El Segundo Power II LLC
El Segundo Redevelopment Project
(00-AFC-14C)

Responses to CEC Data Requests Set 1

Prepared for:

California Energy Commission

September 10, 2007

Data Responses
Air Resources

BACKGROUND: EMISSION REDUCTION CREDITS

The applicant proposes to rely on the District's nitrogen oxides (NOx) RECLAIM program to offset the project's NOx emission impacts. The applicant has purchased sufficient emission reduction credits (ERCs) to offset the project emissions of volatile organic compounds (VOC) and sulfur dioxide (SO2). Finally, the applicant has purchased 24 lbs/day of PM10 ERCs as part of the due diligence requirements in District Rule 1309.1 (Priority Reserve). The applicant has not provided any information on how they intend to meet their RECLAIM and remaining PM10 ERC obligations.

Data Request 1: Please provide a list of NOx RECLAIM trading credits (RTCs) that the applicant owns or has under option contract.

Response 1: Appendix A includes a copy of the section of the current South Coast Air Quality Management District (SCAQMD) facility permit for the El Segundo Power Redevelopment (ESPR) project, which illustrates ESP II's NOx RTC allotment. For 2011, which is the proposed online date for the project, ESP II owns 244,902 pounds of cycle 1 and cycle 2 NOx RTCs. This quantity is sufficient for the project NOx offset requirements. Should additional NOx RTCs be required, ESP II has additional NOx RTCs owned by an affiliate company Long Beach Generation LLC.

Data Request 2: Please update staff as to the status of securing the NOx RTCs and PM10 ERCs on a monthly basis through the period of staff review of the amendment request.

Response 2: ESP II does not need to procure additional NOx RTCs as demonstrated above. ESP II will report to CEC Staff the status of purchasing any additional PM_{10} emission reduction credits (ERCs) required for ESPR on a monthly basis, generally at the middle of each month when the ESPR Monthly Compliance Report is submitted. The monthly ERC status report will be issued as a stand-alone letter to the CEC's Compliance Project Manager assigned to the ESPR.

BACKGROUND: NATURAL GAS SULFUR CONTENT

The applicant indicates that the facility will use natural gas with a maximum sulfur content of 0.25 grains per 100 standard cubic feet (gr/100scf) for short term impacts and 0.75 gr/100 scf for long term. Staff has seen in previous licensing cases that pipeline grade natural gas can contain as much as 1gr sulfur/100scf. If higher sulfur content natural gas fuel is used at the facility, SOx and PM emissions may be underestimated, thus the project impacts may be underestimated and the project may be insufficiently offset. Therefore, staff needs additional information to assure that the sulfur content of the fuel does not exceed the levels stated in the petition to amend. The sulfur content of the natural gas is monitored by the natural gas supplier and such documentation would be useful. However, this monitoring is only useful if there are no intervening gas injection points between the monitoring site and the El Segundo site.

Data Request 3: Please provide specific documentation showing the sulfur content of the natural gas to be used on site.

Response 3: Appendix B includes copies of annual (for 2006) and quarterly (for 2007) natural gas sulfur content monitoring data provided by Southern California Gas Company (SoCal Gas). According to SoCal Gas, there are only two natural gas supply points for the El Segundo Generating Station (ESGS): Border and Wheeler Ridge (see Appendix B; August 17, 2007 email from Dinah Willier, SoCal Gas, identifying gas supply points for ESPR). Therefore, an upstream injection point between the identified natural gas supply points and the ESGS has not been identified by SoCal Gas.

The Border supply point is comprised of the North and South Needles, Blythe 1 and 2, and Kramer Junction supply inlets. In the 2006 summary, each of these supply inlets is listed separately. However, in the 2007 summary, the data for all supplies are included within the Border supply entry. The enclosed natural gas sulfur content data shows the monitored levels for these two gas supply points. As shown by these data, the actual maximum natural gas sulfur content is below both the short-term and long-term levels of 0.75 gr/100 scf and 0.25 gr/100 scf, respectively, used in the analysis ESPR. In addition, the SoCal Gas natural gas sulfur content tariff limit is 0.75 gr/100 scf, which further supports the use of the 0.75 gr/100 scf short-term average natural gas sulfur content used in the analysis for the proposed project

Data Request 4: Please provide documentation that there are no up-stream injection points between the pipeline gas monitoring site and the project site.

Response 4: According to an August 21, 2007 telephone discussion with Dinah Willier of SoCal Gas and Chris Doyle of NRG Energy, Inc, there are no other natural gas supply inlets located between El Segundo Generating Station and the Border and/or Wheeler Ridge gas monitoring stations. Consequently, all natural gas supplied to ESPR will be monitored by one of these monitoring stations.

Data Request 5: Please provide the steps the applicant would take to ensure that the natural gas that has higher than 0.25 gr/100scf of sulfur will not be used at the facility.

Response 5: To ensure the actual natural gas sulfur content does not exceed the long-term average level of 0.25 gr/100 scf, ESP II will either collect/analyze onsite natural gas and determine sulfur content on an annual basis or obtain the quarterly natural gas sulfur content monitoring data provided by SoCal Gas for the Border and Wheeler Ridge supply points. This natural gas sulfur content monitoring data will be included in ESPR's air quality compliance reports submitted to the CEC Compliance Project Manager.

Data Request 6: Please provide the method for ensuring continuous compliance with the sulfur content limits specified for the supplied natural gas fuel.

Response 6: See Response Air Quality Data Request 5.

BACKGROUND: CUMULATIVE ASSESSMENT
It has been several years since the project applicant received a license from the California Energy Commission. The applicant now proposes to completely replace the original project with a project that has a different turbine manufacturer, operation profile and site configuration. While the applicant has provided sufficient modeling of the new proposed project, the applicant has not provided any cumulative assessment. It is staff's opinion that such dramatic changes in a project description and the intervening time between the original license and the present necessitate that a new cumulative assessment be performed.

Data Request 7: Please provide the documentation of new sources that are currently undergoing SCAQMD permit review, and those sources currently under construction within six miles of the proposed El Segundo Power Project site.

Response 7: Sierra Research on behalf of ESP II has submitted a public information request to the SCAQMD for information pertaining to new projects/units either currently undergoing permit review or currently under construction that are located within 6 miles of ESPR. Upon receipt of this information, ESP II will prepare and submit the cumulative assessment to the CEC.

Data Request 8: Please provide an estimated date of filing of the completed cumulative assessment.

Response 8: A revised air quality cumulative impact analysis will be submitted to the CEC by September 28, 2007 – the due date for the second set of Data Requests.

BACKGROUND: EMERGENCY FIREWATER PUMP EMISSIONS
The applicant proposes to eliminate the engine for the firewater pump. In order to approve this petition, staff needs to understand what has changed since the original licensing that the applicant can do without this important and typical piece of emergency equipment.

Data Request 9: Please state the rational for why the El Segundo Power Project will not require a firewater pump.

Response 9: The new fire/service water tank (or relocation of the current tank as permitted by the Commission's Final Decision) will serve as the primary fire water source. As was considered in the original AFC proceeding, providing a second firewater tank as a redundant source of firewater was eliminated due to site constraints. In addition, the two existing pipelines from the Cities of El Segundo and Manhattan Beach could not supply the flow required by NFPA, which requires a pipeline entering the site to be 2,500 gpm x 1.50 or 3,750 gpm. Therefore, backup fire water will be provided by the 14-inch high-density polyethylene (HDPE) water line from the City of El Segundo that was previously permitted by the Commission's Final Decision. This line will be capable of delivering up to 3,750 gallons per minute at 100 psi. (See Data Request/Response #153 from original AFC proceeding).

BACKGROUND: GREENHOUSE GAS EMISSIONS

The State of California has identified through legislation and policy that greenhouse gas emissions are a significant concern to the health and well-being of Californians. Therefore staff believes it is necessary to ask for this information from this major industrial source.

Data Request 10: Please provide the estimated greenhouse gas emissions (in units of equivalent tons of CO2 per year) from all emitting equipment on the proposed El Segundo Power Project site.

Response 10: Appendix C includes an estimate of the greenhouse gas emissions for the proposed project in units of equivalent metric tonnes CO_2 per year.

Biological Resources

BACKGROUND

The major amendment petition proposed for the El Segundo Power Redevelopment Project decision, Section 2.2.1 pages 2-13 thru 2-15, describes the delivery system for oversize plant equipment to the construction site across a state beach. In addition, Section 3.2.2.2 pages 3-7 thru 3-36 includes a description of the biological resources where the oversize equipment delivery system will be deployed and operated. Potential impacts on the biota where the delivery system will be located are described and possible mitigation measures are presented. Other mitigation activities for the project in general are also discussed in Section 3.2. To complete its analysis, staff needs additional information about sensitive biological resources that may be impacted by the beach delivery activities and the applicant's proposed mitigation measures.

Data Request 1: Please indicate when the equipment delivery system will be installed to start the 3-6 month window for its operation. Please describe how this installation and operational period would correlate with the nesting or spawning of sensitive species potentially in the area during this period.

Response 1: The equipment delivery system is proposed to be installed late-winter 2009 and removed upon completion of the beach delivery events in early summer.

Birds

As indicated in the Application for Certification and the Petition to Amend, there are no threatened or endangered bird species known to nest near the beach delivery corridor. Critical habitat for the threatened western snowy plover (*Charadrius alexandrius nivosus*) was designated upcoast from the project site in October 2005. This species has not been observed to nest at this critical habitat site; instead, the area likely provides wintering habitat. While the beach delivery phase of construction may overlap with the western snowy plover wintering period, the beach delivery corridor is not located within the critical habitat area and will not otherwise impact this designated critical habitat. In addition, it is not likely that this adjacent habitat area is currently used for nesting by the western snowy plover, as nesting has not been observed in the area, so beach delivery would not interfere with any nesting activity.

Two endangered bird species, California brown pelican (*Pelecanus occidentalis californicus*) and California least tern (*Sterna antillarum browni*), could occur in the vicinity of the proposed project, but there are no known nesting areas adjacent to the ESGS. The nearest brown pelican nesting sites are located on the Channel Islands, and breeding occurs from March to May (Unitt 2004). The nearest least tern nesting site is approximately 13 kilometers (8 miles) upcoast from the project site, and in southern California most least tern lay eggs from mid May to early July, with a second wave of laying by two-year-olds and birds that lost their first clutches following the first by about four to five weeks (Massey and Atwood 1981).

Fish

As indicated in the Application for Certification and the Petition to Amend the Final Commission Decision, there are no known threatened or endangered fish species known to utilize Santa Monica Bay or occur near the beach delivery corridor.

