
1.0 PROJECT OVERVIEW

1.1 PROJECT PROPONENTS

Mobil Exploration and Producing U.S., Inc.
Rincon Island Limited Partnership

1.2 REGIONAL SETTING

The State Leases PRC 427.1 (Ferguson Lease), PRC 3125 (Needham Lease) and PRC 429.1 (Whitten Lease) comprises approximately 233 acres of State tidelands including the adjacent beach and are, located approximately 7 miles northwest of Ventura, California (Figures 1-1 and 1-2).

The shoreline in the vicinity of the leases faces southwest, is sandy and is fully exposed to ocean swells. U.S. Highway 101 and the Southern Pacific Railroad tracks are located immediately shoreward of the leases. Coastal mountains extend nearly to the shoreline at this location, including Los Sauces Canyon which is located immediately southeast of the Ferguson Lease. The Seacliff residential community is located about 0.5 mile southeast of the Lease. Oil and gas production originates from the Rincon Anticline, extending approximately 24 miles from the onshore Ventura Field to the offshore Dos Cuadros Field.

1.3 PROJECT BACKGROUND

1.3.1 Purpose and Need

The Leases produced crude oil and natural gas from 1930 to 1993, primarily from well heads located on offshore piers and wharves. Production was terminated in 1993 on Lease Nos. PRC 3125 and PRC 427.1 held by Mobil Exploration and Producing U.S., Inc. (Mobil) due to economic reasons and the wells were plugged and abandoned.

Oil and gas production on Lease No. 429.1 was discontinued in 1959. Windsor Energy US Corporation (Windsor), the general partner of Rincon Island Limited Partnership (RILP) intended to use the Whitten Pier wells for water injection. However, a source of water is not available. Therefore, the wells are currently being plugged and abandoned. Abandonment is anticipated to be completed during the summer of 1997.

The purpose of the project is to remove (decommission) the piers and wharves as required by the conditions of State Leases PRC 427.1, PRC 3125 and PRC 429.1.

Figure 1-1 - Aerial Photograph

8.5x11

Figure 1-2. - Project Site Location

8.5 x 11

1.3.2 History of the Leases

The first well (Ferguson #1) was drilled in October 1929 from shore to a depth of 1,010 feet and was considered a dry hole. Construction of piers (Seacliff piers) on the Ferguson Lease was initiated in 1930 and the second well (Ferguson #2) was completed in March 1930. Overall, 36 wells have been drilled penetrating 18 productive horizons, ranging in depth from 2,200 to over 10,000 feet. Production was from the shallow zones (top, intermediate and Miley zones), until November 1954 when the first deep zone well (Ferguson #101) was drilled and completed. In February 1972, four wells were converted to water injection to form a waterflood of the Miley zone as a secondary production technique.

Cumulative production of the Ferguson Lease is approximately 12.6 million barrels of crude oil, 14.6 billion cubic feet of natural gas, and 12.0 million barrels of produced water. Approximately 10.7 million barrels of the produced water was reinjected. All active wells were shut in, plugged and abandoned between October 1993 and June 1994. Surface casings and/or conductor casings are still present and will be removed with the piers.

The Ferguson Lease is operated under State Lease PRC 427.1 (Figure 1-3) that was originally signed in May 1930 as State Lease No. 48 for a period of 20 years. This lease was renewed in May 1950 for a period of 20 years and then amended in June 1958 to allow continued production without further renewals.

State Lease 3125 was signed in June 1964 for a period of 15 years to allow surface usage of offshore land to accommodate the existing operation of the Needham pier and wharf. This lease was renewed in 1979 and 1989 and is in effect until June 1999.

The Whitten Lease is operated under State Lease PRC 429.1 that was previously identified as Lease No. 56 in the original lease agreement signed in 1934. State Lease 429 was executed on April 21, 1951 between Honolulu Oil Corporation and the State Lands Commission. The Lease was extended for a period of 10 years and allowed exclusive rights to oil and gas exploration and production. Numerous assignments and conveyances have occurred with the most recent assignment in November 1996 between Torch and RILP.

Wells on the Whitten pier were shut-in in 1987 following a sharp decline in production that started in 1984. The wells are currently being plugged and abandoned in accordance to DOG and SLC guidelines.

