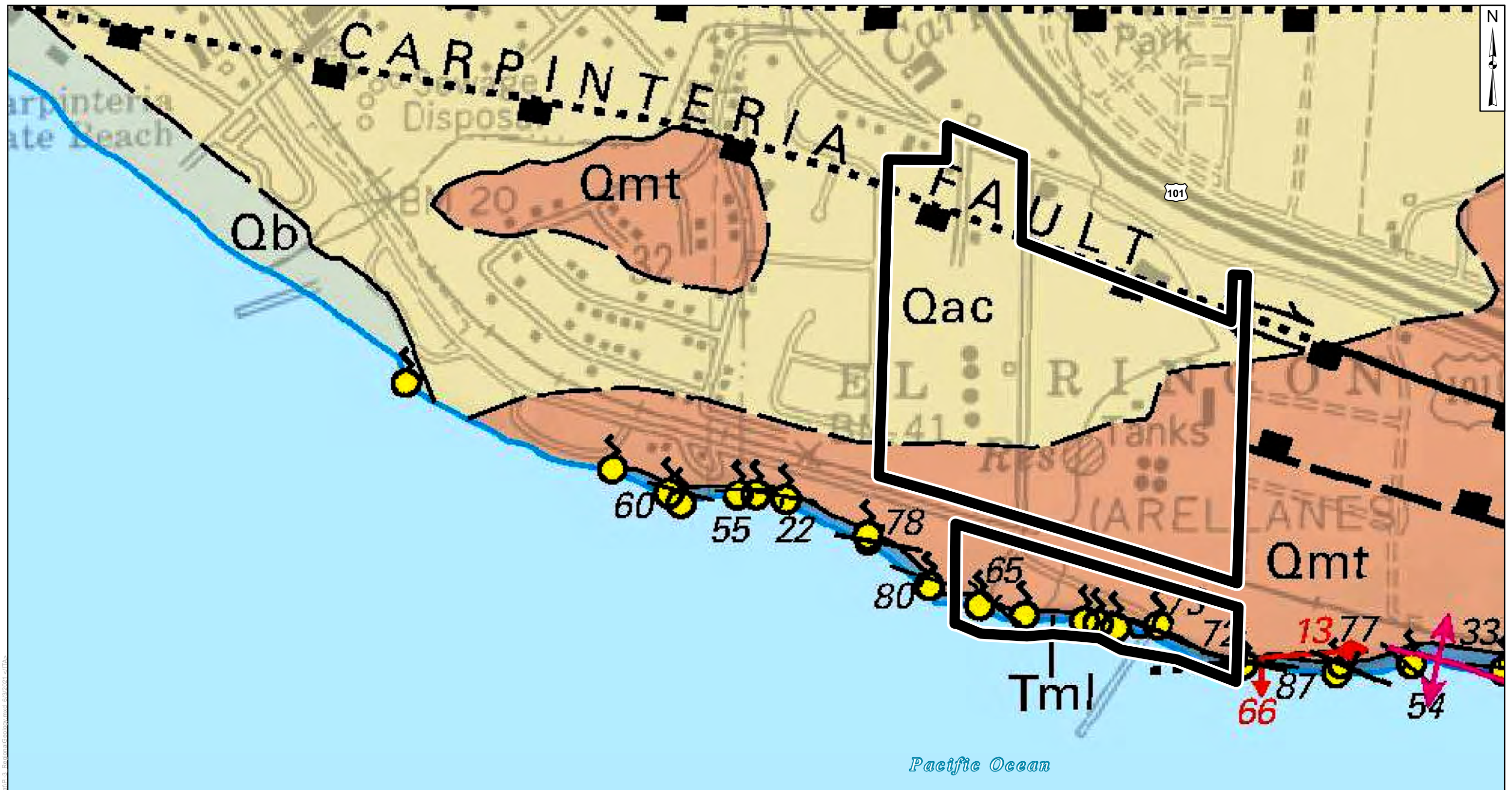
DATE:  
June 2021

SITE VICINITY MAP

PLATE

2





**LEGEND:**

Approximate Limits of Chevron-Owned Land

**Geologic Unit:**

Beach Deposits (Qb)

Alluvium and Colluvium (Qac)

Marine-Terrace Deposits (Qmt)

Monterey Formation, Lower Calcareous Unit (Tml)

**MAP EXTENT:**



Source: Minor, S.A., et al. (2009), Geologic map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California.  
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
 Notes: This map was created for informational and display purposes only.

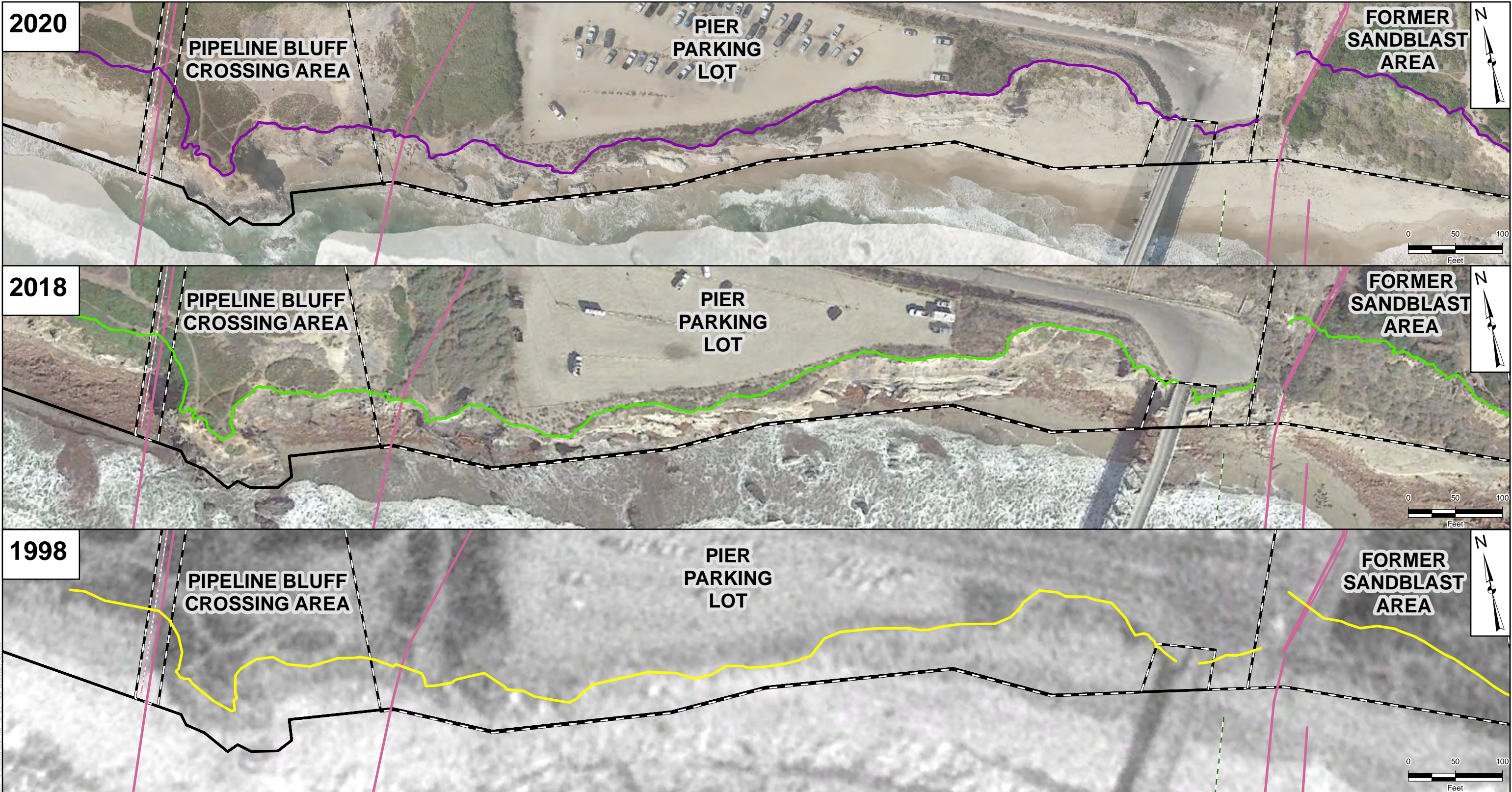
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 ENGINEERS, GEOLOGISTS &  
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BLUFF RETREAT STUDY  
 CARPINTERIA PLANT DECOMMISSIONING  
 SANTA BARBARA COUNTY, CA  
 PROJECT NUMBER: 2002-5211  
 DATE: June 2021

**REGIONAL GEOLOGY  
 MAP**

PLATE  
**3**





- LEGEND:**
- |   |                             |                  |
|---|-----------------------------|------------------|
| Edge of Bluff Defined by LiDAR Contour Data | - - - Abandoned Power Cable | Operational Area |
| Edge of Bluff 2020                          | Oil Pipeline                | Project Site     |
| Edge of Bluff 2018                          | Inferred Pipeline           |                  |
| Edge of Bluff 1998                          |                             |                  |







**LEGEND:**

- Edge of Bluff Defined by LiDAR Contour Data

Edge of Bluff 2020

Edge of Bluff 2018

Edge of Bluff 1998
- 28 Retreat Rate (cm/yr, 1998 - 2020)

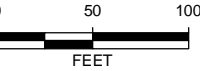
Abandoned Power Cable

Abandoned Pipeline Created from 2013 NOAA Chart
- Oil Pipeline

Inferred Pipeline

Operational Area
- Project Site

**MAP EXTENT:**



Source: KCSI Aerial Patrol 2020, 1998 Spring West Coast, 2018 Ca Wildfires  
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet  
Abbreviations:  
cm/yr = centimeters per year  
LiDAR = Light Detection and Range  
Notes: This map was created for informational and display purposes only.



PROJECT NAME: BLUFF RETREAT STUDY CARPINTERIA PLANT DECOMMISSIONING SANTA BARBARA COUNTY, CA	
PROJECT NUMBER: 2002-5211	DATE: June 2021

**BLUFF RETREAT**

PLATE  
5

Map Project: Carpinteria Oil & Gas Facility Bluff Retreat (P1-5\_RetreatRates.mxd, 6/6/2021, c:ITAs)



## **Appendix F**

### **Cultural Resources Assessment**

## **Appendix F – Cultural Resources Assessment**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Cultural Resources Assessment .....	F-1



# **CULTURAL RESOURCES ASSESSMENT DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES**

**CARPINTERIA, SANTA BARBARA COUNTY,  
CALIFORNIA**

**Project No. 2002-5211**

**Prepared for:**

Chevron West Coast Decommissioning Program  
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**Prepared by:**

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**OCTOBER 2021**



The contents of this Appendix are confidential, and it will be available only upon request and based on specific needs.

## **Appendix G**

### Noise Assessment

**Appendix G – Noise Assessment**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Noise Management Plan.....	G-1

# Padre Associates, Inc. Carpinteria Noise Management Plan

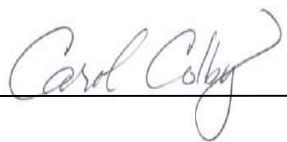
September 14, 2023

Prepared for:

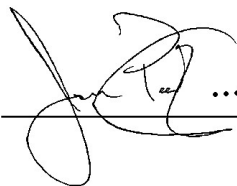
Padre Associates, Inc.  
1861 Knoll Drive  
Ventura, CA 93003

Prepared by:

Behrens and Associates, Inc.  
2320 Alaska Avenue  
El Segundo California, 90245

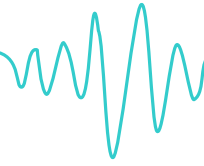


Carol Colby  
Acoustical Engineer



Jason Peetz  
Engineering Manager





## 1. Introduction

### 1.1 Purpose and Scope

The purpose of this study is to assess potential noise impacts associated with the demolition and remediation of the Carpinteria Oil and Gas Processing Facilities. The plant is located at 5675 and 5663 Carpinteria Avenue in Carpinteria, California. The assessment was conducted to evaluate whether the predicted noise levels of the demolition, piping removal, tank and vessel removals, tree removals, soil remediation, backfill, compaction, final grading and restoration activities will impact the adjacent properties and provide mitigation recommendations, if necessary, to reduce the construction activity noise levels at the surrounding properties.

The following is provided in this report:

- A brief description of noise fundamentals
- A description of the project noise standards
- Documentation of measured ambient noise levels in the project area
- An analysis of the potential noise impacts of the construction activities associated with the decommissioning of the Carpinteria Plant.

Figure 1-1 shows the project site.



Figure 1-1 Carpinteria Plant Project Site



## 2. Noise Fundamentals

Sound is most commonly experienced by people as pressure waves passing through air. These rapid fluctuations in air pressure are processed by the human auditory system to produce the sensation of sound. The rate at which sound pressure changes occur is called the frequency. Frequency is usually measured as the number of oscillations per second or Hertz (Hz). Frequencies that can be heard by a healthy human ear range from approximately 20 Hz to 20,000 Hz. Toward the lower end of this range are low-pitched sounds, including those that might be described as a “rumble” or “boom”. At the higher end of the range are high-pitched sounds that might be described as a “screech” or “hiss”.

Environmental noise generally derives, in part, from a combination of distant noise sources. Such sources may include common experiences such as distant traffic, wind in trees, and distant industrial or farming activities. These distant sources create a low-level “background noise” in which no particular individual source is identifiable. Background noise is often relatively constant from moment to moment, but varies slowly from hour to hour as natural forces change or as human activity follows its daily cycle.

Superimposed on this low-level, slowly varying background noise is a succession of identifiable noisy events of relatively brief duration. These events may include the passing of single-vehicles, aircraft flyovers, screeching of brakes, and other short-term events. The presence of these short-term events causes the noise level to fluctuate. Typical indoor and outdoor A-weighted sound levels are shown in Figure 2-1. Detailed acoustical definitions have been provided in Appendix A.

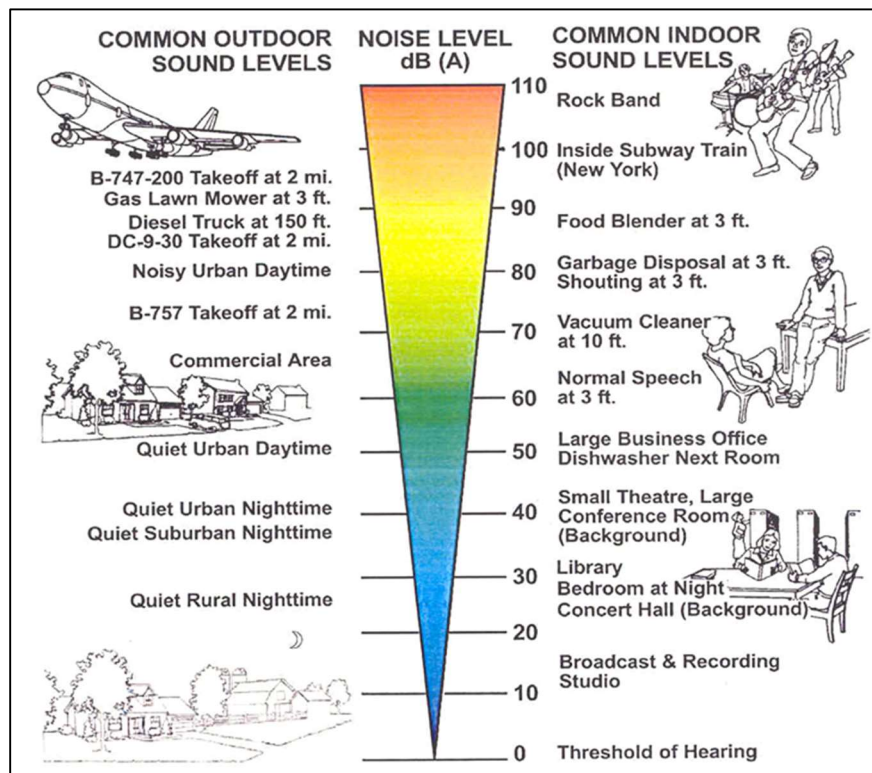
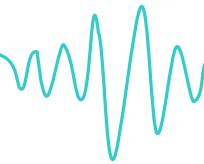


Figure 2-1 Typical Indoor and Outdoor A-Weighted Sound Levels



## 3. Noise Standards

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The City of Carpinteria has “Environmental Review Guidelines” for “Temporary Construction Noise” that states:

“Temporary construction noise which exceeds 75 dB(A) CNEL for 12 hours within a 24-hour period at residences would be considered significant. Additionally, where temporary construction noise would substantially interfere with normal business communication, or affect sensitive receptors, such as day care facilities, hospitals or schools, temporary impacts would be considered significant.

