PROJECT EXECUTION PLAN

PG&E L114, L114-1 AND SP4Z
SAN JOAQUIN RIVER
SUBMARINE PIPELINE CROSSING
DECOMMISSIONING PROJECT

PACIFIC GAS AND ELECTRIC COMPANY

APPLICATION SUBMISSION: MARCH 2015
PROJECT WINDOW: AUGUST 1 THRU OCTOBER 31, 2015

Pacific Gas and Electric Company

OWNER

PACIFIC GAS AND ELECTRIC COMPANY
6121 BOLLINGER CANYON ROAD, RM 3540F
SAN RAMON, CALIFORNIA 94583
BRYAN GORDON - PROJECT MANAGER
CHRISTOFFER ELLIS, AICP - PRINCIPAL LAND MANAGER

LONGITUDE 123, INC.
Marine Project Consulting and Construction Management

DECOMMISSIONING MANAGER

LONGITUDE 123, INC.
2100 VALLEY MEADOW DRIVE
OAK VIEW, CALIFORNIA 93022
MARK STEFFY, PROJECT MANAGER
TEL. 805.649.9364

padre associates, inc.
ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

DECOMMISSIONING ENVIRONMENTAL CONSULTANT

PADRE ASSOCIATES, INC.
555 UNIVERSITY AVENUE, SUITE 110
SACRAMENTO, CALIFORNIA 92825
SARAH POWELL - ENVIRONMENTAL MANAGER

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SECTION ONE – INTRODUCTION

1.1 FACILITY LOCATION AND HISTORY

Pacific Gas and Electric Company (PG&E) owns and operates several natural gas transmission pipelines that cross the Sacramento-San Joaquin River Delta. Several of these pipelines cross the Sacramento River and/or the San Joaquin River. PG&E intends to decommission three of the San Joaquin River submarine pipeline crossings located near Antioch, California.

The subject submarine pipeline crossings are Line 114-1 (L114-1), Line 114 (L114) and Line SP4Z (SP4Z) where they cross the San Joaquin River between Sherman Island and the City of Oakley. All three pipeline crossings and their supporting facilities were constructed in 1942 and served as gas transmission pipelines transporting natural gas to consumers in Contra Costa County. The flow of the gas through the pipelines was from north to south and the pipeline facilities location descriptions in this Project Execution Plan (PEP) may be described as upstream (north) or downstream (south) of a given location.

The L114-1, L114 and SP4Z San Joaquin River crossings were deactivated in 2006. Approximately 647 feet of the 16-inch diameter terrestrial portion of L114 on Sherman Island, upstream of the north landing's reinforced concrete valve pit on Sherman Island levee, was filled with cement slurry, cut, capped and decommissioned in 1999. The SP4Z pipeline segment upstream of the north landing's reinforced concrete valve pit was cut and capped in 2012 but has not been filled with cement slurry. The three submarine pipeline crossing segments and the south landing's terrestrial pipeline segments are intact and currently filled with pressurized natural gas. Prior to the start of this decommissioning project, PG&E maintenance crews will remove the natural gas, clean the interior of the three pipeline crossings and leave the pipelines filled with unpressurized nitrogen or air.

The project site is located approximately 28 miles east of the San Pablo Bay entrance to the Carquinez Strait (see Figure 1-1 – Geographical Key Map) and the pipeline crossings are located approximately 605 to 850 feet east of the Antioch Bridge (State Highway 160). The crossings span the San Joaquin River between Sherman Island at the north landing and City of Oakley at the south landing within a corridor that is no more than approximately 12 feet in width (see Figure 1-2 – Project Site Map - Overview).

A 2005 underwater and diver survey revealed that the three pipeline crossings were spanned (suspended above the riverbed) where they cross the Stockton Deep Water Channel near the north landing of the crossing (offshore Sherman Island) with span lengths up to approximately 125 feet and elevated as much as approximately 6 feet above the riverbed. Follow up surveys in early 2006 confirmed these observations and PG&E subsequently pigged and cleaned the interior of these pipeline crossings and deactivated all three submarine pipeline crossings in March 2006.

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 1-1
GEOGRAPHICAL KEY MAP

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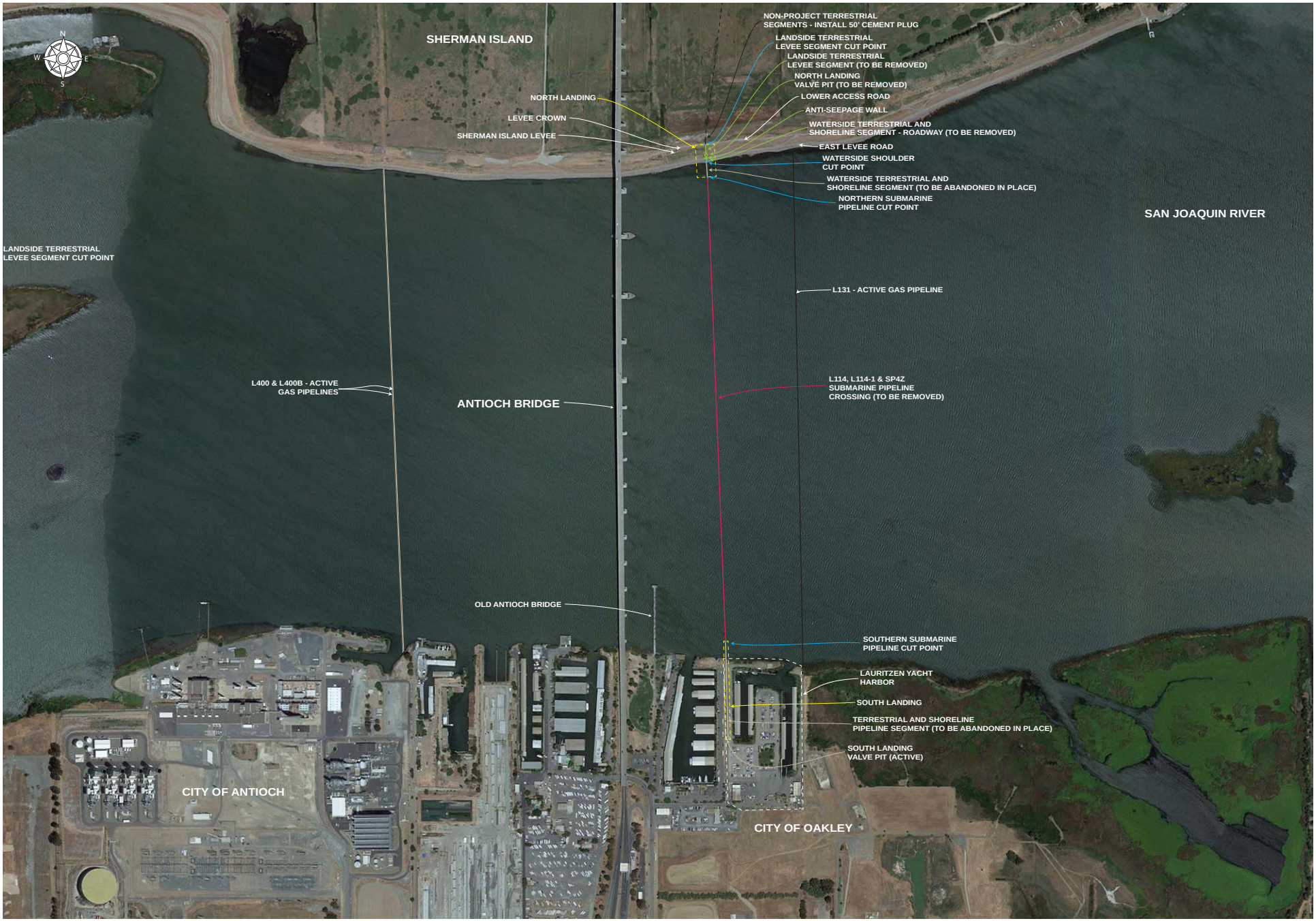

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FIGURE 1-2
PROJECT SITE MAP - OVERVIEW

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In August 2014, PG&E terrestrial and marine survey crews returned to this San Joaquin River submarine pipeline crossing and conducted a bathymetric and surficial feature survey of the crossings and topographic surveys of the north and south landings. The underwater surveys indicated that the pipeline spans were substantially unchanged from the spanned conditions found in the 2005/2006 surveys with the exception of additional exposed segments of pipeline that were observed on the riverbed. PG&E now intends to decommission and largely remove these three deactivated submarine pipeline crossings.

The north landing of the three pipelines is located on Sherman Island where the pipelines ascend the river bank, pass through the crown of the Sherman Island levee, and terminate in a reinforced concrete subterranean vault (valve pit) located on the northern (landside) slope of the levee (see Figure 1-3 – Schematic of North Landing – Existing, Figure 1-4 – Photograph 1 and Photograph 2 – North Landing and Figure 1-5 – Photograph 3 and Photograph 4 – North Landing). For purposes of this decommissioning project, the north landing also includes the segments of the three pipelines that exit the landside wall of the Sherman Island valve pit down to a point approximately 65 feet north of the landside toe of the levee where cement plugs to be installed by PG&E in L114-1 and SP4Z will terminate.

The south landing of the three pipelines come ashore at Lauritzen Yacht Harbor and terminate in a subterranean reinforced concrete vault (valve pit) located underground adjacent to a roadway inside of Lauritzen Yacht Harbor. There is no levee at the southern landing (see Figure 1-6 – Schematic of South Landing - Existing, Figure 1-7 – Photograph 1 and Photograph 2 – South Landing and Figure 1-8 – Photograph 3 and Photograph 4 - South Landing).

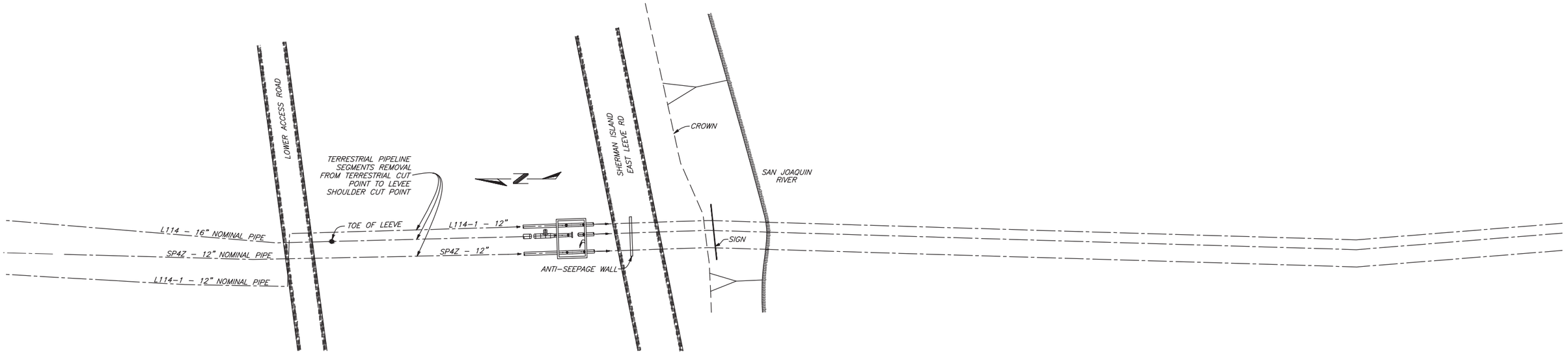
The horizontal length of the underwater portions of these crossings across the river channel are approximately 3,830 feet from shoreline to shoreline (3,519 feet from the underwater cut point at the northern shoreline to the underwater cut point at the southern shoreline). The northern landing of the crossing is located in Sacramento County while the southern landing of the crossing is located in Contra Costa County. The county boundary lines are located at the approximate centerline of the river.

1.2 EXISTING LEASE

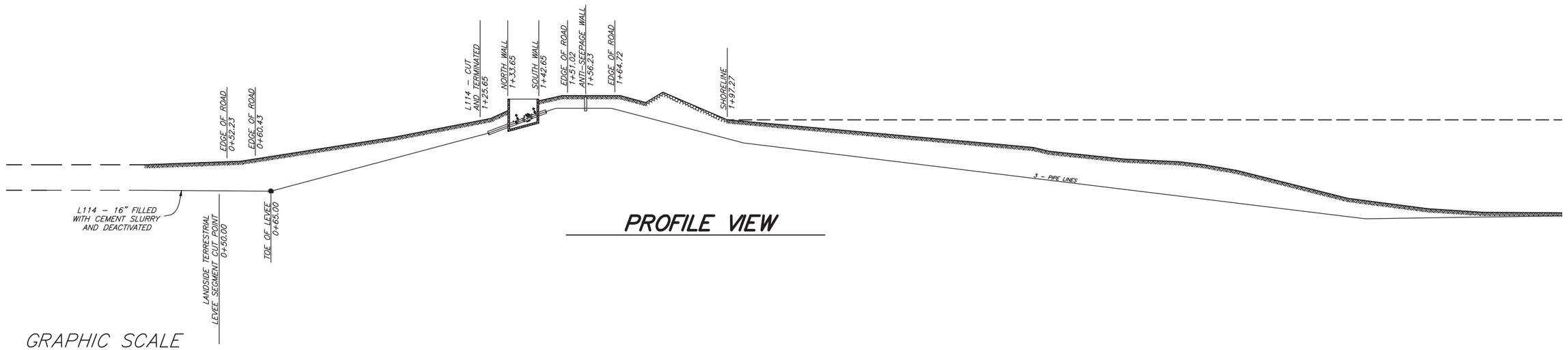
Use of the State tidelands for the L114-1, L114 and SP4Z submarine pipeline crossing facilities are authorized under CSLC Lease PRC 5438.1-E. This location was originally leased to PG&E beginning in January 1, 1978. That lease expired on December 31, 1997 but was continued in holdover status until a new lease was executed on January 1, 2012.

1.3 DECOMMISSIONING PROJECT BOUNDARIES

This decommissioning project involves the decommissioning of terrestrial and submarine pipeline segments. This includes the decommissioning of the buried terrestrial pipeline segments extending down the landside slope of the Sherman Island levee from the valve pit to a point approximately 65 feet north of



PLAN VIEW



PROFILE VIEW

GRAPHIC SCALE

0 12 24 60

6 18 30 90

SCALE: 1"=30'

YCE
INCORPORATED
Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650-6995 Fax: (805) 677-4721
Email: yce-myo@pacbell.net

PG&E L114, L114-1 AND SP4Z
SAN JOAQUIN RIVER SUBMARINE PIPELINE
CROSSING DECOMMISSIONING PROJECT
FIGURE 1-3 NORTH LANDING SCHEMATIC – EXISTING
JANUARY 2015

PHOTO 1 - SHERMAN ISLAND LEVEE AT NORTH LANDING.

PHOTO 2 - VALVE PIT AT NORTH LANDING.

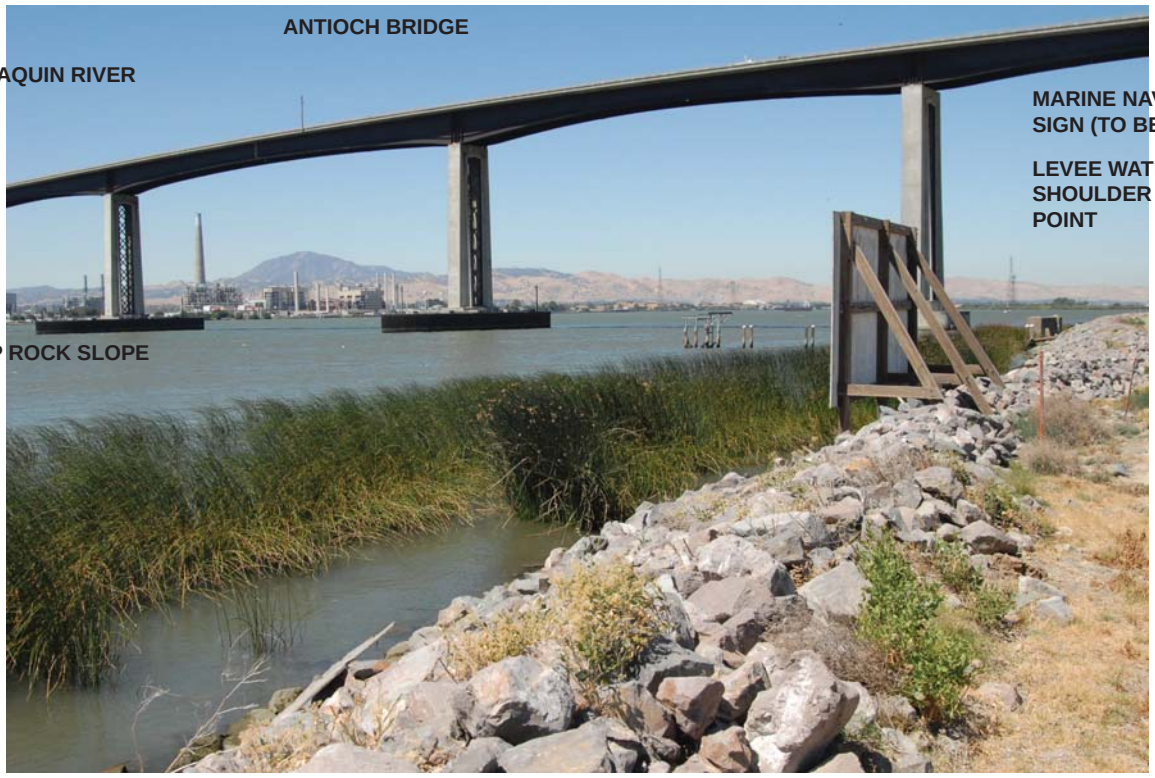


PHOTO 3 - SHORELINE AT SHERMAN ISLAND LEVEE

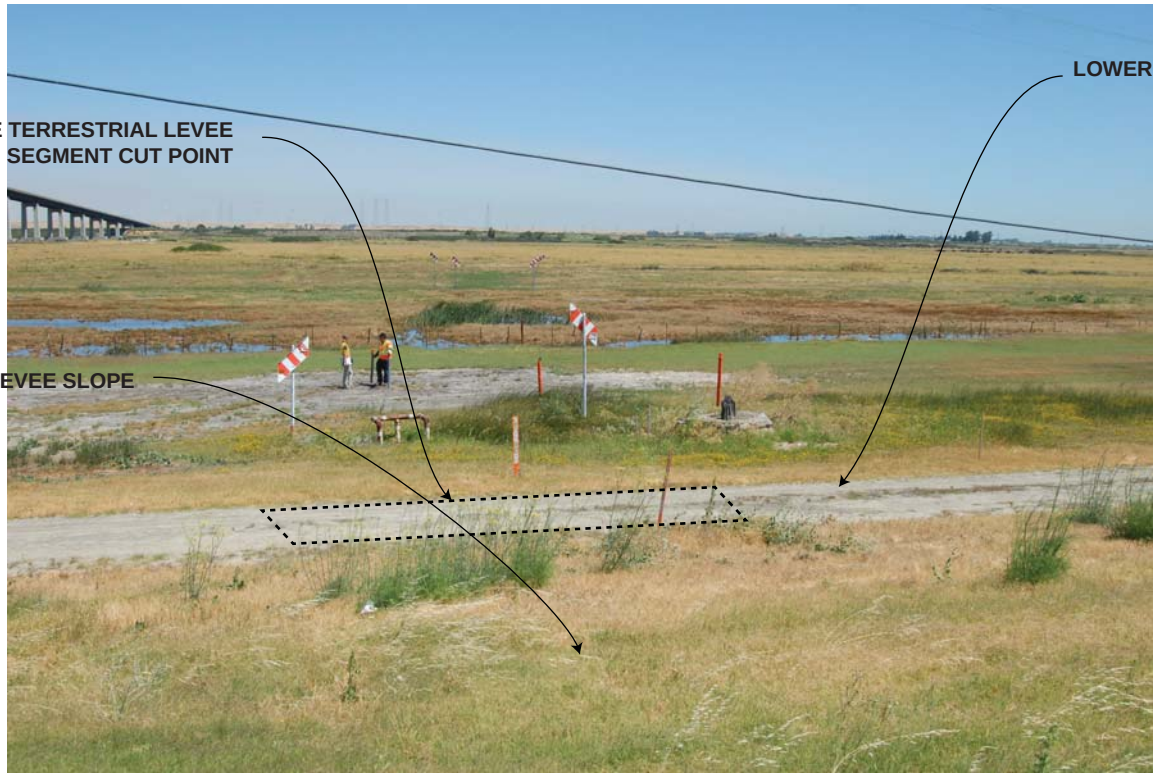


PHOTO 4 - LANDSIDE TERRESTRIAL LEVEE SEGMENT CUT POINT

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

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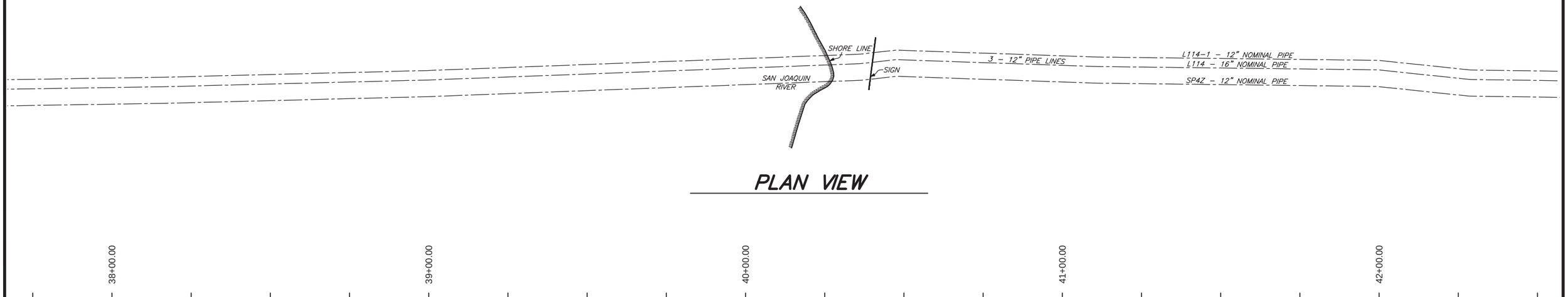
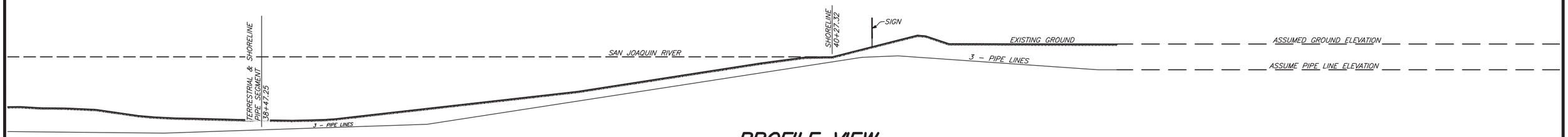
FIGURE 1-5
PHOTOGRAPHS 3 AND 4
NORTH LANDING



PLAN VIEW



PROFILE VIEW

GRAPHIC SCALE

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SCALE: 1"=30'

YCE INCORPORATED
Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650-6995 Fax: (805) 677-4721
Email: yce-myo@pacbell.net

PG&E L114, L114-1 AND SP4Z
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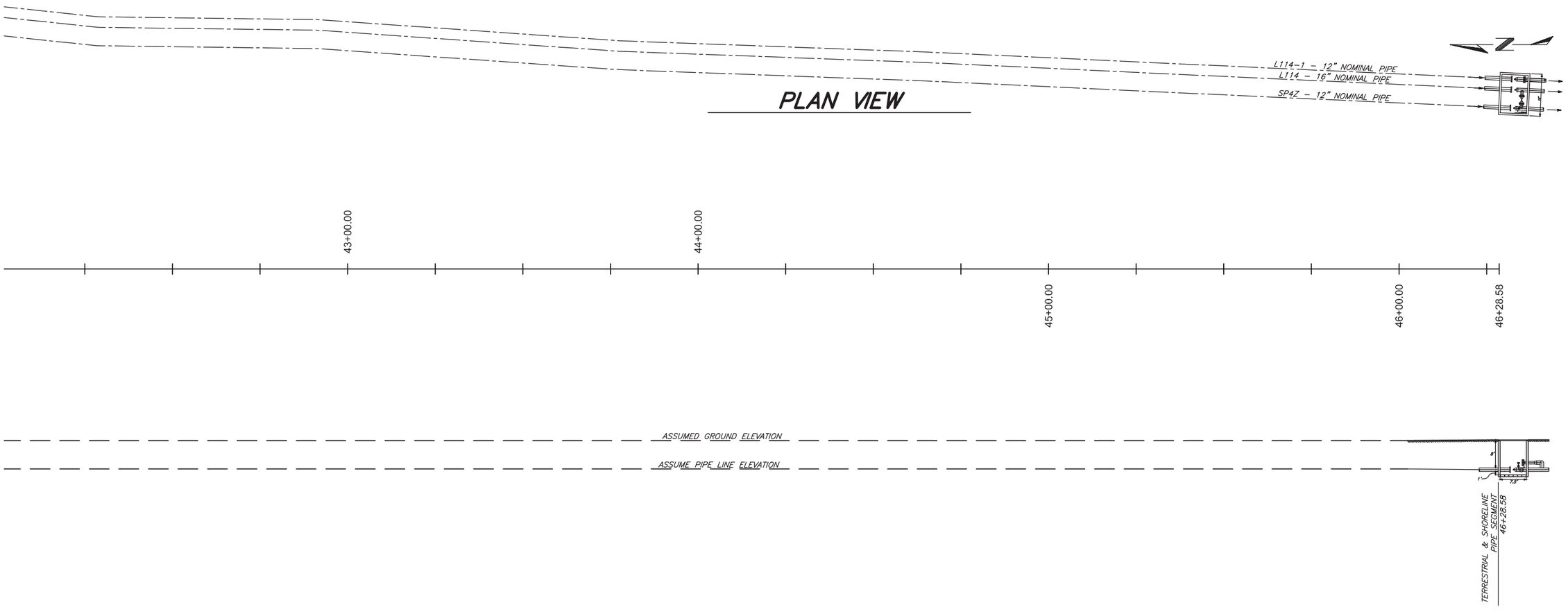
CROSSING DECOMMISSIONING PROJECT
FIGURE 1-6 SOUTH LANDING SCHEMATIC – EXISTING
JANUARY 2015
SHEET 1 OF 2



PLAN VIEW

PROFILE VIEW

GRAPHIC SCALE

0 12 24 60

6 18 30 90

SCALE: 1"=30'

YCE INCORPORATED
Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650–6995 Fax: (805) 677–4721
Email: yce–myc@pacbell.net

PG&E L114, L114–1 AND SP4Z
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CROSSING DECOMMISSIONING PROJECT
FIGURE 1–6 SOUTH LANDING SCHEMATIC – EXISTING
JANUARY 2015
SHEET 2 OF 2

PHOTO 1 - SOUTH LANDING VALVE PIT - INSIDE LAURITZEN YACHT HARBOR

PHOTO 2 - INTERIOR OF SOUTH LANDING VALVE PIT

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE
PIPELINE CROSSING DECOMMISSIONING PROJECT

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FIGURE 1-7
PHOTOGRAPHS 1 AND 2
SOUTH LANDING

PHOTO 3 - SOUTH LANDING MARINE NAVIGATION SAFETY SIGN - AT SHORELINE

PHOTO 4 - SHORELINE AT SOUTH LANDING - IN FRONT OF MARINE NAVIGATION SAFETY SIGN

the toe of the levee where the PG&E-installed cement plugs in L114-1 and SP4Z will terminate. As such, the project boundaries are from the planned terrestrial pipeline cement plug limits located approximately 134 feet north of the north wall of the valve pit located in the levee on Sherman Island (north landing), across the San Joaquin River to the south landing, at the north wall of the valve pit located inside Lauritzen Yacht Harbor in Oakley, California, a horizontal distance of approximately 4,628 feet (see Figure 1-9 – Project Boundary Map).

1.4 PIPELINE FACILITIES OVERVIEW AND PROPOSED FINAL DISPOSITIONS

The interiors of the terrestrial and submarine pipelines were cleaned in March 2006 and laid up with a low pressure natural gas purge. Although these pipelines have not been used since March 2006, they will be pigged and their interiors washed a second time prior to decommissioning to ensure that all contaminants inside the pipelines have been eliminated or lowered to levels below acceptable regulatory limits.

The flow of natural gas through the three pipelines, prior to March 2006 when the last two pipelines were deactivated, was from north to south and the facilities are summarized in this section from north to south.

1.4.1 North Landing

For purposes of this decommissioning project, the north landing is defined as the segment of the decommissioning work starting at a predesignated terrestrial cut point (the north landing's landside terrestrial levee segment cut point) on the north landing's terrestrial pipelines. This cut point will be located approximately 15 feet north of the toe of the Sherman Island levee (84 feet north of the north wall of the valve pit in the Sherman Island levee) and ending at a predesignated underwater cut point (the northern submarine pipeline cut point) on the submarine pipelines near the northern shoreline of the San Joaquin River. The north landing includes the pipeline facilities passing underneath the levee crown and the valve pit located in the levee slope. The total horizontal length of the north landing, from the north landing's landside terrestrial levee segment cut point to northern submarine pipeline cut point is approximately 328 feet long (see Figure 1-10 – Schematic of North Landing – Planned).

An approximately 50 foot long cement slurry plug will be placed in L114-1 and SP4Z from the north landing's landside terrestrial levee segment cut point north (upstream of the cut point). L114 is already filled with cement slurry. However, except for the installation of the cement slurry plugs in L114-1 and SP4Z, and capping of all three pipelines at the north landing's landside terrestrial levee segment cut point, the decommissioning of the terrestrial segments of these pipelines north of the north landing's landside terrestrial levee segment cut point is not included in this project.

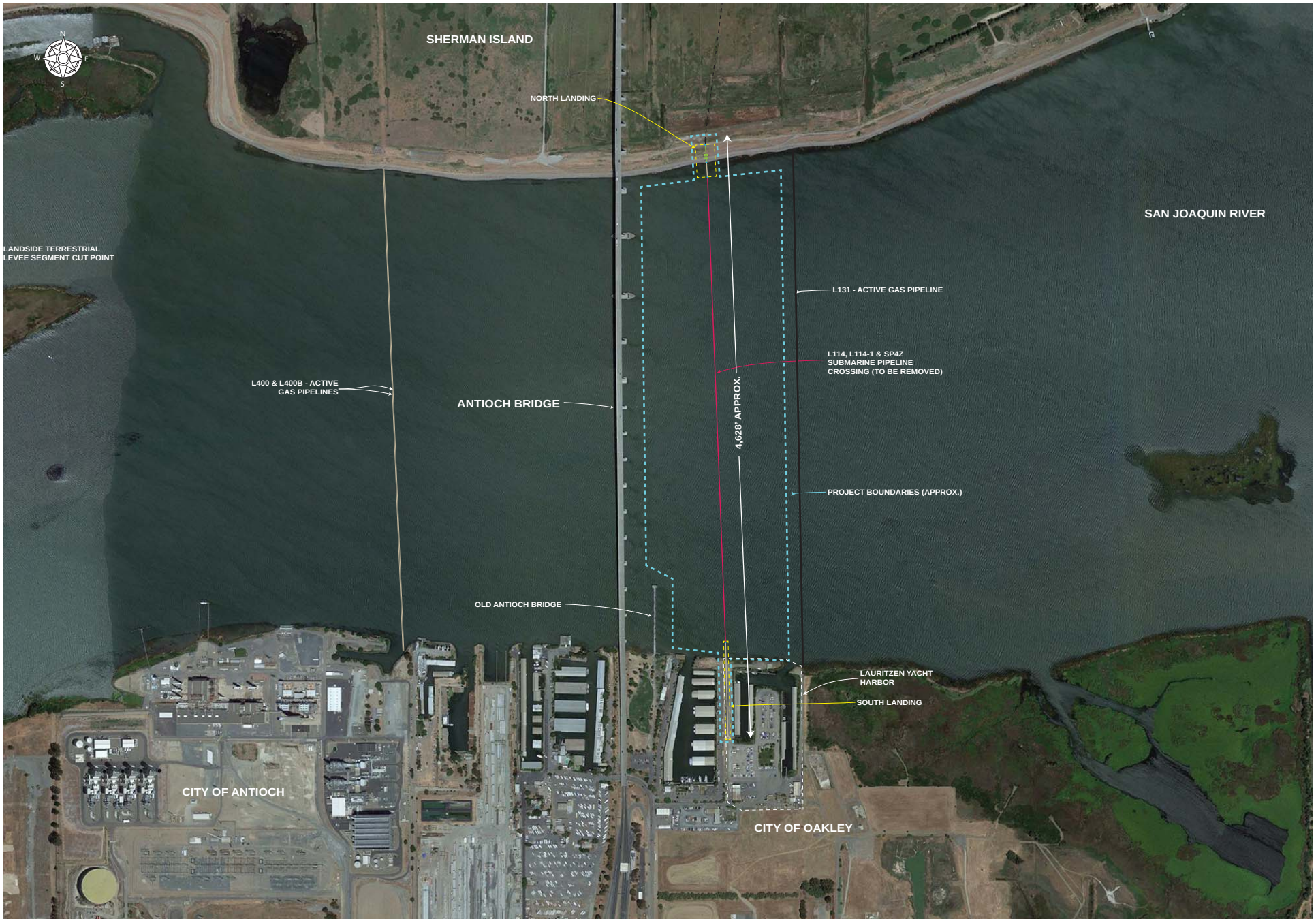

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FIGURE 1-9
PROJECT BOUNDARY MAP

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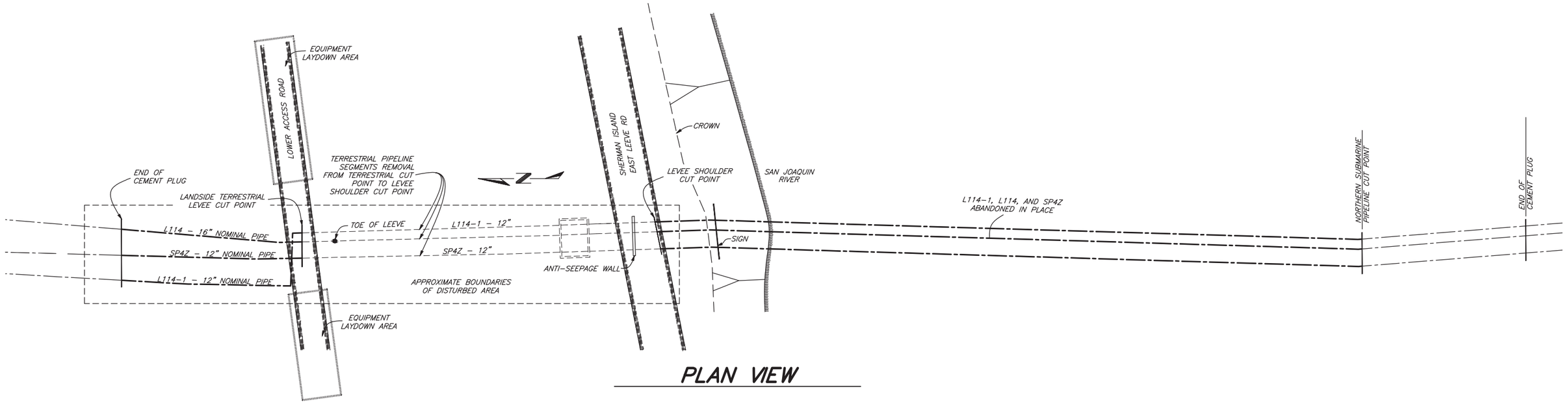

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1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650–6995 Fax: (805) 677–4721
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PG&E L114, L114–1 AND SP4Z
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FIGURE 1–10 NORTH LANDING SCHEMATIC – PLANNED
JANUARY 2015

a. North Landing Landside Terrestrial Levee Segment - The three pipelines traverse the southern end of Sherman Island generally in a north-south direction and enter the northern landing from the north. L114-1, L114 and SP4Z come up the north (landside) slope of the Sherman Island levee on the San Joaquin River and pass through the reinforced concrete valve pit embedded in the levee's landside slope near the levee's crown.

The north landing's landside terrestrial levee segment is defined as the segments of the three pipelines beginning at a point on Sherman Island, centered on the pipeline alignments, located approximately 15 feet north of the toe of the Sherman Island levee, where the three pipelines will be cut (the north landing's landside terrestrial levee segment cut point), to the reinforced concrete valve pit embedded near the crown of the Sherman Island levee.

From east to west, within the project boundaries, these terrestrial (non-submarine) pipeline segments and their dimensions are as follows: L114-1, a nominal 12-inch diameter pipeline with a 0.375 inch wall; L114, located approximately 3 feet to the west of L114-1, a nominal 12-inch/16-inch diameter pipeline with a 0.520 inch wall; and SP4Z, located approximately 5 feet to the west of L114, a nominal 12-inch diameter pipeline with a 0.375 inch wall. All three pipelines are buried throughout the approach to the north landing valve pit on the landside levee slope. According to PG&E survey information, these northern terrestrial pipeline segments are buried up to 10 feet underground.

L114, the nominal 12-inch/16-inch diameter pipeline, originally terminated inside of the valve pit but approximately 647 feet of the upstream terrestrial segment was filled with a cement slurry after it was deactivated in 1999. The line was also cut and capped approximately 8 feet upstream (down the slope) from the north landing valve pit leaving an 8-foot stub that terminates inside the valve pit. The remaining L114 terrestrial pipeline lies in its original alignment downslope from the 8-foot stub. Just prior to entering the downslope side of the valve box, the 16-inch L114 pipeline is reduced to nominal 12-inch pipe and remains nominal 12-inch pipe throughout the remainder of the north landing, the submarine pipeline crossing, and the south landing.

Proposed Final Disposition: PG&E shall excavate, expose and cut the three pipelines at a point in the access road located approximately 15 feet north of the toe of the landside slope of the levee (north landing's landside terrestrial levee segment cut point). PG&E shall install a cement slurry plug approximately 50 feet in length in L114-1 and SP4Z (L114 is already filled with a cement slurry) from the north landing's landside terrestrial levee segment cut point north for a distance of approximately 50 feet. In addition to the cement plugs, the remaining stub ends of the terrestrial segments at the north landing's landside terrestrial segment cut point will be capped with ½-inch thick steel plates welded to the ends of the three slurry filled pipes

The north landing's landside terrestrial levee segments (between the north landing's landside terrestrial levee segment cut point and the north landing valve pit) will be excavated and removed, a distance of approximately 84 feet. This will involve approximately 500 cubic yards of excavation. The total disturbed surface area at this excavation site is estimated at approximately 12, 200 square feet (100

feet by 122 feet). PG&E shall truck the estimated 19 tons of recovered pipe materials to an approved offsite facility for recycling or disposal.

All excavations will be backfilled and compacted to CCR Title 23 specifications. The backfill materials shall consist of the 500 cubic yards of spoils and an additional 16 yards of imported native backfill to offset the volume of the removed facilities. The site will be restored to pre-decommissioning conditions.

b. North Landing Valve Pit – The north landing valve pit consists of a reinforced concrete cast-in-place vault that measures (outside dimensions) approximately 8-foot 6-inches in depth, 12-foot 4-inches in width, and 6-foot 9-inches in height (at the landside wall), and has a wall thickness of approximately 8-inches. It has a reinforced concrete floor of the same approximate thickness and may incorporate a floor drain and sump for draining rainwater into the surrounding soil from the valve pit. The lid of the north landing valve pit is constructed of loosely fitted wooden planking.

Inside the valve pit, L114-1 and SP4Z are continuative through the valve pit from the north wall to the south wall. L114 was previously deactivated and a section of pipe has been cut out of the pipeline inside the valve pit. Currently, a 12-inch pipe stub protrudes through the north wall of the valve pit and is flanged with a 12-inch flange, and another 12-inch pipe stub protrudes through the south wall of the valve pit and is flanged with a 12-inch flange.

As-built drawings show a floor drain in the northwest bottom corner of the valve pit and a drain pipe approximately 4-inches in diameter and of unknown construction connected to the floor drain and running underground down the back slope of the levee for a distance of approximately 6 to 8 feet where the drain pipe terminates at ground level.

Proposed Final Disposition: PG&E shall demolish and remove the entire (deck, walls and floor) reinforced concrete valve pit and all of its piping and appurtenances. Once the valve pit demolition has been completed, PG&E shall sample the underlying and surrounding soil for any contaminates that exceed allowable regulatory limits. If contaminated soil is found, PG&E shall remediate the contaminated soil to comply with regulatory requirements.

The north landing valve pit excavation will be backfilled with native soil acceptable to the Central Valley Flood Protection Board (CVFPB) and Reclamation District 341 (RD 341) and compacted to CVFPB/RD 341 requirements and the vegetation restored to pre-decommissioning conditions. This will require approximately 15 cubic yards of imported native backfill. PG&E shall transport the estimated 10 tons of recovered reinforced concrete debris to an approved offsite facility for recycling or disposal.

c. North Landing Waterside Terrestrial and Shoreline Segment – The waterside terrestrial and shoreline segment is defined as the segments of the three pipelines beginning at the reinforced concrete valve pit embedded near the crown of the Sherman Island levee, across the levee crown, down the riverside slope of the levee and riverbank, to a point in the river, under the riverbed,

approximately 180 feet south (offshore) of the northern shoreline of the San Joaquin River where the pipelines will be excavated and cut at the northern submarine pipeline cut point.

All three terrestrial/shoreline pipeline segments consist of API-5L Grade B seamless steel pipe with an outside diameter of 12.75 inches and a wall thickness of 0.438-inches. These segments of the terrestrial/shoreline pipelines are coated with an external Somastic anti-corrosive and weight coating of unknown thickness but assumed to be approximately 1-inch in thickness. According to the as-built drawings, these pipeline materials were used for the entire crossing (valve pit at the north landing to the valve pit at the south landing).

The north landing's terrestrial/shoreline pipeline segments originate inside the Sherman Island valve pit and exit the valve pit through the south wall (up slope side, just below the crown of the levee) of the valve pit. They then rise approximately 12-inches at an angle and then turn horizontal and pass underneath the crown of the levee and its approximately 20-foot wide roadway. Under the roadway, approximately 15-feet 8-inches from the south wall of the valve pit, all three pipelines pass through a reinforced concrete anti-seepage wall embedded underground in the roadway and measuring approximately 8-inches in thickness, 4-feet in height, and 13-foot 3-inches in width.

After passing through the reinforced concrete anti-seepage wall, the three pipelines continue underneath and across the roadway to the waterside levee shoulder where they turn downward at an approximately 15 degree angle and travel underground down the waterside slope of the levee to the riverbed where, buried, they turn upward at an approximately 15 degree angle to an approximately horizontal alignment and continue, generally, underneath the riverbed to the south side of the river.

According to PG&E survey information, burial depths of the north landing's terrestrial segments waterside of the north landing valve pit range from as little as 3 feet of cover where they cross underneath the levee roadway to as much as 10 feet of cover where the shoreline segments lay buried underneath the waterside slope of the Sherman Island levee (see Appendix A – Survey Maps and Facility Drawings - PG&E Survey Map 028.61-13.38-1).

Proposed Final Disposition: PG&E shall fill the north landing's waterside terrestrial and shoreline segments of L114-1, L114 and SP4Z with cement slurry from the Sherman Island levee valve pit to a point approximately 230 feet south (offshore) of the existing river shoreline or 50 feet beyond the planned northern submarine pipeline cut point.

Once the cement slurry plugs have been installed, the segments of the three pipelines between the valve pit and the waterside shoulder of the levee roadway will be excavated, cut at the waterside edge of the levee crown (waterside shoulder cut point) and removed. The reinforced concrete anti-seepage wall embedded in the levee road will also be excavated, demolished and removed. The levee and roadway will be backfilled and compacted and the roadway returned to pre-existing contours.

Backfill will consist of excavation spoils augmented with native soil or road base materials acceptable to CVFPB/RD 341, compacted to CVFPB/RD 341 requirements, and the vegetation restored

to pre-decommissioning conditions. This excavation and backfill requirement will involve approximately 60 cubic yards of excavation (including pipes and anti-seepage wall) and 60 cubic yards of backfill (50 cubic yards clean road base from excavation and 10 cubic yards of imported road base).

The segments between the north landing's waterside shoulder cut point on the levee and the northern submarine pipeline cut point will be filled with cement slurry plugs and abandoned in place. The stubs of the submarine segments at the waterside shoulder cut point will be capped with ½-inch thick steel plates welded to the slurry filled pipe ends.

PG&E shall transport the estimated 15 tons of recovered reinforced concrete debris and recovered pipe to an approved offsite facility for recycling or disposal.

d. Marine Navigation Safety Signage – A PG&E marine navigation safety sign is located on the waterside slope of the Sherman Island levee over the three pipeline alignments approximately 2 feet downslope from the south shoulder of the levee crown. The purpose of the sign was to warn boaters and ship operators of the presence of the subject pipeline crossings. This is an approximately 8-foot by 12-foot wooden sign set on three 4x4 lumber posts and three 2x8 lumber braces.

Proposed Final Disposition: PG&E shall remove the marine safety sign in its entirety, including the lumber posts and their cemented post holes.

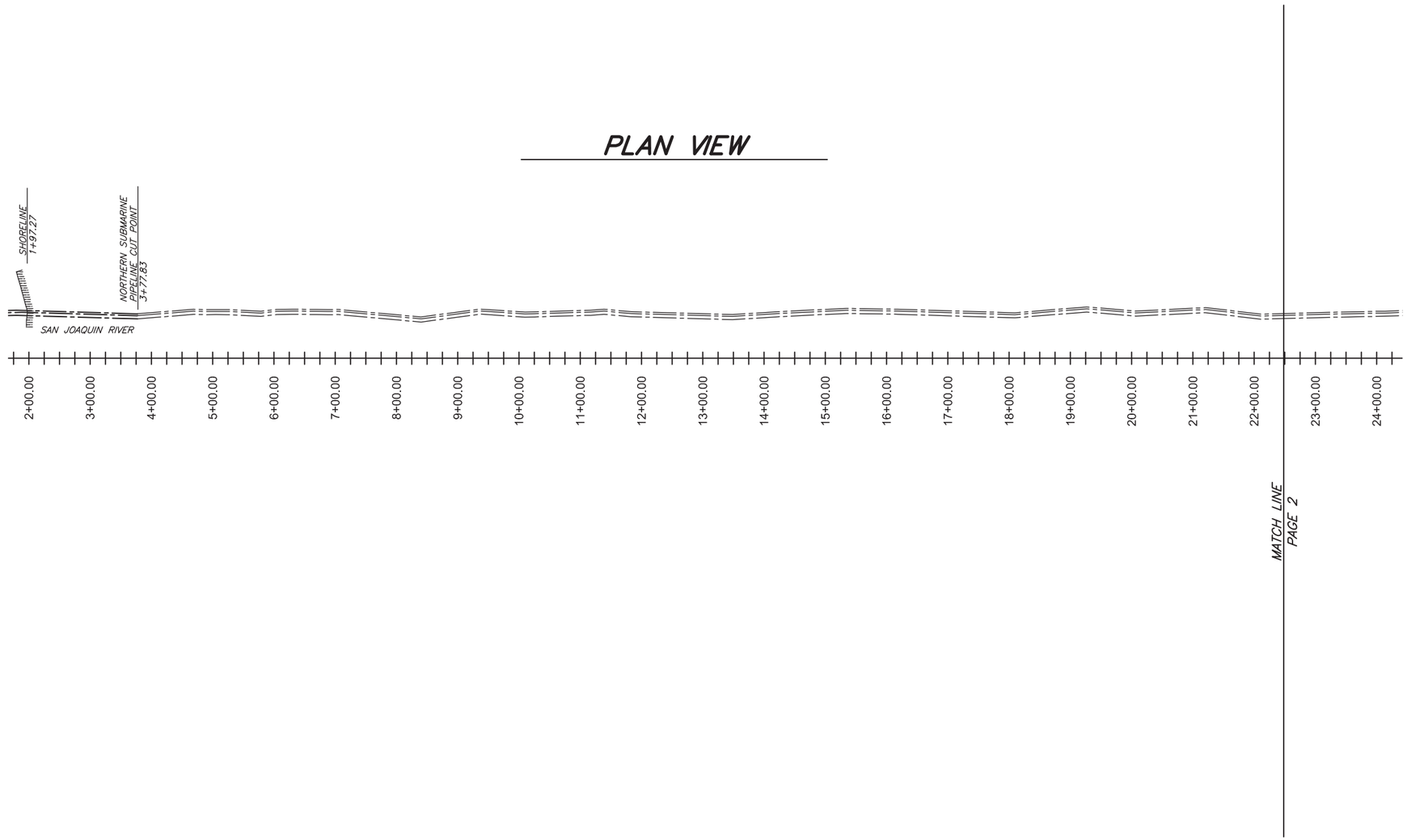
1.4.2 Submarine Pipeline Crossing Segment

For purposes of this decommissioning project, the submarine pipeline crossing segment is defined as the segment of the decommissioning work starting at the northern submarine pipeline cut point located approximately 180 feet offshore of the northern shoreline of the San Joaquin River to the predesignated southern submarine pipeline cut point on the submarine pipelines located approximately 130 feet offshore of the southern shoreline of the San Joaquin River. The total horizontal length of the submarine pipeline crossing segment is approximately 3,519 feet in length as measured from the northern submarine pipeline cut point to the southern submarine pipeline cut point (see Figure 1-11 – Schematic of Submarine Pipeline Crossing – Planned).

According to PG&E as-built drawings, the pipeline materials for all three submarine pipeline segments consists of API-5L Grade B seamless steel pipe with an outside diameter of 12.75 inches and a wall thickness of 0.438-inches. The pipelines are coated with an external Somastic anti-corrosive and weight coating of unknown thickness but assumed to be approximately 1 inch in thickness.

According to as-built drawings and past survey information the three submarine pipelines may be bundled together or touching through portions of the crossing but may also be separated by several feet through other portions of the crossing. The as-built drawings show L114-1 to be the easterly pipeline, L114 located approximately 3 feet to the west of L114-1 (centerline to centerline), and SP4Z located approximately 5 feet 3 inches west of L114 (centerline to centerline). However, significant as-found deviations in apparent alignment spreads can be expected due to the difficulties inherent in constructing

PLAN VIEW



GRAPHIC SCALE

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SCALE: 1"=200'

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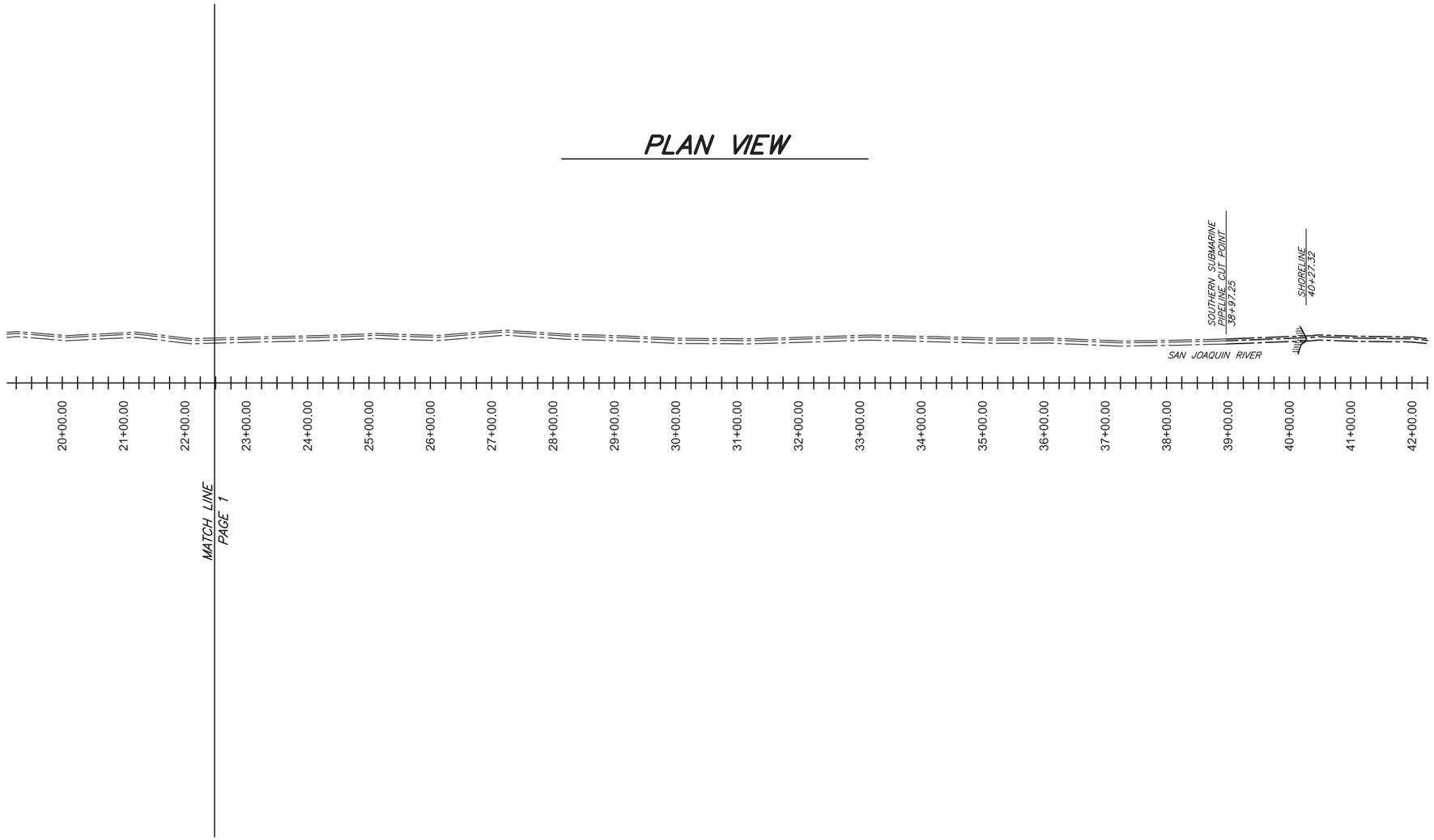
PG&E L114, L114-1 AND SP4Z
SAN JOAQUIN RIVER SUBMARINE PIPELINE
CROSSING DECOMMISSIONING PROJECT

FIGURE 1-11 SUBMARINE PIPELINE CROSSING SCHEMATIC – PLANNED

JANUARY 2015

PLAN VIEW



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Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650-6995 Fax: (805) 677-4721
Email: yce-myo@pacbell.net

PG&E L114, L114-1 AND SP4Z
SAN JOAQUIN RIVER SUBMARINE PIPELINE
CROSSING DECOMMISSIONING PROJECT
FIGURE 1-11 SUBMARINE PIPELINE CROSSING SCHEMATIC – PLANNED
JANUARY 2015
SHEET 2 OF 2

these submarine crossings in a river environment with extreme water currents. The exact horizontal and vertical locations of these three submarine pipeline segments is unknown as they are buried under the riverbed and their locations have not been positively identified (excavate and survey).

According to PG&E survey information, the maximum burial depth of the river crossings segments from the northern submarine pipeline cut point to the southern submarine pipeline cut point is approximately 10 feet. The average burial depth of the submarine pipeline crossings is approximately 5.5 feet. The maximum water depth of the crossing is approximately 40 feet (based on vertical datum NAVD88) (see Appendix A – Survey Maps and Facility Drawings - PG&E Survey Map 028.61-13.38-1 through 4).

Proposed Final Disposition: PG&E shall remove the submarine pipeline crossing segment (L114-1, L114 and SP4Z) from the northern submarine pipeline cut point to the southern submarine pipeline cut point in their entirety.

The northern submarine pipeline cut point will be located approximately 180 feet offshore of the northern shoreline of the San Joaquin River in approximately 20 feet of water and at a point where the pipeline is buried approximately 5 feet below the riverbed.

The southern submarine pipeline cut point will be located approximately 130 feet offshore of the southern shoreline of the San Joaquin River in approximately 10 feet of water and at a point where the pipeline is buried approximately 5 feet below the riverbed.

The pipeline removal operations may involve approximately 8,602 cubic yards of excavation (based on trench no wider than 12 feet, average 5.5 feet deep, and 3,519 feet in length), assuming the pipelines are not bundled and require individual trenches (less excavation required if they are found to be bundled). The footprint of the underwater excavation, if required, will cover approximately 42,228 square feet or 0.97 acres.

No backfill is required as the high water currents and depositions rates will backfill the excavations. Alternatively, if conditions permit, the pipelines may be stripped out of the riverbed and, if such methodology proves feasible, may eliminate much of the excavation requirements. PG&E shall transport the estimated 474 tons of recovered pipeline materials (158 tons per pipeline) offsite for recycling or disposal at an approved facility.

1.4.3 South Landing

The three submarine pipelines come ashore in Lauritzen Yacht Harbor and travel underground to the reinforced concrete valve pit located in the ground at the western boundary of the Lauritzen Yacht Harbor (the south landing valve pit). For purposes of this decommissioning project, the south landing's terrestrial and shoreline pipeline segment is defined as the segment of the decommissioning work starting at the southern submarine pipeline cut point located approximately 125 feet offshore of the southern shoreline of the San Joaquin River and ending at the reinforced concrete valve pit located inside Lauritzen Yacht Harbor.

a. South Landing - Terrestrial and Shoreline Pipeline Segment - According to the as-built drawings, the pipeline materials for all three of the south landing's terrestrial/submarine pipeline segments consists of API-5L Grade B seamless steel pipe with an outside diameter of 12.75 inches and a wall thickness of 0.438-inches. The submarine portions of these pipelines are apparently coated with an external Somastic anti-corrosive and weight coating of unknown thickness but assumed to be approximately 1 inch in thickness.

The burial depth of the south landing's terrestrial and shoreline pipeline segment is approximately 5 feet under the riverbed as it comes ashore and 7 feet below ground surface between the shoreline and the southern valve pit (see Appendix A – Survey Maps and Facility Drawings - PG&E Survey Map 028.61-13.38-4).

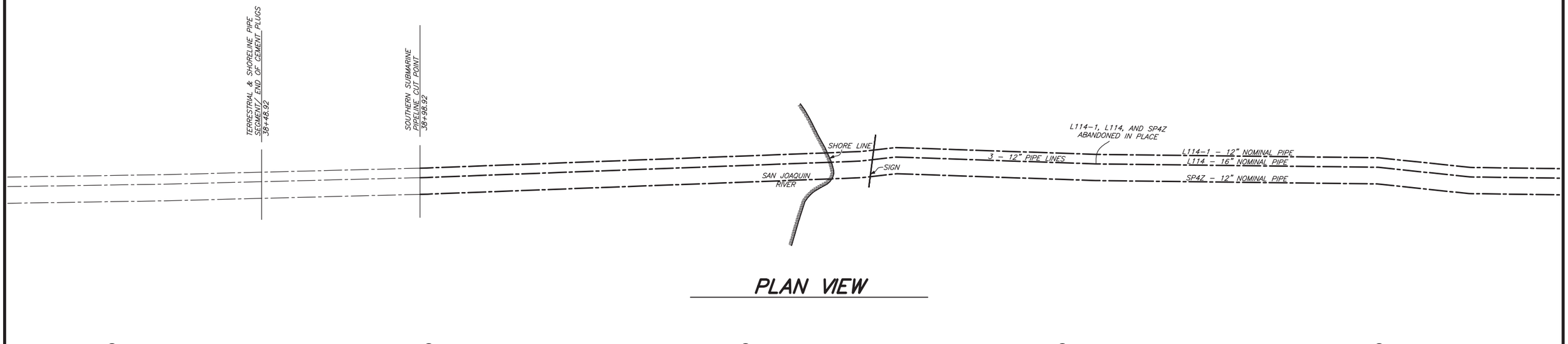
The total horizontal length of the south landing's terrestrial and shoreline pipeline segment is 731 feet in length as measured from the southern submarine pipeline cut point to the north wall of the south landing's valve pit at Lauritzen Yacht Harbor.

Proposed Final Disposition:

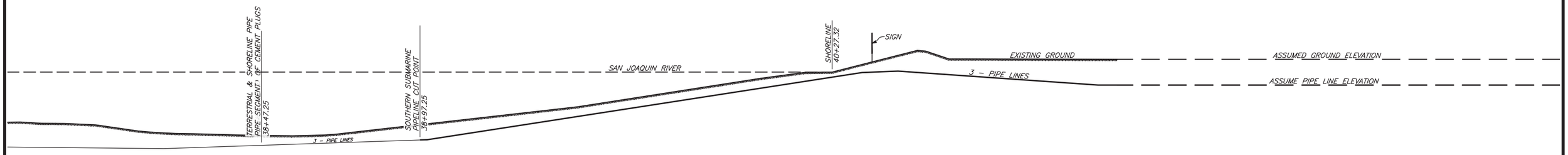
PG&E shall fill the south landing's terrestrial and shoreline pipeline segment (L114-1, L114 and SP4Z) with cement slurry from the south landing valve pit located inside Lauritzen Yacht Harbor to a point approximately 50 feet north of the planned southern submarine pipeline cut point. The pipeline segments between the south landing's valve pit and the southern submarine pipeline cut point shall be abandoned in place and no excavation or backfill will be required. No pipeline materials will be recovered from this section so offsite transportation and recycling or disposal facilities will not be required.

b. South Landing – Valve Pit - This valve pit is not currently scheduled for decommissioning. After the cement slurry plugs have been placed in each of the three terrestrial/submarine pipeline segment, the ends of those pipelines, inside the southern valve pit, will be cut off approximately 6-inches off the northern wall of the valve pit and the stub ends will be capped with ½-inch thick steel plates welded to the end of the slurry filled pipe ends. No excavation or backfill will be required. The steel pipe ends and fittings will be transported offsite for recycling or disposal at approved facilities.

The three pipelines have been disconnected inside the south landing valve pit, separating the submarine segments from their respective terrestrial pipelines that exit the south side of this valve pit. The three pipelines exiting the south side of this valve pit, L114-1, L114 and SP4Z, were deactivated in 2012/2014 and out of service. This south landing valve pit and these terrestrial pipeline segments will be decommissioned by PG&E in the future (see Figure 1-12 – Schematic of South Landing – Planned – 1 of 2 and Figure 1-12 – Schematic of South Landing – Planned – 2 of 2).



PLAN VIEW



PROFILE VIEW

GRAPHIC SCALE

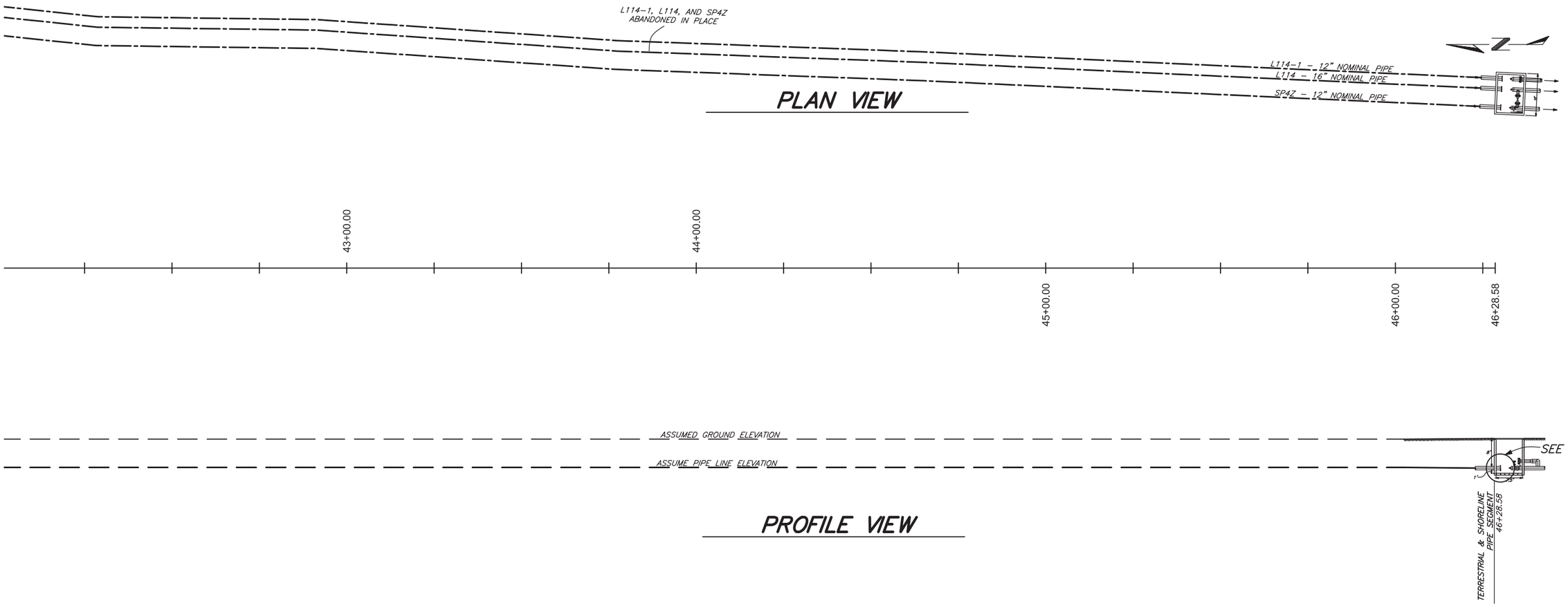
0 12 24 60

6 18 30 90

SCALE: 1"=30'

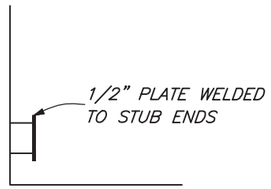
YCE
INCORPORATED
Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A – Ventura, CA 93003
Office: (805) 650-6995 Fax: (805) 677-4721
Email: yce-myo@pacbell.net

PG&E L114, L114-1 AND SP4Z
SAN JOAQUIN RIVER SUBMARINE PIPELINE
CROSSING DECOMMISSIONING PROJECT
FIGURE 1-12 SOUTH LANDING SCHEMATIC – PLANNED
JANUARY 2015
SHEET 1 OF 2



PLAN VIEW

PROFILE VIEW



DETAIL A

N.T.S.

GRAPHIC SCALE

0 12 24 60

6 18 30 90

SCALE: 1"=30'

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INCORPORATED
Civil Engineering & Land Surveying
1587 Morse Avenue, Suite A - Ventura, CA 93003
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Email: yce-myc@pacbell.net

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FIGURE 1-12 SOUTH LANDING SCHEMATIC - PLANNED
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SHEET 2 OF 2

c. Marine Navigation Safety Signage - A PG&E marine navigation safety sign is located on the shoreline of the south landing approximately over the three pipeline alignments. The purpose of the sign was to warn boaters and ship operators of the presence of the subject pipeline crossings. This is an approximately 8-foot by 12-foot wooden sign set on three 4x4 lumber posts and three 2x8 lumber braces.

Proposed Final Disposition: PG&E shall remove the marine safety sign in its entirety. The lumber posts and braces supporting this structure will be cut at ground level and the sign structure removed. The remaining cemented post holes will be abandoned in place.

1.5 PROJECT PROPONENT

Pacific Gas and Electric Company
2730 Gateway Oaks Drive
Room 220
Sacramento, CA. 95833

Attention: Christoffer Ellis, AICP
Principal Land Planner
Land and Environmental Management
Tel: 916.923.7030
Fax: 916.923.7044
Cell: 916.995.5848
Email: cre3@pge.com

1.6 DECOMMISSIONING PROJECT TEAM

The remediation team consists of the following members:

1.6.1 Decommissioning Manager – Longitude 123, Inc.

Longitude 123, Inc. (L123) will serve as the project's consulting manager and is responsible for the preparation of all technical documents, plans, and specifications. L123 is located in Oak View, California. Contact information for L123 is as follows:

Longitude 123, Inc.
2100 Valley Meadow Drive
Oak View, CA. 93022

Attention: Mark Steffy
Technical Manager
Tel: 805.649.9364

Fax: 805.649.9864
Cell: 805.649.9364
Email: msteffy@longitude123.net

1.6.2 Environmental Consultant – Padre Associates, Inc.

Padre Associates, Inc. (Padre) will serve as the project's environmental consultant and is responsible for preparation of all permit applications and supporting documentation, acquisition of final permits, and provision of permit and mitigation compliance during the remediation work. Padre is located in Sacramento, California. Contact information for Padre is as follows:

Padre Associates, Inc.
555 University Avenue, Suite 110
Sacramento, CA 95825

Attention: Sarah Powell
Environmental Manager
Tel: (916) 333-5920 x21
Fax: (916) 333-5921
Email: spowell@padreinc.com

1.6.3 Engineering Consultant – YCE Incorporated

YCE Incorporated (YCE) will serve as the project's engineering consultant and is responsible for engineering analysis, calculations, and production of the project's plans and specifications.

YCE Incorporated
1587 Morse Avenue, Suite A
Ventura, CA. 93003

Attention: Marta Alvarez, P.E.. P.L.S.
President
Tel: (805) 650.6995
Fax: (805) 677.4721
Email: be@shoreline-engineering.net

1.7 ENVIRONMENTAL ISSUES

The following Table 1.7-1 provides an overview of the primary environmental issues associated with implementation of the L114-1, L114 and SP4Z decommissioning project as defined herein. As necessary, this includes an overview of all applicable project-incorporated mitigation measures and contingency plans that have been developed to minimize potential environmental effects to less than significant levels.

Table 1.7-1 Environmental Issues and Mitigation Measures

Environmental Issue	Project-Incorporated Mitigation Measure
Lease Termination Requirements: • Site Clearance	• Pre-Decommissioning 400% Side Scan Sonar Survey and Post-Decommissioning 400% Side Scan Sonar Debris Clearance Survey over the offshore Project site.
Aesthetics: • Short-term visual impacts from sensitive viewing locations.	• Onshore decommissioning work will be conducted during daylight hours only, no night work is anticipated.
Biological Resources: • Construction-related anchor impacts to riverbed resources • Interactions between project vessels and sensitive aquatic species • Accidental release of vessel fuels into marine environment	• Section 3 - Marine Safety and Anchoring Plan • Section 4 - Oil Spill Response Plan • Project will be completed within the aquatic work window (Aug 1 – Oct 31)
Greenhouse Gases/Air Quality: • Short-term emission from vessels and equipment.	• Use marine vessels and equipment with low emissions engines, certified to meet Federal Tier II requirements (or better); • Mobilize marine vessels and equipment from the nearest port supporting these vessels; • Dispose of recovered materials at the nearest port accepting these materials;
Land Use: • Vessel anchors and lines preclude fishing in the vicinity of the project site.	• Section 3 - Marine Safety and Anchoring Plan • A Local Notice to Mariners will be issued at least 15 days prior to the start of project operations.
Traffic: Onshore: • Traffic congestion and safety impacts. Offshore: • Potential temporary interference with vessels transiting through offshore work area.	• Construction truck traffic affecting State highways will be confined to hours outside of the peak AM and PM commute periods. • All offshore operations will be described in a Local Notice to Mariners to be submitted to the United States Coast Guard (USCG) at least 15 days prior to decommissioning activities. All marine operations at the project site will operate in compliance with a USCG Anchor Waiver obtained specifically for the project and will comply with the USCG Vessel Traffic Service.
Cultural Resources:	• The three gas pipelines are historic-era features, built in 1942. However, under federal law these features are exempt from

Table 1.7-1 Environmental Issues and Mitigation Measures	
Environmental Issue	**Project-Incorporated Mitigation Measure**
Archaeology • There are no known archaeological or culturally sensitive resources in the project area.	consideration (67 FR 16364 - 16365). Only one other cultural resource was identified in the APE during the study: a portion of the Sherman Island Levee (P-34-000553). The levee has been evaluated and determined ineligible for the National Register and the California Register of Historical Resources. In addition, an assessment of the potential for buried resources identified no areas of high sensitivity in the APE • Limit all decommissioning impacts to the previously disturbed areas. • In the event that archaeological resources are discovered any time during decommissioning, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until a professional archaeologist has been retained to evaluate the nature and significance of the find. PG&E Cultural Resources Specialist shall be notified immediately of any such find. After the find has been appropriately mitigated, work in the area may resume. A Native American representative should monitor any mitigation work associated with Native American cultural material. • 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. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). PG&E shall be notified immediately of the find. • The potential to encounter paleontological resources is considered low given that activities will be confined to areas subject to previous disturbance and that the known depth of Holocene alluvium (2-3 meters) extends to depths beyond that of construction impacts.
Hazardous Materials/Water Quality: • Possible asbestos-containing external pipe coatings requiring removal may create health hazard • Potential contact of hazardous materials with marine environment due to inadvertent releases from work vessels or leaks from equipment.	• Section 4 - Oil Spill Response Plan • Pipeline decommissioning shall be conducted in accordance with all regulations pertaining to asbestos utilizing a certified asbestos abatement contractor to perform any such work. • An extended Phase I Environmental Site Assessment review as well as the assessment of soils around the Sherman Island valve pit will be conducted to address this potential soil contamination issues at this location immediately after the floor of the valve pit has been removed and prior to backfilling the

Table 1.7-1 Environmental Issues and Mitigation Measures

Environmental Issue	Project-Incorporated Mitigation Measure
	valve pit site. • Alternatively, all work requiring removal of facilities will be conducted by personnel trained to work with hazardous substances and any suspicious soils (stained or with unusual odor) or groundwater (showing a sheen or with an unusual odor) will be tested and treated in accordance with all applicable laws (this may require removal of materials and disposal in an appropriate facility, or onsite treatment.)
Geology/Soils: • Removal of the rip-rap levee slope could result in levee erosion	• No mitigation proposed, the rip-rap slope will not be excavated but will be left intact and the pipelines segments traversing this slope will be filled with cement slurry and abandoned in place.
Water Quality: • Short-term risks for adverse effects on marine water quality in the event of an unauthorized release to the marine environment	• Section 4 - Oil Spill Response Plan • Best Management Practices for reduction of surface water pollution during decommissioning. • Pig/clean pipeline interiors prior to removal
Noise: • Short-term decommissioning-related noise would affect the public	• The Project schedule avoids weekends and 24-hour operations. • The only extreme noise event planned in support of this decommissioning project is the demolition of the Sherman Island valve pit and the anti-seepage wall located in the levee crown. These facilities are located in excess of one mile from any residences and there are no commercial facilities located on Sherman Island near the project site.
Recreational Impacts: • Impacts to recreating public (e.g., fishermen, kayakers, swimmers, etc.) in performing marine decommissioning work.	• Contractor Work Plan to include a Marine Safety and Anchoring Plan that addresses public safety, and boating and navigational safety concerns. • Minimize marine safety zone established.
Waste: • Recovered steel pipeline, somastic coating, cement slurry, and wood materials from signage.	• All materials collected will be recycled to the greatest extent possible.
Health & Safety (Risk to Project Personnel): • Diver Safety	• Diving Operations will conform to U.S. Coast Guard Commercial Diving Safety Standards. • All Activities Completed in Accordance with Applicable OSHA Safety Guidelines.

1.8 INVOLVED AGENCIES AND PERMIT REQUIREMENTS

The following Table 1.8-1 provides an overview of the regulatory agency review and permits that will be necessary in order to complete the scope of work described herein. The table also includes certain agencies that would require notification relative to specific elements of the Project. All State and local agencies listed below would receive notification and have the opportunity to comment on this decommissioning project through the California Environmental Quality Act (CEQA) process.

Table 1.8-1. Regulatory Reviews and Approvals

Agency	Permit/Approval	Regulated Activity	Applicable Project Components	Authority
Federal Agencies				
US Army Corps of Engineers (Corps)	Section 404 permit NWP-12 Regional Conditions	Discharge of dredged or fill materials into waters of the US. During construction. Jurisdictional waters include territorial seas, tidelands, rivers, streams, and wetlands.	Work in Waters of the U.S. and/or wetlands	Section 404 Clean Water Act (33 USC 1344)
	Section 10 permit NWP-12 Regional Conditions	Structures or work in or affecting navigable waters of the U.S. Review and issuance concurrent with Section 404.	Work in Navigable Waters of the U.S.	Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403)
U.S. Fish and Wildlife Service	Endangered Species Act, Section 7 Consultation	Impacts to federally listed species and species proposed for listing.	Work in potential habitat for listed species (aquatic and terrestrial). Biological Assessment (BA) required	16 USC 1513 50 CFR Section 17
National Marine Fisheries Service	ESA, Section 7 Consultation for anadromous fish species	Impacts to federally listed species and species proposed for listing.	Work in potential habitat for listed anadromous fish species. Biological Assessment (BA) required.	16 USC 1513 50 CFR Section 17
	Essential Fish Habitat Assessment	Identify, conserve, and enhance EFH for species under a federal Fish. Mgmt. Plan.	Work in Essential Fish Habitat	Magnuson-Stevens Fish. Cons. And Mgmt Act.(PL 94-265) and Sustainable Fisheries Act (PL 104-267)
US Coast Guard	Review and Comment Notice to Mariners	Activities that affect navigable waters	Project activities within navigation channel	33 CFR

Table 1.8-1. Regulatory Reviews and Approvals

Agency	Permit/Approval	Regulated Activity	Applicable Project Components	Authority
State of California Agencies				
State Lands Commission	Review of Project. Decommissioning activities and issuance of an amendment to the existing Master Lease Agreement	Project activities within State waters	Activities in area of jurisdiction – project activities in state waters.	CSLC Lease PRC 5438.1E
California Dept. of Fish and Wildlife	1600 permit – Lake and Streambed Alteration Agreement (LSAA)	Disturbance to lake or streambed	Project activities within a lake or streambed.	Section 1600 of the California Fish and Game Code
	California Endangered Species Act --Section 2081 Management Agreement	Impacts to State listed species	Work in potential habitat for state listed species	Section 2081 of the California Fish and Game Code
Regional Water Quality Control Board	Section 401 Certification	Discharges that may affect water quality	Work in state waters	Clean Water Act, Section 401 Porter-Cologne State Water Quality Act (1969)
Central Valley Flood Protection Board	Levee Encroachment Permit	1) Construction on or near a federal flood control levee. 2) Activities within the floodway of regulated Central Valley streams	Project activities impacting floodways or levees.	California Water Code Section 8571
State Historic Preservation Officer (SHPO)	Section 106 review and compliance	Impacts to historic and pre-historic resources.	None identified at this time.	National Historic Preservation Act 36 CFR 800
Local Agencies				
Reclamation District 341	Encroachment permit	Work activities on levee	Potholing, levee excavation for removal of pipeline facilities	
Sacramento County	Planning/Public Works Depts.	Building/grading permits and Planning Department review is only required for new structures constructed landside of the River.	N/A	County General Plans and CEQA

Table 1.8-1. Regulatory Reviews and Approvals

Agency	Permit/Approval	Regulated Activity	Applicable Project Components	Authority
City of Oakley	Planning/Public Works Depts.	Building/grading permits and Planning Department review is only required for new structures constructed landside of the River.	N/A	City General Plans, zoning, and CEQA
Contra Costa County	Planning/Public Works Depts.	Building/grading permits and Planning Department review is only required for new structures constructed landside of the River.	N/A	County General Plans and CEQA

1.9 PROJECT MILESTONES

The decommissioning work is scheduled to take place during the Delta's aquatic species work window of August 1 through October 31, 2015. As currently scheduled the pre-decommissioning debris survey will take place on or around August 3, 2015 and the marine work would begin immediately after that. According to the current preliminary schedule the marine work will be completed on or about September 22, 2015.

