ESSENTIAL FISH HABITAT ASSESSMENT

CALIFORNIA RESOURCES CORPORATION DECOMMISSIONING OF THE GRUBB LEASE INTAKE/OUTFALL STRUCTURE VENTURA COUNTY, CALIFORNIA

Project No. 1802-2271

Prepared for:

California Resources Corporation
2575 Vista del Mar, Suite 101
Ventura, California 93001

Prepared by:

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369 Pacific Street
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JUNE 2019

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

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1.0 INTRODUCTION

In support of a permit application to the U.S. Army Corps of Engineers (ACOE), Los Angeles District, and to satisfy the requirements of Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act, the following assessment of potential impacts to Essential Fish Habitat (EFH) has been prepared. This EFH assessment is for the California Resources Corporation (CRC) Decommissioning of the Grubb Lease Intake/Outfall Structure Project (Project). 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 proposed Project is located adjacent to Old Rincon Highway (Pacific Coast Highway 1 [PCH], or State Highway 1) approximately 792 feet northwest of Solimar Beach at the foot of the "A" Lease Road underpass underneath U.S. Highway 101 (Figure 1-1).

The Project objective is the removal of the pipelines and appurtenant facilities to fulfill the existing California State Lands Commission lease requirements and quit claim the lease. The Project site is comprised of two main segments; Onshore Segment and Offshore Segment. The Onshore Segment includes the onshore vault and a buried 36-inch casing. The Onshore Segment extends from the beach vault structure east along the casing right of way under PCH, Union Pacific Railroad and Highway 101 right-of-ways and terminates within the lower Grubb lease. The Offshore Segment extends from the beach vault to the offshore ends of the three pipelines. The pipelines terminate in water depths ranging between 12 to 14 feet of water.

1.2 SITE CHARACTERISTICS

The environmental setting for the Project includes nearshore, shallow water depths, and mixed substrates of sand and sedimentary rock (Figure 1-2). The nearshore marine habitats and biota are typical of those found in similar water depths along the Santa Barbara Channel coastline. The seafloor habitat inshore of the 16-foot (4.8 m) isobath includes mixed substrate types consisting of medium-sized cobble (four to eight-inch [10 to 20-centimeter] diameter) and small boulders (10 to 15-inch [25 to 38 centimeter] diameter), as well as low-relief sandstone bedrock and short expanses of sand in between bedrock. Sand waves of less than one inch were observed within sandy-bottom areas (Padre, 2018).

Marine biological dive surveys were conducted of the three exposed pipelines (wastewater outfall, southern intake, and northern intake pipes) and pipeline corridors in November 2018

(Appendix A – Pre-Construction Marine Biological Dive Survey Letter-Report). In general, substrate types were similar between all three pipelines. A bed of giant kelp (*Macrocystis pyrifera*) occurs offshore of the pipelines, but its density become sparse southwest of pipelines' termini and was not established within the survey corridors during the November survey. Kelp bed density fluctuates with the seasons, increasing during the summer months and decreasing after winter storms. Kelp is not present within the surf zone where wave action disturbs the seafloor.

Algal species along the wastewater outfall pipeline consists of low red and brown turf alga, encrusting and articulated coralline algae (*Corallina* sp., *Calliarthron* sp. and *Lithothamnium* sp.), and branching red algae (*Mastocarpus* [*Gigartina*] *papillate, Cryptosiphonia woodii* and *Mazzaella [Rhodoglossum] affinis*) covered with epibiotic bryozoans (*Bugula neritina*). During dive surveys a patch of surf grass (*Phyllospadix* sp.) was observed growing on the top of the wastewater outfall pipeline at a water depth of 12 ft (3.6 m). The surfgrass patch was minimal and covered a total area of approximately five square feet. Neither surfgrass nor eelgrass (*Zostera marina*) were observed anywhere else within the survey corridor. No invasive species were identified (i.e., *Culerpa taxifolia* or *Sargassum horneri*). Giant kelp was observed in one location off the pipeline approximately seven feet south of the pipeline in 13 ft (4 m) of water. The kelp was sparse and only two individual thalli were observed.

Epibiotia and macrofauna consisted of dense growth of bryozoans (*Hippodiplosia insculpta* and *Membranipora* sp.), stalked tunicates (*Styela montereyensis*), angular unicorn snails (*Acanthinucella spirata*), orange and yellow sponges (*Halichondria* sp.) and Spanish shawl nudibranchs (*Flabellinopsis iodinea*). An occasional solitary anemone (*Anthopleura* sp.) was observed underneath and between the pipeline and bedrock. In addition, California spiny lobster (*Panulirus interruptus*) were observed within gaps underneath the pipeline and inside of the end of the pipeline where it is open to the seawater. Evidence of gaper clams (*Tresus* sp.) was observed within the sand and cobble substrate. No abalone species were observed during dive surveys and the area appeared generally devoid of fish species although a few perch (*Embiotocidae*) and sculpin (*Cottidae*) species were present. Habitat along the northern and southern intake pipelines is similar to the wastewater outfall pipeline. There was no additional seagrass or kelp observed during dive surveys on the adjacent pipelines.