California grunion (*Leuresthes tenuis*), which is not threatened or endangered, could potentially spawn at the beach delivery corridor. The California Department of Fish and Game (CDFG) regulates the grunion fishery, allowing take by hand during all but two months of the spawning season. Spawning of California grunion occurs from March through mid-September. Construction of the ramp delivery system prior to the onset of a potential spawning run would prevent the beach off the ESGS from being used as a spawning beach. However, if the ramp were constructed after the onset of potential spawning, the footprint of construction activities could smother eggs laid during spawning runs. The footprint of the beach delivery ramp affects a width of about 60 meters.

On December 12, 2006, David Vilas (MBC) called Dr. Karen Martin (Pepperdine University) to discuss the possibility of using bright lights to dissuade grunion from spawning on a particular stretch of beach. She indicated lights would be ineffective in discouraging grunion from coming ashore. Dr. Martin did not know if the area adjacent to the ESGS was historically used for spawning, but indicated that Playa del Rey and Manhattan Beach are known spawning beaches. She thought that modifying the beach to discourage spawning was the best way to reduce impacts, either through a change in physical sediment characteristics (e.g., importing gravel or creation of berms), or in the case of the beach delivery scenario, building the onshore structures prior to the spawning season. If the onshore structure were built during the spawning season, it would be preferred to start construction a few days after a high tide, allowing any eggs to hatch, but before adults could come in and spawn again. Based on our description of the onshore landing structure, Dr. Martin believed that would exclude spawning and monitoring would provide information on grunion use of the beach during the beach delivery period, and determine the extent of impacts.

References:

Massey, B.W. and J.L. Atwood. 1981. Second-wave nesting of the California least tern: age composition and reproductive success. The Auk 98:596-605.

Unitt, P. 2004. San Diego County Bird Atlas. San Diego Nat. Hist. Mus. 645 p.

Martin, Karen. Frank R. Seaver Chair in Natural Science and Professor of Biology. Pepperdine University, Seaver College. Malibu, CA .12 December 2006 – telephone conversation.

Data Request 2: Please expand on the discussion about potential effects of sediment disturbance, suspension, and deposition in the intertidal and/or subtidal zones as it relates to barge delivery and the tug boat's prop wash. Please describe the likely position of the tug while pushing the barges into their respective locations and the timing of the work for this activity.

Response 2: Appendix D provides two figures that depict the nearshore environment of Santa Monica Bay, within a 1-mile and 0.5 mile radius of El Segundo Generating Station (ESGS). The bathymetry of the near-shore zone fronting ESGS shows depths in the nearshore zone of 0-12 feet. Beyond this point, the depth abruptly increases to 18 feet and within approximately 0.5

mile from the beach the depth increases to 30 feet. Within 1 mile of the beach, the depth is estimated to be approximately 50 feet. Figure 3.3-1 depicts the approximate location and path the delivery barges use to access the construction barge. The depth at which the barges contact the nearshore bottom would vary depending on the tide and other factors.

The nearshore zone, including the surf zone, of Santa Monica Bay is a dynamic environment. Increased wave/surge in the surf zone suspends finer sediments, which are subsequently transported by near-shore currents and deposited in calmer areas offshore. This is illustrated by the slightly finer sediments (96% sand, 4% silt/clay) at the 20-ft isobath compared with sediments in the intertidal (98% sand, 2% silt/clay). Due to the high sand content of the sediments, substantial transport if suspended in the water column is not anticipated.

Suspended sediments in Santa Monica Bay are distributed by currents. The prevailing current in the near-shore zone of Santa Monica Bay is downcoast (equatorward), suggesting an eddy-like circulation pattern resulting from upcoast (poleward) currents outside the Bay (Hendricks 1980). This description is supported by more extensive studies conducted by Hickey (1992), who recorded downcoast currents on the shelf within the Bay, and upcoast currents at the shelf edge at the offshore boundary of the Bay.

The Santa Monica littoral cell extends from Point Dume to Palos Verdes Point (ACOE 1986). This cell includes 20 miles of sandy beaches, with two natural sediment sinks: Dume and Redondo Submarine Canyons. Structures have been constructed along the shoreline to stabilize the beaches, preventing extensive longshore transport and loss of sand down Redondo Submarine Canyon. There are more than 60 groins in Santa Monica Bay that are designed to impede longshore sediment transport (ACOE 1986), including one on the beach directly adjacent to ESGS. As indicated by the aerial photograph used in Figure 3.2-1 of the Petition to Amend, the downcoast current results in accumulation of sediment on the upcoast side of the groins.

As part of the beach delivery activities, sediments are likely to become suspended in the nearshore waters during: (1) construction of the ramp system across the beach fronting the ESGS site; (2) securing and removing the non-powered barge (construction barge) in place immediately seaward of the ramp system; and, (3) movement of tugs during the six equipment barge deliveries. The first two activities will involve direct movement of sediments by dozers. Propeller wash (or nozzle wash) from tugs could disrupt bottom sediments in the subtidal zone. However, the tugs will be present in the subtidal zone only for a limited amount of time to deliver and remove the delivery barge for the planned six oversize equipment deliveries. Impacts to the seafloor are therefore likely to be minimal. The tugs are not likely to enter the intertidal zone at all, due to the shallow depth, and therefore will not disrupt bottom sediments in this zone.

Sandy Intertidal and Subtidal Zones

Sediment suspension and deposition in the intertidal/subtidal zones could affect organisms in a variety of ways depending on the degree of disturbance. Substantial deposition in the rocky/sandy intertidal zones could bury organisms; however, all organisms in the sandy intertidal have some degree of burrowing ability. Animals without this ability would be swept away by waves and swash in the sandy intertidal zone. The bean clam *Donax*, for example, is a

detritovore with strong digging ability. Less severe deposition may not bury organisms, but could hinder mobility and feeding, especially for deposit feeders (such as the annelid *Scolelepis*) and suspension feeders (such as mole crabs).

The shallow sandy subtidal is typified by the patchy distribution of organisms that vary by area, seasonally and in the long term (Thompson et al. 1993). The shallow subtidal is a highly dynamic environment dominated by wave disturbance, which redistributes sand and suspends finer sediments, with decreasing influence on sediments with increased depth. As a result, in depths of less than about 10 meters, the invertebrate community is dominated by highly mobile species, particularly arthropods, which are deposit or suspension feeders. Sand dollars occasionally form dense aggregations in the nearshore environment, to the point that they exclude other organisms. In slightly deeper water with finer sediments, the community is dominated by predators and scavengers, and tube dwelling species, particularly polychaetes, are more common.

Although studies on infaunal community recovery evaluate disturbances much greater than impacts which can be expected from propeller wash during barge delivery, these studies provide some estimates of recovery of shallow soft-bottomed communities after disturbance. Studies conducted following dredging in Los Angeles Harbor found that most infauna species that dominated the community prior to dredging were present in the sediments as early as six weeks following dredging (Anderson et al. 1993). Initially, the community was less diverse than before dredging, and dominant species occurred in differing proportions than previously. Recovery to a stable community in a harbor is expected to take two to three years. Populations in sandy nearshore sediments, such as offshore of ESGS, however have been found to recover more rapidly from impacts such as dredging as a result of sediment redistribution in these high-energy environments (Anderson et al. 1993).

Tugboat propeller wash impacts are expected to be greatest in the shallower depths, less than 10 meters, resulting from the redistribution of sediments. Organisms in this habitat are adapted to a highly dynamic environment where shifting sediments are a normal occurrence. As a result, impacts to the shallow subtidal community at expected to be minimal and temporary. The animals of the sandy intertidal zone are expected to fully recolonize the affected area after physical restoration of the beach delivery corridor. Recolonization should occur through direct migration of organisms from adjacent areas, as well as settlement/recruitment of planktonic larvae to the affected area. Longest recovery times are required for biota when there is a poor match in grain size characteristics of the fill material and the original substrate (McLachlan and Brown 2006). ESPR will match grain size of the imported beach sand used for restoration of the beach delivery corridor to the grain size of the original sand in order to reduce impacts.

Rocky Intertidal and Subtidal Zones

Effects to rocky intertidal/subtidal organisms would be similar to those of sandy intertidal/subtidal organisms, with some exceptions. Organisms recorded in the rocky intertidal surveys included filter feeders, such as mussels, suspension feeders, such as barnacles, and grazers such as chitons. Increased turbidity due to suspension of sediments could inhibit feeding/mobility of all of these organisms, and could also inhibit photosynthesis of intertidal algae, such as *Enteromorpha*.

MEC (1988) analyzed recovery of riprap biota in Los Angeles Harbor following quadrat scraping and elimination of all biota. The time to reach 100% recovery following elimination was estimated in the upper intertidal to take 37 months, the lower intertidal 33 months, and the subtidal 22 months. However, there is no indication that sediment suspension during oversized equipment delivery would lead to complete elimination of the rocky intertidal/subtidal communities, and therefore 100% recovery should require less time than predicted in MEC.

References:

Anderson, J.W., D.J. Reish, R.B. Spies, M.E. Brady, and E.W. Segelhorst. 1993. Human Impacts. Ch. 12 *In* Dailey, M.D., D.J. Reish, and J.W. Anderson (eds.). Ecology of the Southern California Bight: A Synthesis and Interpretation. U.C. Press, Los Angeles, CA. 926 p.

Hendricks, T.J. 1980. Currents in the Los Angeles area. Pp. 243-256 *In* Coastal Water Research Project Biennial Report 1979-1980. So. Calif. Coast. Water Res. Proj., Long Beach, CA. 363 p.

Hickey, B.M. 1992. Circulation over the Santa Monica-San Pedro basin and shelf. Prog. Oceanog. 30:37-115.

McLachlan, A. and A.C. Brown. 2006. The Ecology of Sandy Shores (2nd Edition). Academic Press (Elsevier), San Diego, CA. 373 p.

MEC Analytical Systems. 1988. Biological Baseline and Ecological Evaluation of Existing Habitats in Los Angeles Harbor and Adjacent Waters. Vol. II: Final Report. Prepared for the Port of Los Angeles, San Pedro, CA. Sept. 1988.

Thompson, B., J. Dixon, S. Schroeter, and D.J. Reish. 1993. Benthic invertebrates. Ch. 8 *In* Dailey, M.D., D.J. Reish, and J.W. Anderson (eds.). Ecology of the Southern California Bight: A Synthesis and Interpretation. U.C. Press, Los Angeles, CA. 926 p.

U.S. Army Corps of Engineers (ACOE). 1986. Southern California Coastal Processes Data Summary. Coast of California Storm and Tidal Waves Study. Prepared by ACOE Los Angeles Dist., Planning Div., Los Angeles, CA. Ref. No. CCSTWS 86-1. Feb. 1986.