For the noise level analysis, an increase in noise would be considered significant if any of the following conditions occurred for an extended period of time:

- An increase in noise levels of 10 dB(A) if the existing noise levels are below 55 dB(A) (creates a potential significant nuisance effect);
- An increase in noise levels that exceeds noise level standards if the existing noise levels are between 55 and 60 dB(A) (Violates existing regulatory requirement); or
- An increase in noise levels of 5 dB(A) if the existing noise levels are above 60 dB(A) (violates or worsens a violation of an existing regulatory requirement).

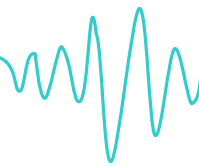
...Project noise impacts are significant if they raise existing (ambient) levels from below to above the applicable criterion or if noise resulting from the project increases average ambient levels which are already above the applicable criterion or if noise resulting from the project increases average ambient levels which are already above the applicable criterion by more than three dB, or if project-generated noise results in a five dB increase and the resulting level remains below the maximum considered normally acceptable. These criteria for significance recognize (1) the threshold levels of acceptability established by the local government agencies; (2) that once the threshold level has been passed, any noticeable change above that level (a three dB increase) results in a further degradation of the noise environment; and (3) that a clearly noticeable change (a five dB increase) in the noise environment, even though the threshold has been reached, is also a significant impact, because people respond to changes in noise level regardless of the absolute level of the noise.”

The noise level assessment of the proposed demolition, pipeline removal, soil remediation and final grading activities will be evaluated using the increase in noise level thresholds detailed in the “Environmental Review Guidelines” along with the City of Carpinteria Code of Ordinance and General Plan as defined below.

The City of Carpinteria Code of Ordinances and General Plan define acceptable noise levels for noise impact assessment of the project activities.

Noise Section 14.20.110 of the Code of Ordinances states:

“The noise level emanating from any commercial use or operation shall not exceed five (5) decibels above the ambient level of the area.”



This section of the Code of Ordinances does not mention construction operations specifically, but it can be used as a guideline to assess the impact of demolition activities on the surrounding properties along with the City of Carpinteria “Environmental Review Guidelines” for “Temporary Construction Noise”.

The City of Carpinteria General Plan Noise Element provides a “Noise Compatibility Matrix” developed to reduce high levels of noise exposure created by roadway traffic, industrial and commercial activities. These guidelines are divided into “normally acceptable”, “conditionally acceptable”, “normally unacceptable”, and “clearly unacceptable” categories. The upper range of the normally acceptable noise levels shown in in Figure N-3 of the “City of Carpinteria Land Use/Noise Compatibility Matrix” of the general plan are summarized in Table 3-1. The exhibit limits noise levels in terms of Ldn or CNEL. The CNEL limits will be used for this project for a more conservative assessment.

**Table 3-1 Community Noise Exposure Guidelines**

<b>Land Use Category</b>	<b>Normally Acceptable Community Noise Exposure, dBA CNEL</b>
Residential – Low Density Single Family, Duplex, Mobile Homes	55
Residential – Multi-Family	60
Transient Lodging – Motels, Hotels	65
Schools, Libraries, Churches, Hospitals, Nursing Homes	70
Playgrounds, Neighborhood Parks, open space/walking	70
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75
Office Buildings, Business Commercial And Professional	70
Industrial, Manufacturing, Utilities, Agriculture	75

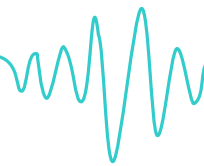
The community noise exposure guidelines contained in the City of Carpinteria General Plan are guidelines for new developments and should not be considered strict limits for temporary construction projects. With this in mind, the published guidelines will be used to assess the noise impact of the demolition activities on the surrounding properties.

The Carpinteria Plant location is zoned in an industrial land use category; however, it is surround by residential single-family, commercial, and open space/walking trail land use categories. The proposed demolition activities of the decommissioning of the Carpinteria Plant will occur strictly between the daytime hours of 7:00am to 5:00pm. Figure 3-1 shows the zoning map of the Carpinteria Plant and adjacent properties.









## 4. Ambient Sound Level Survey

### 4.1 Ambient Survey Procedure

Three Type 1 sound level meters were deployed nearby the site to conduct the ambient sound level survey. The sound level meters conform to Type 1 as per ANSI S1.4 Specifications for Sound Level Meters. The microphones associated with the sound level meters were placed approximately 5 feet above the ground and at least 10 feet from any reflective surfaces at the location shown in Figure 4-1. The measurement procedure was conducted in compliance with International Standard ISO 1996-2 *Acoustics- Description, measurement and assessment of environmental noise*. The sound level meters were calibrated before and after the measurement period. The instrumentation details are presented in Table 4-1.

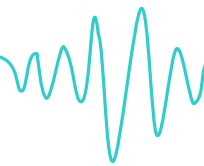
Measurement Locations 1 through 3 were positioned on the north, west and south property boundaries of Carpinteria Plant site to document the ambient noise levels near the adjacent noise sensitive properties as shown in Figure 4-1.

**Table 4-1 Instrumentation Details**

Location	Instrumentation	Manufacturer/Model	Serial Number
1	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	56971
2	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	74351
3	Sound Level Meter	SVANTEK SVAN 971 Sound Level Meter	40386



**Figure 4-1 Noise Monitoring Locations**



The sound level meters were deployed on Wednesday April 7, 2021 and programmed to continuously monitor and record sound levels utilizing the A-weighted decibel scale (dBA). The sound level meters were retrieved on Friday April 9, 2021. Table 4-2 shows the daytime, evening, nighttime and CNEL sound levels for April 8, 2021. Appendix C shows the tabulated measured sound levels.

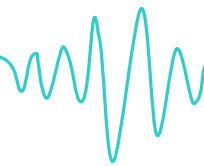
**Table 4-2 Measured Average CNEL Sound Levels (April 8, 2021)**

Location	Land Use Category	Daytime	Evening	Nighttime	CNEL, (dBA)
1	Commercial (70 dBA CNEL)	65.3	61.3	61.1	68.5
2	Single Family Residential (55 dBA CNEL)	54.7	55.9	53.3	60.4
3	Coastal Industrial (75 dBA CNEL)	65.9	68.6	54.6	67.7

The measured ambient CNEL sound levels at Location 1 and Location 3 are below the “normally acceptable” community noise exposure sound level of 70 CNEL for commercial and 75 CNEL for coastal industrial, respectively. The measured ambient CNEL sound level at Location 2 is above the “normally acceptable” community noise exposure sound level of 55 CNEL for single-family residential. Therefore, the City of Carpinteria Code of Ordinances and City of Carpinteria “Environmental Review Guidelines” for “Temporary Construction Noise” allowable (5) decibels above ambient level have been utilized for the noise impact assessment.

The weather conditions were captured by a nearby weather station (KCACARPI39) as reported by [www.wunderground.com](http://www.wunderground.com). The weather station is located approximately 0.75 miles northwest of the Carpinteria Plant. The recorded temperatures for the weather station ranged between 48.0 degrees and 73.2 degrees Fahrenheit during the measurement period. Wind speeds ranged between 0 mph and 7.4 mph.

The recorded temperature, wind speed, wind direction, and pressure are displayed graphically in Appendix B.



## 5. Carpinteria Plant Construction Activities Noise Modeling

### 5.1 Methodology

To predict the noise levels generated by planned construction activities at the site, three noise models were developed with the use of three-dimensional computer noise modeling software. All models in this report were developed with SoundPLAN 8.0 software using the ISO 9613-2 standard. Noise levels are predicted based on the locations, noise levels and frequency spectra of the noise sources, and the geometry and reflective properties of the local terrain, buildings and barriers. To ensure a conservative assessment, the ISO 9613-2 standard assumes light to moderate winds are blowing from the source to receptor.

Three construction activities (Scenario 1 through Scenario 3) were modeled for the Carpinteria Plant utilizing the equipment list and layout provided by Padre Associates, Inc. The three modeled scenario activity locations and descriptions are detailed in Table 5-1 and were provided by Padre Associates, Inc. The source sound level data used in the modeling for each construction activity is shown in Table 5-2 through Table 5-4.

**Table 5-1 Modeled Scenario Detailed Descriptions**

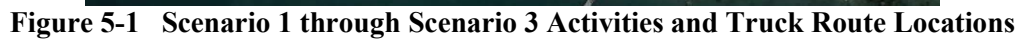
<b>Scenario</b>	<b>Scenario Location Description</b>	<b>Scenario Activity Details</b>
Scenario 1	Demolition at Former Marketing Terminal Area	Demolition
Scenario 2	Demolition at Southeast Corner of Main Plant Area	Piping removal, demolition of tanks and vessels and tree removal
Scenario 3	Demolition of MSRC Plant Area	Soil remediation, backfill and compaction

The sound pressure level at 50 feet and usage factors published in the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook were used as an input for the Scenario 1 demolition noise model. The Scenario 1 model represents a peak day of demolition activities which accounts for a worst-case scenario in noise impact.

The sound pressure level at 50 feet published in the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook were used as an input for the piping removal, soil remediation and final grading noise models (Scenario 2 and Scenario 3). However, the usage factors applied to the sound pressure levels of all the proposed equipment for the remaining three construction activities were provided by Padre Associates, Inc. The usage factor for the chainsaw to be utilized in the tree removal activities in Scenario 2 was obtained from the U.S. Department of Transportation Federal Highway Administration Construction Noise Handbook.

There will also be trucks hauling material from the site for all the construction activities. Padre Associates, Inc. approximates 36 trucks will be coming in and out of the site daily and be limited to the hours between 9am to 4pm, to avoid peak traffic hours. The 36 trucks traveling per day represent the maximum number of trucks on a peak day and not an average number of trucks that will be hauling material. To account for this, the truck route was modeled using the Traffic Noise Model (TNM 2.5) calculation methodology for heavy trucks in the modeling software. Figure 5-1 shows the modeled activity locations and truck route location. Figure 5-2 shows the location of the assessed receptors.

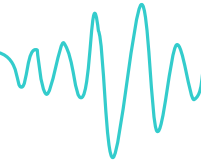
Appendix D provides noise level source details for the modeled scenario equipment, truck haul noise source input and output data, and noise level contribution of the modeled equipment at all receptors evaluated.



Equipment	Quantity	Individual Component Sound Power Level (dBA)	Daytime Usage Factor (%)
Excavator	2	118.9	40
Track Loader	1	96.8	40
Heavy Truck Route *	36*	N/A	N/A

Equipment	Quantity	Individual Component Sound Power Level (dBA)	Daytime Usage Factor (%)
Excavator	2	118.9	33*
Track Loader	2	96.8	33*
Boom Lift	1	119.0	33*
Dozer	1	118.9	33*
Backhoe	2	114.4	33*
Chainsaw	1	119.0	20
Heavy Truck Route *	36**	N/A	N/A

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**Table 5-4 Scenario 3 Modeled Construction Equipment Sound Power Levels and Usage Factors**

<b>Equipment</b>	<b>Quantity</b>	<b>Individual Component Sound Power Level (dBA)</b>	<b>Daytime Usage Factor (%)</b>
Excavator	1	118.9	33*
Track Loader	2	96.8	33*
Dozer	1	118.9	33*
Grader	1	118.7	33*
Backhoe	2	114.4	33*
Soil Compactor	1	116.7	33*
Heavy Truck Route*	36**	N/A	N/A

\* Usage Factor was provided by Padre Associates, Inc.

\* \* Sound power level is calculated using the Federal Highway Administration Traffic Noise Model (TNM 2.5) methodology generated in the modeling software

Community noise equivalent levels (CNEL) are 24-hour noise metrics. To calculate the CNEL values associated with the project, the FHWA equipment usage factors were used for daytime hours when the equipment will be in use and a usage factor of zero was used for evening and nighttime hours when the equipment will not be in use.



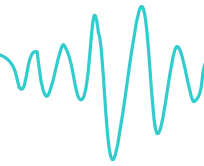


**Figure 5-2 Modeled Receptor Locations**

## 5.2 Scenario 1 Activities Noise Modeling Results

A noise model was generated for the demolition activities at the Former Marketing Terminal Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

The results of the noise modeling are presented in Table 5-5. The calculated noise levels represent only the contribution of the demolition activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-5 Scenario 1 Activities Noise Modeling Results**

<b>Receptor</b>	<b>Receptor Land Use Category</b>	<b>Predicted Activities Noise Levels CNEL, dBA</b>
R1	Commercial	53.2
R2	Commercial	52.6
R3	Commercial	51.2
R4	Single-Family Residential	52.7
R5	Single-Family Residential	57.2
R6	Single-Family Residential	56.9
R7	Open Space/Walking Trail (Recreational)	52.1
R8	Commercial	58.9
R9	Office Buildings, Business Commercial & Professional	53.2
R10	Commercial	48.3
R11	Commercial	47.8
R12	Commercial	46.1
R13	Open Space/Walking Trail (Recreational)	38.3
R14	Open Space/Walking Trail (Recreational)	37.1
R15	Open Space/Walking Trail (Recreational)	35.2
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of the Scenario 1 activities range between 35.2 CNEL, dBA and 58.9 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL for their corresponding land use categories at all receptors except at Receptor 5 and Receptor 6.

The predicted noise levels at Receptor 5 and Receptor 6 are above the “normally acceptable” community noise exposure level of 55 CNEL for the single-family land use category. However, the measured ambient sound level obtained at the single-family zoning area already exceeds the “normally acceptable” community noise exposure sound level of 55 CNEL. The results of the noise modeling are shown visually in Figure 5-3 as a noise contour map.