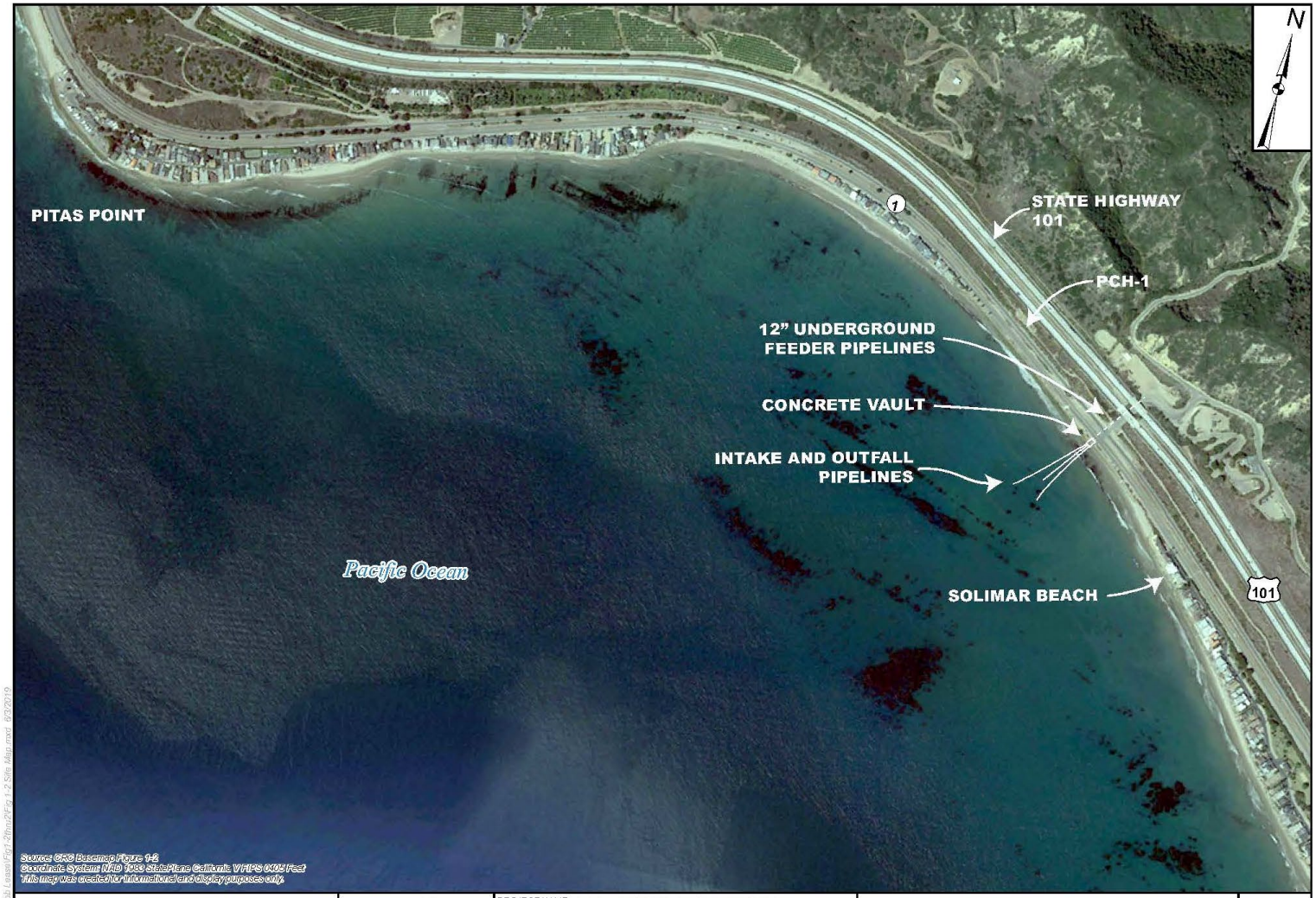

Figure 1-1. Project Location

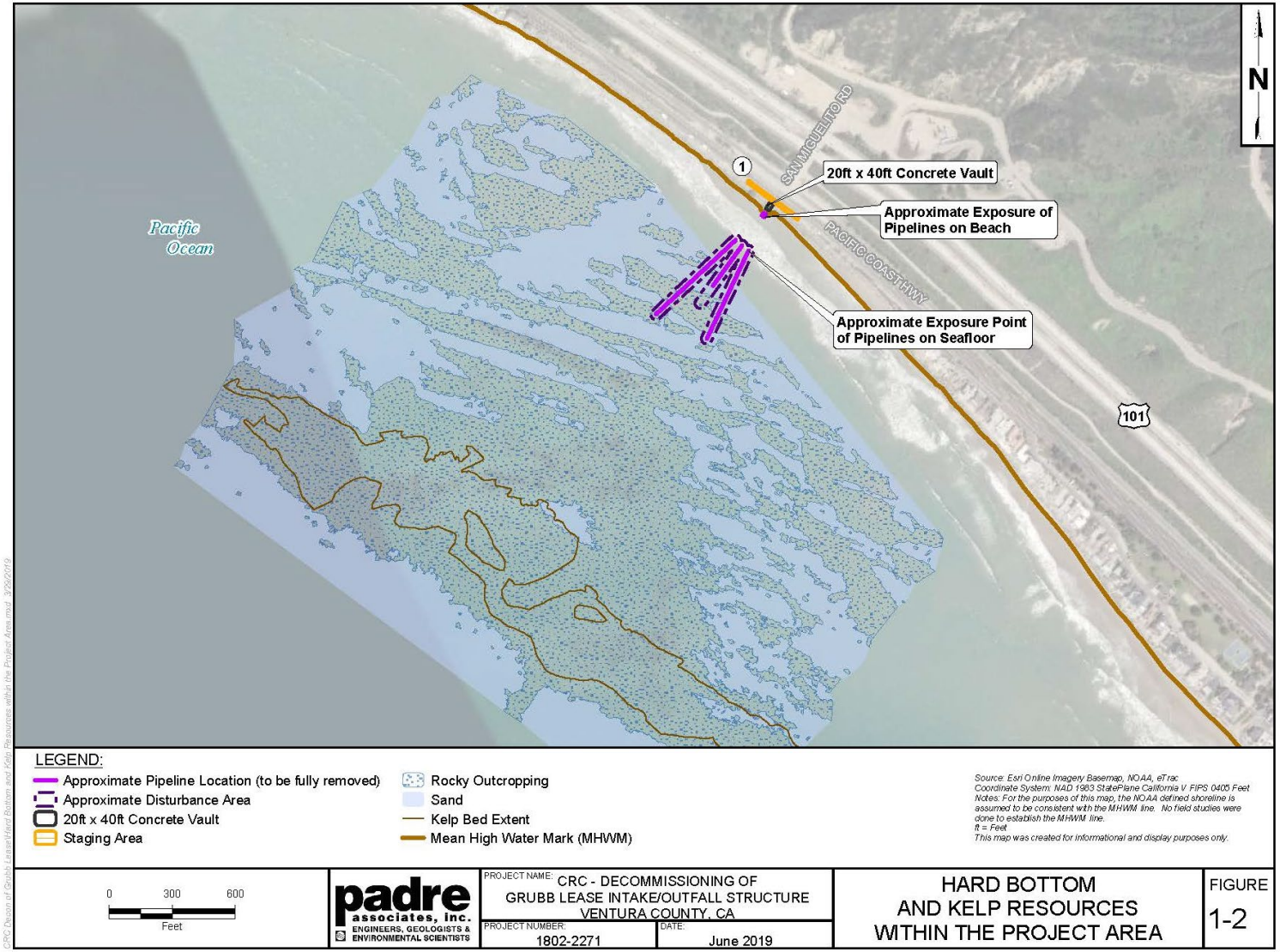

Figure 1-2. Hard-bottom and Kelp Resources in the Project Area

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, 2019). 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 (Miller and Lea, 1972; McCain, 2005).

The Pacific Fishery Management Council (PFMC) manages 90 species of fish under three Fishery Management Plans: 1) Coastal Pelagics Fishery Management Plan (CPFMP); 2) Pacific Salmon Fishery Management Plan; and 3) Pacific Groundfish Fishery Management Plan (PGFMP). 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 16 species listed under the PGFMP and five species listed under the CPFMP frequent kelp beds and reefs in less than 20 feet (6 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
Managed under CPFMP	Northern anchovy	*Engraulis mordax*
	Pacific mackerel	*Scomber japonicus*
	Jack mackerel	*Trachurus symmetricus*
	Krill	*Thysanoessa spinifera*
		Euphausia pacifica
	Total	**5**
Managed under PGFMP	Kelp greenling	*Hexagrammos decagrammus*
	Lingcod	*Ophiodon elongates*
	California scorpionfish	*Scorpaena guttata*
	Cabezon	*Scorpaenichthys marmoratus*
	Copper rockfish	*Sebastes caurinus*
	Kelp rockfish	*Sebastes atrovirens*
	Black rockfish	*Sebastes melanops*
	Black-and-yellow rockfish	*Sebastes chrysomelas*
	Blue rockfish	*Sebastes mystinus*
	Chillipepper	*Sebastes goodei*
	Gopher rockfish	*Sebastes carnatus*
	Grass rockfish	*Sebastes rastrelliger*
	Olive rockfish	*Sebastes serranoides*
	Treefish rockfish	*Sebastes serriceps*

	Leopard shark	*Triakis semifasciata*
	Butter sole	*Isopsetta isolepis*
	Total	**16**

3.0 IMPACTS

The rocky substrate within the Project area appears to be routinely subjected to substantial sand scour and supports only a limited algal and invertebrate community. Damage to the rocky substrate from anchoring of Project vessels or from diver activities could result in longer-term impacts to EFH. Damage to that habitat could be considered significant to essential habitat for some of the nearshore rockfish listed in Table 2-1. As planned, anchoring of the work vessel will only be in sedimentary habitats and anchor lines will not impact kelp or algae-covered rocks.