Data Request 3:
For proposed mitigation actions related to biological resources, please submit a draft Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP). Please use the following outline as a guide in preparing this plan. The following outline is intended as guidance in the preparation of the BRMIMP, and not all of the items will be applicable to this project. Contact Energy Commission staff if you have questions about the outline we have provided

Response 3: Appendix E for ESPR's Draft Biological Resources Mitigation Implementation and Monitoring Plan.

Data Request 4: Please summarize any conversations you had with personnel of the U. S. Fish and Wildlife Service, California Department of Fish and Game, Department of Parks and Recreation, California Coastal Commission, and State Lands Commission regarding any potential biological resources issues or concerns (species or habitat) they felt needed to be considered for the proposed project.

Response 4: Summaries of agency contacts made by MBC's biologist are identified in Table BIO-1 below.

Table BIO-1

Agency	Summary of Communication
California Department of Fish and Game **Bill Paznokas** **(858) 467-4218**	November 13, 2006 – Phone conversation with S. Beck (MBC). Mr. Bill Paznokas along with Ms. Marilyn Fluharty) will review the ESPR Petition to Amend. Mr. Paznokas indicated the following should be covered: **Water Quality** o Spill Prevention o Invasive species (Ballast water) o USCG and/or CSLC guidelines **Biology** o Construction impacts due to anchoring (Mr. Beck clarified beach construction) o Project timing with California grunion and California least tern o Need for a *Caulerpa* survey prior to project construction o Potential impacts to foraging habitat (birds) The Petition to Amend addressed Mr. Panokas' question and comments.
National Marine Fisheries Service Bryant Chesney (562) 980-4037	November 15, 2006 – Phone conversation with S. Beck (MBC). Mr. Bryant Chesney indicated he would review the Petition to Amend as it pertains to Essential Fish Habitat (EFH). Monica DeAngelis (NMFS) would review it for Marine Mammal impacts. The two issues Mr. Chesney wants to see addressed are: (1) EFH, and (2) grunion. Mr. Beck informed Mr. Chesney he already spoke with CDFG about grunion. Mr. Chesney asked Mr. Beck to call Ms. DeAngelis regarding effects to marine mammals due to noise. Mr. Bech telephoned Ms. DeAngelis and left her a message pursuant to Mr. Chesney's request. To date, Ms. DeAngelis has not contacted the Applicant or its consultants with any concerns. On December 12, 2006, David Vilas also spoke with Dr. Karen Martin, Pepperdine University regarding grunion. A detailed discussion of that communication is detailed above in the Response to Data Request 1. The Petition to Amend addressed the concerns identified by this agency.

U.S. Fish and Wildlife Service Ken Corey (760) 431-9440	November 14, 2006 – Phone conversation with S. Beck (MBC). After presenting the project description and site map of the project site to Mr. Ken Corey, Mr. Corey's only concern was snowy plovers. He said they are not likely to use that beach, but they have no data from the site to confirm this. Snowy plovers could use the beach as wintering habitat. USFWS would want some reconnaissance surveys 3-4 weeks prior to beach construction activities to verify there are no plovers at the site. Mr. Corey believes that the U.S. Army Corps of Engineers (ACOE) may want to consult with USFWS, but hopefully this can be done informally. If the ACOE does not want to consult with USFWS (if ACOE makes a determination), USFWS will probably still want to review/comment on that determination.
LA County – Beaches & Harbors Gregory Woodell – Planning (310) 305-9537 Charles Kissell – LA Fire Dept (Lifeguard Division) (310) 577-5709	December 2006 Contact made by K. Kinsland (Shaw E&I) Provided description of proposed beach delivery. No discussion of biological resources. Focus of meeting was recreation/public access, bike trail closure, parking, etc.
Coastal Commission Tom Luster (415) 904-5248 45 Fremont St, Ste 2000 San Francisco, CA 94105	Multiple occasions, 2007 Contact made by Applicant No specific comments or concerns were raised related to biological resources.

Cultural Resources

BACKGROUND

Page 3-46 of the Petition to Amend provides a discussion of a June 2, 2007 cultural resources field survey of the proposed 12.1 acre laydown/parking area at 777 W. 190th Street in the City of Gardena. Staff needs to know the qualifications of the survey personnel in order to assess the adequacy of the survey.

Data Request 1: Please identify the personnel who conducted the cultural resources survey, and discuss their qualifications and roles during the survey.

Data Response 1: The personnel who conducted the field reconnaissance survey of the 190th Street laydown area on June 2, 2007 include: approved Cultural Resource Specialists (CRS) Laurie White and Robert White, and approved Cultural Resources Monitor Richard Guttenberg. The survey was directed by the CRS who is the Principal Investigator for ESPR. Robert White served as photographer and field surveyor, and Richard Guttenberg served as project manager and field surveyor.

Resumes for each of the above-named personnel and the survey report for the 190th Street site are provided in Appendix F.

BACKGROUND

On page 3-37, the Petition to Amend describes the Santa Monica Bay as "an open embayment, characterized by a gently sloping continental shelf which extends seaward to the shelf break at water depths of approximately 265 ft." On pages 2-13 to 2-14, the Petition to Amend describes the procedure for accomplishing six separate barge deliveries of oversize plant equipment. Each delivery of equipment would involve a delivery barge and a construction barge. The construction barge would be pulled onto the beach at high tide and a beach ramp would be constructed and attached to the construction barge. The California State Lands Commission Shipwreck Database identifies 156 shipwrecks off the coast of Los Angeles County. Shipwrecks may be considered a historical resource. The proposed mode of delivering equipment creates the potential for a delivery barge or construction barge to impact a shipwreck. To identify all project-related impacts, staff needs to know whether any shipwrecks are known in the area where the barges would be maneuvering during deliveries and what the draft of the barges would be. The Shipwrecks Database can be accessed at the following web address: http://shipwrecks.slc.ca.gov/ShipwrecksDatabase/Shipwrecks_Database.asp.

Data Request 2: Please provide a discussion of the depth of the ocean from the El Segundo shoreline opposite the power plant and out to one mile. Please provide figures or a discussion on how deep each kind of barge would typically sit in the water. Include depths for the barges when loaded and not loaded.

Response 2: The bathymetry of the nearshore zone extending from the mean lower low water to the end of the Chevron rock groin fronting ESGS shows depths in the nearshore

zone of 0-12 feet (Figure 2.2-1). Beyond this point, the depth abruptly increases to 18 feet and within approximately 0.5 mile from the beach the depth increases to 30 feet and within 1 mile of the beach, the depth is estimated to be approximately 53 feet.

Figure 3.3-1 depicts the depth in feet at mean lower low water (MLLW), approximate location, and path the delivery barges within 1 nautical mile of the shore line of ESGS. Figure 3.3.-1 is based on National Oceanic and Atmospheric Administration (NOAA) nautical chart last updated June 2007. The barge approach area is noted by NOAA as an area with numerous submerged pipelines, sewer lines, and other potential hazards and recommends using the most direct route when transiting or anchoring in the area. ESPR has performed a higher resolution bathymetry survey in September 2006 from the El Segundo shore line out half a mile offshore to identify submerged obstacles. Figure 3.3-2 shows the results of the bathymetry survey and the intended barge approach route. Other than the Chevron rock groin the most prominent subsurface feature in the barge approach route are the El Segundo Generating Station intake and outfall structures No. 001 and No 002. The structures are shown in Figure 3.3-2 in waters approximately 30 to 35 feet deep with the top of the intake and discharge structures at 22 to 28 feet MLLW. Red buoys mark the location of these structures offshore and nautical charts show the minimum water cover is 15 feet over the structures at MLLW.

Several types of ocean barges are available for the type of deliveries needed for the ESPR project. Barge draft depths are typically shallower than propelled vessels of similar size, with unloaded drafts of 3 to 5 feet expected for a barge in the 100 to 200 feet range. Depending on the load capacity and the barge type, draft depths can vary from 5 to 14 feet, with 14 feet of draft being for a very large load near the barge carrying capacity. Large barges may have weight capacities on the order of over 10,000 dead weight tons. Smaller barges such as those anticipated to be used for equipment delivery (in the 100-200 feet range) would have cargo capacity of 550 tons or more, and draw about 8 feet fully loaded. Since the maximum weight for a single piece of equipment required for the ESPR project is estimated to be 256 tons (e.g., a single gas turbine generator), draft of the delivery barges are expected to be in the 5 to 8 feet depth range. Based on the bathymetric survey and anticipated barge depths transport barges should be able to approach the construction barge without grounding.

A tug boat will be required to navigate the barge into shore. Tug boats of the type that move ships in port and harbor environments typically have drafts that vary from 10 to 20 feet in depth. Smaller tugs are generally used to move barges and have a correspondingly shallower draft, with some tugs that navigate barges in bays and coastal waters having drafts of 6 to 8 feet. It is anticipated that one of these smaller tugs, with a length of about 50 to 70 feet will be utilized to move the equipment barges. Several factors will determine the actually tug boats model used for the ocean transit and landing processes. The beach landing platform will be designed such that the transport barge will dock to a construction barge, which will lead to the temporary landing ramp. This will create an arrangement that will place the landing tug boat 400 to 500 feet offshore in waters 12 to 15 in depth assuming this effort is performed during low tide, or worst case.

Data Request 3: Figure 3.6-1 includes two aerial photographs. On a scale similar to the scale used in the photograph at the top of the page, please identify the location of any known shipwrecks on a map or aerial photograph showing the area one mile offshore from the El Segundo project, and 0.5 mile along the shoreline north and south of the project site.

Response 3: At the request of the California Energy Commission, a search of the California State Lands Commission Shipwreck Database was conducted for any sunken resources off the coast of the project area. For Los Angeles County, the database shows a total of 156 underwater objects. These include ships, boats, barges, ferryboats, a submarine and a jetliner. For our purposes, a two square mile search area was used for the project. Rectangular in shape, the search area measured one mile north and south of the project site respectively and one mile out to sea. No underwater resources of any kind were shown within the search area. Consequently, the beach landing will have no adverse impact on such resources.

Figure 3.3-1 shows the area one-mile north, south, and west of the ESPR site.

BACKGROUND

A discussion of beach preparation work is found on page 3-51. Twenty-five cubic yards of imported beach sand would remain and be used for restoration and improvements after conclusion of the Beach Delivery cycle. Unless they are commercial operations, borrow and disposal sites need to be surveyed for cultural resources.

Data Request 4: Please provide documentation that any beach sand or fill soils used by the project would be obtained from a commercial location, and also provide documentation that excess soil removed from the project would be deposited at a commercial location.