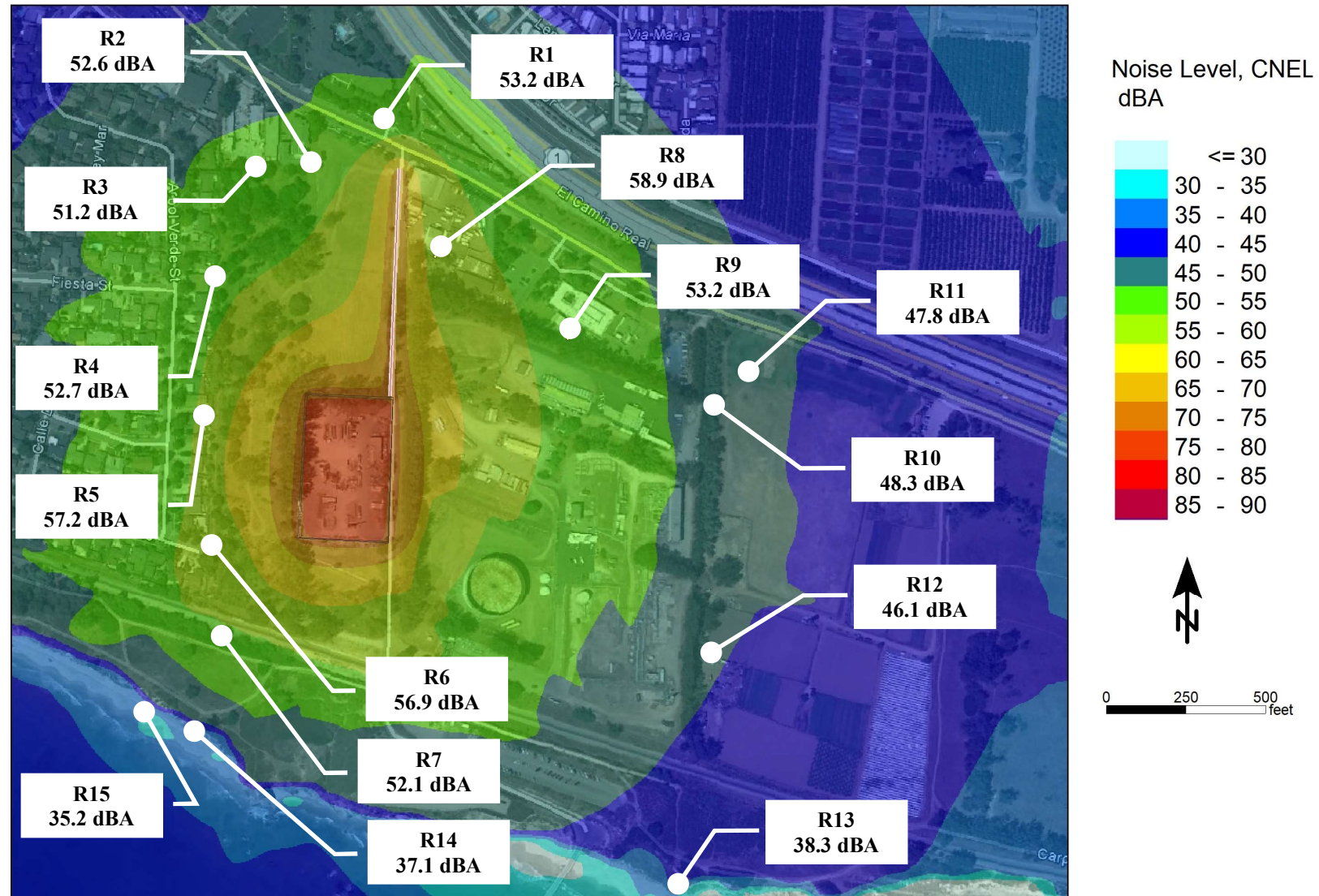
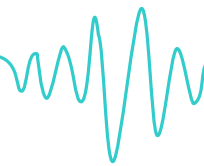


Figure 5-3 Scenario 1 Demolition Activities Noise Contour Map (CNEL, dBA)





## 5.3 Scenario 2 Activities Noise Modeling Results

A noise model was generated for the Scenario 2 pipeline removal, tanks and vessels removal, remediation excavations and tree removal activities at the Southeast corner of the Main Plant Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

The results of the noise modeling are presented in Table 5-6. The calculated noise levels represent only the contribution of the Scenario 2 activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-6 Scenario 2 Activities Noise Modeling Results**

Receptor	Receptor Land Use Category	Predicted Activities Noise Levels CNEL, dBA
R1	Commercial	52.5
R2	Commercial	51.9
R3	Commercial	49.5
R4	Single-Family Residential	48.8
R5	Single-Family Residential	50.2
R6	Single-Family Residential	50.8
R7	Open Space/Walking Trail (Recreational)	49.4
R8	Commercial	58.2
R9	Office Buildings, Business Commercial & Professional	54.4
R10	Commercial	53.5
R11	Commercial	52.3
R12	Commercial	66.2
R13	Open Space/Walking Trail (Recreational)	42.1
R14	Open Space/Walking Trail (Recreational)	40.2
R15	Open Space/Walking Trail (Recreational)	37.3
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of Scenario 2 activities that include pipeline removal, tank and vessel removals, remediation excavations and tree removal range between 37.3 CNEL, dBA and 66.2 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level for their corresponding land use category. The results of the noise modeling are shown visually in Figure 5-4 as a noise contour map.

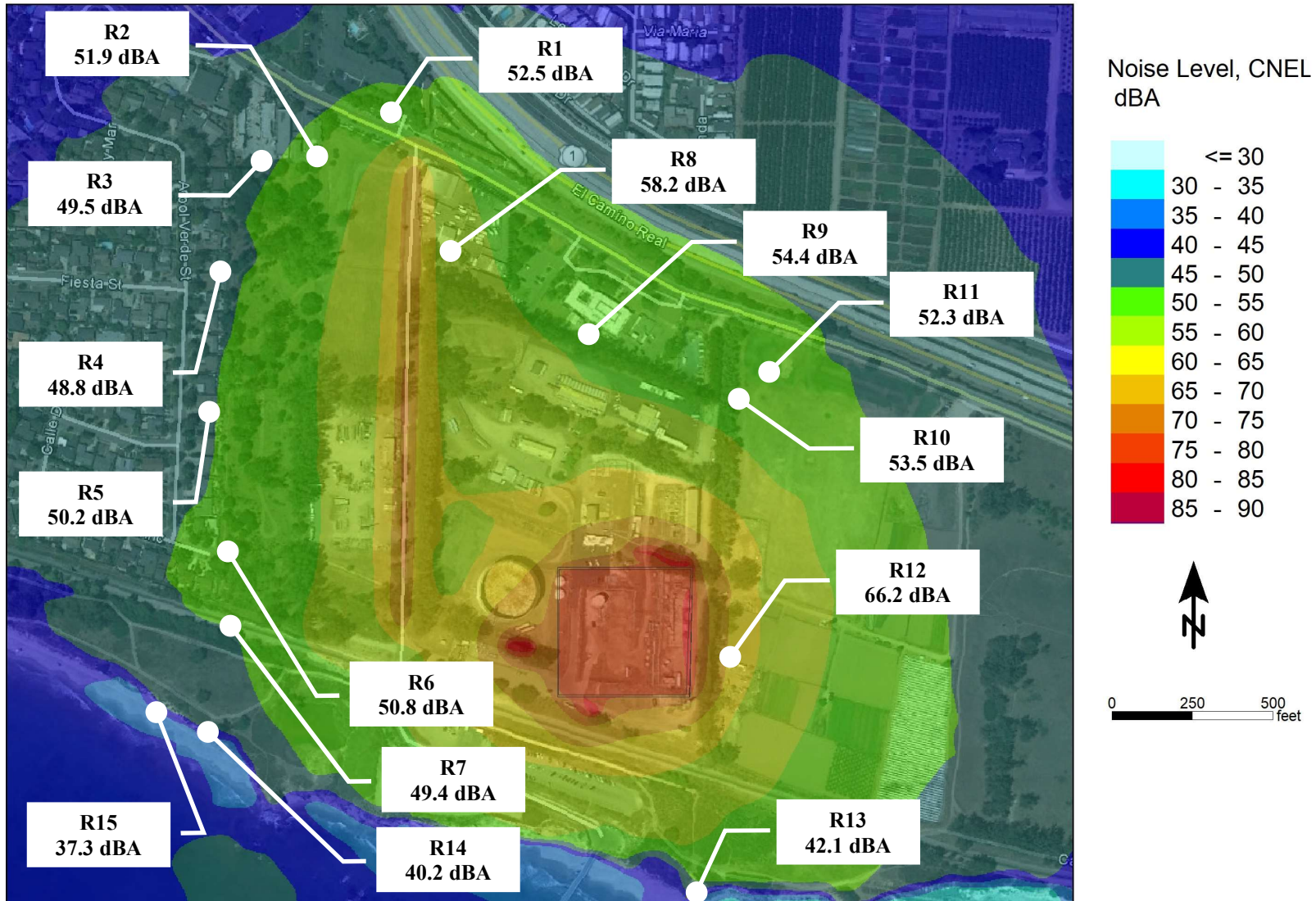
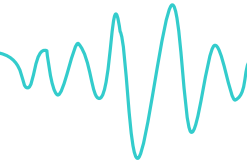
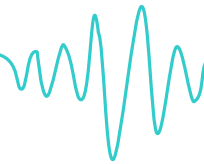


Figure 5-4 Scenario 2 Piping Removal Activities Noise Contour Map (CNEL, dBA)





## 5.4 Scenario 3 Activities Noise Modeling Results

A noise model was generated for the Scenario 3 soil remediation, backfill and compaction activities at the MSRC Lease Area. The noise modeling predicts the community noise equivalent levels (CNEL) at the site and adjacent surroundings.

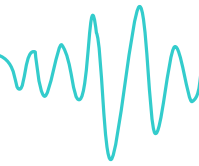
The results of the noise modeling are presented in Table 5-7. The calculated noise levels represent only the contribution of the Scenario 3 activities and do not include ambient noise. Actual field sound level measurements may vary from the modeled noise levels due to other noise sources such as traffic, other human activity, or environmental factors.

**Table 5-7 Scenario 3 Activities Noise Modeling Results**

Receptor	Receptor Land Use Category	Predicted Activities Noise Levels CNEL, dBA
R1	Commercial	54.4
R2	Commercial	53.3
R3	Commercial	51.5
R4	Single-Family Residential	49.6
R5	Single-Family Residential	50.1
R6	Single-Family Residential	47.8
R7	Open Space/Walking Trail (Recreational)	46.3
R8	Commercial	60.6
R9	Office Buildings, Business Commercial & Professional	71.1
R10	Commercial	66.2
R11	Commercial	61.1
R12	Commercial	51.1
R13	Open Space/Walking Trail (Recreational)	33.9
R14	Open Space/Walking Trail (Recreational)	35.3
R15	Open Space/Walking Trail (Recreational)	32.2
<b>“Normally Acceptable” CNEL for Single Family Residential/Commercial/ Recreational Land Use</b>		<b>55/70/70 CNEL, dBA</b>

The predicted sound levels of the Scenario 3 activities range between 32.2 CNEL, dBA and 71.1 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL at all receptors except at Receptor 9.

The predicted noise level at Receptor 9 is above the “normally acceptable” community noise exposure level of 70 CNEL for the Office Buildings, Business Commercial & Professional land use category. However, the sound levels generated by the Scenario 3 construction activities are temporary and the City of Carpinteria Code of Ordinances five



decibels above ambient noise level limit was utilized to assess the impact. The results of the noise modeling are shown visually in Figure 5-5 as a noise contour map.

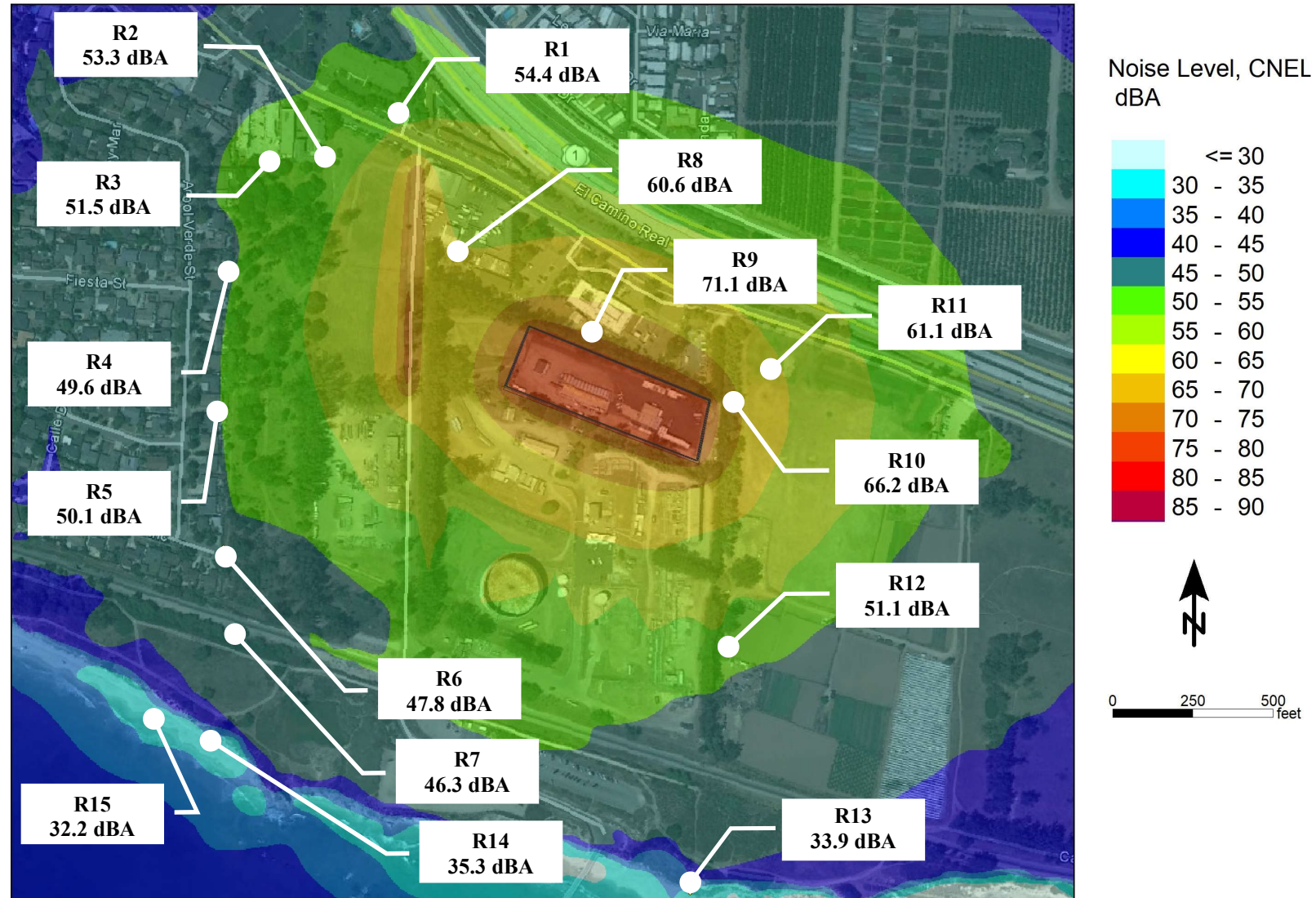
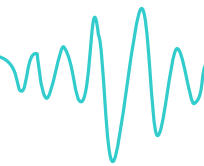


Figure 5-5 Scenario 3 Soil Remediation Activities Noise Contour Map (CNEL, dBA)



## 5.5 Noise Impact at Adjacent Properties Utilizing the City of Carpinteria Code of Ordinances

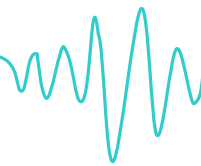
To determine if there is a noise impact at the adjacent properties during the Scenario 1, 2 and 3 activities, the City of Carpinteria Code of Ordinances limit of five decibels above ambient was utilized for the assessment at the modeled receptors. The results of the assessment are shown in Table 5-8 through Table 5-10.

