

Responses to CEC Data Requests (#1–48)

Application for Certification (08-AFC-6) for **WILLOW PASS GENERATING STATION** Pittsburg, California

December 2008

Prepared for:



Prepared by:



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LIST OF ACRONYMS AND ABBREVIATIONS USED IN RESPONSES

AFC	Application for Certification
AMR	American Medical Response
APE	Area of Potential Effects
API	American Petroleum Industry
BFE	Base Flood Elevation
BOE	California State Board of Equalization
CAISO	California Independent System Operator
Calpine	Calpine Corporation
CCCFPD	Contra Costa County Fire Protection District
CDFG	California Department of Fish and Game
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
cy	cubic yards
DDSD	Delta Diablo Sanitation District
DEC	Delta Energy Center
ESA	Environmental Site Assessment
FEMA	Federal Emergency Management Agency
FP10	Flex Plant 10
FS	Facilities Study
GLO	Government Land Office
gpm	gallons per minute
HDD	horizontal directional drilling
HRSG	heat recovery steam generator
IIPP	Illness and Injury Prevention Program
kW	kilowatt
LGIA	Large Generator Interconnection Agreement
LMEC	Los Medanos Energy Center
LOMA	Letter of Map Amendment
LOMR-F	Letter of Map Revision – Based on Fill
LORS	laws, ordinances, regulations, and standards
mgd	million gallons per day
MSDS	Materials Safety Data Sheets
msl	mean sea level
MW	megawatt
NAHC	Native American Heritage Commission
NERC	North American Electric Reliability Council
NGVD	National Geodetic Vertical Datum
NPDES	National Pollutant Discharge Elimination System
OWS	Oily Water System
PG&E	Pacific Gas & Electric Company
PPD	Pittsburg Police Department
PPP	Pittsburg Power Plant
RCRA	Resource Conservation and Recovery Act
REC	Recognized Environmental Condition
ROW	right-of-way
RWF	Recycled Water Facility
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
SFRWQCB	San Francisco Bay Region Regional Water Quality Control Board
SFHA	special flood hazard area

SIS	System Impact Study
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
U.S. DOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGLO	U.S. Government Land Office
WECC	Western Electricity Coordinating Council
WPGS	Willow Pass Generating Station

Technical Area: Biological Resources
Author: Laurel Cordonnier

BACKGROUND

The Willow Pass Generating Station (WPGS) Application for Certification (AFC) states that the water supply and return pipelines will need to be installed by jack and bore drilling beneath three areas along the water pipeline routes. The proposed areas for jack and bore drilling are the drainage channel immediately south of the developed portion of the existing Pittsburg Power Plant (PPP), the drainage channel in the Union Pacific Railroad switchyard, and Kirker Creek and an unnamed tributary of Kirker Creek between the Pittsburg-Antioch Highway and the Union Pacific Railroad. The drainage channel, creek, and tributary are wetlands that need to be avoided. The AFC states that a federal Clean Water Act Section 404 permit may need to be obtained from the U.S. Army Corps of Engineers (USACE) for this work. In addition, the applicant may need a Streambed Alteration Agreement from California Department of Fish and Game (CDFG) and a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB). Energy Commission staff needs to know the status of the USACE Section 404 permit, the CDFG Streambed Alteration Agreement, and the RWQCB Section 401 Water Quality Certification processes to complete its analysis.

- 1. Please provide a summary of communication with the USACE regarding the need for a Section 404 permit, the CDFG regarding the need for a Streambed Alteration Agreement, and the RWQCB regarding the need for a Section 401 Water Quality Certification.***

Overview of Pipeline Installation and Permit Requirements

Installation of the recycled water supply and wastewater discharge pipelines for the WPGS project would require crossings of five potentially jurisdictional wetlands, herein identified as Drainage Channel Crossings 1 and 2 (Figures 1-1 and 1-2) and Creek Crossings 1 through 3 (Figures 1-4, 1-5, and 1-6, respectively) (west to east). Figures 1-1 through 1-6 show the locations of all the crossings, including drainage creek and railroad crossings, for the water supply and wastewater discharge pipeline route. Table 1-1 presents a summary of the crossings, including installation method and potential agency permits required at each of the crossings.

The following potential wetlands would likely fall under the regulatory jurisdiction of the USACE: Kirker Creek (Creek Crossings 1 and 3), an unnamed tributary of Kirker Creek (Creek Crossing 2), and the channel immediately south of the WPGS (Drainage Channel Crossing 1). The jurisdictional status of Drainage Channel Crossing 2 (a drainage channel in the railroad switchyard) is unknown.

For at least four of the five crossings (Drainage Channel Crossings 1 and 2, and Creek Crossings 1 and 2), a 404 permit would not be required because a pipeline installation method would be used to avoid impacts to the drainage channels and creeks. Potential impacts to wetlands and/or waters of the United States could occur at only one of the five crossing locations: Creek Crossing 3, located at the intersection of Pittsburg-Antioch Highway and Arcy Lane. A Section 404 permit may potentially be needed at this crossing. At this time, it is assumed that the pipelines would need to be installed at this location via an open-cut trenching method in an artificially constructed, earthen channel containing Kirker Creek (Figure 1-6).

Table 1-1 Offsite Pipeline Crossings				
Crossing Type	Location	Figure	Possible Installation Method	Potential Agency Permits
Drainage Channel Crossing 1	Immediately south of the Pittsburg Power Plant site	1-1	<ul style="list-style-type: none"> • Open trench 	N/A
Drainage Channel Crossing 2	Railroad switchyard	1-2	<ul style="list-style-type: none"> • Jack and bore • Microtunneling • Horizontal directional drilling 	N/A
Creek Crossing 1	Kirker Creek west of Loveridge Road	1-4	<ul style="list-style-type: none"> • Pipe ramming (most feasible) • Jack and bore (potential alternative) 	Streambed Alteration Agreement
Creek Crossing 2	Unnamed tributary of Kirker Creek	1-5	<ul style="list-style-type: none"> • Pipe ramming (most feasible) • Jack and bore (potential alternative) 	Streambed Alteration Agreement
Creek Crossing 3	Pittsburg-Antioch Highway/Arcy Lane	1-6	<ul style="list-style-type: none"> • Potential open cut trenching 	Section 404 Permit (if open cut trenching in creek is required) Streambed Alteration Agreement Section 401 Water Quality Certificate (if open cut trenching in creek is required)
Railroad Crossing 1	Railroad switchyard	1-2	<ul style="list-style-type: none"> • Jack and bore • Microtunneling • Horizontal directional drilling 	N/A
Railroad Crossing 2	West of Kirker Creek	1-3	<ul style="list-style-type: none"> • Pipe ramming (most feasible) • Jack and bore (potential alternative) 	N/A
Railroad Crossing 3	West of Railroad Avenue Overpass	1-4	<ul style="list-style-type: none"> • Pipe ramming (most feasible) • Jack and bore (potential alternative) 	N/A

However, as indicated in applicant's notice dated December 2, 2008, Mirant Willow Pass is currently working with Delta Diablo Sanitation District (DDSD) to evaluate the feasibility of installing the water supply and wastewater discharge pipelines under Arcy Lane, rather than the adjacent creek. If DDSD confirms that there is adequate spacing to accommodate the two new pipelines within the road, this would avoid direct impacts to Kirker Creek, and obviate the need for the Section 404 permit and the Section 401 Certification. However, even if direct impacts to

the creek can be avoided, a General Permit (for small projects not regulated by the USACE) could be required by the RWQCB. If the applicant confirms with DDSD that the creek can be avoided at the intersection of Pittsburg-Antioch Highway and Arcy Lane, the applicant will continue its correspondence with the RWQCB to determine whether a General Permit would still be necessary (see Appendix A). Although a General Permit is rarely used, the RWQCB has the authority to issue one under the Porter-Cologne Water Quality Control Act.

If the pipelines are required to be installed via the open-cut trenching method at the intersection of Pittsburg-Antioch Highway and Arcy Lane (Figure 1-6, Creek Crossing 3), the following would be required: (1) a Section 404 permit from the USACE, (2) a Streambed Alteration Agreement (SAA) from the California Department of Fish and Game (CDFG), and (3) a Section 401 Water Quality Certification from the RWQCB.

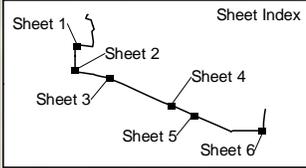
Even if direct impacts can be avoided, Mirant Willow Pass will still seek a SAA to permit installation of the pipelines for the three creek crossings to ensure compliance with CDFG regulations.

Summary of Agency Communication

Documentation of all correspondence with the USACE, CDFG, and RWQCB is provided in Appendix A. On June 13, 2008, URS corresponded with the USACE to inquire about the jurisdictional status of wetlands at and immediately adjacent to the WPGS, which had previously been delineated and submitted to the USACE for verification. URS corresponded with Bob Smith of the USACE again on December 8, 2008. Mr. Smith confirmed that if open cut trenching occurs through Kirker Creek (Creek Crossing 3), a Section 404 permit is required. He also confirmed that a Section 404 permit is not required where direct impacts to creek crossings will be avoided (Drainage Channel Crossings 1 and 2 and Creek Crossings 1 and 2).

On December 5, 2008, URS received a response from the San Francisco Bay Region Regional Water Quality Control Board (SFRWQCB) to a request for clarification of whether Section 401 Certification would be required for the WPGS project. The RWQCB confirmed that Section 401 Certification will be required if open cut trenching through Kirker Creek occurs, and that 401 Certification is not required for underground installations such as jack and bore. The RWQCB suggested that for the WPGS project, since 401 Certification will potentially be required at Kirker Creek (at the intersection of the Pittsburg-Antioch Highway and Arcy Lane), the 401 Certification application should include maps of the entire pipeline route and a description of installation methods at other crossings, so that the 401 Certification could address them if appropriate.

At the request of the CEC for Data Adequacy, correspondence was initiated with the CDFG on August 5, 2008. Details of this correspondence are presented in Appendix B2 to the AFC Supplement submitted to the CEC in September 2008. Following this initial consultation, URS telephoned CDFG on December 4, 2008, and was informed that Suzanne Gilmore would be the most appropriate CDFG contact for questions about the WPGS. URS has requested confirmation from Suzanne Gilmore of CDFG that an SAA would be required. URS will submit the CDFG's response to the CEC after it has been received.



DRAINAGE CHANNEL CROSSING 1

LEGEND

— Offsite Water Supply and Discharge Pipeline Route

⊠ Pits

▭ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



0 50 100



Scale in Feet

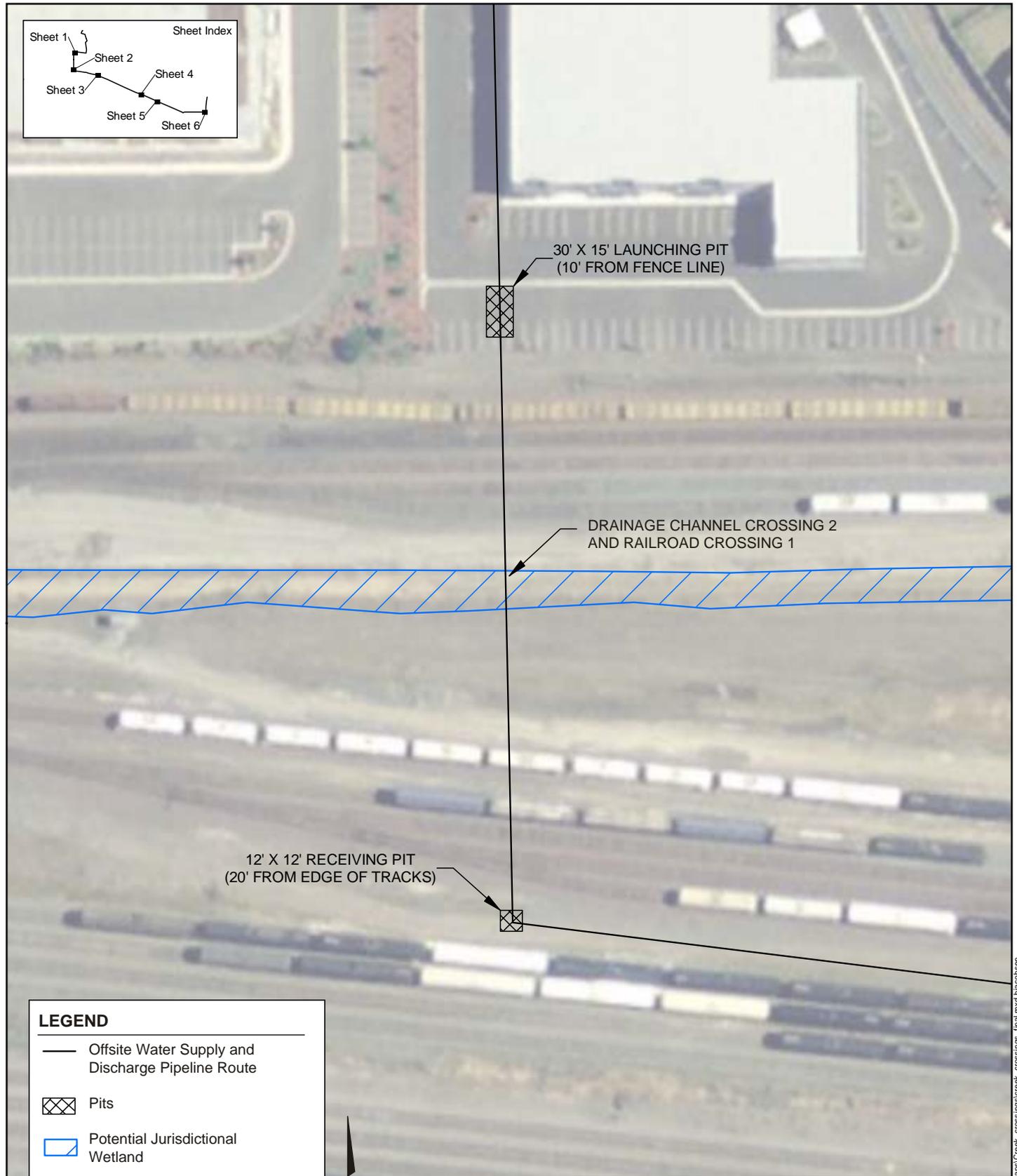
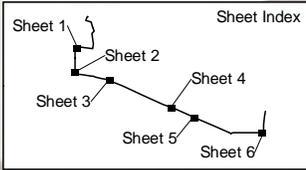
**OFFSITE LINEAR CROSSING LOCATIONS
(SHEET 1)**

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 1-1



LEGEND

— Offsite Water Supply and Discharge Pipeline Route

⊗ Pits

▨ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



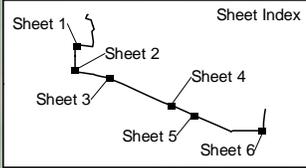
**OFFSITE LINEAR CROSSING LOCATIONS
(SHEET 2)**

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 1-2



LEGEND

— Offsite Water Supply and Discharge Pipeline Route

▣ Pits

▭ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



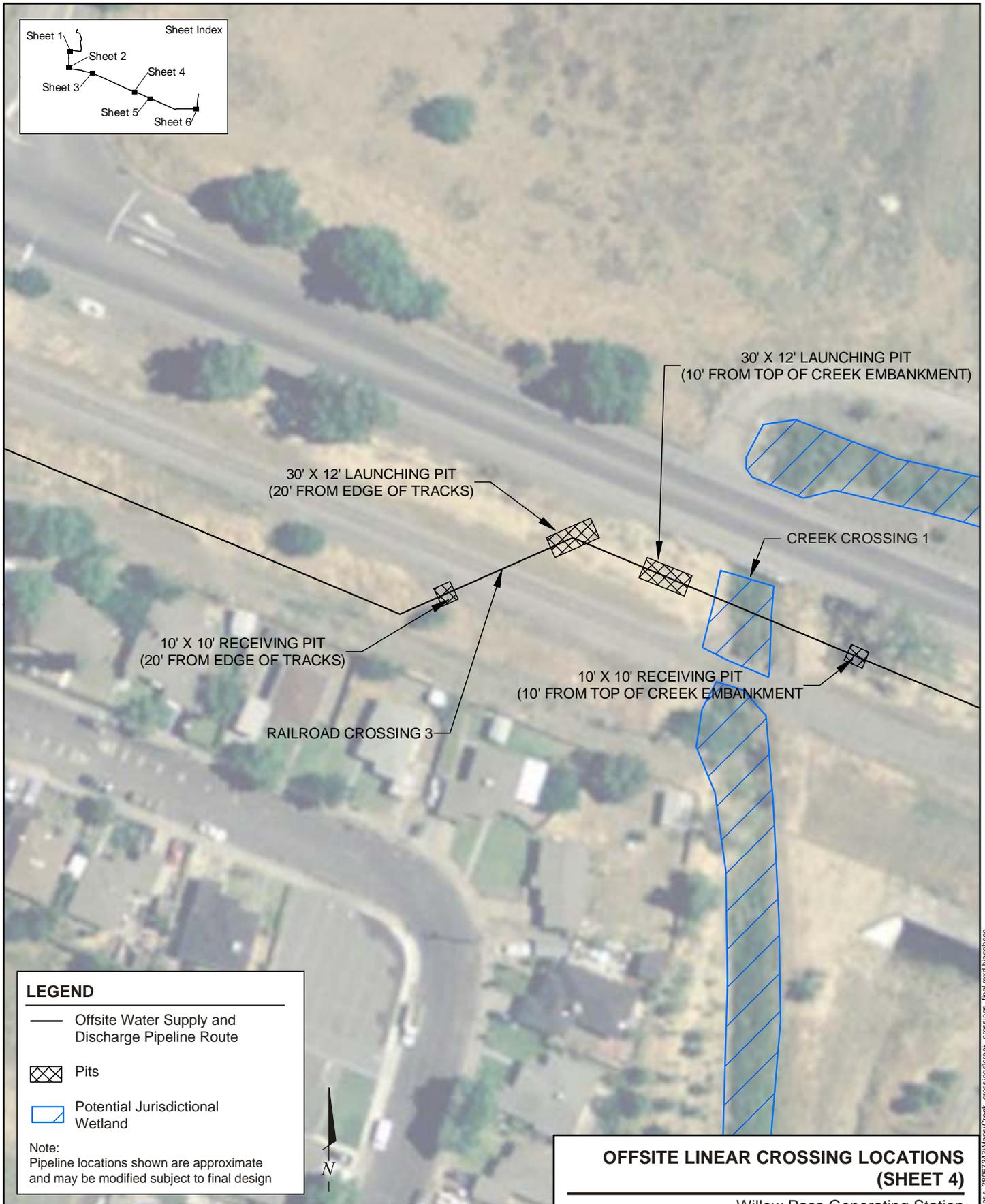
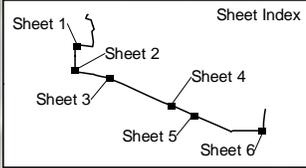
**OFFSITE LINEAR CROSSING LOCATIONS
(SHEET 3)**

Willow Pass Generating Station
December 2008
28067343

Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 1-3



LEGEND

— Offsite Water Supply and Discharge Pipeline Route

▣ Pits

▭ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



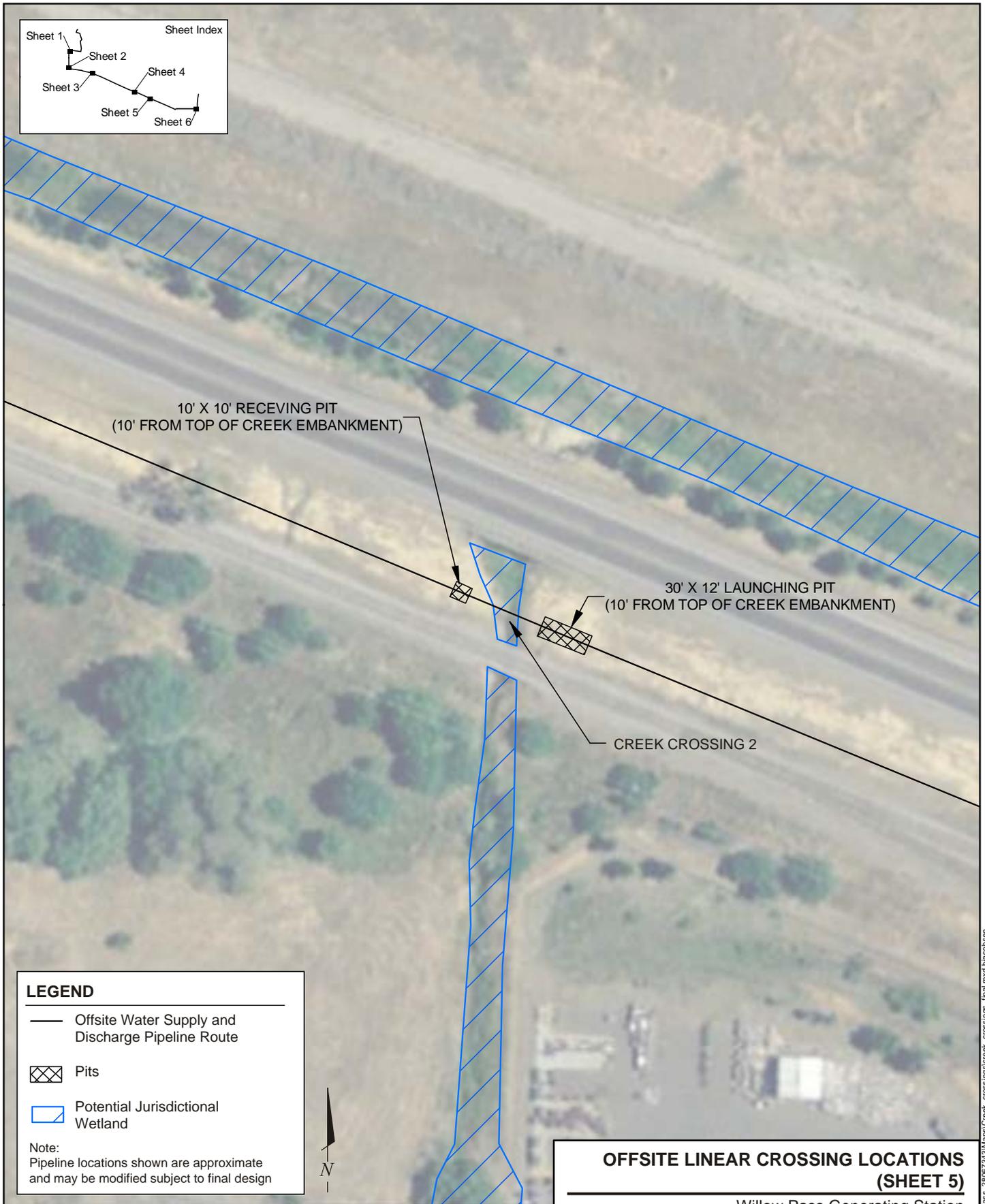
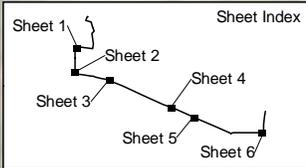
OFFSITE LINEAR CROSSING LOCATIONS (SHEET 4)

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 1-4



LEGEND

- Offsite Water Supply and Discharge Pipeline Route
- ☒ Pits
- ▭ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



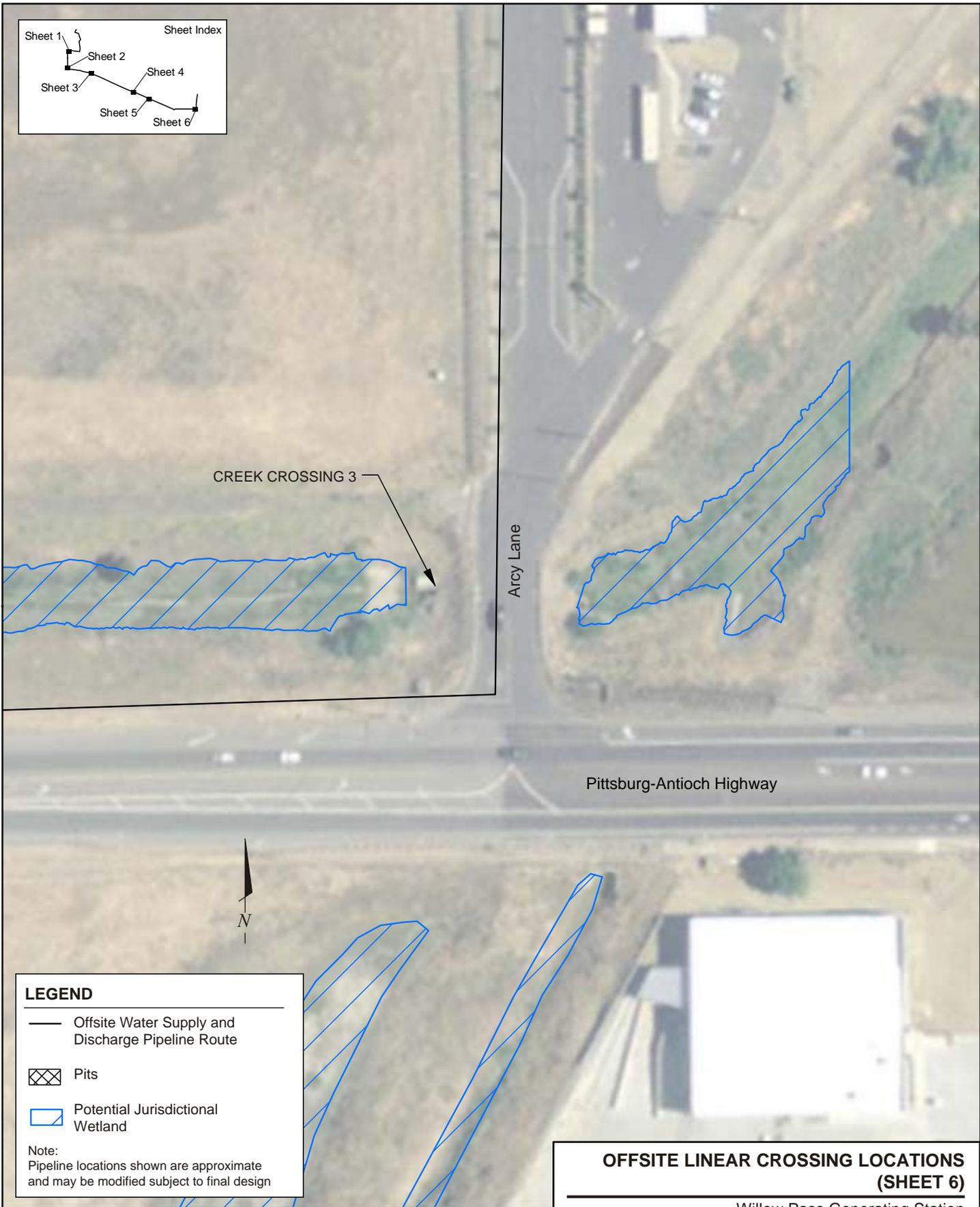
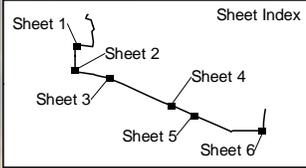
**OFFSITE LINEAR CROSSING LOCATIONS
(SHEET 5)**

Willow Pass Generating Station
December 2008
28067343

Mirant Willow Pass, LLC
Pittsburg, California

URS

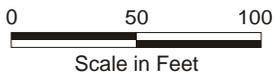
FIGURE 1-5



LEGEND

- Offsite Water Supply and Discharge Pipeline Route
- ⊠ Pits
- ▭ Potential Jurisdictional Wetland

Note:
Pipeline locations shown are approximate and may be modified subject to final design



OFFSITE LINEAR CROSSING LOCATIONS (SHEET 6)

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 1-6

DATA REQUEST

- 2. If the USACE indicates that a permit will be needed, please provide information about when the application for the permit was filed with the USACE and, based upon USACE comments, an estimation of when the permit is likely to be provided to the project developer.**

RESPONSE

As explained in the response to Data Request 1, the applicant is working with DDSD to identify a route for the pipelines that will avoid the need for a Section 404 permit. To the extent that this approach is not feasible, the following response addresses the expected timeline for obtaining a Section 404 permit.