Data Response 4: Beach sand or fill soils used by the project, estimated at approximately 2,500 cubic yards, will be obtained from a commercial source and delivered in sand bags to the beach delivery/construction site. Although ESP II has identified several commercial sources that supply fill sand that will be appropriate for the beach delivery and subsequent beach replenishment, a supplier will be selected at a later date. However, the selected sand will be compatible (e.g., grain size, distribution and color) with the native sand at El Segundo Beach. When the beach delivery phase of the project is completed, the sand will remain at the beach and used for beach replenishment. All imported sand brought to the site will be used for beach restoration; therefore no excess soil will be removed from the site.

Note: The volume of sand referenced in the Petition to Amend and Cultural Data Requests [25 cubic yards] was incorrect; the actual estimated volume of import sand is 2,500 cubic yards.

Data Request 5: If the proposed borrow or disposal sites have not been surveyed for cultural resources, please survey them and provide a technical report that includes personnel qualifications, methods, and findings.

Response 5: The proposed source for the import of sand would be limited to available commercial sources of sand. Therefore, no borrow areas are proposed. No export of sand would necessary since the sand imported would remain on site and used as part of beach restoration.

Worker Safety/Fire Protection

BACKGROUND
The Request for Amendment states that the project will no longer include the "installation/operation of an emergency firepump Diesel engine." Staff needs more information about emergency backup systems that would provide adequate water for firefighting from the new on-site storage tanks.

Data Request 1: Please provide a discussion of what systems will be installed and operated to provide water for firefighting if the City of El Segundo water mains are not functioning properly.

Response 1: The new fire/service water tank (or relocation of the current tank as permitted by the Commission's Final Decision) will serve as the primary fire water source. As was considered in the original AFC proceeding, providing a second firewater tank as a redundant source of firewater was eliminated due to site constraints. In addition, the two existing pipelines from the Cities of El Segundo and Manhattan Beach could not supply the flow required by NFPA, which requires a pipeline entering the site to be 2,500 gpm x 1.50 or 3,750 gpm. Therefore, backup fire water will be provided by the 14-inch high-density polyethylene (HDPE) water line from the City of El Segundo that was previously permitted by the Commission's Final Decision. This line will be capable of delivering up to 3,750 gallons per minute at 100 psi. (See Data Request/Response #153 from original AFC proceeding).

BACKGROUND
The Request for Amendment states that the project will install a "raw water storage tank" that will store single-pass RO quality reclaimed water and a third water tank to store demineralized water from the single-pass RO water tank for use in the plant steam cycle. Staff needs more information about the water quality to be stored in the new on-site storage tanks, their use, if the water meets tertiary treatment standards, and the potential for workers to come into contact with the water.

Data Request 2: Please provide a discussion of the water quality in each of the new tanks proposed, the proposed use of the water, if the water meets tertiary treatment standards, the potential for workers to come into contact with water not treated to tertiary standards, and the safety precautions and procedures to be followed by power plant employees if contact with raw, or secondary treated water occurs.

Response 2: Table WS-1 below summarizes the proposed use and quality of water in the three new tanks proposed for ESPR:

Table WS-1		
Tank Description	**Use**	**Water Quality**
Raw Water Storage Tank	1. Supply to the cycle make-up treatment system 2. Support both GTG inlet evaporative coolers	Mixture of: 1. Title 22 reclaimed, single-pass reverse osmosis (RO) product water; 2. Title 22 reclaimed irrigation-quality water; 3. Recycled HRSG blowdown water
Fire/Service Water Storage Tank	Fire emergencies.	Potable Water Quality
Demineralized Water Storage Tank	1. Demineralized make-up water supply for the steam cycle and the combustion turbines 2. Steam injection for power augmentation.	Reclaimed single-pass RO product water treated on-site by portable cycle make-up treatment equipment

Water will be supplied to ESPR from two sources: potable water from the City of El Segundo and reclaimed water from the West Basin Municipal Water District that meets California Code of Regulations Title 22 requirements. The facility will utilize COES water for potable use and fire emergencies. Title 22 reclaimed, single-pass reverse osmosis (RO) product water will be used as the supply to the cycle make-up treatment system, and Title 22 reclaimed irrigation-quality water will be used to support both GTG inlet evaporative coolers. Typical water quality for the City of El Segundo potable, Title 22 Reclaimed and Title 22 Reclaimed/First Pass R/O supplies was provided in Table 3.15-1 of the PTA:

Table WS-2

Expected Water Supply Quality

(Mg/L As Ions, Except As Noted)

Constituent	**Potable**	**City of El Segundo[1] Title 22, Reclaimed, Irrigation Quality (Avg. for 2005)**	**City of El Segundo[1], Title 22, Reclaimed First Pass R.O. Quality (Avg. for 2006)**
Calcium, mg/l	46	NR	0.03
Magnesium, mg/l	19	NR	0.02
Sodium, mg/l	59	NR	5.4
Potassium, mg/l	3	NR	0.53
M-Alkalinity (as CaCO3), mg/l	100	NR	15.3
Bicarbonate (as CaCO3), mg/l	NR	NR	15.2
Carbonate (as CaCO3), mg/l	NR	NR	ND
Hydroxide (as CaCO3), mg/l	NR	NR	ND

Table WS-2

Expected Water Supply Quality

(Mg/L As Ions, Except As Noted)

Constituent	Potable	City of El Segundo[1] Title 22, Reclaimed, Irrigation Quality (Avg. for 2005)	City of El Segundo[1], Title 22, Reclaimed First Pass R.O. Quality (Avg. for 2006)
Hardness (as CaCO3), mg/l	NR	NR	0.13
Sulfate, mg/l	129	129	NR
O&G, mg/l	NR	0.0	NR
Coliforms (total), MPN / 100 ml	NR	9.1	NR
Turbidity, NTU	NR	2.08	NR
Chloride, mg/l	60	165	NR
Nitrate (as N), mg/l	0	0.3	NR
Fluoride, mg/l	0.20	NR	NR
Aluminum, mg/l	0.08	NR	NR
Silica, mg/l	NR	NR	0.39
TDS, mg/l	440	631	17.5
pH, Units	8.2	7.0	7.0
Conductivity, micros/cm	NR	NR	40.8
TSS, mg/l	NR	4.4	NR
BOD5, mg/l	NR	0.4	NR
TOC, mg/l	NR	13	NR
Chlorine Residual (max.), mg/l	NR	5.7	NR

Notes:

1 = Source is West Basin Municipal Water District

NR = Not Reported

ND = Not Detected

The potential for employees to come in contact with, or otherwise be exposed to non-potable water is extremely remote and is managed by the plant's existing operational procedures and worker safety program element, including:

1. Labeling all water storage tanks and pipelines as potable or non-potable;
2. Development and implementation of the plant's Injury and Illness Prevention Program (IIPP);
3. Personal Protection Program;
4. Hazard Communication Plan; and
5. Safety Training Program.

Moreover, due to the high quality of the plant's non-potable water supply, in the event of incidental contact or exposure to non-potable water the potential adverse impact to employee health is deminimis.

APPENDIX A
AIR QUALITY RESPONSE # 1

NOx RECLAIM TRADING CREDITS

RESPONSES TO CEC DATA REQUESTS, SET 1

EL SEGUNDO POWER REDEVELOPMENT
00-AFC-14C
PETITION TO AMEND

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

January 1, 2007

AUDUN AABERG, REGIONAL PLANT MANAGER
EL SEGUNDO POWER, LLC (115663)
301 VISTA DEL MAR
EL SEGUNDO, CA 90245

Dear AUDUN AABERG:

Enclosed is your Facility Permit for Compliance Year 2007. (January 1, 2007 through December 31, 2007).

For this reissuance, only relevant sections of the Facility Permit are being reissued. Relevant sections include allocations, in accordance with Rule 2002(b)(4), and any other modifications approved or required.

Please review the enclosed permit sections carefully, as they will be part of your official Facility Permit. The permit changes are stated below. Please note that the South Coast Air Quality Management District (AQMD) rules allow you to appeal the terms and conditions of any sections of the enclosed Facility Permit by petitioning the Hearing Board within thirty days of receipt of the permit.

You have recently been sent an invoice for the annual operating renewal fee for your facility permit. This must be paid on or before the due date indicated on the invoice or your facility permit will expire due to non-payment of fees.

A. Facility Permit

The enclosed sections of the Facility Permit contains changes described as follows:

1. The revision number and dates of the Title Page and the Table of Contents have been updated to reflect the reissuance of the enclosed permit sections.

2. Section B – RECLAIM Annual Emission Allocation
   Section B has been updated to reflect all approved RECLAIM Trading Credits transactions that have occurred during Compliance Year 2006. In addition, we may have incorporated the revisions associated with your requested changes or our review of your allocations. In such cases, your facility was previously informed of these revisions in a separate letter. Please be aware that additional allocation changes may occur as a result of last year's audit.

B. Appeals

As previously mentioned, if you determine that certain changes or clarifications need to be made to any sections of the enclosed sections, you may appeal the terms and conditions by petitioning the Hearing Board within thirty days of receipt of the enclosed sections. If you determine there are administrative errors in these permit sections, please notify AQMD staff within thirty days of receipt of your permit sections. Your facility is still bound by the requirements of your entire Facility Permit while your appeal is under consideration by AQMD staff and/or Hearing Board.

Any comments or questions regarding your RECLAIM Facility Permit should be directed to Mr. Mark Liu, Air Quality Analysis and Compliance Supervisor at (909) 396-2538.