Based on the proposed activities and the assessment of existing habitats, only the adjacent kelp beds outside of the immediate Project area represent essential habitat for managed species. By avoiding these features, the impacts of removal of the pipelines and associated structures is not considered significant to the EFH of any of the managed species that could occur within the area. Offshore decommissioning activities will be limited to a few isolated anchoring sites and a narrow corridor of sedimentary seafloor within which the pipelines will be removed. The sedimentary bottom will be disturbed only during removal activities and any Project vessels will not anchor in hard bottom habitat or within areas of sensitive resources.

Potential underwater activities associated with decommissioning of structures includes disconnecting intake pipeline from the box structures, underwater cutting and securing the pipelines to the lifting equipment and recovering pipelines toward the shore. Resuspended sandy sediments are expected to settle quickly to the seafloor after disturbance. Little, if any, long-term water column turbidity is expected. 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); however, no kelp or eelgrass has been reported within the Project area.

The sandy and sedimentary rock 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, which will be submitted with the Contractor Work Plan for review and approval by CSLC. 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.

The depression in the sedimentary seafloor that is expected to result from the pulling of the pipelines 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

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APPENDIX A

PRE-CONSTRUCTION MARINE BIOLOGICAL DIVE SURVEY LETTER-REPORT

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

November 13, 2018
Project No. 1802-2271

California Resources Petroleum Corporation
2575 Vista del Mar Drive, Suite 101
Ventura, California 93001

Attention: Mr. Bruce Carter

Subject: Pre-Construction Marine Biological Dive Survey Letter-Report

Dear Mr. Carter:

This marine biological dive survey report (Report) summarizes the results of pre-construction surveys conducted for California Resources Petroleum Corporation (CRC) at the Grubb Lease Intake/Outfall Structure located on California State Lands Commission (CSLC) Lease PRC 3913.1, offshore of Ventura, California (Project site). The Report describes the survey methods completed by Padre Associates, Inc. (Padre) and associated observations completed during the survey. The purpose of the marine biological survey was to document the type and location of marine plants, macro-epifauna, and fish associated with the habitats within the project areas. The resulting data will be used in the final Project planning effort, and as a baseline for comparison with post-Project marine biological conditions.

The survey consisted of a team of diver-biologists who recorded the physical condition of the offshore pipelines and completed an assessment of biological habitat types and epibiota along the existing intake and wastewater outfall pipelines. The marine portion of the intake and outfall facilities consists of two 12-inch diameter steel intake pipelines measuring a total of approximately 680 feet and 630 feet in length and an outfall pipeline measuring approximately 500 feet in overall length. All lengths are measured from the seaward side of the onshore concrete vault to the offshore terminations of each pipeline. On October 30, 2018 the intake and outfall pipelines were not visible exiting the concrete vault and were not exposed along the beach. It is estimated that the intake and outfall pipelines become exposed somewhere in the surf zone and as observed during the survey, remain exposed for their remaining length offshore.

Initially, a shore dive was attempted on October 30, 2018; however, due to unanticipated high surf it was determined by Padre that such conductions made it unsafe to conduct survey operations from the shore. CRC and Padre determined that vessel-based survey operations would be safer and more efficient in assessing the marine biological resources. The Project team returned on November 1, 2018 to conduct the dive survey from the survey vessel (S/V) *JAB*. This Report describes the equipment and methods that were used during the vessel-based dive survey operations and data recovery.

PERSONNEL AND EQUIPMENT

The Project dive team included divers Ms. Michaela Hoffman and Ms. Haleigh Damron (Padre Marine Biologists). Mr. Jeff Zane was the Padre Health and Safety Officer (HSO) and onboard licensed Emergency Medical Technician (EMT), and Padre Project Manager, Simon

Poulter, provided shore-side support of dive operations. Mr. Zachary Dransoff, CRC Environmental Project Manager observed all survey operations. All divers are certified through the Professional Association of Dive Instructors (PADI) and National Association of Underwater Instructors (NAUI), and Ms. Hoffman is an American Academy of Underwater Sciences (AAUS) certified diver.

The dive survey was conducted from S/V *JAB*, a 43-foot jet powered catamaran, owned and operated by Theory Marine Services, LLC. The vessel was mobilized in Ventura Harbor and transited to the dive site the morning of the survey.

Divers were equipped with open circuit scuba using steel 85 cubic-foot cylinders pressurized to approximately 3,000 pounds per square inch (psi) and equipped with a separate first and second stage regulators. Divers used transect tapes to verify survey distances and a Go Pro© camera and Olympus© Tough point-and-shoot camera to record underwater video and photographs. Divers were equipped with underwater lights and slates for data collection. A "diver down" flag was deployed from the mast of the survey vessel at the dive site.

METHODOLOGY

Prior to the dive, the survey vessel located the end of pipe using the onboard navigation system and deployed a surface buoy at the start of each transect. The divers entered the water from the survey vessel and descended the surface buoy line. Once on the bottom, the visibility was measured to determine the size of the survey corridor. The diver biologists swam three transects along the existing pipeline corridors observing and recording biological resources starting with the waste water outfall pipeline, followed by the southern and northern intake pipelines, respectively.

Transects were swam from the offshore end of each pipe and encroached as far into the surf zone as safely possible (Attachment 1 – Marine Biological Survey Area). Due to low visibility, and to reduce the chance of unsuccessful navigation underwater, each dive consisted of only one pipeline transect; all three pipelines were surveyed in a total of three dives. All observation data was recorded on pre-printed data sheets, in addition to GoPro© video cameras and still photographs on a waterproof Olympus© Tough camera (Attachment 2 – Survey Photographs). In addition, the length of the exposed pipeline and the general condition of any exposed pipeline or accessory features were noted to support future removal planning. All three pipelines were surveyed in three separate dives totaling in 124 minutes of bottom time.

RESULTS

The following section details the results of a dive survey conducted on November 1, 2018 within the Project site. Diver biologists identified habitat types and locations of marine plants, macro-epifauna, and fish associated with the wastewater outfall pipeline and the southern and northern intake pipelines, respectively.

Ocean conditions during the surveys consisted of clear skies, with calm winds in the morning (one to two miles per hour [mph]) increasing to 8 mph in the afternoon, and swell height of one to two feet. Tide was falling during the first dive from 4.3 feet at 06:10 to 2.7 feet at 11:32 and rising during the second and third dive to a 4.7-foot tide at 17:01. Underwater visibility was

3.5 feet during the first dive decreasing to 2.5 feet over the course of the survey day. Due to reduced visibility, the survey corridor was limited to approximately six feet (three feet on either side of each pipeline).

In general, substrate types were similar along all three pipelines and consisted of medium-sized cobble (four to eight-inch diameter) and small boulders (ten to 15-inch diameter), as well as low-relief sandstone bedrock and short expanses of sand in between bedrock. Sand waves of less than one inch were observed within sandy-bottom areas. A bed of giant kelp (*Macrocystis pyrifera*) was observed offshore of the Project site but appeared to end west of pipelines' termini and was not established within the survey corridors.