Figure 1-3 - Lease Locations, and Piers and Wharves to be Removed

8.5 x 11

1.3.3 Description of Facilities

Piers and Wharves. The piers and wharves were constructed in the early 1930's and are known as the Seacliff (or Rincon) pier complex (Figure 1-3). They are also referred to as the "oil piers" by local residents. The Seacliff pier complex consists of two distinct piers; Short Pier and Ferguson/Needham/Whitten Pier. The Short Pier is approximately 350 feet long, including a terminal wharf (Short Wharf), that is 75 feet wide by 162 feet long. The Short Pier includes a derrick foundation (caissons) and eight production wells that have been plugged and abandoned (Nos. 3W, 7W, 12, 14, 15, 24, 25, 26). Well Nos. 3W and 7W were previously water injection wells.

The Ferguson/Needham/Whitten Pier is composed of the Main Pier and the Spur Pier. The Spur Pier diverges from the Main Pier approximately 140 feet from the base of the Main Pier and is approximately 620 feet long, including a terminal wharf (Spur Wharf), 75 feet wide by 162 feet long. The Spur Wharf presently does not have a derrick foundation. The eight wells at the Spur Wharf (Nos. 4, 4W, 8, 9, 16, 21, 28, 29) have been plugged and abandoned. Well No. 4W was previously a water injection well.

The Main Pier is composed of three pier segments; Ferguson Pier, Needham Pier and Whitten (Honolulu) Pier. The Ferguson Pier is approximately 1,300 feet long and comprises the portion of the Main Pier from its base to the Ferguson Wharf. The Ferguson Wharf is located at the junction of the Ferguson and Needham Piers and is approximately 80 feet wide by 300 feet long. The Ferguson Wharf includes a derrick foundation and 16 wells that have been plugged and abandoned (Nos. 2, 5, 6, 17, 18, 19A, 23, 30, 31, 32, 33, 34, 36, 101, 102A, 103).

The Needham Pier is approximately 700 feet long and comprises the portion of the Main Pier from the Ferguson Wharf to the Ferguson Lease boundary line. The Needham Wharf is located along the Needham Pier and is approximately 60 feet wide by 170 feet long. The Needham Wharf includes a derrick foundation and six wells that have been plugged and abandoned (Nos. 6W, 7, 11, 20, 22, 35). Well No. 6W was previously a water injection well.

The Whitten Pier and Wharf extends beyond the Ferguson Lease an additional 400 feet. The Whitten Pier and Wharf are owned and operated by the Rincon Island Limited Partnership, with Windsor Energy US Corporation as the general partner. The pier is about 14 feet wide and the wharf is about 57 feet wide. The Whitten Wharf includes a derrick foundation and 18 oil wells including three that are currently abandoned (Nos. 429-1, 429-1A, 429-2) and 15 that are currently shut-in (Nos. 429-3B, 429-4A, 429-5A, 429-6B, 429-7A, 429-8A, 429-9A, 429-10, 429-11, 429-12, 429-14, 429-15, 429-16, and 429-20) and will be fully abandoned by the summer of 1997. One

20-feet in diameter waste tank and piping to the shore facilities (including an injection line, oil line and miscellaneous process lines) exist on the Whitten Wharf and Pier.

The piers and wharves have been repaired and maintained throughout their life. Three major modifications are described as follows:

- In 1970, a fire destroyed much of the complex. Fire-related repairs include replacing over 1,000 feet of decking and piers.
- In 1973, the piers were shortened to accommodate fill used in widening of U.S. Highway 101.
- In 1983, storm-related damage required the reconstruction of the pier between the Ferguson and Needham wharves.
- In 1996, storm damage again required reconstruction of damaged pilings supporting the Ferguson, Needham and Whitten Piers.