SECTION TWO – PROJECT DESCRIPTION

2.1 PROJECT SITE AND WORKSITE OVERVIEW

The project described herein involves the decommissioning of three submarine pipeline river crossings (L114-1, L114 and SP4Z). The decommissioning work will encompass three worksites (the north landing work site, the south landing work site and the underwater work site) and will be supported by an offsite shore base (see Figure 2-1 Project Site Map - Overview).

2.1.1 North Landing Work Site

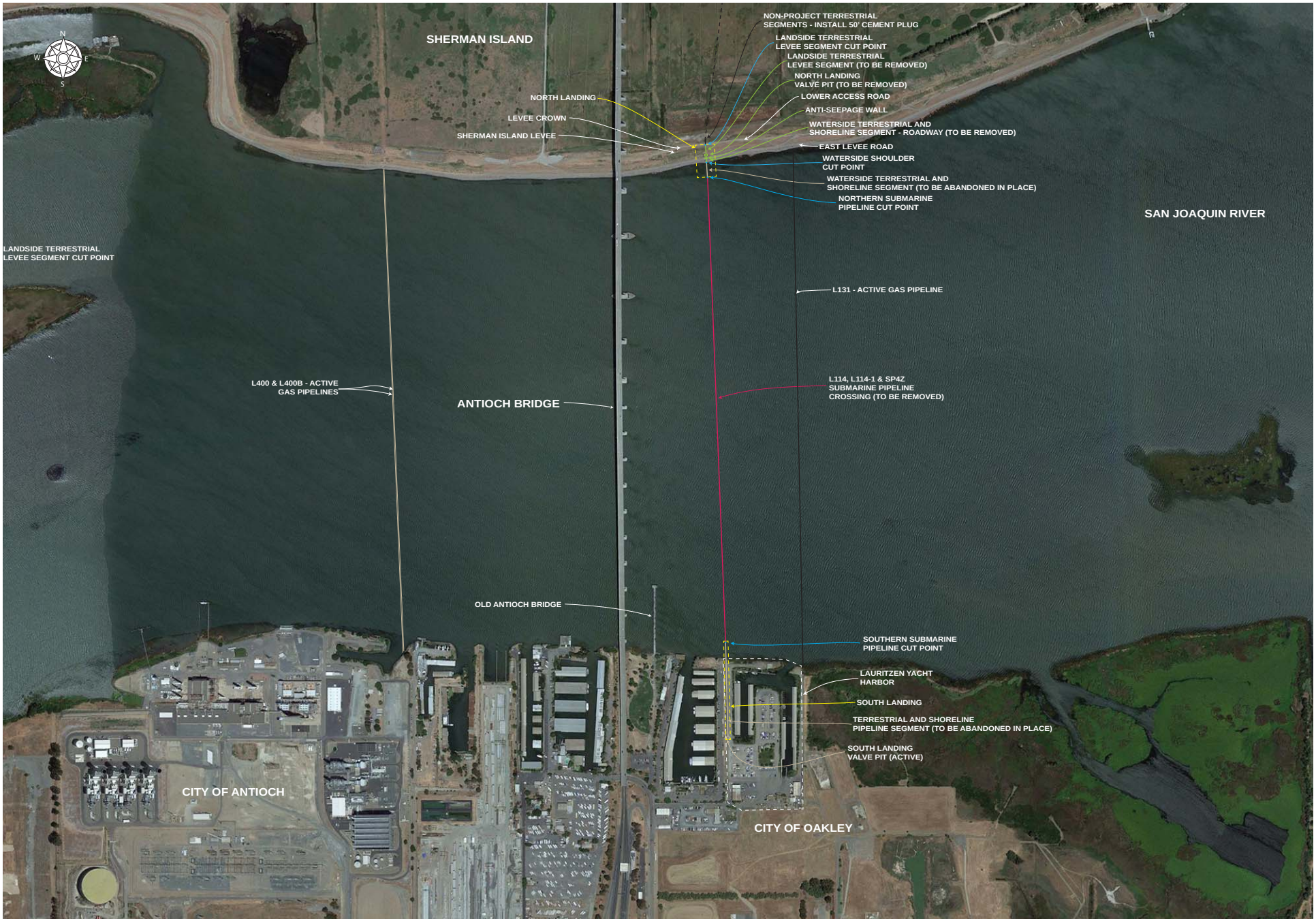
The north landing work site shall be defined as the area on and behind the Sherman Island levee, centered on the subject pipeline alignments with east/west boundaries approximately 50 feet either side of the pipeline alignments and north/south from the northern edge of the lower access road up to the waterside shoulder of the levee, a distance of approximately 120 feet and an overall disturbed area of approximately 12,200 square feet or 0.28 acres. Equipment laydown will be confined to the lower access road and adjacent upland areas between the toe of the levee and the northern boundary of the lower access road (see Figure 2-2 Planned Disturbed Area – North Landing Work Site).

2.1.2 South Landing Work Site

The south landing work site shall be defined as the area from the southern shoreline of the San Joaquin River to the reinforced concrete valve pit in Lauritzen Yacht Harbor, a distance of approximately 601 feet, and from the chain link fence bordering the west Lauritzen Yacht Harbor property boundary to the east edge of the roadway laying to the west of the alignments, an overall distance of approximately 50 feet. The overall south landing work site boundaries measure approximately 601 feet by 50 feet. With the exception of the marine safety sign removal on the south shoreline, there is no disturbed area at this work site because no excavation will be required and all equipment will be confined to the existing roadways within Lauritzen Yacht Harbor. The disturbed area created by the marine safety sign removal will be approximately 27 square feet (9 square feet for each of the three marine safety sign posts) (see Figure 2-3 Planned Disturbed Area – South Landing Work Site).

2.1.3 Underwater Work Site

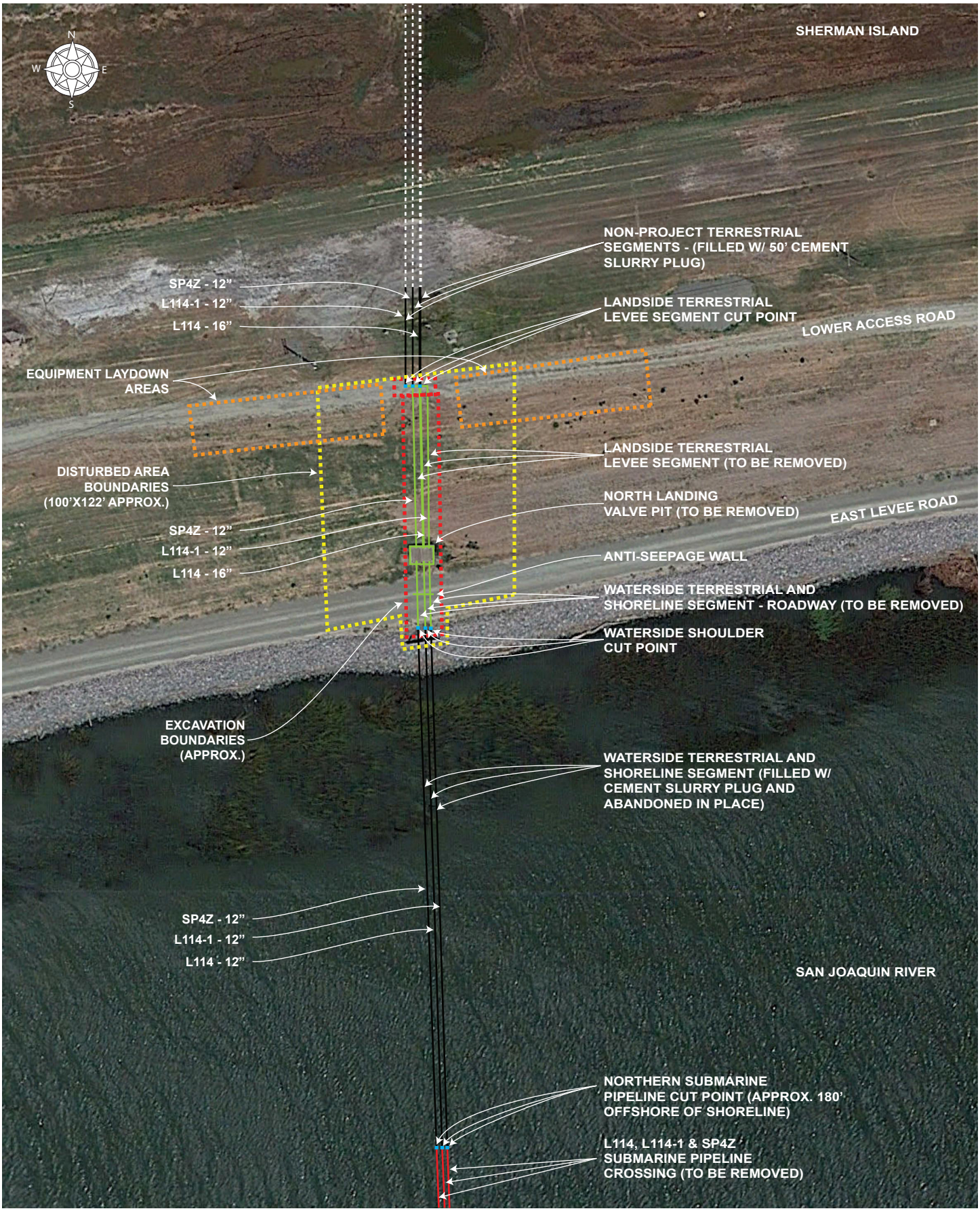
The underwater work site shall be defined as the area between the north and south shorelines of the San Joaquin River, and the Antioch Bridge abutments to the west and L131 on the east (see Figure 2-4 Overview of Underwater Work Site Boundaries). The overall underwater work site boundaries measure approximately 3,830 feet from shoreline to shoreline and approximately 1,300 feet from the east side of the neighboring Antioch Bridge abutments to the L131 alignment lying approximately 675 feet to the east of the L114-1/L114/SP4Z alignments.



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

LONGITUDE 123, INC.
Marine Project Consulting and Construction Management

FIGURE 2-1
PROJECT SITE MAP - OVERVIEW



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-2
PLANNED DISTURBED AREA - NORTH LANDING

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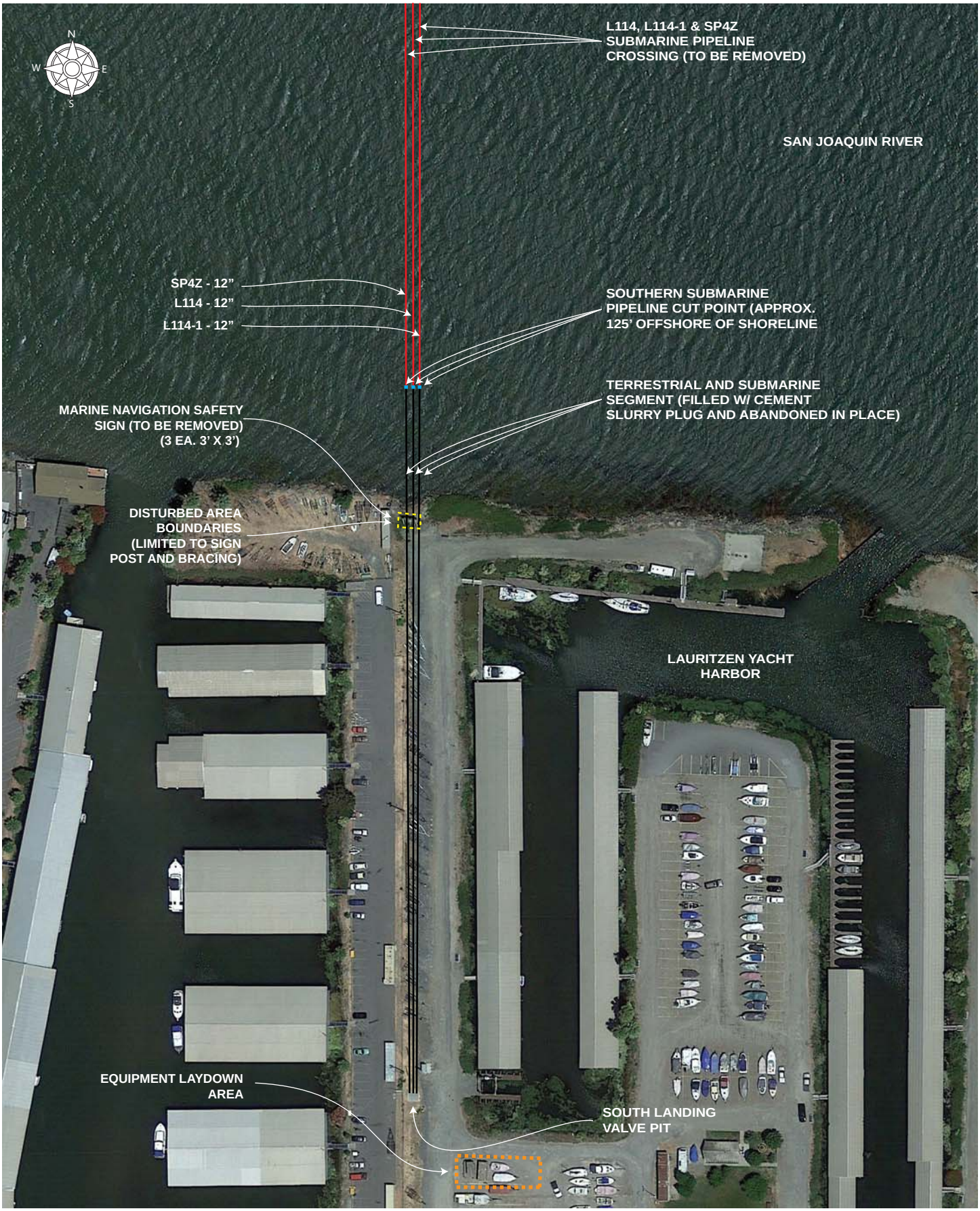

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-3
PLANNED DISTURBED AREA - SOUTH LANDING

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Marine Project Consulting and Construction Management

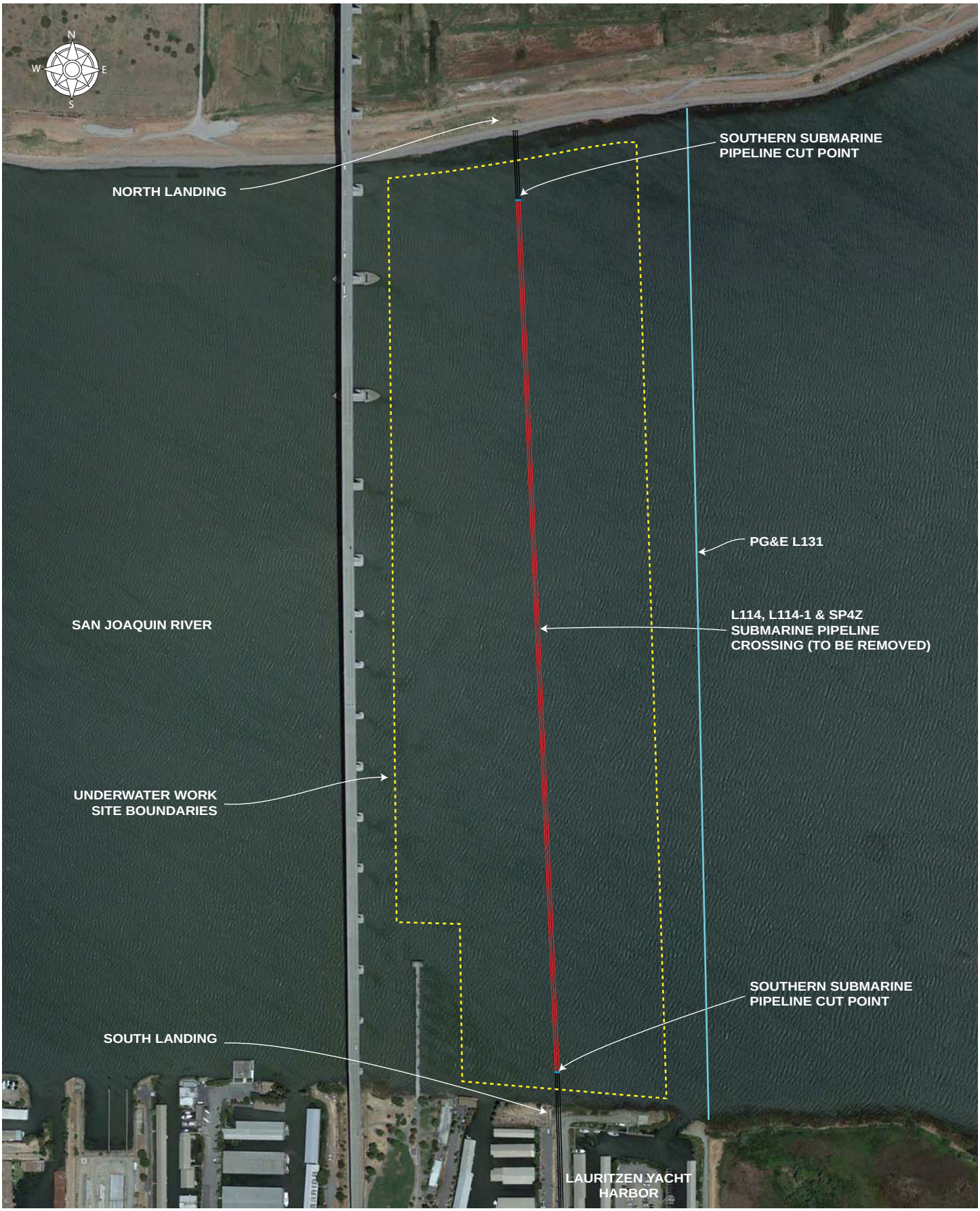

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FIGURE 2-4
UNDERWATER WORK SITE BOUNDARIES

LONGITUDE 123, INC.
Marine Project Consulting and Construction Management

The primary disturbed area within the underwater work site shall consist of the excavations required to remove the submarine pipeline. This excavation corridor (or removal corridor if excavation is not required) shall reach from the northern submarine pipeline cut point to the southern submarine pipeline cut point, a distance of approximately 3,519 feet, and will be approximately 12 feet in width (8 feet width between L114-1 and SP4Z, plus 2 feet either side of these bordering pipelines). The underwater disturbed area represented by this corridor is estimated at approximately 42,228 square feet or 0.97 acres (3,519 feet x 12 feet) (see Figure 2-5 Planned Disturbed Area – Underwater Work Site).

Anchors used to moor the supporting derrick barge represent a second source of riverbed disturbance but no excavation is required with their use and their impact is minimal (less than 78 square feet per anchor, assuming a disturbed area approximately 10 feet in diameter).

2.1.4 Shore Base

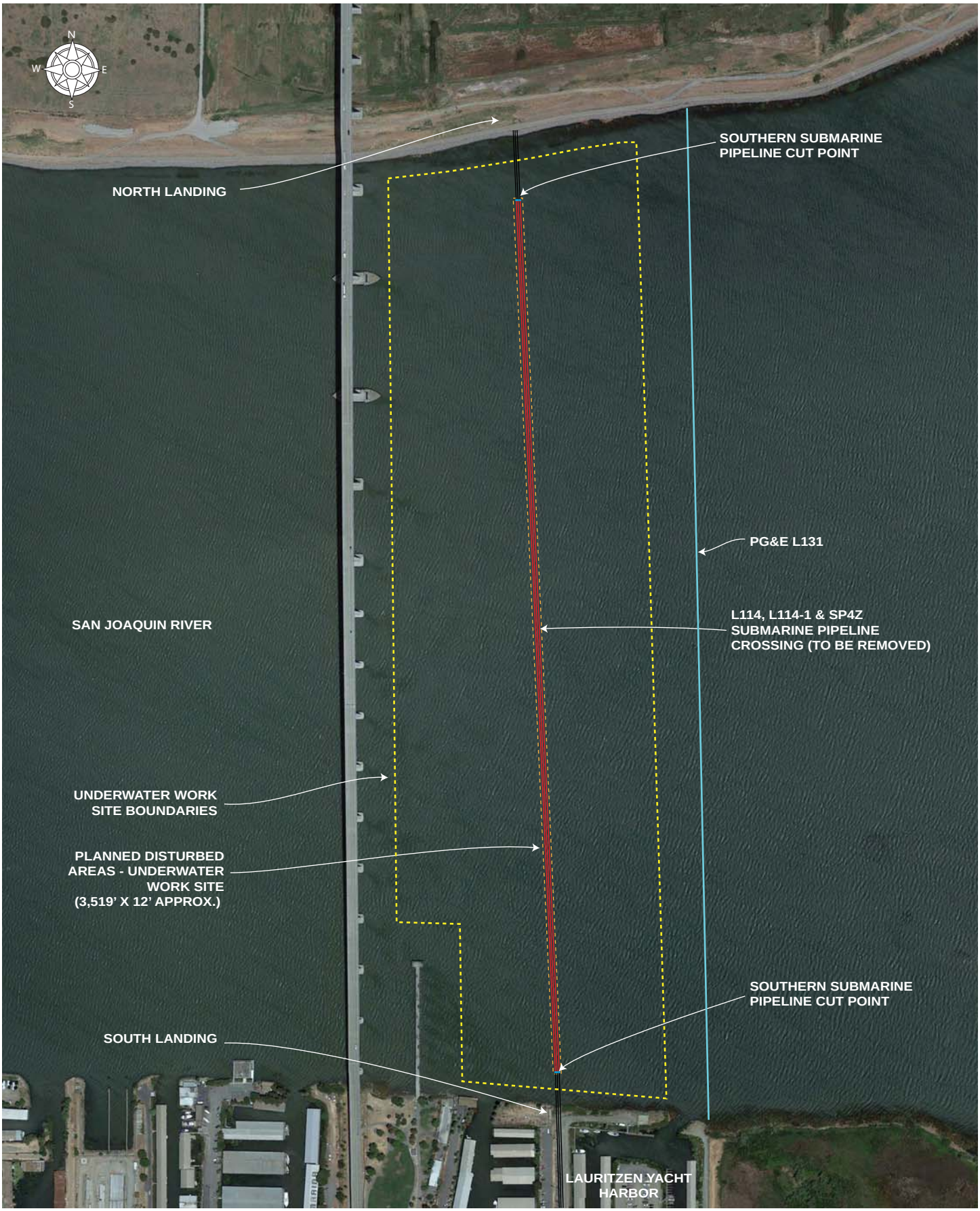
An offsite shore base will be required to mobilize the marine equipment and to offload the recovered submarine pipeline materials. The offsite shore base will consist of dockside facilities with paved roadways where marine equipment will be mobilized and demobilized and where the recovered pipeline materials will be offloaded from a materials barge and loaded on to trucks for transportation to approved recycling or landfill facilities. The offsite shore base location will be selected by the decommissioning contractor and its location and facility description will be included in the Contractor Work Plan that will be developed by the decommissioning contractor and approved by California State Lands Commission (CSLC) prior to the start of the decommissioning site work. For the purposes of this Project Execution Plan the offsite shore base is assumed to be Mare Island, California, a distance of approximately 30 miles (see Figure 2-6 Tentative Shore Base Location).

2.2 TENTATIVE WORK SCOPE AND ORDER OF COMPLETION

The decommissioning work is tentatively scheduled to begin in the first week of August 2015. The pipeline pigging and cleaning operations will take place in the spring or summer of 2015 as a maintenance activity prior to the start of the decommissioning project. The following work scope synopsis is presented in the projected general order of completion.

2.2.1 North Landing Work Scope

The onsite decommissioning activities will start with the work at the north landing. The first order of decommissioning will be to install the cement slurry plugs in the north landing's waterside terrestrial and shoreline pipeline segments (from the Sherman Island valve pit to the Northern Submarine Pipeline Cut Point) while starting the excavation of the north landing's landside terrestrial levee segment cut point in a concurrent operations. The installation of the cement slurry plugs in the north landing's waterside terrestrial and shoreline pipeline segments will also require a brief operation at the south landing valve pit in Lauritzen Yacht Harbor to vent the three pipelines as the cement slurry slugs are pumped into the pipelines at the north landing.



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

LONGITUDE 123, INC.
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FIGURE 2-5
PLANNED DISTURBED AREAS - UNDERWATER WORK SITE

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-6
TENTATIVE SHORE BASE LOCATION

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After the north landing's waterside terrestrial and shoreline pipeline segments have been plugged with cement slurry, cement slurry plugs will also be installed in the north landing's landside terrestrial levee pipeline segments from the north landing's landside terrestrial levee segment cut point to a point approximately 50 feet north. The pipeline segments between this cut point and the Sherman Island valve pit will be excavated, removed, backfilled and restored.

The pipeline segments and anti-seepage wall located between the north landing valve pit and the north landing's waterside shoulder cut point will be excavated and removed after the north landing's landside terrestrial levee segment pipe segments have been removed. The remaining pipe ends at the waterside shoulder cut point will be capped, and the roadway and valve pit excavations backfilled and restored. The marine navigation safety sign shall be removed as well.

Once the cement slurry plugs have been installed, and cured in the north landing's waterside terrestrial and shoreline pipeline segments, the marine operation will begin with excavating and cutting the pipelines at the north submarine pipeline cut point. Meantime, the terrestrial crews at the north landing will continue decommissioning the north landing pipeline facilities.

The north landing terrestrial crew will be demobilized once the north landing decommissioning work has been completed and the north landing site restored to meet the requirements of the CVFPB/RD 341.

2.2.2 South Landing Work Scope

The south landing work scope begins with opening the three pipeline terminations inside the valve pit at Lauritzen Yacht Harbor to vent the pipelines when the cement slurry plug is installed in the north landing's waterside terrestrial and shoreline pipeline segments. The total amount of air or gas displaced from the three pipelines by the installation of the cement slurry plugs is limited to the length of the cement slurry plugs (planned at approximately 285 feet in the north landing's waterside terrestrial and shoreline pipeline segments).

Later, after the submarine pipeline decommissioning operation has cut the pipelines at the northern submarine pipeline cut point, a terrestrial crew will install cement slurry plugs in the three pipelines at the south landing. The reason for this particular order of completion is because the cement slurry plug installations at the south landing will displace air or gas in the pipelines that must be vented through the open ends of the cut pipelines offshore of the north landing.

The marine navigation safety sign at the shoreline of the south landing shall be removed as well. The terrestrial crew at the south landing will demobilize once the cement plugs have been installed in the pipeline ends at the south landing and the marine safety sign at the south landing has been removed.

2.2.3 Submarine Pipeline Crossing Work Scope

The marine crews will work across the river excavating and removing the three pipelines. The work will be performed by a marine work spread that includes an anchored derrick barge. The pipelines may be excavated, raised to the deck of the derrick barge and cut into sections or the pipelines may be

pulled up through the riverbed overburden without excavation and cut into sections, conditions permitting. In either case, the recovered pipeline segments will be cut into truckable sections and transported offsite for offloading and trucking to recycling or disposal facilities.

The marine crew will demobilize once the submarine pipeline segments have been removed and the post-decommissioning debris survey has been completed.

2.3 PLANNED AS-FOUND CONDITION OF PIPE ENDS IN VALVE PITS

The assumed as-found condition of the pipelines at the completion of the pigging and cleaning operation shall be as follows:

2.3.1 North Landing Valve Pit

a. **L114-1** – This pipeline passes through the north landing valve pit as a continuous section of pipe. The decommissioning work will include cutting and removing a section of this pipe inside the valve pit and installing a 12-inch diameter flange on the south stub to facilitate installing a cement slurry plug in the waterside terrestrial/shoreline segment of this pipeline.

b. **L114** – This pipeline is disconnected inside the north landing valve pit. A 12-inch diameter flange is currently mounted on the pipeline stub on the south wall of the north landing valve pit and will be used to install a cement slurry plug in the north landing's waterside terrestrial and shoreline segment of this pipeline. The landside terrestrial segment of this pipeline within the decommissioning project boundaries is 16-inch diameter pipe and is already filled with cement slurry.

c. **SP4Z** – This pipeline passes through the north landing valve pit as a continuous section of pipe. The decommissioning work will include cutting and removing a section of this pipe inside the valve pit and installing a 12-inch diameter flange on the pipeline stub on the south wall of the north landing valve pit to facilitate installing a cement slurry plug in the north landing's waterside terrestrial and shoreline segment of this pipeline.

2.3.2 South Landing Valve Pit

a. **L114-1** – This pipeline is disconnected inside the south landing valve pit. A 12-inch diameter flange is currently mounted on the pipeline stub on the north wall of south landing valve pit and will be used to install a cement slurry plug in the south landing's terrestrial and shoreline pipeline segment.

b. **L114** – This pipeline is disconnected inside the south landing valve pit. A 12-inch diameter flange is currently mounted on the pipeline stub on the north wall of south landing valve pit and will be used to install a cement slurry plug in the south landing's terrestrial and shoreline segment of this pipeline.

c. **SP4Z** – This pipeline is disconnected inside the valve pit. A 12-inch diameter flange is currently mounted on the pipeline stub on the north wall of south landing valve pit and will be used to install a cement slurry plug in the south landing's terrestrial/shoreline segment of this pipeline.

2.4 PROJECT PLANS, SPECIFICATIONS, LOGISTICS AND ADMINISTRATION

The decommissioning project will be based on or involve the following plans, specifications and administrative procedures:

2.4.1 Ingress/Egress at North Landing

Ingress and egress at the north landing will follow a route comprised of State Highway 160 north or southbound to Sherman Island Crossing Road south to Victory Highway, Victory Highway south and under the Senator John A. Nejedly Bridge (Antioch Bridge) to Sherman Island East Levee Road, and Sherman Island East Levee Road east and back under the Antioch Bridge to the north landing site. There are access roads at the north landing on the crown of the levee (East Levee Road) and at the toe of the levee (lower access road) (see Figure 2-7 North Landing Ingress/Egress Map).

2.4.2 Ingress/Egress at South Landing

Ingress and egress at the south landing may follow any of several routes (see Figure 2-8 South Landing Ingress/Egress Map).

a. State Highway 160 north or southbound exit at Wilbur Avenue, turn east on Wilbur Avenue to Bridgehead Road, take Bridgehead road north to Lauritzen Lane and turn right, take Lauritzen Lane to Lauritzen Yacht Harbor, enter Lauritzen Yacht Harbor and follow established road to west side of facility and south landing valve pit.

b. From the City of Oakley, take Main Street west to Bridgehead Road, take Bridgehead Road north to Lauritzen Lane and turn right, take Lauritzen Lane to Lauritzen Yacht Harbor, enter Lauritzen Yacht Harbor and follow established road to west side of facility and south landing valve pit.

c. From the riverside district of the City of Antioch, take Wilbur Avenue east to Bridgehead Road, take Bridgehead road north to Lauritzen Lane and turn right, take Lauritzen Lane to Lauritzen Yacht Harbor, enter Lauritzen Yacht Harbor and follow established road to west side of facility and south landing valve pit.

2.4.3 Ingress/Egress to Underwater Work Site

The marine equipment will be transported to the underwater work site from the San Francisco Bay Area via the Carquinez Strait to Suisun Bay to New York Slough to the Stockton Deep Water Channel (see Figure 2-9 Marine Vessel Traffic Ingress and Egress Chart). This is an established route used by commercial and recreational vessels.

The planned marine vessel ingress and egress route and the marine project site (submarine pipeline river crossing) both fall within the oversight of the U.S. Coast Guard Vessel Traffic Service (VTS). All marine vessels employed in the decommissioning project will comply with VTS regulations (see Section 3 – Marine Safety and Anchoring Plan).

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

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FIGURE 2-7
NORTH LANDING EGRESS AND INGRESS MAP

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE
PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-8
SOUTH LANDING EGRESS AND INGRESS MAP

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FIGURE 2-9
MARINE VESSEL TRAFFIC INGRESS AND EGRESS

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In addition to the three worksites and offsite shore base, an existing marine facility with boat dock, located near the decommissioning project site (such as Lauritzen Yacht Harbor), will be used as the point of ingress and egress for marine crews traveling to and from the marine work spread each work day. Crew parking will be provided at this marine facility. Transportation to and from the derrick barge will be accomplished by a small craft such as a Boston Whaler or similar (see Figure 2-10 Work Skiff).

2.4.4 Pre-Decommissioning Pipeline Cleaning

The interiors of the terrestrial and submarine pipelines will be pigged and cleaned prior to start of the decommissioning project to ensure that all contaminants inside the pipelines have been eliminated or lowered to levels below acceptable regulatory limits so that the pipelines may be opened to the river during the submarine pipeline removal process. The cleaning will consist of a chemical wash or sand wash of the pipeline interiors. The contaminate levels of the pipeline interiors will be tested and certified prior to the start of decommissioning (see Appendix B – PG&E Pipeline Cleaning and Contaminate Testing Procedures).

2.4.5 Contractor Work Plan

PG&E shall require the decommissioning contractor to produce a Contractor Work Plan (CWP) specific to the decommissioning scope of work that includes an emergency response plan, a contractor contact list, the location of the contractor's shore base for the decommissioning work, a detailed description of the scope of work, a detailed description of the contractor's plan, methodologies, and equipment that will be utilized to perform the work, a marine safety and anchoring plan with a local notice to mariners, a critical operations and curtailments plan, a diving safety plan, a marine communications plan, a U.S. Coast Guard (USCG) Vessel Traffic Service plan, and an oil spill response plan. This CWP will incorporate all applicable permit conditions detailed in Section 2.4.8 – Mitigation Monitoring Plan.

2.4.6 U.S. Coast Guard Anchor Waiver

PG&E shall require the decommissioning contractor to obtain an USCG anchor waiver for anchoring the derrick barge at the underwater project site. This anchor waiver shall be approved prior to the start of work at the underwater project site.

2.4.7 Plans and Specifications

PG&E shall produce engineered plans and specifications for the decommissioning project. These plans and specifications shall include scaled drawings of the existing facilities and the design of all facilities to be abandoned in place. These drawings shall include plan and profile drawings of the north landing, the submarine pipeline crossing, and the south landing. They shall include station numbering for identifying horizontal positions and show existing elevations and distances, existing facility specifications, current terrestrial contours and current riverbed contours (per the most recent surveys), a list of all decommissioning material and final disposition specifications, and a list of all pertinent permit conditions. The plans and specifications shall be submitted by PG&E for agency review and approval with the Contractor Work Plan.

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-10
WORK SKIFF - TYPICAL

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The decommissioning project plans and specifications, in regard to work performed on or adjacent to the Sherman Island levee, and the final disposition of PG&E L114-1, L114 and SP4Z San Joaquin River pipeline crossing components on or adjacent to the Sherman Island levee, shall incorporate by reference, where applicable, the specifications of Article 8 - Standards, Section 124 - Abandoned Pipelines and Conduits, found in the California Code of Regulations, Title 23 - Waters, Division 1 - Central Valley Flood Protection Board (see Appendix C – Title 23 – Water).

2.4.8 Mitigation Monitoring Plan

PG&E shall require the decommissioning contractor to provide a mitigation monitoring plan developed to ensure that agency permit conditions are fully implemented during the project activities. Compliance actions shall consist of oversight of pipeline decommissioning activities at the three project work sites, both terrestrial and marine, and biological and turbidity monitoring.

During the decommissioning project work, a biological monitor shall be present at each work site when work is taking place at that work site. At times during the decommissioning work up to three biological monitors may be required. PG&E shall direct the PG&E decommissioning contractor to provide biological monitors that are approved by the CSLC and the CDFW. The duties of the biological monitor shall include, but not be limited to:

a. Become familiar with the intent of each mitigation measure and permit condition.
b. Become familiar with the MMP.
c. Conduct the biological sensitivity and environmental awareness training for work crews.
d. Contact the operations project manager each day to determine the work schedule.
e. Observe all work activities on a daily basis.
f. Issue stop work orders, if required, and ensure, in conjunction with the decommissioning contractor staff and PG&E staff, that non-compliance remedies are fully implemented.
g. Conduct water quality sampling in compliance with the Best Management Practices (BMP) or Water Quality Control (WQC) requirements.
h. Complete daily field monitoring report datasheets.
i. Prepare draft and final permit compliance reports for submittal to PG&E.

2.4.9 Marine Survey

PG&E shall require the decommissioning contractor to provide a full time marine surveyor using commercial grade, real-time differential global positioning system (DGPS) equipment to provide survey services to the marine operations.

The survey equipment shall include:

a. A lighted, powered, air conditioned, enclosed work area on the contractor's derrick barge (such as an job trailer or similar)

b. A DPGS base station setup and operated by the marine surveyor from the barge with a high resolution video monitor setup on the derrick barge for use by the derrick barge supervision and project manager in setting anchors and positioning the derrick barge;

c. A linked DGPS station on the tugboat with monitor in the tugboat pilot house for use by the tugboat master

d. A crane-boom tip DPGS antenna and high resolution video monitor for the derrick barge crane operator so the crane operator can track the buried submarine pipelines during the excavation and pipeline recovery operations and the marine surveyor can fix the as-found locations of the pipelines and the precise location of each excavation track.

The project-specific survey database maintained on the DGPS base station shall be pre-programmed with the as-built positions of the buried submarine pipeline alignments, the project's anchor pre-plots, data from the latest bathymetric survey, the shoreline boundaries, and the L131 alignment to the east of the project, the Antioch Bridge abutments, and the boundaries of the Stockton Deep Water Channel.

During the marine work, survey fixes shall be recorded on the survey database for all actual anchor locations, all pipeline as-found locations, all excavation locations, the pipeline cut points and shoreline terminations, and the locations of non-project riverbed debris encountered and any project-related river debris.

2.4.10 Debris Surveys

PG&E shall direct the decommissioning contractor to conduct a baseline riverbed debris survey prior to the arrival of the decommissioning contractor's marine equipment at the underwater work site. The baseline debris survey shall consist of a side scan sonar with 400% coverage and a bathymetric survey of the underwater work site. For this project the underwater work site and survey boundaries shall be defined as the area between the north and south shorelines of the San Joaquin River, the Antioch Bridge abutments to the west, and the L131 alignment to the east. The overall underwater work site boundaries measure approximately 3,830 feet from shoreline to shoreline and approximately 1,300 feet from the east side of the bridge abutments to the L131 alignment.

After the decommissioning work is completed, PG&E shall direct the decommissioning contractor to repeat the survey of the same underwater work site again using side scan sonar with 400% coverage and bathymetry. The survey map produced from this survey shall be compared with the baseline survey and used to identify any items of riverbed debris introduced into the underwater worksite by the decommissioning operations. The contractor shall be directed to remove debris related to the decommissioning operations.

Both the pre-decommissioning survey map and the post-decommissioning survey map shall be provided to the agencies for approval and sign-off of project completion.

2.4.11 Project Close Out Report

Subsequent to the conclusion of all decommissioning activities and recovered materials disposal, PG&E shall produce a Project Closeout Report for submission to the CSLC. This report will include:

a. An overview of the Decommissioning Project;
b. The final disposition of all facility components, a discussion of any major events that took place during the decommissioning, and lessons learned during the decommissioning;
c. A scaled map showing the location and coordinates of any facilities abandoned-in-place and a description of those facilities; and
d. Mitigation Compliance Program documentation.

2.5 CRITICAL PLANNING FACTORS

This decommissioning project incorporates critical planning factors specific to work in the Sacramento-San Joaquin River Delta and intended to minimize environmental impacts. Critical planning factors included:

2.5.1 Minimize Turbidity

Required underwater excavation activities are planned using light underwater excavation tools such as submersible pump excavation, hand jetting, or air lifting. Surface turbidity will be monitored during underwater excavation work to ensure project compliance with WQC requirements.

2.5.2 Schedule

To minimize impacts to fish, the remediation work is planned to take place within the recommended aquatic work window of August 1 through October 31, 2015.

2.5.3 Impacts to Shoreline

The project plan and proposed facility final dispositions avoid any shoreline work or impacts to sensitive wetland habitat.

2.5.4 Impacts to Navigation and Public Safety

The remediated work spread will comply with all U.S. Coast Guard requirements. The decommissioning contractor shall obtain the required U.S. Coast Guard anchor waiver for anchoring at the underwater work site and will participate in the U.S. Coast Guards Vessel Traffic Service vessel monitoring system while working at the underwater work site.

2.5.5 Impacts to Aquatic Species

The remediation work has been planned to minimize turbidity and no other short or long term impacts are anticipated. The riverbed impact area will be limited to the pipeline excavations.

2.5.6 Impacts to Other Utilities

There are no existing facilities at or near the project site that will be impacted by the decommissioning work.

2.6 NORTH LANDING TASKS AND METHODOLOGIES

The north landing decommissioning work shall consist of the following components. These components are listed, generally, in the anticipated order of their completion (see Section 2.10 – Preliminary Schedule):

2.6.1 North Landing - Waterside Terrestrial and Shoreline Segment Cementing Operations

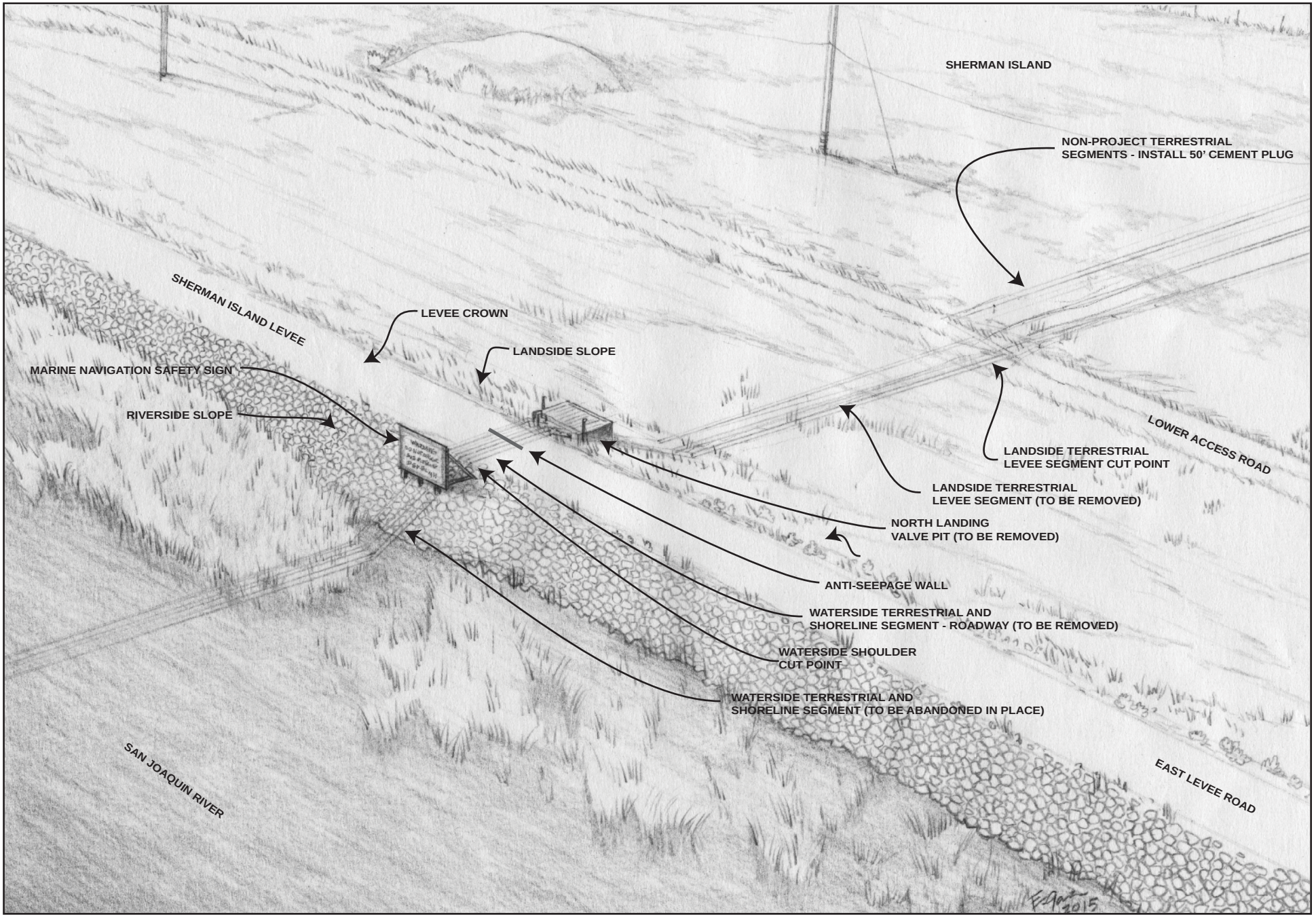
The north landing's waterside terrestrial and shoreline segment is defined as the segments of the three pipelines beginning at the reinforced concrete valve pit embedded in the Sherman Island levee near its crown, across the levee crown, down the riverside slope of the levee and riverbank, to a point in the river, under the riverbed, approximately 180 feet south (offshore) of the northern shoreline of the San Joaquin River where the pipelines will be excavated and cut at the Northern submarine pipeline cut point (see Figure 2-11 Overview of North Landing) .

The first order of decommissioning will be to install cement slurry plugs in the north landing's waterside terrestrial and shoreline pipeline segments (from the north landing valve pit to the northern submarine pipeline cut point). The plugs shall be installed to a point in each of the three pipelines approximately 50 feet south of the planned northern submarine pipeline cut point, a horizontal distance of approximately 285 feet south of the south wall of the north landing valve pit (235 feet south of the shoreline) (see Figure 2-12 Cementing Terrestrial and Shoreline Pipeline Segments).

This operation will require access to the south landing valve pit located in Lauritzen Yacht Harbor to vent the pipelines inside the south landing valve pit as the cement slurry slugs are pumped into the pipelines at the north landing.

In preparation for installing the cement slurry plugs in the north landing's waterside terrestrial and shoreline segments, the north landing valve pit will be opened and decommissioning crews will prepare the pipeline ends in the waterside wall of the valve pit to receive the cement slurry. This work will be performed by terrestrial crews working from the road on the crown of the levee.

The work inside the valve pit qualifies as a "permit-required confined space" and the terrestrial crews will implement a written program for working in the valve pit and the cut point excavation. The written confined spaced work program, to be included in the Contractor Work Plan, shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices.



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-11
NORTH LANDING OVERVIEW

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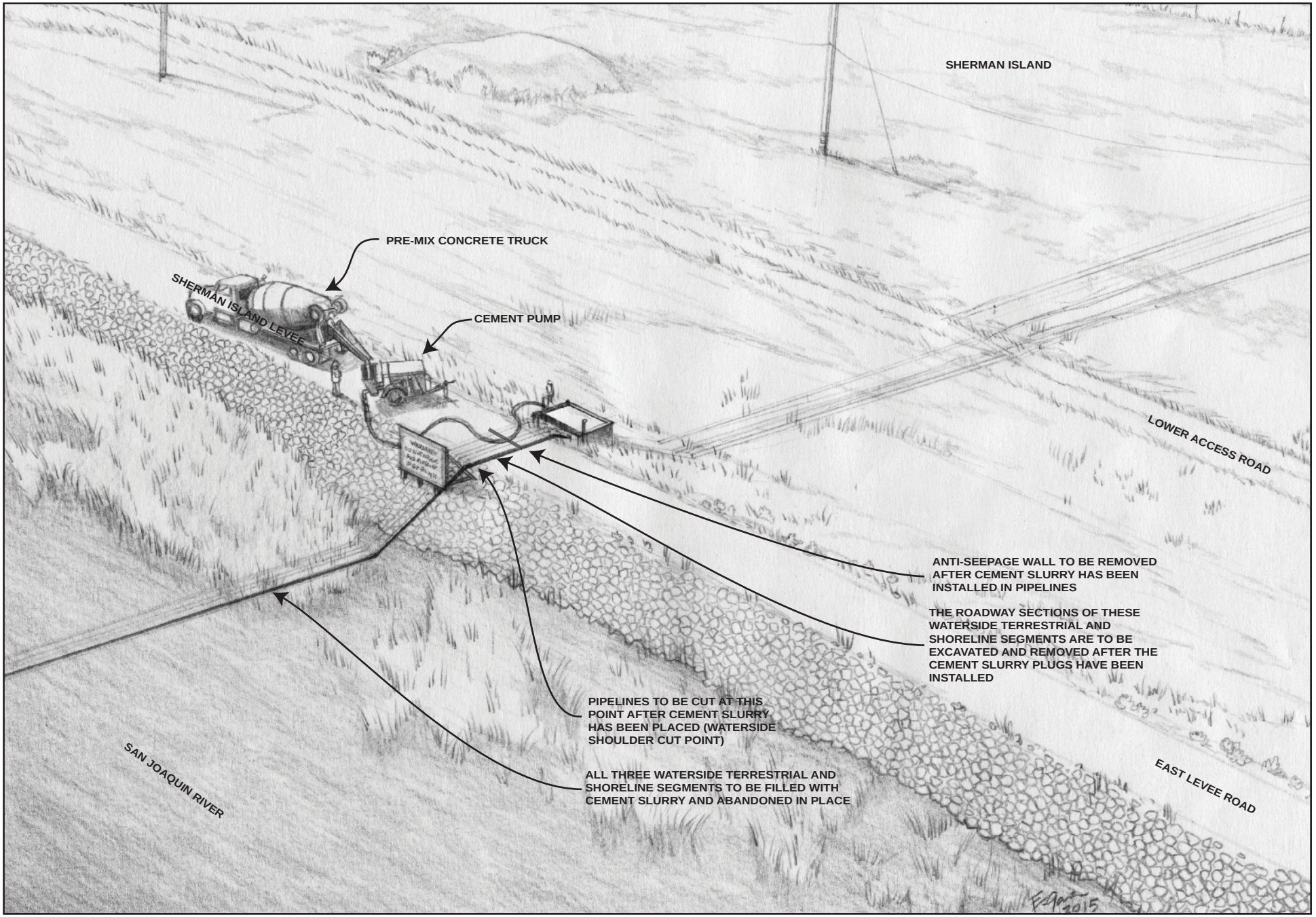

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-12

CEMENTING TERRESTRIAL AND SHORELINE PIPELINE SEGMENT

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Inside the valve pit, L114-1 and SP4Z are continuous and a section approximately 3 feet in length will be cut out of each of the two pipelines and 12-inch flanges fit and welded to the waterside pipe stubs. L114 will already be equipped with a 12-inch flange from the pre-decommissioning pipeline cleaning operations.

Once the flanges are installed on the waterside pipe ends inside the north landing valve pit, a foam pig will be placed inside of the three waterside pipe ends and a cement supply hose connected to the first of the three pipelines to receive the cement slurry plug. The purpose of the foam pig in each pipeline is to serve as a swab in front of the cement slurry flow pumped into each pipeline to ensure that the cement slurry is not permitted to run past the intended end of the cement slurry plug and to ensure that the plugged segments of pipeline are completely filled with cement slurry.

Once the first pipeline is ready, the cement slurry plug will be installed. The cement slurry may be provided in pre-mixed batches and placed using a trailer mounted, diesel powered concrete pump or provided in components (dry cement in bulk and water provided by a water truck) and mixed at the north landing using an on-the-fly cement mixing system consisting of a trailer mounted diesel powered jet mixer and pump. If the cement is provided in pre-mixed batches the cement mix must be a three sack cement mix, or equivalent, with aggregate having a maximum size of 3/8-inch, and a water content sufficient to produce a 6-inch to 8-inch slump. Alternatively, if a jet mixer system is used to produce and install the cement slurry, the cement slurry max shall conform to API Class G oilfield cement specifications.

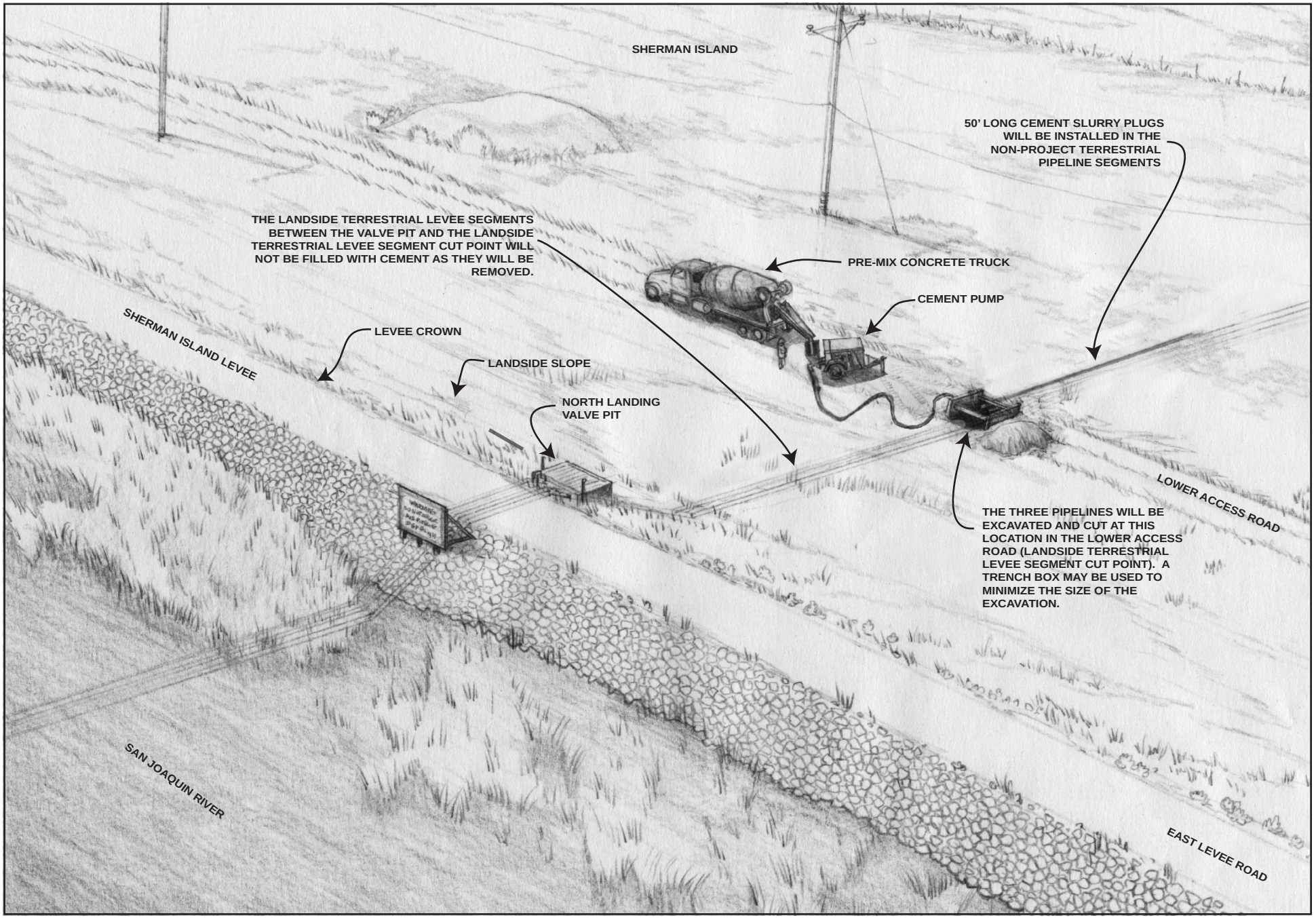
In either case, the equipment will be positioned on the road on the crown of the levee above the valve pit. A cement supply hose shall be connected to the concrete pump and the end of the first pipeline to receive the cement slurry plug.

Approximately 13 cubic yards of cement slurry will be required for each of the three north landing waterside terrestrial and shoreline segments. The volume of cement slurry placed in each pipeline will be controlled by placing a measured amount of cement slurry installed in each pipeline. If the batch mixing method is used a total of 1.5 cement truck loads will be required per pipeline (assumes 9 cubic yard loads, total of 39 cubic yards for all three pipelines). If the jet mixer method is used the cement slurry volume will be measured as it is pumped into the pipeline and the pumping stopped when the designated amount of cement slurry has been installed.

2.6.2 North Landing - Landside Terrestrial Levee Segment Cementing Operation

The north landing's landside terrestrial levee segments of L114-1 and SP4Z will be filled with cement slurry plugs from the Landside Terrestrial Levee Segment Cut Point to a point 50 feet north (see Figure 2-13 Cementing Landside Terrestrial Levee Segment). L114 is already filled with cement slurry and will not require additional cementing.

To facilitate the cementing of L114-1 and SP4Z, all three pipelines will be excavated where they cross the levee's lower access road at a point approximately 15 feet north of the original toe of the levee (the landside terrestrial levee segment cut point). All three pipelines will be cut at this planned cut point.



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-13

CEMENTING LANDSIDE TERRESTRIAL LEVEE SEGMENT

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The pipelines may be buried as deep as 10 feet below the roadway and the excavation plan may include a portable trench box for excavation safety purposes. Assuming a portable trench box is used, the limits of the excavation are projected to measure approximately 16 feet wide (east to west), 10 feet in width (north to south), and 12 feet deep. The total excavation volume is estimated at approximately 71 cubic yards.

Once the pipelines have been exposed at this location, the trench floor will be over-excavated at two pipeline cut points on L114-1 and SP4Z and one cut point on L114 to facilitate cutting the full circumference of each pipeline. L114-1 and SP4Z will be cut at two points approximately 4 feet apart to provide adequate room for installing flanges on the L114-1 and SP4Z north pipeline stubs and performing the cementing of these two northern terrestrial pipeline segments. L114 is already filled with cement so a single cut is sufficient to severe the pipeline in preparation for later removal of the L114 pipeline segment between this cut point and the north landing valve pit.

At each cut point, a band of the pipeline's exterior coating will be removed and the removed coating captured for offsite disposal. The pipelines will be cut at these cut points using oxygen-acetylene cutting equipment and the 4 foot pipe "pups" removed from L114-1 and SP4Z. Once the pups have been removed, 12-inch diameter Series 150 slip-on flanges shall be welded to the L114-1 and SP4Z north pipeline stubs.

The work inside the valve pit and the work inside the cut point excavation qualify as "permit-required confined space" and the terrestrial crews will implement a written program for working in the valve pit and the cut point excavation. The written confined spaced work program, to be included in the Contractor Work Plan, shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices.

Once the flanges have been installed on L114-1 and SP4Z, a foam pig will be placed inside of these two pipelines and a cement supply hose connected to the first of the two pipelines to receive the cement slurry plug. The purpose of the foam pig in each pipeline is to serve as a swab in front of the cement slurry flow pumped into each pipeline to ensure that the cement slurry is not permitted to run past the intended end of the cement slurry plug and to ensure that the plugged segments of pipeline are completely filled with cement slurry.

The cement slurry may be provided in pre-mixed batches and placed using a trailer mounted, diesel powered concrete pump or provided in components (dry cement in bulk and water provided by a water truck) and mixed at the north landing using an on-the-fly cement mixing system consisting of a trailer mounted diesel powered jet mixer and pump. If the cement is provided in pre-mixed batches the cement mix must be a three sack cement mix, or equivalent, with aggregate having a maximum size of 3/8-inch, and a water content sufficient to produce a 6-inch to 8-inch slump. Alternatively, if a jet mixer system is used to produce and install the cement slurry, the cement slurry max shall conform to API Class G oilfield cement specifications.

In either case, the equipment will be positioned on the lower access road near the open trench. A cement supply hose shall be connected to the concrete pump and the end of the first pipeline to receive the cement slurry plug.

Approximately 8.5 cubic yards of cement slurry will be required for each of the two terrestrial/shoreline pipeline segments. The volume of cement slurry placed in each pipeline will be controlled by placing a measured amount of cement slurry installed in each pipeline. If the batch mixing method is used a total of two 8.5 cubic yard truck loads will be required, one for each pipeline. If the jet mixer method is used the cement slurry volume will be measured as it is pumped into the pipeline and the pumping stopped when the designated amount of cement slurry has been installed. Both pipelines will be pumped full of slurry to provide a cement plug approximately 50 feet in length.

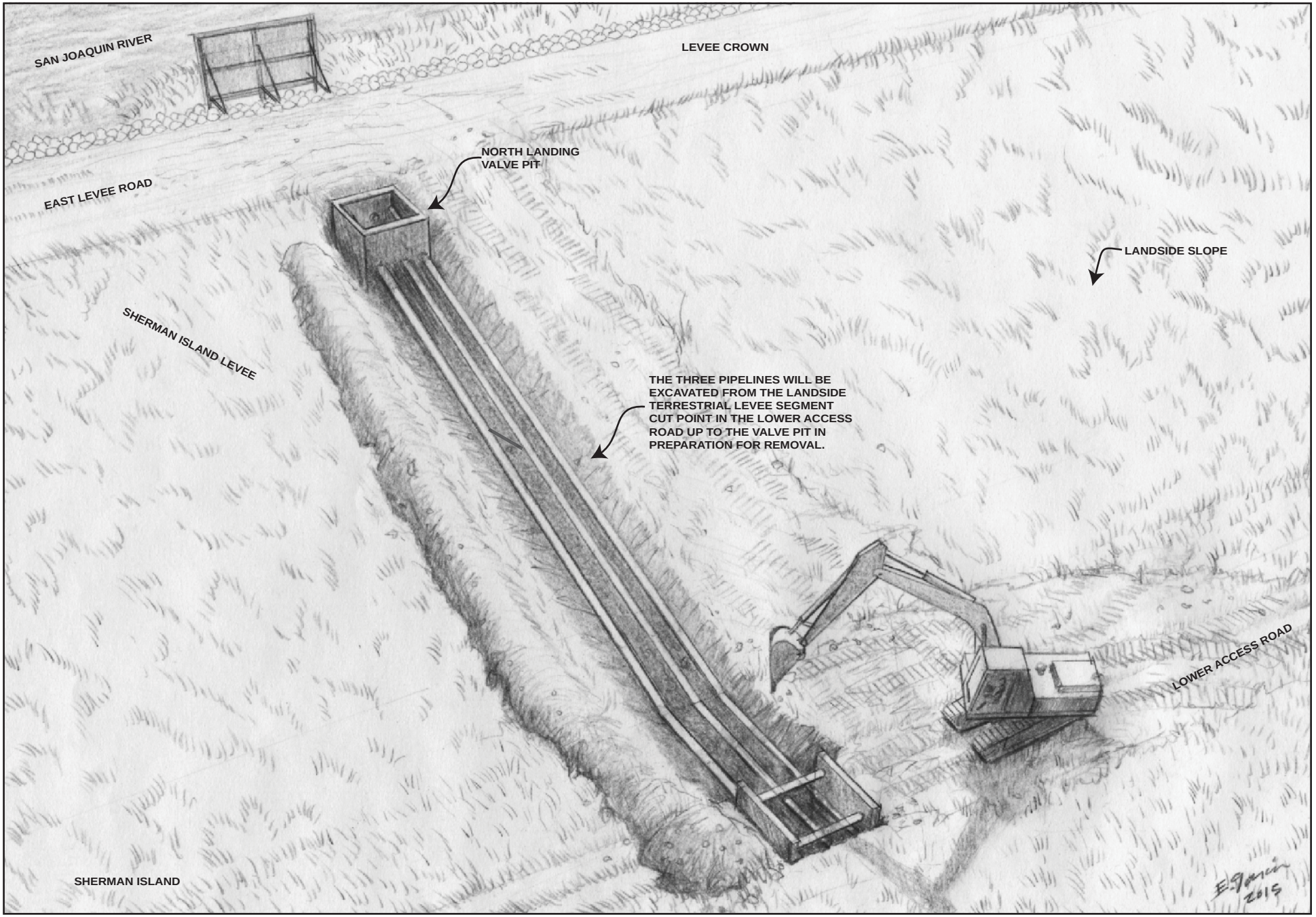
Upon completion of the installation of the cement slurry plugs in the two pipelines, and after the terrestrial segments of these pipelines have been removed up to the north landing valve pit, the flanges will be cut off the ends of L114-1 and SP4Z and the stub ends of all three pipelines (L114-1, L114 and SP4Z) will be capped with ½-inch thick steel plates welded to the cement slurry filled pipe ends.

2.6.3 North Landing - Landside Terrestrial Levee Segment Removal

Upon completion of the installation of the cement slurry plugs in the north landing's landside terrestrial levee segments, the three pipeline segments between north landing's landside terrestrial levee segment cut point and the north landing valve pit will be removed. Removal will involve excavation of the three pipeline segments, cutting them into segments, removing them, trucking them offsite for disposal, and backfilling the excavated trench (see Figure 2-14 Landside Terrestrial Levee Segment Excavation and Removal). The required excavation will run from the excavation already completed in the lower access road, where the pipelines were cut, to the valve pit up on the levee near its crown. This task includes backfilling of the trench in the lower access road where the pipelines were excavated and cut.

L114-1 and SP4Z are constructed of 12-inch diameter nominal steel pipe through the north landing project boundaries. Within the north landing project boundaries, L114 is comprised of 16-inch diameter nominal steel pipe upstream of the north landing valve pit, and 12-inch diameter nominal steel pipe where it penetrates the landside (north) wall of the north landing valve pit. Within the project boundaries at the north landing, L114 is already filled with cement slurry and does not require the installation of a cement plug.

L114-1 parallels L114 approximately 3 feet to the east of L114 and SP4Z parallels L114 approximately 5 feet to the west of L114. The burial depth of the three pipelines ranges from as much as approximately 10 feet of cover (to top of pipe) near the toe of the levee to as little as approximately 2 feet of cover (to top of pipe) near the valve pit on the Sherman Island levee. The lengths of each of the pipeline segments to be removed are approximately 84 feet in length.



PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-14

LANDSIDE TERRESTRIAL LEVEE SEGMENT EXCAVATION AND REMOVAL

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The necessary pipeline excavations are projected to consist of a single trench measuring approximately 20 feet in width (east to west) at the top of the slope and approximately 52 feet in width at the bottom or toe of the levee's landside slope. The total length of this excavation is estimate at 84 feet (north to south) and ranging between 2 feet to 10 feet in depth. These trench depth estimates are based on excavating to the bottom of the pipelines (exposing the pipes). The trench will be laid back on both sides (east to west) to a 2:1 slope for excavation safety purposes. The total excavation volume is estimated at approximately 500 cubic yards (in addition to the trench previously excavated in the lower access road at the pipeline cut points).

Once excavated, the pipelines will be lifted and cut approximately at their mid-point, or shorter, to create truckable pipe segments. The pipelines will be cut using oxygen-acetylene cutting equipment, excavator mounted pipe shears, or other typical mechanical pipe demolition cutting method. The recovered pipeline segments will be loaded onto trucks and trucked offsite for recycling or disposal. The total estimated weight of the recovered pipe segments is 19 tons (including the weight of the cement filled 16-inch diameter L114 pipe) and a total of 2 end-dump truck trips are projected to haul off the recovered pipe.

Upon completion of the pipeline excavations and removals, the excavated trench, as well as the trench in the lower access road, will be backfilled and compacted to CVFPB/RD 341 requirements (Title 23 Standards). Backfill will consist of excavation spoils augmented with native soil acceptable to CVFPB and RD 341. This backfill requirement will involve approximately 571 cubic yards (71 from cut point excavation plus 500 from levee slope excavation) of spoils (including the spoils from the trench excavated in the lower access road) from the excavated trenches and 16 cubic yards of imported native backfill (to replace the volume of the removed facilities). The imported native backfill may require two 10-ton dump truck trips.

2.6.4 North Landing - Waterside Terrestrial and Shoreline Segment Roadway Removal

Upon completion of the north landing's landside terrestrial levee pipeline segment removals, the north landing's waterside terrestrial and shoreline pipeline segments will be decommissioned.

These segments consist of three 12-inch diameter nominal pipelines that exit the waterside (south) wall of the north landing valve pit, pass underneath the roadway on the crown of the Sherman Island levee, down the waterside slope of the levee, and pass underneath the riverbed where they will terminate at the northern submarine pipeline cut points (see Figure 2-15 Waterside Terrestrial and Shoreline Segment Excavation and Removal). These pipe segments will have been filled with cement slurry plugs in the initial decommissioning work at this north landing and the sections of pipe from the valve pit to south side of the levee crown will be ready for removal.

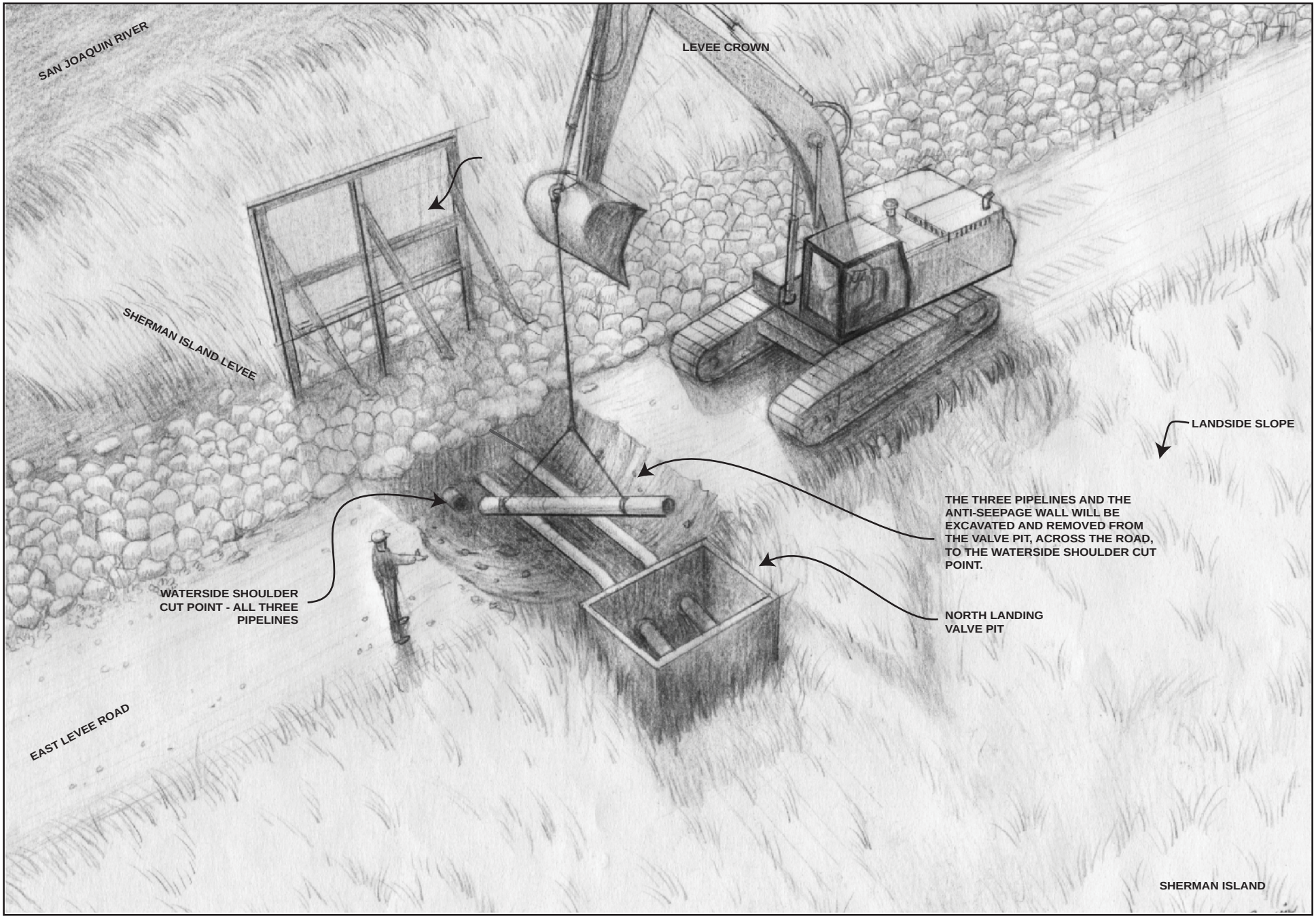

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FIGURE 2-15
WATERSIDE TERRESTRIAL AND SHORELINE SEGMENT EXCAVATION AND REMOVAL

The valve pit work area qualifies as a "permit-required confined space" and the terrestrial crews will implement a written program for working in the valve pit and the cut point excavation. The written confined spaced work program, to be included in the Contractor Work Plan, shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices.

Removal will start by excavating the three pipeline segments from the valve pit, up the levee slope, and across the roadway on the levee crown to the south shoulder of the levee crown (just before the ridgeline of the rip rap rock slope on the waterside slope of the levee), a distance of approximately 27 feet. Approximately 15 feet 8 inches from the south wall of the valve pit, the pipelines pass through a reinforced concrete anti-seepage wall embedded in the levee road. This anti-seepage wall will also be excavated.

The anti-seepage wall measures approximately 8-inches in thickness, 4-feet in height, and 13-foot 3-inches in width. Assuming approximately 2 foot of cover over the anti-seepage wall, the total excavation depth is projected at approximately 6 feet at the anti-seepage wall and possibly as much as 4 feet of excavation depth to completely exposed the pipeline segments. The total excavation volume, including the pipeline segments and the anti-seepage wall, is estimated at approximately 60 cubic yards (50 cubic yards of road base spoils plus 10 cubic yards of recovered pipe and concrete rubble).

Once exposed, the three pipelines will be cut near the south shoulder of the crown at the predesignated waterside shoulder cut point in preparation for removal. The pipeline segments will have been filled with cement slurry during the earlier cementing operation so the pipeline cuts will be made within the cement slurry plugs. The cut pipelines will be removed across the roadway to the valve pit and the anti-seepage wall will be demolished and removed. The remaining waterside stubs of the submarine segments at the waterside shoulder cut point will be capped with ½-inch thick steel plates welded to the slurry filled pipe ends. The pipeline segments from the waterside shoulder cut point to the northern submarine pipeline cut point will have been filled with cement slurry in the earlier cementing operation and these segments will be abandoned in place.

The total estimated weight of the recovered pipe segments is 6 tons (including cement inside pipe segments) and a total of one 10-ton dump truck trip is projected to haul of the recovered pipe. The weight of the concrete and rebar debris from the demolished anti-seepage wall is estimated at 4 tons and may be hauled off with the recovered pipe segments for recycling or disposal. A second 10-ton dump truck trip may be required to haul off the concrete and rebar debris.

The levee roadway will be backfilled and compacted to CVFPB/RD 341 requirements (Title 23 Standards). The roadway will be returned to pre-existing contours.

2.6.5 North Landing - Valve Pit Demolition and Removal

The north landing valve pit will be demolished and removed in its entirety. The north landing valve pit consists of a reinforced concrete cast-in-place vault that measures (outside dimensions)

approximately 8-foot 6-inches in depth, 12-foot 4-inches in width, and 6-foot 9-inches in height (at the downslope side), and has a wall thickness of approximately 8-inches. It has a reinforced concrete floor of the same approximate thickness and may incorporate a floor drain and sump for draining rainwater into the surrounding soil from the valve pit. The lid of the valve pit is constructed of loosely fitted wooden planking.

Inside the north landing valve pit, L114-1 and SP4Z are continuative through the valve pit from the north wall to the south wall. L114 was previously deactivated and a section of pipe has been cut out of the pipeline inside the valve pit. Currently, a 12-inch pipe stub protrudes through the north wall of the valve pit and is flanged with a 12-inch flange, and another 12-inch pipe stub protrudes through the south wall of the valve pit and is flanged with a 12-inch flange.

As-built drawings show a floor drain in the northwest bottom corner of the valve pit and a drain pipe approximately 4-inches in diameter and of unknown construction connected to the floor drain and running underground down the back slope of the levee for a distance of approximately 6 to 8 feet where the drain pipe terminates at ground level.

The valve pit work area qualifies as a “permit-required confined space” and the terrestrial crews will implement a written program for working in the valve pit. The written confined spaced work program, to be included in the Contractor Work Plan, shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices.

The valve pit decommissioning work will begin after the cement slurry plugs have been installed in the north landing’s waterside terrestrial and shoreline pipeline segments and the levee roadway has been excavated and the roadway pipeline segments removed. The first valve pit decommissioning task will be to remove all piping that passes through the valve pit. Once the piping has been removed the concrete valve pit will be broken up with an excavator mounted breaker or similar equipment (see Figure 2-16 Valve Pit Demolition). The concrete and rebar rubble will be recovered, loaded on a truck and shipped offsite for recycling or disposal.

After the concrete and rebar rubble has been removed, the underlying and surrounding soil, including the area around the drain pipe and its down slope termination point shall be sampled for presence of any contaminates that exceed allowable regulatory limits. If contaminated soil is found, PG&E shall remediate the contaminated soil to comply with regulatory requirements.

The valve pit excavation will be backfilled with native soil acceptable to the CVFPB/RD 341 and compacted to CVFPB/RD 341 requirements (to Title 23 Standards). The East Levee Road will also be backfilled and compacted (to Title 23 Standards) at this time.

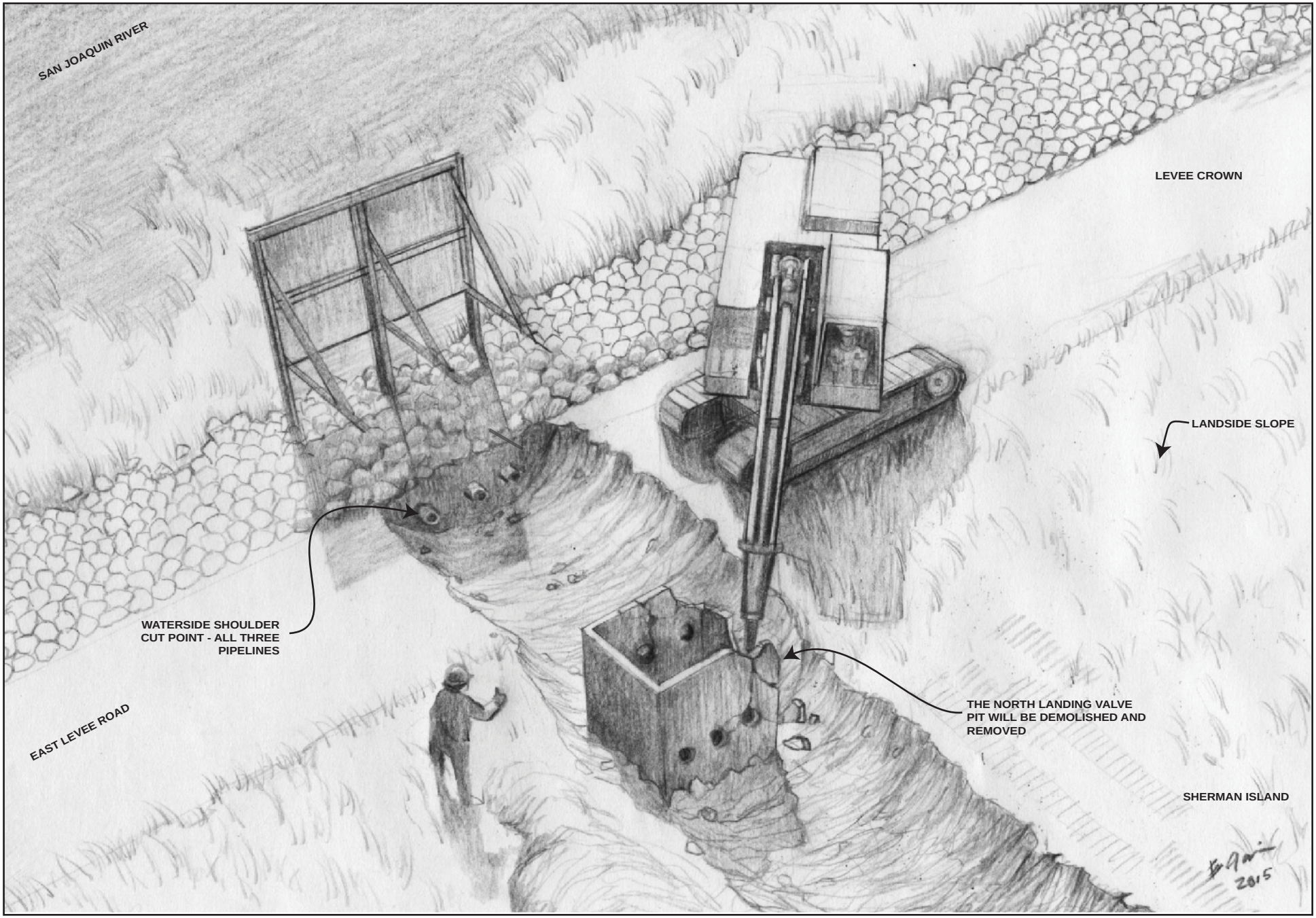

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FIGURE 2-16
VALVE PIT DEMOLITION

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The valve pit decommissioning is expected to generate approximately 20 tons of concrete and rebar rubble. Assuming no contaminated soil is found under or around the valve pit and no excavation work is required to remove contaminated soil, the valve pit excavation will required approximately 15 cubic yards of imported native backfill. The roadway excavation will require approximately 60 cubic yards of road base backfill. The spoils from the levee roadway excavation will provide approximately 50 cubic yards of road base backfill and an additional approximately 10 cubic yards of imported road base backfill will be required to restore the roadway to original contours.