Very truly yours,

Mike Mills

Mike Mills
Senior Manager
General Commercial and Energy Permitting

JTY
Enclosure

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

Title Page
Facility I.D.#: 115663
Revision #: 25
Date: March 16, 2007

FACILITY PERMIT TO OPERATE

EL SEGUNDO POWER, LLC
301 VISTA DEL MAR
EL SEGUNDO, CA 90245

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By Mike Mills for
Carol Coy
Deputy Executive Officer
Engineering & Compliance

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

Table of Content
Facility I.D.#: 115663
Revision #: 25
Date: March 16, 2007

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

TABLE OF CONTENTS

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
65 East Copley Drive, Diamond Bar, CA 65

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION A: FACILITY INFORMATION

LEGAL OWNER &/OR OPERATOR:	EL SEGUNDO POWER, LLC
LEGAL OPERATOR (if different than owner):	
EQUIPMENT LOCATION:	301 VISTA DEL MAR EL SEGUNDO, CA 90245
MAILING ADDRESS:	301 VISTA DEL MAR EL SEGUNDO, CA 90245
RESPONSIBLE OFFICIAL:	AUDUN AABERG
TITLE:	REGIONAL PLANT MANAGER
TELEPHONE NUMBER:	(310) 615-6028
CONTACT PERSON:	AUDUN AABERG
TITLE:	REGIONAL PLANT MANAGER
TELEPHONE NUMBER:	(310) 615-6028
INITIAL TITLE V PERMIT ISSUED:	August 19, 1999
TITLE V PERMIT EXPIRATION DATE:	August 18, 2004

TITLE V	RECLAIM	
YES	NOx:	YES
	SOx:	NO
	CYCLE:	1
	ZONE:	COASTAL

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
2[illegible] 5 Copley Drive, Diamond Bar, CA 91765

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/07 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
7/2004	6 /2005	Coastal	0	0	0
1/2005	12/2005	Coastal	268693	217875	0
1/2005	12/2005	Inland	0	0	0
7/2005	6 /2006	Coastal	0	0	0
1/2006	12/2006	Coastal	268693	268693	0
1/2006	12/2006	Inland	0	0	0
7/2006	6 /2007	Coastal	0	0	0
1/2007	12/2007	Coastal	268693	138542	0
1/2007	12/2007	Inland	0	5703	0
7/2007	6 /2008	Coastal	0	34786	0
1/2008	12/2008	Coastal	268693	151248	7294
1/2008	12/2008	Inland	0	5529	174
7/2008	6 /2009	Coastal	0	33722	1064
1/2009	12/2009	Coastal	268693	173954	14588
1/2009	12/2009	Inland	0	5355	349
7/2009	6 /2010	Coastal	0	32658	2127
1/2010	12/2010	Coastal	268693	216659	21882

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21 5 Copley Drive, Diamond Bar, CA 91765

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

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RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/07 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
1/2010	12/2010	Inland	0	5180	523
7/2010	6 /2011	Coastal	0	31595	3191
1/2011	12/2011	Coastal	268693	209365	29176
1/2011	12/2011	Inland	0	5006	698
7/2011	6 /2012	Coastal	0	30531	4255
1/2012	12/2012	Coastal	268693	209365	29176
1/2012	12/2012	Inland	0	5006	698
7/2012	6 /2013	Coastal	0	30531	4255
1/2013	12/2013	Coastal	268693	209365	29176
1/2013	12/2013	Inland	0	5006	698
7/2013	6 /2014	Coastal	0	30531	4255
1/2014	12/2014	Coastal	268693	209365	29176
1/2014	12/2014	Inland	0	5006	698
7/2014	6 /2015	Coastal	0	30531	4255
1/2015	12/2015	Coastal	268693	209365	29176
1/2015	12/2015	Inland	0	5006	698
7/2015	6 /2016	Coastal	0	30531	4255

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
2' 5 Copley Drive, Diamond Bar, CA 9176[illegible]

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002.Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/07 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
1/2016	12/2016	Coastal	268693	209365	29176
1/2016	12/2016	Inland	0	5006	698
7/2016	6 /2017	Coastal	0	30531	4255
1/2017	12/2017	Coastal	268693	209365	29176
1/2017	12/2017	Inland	0	5006	698
7/2017	6 /2018	Coastal	0	30531	4255
1/2018	12/2018	Coastal	268693	209365	29176
1/2018	12/2018	Inland	0	5006	698
7/2018	6 /2019	Coastal	0	30531	4255
1/2019	12/2019	Coastal	268693	209365	29176
1/2019	12/2019	Inland	0	5006	698
7/2019	6 /2020	Coastal	0	30531	4255
1/2020	12/2020	Coastal	268693	209365	29176
1/2020	12/2020	Inland	0	5006	698
7/2020	6 /2021	Coastal	0	30531	4255
1/2021	12/2021	Coastal	268693	209365	29176
1/2021	12/2021	Inland	0	5006	698

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
2[illegible] 3 Copley Drive, Diamond Bar, CA 91765

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002.Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin (month/year)	Year End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC[1] Holding as of 01/01/07 (pounds)	Non-Tradable[2] Non-Usable RTCs (pounds)
7/2021	6 /2022	Coastal	0	30531	4255
1/2022	12/2022	Coastal	268693	209365	29176
1/2022	12/2022	Inland	0	5006	698

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.

2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
2[illegible]5 Copley Drive, Diamond Bar, CA 91765

FACILITY PERMIT TO OPERATE
EL SEGUNDO POWER, LLC

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. If the facility submits a permit application to increase an annual allocation to a level greater than the facility's Starting Allocation plus Non-Tradable Credits as listed below, the application will be evaluated for compliance with Rule 2005(c)(4). Rule 2005(e)-Trading Zone Restrictions applies if an annual allocation is increased to a level greater than the facility's Starting Allocation plus Non-Tradable Credits:

Year			NOx RTC Starting Allocation	Non-Tradable Credits(NTCs)
Begin	End	Zone	(pounds)	(pounds)
1/1994	12/1994	Coastal	1483304	300291

APPENDIX B
AIR QUALITY RESPONSE # 3

2006/2007 SULFUR DATA

RESPONSES TO CEC DATA REQUESTS, SET 1

EL SEGUNDO POWER REDEVELOPMENT
00-AFC-14C
PETITION TO AMEND

From: Willier, Dinah <DWillier@semprautilities.com>
To: Doyle, Chris
Cc: cjdoyle81@msn.com <cjdoyle81@msn.com>
Sent: Fri Aug 17 16:17:25 2007
Subject: RE: Sulfur content

Chris,
I have attached the 2006 and 2007 sulfur data. The El Segundo sources are both the Border and Wheeler Ridge. In SCAQMD the sulfur limit for natural gas is 16ppm. Our specs are 0.25 gr/Cscf H2S, 0.3 RSH and 0.75 total S or 12ppm.

I hope this helps.
Dinah

Updated 8/7/07 (grains S/100 cf)

	Out of State Suppliers	H2S		RSH		Total Sulfur*	
	Location	Max	Avg	Max	Avg	Max	Avg
First Quarter 2007	Border	0.078	0.011	0.108	0 031	0.162	0.082
	Wheeler/KM	0.076	0.026	0.078	0.005	0.137	0.107
Second Quarter 2007	Border	0.114	0 014	0.120	0.030	0.192	0.192
	Wheeler/KM	0.120	0.028	0.664	0.031	0.197	0.105
Third Quarter 2007	Border						
	Wheeler/KM						
Fourth Quarter 2007	Border						
	Wheeler/KM						

Updated 8/7/07 (ppmv S)

	Out of State Suppliers	H2S		RSH		Total Sulfur*	
	Location	Max	Avg	Max	Avg	Max	Avg
First Quarter 2007	Border	1.31	0.18	1.82	0.52	2.73	1.38
	Wheeler/KM	1 28	0.45	1.31	0.09	2 31	1.80
Second Quarter 2007	Border	1.93	0.23	2.03	0.51	3.24	3.24
	Wheeler/KM	2.03	0.47	11 20	0.52	3.32	1.77
Third Quarter 2007	Border	0.00	0.00	0.00	0.00	0.00	0.00
	Wheeler/KM	0.00	0.00	0.00	0.00	0 00	0.00
Fourth Quarter 2007	Border	0.00	0.00	0.00	0.00	0.00	0.00
	Wheeler/KM	0.00	0.00	0.00	0.00	0 00	0.00

Extracted from Border Station Sulfur Gas Chromatograph daily and hourly averages
H2S Hydrogen Sulfide
RSH: Total mercaptan sulfur compounds and thiophane
Total Sulfur: DAvg H2S + DAvg RSH + Odorant*
Assuming 16.9 ppm = 1 grains S/Ccf
* Includes estimated supplemental odorant based on border guidelines of 50/50 t-butyl mercaptan/thiophane
** SoCalGas Specifications allow up to 0.25 gr.H_2S/100scf and 0.75 gr S/100scf Total Sulfur

From 01/06 to 12/06 (grains S/100 cf)

Out of State Suppliers	H_2S			RSH			Total Sulfur*		
Location	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.001	0.065	0.011	0.001	0.055	0.004	0.070	0.167	0.110
B1	0.007	0.028	0.013	0.028	0.088	0.058	0.051	0.114	0.071
B2	0.005	0.019	0.012	0 024	0.107	0.065	0.059	0.119	0.078
SN	0.003	0.039	0.010	0 025	0.133	0.071	0.030	0.152	0.081
WR/KM	0.000	0.142	0 052	0.000	0 157	0.038	0.038	0.227	0.103
KJ	0.015	0.159	0.031	0.005	0.057	0.013	0.079	0.222	0.098

From 01/06 to 12/06 (ppmv S)

Out of State Suppliers	H_2S			RSH			Total Sulfur*		
Location	Min	Max	Avg	Min	Max	Avg	Min	Max	Avg
NN	0.02	1.10	0.18	0.02	0.93	0.06	1.18	2.82	1.85
B1	0.13	0.48	0.22	0.47	1.48	0.97	0.86	1 92	1 19
B2	0.08	0 31	0 21	0.41	1.80	1.10	0.99	2.01	1.31
SN	0.04	0.66	0.17	0.42	2.25	1.19	0.51	2.56	1.36
WR/KM	0.00	2.39	0.87	0.01	2.65	0.64	0.64	3.82	1.74
KJ	0.25	2.68	0.52	0.08	0.96	0.21	1.34	3 74	1 65

Assuming 16.9 ppm = 1 grains S/Ccf

* Includes estimated supplemental odorant based on border guidelines of 50/50 t-butyl mercaptan/thiophane

** SoCalGas Specifications allow up to 0.25 gr H_2S/100scf and 0.75 gr. S/100scf Total Sulfur

NN = North Needles
B1 = Blythe 1
B2 = Blythe 2
SN = South Needles
WR/KM = Wheeler Ridge/Kern Mojave
KJ = Kramer Junction

APPENDIX C
AIR QUALITY RESPONSE # 10

GREENHOUSE GAS EMISSIONS ESTIMATES

RESPONSES TO CEC DATA REQUESTS, SET 1

EL SEGUNDO POWER REDEVELOPMENT
00-AFC-14C
PETITION TO AMEND

Greenhouse Gas Emission Calculation for New Units - ESPR Project

Equipment	Annual Average Hourly Heat Input(1) (MMBtu/hr)	Maximum Expected Annual Operating Hours(2) (hrs/year)	Annual Average Heat Input (MMBtu/year)	CO2 Emission Factor(3) (kg/MMBtu)	CH4 Emission Factor(4) (kg/MMBtu)	N2O Emission Factor(4) (kg/MMBtu)	CO2 Emission Rate (kg/year)	CH4 Emission Rate (kg/year)	N2O Emission Rate (kg/year)	
Unit 5	1951	5,456	1.06E+07	53.05	5.90E-03	1.00E-04	5.65E+08	6.28E+04	1.06E+03	
Unit 7	1951	5,456	1.06E+07	53.05	5.90E-03	1.00E-04	5.65E+08	6.28E+04	1.06E+03	
Equipment	**Global Warming Potential Factor(5) for CO2**	**Global Warming Potential Factor(5) for CH4**	**Global Warming Potential Factor(5) for N2O**	**Global Warming Potential CO2 Emiss. as CO2 (kg/year)**	**Global Warming Potential CH4 Emiss. as CO2 (kg/year)**	**Global Warming Potential N2O Emiss. as CO2 (kg/year)**	**Global Warming Potential CO2 Emiss. as CO2 (MT/year)(6)**	**Global Warming Potential CH4 Emiss as CO2 (MT/year)**	**Global Warming Potential N2O Emiss. as CO2 (MT/year)**	**Total (MT/year)**
Unit 5	1	23	310	5.65E+08	1.44E+06	3.30E+05	5.65E+05	1.44E+03	3.30E+02	5.66E+05
Unit 7	1	23	310	5.65E+08	1.44E+06	3.30E+05	5.65E+05	1.44E+03	3.30E+02	5.66E+05
									Total =	**1.13E+06**

Notes:

(1) Based on annual average temperature, baseload operation, with inlet air cooling.