The project schedule involves several phases: design, construction permitting, environmental permitting, right-of-way, bid period, and construction. Project construction is expected to begin in fall 2009, with commercial operation by summer 2012. Permitting with the USACE (if necessary) will occur concurrently with the final design activities, as the Section 404 permit requires very specific design drawings. The Section 404 permit application would be submitted to USACE in August 2009. It is assumed that this would take a maximum of 16 months to process, with the permit being issued in December 2010. It is estimated that construction of the water supply and discharge pipelines could take up to 16 months and will be completed before plant commissioning starts in May 2012. Based on the anticipated WPGS construction schedule, the water pipeline installation will begin in approximately January 2011.

This timeline allows for Section 7 consultation between the USACE and the U.S. Fish and Wildlife Service (USFWS), because Kirker Creek has been identified as potential California red-legged frog (*Rana draytonii*) habitat. However, Bob Smith of USACE indicated that the consultation may fall under a programmatic Biological Opinion, in which case the consultation should take only 30 days (see Appendix A for record of communication). Regardless, per the December 8 conversation with Bob Smith, 16 months is sufficient time to obtain a Section 404 permit. Therefore, if a Section 404 permit is required, Mirant Willow Pass would submit a notification package to the USACE for a permit for temporary impacts to Kirker Creek no later than August 2009 (but as soon as practicable after the need for the purpose is established). This will allow sufficient time for the permit to be issued before the date when construction of the water supply and wastewater discharge pipelines would commence. The anticipated schedule is summarized below:

- August 2009: If required, Section 404 permit application submitted to USACE (no more than 16 months to process)
- December 2010: Section 404 permit issued by USACE
- January 2011: Construction of the pipelines begins (16 months for construction)
- May 2012: Pipeline construction complete and plant commissioning begins

DATA REQUEST

- 3. *If the CDFG indicates that a Streambed Alteration Agreement will be needed, please provide information about when the application for the Streambed Alteration Agreement was filed with the CDFG and, based upon CDFG comments, an estimation of when the Streambed Alteration Agreement is likely to be provided to the project developer.***

RESPONSE

Mirant Willow Pass will seek an SAA to permit installation of the pipelines under Kirker Creek and its unnamed tributary (Creek Crossings 1, 2, and 3) even if direct impacts can be avoided, to ensure compliance with CDFG regulations. Permitting with the CDFG will occur concurrently with the design period, as the SAA permit requires very specific design drawings. It is estimated that construction of the pipeline will take approximately 16 months and will be completed before the plant commissioning in May 2012. Based on the anticipated WPGS construction schedule, the water pipeline installation will begin January 2011. As stated in the AFC, it can take up to 8 months to obtain a SAA from CDFG. Therefore, Mirant Willow Pass would submit an application to CDFG no later than March 2010. This will allow sufficient time for the SAA to be issued no later than December 2010, before the date when construction on the water supply and wastewater discharge pipelines begins in January 2011. The anticipated schedule is summarized below:

- March 2010: SAA submitted to CDFG (no more than 8 months to process)
- December 2010: SAA issued by CDFG
- January 2011: Construction of the pipelines begins (16 months for construction)
- May 2012: Pipeline construction complete and plant commissioning begins

DATA REQUEST

- 4. *If the RWQCB indicates that a Section 401 Water Quality Certification will be needed, please provide information about when the application for the Section 401 Water Quality Certification was filed with the RWQCB and, based upon RWQCB comments, an estimation of when the Section 401 Water Quality Certification is likely to be provided to the project developer.***

RESPONSE

As explained in the response to Data Request 1, the applicant is working with DDSD to identify a route for the pipelines that will avoid the need for a Section 401 Certification. To the extent that this approach is not feasible, the following response addresses the expected timeline for obtaining a Section 401 Certification.

The RWQCB has indicated that direct impacts to Kirker Creek would require a Section 401 Water Quality Certification (Appendix A). Mirant Willow Pass will consult the RWQCB regarding the need for a General Permit for pipeline installations under creeks even if direct impacts to Kirker Creek can be avoided. The RWQCB has also indicated that typically several months are needed to issue a permit after the application has been received. Based on the anticipated WPGS construction schedule, the water pipeline installation will begin January 2011 and will be completed prior to May 2012, when plant commissioning would begin. Therefore, Mirant Willow Pass would submit an application to the RWQCB for Section 401 Water Quality Certification, or for a General Permit should one be required, no later than June 2010, and it is assumed that the permit would be issued no later than December 2010. The anticipated schedule is summarized below:

- June 2010: Section 401 Certification application submitted to RWQCB
- December 2010: Section 401 Certification issued by RWQCB
- January 2011: Construction of the pipelines begins (16 months for construction)
- May 2012: Pipeline construction complete and plant commissioning begins

BACKGROUND

The AFC states that jack and bore drilling would be conducted, but no additional information was provided. Jack and bore drilling requires launching and receiving pits in order to put the casing or pipe below the obstruction to be avoided and at a depth in which no impacts are expected. Energy Commission staff needs more information regarding the jack and bore drilling to complete its analysis.

DATA REQUEST

- 5. Please provide a detailed description of the jack and bore drilling operation and all proposed measures to be implemented to avoid impacts to the three proposed areas. Include a discussion of how deep the casing or pipe would be below the obstruction.***

RESPONSE

The proposed route for the pipeline identified in the AFC crosses potential jurisdictional wetlands at five locations (see Figure 1-1 through 1-6), identified as Drainage Channel Crossings 1 and 2 and Creek Crossings 1 through 3. One of the locations (Creek Crossing 3) is located on Kirker Creek at the intersection of the Pittsburg-Antioch Highway and Arcy Lane, where installation plans may include open cut trenching. (See the response to Data Request 1 for an explanation of the applicant's efforts to avoid direct impacts to the creek.)

The remaining four locations (Drainage Channel Crossings 1 and 2 and Creek Crossings 1 and 2) were presented in the AFC as potentially using a jack and bore pipeline installation method. The installation methods at these four locations is discussed further below, along with a discussion of other approaches for each crossing which could potentially reduce environmental impacts (also shown in Table 1-1). The final installation method for each crossing will be determined during the project's design phase, when more field studies and geotechnical investigations can be performed. For the purposes of the evaluation, a worst-case scenario has been analyzed.

Mirant Willow Pass would implement Best Management Practices to avoid adverse environmental impacts during pipeline installation for each installation method. Examples of these could include erosion control measures to prevent run-off and impacts to water quality, installation of appropriate fencing to indicate limits of construction areas and ensure workers and equipment operate in designated construction zones, implementation of spill and secondary containment systems to prevent soil and groundwater contamination, and appropriate reseeded and reinstatement to restore habitats following construction.

Drainage Channel Crossing 1: Immediately South of the Pittsburg Power Plant Site

Additional field investigations have confirmed that an open trench installation is a feasible method of crossing this drainage channel, while still avoiding impacts to potential jurisdictional wetlands. At the location where the new pipeline would intersect with the channel, the existing channel is conveyed underneath the access road to the power plant via a large culvert. The culvert extends beyond the edges of the access road, and is sufficiently long for the new pipelines to be constructed under or over the culvert, either in or adjacent to the power plant access road. Because all of the waters are contained within the culvert at this point, and the culvert would not be disturbed, there would be no impacts to potential jurisdictional wetlands or waters of the United States at Drainage Channel Crossing 1.

The depth of the pipes at this crossing will depend on the depth of the existing culvert, which would be verified prior to construction.

Drainage Channel Crossing 2: Switchyard

At the potential jurisdictional wetland crossing in the railroad switchyard, there are several BNSF and Union Pacific railroad tracks that need to be crossed via trenchless methods (Railroad Crossing 1), as well as the drainage channel crossing. Therefore, one long tunnel may be appropriate. The crossing at the switchyard could be as long as 350 feet. Therefore, a technique such as jack and bore, microtunneling or horizontal directional drilling (HDD) will be required. Since these are major tunneling operations, the pipe could end up being fairly deep at this crossing. A casing pipe as deep as 20 feet and launching and receiving pits at depths of 30 feet are estimated. However, this will be subject to the railroad's review.

The jack and bore installation method could be used here; this method would use an auger boring machine to bore a hole under the crossing, and remove spoil via auger flights and jacks to advance a casing pipe behind the boring machine. However, if it is found that groundwater levels are high in this area, microtunneling or HDD may be more appropriate because these methods offer a pressure balance. Jack and bore does not have this capability.

Microtunneling involves a remotely controlled, guided pipe jacking process that provides continuous support to the excavation face and uses a pressurized slurry spoil removal system. A key element of microtunneling is the ability to control the stability of the face by applying fluid and mechanical pressure to balance earth and groundwater pressure.

HDD is a surface-launched, guided, steerable drilling system used for the trenchless installation of pipes. A pilot bore path is excavated in a shallow arc from a surface-launched drill rig using a fluid-assisted drilling tool on a drill string. The bore is filled with drilling fluid for stabilization. The bore path is enlarged with subsequent reaming passes until the desired diameter is achieved. The product pipe is then pulled into the fluid-stabilized bore hole from the opposite end of the crossing using the drill string.

Creek Crossings 1 and 2: Kirker Creek West of Loveridge Road and Unnamed Tributary

The crossings of Kirker Creek and its unnamed tributary west of Loveridge Road and south of the Pittsburg-Antioch Highway are short. Pipe ramming may be more suitable than jack and bore installation at those two locations. Pipe ramming is a system of installing a crossing by driving an open-ended casing using a percussive hammer from a shaft that only displaces a soil volume equivalent to the wall thickness of the casing. Soil will remain in the casing until the crossing has been completed and then will be removed by water, augering, jet-cutting or compressed air.

The estimated depths of the pipelines at these locations are as follows:

- Creek Crossing 1: With an estimated creek depth of 10 feet, a 7-foot clearance to the top of pipe, the casing pipe diameter, plus additional depth for equipment, the approximate depth of the launching and receiving pits at this crossing is estimated to be 24 feet.
- Creek Crossing 2: A 30-inch casing pipe will likely be sufficient to house the two 10-inch carrier pipes and a clearance of 5 feet between the top of pipe and the bottom of the creek is assumed since this crossing has low flows. With an estimated creek depth of 8 feet, the 5-foot clearance, the casing pipe diameter,

plus additional depth for equipment, the approximate depth of the launching and receiving pits at this crossing is estimated to be 20 feet.

Railroad Crossings

Since this data request asks about all jack and bore locations, it should be noted that railroad crossings are required at three locations, shown on Figures 1-2, 1-3, and 1-4 and presented in Table 1-1. One of these crossings (Railroad Crossing 1) would occur at the same location as Drainage Channel Crossing 2, in the railroad switchyard, and would be constructed using the same underground installation route under both the drainage channel and the railroad. Two additional crossings would also be required (Railroad Crossings 2 and 3). These two locations would also require underground installation since the new pipelines would cross under the existing railroad tracks (consistent with the location of the existing fuel oil pipeline). The following are the depths of the pipelines at these two additional locations.

- Railroad Crossing 2: Just to the west of the Kirker Creek crossing is a short railroad crossing. The required depth of this crossing will vary depending on what is required by the railroad. For now, it is assumed that a 10-foot-deep casing should be sufficient to provide enough separation from the live loads caused by passing trains. This results in 17-foot deep pits. This crossing would likely involve the use of the pipe ramming method.
- Railroad Crossing 3: Just west of the Railroad Avenue overpass, there is another short crossing under the railroad tracks. Pipe ramming, a 10-foot-deep casing, and 17-foot-deep launching and receiving pits are expected here as well.

DATA REQUEST

6. ***Please provide a description of the procedures to be implemented in the event of a frac-out.***

RESPONSE

Microtunneling and HDD are the only trenchless pipe installation methods that pose the threat of frac-out. These installation methods are currently being considered only at the railroad switchyard (Drainage Channel Crossing 2/Railroad Crossing 1), which contains a drainage channel tentatively identified as a potential jurisdictional wetland. Although additional investigations of the soils, vegetation, and hydrology at this location may confirm that this area does not qualify as a jurisdictional wetland, impacts would be avoided irrespective of this, as either microtunnelling or HDD would have to be used to construct the pipeline through the railroad switchyard, which would also ensure that impacts to the drainage channel would be avoided.

The procedures to be implemented to prevent frac-out are as follows:

- All tunneling activities will be conducted outside of wetland and riparian areas.
- All work will be performed during the dry months (typically June 15 to October 15).
- Appropriate controls will be established to quickly seal any leakage that may occur and prevent spills from traveling outside the work area.
- Certified weed-free straw barriers and silt fences will be installed between the work area and any potential jurisdictional wetlands, if topography is such that runoff from the work area could enter the potential jurisdictional wetland.
- An on-call vacuum truck will be maintained in case a spill, seep, or frac-out occurs.

The procedures to be implemented in the event that a frac-out occurs are as follows:

- Tunneling or grouting operations will cease immediately.
- The engineer on the site will be notified immediately.
- The extent of the frac-out will be determined and appropriate actions to contain escaping fluids will be taken.
- Surface releases of bentonite or grout may be allowed to harden prior to removal.
- Recovery of frac-out fluid with a vacuum truck or other appropriate method will begin immediately.
- Additional vacuum trucks and other equipment will be mobilized to the site as necessary to accommodate the amount of spillage.
- Once the frac-out has been contained, tunneling operations will be resumed with careful attention to slurry pressures. Operations will be continuously observed

until the tunnel heading has advanced at least 20 feet beyond the location where the frac-out occurred.

- Recovered fluids will be properly disposed of at an approved and permitted disposal location.

DATA REQUEST

7. ***Please provide a map, at a scale appropriate to show the biological resources of the area, for each area where a jack and bore drilling operation would occur. On each map, identify the launching and receiving pits location in relation to the banks of the drainage channels and Kirker Creek and unnamed tributary. On each map, please provide the distances the launching and receiving pits would be from the drainage channels and Kirker Creek and unnamed tributary.***

RESPONSE

The maps requested are provided as Figures 1-1 through 1-6. Maps are provided for all areas where underground installation methods would be used to avoid impacts to potential jurisdictional wetlands (Drainage Channel Crossing 1 and Creek Crossings 1 and 2), and the three locations where the pipelines would be installed under railroad tracks (Railroad Crossings 1, 2, and 3, where Railroad Crossing 1 is at the same location as Drainage Channel Crossing 2).

Maps are also provided for Drainage Channel Crossing 1 (possible open cut trench but no impacts to wetlands due to crossing a culverted section of the channel) and Creek Crossing 3 (possible open cut trench with potential impacts to wetlands). At Drainage Channel Crossing 1 (Figure 1-1), the pipelines will be installed via open trench methods across the culverted section of the channel, either above or below the culvert that conveys the channel under the roadway. This will allow installation via the simpler open trench method, but without impacts to potential jurisdictional wetlands or waters of the United States.

The launching and receiving pits for the crossing of the channel within the railroad switchyard (Drainage Channel Crossing 2, and Railroad Crossing 1) would be located more than 100 feet from the channel that has been identified as a potential jurisdictional wetland (Figure 1-2). The launching pit would be in the railroad switchyard and the receiving pit would be in a parking lot. There would be no impact to biological resources at this location.

Launching and receiving pits for Railroad Crossings 2 (Figure 1-3) and 3 (Figure 1-4) would be located in disturbed annual grasslands within the railroad corridor.

At the Kirker Creek crossing south of the Pittsburg-Antioch Highway (Creek Crossing 1), the launching and receiving pits would be at least 10 feet back from the top of the banks of Kirker Creek (Figure 1-4). There are several existing pipelines crossing Kirker Creek at this location, presumably explaining why the entire corridor between the railroad tracks and the Pittsburg-Antioch Highway is kept relatively free of vegetation. The only vegetation that would be affected is annual grasses. Conditions at the unnamed tributary of Kirker Creek (Creek Crossing 2, shown on Figure 1-5) are nearly identical to those at Creek Crossing 1.

At Creek Crossing 3 (Figure 1-6), the pipelines may be installed via open cut trench through Kirker Creek, immediately west of Arcy Lane. See the response to Data Request 1 for an explanation of the applicant's efforts to avoid direct impacts to the creek.

BACKGROUND

The AFC states that for the water pipeline a portion of Kirker Creek would need to be trenched perpendicular to the creek bed (AFC pages 7.2-20 to 7.2-21). This would occur where the water pipeline alignment would turn north from Pittsburg-Antioch Highway and continue on Arcy Lane. The AFC states this is necessary due to the large elevation difference between the grade level and excavated channel of Kirker Creek at this location which makes jack and bore drilling infeasible. In order to cross this creek, the applicant states the water pipelines will be installed and buried under the creek through a four foot wide open-cut trench which would result in a temporary disturbance of 15-foot wide area.

Kirker Creek is a potential jurisdictional wetland or water of the US. The applicant has conducted a wetland delineation and filed a jurisdictional wetland delineation report with the USACE on June 20, 2008. The applicant stated that due to the temporary disturbance of the potentially jurisdictional wetlands, implementation of the USACE "no net loss" policy would be necessary to fully mitigate potentially significant impacts from the open-cut trench operation. According to the AFC, this operation would also require a Streambed Alteration Agreement with CDFG and a Section 401 Water Quality Certification from the RWQCB. Energy Commission staff needs more information regarding the plans for the open-cut trench operations and filings with other agencies to complete the analysis.

DATA REQUEST

- 8. *Please provide a detailed description of the open-cut trench operation and all proposed measures to be implemented to avoid impacts to Kirker Creek. Include procedures to be implemented to minimize the release of sediment or construction debris into Kirker Creek during the open-cut trench operations.***

RESPONSE

Draft delineation forms for Kirker Creek at the intersection of Arcy Lane and Pittsburg-Antioch Highway were provided in the AFC. However, as indicated above under the response to Data Request 1, a Section 404 permit application has not yet been submitted to the USACE, as efforts are being made to investigate the potential location of water supply and discharge pipelines in the road, which would obviate the need for a Section 404 permit and Section 401 Certification. Based on the schedule outlined in response to Data Request 1, if required, the 404 permit application will be submitted no later than August 2009 in order to obtain the permit before construction of the pipelines begins.

If trenching in Kirker Creek is required, work in the channel of Kirker Creek will be conducted in the dry season (typically June 15 to October 15). At this time of year Kirker Creek is typically dry, or nearly dry. If water is present, or it is determined that flows could occur during the construction period, a coffer dam will be installed in the creek, isolating an area approximately 10 feet wide. A pump will be installed on the upstream side of the dam with by-pass piping that extends downstream and discharges water on the downstream end of the dam to continue the natural flow of the creek. A pump will also be installed inside the coffer dam for dewatering so that the work area and trench remain dry. This water will be discharged into a nearby sanitary sewer, a settling tank, or an onsite treatment system.

There will be no casing pipe for this crossing. It is assumed that the pipes will be approximately 7 feet deep to account for future scouring of the creek bed.

The following measures are examples of the types of procedures that would be implemented to minimize the release of sediment or construction debris into Kirker Creek if open-cut trench operations are required. Final measures to be implemented would be approved by the USACE through the Section 404 Permit process, by the RWQCB through the Section 401 Water Quality Certification process, and by the CDFG through the Streambed Alteration Agreement process.

1. No equipment will be operated/driven in the Kirker Creek stream channel below the ordinary high water mark, except within the dewatered or designated construction area;
2. No fueling, cleaning, or maintenance of vehicles or equipment will take place within Kirker Creek or within any areas where an accidental discharge to the creek may occur;
3. Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will be located outside of the stream channel and banks. Stationary equipment such as motors, pumps, generators, compressors, and welders located within or adjacent to the streams will be positioned over drip pans. Any equipment or vehicles driven and/or operated within or adjacent to the stream will be checked and maintained daily, to prevent leaks or materials that if introduced to water could be deleterious to aquatic life. Vehicles will be moved away from the stream prior to refueling and lubrication;
4. Temporary impact areas, any temporary roads, equipment staging areas, and construction areas will be seeded with native vegetation or otherwise stabilized prior to the first rains of the construction year to prevent erosion of sediments into Kirker Creek;
5. The discharge to waters of the state or the creation of the potential for discharge to waters of the state of any soil materials, including fresh concrete, cement, silts, clay, sand, and other organic materials, is prohibited;
6. Work within the stream/riparian corridor will be confined to the period of June 15 through October 15 (generally accepted dry season);
7. The operator will have a qualified biologist on site daily during any impacts within the stream zone;
8. An emergency response plan will be prepared and submitted to appropriate agencies prior to the start of construction. The plan will identify the actions that will be taken in the event of a spill of petroleum products or other material harmful to aquatic or plant life, and the emergency response materials that will be kept at the site to allow the rapid containment and cleanup of any spilled material;
9. Erosion control measures will be used throughout all phases of operation where sediment runoff from exposed slopes threatens to enter the waters of the state. At no time will silt-laden water runoff be allowed to enter the stream;
10. Silty/turbid water from the excavation and/or project activities will not be discharged into the stream, or into the storm drains. Such water will be pumped into holding facilities or into settling ponds in flat stable areas outside of the stream channel, or sprayed over a large area outside the stream channel, to

allow for natural filtration of sediments. At no time will turbid water from the settling ponds be allowed to re-enter the stream channel until water is clear of silt;

11. Structures and associated materials not designed to withstand high seasonal flows will be removed to areas above the high water mark before such flows occur; and
12. All trash and construction debris will be removed from the project site daily.