A total of approximately two 10-ton dump truck trips will be required to haul off the concrete and rebar rubble. Approximately two 10-ton dump truck trips will be required to haul in the required additional road base materials.

2.6.6 North Landing – Marine Navigation Safety Sign Removal

The marine navigation safety sign located on the south shoulder of the Sherman Island levee will be removed PG&E in its entirety, including the lumber posts and their cemented post holes. The sign is constructed of lumber and plywood and will be removed by cutting the three 4x4 sign posts and the three 2x8 braces. The weight of the recovered wood debris is estimated at 500 pounds or less and will be trucked offsite for recycling or disposal.

2.6.7 North Landing – Site Restoration

Site restoration at the north landing shall take place after the decommissioning project related trenches have been backfilled and compacted to grade. Site restoration shall consist of grading the backfilled and compacted trenches to match pre-existing surrounding contours and then reseeding or re-vegetating the disturbed areas (see Section 2.9 – Site Restoration Plan).

2.6.8 North Landing - Projected Material and Truck Trip Calculations

The following are projected weight, volumes and quantities associated with the decommissioning of the north landing.

1) Waterside Terrestrial and Shoreline Segment

(i) 39 cubic yards of Cement Slurry
(ii) 5 each Concrete Truck Trips (if pre-mix is used)
(iii) 60 cubic yards East Levee Road Excavation (includes road base, pipe volume and anti-seepage wall rubble)
(iv) 10 tons of Recovered Pipe and Anti-Seepage Wall Concrete and Rebar Rubble
(v) 50 cubic yards Backfill Road Base Materials (from excavation spoils)
(vi) 10 cubic yards Backfill Road Base Materials (imported road base)
(vii) 4 each 10-Ton Dump Truck Trips

2) Landside Terrestrial Pipeline Segment Cut Point

(i) 71 cubic yards Excavation (spoils to be reused for backfill)
(ii) 71 cubic yards Backfill (from excavation spoils)

3) Landside Terrestrial Pipeline Segment

(i) 17 cubic yards Cement Slurry
(ii) 2 each Concrete Truck Trips (if pre-mix is used)
(iii) 500 cubic yards Excavation (spoils to be reused for backfill)
(iv) 19 tons Recovered Pipe (includes 16-inch cement filled pipe segment)
(v) 2 each End-Dump Truck Trips (to haul off recovered pipe)
(vi) 500 cubic yards Backfill (from excavation spoils, includes cut point excavation)
(vii) 16 cubic yards Backfill (imported native soil)
(viii) 2 each 10-Ton Dump Truck Trips (import native soil)
(ix) 2 each 10-Ton Dump Truck Trips (haul off road crossing pipe and anti-seepage wall concrete/rebar debris)

4) Valve Pit

(i) 20 tons of Concrete and Rebar Rubble
(ii) 15 cubic yards of Backfill (imported native soil)
(iii) 4 each 10-Ton Dump Truck Trips (concrete debris haul off and backfill import)

5) Marine Navigation Safety Sign

(i) 500 pounds Wood Debris

2.6.9 North Landing - Projected Manpower and Equipment Work Spread

For purposes of this PEP, a work spread is defined as the manpower and equipment assembled to perform a scope of work at a particular project work site. The north landing decommissioning work will be performed by a field management team and a manpower and equipment work spread comprised of land-based crews and equipment.

a. Field Management - Field management consisting of a decommissioning project manager and environmental monitor/s will oversee the decommissioning work in the field on a full time basis. The decommissioning project manager shall report to a PG&E project manager: The field management team shall consist of the following positions:

(1) PG&E Project Manager (offsite)
(1) Decommissioning Project Manager - Contractor
(1) Environmental Monitor – Contractor

b. Terrestrial Crews – The north landing work crew may consist of the following classifications:

(1) Supervisor
(2) Welders/Helpers
(2) Laborers
(2) Heavy Equipment Operators
(3) Concrete Pump Operators (or Jet Mixer Operators)

c. Terrestrial Equipment

(1) Excavator - Large (CAT 336 or equivalent)
(1) Skip Loader w/ Gannon (CAT 414 or equivalent)
(1) Compactor (CAT CP54 or equivalent)
(1) Welding Truck
(1) Concrete Pump (Putzmeister BSA-120/197HP or equivalent)
(1) Temporary Trench Box
(1) Air Compressor (Sullair 185CFM/61HP or equivalent)
(all) Confined Space Equipment
(all) Asbestos Containment Equipment (if asbestos is found in the exterior coating of the pipelines)
(all) Hand Tools – including oxy-acetylene cutting torches, chippers, welding equipment, electronic pipeline locators and survey equipment

2.7 SOUTH LANDING TASKS AND METHODOLOGIES

The south landing decommissioning work shall consist of the following components. These components are listed, generally, in the anticipated order of their completion (see Section 2.10 – Preliminary Schedule):

2.7.1 Pipeline Venting During Installation of Cement Slurry Plugs in North Landing Waterside Terrestrial and Shoreline Segment

The work at the south landing will begin with opening the three pipeline terminations inside the valve pit at Lauritzen Yacht Harbor to vent the pipelines when the cement slurry plug is installed in the north landing's waterside terrestrial and shoreline pipeline segments (see Figure 2-17 Overview of South Landing). This task will involve opening the aluminum lid on the valve pit and loosening or removing the blind flanges that will be attached to the stub ends of the three submarine pipelines where they pass through the north wall of the valve pit.

The valve pit work area qualifies as a "permit-required confined space" and the terrestrial crews will implement a written program for working in the valve pit. The written confined spaced work program shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices. This program shall include a method for ventilating the open pipelines to the atmosphere outside of the valve pit when the cement slurry plugs are installed in the north landing's waterside terrestrial and shoreline segments.

Once the cement slurry plugs have been installed in the north landing's waterside terrestrial and shoreline pipeline segments, the blind flanges that were loosened or removed shall be temporarily re-installed until the cementing of the south landing's terrestrial and submarine pipeline segment takes place.

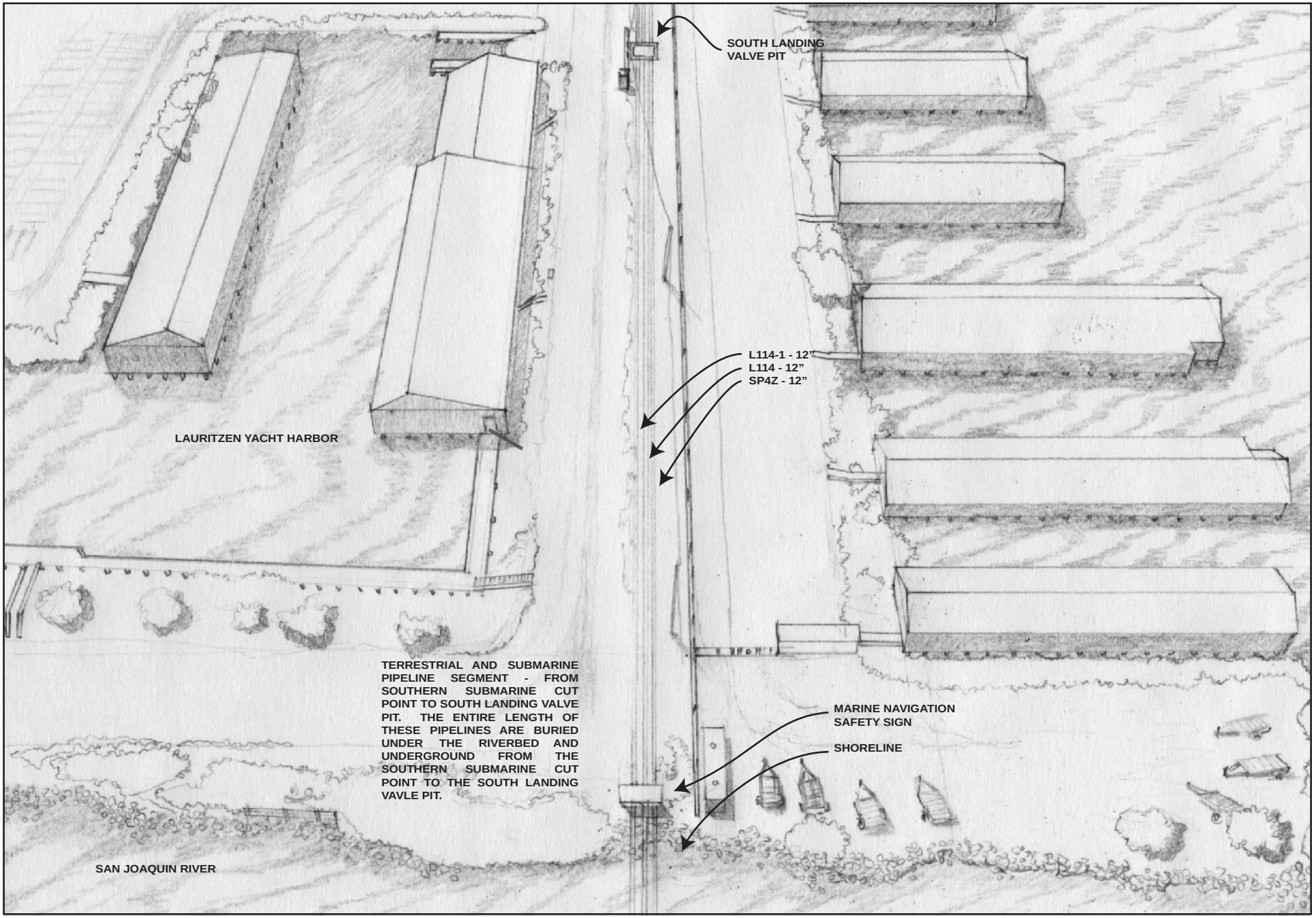

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FIGURE 2-17
OVERVIEW OF SOUTH LANDING

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The total amount of air or gas displaced from the three pipelines by the installation of the cement slurry plugs is limited to the length of the cement slurry plugs (planned at approximately 285 feet in the north landing's waterside terrestrial and shoreline pipeline segments).

2.7.2 South Landing – Terrestrial and Submarine Pipeline Segment Cementing Operation

Later, after the submarine pipeline decommissioning operation has cut the pipelines at the northern submarine pipeline cut point, a terrestrial crew will return to the south landing to install cement slurry plugs in the south landing's terrestrial and submarine pipeline segments. The reason for this particular order of completion is because the cement slurry plug installations at the south landing will displace air or gas in the pipelines that must be vented through the open ends of the cut pipelines offshore of the north landing.

In preparation for installing the cement slurry plugs at the south landing, the south valve pit will be opened and decommissioning crews will prepare the pipeline ends in the waterside (north) wall of the valve pit to receive the cement slurry (see Figure 2-18 Terrestrial/Submarine Pipeline Segment Cementing Operation). This work will be performed by terrestrial crews working from the road inside Lauritzen Yacht Harbor.

The south landing valve pit work area qualifies as a "permit-required confined space" and the terrestrial crews will implement a written program for working in the valve pit. The written confined spaced work program, to be included in the Contractor Work Plan, shall include all OSHA requirements for working in a confined space including testing, monitoring, ventilating, communications and lighting; barriers and shields; ladders; and retrieval devices.

All three pipelines are already terminated with 12-inch diameter flanges and will be ready for cementing. The crews will remove the blind flanges attached to the pipe ends and will place a foam pig inside of each of the three open pipeline ends. A cement supply hose will be connected to the first of the three pipelines to receive the cement slurry plug. The purpose of the foam pig in each pipeline is to serve as a swab in front of the cement slurry flow pumped into each pipeline to ensure that the cement slurry is not permitted to run past the intended end of the cement slurry plug and to ensure that the plugged segments of pipeline are completely filled with cement slurry.

Once the first pipeline is ready, the cement slurry plug will be installed. The cement slurry may be provided in pre-mixed batches and placed using a trailer mounted, diesel powered concrete pump or provided in components (dry cement in bulk and water provided by a water truck) and mixed at the south landing using an on-the-fly cement mixing system consisting of a trailer mounted diesel powered jet mixer and pump. If the cement is provided in pre-mixed batches the cement mix must be a three sack cement mix, or equivalent, with aggregate having a maximum size of 3/8-inch, and a water content sufficient to produce a 6-inch to 8-inch slump. Alternatively, if a jet mixer system is used to produce and install the cement slurry, the cement slurry max shall conform to API Class G oilfield cement specifications.

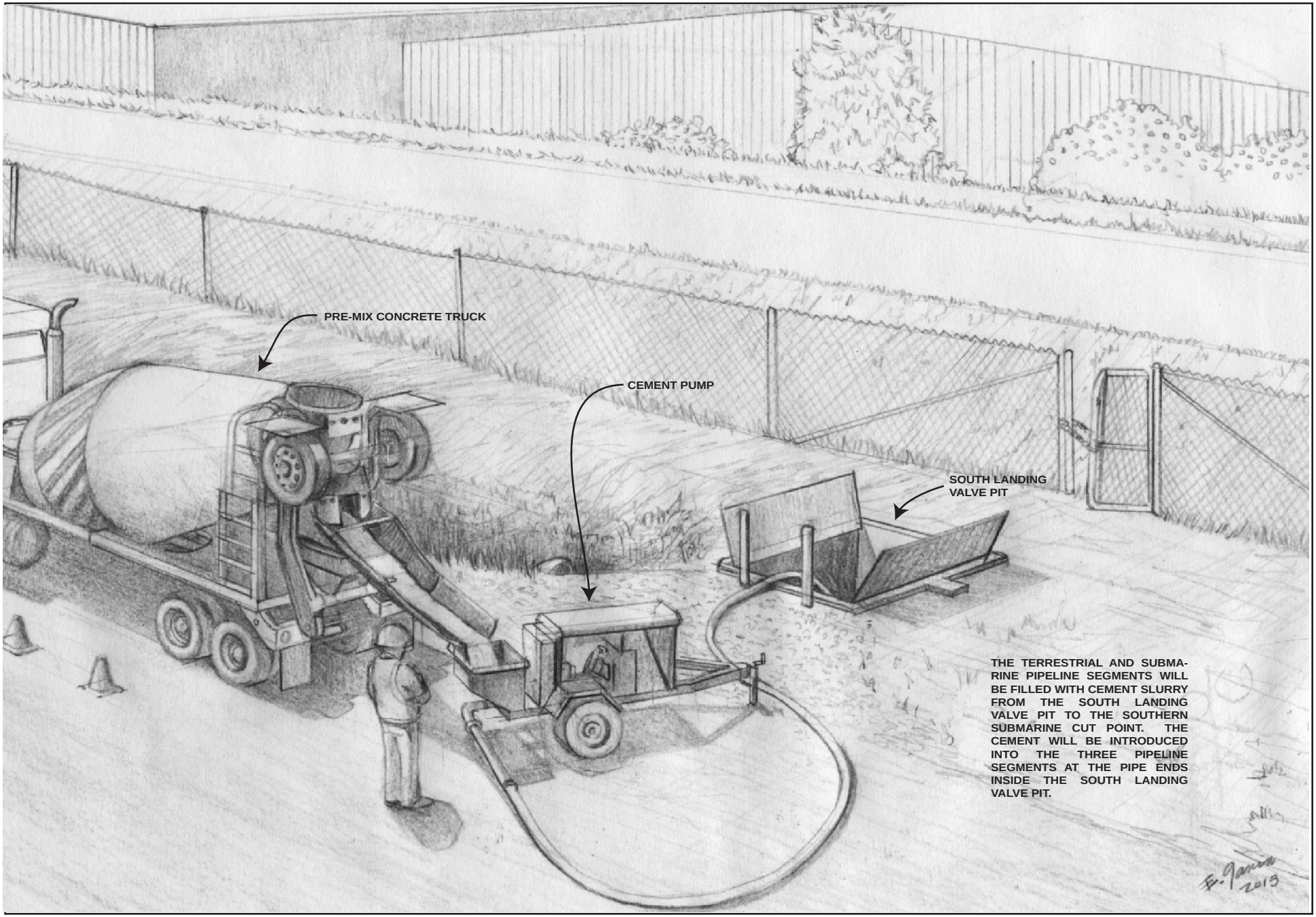

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FIGURE 2-18

TERRESTRIAL/SUBMARINE PIPELINE SEGMENT CEMENT OPERATION SOUTH LANDING

In either case, the equipment will be positioned on the road inside of Lauritzen Yacht Harbor alongside the valve pit. A cement supply hose shall be connected to the concrete pump and the end of the first pipeline to receive the cement slurry plug.

The total length of each cement slurry plug is calculated at 781 feet in length (50 feet. Approximately 35.3 cubic yards of cement slurry will be required for each of the three south landing's waterside terrestrial and shoreline segments. The volume of cement slurry placed in each pipeline will be controlled by placing a measured amount of cement slurry installed in each pipeline. If the batch mixing method is used a total of four 9 cubic yard truck loads will be required per pipeline. If the jet mixer method is used the cement slurry volume will be measured as it is pumped into the pipeline and the pumping stopped when the designated amount of cement slurry has been installed.

Upon completion of the installation of the cement slurry plugs in the three pipelines the flanges will be cut off the ends of L114-1, L114 and SP4Z approximately 12-inches off of the waterside (north) interior wall of the south landing valve pit and these stub ends will be capped with ½-inch thick steel plates welded to the cement slurry filled pipe ends (see Figure 2-19 Capping and Abandonment in Place of Terrestrial/Submarine Pipeline Segments). This will complete the abandonment in place of these three pipelines at the south landing.

2.7.3 South Landing - Marine Navigation Safety Sign Removal

The marine navigation safety sign located on the shoreline of Lauritzen Yacht Harbor, over the pipeline alignments, will be removed down to ground level and the remaining cemented post holes abandoned in place. The sign is constructed of lumber and plywood and will be removed by cutting the three 4x4 sign posts and the three 2x8 braces. Removal will be accomplished with an electrically powered saw or equivalent. The weight of the recovered wood debris is estimated at 500 pounds or less and will be trucked offsite for recycling or disposal.

The terrestrial crew at the south landing will demobilize once the cement plugs have been installed in the pipeline ends at the south landing and the marine safety sign at the south landing has been removed.

2.7.4 South Landing - Projected Material and Truck Trip Calculations

The following are projected weight, volumes and quantities associated with the decommissioning of the south landing.

1) Terrestrial and Shoreline Segment

(i) 106 cubic yards of Cement Slurry

(ii) 12 each Concrete Truck Trips (if pre-mix is used)

2) Marine Navigation Safety Sign

(i) 500 pounds Wood Debris

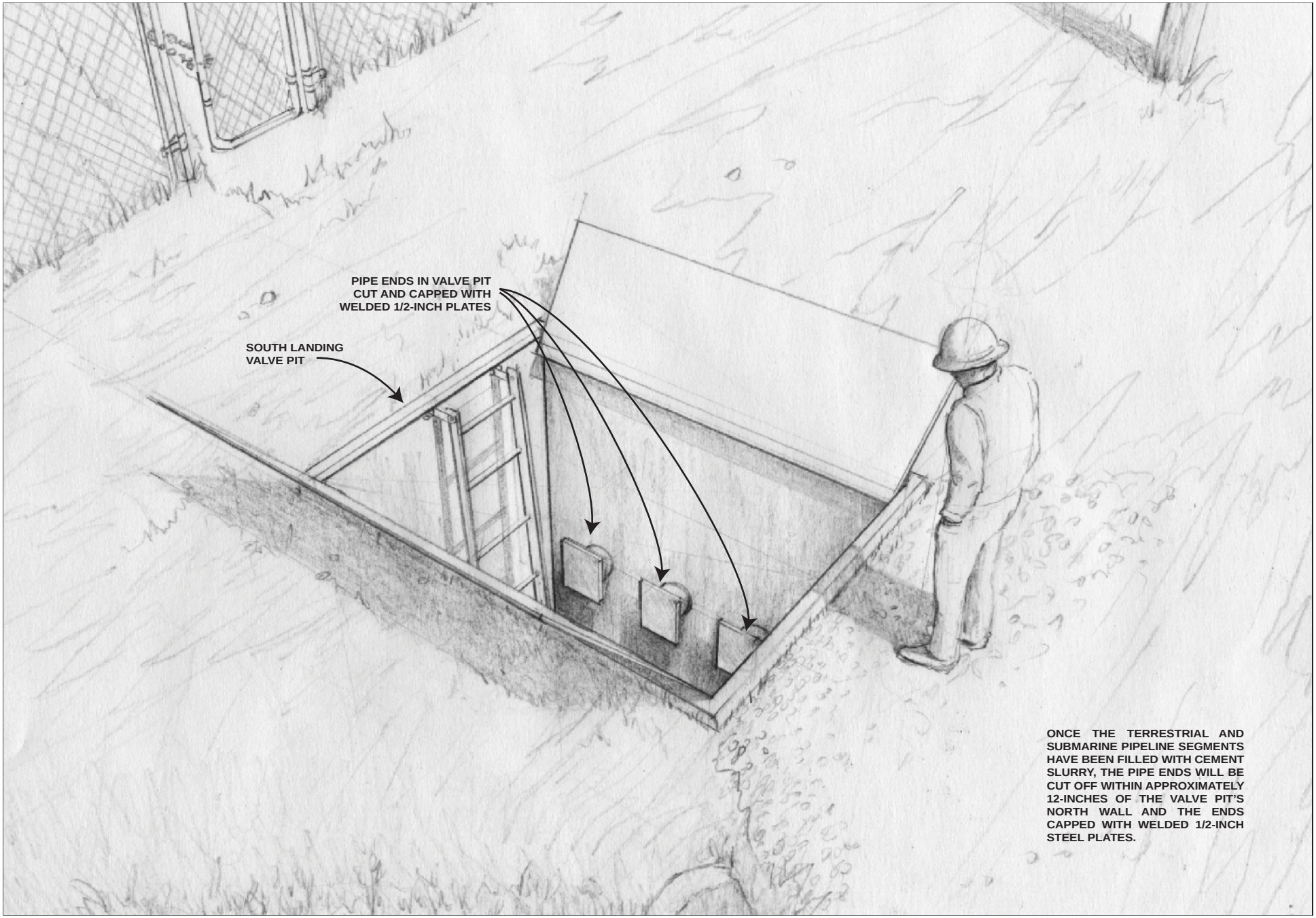

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FIGURE 2-19

CAPPING AND ABANDONMENT IN PLACE OF TERRESTRIAL AND SUBMARINE PIPELINE SEGMENTS - SOUTH LANDING

2.7.5 South Landing - Projected Manpower and Equipment Work Spread

For purposes of this PEP, a work spread is defined as the manpower and equipment assembled to perform a scope of work at a particular project work site. The south landing decommissioning work will be performed by a field management team and a manpower and equipment work spread comprised of land-based crews and equipment.

a. Field Management - Field management consisting of a decommissioning project manager and environmental monitor/s will oversee the decommissioning work in the field on a full time basis. The decommissioning project manager shall report to a PG&E project manager: The field management team shall consist of the following positions:

(1) PG&E Project Manager (offsite)
(1) Decommissioning Project Manager - Contractor
(1) Environmental Monitor – Contractor

b. Terrestrial Crews – The south landing work crew may consist of the following classifications:

(1) Superintendent
(2) Welders/Helpers
(2) Laborers
(2) Concrete Pump Operators (or Jet Mixer Operators)

c. Terrestrial Equipment

(1) Welding Machine
(1) Concrete Pump (Putzmeister BSA-120/197HP or equivalent)
(1) Air Compressor (Sullair 185CFM/61HP or equivalent)
(all) Confined Space Equipment
(all) Asbestos Containment Equipment (if asbestos is found in the exterior coating of the pipelines)
(all) Hand Tools – including oxy-acetylene cutting torches, chippers, welding equipment, electronic pipeline locators and survey equipment

2.8 SUBMARINE PIPELINE CROSSING

The submarine pipeline crossing decommissioning work shall consist of the following components. These components are listed, generally, in the anticipated order of their completion (see Section 2.10 – Preliminary Schedule):

2.8.1 Northern Submarine Pipeline Cutting Operation

A baseline riverbed debris survey will be performed prior to the arrival of the decommissioning contractor's marine equipment at the project site. The baseline debris survey shall consist of a side scan sonar with 200% coverage and a bathymetric survey of the entire underwater work site. The pre-

decommissioning survey map shall be provided to the agencies upon completion of the survey work and map production.

The marine work spread will start work at the northern submarine pipeline cut point located approximately 180 feet offshore of the northern shoreline of the San Joaquin River in approximately 20 feet of water and at a point where the pipeline is buried approximately 5 feet below the riverbed. The work will start by excavating the three pipelines and cutting them after the cement slurry plugs have been installed in these three pipelines. The cement slurry plugs will be allowed to cure for a minimum of 24 hours before cutting the pipelines.

The marine work will take place from a derrick barge anchored over the site (see Figure 2-20 Derrick Barge). The derrick barge will be equipped with a 4-point mooring system and spuds and will be anchored in accordance with the planned anchorage pre-plot drawing (see Section 3.11 - Anchoring Protocols and Appendix A – Survey Maps and Facility Drawings - Preliminary Anchor Pre-Plot). The derrick barge will be tended by a tugboat (see Figure 2-21 Tugboat) that will tow the derrick barge and set and recover its anchors in accordance with the anchoring plans found in Section 3 – Marine Safety and Anchoring Plan of this PEP.

The underwater excavation work will be performed with a Toyo submersible pump excavation system operated by the derrick barge crane, an air lift operated by the derrick barge crane, or by hand jetting using a diver held hand jet supplied by a skid mounted jet pump on the deck of the derrick barge (see Figure 2-22 Toyo Pump Excavation Equipment and Figure 2-23 Pipeline Excavation Using Toyo Pump Method). An RD-8000 underwater pipeline locating system with high-wattage pipeline toner may be used to locate the underwater pipelines at this underwater cut point location.

A full time marine surveyor using commercial grade, real-time differential global positioning system (DGPS) equipment shall be stationed aboard the derrick barge and will provide survey services to the marine operations.

The survey equipment shall consist of a DPGS base station setup and operated by the marine surveyor from the barge. This equipment will include a high resolution video monitor setup on the derrick barge for use by the derrick barge supervision and project manager in setting anchors and positioning the derrick barge; a linked DGPS station on the tugboat with monitor in the tugboat pilot house for use by the tugboat master; and a crane-boom tip DPGS antenna and high resolution video monitor for the derrick barge crane operator so the crane operator can track the buried submarine pipelines and control the movement of the underwater excavation equipment.

The project-specific survey database shall be maintained on the DGPS base station and shall be programmed with the as-built positions of the buried submarine pipeline alignments, the project's anchor pre-plots, the data from the latest bathymetric survey, the shoreline boundaries, the L131 alignment to the east of the project, the Antioch Bridge abutments, and the boundaries of the Stockton Deep Water Channel.

DERRICK BARGE SHOWN WITH 4-POINT MOORING SYSTEM DEPLOYED. A MATERIALS OR HOPPER BARGE WILL BE SIDE-TIED TO THE DERRICK BARGE AND WILL BE USED TO STORE THE RECOVERED PIPELINE SEGMENTS.

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FIGURE 2-20
DERRICK BARGE

A TUGBOAT, SIMILAR IN DESIGN TO THE TUGBOAT PICTURED HERE, WILL BE USED TO TOW oOR PUSH THE BARGES TO AND FROM THE UNDERWATER WORK SITE AND TO SET AND RECOVER THE DERRICK BARGE ANCHORS.

FIGURE 2-21
TUGBOAT

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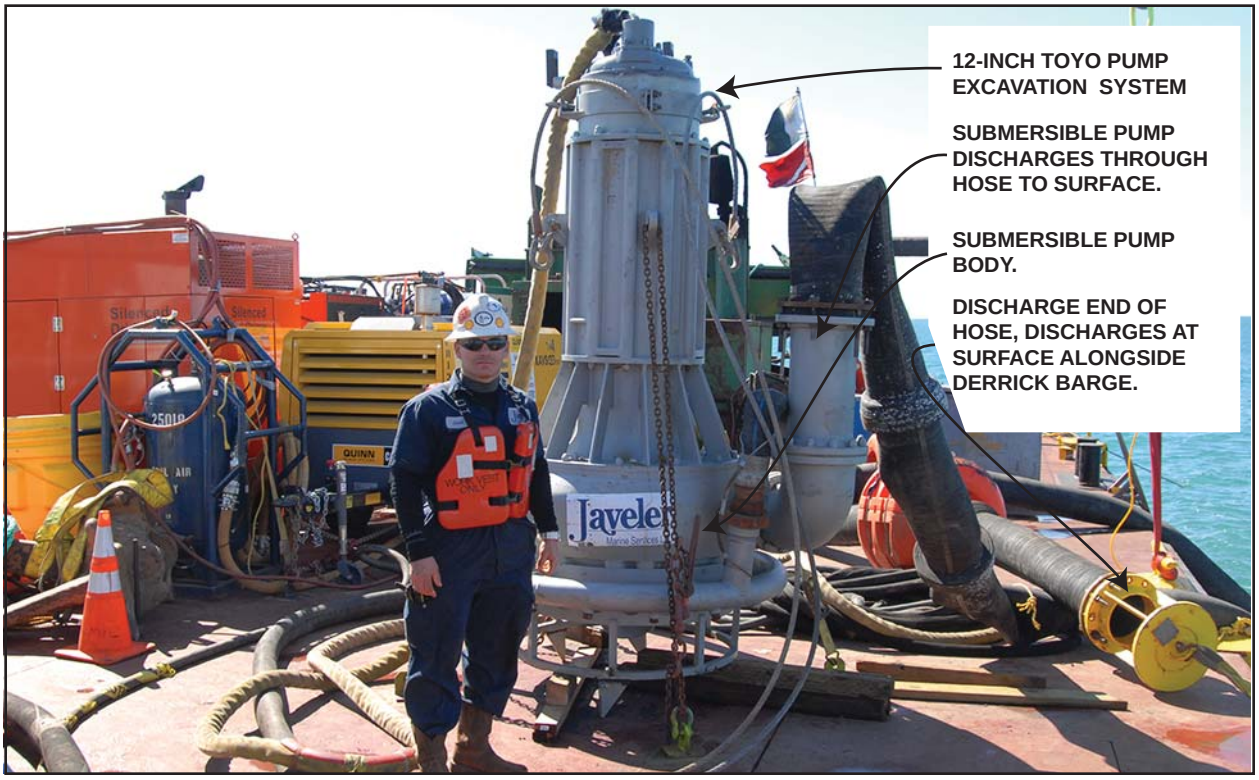


TOYO PUMP EXCAVATION SYSTEM SHOWN RESTING ON DECK OF BARGE READY FOR DEPLOYMENT. THE PUMP IS ELECTRICALL POWERED BY A GENERATOR OPERATING ON THE DECK OF THE BARGE. A DIESEL POWERED JET PUMP IS USED TO PROVIDE JET WATER THAT IS USED BY THE SYSTEM'S WATERJET SYSTEM.

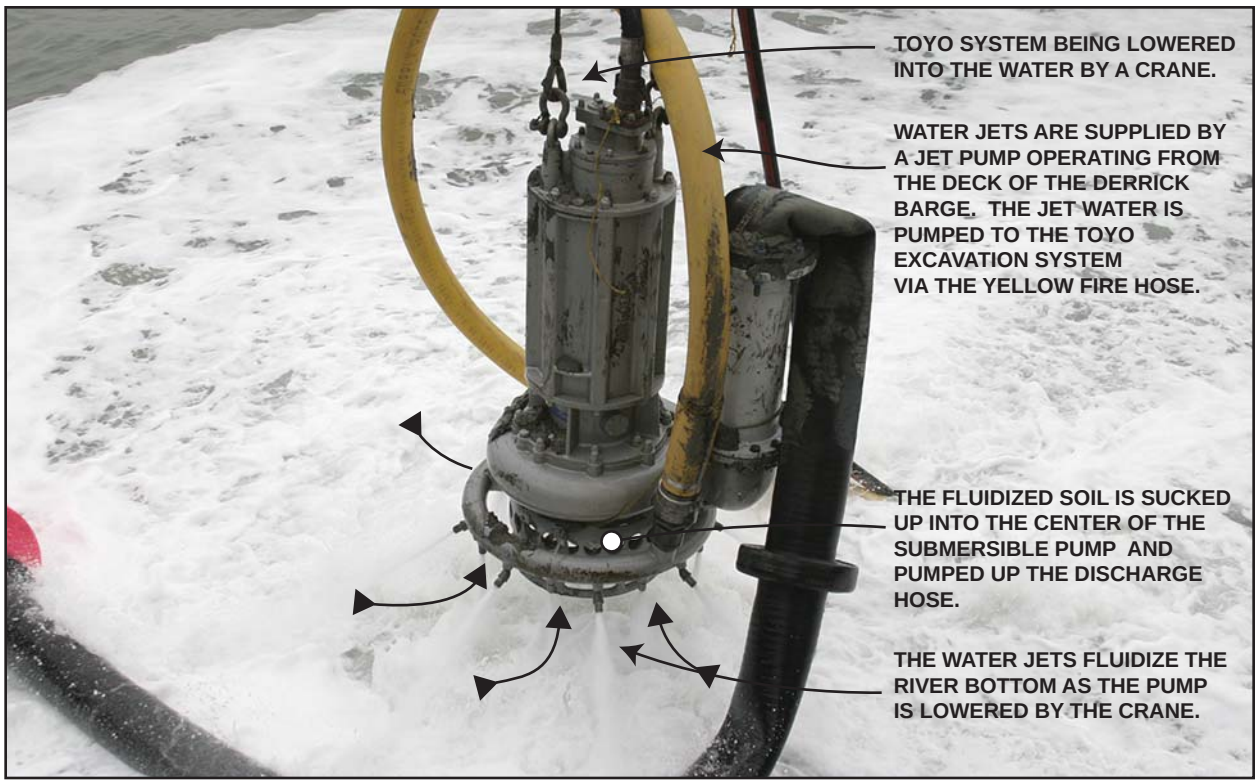
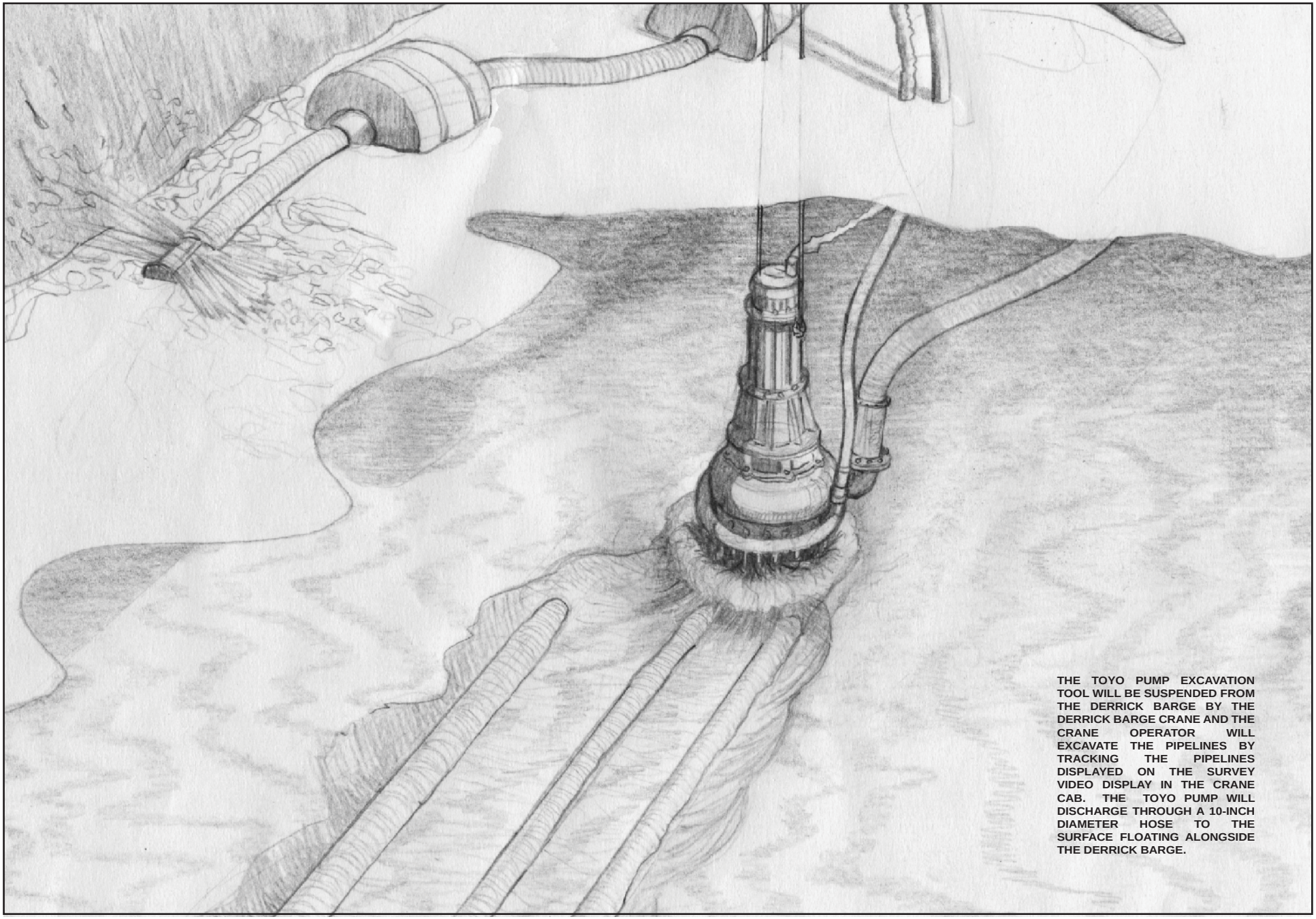


FIGURE 2-22
TOYO PUMP EXCAVATION EQUIPMENT



THE TOYO PUMP EXCAVATION TOOL WILL BE SUSPENDED FROM THE DERRICK BARGE BY THE DERRICK BARGE CRANE AND THE CRANE OPERATOR WILL EXCAVATE THE PIPELINES BY TRACKING THE PIPELINES DISPLAYED ON THE SURVEY VIDEO DISPLAY IN THE CRANE CAB. THE TOYO PUMP WILL DISCHARGE THROUGH A 10-INCH DIAMETER HOSE TO THE SURFACE FLOATING ALONGSIDE THE DERRICK BARGE.

FIGURE 2-23
TOYO PUMP EXCAVATION

To start the work, a dive team stationed aboard the derrick barge shall search for the buried pipelines at the cut point using the RD-8000 pipeline locating system (or equivalent) (see Figure 2-24 Photographs of RD8000 Pipeline Tracking System). This electronic tool uses a battery powered electronic toner system to inject an electronic tone into one of the pipelines through a cable connected to the targeted pipeline. The toner will be attached to one of the three pipelines after they have been exposed where they cross East Levee Road on the crown of the Sherman Island levee. A diver-held antenna will be used underwater at the underwater cut point to track the tone and locate the toned pipeline. Once the targeted pipeline is found the location will be excavated to expose all three pipelines.

The exact cut point on each pipeline will be located by positioning an underwater “plumb bob” (heavy chain) suspended from the derrick barge crane, and tracked by the DGPS system’s crane boom tip antenna, directly over each cut point on the three pipelines. The divers will mark each position and then cut the pipelines. The cuts will be made within the cement slurry plugs in each pipeline, leaving an approximately 50 foot long cement plug in each of the three pipelines offshore of the cut point. This will be done to ensure that the underwater ends of the pipelines abandoned in place underneath the riverbed are completely filled with cement.

The pipelines will be cut using underwater cutting equipment. This equipment may consist of a hydraulically powered underwater guillotine saw (WACH Guillotine Model D Hydraulic Saw or equivalent) or underwater oxy-arc cutting equipment (see Figure 2-25 Underwater Pipeline Cutting). Prior to cutting each pipeline a band of coating will be removed at each cut point to facilitate a clean cut. The coating chips will be recovered to the extent that the underwater river conditions and water currents will permit.

2.8.2 Submarine Pipeline Removal Operations

Once the cuts have been completed the derrick barge will begin excavating one of the three pipelines for a pre-determined distance from the cut point south to expose enough pipeline to bring the pipeline to the surface and place the end of the pipeline on the derrick barge deck. The length of the excavation may range between 100 to 500 feet.

One of two methods may be used to recover the submarine pipeline segments. The first method will involve excavating all or part of each pipeline, then returning to the pipeline end and raising the pipeline end to the deck of the derrick barge, and then cutting the pipeline into sections on the deck of the derrick barge as the derrick barge cranes lifts the pipeline and the derrick barge underruns the suspended pipeline, following it across the river (see Figure 2-26 Underrunning Pipe Removal Method and Figure 2-27 Photograph of Underrunning Pipe Removal Method).

Alternatively, conditions permitting, the pipelines may be pulled up vertically up through the riverbed overburden by the derrick barge crane, without excavation, and then cut into sections on the deck of the barge. This methodology requires that the overburden be of a consistency and density that allows the pipeline to be pulled through the overburden, and it requires pipeline material that are sufficiently ductile. This methodology was used successfully to remove 10-inch diameter and 12-inch

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-24
RD8000 PIPELINE TRACKING SYSTEM

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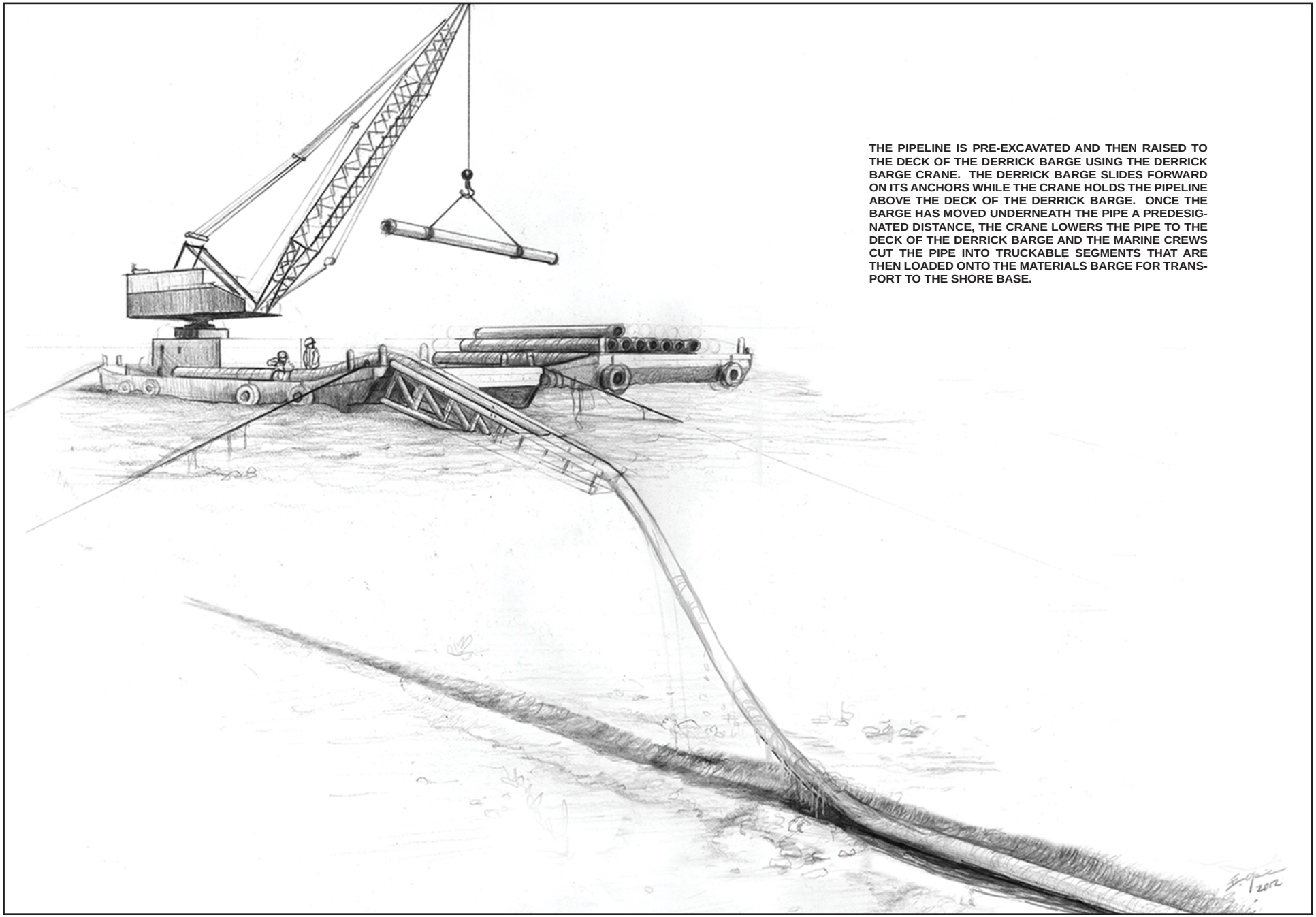
THE UNDERWATER PIPE CUTTING TASKS WILL BE PERFORMED USING A WACH GUILLOTINE SAW OR EQUIVALENT. THE SAW IS MOUNTED ON THE EXPOSED PIPELINE BY THE DIVER AND IS HYDRAULICALLY POWERED FROM THE SURFACE. THIS UNDERWATER CUTTING METHOD PRODUCES A CLEAN CUT AND CAN CUT THROUGH CEMENT AND STEEL SIMULTANEOUSLY.

E. Garcia 2015

FIGURE 2-25
UNDERWATER PIPELINE CUTTING



THE PIPELINE IS PRE-EXCAVATED AND THEN RAISED TO THE DECK OF THE DERRICK BARGE USING THE DERRICK BARGE CRANE. THE DERRICK BARGE SLIDES FORWARD ON ITS ANCHORS WHILE THE CRANE HOLDS THE PIPELINE ABOVE THE DECK OF THE DERRICK BARGE. ONCE THE BARGE HAS MOVED UNDERNEATH THE PIPE A PREDESIGNATED DISTANCE, THE CRANE LOWERS THE PIPE TO THE DECK OF THE DERRICK BARGE AND THE MARINE CREWS CUT THE PIPE INTO TRUCKABLE SEGMENTS THAT ARE THEN LOADED ONTO THE MATERIALS BARGE FOR TRANSPORT TO THE SHORE BASE.

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FIGURE 2-26
UNDERRUNNING PIPE REMOVAL METHOD

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-27
PHOTOGRAPH OF UNDERRUNNING PIPE REMOVAL METHOD

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diameter pipelines in Honker Bay in 2003 and may have application on this decommissioning project (see Figure 2-28 Vertical Stripping Pipe Removal Method and Figure 2-29 Photograph of Vertical Stripping Pipe Removal Method). However, the feasibility of this alternative pipeline removal method won't be determined until the marine work has started and the method can be attempted.

In either case, whether the submarine pipelines are removed by excavation and removal or by stripping the pipelines out of the riverbed without excavation, the recovered pipeline segments will be cut into truckable sections as the pipe is brought aboard the derrick barge and the cut sections will be placed on a materials barge or hopper barge for shipment to the shore base and offloading on to trucks for ground transportation to recycling or disposal facilities. The total dry weight of the three submarine pipeline segments scheduled for removal is estimated 474 tons or 158 tons per pipeline crossing.

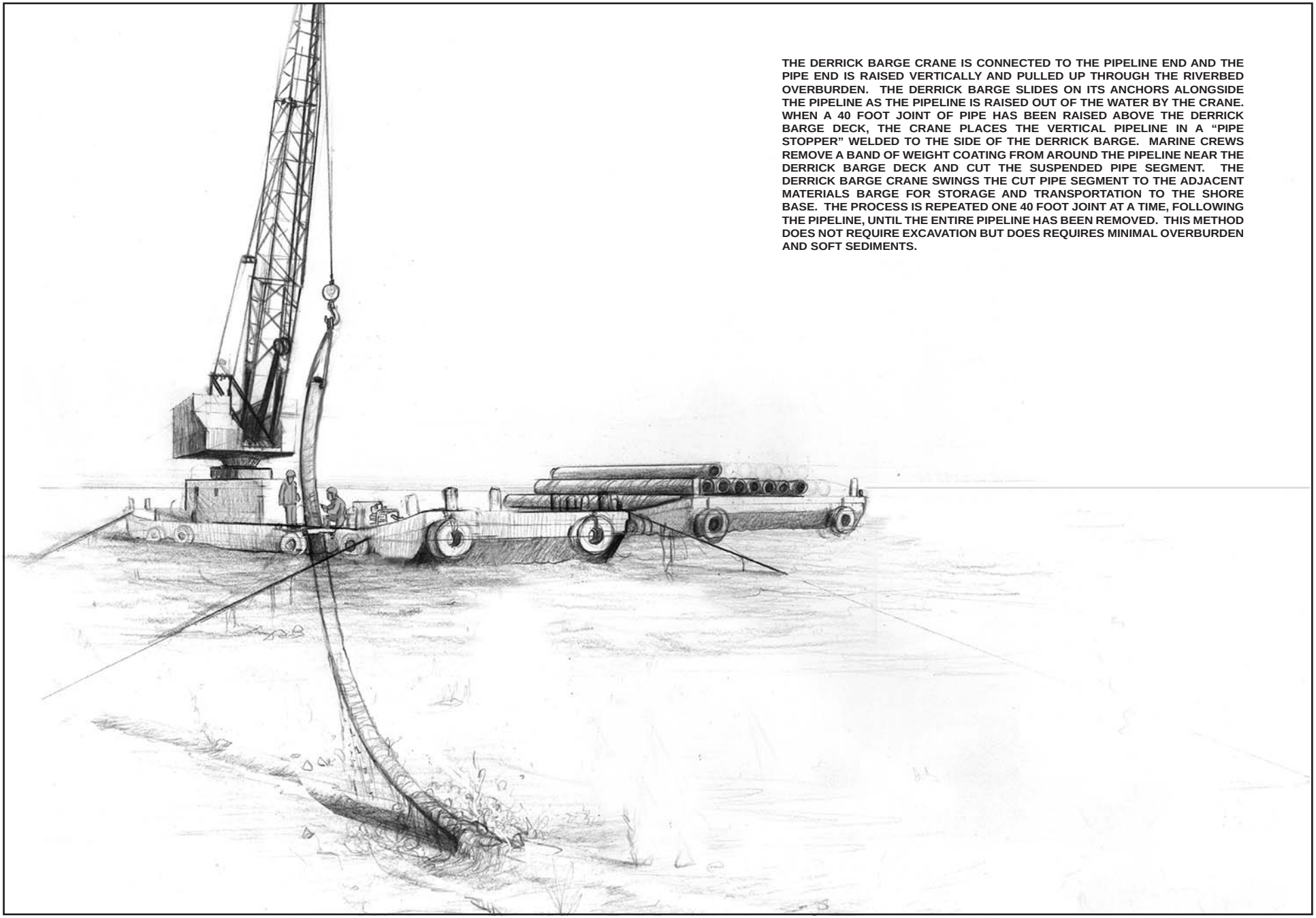
If the excavate and remove methodology is used, the pipeline removal operations may require approximately 8,616 cubic yards of excavation (based on trench no wider than 12 feet, average 5.5 feet deep, and 3,519 feet in length). However, the excavation estimate is projected as a worst-case and assumes that the pipelines are not bundled and that each pipeline will require an individual trench. But it is possible that over the length of the crossings that the three pipelines may be located very close together and possibly even touching. If this is the case the excavation requirement may be reduced by 50% or more.

No backfill will be required due to the river morphology at this location which produces "sand waves" that travel up and down the riverbed.

Aboard the derrick barge, the pipe will be cut into truckable sections as it is recovered on the deck of the derrick barge. A total of approximately 265 cuts will be required to cut the 10,573 feet of pipe into 40 foot long truckable segments. The cuts may be performed with an oxy-acetylene cutting torch or hydraulically operated shears. If performed with an oxy-acetylene cutting torch a band of coating approximately 6 inches in length will have to be remove from the circumference of the pipe at each cut point (see Figure 2-30 Photographs and Pipe Coating Removal and Cutting).

If necessary to remove a band of coating, the band will be removed using pneumatic chippers and will be recovered in plastic bags and shipped to offsite recycling or disposal in plastic bags. If asbestos is present in the exterior coatings of any of the three pipeline crossings an asbestos work plan will be generated for the project and certified asbestos crews will be utilized to remove the bands of coating and be responsible for the handling and disposal of all contaminated coating (see Figure 2-31 Photograph of Asbestos Crews Removing Pipe Coating). The coatings will be sampled and tested prior to the start of the decommissioning project and the asbestos plan, if required, shall be included in the Contractor Work Plan which shall be approved by the CSLC prior to the start of work.

The recovered pipe will be stored on a materials barge or hopper barge tied alongside the derrick barge. The storage capabilities of the materials barge or hopper barge will depend on the size of the barge. The barge projected for use on this decommissioning project will be capable of carrying in excess of 2,000 tons of cargo, so the 474 tons of recovered pipe can be stored at the underwater work site and towed back to the shore base at the end of the project, thereby reducing the tug and barge offloading trips to a single trip.



THE DERRICK BARGE CRANE IS CONNECTED TO THE PIPELINE END AND THE PIPE END IS RAISED VERTICALLY AND PULLED UP THROUGH THE RIVERBED OVERBURDEN. THE DERRICK BARGE SLIDES ON ITS ANCHORS ALONGSIDE THE PIPELINE AS THE PIPELINE IS RAISED OUT OF THE WATER BY THE CRANE. WHEN A 40 FOOT JOINT OF PIPE HAS BEEN RAISED ABOVE THE DERRICK BARGE DECK, THE CRANE PLACES THE VERTICAL PIPELINE IN A "PIPE STOPPER" WELDED TO THE SIDE OF THE DERRICK BARGE. MARINE CREWS REMOVE A BAND OF WEIGHT COATING FROM AROUND THE PIPELINE NEAR THE DERRICK BARGE DECK AND CUT THE SUSPENDED PIPE SEGMENT. THE DERRICK BARGE CRANE SWINGS THE CUT PIPE SEGMENT TO THE ADJACENT MATERIALS BARGE FOR STORAGE AND TRANSPORTATION TO THE SHORE BASE. THE PROCESS IS REPEATED ONE 40 FOOT JOINT AT A TIME, FOLLOWING THE PIPELINE, UNTIL THE ENTIRE PIPELINE HAS BEEN REMOVED. THIS METHOD DOES NOT REQUIRE EXCAVATION BUT DOES REQUIRES MINIMAL OVERBURDEN AND SOFT SEDIMENTS.

FIGURE 2-28
VERTICAL STRIPPING PIPE REMOVAL METHOD

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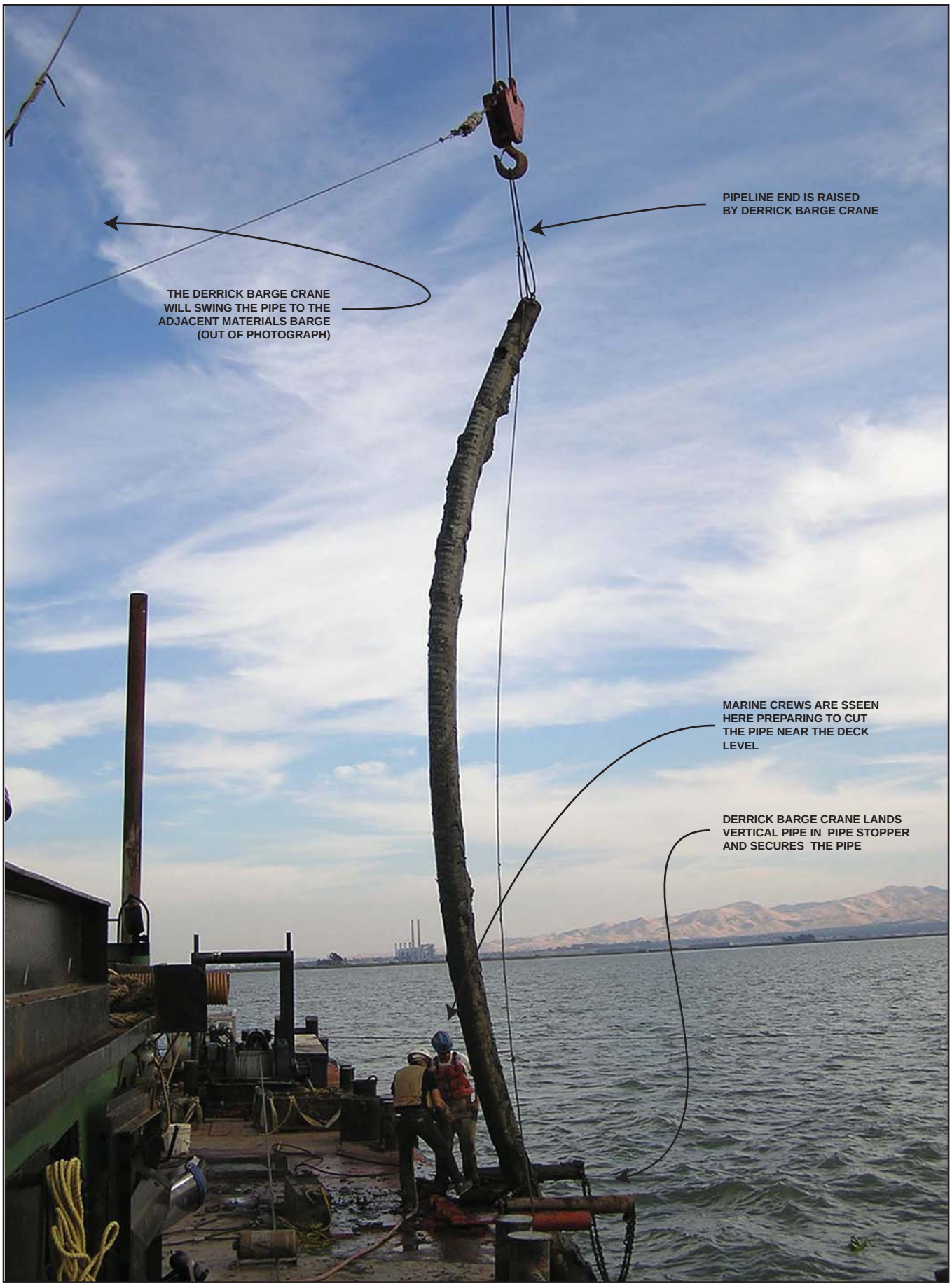

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE
PIPELINE CROSSING DECOMMISSIONING PROJECT

FIGURE 2-29
PHOTOGRAPH OF VERTICAL STRIPPING PIPE REMOVAL METHOD

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MARINE CREWMAN USING A PNEUMATIC CHISEL TO REMOVE A BAND OF COATING FROM A SUSPENDED SEGMENT OF RECOVERED PIPELINE IN PREPARATION FOR CUTTING THE PIPELINE. THE DERRICK BARGE CRANE IS HOLDING THE UPPER END OF THE PIPE. THE WOODEN TRAY IS TEMPORARILY FITTED AROUND THE PIPE TO CAPTURE THE PIPE WEIGHT COATING AS THE BAND OF COATING IS REMOVED.

MARINE CREWMAN USING AN OXYGEN-ACETYLENE TORCH TO CUT A SUSPENDED SEGMENT OF PIPE. THE DERRICK BARGE CRANE IS HOLDING THE UPPER END OF THE PIPE AND WILL SWING THE CUT PIPE SEGMENT OVER TO AN ADJACENT MATERIALS BARGE ONCE THE CUT IS COMPLETED.

A CREWMAN CERTIFIED IN HANDLING ASBESTOS USES A PNEUMATIC CHISEL TO REMOVE A BAND OF COATING FROM A SUSPENDED SEGMENT OF RECOVERED PIPELINE IN PREPARATION FOR CUTTING THE PIPELINE. A SECOND CREWMAN RECOVERS THE PIPE COATING AND BAGS IT FOR OFFSITE DISPOSAL.

FIGURE 2-31
PHOTOGRAPH OF ASBESTOS CREWS REMOVING PIPE COATING

2.8.3 Southern Submarine Pipeline Cutting Operation

The submarine pipeline removal operations will progress from the northern submarine pipeline cut point to the southern submarine pipeline cut point and the pipelines will be cut at the southern submarine pipeline cut point when reached by the marine pipeline removal operations. The southern pipeline cut point is located approximately 130 feet offshore of the southern shoreline of the San Joaquin River in approximately 10 feet of water and at a point where the pipeline is buried approximately 5 feet below the riverbed.

The exact cut point on each pipeline will be located by positioning an underwater plumb bob (heavy chain) suspended from the derrick barge crane, and tracked by the DGPS system's crane boom tip antenna, directly over each cut point on the three pipelines. The divers will mark each position and then cut the pipelines. The cuts will be made within the cement slurry plugs in each pipeline, leaving an approximately 50 foot long cement plug in each of the three pipelines offshore of the cut point. This will be done to ensure that the underwater ends of the pipelines abandoned in place underneath the riverbed are completely filled with cement.

The pipelines will be cut using underwater cutting equipment. This equipment may consist of a hydraulically powered underwater guillotine saw (WACH Guillotine Model D Hydraulic Saw or equivalent) or underwater oxy-arc cutting equipment. Prior to cutting each pipeline a band of coating will be removed at each cut point to facilitate a clean cut. The coating chips will be recovered to the extent that the underwater river conditions and water currents will permit.

The marine crew will demobilize once the submarine pipeline segments have been removed and the post-decommissioning debris survey has been completed.

2.8.4 Submarine Pipeline - Projected Material and Truck Trip Calculations

The following are projected weight, volumes and quantities associated with the decommissioning of the submarine pipeline segments.

1) Submarine Pipeline Data

(i) 10,575 feet of 12-inch Diameter Nominal Steel Pipe w/ 1-inch Thick Weight Coating
(ii) 474 tons Recovered Submarine Pipeline (all three pipelines)
(iii) 265 Pipe Cuts
(iv) (1) Tug/Barge Trip to Shore Base to Offload Recovered Pipe (estimated at 30 miles one way)

2) Pipeline Land Transportation

(i) (30) each End-Dump Tractor Trailer Truck Trips from Shore Base to Recycling or Disposal Facility (based on nine 40-foot joints of pipe or 16.11 tons per 17 ton maximum capacity truckload).

2.8.5 Submarine Pipeline - Projected Manpower and Equipment Work Spread

For purposes of this PEP, a work spread is defined as the manpower and equipment assembled to perform a scope of work at a particular project work site. The underwater decommissioning work will be performed by a field management team and a manpower and equipment work spread comprised of marine-based crews and equipment.

a. Field Management - Field management consisting of a decommissioning project manager and environmental monitor/s will oversee the decommissioning work in the field on a full time basis. The decommissioning project manager shall report to a PG&E project manager: The field management team shall consist of the following positions:

(1) PG&E Project Manager (offsite)
(1) Decommissioning Project Manager - Contractor
(1) Environmental Monitor – Contractor

b. Marine Crews – The marine work crew may consist of the following classifications:

(1) Superintendent
(4) Rigger/Welders
(1) Crane Operator
(1) Surveyor
(6) Divers
(2) Tugboat Crewman

c. Marine Equipment

(1) Derrick Barge w/ Crane, 4-Point Mooring System and Spuds
(1) Materials or Hopper Barge – 1,000 ton capacity or larger
(1) Tugboat
(1) Work Skiff
(1) Deck Winch
(1) Javeler Toyo Pump Excavation System (electrically powered)
(1) 300KW Electrical Generator
(1) Diesel Drive Jet Pump
(1) Wach Saw
(1) Diesel Driven Hydraulic Power Source
(1) 250 Amp Diesel Driven Welding Machine
(all) Asbestos Containment Equipment (if asbestos is found in the exterior coating of the pipelines)
(all) Hand Tools – including oxy-acetylene cutting torches, chipper

2.9 SITE RESTORATION PLAN

The north landing work site shall be restored to conditions pre-existing the decommissioning work. This shall include backfilling and compaction of excavations, grading to pre-existing contours and reseeding and erosion control materials and measures. No site restoration measures will be required at the south landing because there are no significant disturbed ground areas and no excavation work to be

performed at the south landing. Also, no site restoration work will take place on riverbed where the submarine pipelines are removed with the exception of the removal of debris associated with the marine decommissioning equipment and operations.

Backfill, compaction, grading, reseeding and erosion control measures and materials shall conform to the following specifications. These specifications shall be included in the engineered decommissioning plans and specifications that will be provided with the Contractor Work Plan and approved by the CSLC prior to the start of decommissioning work.

2.9.1 Backfill and Compaction

All excavations shall be backfilled and compacted in accordance with CVFPB/RD 341 requirements (Article 8 - Standards, Section 124 - Abandoned Pipelines and Conduits, found in the California Code of Regulations, Title 23 - Waters, Division 1 - Central Valley Flood Protection Board). Backfill will consist of clean excavation spoils augmented with native soil (as necessary) acceptable to CVFPB and RD 341.

2.9.2 Grading

All excavated areas at the north landing shall be graded to contours pre-existing the decommissioning work.

2.9.3 Hydroseed and Erosion Control

The backfilled and graded excavations and all disturbed ground areas at the north landing, with the exception of the levee crown roadway and the lower access road, shall be planted with hydroseed and protected from erosion with appropriate erosion control materials.

1) **Submittals** – The PG&E decommissioning contractor shall submit manufacturer's letters of compliance and manufacturer's literature for the following items:
    - **a.** Seed Mix (or individual items)
    - **b.** Mulches
    - **c.** Fertilizer
2) **Product Delivery, Storage and Handling**
    - **a.** All products shall be delivered to the site in manufacturer's unopened standard containers bearing original labels showing quantity, analysis and name of manufacturer.
    - **b.** All materials shall be stored in designated areas and in such a manner as to protect them from weather or other conditions that might damage or impair the effectiveness of the product.
3) **Construction**
    - **a.** **Materials – Seed** - Seed (see Table 2.9-1 Seed Species and Rate of Application) shall be labeled in accordance with U.S. Department of Agriculture Rules and Regulations under the Federal Seed Act in effect on the date of the Notice Inviting

Bids. Seed which has become wet, moldy, or otherwise damaged in transit or in storage will not be acceptable. The percentage of pure live seed (PLS) shall equal at least eighty percent (80%). Weed seed in the mix shall not exceed point five (0.5) percent by weight. No seed inoculation is required.

Table 2.9-1 Seed Species and Rate of Application

Common Name <Botanical Name)	Rate Per Acre
California Brome (Bromus carinatus)	18 pounds
Blue Wild Rye (Elymus glaucus)	12 pounds
Small Fescue (Vulpia microstachys)	8 pounds
California Poppy (Eschscholzia califomica)	2 pounds
Creeping Wildrye (Leymus tritocoides)	4 pounds
TOTAL:	34 pounds

b. Materials - Fertilizer – Commercial fertilizer shall be granulated, organic slow release product with a guaranteed analysis for nitrogen, phosphorus and potassium of 7-2-1. Fertilizer product shall be uniform in composition, dry and free flowing, delivered in containers labeled in accordance with applicable State regulations and bearing the warranty of the producer for the grade furnished. Fertilizer shall be distributed uniformly at the rate of one thousand two hundred (I,200) pounds per acre.

c. Materials – Mulch - Rice straw shall be used to eliminate the introduction of dryland weeds. Straw shall be provided in baled form for hand-spreading. It shall be air-dried and new with no signs of mold. Rice straw shall be used to eliminate the introduction of dryland weeds. Straw shall be provided in baled form for hand-spreading. It shall be air-dried and new with no signs of mold.

d. Materials – Water – Straw mulch shall be hand-spread or blown on at a rate of 4,000 pounds/acre (if blown-on, it shall be followed with a hydro-mulch tackifier at 200 lbs/acre). Water shall be furnished by the Contractor, and shall be free of soil, acid, alk8li, salt, and other substances that would be harmful to the growth of grass. The source shall be subject to the approval of the Engineer prior to use.

e. Inspection and Tests - All inspections and tests will be performed by the designated revegetation consultant.

2.10 PRELIMINARY DECOMMISSIONING SCHEDULE

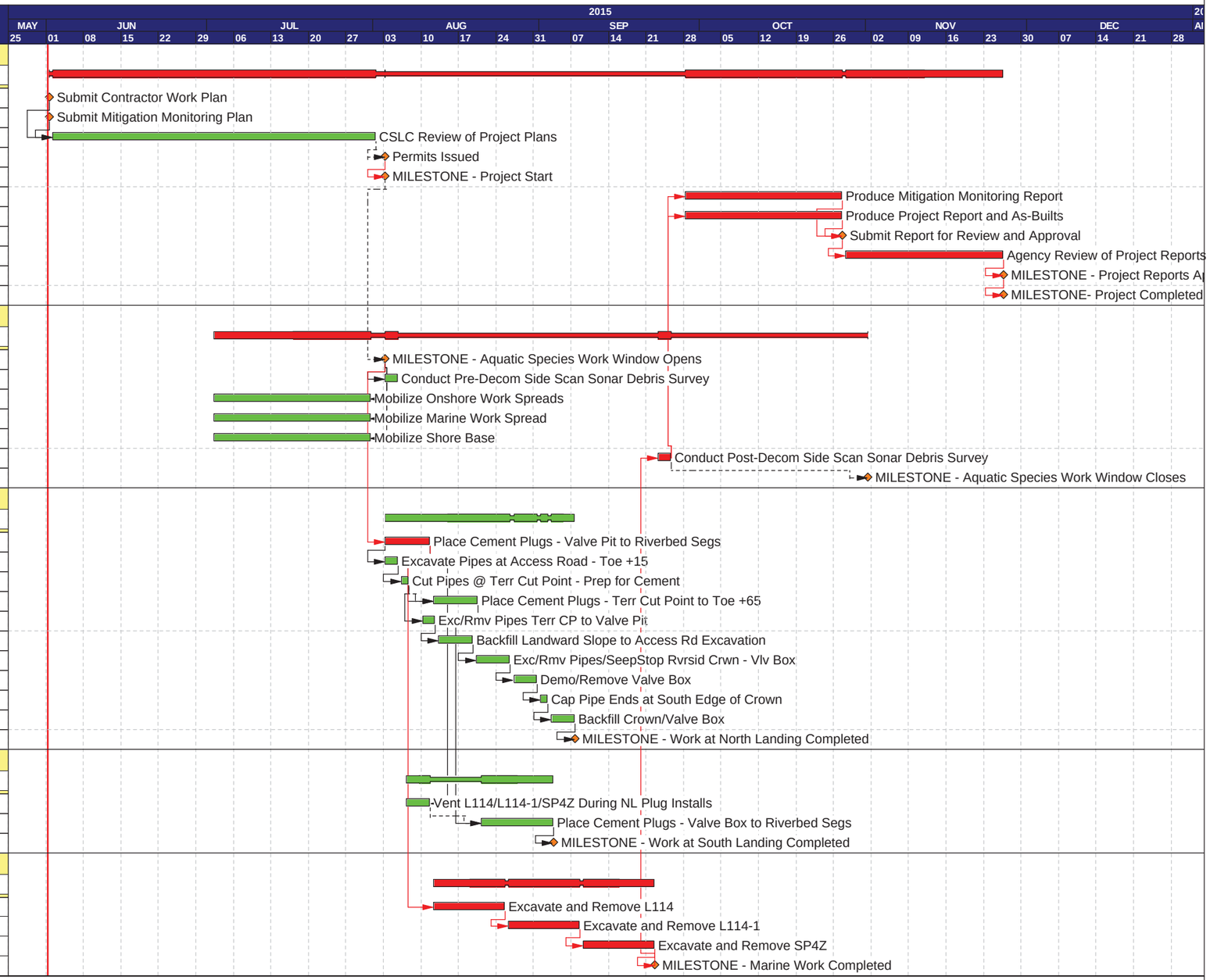
This decommissioning project is tentatively planned to be performed during the 2015 recommended environmental aquatic work window of August 1 through October 31, 2013. The total duration of the planned site work (north landing, south landing and underwater work site) is anticipated at approximately 60 days, not including the pre and post-remediation electronic debris surveys. The schedule is based on working no more than 6 days per week, one 12-hour shift per day.

PG&E anticipates the following schedule milestones for conducting the decommissioning work. These milestones are based on the attached preliminary schedule (see Figure 2-32 Preliminary Schedule):

- Contractor Work Plan and Mitigation Monitoring Plan Submitted — June 2, 2015
- Mobilize Contractor Equipment to Site — July 31, 2015
- Receive Project Permits — August 3, 2015
- Start Pre-Decommissioning Debris Survey — August 3, 2015
- Start North Landing Decommissioning — August 3, 2015
- Start Submarine Pipeline Decommissioning — August 12, 2015
- Start South Landing Decommissioning — August 21, 2015
- Complete North Landing Decommissioning — September 7, 2015
- Complete Submarine Pipeline Decommissioning — September 22, 2015
- Complete South Landing Decommissioning — September 3, 2015
- Complete Post-Decommissioning Debris Survey — September 25, 2015
- Project Report Completed — October 27, 2015

PACIFIC GAS & ELECTRIC COMPANY

Act ID	Description	Orig Dur	Calendar	Early Start	Early Finish
01 - ADMINISTRATION					
		128d		01JUN15	26NOV15
01.0010	Submit Contractor Work Plan	0	1		01JUN15 *
01.0020	Submit Mitigation Monitoring Plan	0	1		01JUN15 *
01.0030	CSLC Review of Project Plans	60d	2	02JUN15	01AUG15
01.0040	Permits Issued	0	1		03AUG15 *
01.0050	MILESTONE - Project Start	0	1		03AUG15
01.0060	Produce Mitigation Monitoring Report	22d	1	28SEP15	27OCT15
01.0070	Produce Project Report and As-Builts	22d	1	28SEP15	27OCT15
01.0080	Submit Report for Review and Approval	0	1		27OCT15
01.0085	Agency Review of Project Reports	22d	1	28OCT15	26NOV15
01.0090	MILESTONE - Project Reports Approved	0	1		26NOV15
01.0100	MILESTONE- Project Completed	0	1		26NOV15
02 - MOBILIZATION					
		87d		02JUL15	01NOV15
02.0010	MILESTONE - Aquatic Species Work Window Opens	0	1	03AUG15 *	
02.0020	Conduct Pre-Decom Side Scan Sonar Debris Survey	3d	1	03AUG15	05AUG15
02.0030	Mobilize Onshore Work Spreads	22d	1	02JUL15	31JUL15
02.0040	Mobilize Marine Work Spread	22d	1	02JUL15	31JUL15
02.0050	Mobilize Shore Base	22d	1	02JUL15	31JUL15
02.0060	Conduct Post-Decom Side Scan Sonar Debris Survey	3d	1	23SEP15	25SEP15
02.0070	MILESTONE - Aquatic Species Work Window Closes	0	2		01NOV15 *
03 - NORTH LANDING					
		26d	1	03AUG15	07SEP15
03.0010	Place Cement Plugs - Valve Pit to Riverbed Segs	7d	1	03AUG15	11AUG15
03.0020	Excavate Pipes at Access Road - Toe +15	3d	1	03AUG15	05AUG15
03.0030	Cut Pipes @ Terr Cut Point - Prep for Cement	2d	1	06AUG15	07AUG15
03.0040	Place Cement Plugs - Terr Cut Point to Toe +65	7d	1	12AUG15	20AUG15
03.0050	Exc/Rmv Pipes Terr CP to Valve Pit	3d	1	10AUG15	12AUG15
03.0060	Backfill Landward Slope to Access Rd Excavation	5d	1	13AUG15	19AUG15
03.0070	Exc/Rmv Pipes/SeepStop Rvrsid Crwn - Vlv Box	5d	1	20AUG15	26AUG15
03.0080	Demo/Remove Valve Box	3d	1	27AUG15	31AUG15
03.0090	Cap Pipe Ends at South Edge of Crown	2d	1	01SEP15	02SEP15
03.0100	Backfill Crown/Valve Box	3d	1	03SEP15	07SEP15
03.0110	MILESTONE - Work at North Landing Completed	0	1		07SEP15
04 - SOUTH LANDING					
		20d	1	07AUG15	03SEP15
04.0005	Vent L114/L114-1/SP4Z During NL Plug Installs	3d	1	07AUG15	11AUG15
04.0010	Place Cement Plugs - Valve Box to Riverbed Segs	10d	1	21AUG15	03SEP15
04.0020	MILESTONE - Work at South Landing Completed	0	1		03SEP15
05 - RIVER CROSSINGS					
		30d	1	12AUG15	22SEP15
05.0010	Excavate and Remove L114	10d	1	12AUG15	25AUG15
05.0020	Excavate and Remove L114-1	10d	1	26AUG15	08SEP15
05.0030	Excavate and Remove SP4Z	10d	1	09SEP15	22SEP15
05.0040	MILESTONE - Marine Work Completed	0	1		22SEP15



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Summary bar
Start milestone point
Finish milestone point

LINE 114/LINE 114-1/LINE SP4Z SAN JOAQUIN RIVER CROSSING DECOMMISSIONING PROJECT
PRELIM DECOMM SCHEDULE - REV 003 - 2/7/15

FIGURE 2-32
PRELIMINARY DECOMMISSIONING SCHEDULE

2.11 MANPOWER AND EQUIPMENT PROJECTIONS

Manpower and equipment requirements are provided in the following tables in an effort to help determine the logistical impacts that might be generated by the decommissioning work. These manpower and equipment requirements are based on projected tasks and estimated durations and are subject to change. These projected requirements are presented in individual tables that correlate with the preceding Preliminary Schedule.