**Table 5-8 Noise Levels of Predicted Scenario 1 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	53.2	68.5	68.6	0.1
R2	Location 1	52.6	68.5	68.6	0.1
R3	Location 2	51.2	60.4	60.9	0.5
R4	Location 2	52.7	60.4	61.1	0.7
R5	Location 2	57.2	60.4	62.1	1.7
R6	Location 2	56.9	60.4	62.0	1.6
R7	Location 3	52.1	67.7	67.8	0.1
R8	Location 1	58.9	68.5	69.0	0.5
R9	Location 1	53.2	68.5	68.6	0.1
R10	Location 1	48.3	68.5	68.5	0
R11	Location 1	47.8	68.5	68.5	0
R12	Location 3	46.1	67.7	67.7	0
R13	Location 3	38.3	67.7	67.7	0
R14	Location 3	37.1	67.7	67.7	0
R15	Location 3	35.2	67.7	67.7	0

**Table 5-9 Noise Levels of Predicted Scenario 2 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	52.5	68.5	68.6	0.1
R2	Location 1	51.9	68.5	68.6	0.1
R3	Location 2	49.5	60.4	60.7	0.3
R4	Location 2	48.8	60.4	60.7	0.3
R5	Location 2	50.2	60.4	60.8	0.4
R6	Location 2	50.8	60.4	60.9	0.5
R7	Location 3	49.4	67.7	67.8	0.1
R8	Location 1	58.2	68.5	68.9	0.4
R9	Location 1	54.4	68.5	68.7	0.2



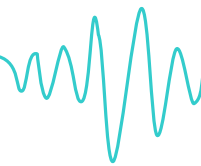
R10	Location 1	53.5	68.5	68.6	0.1
R11	Location 1	52.3	68.5	68.6	0.1
R12	Location 3	66.2	67.7	70.0	2.3
R13	Location 3	42.1	67.7	67.7	0
R14	Location 3	40.2	67.7	67.7	0
R15	Location 3	37.3	67.7	67.7	0

**Table 5-10 Noise Levels of Predicted Scenario 3 Activities vs. Ambient Level Contributions Noise Levels**

Receptor	Corresponding Ambient Measurement Location	Predicted Activities CNEL Sound Level	Measured Ambient CNEL Sound Level	Measured Ambient CNEL plus Predicted Activities Sound Level	Increase in Ambient Noise
R1	Location 1	54.4	68.5	68.7	0.2
R2	Location 1	53.3	68.5	68.6	0.1
R3	Location 2	51.5	60.4	60.9	0.5
R4	Location 2	49.6	60.4	60.7	0.3
R5	Location 2	50.1	60.4	60.8	0.4
R6	Location 2	47.8	60.4	60.6	0.2
R7	Location 3	46.3	67.7	67.7	0
R8	Location 1	60.6	68.5	69.2	0.7
R9	Location 1	71.1	68.5	73.0	4.5
R10	Location 1	66.2	68.5	70.5	2.0
R11	Location 1	61.1	68.5	69.2	0.7
R12	Location 3	51.1	67.7	67.8	0.1
R13	Location 3	33.9	67.7	67.7	0
R14	Location 3	35.3	67.7	67.7	0
R15	Location 3	32.2	67.7	67.7	0

The results shown in the Table 5-8 through Table 5-10 indicate the noise level contribution of the Scenario 1, 2 and 3 activities for the decommissioning of the Carpinteria Plant will not exceed the City of Carpinteria Code of Ordinances and the “Environmental Review Guidelines” for “Temporary Construction Noise” limit of five decibels above ambient at the adjacent properties. Therefore, noise mitigation is not recommended during the Scenario 1 through Scenario 3 activities at the plant.





## 6. Conclusion

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A 24-hour ambient sound level survey was conducted on April 8, 2021 at three locations to document the ambient CNEL sound levels of areas near the Carpinteria Plant. Using the ambient noise levels obtained during the survey, a noise impact analysis of the demolition activities for the decommissioning of the Carpinteria Plant was developed and assessed at the adjacent properties.

The measured ambient sound level obtained at the land use area described as single-family residential exceeds the City of Carpinteria General Plan “normally acceptable” community noise exposure sound level of 55 CNEL. The measured ambient sound levels obtained at the locations where land use is described as commercial and open space/walking trail were below the 70 CNEL allowable noise exposure sound level. The measured ambient sound levels obtained at the locations where land use is described as coastal industrial were below the 75 CNEL allowable noise exposure sound level.

The predicted sound levels of the Scenario 1 activities range between 35.2 CNEL, dBA and 58.9 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL for their corresponding land use categories at all receptors except at Receptor 5 and Receptor 6.

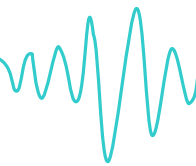
The predicted noise levels at Receptor 5 and Receptor 6 are above the “normally acceptable” community noise exposure level of 55 CNEL for the single-family land use category. However, the measured ambient sound level obtained at the single-family zoning area already exceeds the “normally acceptable” community noise exposure sound level of 55 CNEL.

The predicted sound levels of Scenario 2 activities that include pipeline removal, tank and vessel removals, remediation excavations and tree removal range between 37.3 CNEL, dBA and 66.2 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level for their corresponding land use category.

The predicted sound levels of the Scenario 3 activities range between 32.2 CNEL, dBA and 71.1 CNEL, dBA at the properties adjacent to the project site. The predicted noise levels are below the “normally acceptable” community noise exposure sound level of 55 CNEL and 70 CNEL at all receptors except at Receptor 9.

The predicted noise level at Receptor 9 is above the “normally acceptable” community noise exposure level of 70 CNEL for the Office Buildings, Business Commercial & Professional land use category. However, the sound levels generated by the Scenario 3 construction activities are temporary and the City of Carpinteria Code of Ordinances five decibels above ambient noise level limit was utilized to assess the impact.

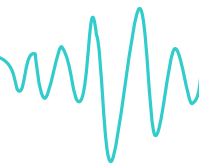
Scenario 1 through Scenario 3 predicted sound levels and the measured ambient sound levels were compared with the City of Carpinteria Code of Ordinances and “Environmental Review Guidelines” for “Temporary Construction Noise” limit of five decibels above the ambient level of the area. The calculated noise level increase ranged from 0 decibels to 4.5 decibels at the adjacent properties. These increases are below the allowable noise level increase of five decibels. Therefore, noise mitigation is not recommended during the demolition activities for the decommissioning of the Carpinteria Plant.



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**Appendix A      Glossary of Acoustical Terms**

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## **Ambient Noise**

The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources both near and far.

## **Average Sound Level**

See Equivalent-Continuous Sound Level

## **A-Weighted Sound Level, dB(A)**

The sound level obtained by use of A-weighting. Weighting systems were developed to measure sound in a way that more closely mimics the ear's natural sensitivity relative to frequency so that the instrument is less sensitive to noise at frequencies where the human ear is less sensitive and more sensitive at frequencies where the human ear is more sensitive.

## **C-Weighted Sound Level, dBC**

The sound level obtained by use of C-weighting. Follows the frequency sensitivity of the human ear at very high noise levels. The C-weighting scale is quite flat and therefore includes much more of the low-frequency range of sounds than the A and B scales. In some jurisdictions, C-weighted sound limits are used to limit the low-frequency content of noise sources.

## **Community Noise Equivalent Level (CNEL)**

A 24-hour A-weighted average sound level which takes into account the fact that a given level of noise may be more or less tolerable depending on when it occurs. The CNEL measure of noise exposure weights average hourly noise levels by 5 dB for the evening hours (between 7:00 pm and 10:00 pm), and 10 dB between 10:00 pm and 7:00 am, then combines the results with the daytime levels to produce the final CNEL value. It is measured in decibels, dB.

## **Day-Night Average Sound Level (Ldn)**

A measure of noise exposure level that is similar to CNEL except that there is no weighting applied to the evening hours of 7:00 pm to 10:00 pm. It is measured in decibels, dB.

## **Daytime Average Sound Level**

The time-averaged A-weighted sound level measured between the hours of 7:00 am to 7:00 pm. It is measured in decibels, dB.

## **Decay Rate**

The time taken for the sound pressure level at a given frequency to decrease in a room. It is measured in decibels per second, dB/s.

## **Decibel (dB)**

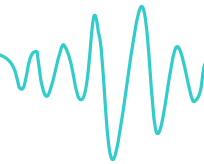
The basic unit of measurement for sound level.

## **Direct Sound**

Sound that reaches a given location in a direct line from the source without any reflections.

## **Divergence**

The spreading of sound waves from a source in a free field, resulting in a reduction in sound pressure level with increasing distance from the source.



## **Energy Basis**

This refers to the procedure of summing or averaging sound pressure levels on the basis of their squared pressures. This method involves the conversion of decibels to pressures, then performing the necessary arithmetic calculations, and finally changing the pressure back to decibels.

## **Equivalent-Continuous Sound Level (Leq)**

The average sound level measured over a specified time period. It is a single-number measure of time-varying noise over a specified time period. It is the level of a steady sound that, in a stated time period and at a stated location, has the same A-Weighted sound energy as the time-varying sound. For example, a person who experiences an Leq of 60 dB(A) for a period of 10 minutes standing next to a busy street is exposed to the same amount of sound energy as if he had experienced a constant noise level of 60 dB(A) for 10 minutes rather than the time-varying traffic noise level. It is measured in decibels, dB.

## **Fast Response**

A setting on the sound level meter that determines how sound levels are averaged over time. A fast sound level is always more strongly influenced by recent sounds, and less influenced by sounds occurring in the distant past, than the corresponding slow sound level. For the same non-steady sound, the maximum fast sound level is generally greater than the corresponding maximum slow sound level. Fast response is typically used to measure impact sound levels.

## **Field Impact Insulation Class (FIIC)**

A single number rating similar to the impact insulation class except that the impact sound pressure levels are measured in the field.

## **Field Sound Transmission Class (FSTC)**

A single number rating similar to sound transmission class except that the transmission loss values used to derive this class are measured in the field.

## **Flanking Sound Transmission**

The transmission of sound from a room in which a source is located to an adjacent receiving room by paths other than through the common partition. Also, the diffraction of noise around the ends of a barrier.

## **Frequency**

The number of oscillations per second of a sound wave

## **Hourly Average Sound Level (HNL)**

The equivalent-continuous sound level, Leq, over a 1-hour time period.

## **Impact Insulation Class (IIC)**

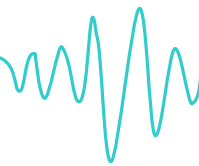
A single number rating used to compare the effectiveness of floor/ceiling assemblies in providing reduction of impact-generated sound such as the sound of a person's walking across the upstairs floor.

## **Impact Noise**

The noise that results when two objects collide.

## **Impulse Noise**

Noise of a transient nature due to the sudden impulse of pressure like that created by a gunshot or balloon bursting.



## **Insertion Loss**

The decrease in sound power level measured at the location of the receiver when an element (e.g., a noise barrier) is inserted in the transmission path between the sound source and the receiver.

## **Inverse Square Law**

A rule by which the sound intensity varies inversely with the square of the distance from the source. This results in a 6dB decrease in sound pressure level for each doubling of distance from the source.

## **$L_n$ Sound Level**

Time-varying noise environments may be expressed in terms of the noise level that is exceeded for a certain percentage of the total measurement time. These statistical noise levels are denoted  $L_n$ , where  $n$  is the percent of time. For example, the  $L_{50}$  is the noise level exceeded for 50% of the time. For a 1-hour measurement period, the  $L_{50}$  would be the noise level exceeded for a cumulative period of 30 minutes in that hour.

## **Masking**

The process by which the threshold of hearing for one sound is raised by the presence of another sound.

## **Maximum Sound Level ( $L_{max}$ )**

The greatest sound level measured on a sound level meter during a designated time interval or event.

## **NC Curves (Noise Criterion Curves)**

A system for rating the noisiness of an occupied indoor space. An actual octave-band spectrum is compared with a set of standard NC curves to determine the NC level of the space.

## **Noise Isolation Class (NIC)**

A single number rating derived from the measured values of noise reduction between two enclosed spaces that are connected by one or more partitions. Unlike STC or NNNIC, this rating is not adjusted or normalized to a measured or standard reverberation time.

## **Noise Reduction**

The difference in sound pressure level between any two points.

## **Noise Reduction Coefficient (NRC)**

A single number rating of the sound absorption properties of a material. It is the average of the sound absorption coefficients at 250, 500, 1000, and 2000 Hz, rounded to the nearest multiple of 0.05.

## **Normalized Noise Isolation Class (NNIC)**

A single number rating similar to the noise isolation class except that the measured noise reduction values are normalized to a reverberation time of 0.5 seconds.

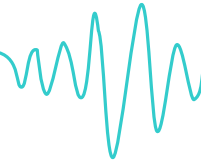
## **Octave**

The frequency interval between two sounds whose frequency ratio is 2. For example, the frequency interval between 500 Hz and 1,000 Hz is one octave.

## **Octave-Band Sound Level**

For an octave frequency band, the sound pressure level of the sound contained within that band.





## **One-Third Octave**

The frequency interval between two sounds whose frequency ratio is  $2^{1/3}$ . For example, the frequency interval between 200 Hz and 250 Hz is one-third octave.

## **One-Third-Octave-Band Sound Level**

For a one-third-octave frequency band, the sound pressure level of the sound contained within that band.

## **Outdoor-Indoor Transmission Class (OITC)**

A single number rating used to compare the sound insulation properties of building façade elements. This rating is designed to correlate with subjective impressions of the ability of façade elements to reduce the overall loudness of ground and air transportation noise.

## **Peak Sound Level (Lpk)**

The maximum instantaneous sound level during a stated time period or event.

## **Pink Noise**

Noise that has approximately equal intensities at each octave or one-third-octave band.

## **Point Source**

A source that radiates sound as if from a single point.

## **RC Curves (Room Criterion Curves)**

A system for rating the noisiness of an occupied indoor space. An actual octave-band spectrum is compared with a set of standard RC curves to determine the RC level of the space.

## **Real-Time Analyzer (RTA)**

An instrument for the determination of a sound spectrum.

## **Receiver**

A person (or persons) or equipment which is affected by noise.

## **Reflected Sound**

Sound that persists in an enclosed space as a result of repeated reflections or scattering. It does not include sound that travels directly from the source without reflections.

## **Reverberation**

The persistence of a sound in an enclosed or partially enclosed space after the source of the sound has stopped, due to the repeated reflection of the sound waves.

## **Room Absorption**

The total absorption within a room due to all objects, surfaces and air absorption within the room. It is measured in Sabins or metric Sabins.

## **Slow Response**

A setting on the sound level meter that determines how measured sound levels are averaged over time. A slow sound level is more influenced by sounds occurring in the distant past than the corresponding fast sound level.

**Sound**

A physical disturbance in a medium (e.g., air) that is capable of being detected by the human ear.

**Sound Absorption Coefficient**

A measure of the sound-absorptive property of a material.

**Sound Insulation**

The capacity of a structure or element to prevent sound from reaching a receiver room either by absorption or reflection.

**Sound Level Meter (SLM)**

An instrument used for the measurement of sound level, with a standard frequency-weighting and standard exponentially weighted time averaging.

**Sound Power Level**

A physical measure of the amount of power a sound source radiates into the surrounding air. It is measured in decibels.

**Sound Pressure Level**

A physical measure of the magnitude of a sound. It is related to the sound's energy. The terms sound pressure level and sound level are often used interchangeably.

**Sound Transmission Class (STC)**

A single number rating used to compare the sound insulation properties of walls, floors, ceilings, windows, or doors. This rating is designed to correlate with subjective impressions of the ability of building elements to reduce the overall loudness of speech, radio, television, and similar noise sources in offices and buildings.

**Spectrum**

The spectrum of a sound wave is a description of its resolution into components, each of different frequency and usually different amplitude.

**Tone**

A sound with a distinct pitch

**Transmission Loss (TL)**

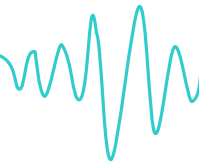
A property of a material or structure describing its ability to reduce the transmission of sound at a particular frequency from one space to another. The higher the TL value the more effective the material or structure is in reducing sound between two spaces. It is measured in decibels.

**White Noise**

Noise that has approximately equal intensities at all frequencies.

**Windscreen**

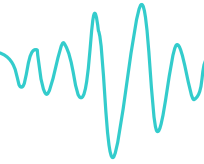
A porous covering for a microphone, designed to reduce the noise generated by the passage of wind over the microphone.