DATA REQUEST

- 9. Please provide staff with plans for implementing the USACE “no net loss” policy to fully mitigate the potentially significant impacts from the open-trench operation.**

RESPONSE

If efforts to identify alternative locations for the water supply and discharge locations in the roadway along Arcy Lane are successful, a Section 404 permit and Section 401 Certification would not be needed. Should these pipelines ultimately be installed within Kirker Creek, the open-trench operation would temporarily affect a portion of Kirker Creek that is contained within an artificially constructed earthen channel. At the location where impacts would occur, the vegetation is limited primarily to low-growing herbaceous species. Following installation of the pipeline, the pre-project topography would be restored and reseeded with native species typical of the site. Because the wetland that would be affected was artificially created, it can easily be restored to pre-project conditions with no loss of existing wetlands.

To fully mitigate the temporary potentially significant impacts from the open-trench operation, plans may include the following measures:

1. The section of pipeline that crosses the creek (the width of creek between ordinary high water marks) will be buried with material similar to that present in pre-project conditions. This material will not come from excavating another section of creek. The source will be either from the material already excavated or from an independent supply (other than a creek);
2. The low-flow channel will be returned as nearly as possible to its natural state without creating a future bank erosion problem. The gradient of the streambed will be restored as nearly as possible to the same gradient as existed prior to disturbance;
3. The operator will avoid (or at the very least, minimize) the removal of all trees and the disturbance to their root systems. For each tree that is removed or disturbed, trees will be replaced on site with a minimum 3:1 ratio (replacement to loss);
4. Restoration will include the revegetation of stripped or exposed areas;
5. Revegetation and replacement plantings will consist of locally obtained native species that are suitable ecologically with the existing native plants; and
6. A revegetation mitigation and monitoring plan should be created prior to vegetation removal and submitted to the appropriate agencies for approval.

DATA REQUEST

- 10. Please provide staff with a copy of the Streambed Alteration Agreement application filed with CDFG and the Section 401 Water Quality Certification application filed with the RWQCB. Please also supply any report of conversation, written correspondence, and agency contact information that has been compiled and is related to the proposed trenching of Kirker Creek.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass is not able to provide the requested applications at this time because they have not yet been submitted to the agencies. Mirant Willow Pass will seek an SAA for crossings where the pipeline will be installed underneath Kirker Creek or its unnamed tributary, even if direct impacts to creeks can be avoided. Mirant Willow Pass is currently working with DDSD to evaluate the feasibility of installing the water supply and wastewater discharge pipelines in locations that could obviate the need for a federal Clean Water Act Section 404 permit from the USACE and a Section 401 Water Quality Certification from the RWQCB. To the extent that any or all of these permits are determined to be necessary, Mirant Willow Pass would submit the relevant applications in sufficient time to allow the permits to be issued prior to the date when construction on the water supply and wastewater discharge pipelines needs to start (see responses to Data Requests 2 through 4 above). Mirant Willow Pass previously provided the CEC with copies of its communications with the CDFG and with the U.S. Fish and Wildlife Service in its AFC Supplement Appendix B2. Additional correspondence is provided in Appendix A.

Technical Area: Cultural Resources

Author: Amanda Blosser

BACKGROUND

The Willow Pass Generation Station (WPGS) would be constructed on 26 acres of the Pittsburg Power Plant (PPP) site. No construction is planned on the northern 2.5 acres portion along Suisun Bay in order to protect riparian habitat. On the WPGS site, construction would require excavation of approximately 8,300 cubic yards of soil and approximately 83,000 cubic yards of fill for compaction and grading to a level site for construction. Figure 2.6-2 provides a site grading and drainage plan for the WPGS, but does not provide the maximum depths for site grading and excavation required for construction.

DATA REQUEST

- 11. To enable staff to better assess the impacts to potential subsurface archaeological deposits, please provide a description of the excavation and grading for the project area, including the maximum depth of excavation for the major plant components that require foundations and footing. A grading site plan should be included with the description.***

RESPONSE

Earthwork on the power plant site will consist of excavation and compaction of earth to create the plant grade, and excavation for foundations and underground systems.

As stated in AFC Section 2.6.8 (page 2-22) and AFC Section 2.9.11 (page 2-33), most of the WPGS site is relatively flat at around 8 to 9 feet (mean sea level [msl]) and is currently occupied by existing Tank 7 and Pittsburg Power Plant (PPP) Units 1 through 4. Elevations are lower in a few locations, ranging from 5 to 8 feet, including the unused surface impoundment in the northernmost portion of the site and the drainage channel and surrounding area to the south of Tank 7. The highest existing grade on the WPGS site is at Tank 7, which is approximately 16 feet above msl. Other than this high point, the site is essentially flat, with topographic relief limited to slope faces along the shoreline, and around buildings, tanks, or other developed features.

Approximately 23.5 acres of the 26-acre WPGS site will be graded, which represents approximately 90 percent of the site. The proposed grading plan indicates an estimated cut of about 8,300 cubic yards (cy) and an estimated fill of 83,800 cy to achieve a plant site elevation after regrading ranging from 8 to 13 feet (msl). Thus, fills could be on the order of 3 to 5 feet thick (see AFC Figure 2.6-2). Topography changes as a result of grading are shown on Figure 11-1.

The site will be graded to final topographic levels as shown in AFC Figure 2.6-2. To provide further details on depths of excavation into existing soils, Figure 11-1 shows the expected change in topography of the WPGS site between pre- and post-project conditions. As shown, the only areas of the WPGS site where the final grade will be at levels below the existing grade are Tank 7 and a small area at the western portion of the WPGS site where the control building will be constructed. Therefore, excavations for foundations and footings will occur in fill as well as existing soils. The depth of excavation for major project components is listed below in Table 11-1, including the depth of excavation into existing soils.

Table 11-1 Maximum Depth of Excavation of Major Project Components	
Major Project Component	Depth of Excavation
Combustion Turbine Generators	Maximum depth of foundations following grading will be approximately 5 feet. Maximum depth of excavation into existing soils will be approximately 2 feet.
Heat Recovery Steam Generators (HRSG)	Maximum depth of foundations following grading will be approximately 4 feet. Maximum depth of excavation into existing soils will be approximately 4 feet.
Steam Turbine Generators	Maximum depth of foundations following grading will be approximately 6 feet. Maximum depth of excavation into existing soils will be approximately 6 feet.
Settling Basin	Maximum depth of the settling basin will be approximately 3 feet following grading. Maximum excavation into existing soils will be approximately 3 feet.
Ammonia Storage and Containment System	Maximum depth of the underground sump will be approximately 7 feet 6 inches following grading. Maximum excavation into existing soils will be approximately 4 feet 6 inches.
Balance of Plant Equipment	Balance of plant equipment foundation depths are expected to range from approximately 3 to 5 feet, but maximum depths could be up to 10 feet following grading in the vicinity of Tank 7. For the majority of the site maximum excavations into existing soils would be 5 feet.
Piping Systems	The linear pipeline trenches are generally expected to be no greater than 5 feet deep.

**PITTSBURG POWER PLANT
BOUNDARY**

**WILLOW PASS
GENERATING STATION
SITE BOUNDARY**

- LEGEND**
- 1 Power Control Center (Steam Turbine)
 - 2 LV Switchgear (ACC)
 - 3 LV Switchgear (BOP)
 - 4 MV Switchgear
 - 5 Unit Auxiliary Transformer
 - 6 Generator Transformer
 - 7 Oil/Water Separator with Waste Water Sump
 - 8 Generator Circuit Breaker
 - 9 Nitrogen System
 - 10 Water Treatment Building
 - 11 Control/Admin Building
 - 12 Gas Metering Station
 - 13 Nitrified Water Storage Tank
 - 14 Fuel Gas Conditioning
 - 15 Overhead Power Lines
 - 16 Settling Basin
 - 17 RO (1-Pass)
 - 18 RO (2-Pass)
 - 19 Heat Recovery Steam Generator
 - 20 Boiler Blowdown Tank
 - 21 Boiler Feedwater Pump
 - 22 Deaerator and Condensate Extraction Pump
 - 23 Fin Fan Cooler for Condensate Polishing
 - 24 Chemical Dosing Skids (N₂, O₂, NH₃)
 - 25 Sampling Station
 - 26 Steam Turbine
 - 27 Gas Turbine Enclosure
 - 28 Gas Turbine Inlet Filter
 - 29 Air Cooled Heat Exchanger
 - 30 Air Compressors and Dryers
 - 31 SCR and Ammonia Injection Skid
 - 32 Ammonia Unloading/Storage Area
 - 33 New 10"-dia. Waste Water Line
 - 34 Parking
 - 35 Waste Water Storage Tank
 - 36 New 10"-dia. Water Supply Line
 - 37 Gas Compressor Enclosure
 - 38 RO Permeate Storage Tank
 - 39 Demin. Water Storage Tank
 - 40 EDI System
 - 41 Nitrification Filters
 - 42 New Administration Building
 - 43 New Warehouse, Shops, IT, Engineering & Production Offices
 - 44 Circuit Breaker
 - 45 Air Switch
 - 46 New 12"-dia. Gas Line

LEGEND

Change in Topography (Feet)

	-3 to -6
	0 to -3
	0 to 3
	3 to 7

0 75 150 300
Scale in Feet
(1"= Approx. 214')

N

Source: Aerial Photo, Digital Globe, April 1, 2007

CHANGE IN TOPOGRAPHY AT WPGS SITE

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California

URS

FIGURE 11-1

Map Document: U:\GIS\Mirant\Pittsburg\Projects\cut_fill.mxd, 12/1/2008 10:03:15 AM KLawrence

BACKGROUND

The Cultural Resources section in the AFC characterizes the history of the proposed WPGS site (Section 7.3.1.1, Affected Environment). The Bay Miwok tribe occupied the area before and during the Spanish and Mexican periods, and after the American period, the area was patented as part of the 8,859 acres of Rancho Los Medanos. During the early American settlement period, "New York of the Pacific" was established adjacent to the project area. Later this town was renamed Pittsburg. The area at the WPGS project site was largely undeveloped and used for grazing until the construction of the PPP in 1951.

The plat map of Rancho Los Medanos shows the Pittsburg Coal Company's wharf located in the vicinity of the PPP plant. The 1908 Antioch U.S.G.S topographic map shows five structures located at the site. The map also shows that a road extended from the Sacramento Northern Railroad spur to the unnamed site with five structures. The Environmental Site Assessment for the proposed project site states the project area was used for grazing and livestock prior to construction of the PPP, although there is no mention of this 1908 site. By 1939, the site no longer appears on maps.

DATA REQUEST

- 12. *Please provide a complete land-use history for the WPGS, based on additional archival research, to determine the nature of the site shown on the U.S.G.S. Antioch topographic map. Please provide a map showing the location of this site in relation to the proposed project site. If the 1908 site is located on the proposed project site, please provide an analysis as to whether or not any remains of the site could be present beneath the previously disturbed portions of the project site and support your opinion with historical information. In the absence of additional historical information, please provide the results of a subsurface historical archaeological inventory investigation.***

RESPONSE

In 1839, when California was under the governance of Mexico, the 8,859-acre Rancho Los Medanos was granted to brothers Jose and Antonio Mesa (Beck and Haase, 1974). The grant encompassed the land where the PPP was ultimately constructed. The brothers held the property until 1849, when it was purchased by Colonel J. D. Stevenson and Dr. W. C. Parker. That year, Stevenson and Parker laid out a town east of the current PPP boundaries, and named it "New York of the Pacific" in the hopes that it would become one of the great port cities of the West Coast. The bayside location sparked the settlement's first major commercial activity as it became a stopover for miners traveling to Sacramento and beyond to the Sierra gold fields.

The influx of Gold Rush miners soon diminished; however, the subsequent discovery of coal in the vicinity in 1855 revitalized the town's economy. By 1860, several coal mines operated in the area, with three railroad lines extending from the mines near Mount Diablo to river wharves, one in New York of the Pacific, where the coal was shipped to distant markets. As can be seen on the 1869 U.S. Government Land Office (USGLO) GLO Plat map (Figure 12-1) the Pittsburgh Coal Company's wharf¹ is situated approximately two and one-half miles east-southeast of the current WPGS Area of Potential Effects (APE). It should be noted herein that the APE for archaeological resources defined for the WPGS project encompasses a much larger area than may ultimately be needed to allow for design flexibility. Although not presented as the APE

¹ In 1869, the name of the company was spelled "Pittsburgh," as shown.

within the WPGS AFC, Figure 12-2 illustrates the actual areas to be subjected to ground-disturbing activities for the project.

The 1869 plat map also depicts another, unnamed wharf closer to, but still some distance outside of the WPGS APE. No development of any sort occurs within the portion of the PPP property within which the WPGS will be constructed (USGLO, 1869). The 1876 GLO Plat map (USGLO, 1876) likewise does not indicate the presence of historic development within the portion of the PPP property where the WPGS is to be constructed (Figure 12-3).

The first evidence of historic development within the WPGS vicinity is found on the 1908 USGS Antioch, California 15' topographic quadrangle (USGS, 1908). Within the vicinity of the extreme northeastern corner of the PPP boundaries are depicted five unidentified structures along the shoreline east of the community of "Black Diamond."

In recognition of the role that coal played in the community's development, the town of New York of the Pacific had changed its name to Black Diamond (Purcell, 1940). Overlaying the current WPGS APE boundary upon this early map (Figure 12-4) reveals that some of this development appears to fall within these boundaries.

The complex of structures is found again on the 1918 USGS Antioch, California 15' topographic quadrangle (USGS, 1918), presented here as Figure 12-5. Note that the community of Black Diamond has been renamed Pittsburg, the name the community keeps to this day. Besides these structures, no other historic development has occurred within the PPP boundaries.

This small development again appears on aerial photographs of the area taken in 1939 (Fairchild Aerial Surveys, 1939). From the photograph it appears that this development may be associated with agricultural endeavors, because within the fields south of the complex, plough or harvesting lines can clearly be seen. Immediately north of the structures, it also appears that a small dock extends into Suisun Bay. This photograph is presented in this submittal with the boundaries of the PPP as well as the WPGS APE delineated (Figure 12-6). This depiction indicates that the structures first appearing on the 1908 USGS map fall within the current WPGS APE. It should be noted herein that the precision of overlaying of various boundaries upon these historic maps and aerial photographs is limited, in particular when using historic sources where the scale is either very small or non-existent. In addition, particularly with early historic aerial photographs, there is some distortion the further one moves out from the point directly beneath the aircraft taking the photograph. As such, the relationship between the photographed structures and the WPGS APE boundaries presented in Figure 12-5 is an approximation. Given these limits, however, it can be stated with a fairly high degree of confidence that some, if not all, of the historic development falls within the boundaries of the WPGS APE.

By the time the 1953 USGS Honker Bay, California 7.5' topographic quadrangle was produced (USGS, 1953), the historic structures of concern within the WPGS APE are absent and have been replaced by initial development of the PPP (Figure 12-7). Pacific Gas and Electric Company (PG&E) purchased the PPP land in 1951 and began construction soon after. The PPP was constructed from 1951 to 1954 as a part of the rapid expansion of electrical generation after World War II. As can be seen on Figure 12-7, roads have been placed and some level of unspecified development has occurred (indicated by the pink shading within the eastern portion of the WPGS APE). Figure 12-8, an aerial photograph dating to 1959 (Cartwright & Company, 1959), better reveals the level of development within the PPP including the WPGS APE during this initial phase of power plant development. Of particular interest is the area north of the row of tanks adjacent to the eastern boundary of the PPP. The aforementioned structures are absent and the area appears to have been graded.

PG&E subsequently increased the PPP's generating capacities, using four 125,000 kilowatt (kW) General Electric generators. The continued growth of electrical demand resulted in the addition of Units 5 and 6 in 1960 and 1961. The units added 660 megawatts (MW) of power and nearly doubled the plant's capacity. The new units, while larger than the previous units, used the same architecture and were aligned with the previous units. This is the configuration (Figure 12-9) depicted on the 1968 USGS Honker Bay, California 7.5' topographic quadrangle (USGS, 1968).

PG&E brought Unit 7 online in 1972. The new unit was much larger than the previous six and was not aligned with the others. Unit 7 can produce 740 MW of electricity. The unit was designed separately from Units 1 through 6 and shares few facilities with them. Although all units were completed and operating by 1972, the plant expansion continued in the ensuing years. By 1979 several other structures and buildings were added to the PPP including additional tanks south of the plant. During this phase of construction, PG&E also added two surface impoundment ponds in the area north-northwest of the row of six tanks situated near the eastern boundary of the PPP. This is the general configuration (Figure 12-10) depicted on the 1980 USGS Honker Bay, California 7.5' topographic quadrangle (USGS, 1980).

The final configuration of the PPP while still owned and operated by PG&E is perhaps best depicted on the aerial photograph taken of the vicinity in 1998 (USGS, 1998) and presented here as Figure 12-11. The two surface impoundment ponds excavated north-northwest of the string of six tanks are clearly visible. The construction of these ponds is a critical development, as the northernmost of these ponds falls within the portion of the WPGS APE where the structures first depicted on the 1908 USGS Antioch, California 15' topographic quadrangle were situated. Figure 12-12, which is comprised of the current PPP facilities superimposed on the 1939 aerial photograph, illustrates this point. It can be seen that the area where the historic development occurred has been subjected to extensive power plant development with the northernmost pond, as noted above, being particularly relevant. Excavated to a depth of approximately 3 to 4 feet below ground surface, this pond, to the best estimate, was placed directly upon the site of three of these structures. Two other structures within the complex, appear to have been situated immediately east-northeast of the current pond footprint, an area now bisected by three major conduits. These conduits in fact run beneath the aforementioned surface impoundment pond.

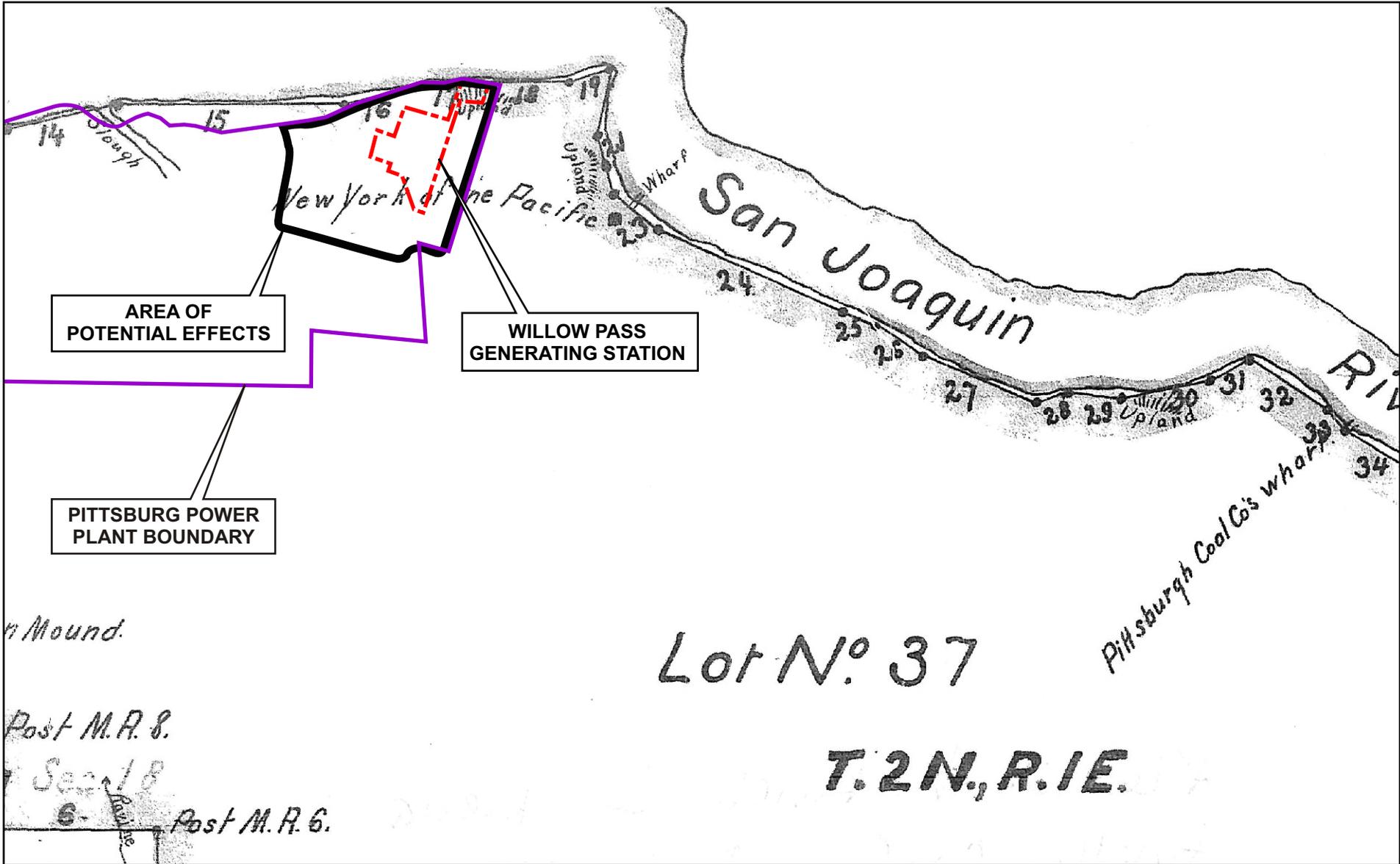
In 1998, PG&E sold PPP to Southern Energy Delta, L.L.C. (now Mirant Delta, LLC) as a part of PG&E's divestiture of its fossil-fueled power plants during the restructuring of California's electricity industry. In 2003, Mirant Delta, LLC retired from service Units 1 through 4 of the PPP in place.

Conclusion

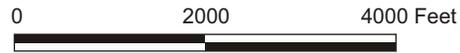
Given the past history of grading and subsequent construction of the surface impoundment pond and the conduits, it is unlikely that deposits associated with the historic development remain intact within the WPGS APE. As discussed previously, however, no earthwork is proposed for the WPGS in the area where the structures of concern were located (see Figure 12-2). As such, even in the unlikely event that remnants of this historic development survived PG&E's initial grading and subsequent phases of construction, they would not be encountered with implementation of the proposed WPGS project.

References

- Beck, W. A. and Y. D. Haase, 1974. *Historical Atlas of California*. University of Oklahoma Press, Norman.
- Cartwright & Company, 1959. Aerial Photograph, Agricultural Stabilization and Conservation Service. Contra Costa County, California. Cartwright & Company, Sacramento, California.
- Fairchild Aerial Surveys, Inc., 1939. Aerial Photograph, Flight Path BUU for United States Agricultural Adjustment Administration, Washington, D.C.
- Purcell, Mae Fisher, 1940. *History of Contra Costa County*. Gillick Press, Berkeley, California.
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- USGLO (U.S. Government Land Office), 1876. GLO Plat Map for Township 2 North, Range One East. Washington, D.C.
- USGS (U.S. Geological Survey), 1908. Antioch, California, 15' Topographic Quadrangle. U.S.G.S. Washington, D.C.
- USGS (U.S. Geological Survey), 1918. Honker Bay, California, 7.5' Topographic Quadrangle. Washington, D.C.
- USGS (U.S. Geological Survey), 1953. Honker Bay, California, 7.5' Topographic Quadrangle. Washington, D.C.
- USGS (U.S. Geological Survey), 1968. Honker Bay, California, 7.5' Topographic Quadrangle. Washington, D.C.
- USGS (U.S. Geological Survey), 1980. Honker Bay, California, 7.5' Topographic Quadrangle. Washington, D.C.
- USGS (U.S. Geological Survey), 1998. Aerial Photograph. Washington, D.C.