WASTEWATER OUTFALL PIPELINE

Approximately 237 feet of the wastewater outfall pipeline was surveyed from its offshore terminus in 15 feet of water, northeast toward shore to a depth of the nine feet where visibility and surge precluded survey operations. The pipeline was exposed and visible along its entire length. The pipeline appeared intact with no holes or visible corrosion. No diffuser was observed at the offshore terminus of the pipe; the pipeline was open to the sea water.

The habitat on the wastewater outfall pipeline consisted of low red and brown turf alga, encrusting and articulated coralline algae (*Corallina* sp., *Calliarthron* sp. and *Lithothamnium* sp.), branching red algae (*Mastocarpus [Gigartina] papillate, Cryptosiphonia woodii and Mazzaella [Rhodoglossum] affinis*) covered with epibiotic bryozoans (*Bugula neritina*).

A patch of surf grass (*Phyllospadix* sp.) was observed growing on the top of the pipeline at a water depth of 12 feet. The surfgrass patch covered a total area of approximately five square feet. Neither surfgrass or eelgrass (*Zostera marina*) were observed anywhere else within the survey corridor. No invasive species were identified (i.e., *Culerpa taxifolia* or *Sargassum horneri*). Giant kelp was observed in one location off the pipeline approximately seven feet south of the pipeline in 13 feet of water. The kelp was sparse and only two individual thalli were observed.

Epibiotia and macrofauna consisted of dense growth of bryozoans *(Hippodiplosia insculpta* and *Membranipora sp.),* stalked tunicates (*Styela montereyensis),* and Spanish shawl nudibranchs (*Flabellinopsis iodinea*). An occasional solitary anemone (*Anthopleura* sp.) was observed underneath and between the pipeline and bedrock. In addition, California spiny lobster (*Panulirus interruptus*) were observed within gaps underneath the pipeline and inside of the end of the pipeline where it is open to the seawater. Evidence of gaper clams (*Tresus* sp.) was observed within the sand and cobble substrate. No fish or abalone species were observed inside the survey corridor along the wastewater outfall pipeline.

SOUTHERN INTAKE PIPELINE

Approximately 464 feet of the southern intake pipeline was surveyed from its offshore intake structure (possible remnant filter) in 16 feet of water, northeast toward shore to a depth of ten feet where visibility and surge precluded survey operations. The southern intake pipeline was exposed and visible along its entire length. The pipeline and the offshore intake structure appeared intact with no holes or visible corrosion. Accessory pipe structures, approximately three to four inches in diameter, were identified running underneath and diagonal to the pipeline route. These accessory structures had no visible corrosion and appeared to run underneath the sand.

The general habitat and algal communities were similar to the wastewater outfall pipeline; however, no surfgrass or giant kelp were observed. Feather boa, a kelp-like brown algae (*Egregia menziesii*) was observed within the survey corridor along the southern intake pipeline. Epibiota and macrofauna were similar to the previous outfall pipeline. Fish activity inside the survey corridor was minimal, with none being identified to species due to low visibility. No abalone species were observed within the survey corridor along the southern intake pipeline.

NORTHERN INTAKE PIPELINE

Approximately 518 feet of the northern take pipeline was surveyed from the offshore intake structure in 15 feet of water, northeast toward shore to a depth of ten feet where visibility and surg precluded survey operations. The northern intake pipeline was exposed and visible along its entire length. An accessory pipeline structure, three to four inches in diameter, ran parallel approximately the entire length of the northern intake pipeline. Both the intake pipeline and accessory structures appeared to be intact with no visible corrosion. The accessory structure ran underneath and on top of the intake pipeline and was intermittently buried in the sand.

Dense beds of red alga, *Cryptosiphonia woodii and Mazzaella affinis,* and articulated coralline algae grew along the top of the northern intake pipeline. No kelp, surfgrass, or eelgrass species were observed within the survey corridor. Several California spiny lobster were observed underneath the pipeline and inside the offshore intake structure, as well as other invertebrate species including angular unicorn snails (*Acanthinucella spirata*), Spanish shawl nudibranch and solitary anemones. Portions of the northern intake pipeline also supported tunicates and orange and yellow sponges (*Halichondria* sp.). One sculpin (Cottidae) was identified sitting on the northern intake pipeline, but the survey corridor was generally devoid of fish activity. No abalone species were observed within the survey corridor along the northern intake pipeline.

SUMMARY AND RECOMMENDATIONS

A team of diver biologists completed a marine biological survey to identify the habitat types, macrofauna and fish present within the survey corridor along three pipelines at the Project site. Substrate consisted of mixed cobble, sandstone bedrock and sandy areas. Algal species and macrofauna observed were typical of southern California marine waters within similar depth ranges and with similar substrate types; however, the survey corridor was generally devoid of typical invertebrate and fish species associated with hard bottom habitats.

No invasive algae were observed along the pipeline corridors. Noabalone, or other sensitive species were observed. Two individual kelp thalli were observed within the survey corridor; however, established kelp beds were not observed within the Project site. Dense epibiotic bryozoans and sponges were observed; however, macrofauna and fish were infrequent.

The wastewater outfall pipeline and southern and northern intake pipelines were intact with no holes or corrosion. Accessory pipeline structures were observed adjacent to the southern and northern intake pipelines, as well as the intake filter structure which appeared intact at the pipelines' termini.

Should you have any questions regarding this Report, please contact Michaela Hoffman at (805) 786-2650 ext. 47 or mhoffman@padreinc.com or Simon Poulter at (805) 683-1233 ext. 4 or spoulter@padreinc.com.

Sincerely,

Padre Associates, Inc.