Caissons. The derrick foundation on the Ferguson Wharf is composed of five caissons: a central caisson and four smaller caissons surrounding the central caisson (Figure 1-4). Derrick foundations to be removed at the Short Wharf and Needham Wharf are similar. The central caisson is composed of a rebar cage (11 feet in diameter) and a steel sheet pile exterior (12 feet in diameter) and filled with concrete. The smaller caissons are composed of welded rebar hoops surrounding four "H" piles, enclosed in steel sheet pile (8 feet in diameter) and filled with concrete. The derrick foundation on the Whitten Wharf is composed of one caisson set as described above for the Ferguson Wharf (with three well conductors), and one solitary caisson, 22-feet in diameter, with three well conductors. There is no construction diagram available for the solitary caisson. It is assumed that is constructed in a similar manner as the large central caisson of the five caisson sets.

Oil and Gas Processing and Storage. Crude oil produced on the project Leases was processed at the Ferguson/Tomson separation-storage facility located immediately east of the Southern Pacific railroad tracks. This facility consisted of a free water knockout, heater treater, wash tank, produced water tank, reject oil tank and two LACT-storage tanks. Natural gas was not processed or stored on the project Leases.

Abandonment and removal of this facility has been processed under a separate permit from Ventura County. Removal of these facilities were completed in 1996.

Figure 1- 4. Ferguson Caisson Construction

8.5 x 11

1.4 ABANDONMENT SUMMARY

The objective is to remove the Seacliff Pier Complex (Short Pier and Wharf, Spur Pier and Wharf, Needham Pier and Wharf, Ferguson Pier and Wharf, Whitten Pier and Wharf). All decommissioning activities will be conducted from the existing piers and wharves and will not require any offshore support such as barges or other vessels. However, pre-demolition and post-demolition surveys require the use of a small vessel to support diver activities and sonar equipment.

1.5 SUMMARY OF ABANDONMENT PROCEDURES

All decommissioning-related activities will be conducted by American Pacific Marine (APM) and their subcontractors. The project will be conducted in four basic phases summarized below.

1.5.1 Pre-Demolition Survey

The purpose of the pre-demolition survey was to determine the position, condition and number of pilings, pile stubs, bents, caissons and other subsurface structures that will be removed and/or demolished. This phase of the project has been conducted. The underwater pre-demolition survey included land-based survey control, field inspection and preparation of an inspection report and inventory database. Field operations for the underwater pre-demolition survey were conducted between January 24 and February 3, 1996 for the Mobil facilities. The pre-demolition survey for the Rincon Island Limited Partnership facilities (i.e., Whitten Pier and Whitten Wharf) was conducted on January 9 and 10, 1997.

1.5.2 Mobilization/Site Preparation

OBJECTIVE

The purpose of site preparation is to facilitate subsequent decommissioning activities including removal of decks, pilings, caissons, and associated debris.

METHODOLOGY

All wells, conductors and associated well cellars have been removed during the well plug and abandonment phase of the project. Additionally, all caissons, and piping will have been cleaned of residual hydrocarbons prior to commencement of this demolition project.

Site preparation tasks which will be performed include locating and identifying underground onshore facilities, installing temporary fencing and gates, moving

demolition equipment and personnel to the project site, inspecting production piping and vessels, re-routing the fire water system and disconnecting the electrical system.

Identification of Existing Underground Onshore Facilities

Dig-Alert will be contacted and a site visit will be coordinated with representatives from APM, Mobil, RILP, and Dig-Alert. During the site visit, all underground facilities/services in the project vicinity will be identified for location and activity. Once identified, underground facilities will be marked as needed to prevent inadvertent disturbance.

Installation of Security Fencing and Gates

To ensure public safety, temporary fencing will be installed around the staging/storage area, office trailer, and at pedestrian control areas. The staging and storage area will include a waste materials segregation area and will be located on or adjacent to the existing access road. However, due to space limitations, a secondary storage area will be established adjacent to Old Rincon Road north of the U.S. Highway 101 underpass in an area currently owned and used by RILP. The area is a flat, fenced, sand and gravel lot currently occupied by pump jacks, piping and other miscellaneous materials and is approximately 105,000 square feet in size. Figure 1-5 shows the location of the staging area and restricted access areas.

A third storage area may also be required and would be located north of the project access road at the terminus of Old Rincon Road. This area is currently used for stockpiling of Caltrans debris.

A control gate will be installed on Old Rincon Road to control truck movements and to limit traffic to project and safety vehicles (police, fire and medical) only. The pedestrian undercrossing near the Short Pier will be gated to restrict site access as a safety precaution.