Source:
 Government Land Office (GLO)
 Plat Map T2N R1E MDB&M, 1869



Scale 1:24,000 (Approximate)

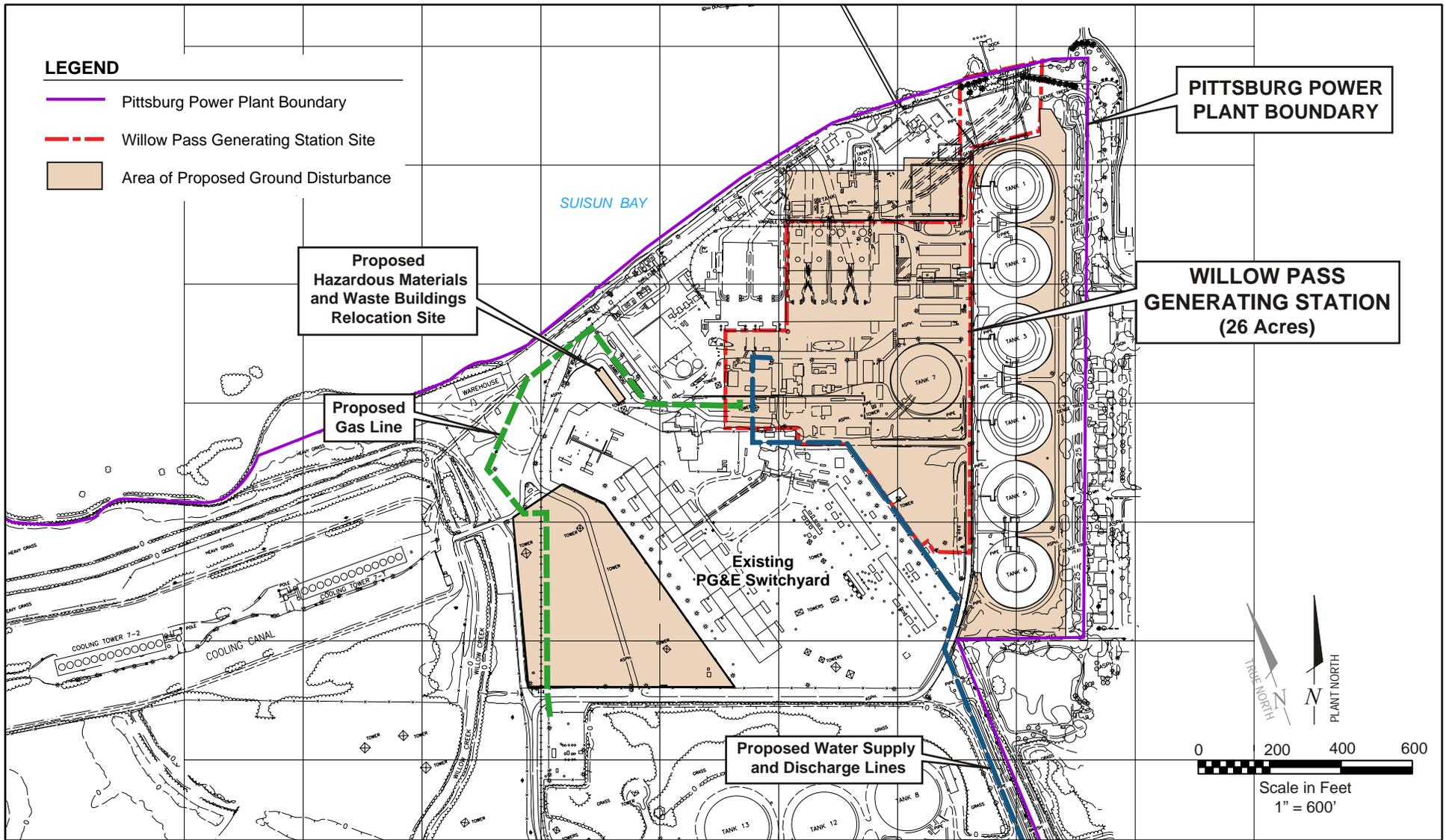
**PROJECT LOCATION MAP OVERLAID ON
 1869 GLO PLAT T2N R1E**

December 2008
 28067343

Willow Pass Generating Station
 Mirant Willow Pass, LLC
 Pittsburg, California



FIGURE 12-1



Source:
 CH2M Hill Lockwood Greene; General Arrangement Willow Pass Generating Station
 Construction Laydown and Parking Layout;
 Drawing No: MR-GA-PT-01-16 (Rev. A, 06/04/08)

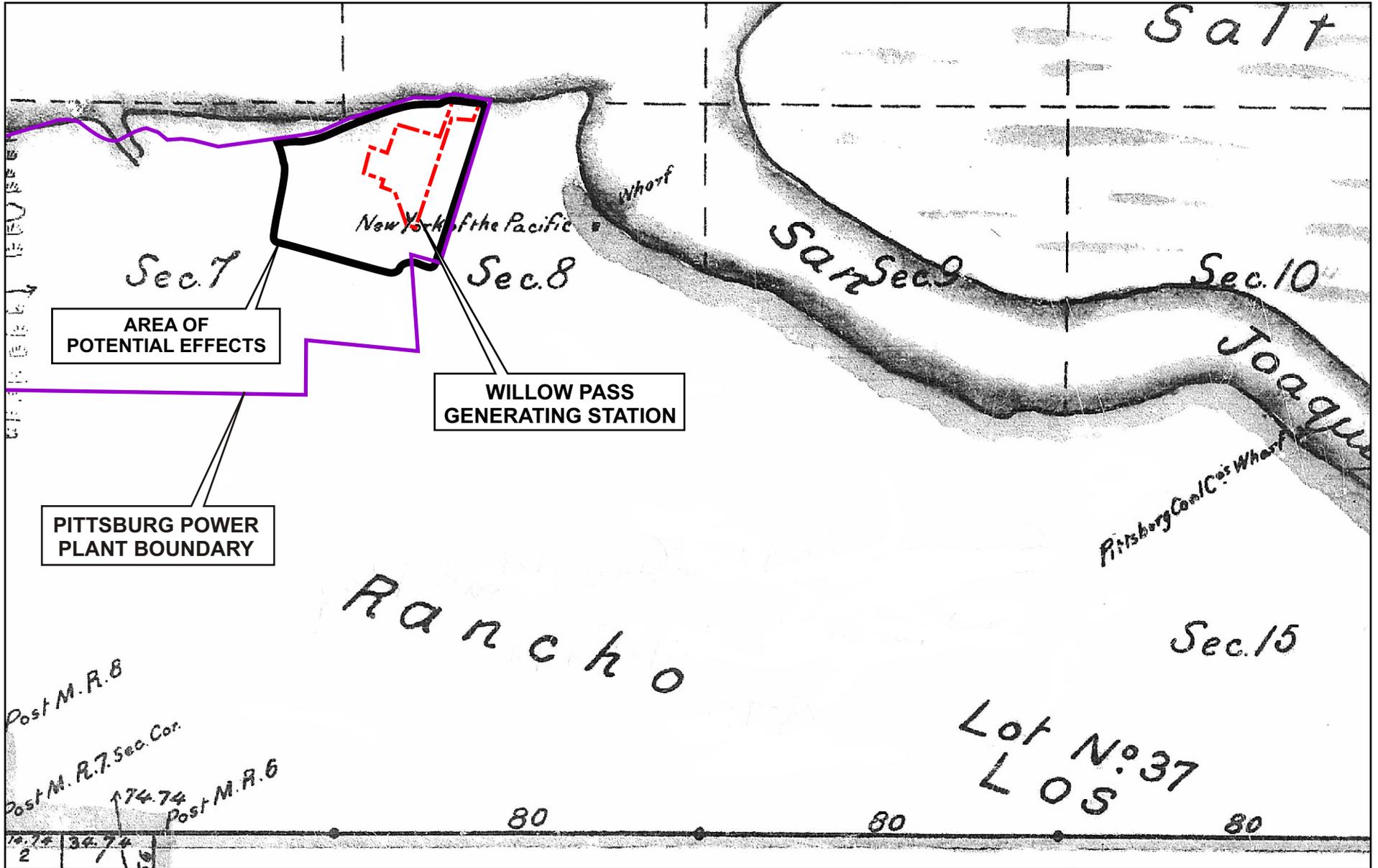
PROPOSED AREAS OF GROUND DISTURBANCE AT WPGS SITE

December 2008
 28067343

Willow Pass Generating Station
 Mirant Willow Pass, LLC
 Pittsburg, California



FIGURE 12-2



Source:
 Government Land Office (GLO)
 Plat Map T2N R1E MDB&M, 1876



0 2000 4000 Feet



0 0.5 1 Miles



Scale 1:24,000 (Approximate)

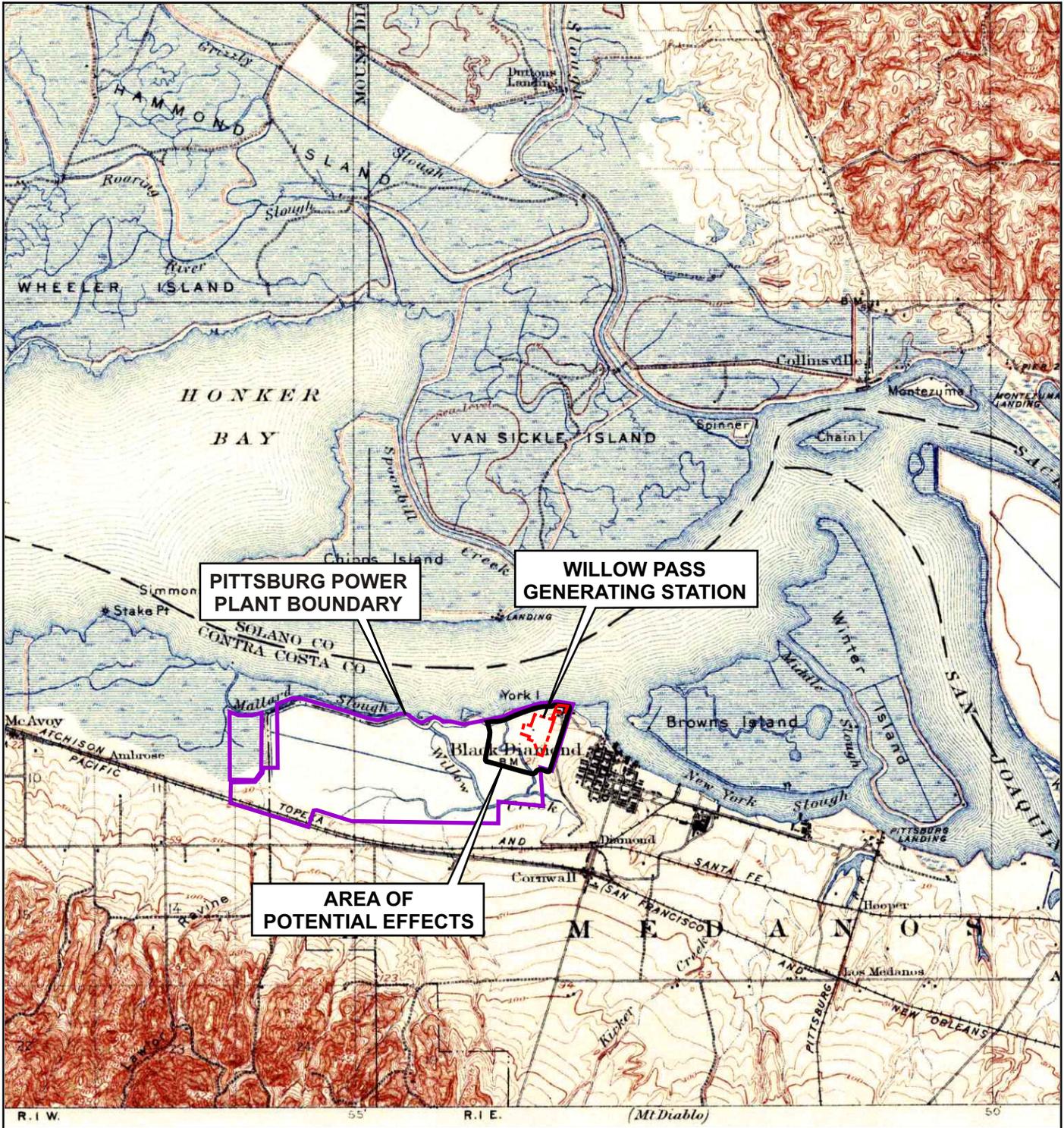
**PROJECT LOCATION MAP OVERLAID ON
 1876 GLO PLAT T2N R1E**

December 2008
 28067343

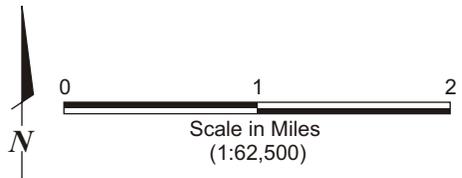
Willow Pass Generating Station
 Mirant Willow Pass, LLC
 Pittsburg, California



FIGURE 12-3



Source:
 USGS Topographic Maps 15 min series
 Antioch, California, 1908 Quadrangle

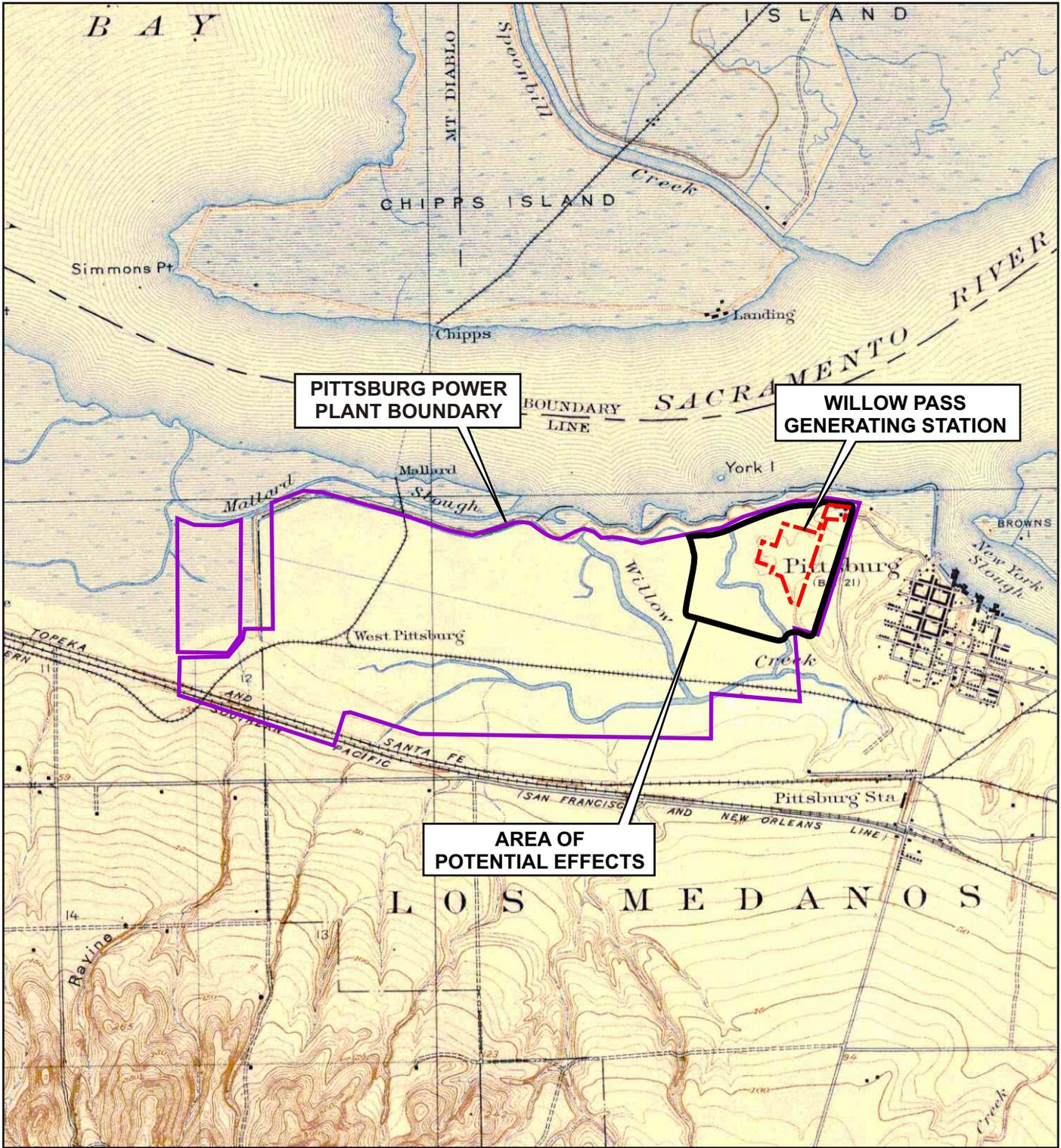


**PROJECT LOCATION
 OVERLAID ON 1908 USGS MAP**

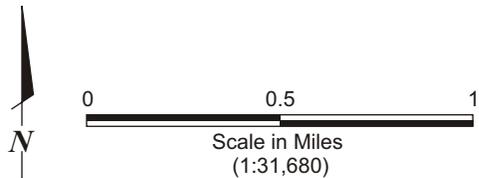
Willow Pass Generating Station
 December 2008
 Mirant Willow Pass, LLC
 28067343
 Pittsburg, California



FIGURE 12-4



Source:
 USGS Topographic Maps 7.5 min series
 Honker Bay, California, 1918 Quadrangle



**PROJECT LOCATION
 OVERLAID ON 1918 USGS MAP**

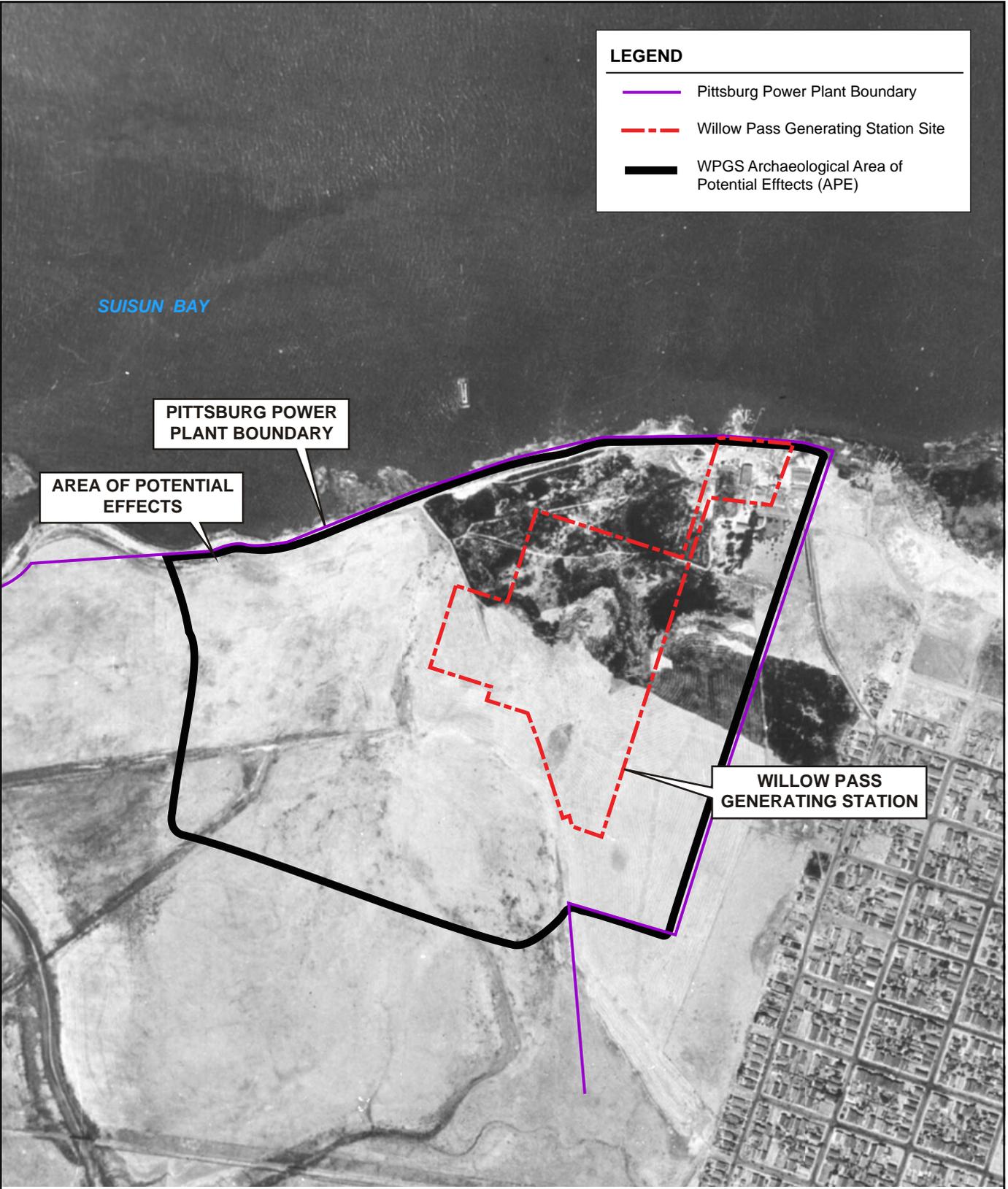
December 2008
 28067343
 Willow Pass Generating Station
 Mirant Willow Pass, LLC
 Pittsburg, California



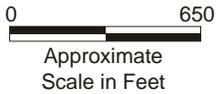
FIGURE 12-5

LEGEND

-  Pittsburg Power Plant Boundary
-  Willow Pass Generating Station Site
-  WPGS Archaeological Area of Potential Effects (APE)



Source:
Fairchild Aerial Surveys, 1939



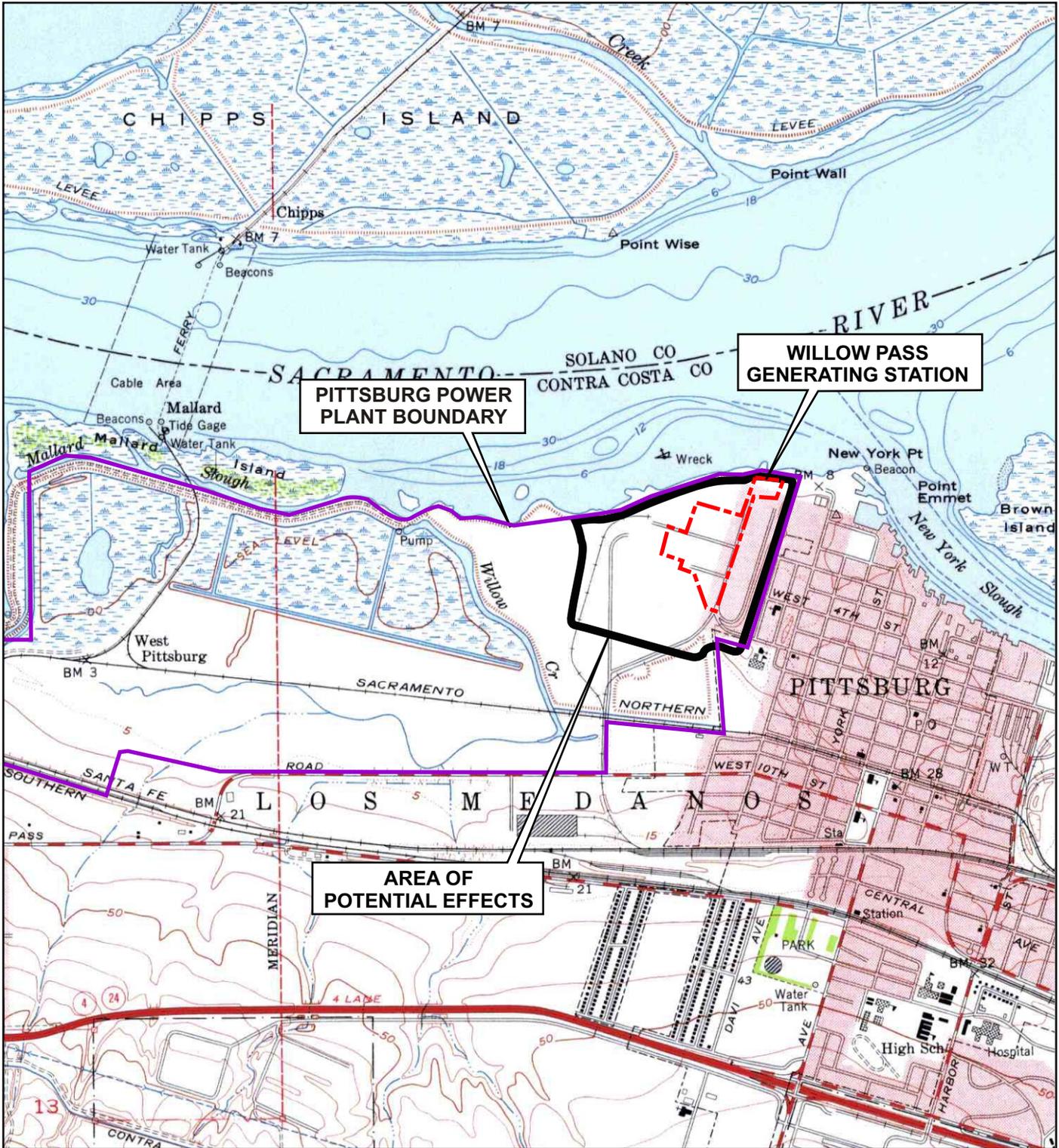
1939 AERIAL PHOTOGRAPH

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California

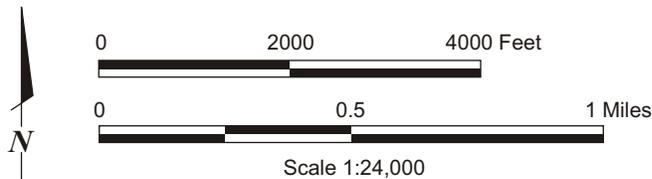
December 2008
28067343



FIGURE 12-6



Source:
 USGS Topographic Maps 7.5 min series
 Honker Bay, California, 1953 Quadrangle