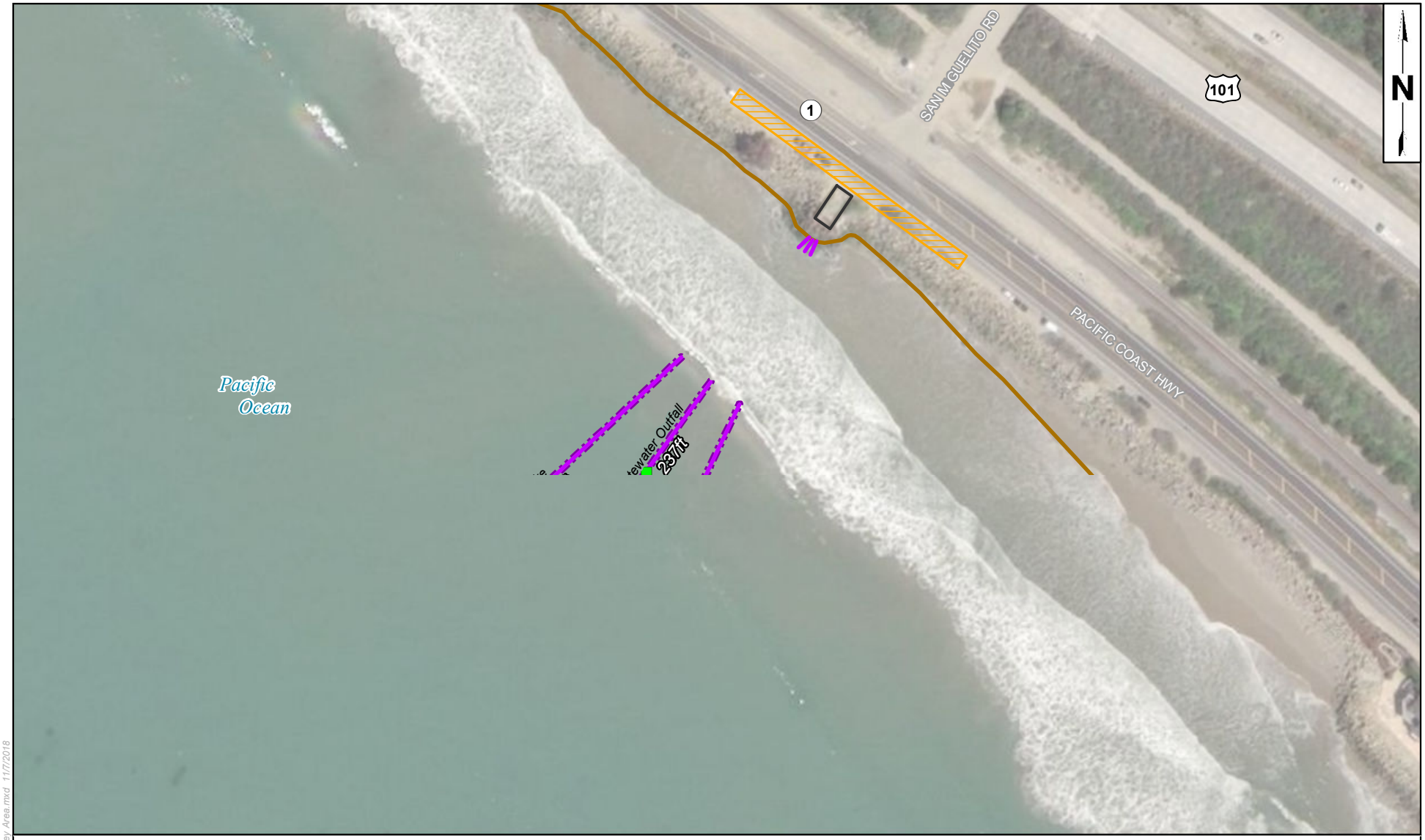
Michaela Hoffman
Project Biologist

Attachments: Attachment 1 – Marine Biological Survey Area Figure
Attachment 2 – Dive Survey Photographs
Attachment 3 – Dive Survey Data Sheets

cc: Zachary Dransoff, CRC Environmental Project Manager

ATTACHMENT 1

MARINE BIOLOGICAL SURVEY AREA FIGURE



LEGEND:

- Approximate Location of Giant Kelp (*Macrocystis pyrifera*)
- Approximate Pipeline Location (to be fully removed)
- Mean High Water Mark (MHWM)
- 6-ft Survey Corridor
- 20ft x 40ft Concrete Vault
- Staging Area

Source: Esri Online Imagery Basemap, NOAA
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: For the purposes of this map, the NOAA defined shoreline is assumed to be consistent with the MHWM line. No field studies were done to establish the MHWM line.
ft = Feet; in = Inch
This map was created for informational and display purposes only.

0 75 150
Feet

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PROJECT NAME: CRC - DECOMMISSIONING OF GRUBB LEASE INTAKE/OUTFALL STRUCTURE VENTURA COUNTY, CA

PROJECT NUMBER: 1802-2271

DATE: November 2018

MARINE BIOLOGICAL SURVEY AREA

FIGURE 1

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ATTACHMENT 2

DIVE SURVEY PHOTOGRAPHS

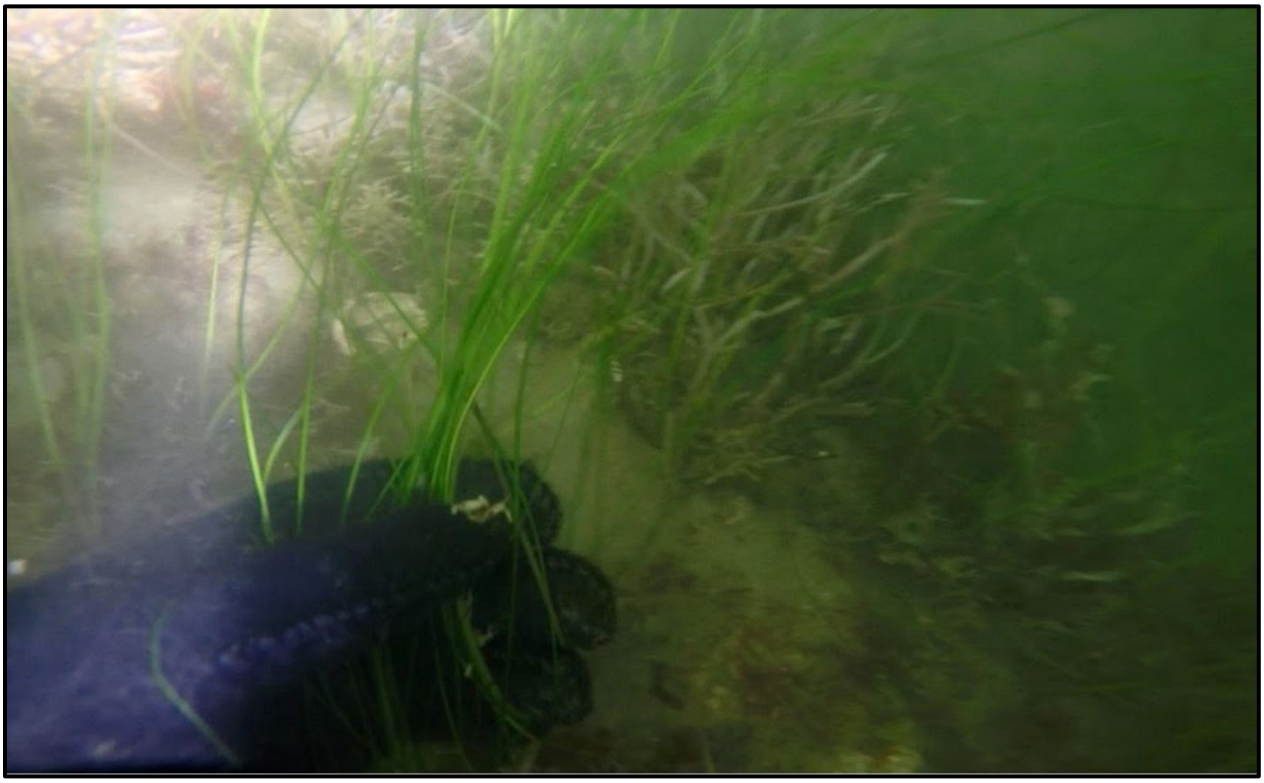

Photo 1. Surfgrass (*Phyllospaidx* sp.) and articulated coralline algae (*Corrallina* sp., *Calliarthron* sp.) growing on wastewater outfall pipeline; Date: 11/1/2018.