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## **Appendix B      Weather Data**

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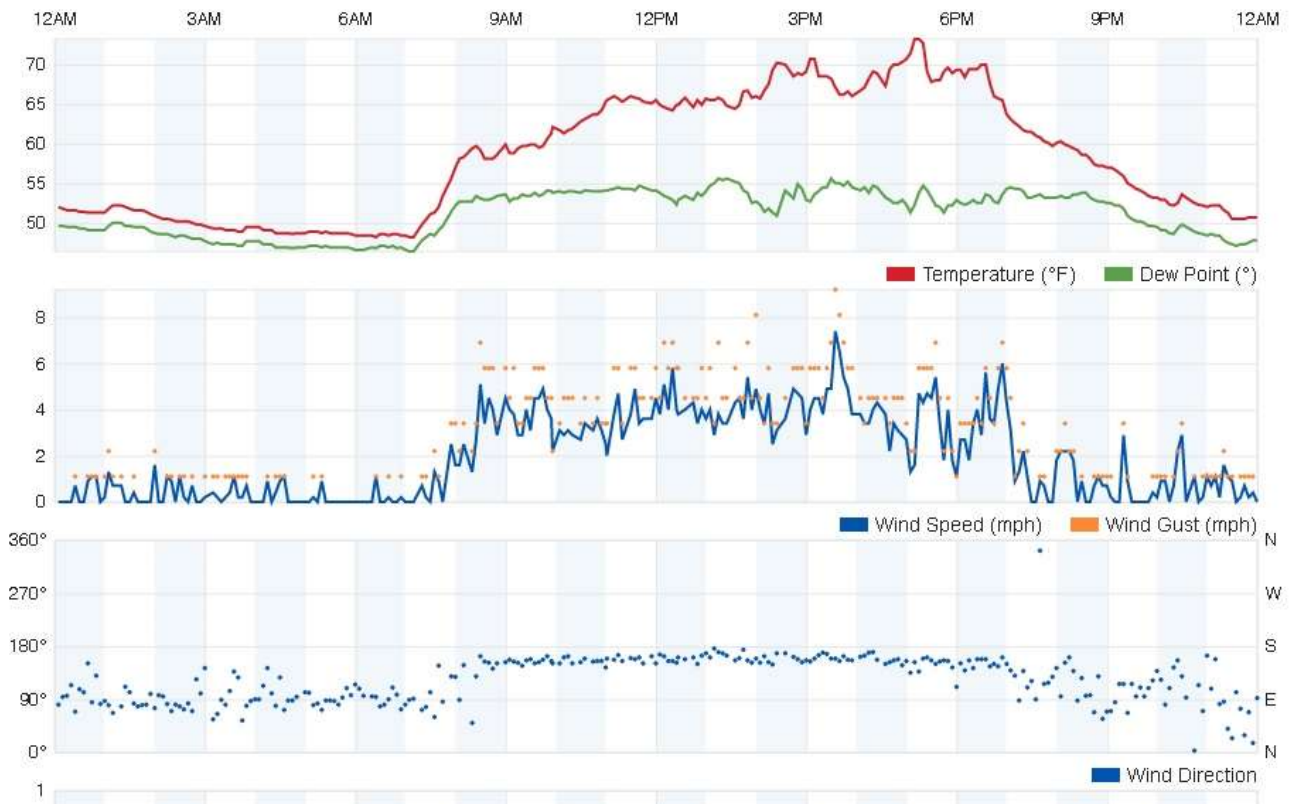
## Summary April 8, 2021

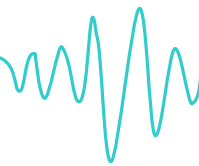
	High	Low	Average
Temperature	73.2 °F	48.0 °F	58.1 °F
Dew Point	55.8 °F	46.4 °F	50.8 °F
Humidity	95 %	47 %	79 %
Precipitation	0.00 in	--	--

	High	Low	Average
Wind Speed	7.4 mph	0.0 mph	1.0 mph
Wind Gust	9.2 mph	--	1.4 mph
Wind Direction	--	--	SSE
Pressure	30.02 in	29.85 in	--

Graph Table

## April 8, 2021



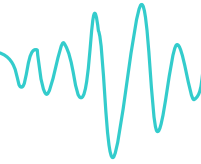


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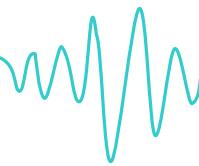
## **Appendix C      Ambient Survey Sound Level Data**

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**Table C-1 Recorded Hourly Average Ambient Sound Levels April 8, 2021 (dBA, L<sub>eq</sub>)**

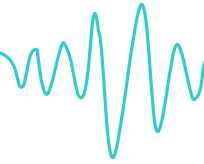
<b>Date/Time</b>	<b>Location 1</b>	<b>Location 2</b>	<b>Location 3</b>
	<b>Sound Level (dBA)</b>	<b>Sound Level (dBA)</b>	<b>Sound Level (dBA)</b>
12:00:00 AM	55.7	51.0	53.0
1:00:00 AM	54.4	49.3	52.3
2:00:00 AM	55.9	50.8	52.0
3:00:00 AM	58.0	50.7	56.3
4:00:00 AM	61.9	52.7	56.1
5:00:00 AM	65.0	55.3	56.6
6:00:00 AM	65.7	57.5	56.7
7:00:00 AM	66.4	57.3	62.6
8:00:00 AM	65.4	55.9	54.5
9:00:00 AM	64.9	57.1	56.5
10:00:00 AM	65.7	51.9	65.3
11:00:00 AM	65.3	54.1	67.2
12:00:00 PM	65.6	49.5	58.4
1:00:00 PM	64.3	48.7	52.9
2:00:00 PM	66.9	50.6	53.6
3:00:00 PM	65.6	54.4	74.2
4:00:00 PM	64.7	50.8	49.5
5:00:00 PM	64.3	52.6	62.7
6:00:00 PM	63.9	59.4	68.0
7:00:00 PM	62.2	57.1	61.3
8:00:00 PM	61.2	54.6	52.9
9:00:00 PM	60.2	55.5	73.0
10:00:00 PM	59.7	53.6	52.3
11:00:00 PM	57.4	51.6	51.4



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## **Appendix D      Noise Source and Noise Contribution Sound Level Data**

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**Table D-1 Scenario 1 Noise Modeling Equipment Noise Source Input**

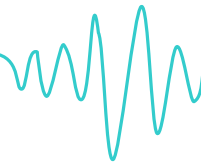
		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9

**Table D-2 Scenario 2 Noise Modeling Equipment Noise Source Input**

		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9
Boom Lift	dB	124.6	120.6	115.6	116.6	115.6	111.6	112.6	110.6	103.6
	dB(A)	119.0	94.4	99.5	108.0	112.4	111.6	113.8	111.5	102.5
Dozer	dB	126.8	125.0	117.0	115.0	115.0	114.0	111.0	110.0	101.0
	dB(A)	118.9	98.8	100.9	106.4	111.8	114.0	112.2	111.0	99.9
Backhoe	dB	122.3	120.5	112.5	110.5	110.5	109.5	106.5	105.5	96.5
	dB(A)	114.4	94.3	96.4	101.9	107.3	109.5	107.7	106.5	95.4
Chainsaw	dB	121.2	112.2	112.1	111.7	112.3	112.0	111.8	112.1	112.2
	dB(A)	119.0	86.0	96.0	103.0	109.0	112.0	113.0	113.0	111.0

**Table D-3 Scenario 3 Noise Modeling Equipment Noise Source Input**

		Sum	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Excavator	dB	126.7	123.0	121.0	117.0	117.0	114.0	110.0	104.0	102.0
	dB(A)	118.9	96.8	104.9	108.4	113.8	114.0	111.2	105.0	100.9
Loader	dB	102.6	98.0	97.0	93.0	92.0	92.0	91.0	84.0	77.0
	dB(A)	96.8	71.8	80.9	84.4	88.8	92.0	92.2	85.0	75.9
Dozer	dB	126.8	125.0	117.0	115.0	115.0	114.0	111.0	110.0	101.0
	dB(A)	118.9	98.8	100.9	106.4	111.8	114.0	112.2	111.0	99.9
Grader	dB	124.2	121.0	115.0	115.0	114.0	114.0	113.0	106.0	94.0
	dB(A)	118.7	94.8	98.9	106.4	110.8	114.0	114.2	107.0	92.9
Backhoe	dB	122.3	120.5	112.5	110.5	110.5	109.5	106.5	105.5	96.5
	dB(A)	114.4	94.3	96.4	101.9	107.3	109.5	107.7	106.5	95.4
Soil Compactor	dB	116.7	93.8	98.9	102.4	108.8	111.0	112.2	108.0	100.9
	dB(A)	116.7	67.6	82.8	93.8	105.6	111.0	113.4	109.0	99.8



**Table D-4 Noise Modeling Truck Haul Data Input**

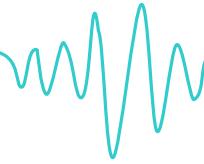
	Levels	Daytime (7-22h)	Nighttime (22-7h)
Hauling Truck Road	dBA	65.9	—

**Table D-5 Noise Modeling Truck Haul Data Input**

Veh/h(d)	p(d)(%)	Veh/h(n)	p(n)%
	100	0	100

**Table D-6 Noise Modeling Truck Haul Data Input**

	Veh/h(d)	p(d)(%)	Veh/h(n)	p(n)%
Automobiles	0	0	0	100
Medium Trucks	0	0	0	0
Heavy Trucks	36	100	0	0
Buses	0	0	0	0
Motorcycles	0	0	0	0
Auxiliary Vehicle	0	0	0	0



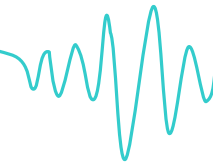
**Table D-7 Scenario 1 Noise Source Contribution at Receptors**

Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution in Descending Order	Source type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	53.2	54.9	51.4	–	Road	Road	50.9	51.4	51.4	–
					Excavator1	Area	46.3	49.4	–	–
					Excavator2	Area	46.3	49.4	–	–
					Loader	Area	24.7	27.7	–	–
2	52.6	54.4	50.3	–	Road	Road	49.9	50.3	50.3	–
					Excavator1	Area	46.2	49.3	–	–
					Excavator2	Area	46.2	49.3	–	–
					Loader	Area	24.5	27.5	–	–
3	51.2	53.5	46.6	–	Excavator1	Area	46.5	49.5	–	–
					Excavator2	Area	46.5	49.5	–	–
					Road	Road	46.1	46.6	46.6	–
					Loader	Area	24.9	27.9	–	–
4	52.7	55.4	45.6	–	Excavator1	Area	48.8	51.8	–	–
					Excavator2	Area	48.8	51.8	–	–
					Road	Road	45.1	45.6	45.6	–
					Loader	Area	27.1	30.2	–	–
5	57.2	60.1	44.0	–	Excavator1	Area	54.0	57.0	–	–
					Excavator2	Area	54.0	57.0	–	–
					Road	Road	43.5	44.0	44.0	–
					Loader	Area	32.7	35.7	–	–
6	56.9	59.9	40.0	–	Excavator1	Area	53.8	56.8	–	–
					Excavator2	Area	53.8	56.8	–	–
					Road	Road	39.5	40.0	40.0	–
					Loader	Area	32.4	35.4	–	–
7	52.1	55.1	36.4	–	Excavator1	Area	49.0	52.0	–	–
					Excavator2	Area	49.0	52.0	–	–
					Road	Road	35.9	36.4	36.4	–
					Loader	Area	26.9	29.9	–	–
8	58.9	60.4	57.6	–	Road	Road	57.1	57.6	57.6	–
					Excavator1	Area	51.0	54.1	–	–
					Excavator2	Area	51.0	54.1	–	–
					Loader	Area	29.6	32.6	–	–
9	53.2	55.9	45.8	–	Excavator1	Area	49.4	52.4	–	–
					Excavator2	Area	49.4	52.4	–	–
					Road	Road	45.4	45.8	45.8	–
					Loader	Area	27.9	30.3	–	–
10	48.3	51.1	39.2	–	Excavator1	Area	44.8	47.8	–	–

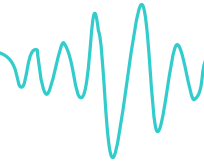


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Environmental Noise Control



					Excavator2	Area	44.8	47.8	—	—
					Road	Road	38.7	39.2	39.2	—
					Loader	Area	23	26	—	—
					Excavator1	Area	44.3	47.3	—	—
<b>11</b>	47.8	50.6	38.5	—	Excavator2	Area	44.3	47.3	—	—
					Road	Road	38	38.5	38.5	—
					Loader	Area	22.5	25.5	—	—
					Excavator1	Area	42.7	45.7	—	—
<b>12</b>	46.1	48.9	35.5	—	Excavator2	Area	42.7	45.7	—	—
					Road	Road	35	35.5	35.5	—
					Loader	Area	20.5	23.5	—	—
					Excavator1	Area	35	38	—	—
<b>13</b>	38.3	41.2	27.4	—	Excavator2	Area	35	38	—	—
					Road	Road	26.9	27.4	27.4	—
					Loader	Area	11.5	14.5	—	—
					Excavator1	Area	32.6	35.6	—	—
<b>14</b>	37.1	39.5	32.1	—	Excavator2	Area	32.6	35.6	—	—
					Road	Road	31.6	32.1	32.1	—
					Loader	Area	9	12	—	—
					Excavator1	Area	31.8	34.8	—	—
<b>15</b>	35.2	38.0	24.2	—	Excavator2	Area	31.8	34.8	—	—
					Road	Road	23.8	24.2	24.2	—
					Loader	Area	8.2	11.2	—	—
					Excavator1	Area	31.8	34.8	—	—

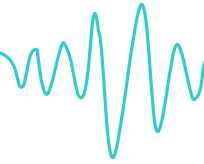


**Table D-8 Scenario 2 Noise Source Contribution at Receptors**

Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution Descending Order	Source in type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	52.5	53.9	51.6	–	Backhoe 1	Area	34.9	37.9	–	–
					Backhoe 2	Area	34.9	37.9	–	–
					Boom Lift	Area	38.7	41.7	–	–
					Chainsaw 1	Area	34.8	37.8	–	–
					Chainsaw 2	Area	33.2	36.2	–	–
					Chainsaw 2	Area	34.6	37.6	–	–
					Chainsaw 2	Area	31.5	34.5	–	–
					Dozer	Area	39.4	42.4	–	–
					Excavator 1	Area	39.4	42.4	–	–
					Excavator2	Area	39.4	42.4	–	–
					Loader 2	Area	17.7	20.7	–	–
					Loader 1	Area	17.7	20.7	–	–
					Road	Road	51.1	51.6	51.6	–
2	51.9	53.3	50.7	–	Backhoe 1	Area	35.1	38.1	–	–
					Backhoe 2	Area	35.1	38.1	–	–
					Boom Lift	Area	38.9	41.9	–	–
					Chainsaw 1	Area	32.2	35.2	–	–
					Chainsaw 2	Area	33.5	36.5	–	–
					Chainsaw 3	Area	34.5	37.5	–	–
					Chainsaw 4	Area	31	34	–	–
					Dozer	Area	39.6	42.6	–	–
					Excavator 1	Area	39.5	42.5	–	–
					Excavator2	Area	39.5	42.5	–	–
					Loader 2	Area	17.9	20.9	–	–
					Loader 1	Area	17.9	20.9	–	–
					Road	Road	50.2	50.7	50.7	–
3	49.5	51.4	47.2	–	Backhoe 1	Area	34.5	37.5	–	–
					Backhoe 2	Area	34.5	37.5	–	–
					Boom Lift	Area	38.2	41.2	–	–
					Chainsaw 1	Area	31	34	–	–
					Chainsaw 2	Area	32.9	35.9	–	–
					Chainsaw 3	Area	33.6	36.6	–	–
					Chainsaw 4	Area	30.8	33.8	–	–
					Dozer	Area	39	42	–	–
					Excavator 1	Area	38.9	41.9	–	–
					Excavator2	Area	38.9	41.9	–	–