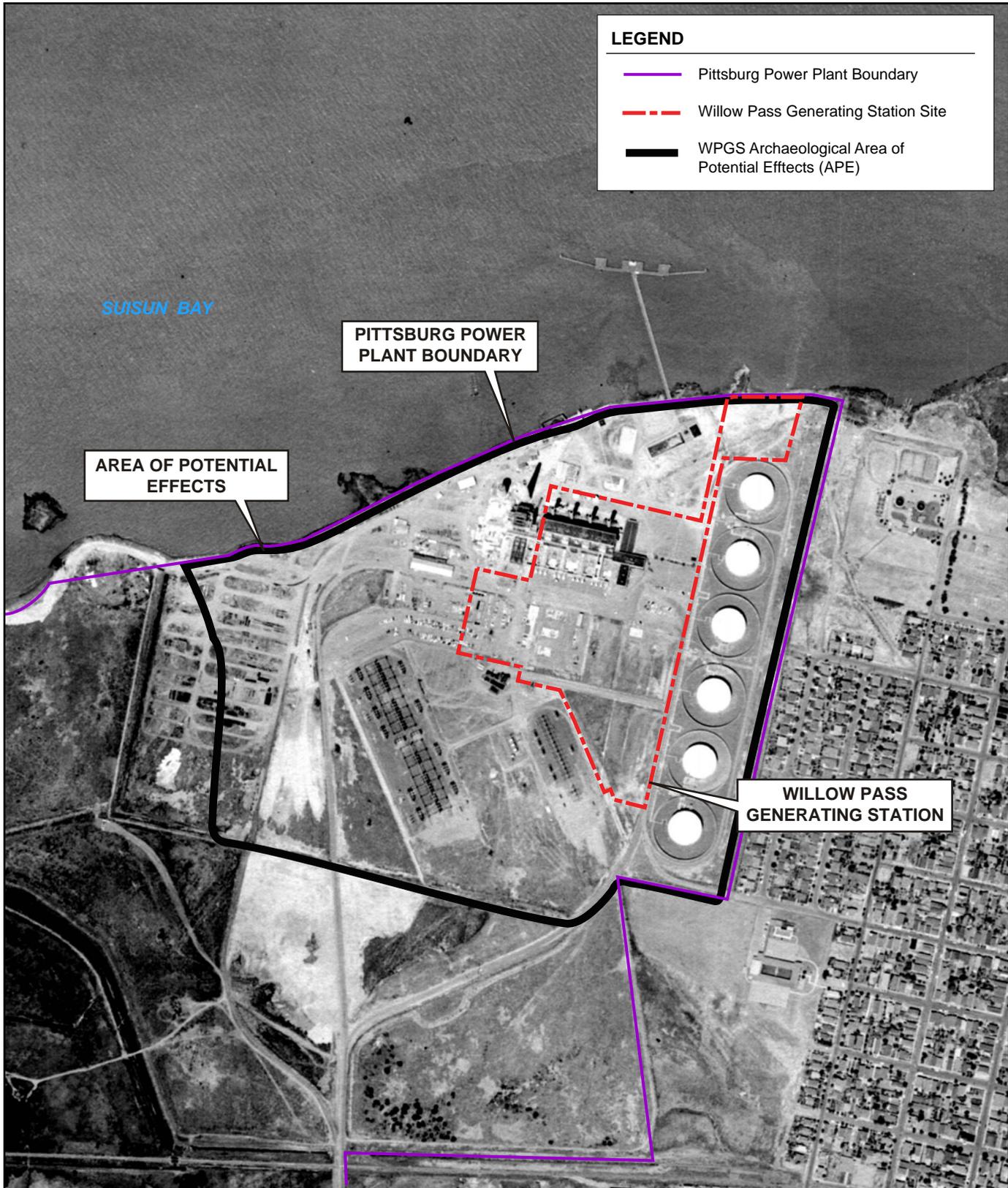


**PROJECT LOCATION
 OVERLAID ON 1953 USGS MAP**

Willow Pass Generating Station
 December 2008
 28067343
 Mirant Willow Pass, LLC
 Pittsburg, California



FIGURE 12-7



LEGEND

- Pittsburg Power Plant Boundary
- - - Willow Pass Generating Station Site
- WPGS Archaeological Area of Potential Effects (APE)

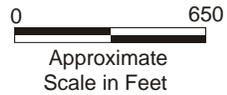
SUISUN BAY

PITTSBURG POWER PLANT BOUNDARY

AREA OF POTENTIAL EFFECTS

WILLOW PASS GENERATING STATION

Source:
Cartwright, 1959



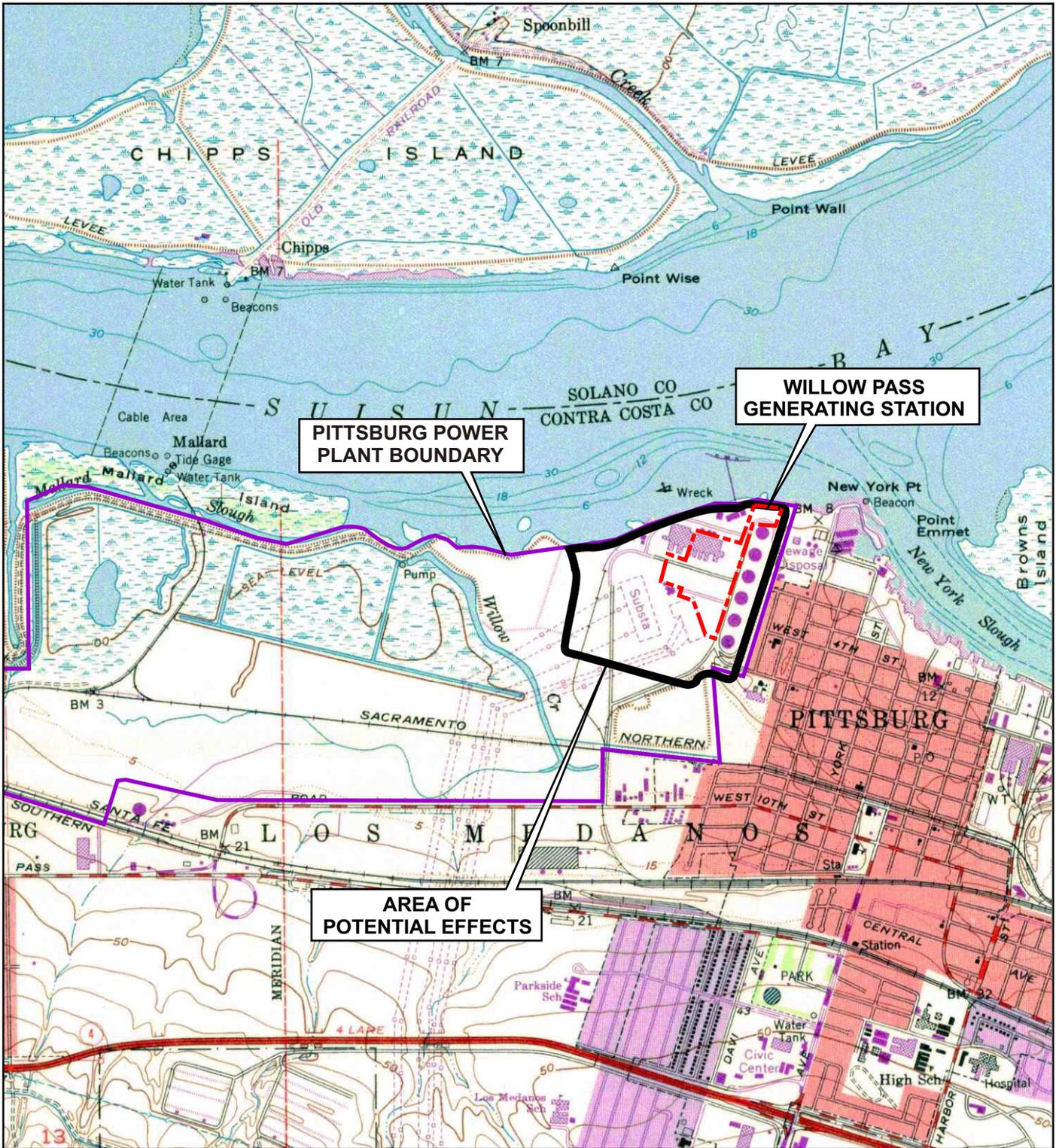
1959 AERIAL PHOTOGRAPH

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California

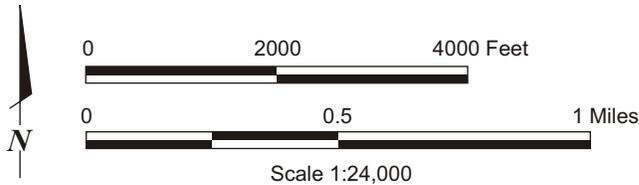
December 2008
28067343



FIGURE 12-8



Source:
 USGS Topographic Maps 7.5 min series
 Honker Bay, California, 1953 (Photorevised 1968) Quadrangle

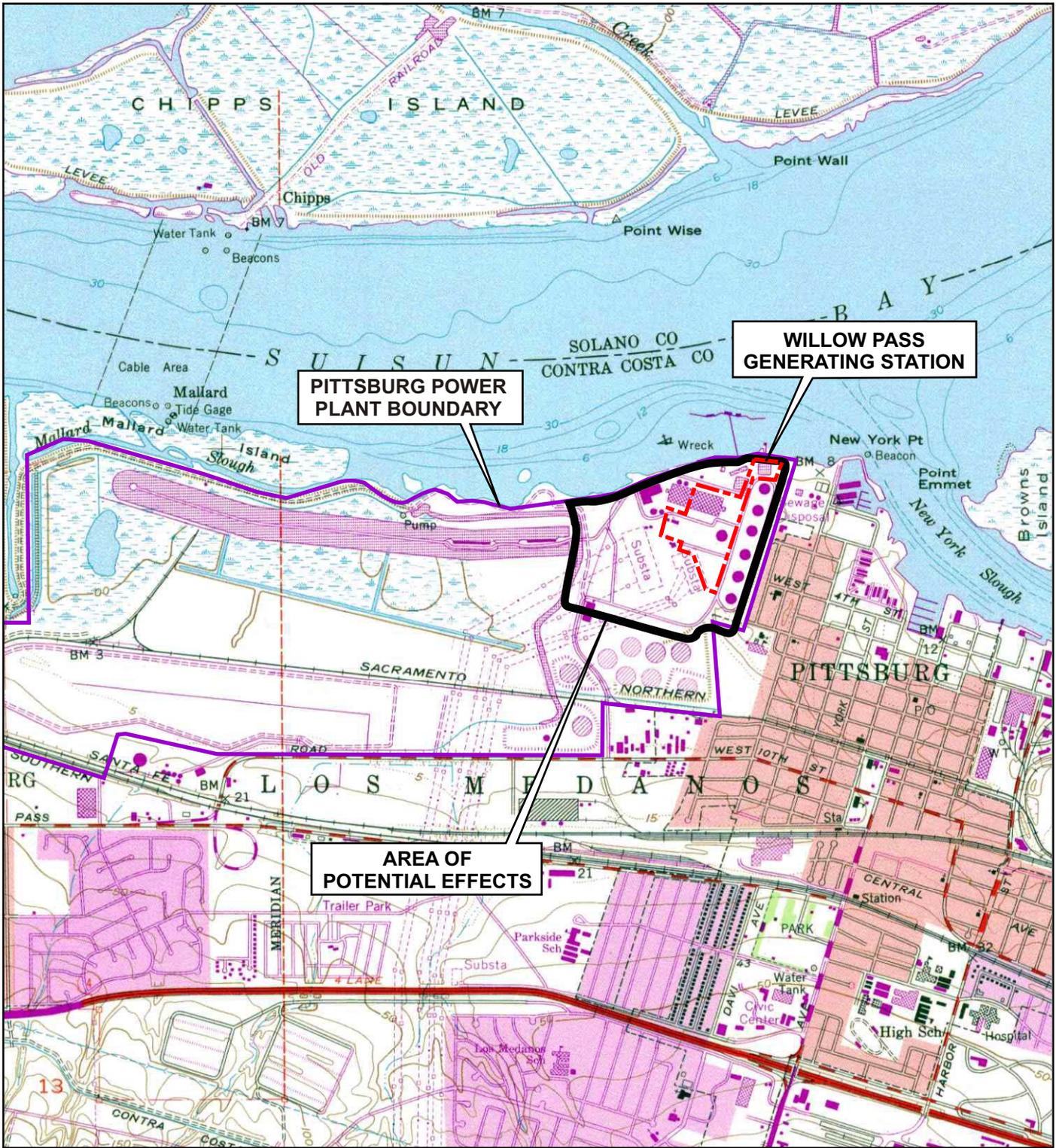


**PROJECT LOCATION
 OVERLAID ON 1968 USGS MAP**

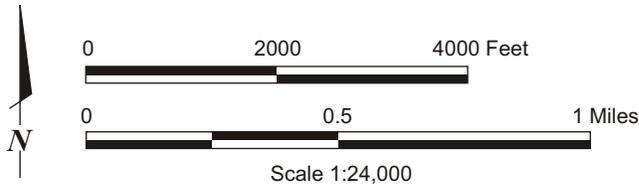
Willow Pass Generating Station
 December 2008
 28067343
 Mirant Willow Pass, LLC
 Pittsburg, California



FIGURE 12-9



Source:
 USGS Topographic Maps 7.5 min series
 Honker Bay, California, 1953 (Photorevised 1980) Quadrangle



**PROJECT LOCATION
 OVERLAID ON 1980 USGS MAP**

Willow Pass Generating Station
 Mirant Willow Pass, LLC
 28067343
 Pittsburg, California



FIGURE 12-10



LEGEND

- Pittsburg Power Plant Boundary
- - - Willow Pass Generating Station Site
- WPGS Archaeological Area of Potential Effects (APE)

Source:
USGS, 1998



1998 AERIAL PHOTOGRAPH

Willow Pass Generating Station

Mirant Willow Pass, LLC

Pittsburg, California

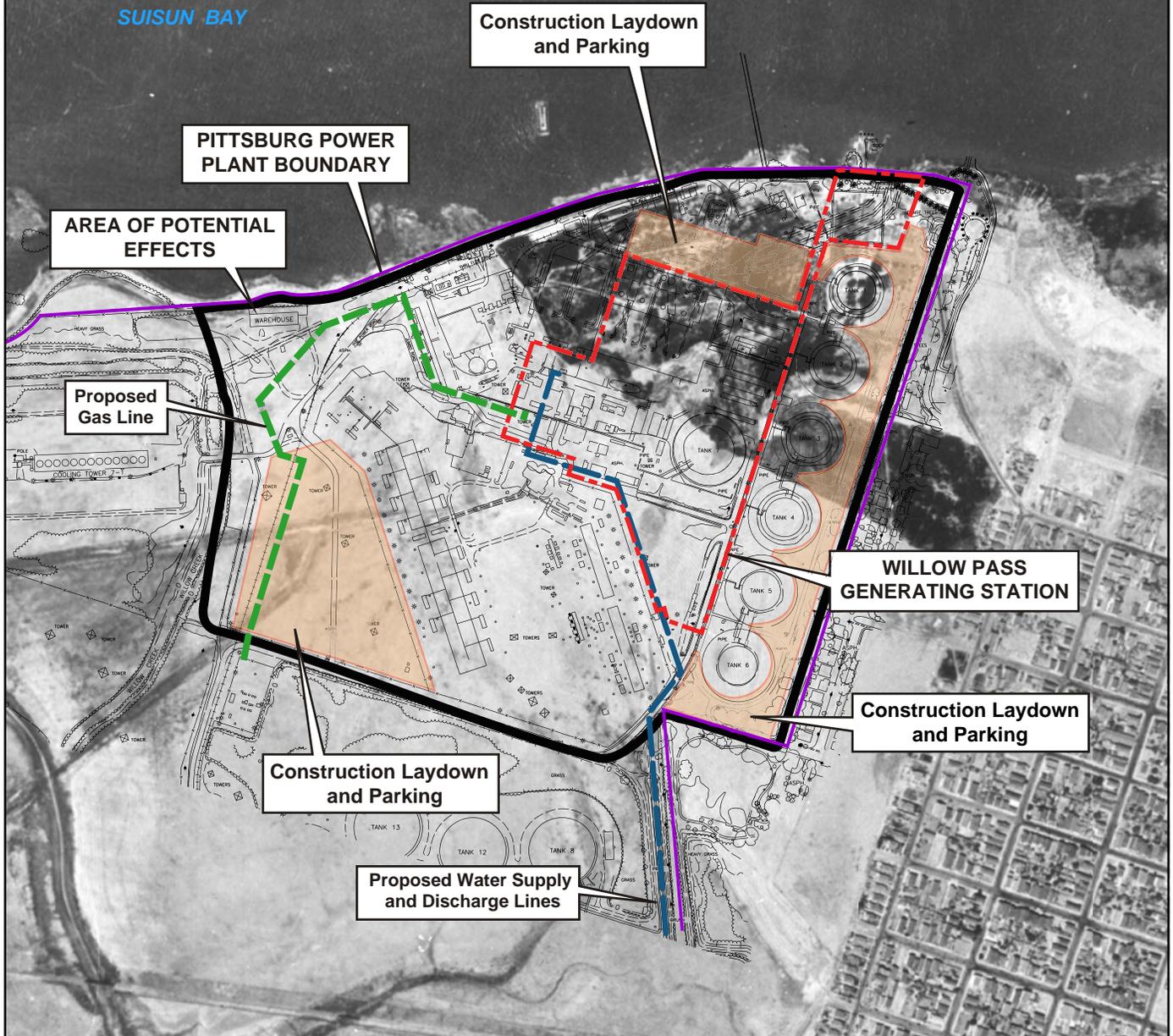
December 2008
28067343



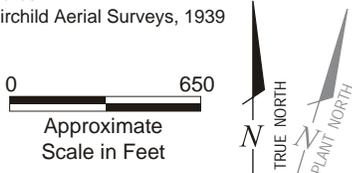
FIGURE 12-11

LEGEND

- Pittsburg Power Plant Boundary
- Willow Pass Generating Station Site
- WPGS Archaeological Area of Potential Effects (APE)
- Proposed Gas Line
- Proposed Water Supply and Discharge Lines
- Current PPP Site Layout
- Construction Laydown and Parking



Source:
Fairchild Aerial Surveys, 1939



CURRENT PPP LAYOUT AND WPGS APE OVERLAID ON 1939 AERIAL PHOTOGRAPH

December 2008
28067343
Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 12-12

BACKGROUND

The applicant identified three known historic-period cultural resources within the project site: the Southern Pacific Railroad (P-07-813), the Southern Pacific, Northern Contra Costa Route (P-07-505), and the Los Medanos Wasteway and Culvert (P-07-2775). Both the Southern Pacific Railroad (P-07-0813) and the Southern Pacific Northern Contra Costa Route (P-07-505). The DPR523 forms provided for these three resources are over five years old. Since these two resources are subject to impacts from the proposed project, staff needs more recent and complete information on them.

DATA REQUEST

13. Please update and provide the DPR523 (A) forms for the three named resources.

RESPONSE

The DPR523(A) forms requested are provided in Appendix B. Please note that the two railroad primaries mentioned, the Southern Pacific Railroad (P-07-813) and the Southern Pacific, Northern Contra Costa Route (P-07-505), were actually the same railroad, overlapping segments with different primaries. The railroad update form in Appendix B covers the entire segment (Port Chicago to Byron). All the previous forms and their various primary numbers are discussed on the update sheet, and all the previous forms are attached.

Although the two railroad resources, 07-505 and 07-813, are the same Southern Pacific tracks, they have had different names, including San Pablo & Tulare Railroad, Central Pacific Railroad, Southern Pacific Railroad, Southern Pacific: Northern Contra Costa Route, Portion of the Southern Pacific San Francisco to New Orleans Line, and Union Pacific. Changes to the railroad company's name, several company mergers, and the cultural resources evaluation practice of studying independent point or segments of the line resulted in the assignment of multiple primary numbers to this single linear resource.

DATA REQUEST

14. ***Please provide a resume for the individual completing the updates, demonstrating that he/she meets the Secretary of the Interior's Professional Standards for Architectural Historian.***

RESPONSE

Résumés for the individuals completing the updates in the response to Data Request 13 are provided in Appendix C.

BACKGROUND

Copies of the applicant's request letter to the Native American Heritage Commission (NAHC), and copies of the NAHC response letter, mailing list, and the applicant's informational letter sent to the Native Americans on the list are required as part of the cultural resources report. The applicant failed to provide the copies in the confidential report. Staff needs to document the applicant's outreach to Native Americans and, in addition, needs any responses the applicant has received from Native Americans to date.

DATA REQUEST

- 15. Please provide copies of the request letter sent to the NAHC, the NAHC response letter, mailing list, informational letter, and any responses received to date.***

RESPONSE

Copies of the request letter sent to the Native American Heritage Commission (NAHC), the NAHC response letter, mailing list, and informational letter were provided in the Cultural Report (Appendix L1 of the AFC), which was submitted under the rules of confidentiality to the CEC in July 2008. Since the Native American Consultation Appendix to the original Cultural Report is not considered confidential, these documents are resubmitted as Appendix D to this response.

No responses have been received to date.

Technical Area: Geological Resources

Author: Patrick Pilling

BACKGROUND

Site-specific subsurface information is essential to completely evaluate a site with respect to potential geologic hazards and how the existing materials may impact design, construction, and operation of the facility. The information is also useful in establishing the geologic profile with respect to potential paleontological resources. The AFC references existing geotechnical reports for the project site (Dames & Moore, 1951; Dames & Moore, 1952; Dames & Moore, 1953; and Dames & Moore, 1968).

DATA REQUEST

- 16. Please provide copies of any geotechnical documents that have been completed for the project site.***

RESPONSE

Copies of selected geotechnical reports for the project site are provided in Appendix E. Due to the voluminous nature of the reports that describe geotechnical investigations at the Pittsburg Power Plant site the four reports provided were selected as they include borings and characterization of subsurface conditions within the WPGS site. The other reports pertinent to the site relate to other portions of the PPP property and do not address the WPGS site.

Technical Area: Noise and Vibration

Author: Steve Baker

BACKGROUND

The applicant has predicted the volume of noise that would be produced, by both construction and operation of the project, at the nearest sensitive receptor (residences to the east of the project site, at a location called LT-1). Construction noise is predicted in Section 7.5.2.2 of the AFC; noise from operation of the plant is predicted in Section 7.5.2.4. In Section 7.5.2.2, the distance from the project to LT-1 is listed as 1,500 feet; in Section 7.5.2.4 it is listed as 500 feet.

DATA REQUEST

- 17. *What is the correct distance from the project to LT-1? Are the predicted figures for construction noise and noise from operation of the project correct?***

RESPONSE

The distance from the project to LT-1 is approximately 500 feet; LT-1 is located east of the project site boundary as described in AFC Section 7.5.2.4. The construction and operational noise level projections included in the AFC reflect this 500-foot distance and are correct.

Technical Area: Socioeconomics

Author: Marie McLean

BACKGROUND

Section 7.8.2.8, Public Services and Utilities; Gas, indicates that natural gas will be provided by PG&E. The California State Board of Equalization (BOE) administers the Natural Gas Surcharge Law. The surcharge is imposed on the consumption of natural gas in California on and after January 1, 2001.

Each public utility gas corporation and each consumer of natural gas from an interstate pipeline must remit to the Board the amount of applicable surcharge. (Natural Gas Surcharge Law, Part 1, Division 1, Public Utilities Code.)

DATA REQUEST

No# A Please provide the dollar amount of the natural gas surcharge you must pay.

RESPONSE

The California State Board of Equalization (BOE) administers the Natural Gas Surcharge Law. The surcharge is imposed on the consumption of natural gas in California on and after January 1, 2001. According to the BOE:

“(c)onsumption” means the use or employment of natural gas. **Consumption does not include the use or employment of natural gas to generate power for sale**, the sale or purchase of natural gas for resale to end users, the sale or use of gas for enhanced oil recovery, natural gas utilized in cogeneration technology projects to produce electricity, or natural gas that is produced in California and transported on a proprietary pipeline” (Kenny, 2008; PUC, 2008). [Emphasis added.]

Mirant Willow Pass will be using natural gas to generate power for sale. Therefore, the applicant would not be required to pay a natural gas surcharge.

References

Kenny, Maurine, 2008. Personal communication between Maurine Kenny, California State Board of Equalization, and Katie Carroz, Carroz Consulting LLC. November 19, 2008.

PUC (California Public Utilities Code), 2008. California Public Utilities Code No. 896.
<http://law.justia.com/california/codes/puc/890-901.html>, accessed December 3, 2008.