Mobilization

All equipment will be transported from the APM Oxnard facility to the project site. Once onsite, the equipment will be set up and made operational. Project equipment spread(s) will vary by activity, such that equipment used in later activities may be mobilized at a later date.

Figure 1- 5 – Staging Area and Restricted Access Locations

8.5x11

Inspection of Production Piping and Vessels

Prior to commencement of operations, production piping and vessels scheduled for rerouting or removal will be inspected to verify they are depressurized, and free of flammable materials or hydrocarbons.

Rerouting Fire Water System and Dismantling of the Electrical System

Fire water system will be rerouted as required to allow uninterrupted use throughout the project. The electrical system will not be required for the abandonment operations and has been removed.

PERSONNEL AND EQUIPMENT SPREADS

The following personnel and equipment have tentatively been assigned to this phase of the project. All personnel and equipment will be provided by APM unless otherwise noted.

Personnel	Equipment
Project engineer (1)	All required safety equipment
Project superintendent (1)	Office trailer with desks & lighting
Foreman (1)	Computer equipment
Crane operator (1)	Cellular telephone with Fax (1)
Divers (2)	Motorola VHF Radios (4)
Stinger/wheeled loader operator (1)	Stinger crane (1)
Truck driver (1)	Generator (1)
Welders (2)	65 ton crane (1)
Riggers (2)	Wheeled loader (1)
Pipefitters (2)	Tractor trailer (1)
Security guards (2)	All terrain vehicle "quad-runner" (1)
Excavator operator (1)	Welding/cutting spread (1)
	Air diving spread (1)
	Rotoscrew (1)
	Dump truck (1)
	Chain saws (4)
	Light stand (1)
	LEL/O2 analyzer (1)
	Barricades (all)
	Rigging (all)
	Consumables
	Rest rooms (2)
	Excavator

1.5.3 Pier and Wharf Removal

OBJECTIVE

The objective is to remove the entire Seacliff Pier complex including caissons, decking, piles and associated facilities in accordance with the State Lands Commission Lease Agreement.

METHODOLOGY

To ensure minimal impact to the public and the environment, demolition operations have been scheduled to perform preparatory critical path tasks in successive operations with independent personnel and equipment spreads. Personnel and equipment used for each task will be demobilized upon completion, if not required for the next task.

Major demolition operations will commence upon completion of the site preparation tasks at the first pier/wharf site. All demolition operations will be performed in successive order (barring weather constraints) for each pier/wharf. Operations will commence simultaneously at the Short Wharf and Pier, and Whitten Pier and will continue at the following facilities listed in sequential order:

- Whitten Wharf,
- Needham Wharf,
- Needham Pier,
- Ferguson Wharf,
- Spur Pier and Wharf, and
- Ferguson Pier.

Components scheduled for removal have been identified as support components, caissons, wharf and pier components, and pilings to allow definition of activity locations and type. Demolition of support components and well components will be performed as initial critical path tasks.

All structures in shallow zones (less than 15 feet below mean lower low water [MLLW]) will be removed to an elevation of 5 feet below mudline. Structures in deep zones (15 feet or greater below MLLW) will be removed to the mudline elevation.

Support Components

Support components include production and water piping, electrical service, all associated hangers and supports, and asphalt. All piping and electrical will be removed, commencing at the seaward end of the Piers, until complete. Pipe bundles will be cut into 20-foot sections using a cutting torch and/or mechanical means and removed from

the supports with a truck-mounted hydraulic crane (stinger crane). Pipe sections will be transported to the onshore staging/storage area by a wheeled loader.

Caissons

Derrick foundations (caissons) at the Short Wharf, Ferguson Wharf, Needham Wharf and Whitten Wharf will be removed. The four sets of caissons (five caissons per foundation) and the single 22-foot in diameter caisson will be removed using a multi-phase process. Explosives will be used to fracture caisson concrete, both above and below the mudline. All operations utilizing explosives will be performed pursuant to Appendix B of this document. The phases and procedures for demolition of the caissons will be as follows.