(2) Petition to Amend Final Commission Decision for the El Segundo Power Redevelopment Project. June 18 2007, Table 3.1-2.

(3) CARB Draft Emission Factors for Mandatory Reporting Program, August 10, 2007, carbon dioxide emission factors stationary source combustion table - natural gas

(4) CARB Draft Emission Factors for Mandatory Reporting Program, August 10, 2007, CH4 and N2O emission factors stationary source combustion table - natural gas.

(5) California Climate Action Registry, Appendix to the General Reporting Protocol Power/Utility Reporting Protocol, Version 1.0. April 2005 Table 5.4.

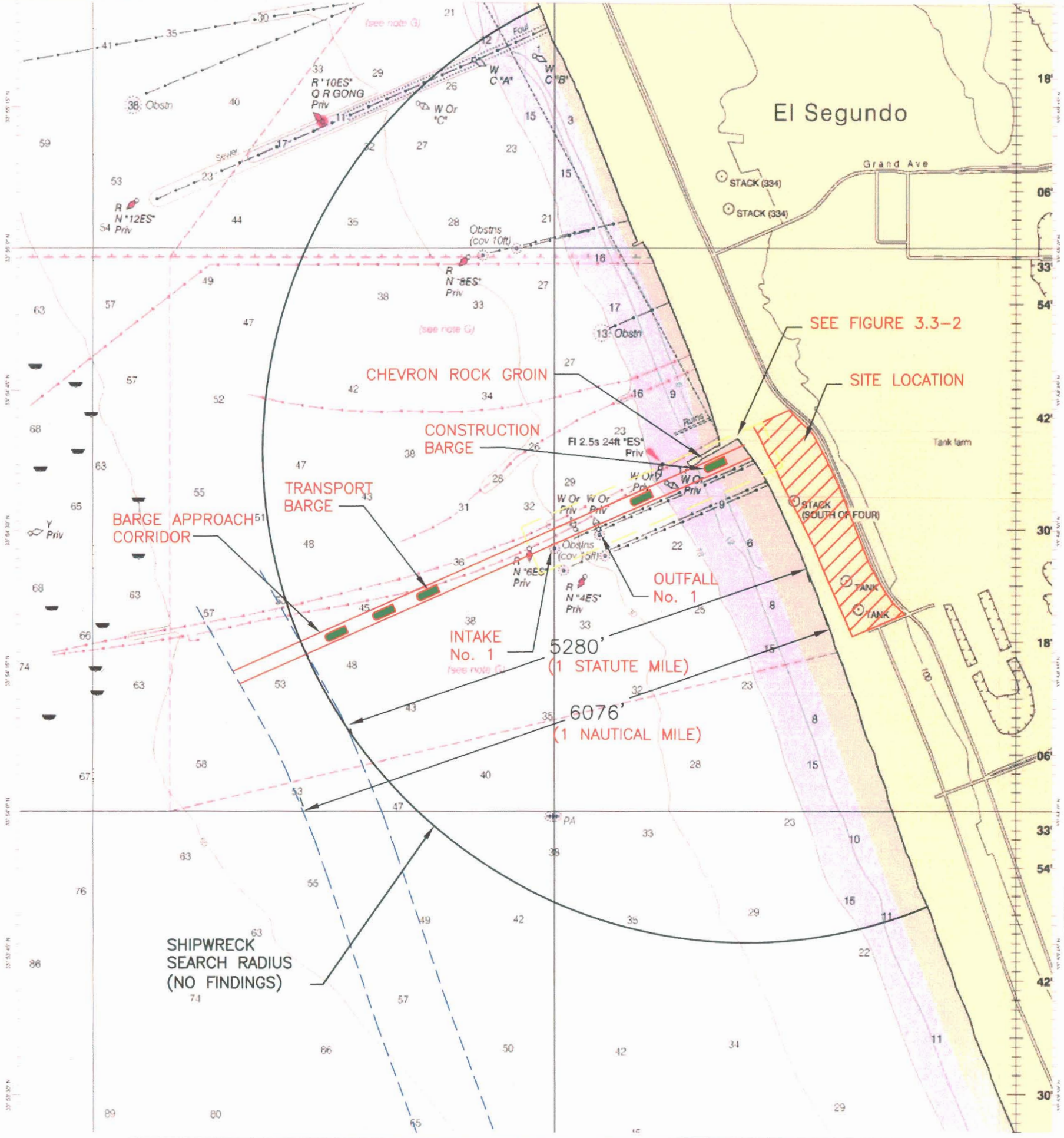
(6) MT/year stands for metric tonnes per year

APPENDIX D
BIO RESPONSE # 2

FIGURE 3.3-1
BARGE DELIVERY ROUTE

FIGURE 3.3-2
PRELIMINARY BEACH ROLL OFF
SURVEY & ELEVATION

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
SJZ 9/7/07			1009724013-B26



NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 11th Coast Guard District in Alameda, California or at the Office of the District Engineer, Corps of Engineers in Los Angeles, California.

Refer to charted regulation section numbers

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:

Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.

Covered wells may be marked by lighted or unlighted buoys.

SCALE

0 1200 2400 FEET

REFERENCE:
NOAA CHART: EL SEGUNDO AND APPROACHES, CHART ID: 18748_1
DATED: 6/2007, SOUNDINGS IN FEET
(CHART UPDATES CORRECTTED FROM NOTICE TO MARINERS PUBLISHED AFTER THIS DATE ARE AVAILABLE AT NAUTICALCHARTS.NOAA.GOV).
REFER TO ORIGINAL CHART FOR COMPLETE NOTES.

Shaw® Shaw Environmental, Inc.

EL SEGUNDO POWER II LLC
EL SEGUNDO GENERATING STATION

FIGURE 3.3-1

BARGE DELIVERY ROUTE

EL SEGUNDO POWER
REDEVELOPMENT PROJECT, CALIFORNIA

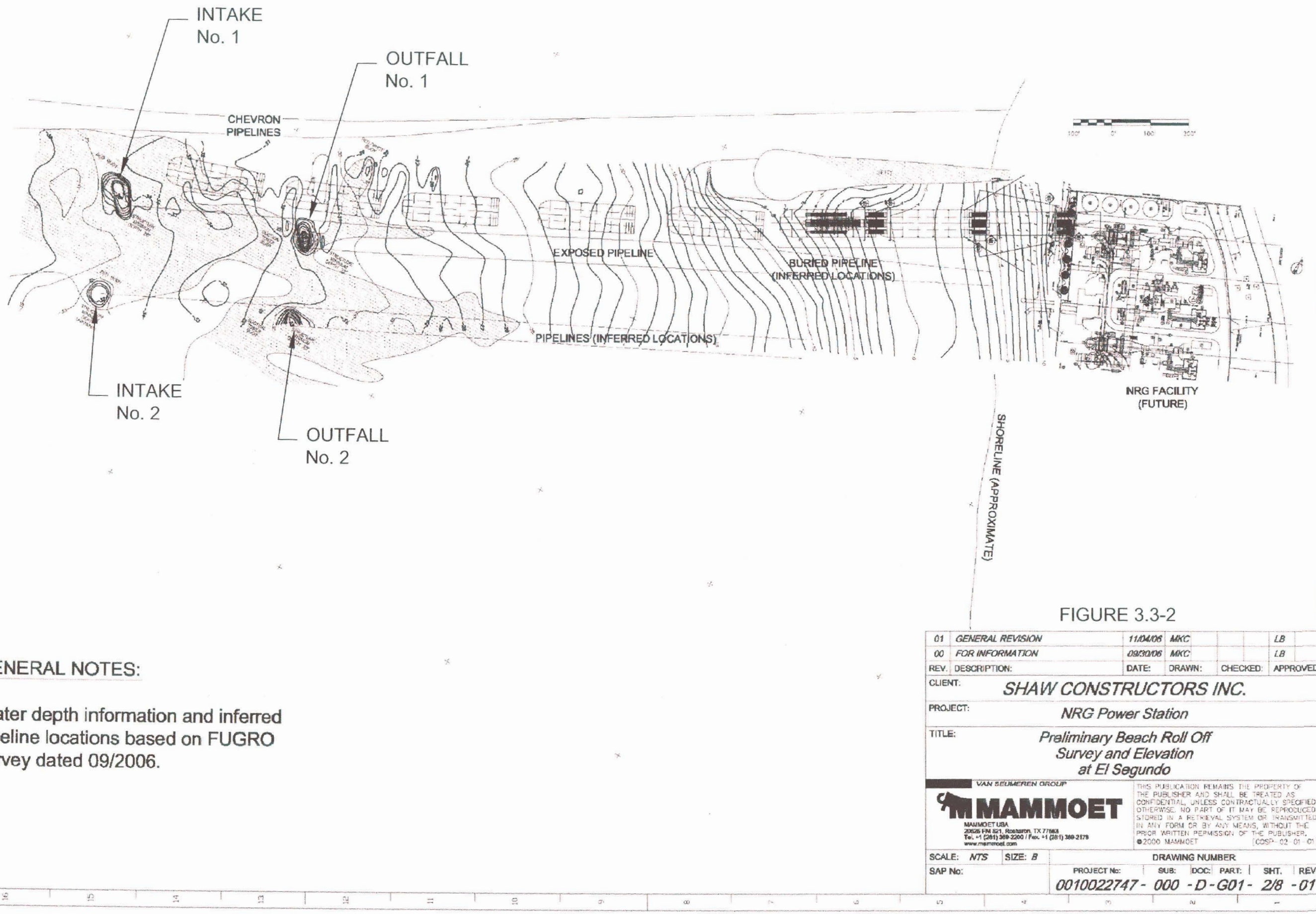


FIGURE 3.3-2

GENERAL NOTES:

Water depth information and inferred pipeline locations based on FUGRO survey dated 09/2006.