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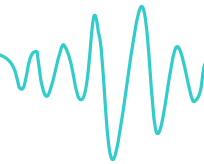
Environmental Noise Control



4	48.8	50.5	46.9	–	Loader 2	Area	17.3	20.3	–	–
					Loader 1	Area	17.3	20.3	–	–
					Road	Road	46.8	47.2	47.2	–
					Backhoe 1	Area	32.8	35.8	–	–
					Backhoe 2	Area	32.8	35.8	–	–
					Boom Lift	Area	36.9	39.9	–	–
					Chainsaw 1	Area	32.3	35.3	–	–
					Chainsaw 2	Area	31.4	34.5	–	–
					Chainsaw 3	Area	31.8	34.8	–	–
					Chainsaw 4	Area	30.5	33.5	–	–
					Dozer	Area	37.3	40.3	–	–
					Excavator 1	Area	37.5	40.5	–	–
5	50.2	52.2	47.4	–	Excavator2	Area	37.5	40.5	–	–
					Loader 2	Area	15.6	18.6	–	–
					Loader 1	Area	15.6	18.6	–	–
					Road	Road	46.4	46.9	46.9	–
					Backhoe 1	Area	35.2	38.2	–	–
					Backhoe 2	Area	35.2	38.2	–	–
					Boom Lift	Area	39.5	42.5	–	–
					Chainsaw 1	Area	34.8	37.8	–	–
					Chainsaw 2	Area	35.2	38.2	–	–
					Chainsaw 3	Area	35.4	38.4	–	–
					Chainsaw 4	Area	33.0	36.0	–	–
					Dozer	Area	39.7	42.7	–	–
6	50.6	53.0	46.8	–	Excavator 1	Area	39.8	42.8	–	–
					Excavator2	Area	39.8	42.8	–	–
					Loader 2	Area	18.2	21.2	–	–
					Loader 1	Area	18.2	21.2	–	–
					Road	Road	46.9	47.4	47.4	–
					Backhoe 1	Area	36.8	39.8	–	–
					Backhoe 2	Area	36.8	39.8	–	–
					Boom Lift	Area	40.9	43.9	–	–
					Chainsaw 1	Area	38	41.1	–	–
					Chainsaw 2	Area	35.9	38.9	–	–
					Chainsaw 3	Area	33.1	36.1	–	–
					Chainsaw 4	Area	32.7	35.7	–	–
					Dozer	Area	41.3	44.3	–	–
					Excavator 1	Area	41.1	44.1	–	–
					Excavator2	Area	41.1	44.1	–	–
					Loader 2	Area	19.7	22.7	–	–
					Loader 1	Area	19.7	22.7	–	–
					Road	Road	46.4	46.8	46.8	–

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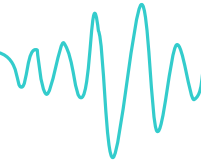
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7	49.4	51.8	44.8	–	Backhoe 1	Area	35.5	38.5	–	–
					Backhoe 2	Area	35.5	38.5	–	–
					Boom Lift	Area	39.6	42.6	–	–
					Chainsaw 1	Area	37.6	40.6	–	–
					Chainsaw 2	Area	34.9	37.9	–	–
					Chainsaw 3	Area	32.8	35.8	–	–
					Chainsaw 4	Area	32.4	35.4	–	–
					Dozer	Area	40.0	43.0	–	–
					Excavator 1	Area	40.3	43.3	–	–
					Excavator 2	Area	40.3	43.3	–	–
					Loader 2	Area	18.2	21.2	–	–
					Loader 1	Area	18.2	21.2	–	–
					Road	Road	44.4	44.8	44.8	–
					Backhoe 1	Area	38.4	41.4	–	–
8	58.2	59.2	57.9	–	Backhoe 2	Area	38.4	41.4	–	–
					Boom Lift	Area	42.4	45.4	–	–
					Chainsaw 1	Area	37.3	40.3	–	–
					Chainsaw 2	Area	36.5	39.5	–	–
					Chainsaw 3	Area	38.5	41.5	–	–
					Chainsaw 4	Area	34.6	37.7	–	–
					Dozer	Area	42.9	45.9	–	–
					Excavator 1	Area	42.8	45.8	–	–
					Excavator 2	Area	42.8	45.8	–	–
					Loader 2	Area	21.3	24.3	–	–
					Loader 1	Area	21.3	24.3	–	–
					Road	Road	57.4	57.9	57.9	–
					Backhoe 1	Area	41.1	44.2	–	–
					Backhoe 2	Area	41.1	44.2	–	–
9	54.4	57.0	47.9	–	Boom Lift	Area	45.5	48.5	–	–
					Chainsaw 1	Area	41.1	44.1	–	–
					Chainsaw 2	Area	38.9	41.9	–	–
					Chainsaw 3	Area	43.6	46.6	–	–
					Chainsaw 4	Area	38.9	41.9	–	–
					Dozer	Area	45.6	48.7	–	–
					Excavator 1	Area	45.4	48.4	–	–
					Excavator 2	Area	45.4	48.4	–	–
					Loader 2	Area	24.1	27.1	–	–
					Loader 1	Area	24.1	27.1	–	–
					Road	Road	47.4	47.9	47.9	–
					Backhoe 1	Area	40.6	43.6	–	–
					Backhoe 2	Area	40.6	43.6	–	–
					Boom Lift	Area	44.9	48	–	–

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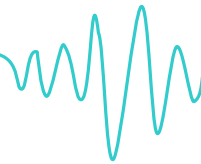


11	52.3	55.1	41.3	—	Chainsaw 1	Area	36.7	39.7	—	—
					Chainsaw 2	Area	36.4	39.4	—	—
					Chainsaw 3	Area	45.3	48.3	—	—
					Chainsaw 4	Area	40.8	43.8	—	—
					Dozer	Area	45.1	48.1	—	—
					Excavator 1	Area	45.1	48.1	—	—
					Excavator 2	Area	45.1	48.1	—	—
					Loader 2	Area	23.3	26.3	—	—
					Loader 1	Area	23.3	26.3	—	—
					Road	Road	41.8	42.3	42.3	—
					Backhoe 1	Area	39.3	42.3	—	—
					Backhoe 2	Area	39.3	42.3	—	—
					Boom Lift	Area	43.6	46.7	—	—
12	66.2	69.2	40.8	—	Chainsaw 1	Area	35.1	38.1	—	—
					Chainsaw 2	Area	34.9	37.9	—	—
					Chainsaw 3	Area	44.2	47.2	—	—
					Chainsaw 4	Area	40.3	43.3	—	—
					Dozer	Area	43.8	46.8	—	—
					Excavator 1	Area	43.8	46.8	—	—
					Excavator 2	Area	43.8	46.8	—	—
					Loader 2	Area	22.1	25.1	—	—
					Loader 1	Area	22.1	25.1	—	—
					Road	Road	40.9	41.3	41.3	—
					Backhoe 1	Area	53.2	56.2	—	—
					Backhoe 2	Area	53.2	56.2	—	—
					Boom Lift	Area	57.8	60.8	—	—
13	42.1	45.0	31.6	—	Chainsaw 1	Area	41.9	44.9	—	—
					Chainsaw 2	Area	48.3	51.3	—	—
					Chainsaw 3	Area	48.9	51.9	—	—
					Chainsaw 4	Area	61.1	64.1	—	—
					Dozer	Area	57.7	60.7	—	—
					Excavator 1	Area	57.4	60.4	—	—
					Excavator 2	Area	57.4	60.4	—	—
					Loader 2	Area	35.9	38.9	—	—
					Loader 1	Area	35.9	38.9	—	—
					Road	Road	40.3	40.8	40.8	—
					Backhoe 1	Area	29	32.0	—	—
					Backhoe 2	Area	29	32.0	—	—
					Boom Lift	Area	32.9	35.9	—	—
					Chainsaw 1	Area	27.2	30.2	—	—
					Chainsaw 2	Area	34.4	37.4	—	—

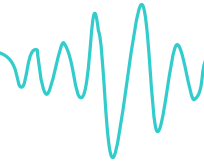


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						Chainsaw 3	Area	21.6	24.6	—	—
						Chainsaw 4	Area	24.6	27.6	—	—
						Dozer	Area	33.5	36.5	—	—
						Excavator 1	Area	34.4	37.4	—	—
						Excavator 2	Area	34.4	37.4	—	—
						Loader 2	Area	10.9	13.9	—	—
						Loader 1	Area	10.9	13.9	—	—
						Road	Road	31.1	31.6	31.6	—
						Backhoe 1	Area	26.6	29.7	—	—
						Backhoe 2	Area	26.6	29.7	—	—
						Boom Lift	Area	30.6	33.6	—	—
						Chainsaw 1	Area	22.9	25.9	—	—
						Chainsaw 2	Area	27.4	30.4	—	—
						Chainsaw 3	Area	21.7	24.7	—	—
14	40.2	42.7	34.7	—		Chainsaw 4	Area	23.7	26.7	—	—
						Dozer	Area	31.1	34.2	—	—
						Excavator 1	Area	32.1	35.1	—	—
						Excavator 2	Area	32.1	35.1	—	—
						Loader 2	Area	8.6	11.6	—	—
						Loader 1	Area	8.6	11.6	—	—
						Road	Road	34.2	34.7	34.7	—
						Backhoe 1	Area	24.8	27.8	—	—
						Backhoe 2	Area	24.8	27.8	—	—
						Boom Lift	Area	28.5	31.5	—	—
						Chainsaw 1	Area	21.3	24.3	—	—
						Chainsaw 2	Area	22.8	25.8	—	—
						Chainsaw 3	Area	18.4	21.4	—	—
15	37.3	40.1	28.1	—		Chainsaw 4	Area	20.8	23.8	—	—
						Dozer	Area	29.3	32.3	—	—
						Excavator 1	Area	30.1	33.1	—	—
						Excavator 2	Area	30.1	33.1	—	—
						Loader 2	Area	6.5	9.5	—	—
						Loader 1	Area	6.5	9.5	—	—
						Road	Road	27.6	28.1	28.1	—

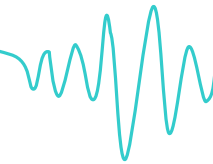


**Table D-9 Scenario 3 Noise Source Contribution at Receptors**

Receiver	CNEL/dB (A)	Ld/dB(A)	Le/dB(A)	Ln/dB(A)	Equipment Source Contribution Descending Order	Source in type	CNEL dB(A)	Ld dB(A)	Le dB(A)	Ln dB(A)
1	54.4	56.4	51.4	–	Backhoe 1	Area	40.3	43.3	–	–
					Backhoe 2	Area	40.3	43.3	–	–
					Dozer	Area	44.8	47.8	–	–
					Grader	Area	45.1	48.1	–	–
					Excavator1	Area	46.6	49.6	–	–
					Loader 1	Area	23.2	26.2	–	–
					Loader 2	Area	23.2	26.2	–	–
					Soil Compactor	Area	43	46	–	–
					Road	Road	50.9	51.4	51.4	–
2	53.3	55.3	50.3	–	Backhoe 1	Area	39	42	–	–
					Backhoe 2	Area	39	42	–	–
					Dozer	Area	43.5	46.6	–	–
					Grader	Area	44	47	–	–
					Excavator1	Area	45.5	48.5	–	–
					Loader 1	Area	22	25	–	–
					Loader 2	Area	22	25	–	–
					Soil Compactor	Area	41.9	44.9	–	–
					Road	Road	49.9	50.3	50.3	–
3	51.5	53.9	46.6	–	Backhoe 1	Area	38.4	41.5	–	–
					Backhoe 2	Area	38.5	41.5	–	–
					Dozer	Area	43	46	–	–
					Grader	Area	43.3	46.3	–	–
					Excavator1	Area	44.9	47.9	–	–
					Loader 1	Area	21.4	24.4	–	–
					Loader 2	Area	21.4	24.4	–	–
					Soil Compactor	Area	41.1	44.1	–	–
					Road	Road	46.1	46.6	46.6	–
4	49.6	51.9	45.6	–	Backhoe 1	Area	36.3	39.3	–	–
					Backhoe 2	Area	36.3	39.3	–	–
					Dozer	Area	40.8	43.8	–	–
					Grader	Area	40.9	43.9	–	–
					Excavator1	Area	43	46	–	–
					Loader 1	Area	18.9	22	–	–
					Loader 2	Area	18.9	22	–	–
					Soil Compactor	Area	38.3	41.3	–	–
					Road	Road	45.1	45.6	45.6	–
5	50.1	52.7	44.0	–	Backhoe 1	Area	37.5	40.5	–	–

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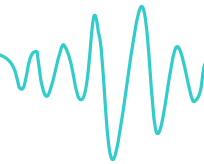
Environmental Noise Control



						Backhoe 2	Area	37.5	40.5	—	—
						Dozer	Area	42	45.1	—	—
						Grader	Area	42.3	45.3	—	—
						Excavator1	Area	44.1	47.1	—	—
						Loader 1	Area	20.3	23.3	—	—
						Loader 2	Area	20.3	23.3	—	—
						Soil Compactor	Area	40	43	—	—
						Road	Road	43.5	44	44	—
6	47.8	50.5	40.0	—		Backhoe 1	Area	35.6	38.6	—	—
						Backhoe 2	Area	35.6	38.6	—	—
						Dozer	Area	40.1	43.1	—	—
						Grader	Area	40.1	43.2	—	—
						Excavator1	Area	42.4	45.4	—	—
						Loader 1	Area	18.2	21.2	—	—
						Loader 2	Area	18.2	21.2	—	—
						Soil Compactor	Area	37.5	40.5	—	—
						Road	Road	39.5	40	40	—
7	46.3	49.1	36.4	—		Backhoe 1	Area	34.4	37.4	—	—
						Backhoe 2	Area	34.4	37.4	—	—
						Dozer	Area	38.9	41.9	—	—
						Grader	Area	38.9	41.9	—	—
						Excavator1	Area	41.3	44.3	—	—
						Loader 1	Area	16.9	19.9	—	—
						Loader 2	Area	16.9	19.9	—	—
						Soil Compactor	Area	36	39	—	—
						Road	Road	35.9	36.4	36.4	—
8	60.6	62.7	57.6	—		Backhoe 1	Area	46.6	49.6	—	—
						Backhoe 2	Area	46.7	49.7	—	—
						Dozer	Area	51.2	54.2	—	—
						Grader	Area	51.4	54.4	—	—
						Excavator1	Area	52.7	55.7	—	—
						Loader 1	Area	29.5	32.5	—	—
						Loader 2	Area	29.5	32.5	—	—
						Soil Compactor	Area	49.5	52.5	—	—
						Road	Road	57.1	57.6	57.6	—
9	71.1	74.1	45.8	—		Backhoe 1	Area	59.9	62.9	—	—
						Backhoe 2	Area	59.8	62.8	—	—
						Dozer	Area	64.1	67.1	—	—
						Grader	Area	64.2	67.2	—	—
						Excavator1	Area	65.8	68.8	—	—
						Loader 1	Area	42.3	45.3	—	—
						Loader 2	Area	42.3	45.3	—	—

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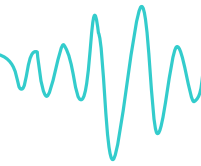
Environmental Noise Control