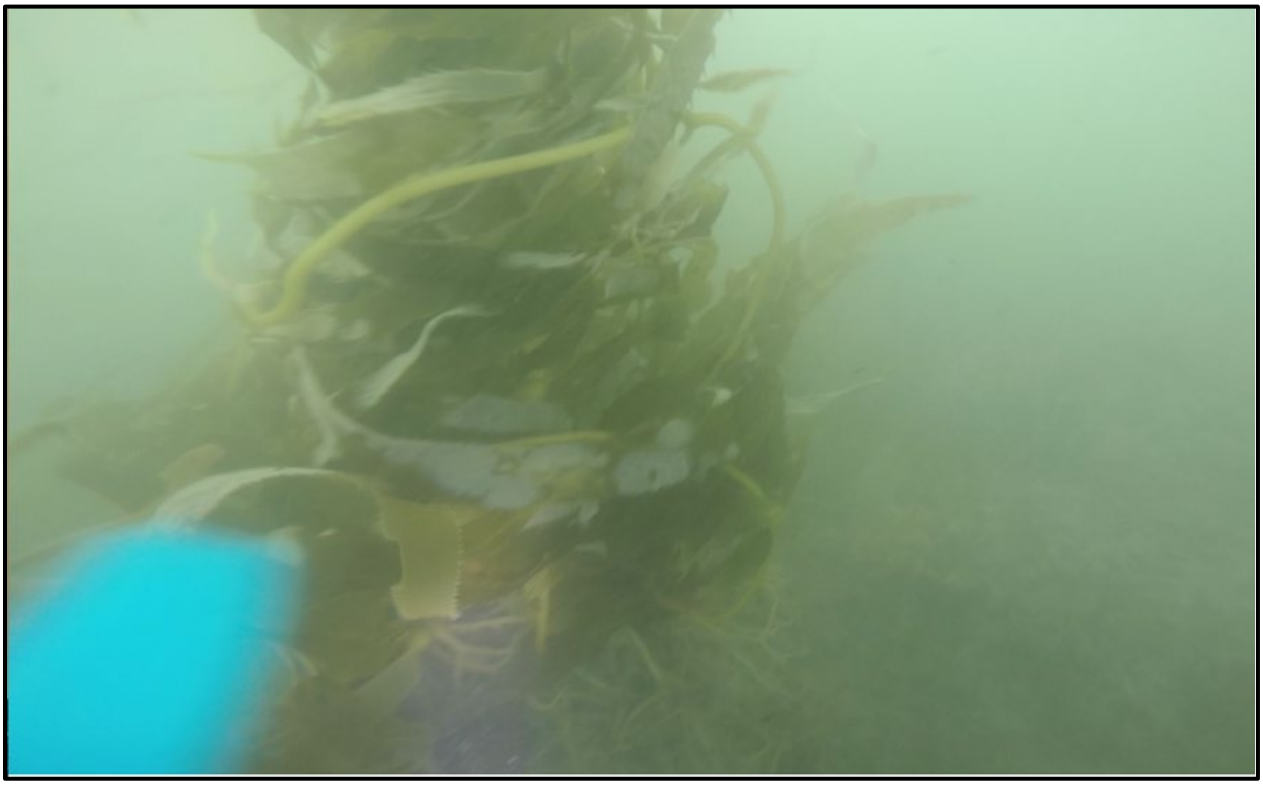

Photo 2. Giant kelp (*Macrocystis pyrifera*) adjacent to wastewater outfall pipeline; Date: 11/1/2018

Photo 3. California spiny lobster (*Panulirus inerruptus*) underneath southern intake pipeline; Date: 11/1/2018

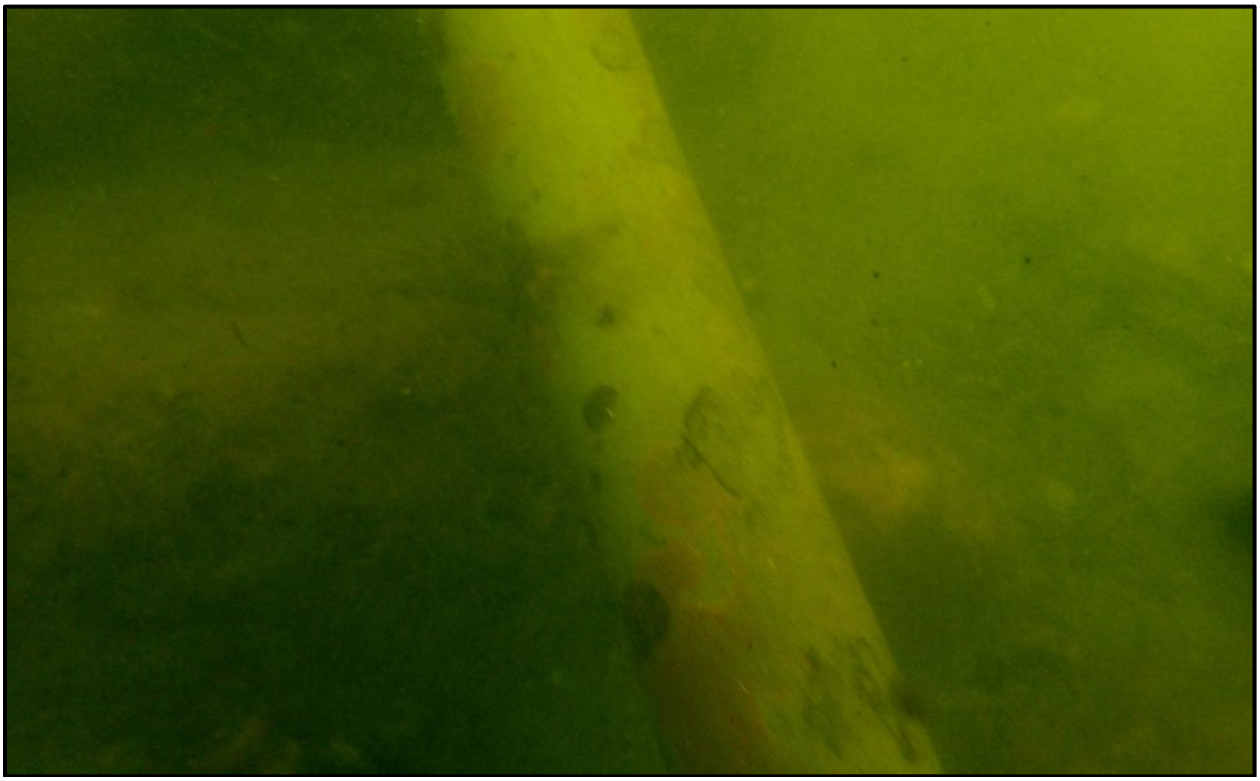

Photo 4. Accessory structure running underneath/diagonal to southern intake pipeline route; Date: 11/1/2018

Photo 5. Dense algal growth on southern intake pipeline; Date: 11/1/2018

Photo 6. Overview of habitat on northern intake pipeline; Date: 11/1/2018

Photo 7. California spiny lobster adjacent to northern intake pipeline; Date: 11/1/2018