BACKGROUND

Section 7.8.2.8, Public Services and Utilities; Public Services; Fire Protection, Law Enforcement, and Medical Facilities includes information about those services. However, information provided is incomplete.

DATA REQUEST

18. *Please provide average response times and distance to project site for fire protection and law enforcement.*

RESPONSE

Details of average response times and distance to the project site for fire protection and law enforcement are provided in AFC Section 7.8.1.4, on page 7.8-11, and are also repeated below.

Fire Protection

The Contra Costa County Fire Protection District (CCCYPD) provides fire protection service to the project site. The CCCYPD operates 30 stations, staffed by approximately 325 full-time employees, and serving a population of 600,000 in nine cities and unincorporated areas.

CCCYPD Station No. 84, located at 200 East 6th Street, is approximately 1 mile east of the project site, and is the station closest to the site. Station No. 85, located at 2555 Harbor Street, is approximately 2.4 miles southeast of the project site, and is the second-closest station to the site. Each of these stations is staffed at all times with one firefighter, one engineer, and one captain/paramedic. Equipment at Station No. 84 includes a Quint truck, consisting of a 500-gallon water tank, hose, a 100-foot aerial ladder, and paramedic response equipment, and an inflatable rescue boat. The estimated response time to the project site from Station No. 84 is 2 minutes. Equipment at Station No. 85 includes one Type 1 engine and one Type 3 engine. Type 3 engines are primarily used for "wildlands." The estimated response time to the project site from Station No. 85 is 4 minutes (Walker, 2008).

Law Enforcement

The Pittsburg Police Department (PPD) provides law enforcement services to the site. Seventy-one sworn officers and 50 code enforcement, records, community service, and administrative personnel staff the PPD. The PPD operates from one central location, at 65 Civic Avenue, approximately 1.6 miles south of the WPGS site. The typical response time for a Priority One call from the project site would be less than 1 minute. Several beat units in the area would respond to a call at the site. Priority Two calls, such as trespassing, would have a response time ranging from 1 minute to 10 minutes. Officers would respond to a Priority Three call (e.g., the need to take a report on a car break-in) as soon as an officer is available (Zbacnik, 2008).

References

- Walker, Bill, 2008. Personal communication between Bill Walker, Contra Costa Fire Protection District, and Katie Carroz, Carroz Consulting LLC. May 13, 2008; May 22, 2008.
- Zbacnik, Captain, 2008. Telephone communication between Captain Zbacnik, City of Pittsburg Police Department, and Katie Carroz, Carroz Consulting LLC, April 18, 2008, and June 13, 2008.

DATA REQUEST

19. ***Please provide information about ambulance services to nearest hospital, including average response times and distance to project site.***

RESPONSE

Details of ambulance services to the nearest hospital, average ambulance response time, and distance to the project site are provided in AFC Section 7.8.1.4, on page 7.8-11 and are repeated below.

Emergency Response and Medical Facilities

The CCCFPD contracts with American Medical Response (AMR) to provide paramedic services to the project site. An AMR unit consists of one to two emergency medical technicians and one to two paramedics. AMR typically has up to 30 units available during the day and 17 to 20 units available at night. The maximum response times to the Pittsburg/Antioch area are 7 minutes for the fire first responder, and 11 minutes, 45 seconds for an ambulance (Kovaleff, 2008).

The hospital closest to the project site is Sutter Delta Medical Center, which is located at 3901 Lone Tree Way in Antioch, approximately 7.4 miles southeast of the project site. The estimated drive time from the project site to Sutter Delta Medical Center is approximately 14 minutes. Sutter Delta Medical Center operates 119 beds and typically is at or near capacity (Rodriguez, 2007).

Other nearby hospitals are the John Muir Medical Center – Concord, located at 2540 East Street in Concord, approximately 11 miles southwest of the project site, and the Walnut Creek campus of John Muir Medical Center, located at 1601 Ygnacio Valley Road, approximately 14 miles southwest of the project site. The Contra Costa Regional Medical Center is located at 2500 Alhambra Avenue in Martinez, approximately 17 miles west of the project site. Kaiser Medical Center is located 19 miles southwest of the project site, at 1425 S. Main Street in Walnut Creek.

References

Kovaleff, Lauren, 2008. Personal communication between Lauren Kovaleff, Assistant Director, American Medical Response, and Katie Carroz, Carroz Consulting LLC. April 18, 2008.

Rodriguez, Sandra, 2008. Personal communication between Sandra Rodriguez, Sutter Delta Medical Center, and Tammy Dorje, URS Corporation. January 3, 2008.

DATA REQUEST

- 20. Please provide names of local hospitals; medical services provided at each; and distance of each hospital to project site.**

RESPONSE

Details of local hospitals and distance from each hospital to the project site are provided in AFC Section 7.8-11, on page 7.8-11 and above in the response to Data Request 19. Medical services for each nearby hospital and medical center are summarized below.

Sutter Delta Medical Center provides emergency services, a women's health center, cardiac care, pediatric services, intensive/critical care, medical/surgical care, surgical services, imaging services, pathology services, rehabilitation services, and social services (Sutter Delta Medical Center, 2008).

The Concord branch of John Muir Medical Center offers cancer care, cardiac care, general surgery, orthopedics, and neurology (John Muir Concord, 2008).

The Walnut Creek campus of John Muir Medical Center serves as the sole provider of trauma care for Contra Costa County and portions of Solano County. This campus also specializes in high- and low-risk obstetrics, orthopedics, neurosciences, cardiac care, and cancer care (John Muir Walnut Creek, 2008).

Contra Costa Regional Medical Center offers emergency services, biomedical equipment management, cardiopulmonary care, critical/intermediate care, diagnostic imaging, prenatal care, pediatrics, psychiatric services, rehabilitation therapy, surgery, and recovery services (Contra Costa Regional Medical Center, 2008).

Kaiser Permanente Walnut Creek Medical Center offers the following services:

- adult medicine
- angiography
- audiology
- cardiology
- cardiopulmonary testing
- chemical dependency services
- chronic conditions programs
- cosmetic dermatology
- CT scan (computerized tomography)
- diagnostic imaging
- ear, nose, and throat
- echocardiography
- electrocardiography
- electroencephalography
- gastroenterology
- general Surgery
- head and neck surgery
- hearing center
- HIV pre- and post-test counseling
- HIV education, testing, and results
- laboratory services
- mammography services
- mental health
- minor injury center
- nephrology clinic
- neurology center
- nuclear medicine
- obstetrics/gynecology
- occupational health
- oncology
- pediatrics/teen services
- personal physician selection
- physical therapy
- podiatry
- psychiatry
- pulmonary function lab
- pulmonary function testing
- pulmonary medicine
- radiology/imaging services
- social services

- home health care
 - hospice services
 - immunizations/injection clinic
 - labor and delivery
 - imaging services
- (Kaiser Walnut Creek, 2008)
- ultrasound services
 - urology
 - women's health services
 - X-ray services

References

Contra Costa Regional Medical Center, 2008. Website. http://www.cchealth.org/medical_center/services.php, accessed November 19, 2008.

John Muir Concord (John Muir Medical Center – Concord), 2008. Website. http://www.johnmuirhealth.com/index.php/jmmdhs_mdmc.html, accessed November 19, 2008.

John Muir Walnut Creek (John Muir Medical Center – Walnut Creek), 2008. Website. http://www.johnmuirhealth.com/index.php/jmmdhs_jmmc.html, accessed November 19, 2008.

Kaiser Walnut Creek (Kaiser Permanente Walnut Creek Medical Center), 2008. Website. <https://members.kaiserpermanente.org/kpweb/facilitydir/facility.do?id=100313&rop=MRN> accessed November 19, 2008.

Sutter Delta Medical Center, 2008. Website. <http://www.sutterdelta.org/patient/index.html>, accessed November 19, 2008.

BACKGROUND

Section 7.8.2.2, Direct Economic Impacts, includes information about plant construction. However, it does not directly identify all capital costs; that is, the one-time charges, including cost of financing and commissioning the plant, needed to bring the plant to a commercially operable status.

DATA REQUEST

No# B Please provide each capital cost associated with the project.

RESPONSE

The \$585 million stated as the construction cost in the AFC includes commissioning of the plant. Other costs incurred for the WPGS, such as financing, insurance, and permitting, would not result in a local socioeconomic impact, and are therefore not relevant to the impact evaluation. Therefore, all relevant capital costs associated with the project are included in the AFC.

BACKGROUND

Section 7.8.3, Cumulative Impacts, includes the names of seventeen projects that could “temporarily deplete certain types of trade labor and equipment.” However, the list only contains the names of 16 projects. In addition, the text reads “these projects are not considered significant because of the specialized nature of power plant construction and because there is a large supply of construction workers/laborers within the Five-County Study Area.” Consequently, the cumulative impacts from these projects were considered less than significant.

However, the information provided is not sufficient to determine the cumulative effects of these projects. For example, although power plant construction demands workers with specific skills, many of the skills required in constructing power plants are likely to be required by the other 17 projects. In addition, determining cumulative significance also requires taking into account other socioeconomic impacts such as travel times, lodging, public facilities and services, and recreation.

DATA REQUEST

21. (Not Used)

22. (Not Used)

23. Please provide the name of the seventeenth project.

RESPONSE

The list of cumulative projects in AFC Section 7.8.3 does include 17 separate projects. The projects listed under bullet point 12 (Civic Tower and Marina Commercial Center) are actually two separate projects that were inadvertently listed under the same bullet point.

Table 25-1, provided under response to Data Request 25, lists the 17 projects by name.

DATA REQUEST

24. *Please provide a brief description of each project.*

RESPONSE

Table 25-1, provided under response to Data Request 25, includes a brief description of each of the 17 projects.

DATA REQUEST

- 25. Please provide a documented analysis of the cumulative impacts of the 17 projects on the construction of the power plant. A documented analysis includes (1) identifying by location and type the 17 projects; (2) correlating the kind, number, and period of time the specific skills are needed by the power plant with the skills needed by the 17 projects; (3) analyzing the 17 projects' impacts on power-plant workers' travel times; lodging; public facilities and services; and recreation; and (4) determining the significance of the impacts resulting from the analysis.**

RESPONSE

Table 25-1 lists the names, locations, land use types, and descriptions of the 17 projects. Information for each project was obtained primarily by contacting each of the developers proposing the project. Whether the construction period for each of the 17 projects could occur between fall 2009 and fall 2012, which is the WPGS construction period, is also noted. This information was available for 14 of the 17 projects. Information on the other three projects could not be obtained despite attempts to contact the responsible developers.

Of the 17 projects, 11 are either on hold, have already been constructed or will be constructed before October 2009. Of the remaining six projects, three projects have planned construction periods that could overlap with the construction period of the WPGS. These projects are Vineyard Business Park Phase III, construction of which would require less than 100 workers and a variety of skills (Cranmer, 2008), Almondridge East, construction of which would require 10 to 20 workers and a variety of skills (Panick, 2008), and Los Medanos Village Apartments (Adaniya, 2008). The construction workforce size for Los Medanos Village Apartments was not available, but the top three skills were identified as carpenter, electrician, and plumber (Adaniya, 2008). The remaining three projects (for which information was not available) comprise one residential project, one commercial development, and one industrial project. Given current market conditions and a significant decline in the housing market in Contra Costa County, it is considered possible that none of these projects may be implemented and likely that the one residential project will not go forward in the 2009-2012 time period. However, in order to evaluate a worst-case scenario, it was assumed that these three projects could be constructed during the WPGS construction period. This analysis therefore assumes that six projects could be under construction at the same time as the WPGS.

The three projects for which information was not available are assumed to have construction workforces of 100 workers, which is the higher of the two workforces reported for Vineyard Business Park III and Almondridge East. The workforce size for Los Medanos Village Apartments is also assumed to be 100 workers. Therefore, based on the research findings and worst-case assumptions, the six projects assumed to be under construction during the WPGS construction period could have a total average workforce of 520 workers during the period fall 2009 to fall 2012 (100 for each of the three projects for which information was not available, 100 for the Vineyard Business Park Phase III, 20 [maximum] for Almondridge East, and 100 for Los Medanos Village Apartments).

Three of these six projects are residential and three are industrial or commercial. As a worst-case scenario, and based on the findings for Vineyard Business Park Phase II, Almondridge East, and Los Medanos Village Apartments (see Table 25-1) regarding construction skills, this analysis assumes that all six project workforces would have a breakdown of construction skills similar to the WPGS construction workforce. The exception is that for Los Medanos Village Apartments, the developer reported that the top three skills would be carpenters, electricians,

and plumbers. Using this breakdown and assuming a worst-case scenario, Los Medanos is assumed to require 33 workers in each top skill: carpenters, electricians, and plumbers.² Table 25-2 shows the cumulative demand for each skill during the period fall 2009 to fall 2012 for the WPGS and the six other projects.

Table 25-2 shows that the Five-County Study Area has a large enough construction labor supply to meet demand resulting from simultaneous construction of the WPGS and the six nearby projects. Table 25-2 also shows that when analyzed skill by skill, the Five-County Study Area labor supply is large enough to meet demand for each type of skilled construction worker at peak demand if the WPGS and the six other projects are constructed simultaneously.

Most workers would not likely permanently relocate or commute on a weekly basis because an adequate labor supply exists in the Five-County Study area to meet the demand for these workers at the WPGS and the six other projects, as discussed above. As stated in AFC Section 7.8.2.6, workers are expected to commute daily 90 minutes or less, each way. Travel times for workers employed on any one of these projects would not likely be lengthened by construction activities at any of the other project sites because:

1. the transportation infrastructure in an urban area such as the East Bay is built to accommodate large volumes of traffic,
2. the workforces are not large enough to result in a noticeable increase in volumes on area freeways, and
3. the projects are located far enough apart such that very few construction worker vehicles would be expected to be using the same local roads and travel routes such that it would result in longer travel times on local roads.

Impacts to travel times would be less than significant.

Most workers would commute daily for construction work at WPGS and the six other projects. Therefore, impacts on lodging are expected to be less than significant.

Demand for public services and facilities and recreation could be slightly higher during daytime hours while the WPGS and the six other projects are under construction, but because few workers would permanently relocate, impacts to public facilities and services and recreation would be less than significant.

² Although construction of Los Medanos Village Apartments would require plumbers, the skill category for plumbers is not added to Table 25-2 because WPGS construction would not contribute to an increase in cumulative demand for plumbers.

**Table 25-1
 Projects Analyzed for Cumulative Impacts**

No.	Name	Land Use Type	Location	Description	Would construction on this project overlap with the WPGS construction period (fall 2009 and fall 2012)?
1	Mariner Walk	Residential	West of Herb White Way, Pittsburg	123 single-family dwelling units on 15 acres	No. Project is on hold indefinitely (Davis, 2008).
2	Vidrio	Residential, Restaurant, Retail	West side of Railroad Avenue, north of East 8th Street, Pittsburg	mixed-use development including 37,855 square feet of restaurant and retail floor area and 195 dwelling units on 6 acres	No. Developer would not build during this time period (Bennett, 2008).
3	Hampton Inn & Suites	Hotel, Commercial	1201 California Avenue, Pittsburg	54,934 square foot Hampton Inn and Suites, on 1.74 acres.	No. Construction will be complete in 30 days (Patel, 2008).
4	Markstein Distribution Center (Antioch)	Office, Warehouse	Undeveloped land west of State Route 160 at northern terminus of Drive-In Way, Antioch	office/warehouse distribution center totaling 135,888 square feet.	No. Construction will be complete in less than 3 months (Sanders, 2008).
5	Vineyard Business Park Phase III	Office, Warehouse	A 2.88-acre site on Vineyard Drive, north of 18th Street, Antioch	three multi-tenant office/warehouse buildings totaling approximately 36,640 square feet on a 2.88-acre site.	Yes. Average workforce of less than 100 workers (small number of each type of worker: laborer, carpenter, ironworker, engineer) (Cranmer, 2008).
6	Almondridge East Plan 1 and 3	Residential	A 22-acre site on the east side of Phillips Lane, approximately 700 feet south of East 18th Street, Antioch	81 single-family homes.	Yes. Workforce of 10 to 20 workers, including general workers for residential building (Panick, 2008).
7	Discovery Builders Planned Development	Residential	5.5 acres on the north side of Oakley Road, approximately 1,300 feet west of Philips Lane, Antioch	160 unit residential planned development.	Information not available.
8	The Gardens at Harbor Park	Residential	SW Corner of Harbor and East 3rd Streets, Pittsburg (420 E. Third St.)	120 single-family dwelling units on 9.28 acres	No. Project is on hold indefinitely (Dupont, 2008).

**Table 25-1
 Projects Analyzed for Cumulative Impacts**

No.	Name	Land Use Type	Location	Description	Would construction on this project overlap with the WPGS construction period (fall 2009 and fall 2012)?
9	Los Medanos Village Apartments	Residential	111 Frontage Road, Pittsburg	71 single-family dwelling units on 3.25 acres.	Yes. Workforce of 100 assumed, including carpenter, electrician, and plumbers (Adaniya, 2008).
10	Baluyut Warehouse	Office, Warehouse, Residential	Southeastern corner, East 10th and Solari Streets, Pittsburg	mixed-use development including 6,732 square feet of office and warehouse floor area and 3 dwelling units on 0.26 acre.	No. Project is on hold indefinitely (Baluyut, 2008).
11	Carion Commerce Center	Commercial	East side of Carion Court, Pittsburg	56,637-square-foot commercial building on 4.41 acres.	No. Project is on hold indefinitely (Dupont, 2008).
12	Civic Tower	Commercial	NW corner of Railroad Ave and State Route 4, Pittsburg	130,000-square-foot commercial building on 7.9 acres.	No. Project is on hold indefinitely (Hammonds, 2008).
13	Marina Commercial Center	Commercial	Northeast side of Marina Boulevard, Pittsburg	22,861-square-foot Marina Commercial Center on 9.73 acres	Information not available.
14	North Park Commercial Center Expansion	Commercial	North Park Boulevard, Pittsburg	63,151-square-foot North Park Commercial Center Expansion on 10.5 acres	No. No firm plans for construction (Parsons, 2008).
15	Empire Business Park II	Office, Warehouse	701 Willow Pass Road, Pittsburg	326,000-square-foot Empire Business Park II on 36.24 acres.	No. No firm start date for construction (Teri, 2008).
16	Dow MEI Expansion	Industrial	901 Loveridge Road, Pittsburg	72-acre expansion.	Information not available.
17	United Spiral Pipe Manufacturing Plant	Industrial	900 East Third Street, Pittsburg	352,000-square-foot United Spiral Pipe Manufacturing Plant on 44.8 acres	No. Construction will be completed by fall 2009 (Kunst, 2008).

**Table 25-2
 Cumulative Demand for Construction Workers**

Skill	WPGS Construction Fall 2009 to Fall 2012 (Peak)	Six Projects Assumed to be Constructed During Fall 2009 to Fall 2012^b	Total Potential Cumulative Demand for Workers	Supply of Workers in the Five-County Area (Current/ Projected)^c
Laborer	28	21	49	30,590 / 33,830
Operating Engineer	19	15	34	6,980 / 7,710
Teamster	5	4	9	Not available
Cement Finisher	23	18	41	5,890 / 6,490
Carpenter	20	48	68	33,330 / 35,220
Ironworker	40	31	71	10,050 / 12,050
Millwright ^a	50	39	89	510 / 580
Boilermaker ^a	65	50	115	240 / 280
Pipefitter	175	135	310	9,050 / 10,260
Electrician	110	118	228	10,990 / 12,160
Painter	4	3	7	12,340 / 13,440
Insulator ^a	5	4	9	1,400 / 1,600
Total	544	486	1,030	121,370 / 133,620

Notes:

- a. Estimates and projections for insulators, boilermakers, and millwrights were not available for the Sacramento-Arden Arcade-Roseville MSA and Solano County. Estimates and projections for insulators and boilermakers were not available for Solano County. Where estimates and projections were not available, an estimate of 0 workers was used.
- b. The breakdown among skills was estimated based on the breakdown of skills for the WPGS construction workforce at each skill's peak.
- c. The "current" supply of workers includes the 2006 estimate of workers for Alameda County, Contra Costa County, the Sacramento-Arden Arcade-Roseville MSA (Sacramento, El Dorado, Placer, and Yolo counties), and San Joaquin County; and the 2004 estimate of workers for Solano County. Similarly, the "projected" supply of workers includes the 2016 projected number of workers for Alameda County, Contra Costa County, the Sacramento-Arden Arcade-Roseville MSA, and San Joaquin County; and the 2014 projected number of workers for Solano County. The number of construction workers by skill for Sacramento County alone was not available.

Source: WPGS AFC, 2008; CEDD, 2008.

References

- Adaniya, Deni, 2008. Email communication between Deni Adaniya, Resources for Community Development, and Katie Carroz, Carroz Consulting LLC, December 10, 2008.
- Bennett, Ruthie, 2008. Telephone communication between Ruthie Bennett, A. F. Evans, and Katie Carroz, Carroz Consulting LLC, December 4, 2008.
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- CEDD (California Employment Development Department). Labor Market Information, Occupational Profiles. <http://www.labormarketinfo.edd.ca.gov/?pageid=1004>, accessed December 6, 2008.
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- Davis, Allison, 2008. Telephone communication between Allison Davis, Olson Company, and Katie Carroz, Carroz Consulting LLC, December 2, 2008.
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- Hammonds, Bob, 2008. Telephone communication between Bob Hammonds, Garaventa Enterprises, and Katie Carroz, Carroz Consulting LLC, December 5, 2008.
- Kunst, Deb, 2008. Telephone communication between Deb Kunst, United Spiral Pipe LLC, and Katie Carroz, Carroz Consulting LLC, December 4, 2008.
- Panick, Ray, 2008. Telephone communication between Ray Panick, KB Home, and Katie Carroz, Carroz Consulting LLC, December 2, 2008 and December 5, 2008.
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- Patel, Natwarbhai, 2008. Telephone communication between Natwarbhai Patel and Katie Carroz, Carroz Consulting LLC, December 5, 2008.
- Sanders, Cami, 2008. Telephone communication between Cami Sanders, Arco National, and Katie Carroz, Carroz Consulting LLC, December 5, 2008.
- Teri, 2008. Telephone communication between Teri, Giancola Construction Company, and Katie Carroz, Carroz Consulting LLC, December 5, 2008.

Technical Area: Soil and Water Resources

Author: Richard Latteri

BACKGROUND

In Delta Diablo Sanitation District's (DDSD) "Will Serve Letter" dated June 25, 2008, DDSD states:

... staff has analyzed DDSD's current and expected plant flows for the years 2012 and beyond. Based on this analysis, DDSD has sufficient uncommitted quantities of recycled water to support Mirant's anticipated peak usage of 1.5 million gallons per day at peak flow rate of 1,400 gallons per minute of recycled water. This supply is in addition to the quantities of water described in my June 2, 2008 letter to you regarding your proposed Marsh Landing Generating Station, provided that Mirant incorporates an adequate volume of on-site storage and/or incorporates other operating flexibility into its plant design to meet the periods of DDSD's highest daily peak demand hours.