					Soil Compactor	Area	62.4	65.4	–	–
					Road	Road	45.4	45.8	45.8	–
10	66.2	69.2	39.2	–	Backhoe 1	Area	55	58	–	–
					Backhoe 2	Area	54.7	57.7	–	–
					Dozer	Area	59.1	62.1	–	–
					Grader	Area	59.4	62.4	–	–
					Excavator1	Area	60.9	63.9	–	–
					Loader 1	Area	37.5	40.5	–	–
					Loader 2	Area	37.5	40.5	–	–
					Soil Compactor	Area	57.7	60.8	–	–
					Road	Road	38.7	39.2	39.2	–
					Backhoe 1	Area	49.8	52.8	–	–
11	61.1	64.1	38.5	–	Backhoe 2	Area	49.7	52.7	–	–
					Dozer	Area	54.1	57.2	–	–
					Grader	Area	54.4	57.4	–	–
					Excavator1	Area	55.8	58.8	–	–
					Loader 1	Area	32.5	35.5	–	–
					Loader 2	Area	32.5	35.5	–	–
					Soil Compactor	Area	52.6	55.7	–	–
					Road	Road	38.1	38.5	38.5	–
					Backhoe 1	Area	39.5	42.5	–	–
					Backhoe 2	Area	39.5	42.5	–	–
12	51.1	54.1	35.5	–	Dozer	Area	44	47	–	–
					Grader	Area	44.1	47.1	–	–
					Excavator1	Area	46.2	49.2	–	–
					Loader 1	Area	22.2	25.2	–	–
					Loader 2	Area	22.2	25.2	–	–
					Soil Compactor	Area	41.8	44.8	–	–
					Road	Road	35	35.5	35.5	–
					Backhoe 1	Area	21.8	24.8	–	–
					Backhoe 2	Area	21.8	24.8	–	–
					Dozer	Area	26.3	29.3	–	–
13	33.9	36.5	27.3	–	Grader	Area	25.2	28.2	–	–
					Excavator1	Area	29.1	32.1	–	–
					Loader 1	Area	3.4	6.4	–	–
					Loader 2	Area	3.4	6.4	–	–
					Soil Compactor	Area	19.7	22.7	–	–
					Road	Road	26.9	27.3	27.3	–
					Backhoe 1	Area	21.8	24.8	–	–
					Backhoe 2	Area	21.8	24.8	–	–
					Dozer	Area	26.3	29.4	–	–
					Backhoe 1	Area	21.8	24.8	–	–
14	35.3	37.4	32.1	–	Backhoe 2	Area	21.8	24.8	–	–
					Dozer	Area	26.3	29.4	–	–
					Backhoe 1	Area	21.8	24.8	–	–

# Behrens and Associates, Inc.

Environmental Noise Control



						Grader	Area	25.2	28.2	—	—
						Excavator1	Area	29	32.1	—	—
						Loader 1	Area	3.4	6.5	—	—
						Loader 2	Area	3.4	6.5	—	—
						Soil Compactor	Area	19.7	22.7	—	—
						Road	Road	31.6	32.1	32.1	—
						Backhoe 1	Area	20.5	23.5	—	—
						Backhoe 2	Area	20.5	23.5	—	—
						Dozer	Area	25	28	—	—
						Grader	Area	23.7	26.7	—	—
15	32.2	34.9	24.2	—		Excavator1	Area	27.7	30.7	—	—
						Loader 1	Area	2	5	—	—
						Loader 2	Area	2	5	—	—
						Soil Compactor	Area	18.1	21.1	—	—
						Road	Road	23.7	24.2	24.2	—



## **Appendix H**

### Traffic Analysis

**Appendix H – Traffic Analysis**

<b><u>Section</u></b>	<b><u>Page #</u></b>
Traffic, Parking and VMT Analysis.....	H-1



# **ASSOCIATED TRANSPORTATION ENGINEERS**

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June 16, 2021

21043L03

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## ***TRAFFIC, PARKING AND VMT ANALYSIS FOR THE DECOMMISSIONING AND REMEDIATION OF THE CARPINTERIA OIL AND GAS PROCESSING FACILITIES – CITY OF CARPINTERIA***

Associated Transportation Engineers (ATE) has prepared the following traffic, parking and Vehicle Miles Travelled (VMT) analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities (the “Project”), located in the City of Carpinteria. The study reviews baseline traffic conditions in the Project study area, evaluates the effects of the Project’s proposed demolition and haul activities, and recommends traffic and parking management strategies for the demolition phase. A discussion of potential Vehicle Miles Traveled (VMT) impacts is also provided.

### **PROJECT DESCRIPTION**

The Project involves the demolition and remediation of the existing oil and gas facilities located in the Carpinteria Buffs area of the City, as shown on Figure 1. Access to the site is provided by Dump Road which extends south from Carpinteria Avenue to the site. The demolished materials would be exported from the site via US 101, Carpinteria Avenue, Bailard Avenue and Dump Road.

### **PROJECT OPERATIONAL DATA**

The demolition, soil remediation, and hauling activities are estimated to take approximately 3 years (intermittently) to complete. An estimated total of 5,445 truckloads (including 169 loads for equipment removal, 1,119 loads for surface materials removal, and 4,157 loads for

soil remediation) will be required to transport the various waste streams from the Project site (including steel scrap material, foundation and surface materials, subsurface piping, and remediated soils).

Depending upon the material loaded for hauling, approximately 18-22 tons or 9-16 cubic yards per truckload will fit into each dump truck. A conservative worst-case day utilizing the shortest trucking route to the Waste Management Landfill in Simi Valley or the State Ready Mix site in Oxnard will allow for up to 2.5 trips/day x 16 trucks or approximately 40 truck trips per day to/from the Project site, however, an average day will more likely utilize approximately 16 trucks. Based on this average day, approximately 350 tons (16 trucks x 22 tons) of material will be transferred from the Project site. If 350 tons were loaded on an average hauling day, approximately 16 hauling days will be required to dispose of the total waste from the Project site. However, it is likely that hauling days will be spread out during the course of the Project, resulting in fewer required trips per day. The Project description indicates that haul trucks will be restricted during the morning (7:00 AM - 9:00 AM) and afternoon (4:00 PM - 6:00 PM) commute periods. It is anticipated that 10 to 15 employees would be required at the site for demolition and loading activities.



## **PROPOSED TRUCK ROUTE**

As shown on Figure 2, trucks travelling to the Project site would exit US 101 at the Bailard Avenue interchange, proceed south on Bailard Avenue to Carpinteria Avenue, then west on Carpinteria Avenue to Dump Road. After picking up their loads, the trucks will return to the US 101 southbound on-ramp at the Bailard Avenue interchange via the same route in reverse (see Figures 3).

It is noted that the Project site includes areas north and south of the Union Pacific Railroad (UPRR) tracks. The Project area south of the UPRR is currently used as employee parking and equipment staging in support of the industrial use of the pier. The demolition and remediation project will continue to access this southern area from Dump Road across the UPRR right-of-way as currently occurs. It is anticipated that traffic volumes at the crossing will be at approximately the same levels as currently exist during the demolition and remediation phase compared to current operations.

## EXISTING TRANSPORTATION CONDITIONS

### Street Network

The Project site is served by a network of highways, arterial roadways, and collector streets, as shown on Figure 2. The following text provides a brief description of the major components of the street network.

**US 101**, located north of site, connects the City of Carpinteria with the Santa Barbara-Goleta area to the north and the Ventura-Oxnard area to the south. Access between the Project site and US 101 is provided via the Bailard Avenue interchange located east of the site, and the Casitas Pass Road interchange located west of the site. US 101 is currently being widened to 3 lanes in each direction from Bailard Avenue to Summerland.

**Bailard Avenue**, located east of the Project site, is a two-lane roadway that extends north from Carpinteria Avenue to its terminus north of US 101. Bailard Avenue would provide access between the site to US 101 via a full access interchange.

**Carpinteria Avenue**, located along the Project's northern frontage, is an east-west 2-lane arterial roadway that serves as one of the primary travel routes within the City of Carpinteria. Access to the Project site would be provided via the connection of Dump Road to Carpinteria Avenue.

**Dump Road**, located along the western boundary of the Project site, is a two-lane private road that extends south from Carpinteria to the Chevron site, terminating at the employee parking lots located south of the Union Pacific Railroad (UPRR) tracks. Dump Road would be used by the Project haul trucks and demolition/remediation employees to access the site.

### Existing Intersection Operations

Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. "Levels of Service" (LOS) A through F are used to evaluate intersection operations, with LOS A indicating free flow conditions and LOS F indicating severe congestion (more complete definitions of levels of service are attached). The City of Carpinteria Circulation Element has adopted LOS C as the minimum acceptable operating standard for intersections.

Existing intersection levels of service for the study-area intersections were obtained from the traffic and circulation study completed for the Punto Vista Project<sup>1</sup> located on the Carpinteria Bluffs area east of the Project site. Table 1 lists the existing AM and PM peak hour levels of service for the study-area intersections.

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<sup>1</sup> Revised Traffic, Circulation and Parking Study for the Punto de Vista Project, Associated Transportation Engineers, January 2021.



**Table 1**  
**Existing Intersection Levels of Service**

<b>Intersection</b>	<b>AM Peak Hour LOS</b>	<b>PM Peak Hour LOS</b>
US 101 NB Ramps/Bailard Ave	LOS C	LOS B
US 101 SB Ramps/Bailard Ave	LOS B	LOS C
Carpinteria Ave/Bailard Ave	LOS B	LOS B
Carpinteria Ave/Casitas Pass Rd	LOS C	LOS C

The data presented in Table 1 indicate that the study-area intersections currently operate in the LOS B-C range, which meets the City's LOS C standard.

## **PROJECT TRIP GENERATION**

Trip generation estimates were developed for the Project based on the operational data provided by the applicant (number of employees and employee shifts, number of haul trucks, number of deliveries, etc.). The analysis assumes a 15% carpool rate for employees based on the commute mode split data published by SBCAG for Santa Barbara County (attached). Table 2 shows the trip generation estimates developed for the Project based on the proposed operations.

**Table 2**  
**Project Trip Generation Estimates**

<b>Project Component</b>	<b>Number per Day</b>	<b>Shift Schedule</b>	<b>Trip Generation</b>		
			<b>ADT</b>	<b>AM Peak</b>	<b>PM Peak</b>
Employees (a)	15 per day	7:00 AM – 5:00 PM	26	13	13
Haul Trucks (b)	16 per day	9:00 AM – 4:00 PM	32	0	0
Deliveries (c)	2 per day	9:00 AM – 4:00 PM	4	0	0
<b>Total</b>			<b>62</b>	<b>13</b>	<b>13</b>
<b>Total</b>					

(a) Employees: Trip generation assume 15% carpooling based on SBCAG carpool data. ADT assumes 1 inbound + 1 outbound trip per employee vehicle. Peak hour trips based on arrival/departures during the 7-9 AM and 4-6 PM peak periods.

(b) Trip generation assumes 1 inbound + 1 outbound trip per haul truck with no trips occurring during the AM and PM peak periods based on the proposed restrictions.

(c) Trip generation assumes 1 inbound + 1 outbound trip per delivery vehicle with no trips occurring during the AM and PM peak periods based on the proposed restrictions.

As shown in Table 2, the Project would generate 62 ADT, 13 AM peak hour trips, and 13 PM peak hour trips.

## TRAFFIC THRESHOLDS AND POLICIES

The City of Carpinteria's traffic thresholds and policies were used to assess the consistency of the Project with the City's transportation policies. These thresholds are outlined below.

### *Project Threshold*

If the addition of project traffic to an intersection increases the volume to capacity (V/C) ratio, the seconds of delay, or the number of trips by more than the values provided in the table below, the Project is considered potentially inconsistent.

Significant Changes in Levels of Service	
Intersection Level of Service (Including Project)	Increase Greater Than
LOS A	0.20 V/C Ratio or 10.0 Seconds of Delay
LOS B	0.15 V/C Ratio or 7.5 Seconds of Delay
LOS C	0.10 V/C Ratio or 5.0 Seconds of Delay
LOS D	15 Trips
LOS E	10 Trips
LOS F	5 Trips

### *Cumulative Threshold*

A cumulative policy inconsistency would occur if a development's traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service (A-C) but with cumulative traffic would degrade to or approach LOS D or lower. Substantial is defined as a minimum change of 3 seconds of delay for an intersection forecast to operate at LOS D, a minimum change of 2 seconds of delay for an intersection forecast to operate at LOS E, and a minimum change of 1.5 seconds of delay for an intersection forecast to operate at LOS F.

## TRANSPORTATION CONSISTENCY ANALYSIS

Figures 4 and 5 show the employee travel routes to and from the Project site. As shown, employees travelling from the south would exit US 101 at the Bailard Avenue interchange and then proceed westerly on Carpinteria Avenue to arrive at the Project site (and the same route in reverse when departing the site). Employees travelling from the north would exit US 101 at the Casitas Pass Road interchange and then proceed easterly on Carpinteria Avenue to arrive at the Project site (and the same route in reverse when departing the site). Local Carpinteria traffic would travel to and from the Project site via Carpinteria Avenue.

Tables 3 and 4 list the Project's traffic additions at the US 101/Bailard Avenue interchange and the Carpinteria Avenue/Casitas Pass Road intersection; and identify potential inconsistencies with the City's transportation policies and thresholds.

**Table 3**  
**Project Traffic Additions – AM Peak Hour**

<b><i>Intersection</i></b>	<b>AM LOS</b>	<b>Project-Added Trips(a)</b>	<b>Consistent?</b>
US 101 NB Ramps/Bailard Ave	LOS C	6 PHT	YES
US 101 SB Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave/Casitas Pass Rd	LOS C	7 PHT	YES

(a) Includes Project employee trips. Truck trips restricted during peak hour periods.

**Table 4**  
**Project Traffic Additions – PM Peak Hour**

<b><i>Intersection</i></b>	<b>PM LOS</b>	<b>Project-Added Trips(a)</b>	<b>Consistent?</b>
US 101 NB Ramps/Bailard Ave	LOS B	6 PHT	YES
US 101 SB Ramps/Bailard Ave	LOS C	6 PHT	YES
Carpinteria Ave Ramps/Bailard Ave	LOS B	6 PHT	YES
Carpinteria Ave/Casitas Pass Rd	LOS C	7 PHT	YES

(a) Includes Project employee trips. Truck trips restricted during peak hour periods.

As shown in Tables 3 and 4, the Project would add 6 AM and 6 PM PHT to the Bailard Avenue interchange and 7 PHT to the Carpinteria Avenue/Casitas Pass Road intersection. These relatively minor traffic additions would not exceed the City's traffic policies.

## **SITE ACCESS**

### **Intersection Design**

Access to the Project site would be provided via the Carpinteria Avenue/Dump Road intersection. The intersection is controlled by stop signs on the northbound Dump Road approach and the driveway to the Alamo Self Storage facility forms the north leg of the intersection. Carpinteria Avenue contains one through lane and a left-turn lane in each direction at the intersection. The Dump Road approach flares to approximately 48 feet in width at Carpinteria Avenue. The design of the intersection is adequate to accommodate the haul truck maneuvers to and from Carpinteria Avenue.

## Intersection Operations

As noted in the Trip Generation section, the Project is forecast to generate 62 ADT and 13 AM and PM peak hour trips. This relatively minor level of traffic would be accommodated at the Carpinteria Avenue/Dump Road intersection without significant delays or congestion.

## Intersection Sight Distance

Sight distances were analyzed at the Carpinteria Avenue/Dump Road intersection to determine if the sight lines along Carpinteria Avenue are sufficient in length to permit drivers to anticipate and avoid potential collisions when using the intersection. The Caltrans Highway Design Manual stopping sight distance standards were used to determine the requirements at the intersection.<sup>2</sup> The speed limit on Carpinteria Avenue adjacent to Dump Road is 35 MPH. Assuming a conservative 40 MPH design speed, the Caltrans corner sight distance standard is 440 feet.