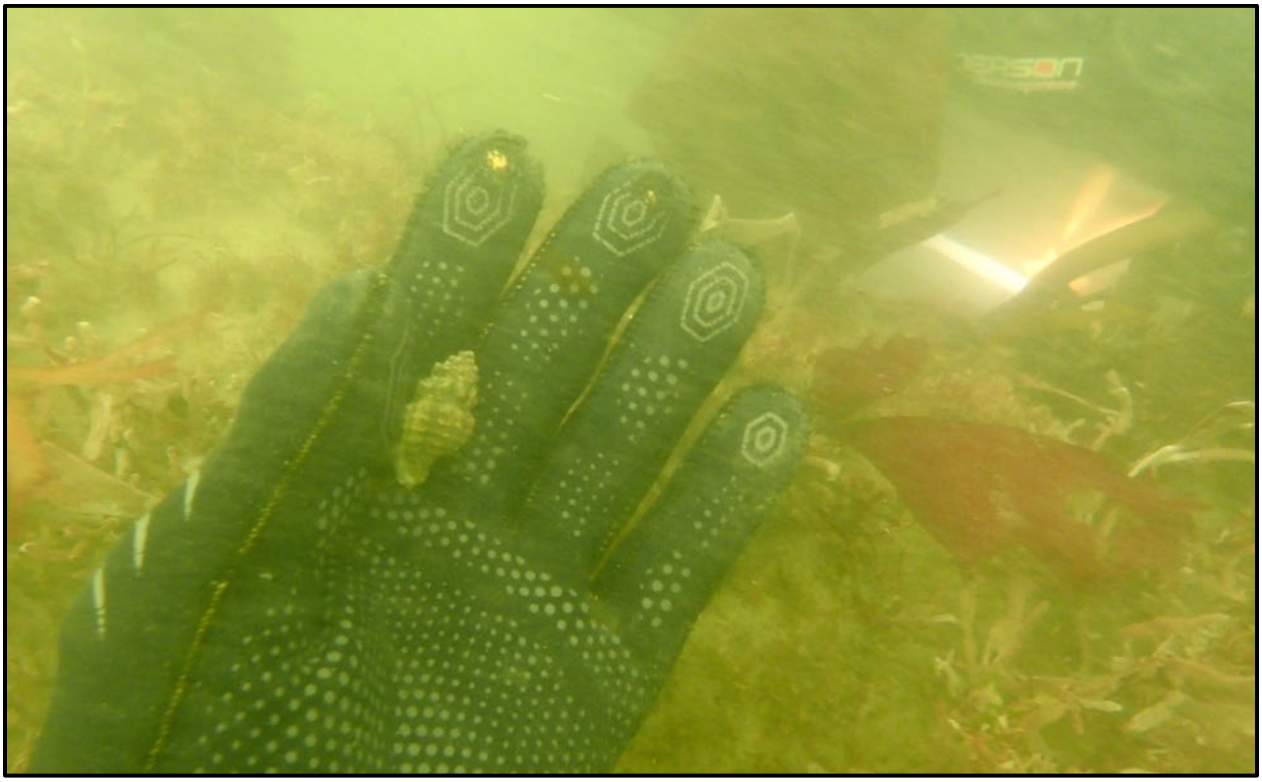

Photo 8. Angular unicorn snail (*Acanthinucella spirata*) from northern intake pipeline; Date: 11/1/2018

Photo 9. Spanish shawl nudibranch (*Flabellinopsis iodinea*) on northern intake pipeline; Date: 11/1/2018

Photo 10. Solitary anemone (*Anthopleura* sp.) and Spanish shawl nudibranch on northern intake pipeline; Date: 11/1/2018