DATA REQUEST

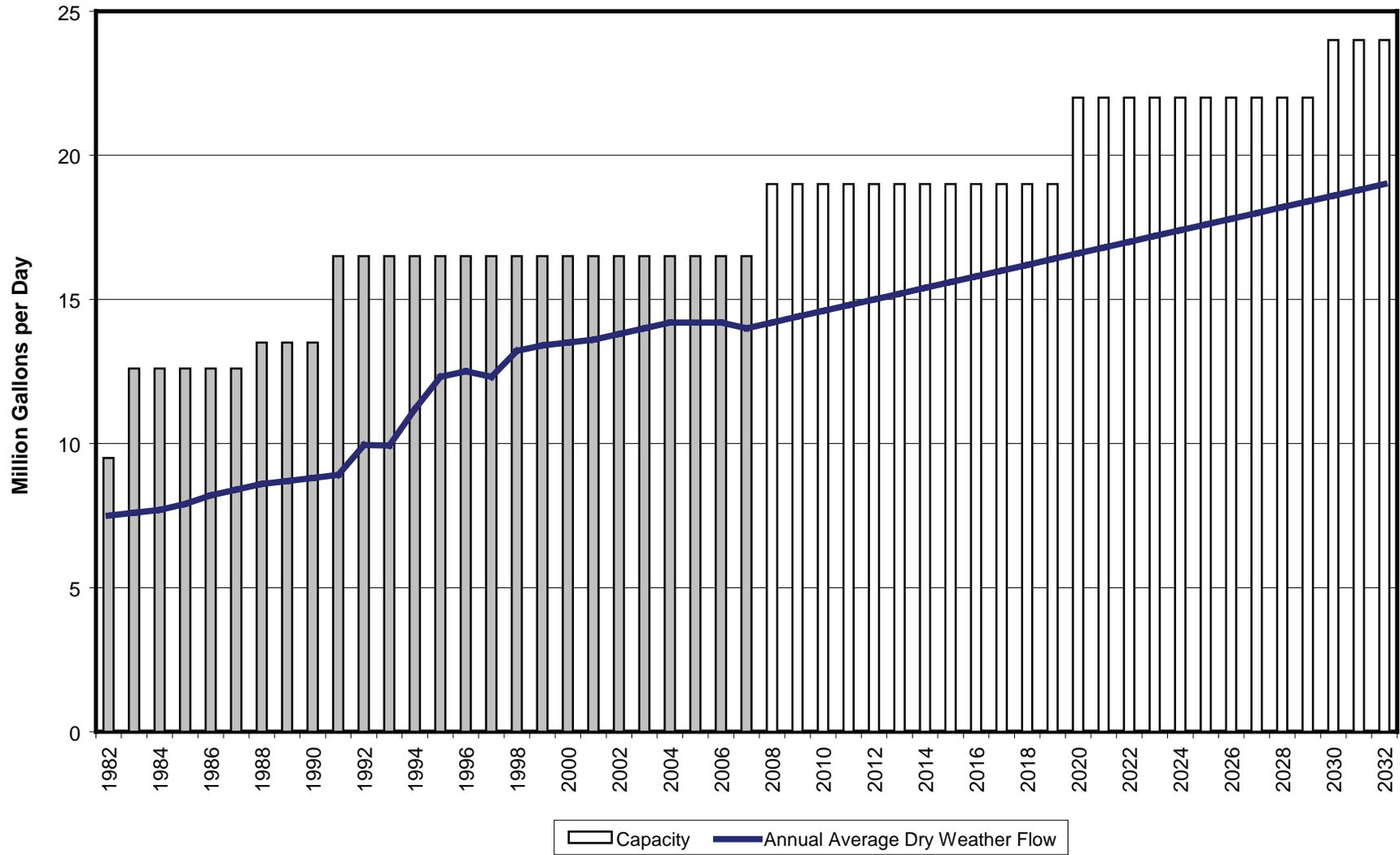
- 26. Please provide a list of the current recycled water customers that receive tertiary treated recycled water from the DDSD, their contractual delivery amounts, and a discussion of the long-term (30-35 years) recycled water supply reliability based on current and future supply and demand projections for tertiary treated recycled water from DDSD.**

RESPONSE

DDSD currently provides tertiary recycled water produced from its Recycled Water Facility (RWF) to Calpine Corporation (Calpine) for the Los Medanos Energy Center (LMEC) and the Delta Energy Center (DEC), as well as to the City of Pittsburg for landscape irrigation. The current capacity of the RWF is 12.8 million gallons per day (mgd). DDSD has a contractual obligation to Calpine to fulfill the recycled water demands of both LMEC and DEC, which average 7.0 mgd. The peak day demand for the City's landscape irrigation sites is 1.2 mgd. DDSD's long-term recycled water supply reliability is dependent on influent flows to DDSD's wastewater treatment plant. As shown on Figure 26-1, the average dry weather influent wastewater flows exceed the recycled water demands of the current customers. Based on DDSD's analysis, systemwide wastewater influent flows are expected to increase approximately 2 percent per year over the long term, thus ensuring a sufficient quantity of recycled water to meet the WPGS anticipated demand (DDSD, 2008).

References

DDSD (Delta Diablo Sanitation District), 2008. Fiscal Year 2008/2009 – 2012/2013, Five-Year Capital Improvement Program. June.



Reference: DDSD, 2008

**DDSD WASTEWATER TREATMENT PLANT
CAPACITY PROJECTIONS**

December 2008
28067343

Willow Pass Generating Station
Mirant Willow Pass, LLC
Pittsburg, California



FIGURE 26-1

DATA REQUEST

- 27. Please define the periods (hours per day and number of days) when DDSD experiences its highest daily peak demand and provide a discussion of the adequacy of the proposed 1.6 million gallon on-site storage tank to compensate for insufficient deliveries of recycled water during these periods.**

RESPONSE

Recycled water supply is dependent on wastewater influent flows. Wastewater inflows to DDSD's wastewater treatment facility follow a diurnal flow pattern typical of most wastewater collection and treatment systems. Flows are the lowest in the early morning hours (4:00 to 7:00 a.m.) and the highest during afternoon and evening hours (noon to 10:00 p.m.).

The demand for recycled water supply also follows a diurnal flow pattern. DDSD typically experiences its highest peak demand for recycled water between 3:00 p.m. and 10:00 p.m., a total of approximately 7 hours per day. The highest daily peak demands occur during the summer months, typically June through September when demands for power generation and irrigation use are the highest. Based on summer 2006 data (i.e., June through September) provided by DDSD (which includes demands for LMEC and DEC, but not City of Pittsburg irrigation), the demand for recycled water was approximately 56 percent of the wastewater influent flows. During that period, the recycled water demands for LMEC and DEC exceeded 11 mgd for a total of 12 days, generally occurring from 1:00 to 10:00 p.m., for an average duration of approximately 3.2 hours.

As described in AFC Section 2.5.6, WPGS water requirements for process makeup water will average approximately 980 gallons per minute (gpm) and peak at a maximum of 1,200 gpm (see AFC Table 2.5-4). Assuming all units operating at full load and for 24 hours per day, the maximum water demand for the WPGS would be approximately 1.7 mgd. Based on the anticipated supplies and demands, there would be sufficient recycled water to meet peak day demands during the summer months for DDSD's current customers and the proposed project.

To ensure a high level of reliability, the following redundancy features have been incorporated into the recycled water supply system design for the WPGS:

- A 1.6-million-gallon water storage tank will be provided on the WPGS site to equalize the flows needed for plant operations and provide storage to account for brief emergency upsets to the water supply delivery system. This tank has been sized to provide 1 day of water usage under peak operating conditions in the event of a water supply interruption.
- The WPGS generating units use technology that allows a high level of operation flexibility. The units can be started up or shut down in less than 12 minutes. In the event of a water supply system interruption, WPGS has the flexibility to turn off the power augmentation or curtail operations of the FP10 units to reduce water consumption.

DATA REQUEST

- 28. *Please provide the source (potable, recycled, or groundwater) and quality of the water that would be used during construction of the WPGS.***

RESPONSE

The source of construction water would be City of Pittsburg potable water. AFC Table 7.14-1 summarizes the water quality of the City of Pittsburg water supply.

DATA REQUEST

29. Please provide in tabular format the specific uses and volume of construction water in gallons per day and total annual consumption in acre-feet for construction of the Willow Pass Generating Station (WPGS).

RESPONSE

AFC Table 2.7-4 tabulates the construction water requirements per month for the duration of the project construction. The estimated total amount of water that would be used during the 34-month construction period is approximately 21 acre-feet. Table 29-1 provides additional detail with respect to specific construction water uses and shows water consumption in average gallons per day and total annual consumption in acre-feet.

Table 29-1 Estimated Construction Water Uses		
Construction Water Use	Average Daily Water Usage (gallons per day)	Total Annual Water Usage (acre-feet)
Consumption ¹	3,300	3
Dust Control ¹	4,400	3
Concrete Washout ²	250	0.2
Hydrostatic Testing ³	4,500	2
Steam Blow ⁴	50,000	6
Notes:		
¹ Use would occur over a 34-month period. Total annual amount reflects maximum 12-month usage.		
² Use would occur over a 10-month period. Total annual amount assumes that all usage would occur in same year.		
³ Use would occur over 5 months. Total annual amount assumes that all usage would occur in same year.		
⁴ Use would occur over two 1-month periods. Total annual amount assumes that all usage would occur in same year.		

BACKGROUND

In their "Will Serve Letter" dated June 25, 2008, DDS D also states:

Annexation to the District's service area would also be required, and a formal notification process with the Contra Costa Water District is required. Subject to DDS D Board approval of a definitive agreement between DDS D and Mirant, DDS D is willing to make such water available to Mirant for its proposed generation facility.

DATA REQUEST

- 30. *Please provide a discussion of the requirements and timeframe for the annexation of the (WPGS) into the DDS D's service area.***

RESPONSE

Based on communication with DDS D, the DDS D service area amendment occurred with the City of Pittsburg annexation in June 2008.

DATA REQUEST

- 31. Please provide a DDSD Board approved agreement for the long-term delivery (30-35 years) of tertiary treated recycled water at a peak delivery rate of 1,400 gallons per minute and up to 1.5 million gallons per day.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass is not able to provide the requested agreement at this time. Mirant Willow Pass and DDSD are in discussions regarding the terms of a long-term recycled water supply agreement for the WPGS, but an agreement has not yet been negotiated. Mirant Willow Pass expects to have an executed DDSD Board-approved agreement in place before construction of the WPGS begins. DDSD has provided a "will serve" letter for the WPGS, which was submitted with the AFC as Appendix I.

BACKGROUND

Mirant Willow Pass, LLC (applicant) proposes to use recycled water provided by DDSD for operation of the WPGS. The California Code of Regulations (CCR) has a number of treatment standards and use restrictions for recycled water under the provisions of CCR Title 22.

DATA REQUEST

- 32. *Please define the level of Title 22 treatment (disinfected tertiary, disinfected secondary-2.2, or disinfected secondary-23) of all recycled water sources proposed for use at the WPGS.***

RESPONSE

All recycled water produced by DDSD for use at the WPGS will meet or exceed the Title 22 requirements for disinfected tertiary recycled water for unrestricted use. However, as it relates to the WPGS, this water is not required to comply with California's Code of Regulations Title 22, given that it will not be used for cooling tower makeup water.

DATA REQUEST

- 33. Please provide a discussion of the permits and over-sight requirements of the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), Department of Public Health (DPH), and the City of Pittsburg for the supply and use of recycled water at the WPGS and if a new or revised discharge permit will be required by DDS for the increased effluent that would be discharged to New York Slough.**

RESPONSE

The Porter-Cologne Water Quality Control Act designates the State Water Resources Control Board (SWRCB) as being responsible for formulating and adopting state policy for water recycling. The SWRCB establishes general policies governing the permitting of recycled water projects consistent with its role of protecting water quality and sustaining water supplies. The RWQCBs are responsible for permitting and enforcement activities. The California Department of Public Health (CDPH) is charged with protection of public health and drinking water supplies and is responsible for establishing uniform statewide water recycling criteria to ensure that the use of recycled water would not be detrimental to public health. The RWQCBs rely on the CDPH for the establishment of permit conditions needed to protect human health.

The WPGS will use recycled water from the DDS RWF for raw water makeup. The DDS RWF complies with the SFRWQCB General Water Reuse Order, Order 96-011, to produce and distribute recycled water (SFRWQCB, 1996). As described in the response to Data Request 31, Mirant Willow Pass and DDS are in discussions regarding the terms of a long-term recycled water supply agreement for the WPGS. This agreement will spell out the commitments for the supply of recycled water produced by the DDS RWF for the WPGS. No new or revised permit is required for the DDS RWF to supply recycled water to the WPGS.

DDS's discharges are permitted in accordance with DDS's National Pollutant Discharge Elimination System (NPDES) Permit No. CA 0038547, issued by the SFRWQCB (SFRWQCB, 2004; SFRWQCB, 2003). The WPGS will discharge process wastewater to the DDS through a new wastewater discharge pipeline. The agreement between Mirant Willow Pass and DDS, which is referred to in the response to Data Request 31, will also spell out the commitments for wastewater discharge. The discharge limits in this agreement will be derived from DDS's NPDES discharge requirements. Due to water losses inherent in the power generation process (see AFC Figure 2.5-5, Water Balance), the WPGS will return approximately 40 percent of the recycled water supplied by DDS back to DDS. Neither a new or revised discharge permit will be required, since DDS's discharge to New York Slough will be reduced (not increased) due to use of recycled water at WPGS for process makeup water and the quality of the discharge will comply with the NPDES discharge requirements set forth in DDS's NPDES discharge permit.

References

SFRWQCB (San Francisco Bay Regional Water Quality Control Board), 1996. Order No. 96-011, General Water Reuse Order. January 17.

SFRWQCB (San Francisco Bay Regional Water Quality Control Board), 2003. Order No. R2-2003-0114, NPDES Permit No. CA0038547, Reissuing Waste Discharge Requirements for Delta Diablo Sanitation District, Antioch, California. Adopted on December 3.

SFRWQCB (San Francisco Bay Regional Water Quality Control Board), 2004. Order No. R2-2004-027, NPDES Permit No. CA0038547, Amendment of Waste Discharge Requirements Order No. R2-2003-0114 for Delta Diablo Sanitation District, Antioch, California. May 19.

DATA REQUEST

- 34. Please provide the names and telephone numbers of the SFBRWQCB and DPH personnel who are responsible for recycled water permitting and use.**

RESPONSE

The regional board and DPH personnel who are responsible for recycled water permitting and use are as follows:

- California Department of Health
Jeff Stone, Recycled Water Specialist
(805) 566-9797
- San Francisco Bay Regional Water Quality Control Board
Blair Allen, Water Resources Control Engineer
(510) 622-2305

BACKGROUND

The San Francisco Bay Regional Water Quality Control Board reissued waste discharge requirements under the National Pollutant Discharge Elimination System permit (No. CAS0029912) for the Contra Costa Clean Water Program (Program). The City of Pittsburg, under Provision C.3 of the Program, requires significant redevelopment projects to design and implement storm water treatment measures to reduce the discharge of storm water pollutants to the maximum extent practicable.

DATA REQUEST

- 35. *Please provide a draft Storm Water Control Plan per the Provision C.3 requirements of the Contra Costa Clean Water Program NPDES permit No. CAS0029912 and that fulfills the City of Pittsburg's municipal standards.***

RESPONSE

A draft Storm Water Control Plan is provided in Appendix F.

BACKGROUND

Within the Application for Certification (Sections 7.14.1.6 and 7.14.2.3), the applicant states that the WPGS site and portions of the pipeline route are within the designated 100-year floodplain and that the WPGS site will be elevated above the 100-year floodplain to an elevation of approximately 8 to 13 feet above mean sea level.

DATA REQUEST

- 36. *Per the requirements of the National Flood Insurance Program, please discuss the procedure for requesting a revision or amendment of the 100-year floodplain map for removal of the WPGS site from the floodplain and provide the expected timeframe or schedule for submitting an application to the Federal Emergency Management Agency for this purpose.***

RESPONSE

The WPGS site is located in a special flood hazard area (SFHA) A-2 zone with a Base Flood Elevation (BFE) of 7.0 feet msl (National Geodetic Vertical Datum [NGVD] 1929) (Lierly, 2007). The WPGS site will be regraded, such that ground elevations after regrading will range between approximately 8 and 13 feet. All new equipment and structures will be placed at least at elevation 9.0 feet, which is at least 2 feet above the BFE.

The two Federal Emergency Management Agency (FEMA) processes that could be used to revise the floodplain map for the WPGS site are the Letter of Map Amendment (LOMA) and the Letter of Map Revision – Based on Fill (LOMR-F). For either process, the applicant submits mapping and survey information based on as-built conditions to FEMA and requests that FEMA issue a document that officially removes a property and/or structures from the SFHA. A Licensed Land Surveyor or Registered Professional Engineer prepares an Elevation Certificate for the property.

Even though most of the site where the project will be constructed is already above the BFE, the site will be regraded and the project structures will be placed on fill; therefore, the LOMR-F process would be the applicable process. For a LOMR-F to be issued by FEMA to remove the structure(s) from the SFHA, the National Flood Insurance Program regulations require that the lowest adjacent grade of the structure be at or above the BFE. The participating community must also determine that the land and any existing or proposed structures to be removed from the SFHA are “reasonably safe from flooding.” In accordance with the City of Pittsburg Floodplain Management Ordinance (Title 15, Chapter 15.80), the city engineer is the designated floodplain administrator and will need to certify that the placement of fill meets the NFIP regulations.

Upon receiving a complete application forms package, FEMA will normally complete its review and issue its determination in approximately 4 to 6 weeks (FEMA, 2008).

References

FEMA (Federal Emergency Management Agency), 2008. Letter of Map Amendment (LOMA) and Letter of Map Revision-Based on Fill (LOMR-F) Process.
http://www.fema.gov/plan/prevent/fhm/fmc_fmrp.shtm. website accessed on November 26, 2008.

Lierly, R., 2007. Personal communication with Gary Brown, CH2M Hill. December.

Technical Area: Transmission Safety Engineering
Author: Ajoy Guha, P.E., and Mark Hesters

INTRODUCTION

Staff needs to determine the system reliability impacts of the project interconnection and to identify the interconnection facilities including downstream facilities needed to support the reliable interconnection of the proposed Willow Pass Generating Station (WPGS) project. The interconnection must comply with the Utility Reliability and Planning Criteria, North American Electric Reliability Council (NERC) Planning Standards, NERC/Western Electricity Coordinating Council (WECC) Planning Standards, and California Independent System Operator (California ISO) Planning Standards. In addition the California Environmental Quality Act (CEQA) requires the identification and description of the “Direct and indirect significant effects of the project on the environment.” For the compliance with planning and reliability standards and the identification of indirect or downstream transmission impacts, staff relies on the System Impact Study (SIS) and Facilities Study (FS) as well as review of these studies by the agencies responsible for insuring the adjacent interconnecting grid meets reliability standards, in this case, the Pacific Gas and Electric Company (PG&E) and/or California ISO. The studies analyze the effect of the proposed project on the ability of the transmission network to meet reliability standards. When the studies determine that the project will cause the transmission to violate reliability requirements the potential mitigation or upgrades required to bring the system into compliance are identified. The mitigation measures often include modification and construction of downstream transmission facilities. The CEQA requires environmental analysis of any downstream facilities for potential indirect impacts of the proposed project.

BACKGROUND

The September, 2008 SIS, using the 2013 Summer Peak base case, identified a new overload on the Alham Tap2-Oleum #1 115 line for the double (N-2) contingencies of the El Cerrito-Sobrante #1 and #2 115 kV lines. The suggested mitigation alternatives in the SIS report for the double (N-2) contingency overload are: an operational procedure or the installation of a special protection system (SPS).

DATA REQUEST

- 37. *To eliminate overload on the Alham Tap2-Oleum 115 kV line, select the mitigation alternative of an operational procedure or the installation of a SPS with the amount of the WPGS generation curtailment. Provide evidence that the curtailment of WPGS generation is feasible, preferably with a letter from the California ISO and from PG&E.***

RESPONSE

As stated in the applicant’s notice dated December 2, 2008, Mirant Willow Pass is not able to select a mitigation alternative or confirm its feasibility at this time. The California Independent System Operator (CAISO) had suspended the processing of applications for Large Generator Interconnection Agreements (LGIAs) while it devised a new system for reviewing and approving LGIA applications. Mirant Willow Pass filed its LGIA application and submitted its deposit in time for the WPGS to be included in the CAISO’s transition cluster group. Prior to November 25, 2008 (the deadline set by the CAISO), Mirant Willow Pass submitted the required forms and additional payments to the CAISO for inclusion as part of the transition cluster study which resumes the CAISO’s LGIA process. Commencing this month, Mirant Willow Pass expects to re-initiate discussions with the CAISO and PG&E regarding appropriate and feasible mitigation measures, although some of these analyses will be part of the CAISO’s LGIA

process. Mirant Willow Pass will follow up with staff in response to Data Request 37 as soon as it receives the requisite feedback from the CAISO and PG&E.

While awaiting this feedback, Mirant Willow Pass has identified the preferred mitigation to eliminate the overload. Based on cost, Mirant Willow Pass prefers the use of an operating procedure over the installation of a special protection scheme. The operating procedure developed to protect against an overload of the Alhambra Tap2 of the Oleum #1 115-kV line caused by the loss of both El Cerrito-Sobrante 115-kV lines (N-2 contingencies) could include CAISO instruction to Mirant Willow Pass to decrease WPGS power output until power flows over the Alhambra Tap2 of the Oleum #1 115-kV line are below the maximum emergency ratings for that line. Operating instructions of this type could be added into the T-133 Bay Area Transmission Management CAISO Operating Procedure.

BACKGROUND

As required by the California ISO planning standards, the SIS performed with the 2013 summer peak case does not include power flow analysis for Category B contingencies of possible simultaneous combinations of a transmission line /transformer and a generator (L-1 & G-1), and for Category C contingencies of multiple transmission elements (more than N-2) in the SIS. The SIS also does not include analyses for transient stability, short circuit, post-transient voltage and reactive power deficiency.

DATA REQUEST

38. Provide the following analyses with a list of contingencies studied for the addition of the proposed WPGS 550 MW power output by using the 2013 summer peak case:

- a. Power flow analysis for critical Category B contingencies of possible combinations of a transmission line/transformer and a generator (L-1 & G-1).**
- b. Power flow analysis for critical Category C contingencies of multiple transmission elements (such as 230 kV & 115 kV buses or bus sections around Pittsburgh and Contra Costa or others).**
- c. Transient stability analysis for critical Category B (N-1) and Category C (N-2) contingencies of the PG&E bulk power (230 kV & 500 kV) transmission lines/transformers and for full load rejection of the proposed WPGS generators with monitoring of voltages, frequencies and generator rotor angles.**
- d. Short circuit analysis for three line-to-ground faults. If the data is available, the analysis for single line-to-ground faults should be performed.**
- e. Post-transient voltage analysis with governor power flow for selected single and double contingencies.**
- f. Reactive power deficiency analysis for selected single and double contingencies.**

Provide the study results of each analysis in a Table format with pre and post-project data, if applicable.

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass requires additional time to complete the analyses requested in subparts (a), (b), (c), and (f). Mirant Willow Pass has engaged its third-party transmission consultant to prepare the requested analyses and the work is in progress, but will not be complete by December 15, 2008. Mirant Willow Pass will submit responses to staff on a rolling basis as they become available from the consultant. Mirant Willow Pass understands that its consultant will be able to finish the work committed to herein in response to Data Requests 37 through 40 in February 2009.

Mirant Willow Pass is unable to perform the analysis or provide the data requested in subpart (d), which asks for a "short circuit analysis for three line-to-ground faults." PG&E owns the existing transmission system and is the only entity that can perform these studies accurately.

Neither Mirant Willow Pass nor its consultant have access to the impedance models and equipment rating limitations of every serial element in the PG&E Bay Area system, which are needed to perform the analysis accurately. Additionally, this analysis will be performed by PG&E at the request of the CAISO in later studies. It is expected that the equipment upgrades associated with Short Circuit Duty Analyses would be limited to inside the existing footprints of existing substations.

Mirant Willow Pass also is unable to perform the analysis or provide the data requested in subpart (e), which asks for “post-transient voltage analysis with governor power flow for selected single and double contingencies.” Based on conversations with staff, Mirant Willow Pass instead proposes to provide the results of the Reactive Power Deficiency Analysis (referred to in WECC as the 5 percent and 2½ percent reactive margin test) for single and double contingencies in lieu of staff’s requested post-transient voltage analysis with governor power flow for selected single and double contingencies. A Reactive Power Deficiency Analysis will demonstrate how the project impacts reactive margin. In the event that a contingency is found in the post-project power-flow case showing a no-solve, then Mirant Willow Pass will conduct the post-transient voltage analysis with governor power flow, modeling those exact conditions with margin curves presented. Assuming this is acceptable to staff, the analyses will be provided on rolling basis as they are available from the consultant, with all elements to be provided no later than February 2009.

DATA REQUEST

39. ***Submit a power flow analysis report for interconnection of the proposed 550 MW WPGS to the PG&E Pittsburgh 230 KV switching station with a 2013 summer off-peak full-loop base case or a 2013 spring peak full-loop base case (preferable). The power flow analysis should be performed for normal (N-0) system conditions with all facilities in service, and for Category B (N-1, L-1 & G-1) and Category C (N-2 or more) contingencies. Provide a mitigation plan for any identified reliability criteria violations in the PG&E grid. Provide a list of contingencies studied and the study results of the analysis in a table format with pre and post-project data. In the report list all major assumptions in the base case including major path flows, major generator dispatch including queue & hydroelectric generation and loads in the area systems. Also identify the reliability and planning criteria utilized to determine the reliability criteria violations.***

Provide power flow diagrams (units in MW, percentage loading and per unit voltage) with and without the WPGS generation output for the base cases.

Power flow diagrams should also be provided for all overloads or voltage criteria violations under normal system (N-0) or contingency (N-1 & N-2) conditions

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass objects to the request for a power flow analysis report using a 2013 summer off-peak full-loop base case or a 2013 spring peak full-loop base case. The operational attributes of the WPGS allow for extensive load following (including the ability to operate within emissions compliance levels at as low as 60 percent of base load), rapid dispatch cycling, and ten-minute start time functionality. The summer off-peak and spring peak cases are not affected by the addition of the proposed units on the transmission system. The proposed units are not base-load units that are inflexible in dispatch required, for example, to run through the night to meet the next day's dispatch. In an off-peak time, if necessary, the proposed units will be de-committed (turned off) and will be available for dispatch the next day in time for the morning and/or afternoon load ramps. An analysis of spring conditions is also not necessary given that the project will be located in the Greater Bay Area Local Reliability Area. In fact, staff previously confirmed that spring studies are not necessary for this project prior to the CEC data adequacy determination.