TABLE 2.11-1 PRE-DECOMMISSIONING DEBRIS SURVEY

Manpower:	Qty.	Hours:	Days:	Total Hours:
Padre Environmental Monitor	1	10	1	10
Fugro Marine Surveyor/Survey Boat Captain	1	10	1	10
Fugro Marine Surveyor Technician	2	10	1	20
Equipment:	**Qty.**	**Hours:**	**Days:**	**Total Hours:**
Survey Boat - main engine - 298HP	1	10	1	10

TABLE 2.11-2 POST-DECOMMISSIONING DEBRIS SURVEY

Manpower:	Qty.	Hours:	Days:	Total Hours:
Padre Environmental Monitor	1	10	1	10
Fugro Marine Surveyor/Survey Boat Captain	1	10	1	10
Fugro Marine Surveyor Technician	2	10	1	20
Equipment:	**Qty.**	**Hours:**	**Days:**	**Total Hours:**
Survey Boat - main engine - 298HP	1	10	1	10

TABLE 2.11-3 NORTH LANDING DECOMMISSIONING

Manpower:	Qty.	Hours:	Days:	Total Hours:
Project Manager	1	10	35	350
Environmental Monitor	1	10	35	350
Supervisor	1	10	35	350
Operators - Excavator/Skip Loader/Compactor	2	10	35	700
Welder/Helper	2	10	10	200
Concrete Pump Crew	3	10	7	210
Laborers	2	10	31	620
Equipment:	**Qty.**	**Hours:**	**Days:**	**Total Hours:**
Concrete Pump - Cummins 220 HP	1	8	7	56
Welding Machine - 300 AMP /24.7HP	1	6	10	60
Industrial Air Compressor (185CFM/61HP)	1	6	6	36
Skip Loader - CAT 450/127HP	1	8	5	40
Compactor - CAT CP54/131	1	8	5	40
Excavator w/ Breaker - CAT 329/286 HP	1	8	5	40

TABLE 2.11-4 SOUTH LANDING DECOMMISSIONING

Manpower:	Qty.	Hours:	Days:	Total Hours:
Environmental Monitor	1	10	13	130
Supervisor	1	10	13	130
Welder	1	10	3	30
Concrete Pump Crew	3	10	7	210
Laborers	2	10	13	260
Equipment:	**Qty.**	**Hours:**	**Days:**	**Total Hours:**
Concrete Pump - Cummins 220 HP	1	8	7	56
Welding Machine - 300 AMP /24.7HP	1	8	3	24

TABLE 2.11-5 SUBMARINE PIPELINE/RIVER CROSSINGS REMOVAL OPERATIONS

Manpower:	Qty.	Hours:	Days:	Total Hours:
Project Manager	1	10	30	300
Environmental Monitors	1	10	30	300
Barge Superintendent	1	10	30	300
Barge Crane Operator	1	10	30	300
Riggers/Welders	4	10	30	1200
Tugboat Crew	2	10	30	600
Divers	6	10	30	1800
Surveyor	1	10	30	300
Equipment:	**Qty.**	**Hours:**	**Days:**	**Total Hours:**
Derrick Barge - Generator - 100HP	1	24	42	1008
Derrick Barge - Crane - 150HP	1	9	30	270
Anchor Winches - RB-90s - 238HP	2	2	30	120
Deck Winch - RB-90/238HP	1	4	30	120
Tugboat - Mains - 250HP	2	6	30	360
Tugboat - Generator - 75HP	1	24	42	1008
Welding Machine - 300 AMP/24.7 HP	1	2	6	12
Jet Pump - 250HP	1	8	30	240
300 kW Diesel Driven Generator (Toyo Pump) - 463HP	1	8	30	240
5120 Diver's Air Compressor - 47HP	1	8	20	160
Work Skiff - Outboards/250HP	2	2	30	120

2.12 VOLUMES AND QUANTITIES TABLES

The following tables provide a summary breakdown of the project's volume and quantity metrics including square footage of disturbed areas, volumes of excavation, backfill and cement in cubic yards, weights of recovered materials, numbers and types of truck trips, and the station numbers and distances or lengths of pertinent locations or lengths on the pipeline facilities.

TABLE 2.12-1 – STATIONS

References:

1. Figure 1-10 Schematic of North Landing – Planned
2. Figure 1-11 Schematic of Submarine Pipeline Crossing – 1 of 2 – Planned
3. Figure 1-11 Schematic of Submarine Pipeline Crossing – 2 of 2 – Planned
4. Figure 1-12 Schematic of South Landing – 1 of 2 – Planned
5. Figure 1-12 Schematic of South Landing – 2 of 2 – Planned

	LOCATION	STATION
1	End of Cement Plug in Landside Terrestrial Levee Pipeline Segments	0+00.00
2	Landside Terrestrial Levee Pipeline Segment Cut Point	0+50.00
3	Toe of Sherman Island Levee	0+65.00
4	Landside (North) Wall of Sherman Island Valve Pit	1+33.65
5	Waterside (South) Wall of Sherman Island Valve Pit	1+42.65
6	Landside Levee Shoulder	1+52.02
7	Reinforced Concrete Anti-Seepage Wall	1+56.23
8	Waterside Levee Shoulder Cut Point	1+64.72
9	Northern Shoreline	1+97.27
10	Northern Submarine Pipeline Cut Point	3+77.83
11	Northern Submarine Pipeline Segment End of Cement Plug	4+27.83
12	Southern Submarine Pipeline Segment End of Cement Plug	38+47.25
13	Southern Submarine Pipeline Cut Point	38+97.25
14	Southern Shoreline	40+27.32
15	Waterside (North) Wall of Lauritzen Yacht Harbor Valve Pit	46+28.58

TABLE 2.12-2 – DISTANCES

References:

1. Table 2.12-1 – Stations

	FROM	TO	DISTANCE
1	End of Cement Plug in Landside Terrestrial Levee Pipeline Segments	Landside Terrestrial Levee Pipeline Segment Cut Point	50 ft
2	Landside Terrestrial Levee Pipeline Segment Cut Point	Toe of Sherman Island Levee	15 ft
3	Landside Terrestrial Levee Pipeline Segment Cut Point	Landside (North) Wall of Sherman Island Valve Pit	83.65 ft
4	Landside Terrestrial Levee Pipeline Segment Cut Point	Northern Submarine Pipeline Cut Point	327.83 ft
5	Waterside (South) Wall of Sherman Island Valve Pit	Reinforced Concrete Anti-Seepage Wall	13.58 ft
6	Waterside (South) Wall of Sherman Island Valve Pit	Waterside Levee Shoulder Cut Point	22.07 ft
7	Waterside (South) Wall of Sherman Island Valve Pit	Northern Submarine Pipeline Segment End of Cement Plug	285.18 ft
8	Waterside Levee Shoulder Cut Point	Northern Submarine Pipeline Cut Point	213.11 ft
9	Northern Shoreline	Northern Submarine Pipeline Cut Point	180.56 ft
10	Waterside Levee Shoulder Cut Point	Northern Submarine Pipeline Segment End of Cement Plug	262.97 ft
11	Northern Submarine Pipeline Cut Point	Northern Submarine Pipeline Segment End of Cement Plug	50 ft
12	Northern Submarine Pipeline Cut Point	Southern Submarine Pipeline Cut Point	3,519.42 ft
13	Southern Submarine Pipeline Segment End of Cement Plug	Waterside (North) Wall of Lauritzen Yacht Harbor Valve Pit	781.33 ft
14	Southern Submarine Pipeline Segment End of Cement Plug	Southern Submarine Pipeline Cut Point	50 ft
15	Southern Submarine Pipeline Cut Point	Southern Shoreline	130.07 ft
16	Southern Submarine Pipeline Cut Point	Waterside (North) Wall of Lauritzen Yacht Harbor Valve Pit	731.33 ft
17	Southern Shoreline	Waterside (North) Wall of Lauritzen Yacht Harbor Valve Pit	601.26 ft
18	Waterside (South) Wall of Sherman Island Valve Pit	Waterside (North) Wall of Lauritzen Yacht Harbor Valve Pit	4,485.93 ft
19	Northern Shoreline	Southern Shoreline	3,830.05 ft

TABLE 2.12-3 – DISTURBED GROUND AREAS

References:

1. Figure 2-2 – North Landing – Planned Disturbed Ground Areas
2. Figure 2-3 – South Landing – Planned Disturbed Ground Areas
3. Figure 2-5 – Underwater Work Site – Planned Disturbed Ground Areas

	LOCATION	DIMENSIONS	SQUARE FOOTAGE	ACREAGE
1	North Landing	100 ft. by 122 ft.	12,200	0.28
2	Underwater Work Site	3,519 ft. by 12 ft.	42,228	0.97
3	South Landing	3 ft. by 9 ft.	27	0.001

TABLE 2.12-4 – VOLUMES

	LOCATION	GENERATION ACTIVITY	VOLUMES/UNITS
1	North Landing – Landside Terrestrial Levee Segment Cut Point	Excavation to expose pipelines for cutting.	Soil – 71 cu yds
2	North Landing – Landside Terrestrial Levee Segment Cut Point	Backfill of excavation.	Soil from spoils – 71 cu yds
3	North Landing – Non-Project Landside Terrestrial Segments	Installation of cement slurry plugs.	Cement slurry – 17 cu yds
4	North Landing - Landside Terrestrial Levee Pipeline Segments	Excavation to remove pipelines buried pipelines.	Soil - 500 cu yds
5	North Landing - Landside Terrestrial Levee Pipeline Segments	Backfill of excavation.	Soil from spoils - 500 cu yds
6	North Landing - Landside Terrestrial Levee Pipeline Segments	Imported backfill needed to augment backfill.	Imported soil - 16 cu yds
7	North Landing - Valve Pit	Imported backfill needed to backfill valve pit excavation.	Imported soil - 15 cu yds
8	North Landing - Waterside Terrestrial and Shoreline Segment at Levee Crown	Excavate roadway to remove buried pipelines and anti-seepage wall.	Road base – 50 cu yds
9	North Landing - Waterside Terrestrial and Shoreline Segment at Levee Crown	Backfill of excavation.	Road base from spoils – 50 cu yds
10	North Landing - Waterside Terrestrial and Shoreline Segment at Levee Crown	Imported road base needed to augment backfill.	Imported road base from spoils – 10 cu yds
11	North Landing - Waterside Terrestrial and Shoreline Segment at Levee Crown	Installation of cement slurry plugs.	Cement slurry – 39 cu yds
12	South Landing – Terrestrial/ Submarine Pipeline	Installation of cement slurry plugs.	Cement slurry – 106 cu yds

TABLE 2.12-5 – WEIGHTS			
	LOCATION	**MATERIALS**	**WEIGHT/UNITS**
1	North Landing - Landside Terrestrial Levee Pipeline Segment	Recovered pipe.	19 tons
2	North Landing – Valve Pit	Recovered reinforced concrete rubble.	20 tons
3	North Landing – Levee Crown Road Anti-Seepage Wall	Recovered reinforced concrete rubble.	4 tons
4	North Landing – Levee Crown Road Pipeline Segment	Recovered pipe.	6 tons
5	Underwater Work Site – Submarine Pipeline Crossing	Recovered pipe.	474 tons

TABLE 2.12-6 – TRUCK TRIPS

	LOAD	TYPE OF TRUCK	NUMBER OF TRIPS
1	Cement slurry for north landing non-project landside terrestrial segments.	Pre-mix concrete trucks – 9 cu yd	2
2	Cement slurry for north landing waterside terrestrial and shoreline segments.	Pre-mix concrete trucks – 9 cu yd	5
3	Cement slurry for south landing terrestrial and submarine pipeline segments.	Pre-mix concrete trucks – 9 cu yd	12
4	Pipe from landside terrestrial levee segment removals.	End dump	2
5	Pipe from submarine pipeline crossing segment removals.	End dump	30
6	Concrete and rebar rubble from north landing valve pit demolition.	Dump truck – 10 ton	2
7	Concrete and rebar rubble from north landing anti-seepage wall demolition.	Dump truck – 10 ton	1
8	Pipe from levee crown roadway crossing removals.	Dump truck – 10 ton	1
9	Imported backfill for landside terrestrial levee pipeline segment excavation.	Dump truck – 10 ton	2
10	Imported backfill for valve pit excavation.	Dump truck – 10 ton	2
11	Imported backfill for levee crown road excavation.	Dump truck – 10 ton	1

SECTION THREE – MARINE SAFETY AND ANCHORING PLAN

3.1 INTRODUCTION

Pacific Gas and Electric Company (PG&E) owns and operates several natural gas transmission pipelines that cross the Sacramento-San Joaquin River Delta. Several of these pipelines cross the Sacramento River and/or the San Joaquin River. PG&E intends to decommission three of the San Joaquin River submarine pipeline crossings located near Antioch, California (see Figure 3-1 Nautical Chart with Project Location).

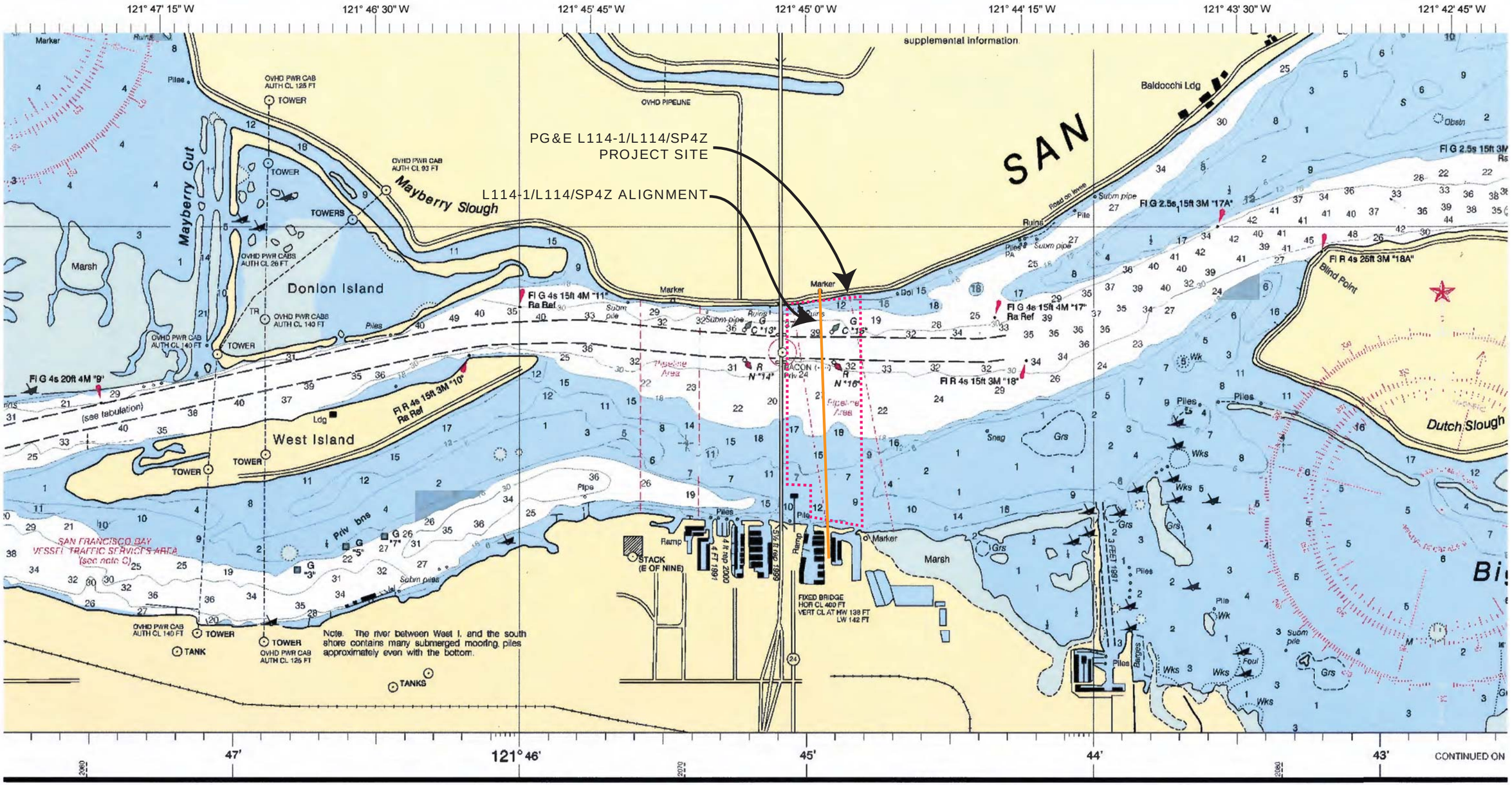
The subject submarine pipeline crossings are Line 114-1 (L114-1), Line 114 (L114) and Line SP4Z (SP4Z) where they cross the San Joaquin River between Sherman Island and the City of Oakley. The pipeline crossings and supporting facilities were constructed in 1942. All three pipelines served as gas transmission pipelines transporting natural gas to consumers in Contra Costa County.

The total estimated duration of the marine work is at 42 calendar days. The marine decommissioning operations will be performed using a derrick barge with tugboat support and will be operating near or within the Stockton Deep Water Channel on the east side of the Antioch Bridge. The location is subject to recreational vessel traffic, commercial small vessel traffic and ship traffic.

This Marine Safety and Anchoring Plan (MSA) has been developed by PG&E to specify the marine safety and anchoring procedures and equipment that will be employed by the PG&E decommissioning contractor. This includes information requirements necessary to request authorization from the USCG to anchor outside of designated anchorages per 33 CFR 110.224 and complies with the information requirements of the USCG Marine Safety Office, San Francisco Bay to apply for an “Anchor Waiver”.

This MSA will be incorporated into the “Contractor Work Plan” that will be developed for use by the PG&E decommissioning contractor in performing the actual decommissioning work. The decommissioning contractor will be required to comply with USCG requirements for operations at this location and will be required to comply with other marine safety requirements as prescribed and monitored by PG&E. These provisions include:

- Acquisition of a USCG Anchor Waiver
- Incorporation of this Marine Safety and Anchoring Plan into the Contractor Work Plan
- Participation in the USCG San Francisco Vessel Traffic Service (VTS)
- Use of USCG prescribed Navigational Lighting
- Development and Implementation of a Marine Communications Plan
- Development and Implementation of a Ship Traffic Response Plan
- Development and Implementation of Dive Plan
- Development and Implementation of an Emergency Response Plan
- Development and Implementation of a Critical Operations and Curtailment Plan
- Development and Implementation of an Anchoring Plan
- Publication of a Local Notice to Mariners



CAUTION

This chart has been corrected from the Notice to Mariners (NM) published daily by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district for the areas shown in the lower left-hand corner.

SOUNDINGS IN FEET

Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

LONGITUDE 123, INC.
Marine Project Consulting and Construction Management

FIGURE 3-1
NAUTICAL CHART WITH PROJECT LOCATION

3.2 ACQUISITION OF A USCG ANCHOR WAIVER

PG&E shall require the decommissioning contractor to apply for and obtain a USCG Anchor Waiver for anchoring at the pipeline crossings to conduct the decommissioning work. The anchor waiver shall consist of a completed USCG Anchor Waiver Application along with a Marine Safety and Anchoring Plan to include at a minimum the elements listed in 3.1 – Introduction above. Pre-plotted anchor positions with coordinates will be provided for approval by the USCG.

3.3 PLANNED WORK SEQUENCES

All marine activities at the site will be conducted in accordance with USCG VTS regulations and protocols, and as specified in this Marine Safety and Anchoring Plan.

For planning purposes, PG&E assumes that the decommissioning work will be performed by a marine crew and equipment spread consisting of a derrick barge with four-point anchor system and spuds, a tugboat, a materials barge or hopper barge (for carrying the recovered pipe), deck crew, a dive crew; and a marine survey crew. A small utility boat or survey vessel may also be employed.

After a pre-remediation riverbed debris survey has been performed, the work will start with the arrival of the marine work spread (marine crews and equipment) at the L114-1/L114/SP4Z crossing site. The marine work spread will start near the northern shoreline of the San Joaquin River (offshore Sherman Island) and excavate and cut the three pipelines at that location. The marine work spread will then work from north to south, removing and recovering the pipelines. The pipelines will be excavated if necessary to remove them.

Once the marine work spread reaches the southern shoreline of the San Joaquin River (at Lauritzen Yacht Harbor) the pipelines will be cut offshore of the shoreline, completing the marine work. The recovered pipelines and debris will be transported by barge to the decommissioning contractor's shore base (assumed to be Mare Island) and offloaded onto trucks for ground transportation to recycling or disposal facilities.

3.4 PARTICIPATION IN THE USCG SAN FRANCISCO BAY VESSEL TRAFFIC SERVICE (VTS)

At a minimum, the decommissioning contractor's Contractor Work Plan shall include the following procedures:

3.4.1 U.S. Coast Guard Vessel Traffic Service Protocols

This project is located within the Inshore Section of the U.S. Coast Guard VTS - San Francisco. The primary mission of VTS is to "facilitate good order and predictability on a waterway by coordinating vessel movements through the collection, verification, organization and dissemination of information".

The VTS utilizes a concept called "continuum of control" to coordinate vessel movements within its jurisdiction. The continuum is based on four levels of control: Monitor, Inform, Recommend, and Direct. All four levels of control will be utilized to coordinate certain marine operations of the marine construction work with shipping traffic.

a. Monitor - This MSA requires that all support vessel operations provide a sailing plan and position reports to VTS as described in the VTS User's Manual.

b. Inform - When working in or near a shipping channel, this MSA requires that a full-time radio watch monitors and communicates with VTS on VHF-FM channels 14. The marine crews will coordinate with the VTS, informing VTS prior to the start of each vessel trip that crosses the shipping channel.

c. Recommend – The marine crews will incorporate all VTS project specific recommendations into its marine remediation operation.

d. Direct – The USCG VTS "direct" level of control, per the USCG VTS User's Manual, is typically reserved for exceptional intervention by the USCG San Francisco Sector. The marine crews will comply with all USCG VTS directives.

3.4.2 Application of the San Francisco Vessel Traffic Service Protocols

Per the VTS User's Manual dated March 2005, all vessels employed on this project shall maintain a printed and bound copy of this VTS User's Manual aboard the vessel and readily available for use by the vessel's master and crew.

3.5 USE OF USCG PRESCRIBED NAVIGATIONAL LIGHTING AND MARKING REQUIREMENTS

The marine work spread vessels and buoys will be marked in accordance with the United States Code of Federal Regulations, Title 33, Chapter 34, Subchapter I, Part C and the publication titled Private Aids to Navigation, Eleventh Coast Guard District, Alameda, California as provided by Mr. Brian Aldrich of the USCG, Private Aids to Navigation Program Manager.

3.5.1 Derrick Barge and Materials Barge

The marine work spread barges will be towed to and from the project's underwater work site. Once on site, the derrick barge may be moored in a four-point anchorage or by self-contained spuds. The barge will measure approximately 120-feet in length; will have a minimum of 2-feet of freeboard, and a maximum draft of 8 feet. The deck of the derrick barge will carry a crane and other support equipment and will be equipped with extensive deck lighting. A materials barge will be used to store and transport the recovered submarine pipelines and debris. The materials barge or hopper barge will also be illuminated or otherwise identified per the applicable regulations.

a. Daylight Marking Scheme - Under Tow - When under tow in daytime, a single 3-dimensional "diamond shape" not less than two-feet in length and width will be suspended above the deck of the derrick barge at the highest point possible.

b. Daylight Marking Scheme – Anchored - When anchored in daytime, two 3-dimensional "ball shapes" each not less than two-feet in diameter will be suspended in a vertical line at the highest point possible above the deck of the derrick barge at the side of the barge at which the pipeline is being brought aboard. In addition, two 3-dimensional "diamond shapes" each not less than two-feet in length and width will be suspended in a vertical line at the highest point possible above the deck of the support barge at the side of the barge on which another vessel may pass.

c. **Night Time Marking Scheme - Under Tow** - When under tow at night time, the derrick barge will be marked with sidelights and a stern light.

d. **Night Time Marking Scheme – Anchored** - When anchored at night time, two "all-round" red lights in a vertical line will be displayed at the side of the derrick barge at which the pipeline is being brought aboard. Two "all-round" green lights in a vertical line will be displayed at the side of the derrick barge on which another vessel may pass. In addition, the deck shall be lighted with deck illumination lights as needed.

3.5.2 Crown Buoys

The marine work spread's derrick barge will be equipped with a four-point mooring system that will be deployed during the course of the decommissioning work. Each anchor of the mooring system will be equipped with a crown wire (wire rope) and crown buoy for use in placing the anchor and recovering the anchor. The crown wire is attached to the bottom (crown) of the anchor and is used to pull an anchor backwards when recovering an anchor and to lift an anchor off of the riverbed. The anchor wire attached to the anchor stock (top of the anchor) is used to set the anchor and moor the barge. The crown buoy holds the top end of the crown line at the water surface where it can be accessed by the supporting tug boat to facilitate recovery of the anchor.

Crown buoys are typically constructed from steel spheres measuring approximately 60-inches in diameter with a hawse pipe that passes through the center of the buoy. They are painted "safety" yellow. Depending on the weight of the anchor, crown lines and anchor wires are 7/8 to 1-1/8-inch diameter wire rope. They will be marked as follows:

a. **Daylight Marking Scheme** - The crown buoys will be yellow in color.

b. **Night Time Marking Scheme** – At night the crown buoys will be marked with a white strobe type marking light. The lights will be attached to the top of the buoy and will be visible for a distance of approximately six miles. The lights will flash at a frequency of approximately 25 flashes per minute. The lights will be activated by a photocell that turns the light on at the onset of darkness and turns the light off in daylight.

3.5.3 Support Tug Boat

A marine work spread tug boat will be used to tow the derrick barge to site, to deploy and recover the derrick barge anchors, to tend the derrick barge, and to tend and tow the materials or hopper barge.

a. **Daylight Marking Scheme - When Towing** - When towing the barges in daytime the support tug will display three 3-dimensional "shapes" suspended above the deck in a vertical line. These shapes shall consist of "round shapes" not less than two-feet in diameter in the highest and lowest positions, and a "diamond shape" not less than two-feet in length and width in the middle of the vertical line.

b. **Night Time Marking Scheme - With and Without a Tow** - When not towing at night time, the support tug will be marked with sidelights and a stern light. When towing at night time, the support tug will be marked with three all-round lights in a vertical line

where they can best be seen. The highest and lowest of these lights shall be red and the middle light shall be green.

3.5.4 Other Support Vessels

All other support vessels will be lighted with ordinary navigational lighting for night time operations (sidelights and a stern light). No other markings will be needed as these vessels will not be used to tow vessels or deploy or recover anchors.

3.6 MARINE COMMUNICATIONS PLAN

A basic marine communications plan will be used by the marine work vessels to communicate with each other, to communicate with vessel traffic in and around the marine work site, and to communicate with the U.S. Coast Guard VTS, San Francisco. This plan includes a proposed communications scheme to keep the VTS apprised of field operations on a daily basis, and for VTS to be able to notify the marine work vessels of approaching ship or barge traffic.

3.6.1 VTS Overview

The marine work site is located within the jurisdiction of the Inland Sector of the USCG VTS. The primary mission of VTS is to coordinate the safe and efficient transit of vessels in San Francisco Bay and its inland waterways (Sacramento Deep Water Channel (DWSC) and Stockton DWSC) in an effort to prevent accidents and the associated loss of life and damage to property and the environment. A key objective of this MSA and the procedures established by these operational protocols is to ensure close communication and coordination of the marine decommissioning operations with the VTS. All marine operations on this project will be subject to VTS reporting requirements.

3.6.2 VTS Hailing Frequencies

VTS participants operating in the Inland Sector of the VTS are required to maintain a radio watch on VHF-FM channels 14 for VTS radio traffic. As such, all project support vessel operators will maintain radio watches on channel 14, and will report to the VTS as prescribed in VTS regulations.

3.6.3 VTS Reporting Requirements

VTS regulations require active participation by all vessels that fall under the Vessel Movement Report System (33 CFR 161.16). Vessels subject to this requirement are: 1) Power driven vessels 131 feet or greater in length; 2) Towing vessels 26 feet or greater in length; an, 3) Every vessel that is certified to carry 50 or more passengers and is engaged in trade. As such, support vessels anticipated for use on this project, and subject to these regulations, will be limited to all towing vessels used to tow the derrick barge, barges or other tows. Operators of these vessels shall participate in the VTS reporting requirements. The reporting requirements are as follows:

a. Sailing Plan – No less than 15 minutes prior to departing the work site, all project tugboat operators taking a tow shall contact VTS on channel 14 and provide a sailing plan consisting of the following:

b. Vessel Name

c. Position

d. Destination

e. Towing/Pushing/Alongside

f. Barge – over/under 1,600 gross tons

g. Draft

h. Position Reports - Once a project tugboat is underway with a tow, or after changing the person directing the movement of the vessel, the tugboat operator is to report to and update VTS.

i. Sailing Plan Deviation Report - In the event of significant variations from the original sailing plan, or an emergency occurs; the tugboat operator is to report to VTS.

j. Final Report – Report to VTS upon docking, anchoring, mooring or departing the VTS Area as applicable.

3.6.4 Worksite Radio Communications

Vessel-to-vessel communication at the worksite will take place on VHS-FM marine band channel 08 or other frequency as available.

3.6.5 Cellular Telephone Contact

The decommissioning project manager, the marine contractor superintendent, the environmental monitors and others will be available by cellular telephone.

3.7 SHIP TRAFFIC RESPONSE PLAN

The decommissioning work will involve operations within the Stockton Deep Water Channel and will require that the derrick barge moors adjacent to or within the shipping channel. The PG&E decommissioning contractor shall maintain an open corridor through the shipping channel to provide adequate passage for shipping. This will be accomplished by utilizing an anchorage that enables the derrick barge to move on its anchor wires or pickup spuds and move to either side of the river and clear of the shipping channel on notification from VTS of the approach of a ship. This methodology has been used successfully by PG&E the decommissioning contractor working on PG&E pipeline crossings in the Sacramento and Stockton Deep Water Ship channels.

The contractor's MSA shall require that the marine contractor maintain a full-time radio watch to monitor and communicate with VTS on VHF-FM channels 14 when working in or near the Stockton Deep Water Channel and to coordinate with VTS when shipping traffic is approaching the work site.

3.8 DIVE PLAN

Manned diving operations will be required in support of the decommissioning work. All diving will be performed by a commercial diving services contractor.

3.8.1 Marine Activities Requiring Diving Support

Diving support will be required for the following underwater decommissioning activities:

- **a.** Cutting Pipelines Underwater – Divers will be utilized to cut the pipelines on the riverbed at the northern submarine pipeline cut point and at the southern submarine pipeline cut point.
- **b.** Underwater Inspection – Divers will be utilized to check the excavation work (if required) and to verify the trench alignment with the pipelines.
- **c.** Underwater Recovery of Pipe End – Divers will be utilized to rig the pipe ends, when laid on the riverbed, for lifting by the crane to the deck of the derrick barge.
- **d.** Underwater Debris Recovery – Divers will be utilized to recover decommissioning related debris.

3.8.2 Diving Methodology

All diving will be performed from the anchored derrick barge and will use surface supplied air diving techniques. The underwater work site is located in shallow water (less than 45 feet) and, therefore, eliminates the need for decompression diving or the use of a deck decompression chamber. All diving will be no-decompression.

3.8.3 Diving Equipment

All diving equipment will be commercial grade diving equipment. The basic diving spread will consist of a diver's air compressor, standby air source, rack box (diver air manifold), pneumofathometer (for checking the diver's depth), umbilical, diving helmet, and two-way diver communications.

3.8.4 Diving Safety

All diving will take place in accordance with the most current Association of Diving Contractors International (ADCI) Consensus Standards for Commercial Diving and Underwater Operations, U.S. Department of Labor Occupational Safety and Health Administration Standard 29 CFR, Part 1901, Subpart T - Commercial Diving Operations, USCG 46 CFR, Part 197.200, Subpart B – Commercial Diving Operations, and California Code of Regulations, Title 8, Subchapter 7, Group 26, Article 152 – Diving Operations. The commercial diving service shall use U.S. Navy no-decompression limits, decompression tables, residual nitrogen tables or ADCI recognized equivalent dive tables.

3.8.5 Diver Qualifications

All divers will be qualified as specified in the above referenced regulations and in keeping with ADCI Consensus Standards for Commercial Diving and Underwater Operations.

3.9 EMERGENCY RESPONSE PLAN

As part of its Contractor Work Plan, the PG&E decommissioning contractor shall be required to develop a site specific Emergency Response Plan. This plan shall be published and distributed to all project workers and posted aboard all project support vessels and inside the project's field office trailers. The plan will include the following elements:

3.9.1 List of Potential Emergency Conditions

The emergency response plan shall include a list of the potential hazards (emergency condition) to project personnel specific to the decommissioning project. On this project, the list will include, at a minimum, diving accidents, injuries, fire, sudden illnesses such as cardiac arrest, and oil spills.

3.9.2 Response Matrix

The emergency response plan shall include a matrix composed of the potential emergency conditions and the designated responses and contacts for each emergency condition.

3.9.3 Emergency Services Contact List

The emergency response plan shall include a list containing the phone numbers for all local emergency service providers that may be called upon to support a project emergency. These contacts will include local hospitals, the nearest decompression chamber, local diving medicine physicians, police department, fire department, and the like. Physical addresses and maps for local hospitals and emergency clinics will also be provided.

3.9.4 Project Contact List

The emergency response plan shall include a list with contact information for all project managers, environmental monitors and superintendents associated with the project.

3.10 CRITICAL OPERATIONS AND CURTAILMENT PLAN

As part of its Contractor Work Plan, the PG&E decommissioning contractor shall be required to develop and implement a critical operations and curtailment plan that includes at a minimum the following elements. The PG&E project manager and the decommissioning contractor's project manager shall have authority to determine critical operations and suspend work operations when needed.

3.10.1 Anchoring Near Utilities

Critical Operation: In addition to the L114-1/L114/SP4Z crossings, the underwater work site abuts the PG&E L131 natural gas submarine pipeline crossing located approximately 675 feet east of the L114-1/L114/SP4Z crossing. The decommissioning contractor will be placing anchors near this pipeline crossing.

Curtailment: L131 shall be plotted on the project's marine survey database and will be visible on all survey video displays for use by the derrick barge superintendent and tug boat operator during the planning and placement of the derrick barge anchors. All anchors will be located to the west of the L114-1/L1124/SP4Z alignment will be set no closer than 200 feet from L131 and at no time will anchors be placed on the east side of L131.

3.10.2 Loss of Anchorage

Critical Operation: River and tidal water currents at the location could reach up to 1.1 knots in velocity during the period of August 1, 2013 to October 31, 2013 (the aquatic work window). These currents may place lateral forces against the anchored derrick barge. At 120 feet in length and 6 foot in draft, the total forces against the derrick barge may range as high as 8,000 to 12,000 pounds. Should an anchor leg part, or an anchor drag during operations, the derrick barge may be pushed off location by the water currents.

Curtailment: The first preventative measure will be to engineer the anchoring requirements of the support barge, ensuring that the anchor gear used provides suitable holding capacity and a minimum 2:1 safety factor in wire rope, hardware, and winch considerations. The second preventative measure will be to deploy a minimum of two anchors if the barge is to be anchored on spuds as a backup measure to the spuds. These measures should provide ample security against loss of anchorage. In addition, the derrick barge support tug will remain onsite whenever the derrick barge is anchored in a high current area.

3.10.3 Refueling of Vessels and Equipment

Critical Operation: The support vessels and equipment mounted on the deck of the derrick barge will require periodic refueling. As with any refueling requirement, the possibility of spillage exists.

Curtailment: All refueling of support vessels will take place at approved fueling docks. Refueling of the equipment mounted on the deck of the derrick barge will take place from integral fuel tanks built into the support barge, or from deck mounted fuel totes. If necessary, USCG-approved fuel totes will be used and transported to site where they will be placed on the deck of the derrick barge with the derrick barge crane. There will be no cross-vessel refueling allowed.

3.10.4 Sanitation

Critical Operation: Sanitation needs of the marine work crews that will be working at the marine work sites.

Curtailment: Portable sanitation devices (Porta-Potty or equivalent) will be placed on the deck of the derrick barge. These devices will be changed out on a weekly basis or as needed to ensure clean sanitation facilities. No effluents, sanitation wastes, or discharges of any kind will be permitted.

3.10.5 Unsafe Sea States

Critical Operation: Unsafe sea states may create hazardous working environments that result in accidents and damage or injury to personnel or equipment, and possibly result in oil spills.

Curtailment: This decommissioning operation will take place on the San Joaquin River, an inland waterway, and “sea states” will not be a factor. However, the marine equipment may be impacted by winds, river currents, and river vessel traffic. These hazards are addressed individually and in detail in the Marine Safety and Anchoring Plan.

3.10.6 Pipeline Spills

Critical Operation: Opening the pipelines to the river during the decommissioning work.

Curtailment: The L114-1, L114 and SP4Z submarine pipeline crossings have been used exclusively for the transportation of clean sales natural gas and have never transported liquid hydrocarbons, so there is no oil spill risk from these pipelines. PG&E shall pig and clean the pipeline crossings using an acid wash or sand wash to ensure that the interior surface of the pipelines are free of contaminants or at levels below regulatory requirements for opening the pipelines to the river during the decommissioning work.

3.11 ANCHORING PROTOCOLS

The marine decommissioning operations will take place from a derrick barge that will be moored by anchors to provide a semi-mobile work platform. The derrick barge will work within pre-determined moorings specified by the decommissioning contractor and pre-plotted in a scaled anchor pre-plot provided by the decommissioning contractor (see Appendix A – Survey Maps and Facility Drawings - Preliminary Anchor Pre-Plot).

The derrick barge will deploy its anchors with assistance from the supporting tug boat. The anchors will be deployed according to the pre-determined anchor pre-plot and the decommissioning operations will be performed within the confines of those anchorages. The derrick barge may move within each anchorage to the limit of that anchorage as needed to perform the decommissioning work within that anchorage.

3.11.1 Definition of an Anchorage

For purposes of this MSA, an “anchorage” is defined as any combination of anchors set at predetermined locations to provide anchorage within a defined work area. For example, a four-point anchor set involves the deployment of one anchor from each of the four corners of the derrick barge (see Figure 3-2 Typical Anchorage).

3.11.2 Definition of an Anchor Leg

The anchors will anchor the derrick barge through wire ropes (anchor wires) that are connected to anchor winches fastened to the deck of the barge. A soft line will be attached to the crown (bottom end) of each anchor and connected to floating buoys (crown buoys) to facilitate environmentally friendly transportation and recovery of the anchors. A combination of one anchor, the attaching anchor wire, a crown line, and a crown buoy represent one “anchor leg” (see Figure 3-3 – Typical Anchor Leg).

3.11.3 Predefined Anchorages

All anchorages have been predefined for the planned decommissioning work and plotted on the anchor pre-plot drawings. The final locations and sizes of the anchorages may be adjusted as needed to suit the site conditions in existence when the decommissioning work is performed. Each anchorage provides for a specific amount of lateral movement by the derrick barge within the confines of the anchorage.

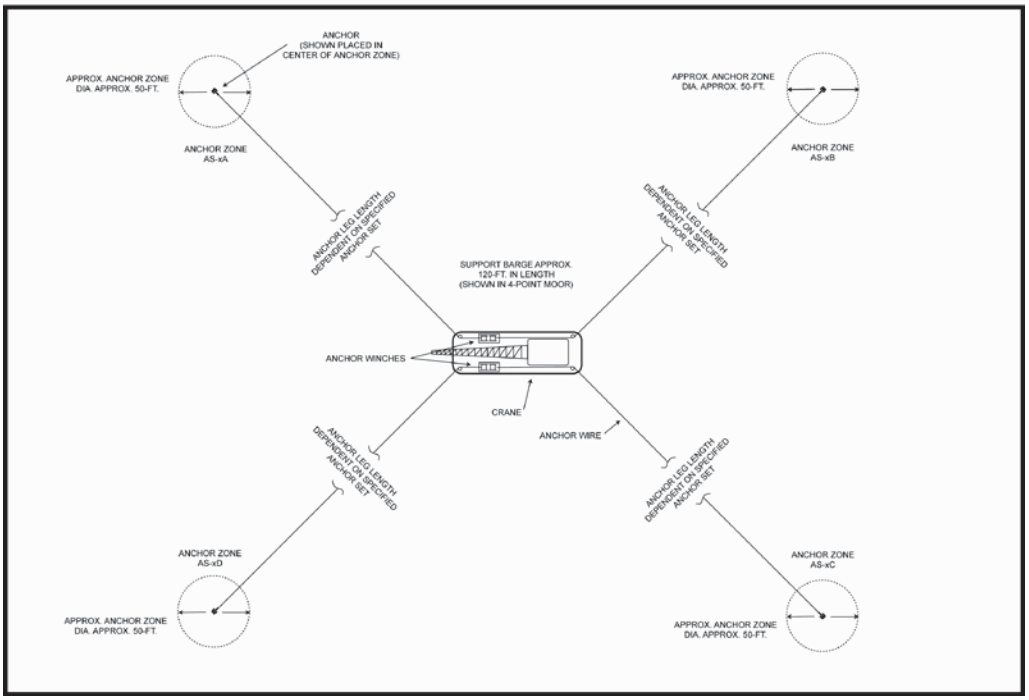


Figure 3-2 - Typical Anchorage

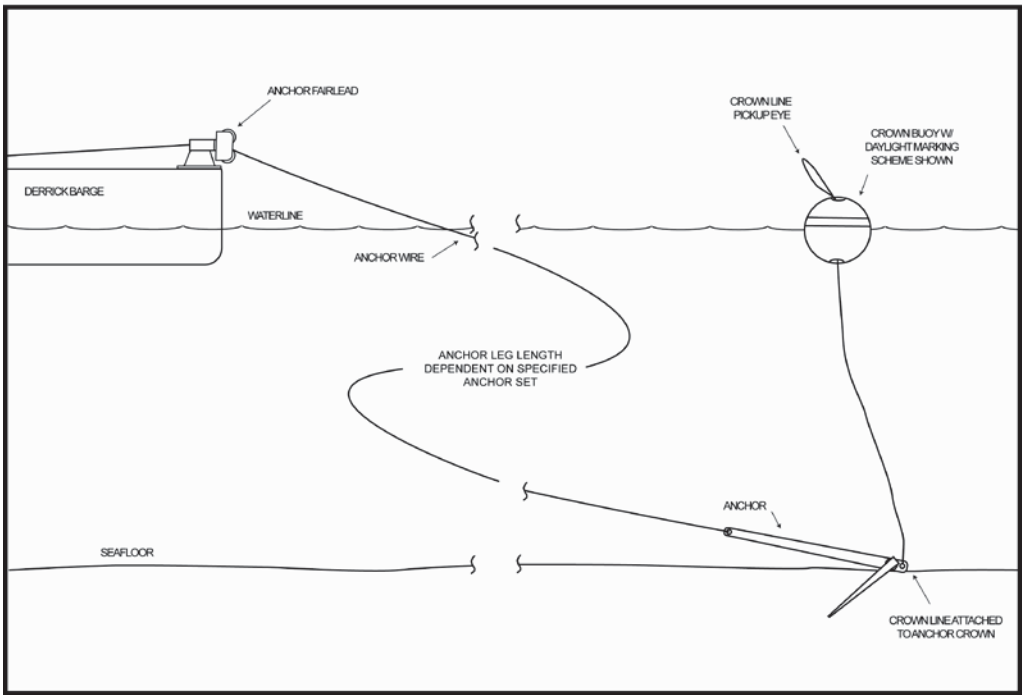


Figure 3-3 - Typical Anchor Leg

3.11.4 Anchoring Considerations

Several factors were considered in producing this anchoring plan. These factors included:

a. **Adjacent Utilities** – An adjacent utility, the PG&E L131 submarine pipeline crossing, has been identified and located. This pipeline crossing has been constructed using conventional pull-and-bury marine pipeline installation techniques and is exposed or buried at shallow depths between the river's two shorelines. All pipelines must be set 200 feet to the west of the L131 submarine pipeline crossing and no anchors may be set on the east side of this pipeline crossing.

b. **Tidal Water Currents** - The decommissioning work will take place in the San Joaquin River east of the Antioch Bridge. Water currents are predicted to be as high as 1.1 knots during the environmental work window of August 1, 2013 to October 31, 2013, rain events excluded. The anchorages and anchoring hardware will be designed to safely anchor the derrick barge for the planned operations.

c. **Impacts to Local Boaters** - The anchored derrick barge, its mooring system, and any other project support vessels will be marked with appropriate painted markings, day shapes, and lighting. A notice describing the operations will be submitted for placement in the USCG, Eleventh District Local Notice-to-Mariners.

3.11.5 General Anchoring Procedures

The following general anchoring procedures will be used in deploying and recovering all anchors used to support the marine construction work as applicable.

a. Surface Navigation and Pre-Plots - A full-time professional marine surveyor will be utilized throughout the project to position anchors and spuds, to monitor for anchor or spud slippage, and to position the marine work spread at the planned anchorages. The survey database will also provide real-time locations of all adjacent utilities and information from past surveys. The marine surveyor will use DGPS equipment with sub-meter accuracy to accurately locate the required positions.

b. A DGPS system will be deployed on the derrick barge and the derrick barge support tug and will be operated by a full-time professional marine surveyor. All utility locations, bathymetric and geophysical survey data, and diver verification data obtained by PG&E in support of this decommissioning project will be pre-programmed into this DGPS system before the onsite work begins. The planned anchorages for the derrick barge moorings will also be pre-programmed into the DGPS system. A backup system and uninterruptible power source will be provided.

c. The existing site data will be viewed by the marine surveyor on a computer display located in the wheelhouse and real-time positioning of the tugboat or derrick barge will be superimposed over the existing site data. The display will update approximately every 0.5 second and the tug operator will be able to view the display along with the marine surveyor, piloting the support tug to the exact locations required.

d. With the exception of the first anchor, all derrick barge anchors will be deployed and recovered by the support tug utilizing the basic procedures described in this section. The first anchor may be lowered from the derrick barge to the riverbed at a pre-designated anchor location, but all other anchors must be taken from the derrick barge by the tug boat and transported (flown) to their pre-designated locations and lowered to the riverbed by the tug boat.

e. The support tug will "fly" the anchors from the derrick barge to the pre-designated anchor locations specified. Flying anchors is an anchoring procedure in which the anchor is carried or suspended by the support tug boat using the anchor's crown line and buoy and carried to the pre-designated anchor location for placement. During deployment, each anchor is lowered by the crown line into place at the pre-designated site and raised vertically by the crown line with the tug boat winch for transport back to the derrick barge when the anchors are "weighed" (recovered). Flying anchors to and from their locations eliminates unnecessary anchor wire contact with the riverbed. It should be noted that at no time will the anchors be dragged across the riverbed.

f. In this application, the "crown line" may consist of a synthetic soft line pennant or wire rope pennant with one end attached to the crown or base of the anchor stock and the other end attached to a floating crown buoy. Use of a crown line enables the support tug to slip (trip) an anchor backwards out of its set rather than having the support barge righting the anchor with the anchor wire during the anchor weighing process. Recovering anchors by utilizing crown lines generally disturbs the riverbed less than weighing the anchor vertically with the anchor wire or chain.

g. Each anchorage will consist of anchors deployed at four points around the derrick barge. The crown buoys floating above these anchors will serve as visually indicators of the safety zone established around the marine construction work. The safety zones will be described in the Notice to Mariners and a thorough description of the crown buoys provided.

3.12 DRAFT LOCAL NOTICE TO MARINERS

No less than 30 days prior to start of the onsite work, PG&E shall submit a notice of the planned marine construction activities to the USCG, Eleventh District, Alameda, California to be posted in the Local Notice to Mariners. This notice shall state the following:

PG&E will be conducting pipeline decommissioning operations in the San Joaquin River on the east side of the Antioch Bridge between the City of Oakley and Sherman Island. The derrick barge (name of derrick barge) will be onsite and will be tended by the tugboat (name of tugboat). The derrick barge will be moored with four anchors in a four-point mooring system that will extend out as much as 500 feet from the corners of the derrick barge, or moored by its spuds. When moored on anchors, each of the four anchors will be marked by a crown buoy floating above the anchor.

The crown buoys will be yellow in color with blue horizontal bands and marked with flashing white strobes at night. The pipeline decommissioning operations will involve extensive diving.

All vessels are requested to maintain a 500-foot safety zone around perimeter formed by the floating crown buoys described above, or if no buoys or present, a minimum offset of 500 feet from the derrick barge.

The derrick barge tugboat will monitor channels 14 and 16. For additional information contact Mark Steffy at (805) 649-9364.

3.13 TRAINING AND IMPLEMENTATION OF MSA REQUIREMENTS

The protocols, procedures, and directives of this MSA shall be incorporated into the decommissioning contractor's Contractor Work Plan. The MSA portion of the Contractor Work Plan will be distributed to all marine crew members, shore supervisors, and government agencies as directed. All marine crews will receive training and review of the protocols and procedures specified in this MSA.

3.13.1 Distribution of MSA

This MSA will be distributed to all pertinent regulatory agencies, the USCG VTS, all project managers, field supervisors, support vessel operators, support vessel radio operators, and diving supervisors. In addition, a copy of this MSA will be placed on each support vessel utilized in this project.

3.13.2 Training

The marine project manager, marine supervisors, and support vessel operators will be instructed in the use of the operational protocols, procedures, and directives of the MSA. Instruction will include a review of this MSA, a presentation of each protocol, practical application using potential work site scenarios, and questions and answers. Comments or suggestions made during this training session that would enhance operational safety may result in changes to this MSA.

3.13.3 Implementation

The decommissioning project manager shall be responsible for ensuring implementation of this MSA and compliance by the marine work crews.

SECTION FOUR – OIL SPILL RESPONSE PLAN

4.1 INTRODUCTION

This Oil Spill Response Plan (OSRP) shall be utilized by the PG&E decommissioning contractor when working at L114-1/L114/SP4Z underwater work site. The purpose of this OSRP is to present the procedures and protocols that will be used in the event of an oil spill resulting from project activities.

4.2 POTENTIAL SPILL SOURCES

Potential spill sources of hydrocarbons are fuel or lubricants from the marine vessels and equipment used during the decommissioning operations. The L114-1/L114/SP4Z crossings are natural gas transmission pipelines and contains no sources of hydrocarbon spill. As a precaution, all three pipeline crossings will be pig and cleaned with an acid wash or sand wash to reduce any potential contaminants on the pipeline's interior walls to levels below regulatory limits.

4.2.1 Spill Definition - Minor vs. Major

For purposes of this OSRP, a minor spill is defined as five barrels or less and a major spill is defined as more than five barrels.

4.2.2 Support Vessel Tank or Deck Equipment Spills

A minimum of two vessels will be employed at the work site during project activities. These may consist of a support barge with a four-point anchorage and spuds, a materials or hopper barge, tug boat and a work skiff. The derrick barge will contain several diesel driven equipment items on its deck.

While all vessels are considered potential spill sources, the likelihood of a spill is remote as a spill could only occur if the hull of a vessel is breached in the area of the fuel tank or if a vessel sinks. In addition, implementation of the measures presented in Section Three – Marine Safety and Anchoring will reduce the potential for collisions of project-related vessels with other in the San Joaquin River.

USCG-approved drip pans will be placed under all deck equipment. Work crews will be directed to monitor all deck equipment for leaks and, if observed, will cease operation of the affected machinery and correct any leaks. All hydrocarbon-based fluids stored onboard the work vessels will also be required to have a double containment system.

4.3 OIL SPILL RESPONSE TEAM

PG&E and its decommissioning contractor shall maintain an onsite spill response team to respond to and clean up minor spills during decommissioning activities. The onsite response team is responsible for reporting any spills as well as containment and cleanup of any small spills using onsite equipment and procedures. The onsite team will be supervised by the decommissioning project manager and will include all qualified decommissioning contractor personnel working onsite at the time of the spill.

4.4 ONSITE RESPONSE EQUIPMENT

The onsite spill response team will have access to an appropriate quantity of sorbent pads, sorbent boom, and containment boom, which will be maintained onsite during decommissioning activities. The tugboat and work skiff will be utilized as boom tender vessels, if necessary. In the event of a spill, the decommissioning project manager will immediately cease project operations in order to deploy boom or apply sorbent pads. Table 4-1 lists the minimum onsite spill response equipment that will be maintained for emergency response to miscellaneous spills.

Table 4-1 - Onsite Spill Response Equipment Inventory

Quantity	Equipment Type
400 feet	Absorbent Boom
200 (5 bales)	3M Type 156 Sorbent Pads – 18” x 18”
100	Plastic Storage Bags

4.5 NOTIFICATION

4.5.1 Emergency Agency Notification

An important step in the response procedure is the notification of others of an incident. Notification is essential to activate the response organizations, alert PG&E management, obtain assistance and cooperation of agencies, mobilize resources, and comply with local, state, and federal regulations. The order of notification is based on the premise that those parties who can render assistance in controlling or minimizing the impacts of an incident be notified before those that are remote from the incident. The notification process encompasses the following categories:

- Emergency Agency notification
- Company notification/onsite spill response team activation
- Cleanup contractors (if required)
- Notification of other interested parties
- Periodic progress updates and reports (if necessary)

Table 4-2 - Emergency Agency Notification Matrix

Type of Emergency	Agencies to be Notified	Telephone	Notification Criteria	Notification Time Frame	Information to Report
Oil Spill to Land or Marine Waters	California Office of Emergency Services	(800) 852-7550	All spills to land or water	Immediately	1. Location of release or threatened release 2. Qty released 3. Type of oil 4. Your name & phone number
	National Response Center	(800) 424-8802			
	USCG-Alameda Marine Safety Office	(510) 437-2943			
	State Lands Commission	(562) 590-5201			
	California Department of Fish and Game/OSPR	(888) 334-2258			
	Oiled Wildlife Care Network	(530) 754-9035			
Medical Emergencies	Fire Department/ Ambulance	911	Medical assistance and/or transport required	ASAP	1. Type of injury 2. Location 3. Condition 4. Action taken 5. No. of victims
	CalOSHA	(415) 737-2932		As required	

USCG U.S. Coast Guard
OSPR Office of Oil Spill Prevention and Response
CalOSHA California Occupational Safety and Health Administration

The Lempert-Keene Seastrand Oil Spill Prevention and Response Act (SB 2040) requires notification of the California Office of Emergency Services when oil spills occur or threaten to occur from facilities, vessels, or pipelines into California marine waters. The California Code of Regulations implementing SB 2040 requires that the specific information shown in Table 4-3 be given to the agencies when making notifications.

Table 4-3 - Information Checklist

Name of reporter. Facility name and location Date and time of the spill
Cause (*if known* -- don't speculate) and location of the spill Estimate of the volume of oil spilled and the volume at immediate risk of spillage Material spilled (e.g., crude oil), and any inhalation hazards or explosive vapor hazards, if known Prevailing sea conditions: • Wave height • Size and appearance of slick • Direction of slick movement • Speed of movement, if known Prevailing weather conditions: • Wind speed • Wind direction • Air temperature Measures taken or planned by personnel on scene • For containment • For cleanup Current condition of the facility Any casualties?

NOTE: When making reports, record the agency, name of person contacted, and the date and time of notification. Reporting of a spill shall not be delayed solely to gather all the information noted above.

All actions, including agency notification, should be recorded on the Event Log. A regulatory agency address directory is provided in Table 4-4.

Essential agency notifications are further assured by the California Office of Emergency Services and the National Response Center, because they will notify related state and federal agencies.

If a spill impacts navigable waters, notification of the National Response Center is mandatory and normally results in simultaneous notification of the USCG. However, it is recommended that a call be made to the local USCG office in Alameda at (510) 437-2943.

Based on the spill trajectory analysis, if the spill is a threat to the shoreline, the appropriate local fire department should also be contacted. This would not normally be an immediate notification.

Table 4-4 - Addresses of Regulatory Agencies

NATIONAL RESPONSE CENTER U.S. Coast Guard Headquarters 2100 Second Street SW Washington, D.C. 20593 U.S. COAST GUARD MSO, San Francisco Bay Building 14, Coast Guard Island Alameda, CA 94501 U.S. DEPARTMENT OF TRANSPORTATION 111 Grand Avenue, P.O. Box 23660 Oakland, CA 94623 NATIONAL MARINE FISHERIES SERVICE 650 Capitol Mall Sacramento, CA 95814	CALIFORNIA DEPARTMENT OF FISH AND GAME Office of Spill Prevention and Response (OSPR) 1730 I Street PO Box 944209 Sacramento, CA 94244 CALIFORNIA OFFICE OF EMERGENCY SERVICES 2800 Meadowview Road Sacramento, CA 95832 CALIFORNIA DIVISION OF SAFETY AND HEALTH 1655 Mesa Verde Avenue, Room 150 Ventura, CA 93003 CALIFORNIA STATE LANDS COMMISSION 330 Golden Shore, Suite 210 Long Beach, CA 90802

4.5.2 Company Notification

PG&E requires that all emergencies be brought to the attention of PG&E management. The decommissioning project manager (Qualified Individual) will notify appropriate PG&E management by radio or telephone with an initial assessment of the extent and nature of the spill, and will activate additional company resources, if necessary.

QUALIFIED INDIVIDUAL

Mark Steffy	
Work:	**(805) 649-9364**
Cellular	**(805) 649-9364**

4.6 MARINE SPILL SCENARIOS AND RESPONSE PROCEDURES

4.6.1 Minor Spills

This scenario consists of minor spills of oil or oily water (less than five barrels) from a vessel. In this case, response will consist of deployment of sorbent boom and sorbent pads that are stored on the derrick barge. A minimum of 500 feet of absorbent boom will be stored on the support barge. In addition, containment boom will be deployed if necessary. Table 4-5 lists the response procedures for a minor marine spill.

Table 4-5 - Minor Marine Oil Spill Response Procedures

Responsible Person	Action
Decommissioning Project Manager	• Assess the spill size and type of material spilled. • Take action to contain the spill and prevent further spillage. • Inform the Project Superintendent as soon as possible as to the source of the spill, type of material spilled and status of control operations. • Maintain surveillance of source and oil slick. • Assist the onsite response team in implementing clean up procedures including deployment of the absorbent and/or containment boom and sorbent pads and proper storage and disposal of oily debris and sorbent pads. • Account for all personnel and ensure their safety. • Determine if there is a threat of fire or explosion. • If a threat of fire or explosion exists, suspend all control and/or response operations until the threat is eliminated. • Assess the spill situation to determine the status of response operations, estimate spill volume, estimate speed and direction of oil slick movement and determine resource needs. • Notify the Decommissioning Environmental Monitor and PG&E Project Manager.

Responsible Person	Action
Decommissioning Environmental Monitor	• Mobilize the onsite oil spill response team. • Determine if oil spill response contractor or oil spill response cooperative should be notified. • Notify appropriate agencies including: – National Response Center (800) 424-8802) – California Office of Emergency Services (800) 852-7550) – State Lands Commission (562) 499-6312) – California Department of Fish and Game/OSPR (916) 445-0045) – U.S. Coast Guard Marine Safety Office (510) 437-2943 – Oil Wildlife Care Network (530) 754-9035 • Supervise response and cleanup operations. • File written reports to appropriate agencies.

4.6.2 Major Spills

For purposes of this OSRP, a major spill is defined as any spill greater than five barrels. The major spill potential is limited to collisions of project-related vessels that may rupture the hull and fuel tank of the vessel. Assuming a maximum capacity of 6,000 gallons of fuel onboard any of the vessels, this would be the only potential for a major spill event. Implementation of the measures detailed in Section Three - Marine Safety and Anchoring is expected to minimize the potential for collisions of project related vessels and thus minimize the potential of a major spill event.

APPENDIX A – SURVEY MAPS AND FACILITY DRAWINGS

This appendix contains the following survey maps and facility drawings.

- Project Site Map
- Fugro Survey Chart 01 – Surficial Features Survey
- Fugro Survey Chart 02 – Side Scan Sonar Survey
- Preliminary Anchor Pre-Plot
- PG&E Survey Map 028.61-13.38-1
- PG&E Survey Map 028.61-13.38-2
- PG&E Survey Map 028.61-13.38-3
- PG&E Survey Map 028.61-13.38-4
- PG&E As-Built Drawing 382003 – Valve Pits
- PG&E As-Built Drawing 382120 – Sheet 12 of 40 - Plat Map – North Landing
- PG&E As-Built Drawing 382120 – Sheet 13 of 40 – Plat Map – South Landing

Pacific Gas and Electric Company

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

NOTES

1. AERIAL PHOTOGRAPH GOOGLE EARTH IMAGERY DATED 9 JUNE 2014
2. BATHYMETRIC AND GEOPHYISCAL DATA WERE COLLECTED ON 9 NOVEMBER 2014 ONBOARD THE M/V JULIE ANN BY FUGRO PELAGOS.
3. BATHYMETRIC CONTOURS ARE IN 5 FOOT INTERVALS AND REFERENCED TO NORTH AMERICAN DATUM OF 1988 (NAVD88).

LEGEND

L114, L114-1 & SP4Z BURIED SUBMARINE PIPELINE - TO BE REMOVED IN ITS ENTIRE-TY

L114, L114-1 & SP4Z EXPOSED OR SPANNED SUBMARINE PIPELINE - TO BE REMOVED IN ITS ENTIRETY

L131 BURIED SUBMARINE PIPELINE - AN ACTIVE GAS TRANSMISSION PIPELINE

L131 EXPOSED OR SPANNED SUBMARINE PIPELINE - AN ACTIVE GAS TRANSMISSION PIPELINE

L400 & L400B - BURIED SUBMARINE PIPE-LINES - AN ACTIVE GAS TRANSMISSION PIPELINE

SCALE: 1/2" - 150'

0 150' 300' 450' 600' 750'

LONGITUDE 123, INC. Marine Project Consulting and Construction Management

padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

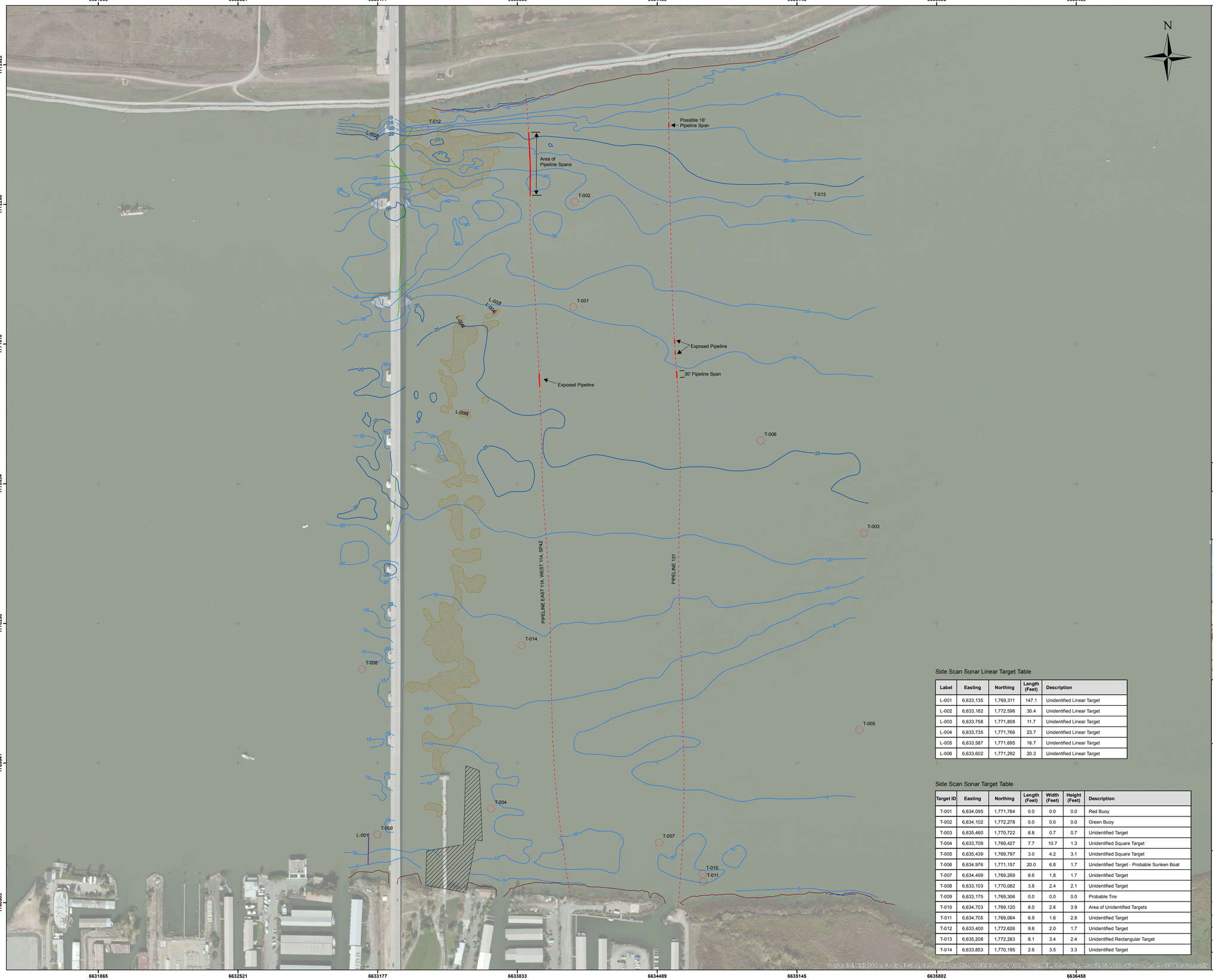
DRAWN BY:	DRAWING NO.	DATE:
MIS LONGITUDE 123, INC.	13-003-D01 REV 01	2/25/15

TITLE:

PROJECT SITE MAP

6631865 6632521 6633177 6633833 6634489 6635145 6635802 6636458

1772922 1772266 1771610 1770954 1770298 1769641 1768985



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Major Bathymetry Contours, Interval = 25 Feet
- Minor Bathymetry Contours, Interval = 5 Feet
- Exposed Pipeline (Digitized from Side Scan Sonar Mosaic)
- Inferred Pipeline (Fugro, 2006)
- Exposed Cable/Wire (Digitized from Side Scan Sonar Mosaic)
- Toe of Slope (Digitized from Side Scan Sonar Mosaic)
- L-006 — Unidentified Linear Target with ID (Digitized from Side Scan Sonar Mosaic)
- T-014 — Side Scan Sonar Target with ID
- Area of No Data due to Heavy Fishing Activity
- Area of Debris/Rocks (Digitized from Side Scan Sonar Mosaic)
- Survey Area (in Key Map)

NOTES:
1. Horizontal positioning achieved using a POS MV 320 v.4 positioning system integrated with WinFrog navigation software.
2. Survey equipment utilized during data acquisition included the Edgetech 6205 Interferometric Sonar.
3. Bathymetric and geophysical data were collected on November 9, 2014 onboard the M/V Julie Ann.
4. Bathymetric contours are in 5 foot intervals and referenced to North American Vertical Datum of 1988 (NAVD88).
5. Aerial Imagery Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

GEODETIC INFORMATION

DATUM:	NAD83
PROJECTION:	CALIFORNIA STATE PLANE
ZONE:	2
UNITS:	U.S. FEET

Side Scan Sonar Linear Target Table

Label	Easting	Northing	Length (Feet)	Description
L-001	6,633,135	1,769,311	147.1	Unidentified Linear Target
L-002	6,633,182	1,772,596	30.4	Unidentified Linear Target
L-003	6,633,758	1,771,808	11.7	Unidentified Linear Target
L-004	6,633,735	1,771,766	23.7	Unidentified Linear Target
L-005	6,633,587	1,771,695	16.7	Unidentified Linear Target
L-006	6,633,602	1,771,292	20.3	Unidentified Linear Target

Side Scan Sonar Target Table

Target ID	Easting	Northing	Length (Feet)	Width (Feet)	Height (Feet)	Description
T-001	6,634,095	1,771,784	0.0	0.0	0.0	Red Buoy
T-002	6,634,102	1,772,278	0.0	0.0	0.0	Green Buoy
T-003	6,635,460	1,770,722	8.8	0.7	0.7	Unidentified Target
T-004	6,633,709	1,769,427	7.7	10.7	1.3	Unidentified Square Target
T-005	6,635,439	1,769,797	3.0	4.2	3.1	Unidentified Square Target
T-006	6,634,976	1,771,157	20.0	6.8	1.7	Unidentified Target - Probable Sunken Boat
T-007	6,634,499	1,769,269	8.6	1.8	1.7	Unidentified Target
T-008	6,633,103	1,770,082	3.8	2.4	2.1	Unidentified Target
T-009	6,633,175	1,769,306	0.0	0.0	0.0	Probable Tire
T-010	6,634,703	1,769,120	8.0	2.6	3.9	Area of Unidentified Targets
T-011	6,634,705	1,769,084	6.9	1.6	2.8	Unidentified Target
T-012	6,633,400	1,772,626	9.8	2.0	1.7	Unidentified Target
T-013	6,635,208	1,772,283	8.1	3.4	2.4	Unidentified Rectangular Target
T-014	6,633,853	1,770,195	2.6	3.5	3.3	Unidentified Target

FUGRO PELAGOS, INC.
4820 McGrath St., Suite 100
Ventura, California 93003
Tel: (805) 650-7000
Fax: (805) 658-6679
www.fugro-pelagos.com

PG&E

BATHYMETRY AND SURFICIAL FEATURES
SAN JOAQUIN RIVER PIPELINE CROSSINGS REMEDIATION PROJECT

ANTIOCH, CALIFORNIA
NOVEMBER 2014

SCALE : 1 " = 200 '

0 100 200 400 600 800 Feet

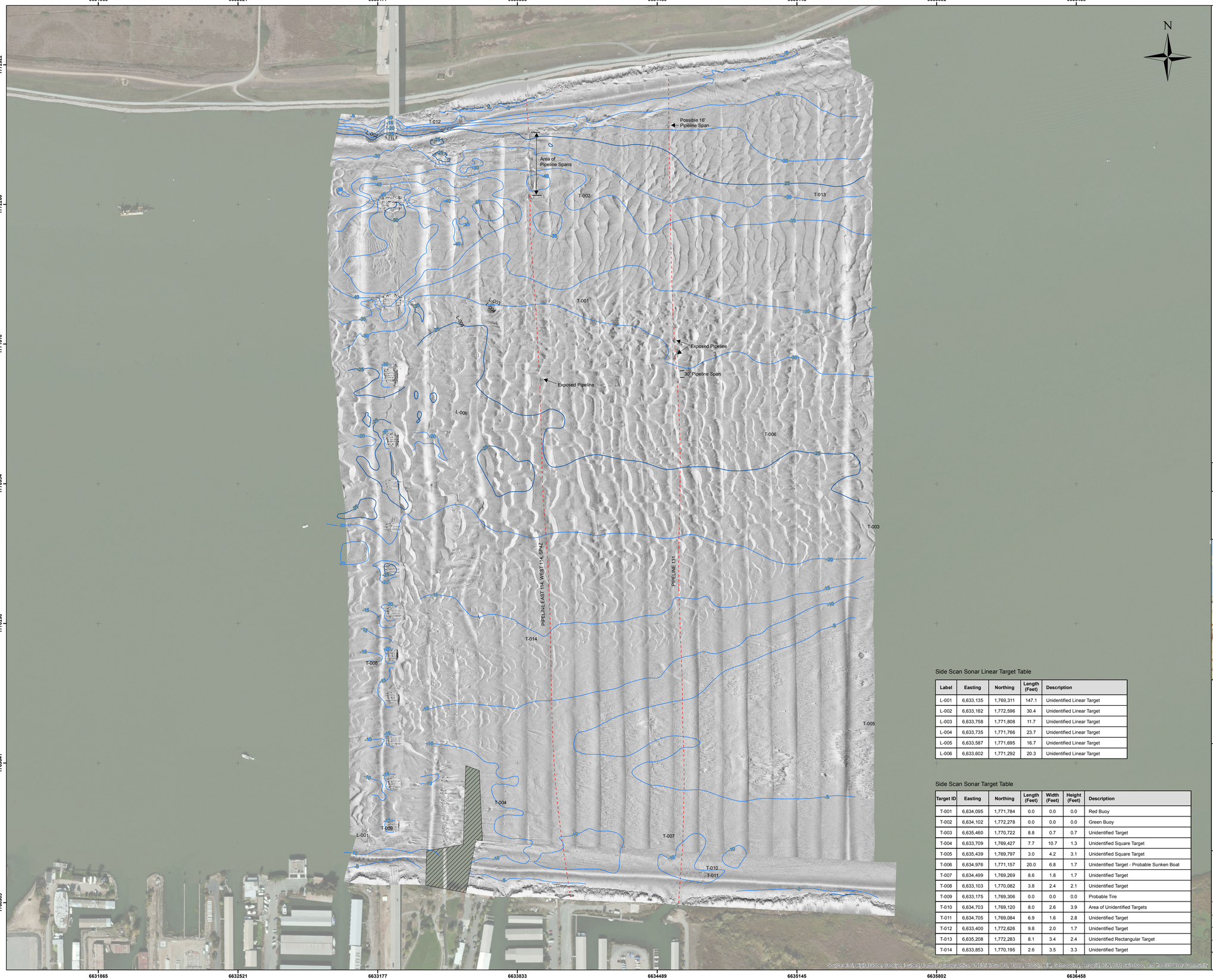
REV NO:	DATE:	DESCRIPTION:	DRAWN:	CHKD:	APPR:
0	Nov 2014	Bathymetry and Surficial Features Chart	CP	DES	CP
1	Dec 2014	Bathymetry and Surficial Features Chart	CP	DES	CP

CHART NUMBER-DRAWING NUMBER: 23.00007113-1

N:\Projects\04_GIS\23_0000_7113_L123_Antioch\Output\2014_12_16_FinalCharts\mxd\7113_SSS_2nd4K_Chart1.mxd, 12/18/2014, pratt

6631865 6632521 6633177 6633833 6634489 6635145 6635802 6636458

1772922 1772266 1771610 1770954 1770298 1769641 1768985



Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

N

Legend

- Major Bathymetry Contours, Interval = 25 Feet
- Minor Bathymetry Contours, Interval = 5 Feet
- Inferred Pipeline (Fugro, 2006)
- L-006 — Unidentified Linear Target with ID (Digitized from Side Scan Sonar Mosaic)
- T-014 — Side Scan Sonar Target with ID
- Area of No Data due to Heavy Fishing Activity
- Survey Area (in Key Map)

NOTES:
1. Horizontal positioning achieved using a POS MV 320 v.4 positioning system integrated with WinFrog navigation software.
2. Survey equipment utilized during data acquisition included the Edgetech 6205 Interferometric Sonar.
3. Bathymetric and geophysical data were collected on November 9, 2014 onboard the M/V Julie Ann.
4. Bathymetric contours are in 5 foot intervals and referenced to North American Vertical Datum of 1988 (NAVD88).
5. Aerial Imagery Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

GEODETIC INFORMATION

DATUM:	NAD83
PROJECTION:	CALIFORNIA STATE PLANE
ZONE:	2
UNITS:	U.S. FEET

KEY MAP

Side Scan Sonar Linear Target Table

Label	Easting	Northing	Length (Feet)	Description
L-001	6,633,135	1,769,311	147.1	Unidentified Linear Target
L-002	6,633,182	1,772,596	30.4	Unidentified Linear Target
L-003	6,633,758	1,771,808	11.7	Unidentified Linear Target
L-004	6,633,735	1,771,766	23.7	Unidentified Linear Target
L-005	6,633,587	1,771,695	16.7	Unidentified Linear Target
L-006	6,633,602	1,771,292	20.3	Unidentified Linear Target

Side Scan Sonar Target Table

Target ID	Easting	Northing	Length (Feet)	Width (Feet)	Height (Feet)	Description
T-001	6,634,095	1,771,784	0.0	0.0	0.0	Red Buoy
T-002	6,634,102	1,772,278	0.0	0.0	0.0	Green Buoy
T-003	6,635,460	1,770,722	8.8	0.7	0.7	Unidentified Target
T-004	6,633,709	1,769,427	7.7	10.7	1.3	Unidentified Square Target
T-005	6,635,439	1,769,797	3.0	4.2	3.1	Unidentified Square Target
T-006	6,634,976	1,771,157	20.0	6.8	1.7	Unidentified Target - Probable Sunken Boat
T-007	6,634,499	1,769,269	8.6	1.8	1.7	Unidentified Target
T-008	6,633,103	1,770,082	3.8	2.4	2.1	Unidentified Target
T-009	6,633,175	1,769,306	0.0	0.0	0.0	Probable Tire
T-010	6,634,703	1,769,120	8.0	2.6	3.9	Area of Unidentified Targets
T-011	6,634,705	1,769,084	6.9	1.6	2.8	Unidentified Target
T-012	6,633,400	1,772,626	9.8	2.0	1.7	Unidentified Target
T-013	6,635,208	1,772,283	8.1	3.4	2.4	Unidentified Rectangular Target
T-014	6,633,853	1,770,195	2.6	3.5	3.3	Unidentified Target

FUGRO PELAGOS, INC.
4820 McGrath St., Suite 100
Ventura, California 93003
Tel: (805) 650-7000
Fax: (805) 658-6679
www.fugro-pelagos.com

PG&E

SIDE SCAN SONAR MOSAIC
SAN JOAQUIN RIVER PIPELINE CROSSINGS REMEDIATION PROJECT

ANTIOCH, CALIFORNIA
NOVEMBER 2014

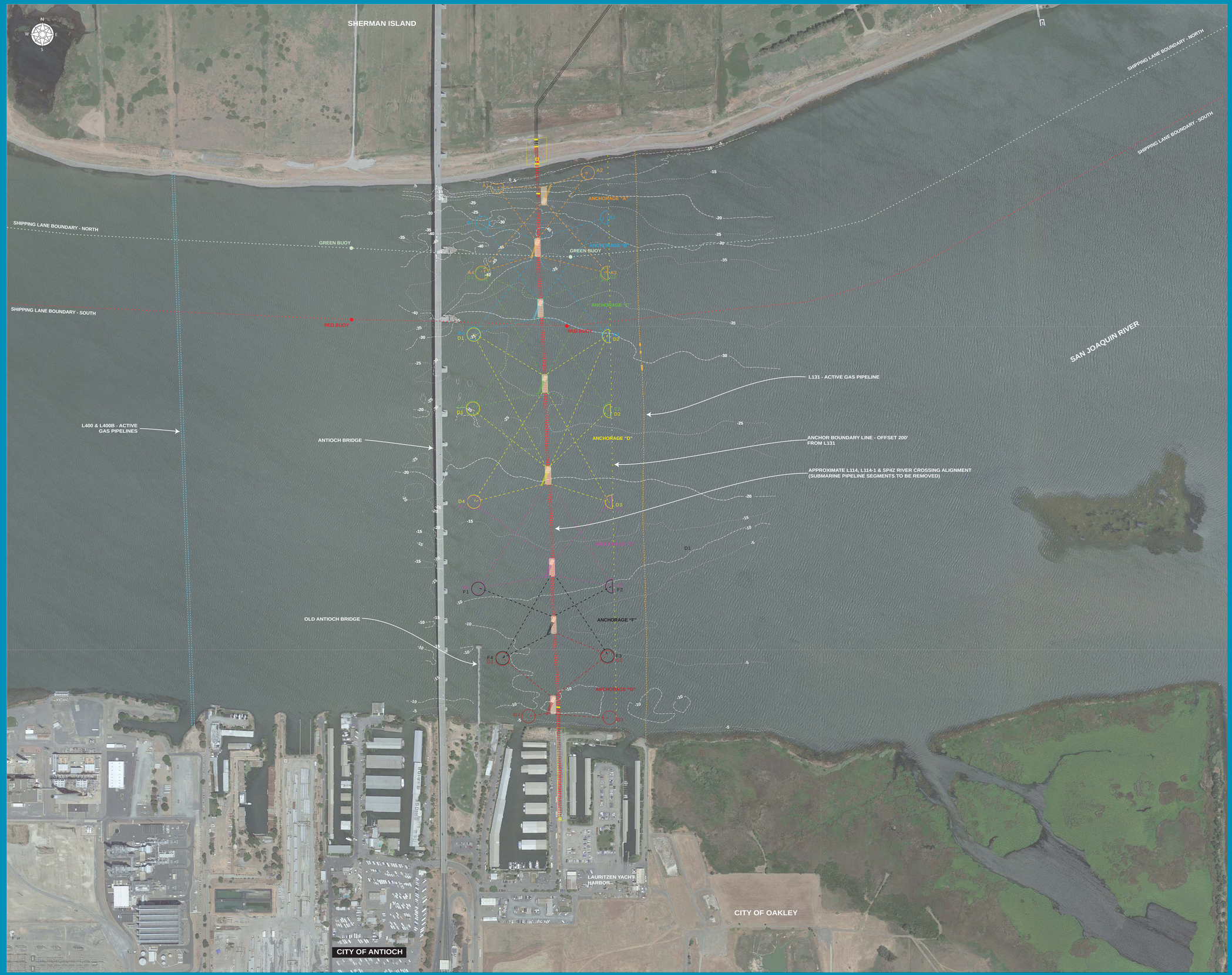
SCALE : 1 " = 200 '

0 100 200 400 600 800 Feet

REV NO:	DATE:	DESCRIPTION:	DRAWN:	CHKD:	APPR:
0	Nov 2014	Side Scan Sonar Mosaic Chart	CP	DES	CP
1	Dec 2014	Side Scan Sonar Mosaic Chart	CP	DES	CP

CHART NUMBER-DRAWING NUMBER: 23.00007113-2

N:\Projects\4_2014\23_0000_7113_L3\2_Arts\mxd\Output\2014_12_16_FinalCharts\mxd\7113_SSS_2in34_Chart2.mxd, 12/18/2014, pratt



Pacific Gas and Electric Company

PG&E L114, L114-1 AND SP4Z SAN JOAQUIN RIVER SUBMARINE PIPELINE CROSSING DECOMMISSIONING PROJECT

NOTES

1. AERIAL PHOTOGRAPH GOOGLE EARTH IMAGERY DATED 9 JUNE 2014
2. BATHYMETRIC AND GEOPHYISCAL DATA WERE COLLECTED ON 9 NOVEMBER 2014 ONBOARD THE M/V JULIE ANN BY FUGRO PELAGOS.
3. BATHYMETRIC CONTOURS ARE IN 5 FOOT INTERVALS AND REFERENCED TO NORTH AMERICAN DATUM OF 1988 (NAVD88).