REV.	DESCRIPTION:	DATE:	DRAWN:	CHECKED:	APPROVED:
01	GENERAL REVISION	11/04/06	MKC		LB
00	FOR INFORMATION	09/30/06	MKC		LB

CLIENT: SHAW CONSTRUCTORS INC.

PROJECT: NRG Power Station

TITLE: Preliminary Beach Roll Off Survey and Elevation at El Segundo

VAN SEUMEREN GROUP
MAMMOET
MAMMOET USA
20525 FM 521, Rosharon, TX 77583
Tel. +1 (281) 369-2200 / Fax. +1 (281) 369-2178
www.mammoet.com

SCALE: NTS SIZE: B

SAP No:

DRAWING NUMBER

PROJECT No:	SUB:	DOC:	PART:	SHT.	REV.
0010022747 -	000 -	D -	G01 -	2/8 -	01

APPENDIX E
BIO RESPONSE # 3

DRAFT BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

RESPONSES TO CEC DATA REQUESTS, SET 1

EL SEGUNDO POWER REDEVELOPMENT
00-AFC-14C
PETITION TO AMEND

(DRAFT)

EL SEGUNDO POWER REDEVELOPMENT PROJECT (DOCKET # 00-AFC-14C)

DATA RESPONSE 1 - BIOLOGICAL RESOURCES DATA REQUEST 3

BIOLOGICAL RESOURCES MITIGATION IMPLEMENTATION AND MONITORING PLAN

Prepared by
MBC Applied Environmental Sciences
Shaw Environmental and Infrastructure
Stoel Rives

for

El Segundo Power II LLC
El Segundo, California

September 10, 2007

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1.0 INTRODUCTION

The following draft Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) was drafted in response to a California Energy Commission (CEC) data request (August 8, 2007) regarding the submittal of the El Segundo Power Redevelopment Project (00-AFC-14) Petition to Amend Final Commission Decision. The Final Commission Decision (CEC-800-2005-001-CMF) was published in February 2005. The proposed project changes include: use of new state-of-the-art Rapid Response Combined Cycle technology, which eliminates the need for once-through cooling; the method and route for delivery of oversize equipment; modification to the plant entrance road to accommodate equipment delivery; and addition of one offsite laydown area, and elimination of one offsite laydown area. This BRMIMP addresses potential environmental effects resulting from delivery of oversize equipment across the beach adjacent to the El Segundo Generating Station (ESGS).

1.1 PROJECT DESCRIPTION

A. California Energy Commission (CEC) project ID and decision order number

Project Identification: 00-AFC-14C

Decision Order Number: CEC-800-2005-001-CMF

B. Project owner name, address, and phone/e-mail contact info

El Segundo Power II LLC
301 Vista Del Mar Boulevard
El Segundo, California 90245
Contact: George Piantka
(760) 710-2156
Geogre.Piantka@nrgenergy.com

C. Power plant capacity in MW and primary production technology

Rapid response combined cycle consisting of two gas turbine generators (GTS), heat recovery steam generator (HRSG), and one steam turbine generator (STG) using air-cooled heat exchangers. The capacity of these units is 560 MW.

D. Location by proximity to nearest noteworthy town or city

The El Segundo Generating Station (ESGS) is located in the City of El Segundo, California (Figure 1).

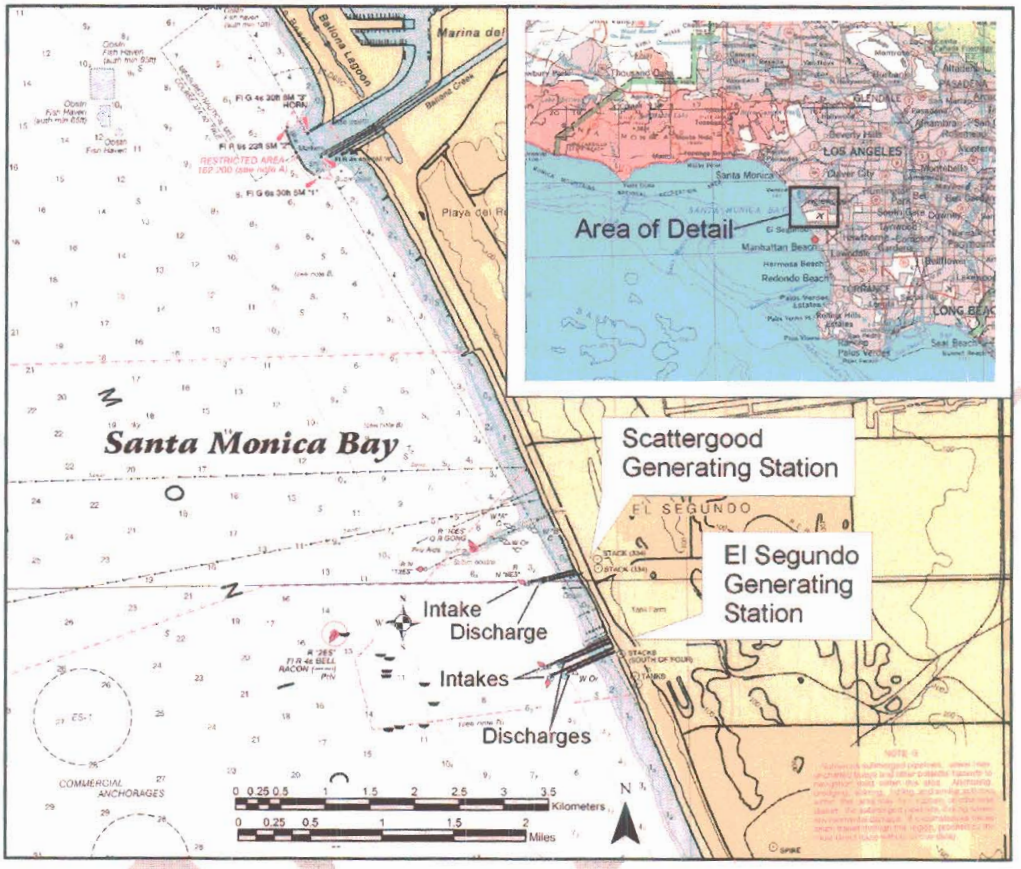

Figure 1. Location of the El Segundo Generating Station.

E. Ancillary facilities

There were no changes to ancillary facilities or offsite linears as result of the Petition to Amend.

F. Generalized Maps and Figures showing location information (reference Tabbed section containing all project related detailed maps, diagrams, aerial photographs, and other visuals [titled "Maps and Figures"])

A map depicting the location of the ESGS is presented in Figure 1. A figure depicting the beach delivery corridor off the existing ESGS units 1 and 2 is presented in Figure 2.

Figure 2. Location of the beach delivery corridor off ESGS units 1 and 2.

1.2 Biological Resources Mitigation Implementation and Monitoring Plan

A. Condition(s) of Certification (COC) requiring BRMIMP (reference Tabbed section containing all COC's [titled "COC's"] verbatim as presented in CEC Decision)

Because the project amendment proposes to entirely eliminate the use of once-through cooling for the new R2C2 units, the PTA proposed the deletion of all biological Conditions of Certification and Verification (BIO 1–5). These conditions are not relevant or appropriate to apply to the air-cooled R2C2 units, since all potential impacts associated with the intake of seawater or the discharge of thermal or plant wastes have been eliminated with the proposed project modification.

As a new Condition of Certification, ESP II proposes to prepare a detailed Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP), which includes measures to reduce potential impacts to biological resources to ensure that any impacts that do occur are temporary and insignificant. The Conditions of Certification should read as follows:

The project owner shall prepare a BRMIMP that includes mitigation measures with their implementing methodologies, and submit it to the CEC CPM for review and approval in consultation with the California Department of Fish and Game and U.S. Fish and Wildlife Service. The project owner shall implement the approved biological resources mitigation and monitoring measures specified in the approved BRMIMP.

B. General Purpose of the BRMIMP

Based on Significance Criteria presented in Section 5.6.2 of the ESPR AFC, modifications to the project in the PTA have reduced the anticipated impacts to biological resources as a result of the project to less than significant levels. Still, to ensure the impacts from the proposed project are temporary and insignificant, the Applicant offers the following measures and monitoring. These will minimize impacts to terrestrial and marine biological resources resulting from cross-beach delivery of oversize equipment, as well as enable the ultimate restoration of affected beach areas to their pre-construction conditions.

C. Briefly describe the purpose of a mitigation matrix (see attached example).

Specific requirements for the protection of biological resources, including responsible agency, goals of the specific impact minimization, plans and implementation details, performance and verification evaluations and timing are summarized in Section 5, Mitigation Implementation Matrix.

2.0 RESPONSIBLE INDIVIDUALS FOR BRMIMP IMPLEMENTATION

There are three key individuals that play crucial roles in the implementation of ESPR PTA BRMIMP:

2.1 DESIGNATED BIOLOGIST (DB)

The Designated Biologist (DB) implements the BRMIMP mitigation and monitoring measures in the field and produces raw data that is published in the required reports. The CEC CPM approves the ESPR Petition to Amend DB based on a review of qualifications. The DB will consult with the CEC and other resource agencies on potential biological issues relating to ESPR PTA mitigation measures as necessary.

A. DB name, work address, and phone/e-mail contact info (also to be printed on cover page of BRMIMP). Include resume in Tabbed section [titled "Resumes"] of BRMIMP.

Shane Beck (or David Vilas)
Senior Scientist
MBC *Applied Environmental Sciences*
3000 Red Hill Avenue
Costa Mesa, California 92626
(714) 850-4830
sbeck@mbcnet.net

B. Basic duties as specified in CEC Decision COC's (reference Tabbed section containing all Biological Resources COC's [titled "COC's"] verbatim as presented in CEC Decision).

2.2 BIOLOGICAL MONITOR(S) (BM)

Biological monitor(s) assist the DB in the implementation of mitigation and monitoring efforts.