The CEC analysis of the WPGS project's impacts in the area of transmission system engineering should focus on the summer peak periods when the transmission system will be most taxed. Mirant Willow Pass already provided an analysis of transmission system impacts during the summer peak periods in its system impact study for the WPGS. Mirant Willow Pass therefore objects to the request for the summer off-peak and spring peak conditions analysis on grounds that it is not necessary to the CEC's evaluation of the project's impacts.

DATA REQUEST

- 40. Provide electronic copies of *.sav, *.drw, *.dyd and *.swt GE PSLF files and EPCL contingency files in a CD.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass requires additional time to provide electronic copies of *.sav, *.drw, *.dyd and *.swt GE PSLF files. Mirant Willow Pass has engaged its consultant to prepare the files and the work is in progress, but it will not be complete by December 15, 2008. Mirant Willow Pass will submit responses to staff on a rolling basis as they become available from the consultant, and will submit everything no later than February 2009.

Mirant Willow Pass is unable to provide electronic copies of EPCL contingency files. Representations of this data previously were provided to staff in *.pdf file format, but the third-party consultant will not release the electronic versions because it considers those files to be proprietary. Mirant Willow Pass does not have access to the electronic files and is unable to supply them to staff.

Technical Area: Waste Management
Author: Alvin Greenberg

BACKGROUND

A Phase I Environmental Site Assessment (ESA) has been performed for the Willow Pass site. AFC pages 7.13-1, -2 and -3 state that nine areas of the site contain Recognized Environmental Conditions (RECs). At least one Phase II ESA was conducted in 1998 by Fluor Daniel. Staff needs the results of Phase II ESAs for all RECs in order to properly assess the impacts on worker and public health posed by hazardous wastes present on this site and all linears.

DATA REQUEST

41. *Please submit a copy of the 1998 Fluor Daniel Phase II ESA.*

RESPONSE

A copy of the 1998 Fluor Daniel Phase II ESA was provided to the CEC in June 2008, since it is an Appendix to the 2008 URS Phase I ESA. CEC staff has verified that they received the copy, and based on the large number of pages that the Phase II comprises, staff has confirmed that another copy does not need to be submitted.

The three figures to the 2008 URS Phase I ESA (AFC Appendix R) were inadvertently not provided in the printed copy of the AFC, and therefore, the figures to this 2008 report are provided as Appendix G of these responses.

DATA REQUEST

- 42. *Please list the regulatory agencies that reviewed or commented on the Phase I and Phase II ESAs and provide copies of that correspondence.***

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass is not able to provide the information requested in Data Request 42 because the requested information is not and has not ever been in Mirant Willow Pass's possession, custody, or control. The Phase I and Phase II ESAs referenced in Data Request 42 were prepared in 1997 and 1998, respectively, for PG&E, the former owner of the Mirant Willow Pass site. Neither Mirant Willow Pass nor its affiliates (including the affiliate that currently owns the site) are aware of which agencies (if any) reviewed or commented on the Phase I and Phase II ESAs, nor is Mirant Willow Pass in possession of any agency correspondence. Furthermore, the ESAs do not contain any references to agency review and comment.

DATA REQUEST

- 43. Please conduct and provide a Phase II ESA that addresses all RECs found in the Phase I ESA.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass objects to the request to provide a completed Phase II Environmental Site Assessment (ESA) by December 15, 2008 on the grounds that it is not necessary in order to analyze the project's potential impacts, and is not feasible for all Recognized Environmental Conditions (RECs) identified in the 2008 Phase I ESA.

The 1998 Fluor Daniel Phase II ESA conducted on the Pittsburg Power Plant site included conducting 570 soil borings, installing 33 temporary groundwater monitoring wells, and collecting and analyzing a total of 1,458 soil samples and 242 groundwater samples. The primary purpose of the investigation was to identify significant problems which may pose an unacceptable risk to human health and the environment (see Appendix A, Sampling Grid Rationale, of the Phase II ESA). As such, it is not necessary to conduct additional Phase II activities at this time to generate additional analytical data to assess the impacts on worker and public health posed by the presence of hazardous wastes.

Table 43-1 lists all ten RECs identified in the 2008 Phase I ESA. As shown in the table, six of the ten RECs were characterized during the 1998 Fluor Daniel Phase II ESA. The remaining four RECs consist of: (1) the oily water sumps located in the basement of Units 1 through 4; (2) Tank 7; (3) aboveground and underground pipelines associated with Tank 7; and, (4) other hazardous materials (i.e., lead-based paint and asbestos-containing materials).

Due to the limited access to the first three RECs listed above, these RECs were not specifically addressed as part of the 1998 Fluor Daniel Phase II ESA. However, soil and groundwater samples were collected in the vicinity of the power-generating units as well as Tank 7. Given the continued restricted access to the sumps, the area beneath Tank 7, and the underground pipelines, it is not practicable to undertake Phase II investigation activities in these areas until demolition and/or removal of these structures has been completed. For the aboveground portions of the pipelines associated with Tank 7, no staining was observed around the pipelines during the 2008 Phase I ESA site reconnaissance. Phase II activities in these areas also could be conducted subsequent to the demolition of Tank 7 and associated pipelines.

For the fourth REC listed above, surveys to identify other hazardous materials currently on site, including lead-based paint and asbestos-containing materials, affected by demolition activities would be conducted as appropriate and in accordance with laws, ordinances, regulations, and standards (LORS). Ongoing activities at the facility currently include abatement of lead-based paint and asbestos material that is present throughout the site. Current safety measures employed during abatement and waste handling of the asbestos and lead paint chips currently generated at the site will be continued through demolition of the structures. These hazardous materials, where required, will be abated from the structures prior to demolition.

In addition, as is typical for construction activities at heavy industrial sites such as a power plant, potential exposure to subsurface contaminants by construction workers or the public during construction activities would be managed through the development of a Site-Specific Health and Safety Plan for activities during construction. This would provide proper monitoring, personal protective equipment, and engineering controls during demolition and construction to minimize potential worker exposures.

Furthermore, Mirant Delta, LLC, the current owner of the site, has certain contractual obligations to coordinate with the former owner of the site regarding management of certain hazardous substances that might be present at the site. These obligations arise from contractual arrangements in which the former owner retained responsibility for certain remediation activities at the site. Once Mirant Delta, LLC has satisfied its contractual obligations with respect to the former owner of the site, Mirant Willow Pass will follow up with staff in response to Data Request 43.

**Table 43-1
 Overview of the Recognized Environmental Conditions Identified in URS' 2008 Phase I ESA**

No.	2008 REC (URS)	1997 Phase I Identified Environmental Issue (CDM)	Location	1998 Phase II ESA (Fluor Daniel)	Investigation Work Done to Address REC
1	Power-Generating Units, oily water sumps	Yes, referenced in Phase II	Sumps in the basement of Units 1 through 4	No targeted assessment work was done to address this REC during the Phase II ESA.	<p>Not during the 1998 Fluor Daniel Phase II ESA. Area still not accessible for Phase II investigation. Phase II investigation activities would be conducted subsequent to demolition of power-generating units.</p> <p>During demolition, typical health and safety procedures will be implemented through the preparation of a Site-Specific Health and Safety Plan.</p> <p>After demolition, Phase II investigations, where required, would be conducted. That information would be used to develop appropriate management and handling procedures for contaminated soil and/or groundwater.</p>
2	Power-Generating Units, PCB contamination detected in Phase II	No, but detected contamination in the Phase II during grid sampling	PCBs detected around the power-generating units	Detections of PCBs in soil.	Yes
3	Equipment Cleaning Areas	Yes (page 5-9)	Area north of Units 1 through 7	Soil and groundwater in vicinity of Units 1 through 4 impacted with solvents (1,1,1-trichloroethane, and trichloroethene).	Yes

**Table 43-1
 Overview of the Recognized Environmental Conditions Identified in URS' 2008 Phase I ESA (Continued)**

No.	2008 REC (URS)	1997 Phase I Identified Environmental Issue (CDM)	Location	1998 Phase II ESA (Fluor Daniel)	Investigation Work Done to Address REC
4	Tank 7	No	Existing location; east portion of WPGS site	Based on the large size of Tank 7 and concrete pad beneath it, targeted assessment of the soil directly beneath the tank was not conducted during the Phase II ESA. However, as part of the Phase II ESA, four borings were advanced around the perimeter of Tank 7.	<p>Not during the 1998 Fluor Daniel Phase II ESA. Area still not accessible for Phase II investigation. Phase II investigation activities would be conducted subsequent to demolition of tank.</p> <p>During demolition, typical health and safety procedures will be implemented through the preparation of a Site-Specific Health and Safety Plan.</p> <p>After demolition, Phase II investigations, where required, would be conducted. That information would be used to develop appropriate management and handling procedures for contaminated soil and/or groundwater.</p>
5	Aboveground/ Underground Pipelines	No	Pipelines extending to the west of Tank 7	Some soil borings were advanced in the vicinity of Tank 7. However, no targeted assessment of the pipelines was conducted as part of the Phase II ESA.	<p>Not during the 1998 Fluor Daniel Phase II ESA. No staining observed under aboveground portions of pipelines. Portions of underground pipelines are inaccessible due to a containment structure around Tank 7. Phase II investigation activities would be conducted subsequent to demolition of Tank 7 and associated pipelines.</p> <p>During demolition, typical health and safety procedures will be implemented through the preparation of a Site-Specific Health and Safety Plan.</p> <p>After demolition, Phase II investigations, where required, would be conducted. That information would be used to develop appropriate management and handling procedures for contaminated soil and/or groundwater.</p>

**Table 43-1
 Overview of the Recognized Environmental Conditions Identified in URS' 2008 Phase I ESA (Continued)**

No.	2008 REC (URS)	1997 Phase I Identified Environmental Issue (CDM)	Location	1998 Phase II ESA (Fluor Daniel)	Investigation Work Done to Address REC
6	Former Portable Turbine Generator	Yes (page 5-8)	Exact location unknown. Reportedly between the PG&E switchyard and Tanks 6 and 7.	Numerous soil samples and groundwater samples were collected in the area between the switchyard and Tank 6. TPH and VOCs were detected in the samples analyzed.	Yes
7	Hazardous Waste Storage Area (Former Paint Storage Area)	Yes (page 6-4)	Inside building just west of Tank 7	Several soil and groundwater samples were collected in the vicinity of the former paint storage area. The analytical results did not indicate any significant impacts resulting from this issue (Phase II, Appendix 5-A).	Yes
8	Areas with Remedial Issues	Some of the Remedial Issues were identified in the Phase I ESA	Throughout WPGS Site	Areas with Remedial Issues are areas that may require remediation identified during the 1998 Phase II ESA. Additional Remedial Issues identified through the Phase II process (not identified in the Phase I) indicated that there had been an impact.	Yes

**Table 43-1
 Overview of the Recognized Environmental Conditions Identified in URS' 2008 Phase I ESA (Continued)**

No.	2008 REC (URS)	1997 Phase I Identified Environmental Issue (CDM)	Location	1998 Phase II ESA (Fluor Daniel)	Investigation Work Done to Address REC
9	Fill Material	Yes (page 6-1)	Ubiquitous	Numerous soil samples collected throughout the WPGS site. Appendix 5-A of Phase II indicates their scope was sufficient to determine potential impacts from the presence of potentially contaminated fill.	Yes
10	Other Hazardous Materials: Asbestos-Containing Materials and Lead-Based Paint	Yes (page 5-22)	Potentially present in buildings, piping, power-generating equipment, etc.	No targeted assessment work was done to address this REC during the Phase II ESA.	No. Asbestos and lead-based paint surveys will be conducted for structures before they are demolished. Handling and disposal will be in accordance with LORS.

DATA REQUEST

- 44. Please determine if any linear facilities, such as segments of the natural gas pipeline, water pipeline, and the wastewater discharge pipeline, will be constructed in areas requiring remediation. Provide a Phase I ESAs for the natural gas pipeline, the water pipeline, and the wastewater discharge pipeline. Provide a Phase II ESA where RECs are identified.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass will require additional time to respond to Data Request 44. Mirant Willow Pass is working with DDSD to refine the alignment of the route of the recycled water supply pipeline and wastewater discharge pipeline at the Pittsburg-Antioch Highway and Arcy Lane intersection and will evaluate whether any areas of the route contain RECs that are likely to require remediation. Once the route is finalized and any required easements or access rights are obtained, Mirant Willow Pass will work with the relevant third parties to obtain or conduct a Phase I ESA for the selected route. This Phase I ESA will address the water supply and discharge pipelines. The Phase I ESAs that were provided with the AFC already cover the route for the natural gas pipeline, as that route lies wholly within property owned either by Mirant Delta, LLC or PG&E, and will not require offsite construction for the gas line. The 1998 Phase II discussed in the response to Data Request 43 also should be sufficient at this time for the natural gas pipeline route.

Once the Phase I ESA for the offsite water supply and wastewater discharge pipeline route is completed, Mirant Willow Pass will provide it to the CEC and evaluate the need to conduct a Phase II ESA.

BACKGROUND

The demolition phase of the project includes removal of aboveground oil storage tank #7. Demolition activities will generate hazardous and nonhazardous wastes.

DATA REQUEST

- 45. Please describe more specifically how the tanks will be cleaned prior to removal, the anticipated quantities and types of hazardous wastes that will be generated from cleaning, and how those wastes will be managed and disposed or recycled.**

RESPONSE

Before Tank 7 is demolished and removed from the WPGS site, the tank will be cleaned by a contractor who specializes in such work. The tank cleaning will include the removal of all oil, water, sludge, loose scale and rust from the tank interior. The tank will be cleaned to a gas-free state, certified by an independent testing agency and be ready for "hot work." The conditions of the tank surfaces shall be suitable for magnetic flux exclusion inspection.

Before work begins, a Site-Specific Health and Safety Plan and a Contingency Plan will be developed to address spills potentially occurring during cleaning, both on site and during transport of waste materials. These plans will list, at a minimum, personnel, responsibility, actions, and contacts. Mirant Willow Pass will ensure that all contractors and any subcontractors have an effective Illness and Injury Prevention Program (IIPP) which meets the requirements of all applicable laws and regulations, including but not limited to Section 6401.7 of the California Labor Code. The compliance certificate will be executed by the person with the authority and responsibility for implementing and administering the IIPP.

Tank entry and cleaning will be performed by the contractor according to the American Petroleum Industry (API) Publication 2015 Safe Entry and Cleaning of Petroleum Storage Tanks, latest edition. The contractor will follow Mirant's Confined Space Entry Procedures and tagging procedures. The tank will be fully isolated. Electrical equipment inside the tank, if any, will be disconnected and tagged or locked out. Isolation blinds will be installed prior to draining the lines. The lines will be drained between the tank and isolation blinds to improve control of waste disposal. The contractor will flush piping connecting to the tank, as necessary, using diesel or similar cutter stock. The cutter stock used for flushing will be reused to the extent possible. Spent cutter stock will be stored in a temporary storage tank.

One or more access openings will be cut in the side of the tank, above the level of residual oil and water. Containment berms will be placed at these openings to prevent oil from the tank from contaminating the surrounding areas. The contractor will install temporary storage tanks and spill containment that will be required for cleaning operations. Adequate secondary containment will be maintained around equipment and containers at all times. Secondary containment in the form of portable berms or other suitable means will be provided for the entire contents of the largest container within the containment area plus 4 inches of precipitation. Soil areas where equipment and containers will be located will be protected from contamination or potential release.

Upon notice to proceed, the contractor will mobilize to the site and stage equipment. Contractor personnel will be required to attend orientation meetings to ensure their understanding of applicable site safety and environmental requirements. Prior to all work, Materials Safety Data Sheets (MSDS) will be obtained for all types of solvents and chemicals to be used during the cleaning and treatment processes. This ensures correct waste profiling for all waste streams

that will be generated from cleaning. Use of certain cleaning agents such as halogenated hydrocarbons and regulated extremely hazardous chemicals will be restricted. Best efforts to minimize the volume of aqueous waste for disposal on-site will be mandatory and will be applied to oily water separation and/or other waste minimization technologies or processes whenever feasible. The aqueous waste cannot be a California listed or Resource Conservation and Recovery Act (RCRA)-listed hazardous waste and will have to be free of halogenated hydrocarbons, surfactants, emulsifiers, detergents and diesel fuel.

Tank 7 is estimated to contain approximately 1,300 barrels of #6 residual fuel oil in addition to some amount of water. Any residual oil that can be pumped will be transferred to a temporary storage tank or one of the remaining fuel oil tanks on site for interim storage. It is estimated that approximately 60 percent of the 1,300 barrels of #6 residual fuel oil is recoverable and will be sold, stored on site in another tank; the remaining estimated 40 percent of #6 residual fuel oil is anticipated to be unrecoverable and will be sent off site for disposal or recycling at an appropriate facility. Any water in Tank 7 will be sent to an onsite oil/water separator.

An excavator equipped with a shear will be used to cut up internal components of the tanks (e.g., steam coils), remove them from the tanks, and place them in a containment berm for eventual recycling with other scrap material. An excavator will be used to remove residuals that cannot be pumped and place them in lined bins for disposal at an appropriate disposal facility. As part of the tank cleaning process, the tank walls will be washed with water prior to being recycled or sold.

An estimated 500 barrels of cutter stock and 10,000 gallons of water containing oil will be generated during cleaning. The cutter stock waste stream will be treated off site and disposed off site. The water containing oil will be sent to an oil/water separator. The collected oil will be sent off site for recycling and the water will be disposed of under permitted terms.

The tank cleaning process will be restricted to one that does not alter the pH. The contractor will be required to provide independent tests of aqueous waste for Mirant's review. If Mirant approves onsite handling of the aqueous waste, strainers, filters, or other equipment to minimize sediment entering the staged or existing Oily Water System (OWS) will be employed. The OWS system accepts water from the building sumps and rainwater from various locations in the plant. As such, there may be periods when flows associated with cleaning and going to the OWS will be limited. At such times, the contractor will be prepared to hold the aqueous waste in approved tanks or containers. All materials removed from the tank and not immediately processed, and any materials awaiting disposal in roll-off bins or U.S. Department of Transportation (U.S. DOT)-approved containers, will have to satisfy all applicable requirements for the type of material stored. Any surface runoff due to rain will be diverted to the extent necessary to keep water from becoming impacted by cleaning activities and avoid increasing the volume of waste. Measures to achieve this will include temporary drainage, diversion structures, sumps, water barriers, piping, pumping equipment and any other facilities necessary for completion of the diversion/collection task.

Waste will be stored, transported from the site in compliance with U.S. DOT/U.S. Environmental Protection Agency (U.S. EPA) and State of California requirements and be disposed of at licensed treatment, recycling and/or disposal facilities. Manifests of wastes will designate Mirant as the generator and will use Mirant's U.S. EPA ID number. All measures and precautions necessary to avoid spills of waste during handling and transport will be mandatory for all Mirant and contractor employees. This includes vehicles being properly equipped for any anticipated road and weather conditions. Mirant will request and approve transporters' qualifications, to the extent relevant to the drivers' performance, including documentation of driver training conducted

in accordance with state/federal regulations and hazardous material training. Prior to transporting hazardous waste, all contractors will be required to furnish Mirant with any required shipping papers and a copy of permits allowing the contractor to transport hazardous waste (including receipt of transporter state/federal ID numbers). Trucks loaded with hazardous waste from Mirant facilities will not be left unattended.

DATA REQUEST

- 46. Please describe more specifically the management of the tank 7 pad and subsurface soils if they are found to be contaminated with oil or other wastes.**

RESPONSE

Following tank removal and cleaning, the exposed pad will be inspected for cracks, defects, and points of weakness. The perimeter of the pad will also be inspected and any areas that indicate that a release could have occurred will be noted. During pad removal, these areas will be carefully examined as they may present a potential for stored oil to have reached the subsurface. Based on the condition of the pad and the expected sampling required to fully characterize any suspected releases, a Soil Sampling Plan will be developed that details the requirements and protocols for soil sampling of the pad as well as the subsurface soil and groundwater, if deemed necessary.

The tank pad will be removed using standard concrete removal practices. The concrete will be screened for discoloration and the presence of oil, and sampled, when appropriate. Proper handling and disposal methods will be determined as the concrete is removed. When possible, concrete recycling will be employed.

Where an oil-saturated construction base is present, it will be sampled and removed for appropriate disposal. If after removal of the construction base, any contaminated soil is identified, protocols set by the Soil Sampling Plan will be followed. This sampling plan will include directives for the inspection of the soils for signs of staining or discoloration and the determination of the number and location of sampling points necessary for characterization. If the tank appears to have discharged or if soil contamination is identified and remains on site, a sample from the location that appears most contaminated will be taken for analysis.

Soil samples may be collected by auguring to retrieve the samples. Samples shall be collected, at a minimum, from depths of 2 and 6 feet below the tank bottom, dispensers, and product lines, and from the following locations:

- From the center of the tank.
- Below all dispensers.
- Piping—every 20 feet and/or at connections, joints, bends, etc.
- Any area of obvious contamination or likely areas of contamination may be required to be sampled.

All stockpiles of contaminated soil shall be stored on bermed plastic and covered. Soil samples shall be analyzed for all substances known or suspected to have been stored in the tank. The samples shall be analyzed by a laboratory with state certification for the required analyses and handled under proper chain-of-custody protocol.

Where there is potential for groundwater contamination, groundwater samples will be obtained and analyzed for all parameters characteristic to the material stored in the tank.

If contamination is detected, further soil and groundwater investigation may be required.

Measures for the transportation and disposal of any contaminated soils are discussed in AFC Section 7.12.2.1.

References

- CDM (Camp, Dresser and McKee), 1997. Phase I Environmental Site Assessment, Pittsburg Power Plant, Pittsburg, California. October.
- Fluor Daniel GTI, 1998. Phase II Environmental Site Assessment Report, Pacific Gas and Electric Company, Pittsburg Power Plant, Pittsburg, California. June.

Technical Area: Visual Resources

Author: James Adams

BACKGROUND

Staff has reviewed the photos and simulations for key observation points (KOPs) one through nine (Figures 7.11-2 through 11-20). The existing view from KOPs one through six show trees that could provide significant screening for project structures, such as the two heat recovery steam generator stacks (HRSGs). If the trees continue to grow, they could effectively screen the HRSGs from the KOPs. However, the age and growth potential for the relevant trees is unknown. The applicant has stated its willingness to do an additional survey to determine the age of the trees. However, the applicant has not proposed a landscaping plan to mitigate visual impacts from the project at the selected KOPs.

DATA REQUEST

47. *Please provide the results of a landscape survey that includes the age, size and type of existing trees as well as the growth potential for the next five to ten years.*

The results of a landscape survey are included in Appendix H. As indicated in Appendix H, the existing Pittsburg Power Plant has approximately 350 trees along its eastern border, and along the eastern portion of its southern boundary. The majority of these trees are mature and healthy. They provide visual screening of the existing power plant, and will continue to provide screening during the next 5 to 10 years and beyond. While some of the approximately 350 trees are either declining or are affected by diseases and pest damage and are not expected to increase in height, the majority of the trees is expected to continue to grow, providing overall between 5 and 15 additional vertical feet of screening over the next decade and beyond.

DATA REQUEST

- 48. Please provide a draft landscaping plan that would mitigate visual impacts from the project at the selected KOPs.**

RESPONSE

As stated in the applicant's notice dated December 2, 2008, Mirant Willow Pass objects to Data Request 48 on the grounds that it assumes, without explanation, that a landscaping plan is necessary to mitigate the project's visual impacts. Appendix B, section (g)(6)(H) of the Commission's Siting Certification Regulations states "If any landscaping is proposed to reduce the visual impacts of the project, provide a conceptual landscaping plan at a 1:40 scale (1" = 40')..." Mirant Willow Pass explained in the AFC (Section 7.11.2.5) that the WPGS project is not expected to have a significant impact in the area of visual resources. Staff has not presented evidence to the contrary and there is no basis at this time for requiring landscaping as a mitigation measure.

Thus, because the project has not been shown to require landscaping as a mitigation measure, the siting regulation cited above does not apply. Furthermore, given that Mirant Willow Pass proposes to remove four existing retired generating units that have 211-foot-tall exhaust stacks and associated boiler structures, and replace them with two generating units that have 150-foot, 6-inch-tall exhaust stacks, the anticipated views of industrial features is reduced through this project as compared to the existing condition. This change will result in a net visual improvement to the surrounding areas.