LEGEND

- L114, L114-1 & SP4Z SUBMARINE PIPELINE
- L131 SUBMARINE PIPELINE
- ANCHORAGE "A"
- ANCHORAGE "B"
- ANCHORAGE "C"
- ANCHORAGE "D"
- ANCHORAGE "E"
- ANCHORAGE "F"
- ANCHORAGE "G"
- PROPOSED ANCHOR LOCATIONS - CIRCLE REPRESENTS ANCHOR ZONE ESTIMATED AT APPROXIMATELY 100' IN DIAMETER. ACTUAL ANCHOR LOCATIONS TO BE PROPOSED IN CONTRACTOR WORK PLAN (X G3)
- ANCHOR LEG

SCALE: 1/2" - 150'

0 150' 300' 450' 600' 750'

LONGITUDE 123, INC. Marine Project Consulting and Construction Management

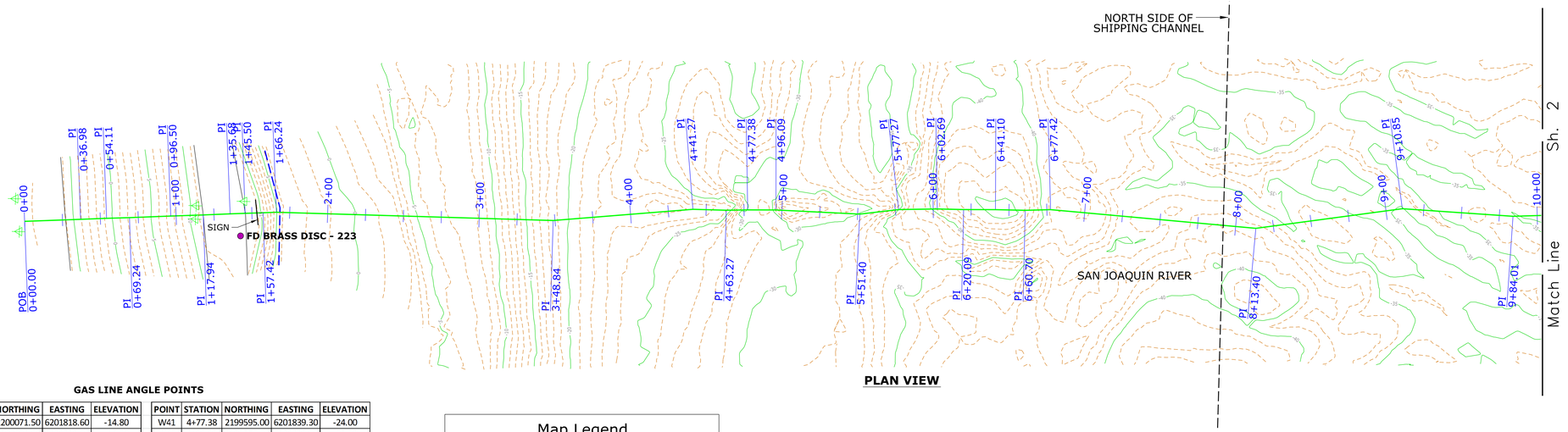
padre associates, inc. ENGINEERS, GEOLOGISTS & ENVIRONMENTAL SCIENTISTS

DRAWN BY:	DRAWING NO.	DATE:
MIS LONGITUDE 123, INC.	13-003-D02 REV 01	3/6/15

TITLE:

PRELIMINARY ANCHOR PRE-PLOT

T. 2 N., R. 2 E., M.D.M.
NW 1/4 SEC. 15 & (SW 1/4 SEC. 10) PROJECTED



PLAN VIEW

VICINITY MAP
1"=6000'

GAS LINE ANGLE POINTS

POINT	STATION	NORTHING	EASTING	ELEVATION
L15	0+00	2200071.50	6201818.60	-14.80
L14	0+36.98	2200034.60	6201821.00	-14.90
L13	0+54.11	2200017.50	6201822.10	-10.30
L12	0+69.24	2200002.40	6201823.00	-5.50
L11	0+96.50	2199975.20	6201824.80	3.00
L10	1+17.94	2199953.80	6201826.10	7.40
L9	1+35.68	2199936.10	6201827.30	7.40
L8	1+45.50	2199926.30	6201827.90	5.30
L7	1+57.42	2199914.40	6201828.60	2.00
L6	1+66.24	2199905.60	6201829.20	-0.50
W44	3+48.84	2199723.00	6201828.80	-23.50
W43	4+41.27	2199631.10	6201838.70	-22.80
W42	4+63.27	2199609.10	6201838.70	-23.30

POINT	STATION	NORTHING	EASTING	ELEVATION
W41	4+77.38	2199595.00	6201839.30	-24.00
W40	4+96.09	2199576.30	6201839.80	-25.30
W39	5+51.40	2199521.00	6201838.60	-30.90
W38	5+77.27	2199495.40	6201842.30	-31.20
W37	6+02.69	2199470.00	6201843.40	-32.90
W36	6+20.09	2199452.60	6201843.50	-34.20
W35	6+41.10	2199431.60	6201844.00	-35.50
W34	6+60.70	2199412.00	6201844.10	-38.20
W33	6+77.42	2199395.30	6201845.00	-37.20
W32	8+13.40	2199259.60	6201836.40	-39.20
W31	9+10.85	2199163.40	6201852.00	-41.50
W30	9+48.01	2199090.30	6201849.00	-39.20

Map Legend

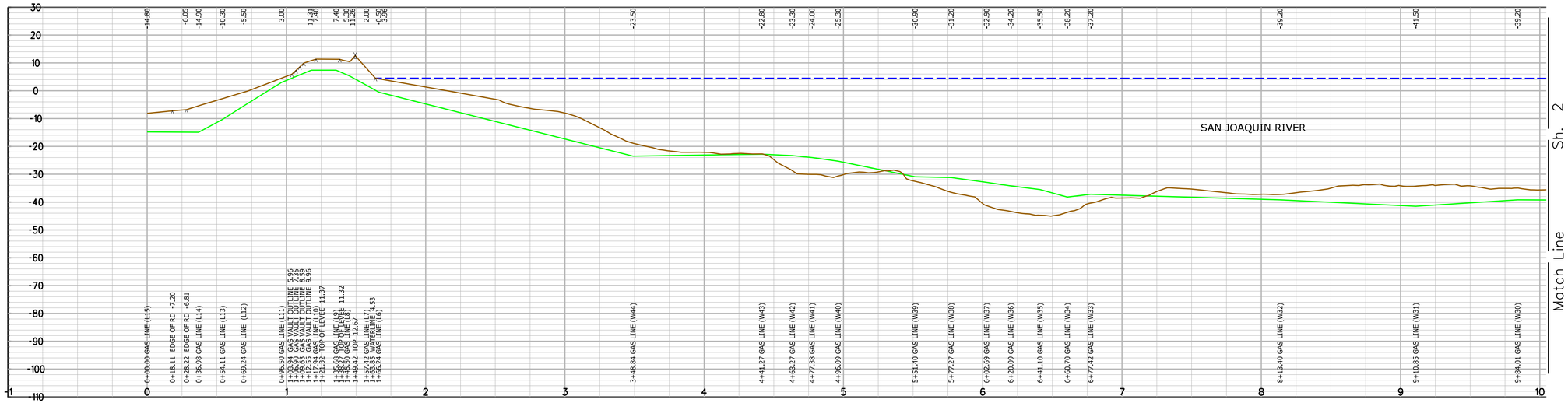
	EXISTING GAS LINE
	TOP OF LEVEE
	TOE OF LEVEE
	EDGE/SURFACE OF WATER
	GAS LINE MARKER
ER	EDGE OF ROAD

NOTES:

1. WATER SURFACE ELEVATION WAS ESTABLISHED BY A SURVEY PERFORMED ON MAY 6, 2013.
2. HORIZONTAL AND VERTICAL CONTROL FOR THIS SURVEY CONFORMS TO CALTRANS GPS THIRD ORDER SURVEYS.
3. WHEN MULTIPLE PIPELINES ARE IN CLOSE PROXIMITY TO EACH OTHER, ONLY THE CENTER OF THOSE PIPES ARE SHOWN IN THE PLAN AND PROFILE VIEWS HEREON.

CONTROL:

POINT	NORTHING	EASTING	ELEV	DESCRIPTION
223	2199928.86	6201812.95	10.96	SET BRASS DISC
P230	2123217.78	6190105.53	2232.43	CORS
P256	2163691.38	6243030.75	7.18	CORS



PROFILE VIEW
HORIZONTAL: 1"=40'
VERTICAL: 1"=20'

0 40 80 120
1 INCH = 40 FEET

DATUM: HORIZONTAL:	NAD83 (2010)	PROJECTION:	CCS ZONE 3
VERTICAL:	NAVD88 (2012A)	UNITS:	US SURVEY FT

REFERENCE DWGS:

SCALES: 1 inch = 40 FT (HORIZONTAL); 1 centimeter =

REVISIONS

NO.	DATE	DESCRIPTION	APPD.

APPRD BY

AUTHORIZATION
97000509

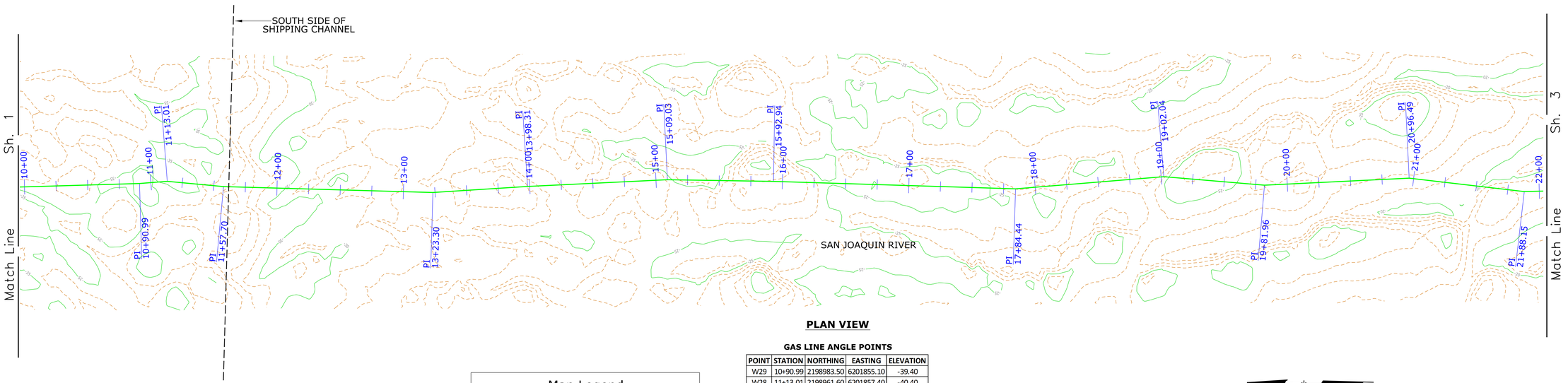
BY A. CRON
DR A. CRON
CH C. CASTRO
O.K. C. CASTRO
DATE 9/18/14

RIVER BOTTOM PROFILE
LINE 114, 114-1, & SPZ4
SAN JOAQUIN RIVER

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

LS & ES

JCN 06-13-093
AREA NORTH VALLEY
COUNTY CONTRA COSTA/SAC.
PROFILE
SHEET NO. 1 OF 4
DRAWING NUMBER **028.61-13.38-1**
CHANGE



PLAN VIEW

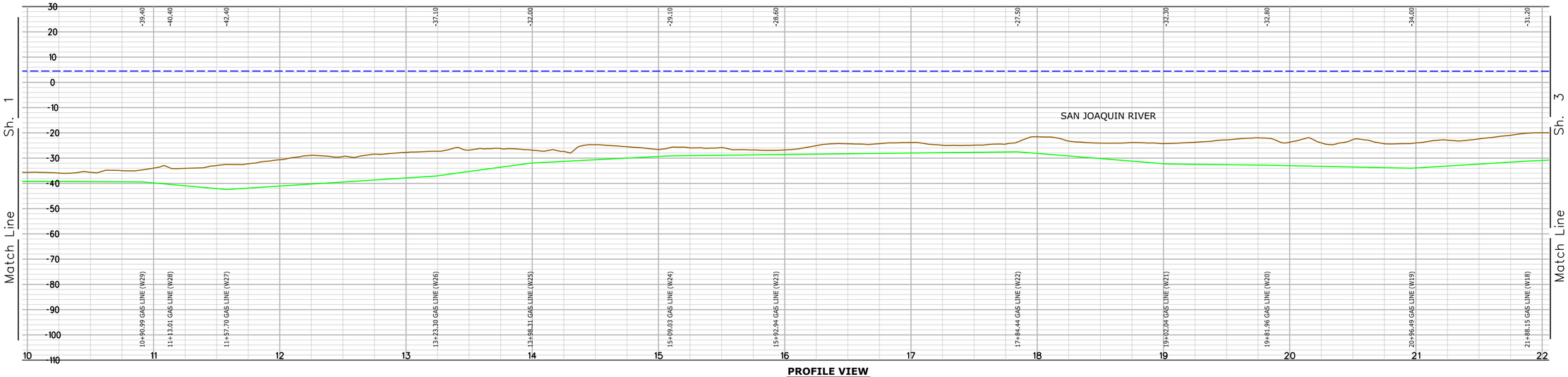
Map Legend	
	EXISTING GAS LINE
	TOP OF LEVEE
	TOE OF LEVEE
	EDGE/SURFACE OF WATER
	GAS LINE MARKER
ER	EDGE OF ROAD

GAS LINE ANGLE POINTS

POINT	STATION	NORTHING	EASTING	ELEVATION
W29	10+90.99	2198983.50	6201855.10	-39.40
W28	11+13.01	2198961.60	6201857.40	-40.40
W27	11+57.70	2198917.00	6201854.50	-42.40
W26	13+23.30	2198751.40	6201854.40	-37.10
W25	13+98.31	2198676.70	6201861.20	-32.00
W24	15+09.03	2198566.30	6201869.60	-29.10
W23	15+92.94	2198482.40	6201870.60	-28.60
W22	17+84.44	2198290.90	6201870.00	-27.50
W21	19+02.04	2198174.00	6201882.80	-32.30
W20	19+81.96	2198094.20	6201878.30	-32.80
W19	20+96.49	2197980.00	6201887.00	-34.00
W18	21+88.15	2197888.70	6201878.90	-31.20

0 40 80 120

1 INCH = 40 FEET



PROFILE VIEW

HORIZONTAL: 1"=40'
VERTICAL: 1"=20'

DATUM: HORIZONTAL: NAD83 (2010) PROJECTION: CCS ZONE 3
VERTICAL: NAVD88 (2012A) UNITS: US SURVEY FT

REFERENCE DWGS:

SCALES: 1 inch = 40 FT (HORIZONTAL)
1 centimeter =

NO.	DATE	DESCRIPTION	APPD.

REVISIONS

APPRD BY

AUTHORIZATION
97000509

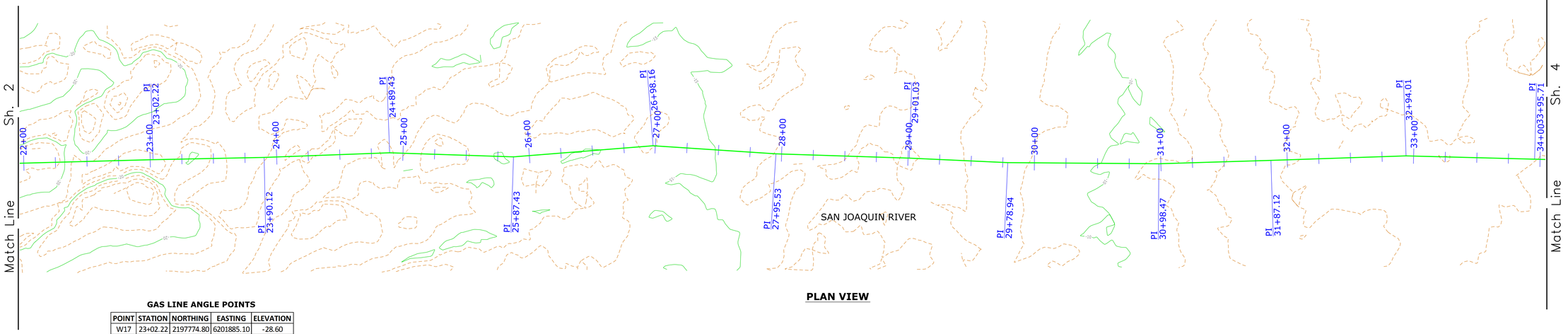
BY A. CRON
DR A. CRON
CH C. CASTRO
O.K. C. CASTRO
DATE 9/18/14

RIVER BOTTOM PROFILE
LINE 114, 114-1, & SPZ4
SAN JOAQUIN RIVER

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

PG&E LS & ES

JCN 06-13-093
AREA NORTH VALLEY
COUNTY CONTRA COSTA/SAC.
PROFILE
SHEET NO. 2 OF 4
DRAWING NUMBER **028.61-13.38-2**
CHANGE



PLAN VIEW

GAS LINE ANGLE POINTS

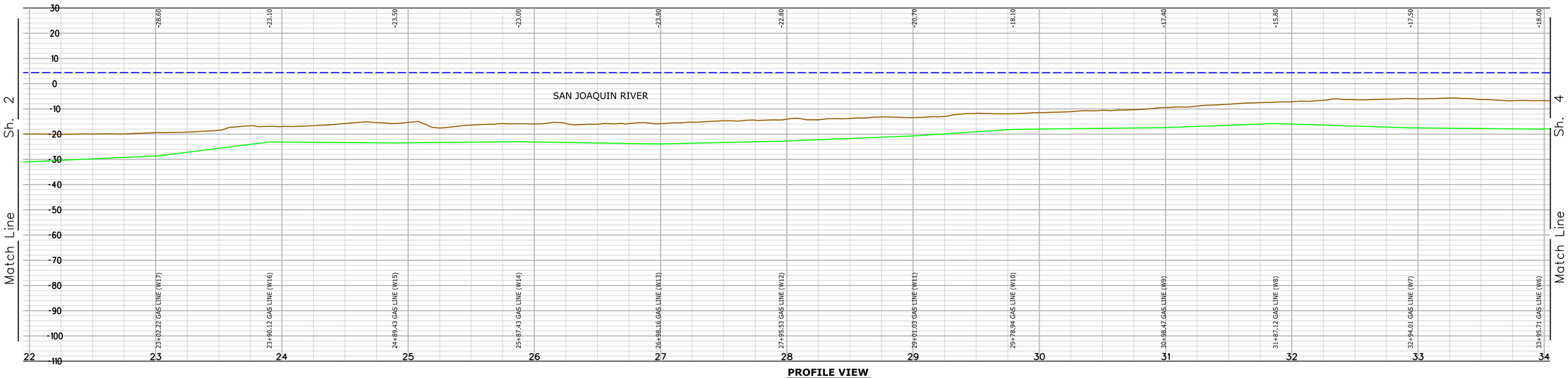
POINT	STATION	NORTHING	EASTING	ELEVATION
W17	23+02.22	2197774.80	6201885.10	-28.60
W16	23+90.12	2197687.00	6201889.30	-23.10
W15	24+89.43	2197587.90	6201895.70	-23.50
W14	25+87.43	2197489.90	6201895.20	-23.00
W13	26+98.16	2197379.80	6201907.00	-23.90
W12	27+95.53	2197282.50	6201903.30	-22.80
W11	29+01.03	2197177.00	6201902.80	-20.70
W10	29+78.94	2197099.10	6201901.40	-18.10
W9	30+98.47	2196979.60	6201903.80	-17.40
W8	31+87.12	2196891.10	6201908.90	-15.80
W7	32+94.01	2196784.40	6201915.40	-17.50
W6	33+95.71	2196682.70	6201915.60	-18.00

Map Legend

	EXISTING GAS LINE
	TOP OF LEVEE
	TOE OF LEVEE
	EDGE/SURFACE OF WATER
	GAS LINE MARKER
ER	EDGE OF ROAD

0 40 80 120

1 INCH = 40 FEET



PROFILE VIEW
HORIZONTAL: 1"=40'
VERTICAL: 1"=20'

DATUM: HORIZONTAL: NAD83 (2010) PROJECTION: CCS ZONE 3
VERTICAL: NAVD88 (2012A) UNITS: US SURVEY FT

REFERENCE DWGS:

SCALES: 1 inch = 40 FT (HORIZONTAL)
1 centimeter =

REVISIONS

NO.	DATE	DESCRIPTION	APPD.

APPRD BY

AUTHORIZATION
97000509

BY A. CRON
DR A. CRON
CH C. CASTRO
O.K. C. CASTRO
DATE 9/18/14

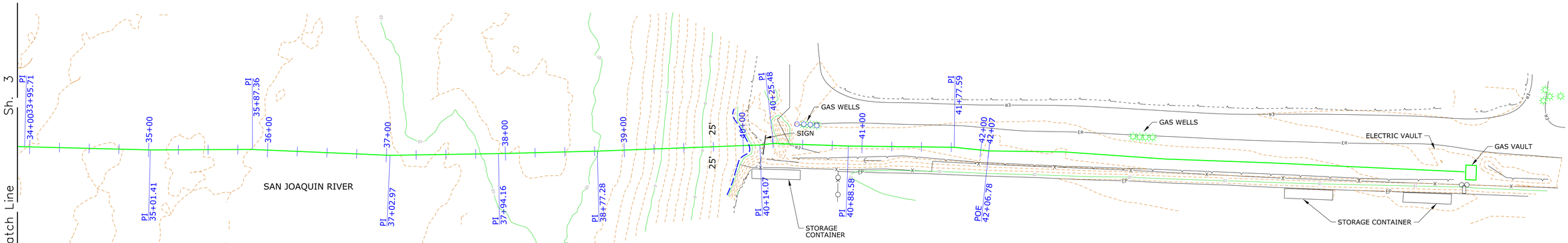
RIVER BOTTOM PROFILE
LINE 114, 114-1, & SPZ4
SAN JOAQUIN RIVER

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

PG&E LS & ES

JCN 06-13-093
AREA NORTH VALLEY
COUNTY CONTRA COSTA/SAC.
PROFILE

SHEET NO. 3 OF 4
DRAWING NUMBER 028.61-13.38-3
CHANGE



PLAN VIEW

GAS LINE ANGLE POINTS

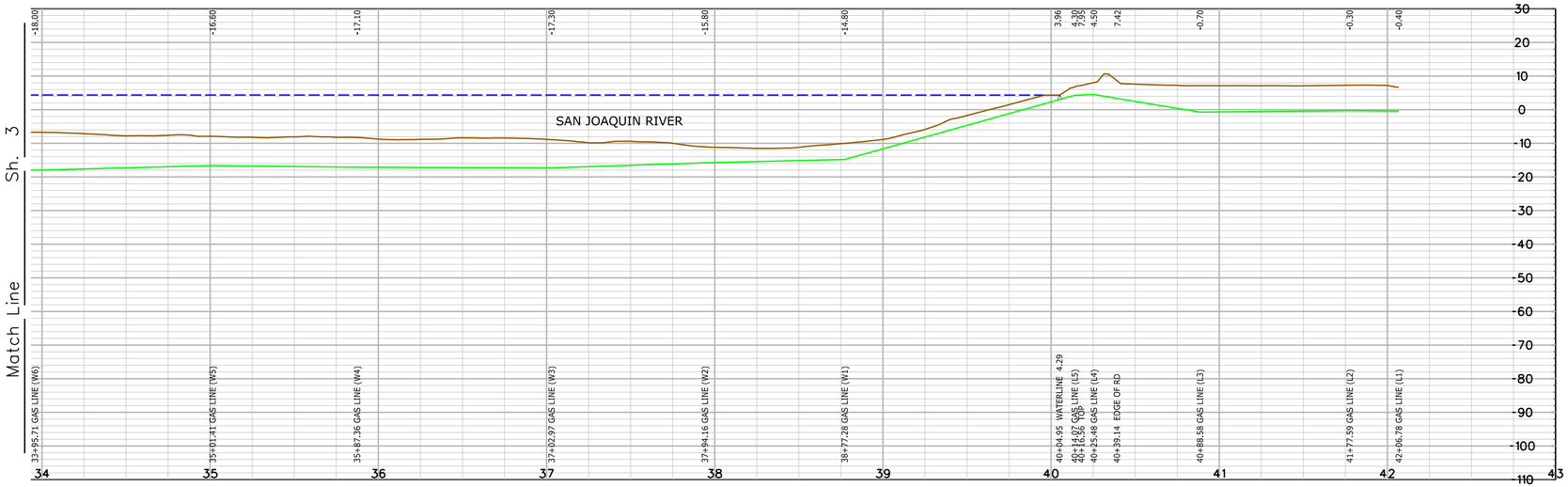
POINT	STATION	NORTHING	EASTING	ELEVATION
W6	33+95.71	2196682.70	6201915.60	-18.00
W5	35+01.41	2196577.00	6201915.80	-16.60
W4	35+87.36	2196491.10	6201918.60	-17.10
W3	37+02.97	2196375.50	6201916.80	-17.30
W2	37+94.16	2196284.40	6201920.80	-15.80
W1	38+77.28	2196201.40	6201925.20	-14.80
L5	40+14.07	2196064.90	6201934.10	4.30
L4	40+25.48	2196053.60	6201935.70	4.50
L3	40+88.58	2195990.50	6201935.30	-0.70
L2	41+77.59	2195901.50	6201936.70	-0.30
L1	42+06.78	2195872.40	6201934.40	-0.40

Map Legend

	EXISTING GAS LINE
	TOP OF SLOPE
	TOE OF SLOPE
	EDGE/SURFACE OF WATER
	GAS LINE MARKER
ER	EDGE OF ROAD
X	FENCE
	STORM DRAIN INLET
	EXISTING POLE

NOTES:

1. WATER SURFACE ELEVATION WAS ESTABLISHED BY A SURVEY PERFORMED ON MAY 6, 2013.
2. HORIZONTAL AND VERTICAL CONTROL FOR THIS SURVEY CONFORMS TO CALTRANS GPS THIRD ORDER SURVEYS.



PROFILE VIEW
HORIZONTAL: 1"=40'
VERTICAL: 1"=20'

0 40 80 120
1 INCH = 40 FEET

DATUM: HORIZONTAL:	NAD83 (2010)	PROJECTION:	CCS ZONE 3
VERTICAL:	NAVD88 (2012A)	UNITS:	US SURVEY FT
REFERENCE DWGS:			
SCALES:	1 inch = 40 FT (HORIZONTAL)		
	1 centimeter =		

NO.	DATE	DESCRIPTION	APPD.
REVISIONS			

APPRD BY

AUTHORIZATION
97000509

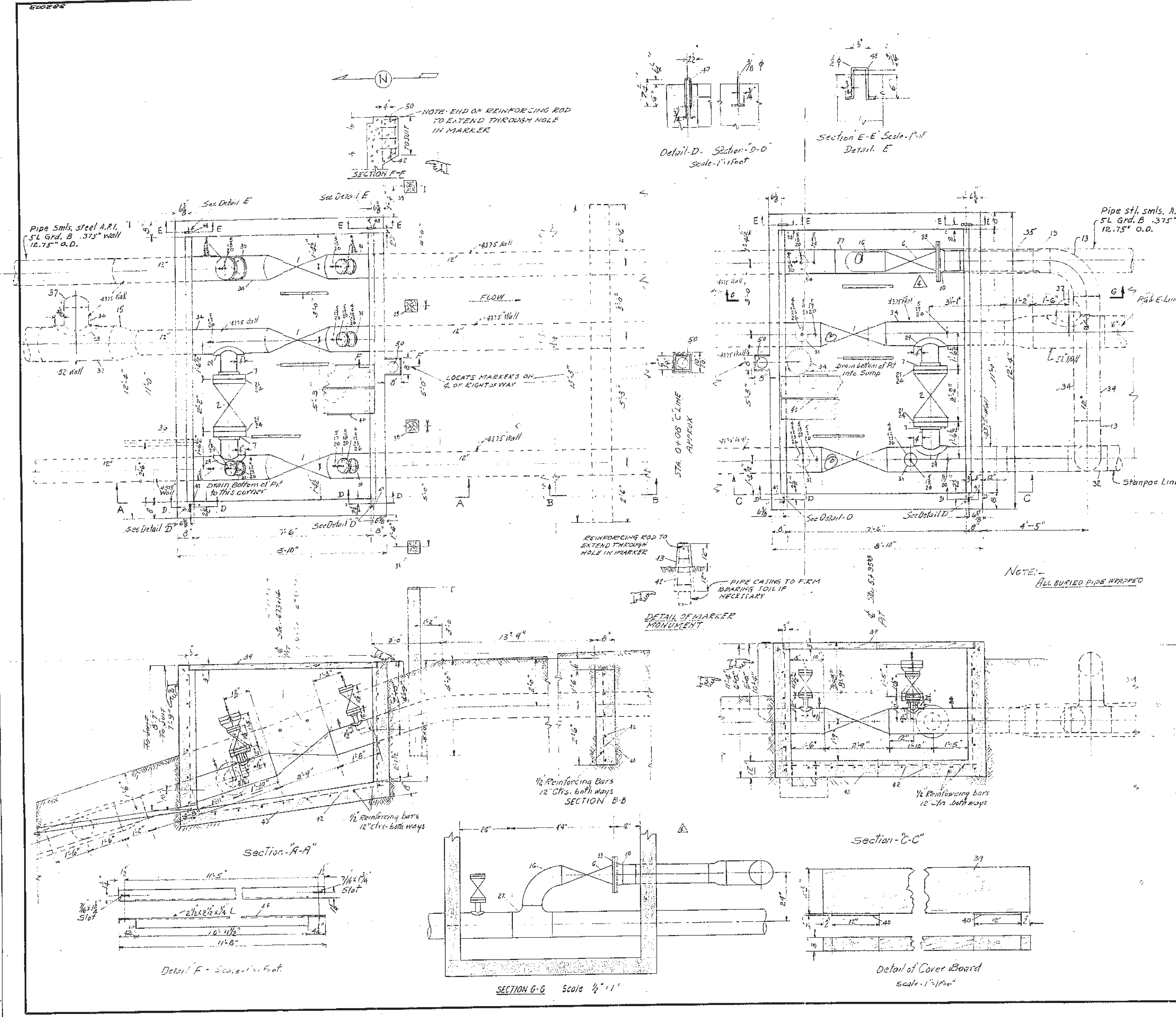
BY A. CRON
DR A. CRON
CH C. CASTRO
O.K. C. CASTRO
DATE 9/18/14

RIVER BOTTOM PROFILE
LINE 114, 114-1, & SPZ4
SAN JOAQUIN RIVER

PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

PG&E LS & ES

JCN	06-13-093
AREA	NORTH VALLEY
COUNTY	CONTRA COSTA/SAC.
PROFILE	
SHEET NO.	4 OF 4
DRAWING NUMBER	028.61-13.38-4
CHANGE	



BILL OF MATERIAL

	ITEM	REQD.	DESCRIPTION	REMARKS
	1	6	12" Nordstrom Valve #4449½ - welding ends	A.S.A-400# Steel
	2	2	8" Ditto #1889 F.&D. Ser. 60	
	3	2	4" Ditto #825 Ditto	
	4	8	2" Ditto #825 Ditto	
	5	20	¼" Metric Needle Valve - stainless steel-MS.14200-Dwg 080866	
△4	6	1	Valve, Rockwell Hypresphere Fig 49¼ 10"	ASA 400
	7	4	8"x16½" F.S. Lap Flange-F&D. Ser. 60-with E.H. Nipple 15" Long	
	8	2	4"x10¾" Ditto with E.H. Nipple-6" Long	
	9	8	2"x6½" Ditto Ditto	
△4	10	1	10" LAP FLANGE with Std Nipple Ser 40	
	11	2	4"x10¾" F.S. Blind Flange F.&D. Ser. 60 Drill & Tap for ¼ Pipe	
	12	8	2"x6½" Ditto Ditto	Ditto
△4	13	2	12"-90° Std. Wt. Welding Elbow L.R.	
	14	2	12"-90° E.H. Welding Elbow	
	15	2	16"x12" E.H. Concentric Welding Reducer	
△4	16	1	10"-90° Std. Wt. Welding Elbow L.R.	
	17	10	¼"x3" E.H. seamless steel Nipple T.O.E.	
	18	10	¼"x3" Ditto T.B.E.	
△4	19	1	12"x10" Concentric Welding Reducer Std.	
	20	20	¼" Steel Pipe Plug	
	21	4	7¾"x12⅝"x1/16 Graphited Ring Gasket J.M. #61	
	22	4	4"x7⅝"x1/16" Ditto	
	23	16	2 1/16x4⅜"x1/16 Ditto	
	24	48	1⅛x6¼" Stud Bolt with 2-C.P. Hex Nut	
	25	32	⅞"x6¼" Ditto	
	26	128	⅝"x4½" Ditto	
△4	27	1	12"x12"x10" Tee, Welding Std. Wt.	
	28	2	⅝ Reinforcing Ring for 12" on 16" - 4½ Wide - PL Reqd 21¼x23¾	
	29	4	7/16 Ditto 8" on 12" - 4" Wide Ditto 16¾x17¾	
	30	2	⅜ Ditto 4" on 12" - 2¼ Wide Ditto 9"x9 1/16	
	31	8	5/16 Ditto 2" on 12" - 1½ Wide Ditto 5½"x5½"	
△4	32	1	12" Tee, Welding Std. Wt.	
△4	33	16	1⅛"x7¾" Stud Bolts w/2 Hex Nuts	
△4	34	46 ft	12" Seamless Steel Pipe - Wall thickness .4375"	
△4	35	3 Ft	10" Seamless Steel Pipe	
	36	70 ft	2" Seamless Steel Pipe - Std.	
	37	2	12" Cap. Extra heavy welding.	
	38	4	6"x6" Redwood Post - rough - 7'-0" Long	
	39	22	3"x12" Redwood Planks - S.2.E - 7'-11" Long	
	40	40	1½"x3" Redwood Spacers - 12" Long - S.4.S.	
	41			
	42	1900 ft.	½" Reinforcing Bar	
	43	25 Cu.Yd.	Concrete For Pits & Markers	
	44	4	2½x2½x¼ L - 11'-8" Long as per Detail "F"	
	45			
	47	4	⅜" ø Stirrup	Ditto "D"
	48	4	½" ø Ditto	Ditto E
	49	4	Corporation Lock.	
△1	50	3	Bronze Marker State Land Commission - TYPE "B"	DWG-180965

REFERENCE DRAWINGS

Tie-in, Stanpac to Rio Vista at San Joaquin River. 483651

800 # G.W.P.

NO.	DATE	DESCRIPTION	APPRD.
4	1-30-67	FLD CHG. ADD. SECTION GG	MB
3	8-7-43	Field CHANGES	
2	5-31-42	Added Bronze Markers	H.J.S.
1	5-3-42	Sta. changed to 5+95"	H.J.J.

TABLE OF CHANGES
USE ONLY PRINTS SHOWING LATEST CHANGES

APPROVED BY

VALVE PITS
SAN JOAQUIN RIVER CROSSING
RIO VISTA-LIVERMORE LINE

DEPT. OF GAS CONSTRUCTION & OPERATION
PACIFIC GAS AND ELECTRIC CO.
SAN FRANCISCO, CALIFORNIA

BY Dept. of G.C.&O.
DR. J. Hofrower
CH.
O.K.
DATE 5-19-42
SCALES ½" = 1'-0"

AUTHORIZATION G.M.G. 49800
DWG. LIST
BILL OF MATERIAL

SUPERSEDES
SUPERSEDED BY
SHEET NO. SHEETS
DRAWING NUMBER 382003
CHANGE 4

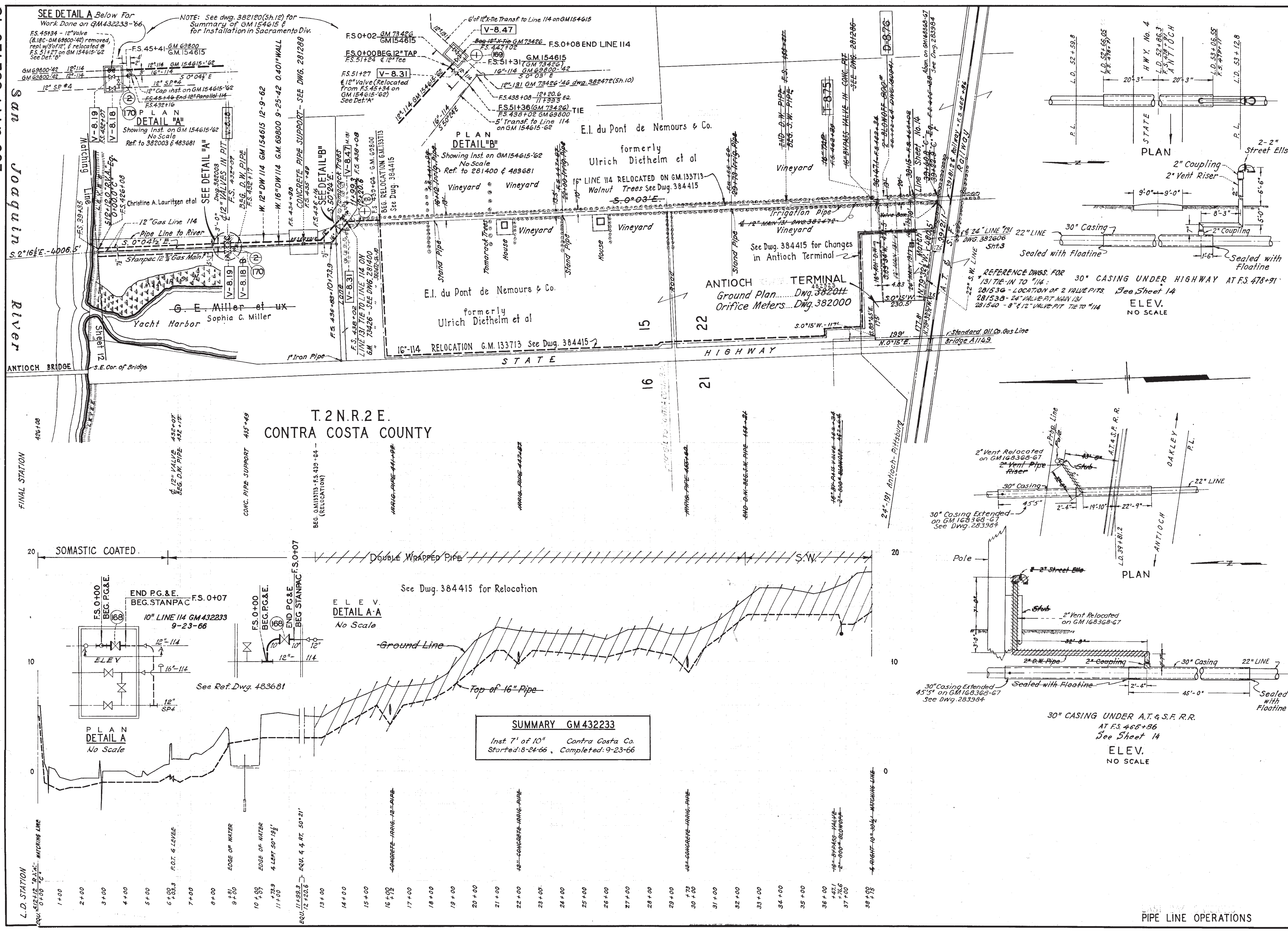
114 & 200-382120-12

12"-16"-22" GAS TRANS. LINE 114 & 200 RIO VISTA FIELD TO LIVERMORE ····GM 69800···· SHEET 12 OF 40 SHEETS 382120

SCAN 2

35 M/M NEG 7

200 & 114-382120-13



SEE DETAIL A Below For Work Done on GM432233-'66
NOTE: See dwg. 382120(Sh.12) for Summary of GM 154615 & for Installation in Sacramento Div.
F.S.45+34 - 12" Valve (8.18C-GM 69800-'42) removed, repl. w/3' of 12", & relocated @ F.S.51+27 on GM 154615-'62 See Det."B"
F.S.45+41 GM 69800 / G.M.154615
12"-114 GM 154615-'62
GM69800-'42 12"-114
GM69800-'42 12"-114
16"-114
S 0° 04½' E
12" S.P. #4
12" Cap inst. on GM 154615-'62
F.S.45+46 End 12" Parallel 114
F.S.432+16
PLAN
DETAIL "A"
Showing Inst. on GM 154615-'62
No Scale
Ref. to 382003 & 483681
V-8.19
V-8.18
F.S.432+07
San Joaquin River
Matching Line
F.S.39+35
512+12.0 "R.V.A." Eq. 0+00.0 "C"
F.S.426+08
Christine A. Lauritzen et al
12" Gas Line 114
Pipe Line to River
S. 0° 04½' E.
S. 2° 16½' E. - 4006.5'
Stanpac 12¾" Gas Main
SEE DETAIL "A"
Dwg. 382003
& 12" VALVES IN PIT
F.S. 432+07
BEG. D.W. PIPE
F.S. 432+17
W. 12" DW 114 GM 154615 12-9-62
W. 16" DW 114 G.M. 69800 9-25-42 0.401" WALL
CONCRETE PIPE SUPPORT - SEE DWG. 281288
F.S. 434+90
F.S. 435+49
F.S.436+16
RESERVOIR
SEE DETAIL "B"
S. 50°24' E.
Tamarack Trees
V-8.47
11+99.3
12+20.6
F.S. 438+08
F.S. 439+64 - G.M. 69800
BEG. RELOCATION G.M. 133713 See Dwg. 384415
MARSH
G. E. Miller et ux
Sophia C. Miller
Yacht Harbor
Sheet 12
ANTIOCH BRIDGE
S.E. Cor. of Bridge
F.S. 436+83 = 10+73.9
Lane
V-8.31
F.S. 438+02
LINE 131 TIE TO LINE 114 ON G.M. 73426 - SEE DWG. 281400 / 382472-Sh.10
1" Iron Pipe
F.S. 0+02 GM 73426 / GM154615
F.S. 0+00 BEG. 12" TAP
F.S. 51+24 & 12" Tee
F.S. 51+27 V-8.31
& 12" Valve (Relocated from F.S.45+34 on GM 154615-'62) See Det."A"
12"-114 GM 154615-'62
16"-114 S 50°24' E
6' of 12" X-Tie Transf. to Line 114 on GM154615
V-8.47
Beg 12" X-Tie GM73426 F.S. 447+02
F.S. 0+08 END LINE 114
F.S. 51+31 G.M.154615 (GM 73426)
16"-114 GM 69800-'42 S 0° 03' E
12"-131 GM 73426-'46 dwg. 382472 (Sh.10)
F.S.438+08 = 12+20.6 / 11+99.3 EQ.
F.S.51+36 (GM 73426) / F.S.438+02 GM 69800 TIE
5' Transf. to Line 114 on GM 154615-62
PLAN
DETAIL "B"
Showing Inst. on GM154615-'62
No Scale
Ref. to 281400 & 483681
E.I. du Pont de Nemours & Co.
formerly
Ulrich Diethelm et al
Vineyard
16" LINE 114 RELOCATED ON G.M. 133713 Walnut Trees See Dwg. 384415
S. 0° 03' E.
Stand Pipe
House
Irrigation Pipe
12" MAIN 131 DWG. 382472
See Dwg. 384415 for Changes in Antioch Terminal
ANTIOCH TERMINAL
Ground Plan ..... Dwg. 382011 482523
Orifice Meters ..... Dwg. 382000
16"-114 RELOCATION G.M. 133713 See Dwg. 384415
STATE HIGHWAY
15
22
16
21
Road
T-8.75
D-8.76
END D.W. PIPE F.S. 458+21
BEG. S.W. PIPE
16" TAP F.S. 462+39
16" BYPASS VALVE IN CONC. PIT SEE DWG. 281286
2" BLOWOFF 800#
Line Sheet No. 14
Match
Abon. on GM168368-67 See Dwg. 283984
Railway - F.S. 465+86
A.T. & S.F. Railway
& 24" LINE #131 DWG. 382606 Sht.3
22" S.W. LINE
REFERENCE DWGS. FOR #131 TIE-IN TO #114:
281536 - LOCATION OF 2 VALVE PITS.
281538 - 24" VALVE PIT MAIN 131
281540 - 8" & 12" VALVE PIT TIE TO #114
S.0°15'W. 230.5'
S.0°15'W. - 117'
S.89°45'E. 175'
199'
N.0°15'E.
177.8'
Standard Oil Co. Gas Line
Bridge A1149
24"-191 Antioch-Pittsburg
T. 2 N. R. 2 E.
CONTRA COSTA COUNTY
L.D. 52+59.8
L.D. 52+66.05 F.S. 478+71
HWY. No. 4
L.D. 52+86.3 F.S. 478+91
ANTIOCH
L.D. 53+06.55 F.S. 479+11
L.D. 53+12.8
20'-3"
P.L.
STATE
PLAN
2-2" Street Ells
2" Coupling
2" Vent Riser
9'-0" 9'-0"
8'-3"
6'-6"
5'-0"
30" Casing
22" LINE
2" Coupling
Sealed with Floatine
1'-6"
30" CASING UNDER HIGHWAY AT F.S. 478+91
See Sheet 14
ELEV.
NO SCALE
Prop. Line Pole
A.T. & S.F. R.R.
OAKLEY
P.L.
2" Vent Relocated on GM168368-67
2" Vent Pipe Riser
Stub
30" Casing
22" LINE
45'5"
2'-4"
19'-10"
22'-9"
30" Casing Extended on GM 168368-67 See Dwg. 283984
L.D. 39+81.2
ANTIOCH
PLAN
Pole
2-2" Street Ells
2" Vent Relocated on GM 168368-67
7'-0"
3'-0"
32'-8"
2" D.W. Pipe
2" Coupling
30" Casing
22" LINE
Sealed with Floatine
45'-0"
30" Casing Extended 45'5" on GM168368-67 See Dwg. 283984
30" CASING UNDER A.T. & S.F. R.R.
AT F.S. 465+86
See Sheet 14
ELEV.
NO SCALE
FINAL STATION
426+08
& 12" VALVE 432+07
BEG. D.W. PIPE 432+17
CONC. PIPE SUPPORT 435+49
BEG. G.M.133713 - F.S. 439+64 - (RELOCATION)
IRRIG. PIPE 441+99
IRRIG. PIPE 447+87
IRRIG. PIPE 455+60
END D.W. BEG. S.W. PIPE 458+21
16" BY-PASS VALVE 462+34
2" 800# BLOWOFF 462+64
SOMASTIC COATED
DOUBLE WRAPPED PIPE
S.W.
F.S. 0+07
See Dwg. 384415 for Relocation
F.S. 0+00
BEG. P.G.&E.
168
END P.G.&E.
BEG. STANPAC
F.S. 0+07
10" LINE 114 GM 432233 9-23-66
12"-114
ELEV
16"-114
12" SP4
See Ref. Dwg. 483681
PLAN
DETAIL A
No Scale
ELEV.
DETAIL A-A
No Scale
12"-114
Ground Line
Top of 16" Pipe
20
10
0
L.D. STATION
EQU. 512+12 "R.V.A." 0+00 "C" MATCHING LINE
P.O.T. & LEVEE
EDGE OF WATER
EDGE OF WATER
& LEFT 50° 19½'
EQU. 11+99.3 / 12+20.6 EQU. & & RT. 50° 21'
CONCRETE IRRIG. 12" PIPE
12" CONCRETE IRRIG. PIPE
12" CONCRETE IRRIG. PIPE
16" BYPASS VALVE
2" 800# BLOWOFF
& RIGHT 10° 30½' MATCHING LINE
0+00 1+00 2+00 3+00 4+00 5+00 6+00 +03.3 7+00 8+00 +81 9+00 10+00 +07 +73.9 11+00 13+00 14+00 15+00 16+00 +12 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 +73 30+00 31+00 32+00 33+00 34+00 35+00 36+00 +47.1 +76.6 37+00 38+00 +15

SUMMARY GM 432233	
Inst. 7' of 10"	Contra Costa Co.
Started: 8-24-66,	Completed: 9-23-66

Chg. 7: Chg. V-1 to 169, V-2 to 170, Numbered V-168 4-7-78 J.S. GB.
Chg. 6: Extended 30" Casing on GM 168368-67 2-25-75 J.S. GB.
Chg. 5: Add Pipe Line Operations 4-27-70 R.P. GB.
CHG. 4: ADDED GM 432233-'66 11-15-67 K.H. GB.
Chg. 3: Added GM 154615-'62 (See Det. "A" & "B") 3-1-66 H.J.R.
CHG. 2. SHOWED RELOCATION AS PER G.M. 133713 11-12-59
CHG. 1 ADDED MAIN #131 AT ANTIOCH TIE-IN 7-10-50

EAST BAY DIVISION
PIPE LINE OPERATIONS

PACIFIC GAS AND ELECTRIC CO.
DEPT. OF GAS OPERATIONS
DR. BY: J.A.&L.D. DATE: 8-20-48 SCALE: 1"=200' CHANGE 7

Chkd. J.K.

12"-16"-22" GAS TRANS. LINES 114 & 200 RIO VISTA FIELD TO LIVERMORE ....GM 69800....

SHEET 13 OF 40 SHEETS 382120

SCAN 7 35 M/M NEG 1

APPENDIX B – PG&E PIPELINE INTERNAL CLEARING AND CLEANING PROCEDURE

The following is the PG&E pipeline internal clearing and cleaning procedure that PG&E crews and pipeline cleaning contractors will use to clear and clean L114-1, L114 and SP4Z submarine pipeline crossings. This clearing and cleaning task is not part of this decommissioning project but will be performed as maintenance by PG&E prior to the decommissioning of the pipeline crossings.

PG&E PIPELINE CLEARING AND SANDJET CLEANING PROCEDURE

The first step of the cleaning process will be to vent the natural gas from each of the pipeline crossings using compressed air and/or blowers following Code of Federal Regulations Title 49 and GO 112-E standards. Once the pipelines have been vented, temporary pig launchers and receivers will be attached to the north and south ends of each of the three pipelines.

Compressed air will be used to propel two conical blunt nose 3- to 5-pound density polyurethane pigs through each pipeline to remove residual liquids that may be present in the pipelines and check for unsuspected obstructions that might hinder cleaning. An electronic tracking device will be attached to one of the pigs to provide a method for locating any obstructions inside the pipelines.

Pig speed will be controlled through operation of compressors staged at the launching and receiving ends. A compressor rated at a minimum of 1,150 standard cubic feet per minute (scfm) will be used at the launching end. Pressure gauges will be installed on both the launcher and receiver pig traps, and on both sides of the isolation valves to monitor pipeline pressure.

Once the pipelines have been pigged to remove any obstructions and residual liquids, the temporary pig launchers and receivers will be removed from the ends of each of the three pipelines. Cleaning of the three pipelines will then proceed using a Sandjet cleaning process.

The Sandjet process uses dry, inert nitrogen gas to propel abrasive particles through the pipeline at high velocity. The high-energy cleaning action of these abrasive particles quickly removes corrosion, scale and other deposits. Like conventional sandblasting, the Sandjet process uses the impact of high-velocity abrasive particles to fracture, loosen, and remove corrosion and deposits.

However, unlike sandblasting where each particle contributes only a single impact and strikes the surface at angles almost perpendicular to the surface plane, each particle in the Sandjet process strikes the wall repeatedly at low angles, resulting in a brushing effect that effectively removes corrosion and pipeline deposits.

During cleaning of each of the three pipelines, liquid nitrogen will be supplied to a nitrogen pumping unit that will deliver approximately 8,000 scfm in a velocity range of 366 to 513 feet per second. An injection head that optimizes mixing of the cleaning material with the nitrogen propellant stream will be attached directly to each of the three pipelines.

As the nitrogen flow rate is established through the pipeline, abrasive material will be fed to the injection head in batches ranging from approximately 250 to 400 pounds, where it will mix with the nitrogen propellant and enter the pipeline. Nitrogen flow will continue until all cleaning material and debris are removed from the pipelines. A vacuum-bin box connected to an air-mover with attached filter will be located opposite the injection end of the pipeline to capture the discharge.

Typically, a minimum of ten Sandjet runs will be conducted for each of the three pipelines. After the ten runs are completed, the injection head and receiving connections between the pipeline and vacuum truck will be removed. An air-mover will be used to purge the pipelines of nitrogen prior to visual inspection. If visual inspection indicates that cleaning is not complete, i.e., scale and/or deposits are observed within the pipeline, the injection head and receiving connections between the pipeline and vacuum-bin box will be reattached and additional Sandjet runs will be completed until all pipeline deposits have been removed.

APPENDIX C – TITLE 23 – WATERS

The following is the California Code of Regulations, Title 23 - Waters, Division 1 - Central Valley Flood Protection Board that will be used as the specifications for excavation, removal, backfilling and final dispositions of the submarine pipeline crossing pipeline facilities at the north landing.

Barclays Official

CALIFORNIA CODE OF REGULATIONS

Title 23. Waters

Division 1. Central Valley Flood Protection Board

Vol. 32

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Division 1. Central Valley Flood Protection Board

TABLE OF CONTENTS

TITLE 23. WATERS

Division 1. Central Valley Flood Protection Board

(Originally Printed 7–25–45)

Chapter 1. Organization, Powers and Standards

Article 1. Authority, Purpose, Scope, and Intent

§ 1. Authority.

These regulations are promulgated by the Central Valley Flood Protection Board pursuant to Water Code sections 8571, 8608 and 8610.5.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8610.5 and 8710, Water Code.

HISTORY

1. Amendment of article 1 heading, new article 1 (sections 1 through 3) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of division heading, section and NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 2. Purpose, Scope.

(a) The purpose of these regulations is to carry out the board's duties pursuant to Water Code sections 8534, 8608 and 8710 – 8723. Under these statutes, the Board is required to enforce, within its jurisdiction, on behalf of the State of California, appropriate standards for the construction, maintenance, and protection of adopted flood control plans that will best protect the public from floods.

(b) The area of the board's jurisdiction includes the entire Central Valley, including all tributaries and distributaries of the Sacramento and San Joaquin Rivers and Tulare and Buena Vista basins.

(c) This division does not apply to the construction, operation, or maintenance of the Central Valley Project or the State Water Resources Development System or any parts thereof.

(d) This division does not apply to any activities of the United States or its agencies.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8536, 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 3. Intent.

The State has a primary interest in:

(1) Adequately protecting lands subject to overflow;

(2) Confining the waters of rivers, tributaries, bypasses, overflow channels, and basins within their respective boundaries;

(3) Preserving the welfare of residents and landowners;

(4) Maintaining and protecting the banks of the Sacramento and San Joaquin Rivers, their tributaries, bypasses, overflow channels, and basins; and

(5) Good and sufficient levees and embankments or other works of flood control and reclamation, to adequately protect lives and property from floods.

The regulations are also intended to comply with the board's obligations to the U.S. Army Corps of Engineers pursuant to numerous assurance agreements, Corps Operation and Maintenance Manuals, and 33 C.F.R. section 208.10.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8710, 8532 and 8533, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsection (4) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Article 2. Definitions and Delegations

§ 4. Definitions.

(a) Adopted Plan of Flood Control. "Adopted Plan of Flood Control" means a flood control or reclamation strategy for a specific area that has been adopted by the board or the Legislature and includes the following:

(1) In the case of project flood channels without levees, it means the natural stream channel and overbank area at design flood levels;

(2) In the case of project channels with levees, it means the area between and including the project levees, and includes:

(A) Additional area outside of the project levees where encroachments could affect the integrity, functioning or maintenance of the works (generally ten [10] feet landward of the levee toe);

(B) Any flowage areas that are part of the federal or state flood control project; and

(C) Areas where there are flowage easements; and

(3) In the case of designated floodways, it means the area between the encroachment lines. For purposes of this section, boundary lines and encroachment lines are interchangeable terms.

(4) Where levees are involved, the "Adopted Plan of Flood Control" extends at least ten (10) feet landward from the levee toe except where an operation and maintenance manual furnished pursuant to 33 C.F.R. 208.10 or the real property rights acquired by the board specifically provide otherwise.

(b) Berm. "Berm" means the strip of ground between the waterward levee toe and the top of the bank of the low water channel.

(c) Board. "Board" means The Central Valley Flood Protection Board of the Resources Agency of the State of California as provided in Water Code section 8521.

(d) CEQA. "CEQA" means the California Environmental Quality Act, beginning at Public Resources Code section 21000.

(e) Chief Engineer. "Chief engineer" means the person appointed by the board pursuant to Water Code section 8581 for that purpose.

(f) Conforming Existing Encroachment. "Conforming existing encroachment" means an existing facility or use that is consistent with these regulations.

(g) Crest Elevation. "Crest elevation" means the elevation of the top of a levee, dike, or dam.

(h) Department. "Department" means the Department of Water Resources of The Resources Agency of the State of California as provided in Water Code section 120.

(i) Designated Floodway. "Designated floodway" means either:

(1) the channel of the stream and that portion of the adjoining floodplain reasonably required to provide for the passage of a design flood, as indicated by floodway encroachment lines on an adopted map; or

(2) the floodway between existing levees as adopted by the board or the Legislature.

(j) Design Flood. "Design flood" means the flood against which protection is provided or may eventually be provided by means of flood protection or control works, or that flood which the board otherwise determines to be compatible with future developments.

(k) Design Flood Plane. "Design flood plane" means the water surface elevation at design flow as determined by the Army Corps of Engineers, the Board, or Federal Emergency Management Agency, or other higher elevations based upon best available information, as determined by the board.

(*l*) Dwelling. "Dwelling" means an improvement of real property used, intended to be used, or suitable to be used for residential purposes, including, but not limited to, living, sleeping, cooking, or eating.

(m) Encroachment. "Encroachment" means any obstruction or physical intrusion by construction of works or devices, planting or removal of vegetation, or by whatever means for any purpose, into any of the following:

(1) any flood control project works;

(2) the waterway area of the project;

(3) the area covered by an adopted plan of flood control; or

(4) any area outside the above limits, if the encroachment could affect any of the above.

(n) Floodway. "Floodway" means the channel of a river or other watercourse and the adjacent land areas that convey flood waters.

(o) Floodway Encroachment Lines. "Floodway encroachment lines" means the exterior limits of any designated floodway.

(p) Executive Officer. "Executive Officer" means the person appointed by the board pursuant to Water Code section 8581 for that purpose.

(q) Impervious Material. "Impervious material" means soil which has twenty (20) percent or more of its particles passing the No. 200 sieve, a plasticity index of eight (8) or more, and a liquid limit of less than fifty percent (50%).

(r) Lawful existing encroachment. "Lawful existing encroachment," as used in Water Code section 8709.4(a), shall mean an encroachment for which the board has previously issued a valid permit or otherwise authorized by written instrument approved by the board.

(s) Levee Section. "Levee section" means the physical levee structure from the landward toe to the waterward toe.

(t) Levee Toe. "Levee toe" means the point of intersection of the levee slope with natural ground.

(u) Low–Flow Channel. "Low–flow channel" means the flowage within a natural channel below top of bank.

(v) Maintenance Activities. "Maintenance activities" means any work required to retain or maintain the intended functions of flood control facilities and of existing encroachments. Maintenance activities include but are not limited to mowing, tree and brush trimming and removal, revetment restoration, rodent control, spraying, painting, coating, patching, burning, and similar works; but does not include any significant excavation or any excavation during flood season. Maintenance activities of public agencies to maintain the designated level of function of flood control facilities within their jurisdiction are authorized and defined by Water Code sections 8361, 8370 and 12642.

(w) Mobile Home. "Mobile home" means a structure transportable in one or more sections and includes any manufactured home, but does not include a recreational vehicle.

(x) Nonconforming Existing Encroachment. "Nonconforming existing encroachment" means an existing facility or use that is inconsistent with these regulations.

(y) Nonproject Works. "Nonproject works" means the entirety or any component of a flood control project within the board's jurisdiction that is neither project works nor designated floodways.

(z) Obstruction. "Obstruction" means any natural or artificial structure or matter which:

(1) may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by the water; or

(2) that is placed where the flow of water could carry it downstream to the damage or detriment of either life or property.

(aa) Parties. "Parties" means permit applicants, the board, protestants, and interested public agencies.

(bb) Permit. "Permit" means the approval issued by the board that approves a plan of work, with or without conditions, that results in an encroachment.

(cc) Permitted Uses. "Permitted uses" means flood control project works or other structures, improvements, and land uses in the floodway that alone or cumulatively, in the judgment of the board, will not unduly impede the free flow of water in a stream or jeopardize public safety.

(dd) Project Works. "Project works" means the entirety or any component of a flood control project within the area of the board's jurisdiction that has been approved or adopted by the board or the Legislature, including state or federally constructed levees, bank protection, weirs, pumping plants, and any other related flood control works, or rights–of–way.

(ee) Projected Levee Section. "Projected levee section" means the projection of the levee slope below natural ground at two (2) feet horizontal to one (1) foot vertical (2:1) landside and three (3) feet horizontal to one (1) foot vertical (3:1) waterside.

(ff) Recreational Vehicle. "Recreational vehicle" means any travel trailer, camp car, motor home, tent trailer, or other similar vehicle, with or without power, which is designed or used for human habitation and which may be moved upon a public highway, but does not include a mobile home.

(gg) Respondent. "Respondent" means the person named in an enforcement proceeding notice served and filed pursuant to Sections 20, 21, and 22 of this title.

(hh) Revetment. "Revetment" means a layer or layers of material, such as stone or concrete, to prevent soil erosion.

(ii) River Mile. "River mile" means the mile along the river channel indicated on a quandrangle map published by the United States Geological Survey or as otherwise indicated on a map adopted by the board.

(jj) State Plan of Flood Control. "State Plan of Flood Control" shall have the same meaning as defined in subdivisions (e) and (j) of section 5096.805 of the Public Resources Code, including the state and federal flood control works, lands, programs, plans, conditions, and mode of maintenance and operations of the Sacramento River Flood Control Project described in Section 8350 of the Water Code, and of flood control projects in the Sacramento River and San Joaquin River watersheds authorized pursuant to Article 2 (commencing with Section 12648) of Chapter 2 of Part 6 of Division 6 of the Water Code for which the board or the department has provided the assurances of nonfederal cooperation to the United States.

(kk) Stream. "Stream" means natural or regulated water flowing in any natural or artificial channel. Streams may be perennial, flowing continuously; intermittent or seasonal, flowing only at certain times of the year; or ephemeral, flowing only in direct response to precipitation.

(*ll*) Top of Bank. "Top of bank" means the point of intersection of the berm with the bank.

(mm) Toe of Bank. "Toe of bank" means the point of intersection of the bank with the bottom of the channel of a waterway.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8361, 8370, 8521, 8522, 8523, 8581, 8608, 8630, 8709 and 8710, Water Code; Section 65007, Government Code; and Section 5096.805, Public Resources Code.

HISTORY

1. Amendment of article 2 heading, new article 2 (sections 4 through 5) and renumbering and amendment of old section 46 to new section 4 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (a)(1), (a)(3)–(4) and (c) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
3. Amendment of subsection (p), new subsections (r) and (jj), subsection relettering and amendment of NOTE filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 5. Delegations.

(a) For the purposes of this division, all permitting duties of the board, including but not limited to the review and approval of encroachment permit applications, are hereby delegated to the Executive Officer, with the exception of the following:

(1) Permits or other approvals that significantly affect any element of the State Plan of Flood Control or other adopted plan of flood control. Encroachments that do not significantly affect any element of the State Plan of Flood Control or other adopted plan of flood control are defined in subsection (b).

(2) Permits or other approvals for which the board has not received written comments from the U.S. Army Corps of Engineers pursuant to 33 C.F.R. section 208.10 or for which approval is required by the South Pacific Division or Headquarters of the U.S. Army Corps of Engineers, where the U.S. Army Corps of Engineers has jurisdiction.

(3) Permits or other approvals which may create, in the judgment of the Executive Officer or Chief Engineer, more than a de minimus hydraulic impact to an adopted plan of flood control, including, for example, an increase in water surface elevation, a reduction of adequate freeboard, inability to convey design discharge, alteration of flow velocities or directions, increased scour, or expansion of the geographical floodplain or floodway inundation.

(4) Permits or other approvals which may have, in the judgment of the Executive Officer or Chief Engineer, adverse geotechnical impacts to an adopted plan of flood control, including but not limited to increases in under seepage or through seepage, slope–stability issues, increased phreatic pressures, and static or dynamic loading that exceed recommended thresholds.

(5) Permits or other approvals for which a formal written protest has been filed pursuant to Section 12.

(6) Permits or other approvals which require a variance, as defined in Section 11.

(7) Permits or other approvals in which the maintaining agency has not endorsed the application pursuant to Section 7.

(8) Permits or other approvals which, in the judgment of the Executive Officer, may be controversial matters, based on substantial public concern, or for which the Executive Officer has received substantial negative public comment.

(9) Permits or other approvals which, in the judgment of the Executive Officer, may involve significant policy considerations.

(10) Permits or other approvals requiring the preparation of an environmental impact report by the board.

(11) Permits or other approvals involving residential developments, as defined in Section 113.

(12) Permits or other approvals involving surface mining except extensions of time for existing operations.

(b) Subject to subsection (a) the following types of encroachment permits, when in compliance with this division and the board's obligations to the U.S. Army Corps of Engineers, do not significantly affect any element of the State Plan of Flood Control or other adopted plan of flood control and are delegated to the Executive Officer for review and approval:

(1) Pipelines, conduits, and overhead utilities;

(2) Irrigation and drainage ditches;

(3) Septic systems;

(4) Retaining walls;

(5) Fences and gates;

(6) Private, non–commercial boating facilities;

(7) Water wells;

(8) Patrol roads and access ramps;

(9) Orchards, landscaping, and vegetation;

(10) Bicycle, pedestrian and equestrian trails;

(11) Stairs and steps;

(12) Replacement of an existing permitted encroachment without an increase in scope or size;

(13) Above ground encroachments installed more than ten (10) feet landward of the landside levee toe.

(c) For all encroachment permit applications delegated to the Executive Officer pursuant to subsections (a) and (b) above, a short summary of the project and the proposed action on the permit shall be posted on the board's website for thirty (30) calendar days prior to the decision. During this posting period the public may provide the Executive Officer with comments on the proposed action. The Executive Officer shall not be required to respond to such comments or change the proposed action based upon such comments.

(d) The Executive Officer shall make periodic reports to the board regarding encroachment permit applications acted upon pursuant to the delegated authority in subsection (a).

(e) The Executive Officer shall have authority to approve notices of exemption, initial studies and negative declarations, notices of preparation, requests for shortened review, and notices of determination prepared pursuant to CEQA. The Executive Officer may conduct public hearings on any matter identified in this subsection. The Executive Officer may distribute draft environmental impact reports.

(f) The Executive Officer may authorize or direct work and approve permits or other matters in response to emergencies or situations that present an imminent threat to public safety in accordance with Section 17.

(g) The board delegates to the Executive Officer the authority to take action to remove or modify encroachments on levees, channels, and other flood control works pursuant to Water Code section 8709.4(c) and the authority to issue Cease and Desist Orders pursuant to Water Code section 8709.5(a) in the manner described in article 4 of this division.

(h) The board may, by resolution or written agreement, delegate other duties and responsibilities to the Executive Officer, the Director of the department, or others, with the authority to redelegate.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8581, 8610.5 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of section and NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
3. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

Article 2.5. Ex Parte Communications

§ 5.1. Ex Parte Communications.

(a) Board members shall not participate in ex parte communications with any person or organization with an interest in board decisions who intends to influence the decision of a board member on a matter before the board, nor such person's or organization's representative, except that communications with a staff member of the board acting in his or her official capacity are excluded from this prohibition. If, however, an ex parte communication occurs, the board member shall notify the interested party that a full disclosure of the ex parte communication shall be entered in the board's record, as provided herein. "Interested party," for purposes of this section, shall mean the person making the ex parte communication.

(b) "Ex parte communication" means any oral or written communication outside of a noticed board meeting concerning matters, other than purely procedural matters, regarding any of the following:

(1) An application for a permit that has been submitted to the board and has been determined to be complete by the Executive Officer;

(2) Enforcement actions, after the Executive Officer issues a notice of violation; and

(3) Any other quasi–judicial matter for which board action is required and after the matter has been placed on the board's agenda and notice of the meeting has been provided pursuant to Section 11125 of the Government Code.

It shall not mean quasi–legislative actions, including topics of general concern which are not related to a specific application, such as the adoption of an overall policy regarding flood protection or general policy concerns which may be raised at task force, subcommittee, or other meetings. After the board votes on a matter listed in this subsection and the thirty (30) calendar day time period for reconsideration pursuant to section 28 of these regulations has expired and no petition for reconsideration has been submitted, communications regarding the matter are no

longer "ex parte communications." "Ex parte communication" shall also not include communications related to lawsuits filed against the board, including, but not limited to, settlement discussions.

(c) "Procedural matters" include, but are not limited to, communications regarding the schedule, location, or format for hearings, filing dates, identity of parties, and other such non–substantive information.

(d) When the ex parte rules of this section attach, a board member may only take a field trip with a party to the matter or that party's representative to the site of a proposed project or a pending enforcement action if ten (10) calendar days' advance public notice is given stating the time, location, and intended scope of the field trip.

(e) If disclosure of an ex parte communication is required, such disclosure shall be made as follows:

(1) Any required disclosure under this section shall occur prior to the time that the board hears the matter that is the subject of the ex parte communication. If any disclosures have been made, either the board member receiving the ex parte communication or the Executive Officer shall state on the record prior to the board's vote on the matter that ex parte communications have been received. Upon request, the public shall be given an opportunity to review any such disclosure and provide public testimony regarding the disclosure prior to the board's vote.

(2) Compliance with the disclosure requirement regarding the receipt of a written ex parte communication shall be accomplished by having the recipient board member or the person who engaged in the communication with the board member send a copy of the written communication and any response to the communication to the Executive Officer for inclusion into the record of the matter that is the subject of the ex parte communication. "Written ex parte communication" shall mean a communication in any written form, including but not limited to electronic mail, handwritten note, or type–written document.

(3) Compliance with the disclosure requirement regarding the receipt of an oral ex parte communication shall be accomplished by having the recipient board member or the person who engaged in the communication with the board member submit a written request to the Executive Officer for inclusion of the communication into the record of the matter that is the subject of the ex parte communication. The written request to the Executive Officer may be by any written means, including, but not limited to, electronic mail. The oral summary and written request shall include the substance of the communication, any response by the recipient board member, and the identity of each person from whom the recipient board member received the communication.

(f) Once paragraph (e) is complied with, the communication ceases to be an ex parte communication.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8578, Water Code.

HISTORY

1. New article 2.5 (section 5.1) and section filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

Article 3. Application Procedures

§ 6. Need for a Permit.

(a) Every proposal or plan of work, including the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduit, fence, projection, fill, embankment, building, structure, obstruction, encroachment or works of any kind, and including the planting, excavation, or removal of vegetation, and any repair or maintenance that involves cutting into the levee, wholly or in part within any area for which there is an adopted plan of flood control, must be approved by the board prior to commencement of work.

(b) Permits may be required by the board for existing structures that predate permitting or where it is necessary to establish the conditions normally imposed by permitting. The circumstances include those where responsibility for the encroachment has not been clearly established or ownership and use have been revised.

(c) Every proposal or plan of work described in subdivision (a), but located outside an area over which there is an adopted plan of flood control, must be submitted to the board for approval prior to commencement of work if it is foreseeable that the plan of work could be injurious to or interfere with the successful execution, functioning, or operation of any facilities of an adopted plan of flood control or of a plan under study. If in the judgment of the Executive Officer, the plan of work is determined to be injurious to or interfere with an adopted plan of flood control or of a plan under study, the plan of work would be subject to requirements of this division.

(d) Permits are not required for maintenance activities as defined in article 2, section 4 of this title.

(e) The Executive Officer may waive the requirement for a permit for minor alterations within an adopted plan of flood control that would not be injurious to the adopted plan of flood control.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New article 3 (sections 6 through 19) and section, with renumbering and amendment of old section 95 to new section 6(c) filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (c) and (e) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 7. Endorsement by Maintaining Agency.

(a) Prior to submitting an encroachment permit application to the board, the application must be endorsed by the agency responsible for maintenance of levees within the area of the proposed work, such as a reclamation district, drainage district, flood control district, levee district, state, county, or city. Endorsement or denial of the application by the maintaining agency does not preclude the board from either approving or denying the application. If endorsement by the maintaining agency is declined or is unreasonably delayed, the application may be submitted to the board for consideration, along with a satisfactory explanation for lack of an endorsement.

(b) For the purpose of this section "endorsement" means conceptual plan approval, which may include recommended permit conditions of the local maintaining agency.

(c) Applicants shall be advised by the board that permission for an encroachment may also be required from the local maintaining agency.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8370, 8708, 8710 and 12642, Water Code.

HISTORY

1. New section, including renumbering and amendment of old section 18 to new section 7(a) filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of section heading and subsection (a) and repealer of subsection (d) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 8. Applications.

(a) All applications for approval must be on forms provided by the board. The board provides a standard application for most projects. When available, a special joint permit application may be used by an applicant. Applications to the board must be typewritten or in legible handwriting in ink and signed by or on behalf of the applicant. Applicants must furnish copies of other material as may be needed by the board and its staff to adequately determine the exact nature of the proposed work and its effect upon any project facilities or adopted plan of flood control. Applications and all associated material must be filed in quadruplicate (4 copies) with the office of the board. A copy of the standard application form is found in Appendix A. Applicants should contact the board if their project is covered under a joint permit application form previously approved by the board.

(b) Information furnished to the board must include:

(1) A description of the proposed work, together with a statement of the dates the planned construction will be initiated and completed.

(2) A completed copy of the Environmental Assessment Questionnaire that accompanies the application form from the board (See Appen-

dix A) and a copy of any draft and final environmental review document prepared for the project, such as an initial study, environmental assessment, negative declaration, notice of exemption, or environmental impact report. For any reasonably foreseeable significant environmental impacts, mitigation for such impacts shall be proposed.

(3) Complete plans and specifications showing the proposed work, including a location map showing the site of the work with relation to topographic features; a plan view of the area; and adequate cross sections through the area of the proposed work. The plans must be drawn to scale and refer to National Geodetic Vertical Datum (NGVD), or other known datum. The plans must also indicate any project features such as levees and/or channels, roads, or other structures, and must show river mile or levee mile references. The dimensions of any proposed or existing fills, excavations, and construction must be given.

(4) Additional information, such as geotechnical exploration, soil testing, hydraulic or sediment transport studies, biological surveys, environmental surveys and other analyses may be required at any time prior to board action on the application.

(5) The names and addresses of all landowners of the property on which the project is located and all landowners adjacent to the property on which the project is located.

(c) The Board may waive minor variations in an application.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 2090, Fish and Game Code; Sections 21080.3, 21104.2 and 21160, Public Resources Code; and Sections 8611, 8710 and 8730.3, Water Code.