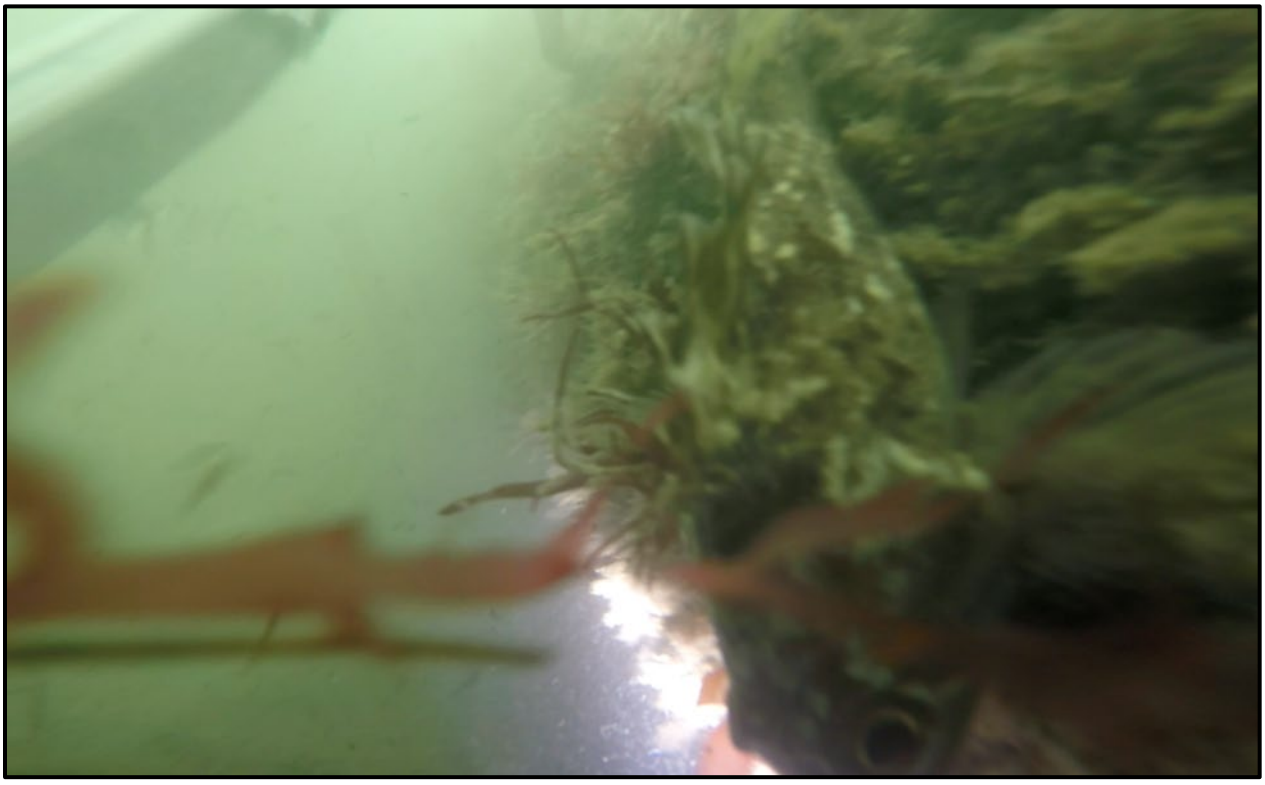

Photo 11. Sculpin *(Cottidae);* Date: 11/1/2018

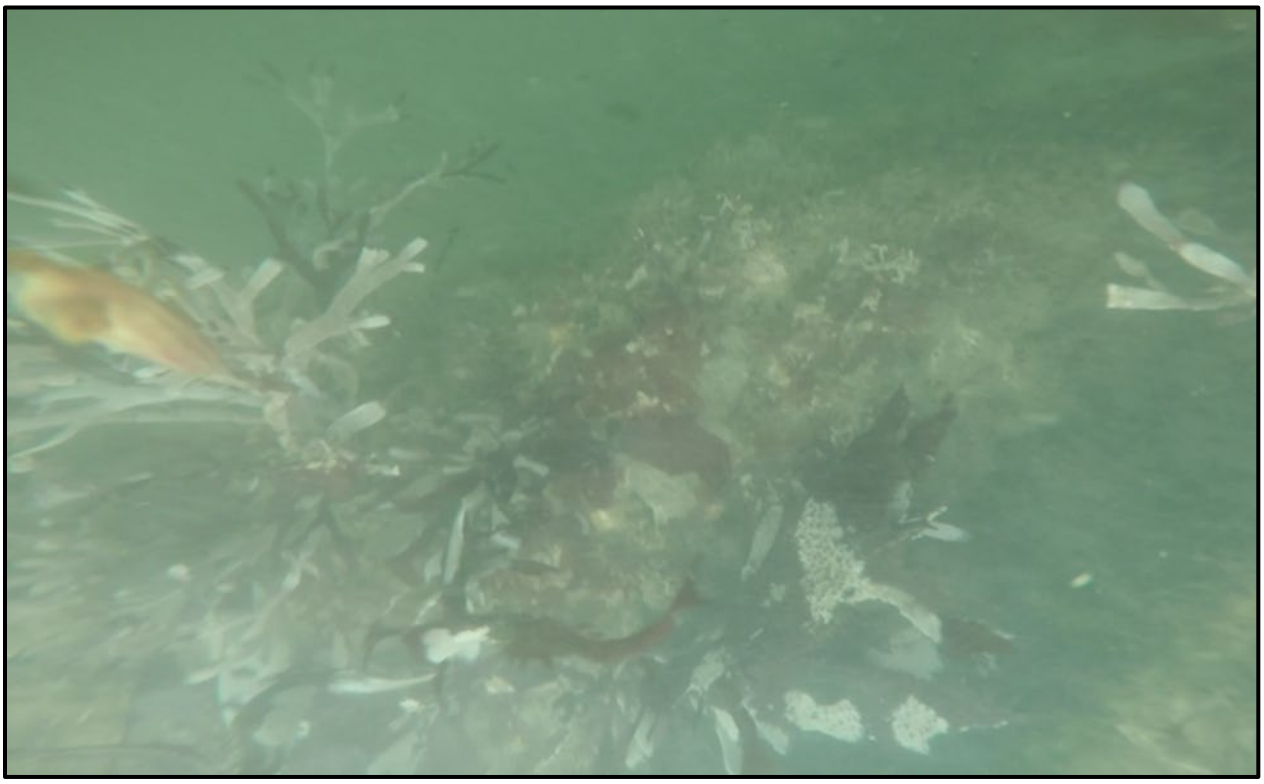

Photo 12. Low-relief hardbottom habitat adjacent to northern intake pipeline; Date: 11/1/2018

Photo 13. Cobble substrate located under and adjacent to northern intake pipeline; Date:11/01/18

ATTACHMENT 3

DIVE SURVEY DATA SHEETS

Pre-Project Marine Biological Dive Survey Data Sheet
CRC Grubb Lease Decommissioning Project
October 2018

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

210-300° shore parallel

Pre-Construction Marine Biological Data Sheet

Date: 11/1/2018	Divers: M. Hoffman, H. Damron	Weather: sun, clear, swell: 1-2 ft, wind: 0-2 mph
Dive Location: CRC Grubb Lease Pipes		

Transect No. Dive 1			Visibility (ft): 3.5 ft
Start: 0916/1018	Depth: 16		Pipe Surveyed: (Waste Water Intake (202°, 220°) 12-in outfall (North or South) (circle one) (213°, 33°) (192°, 12°)
Stop: 1006/1024	Depth: 15/11		Estimated length of pipe exposed: 100'
General pipe conditions: Intact, 50% max coverage w/ loose sand			
Substrate: sand, low relief sand shore (0-2 ft)			Kelp: (Yes) No (circle one) Macrocystis
			Surfgrass: (Yes) No
			Eelgrass: Yes (No)
Invasives: *Undaria* Yes (No)			*Sargassum muticum* Yes (No)
Caulerpa Yes (No)			*Sargassum horneri* Yes (No)
General flora community: Low red turf algae, Corallina, sparse kelp, Anneliopsis Mastocarpus			
General fauna community: Anthopleura sp., CA spiny lobster, Lingcod (sm), Acanthinucella spirata (Angular unicorn snail), Bryozoans			
Black abalone (*Haliotis cracherodii*): Yes (No)			
White abalone (*Haliotis sorenseni*): Yes (No)			

Other Observations:

Offshore / SW end of 12-in wastewater pipe open to seawater. CA spiny lobster (Panulirus interruptus) inside pipe.

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Pre-Construction Marine Biological Data Sheet

Date: 11/1/2018	Divers: M. Hoffman, H. Damron	Weather: Syn, clear. temp: 71 swell: 1-2 ft, wind: 0-1 mph
Dive Location: CRC Grubb Lease Pipes		

Transect No. Dive 2 - South		Visibility (ft): 2-3 ft	
Start: 1150	Depth: 16 ft	Pipe Surveyed: Waste Water Intake, 12-in outfall (North or (South)) (circle one)	
Stop: 1210	Depth: 14 ft		
		Estimated length of pipe exposed: 100'+/-	
General pipe conditions: Intact; accessory pipe running under 3-4"		Pipe heavier exposed w/ growth	
Substrate: Sand, cobble (3,4,-8 in) low relief sandstone under-neath pipeline		Kelp: Yes (No) (circle one)	
		Surfgrass: Yes (No)	
		Eelgrass: Yes (No)	
Invasives: *Undaria* Yes (No)		*Sargassum muticum* Yes (No)	
Caulerpa Yes (No)		*Sargassum horneri* Yes (No)	
General flora community: Low red turf algae, encrusting coralline algae.			
General fauna community: Anthopleura, CA spiny lobster, bryozoans			
Black abalone (*Haliotis cracherodii*): Yes (No) White abalone (*Haliotis sorenseni*): Yes (No)			

Other Observations:

Surveyed inshore to 10 ft isobath. Visibility disappeared. Very surgy. Discontinue transect.

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Pre-Construction Marine Biological Data Sheet

Date: 11/1/18	Divers: M Hoffman H. Damron	Weather: partial clouds, sun. swell: 1-2 ft wind: 5-6 mph
Dive Location: CRC Grubb Lease Pipelines		

Transect No. Dive 3 — North		Visibility (ft): 2-3 ft
Start: 1305	Depth: 15	Pipe Surveyed: Waste Water Intake, 12-in outfall (North or South) (circle one)
Stop: 1330 - 23 134	Depth: 10	Estimated length of pipe exposed: 100%
General pipe conditions: No holes, appears intact, dense growth cannot view pipe surface due to algal growth		
Substrate: sand stone low relief reef, cobble		Kelp: Yes (No) (circle one)
		Surfgrass: Yes (No)
		Eelgrass: Yes (No)
Invasives: *Undaria* Yes (No)		*Sargassum muticum* Yes (No)
Caulerpa Yes (No)		*Sargassum horneri* Yes (No)
General flora community: low red turfs, articulated & encrusting coralline algaes,		
General fauna community: spanish shawl nudibranch, Anthopleura CA spiny lobster, sculpin		
Black abalone (*Haliotis cracherodii*): Yes (No) White abalone (*Haliotis sorenseni*): Yes (No)		

Other Observations:

End transect @ 10 ft is depth; surge increase & vis decrease