- Decking and rig support beams will be cut and removed from above the caissons.
- Caisson sheet piling and structural members will be removed using an oxy/acetylene or oxy/arc torch, both above and below the water surface.
- Structural concrete will require drilling to allow installation of explosives. A track drill will be utilized to drill vertical holes into the concrete at predetermined locations around the caisson. Holes will be drilled to a depth of 5 to 7 feet below mudline elevation.
- Once the holes are drilled, they will be backfilled with sand to ensure that they remain free of foreign objects until ready for explosive insertion.
- Once all caissons are prepared, the sand will be flushed from the pre-drilled holes and charges will be set
- After the charges are set, an angular gravel pack will be backfilled into the holes and blast mats will be placed over the caisson to prevent flying debris.
- Explosives will be detonated, fracturing the concrete.
- The fractured caisson concrete will be redistributed or removed utilizing the 65-ton crane and a clam bucket. Reinforcing steel and pilings within the fractured structure will cut free as required using an oxy-acetylene torch, both above and below the water surface.
- Any recovered caisson-related debris will be transported to the onshore staging/storage area where the various materials will be segregated and transported to a recycling or disposal facility.

After fracturing, the caisson debris which is present in 20 feet or greater water depth will be used to create an artificial reef. Instead of removing the concrete debris, the crane and clam bucket would be used to distribute the debris into a low relief reef formation. The crane and clam bucket has a reach of 50 feet and can also move in a shoreward direction on the remaining pier structure in order to distribute the material. Figure 1- 6 shows the approximate configuration for the artificial reef at the Whitten, Needham, and Ferguson Wharves. Due to insufficient water depth at the Short Pier, the caisson materials will be removed completely.

The pier complex is located within a designated reef site (designated as part of the Rincon Island development) and is in proximity to an existing large kelp bed located approximately 600 feet from the piers. These factors are consistent with the artificial reef site selection criteria established by CDF&G.

Wharf and Pier Components

This phase will include removal of the remaining wharf and pier components including pier decking, joists, pile caps, longitudinal supports, pile bracing and piling. The phases and procedures for demolition of the caissons are as follows:

- Each bent span consisting of pile caps, supports, hand rails, and decking will be cut into two deck sections, approximately 20 feet wide by 15 feet long.
- Each deck section will be rigged for removal by cutting box access holes at each corner of the section. Lifting slings will be installed on each deck section to be removed, rigged to a 65-ton crane and the rigging tensioned.
- Pilings supporting the deck section to be removed will be cut below the cap by deploying a rigger/welder in a man basket suspended from a stinger crane. An oxygen/acetylene-cutting torch or chain saw will be used by a rigger/welder to cut the piles directly under cap.

Figure 1- 6 – Artificial Reef Configuration

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- Deck sections will be removed by riggers using chain saws to cut through the deck, caps and stringers while the 65-ton crane holds the deck section load.
 - The crane will lift the deck section once it is free and lay it down on the shoreward side of the crane. A wheeled loader will be utilized to move the deck section from the wharf (or pier as applicable) to the onshore staging/storage area. (See Figure 1-7)
 - Deck sections will be stored in stacks until a truckload has accumulated

Piling Removal

The Seacliff Pier complex includes a variety of piling types including wood, steel I-beam, and steel piping. Removal of the pilings will occur following the removal of the overlaying deck sections. Pilings will be removed in corresponding sections from a crane mounted vibratory extractor or clam bucket system located on the next shoreward deck section. Pilings in water depths less than 15 feet (MLLW) will be removed to a minimum 5 feet below mudline, while piling located in 15 feet (MLLW) or greater will be removed at mudline.

The primary technique for removal of pier and wharf pilings in the shallow zone is vibratory extraction. This technique allows extraction of the entire pile, provided piling integrity is adequate. In cases where a pile fails during extraction, the pile will be excavated using the 65-ton crane and clam bucket and cut off at 5-feet below mudline. Pilings in deeper zones (greater than 15 feet MLLW) will be cut at the mudline. Cutting techniques will be either an underwater shear, or divers with oxy/arc torches and underwater chain saws as applicable. Extraction will be performed utilizing the following procedures:

- The extraction tool will be centered over the piling to be removed, and lowered over the piling until the extractor is resting on the pile top.
- The pile clamp will be engaged and the extractor will be started.
- The pile will initially be driven down to break soil friction, this method will also reduce the risk of pile failure, and minimize deck loading during extraction.
- Once soil friction is broken, the pile and hammer will be tensioned by the crane (with the extractor running), and piling will be retrieved from the soil.
- Once the pile is extracted, the crane will move the piling (and hammer) to the Marine Growth Stripper and Piling Cutter (MGSC) and set the pile in the device.