HISTORY

1. Renumbering and amendment of old section 16 to new section 8 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of subsections (a) and (b)(5) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 9. Acknowledgement of Receipt, Completeness of Applications, and Notice to Contiguous Landowners.

(a) The board shall acknowledge receipt of all applications in writing within ten (10) working days of receipt.

(b) Within thirty (30) calendar days of receipt of an application, the board shall determine whether the application is complete and notify the applicant, or the applicant's agent, of its determination and any need for additional information.

(c) Applications shall be deemed received and complete either when the applicant supplies the requested additional information or, if no additional information is requested, thirty (30) calendar days after the receipt of the application by the board.

(d) Once the application is deemed complete, the board shall send a notice of the pending application and its content to each adjacent landowner identified by the applicant.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 65943, Government Code; and Sections 8710, 8730.1 and 8730.3, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 10. Environmental Review.

(a) Each application shall be evaluated by an environmental review committee appointed by the Executive Officer, to review the environmental aspects of the application and to make recommendations with respect to compliance with the California Environmental Quality Act, Public Resources Code section 21000 et seq. ("CEQA") and the CEQA Guidelines, Title 14, California Code of Regulations, section 15000 et seq. The recommendations may include proposals for mitigation to avoid significant effects on the environment.

(b) The board may charge and collect a reasonable fee from any person proposing a project for which the board must prepare an environmental impact report ("EIR"), initial study, or negative declaration. The fee will be an amount which will recover the costs incurred by the board and the department in preparing such EIR, initial study, and negative declaration. The board may charge and collect a deposit from the applicant for fees prior to undertaking environmental review. The deposit for these costs will include the cost of any consultants, staff time, and costs of printing established according to the formula contained in section 503 of this title which is incorporated by reference.

(c) The applicant shall provide the board and its authorized agents access to the area of the proposed work, upon request by the board or its authorized agents, for environmental, engineering or other purposes related to the board's review of the application.

NOTE: Authority cited: Section 21082, Public Resources Code; and Section 8571, Water Code. Reference: Sections 21082 and 21089, Public Resources Code; and Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.
2. Amendment of subsection (a) filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 11. Variances.

(a) An application for an encroachment permit for a use that is not consistent with the board's standards as outlined in Article 8 requires a variance approved by the board.

(b) When approval of an encroachment requires a variance, the applicant must clearly state in the application why compliance with the board's standards is infeasible or not appropriate.

(c) The Executive Officer or Chief Engineer may grant temporary variances to allow work during the flood season (See Table 8.1).

(d) Where the Executive Officer finds in a particular situation that there is no legitimate reason for the application of one of the board's standards, the Executive Officer may waive any such standard for that situation.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 12. Protests.

Protests to permit applications may be submitted by any interested party. For the purpose of the section, the term "interested party" means a party who has a legally recognizable private or public interest. Protests must be submitted in writing. Each protest must include:

(1) The name, address, and telephone number of the protestant;

(2) A clear statement of the protestant's objections; and

(3) An explanation of how the protestant will be adversely affected by the proposed project. Within ten (10) calendar days of receipt of a protest, the board shall mail a copy of the protest to the applicant. Protests must be based solely upon flood control concerns or, where the board is acting as lead agency under CEQA, environmental concerns.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8571 and 8710, Water Code; and Section 21092, Public Resources Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsection (3) filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 13. Evidentiary Hearings.

(a) Except where approval of permits has been delegated to the Executive Officer pursuant to section 5, an evidentiary hearing shall be held for any matter that requires the issuance of a permit.

(b) The requirement for an evidentiary hearing may be satisfied for permit applications by placing the matter on the board's consent calendar in accordance with Section 13.2.

(c) Evidentiary hearings shall be conducted pursuant to the procedures in Section 13.1.

(d) The applicant and other parties may request in writing that the board provide a copy of any document, not exempt from disclosure under

the Public Records Act, beginning at Government Code section 6251, that is relevant to any proceeding. The board may charge a reasonable fee for each copy.

(e) The board may hold a hearing or a partial hearing at any place within the state on its own initiative or on the request of the applicant. All hearings must be open to the public. The board President may designate a hearing officer. The board may require the applicant to pay all overtime pay expenses incurred for any hearing not located in the County of Sacramento, if the hearing is moved from Sacramento at the request of the applicant.

(f) If the President designates a hearing officer, the hearing officer shall draft proposed findings and a proposed decision. The proposed findings and proposed decision, along with any evidence admitted at the hearing, shall be transmitted to the board as soon as reasonably possible following the hearing. The board shall consider the hearing officer's proposed findings and proposed decision at the next available board meeting following the hearing officer's proposed decision. The decision on the matter shall not become final until the board approves or rejects the hearing officer's proposed decision. The board's review of the hearing officer's proposed decision does not re–open the hearing and no new evidence shall be submitted unless allowed by the President.

(g) Written notice of the hearing shall be provided to the applicant at least ten (10) calendar days prior to the date of the hearing. The notice shall include the following:

(1) The name and number assigned to the application, if any;

(2) A description of the application and its proposed location;

(3) The date, time, and place at which the hearing will be held;

(4) A statement that the hearing will be governed by this Article, and that a copy of the governing procedures will be provided to the applicant upon request;

(5) A statement that Chapter 5 of the Administrative Procedure Act (commencing with section 11500) shall not apply to the proceeding; and

(6) A statement that if the applicant or any of the applicant's witnesses do not proficiently speak or understand English, the applicant may request language assistance by contacting the board and making such request within a reasonable amount of time prior to the hearing to allow appropriate arrangements to be made. The President or appointed hearing officer may direct the applicant to pay for the cost of the interpreter based upon an equitable consideration of all the circumstances of each case, such as the ability of the party in need of the interpreter to pay.

(h) Applicants shall be notified of the staff recommendations on the application at least seven (7) calendar days prior to the hearing, unless this period is waived by the applicant. Adjacent landowners shall also be notified of staff recommendations at least seven (7) calendar days prior to the hearing if they have responded in writing to the notice sent pursuant to section 9(b) of this article. Protestants shall be notified of the staff recommendations at least seven (7) calendar days prior to the hearing.

(i) Notice to an applicant's representative as designated on the completed permit application form shall constitute notice to the applicant.

(j) The board President or appointed hearing officer may implement additional administrative procedures for the conduct of hearings and related proceedings.

(k) For purposes of this section, minor alterations pursuant to section 6(e) and minor amendments to a previously issued permit shall not require an evidentiary hearing.

NOTE: Authority cited: Section 8571, Water Code; and Section 11400.20, Government Code. Reference: Sections 6253, 11125 and 11425.10, Government Code; and Sections 8710, 8730.2, 8731, 8732, 8732.5, 8734 and 8735, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of section heading, section and NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
3. Amendment of subsections (a), (f), (g) and (h) filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 13.1. Conduct and Order of Evidentiary Hearing Proceedings.

(a) It is the purpose of this section to incorporate and implement the informal hearing procedures and Administrative Adjudication Bill of Rights in Chapter 4.5 of the Administrative Procedure Act (commencing with Section 11400) of Part 1 of Division 3 of Title 2 of the Government Code to the extent consistent with the Water Code, which require notice and an opportunity to be heard, including the opportunity to present and rebut evidence. Chapter 5 of the Administrative Procedure Act (commencing with section 11500) does not apply to evidentiary hearings before the board or an appointed hearing officer.

(b) Evidentiary hearings shall be conducted in a manner deemed most suitable to ensure fundamental fairness to all parties concerned, and with a view toward securing all relevant information and material necessary to render a decision without unnecessary delay.

(c) Evidentiary hearings shall be held in open session. Unless the President or appointed hearing officer directs otherwise, the hearing shall proceed in the following order:

(1) The Executive Officer or his/her designee shall make a presentation to the board describing the application and summarizing the staff recommendation, including, for example, the proposed findings and written correspondence received prior to the hearing.

(2) The public testimony portion of the public hearing shall proceed in the following order:

(A) Persons or their representatives desiring to state their views on the application shall have the opportunity to do so as follows:

(i) The applicant;

(ii) Other persons supporting the application;

(iii) Persons opposing the application;

(iv) Other persons.

(B) The President or appointed hearing officer may allow rebuttal testimony by the applicant.

(C) The Executive Officer or his/her designee may respond to and comment, as appropriate, on the testimony presented by any previous speaker.

(3) The President or appointed hearing officer may close the public testimony portion of the hearing when a reasonable opportunity to present all questions and points of view has been allowed.

(4) Board members or the appointed hearing officer may ask questions at any time following any person's presentation.

(5) At the conclusion of the public testimony portion of the public hearing, the Executive Officer or his/her designee may propose to change the staff recommendation or the board may propose to add, delete, or modify the conditions contained in the staff recommendation. The applicant and the Executive Officer or his/her designee shall have an opportunity to comment on any proposed change.

(6) The board shall vote on a permit application in accordance with Water Code section 8560. In the case of an appointed hearing officer, the hearing officer shall act on the application.

(d) The hearing need not be conducted according to technical rules relating to evidence and witnesses. Any relevant evidence shall be considered if it is the sort of evidence on which responsible persons are accustomed to rely in the conduct of serious affairs, regardless of the existence of any common law or statutory rule which might make improper the admission of such evidence over objection in civil actions. The President or appointed hearing officer may take official notice of such facts as may be judicially noticed by the courts of this state. Unduly repetitious or irrelevant evidence shall be excluded upon order by the President or appointed hearing officer.

(e) The President or appointed hearing officer may establish reasonable time limits for presentations. The time limits shall be made known to all speakers prior to any hearing. The President or appointed hearing officer may require individuals to consolidate their comments to avoid repetition.

(f) In order for audio, visual, or audio–visual materials to be considered by the board, they must be submitted to staff in the course of review of the application or shown in full at the public hearing. The presentation of these materials shall occur within the time limit allocated to speakers.

(g) The applicant must submit all materials presented at the hearing to the Executive Officer or his/her designee for inclusion in the record of the proceeding. Any speaker who exhibits models or other large–sized materials as part of his or her presentation may satisfy this requirement by: (1) submitting accurate reproductions or photographs of the models or other large materials and (2) agreeing in writing to make such materials available to the board if necessary for any administrative or judicial proceeding. If written materials are submitted, the applicant shall bring a sufficient number of copies of all such materials to the hearing to allow members of the public to review the materials prior to the board's or hearing officer's decision.

(h) All decisions of the board relating to permit applications shall be accompanied by written conclusions setting forth the factual and legal basis of the decision based upon the record. The written conclusions shall include all elements identified in Water Code section 8610.5(c)(1)–(4).

(1) For purposes of this section, a resolution adopted by the board at the hearing shall be deemed to satisfy the requirement for written conclusions, including any modifications made to the resolution at the hearing.

(2) In addition, unless otherwise specified at the time of the vote, an action taken consistent with the staff recommendation shall be deemed to have been taken on the basis of, and to have adopted, the reasons, findings and conclusions set forth in the staff report, including any modifications made to the staff report at the hearing.

(i) If the board action is substantially different than that recommended in the staff report and/or the resolution, the board may direct staff to return at a subsequent board meeting with a revised resolution and/or proposed revised written conclusions that reflect the action of the board. Revised written conclusions may be placed on the consent calendar and do not re–open the hearing. Public comment is restricted to whether the revised written conclusions reflect the action of the board. Any proposed written conclusions shall only be effective if concurred in by at least four members of the board. Board members who were not present for the original vote may only vote on the revised written conclusions if they have familiarized themselves with the record of proceedings. If the board does not accept the revised resolution or proposed revised written conclusions submitted by the Executive Officer, the board can either make such changes as it determines are appropriate and adopt the findings at that meeting or direct the Executive Officer to prepare further proposed written conclusions and submit them to the board at the next meeting. The board's decision is deemed final at the time of the initial vote on the application, not the time that the revised written conclusions are adopted.

(j) If the applicant requests language assistance prior to the hearing, the board shall provide language assistance in accordance with Article 8 (commencing with Section 11435.05) of the Administrative Procedure Act. The President or appointed hearing officer may direct the applicant to pay for the cost of the interpreter. The determination whether to direct payment shall be based upon an equitable consideration of all the circumstances in each case, such as the ability of the applicant in need of the interpreter to pay. If the request for an interpreter is not made within a reasonable amount of time prior to the hearing to allow appropriate arrangements to be made, the hearing may be continued to a subsequent meeting and the applicant shall be deemed to have consented to such continuance.

(k) The board may vote to continue all or part of the hearing to a subsequent meeting. Notice of the subsequent hearing shall be distributed in accordance with Section 13 of these regulations. A continuance of part of a hearing does not reopen the entire hearing.

NOTE: Authority cited: Section 8571, Water Code; and Section 11400.20, Government Code. Reference: Section 11425.10, Government Code; and Section 8610.5, Water Code.

HISTORY

1. New section filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 13.2. Consent Calendar.

(a) Unless otherwise provided in this Article, the procedures set forth in Article 3 of these regulations pertaining to permit applications, including staff reports, staff recommendations, resolutions, and voting, shall apply to the consent calendar procedure.

(b) Any matter for which there are no speakers in opposition, including permit matters, may be placed on the board's consent calendar in accordance with Section 13.2, unless one of the following occurs to remove the item from the consent calendar:

(1) Upon request by the applicant, any member of the public, or any board member;

(2) When any interested party files a written protest conforming to the requirements of section 12 and requests a hearing;

(3) When approval requires a variance to the board's standards;

(4) Upon the board's own motion.

(c) All items included in the consent calendar shall be considered by the board in one action. Public testimony shall be deemed waived. If the item is not removed from the consent calendar and the consent calendar is approved, any recommended conditions contained in the staff report and resolution, if one is prepared, shall be deemed approved by the board.

(d) Consent calendar items shall only be voted on if the board accepts the staff recommendation as stated in the staff report with no substantial changes. Otherwise, the item must either be removed from the consent calendar for discussion and action at the same meeting or continued to a subsequent board meeting.

(e) If an item is removed from the consent calendar pursuant to (b) above, then the public shall have the right to present testimony and evidence in accordance with Section 13.1 of these regulations.

NOTE: Authority cited: Section 8571, Water Code; and Section 11400.20, Government Code. Reference: Section 11425.10, Government Code; and Section 8610.5, Water Code.

HISTORY

1. New section filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 14. Board Decision.

(a) The board shall act upon applications within the following time limits:

(1) When the board is the lead agency pursuant to CEQA and an environmental impact report is prepared, it shall approve or disapprove a project within six months from the date of the certification of the environmental impact report.

(2) When the board is the lead agency and a negative declaration is adopted or if the project is exempt from CEQA, the board shall approve or disapprove a project within three months from the date of the adoption of the negative declaration.

(3) When the board is a responsible agency for a project that has been approved by the lead agency, it shall either approve or disapprove the project within whichever is the longer:

(A) Within one–hundred–eighty (180) calendar days of the date on which the lead agency has approved the project; or

(B) Within one–hundred–eighty (180) calendar days of the date on which the application is deemed complete.

(b) Applicants may waive the requirement that applications be acted upon within such periods. Waivers must be in writing or expressed on the record at a hearing.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 65950 and 65952, Government Code; and Section 8730.1, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsections (a)(3)(A)–(B) filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 15. Bases for Denial of Permit Applications.

The board may deny a permit for any of the following reasons:

(a) If the proposed work could:

(1) Jeopardize directly or indirectly the physical integrity of levees or other works;

(2) Obstruct, divert, redirect, or raise the surface level of design floods or flows, or the lesser flows for which protection is provided;

(3) Cause significant adverse changes in water velocity or flow regimen;

(4) Impair the inspection of floodways or project works;

(5) Interfere with the maintenance of floodways or project works;

(6) Interfere with the ability to engage in floodfighting, patrolling, or other flood emergency activities;

(7) Increase the damaging effects of flood flows; or

(8) Be injurious to, or interfere with, the successful execution, functioning, or operation of any adopted plan of flood control.

(9) Adversely affect the State Plan of Flood Control, as defined in the Water Code.

(b) When the board is the lead agency under CEQA, and the proposed encroachment could result in potential and unmitigated significant environmental effects, including cumulative environmental effects.

(c) When the board is a responsible agency under CEQA, and the CEQA document is inadequate.

(d) If the applicant fails to supply information deemed necessary by the board for application purposes, including the names of all adjacent landowners.

(e) If the proposed work does not meet board standards contained in article 8.

(f) If there has been a failure by the applicant (or persons associated with the applicant through an agreement or agency relationship) to substantially comply with permit conditions on prior related permits or if there has been work performed without a permit and that work is not the subject of the pending permit application where the applicant has not supplied reasonable and convincing assurances that compliance with the board's regulations will be achieved.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 65943, Government Code; Sections 21002 and 21081, Public Resources Code; Sections 8608, 8610.5, 8710 and 8723, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

2. Amendment of section heading, new subsection (a)(9) and amendment of NOTE filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

§ 16. Permit Conditions.

(a) Any board permit may include and be subject to such reasonable conditions as deemed appropriate by the board, and may include mitigation for effects of the approved activity on the environment.

(b) The permit may require inspection by the board, its officers, or staff before, during, and after construction, and at regular intervals thereafter. The board may charge and collect a reasonable fee from an applicant to recover inspection costs, including staff or consultant time and expenses.

(c) The permit may require a reporting and monitoring program for any mitigation required by the board to avoid significant effects on the environment.

(d) The permit may require the filing with the board of reports and data, including a description of all work done under the approved application. The board may also request in writing at any time any reports or data, even if not expressly stated in a condition to the decision.

(e) The permit shall require that all of the work must be in accordance with the submitted drawings and specifications and accomplished in a professional manner.

(f) The permit may require the owner of an encroachment, or the owner of real property upon which the encroachment is located, to execute and cause to be recorded a document which imposes a covenant, restriction, servitude, or combination thereof, which runs with the land and binds all owners, heirs, successors, lessees, agents, and assigns, and would be enforceable by the board or its successor. This requirement may be imposed where there are particular concerns about permit compliance, such as where there may have been previous permit violations by the applicant or where record notice to successors–in–interest to the applicant or landowner is deemed appropriate.

(g) The permit may require the applicant to provide notice of the continuing flood threat to occupants and potential occupants of property subject to flood risk.

(h) The permit may require additional conditions requested by the Corps and the local maintaining agency.

(i) The permit shall require exercise of reasonable care to operate and maintain any work authorized by the permit to prevent injury or damage to any works necessary to any adopted plan of flood control, or interference with the successful execution, functioning, or operation of any present adopted plan of flood control or future plan. The permittee shall maintain the permitted encroachment and the project works within the utilized area in the manner required by the authorized representative of the department or any other agency responsible for flood control maintenance.

(j) The permit may require the permittee to be responsible for all personal liability and property damage which may arise out of permittee's actions or failure to perform the obligations of the permit. The permittee shall agree to save and hold the state free and harmless from, and to defend and indemnify the state against, any and all claims and liability, including but not limited to, personal injury or property damage arising or claimed to arise, directly or indirectly, from the uses of land pursuant to the permit. The permittee shall agree to release the state from responsibility or liability for any damages that may be caused to the encroachment by operation of the flood control project or from the releases of water from storage reservoirs. The permittee shall also agree to be precluded from receiving state disaster assistance for flood damage to the permitted works, except as provided by a flood insurance policy.

(k) The permit may require that if the work covered by the permit is not commenced within one year after the issuance of the permit, the board may revoke the permit or change any condition in the permit as may be consistent with current flood control standards and policies of the board.

(l) The permit may provide that commencement of work under a permit constitutes an acceptance of the conditions of the permit.

(m) If any of the work does not conform to the conditions of the permit, the permittee, upon the order of the Executive Officer or Chief Engineer, shall, in the manner prescribed, be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work.

(n) The permit may require the permittee, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted work if the removal, alteration, relocation, or reconstruction is necessary under or in conjunction with any present or future flood control plan or if damaged by any cause.

(o) The permit may require the permittee to mitigate for the hydraulic impacts of the permitted works by reducing or eliminating the additional flood risk to third parties created by the permitted works.

(p) Liability insurance may be required to be provided naming the State and the local maintaining agency performing flood control maintenance as additional insureds.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 21002, 21081 and 21081.6, Public Resources Code; Sections 8608 and 8710, Water Code; Title 33, Code of Federal Regulations, Section 208.10.

HISTORY

1. Repealer of article 3 heading, renumbering and amendment of old section 16 to new section 8, and new section 16, including renumbering of old section 22 to new section 16(d) filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.

2. Amendment of subsection (m) filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 17. Emergencies.

(a) Any existing levee, conforming existing encroachment, or permitted encroachment may be protected or strengthened in case of emergency during flood season, as specified in section 112, where there is imminent danger of injury to persons, loss of life, or destruction of property.

(b) Any person conducting emergency work shall immediately notify the local maintaining agency and the board through the Executive Officer or Chief Engineer.

(c) For the purpose of this section, the term "emergency" includes any lawfully declared emergency, or any circumstance determined to be an emergency by the Executive Officer or Chief Engineer.

(d) In an emergency, the Executive Officer may issue a temporary permit. A completed application with proper plans, cross sections, completed environmental assessment questionnaire, and any other necessary information required by section 8 of this article must be submitted to the board within thirty (30) calendar days following the date of the commencement of emergency work.

(e) All emergency work is subject to subsequent approval of the board, and the board may require its removal or alteration if not approved.

(f) The board or the Executive Officer may impose reasonable conditions, pursuant to section 16, on its approval of any emergency work.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8715, 8716, 8717 and 8718, Water Code.

HISTORY

1. Renumbering and amendment of old section 17 to new section 19 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 18. Revisions in Plans.

(a) Any plan of work approved by the board may be changed or altered only with the consent of the board prior to the time of commencement or during progress of the work. A request for an amendment to a plan of work must be in the same form as an original application or in a form acceptable to the Chief Engineer.

(b) Minor, insubstantial changes may be made in plans without the submission of a written request for an amendment; however, the permittee shall first notify the Chief Engineer of any change before commencing work on any changed work. A minor, insubstantial change must be one that is essentially consistent with the application or permit, consistent with board standards, and does not pose a threat to the adopted plan of flood control. The board reserves the right to require the applicant to file a written request for an amendment.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8721, Water Code.

HISTORY

1. Renumbering and amendment of old section 18 to new section 7(a) and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.

§ 19. District Lands.

No encroachment may be constructed or maintained upon lands owned in fee by the Sacramento and San Joaquin Drainage District, except when expressly permitted by a proper and revocable license, lease, easement, or agreement executed between the owner of the encroachment and the district, and upon payment to the district of its expenses and adequate rental or compensation therefor. This requirement is in addition to the need for a permit as required in section 6 of this article.

NOTE: Authority cited: Section 8608, Water Code. Reference: Sections 8504, 8598, 8708 and 8709, Water Code.

HISTORY

1. Renumbering of old section 17 to new section 19 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.

Article 4. Enforcement Actions

§ 20. Purpose and Authority.

(a) The board has authority pursuant to Water Code section 8710 to require permits and enforce standards for the erection, maintenance, and operation of levees, channels, and other flood control works within its jurisdiction, including, but not limited to, standards for encroachments, construction, vegetation, and erosion control measures. In addition, the board has enforcement authority under Water Code sections 8709.5 and 8709.6 to issue Cease and Desist Orders, the violation of which may subject the violator to fines or penalties pursuant to Water Code section 8709.7.

(b) Examples of enforcement actions available to the board include administrative and civil actions, such as the following:

(1) Notice of Violation;

(2) Cease and Desist Order;

(3) Restoration Order;

(4) Permit revocation;

(5) The commencement of a civil lawsuit, including civil penalties.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8615, 8617, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. New article 4 (sections 20 through 22) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Amendment of article heading, repealer of former article 4 (sections 20–22) and new article 4 (sections 20–27) and section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 21. Maintenance Activities.

(a) In the performance of maintenance activities as defined in section 4(u), the department, local maintaining agency, or designated representatives of the board may remove unpermitted abandoned property that interferes with maintenance or inspections after notification by the Executive Officer as described in subsection (b).

(b) Prior to any removal allowed under (a), the Executive Officer shall notify the landowner or owner of the unpermitted abandoned property by one of the following methods: in person, phone, e–mail, or U.S. mail. If the landowner or owner of the abandoned property cannot be located after reasonable efforts, a notice may be posted on the property for a minimum of five (5) calendar days prior to removal. The posted notice shall be clearly visible, shall provide a board contact name, phone number, e–mail address, and mailing address, and shall state that the owner may contact the board to object to such removal. The notice shall also state the date by which removal will occur if no objection is made.

(c) If a timely objection is made, no removal shall take place until the Executive Officer has provided the objector a reasonable opportunity to present reasons why the items should not be removed. The Executive Officer shall provide a written decision, which may be reviewed by the board pursuant to section 110.

(d) For purposes of this section, "abandoned property" shall mean any structure, material, or object that appears to a reasonable person to have been discarded, cast aside, dumped, neglected, vacated, or left unoccupied. Examples of abandoned property may include, but are not limited to, the following: refuse, vegetation, or structures such as stairs, fences, or boat docks that have fallen into a state of disrepair.

(e) Nothing in this section is intended to remove any authority already vested in the department or any local maintaining entity in the performance of maintenance activities.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8615, 8617, 8704, 8708, 8709, 8709.4, 8710 and 8719, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25.
2. Repealer and new section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 22. Emergency Impairment Response Authority.

(a) In addition to the emergency authority in section 17, the Executive Officer is delegated the authority to authorize or order the removal or modification of permitted or unpermitted encroachments on levees, channels, and other flood control works that present an imminent threat to public health and safety without prior notice, order, or hearing.

(b) The Executive Officer shall attempt to give the landowner or owner of the encroachment prior notice when possible, and shall only take such actions as are reasonably necessary to abate the immediate threat to public health and safety.

(c) The Executive Officer shall report any action taken pursuant to this section to the board at the first reasonably available opportunity.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. Renumbering of old section 22 to new section 16(d) and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Repealer and new section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 23. Notice of Violation.

(a) An enforcement investigation may be conducted when board staff is aware of activities that may impair the flood control system, or any activity that may constitute a violation pursuant to subsection (b). An enforcement investigation may include, but is not limited to, document review, site visits, interviews, and public agency input to determine if violations under the jurisdiction of the board exist.

(b) If the Executive Officer believes that the results of an enforcement investigation so warrant, the Executive Officer may institute an administrative enforcement action pursuant to Water Code section 8709.5 by giving a Notice of Violation to the landowner, person, or public agency (referred to hereafter as the "respondent") that is responsible for any activity described in Water Code section 8709.5(a), including but not limited to, the following:

(1) Undertaking or threatening to undertake any activity that may encroach on levees, channels, or other flood control works under the jurisdiction of the board;

(2) Owning, undertaking, or maintaining any work in violation of or inconsistent with any condition of any permit previously issued by or subject to the jurisdiction of the board; or

(3) Any violation of any requirement in Part 4 of Division 5 of the Water Code, including but not limited to:

(A) Owning, undertaking, or maintaining any work that requires a permit or other approval from the board without securing such permit or approval;

(B) Owning, undertaking, or maintaining any work in violation of Title 23, Division 1 of the California Code of Regulations; or

(C) Owning, undertaking, or maintaining any work that is inconsistent with applicable federal regulations where the board has signed assurances with the U.S. Army Corps of Engineers that it will comply with such regulations.

(c) The Notice of Violation shall be given in the manner set forth in Water Code section 8709.5(b) and shall state:

(1) A description of the work subject to enforcement;

(2) Any corrective action that the Executive Officer determines may be necessary to avoid an unreasonable impact on public safety. "Unreasonable impact on public safety" shall mean as defined in subsection (d), below;

(3) The deadline to complete corrective action or otherwise respond to the notice;

(4) Staff contact name, address, and phone number; and

(5) A statement alerting the respondent that the described work or activity shall immediately cease or the respondent may receive a Cease and Desist Order, the violation of which may subject the respondent to fines or penalties.

(d) File copies of the written confirmation or notice shall be provided to the local levee maintaining agency and the levee inspector. Failure to provide copies of the notice to the local maintaining agency and the levee inspector shall not be grounds for invalidating the Notice of Violation.

(e) "Unreasonable impact on public safety" shall mean a threat of structural failure of the levee, flooding, channel obstructions, floating debris which may constitute a public safety risk, or other adverse impact on any adopted plan of flood control. Conditions imposed in the Notice of Violation or Cease and Desist Order that are necessary to avoid an unreasonable impact on public safety may include, for example, removal of the encroachment, the addition of fill material, the erection of barricades, and/or the compliance with board standards and permit conditions.

(f) Upon request by the respondent, the Executive Officer or designee shall conduct a meeting or an inspection to determine if actions taken by the respondent are in compliance with a Notice of Violation. If the Executive Officer or designee determines that no further action is necessary or appropriate, the respondent shall be notified that the file is closed.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. New article 4.1 (section 23) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 85, No. 26.
2. Renumbering of former section 23 (formerly within article 4.1) to section 28 and new section 23 filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 24. Cease and Desist Orders Issued by the Executive Officer.

(a) The Executive Officer may issue a Cease and Desist Order pursuant to Water Code section 8709.5 if the Executive Officer determines that any of the criteria of section 23(b) have been met and the respondent fails to respond to the Notice of Violation in a satisfactory manner.

(b) "Satisfactory manner," as used in Water Code section 8709.5(b), shall mean a response which is made in the manner and within the deadline for compliance specified in the Notice of Violation, or within thirty (30) calendar days if no deadline is given, and that meets the following:

(1) Provides information sufficient to convince the Executive Officer that the activity specified in the notice does not meet the criteria of section 23(b);

(2) Provides information sufficient to convince the Executive Officer that the person or agency to whom the notice was directed is not the landowner and/or is not responsible for the violation; or

(3) Provides information sufficient to convince the Executive Officer that the respondent has complied with all conditions and directives of the Notice of Violation and that no further action is necessary or appropriate.

(c) The Cease and Desist Order shall specify the action that must be taken by the respondent, if any, which may include, but is not limited to:

(1) Removal of the work;

(2) Alteration of the work;

(3) Filing an application for a permit pursuant to this division;

(4) Other terms and conditions the Executive Officer may determine to be necessary to avoid an unreasonable impact on public safety, as defined in section 23, above, including but not limited to inspection by the board or its authorized representatives;

(5) An order that if the respondent does not comply with the decision within a specified amount of time, the board, local maintaining agency, authorized representatives of the board, or a contractor hired by the board may take abatement actions, such as physical removal, and the board may recover any costs incurred from the respondent;

(6) An order requiring the respondent to file data as requested by the board or its authorized representatives.

(d) Pursuant to Water Code section 8709.5, the Executive Officer does not have the authority to issue a Cease and Desist Order that does the following:

(1) Imposes conditions other than those necessary to avoid an unreasonable impact on public safety, as defined in section 23, above. If the order contains any valid conditions, the order and all valid conditions shall remain in full force and effect.

(2) Revokes a previously issued permit. Revocation hearings shall comply with the procedures in section 26.

(3) Requires restoration. The term "restoration," as used in Water Code section 8709.6(d), means work in excess of that required to eliminate an unreasonable impact on public safety as defined in section 23, above, including, for example, work to re–establish an area to the condition it was in prior to the installation of an encroachment or other work. The term "restoration" shall also include environmental restoration work to re–create habitat lost by the construction of the encroachment. If restoration is required, only the board may issue a Cease and Desist Order after a public hearing pursuant to section 25.

(e) The Cease and Desist Order shall be effective immediately upon its issuance and copies shall be served by certified mail as set forth in Water Code section 8709.5(d). "Immediately," as used in Water Code section 8709.5(d), shall mean the Cease and Desist Order shall be served as soon as reasonably possible, but no later than two (2) working days after issuance.

(f) The Cease and Desist Order shall state that the respondent has a right to an appeal hearing in accordance with section 25. The respondent may appeal by submitting a written protest within thirty (30) calendar days in accordance with section 110. The order remains in full force and effect during the pendency of any appeal.

(g) The respondent may request an inspection to determine if the actions taken by the respondent are in compliance with a Cease and Desist Order issued by the Executive Officer. If the Executive Officer determines that no further action is necessary or appropriate, the respondent shall be notified that the enforcement action is closed.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. New section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 25. Cease and Desist Order Board Hearing Procedures.

(a) If the Executive Officer believes that the results of an enforcement investigation so warrant, the Executive Officer may schedule a Cease and Desist Order hearing before the board pursuant to Water Code sections 8709.5 and 8709.6 for any of the reasons stated in section 23(b). The Executive Officer shall issue a Notice of Violation pursuant to section 23 prior to scheduling a Cease and Desist Order hearing before the board.

(b) Cease and Desist Order hearings shall be conducted pursuant to the evidentiary hearing procedures described in subsections (c)–(g) and (j) of section 13 and section 13.1 of these regulations with the following changes:

(1) The "applicant" shall be referred to as the "respondent".

(2) The "application" shall be referred to as the "enforcement action".

(3) Notice of the hearing shall be served on the respondent by certified mail or hand delivery at least thirty (30) calendar days prior to the hearing. The notice shall contain all the information required by section 13(g), as well as describe the violation and identify any statute(s) or regulation(s) the respondent is alleged to have violated.

(4) The Executive Officer shall provide the respondent with a copy of the staff report, along with any proposed resolution or proposed order, as applicable, at least twenty (20) calendar days prior to the hearing. The respondent may submit a written statement of defense to the Executive Officer at least fifteen (15) calendar days prior to the hearing.

(5) If the board President appoints a hearing officer, the hearing officer shall be a board member. A hearing may also be held by a partial committee of the board appointed by the board President. If the hearing is held by a partial committee of the board, the committee shall also follow the hearing officer procedures in section 13(f).

(6) If the hearing is held before a hearing officer or partial committee of the board, the hearing officer or committee shall prepare the proposed order and proposed decision required by section 13(f) within thirty (30) calendar days of the conclusion of the hearing. The respondent shall be provided with a copy of the proposed order and proposed decision at least ten (10) calendar days prior to the board's consideration of the proposed decision.

(7) The written conclusions required by section 13.1(h) need not include a discussion of the elements identified in Water Code section 8610.5(c)(1)–(4).

(8) Cross–examination shall not be allowed unless deemed appropriate by the President or appointed hearing officer.

(9) At the conclusion of the hearing, to comply with the requirement in section 13.1(h) that the board adopt written findings, the board may do any the following;

(A) Immediately adopt all or part of the staff report, enforcement notice, or order;

(B) Make such changes to the staff report, enforcement notice, or order as it deems appropriate for immediate adoption; or

(C) The board President may direct a board member, along with board legal counsel and independent support staff, to draft a proposed decision and order for adoption by the board at a subsequent meeting pursuant to section 13.1(i). The respondent shall be provided with a copy of the proposed decision and order at least ten (10) calendar days prior to the board's consideration of the proposed decision. The Board's consideration of a proposed decision at a subsequent meeting does not re–open the hearing and no new evidence will be permitted unless allowed by the board President. However, all parties shall be given an opportunity to present argument related to the proposed decision.

(10) The board decision shall include an order specifying the action that must be taken by the respondent, if any, which may include, but is not limited to:

(A) Removal of the work;

(B) Alteration of the work;

(C) A restoration order;

(D) Implementation of environmental mitigation;

(E) Filing an application for a permit pursuant to this division;

(F) Other terms and conditions the board may determine to be necessary, including but not limited to, inspection by the board or its authorized representatives;

(G) An order that if the respondent does not comply with the decision within a specified amount of time, the board, local maintaining agency, authorized representatives of the board, or a contractor hired by the board may take abatement actions, such as physical removal, and the board may recover any costs incurred from the respondent;

(H) An order requiring the respondent to file data as requested by the board or its authorized representatives.

NOTE: Authority cited: Section 8571, Water Code; and Section 11400.20, Government Code. Reference: Sections 6253, 11125 and 11425.10, Government Code; and Sections 8534, 8560, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. New section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 26. Permit Revocation.

(a) A previously issued permit or approval may be revoked or modified for any of the following reasons:

(1) The permit or approval was obtained by misrepresentation or fraud;

(2) The permit or approval was approved or issued in error;

(3) One or more of the conditions of the permit or approval have not been satisfied or have been violated;

(4) One or more of the conditions of the permit or approval anticipate revocation if certain terms are met, and those terms have been met;

(5) The activity permitted by the permit or approval violates an applicable statute, law, or regulation, including but not limited to federal regulations;

(6) The activity permitted by the permit or approval is detrimental to the public health, safety, or welfare or interferes with the successful execution, functioning or operation of any flood control system feature; or

(7) The activity permitted by the permit or approval constitutes a public nuisance as defined by statute or law.

(b) The permittee shall be given fifteen (15) days prior notice by certified mail or hand delivery of a revocation hearing before the board, unless waived in writing.

(c) The board shall follow the hearing procedures in section 25(b), above, for permit revocation hearings.

(d) In addition to the notice requirements of section 25(b)(3), the notice shall describe any permit condition(s) that are the subject of the revocation hearing.

(e) The board may hold a single hearing to consider revocation and a Cease and Desist Order.

NOTE: Authority cited: Section 8571, Water Code; and Section 11400.20, Government Code. Reference: Sections 6253, 11125 and 11425.10, Government Code; and Sections 8534, 8560, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8710 and 8719, Water Code.

HISTORY

1. New section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 27. Nuisance and Civil Penalty Provisions.

The Water Code authorizes the board to commence and maintain a civil suit in the name of the people of the State at any time for the prevention or abatement of public nuisances, as well as to seek civil penalties for violations. A summary of the amount of potential civil penalties is set forth in Water Code section 8709.7. Examples of the penalties for some violations are as follows:

Violation	*Minimum Fine*	*Maximum Fine*
Permit conditions	$500	$30,000
Construction without permit	$1000 per day	$15,000 per day
Intentionally or negligently violating Cease and Desist Order	No minimum	$6000 per day

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8534, 8596, 8598, 8608, 8704, 8708, 8709, 8709.4, 8709.5, 8709.6, 8709.7, 8710 and 8719, Water Code.

HISTORY

1. New section filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

Article 4.1. Reconsideration

§ 28. Reconsideration.

(a) No later than thirty (30) calendar days after adoption by the board of a decision or order, any interested person affected by the decision or order may petition the board for reconsideration of the matter based on any of the following reasons:

(1) Irregularity in the proceeding, or any ruling, or abuse of discretion which prevented a fair hearing;

(2) The decision or order is not supported by substantial evidence;

(3) There is relevant evidence, which could not have reasonably been produced previously; or

(4) Error in law.

(b) The petition for reconsideration shall be in writing and contain the following:

(1) Name and address of petitioner;

(2) The specific action of which petitioner requests reconsideration;

(3) The specific reason the action was inappropriate or improper;

(4) The specific action which the petitioner requests;

(5) A statement that copies of the petition and accompanying material have been sent to all interested parties.

(c) The board, in its sole discretion, may:

(1) Refuse to reconsider the decision or order;

(2) Deny the petition upon finding that the decision or order was proper;

(3) Set aside or modify the decision or order; or

(4) Take other appropriate action.

(d) Any order or decision subject to reconsideration remains in full force and effect during the pendency of the petition for reconsideration.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8598, 8608 and 8710, Water Code.

HISTORY

1. Renumbering and amendment of former section 23 to new section 28 filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

Article 5. Designated Floodways

§ 101. Responsibility of the Board.

The board, after appropriate studies have been made, shall delineate on an aerial mosaic or map, the proposed designated floodway and the floodway encroachment lines. The board shall further determine allowable uses in the designated floodway pursuant to Section 107.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. New article 5 (sections 101 through 107), renumbering of old section 55 to new section 101, removal of articles 6 through 11 and removal of chapter 1.1, articles 1 through 3. Renumbering of old section 46 to new section 4, old section 56 to new section 102, old section 65 to new section 103, old section 67 to new section 104, old section 68 to new section 105, old section 69 to new section 106, old sections 75 and 76 to new section 107, old sections 85 and 86 to new section 108, old section 95 to new section 6(c), old section 150 to new section 109, and old section 152 to new section 110, filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 102. Considerations in Designating Floodways.

In proposing and revising designated floodways, the board must consider all of the following:

(a) Existing and projected federal, state, and local flood control improvements and regulations affecting the flood plain;

(b) The degree of danger from flooding to life, property, public health and welfare; and

(c) The rate and type of development taking place upon the flood plain.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. Renumbering and amendment of old section 56 to new section 102 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 103. Notices and Hearings.

The board shall notify local interested parties, thirty (30) calendar days prior to any hearing or hearings on designated floodways and floodway encroachment lines, by notice published at least twice in a newspaper of general circulation in the affected area. Hearings must be held in areas convenient to the majority of interested parties. The board shall hold one hearing prior to initiation of the study and at least one hearing after the study has been completed but prior to adoption.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. Renumbering and amendment of old section 65 to new section 103 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 104. Recording.

After a designated floodway and the floodway encroachment lines are adopted by the board, an aerial mosaic or map showing the designated floodway and the floodway encroachment lines shall be transmitted to the appropriate county or counties for recording.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. Renumbering and amendment of old section 67 to new section 104 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 105. Availability of Maps.

The board shall furnish a copy of the map or maps showing the limits of the designated floodway to the county engineer, the county planning department, and other interested parties.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. Renumbering and amendment of old section 68 to new section 105 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14.

§ 106. Floodway Modifications.

If, after the adoption of the designated floodway and floodway encroachment lines, the board determines that conditions have changed suf-

ficiently to necessitate altering the lines, the board may, at any regularly noticed meeting, make modifications to the designated floodway as it deems to be appropriate.

NOTE: Authority cited: Section 8571, Water Code. Reference: Section 8609, Water Code.

HISTORY

1. Renumbering and amendment of old section 69 to new section 106 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14.

§ 107. Permitted Uses in Designated Floodways.

The following uses may be permitted in the designated floodway so long as alone or cumulatively, in the judgment of the board, they will not unduly impede the free flow of water in the floodway or jeopardize public safety:

(a) Open space uses not requiring a closed building, such as agricultural croplands, orchards, livestock feeding and grazing, or public and private recreation areas.

(b) Fences, fills, walls, or other appurtenances which do not create an obstruction or debris–catching obstacle to the passage of floodwaters.

(c) Storage yards for equipment and material, if the equipment and material can be either securely anchored or removed upon notice.

(d) Railroads, streets, bridges, and public utility wires and pipelines for transmission and local distribution.

(e) Commercial excavation of materials from pits, strips, or pools provided that no stockpiling of materials, products, or overburden creates an obstruction to the passage of flood flows.

(f) Improvements in stream channel alignment, cross–section, and capacity.

(g) Structures that are designed to have a minimum effect upon the flow of water and are firmly anchored to prevent the structure from flotation, provided that normally no structures for human habitation will be permitted.

(h) Recreational vehicles and related service facilities that are either floodproofed or are removed during the flood season of the particular stream involved.

(i) Other uses which are not appreciably damaged by floodwaters.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY

1. Renumbering and amendment of old sections 75 and 76 to new section 107 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 72, No. 14 and Register 73, No. 34.

Article 6. Existing Encroachments Within an Adopted Plan of Flood Control

§ 108. Existing Encroachments.

(a) Upon adoption of a plan of flood control, an existing facility or use shall be allowed to continue as provided below:

(1) A permit or order shall be automatically issued for all conforming existing facilities and uses. The facility or use may not be changed, extended, or expanded without a new application to and approval by the board. If the facility is abandoned, it shall be removed at the expense of the owner and not replaced.

(2) Nonconforming existing encroachments that do not have a major detrimental impact shall be allowed to continue under a permit or order until abandoned or until they are destroyed or damaged, by any cause, to the cumulative extent of more than fifty (50) percent of their market value or their physical usefulness during any 10–year period. The facility or use may not be changed, extended, or expanded without a new application to and approval of the board. If the facility is abandoned, it shall be removed at the expense of the owner and not replaced.

(3) Nonconforming existing encroachments that have a major detrimental impact shall be removed, abandoned, or suitably modified at no cost to the owner, if they have been in existence prior to the adoption or authorization of a project by the United States or prior to the adoption or authorization of a plan of flood control by the state.

(4) Nonconforming existing facilities or uses that have a major detrimental impact on the adopted plan of flood control and which were not in existence at the time of adoption of the plan of flood control shall be removed, abandoned, or suitably modified as directed by the board, all at the expense of the owner, and within a period of time specified by the board.

(b) The board shall make the final determination as to whether the facility or use has or has not a major detrimental impact within the adopted plan of flood control or on project facilities, and shall advise the owner of the facility or use of any action required.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY

1. New article 6 (section 108) and renumbering and amendment of old sections 85 and 86 to new section 108 and new section filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 69, No. 25. For prior history, see Register 72, No. 14.

Article 7. Review Rights

§ 109. Right of Review of Delegated Authority.

Any person or public agency having an interest in a decision made by the Director of the department or the Executive Officer of the board pursuant to any delegation by the board, including those delegations in Section 5 and any other delegation of authority has the right to review by the board in accordance with the requirements of section 12. Adversely affected persons have the right to present arguments to the board in person or by a designated representative at a regularly scheduled board meeting in accordance with section 110.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY

1. New article 7 (sections 109 through 110) and renumbering and amendment of old section 150 to new section 109 filed 9–30–96; operative 10–30–96 (Register 96, No. 40). For prior history, see Register 78, No. 3.
2. Amendment filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
3. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

§ 110. Review Procedures.

A person or public agency adversely affected by a decision described in section 109 is entitled to board review at a regularly scheduled meeting of the board after receipt of a written request directed to the Executive Officer of the board stating the facts and circumstances upon which the request is based, provided the request complies with the requirements of section 12. If a petition for reconsideration is not submitted within the time limits specified in section 23, the decision of the board is final.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8609 and 8710, Water Code.

HISTORY

1. Renumbering and amendment of old section 152 to new section 110 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

Article 8. Standards

§ 111. Introduction to Standards.

These standards govern the design and construction of encroachments which affect the flood control works and floodways and are used by the board for the regulation of encroachments. The standards apply to any work within the limits of, or which can affect, any authorized flood control project or any adopted plan of flood control. These standards also provide the public with information needed to prepare and submit encroachment applications to the board. Where any provision in this division requires the application of judgment, such as where "practical," "feasible," or "reasonable," the burden of proof on such issues as impracticality, unfeasibility, or unreasonableness lies with the applicant or permittee.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New article 8 (sections 111 through 137) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 112. Streams Regulated and Nonpermissible Work Periods.

(a) The board requires applications to be filed for all proposed encroachments within the floodways under its jurisdiction (identified in Table 8.1) and on levees adjacent thereto, on any stream which may affect those floodways.

(b) Banks, levees, and channels of floodways along any stream, its tributaries, or distributaries may not be excavated, cut, filled, obstructed, or left to remain excavated during the flood season.

(1) The flood seasons for the various floodways are shown in Table 8.1.

(2) The board, at the prior written request of the applicant, may allow work to be done during flood season within the floodway, provided that, in the judgment of the board, forecasts for weather and river conditions are favorable.

(c) The following definitions apply to this section:

(1) Bank. "Bank" means the ground bordering a river, stream, lake, or sea, or forming the edge of a cut or hollow.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and table 8.1 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

2. Amendment of table 8.1 filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Table 8.1—Regulated Streams and Nonpermissible Work Periods

[1] Flood season November 1 through July 15
[2] Flood season November 1 through April 15

Stream Title	*County–Limits*	*Flood Season*
Alta Main Canal	Fresno	1
American River	Sacramento — to Nimbus Dam	2
Antelope Creek	Placer — to settlement ponds	2
Antelope Creek	Tehama	2
Angel Slough	Butte	2
Arcade Creek	Sacramento — to Roseville Road	2
Ash Creek	Modoc	2
Ash Slough	Madera	2
Atherton Cove	San Joaquin — northeast bank only	2
Auburn Ravine	Sutter and Placer	2
Banta Carbona Intake Canal	San Joaquin	2
Beacon Creek	Sacramento — Morrison Creek to Franklin Boulevard	2
Battle Creek	Tehama	2
Bear Creek	Merced	2
Bear Creek	San Joaquin, up to Jack Tone Road	2
Bear Creek	Shasta, reach within designated floodway of the Sacramento River	2
Bear River	Sutter, Placer & Yuba	2
Berenda Slough	Madera — Avenue 21–1/2 to Ash Slough	2
Best Slough	Yuba	2
Big Chico Creek	Butte	2
Black Rascal Creek	Merced	2
Butte Basin	Butte, Glenn, and Colusa	2
Butte Creek	Butte and Glenn — to Skyway Bridge	2
Butte Creek Diversion Canal	Sutter	2
Butte Slough	Sutter	2
Byrd Slough	Fresno	1
Cache Creek	Yolo, Yolo Bypass to 1/2 mile west of I–5	2
Cache Slough	Solano	2
Calaveras River	San Joaquin — to New Hogan Dam	2
Cameron Slough	Fresno, within the Kings River designated floodway	1
Canal Creek	Merced	2
Cherokee Creek	Butte	2
Chowchilla Canal Bypass	Merced, Madera, and Mariposa	1
Chowchilla River	Merced, Madera and Mariposa, to Buchanan Dam	2
Churn Creek	Shasta — within Sacramento River floodway	2
Cirby Creek	Placer	2
Clarks Fork	Kings	1
Clear Creek	Shasta — Sacramento River to Whiskeytown Dam	2
Clover Creek	Shasta — to 1.1 miles upstream from Millville Plains Road	2
Clover Creek	Lake	2
Cole Slough	Fresno	1
Colusa Bypass	Colusa	2
Colusa Basin Drain and Canal	Glenn, Colusa, and Yolo	2
Colusa Trough	Colusa	2
Coon Creek	Placer and Sutter	2
Consumnes River	Sacramento	2
Cottonwood Creek	Shasta and Tehama — divides counties — to Dutch Gulch Dam	2
Cottonwood Creek South Fork	Tehama	2

[The next page is 4.9.]

Table 8.1—Regulated Streams and Nonpermissible Work Periods
(Continued)

Stream Title	*County–Limits*	*Flood Season*
Cottonwood Creek	Tulare — St. Johns River to Grapevine Creek	2
Cow Creek	Shasta — to 0.6 miles upstream of Millville Plains Road	2
Cresent Bypass	Kings and Fresno — North Fork Kings River	1
Cross Creek	Kings and Tulare — Nevada Avenue to St. Johns River	1
Davis Drain	Yolo	2
Dead Horse Slough	Butte	2
Deer Creek	Sacramento	2
Deer Creek	Tehama	2
Dog Creek	Fresno	2
Dry Creek	Butte	2
Dry Creek	Fresno	2
Dry Creek	Sacramento and Placer — to Antelope Creek	2
Dry Creek	Shasta, reaches within designated floodways of Clear and Cottonwood Creeks	2
Dry Creek	Stanislaus — Tuolimne River to AT&SF RR	2
Dry Creek	Sutter	2
Dry Creek	Tehama	2
Dry Creek	Tulare	2
Dry Creek	Yuba	2
Duck Creek	San Joaquin	2
Duck Creek, South Branch	San Joaquin	2
Duck Slough	Merced	2
Duck Slough	Yolo	2
Dutch John Cut Slough	Kings	1
Dye Creek	Tehama	2
East Sand Slough	Tehama — within Sacramento R. floodway	2
Eastside Bypass	Merced and Madera	1
Edendale Creek	Merced	2
El Capitan Canal	Merced	2
Elder Creek	Tehama — to Ralston Road Bridge	2
Elder Creek	Sacramento County	2
Elk Bayou	Tulare	1
Elk Slough	Yolo	2
Fahrens Creek	Merced	2
Feather River	Butte and Yuba	2
Feather River, North Fork	Plumas	2
Five Mile Slough	Fresno	1
Florin Creek	Sacramento County	2
Fourteenmile Slough	San Joaquin	2
French Camp Slough	San Joaquin	2
Fresno River	Madera to Hidden Dam	2
Fresno River, South Fork	Madera	2
Fresno Slough	Kings and Fresno	1
Georgiana Slough	Sacramento	2
Globe Slough	Fresno	1
Gold Run Creek	Butte	2
Haas Slough	Solano	2
Hastings Cut	Solano	2
Honcut Creek	Butte and Yuba — to 1/2 mile west of S.P.R.R.	2
Hughes Creek	Kings	2
Hutchinson Creek	Yuba	2

Table 8.1—Regulated Streams and Nonpermissible Work Periods
(Continued)

Stream Title	*County–Limits*	*Flood Season*
Ida Island	Sacramento	2
Inside Creek	Tulare	1
James Bypass	Kings and Fresno	1
Jack Slough	Yuba	2
Kaweah River	Tulare	1
Kaweah River, North Fork	Tulare	1
Kaweah River, Middle Fork	Tulare	1
Kaweah River, South Fork	Tulare	1
Kern River, South Fork	Kern, Isabella Dam to Tulare County Line	1
Kern River	Kern and Kings	1
Kern River Bypass Channel	Kern and Kings	1
Kings River	Kings, Tulare and Fresno — to Pine Flat Reservoir	1
Kings River, North Fork	Tulare	1
Kings River, South Fork	Tulare	1
Knights Landing Ridge Cut	Yolo	2
Laird Slough	Stanislaus	1
Laguna Creek	Sacramento—Morrison Creek to Franklin Boulevard	2
Laurel Creek	Solano	2
Ledgewood Creek	Solano	2
Linda Creek	Sacramento and Placer	2
Lindo Channel	Butte	2
Lindsey Slough	Solano	2
Little Chico Creek	Butte	2
Little Chico Diversion Canal	Butte	2
Little Cow Creek	Shasta	2
Littlejohns Creek	San Joaquin	2
Lone Tree Creek	San Joaquin	2
Lower San Joaquin River Flood Control Project	Fresno, Madera, and Merced	1
Magpie Creek	Sacramento — up to Raley Boulevard	2
Main Drain Canal	Kern	1
Mariposa Bypass	Merced	1
Mariposa Creek	Merced	2
Markham Creek	Sutter	2
Mayberry Slough	Sacramento	2
McClure Creek	Tehama	2
McCoy Creek	Solano	2
Merced River	Merced	1
Middle Creek	Lake	2
Miles Creek	Merced	2
Mill Creek	Tehama, Sacramento River to Highway 99	2
Miners Ravine	Placer — to Interstate 80 Highway	2
Miner Slough	Solano	2
Mokelumne River	Sacramento, San Joaquin — to Camanche Reservoir	2
Moody Slough	Solano	1
Mormon Slough	San Joaquin	2
Morrison Creek	Sacramento	2
Mosher Slough/Creek	San Joaquin — to Eight mile Road	2
Moulton Bypass and Weir	Colusa	2
Mud Creek	Butte	2

Table 8.1—Regulated Streams and Nonpermissible Work Periods
(Continued)

Stream Title	*County–Limits*	*Flood Season*
Mud Slough Creek	Butte	2
Murphy Slough	Butte	2
Natomas Cross Canal	Sutter	2
Natomas East Main Drainage Canal	Sutter and Sacramento	2
Oak Run Creek	Shasta — to 0.6 miles upstream from Millville Plains Road	2
Old River	San Joaquin to Paradise Cut	1
Outside Creek	Tulare	1
Owens Creek	Merced	2
Paddy Creek and South Paddy Creek	San Joaquin to Tully Road	2
Paradise Cut	San Joaquin	1
Paynes Creek	Tehama	2
Pixley Slough	San Joaquin — Eight mile Road to Bear Creek	2
Pleasant Grove Creek Canal	Sutter and Placer — to Union Pacific R.R.	2
Porter Slough	Tulare — Road 192 to Tule River	1
Putah Creek	Yolo, Solano — to Monticello Dam	2
Putah Creek, South Fork	Solano	2
Red Bank Creek	Tehama, only the reach that confluences with the Sacramento River designated floodway	2
Reeds Creek	Yuba	2
Sacramento Bypass	Yolo	2
Sacramento Deep Water Channel	Solano and Yolo	2
Sacramento River	Kenwick Dam — to west end of Sherman Island	2
Salt Creek	Shasta	2
Sand Creek	Tulare and Fresno	2
Sandy Gulch	Butte	2
San Joaquin River	Friant Dam to West End of Sherman Island	1
Scotts Creek	Lake	2
Secret Ravine	Placer	2
Shag Slough	Solano and Yolo	2
Sheep Hollow Creek	Butte	2
Smith Canal	San Joaquin — north levee only	2
Sevenmile Slough	Sacramento	2
Simmerly Slough	Yuba	2
Stanislaus River	San Joaquin, Stanislaus, Calaveras, Tuolumne, to Goodwin Dam	1
State Main Drain	Sutter	2
Steamboat Slough	Sacramento and Yolo	2
Stockton Diverting Canal	San Joaquin	2
Stony Creek	Tehama and Glenn	2
Sutter Bypass	Sutter	2
Sutter Slough	Solano, Sacramento & Yolo	2
Sycamore Creek	Butte	2
Sycamore Slough	Yolo	2
Sycamore Slough	Colusa	2
Thomes Creek	Tehama — within the Sacramento River floodway	2
Threemile Slough	Sacramento	2
Tisdale Bypass	Sutter	2
Tom Paine Slough	San Joaquin — Old River to W.P.R.R.	2
Tule River	Tulare, Road 192 to Success Dam	1
Tule River, North Fork	Tulare — confluence at Hickman Creek	1

Register 2009, No. 49; 12–4–2009

Table 8.1—Regulated Streams and Nonpermissible Work Periods (Continued)

Stream Title	*County–Limits*	*Flood Season*
Tule River, Middle Fork	Tulare — confluence at Long Canyon	1
Tule River, South Fork	Tulare — confluence at Long Branch	1
Tuolumne River	Stanislaus and San Joaquin — to La Grange Dam	1
Ulatis Creek	Solano — to Cache Slough	2
Unionhouse Creek	Sacramento	2
Wadsworth Canal	Sutter	2
Wadsworth Intercepting Canal, East	Sutter — to Township Road south bank only	2
Wadsworth Intercepting Canal, West	Sutter — south bank only	2
Walker Slough	San Joaquin	2
Walthall Slough	San Joaquin	2
Western Pacific Interceptor Channel	Yuba	2
West Side Canal	Kern	1
Willow Creek	Glenn and Colusa	2
Willow Slough and Bypass	Yolo — to SPRR	2
Wright Cut	Solano — to confluence Cache and Shag Slough	2
Yankee Slough	Sutter and Placer	2
Yokohl Creek	Tulare	2
Yolo Bypass	Solano and Yolo	2
Yuba River	Yuba — to Daguerre Point Dam/Highway 70	2

§ 113. Dwelling and Structures Within an Adopted Plan of Flood Control.

(a) The following definitions apply to this section:

(1) Existing Dwelling — "Existing Dwelling" means a building used for human habitation constructed within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway, or as otherwise permitted by the board.

(2) Existing Mobile Home — "Existing Mobile Home" means a mobile home that was positioned within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway, or as otherwise permitted by the board.

(3) Existing Structure — "Existing Structure" means a building used for any purpose other than for human habitation constructed within a floodway prior to the adoption of the floodway as an authorized flood control project, as a plan of flood control, or as a designated floodway, or as otherwise permitted by the board.

(4) Human Habitation — "Human Habitation" means an improvement of real property used, or intended to be used, for residential purposes, including but not limited to living, sleeping, cooking, or eating.

(5) Seasonal Occupancy — "Seasonal Occupancy" means to occupy or reside in a dwelling only during the nonflood season.

(6) Residential Development — "Residential Development" means any development or subdivision where a subdivision map is required.

(b) Dwellings and structures within an adopted plan of flood control must comply with the following requirements:

(1) New dwellings, with the exception of dwellings for seasonal occupancy (nonflood season), are not permitted except as provided in subdivisions (d) and (e) of this section.

(2) New dwellings for seasonal occupancy and existing dwellings and structures constructed prior to adoption of the plan of flood control are permitted within the floodway under the following conditions:

(A) The dwelling or structure is not abandoned and is maintained in a condition suitable for the approved use;

(B) The dwelling or structure does not impede floodflows;

(C) The dwelling or structure is properly anchored to prevent flotation during periods of high water;

(D) The finished floor level of new dwellings for seasonal occupancy must be a minimum of two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher; and

(E) New dwellings for seasonal occupancy may not be constructed on a levee section or within ten (10) feet of a levee toe.

(3) Any exterior remodeling, modifications, additions, or repairs to the dwelling, or structure, or property which modifies the footprint or consists of replacement of over fifty (50) percent of the structure must have prior approval by the board and meet the following conditions:

(A) Any remodeling, modifications, additions, or repairs may not place the dwelling or structure closer to the low water channel of the floodway; and

(B) The finished floor of any remodeling, modification, addition, or repair to the dwelling or structure must be a minimum of two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher.

(4) If a dwelling or structure is damaged, due to any cause, to a cumulative extent of more than fifty (50) percent of its market value within a ten–year period, the dwelling or structure may not be reconstructed or replaced without the approval of the board;

(5) If a damaged dwelling or structure is not repaired or replaced, the entire dwelling or structure, including all stored materials, equipment, and debris, must be completely removed within a reasonable period of time, as determined by the board, and the area restored so that there is no interference with the adopted plan of flood control.

(6) Structures may be constructed within an adopted plan of flood control provided they conform to the following:

(A) Structures may not be constructed on a levee section or within ten (10) feet of a levee toe;

(B) Structures must be securely anchored and floodproofed to at least two (2) feet above the 100–year flood elevation or two (2) feet above the design flood plane, whichever is higher. The floodproofing must be consistent with the potential uses of the structure;

(C) Structures must be located and oriented to have minimal impact on floodflows; and

(D) The number of structures permitted is limited to the minimum reasonably necessary to accomplish an appropriate land use activity.

(c) Mobile homes within an adopted plan of flood control must comply with the following requirements:

(1) New mobile homes are not permitted unless the mobile homes are located within an existing mobile home park or as provided in subdivisions (d) and (e) of this section;

(2) Existing mobile homes, not located within a mobile home park, may remain and the requirements are the same as those for existing dwellings; and

(3) Owners of existing mobile homes which are not located within a mobile home park and which are not anchored in place must have an evacuation plan on record with the board; and

(4) If flood damage occurs to the mobile home due to failure of the evacuation plan or its execution, the mobile home may not remain or be replaced within the adopted plan of flood control without the approval of the board.

(d) Dwellings, structures, and mobile homes are permitted within shallow flooding areas designated as a "zone B" as shown on some designated floodway maps adopted by the board. The board's zone B designation is not to be confused with the Federal Emergency Management Agency's B–zone which relates to a different floodplain identification. In addition to the other standards in this section, the following conditions apply to dwellings, structures, and mobile homes within a designated zone B:

(1) The dwelling, structure, or mobile home is not permitted on a levee section or within ten (10) feet of a levee toe;

(2) Dwellings, structures, and mobile homes are permitted to within fourteen (14) feet of the top of a streambank provided the streambank is revetted to board standards;

(3) Dwellings, structures and mobile homes are not permitted within thirty (30) feet of an unrevetted streambank;

(4) The finished floor level of the dwellings and mobile homes must be a minimum of two (2) feet above the design flood plane or two (2) feet above the 100 year flood elevation, whichever is higher;

(5) Only the minimum floodway area necessary for the placement of the dwelling, structure, or mobile home shall be used. Generally not more than thirty (30) percent of the flood plain area may be used. Designated floodway maps, however, may be more restrictive;

(6) Sufficient area of the floodway must remain clear of the dwelling, mobile home, or structure to preserve the historical orientation of the floodway and to prevent an increase in streamflow stages and velocities.

(7) If a dwelling, structure, or mobile home is damaged due to any cause, cumulatively to the extent of more than fifty (50) percent of its market value, the dwelling, structure, or mobile home may not be reconstructed or replaced without the approval of the board.

(8) Except for approved mining activities, excavating or grading that would increase the depth of flooding within a zone B and which might interfere with the safe evacuation of the area during flooding is not permitted.

(9) New residential developments may be subject to a higher standard than the 100–year event up to and including the Standard Project Flood, (e.g., floor elevations required to be above the Standard Project Flood) or an equivalent rare flood.

(e) New dwellings, structures and mobile homes along an unleveed stream shall comply with the following requirements:

(1) Dwellings, structures, and mobile homes are permitted to within fourteen (14) feet of the top of the streambank provided the streambank is revetted.

(2) Dwellings, structures and mobile homes are not permitted within (30) feet of an unrevetted streambank.

(f) Upon abandonment of the permitted dwelling or structure, the property owner shall be responsible for removal of the dwelling or structure and all appurtenant structures, vehicles, equipment, stockpiles of materials, and debris within a reasonable time.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 114. Mobile Home Parks and Recreational Vehicle Parks.

(a) The following definitions apply to this section:

(1) Existing Mobile Home Park — "Existing Mobile Home Park" means any area within a floodway on which two (2) or more mobile homes have been maintained prior to the adoption of the area as an authorized flood control project, as a plan of flood control, or as a designated floodway.

(2) Recreational Vehicle Park — "Recreational Vehicle Park" means any area within a floodway where two (2) or more recreational vehicles are maintained.

(b) Mobile home parks are subject to the following requirements:

(1) New mobile home parks are not permitted within an adopted plan of flood control except in floodway areas classified as zone B as described in subdivision (c), section 113, Dwellings and Structures Within an Adopted Plan of Flood Control.

(2) New mobile home parks are not permitted on a levee section or within ten (10) feet of a levee toe.

(3) Existing mobile home parks located within an adopted plan of flood control may remain if a permit from the board has been obtained, a current implementable evacuation plan is on file with the board, and the following criteria continue to be enforced:

(A) The locations of all structures, mobile homes, recreational vehicles, and appurtenances are shown on the evacuation plan.

(B) The location of the river staff gauge and the gauge height that will indicate an evacuation of a mobile home park are shown on the evacuation plan.

(C) The number of tow vehicles and the usual location of each tow vehicle to be used to evacuate a mobile home park are shown on the evacuation plan.

(D) The locations of emergency storage areas outside the floodway for the mobile homes, recreational vehicles, portable and floatable structures are shown on the evacuation plan.

(E) The route to be used to evacuate mobile homes from a mobile home park to the emergency storage area is shown on the evacuation plan.

(F) After the initiation of an evacuation, all mobile homes not anchored in place and all recreational vehicles, and portable and floatable structures are removed from the floodway within the time period specified in the evacuation plan.

(G) Existing multiple–wide mobile homes, unless specially designed for quick removal, are anchored in place with concrete deadmen.

(H) New multiple–wide mobile homes, unless specially designed for quick removal, are not permitted.

(I) A copy of the evacuation plan is provided to all residents of the mobile home park.

(J) The park permittee or the manager has a duplicate of all keys necessary to move a mobile home and a signed statement allowing the removal of an absentee owner's mobile home during an emergency evacuation.

(K) The permittee of a mobile home park accepts sole responsibility for initiating an evacuation of the park.

(L) Mobile homes not anchored in place, all portable structures, and recreational vehicles have axles, wheels, and any required tow hitch installed, and are in a readily movable condition at all times.

(M) Any related structures, such as laundry rooms or storage buildings, are securely anchored to prevent flotation during high water and are not utilized for human habitation.

(N) If significant flood damage occurs to any of the mobile homes or other park structures due to failure of the evacuation plan or its execution, the park may not continue operating without approval of the board.

(c) Recreational vehicle parks are subject to the following requirements:

(1) New and existing recreational vehicle parks are allowed within an adopted plan of flood control if a permit is obtained from the board, a cur-

rent implementable evacuation plan is on file with the board, and the following requirements are enforced:

(A) The locations of all recreational vehicle pads and appurtenances are shown on the evacuation plan.

(B) All recreational vehicles have axles, wheels, and any required tow hitch installed, and are in readily movable condition at all times.

(C) At the initiation of an evacuation, all recreational vehicles are removed from the floodway within the time period specified in the evacuation plan.

(D) At the initiation of the evacuation, all floatable and portable structures are removed from the floodway within the time period specified in the evacuation plan.

(E) The locations of emergency storage areas outside the floodway for recreational vehicles, and portable and floatable structures are shown on the evacuation plan.

(F) The location of the river staff gauge and the gauge height that will initiate an evacuation are shown on the evacuation plan.

(G) Permittees or managers of recreational vehicle parks accept sole responsibility for initiating an evacuation.

(H) Any related structures, such as laundry rooms or storage buildings, are securely anchored and are not utilized for human habitation.

(I) If significant flood damage occurs to any of the recreational vehicles or other park structures due to the failure of the evacuation plan or its execution, the park may not continue operating without the approval of the board.

(d) The following restrictions apply to recreational vehicles within an adopted plan of flood control that are not in a recreational vehicle park:

(1) The random use of recreational vehicles within an adopted plan of flood control does not require a permit from the board. Recreational vehicles are not permitted overnight within the floodway during the flood season. However, recreational vehicles may be stored in those limited areas where dwellings are permitted.

(2) It remains the sole responsibility of the property owner to ensure that recreational vehicles do not remain within the floodway overnight during the flood season.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 115. Dredged, Spoil, and Waste Material.

(a) Dredged, spoil, or waste materials, regardless of their composition, may not be deposited on the levee crown, levee slopes, or within the limits of a project floodway without specific prior approval of the board.

(b) Suitable dredged, spoil, or waste material may be deposited on or against the landside levee slope if the board determines that it is not detrimental to the safety of the levee.

(c) Dredged materials must be drained of excess moisture before being used as fill material.

(d) Dredged, spoil, or waste materials may not be deposited within the limits of the stream channel, project floodway, or within a bypass area without a determination by the board as to the effect of the deposition regarding (1) the flood–carrying capacity of the stream channel, floodway, or bypass; (2) recreational and environmental factors; and (3) fish and wildlife.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609, 8708, 8709 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 116. Borrow and Excavation Activities—Land and Channel.

(a) The removal of earthen material and related activities within the limits of an adopted plan of flood control are subject to the provisions of this division. The board may limit borrow and excavation activities based on the area's hydraulics, hydrology, sediment transport, and history of the borrow sites. The board may waive specific requirements for borrow or excavation activities if the permittee provides detailed studies which the board considers sufficient to justify the waiver.

Borrow and excavation activities maya be allowed if:

(1) The activity will not cause an unplanned change of the stream's location;

(2) The sediment transport downstream will not change in a manner that produces or tends to produce increased flood or erosion problems in the area; and

(3) The activity is consistent with the overall flood control objectives for the area.

(b) General requirements for all borrow permits include the following, unless other specific provisions for a specific area or stream modify these requirements:

(1) Any levee crown or access ramp used to transport borrow material must be maintained by the permittee in the same or better condition as existed at the start of the borrow operation.

(A) A surveyed longitudinal profile of the existing levee crown roadway and access ramps to be utilized for access to the borrow area must be submitted to the board prior to any excavation.

(B) A surveyed longitudinal profile of the levee crown and access ramps utilized for access to the borrow area must be submitted yearly as well as upon abandonment of the borrow area.

(C) Upon order of the board, the permittee shall restore a damaged levee and/or access ramp to the original profile.

(2) Land and channel borrow material of any type may not be stored on a levee section or within ten (10) feet of either toe at any time.

(3) No land and channel borrow material may be stored in a manner that could destabilize a riverbank, e.g., within thirty (30) feet of the top of bank.

(4) Periodic topographic surveys of the active borrow area and vicinity may be required.

(5) All boundaries of an active borrow area must be delineated by steel posts or other permanent markers which are clearly visible.

(6) Stockpiles of materials or the storage of equipment, unless securely anchored, downed trees or brush, and floatable material of any kind are not allowed within a floodway during the flood season as defined in Table 8.1.

(7) Excavation is not permitted within one hundred (100) feet of a levee toe or property line within the floodway.

(8) Material may not be removed within fifty (50) feet of the toe of any spur levee. A spur levee is a levee that protrudes into the floodway for the purpose of directing the flow of floodwater.

(9) Channel or berm excavations are not permitted within a leveed floodway where there is active erosion unless an engineering study demonstrates that the borrow will not exacerbate the erosion.

(10) The side slopes of the perimeter of a borrow area may not exceed three (3) feet horizontal to one (1) foot vertical.

(11) The upstream and downstream ends of a borrow area connected to the low–water channel shall be transitioned into the channel to prevent an abrupt change in streamflow velocity or cause an obstruction to the flow.

(12) The bottom of a borrow area that is seasonally dry and located within two hundred (200) feet of a levee toe shall be graded to be reasonably uniform with the gradient sloping towards the low–water channel.

(13) When the borrow area is to be connected to the low– water channel, excavation must start at the riverward edge of the borrow area and progress uniformly landward.

(14) The bottom elevation of any berm excavation may not be lower than the adjacent channel bottom without adequate setback from the channel. Five hundred (500) feet is generally considered an adequate setback.

(15) Dredging of material from channel waterways generally must be confined to the area beyond one hundred (100) feet of the toe of the bank. The slope of the borrow perimeter nearest the toe of the bank may not ex-

ceed five (5) feet horizontal to one (1) foot vertical. Localized exceptions may require bank protection.

(16) Before any borrow operation, including suction dredging, is permitted within one (1) mile of a bridge, a study must be submitted to show that the borrow operation will not adversely affect any of the bridge footings, piers, or bents.

(17) Before any borrow operation, including suction dredging, is permitted within one thousand (1,000) feet of any pipeline or cable crossing beneath the channel, or within one thousand (1,000) feet of a project control structure, e.g., a weir, a study must be submitted to show that the borrow operation will not adversely affect that facility. A study may be required for distances greater than one thousand (1,000) feet where deemed appropriate by the board.

(18) Any proposed borrow operation within one mile of a state highway bridge must be approved by the California Department of Transportation.

(19) A geotechnical investigation is required before initiating any borrow activity within a leveed floodway. The investigation must determine if the proposed borrow activity would increase seepage beneath levees, or expose soils susceptible to erosion.

(c) If periodic inspections reveal that a borrow operation will adversely affect the adopted plan of flood control, additional permit conditions may be imposed, or the permit may be revoked.

(d) Excavations made within a floodway that are not an approved borrow or dredging activity must be backfilled in a manner consistent with local conditions. This requirement is generally satisfied by using suitable material and compacting to the density of the adjacent undisturbed material. Compaction tests by a certified soils laboratory may be required. These requirements may be waived for minor excavations that would have no impact on the floodway.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 117. Supplemental Borrow Standards for the Yuba River.

Additional borrow standards have been established for the removal of material from the floodway of the Yuba River. These additional standards supplement and, where in conflict with, supersede standards in section 116, Borrow and Excavation Activities – Land and Channel.

(a) Material may not be removed within three hundred (300) feet of the centerline of project and local levees of the Yuba River.

(b) Material may not be removed within three hundred (300) feet of the perimeter of any bank or levee protection work.

(c) Between Daguerre Point Dam and Cenedella Bend (River Mile 4.1), material may not be removed within one thousand five hundred (1,500) feet of the top of the banks of the Yuba River.

(d) The elevation of the bottom of the borrow area nearest the bank of the river may be no lower than ten (10) feet above the normal low–water elevation of the Yuba River (see Graph 8.1).

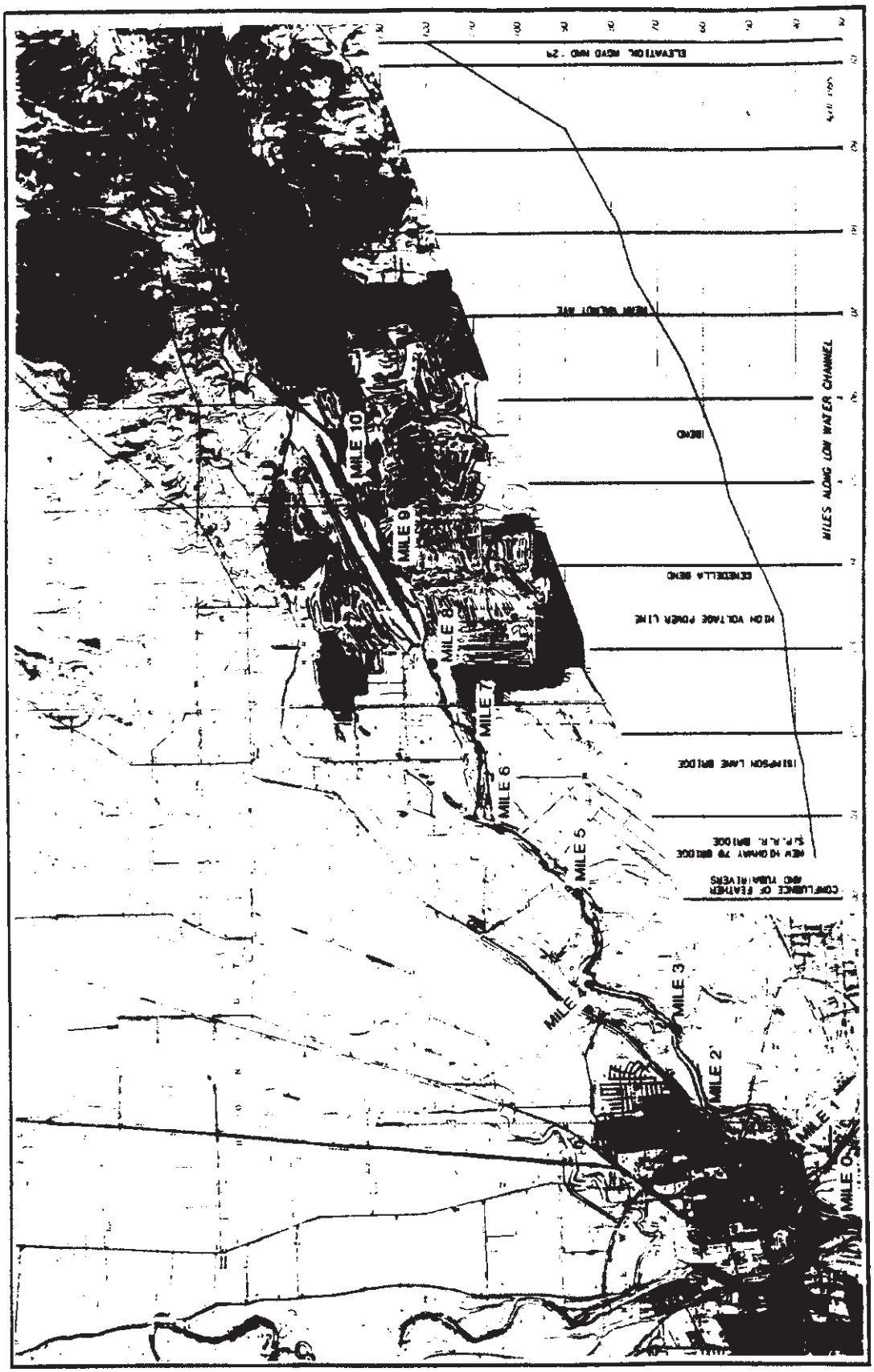
(e) Existing borrow pits or depressions between the levee and three hundred (300) feet landward of the levee centerline and adjacent to a proposed borrow area must be backfilled to within twenty (20) feet vertically of the levee crown by the permittee of the proposed borrow area. The backfill must be placed in the ratio of one (1) cubic yard placed in the low areas to ten (10) cubic yards removed from the floodway.

(f) Material may not be removed from the area between nine hundred (900) feet upstream of the Southern Pacific Railroad bridge and the confluence of the Yuba and Feather Rivers.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and graphic 8.1 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).