Dump Road is located on a section of Carpinteria Avenue that is relatively flat with horizontal curves located to the east and the west. As shown on Figure 6, the sight distance looking to the west extends approximately 970 feet to a curve in Carpinteria Avenue. The sight distance looking to the east extends approximately 660 feet to a curve in Carpinteria Avenue. These sight distances exceed the Caltrans 440-foot minimum requirement – indicating adequate sight distances for vehicles entering and exiting the intersection.

## PARKING AND VEHICLE STAGING

The Project would utilize 10 to 15 employees during peak demolition and remediation periods. There will also be demolition and soil excavation equipment that will need to be staged onsite. Employee parking and equipment staging would be easily accommodated at various locations on the 55-acre site during each phase of the Project. The construction management plan will develop employee parking and equipment staging areas as the Project proceeds in sequence.

## VMT ANALYSIS

CEQA Guidelines. The VMT thresholds and analysis procedures outlined in the California Governor's Office of Planning and Research (OPR) Technical Advisory on Transportation Impacts in CEQA<sup>3</sup> provide the following guidance on the types of vehicles that are subject to the VMT significance criteria:

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<sup>2</sup> Highway Design Manual, California Department of Transportation, 7<sup>th</sup> Edition, July 2020.

<sup>3</sup> Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, December 2018.

**“Vehicle Types.** Proposed Section 15064.3, subdivision (a), states, “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” Here, the term “automobile” refers to on-road passenger vehicles, specifically cars and light trucks.”

The Technical Advisory also provides screening tools to determine when a project may have a significant VMT impacts, as follows:

“Many agencies use “screening thresholds” to quickly identify when a project should be expected to cause a less-than-significant impact without conducting a detailed study. (See e.g., CEQA Guidelines, §§ 15063(c)(3)(C), 15128, and Appendix G.) As explained below, this technical advisory suggests that lead agencies may screen out VMT impacts using project size, maps, transit availability, and provision of affordable housing.

*Screening Threshold for Small Projects*

Many local agencies have developed screening thresholds to indicate when detailed analysis is needed. Absent substantial evidence indicating that a project would generate a potentially significant level of VMT, or inconsistency with a Sustainable Communities Strategy (SCS) or general plan, projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than significant transportation impact.”

The data presented in Table 2 indicate that the employee component of the Project would generate 26 average daily vehicle trips (excluding truck trips). The Project would therefore have a “less-than-significant” VMT impact based on the CEQA guidelines screening criteria for small projects (110 ADT or less).

This concludes ATE’s traffic, parking and VMT analysis for the Decommissioning and Remediation of the Carpinteria Oil and Gas Processing Facilities

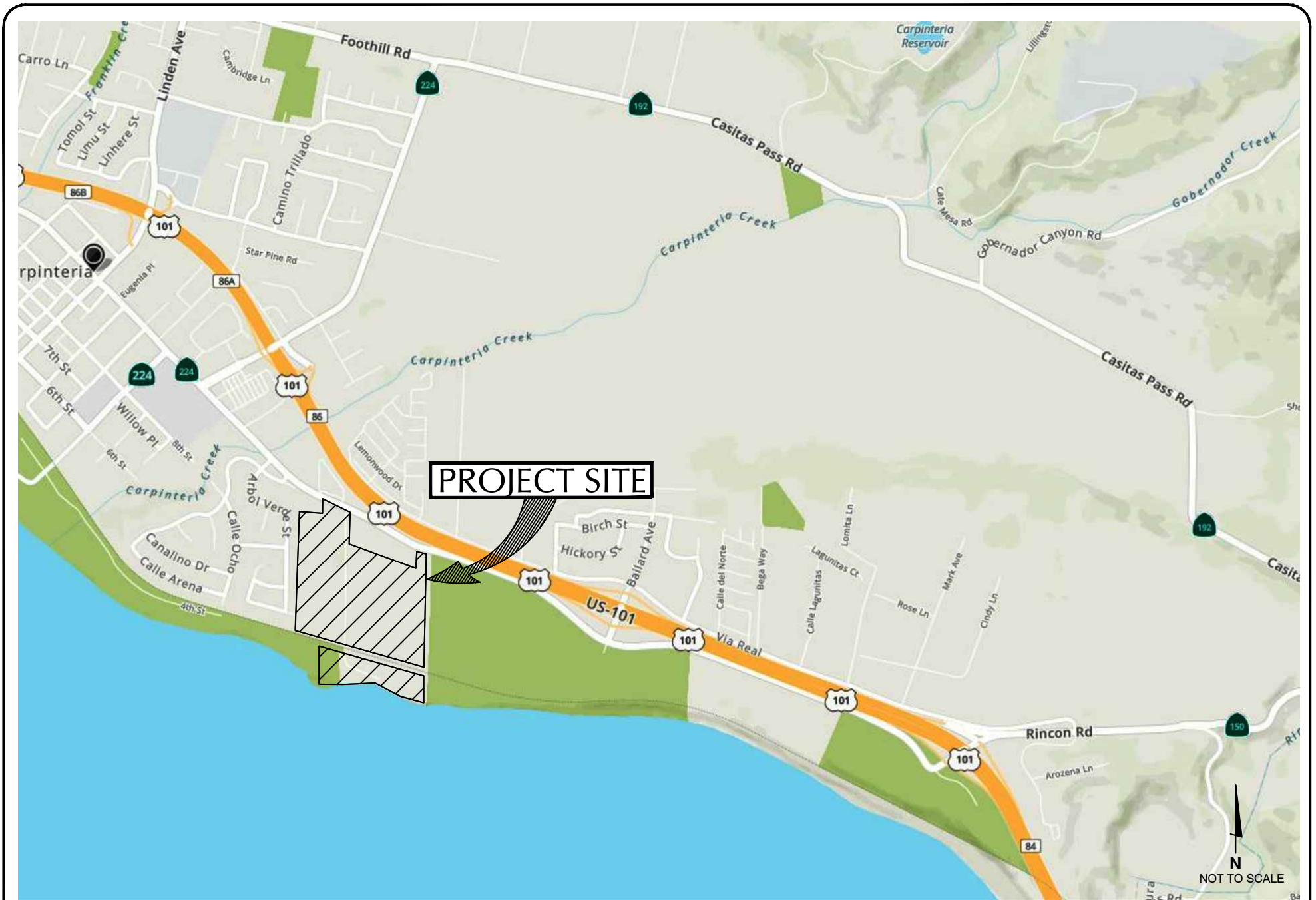


Scott A. Schell  
Principal Transportation Planner

SAS

Attachments



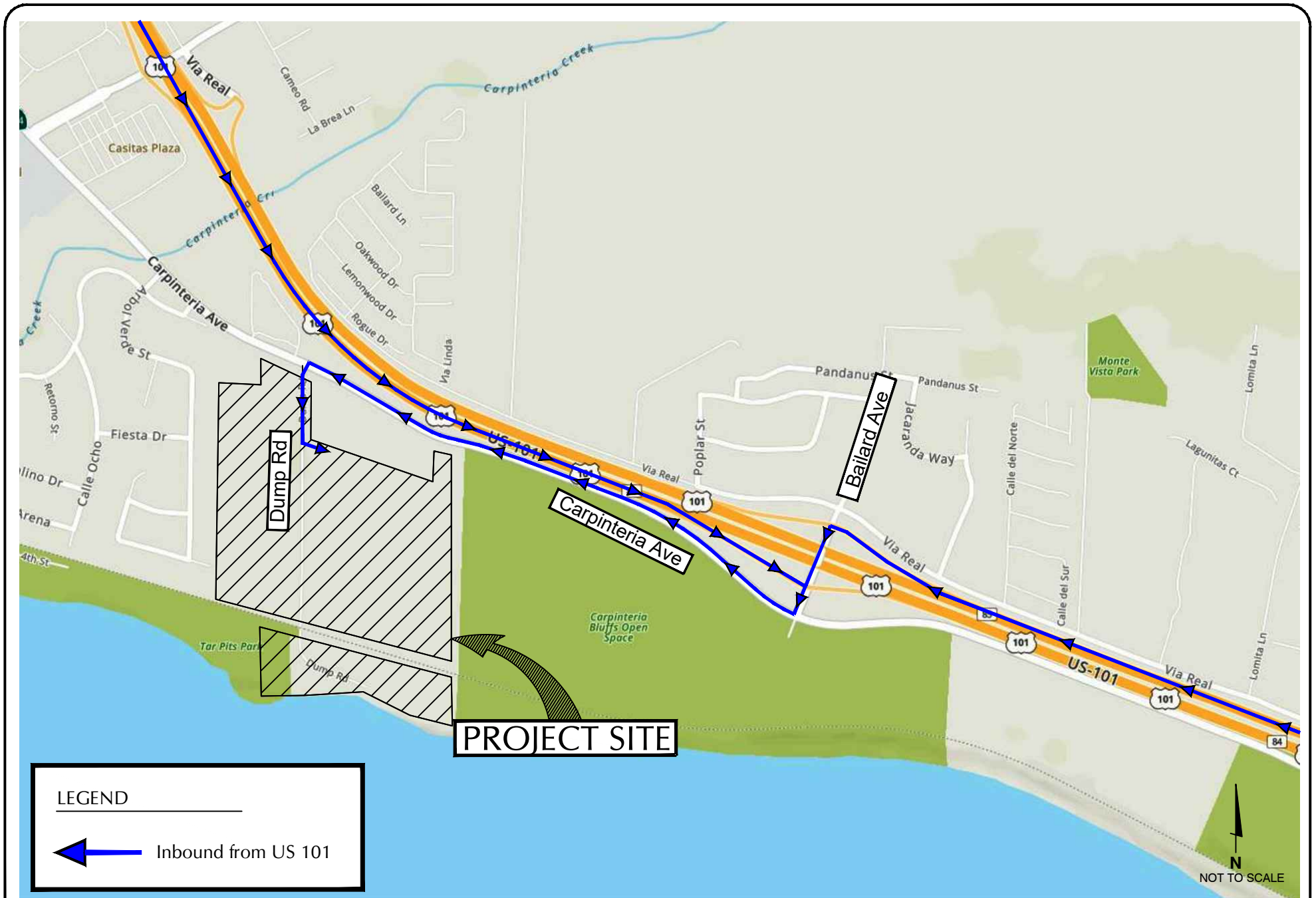


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## PROJECT SITE LOCATION

FIGURE 1

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## INBOUND TRUCK ROUTES

FIGURE 2

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## OUTBOUND TRUCK ROUTES

FIGURE 3

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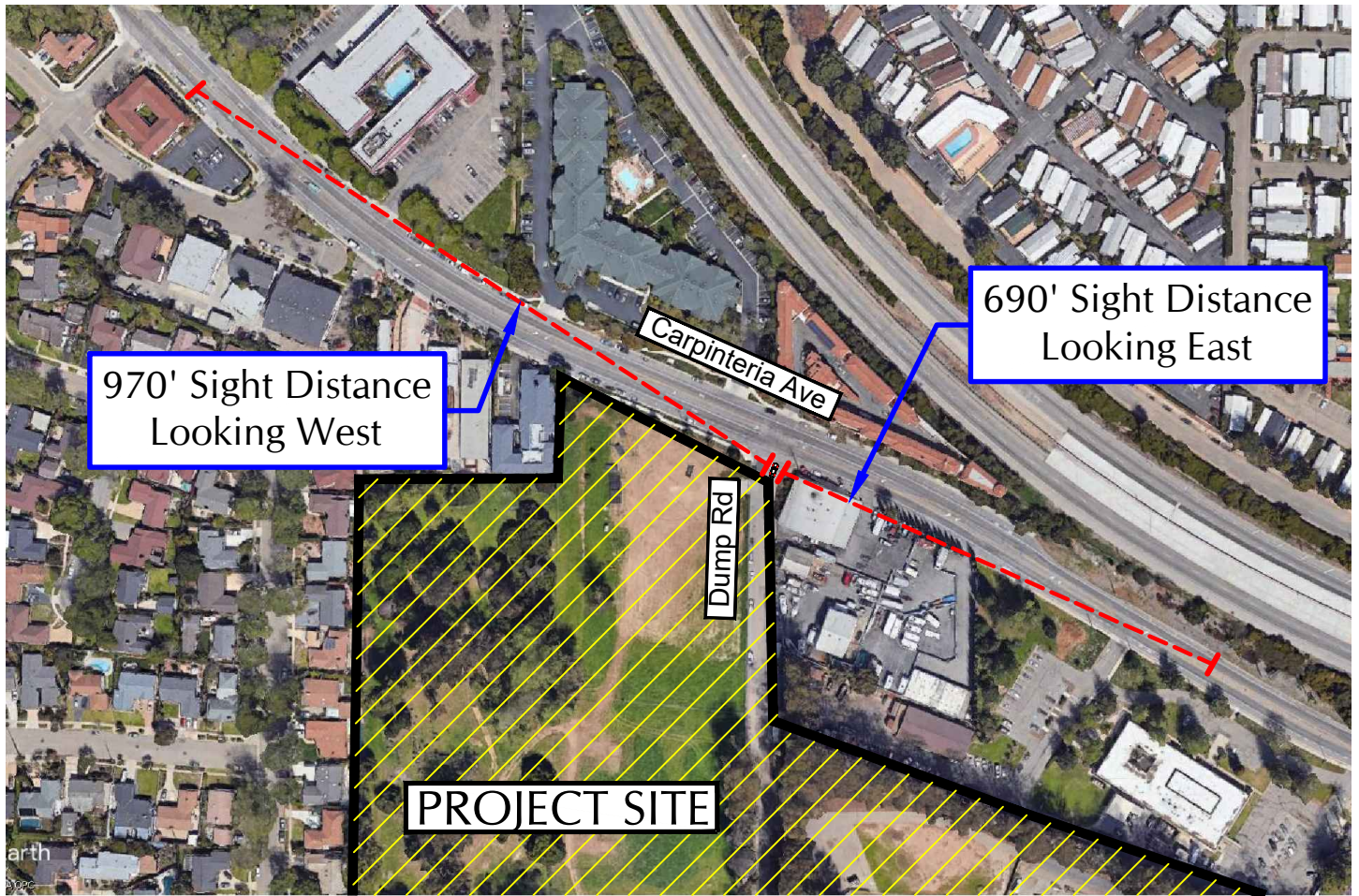
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## OUTBOUND EMPLOYEE ROUTES

FIGURE 5

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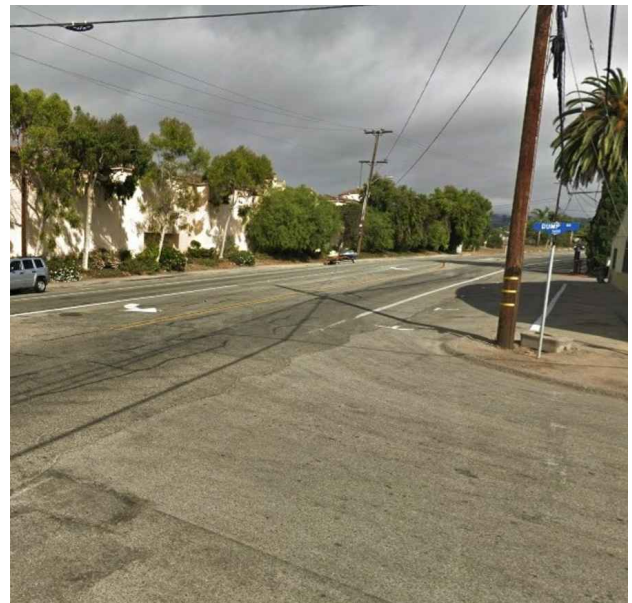




Looking West



Looking East



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# CARPINTERIA AVENUE / DUMP ROAD INTERSECTION SIGHT DISTANCE

FIGURE 6

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