Figure 1-7. Deck Section Removal

8.5 x 11

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- The MGSC is a hydraulic device which utilizes a hydraulic clamp to strip marine growth and hold the lower section of the pile, and hydraulic shear to sever the upper pile segment from the lower. A guide funnel will be located at the top of the unit to aid in pile alignment with the MGSC.
 - Stripped marine growth will fall directly into the ocean.
 - Once the upper segment of the piling is cleaned and cut, the crane will move the pile segment shoreward of the crane and set the pile on a truck trailer (dunnage or equivalent).
 - The crane will then retrieve the bottom segment of the piling from the MGSC and set it down on the truck trailer. The lower section of piling is not cleaned because it is retrieved from below mudline and does not support marine growth.
 - The crane will then center the extraction tool over the next piling to be removed, and the process will be repeated until all pilings within the bent are removed.
 - Pilings will then be transported with the wheeled loader (or heavy-duty truck, if trailer is used) to the onshore staging/storage area for segregation.

Materials Disposal

All materials recovered from the demolition project will be segregated in the staging/storage area and transported from the project site to appropriate disposal sites using heavy-duty on-road trucks. Segregation will be based on level of contamination and type of material (i.e., wood, steel, concrete or asphalt). Segregated materials will be stored only as needed to accumulate sufficient material to comprise a truckload. These materials will be loaded on to heavy-duty trucks using a wheeled loader.

Transportation of recovered materials to disposal or recycling facilities will require approximately 510 truck trips, with a maximum of 10 truck trips occurring on a peak day. A control gate located north of U.S. Highway 101 will be used to limit the number of trucks on the access road and prevent traffic conflicts.

Wood. It is estimated that about 538.5 tons of wood pilings and caps and 1,550 tons of wood structure will require disposal. Decking, structural timbers and non-structural timbers have been found to contain arsenic in concentrations exceeding maximum allowable values under the Resource Conservation and Recovery Act (RCRA). These materials will be micro-encapsulated as required by RCRA prior to disposal. Wood pilings and wooden piling support trusses will be tested to determine disposal requirement prior to the project initiation. It is estimated that about 556 tons of wooden caps and piles will require disposal at a Class II landfill.

Steel. It is estimated that about 1,148 tons of steel will require disposal or recycling. Steel materials including "H" beams, sheet pile, pipe pilings, and caisson reinforcing materials will be moved to the on-site staging/storage area. These materials have been previously cleaned of hydrocarbon contamination and will be disposed of as uncontaminated scrap in the Ventura area.

Concrete and Asphalt. It is estimated that approximately 6,654 tons of concrete and 468 tons of asphalt will require disposal, recycling, or will be used to create an artificial reef. The concrete debris associated with the Ferguson, Needham and Whitten Wharves will not require disposal because it would be used to create the artificial reef structure. This would reduce the concrete requiring onshore transport and disposal by 5,403 tons. Truck trips would be reduced by approximately 263 trips.

Concrete obtained from caisson demolition and asphalt obtained from pier and wharf decking that will not be left on site, will be transported to a recycling facility in the Ventura area.

Underwater Post-Demolition Survey

Color search sonar will be used to survey the perimeter of the piers and wharves to verify that all underwater structures have been removed as planned and removal criteria for pilings, and caissons have been met. Diver inspections will be conducted as needed to identify sonar targets and verify satisfactory completion of project objectives. An inspection report will be generated and will be available to all responsible agencies. Surveys will be conducted following demolition of each pier/wharf segment to allow use of the crane while decking is intact.

PERSONNEL AND EQUIPMENT SPREADS

The following personnel and equipment have tentatively been assigned to this phase of the project. All personnel and equipment will be provided by APM unless otherwise noted.