Yuba River Low Water Profile

Graph 8.1

§ 118. Supplemental Borrow Standards for the Lower San Joaquin River Flood Control Project.

An additional borrow standard has been established for the removal of material from the floodways of the Lower San Joaquin River Flood Control Project. The additional standard supplements and, where in conflict with, supersedes standards in section 116, Borrow and Excavation Activities – Land and Channel. The supplemental standard requires that all berm excavations must connect to the channel, and the bottom of berm excavations must be sloped to drain away from the levee.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 119. Dams and Related Structures.

(a) Dams and structures that act as dams constructed in the channels of intermittent streams must meet the following criteria:

(1) A study shall be submitted to the board confirming that the installation of a dam will not increase flooding outside of the floodway or increase flood damages to third parties in the floodway.

(2) Erosion control may be required on the bank or levee slopes upstream and downstream of the proposed dam.

(3) Earthfill, including sand, and rockfill dams must be completely removed from the floodway prior to the beginning of flood season each year and may not be reinstalled prior to the end of flood season. (See Table 8.1.)

(4) All stanchions must be removed or lowered, and all flashboards and slide gates of a dam must be removed from the floodway prior to the beginning of flood season each year and may not be reinstalled prior to the end of flood season. (See Table 8.1.)

(5) The permittee must remove or lower all stanchions and must remove the flashboards and slide gates of a dam within twenty–four (24) hours after receiving written notification from the board.

(6) The permittee must remove an earthfill or rockfill dam within ninety–six (96) hours after receiving written notification from the board.

(7) Upon removal of an earthfill or rockfill dam, the material from the dam may not be stockpiled on the levee section or within the floodway.

(8) The permittee must provide warning signs upstream and downstream of a rockfill dam to protect boaters.

(b) Crop checks, ditch banks, ditch pads, road fills, and secondary levees installed within floodways and bypasses may not be reinforced or revetted and must be limited to a height that will not impair the floodway capacity. Crop checks, ditch banks and ditch pads are limited to a height of three (3) feet above the adjacent natural ground.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 120. Levees.

(a) Levees constructed, reconstructed, raised, enlarged, or modified within a floodway shall be designed and constructed in accordance with the U.S. Army Corps of Engineers manual, "Design and Construction of Levees" (EM 1110–2–1913 dated March 31, 1978, which is incorporated by reference) and as supplemented with the following standards:

(1) Levee construction or reconstruction shall be designed by a civil engineer.

(2) An engineering analysis that evaluates levee embankment and foundation stability shall be submitted to the board with the permit application. The analysis must verify that the levee is adequately designed and will be constructed to remain stable under loading conditions for "Case IV – Steady seepage from full flood stage" as defined in the Department of the Army manual, "Design and Construction of Levees" (EM 1110–2–1913), pp.6–6, 6– 7.

(3) A detailed settlement analysis, using procedures such as those described in the Department of the Army manual, "Settlement Analysis" (EM 1110–1–1904, dated September 30, 1990, which is incorporated by reference), must be submitted to the board.

(4) A copy of all geotechnical studies and tests used in the design determination of the levee shall be provided to the board when applying for a permit.

(5) The applicant shall provide the board with a permanent easement granting the Sacramento and San Joaquin Drainage District all flood control rights upon, over, and across the property to be occupied by the proposed flood control works. The easement must include the area within the proposed floodway, the levee section, and the area at least ten (10) feet in width adjacent to the landward levee toe if the area is not presently encumbered by a board easement. The board may require an easement over a larger area and over any property when it is foreseeable that the proposed activities subject to a permit would be injurious to or interfere with the adopted plan of flood control.

(6) All drains and abandoned conduits shall be removed from the proposed construction site prior to start of construction.

(7) Prior to construction or enlargement of the embankment, all holes, depressions, and ditches in the foundation area shall be backfilled and compacted to a density equal to that of the adjacent undisturbed material.

(8) Prior to construction or enlargement of the embankment, all surface vegetation shall be removed from the area to receive fill to a depth of six (6) inches. Organic soil and roots one and one–half (1–1/2) inches in diameter or larger, shall be removed from the area to receive fill to a depth of three (3) feet.

(9) An inspection trench shall be excavated to a minimum depth of six (6) feet beneath levees being constructed or reconstructed to a height of six (6) feet or greater. If necessary to ensure a satisfactory foundation, the depth of the inspection trench may be required to exceed six (6) feet.

(A) The minimum depth of an inspection trench excavated beneath levees to be constructed or reconstructed less than six (6) feet in height must be equal to the height of the design water surface above natural ground adjacent to the levee.

(B) The inspection trench must have a minimum bottom width of twelve (12) feet, and the side slopes must be one (1) foot horizontal to four (4) feet vertical, or flatter.

(C) The centerline of the inspection trench shall be located approximately under the outer edge of the shoulder of the waterside levee crown.

(10) When subsurface explorations disclose a pervious substratum underlying a levee to be constructed or reconstructed, a cutoff trench must be excavated to an impervious stratum, where practical.

(11) Cutoff trenches shall have a minimum bottom width of twelve (12) feet and the side slopes shall be one (1) foot horizontal to four (4) feet vertical, or flatter.

(12) Impervious material, with twenty (20) percent or more of its passing the No. 200 sieve, and having a plasticity index of eight (8) or more, and having a liquid limit of less than (50), must be used for construction of new levees and the reconstruction of existing levees. Special construction details (e.g., 4:1 slopes) may be substituted where these soil properties are not readily attainable. Where the design of a new levee structure utilizes zones of various materials or soil types, the requirements of this subdivision do not apply.

(13) Fill material must be placed in four (4) to six (6) inch layers and compacted with a sheepsfoot roller, or equivalent, to a relative compaction of not less than ninety (90) percent per ASTM D1557–91, dated 1991, which is incorporated by reference and above optimum moisture content, or ninety–seven (97) percent per ASTM D698–91, dated 1991, which is incorporated by reference and at or above optimum moisture content.

(14) Fill material placed within two (2) feet of a structure must be compacted by appropriate hand operated compaction equipment.

(15) Levee fill material must be free of stones or lumps exceeding three (3) inches in greatest dimension, and must be free of vegetative matter or other unsatisfactory material.

(16) Fill material may only be placed within the area indicated on the submitted plans.

(17) Fill on levee slopes must be keyed into the existing levee section whenever there is substantial fill, as determined by the board.

(18) Each layer of fill material applied on a levee must be keyed into the levee section individually in four (4) to six (6) inch layers.

(19) Density tests by a certified soils laboratory will be required to verify compaction of levee fill and trench backfill.

(20) Ditches, power poles, standpipes, distribution boxes, and other above–ground structures located within ten (10) feet of the levee toe must be relocated a minimum distance of ten (10) feet beyond the levee toes.

(21) Pipelines located alongside and within ten (10) feet of the levee toe must be relocated a minimum distance of ten (10) feet beyond the levee toe.

(22) Construction work of any type may not be done on levees or within the floodway during the flood season (see Table 8.1) unless authorized by the Executive Officer.

(23) The areas adjacent to the levee must drain away from the levee toes for a minimum distance of ten (10) feet.

(24) The finished slope of any project levee construction or reconstruction must be three (3) feet horizontal to one (1) foot vertical, or flatter, on the waterside and two (2) feet horizontal to one (1) foot vertical, or flatter, on the landside of the levee.

(25) The finished slope of any bypass levee must be four (4) feet horizontal to one (1) foot vertical, or flatter, on the waterside and three (3) feet horizontal to one (1) foot vertical, or flatter, on the landside of the levee.

(26) An existing levee section being reconstructed, realigned, or otherwise altered, and having encroachments that are located within the levee that are to be replaced or changed, must have detailed plans of the proposed encroachment changes approved by the board prior to start of construction.

(27) The board may require the modification, as necessary, of existing pipelines within a levee section that is being raised to accomodate a higher design water surface elevation in order to prevent seepage along the pipeline and to prevent backflow through the pipeline during the design event.

(28) A set of "as constructed" drawings of any levee project shall be submitted to the board, the department and the Corps of Engineers upon completion of the project.

(29) Stone revetment may be required on levee slopes where turbulence, flow, or wave action may cause erosion.

(30) Grasses or other approved ground covers may be required on levee slopes.

(31) The minimum crown width of a levee is normally twelve (12) feet on minor streams and twenty (20) feet on major streams. The levee crown width for a levee on a specific stream is defined by the project document and/or operations manual in current use and must be consistent with minimum width requirements of existing levees on the specific stream.

(32) A levee having a crown width of fifteen (15) feet or less must have vehicular turnouts at approximately two thousand–five hundred (2,500) foot intervals if there is no existing access ramp within that distance.

(33) As used in this section, the term "approved risk–based analysis" means an analysis which uses simulation modeling of river discharge versus probability of occurrence, river stage versus river discharge estimates, and river stage versus flood damage estimates and accounts for uncertainty in these functions to determine the performance of a proposed flood control feature.

(A) All levees constructed or reconstructed must have a minimum of three (3) feet of freeboard above the design flood plane, or a crown elevation no lower than designed using an approved risk–based analysis.

(B) Unless designed using an approved risk–based analysis, the design freeboard of a levee to be constructed or reconstructed must be appropriately increased when any of the following conditions exist:

(i) High velocity streamflow.

(ii) Excessive wave action.

(iii) Excessive hydrologic, hydraulic, or geotechnical uncertainty in the levee design parameters.

(C) Unless designed using an approved risk–based analysis, levees within one hundred (100) feet of a bridge, or other structure which may constrict floodflows, must have one (1) foot of additional freeboard.

(b) Unreinforced pavement is not permitted on levee slopes.

(c) Pavement for roadways and similar uses is permitted within ten (10) feet of the levee toe.

(d) Pavement within ten (10) feet of the landside levee toe must have appropriate features that intercept seepage and prevent particle migration.

(e) Levee seepage control facilities (e.g., toe drains and toe ditches) must meet the following requirements:

(1) The seepage control facilities must be designed by a civil engineer.

(2) All studies and calculations relating to design and maintenance of the seepage control facility must be submitted to the board with the permit application.

(3) The appropriate rights–of–way for the seepage control facilities must be included in the levee easements.

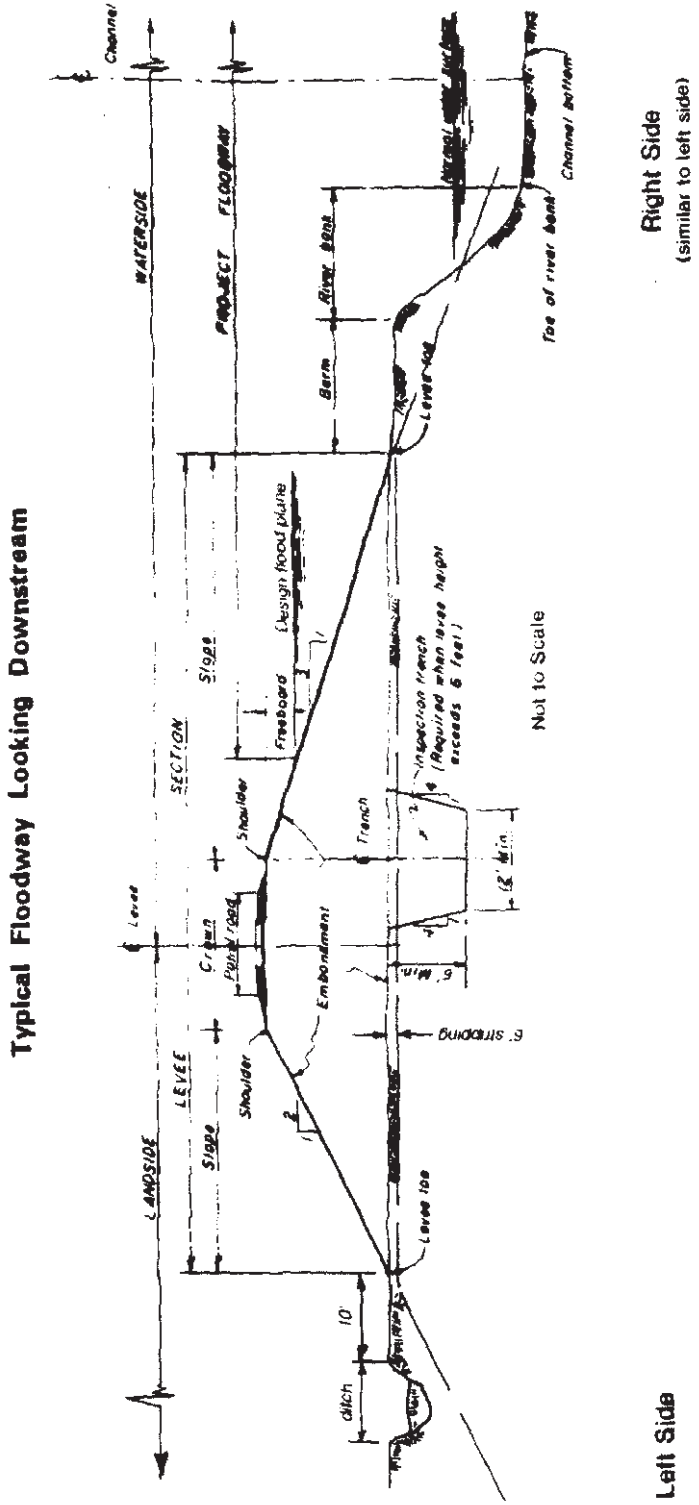
(f) See Figure 8.01 for illustrated details, dimensions, and terminology for levees and floodways.

(g) If a proposed project which includes levee improvements would result in substantial residential development within an area that without the levee improvements would be subject to the Federal Emergency Management Agency's regulatory 100–year flood plain constraints, the board may require the permittee to mitigate for any increased average annual flood damage by increasing the level of protection provided by the levee improvement project, up to and including the Standard Project Flood.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and figure 8.01 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment of subsections (a)(5) and (a)(22) filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).



ITEM	MINIMUM DIMENSIONS OF STANDARD LEVEE SECTIONS			
	MAIN RIVER CHANNELS	MAJOR TRIBUTARIES	MINOR TRIBUTARIES	BY PASSES
CROWN WIDTH	20'	20'	12'	20'
LAND SLOPE	1 on 2	1 on 2	1 on 2	1 on 2
WATER SLOPE	1 on 3	1 on 3	1 on 3	1 on 3
FREEBOARD	3' (1)	3'	3'	4' to 6'
PATROL ROAD WIDTH	12'	12'	10'	12'

NOTE (1) 5 Feet on Main Channel Below Cache Slough (Sacramento River)

Figure 8.01

§ 121. Erosion Control.

(a) Quarry stone, cobblestone, or their equivalent may be used for erosion control along rivers and streams if the material meets the criteria below. Typical sections delineating methods of placement and dimensions of revetment using rock and sacked concrete are shown in Figures 8.02 and 8.03.

(1) Bedding materials must be placed under the stone protection at locations where the underlying soils require such material for stabilization, considering such factors as tidal fluctuation, wave action, and streamflow velocity.

(2) Cobblestone protection must be placed on prepared slopes of three (3) feet horizontal to one (1) foot vertical or flatter.

(3) Cobblestone protection, having acceptable cobblestone gradations, may be used where streamflow velocities ten (10) feet from the bank do not exceed eight (8) feet per second.

(4) Quarry stone protection must be placed on prepared slopes steeper than three (3) feet horizontal to one (1) foot vertical.

(5) Quarry stone protection, meeting required gradations and sizes, may be used at locations where streamflow velocities ten (10) feet from the bank do not exceed twelve (12) feet per second.

(6) Required gradations of cobblestone and quarry stone are as follows:

Cobblestone		*Quarry stone*	
Stone Size	*Percent Passing*	*Stone Size*	*Percent Passing*
15″	100	15″	100
10″	55 to 95	8″	80 to 95
8″	35 to 65	6″	45 to 80
6″	10 to 35	4″	15 to 45
3″	1 to 5	2″	0 to 15

(7) Graded cobblestone and quarry stone must be placed in a manner which avoids segregation.

(8) Where streamflow velocities ten (10) feet from the bank exceed twelve (12) feet per second, special cobble or quarry stone gradation is required. Flow retarding structures, such as retards, wing dams, and rock groins may be permitted at these high streamflow velocity sites.

(9) Alternative bank protection materials may be permitted by the board. Possible alternatives include but are not limited to: sacked concrete; broken concrete free of projecting steel; reinforced concrete; precast concrete cribbing; and stone–filled gabion baskets.

(10) Broken concrete used for levee revetment may be no larger than sixteen (16) inches at its maximum dimension.

(11) Asphalt or other petroleum–based products may not be used as fill or as erosion control on a levee section or within a floodway.

(12) The minimum thickness of revetment is eighteen (18) inches perpendicular to the bank or levee slope below the usual water surface and twelve (12) inches above the usual surface.

(13) Revetment must be uniformly placed and properly transitioned into the bank, levee slope or adjacent revetment.

(b) When revetment is proposed by an applicant but not required by the board, the standards relating to revetment bedding, gradation, size, shape and thickness are recommended but not required.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and figures 8.02 and 8.03 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Erosion Control - Rock

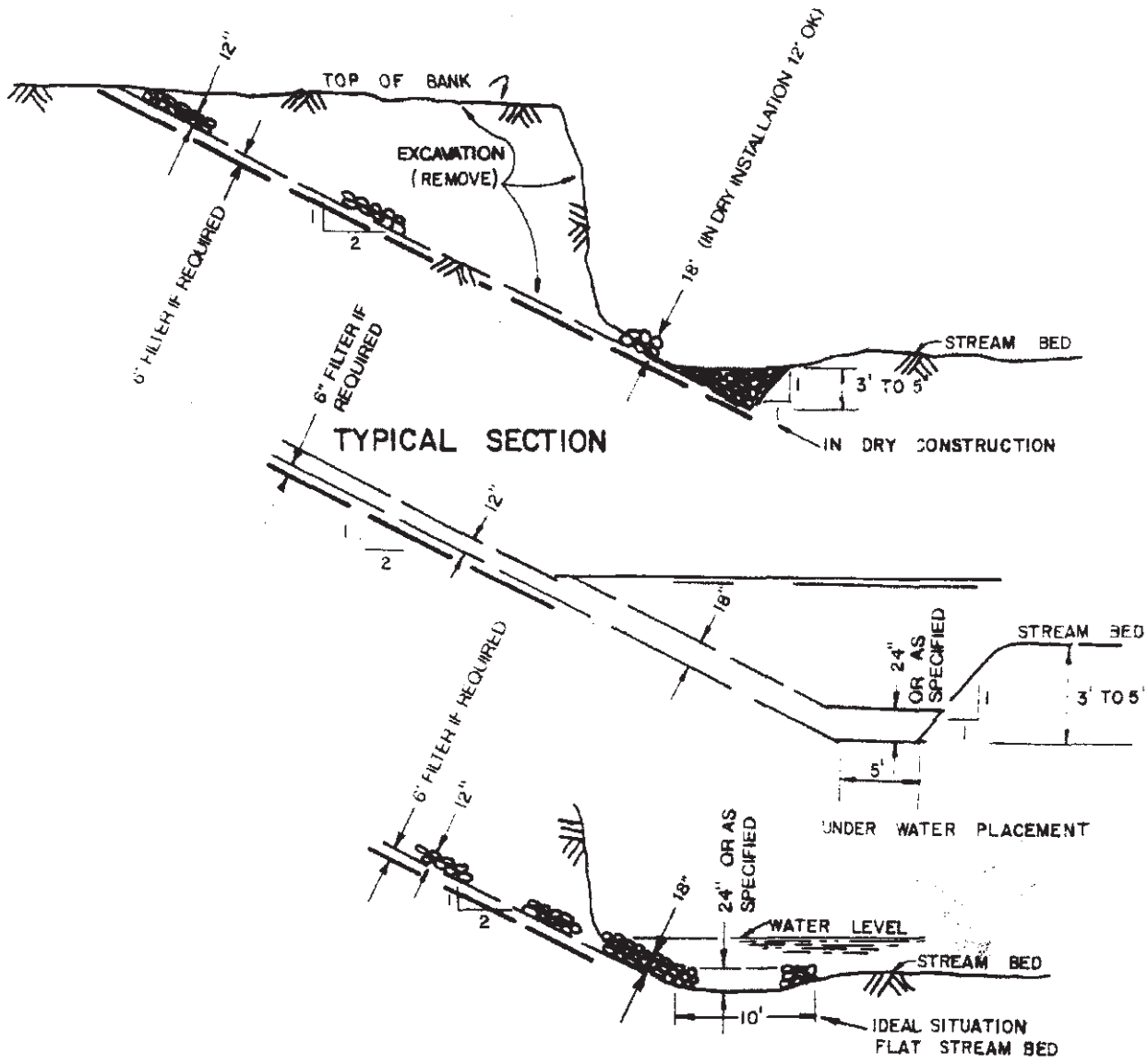


Figure 8.02

Sacked Concrete

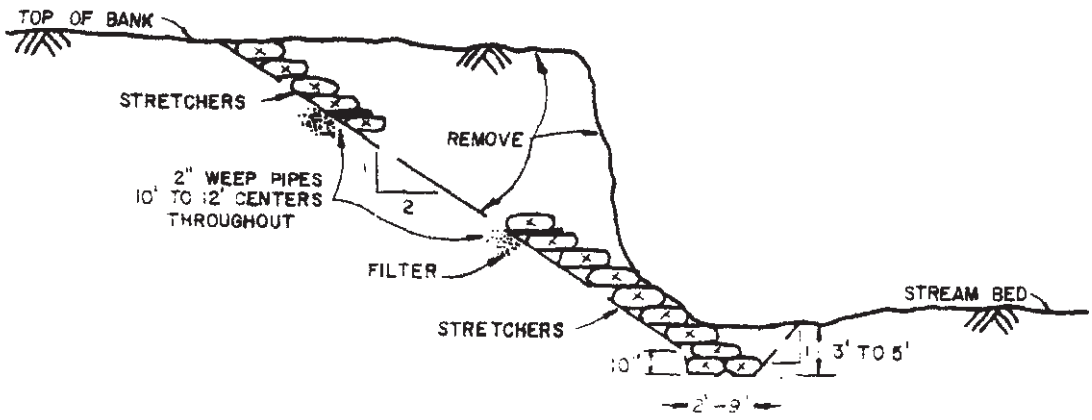


Figure 8.03

§ 122. Irrigation and Drainage Ditches, Tile Drains, and Septic Systems.

(a) Irrigation ditches, drainage ditches, and similar facilities must satisfy the following criteria:

(1) All ditches must be located at least ten (10) feet from the levee toe.

(2) The bottom of any agricultural ditch must be located above the projected levee slope. Accordingly, a deep ditch may need to be located farther than the minimum ten (10) feet from the levee toe. (See Figure 8.01.)

(b) Tile drains, septic systems, and similar facilities must satisfy the following criteria:

(1) All tile drains, septic tanks, or leach fields must be located at least ten (10) feet from the levee toe.

(2) The bottom of any tile drain, septic tank, or leach field must be located above the projected levee slope.

(3) Positive closure valves may be required on a tile drain pipeline to prevent backflow.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 123. Pipelines, Conduits, and Utility Lines.

(a) The following definitions apply to this section:

(1) Delta Lowlands. "Delta Lowlands" means those lands within the Sacramento–San Joaquin Delta that are approximately at the five– (5) foot contour and below as shown in Figure 8.04.

(2) Delta Uplands. "Delta Uplands" means those lands within the Sacramento–San Joaquin Delta that are above the five– (5) foot contour as shown in Figure 8.04.

(b) Pipelines, conduits, utility lines, and appurtenant structures must conform to the following criteria:

(1) Pipelines, conduits, utility lines, utility poles, and appurtenant structures may not be installed within the levee section, within ten (10) feet of levee toes, or within the floodway during the flood season unless authorized by the General Manager based on reservoir levels, stream levels, and forecasted weather conditions on a case–by–case basis, pursuant to section 11.

(2) Appurtenant structures such as standpipes, utility poles, distribution boxes, guy wires, and anchors, but not including siphon breakers, are generally not permitted in or below the levee crown, on the levee slopes, or within ten (10) feet of the levee toes. Appurtenant structures may be permitted where they will not interfere with levee maintenance or flood fight activities.

(3) Appropriate, visible markers acceptable to the local maintaining agency may be required to identify the location of buried pipelines, conduits, and utility lines. A siphon breaker or other visible appurtenance may be considered an acceptable marker for the attached buried line. Markers must be made of durable, long lasting, fire–resistant material, and must be maintained by the permittee until the pipeline, conduit or utility line is properly abandoned.

(4) Pipelines, conduits, and utility lines that pose a threat or danger to levee maintenance or flood fight activities, such as high–voltage lines, gas lines, and high pressure fluid lines, must be distinctively labeled to identify the contents.

(5) Buried high–voltage lines of greater than twenty–four (24) volts are required to be protected with schedule 40 PVC conduit, or equivalent.

(6) Overhead electrical and communication lines must have a minimum vertical clearance above the levee crown and access ramps of twenty–one (21) feet for lines carrying 750 volts or less, and twenty–five (25) feet for lines carrying higher voltage.

(7) Fluid– or gas–carrying pipelines installed parallel to a levee must be a minimum distance of ten (10) feet from the levee toe and, where practical, may not encroach into the projected levee slope.

(8) Low–voltage electrical or communication lines of twenty–four (24) volts or less may be installed parallel to a levee and within ten (10) feet of the levee toe when it is demonstrated to be necessary and to not interfere with the integrity of levee, levee maintenance, inspection, or flood fight procedures.

(9) The board may require the applicant to have any pipelines, conduits, utility lines and appurtenant structures designed by a registered civil engineer.

(c) Pipelines, conduits, and utility lines installed within the floodway must conform to the following additional conditions:

(1) Pipelines, conduits, and utility lines installed within the floodway must have a minimum cover of five (5) feet beneath the low–water channel, and a minimum of two (2) feet in the remaining area of the floodway. A greater depth of cover may be required based upon the feasibility of achieving the required cover or local soil stability and channel hydraulics.

(2) Open–trench backfill to cover pipes must be placed in a manner consistent with floodway characteristics such as erosion, deposition, and streamflow velocities. This requirement is generally ensured by using suitable material and compacting to the density of adjacent undisturbed material. Compaction tests by a certified soils laboratory may be required.

(3) In general, any standard material may be used for pipelines or conduits to be installed within the floodway ten (10) feet or more from the levee toe or the projected levee slope.

(4) All debris that accumulates around utility poles and guy wires within the floodway must be completely removed following the flood season and immediately after major accumulations.

(5) Pipelines and conduits which are open to the waterway and which could cause flood damage from uncontrolled backflow during the design flood event shall have a readily accessible positive closure device. A flap gate is not a positive closure device.

(d) Pipelines, conduits, and utility lines installed through a levee must conform to the following additional conditions:

(1) The installation of a fluid– or gas– carrying pipeline in a levee section or within ten (10) feet of the toe parallel to the centerline is not permitted.

(2) Pipelines, conduits, and utility lines must be installed through a levee as nearly at a right angle to the levee centerline as practical.

(3) Buried pipelines, conduits, and utility lines that do not surface near the levee toes must have location markers near both levee toes.

(4) Buried pipelines, conduits, and utility lines that cross the levee at right angles must have a location marker located on the levee slope adjacent to either shoulder.

(5) Buried pipelines, conduits, and utility lines that cross the levee at other than right angles must have location markers on the levee slopes adjacent to each shoulder.

(6) Pipelines carrying gas or fluids under pressure must be confirmed free of leaks during construction by pressure tests, X–ray, or equivalent methods, and must be tested anytime after construction upon request of the board.

(7) Pipelines carrying gas or fluids under pressure must have a readily accessible rapid closure device located within ten (10) feet of the landside levee toe.

(8) Pipelines and conduits open to the waterway must have a readily accessible positive closure device unless it can be demonstrated it is not necessary. A flap gate is not a positive closure device.

(9) The side slopes of trenches excavated for the installation of pipelines, conduit, or utility lines may be no steeper than one (1) foot horizontal to one (1) foot vertical. The following are exceptions to this maximum slope requirement:

(A) For shallow installations above the flood plane, e.g., twelve (12) inches, vertical side slopes may be allowed.

(B) For that portion of the trench above the design freeboard, vertical side slopes may be allowed.

(10) The bottom width of trenches excavated for the installation of a pipeline, conduit, or utility line must be two (2) feet wider than the diameter of the pipeline or conduit, or two (2) times the pipe diameter, whichever is greater.

(11) The minimum cover for pipelines, conduits, and utility lines installed through the levee crown is twenty–four (24) inches. If it becomes necessary to raise a levee crown to provide minimum cover, the longitudinal slope of the crown must be a minimum of ten (10) feet horizontal to one (1) foot vertical. Where twenty–four (24) inches of cover is not practical, a concrete or other engineered cover is required.

(12) The minimum cover for pipelines, conduits, and utility lines installed within the levee slope is twelve (12) inches. Where the installation will not interfere with levee maintenance or flood fight activities, it may not be necessary to bury the line within the levee slopes.

(13) When practical, pipelines, conduits, and utility lines installed within a levee section must be separated from parallel pipelines, conduits, and utility lines by a minimum of twelve (12) inches, or the diameter of the largest pipeline, conduit, or utility line, whichever is larger, to a maximum of thirty–six (36) inches.

(14) When practical, pipelines, conduits, and utility lines must have a minimum vertical spacing of six (6) inches when crossing other pipelines, conduits, or utility lines.

(15) A siphon breaker with a protective housing may be required and must be installed off the levee crown roadway where it will not interfere with levee maintenance.

(16) Electrical and communication lines installed through a levee or within ten (10) feet of a levee toe must be encased in schedule 40 PVC conduit or equivalent. Low–voltage lines (24 volts or less) and fiber optic cable may be allowed without conduit if properly labeled.

(17) A standard reinforced concrete U–wall for levee erosion protection is required at the outlet end of a pipeline or conduit discharging within ten (10) feet of a levee toe. See Figures 8.05 and 8.06 for U–Wall design criteria.

(18) Existing levee erosion protection must be restored by the permittee if it is damaged during the installation of a pipeline, conduit, or utility line.

(19) The permittee must replant or reseed levee slopes to restore sod, grasses or other nonwoody ground covers that are destroyed or damaged during the installation of a pipeline, conduit, or utility line.

(20) Within the levee or within ten (10) feet of levee toes, any excavation for the installation of a pipeline, conduit, or utility line must be backfilled in four (4) to six– (6) inch layers with approved material and compacted to a relative compaction of not less than ninety (90) percent, per ASTM D1557– 91, dated 1991, which is incorporated by reference and above optimum moisture content or ninety–seven (97) percent, per ASTM D698–91, dated 1991, which is incorporated by reference and at or above optimum moisture content. Compaction tests by a certified soils laboratory will be required to verify compaction of backfill within a levee.

(21) Boring a pipeline or conduit through a levee is permitted if the following additional conditions are met:

(A) The invert of the pipeline or conduit must be located at least three (3) feet above the design flood plane.

(B) The pipeline or conduit must be butt–welded. Polyethylene pipes may be used as provided in subdivisions (f)(4)(A), (f)(4)(B), and (f)(4)(C) of this section.

(C) The pipeline or conduit must be installed by the bentonite boring method or equivalent. The bentonite boring method uses an auger followed by a pipe with multiple port openings through which a bentonite slurry is pumped to ensure sealing of any voids resulting from the boring process.

(e) Pipelines, conduits, and utility lines may be installed by the open cut–method through a levee below the design flood plane, or within the levee foundation under the following conditions:

(1) One or more of the following conditions must apply:

(A) The pipeline, conduit, or utility line will be maintained by a public agency with a history of good maintenance based upon annual maintenance or inspection reports.

(B) The levee is designed to withstand a depth of less than six (6) feet of water measured with respect to the elevation of the landside levee toe.

(C) The levee is designed to withstand a depth of less than twelve (12) feet of water measured with respect to the elevation of the landside levee toe and provides flood protection for a rural area, or an area where the board anticipates little future urban development.

(2) Pipelines open to the waterway must be a minimum of thirty (30) inches in diameter, and must have a readily accessible positive closure device installed on the waterward side.

(3) Seepage along pipelines, conduits, and utility lines must be prevented by either of the following methods:

(A) The pipeline, conduit, or utility line is encased in reinforced concrete cast against firm undisturbed earth.

(B) The conduit has reinforced concrete battered walls at an inclination of one (1) foot horizontal to four (4) feet vertical or flatter.

(4) The work must commence and be completed prior to the flood season.

(5) Levees located within the Sacramento–San Joaquin Delta lowlands may only be cut below the design flood plane after appropriate engineering studies are performed and approved.

(f) Pipelines, conduits, and utility lines may be installed under a levee or stream channel by tunneling, jacking, or boring, if the following conditions are met:

(1) The pipeline, conduit, or utility line is at least thirty (30) feet under the levee.

(2) The pipeline, conduit, or utility line is verified to have the required cover. A greater depth of cover may be required based upon the feasibility of achieving the required cover or on local soil stability and channel hydraulics.

(3) If the installation is to be more than fifty (50) feet below the levee and the entire floodway and streambed, the board may waive the requirement for a permit provided a letter of intent is filed with the board prior to commencement of the project.

(4) The portal and outlet of a tunnel, jacking, or boring must be a minimum distance of ten (10) feet beyond the projected levee slope without an approved stability and seepage analysis.

(5) Installation may occur during the flood season and when the water surface elevation in the floodway is expected to be above the elevation of the landside levee toe if adequate containment cells are constructed at the portal and outlet.

(6) The installation of a pipeline, conduit, or utility line under levees in the Sacramento–San Joaquin Delta lowlands requires adequate containment cells at the portal and outlet when the installation is less than fifty (50) feet below the streambed and levee toes.

(7) Pipelines carrying gas or fluids under pressure below a levee must have provision for rapid closure.

(8) Pipelines and conduits open to the waterway and below a levee must have a positive closure device which is accessible at all times unless it is demonstrated to be unnecessary. A flap gate is not a positive closure device.

(g) The following pipe materials are allowed within a levee section when designed to resist all anticipated loading conditions and properly installed:

(1) Galvanized iron pipe is allowed if all joints are threaded. Galvanized iron pipe joints must be corrosion protected with PVC tape or polyethylene tape wrapped to a thickness of thirty (30) mils or equivalent.

(2) Schedule 80 polyvinyl chloride (PVC) pipe is allowed if it is entirely buried, all joints are threaded and the components were continually protected from ultraviolet radiation damage or were newly manufactured.

(3) Polyvinyl chloride (PVC) plastic pipe schedule 40, or better, may be used as a conduit for power or communication cables.

(4) High–density polyethylene pipe may be used for pipeline or conduit installations provided the following conditions are met:

(A) High–density polyethylene pipeline or conduit joints must be heat or electrofusion welded (ASTM Standard F1055–93, dated 1993 or D3261–93, dated 1993 which is incorporated by reference).

(B) High–density polyethylene pipelines and conduits must be designed to resist all anticipated loading conditions, and the design calculations must be submitted to the board.

(C) High–density polyethylene pipelines and conduits must be ultraviolet radiation protected.

(5) Cast–in–place reinforced concrete pipes and box culverts may be used above and below the design flood plane if the concrete is at least six (6) inches thick.

(6) Precast reinforced concrete pipes and box culverts and concrete cylinder pipes may be used above and below the design flood plane if the following conditions are met:

(A) Precast reinforced concrete pipe meets ASTM Specification C76–90, dated 1990 which is incorporated by reference.

(B) Precast reinforced concrete pipe joints and precast box culvert joints are encased in reinforced concrete cast–in–place against firm undisturbed earth.

(C) The cylinders of concrete cylinder pipes are welded and corrosion protected internally and externally.

(D) When installed below the design flood plane, precast reinforced concrete pipe and concrete cylinder pipe must be encased below the springline in concrete cast against undisturbed earth.

(7) Steel pipe may be used for all types of pipeline or conduit installations through a levee above the design flood plane if the pipe meets the following requirements:

(A) The steel pipe is resilient and not materially reduced in quality due to weathering, prior use or other deteriorating conditions.

(B) The steel pipe joints are butt–welded or threaded.

(C) The steel pipe installations are corrosion–proofed externally with a coating of material such as coal–tar enamel, asphalt–dipped wrap, mortar, PVC tape, or polyethylene tape wrapped to a thickness of thirty (30) mils, high solids epoxy, or equivalent.

(D) Unless a continuous internal lining of cement, mortar, or equivalent is provided, as appropriate for the fluid to be conveyed, new steel pipe installations may convey only non– corrosive material, and water is considered corrosive.

(E) Steel pipe installations must be designed to resist all anticipated loading conditions, and the design calculations must be submitted to the board. Steel pipe meeting the following criteria may be used without submittal of design calculations to the board:

(i) Twelve– (12) inches in diameter or less ten– (10) gauge steel pipe.

(ii) Greater than twelve– (12) inches and a maximum of thirty– (30) inches in diameter seven– (7) gauge steel pipe.

(iii) Greater than thirty– (30) inches and a maximum of forty–eight (48) inches in diameter three– (3) gauge steel pipe.

(h) The following materials are not allowed for pipelines or conduits used to carry natural gas or fluids:

(1) Aluminum pipe within a levee section or within ten (10) feet of levee toes.

(2) Cast iron pipe within a levee section or within ten (10) feet of levee toes.

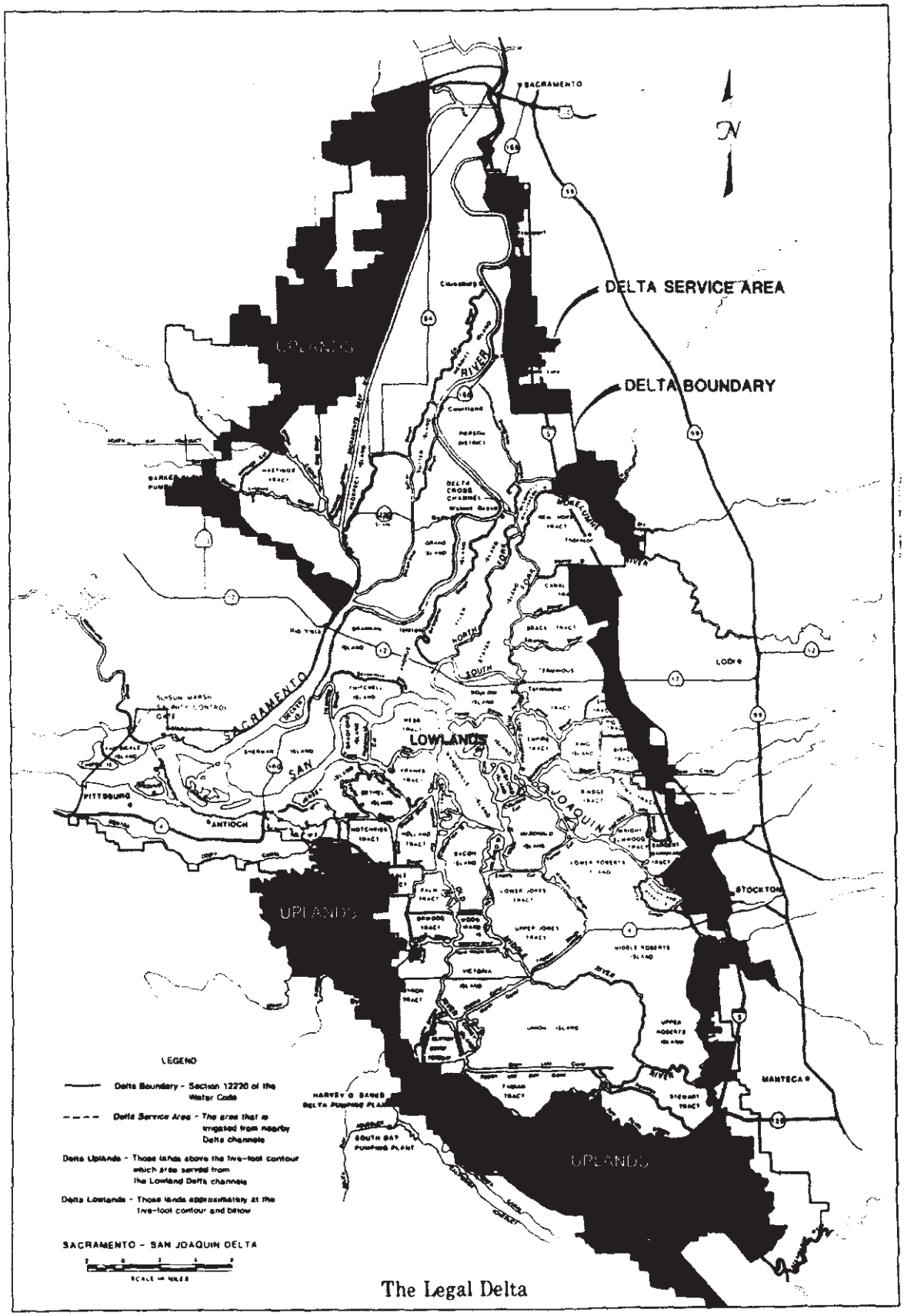
(3) Pipe with flanges, flexible couplings, or other mechanical couplings within a levee section or within ten (10) feet of levee toes.

(4) Prestressed concrete pipe within a levee section or within ten (10) feet of levee toes.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8710 and 8712, Water Code.

HISTORY

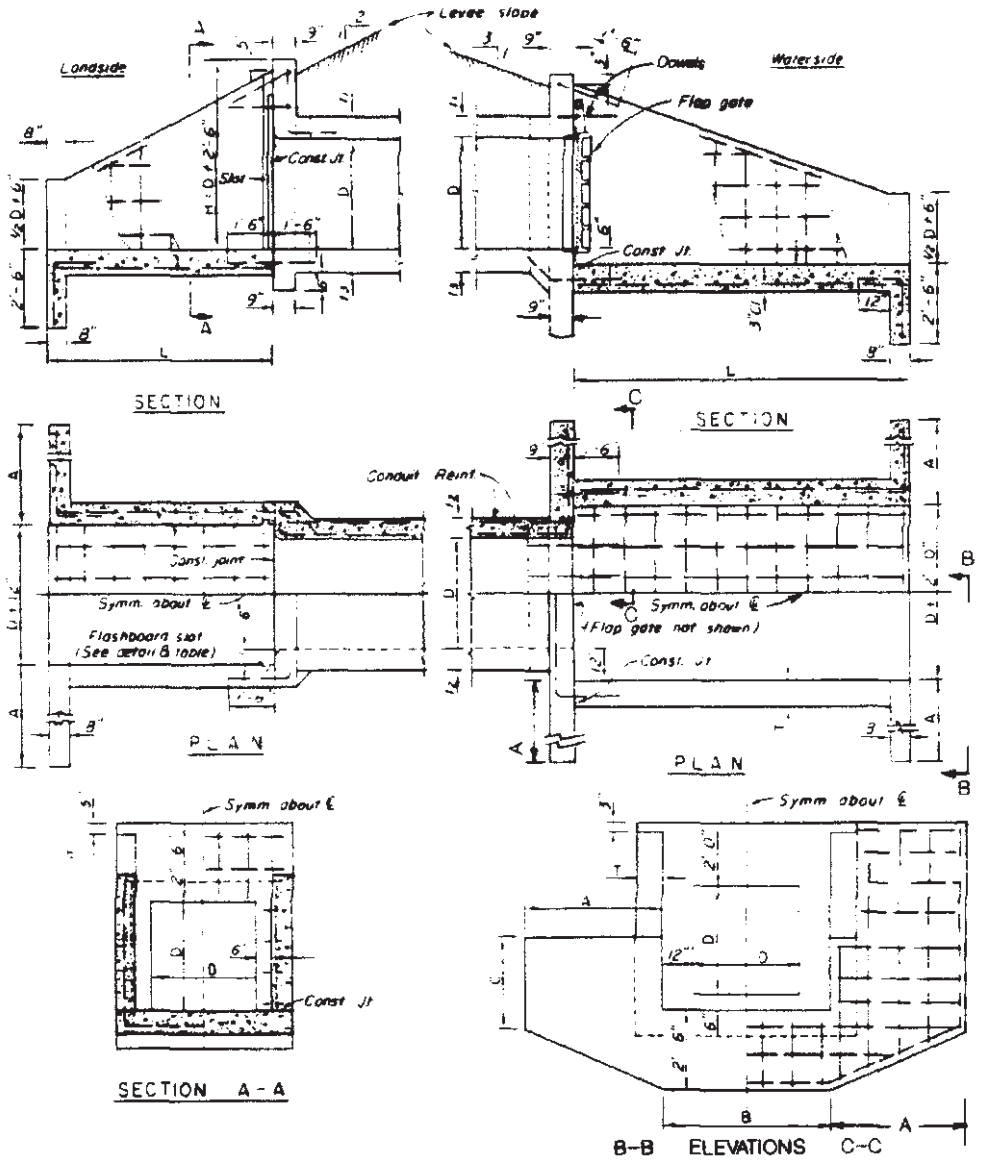
1. New section and figures 8.04, 8.05 and 8.06 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).



The Legal Delta

Figure 8.04

"U" Wall Reinforcing Detail Below Flood Plane – Reinforced Concrete Box

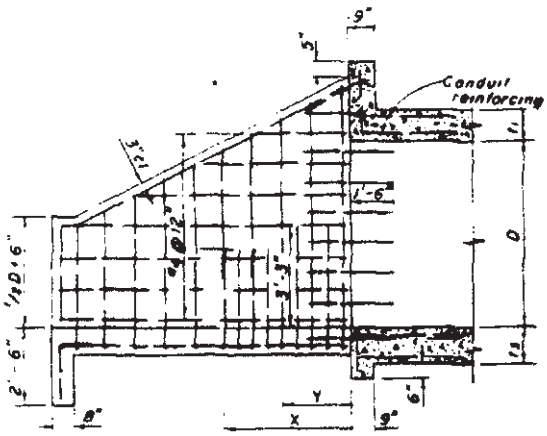


REINFORCED CONCRETE "U" WALL

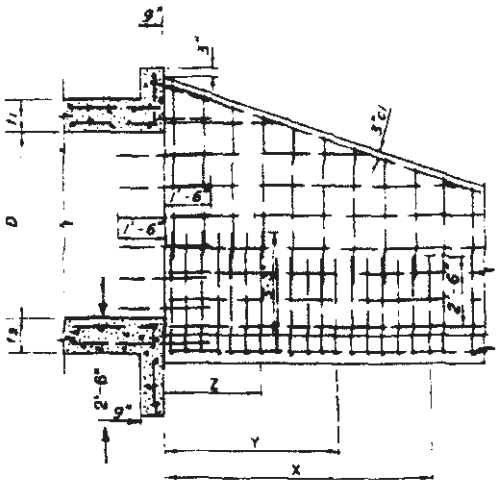
SYMBOL	LANDSIDE HEADWALL - LEVEE SLOPE 1 ON 2								WATERSIDE HEADWALL - LEVEE SLOPE 1 ON 3							
CONDUIT SIZE D	30"x30"	36"x36"	42"x42"	48"x48"	54"x54"	60"x60"	66"x66"	72"x72"	30"x30"	36"x36"	42"x42"	48"x48"	54"x54"	60"x60"	66"x66"	72"x72"
H	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"	8'-0"	8'-6"
L	6'-4"	6'-0"	7'-6"	7'-10"	8'-4"	8'-10"	9'-4"	9'-10"	9'-8"	10'-5"	11'-2"	11'-11"	12'-8"	13'-5"	14'-2"	14'-11"
T	8"	8"	9"	9"	10"	10"	10"	10"	8"	8"	9"	9"	10"	10"	10"	10"
A	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"
B	3'-6"	4'-0"	6'-0"	6'-6"	7'-2"	7'-8"	8'-2"	8'-8"	4'-6"	5'-0"	7'-0"	7'-6"	8'-2"	8'-8"	9'-2"	9'-8"
C	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	2'-6"	2'-6"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"	3'-0"
X *			1'-9"	2'-0"	2'-9"	3'-0"	3'-6"	4'-3"			1'-6"	2'-9"	4'-3"	5'-9"	7'-3"	8'-9"
Y *						1'-3"	1'-9"	2'-3"					1'-3"	2'-9"	4'-3"	5'-9"
Z *														0'-9"	1'-9"	3'-0"

Figure 8.05

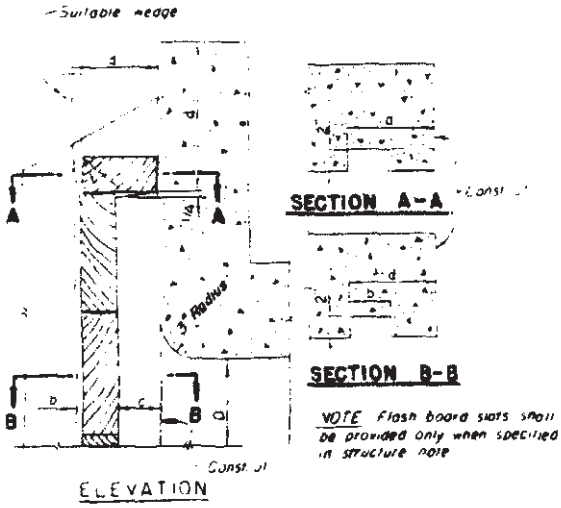
"U" Wall Reinforcing, Gate Riser and Flashboard Detail Below Flood Plane – Reinforced Concrete Box



LANDSIDE "U" WALL REINFORCEMENT

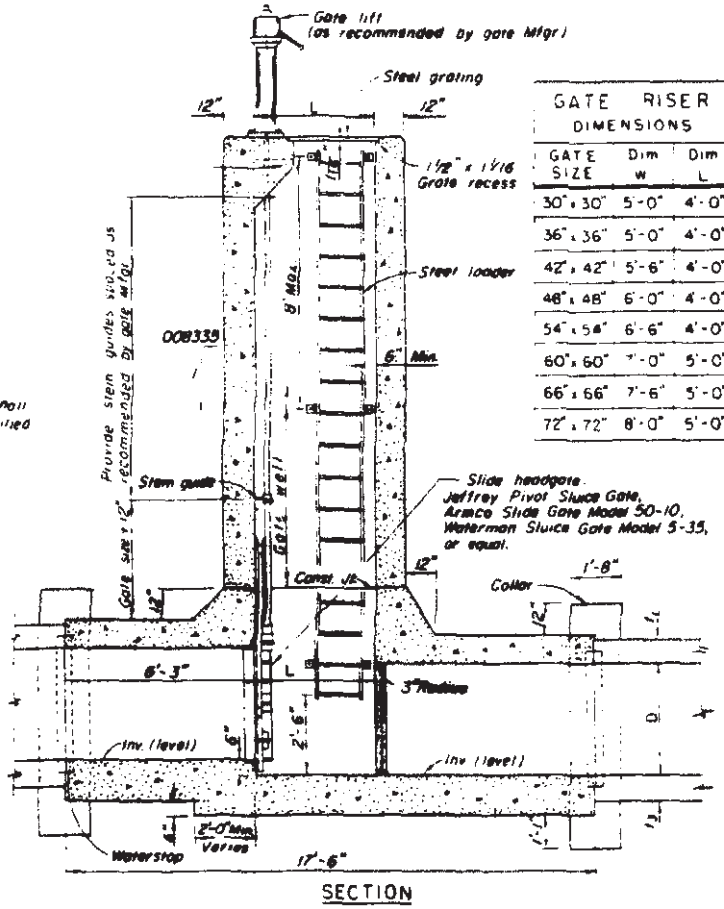


WATERSIDE "U" WALL REINFORCEMENT



FLASHBOARD SLOT DETAILS

FLASH BOARD SLOT AND BOARD DIMENSIONS						
D	a	b	c	d	Furnish Boards	Length
30"	6½"	2⅛"	4⅛"	1'-2"	4-2"x12" and 1-2"x6"	3'-9½"
36"	6½"	2⅛"	4⅛"	10½"	4-2"x12", 1-2"x10" & 1-2"x6"	4'-3½"
42"	6½"	2⅛"	4⅛"	1'-2½"	5-2"x12" and 1-2"x6"	4'-9½"
48"	8⅝"	4½"	4½"	1'-1"	5-4"x12" and 2-4"x8"	5'-3½"
54"	8⅝"	4½"	4½"	1'-3"	6-4"x12" and 1-4"x8"	5'-9½"
60"	8⅝"	4½"	4½"	1'-1½"	6-4"x12" and 2-4"x8"	6'-3½"
66"	8⅝"	4½"	4½"	1'-3"	7-4"x12" and 1-4"x8"	6'-9½"
72"	8⅝"	4½"	4½"	1'-2"	7-4"x12" and 2-4"x8"	7'-3½"



SECTION

GATE RISER DIMENSIONS

GATE SIZE	Dim W	Dim L
30"x30"	5'-0"	4'-0"
36"x36"	5'-0"	4'-0"
42"x42"	5'-6"	4'-0"
48"x48"	6'-0"	4'-0"
54"x54"	6'-6"	4'-0"
60"x60"	7'-0"	5'-0"
66"x66"	7'-6"	5'-0"
72"x72"	8'-0"	5'-0"

GATE RISER DETAIL

Figure 8.08

§ 124. Abandoned Pipelines and Conduits.

(a) Abandoned pipelines, conduits, and all appurtenances (such as pumps, standpipes, or positive closure structures) that are located within a levee section, within the projected levee section, or within ten (10) feet of the levee toes shall be completely removed, when practical, and disposed of outside the floodway.

(1) When the invert of an abandoned pipeline or conduit within a levee is above the design flood plane elevation, the pipeline or conduit must be removed.

(2) An abandoned pipeline or conduit located within one (1) foot of the surface of the levee slope shall be removed.

(3) When the invert of an abandoned pipeline or conduit within a levee is six (6) feet or less below the design flood plane elevation, the board may require the removal of the pipeline or conduit.

(4) The side slopes of an excavation to remove an abandoned pipeline or conduit from within a levee must be one (1) foot horizontal to one (1) foot vertical or flatter.

(5) After any pipeline, conduit, or appurtenance is removed from a levee, approved backfill shall be keyed into the levee section with each lift and compacted in four– (4) to six– (6) inch layers with a relative compaction of not less than ninety (90) percent, per ASTM D1557–91, dated 1991, which is incorporated by reference and above optimum moisture content.

(6) Compaction tests by a certified soils laboratory will be required to verify compaction of backfill within a levee or within the projected levee section.

(b) Abandonment of pipelines and conduits within a floodway must be in a manner consistent with the following:

(1) After any pipeline, conduit or appurtenance is removed from a floodway, open–trench backfill must be placed in a manner consistent with the local conditions. Erosive stream reaches will require methods that compact the backfill to at least the density of that of adjacent soils. Compaction tests by a certified soils laboratory may be required to verify compaction within the floodway.

(2) Abandoned pipelines or conduits within the berm and within thirty (30) feet of the top of the streambank must not be filled with concrete but may be removed if exposed by bank erosion.

(c) If it is determined by the board that it is impractical or detrimental to the levee to remove an abandoned pipeline or conduit from a levee section, the pipeline or conduit must be completely filled with concrete.

(1) Concrete to be used to fill an abandoned pipeline or conduit must be a three– (3) sack cement mix, or equivalent, with aggregate having a maximum size of three–eighths (3/8) inch, and a water content sufficient to produce a six– (6) to eight– (8) inch slump.

(2) A detailed plan for filling an abandoned pipeline or conduit with concrete may be required to be submitted for approval by the board prior to start of work.

(3) A pipeline or conduit to be filled with concrete must have a minimum cover of three (3) feet below the waterward levee slope.

(4) See Figure 8.07 for illustrated details on sealing abandoned pipelines and conduits.

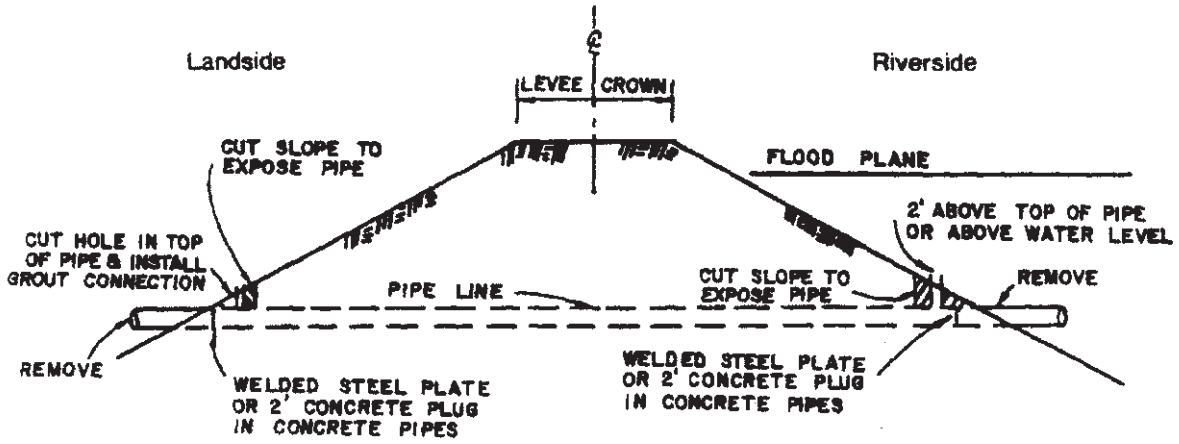
(d) Concrete pipes may be plugged with concrete at each end as an alternative to complete filling. The length of each plug shall be a minimum of two (2) feet or twice the diameter of the pipe, whichever is greater.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section and figure 8.07 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Sealing Abandoned Pipes



Grouting or concrete fill of abandoned pipes below flood plane

Figure 8.07

§ 125. Retaining Walls.

(a) Retaining walls within an adopted plan of flood control must comply with the following requirements:

(1) Retaining walls greater than three (3) feet in height must be designed by a licensed civil engineer.

(2) Retaining walls may be of reinforced concrete, concrete gravity section, or of equivalent material and durability.

(3) Retaining walls in the landside levee slope must have appropriate features that intercept seepage and prevent particle migration.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8606, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 126. Fences and Gates.

(a) Fences within a floodway, on a levee, or near a levee must conform to the following:

(1) Fences, walls, and similar structures are permitted within floodways if they do not obstruct floodflows or cause the accumulation of debris that would obstruct floodflows.

(A) Fences firmly anchored and constructed parallel to the streamflow are normally permitted.

(B) Fences not parallel to the streamflow shall be designed and constructed to not adversely affect stages and velocities.

(2) All fences parallel to a levee must be located a minimum distance of ten (10) feet off the levee toe.

(3) Fences crossing a levee, where permitted, must be installed at a right angle across the levee.

(4) Fences crossing a levee crown must have an opening a minimum of fourteen (14) feet in width or a suitable gate installed on the levee crown.

(5) After January 1, 1998, new fences that are designed to give way during high water events shall not be allowed on the water side of a levee. Fences proposed to be constructed after January 1, 1998 on the water side of a levee that are partially or wholly under water during high water events, and that are located within state maintenance areas within city limits under the jurisdiction of the board, shall be constructed so as to be removable by the permittee in segments during times of high water events as the water level rises up the levee. The permittee shall remove fence segments at its own expense during high water events so that no part of any fence on the water side levee slope is submerged.

(6) Where the distance between fences would be so close as to interfere unreasonably with levee inspection, maintenance and flood fight activities, the board may deny approval for additional fences.

(7) If, in the opinion of the board, a fence becomes unnecessary due to changes in location of public access points or construction of other fences, the permittee must remove the fence at the request of the board.

(b) Gates within a floodway or on a levee must conform to the following:

(1) The gate width on a levee crown must match or exceed the width of the levee crown with a minimum gate width of fourteen (14) feet. A gate width exceeding twenty (20) feet is normally not required. A gate width of twelve (12) feet may be allowed on levees within urban areas if the levee maintenance equipment and any agricultural equipment which must use the gates is less than twelve feet in width.

(2) Cable or chain gates are not permitted across a levee crown or across a levee access ramp.

(3) Gates shall be hinged, and constructed to provide for ease of operation, maximum longevity, and public safety.

(4) Gates may be opened by authorized Department of Water Resources and maintenance personnel and must remain open when required for levee inspections, maintenance, construction, high water patrol, and flood fight activities.

(5) Where the distance between gates would be so close as to unreasonably interfere with levee inspection and maintenance, the board may deny approval for additional gates.

(6) If, in the opinion of the board, a gate becomes unnecessary due to changes in location of public access points or construction of other gates, the permittee must remove the gate at the request of the board.

(7) Keys shall be provided to local the maintaining agency and the Department of Water Resources for all locks on gates providing access to the floodway, levee ramp, levee toe, and along the levee crown.

(c) If the board approves an activity or encroachment that directly or indirectly may result in future unauthorized encroachments (e.g., approving levee modifications associated with a new residential development adjacent to the levee), the board may require the permittee to construct a fence parallel to the levee at a distance of ten (10) feet from the landside levee toe. If a fence is required, it must conform to board standards.

(d) No fence, wall or other barrier may interfere with or preclude legal public access.

NOTE: Authority cited: Sections 8571 and 8709.3, Water Code. Reference: Sections 8608, 8609, 8709.3 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. New subsection (a)(5), subsection renumbering, and amendment of NOTE filed 2–13–98 as an emergency; operative 2–13–98 (Register 98, No. 7). A Certificate of Compliance must be transmitted to OAL by 6–15–98 or emergency language will be repealed by operation of law on the following day.
3. New subsection (a)(5), subsection renumbering, and amendment of NOTE refiled 6–11–98 as an emergency; operative 6–11–98 (Register 98, No. 24). A Certificate of Compliance must be transmitted to OAL by 10–9–98 or emergency language will be repealed by operation of law on the following day.
4. Certificate of Compliance as to 6–11–98 order transmitted to OAL 10–2–98 and filed 11–16–98 (Register 98, No. 47).

§ 127. Boating Facilities.

(a) The standards for construction of wharves, piers, docks, boat houses, ramps, and similar boating facilities, are as follows:

(1) Boat ramps may not be cut into the levee section, but may be cut into a berm or placed on a fill.

(2) Boating facilities must be properly anchored to prevent breakaway during floodflows. Acceptable anchoring methods are as follows:

(A) Driven piling must meet the following criteria:

(i) Timber piles must be a minimum of twelve (12) inches in diameter and must be pressure treated.

(ii) The elevation of the top of each pile must be a minimum of two (2) feet above the design flood plane.

(B) Concrete deadmen must meet the following criteria:

(i) The concrete deadman must be of sufficient size to restrain the boating facility and be a minimum of one (1) cubic yard of concrete.

(ii) The concrete deadman must be attached to the floating facility with a steel cable, or equivalent, of sufficient size to restrain the facility.

(3) All appurtenant facilities, including utilities and walkways, installed on or through a levee section to provide service to wharves, piers, or docks, must conform to the appropriate section of the standards.

(b) After each period of high water, all debris caught by a boating facility must be cleared and disposed of outside the limits of the floodway and levee section.

(c) In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to a boating facility, the permittee of the boating facility is responsible for the repair of the eroded area, and for the placement of adequate revetment to prevent further erosion.

(d) Any existing levee revetment or bank revetment damaged during the construction or operation of a boating facility must be restored to its original condition by the permittee of the boating facility.

(e) The levee crown may not be used for parking boat trailers or motor vehicles except where there is adequate crown roadway width to provide twenty (20) feet of unobstructed clearance for two–way vehicular traffic.

(f) Boating materials, equipment or accessories may not be stored on levee slopes.

(g) Floatable boating materials, equipment, or accessories must be securely anchored when stored in the floodway during the flood season.

(h) Boating materials, equipment, or accessories may be stored on the levee crown if storage does not prevent adequate inspection and maintenance of the levee, does not obstruct flood fight procedures, and the following additional requirements are met:

(1) There is adequate levee crown roadway width to provide a minimum of twenty (20) feet of unobstructed clearance for two– way vehicular traffic.

(2) Where a public road or highway is on the levee crown, the design width of the roadway, including the roadway shoulders, must remain clear.

(3) Boating materials, equipment, or accessories may not be stored within fourteen (14) feet of the landward levee shoulder.

(4) Boating materials, equipment or accessories may be stored to within fourteen (14) feet of the waterward leve e shoulder provided the waterward levee slope is revetted to the standards in section 121.

(5) Boating materials, equipment, or accessories may not be stored within thirty (30) feet of the waterward levee shoulder of a levee having an unrevetted waterward slope.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 128. Bridges.

(a) The standards for construction or modification of bridges within an adopted plan of flood control are as follows:

(1) Any excavation within the levee section or near bridge supports within the floodway must be backfilled in four– (4) inch to six– (6) inch layers with approved material. The levee section must be compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557–91, dated 1991, which is incorporated by reference and above optimum moisture content. Compaction within the floodway must be to the density of the adjacent undisturbed material.

(2) Compaction tests by a certified soils laboratory may be required to verify compaction.

(3) Bridge piers and bents within the floodway must be constructed parallel to the direction of streamflow.

(4) Bridge piers and bents placed within a floodway to support a widened portion of an existing bridge must be constructed in line with existing bents and piers.

(5) Erosion control may be required on the channel banks or levee slopes upstream and downstream of a proposed bridge.

(6) Drainage from a bridge or highway may not be discharged onto a levee section or streambank.

(7) Plans showing all construction facilities (such as temporary staging, coffer dams, and falsework) which will remain in a floodway during flood season, must be submitted to the board for approval prior to installation of these facilities.

(8) All construction facilities (such as temporary staging, coffer dams, and falsework) must be designed to prevent bank erosion during normal flows and to maintain maximum channel capacity during the flood season.

(9) Stockpiled material, temporary buildings, construction equipment, and detours that obstruct streamflows must be removed from floodways prior to the flood season.

(10)(A) The bottom members (soffit) of a proposed bridge must be at least three (3) feet above the design flood plane. The required clearance may be reduced to two (2) feet on minor streams at sites where significant amounts of stream debris are unlikely.

(B) When an existing bridge being widened does not meet the clearance requirement above the design flood plane, the bottom structural members of the added section may be no lower than the bottom structural members of the existing bridge, except as may be caused by the extension of existing sloped structural members.

(C) When the clearance requirement above design flood plane would result in bridge approach ramp fill in the floodway, the clearance requirement may be reduced to the extent that reasonably balances clearance and fill that would obstruct flow, so as to maintain maximum channel capacity.

(11)(A) Vehicular access from the roadway to the levee crown may be required at each end of a bridge.

(B) Vehicular access from the levee crown to the floodway and/or the landside levee toe beneath the bridge may be required. Ramps may slope upstream as necessary to provide the access required by this subdivision.

(12) Approved gates must be installed at right angles across the levee crown at all points of access to the levee from each end of a bridge.

(13) Any bridge abandoned or being dismantled must be completely removed, and must be disposed of outside the limits of the levee section and floodway.

(14) Pilings, piers, bents, and abutments of bridges being dismantled must be removed to at least one (1) foot below the natural ground line and at least three (3) feet below the bottom of the low water channel.

(15) Any bridge that is damaged to the extent that it may impair the channel or floodway capacity must be repaired or removed prior to the next flood season.

(16) Replacement railroad bridges must have the soffit members no lower than those of the replaced bridge, but are not required to have a specified amount of clearance above the design flood plane.

(17) Bridge replacements and new bridges shall be built at an elevation so that there is no depression in the crown of the levee.

(b) The standards for maintenance of bridges within an adopted plan of flood control are as follows:

(1) The area in and around a bridge site must be kept clear to maintain the design flow capacity.

(2) Trees, brush, sediment, and other debris must be kept cleared from the bridge site and be disposed of outside the limits of the floodway prior to the flood season.

(3) Any accumulation of debris during high flows must be immediately removed from a bridge site and disposed of outside the floodway.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 129. Water, Oil, and Gas Wells.

(a) Water wells and any appurtenant structures must be located a minimum distance of ten (10) feet from a levee toe.

(b) Oil wells, gas wells, and any appurtenant structures must be located a minimum distance of thirty–five (35) feet from a levee toe.

(c) Access roads, foundation pads, and stockpiled excavated material within a floodway are normally limited to an elevation of three (3) feet above the natural ground. However, if it is determined by the board that such facilities constructed to the normal elevation would have an adverse effect on the flood– carrying capacity of the floodway, the allowable elevation shall be lower.

(d) Structures and fencing at well sites within the floodway are not permitted without approved hydraulic studies demonstrating that the proposed structure or fence would not impair the floodway.

(e) Permits for water wells require that a survey monument and a permanent bench mark must be installed at the waterside levee toe, as near to the well site as practical, to serve as a vertical control to monitor subsidence.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 130. Patrol Roads and Access Ramps.

(a) The following definitions apply to this section:

(1) Access Ramps – "Access Ramps" mean those ramps that provide access to the levee crown from adjacent property and roads.

(2) Patrol Roads – "Patrol Roads" means those roads that provide vehicular access along levee crowns and flood channels for inspection, maintenance, and flood fighting.

(b) Patrol roads must meet the following criteria:

(1) Patrol roads must be surfaced with a minimum of four (4) inches of compacted, class 2 aggregate base (Caltrans Spec. 26–1.02A, July 1992) which is incorporated by reference, or equivalent.

(2) Patrol road surfacing material must be compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557–91, dated 1991, which is incorporated by reference with moisture content sufficient to obtain the required compaction.

(3) Compaction tests by a certified soils laboratory may be required to verify compaction.

(4) Paved patrol roads must meet the design requirements for paved bicycle trails, section 132.

(5) Levee crown surfacing must meet the following additional requirements:

(A) Where the crown width is less than sixteen (16) feet, the minimum surfacing width must be ten (10) feet with a smoothly tapered transition to the edge of the levee shoulder.

(B) Where the crown width is sixteen (16) feet or more, the minimum surfacing width must be twelve (12) feet with a two (2) foot–wide taper at each edge of the surfacing.

(C) The crown roadway must be sloped a minimum of two– (2) percent.

(6) Any patrol road which has been excavated or damaged must be restored to its original condition.

(c) Access ramps are of two common types, head–on or side approach, and must meet the following criteria:

(1) Access ramps must be constructed of approved imported material.

(2) The surfacing for all access ramps must be the same as for patrol roads. Subdivisions (b)(1), (b)(2) and (b)(3) of this section also apply to access ramps.

(3) Any excavation made in a levee section to key the ramp to the levee must be backfilled in four– (4) to six– (6) inch layers with approved material and compacted to a relative compaction of not less than ninety (90) percent per ASTM D1557–91, dated 1991, and above optimum moisture content.

(4) Compaction tests by a certified soils laboratory may be required to verify compaction.

(5) All access ramps must be constructed in such a manner so as to direct all surface drainage away from the levee section.

(6) Approved gates must be installed across access ramps at locations where vehicular access by the public is possible.

(7) Side approach ramps must be used on the waterside levee slope.

(8) Side approach ramps on the waterward slope of the levee must slope downstream.

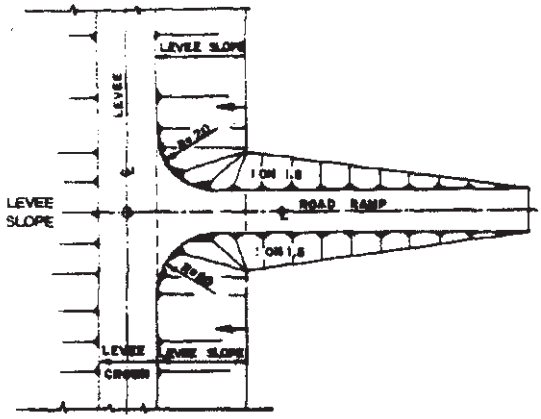
(9) Typical plans for each type of approach ramp with restrictions and requirements are shown on Figures 8.08 and 8.09.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

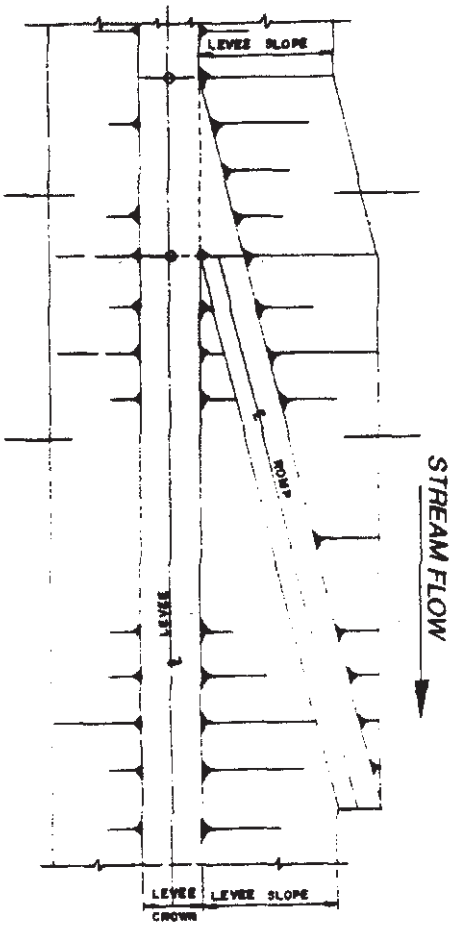
HISTORY

1. New section and figures 8.08 and 8.09 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

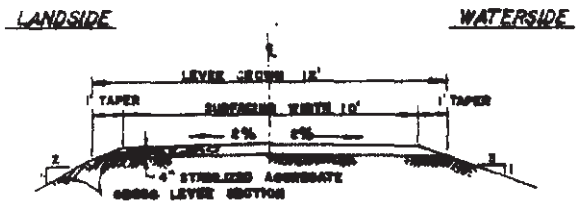
Access Ramps



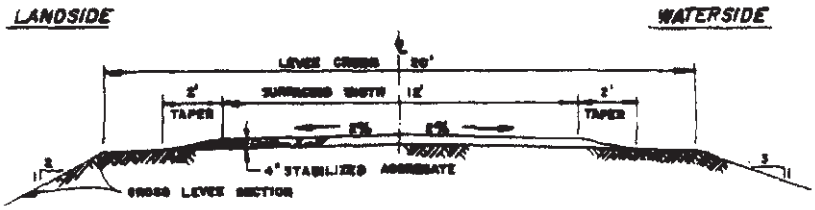
HEAD-ON APPROACH ROAD RAMP



SIDE APPROACH ROAD RAMP



LEVEE SURFACING FOR 12' PATROL ROAD



LEVEE SURFACING FOR 20' PATROL ROAD

1. VERTICAL CURVE AT TOP & BOTTOM OF RAMP
2. VERTICAL CURVE TO BE 100 FOOT RADIUS
3. SLOPE OF RAMP TO BE A *MINIMUM GRADE OF 5* PERCENT AND A MAXIMUM GRADE OF 10 PERCENT
4. RAMP TO BE SURFACED WITH 4 INCHES OF CLASS 2 AGGREGATE BASE. (CALTRANS SPEC. 26-1.02B)
5. ALL RAMPS GRADED TO DRAIN AWAY FROM LEVEE SECTION

Figure 8.08

Access Ramp Grading Requirements

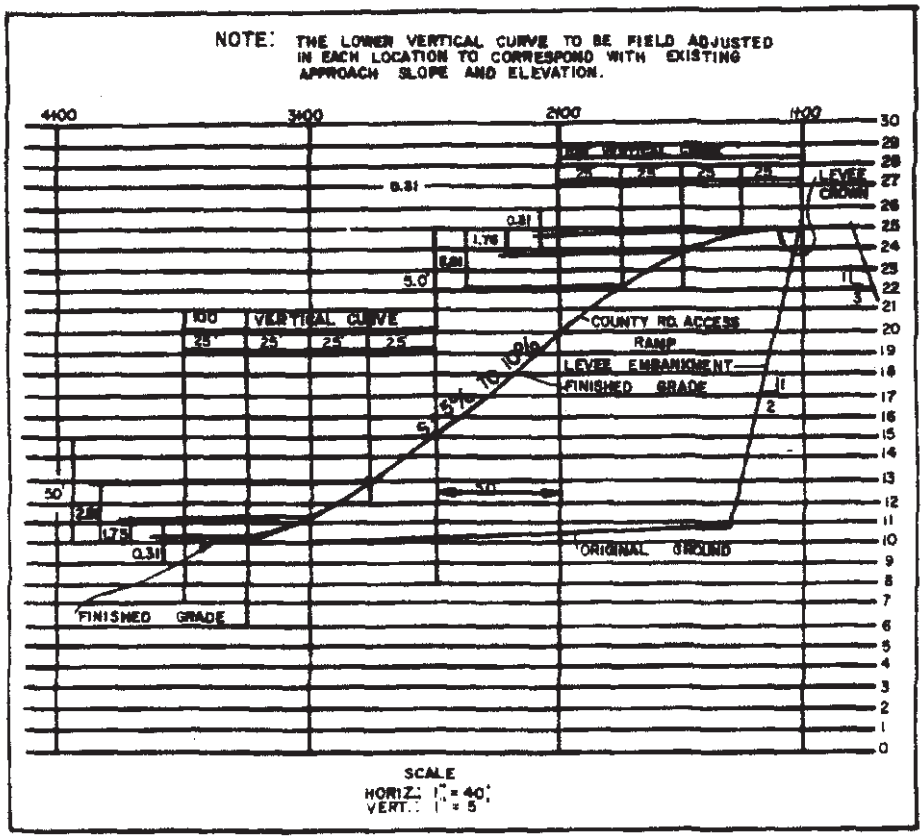


Figure 8.09

§ 131. Vegetation.

(a) The following definitions apply to this section:

(1) Oversize levee. "Oversize levee" means a levee which encompasses the minimum oversized levee cross–section which has a width of thirty (30) feet at design freeboard elevation and standard levee slopes. (See Figure 8.10.)

(2) Standard size levee. "Standard size levee" means a levee which does not meet the requirements for an oversize levee.

(3) Standard levee slopes. "Standard levee slopes" means the landside levee slope is two (2) horizontal feet to one (1) vertical foot and the waterside levee slope is three (3) horizontal feet to one (1) vertical foot.

(b) Suitable vegetation, if properly maintained, is permitted within an adopted plan of flood control.

(c) Vegetation must not interfere with the integrity of the adopted plan of flood control, or interfere with maintenance, inspection, and flood fight procedures.

(d) With the exception of naturally occurring vegetation which the owner of the underlying land has no responsibility to maintain, any vegetation which interferes with the successful execution, functioning, maintenance or operation of the adopted plan of flood control, must be removed by the owner. If the owner does not remove such vegetation upon request, the board reserves the right to have the vegetation removed at the owner's expense.

(e) Tables 8.3 through 8.6 indicate common types of vegetation considered suitable and unsuitable for planting on levees. Other types of vegetation, not listed in Tables 8.3 through 8.6, may be approved if determined to be similar to listed suitable species or not detrimental to the integrity, operation, or maintenance of the adopted plan of flood control.

(f) Vegetation and vegetation maintenance standards for levees are as follows:

(1) Vegetation is not permitted on the levee crown roadway. Only properly maintained grasses or suitable ground covers are permitted on other portions of the levee crown.

(2) Vegetation growing on levee slopes but infringing onto the levee crown must be trimmed or sprayed to prevent interference with flood fight, maintenance, or inspection activities.