Support Component Demolition

Personnel	Equipment
Project superintendent (1)	All required safety equipment
Foreman (1)	Office trailer with desks & lighting
Stinger/crane operator (1)	Computer equipment
Wheeled loader/truck operator (1)	Cellular telephone with fax (1)
Truck driver (1)	Motorola VHF radios (4)
Welders (2)	Stinger crane(1)
Riggers (2)	Generator (1)

Security guards (2)	65-ton crane (1)
	Tractor trailer (1) Dump truck (1) All terrain vehicle "quad-runner" (1) Welding/cutting spread (1) Rotoscrew (1) Asphalt saw (1) Light stand (1) LEL/O2 analyzer (1) Barricades (all) Rigging (all) Consumables Rest rooms (2)

Caisson Demolition

Personnel	Equipment
Project superintendent (1)	All required safety equipment
Foreman (1)	Office trailer with desks & lighting
Divers (2)	Computer equipment
Crane operator (1)	Cellular telephone with fax (1)
Stinger/wheeled loader operator (1)	Explosives and detonation equipment
Truck drivers (6)	Motorola VHF radios (4)
Welders (2)	Stinger crane (1)
Riggers (2)	Generator (1)
Blasting technicians (2)	65 ton crane (1)
Security guards (2)	Clam bucket (1)
	Wheeled loader (2)
	Tractor trailer (1)
	Dump truck (2)
	10 Yard End Dump Truck (4)
	All terrain vehicle "quad-runner" (1)
	Welding/cutting spread (1)
	Air diving spread (1)
	Light stand (1)
	LEL/O2 analyzer (1)
	Rigging (all)
	Barricades (all)
	Consumables
	Rest Room (2)
	Track drill and power supply (1)

Wharf and Pier Demolition

Personnel	Equipment
Project superintendent (1) Foreman (1) Divers (2) Crane operator (1) Stinger/wheeled loader operator (1) Truck driver (1) Welders (2) Riggers (2) Security guards (2)	All required safety equipment Office trailer with desks & lighting Computer equipment Cellular telephone with fax (1) Motorola VHF radios (4) Stinger crane (1) Generator (1) 65 ton crane (1) Clam bucket (1) Vibratory extractor (1) Hydraulic shear/stripper (1)
	Wheeled loader (1) Dump truck (2) Tractor trailer (1) All terrain vehicle "quad-runner" (1) Rotary compressor (1) Jet pump (1) Rotoscrew Air lift (1) Welding/cutting spread (1) Air diving spread (1) Chain saws (4) Light stand (1) LEL/O2 analyzer (1) Rigging (all) Barricades (all) Consumables Rest rooms (2)

SUBCONTRACTORS

Explosives Contractor - California Drilling and Blasting, Inc. will be utilized to perform blasting design engineering, drilling, and blasting for caisson concrete fracture operations.

Material Testing Laboratory - BC Laboratories (or equivalent) will be utilized to provide chemical testing and certified reports.

Steel Disposal Contractor - A sub-contractor will be used to transport scrap steel from the onshore staging/storage area to a scrap yard for salvage.

Wood Disposal Contractor - Laidlaw Environmental (or equivalent) will be utilized to transport wood debris from the onshore staging/storage area to a certified disposal site.

Concrete and Asphalt Disposal Contractor - A sub-contractor will be used to transport concrete and asphalt debris from the onshore staging/storage area to an appropriate recycling facility. If the artificial reef alternative is implemented a portion of the concrete debris will no require disposal.

1.5.4 Site Restoration/Demobilization

All rigging, equipment, consumables, debris, vehicles, and trash will be removed from the remaining access road, staging, and storage areas. Gates and fencing will be removed from the site. The access road surface will be restored and returned to the State for continued use. A post-demolition report will be prepared and submitted to responsible agencies within 45 days of demobilization.

1.6 SCHEDULE

The timing of implementation of this execution plan will depend on the issuance of permits by various agencies. Therefore, the precise timing of this project cannot be determined. However, the duration and coordination of various major tasks is provided as Figure 1-8. As can be seen from the figure, the project is anticipated to be accomplished within nine months. This assumes work will be conducted seven days a week and 12 hours per day.

Figure 1-8. Preliminary Schedule

8.5 x 11