(3) Tree branches extending above the levee crown or above the area within ten (10) feet of the levee toe, must be pruned to maintain a minimum of twelve (12) feet vertical clearance above the levee crown and above the area within ten (10) feet of the levee toe.

(4) Tree branches above levee slopes must be pruned and maintained so that the distance from the levee slope to the lowest branches, measured normal to the levee slope, is a minimum of five (5) feet.

(5) Trees are not permitted on the crown or slopes of a standard size levee or within ten (10) feet of the toe of a standard or oversize levee. Planted trees must be set back a sufficient distance from the levee toe to conform with the requirements of subdivision (f)(3) of this section throughout the life of the tree.

(6) Trees are permitted on oversize levee slopes according to the following additional criteria:

(A) Trees considered suitable and unsuitable for oversize levees are listed in Tables 8.3 and 8.4 respectively.

(B) Trees which will exceed fifty (50) feet in height when mature are not permitted.

(C) Trees are permitted on the waterside levee slope of oversize levees up to a point five (5) vertical feet below the design flood plane.

(D) Trees that, in the judgment of the board, threaten to disturb revetment on levee slopes or interfere with maintenance must be removed.

(E) Fruit and nut trees are not allowed.

(7) Trees, vines, bushes, shrubs, or any other form of woody or herbaceous vegetation that grow in a dense form and prevent visual inspection of the levee slope and toe, produce fruit or nuts that attract burrowing rodents, or are thorny and could interfere with flood fight efforts, are not permitted on the levee or within ten (10) feet of the levee toe.

(8) Sod, grasses, perennial flowers, and other nonwoody ground covers are permitted on levee slopes and within ten (10) feet of the levee toe if the height of the vegetation does not exceed twelve (12) inches. Ground covers considered suitable and unsuitable on levee slopes and within ten (10) feet of the levee toe are listed in Tables 8.5 and 8.6, respectively. In areas where vehicular access is maintained along the levee toe, ground covers are generally not permitted.

For ground covers with specific maintenance requirements (see Table 8.5):

(A) The permittee is responsible for maintaining the ground cover at a height less than one (1) foot;

(B) The maintaining agency reserves the right to mow the groundcover without prior notification if the height exceeds one (1) foot;

(C) Any irrigation system for the ground cover must be designed to not interfere with mowing;

(D) Ground covers that are required by this subdivision to be mowed are generally allowed only on the upper twenty (20) feet of levee slope.

(9) Thick–stemmed, extremely dense or woody ground covers are not permitted on levee slopes or within ten (10) feet of the levee toe.

(10) Flower gardens where the height of the vegetation does not exceed twelve (12) inches and which are compatible with flood fight procedures, maintenance, and inspection programs are permitted within ten (10) feet of the levee toe.

(g) Vegetation and vegetation maintenance standards for floodways and bypasses are as follows:

(1) Vegetation is permitted within revetment on streambanks unless, in the judgment of the board, it becomes a threat to the integrity of the revetment.

(2) Invasive or difficult–to–control vegetation, whether naturally occurring or planted, that impedes or misdirects floodflows is not permitted to remain on a berm or within the floodway or bypass.

(3) The board may require clearing and/or pruning of trees and shrubs planted within floodways in order to minimize obstruction of floodflows.

(4) Trees and brush that have been cut down must be burned or removed from the floodway prior to the flood season.

(h) Orchards are not permitted within bypasses but may be planted within other floodways in accordance with the following criteria:

(1) If an orchard is abandoned, all trees must be removed and burned or disposed of outside the floodway prior to flood season.

(2) Trees or brush cut prior to planting an orchard must be removed and burned or disposed of outside the floodway prior to flood season.

(3) Orchard cuttings and any debris that may accumulate in the orchard during the flood season must be removed from the floodway, or must be disposed of in such a manner as to leave no floatable debris within the floodway. Cuttings and other debris must regularly be burned or removed and disposed of outside the floodway throughout pruning activities so as to leave no floatable debris within the floodway.

(4) Dead trees, stumps, prunings, or other agricultural debris may not be placed on the levee section or within ten (10) feet of the levee toe.

(5) Tree rows must be parallel to the direction of the overbank flow and may not direct the flow toward the levee.

(6) The spacing between rows must be a minimum of sixteen (16) feet perpendicular to the overbank flow of the stream. The row spacing must be increased if, in the judgment of the board, additional space is necessary for the passage of floodflows.

(i) Vegetable gardens are not permitted on the levee slope. Vegetable gardens may be permitted within ten (10) feet of the levee toe where they will not interfere with maintenance and inspection and meet the following conditions:

(1) No large bushy plants such as corn, tomatoes, grapes and peas are within ten (10) feet of the levee toe;

(2) There is not a maintenance access road along the levee toe;

(3) The adjacent levee slope is not sprayed with herbicide by the maintaining agency; and

(4) The levee is not experiencing burrowing rodent activity. If there is burrowing rodent activity in the immediate vicinity, the vegetable garden permittee shall control the rodents to the satisfaction of the Board or remove the garden.

(j) Irrigation of vegetation on levee slopes must conform to the following criteria:

(1) Permanently installed irrigation systems are permitted on both slopes of oversize levees and on the landside slope of standard size levees.

(2) Surface low pressure drip irrigation systems may be used on either the landside or waterside levee slope.

(3) Any water applied to vegetation on the levee slope by any means must be controlled to prevent erosion of the levee slope.

(4) Ditches may not be dug in the levee section, within ten (10) feet of the levee toe, or within the projected levee section for irrigation or drainage.

(5) Watering basins around trees must be limited to a maximum depth of twelve (12) inches.

(6) Permanently installed irrigation pipes may be buried but may be no deeper than eight (8) inches into the levee slope.

(7) A readily accessible shutoff or control valve is required in the supply line of all irrigation systems. The valve must be located a minimum of ten (10) feet landward of the levee toe and must be clearly identified for levee maintenance or flood fight personnel.

(8) Pipes supplying water to permanently installed sprinkler heads must be of approved material such as galvanized iron, schedule 40 polyvinyl chloride (PVC), class L copper, or equivalent. Aluminum pipe is not permitted.

(k) The board may permit, with appropriate conditions, existing nonconforming vegetation after considering a number of factors, including but not limited to:

(1) Age of vegetation;

(2) Type of vegetation;

(3) Location of vegetation;

(4) Size of vegetation;

(5) Physical condition of vegetation;

(6) Whether the vegetation was planted or is naturally occurring;

(7) Condition of the adopted plan of flood control;

(8) Environmental value of the vegetation; and

(9) Ability to inspect and maintain the levee around the vegetation.

(*l*) Trees removed from the levee and from within ten (10) feet of the levee shall have all roots larger than one– and one–half (1–1/2) inches in diameter removed for a distance of at least three (3) feet from the tree trunk at ground level and the hole filled with impervious soil compacted in four– (4) to six– (6) inch lifts. Compaction within the levee section shall be a relative compaction of not less than ninety percent (90%), per ASTM D1557–91, dated 1991, which is incorporated by reference. Outside of the levee section, the soil shall be compacted to at least the density of adjacent undisturbed material.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section, figure 8.10 and tables 8.2 through 8.5 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

Oversize Levee Section

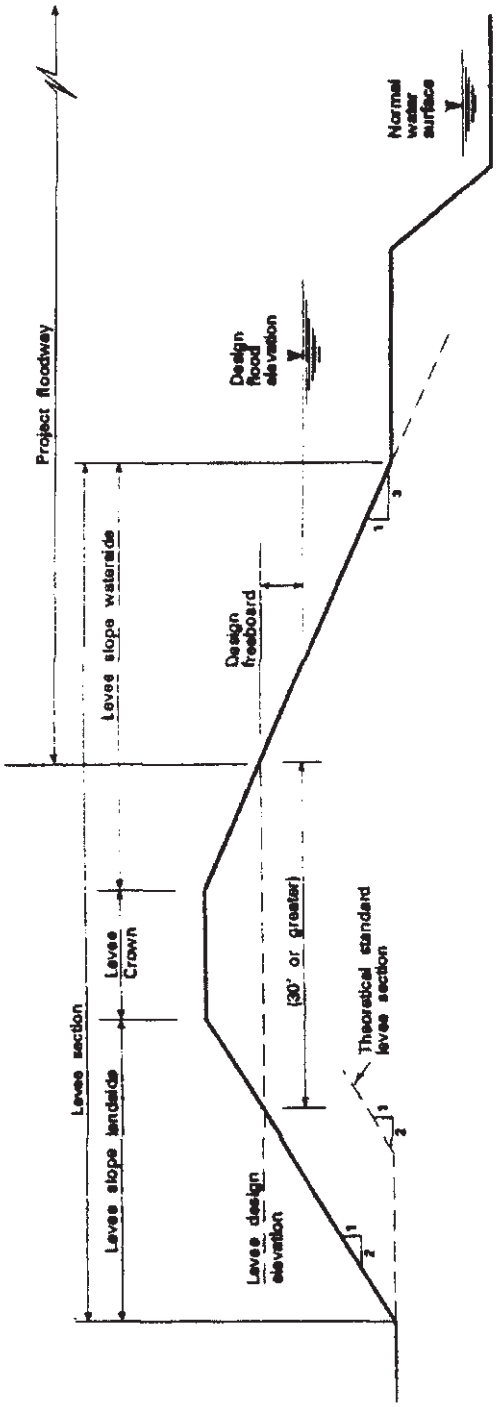


Figure 8.10

Table 8.2
Partial List of Trees *Suitable* for Oversize Levees

Alder, white	*Alnus rhombifolia*
Box Elder	*Acer negundo*
California pepper tree (male only)	*Schinus molle*
Carob tree (male only)	*Ceratonia siliqua*
China–berry	*Melia azedarach*
Chinese pistache	*Pistacia chinensis*
Coast beefwood	*Casuarina stricta*
Common catalpa	*Catalpa bignonioides*
Crape myrtle	*Lagerstroemia indica*
Dogwood, giant	*Cornus controversa*
Dogwood, Western	*Cornus nuttallii*
Fremont cottonwood (male only)	*Populus fremontii*
Goldenrain tree	*Koelreuteria paniculata*
Hackberry, Chinese	*Celtis sinenis*
Hackberry, common	*Celtis occidentalis*
Hackberry, European	*Celtis australis*
Maidenhair tree (male only)	*Gingko biloba*
Mayten tree	*Maytenus boaria*
Montezuma cypress	*Taxodium mucrontum*
Oak	*Quercus spp.**
Pagoda tree	*Sophora japonica*
Redbud, western	*Cercis occidentalis*
Redbud, eastern	*Cercis canadensis*
Sawleaf zelkova	*Zelkova serrata*
Silk tree	*Albizia julibrissin*
Strawberry tree	*Arbutus unedo* or *Arbutus "marina"*
Tallow tree	*Sapium sebiferum*
Tupelo	*Nyssa sylvatica*

*spp. = species

Table 8.3
Partial List of Trees *Unsuitable* on Levees

Acacia, Bailey	*Acacia baileyana*
Acacia, kangaroo thorn	*Acacia armata*
Almond	*Prunus dulcis*
Apple, crabapple	*Malus spp.**
Apricot	*Prunus armeniaca*
Ash, Arizona	*Fraxinus velutina*
Ash, flowering	*Fraxinus ornus*
Ash, Modesto	*Fraxinum velutina "Modesto"*
Blue gum	*Eucalyptus globulus*
Cedar**	*Cedrus spp.**
Cherry	*Prunus ayium*
Chinese jujube	*Zizyphus jujube*
Chinese wingnut	*Pterocarya stenoptera*
Citrus	*Citrus spp.**
Coast redwood	*Sequoia sempervirens*
Colorado spruce	*Picea pungens*
Cypress**	*Cupressus spp.**
Date palm	*Phoenix spp.**
Elm	*Ulmus spp.**
Fan palm	*Washingtonia spp.**
Fig	*Ficus carica*
Fir**	*Abies spp.**
Giant sequoia	*Sequoiadendron giganteum*
Grape	*Vitis spp.**
Hawthorn	*Crataegus spp.**
Incense cedar**	*Calocedrus decurrens*
Locust	*Robinia spp.**
Loquat	*Eriobotrya spp.**
Olive	*Olea europaea*
Osage orange	*Maclura pomifera*
Peach and nectarine	*Prunus perica*
Pecan	*Carya illinoinensis*
Persimmon	*Diospyros spp.**
Pine**	*Pinus spp.**
Plum and prune	*Prunus domestica, salicina*
Pomegranate	*Punica granatum*
Quince	*Cydonia oblonga*
Russian olive	*Elaegnus augustifolia*
Salt Cedar	*Tamarisk gallica*
Tree of heaven	*Ailanthus altissima*
Walnut	*Juglans spp.**

*spp. = species

**Conifers whose normal mature height is 50 feet or less may be considered desirable under maintenance conditions that (1) protect the tree from drought, and (2) will assure proper pruning of the lower branches.

Table 8.4
Partial List of Ground Covers *Suitable* on Levees

Aaron's Beard***	*Hypericum calycinum*
Alyssum	*Alyssum spp.**
Basket–of–gold	*Aurinia saxatile*
Bermuda Grass	*Cynodon dactylon "tifgreen"* *Cynodon dactylon "coastal"* *Cynodon dactylon "Tufcote"*
Blue–eyed grass	*Sisyrinchium bellum*
California Poppy	*Eschscholzia californica*
Cape weed	*Arctotheca calendula*
Creeping wild rye***	*Elymus triticoides*
English Ivy, miniature***	*Hedera helix, hahni*
Garden lippia	*Phyla nodiflora* *Lippia nodiflora*
Gazania, trailing***	*Gazania spp.**
Green carpet	*Herniaria glabra*
Lupine, dwarf	*Lupinus bicolor*
Mexican evening primrose***	*Oenothera berlandieri*
Palestine orchardgrass	*Dactylis glomerotoa* *"Palestine"*
Salt grass	*Distichlis spicata*
Spring Cinquefoil	*Potentilla tabernaemontanii*
Stonecrop	*Sedum spp.**
Trailing African daisy	*Osteospermum fruticosum*
Verbena	*Verbena peruviana*
Yellow–eyed grass	*Sisyrinchium californicum*

Table 8.5
Partial List of Ground Covers and Miscellaneous Species *Unsuitable* on Levees

Bamboo	*Bambusa spp.**
Blackberry/Raspberry	*Rubus spp.**
Broom	*Cytisus spp.**
Cactus	*Cactaceae spp.**
Century Plant	*Agave americana*
False Bamboo, Common Reed	*Phragmites communis*
Freeway Iceplant	*Carpobrotus spp.**
Grape	*Vitus spp.**
Honeysuckle	*Lonicera spp.**
Horsetail	*Equisetum hyemale*
Ice Plant, Rosea	*Drosanthemum floribundum*
Ice Plant, trailing	*Lampranthus, spectabulis*
Ivy, Algerian	*Hedera canariensis*
Ivy, Persian	*Hedera colchica*
Ivy, English except miniature or dwarf varieties	*Hederal helix*
Pampas grass	*Cortaderia selloana*
Periwinkle	*Vinca spp.**
Perla Grass	*Phalaris tuberosa* var. *hirtiglumis*
Rose	*Rosa spp.**

*spp. = species

*spp. = species
**These species have specific requirements for being cut back or otherwise maintained on a regular basis depending on the species.

§ 132. Bicycle Trails.

(a) It is the board's policy to permit the construction of paved and unpaved bicycle trails by public agencies on levees and within floodways under the board's jurisdiction, provided that the flood control purpose of the floodway facilities remains primary. Bicycle trails must meet the following general conditions:

(1) Where feasible, the bicycle trail must be located off of the levee.

(2) Repair or replacement of the bicycle trail that is damaged during an emergency flood fight procedure, routine maintenance, or any required improvement activity within an adopted plan of flood control must be made by, and at the sole expense of, the permittee or in accordance with an agreement for maintenance between the permittee and a public agency.

(3) The board and the local flood control maintaining agency retain the right to temporarily close the bicycle trail for improvement, maintenance, or during emergency flood fight activities.

(4) Bicycle trails within an adopted plan of flood control must be maintained to a level safe for bicycle traffic and acceptable to the local flood control maintaining agency and the Department of Water Resources.

(b) Bicycle trails on a levee section are permitted under the following conditions:

(1) The permittee shall defend, hold harmless, and indemnify the State of California and the local maintaining agency, and each of their boards, elected officials, officers, employees, and agents against all damages and claims of liability of whatever nature which arise from the use of the levee as a bicycle trail.

(2) The permittee must submit proposed use restrictions for the bicycle trail, and a plan for enforcement of the restrictions satisfactory to the board, prior to commencing construction. The restrictions, at a minimum, must restrict public access to the trail and to designated adjacent areas only, and must prohibit equestrian and motorized vehicle traffic, except as may be necessary for maintenance, restriction enforcement, and providing for public safety.

(3) The permittee must agree to bear the cost of any repairs to a flood control project facility that are made necessary by the presence or use of the bicycle trail.

(4) Paved bicycle trails constructed on the levee crown must have a minimum pavement width of twelve (12) feet and a minimum shoulder width of one (1) foot on each side of the pavement. The outer edges of the finished pavement may be no higher than the adjacent shoulders and the cross–section must be shaped and trimmed to produce a smooth transition from pavement to shoulder.

(5) Paved bicycle trails on the levee crown must be designed and paved to withstand a maximum load of 68,000 pounds from two consecutive sets of tandem axles. Soil tests may be required to determine design of the trail.

(6) The structural section of paved bicycle trails must consist of a minimum of six (6) inches of aggregate base beneath two (2) inches of asphalt concrete pavement, or equivalent, on a well compacted levee crown.

(7) The aggregate base shall extend beyond the pavement to allow drainage.

(8) The bicycle trail and all bicycle access ramps must be sloped to drain away from the levee crown.

(9) Bicycle access ramps on levee slopes must conform to the criteria set forth in the standards for access ramps in section 130.

(10) The bicycle trail may not be cut into the levee section but may be placed on fill along the levee slope provided it will not interfere with maintenance.

(11) The permittee must maintain the bicycle trail or provide evidence of agreement with a public agency for that agency to provide maintenance.

(12) The permittee may be required to prevent unauthorized vehicular access to bicycle trails by physical barriers, which must be removable to allow access for maintenance, inspection, and emergency vehicles. Vehicular access barriers will be secured by locks. Keys shall be provided to the Department of Water Resources and the local flood control maintaining agency.

(13) The permittee shall install permanent safety signs at all bicycle access points and at periodic intervals along the trail containing such language as:

Levee Maintenance Road
Watch for Patrolling Vehicles.

(14) The permittee shall install permanent signs at all bicycle access points to control unauthorized use of bicycle trails.

(c) Bicycle trails within a leveed floodway are permitted under the following conditions:

(1) The permittee must submit proposed use restrictions for the bicycle trail and a plan for enforcement of such restrictions satisfactory to the board, prior to commencing construction. The restrictions, at a minimum, must restrict public access to the trail and to designated adjacent areas only, and shall prohibit equestrian and motorized vehicle traffic, except as may be necessary for maintenance, restriction enforcement, and providing for public safety.

(2) The permittee must agree to bear the cost of any repairs to a flood control project facility that are made necessary by the presence or use of the bicycle trail.

(3) Bicycle trails must be constructed at natural ground level wherever possible, and all fills greater than three (3) feet in height must be supported by appropriate engineering studies.

(4) The permittee must maintain the bicycle trail or provide evidence of an agreement with a public agency for that agency to provide maintenance.

(5) The permittee is required to prevent unauthorized vehicular access to bicycle trails by physical barriers, which must be removable to allow access for maintenance, inspection, and emergency vehicles. Vehicular access barriers will be secured by locks. Keys shall be provided to the Department of Water Resources and the local flood control maintaining agency.

(6) The permittee must install permanent signs at all bicycle access points to control unauthorized use of bicycle trails.

(d) Paved bicycle trails within ten (10) feet of the landside levee toe must have appropriate features that intercept seepage and prevent particle migration.

NOTE: Authority: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 133. Supplemental Standards for Control of Residential Encroachments in Reclamation District 1000.

These standards apply only to the construction, reconstruction, or repair of dwellings and associated improvements on the left bank waterward berm and waterward levee slope of the Sacramento River between levee miles 0.00 and 18.60, Unit 1, Reclamation District 1000. These standards supplement and, where in conflict with, supersede the standards in section 111 through section 137. While these standards are not specifically for commercial construction, in general, the principles in this section will apply to commercial development.

(a) The owner or permittee must maintain the waterward slope of the levee and the utilized area within the floodway of the Sacramento River in the manner required by Reclamation District 1000 or any other agency responsible for maintenance.

(b) The area between the waterward levee shoulder and the riverbank may be filled, provided the fill does not extend more than one hundred fifty (150) feet waterward from the centerline of the levee crown.

(c) Within the area located between the waterward levee shoulder and a point sixty–five (65) feet waterward from the centerline of levee, the following conditions apply:

(1) Where the area is less than one (1) foot above the design flood plane, driveways and ramps may be constructed at any orientation to the levee.

(2) Where the area is less than one (1) foot above the design flood plane, fences parallel to the levee must be an open type and constructed to provide for the unobstructed visual inspection of the levee slope and toe from the levee crown roadway.

(3) Where the entire area is at least one (1) foot above the design flood plane, no restrictions apply to fences, walls, and similar structures.

(4) Elevated walkways and driveways are permitted without elevation restrictions.

(d) Within the area beginning at a point sixty–five (65) feet waterward from the centerline of the levee and extending waterward a maximum of one hundred and fifty (150) feet from the centerline of the levee, the following conditions apply:

(1) Securely anchored fences and structures are permitted.

(2) Dwellings are permitted, if the finished floor level is at least two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher.

(3) The finished floor level of any addition to an existing dwelling shall be at least two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher.

(4) Dwellings and appurtenant structures are permitted within fourteen (14) feet of the top of the riverbank, provided the riverbank is revetted to board standards.

(5) Dwellings and appurtenant structures are not permitted within thirty (30) feet of the top of an unrevetted riverbank.

(e) Within the area beginning at a point one hundred and fifty (150) feet waterward from the centerline of the levee and extending waterward to the top of riverbank, the following conditions apply:

(1) Dwellings and fences are not permitted.

(2) Securely anchored structures that do not protrude above natural ground level may be allowed.

(3) Additions may be made to existing dwellings if the addition extends no farther into the floodway than the original dwelling.

(4) The finished floor level of any addition to an existing dwelling shall be at least two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher.

(f) Materials or equipment stored within the floodway must be securely anchored or removed prior to the flood season.

(g) Downed trees or brush and other floatable material of any kind are not permitted to remain within the floodway during the flood season.

(h) The board permit approving the construction of a dwelling shall run with the land, pursuant to a recorded document executed pursuant to section 16(f).

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8370, 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 134. Supplemental Standards for the Yuba River—Daguerre Point Dam to Confluence with the Feather River.

These standards are for dwellings and structures within the Yuba River floodway between Daguerre Point Dam and the confluence with the Feather River. These standards supplement and, where in conflict with, supersede the standards in sections 111 through 137.

(a) The following definition applies to this section:

(1) Permanent Dwelling – "Permanent Dwelling" means a dwelling that may be occupied throughout the year.

(b) The lower Yuba River flood channel is divided into Areas A, B, and C, as delineated on Figure 8.11. Area A is the flow area required to carry one hundred fifty thousand (150,000) cubic feet per second (cfs). Area A and Area B combined is the flow area required to carry two hundred thirty–five thousand (235,000) cfs. Area C is the remainder of the floodway within the flood control project levees. A map identifying the exact locations of Areas A, B and C, entitled "1995 Designated Floodway, Yuba River" is incorporated by reference into this regulation. The full–size map is available for inspection at the office of the board in Sacramento.

(c) Encroachments in Area A must conform to the general standards of this title, except that new dwellings for seasonal occupancy (as defined in section 113) and structures are not permitted.

(d) Encroachments in Area B must conform to the general standards of this title except that dwellings, structures, and mobile homes may be permitted in substantial areas of shallow flooding (water depth one (1) foot or less in a hundred–year flood) if they satisfy the requirements of subdivision (e) of this section and the requirements of section 113(d).

(e) Area C is considered a "zone B" as provided in section 113. Encroachments in Area C must conform to the general standards of this division, and in addition, meet the following requirements:

(1) The design flood plane for construction of permanent dwellings must correspond to the two hundred thirty–five thousand (235,000) cfs flow line or 100–year flood elevation, whichever is higher.

(2) New permanent dwellings are not permitted in Area C unless a safe evacuation route, satisfactory to the board, is available for the dwelling's residents.

(3) Roads that would be used to evacuate residents must be constructed to at least the one hundred fifty thousand (150,000 cfs flow line elevation, 100–year flood elevation, or at natural ground elevation, whichever is highest and may not unreasonably obstruct floodflows.

(4) The board may require the owner of a dwelling, pursuant to section 16, to execute an agreement in which the owner agrees to evacuate all residents and guests upon order of an authorized government official when flooding is forecasted for the area.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609, and 8710, Water Code.

HISTORY

1. New section and figure 8.11 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

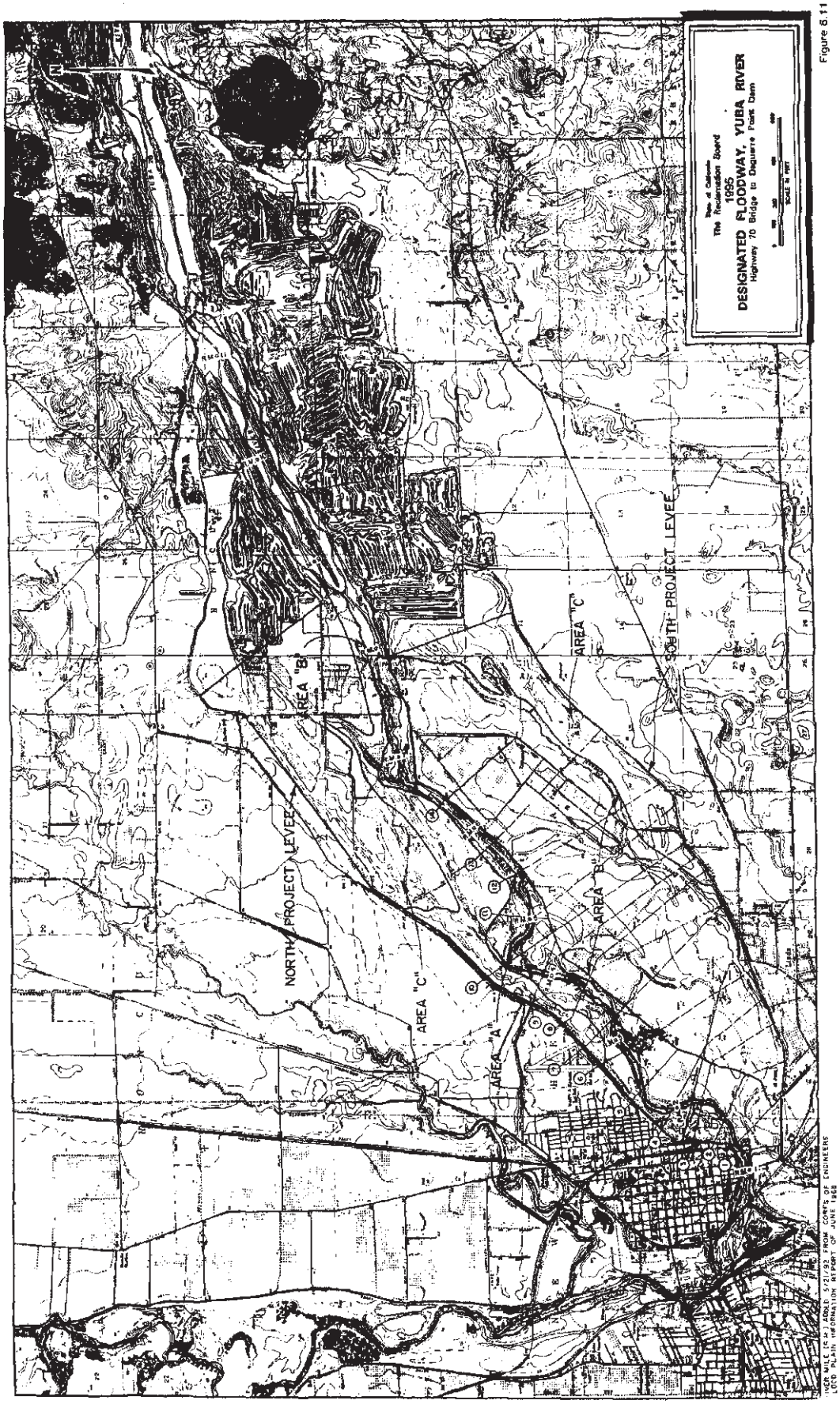

DESIGNATED FLOODWAY, YUBA RIVER
Highway 70 Bridge to Daguerre Point Dam
1995
The Reclamation Board
NORTH PROJECT LEVEE
SOUTH PROJECT LEVEE
AREA "A"
AREA "B"
AREA "C"
AREA "B"
AREA "C"

Figure 8.11

§ 135. Supplemental Standards for Butte Basin.

The standards apply to Butte Basin, as delineated on Figure 8.12 and partitioned into designated Areas B, C, D, E, and Reclamation District 1004. The basin's west boundary is the Sacramento River east bank project levee, and above the Ord Ferry area where there is no project levee, the boundary is the designated floodway of the Sacramento River adopted November 29, 1988. The east boundary is based on the wetted area of the 1970 flood. The north boundary is the Sacramento River designated floodway in the proximity of Murphy Slough and Golden State Island, and the south boundary is the Sacramento River between the city of Colusa and the Butte Slough outfall gates, a section of the Butte Slough levee in both Colusa and Sutter Counties, and Pass Road in Sutter County. These standards supplement and, where in conflict with, supersede the standards in section 111 through section 137.

(a) Approval from the board is required for any encroachment that could reduce or impede floodflows, or would reclaim any of the floodplain within Butte Basin.

(1) Encroachments in Reclamation District 1004 are not regulated by the board.

(2) The supplemental standards do not apply to that portion of Area E located north of the Butte–Sutter County line and its extension westward into Colusa County, and situated adjacent to the Sacramento River project levee where the natural ground level is higher than the 100–year flood elevation.

(3) Except where the activity would potentially affect a project levee or other project feature, the standards within sections 116, 122, 123, 124, 126, 127, 129, 130, 131, 132, and 137 do not apply to that portion of Area E located south of the Butte–Sutter County line and its extension westward into Colusa County.

(b) Approval from the board is not required for crop checks less than thirty–six (36) inches in height. In Areas B, C and D, all crop checks must be removed prior to flood season, unless they comply with the requirements of subdivisions (d), (e), and (f), respectively.

(c) Except where the activity would potentially affect a project levee or other project feature, approval from the board is not required for land leveling or grading, or for drainage and irrigation improvements in Areas C, D, and E that have a localized impact only and comply with subdivisions (e), (f), and (g) of this section.

(d) Within Area B, approval from the board is not required for any encroachment that is less than eighteen (18) inches in height above the natural ground level. However, any proposed encroachment within a slough or swale must be approved by the board. Area B extends southerly from Butte Basin's northerly boundary to a line located one thousand (1,000) feet southeasterly and lying parallel to the Parrott Grant line.

(e) Within Area C, approval from the board is not required for any encroachment less than thirty–six (36) inches in height above the natural ground level, and having a crest elevation less than seventy and one tenth (70.1) feet (NGVD). Area C is the area enclosed within a three– (3) mile radius measured from the center of Moulton Weir and limited by the southeasterly extensions of the north and south training levee alignments to the three– (3) mile arc.

(f) Within Area D, approval from the board is not required for any encroachment less than thirty–six (36) inches in height above the natural ground level and having a crest elevation less than fifty–four and nine tenths (54.9) feet (NGVD). Area D encompasses the Colusa Weir together with its outflow channel enclosed by training levees, and an overflow area extending to Butte Creek.

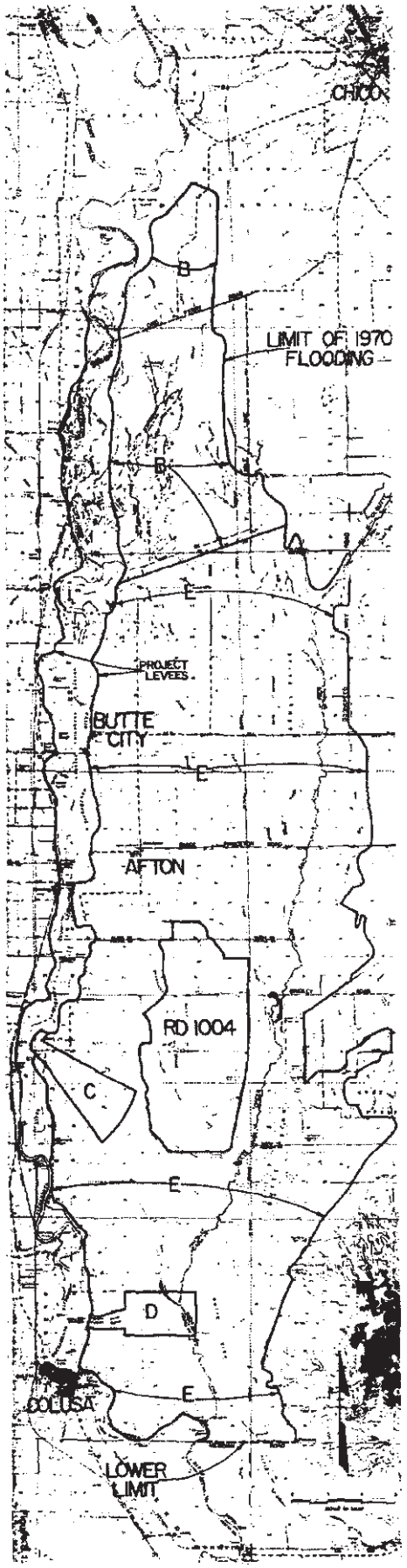
(g) Within Area E, approval from the board is not required for any encroachment less than thirty–six (36) inches in height above the natural ground level. The northern boundary of Area E is a line located one thousand (1,000) feet southeasterly of the south Parrott Grant line, and the southern boundary is formed by the Sacramento River between the city of Colusa and the Butte Slough outfall gates, a section of the Butte Slough levee in both Colusa and Sutter Counties, and Pass Road in Sutter County.

(h) Within that portion of Area E located south of Gridley Road, new and existing recreational structures, including caretaker, security, and dwellings for seasonal occupancy (as defined in section 113) may be permitted provided the finished floor level of the structure is at least two (2) feet above the design flood plane or two (2) feet above the 100–year flood elevation, whichever is higher.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section and figure 8.12 filed 9–30–96; operative 10–30–96 (Register 96, No. 40).


CHICO
B
LIMIT OF 1970 FLOODING
B
E
PROJECT LEVEES
BUTTE CITY
E
AFTON
RD 1004
C
E
D
E
COLUSA
LOWER LIMIT

§ 136. Supplemental Standards for Yolo Bypass and Sutter Bypass.

It is the board's policy to permit agricultural land use and the development of suitable wetlands within the Yolo Bypass and Sutter Bypass. The supplemental standards protect the flood control functions of the Yolo and Sutter Bypasses, safeguard existing agricultural land use, and control the development of proposed wetlands.

(a) Final detailed plans for all construction, grading and planting must be submitted to and approved by the board prior to the start of work.

(b) A detailed operation and maintenance plan must be submitted to and approved by the board prior to the start of work.

(c) A profile of the existing levee crown roadway and access ramps that will be utilized for access to and from the construction area must be submitted to the board prior to the start of work.

(d) Any damage to the levee crown roadway or access ramps attributable to the construction or maintenance of croplands or wetlands must be promptly repaired by the permittee.

(e) The planting of vegetation or the impoundment of water is not permitted within one thousand (1,000) feet of the Fremont Weir structure.

(f) The planting of vegetation or the impoundment of water shall not be permitted in any area where there could be an adverse hydraulic impact.

(g) Irrigated and nonirrigated pastures and croplands are allowed without permit from the board when consistent with the board's flowage easements.

(h) The planting of vegetation is generally permitted for the development of native marsh, riparian vegetation, and wetlands.

(i) Rooted vegetation and aquatic beds of floating (nonrooted) or submerged vegetation are generally permitted to be established in ponded water.

(j) The depth of ponded water must be controlled to prevent the growth of unauthorized vegetation that could adversely affect the operation of the flood control project.

(k) No permanent berms or dikes are permitted above natural ground elevation without a detailed hydraulic analysis except where otherwise expressly provided for in reservations contained in easement deeds to the Sacramento and San Joaquin Drainage District.

(*l*) Required maintenance may include removal, clearing, thinning, and pruning of all vegetation directly or indirectly resulting from the permitted project.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 137. Miscellaneous Encroachments.

The following standards are to be used as a guide in making application to the board for miscellaneous encroachments. Not all possible miscellaneous encroachments, the number being unlimited, are listed. Those listed are typically the type proposed by residents within an adopted plan of flood control, and those necessary because of governmental requirements.

(a) Tanks used for storage of water or other liquids are not permitted within a levee section or within ten (10) feet of the levee toe. If placed within the floodway, or if placed in the projected levee section and within twenty–five (25) feet of the levee toe, a permit is required.

(b) Landside water retention basins must be located outside of the projected levee section and a minimum distance of twenty– five (25) feet from the levee toe plus any additional distance that may be determined to be required to control seepage.

(c) Steps for access on levee slopes must conform to the following criteria:

(1) Steps must be constructed of material resistant to deterioration. Acceptable materials include, but are not limited to, concrete, masonry, stone, pressure treated lumber, iron, and steel.

(2) Steps constructed on the waterward levee slope must be properly anchored to prevent movement during high water.

(3) Excavation in the levee slope made for the construction of steps may not exceed twelve (12) inches in depth.

(4) Steps must be constructed flush with the levee slope.

(5) Handrails are not permitted on steps if they interfere with levee maintenance unless they are required by law.

(6) Handrails, where permitted on waterward levee slopes, shall be designed to give way when subjected to debris loading.

(7) The permittee is responsible for the maintenance of steps and handrails.

(8) Revetment on a levee slope or streambank that is destroyed or disturbed during the construction of steps must be restored to its original condition by the permittee.

(d) Horizontal (elevated) access ways, with or without handrails, are permitted above the landside and waterward slopes of the levee if they do not interfere with levee maintenance and conform to the following criteria:

(1) Horizontal access ways may not exceed four (4) feet in width unless the levee slope immediately beneath the access way is revetted to board standards.

(2) The bottom of the stringers of horizontal access ways above the waterward levee slope must be a minimum of three (3) feet above the design flood plane elevation.

(3) Handrails on access ways may not extend onto the levee crown.

(4) On a levee where the crown is less than fourteen (14) feet in width, handrails must be a minimum of seven (7) feet from the centerline of the levee.

(5) Access way supports, or piers, must be constructed so as to minimize the possibility of trapping and accumulating floating debris.

(6) Revetment on a levee slope or streambank that is destroyed or disturbed during the construction of a walkway must be restored to its original condition by the permittee.

(7) Maintenance of an access way and the adjacent levee slope is the responsibility of the permittee, and any erosion of the levee slope must be promptly repaired.

(e) Mailboxes, when required by the U.S. Postal Service, are permitted on a levee section and must be placed at the extreme outer edge of the levee crown. If the levee crown is less than fourteen (14) feet in width, the mailbox must be a minimum of seven (7) feet from the centerline of the levee.

(f) Traffic control signs, directional or informational signs, and signs providing for public safety are permitted on a levee slope or on the edge of a levee crown.

(g) Bus shelters are permitted on a levee section where sufficient area is available for safe operation of vehicles, and the bus shelter is at least seven (7) feet from the centerline of the levee.

(h) Livestock grazing on levee slopes shall be controlled to prevent overgrazing and the development of livestock trails.

(i) The storage of materials or equipment, unless securely anchored, downed trees or brush, and floatable material of any kind are not allowed within a floodway during the flood season as defined in Table 8.1.

(j) Structures and the storage of material or equipment are not permitted on levee slopes.

(k) Structures, materials, and equipment may be placed on the levee crown if they do not prevent inspection and maintenance of the levee, obstruct floodfight procedures, and the following additional requirements are met:

(1) There is adequate levee crown width to provide a minimum of twenty (20) feet of unobstructed clearance for two–way vehicular traffic.

(2) Where a public road or highway is on the levee crown, the design width of the roadway including the roadway shoulders must remain clear.

(3) Materials or equipment may not be stored within fourteen (14) feet of the landward levee shoulder.

(4) Materials or equipment may be stored to within fourteen (14) feet of the waterward levee shoulder provided the waterward levee slope is revetted to board standards.

(5) Materials or equipment may not be stored within thirty (30) feet of the waterward levee shoulder of an unrevetted levee.

(*l*) Seismic surveys near a levee or within a floodway must meet the following criteria:

(1) Horizontal shear energy sources may not be used on any levee section or within fifty (50) feet of the levee toe. In areas having soils especially susceptible to damage, a more stringent control may be required.

(2) Energy charges for surveys must be a minimum distance of two hundred (200) feet from the levee toe.

(3) Energy charges for surveys must not exceed one (1) pound of charge per one hundred (100) feet of distance from the levee toe.

(4) Electrical cables used in seismic surveys may not interfere with periodic inspections and maintenance of flood control facilities or with flood fight procedures.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 138. Identification of Limits of Flood Control Works.

(a) The board may identify the limits of the adopted plan of flood control or flood control works for purposes of establishing the area within the board's jurisdiction that it actively regulates when:

(1) The point of intersection of the levee slope and natural ground cannot readily be determined, therefore, the existing levee toe cannot otherwise be defined in accordance with Title 23 Cal Code Regs. Section 4(s).

(2) Features or facilities are proposed to be added that may interfere with the integrity or proper functioning of the adopted plan of flood control.

NOTE: Authority cited: Section 8571, Water Code. Reference: Sections 8608, 8609 and 8710, Water Code.

HISTORY

1. New section filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Article 9. Regulations for Implementation of the California Environmental Quality Act

§ 190. Purpose and Authority.

These regulations are adopted by The Reclamation Board pursuant to Public Resources Code section 21082 to implement, interpret, and make specific those provisions of the California Environmental Quality Act which supplement the requirements of the regulations promulgated by The Secretary of the Resources Agency (Title 14, California Code of Regulations, commencing with Section 15000, hereinafter referred to as the "CEQA Guidelines").

NOTE: Authority cited: Section 21082, Public Resources Code; Section 8571, Water Code. Reference: Section 21082, Public Resources Code.

HISTORY

1. New article 9 (sections 190 through 193) and section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 191. Incorporation of California Environmental Quality Act Guidelines.

(a) The CEQA Guidelines are hereby incorporated by reference as if fully set forth in this subchapter.

(b) The words used in this subchapter have the same meaning given them in the CEQA Guidelines, unless the context clearly requires a different meaning.

NOTE: Authority cited: Section 21082, Public Resources Code; Section 8571, Water Code. Reference: Section 21082, Public Resources Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 192. Fees for Preparation of Negative Declaration or EIR.

(a) The board may charge and collect a reasonable fee from an applicant proposing a project for which the board must prepare an environmental impact report (EIR) or initial study and negative declaration. The fee will be an amount which will cover the costs incurred by the board or the department in preparing such EIR or initial study or negative declaration, and for procedures necessary to comply with CEQA.

(b) Where the board will charge a fee for the preparation of an EIR or initial study and negative declaration, it shall collect a deposit as provided in Section 503 of this title which is incorporated by reference.

(c) The board shall separately account for the deposit collected and the charges thereto. The status of the account shall be provided to the project proponent at regular periodic intervals established by mutual agreement. A final accounting shall be rendered by the board after the final EIR or negative declaration is considered and adopted or when the environmental review is otherwise terminated.

(d) If the final accounting shows that the deposit exceeds the actual costs incurred by the board, the excess shall be refunded. If the actual costs exceed the amount of the deposit, the project proponent shall be billed and pay the difference.

(e) The board may adjust or waive deposits or fees for minor projects.

NOTE: Authority cited: Section 21082, Public Resources Code; Section 8571, Water Code. Reference: Section 21089, Public Resources Code.

HISTORY

1. New section filed 9–30–96; operative 10–30–96 (Register 96, No. 40).

§ 193. Categorically Exempt Activities.

In compliance with the requirements of the CEQA Guidelines, the following list of categorically exempt activities of the board has been established. This list is subject to the limitations on categorical exemptions set forth in the provisions of the state CEQA Guidelines. This list does not preclude categorical exemptions for other activities pursuant to CEQA or the CEQA Guidelines.

(a) Class 1 consists of operation, maintenance, or minor alteration of the following facilities where there is negligible or no expansion beyond that previously existing:

(1) Project works and related facilities;

(2) Nonproject levees and related facilities;

(3) Other flood control works which are the statutory responsibility of the department or which are the responsibility of the department as a "maintenance area;

(4) Flood control works of agencies with which the board has a local cooperation agreement, local cost sharing agreement or similar agreement;

(5) Existing encroachments.

(b) Class 2 includes replacement or reconstruction of existing structures and facilities where necessary at the facilities listed in Class I.

(c) Class 3 includes the location and construction of minor accessory structures and the installation of new equipment where necessary at the facilities listed in Class I.

(d) Class 4 includes approval of minor public or private alterations to land, or vegetation not involving the removal of mature and scenic trees, where necessary at the facilities listed in Class I.

(e) Class 5 includes the approval of minor encroachment permits, licenses, board designation of floodways pursuant to Water Code section 8609, and any board approval of existing encroachments.

(f) Class 6 includes the collection of basic data, research and experiments carried out by the board or Department, their officers and employees, which are necessary for planning and feasibility studies, investigations and preparation of environmental documents.

(g) Class 9 includes the inspection of the facilities listed in Class I and other approved encroachments or existing nonconforming encroachments.

(h) Class 12 includes the sale or exchange of surplus property, as limited by the CEQA Guidelines. Class XII also includes the issuance or grant of a license, lease, easement, or agreement pursuant to section 19.

(i) Class 13 includes acquisition of land for fish and wildlife conservation or mitigation purposes where the land will be preserved in its natural condition or where the habitat will be enhanced for fish and wildlife purposes.

(j) Class 14 includes acquisition, sale, or transfer of land for park or similar purposes as limited by the CEQA Guidelines.

(k) Class 21 includes the enforcement of the orders, terms, or conditions of approvals or permits of the board.

(*l*) Class 25 includes acquisition or transfer of land that will preserve open space as limited by the CEQA Guidelines.

NOTE: Authority cited: Section 8571, Water Code; and Section 21082, Public Resources Code. Reference: Section 21080.1 and 21082, Public Resources Code; Sections 8361 and 12878.21, Water Code; Title 14, California Code of Regulations, Sections 15300.4, 15301, 15302, 15303, 15304, 15305, 15306, 15309, 15312, 15313, 15314, 15321, 15325.

HISTORY

1. New section and appendix A filed 9–30–96; operative 10–30–96 (Register 96, No. 40).
2. Amendment relocating appendix A to new article 10 filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).

Article 10. Appendices

Appendix A

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD
3310 El Camino Avenue, Room LL40
Sacramento, California 95821
Telephone: (916) 574–0609
FAX (916) 574–0682

GENERAL INFORMATION
REGARDING APPLICATIONS FOR ENCROACHMENT PERMITS

These instructions will provide you with information on how to prepare your application for a Central Valley Flood Protection Board encroachment permit.

Approval by the Board is required for projects or uses which encroach into rivers, waterways, and floodways within and adjacent to federal and State authorized flood control projects and within designated floodways adopted by the Board. You must obtain Board approval before you begin certain uses or construction work on any proposed project within these areas.

The Board exercises jurisdiction over the levee section, the waterward area between project levees, a strip of land adjacent to the landward levee toe which is at least 10 feet wide, areas within 30 feet of the top of the banks of unleveed project channels, and within designated floodways adopted by the Board. Activities outside of these limits which could adversely affect the flood control project are also under Board jurisdiction. Maps of designated floodways are available for inspection at the Board's office in Sacramento, city and county planning or public works departments, and county recorders' offices. Questions relative to proposed projects or uses which may require Board approval should be directed to The Central Valley Flood Protection Board, 3310 El Camino Avenue, Room LL40, Sacramento, California 95821, or telephone (916) 574–0609.

Four copies of the completed application and drawings, one completed copy of the Environmental Questionnaire, and any other environmental documents must be submitted. The application must be made on forms provided by the Board and must contain the following information:

1. A concise description of the proposed project or use.
2. The county, section, township, range, and the base and meridian in which the proposed project or uses are located.
3. The name, address, telephone number, and FAX number (if any) of the applicant.
4. An endorsement must be obtained from the reclamation, levee, or flood control agency responsible for levee maintenance. Special conditions may be added to the permit at the request of the agency. If the maintaining agency delays or declines to endorse the application, it may be submitted to the Board without endorsement with a written explanation as to why the application was not endorsed by the maintaining agency.
5. A current list of the names and addresses of all the adjacent property owners.
6. If applicable, provide the name and address of the Lead Agency responsible for preparing environmental documentation regarding the proposed project as required by the California Environmental Quality Act of 1970. The environmental questionnaire provided by the Board must be completed and submitted as part of your application.
7. Four copies of exhibits and drawings depicting the project or use.
8. At least two color photographs (polaroids or snapshots are acceptable) showing different views of the project site. Include captions which explain what the photograph is depicting.
9. The name and address of the owner of the proposed project or use if different from the person filing the application.
10. The name and address of the owner of the property on which the proposed project is located.

You should include with your application any additional information that would be helpful in evaluating your proposed project or use.

The application must be signed and dated.

Your completed application may be mailed or delivered in person to:

The Central Valley Flood Protection Board
Attention: Floodway Protection Section
3310 El Camino Avenue, Room LL40
Sacramento, California 95821

The Board has adopted standards for work which encroaches into the area under its jurisdiction. Copies of the standards are available upon request. A typical levee cross section and terminology are presented in Exhibit 1.

Minimum Requirements and Format for Drawings

1. The following information is required to evaluate the work described in your application. Additional information may be required depending upon the nature of the project.
   A. The title block of each sheet should identify the proposed activity and include the name of the applicant, number of the sheet, total number of sheets in the set, and date the drawing was prepared.
   B. The name of the stream, river mile, scale, north arrow, datum reference, and other information as required.
   C. The exact location of the proposed project in relation to identifiable landmarks.
   D. Plan and elevation views of the proposed project or use and the proximity of the proposed project or use in relation to existing facilities, property lines, levees, streams, etc.
   E. Drawings of levee cross sections or profiles must indicate the elevations of levee crowns, toes, low-water surface, and design flood plane. These drawings should include horizontal and vertical scales and must be referenced to a known elevation datum.
2. Please use the following format:
   A. Prepare the drawings on 8-1/2-by-11-inch sheets (when possible) in accordance with the general format depicted in Exhibits 2, 3, and 4.
   B. Allow a 1-inch binding margin on the top side of each sheet.
   C. Because additional copies of the drawings may have to be reproduced photographically, color shading cannot be used. Drawings must show shading as dot shading, cross hatching, or similar graphic symbols.

Application Processing

Upon receipt of an application, a general review is made to determine if it is adequately complete to begin processing. If the application is found to be complete, it will be assigned a number and a letter will be sent to the applicant acknowledging receipt of the application. The Board will send a notice of the pending application to the adjacent property owners. If, during the review process, the application is found to be incomplete, it will be returned or the applicant will be advised by letter of the deficiencies in the application. If these deficiencies are not corrected within a reasonable time limit, processing of the application will be terminated.

The applicant may be notified of a need for additional studies.

A copy of the application is sent to the U.S. Army Corps of Engineers for review and comment.

The Board staff performs some level of environmental review of the potential impacts of the proposed project or use.

The project or use described in the permit issued on each approved application is subject to 12 general conditions. A number of special conditions may be added to the approved permit depending on the nature of the proposed activity.

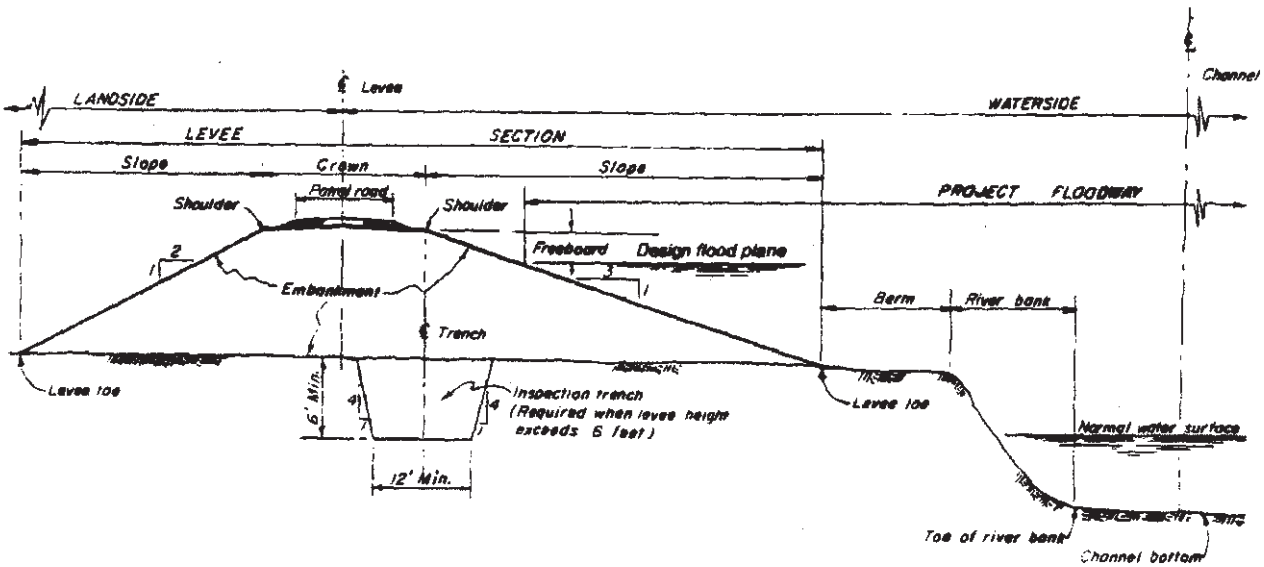
Applications which must be considered by the Board are placed on the agenda of the next regular Board meeting. The applicant and all interested parties are notified of the meeting and may appear and present their views to the Board for its consideration. After an application has been approved by the Board, any requests for revisions to the proposed or completed project which have not been approved by the Board must be submitted in writing to the Board for approval. Revised applications are processed in the same manner as new applications.

Acceptance of a Permit

You must notify the Department of Water Resources fourteen (14) calendar days before construction begins by mailing the pre–addressed start card furnished by the Board when the permit is issued. This card will contain the current address and telephone number of the Department of Water Resources' Flood Project Inspection Section which provides inspection services on behalf of the Board. The beginning of any work described in the permit constitutes acceptance by the applicant that work will be done in compliance with the general and special conditions listed in the permit.

Inquiries about procedures or other details may be made in person or by correspondence to The Central Valley Flood Protection Board, Attention: Permitting Section, 3310 El Camino Avenue, Room 151, Sacramento, California 95821; phone: (916) 574–0609, website: www.cvfpb.ca.gov, and email: cvfpbquestions@water.ca.gov. Please include the Board's application number when inquiring about an application.

Exhibit 1
Project Levee Standards and Terminology



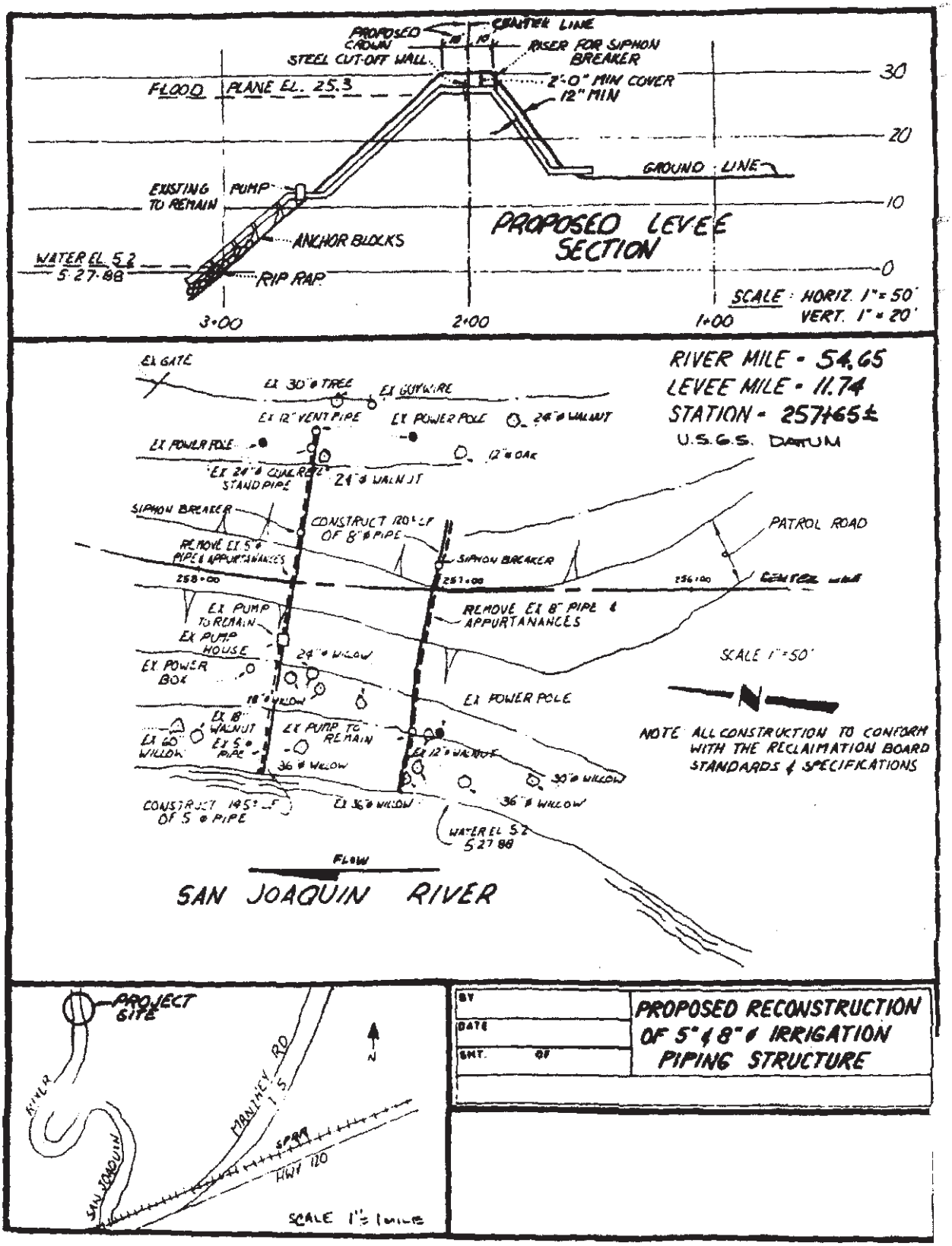
LEFT SIDE

RIGHT SIDE
(Similar to left side)

TYPICAL FLOODWAY
LOOKING DOWNSTREAM
NOT TO SCALE

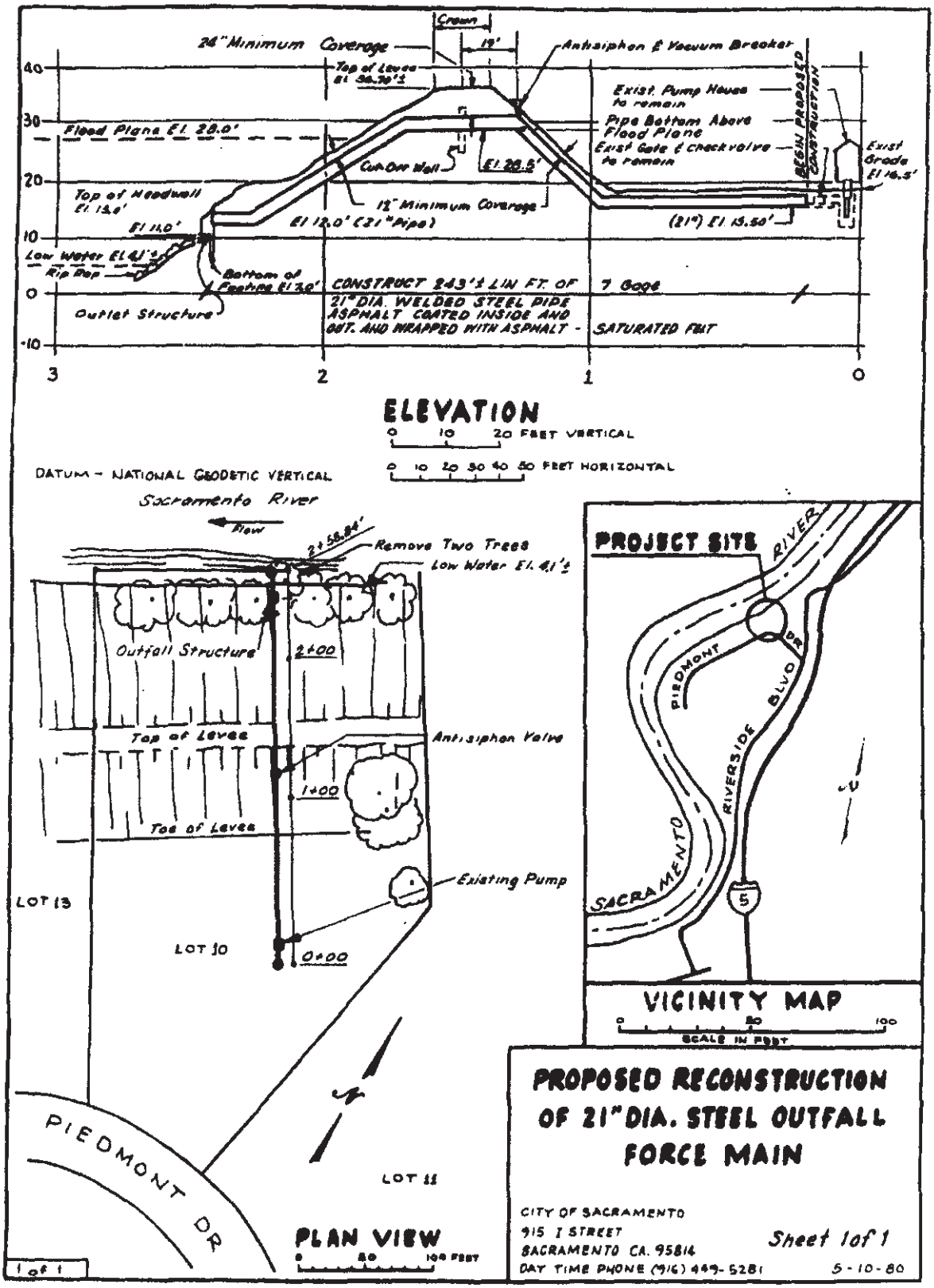
ITEM	MINIMUM DIMENSIONS OF STANDARD LEVEE SECTIONS			
	MAIN RIVER CHANNELS	MAJOR TRIBUTARIES	MINOR TRIBUTARIES	BY PASSES
CROWN WIDTH	20'	20'	12'	20'
LAND SLOPE	1 on 2	1 on 2	1 on 2	1 on 2
WATER SLOPE	1 on 3	1 on 3	1 on 3	1 on 3
FREEBOARD	3' (1)	3'	3'	4' to 6'
PATROL ROAD WIDTH	12'	12'	10'	12'
NOTE (1) 5 Feet on Main Channel below Coche Slough (Sacramento River)				

EXHIBIT 2


PROPOSED CROWN
CENTER LINE
STEEL CUT-OFF WALL
RISER FOR SIPHON BREAKER
2'-0" MIN COVER
12" MIN
FLOOD PLANE EL. 25.3
GROUND LINE
EXISTING PUMP TO REMAIN
ANCHOR BLOCKS
WATER EL. 5.2 5-27-88
RIP RAP
PROPOSED LEVEE SECTION
SCALE: HORIZ. 1"=50'
VERT. 1"=20'
3+00
2+00
1+00
30
20
10
0
RIVER MILE - 54.65
LEVEE MILE - 11.74
STATION - 257+65±
U.S.G.S. DATUM
EX GATE
EX 30" Ø TREE
EX GUY WIRE
EX 12" VENT PIPE
EX POWER POLE
24" Ø WALNUT
12" Ø OAK
EX 24" Ø CMP RISER STAND PIPE
SIPHON BREAKER
CONSTRUCT 120 L.F. OF 8" Ø PIPE
REMOVE EX 5" Ø PIPE & APPURTANANCES
PATROL ROAD
CENTER LINE
EX PUMP TO REMAIN
EX PUMP HOUSE
EX POWER BOX
24" Ø WILLOW
18" Ø WILLOW
REMOVE EX 8" PIPE & APPURTANANCES
EX 8" WALNUT
EX 5" Ø PIPE
EX 60" WILLOW
EX PUMP TO REMAIN
36" Ø WILLOW
EX 12" Ø WALNUT
30" Ø WILLOW
CONSTRUCT 145± L.F. OF 5" Ø PIPE
EX 36" Ø WILLOW
WATER EL. 5.2 5-27-88
FLOW
SAN JOAQUIN RIVER
SCALE 1"=50'
NOTE: ALL CONSTRUCTION TO CONFORM WITH THE RECLAIMATION BOARD STANDARDS & SPECIFICATIONS
PROJECT SITE
RIVER
SAN JOAQUIN
MANTHEY RD
SPRR
HWY 120
SCALE 1"= 1 MILE
BY
DATE
SHT. OF
PROPOSED RECONSTRUCTION OF 5" & 8" Ø IRRIGATION PIPING STRUCTURE

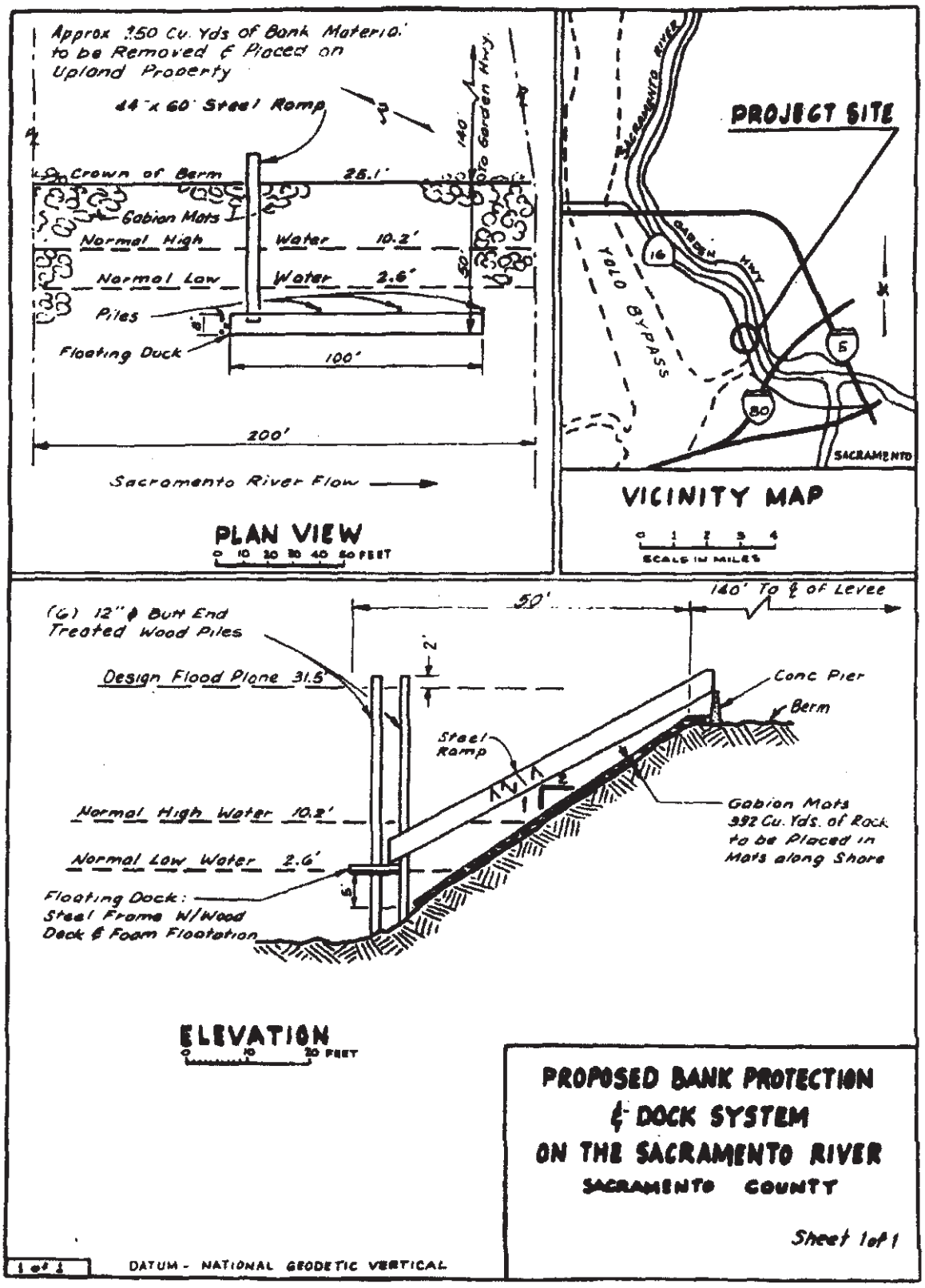
xi

EXHIBIT 3



V11

EXHIBIT 4


Approx 350 Cu. Yds of Bank Materio. to be Removed & Placed on Upland Property
44' x 60' Steel Ramp
140' to Garden Hwy.
Crown of Berm
26.1'
Gabion Mats
Normal High Water 10.2'
Normal Low Water 2.6'
Piles
Floating Dock
100'
200'
Sacramento River Flow
PLAN VIEW
0 10 20 30 40 50 FEET
SACRAMENTO RIVER
PROJECT SITE
GARDEN HWY.
YOLO BYPASS
16
5
80
SACRAMENTO
VICINITY MAP
0 1 2 3 4
SCALE IN MILES
50'
140' To ℄ of Levee
(6) 12" ϕ Butt End Treated Wood Piles
Design Flood Plane 31.5'
2'
Conc Pier
Berm
Steel Ramp
Normal High Water 10.2'
Normal Low Water 2.6'
Gabion Mats 392 Cu. Yds. of Rock to be Placed in Mats along Shore
Floating Dock: Steel Frame W/Wood Deck & Foam Floatation
ELEVATION
0 10 20 FEET
PROPOSED BANK PROTECTION & DOCK SYSTEM ON THE SACRAMENTO RIVER
SACRAMENTO COUNTY
Sheet 1 of 1
1 of 1
DATUM - NATIONAL GEODETIC VERTICAL

STATE OF CALIFORNIA
THE RESOURCES AGENCY

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

SAMPLE 00000 GM *SAMPLE*
PERMIT NO.

This Permit is issued to:

Mr. John Doe
John Doe Irrigation District
1234 Any Street
Anywhere, California 00000

To install a 60–inch–diameter water pipeline within a 78–inch–diameter casing and a 24–inch–diameter water pipeline within a 42–inch–diameter casing under Any Stream. The project is located in the City of Anywhere approximately 1,400 feet upstream from The Road. Section 00, TOS, ROOE, M.D.B.&M., Any Stream, Sacramento County

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project described above.

The Central Valley Flood Protection Board, on the _____ day of _____, 20____, approved this application and the plans attached thereto. Permission is granted to proceed with the work described in this application, which is incorporated herein by reference, subject to the following General and Special Conditions.

(SEAL)

Dated: _____

_____
Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on fifteen (15) calendar days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

(over)

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS:

THIRTEEN: That all work shall be in accordance with the submitted drawings and specifications dated December 1991 except as modified by special permit conditions herein. No further work, other than that covered by this permit, shall be done in the area without the prior approval of The Central Valley Flood Protection Board.

***FOURTEEN**: That in the event trees and brush are cleared, they shall be completely burned or otherwise removed from the overflow area of Dry Creek, and no downed trees or brush shall be allowed to remain in the floodway during the flood season between November 1 and April 15.

***FIFTEEN**: That no excavation shall be made or allowed to remain in the creek banks between November 1 and April 15.

SIXTEEN: That the backfill material for the bore pit and receiving pit excavation shall be placed in layers and compacted to a density equal to that of the adjacent undisturbed material.

SEVENTEEN: That the work area shall be restored to at least the same condition that existed prior to commencement of work.

EIGHTEEN: That the permittee shall assume all responsibility for protection, relocation, or removal of the permitted project works if required by the Board.

NINETEEN: That the applicant shall provide inspection services acceptable to the Board. A civil engineer registered in the State of California shall certify that all work was thoroughly inspected and performed in accordance with the submitted plan drawings, specifications, and permit conditions.

*November 1 to July 15 depending on location of stream.

State of California The Resources Agency

THE CENTRAL VALLEY FLOOD PROTECTION BOARD

Application No. _____

(For Office Use Only)

APPLICATION FOR A PERMIT

1. Description of proposed work: _____

_____

_____

_____

2. Location: _____ County, in Section _____,
Township: _____ (N) (S), Range _____ (E) (W), M.D.B.&M.

3. _____ of _____
Name of Applicant Address

_____
City State ZIP Code Telephone Number

_____
FAX Number

4. Endorsement: (of Reclamation District/Department of Water Resources)
We, the Trustees of/DWR Representatives _____
District Name and Number
approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form ☐ Conditions Attached ☐ No Conditions

_____ _____
Trustee Date Trustee Date

_____ _____

_____ _____

5. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

_____
Name Address ZIP Code

_____

_____

_____

6. Has an environmental determination been made of the proposed work under the California Environmental Quality Act of 1970? ☐ Yes ☐ No ☐ Pending

If yes or pending, give the name and address of the lead agency and State Clearinghouse Number:

_____

_____ SCH NO._____

DWR 3615 (Rev. 6/09) Side A

7. When is the project scheduled for construction? _____

8. Please check exhibits accompanying this application.

   A. ☐ Map showing the location of the proposed work.

   B. ☐ Drawings showing plan and elevation views of the proposed work, scale, materials of construction, etc.

   C. ☐ Drawings showing the cross section dimensions and elevations of levees, berms, stream banks, flood plain, low flow, etc.

   D. ☐ Drawings showing the profile elevations of levees, berms, flood plain, low flow, etc.

   E. ☐ Photograph depicting the project site.

9. Is the applicant acting for the owner of the proposed works? ☐ Yes ☐ No

   If yes, the name, address and telephone number of the owner is

_____

_____
Signature of Applicant Date

For additional information:

_____

_____

_____

_____

_____

_____

_____

_____

_____

DWR 3615 (Rev. 6/09) Side B

ENVIRONMENTAL ASSESSMENT QUESTIONNAIRE FOR APPLICATIONS FOR CENTRAL VALLEY FLOOD PROTECTION BOARD ENCROACHMENT PERMITS

This environmental assessment questionnaire must be completed for all Central Valley Flood Protection Board applications. Please provide an explanation where requested. Incomplete answers may result in delays in processing permit applications. Failure to complete the questionnaire may result in rejection of the application.

1. Has an environmental assessment or initial study been made or is one being made by a local or State permitting agency in accordance with the California Environmental Quality Act?

   Yes _____ No _____. If yes, identify the Lead Agency, type of document prepared or which will be prepared, and the State Clearinghouse number:

2. Will the project require certification, authorization or issuance of a permit by any local, State, or federal environmental control agency?

   Yes _____ No _____. List all other governmental permits or approvals necessary for this project or use, including U.S. Army Corps of Engineers' 404 and Section 10 permits, State Water Quality Certification, Department of Fish and Game 1600 agreement, etc. Attach copies of all applicable permits.

3. Give the name and address of the owner of the property on which the project or use is located.

4. Will the project or use require issuance of a variance or conditional use permit by a city or county?

   Yes _____ No _____. Explain:

5. Is the project or use currently operating under an existing use permit issued by a local agency?

   Yes _____ No _____. Explain:

6. Describe all types of vegetation growing on the project site, including trees, brush, grass, etc.

7. Describe what type of wildlife or fish may use the project site or adjoining areas for habitat, food source, nesting sites, source of water, etc.

8. Has the Department of Fish and Game, U.S. Fish and Wildlife Service, or National Marine Fisheries Service been consulted relative to the existence of, or impacts to, threatened or endangered species on or near the project site?

   Yes _____ No _____. Explain:

9. Will the project or use significantly change present uses of the project area?

   Yes _____ No _____. Explain:

10. Will the project result in changes to scenic views or existing recreational opportunities?

    Yes _____ No _____. Explain:

11. Will the project result in the discharge of silt or other materials into a body of water?

    Yes _____ No _____. Explain:

12. Will the project involve the application, use, or disposal of hazardous materials?

Yes _____ No _____. If yes, list the types of materials, proposed use, and disposal plan. Provide copies of all applicable hazardous material handling plans.

13. Will construction activities or the completed project generate significant amounts of noise?

Yes _____ No _____. Explain:

14. Will construction activities or the completed project generate significant amounts of dust, ash, smoke, fumes, or odors?

Yes _____ No _____. Explain:

15. Will the project activities or uses involve the burning of brush, trees, or construction materials, etc.?

Yes _____ No _____. Explain, and identify safety and air pollution control measures:

16. Will the project affect existing agricultural uses or result in the loss of existing agricultural lands?

Yes _____ No _____. Explain:

17. Have any other projects similar to the proposed project been planned or completed in the same general area as the proposed project?

Yes _____ No _____. Explain and identify any other similar projects:

18. Will the project have the potential to encourage, facilitate, or allow additional or new growth or development?

Yes _____ No _____. Explain:

19. Will materials be excavated from the floodplain?

Yes _____ No _____.

THE REMAINING QUESTIONS MUST ONLY BE ANSWERED IF THE ANSWER TO QUESTION NO. 19 WAS "YES." IF THE ANSWER TO QUESTION NO. 19 WAS "NO," YOU DO NOT NEED TO COMPLETE THE REMAINING QUESTIONS.

A. What is the volume of material to be excavated?

Annually _____ Total _____

B. What types of materials will be excavated?

C. Will the project site include processing and stockpiling of material on site?

Yes _____ No _____. Explain:

D. What method and equipment will be used to excavate material?

E. What is the water source for the project?

F. How will waste materials wash water, debris, and sediment be disposed of?

G. What is the proposed end land use for the project site?

H. Has a reclamation plan been prepared for this site in accordance with the Surface Mining and Reclamation Act of 1975?

Yes _____ No _____. If yes, please attach a copy.

HISTORY

1. Amendment relocating appendix A from following section 193 to new article 10 filed 12–1–2009; operative 12–31–2009 (Register 2009, No. 49).
2. Amendment of General Information Regarding Applications for Encroachment Permits and Sample Permit filed 2–15–2012; operative 2–15–2012 pursuant to Government Code section 11343.4 (Register 2012, No. 7).

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