A. BM appointment process by DB

B. Review and approval by CEC CPM

C. Name(s), work addresses, and phone/e-mail contact info. Include resumes in Tabbed section of BRMIMP.

2.3 PROJECT'S ASSIGNED ENVIRONMENTAL COMPLIANCE MANAGER

The Environmental Compliance Manager (ECM) oversees the mitigation measure implementation and monitoring efforts of the ESPR PTA and issues the required reports on a timely basis. The ECM will communicate regularly and report as necessary to the CEC CPM. The CM will supervise the implementation of all COC's.

A. name, work address, and phone/e-mail contact info

George Piantka
NRG Energy, West
1819 Aston Avenue, #105
Carlsbad, California 92008
(760) 710-2156
george.piantka@nrgenergy.com

B. description of responsibilities and working relationship with CEC CPM – define authority.

The ECM shall be responsible for regular communication with the CPM and designed staff related to the implementation of the BRMIMP. Monthly Compliance Reports will be prepared by the ECM that document activities associated with implementation of the BRMIMP. The ECM has an established relationship with the CPM through implementation of the associated Conditions of Certification in the Commission's Decision (2005) and submittal of the Petition to Amend the ESPR.

2.4 NON-CEC RESPONSIBLE AGENCY CONTACTS

Regulatory agencies are responsible for enforcing state and federal laws, rules, and regulations that protect sensitive species and biological resources. Staff from these agencies has broad authority to monitor and evaluate projects that are subject to conditions which fall within the purview of their authority.

State agencies which have authority over the ESPR PTA biological resources mitigation and monitoring activities are as follows.

- The California Department of Fish and Game is responsible for protecting species listed under the California Endangered Species Act, and along with the National Marine Fisheries Service (NMFS) for ensuring invasive species such as *Caulerpa* are not introduced or spread when activities disturbing southern California bays and harbors are performed.

  Bill Paznokas
  4949 Viewridge Ave.
  San Diego, CA 92123
  (858) 467-4218

Federal agencies which have authority over the ESPR PTA biological resources mitigation and monitoring activities are as follows.

- The U.S. Fish and Wildlife Service is responsible for protecting species listed under the Federal Endangered Species Act, including western snowy plover.

  Ken Corey
  (760) 431-9440
  Ken_Corey@fws.gov

- The National Marine Fisheries Service (NMFS) is responsible for protecting marine mammals, assessing and protecting Essential Fish Habitat, and along with the CDFG for ensuring invasive species such as *Caulerpa* are not introduced or spread when activities disturbing southern California bays and harbors are performed.

  Bryant Chesney
  501 W. Ocean Blvd.
  Long Beach, CA 90802
  (562) 980-4037

- The U.S. Army Corps of Engineers is responsible for implementing the Rivers and Harbors Act, which regulates construction in navigable waters.

  Aaron Allen
  U.S. Army Corps of Engineers
  915 Wilshire Blvd., Suite 980
  Los Angeles, CA 90017
  (213) 452-3425

2.5 CEC Compliance Project Manager (CPM) Contact

The CEC Compliance Project Manager (CPM) verifies compliance of the ESPR PTA with the Conditions of Certification. The CPM will communicate with the ESPR PA CM to ensure the COC's are implemented correctly. The CPM will inform the ESPR PTA CM of potential non-compliance and issues that may not have been previously addressed.

A. name, work address, and phone/e-mail contact info.

Steve Munro
1516 Ninth Street
Sacramento, CA 95814
(916) 654-3936
Email: smunro@energy.state.ca.us

B. responsibilities

1. verifies compliance with COC's – through periodic review of submitted compliance documents and review of Monthly Compliance Reports. Responds to Applicant requests for approval of activities (mobilization, demolition, construction, etc) in writing.

2. approves changes in implementation methodology – CPM will seek concurrence from the respective Staff assigned to the respective technical area. The Staff assigned to Biological Resources is Marc Sazaki.

3.0 PRE-CONSTRUCTION SURVEYS

The following surveys/reporting shall be completed prior to construction activities as indicated.

3.1 SURVEYS FOR FLORA AND FAUNA

A. Dune Native Vegetation Survey

1. Field surveys will be conducted by Ms. Carol Paquette of MBC *Applied Environmental Sciences* (MBC), or a biologist with similar qualifications. Ms. Paquette performed the vegetation surveys summarized in the ESPR PTA.

2. The project proponent shall conduct a pre-construction vegetation survey at potentially affected areas of sandy dunes off the ESGS. This survey should be done within 60 days of commencement of construction activities, and shall identify plant resources on the beach dune that could be affected by beach delivery construction. There are no standard protocols for such surveys, but the survey should quantify native dune vegetation to the extent feasible. The survey report will include taxonomic identification of all plant species, their location in relation to beach delivery activities, and their approximate areal coverage to the nearest square meter (m^2). The survey report shall be submitted to the CEC CPM within 14 days from the survey date.

3. Document Survey results.

B. Western Snowy Plover Surveys

1. Field surveys will be conducted by Ms. Carol Paquette of MBC, or a biologist with similar qualifications knowledgeable with the identification of snowy plovers and their potential nesting habits.

2. The project proponent shall conduct weekly pre-construction snowy plover survey at potentially affected areas off the ESGS, and extending at least 100 m upcoast and downcoast from potentially affected areas. These surveys should commence within 30 days of commencement of construction activities, and shall identify any snowy plovers or plover nesting sites that could be affected by beach delivery construction. There are no standard protocols for such surveys, but the survey should attempt to identify plovers and nests to the extent feasible. The survey report should identify plover nests and their location on the beach relative to beach delivery activities. The survey reports shall be submitted to the CEC CPM within 7 days from the survey date.

3. Document Survey results.

C. *Caulerpa taxifolia* Survey

1. A field survey by biologist-divers will be conducted by MBC. All divers will be certified by the CDFG and NMFS to conduct surveys for the invasive alga *Caulerpa taxifolia.*

2. The project proponent shall conduct a pre-construction *Caulerpa* survey at the surveillance level at potentially affected areas off the ESGS. This survey should be done within 30 to 60 days of commencement of construction activities (as required by the *Caulerpa* control protocol), and shall be performed in accordance with the NMFS and CDFG *Caulerpa* survey protocols. The survey will also identify any other marine vegetation in the proposed beach delivery corridor, including surfgrass (*Phyllospadix* spp.) The Applicant will transmit results via *Caulerpa* Survey Reporting Form to the CEC CPM, NMFS, and the CDFG within 48 hours of completion of the survey. If Caulerpa is identified in the project area, the CEC CPM, NMFS, and the CDFG will be notified within 24 hours of completion of the survey.

3. Document Survey results.

D. California Grunion Surveys

1. Field surveys will be conducted by biologists from MBC knowledgeable with the identification and spawning behavior of California grunion (*Leuresthes tenuis*).

2. California grunion could potentially spawn on the beach from spring (March) through summer (August). Temporary modifications of the beach in the delivery corridor, which include ramp construction and changes in beach slope and substrate conditions, will make the area undesirable to grunion for the duration of the beach delivery and prevent grunion spawning and potential loss of eggs as a result of the project. This short-term modification represents a very small loss of potential spawning habitat for grunion compared to suitable beach adjacent to the project site in Santa Monica Bay, and in southern California as a whole. Any modifications of the beach that dissuade grunion spawning in the project area should be left in-place for the duration of the project. Modification of the delivery corridor beach should

4.0 POST-CONSTRUCTION ACTIVITIES

The following surveys/reporting shall be completed upon completion of construction activities as indicated.

4.1 HABITAT COMPENSATION RECALCULATION

A. Dune Native Vegetation Methodology

Potential impacts to dune native vegetation will be determined following the post-construction survey. This survey should be done within 60 days of completion of beach delivery demobilization activities, and shall identify native plant resources on the beach dune that were affected by beach delivery construction. There are no standard protocols for such surveys, but the survey should quantify native dune vegetation to the extent feasible. The survey report will include taxonomic identification of all plant species, their location in relation to beach delivery activities, and their approximate areal coverage to the nearest square meter (m^2). The survey report will calculate the estimated loss of native dune vegetation from beach delivery activities. The survey report shall be submitted to the CEC CPM within 30 days from the survey date. The loss of native dune habitat will be determined by subtracting dune vegetation coverage between the post-construction and pre-construction surveys.

The Applicant should make all reasonable efforts to avoid these plants during construction. Because avoidance may not be possible, the Applicant will prepare a Vegetation Restoration Plan as part of the Army Corps of Engineers permit application for construction in navigable waters. The Vegetation Restoration Plan will propose to restore any native vegetation adversely affected by beach construction activities. Post construction surveys of the sand dune vegetation will be conducted following removal of the landing ramp. Dune habitat will be restored to pre-construction conditions and dune vegetation will be replanted with native vegetation and monitored following the restoration plan.

Results

1. Additional compensation if necessary

2. Refund if necessary

B. Sandy Intertidal Methodology

Although permanent impacts to intertidal organisms or sandy intertidal habitat as a result of the project are not anticipated, a Beach Restoration Plan will be developed to enhance the local sandy beach following use of the area as a landing site. As part of that plan, only clean sand will be utilized in sandbags for construction of the landing ramp. The sand will be of similar grain size, composition and color to the existing sandy beach and will be acquired from a commercial suppler to avoid additional impacts at the source. On deconstruction of the ramp, sand from the bags will be distributed through the intertidal landing area according applicable regulations and standards, and to provide additional sand replenishment for the beach adjacent to the ESGS.

Results

1. Additional compensation if necessary

2. Refund if necessary

4.2 OPERATIONAL MONITORING

Operational monitoring is proposed for California grunion spawning during beach delivery as described in Section 3.1(D).

A. Methods

At least two California grunion spawning surveys will be conducted during the operational period of the beach landing ramp, as discussed in Section 3.1(D). Regardless of when the ramp is installed, monitoring of the landing site will be conducted during the following two predicted grunion run periods to confirm that the emplacement discourages adult grunion spawning in the project area. If spawning is noted, the Applicant will consult with CDFG to evaluate further beach modifications to discourage beach use. (Any further modifications will occur after the first or second day of the next high tide cycle as noted above.) The Applicant will transmit results to the CEC CPM and the CDFG within 48 hours of completion of any survey.

B. Reporting results

1. Report frequency

Reports will be submitted within 48 hours from completion of each of the two surveys.

2. Report distribution

The Applicant will transmit results to the CEC CPM and the CDFG within 48 hours of completion of each survey.

5.0 MITIGATION IMPLEMENTATION MATRIX

5.1 MITIGATION MATRIX

The mitigation implementation matrix is presented in Table 1.

A. CEC Requirements

The mitigation implementation matrix including CEC requirements is presented in Table 1.

B. Federal Requirements Under Specific Permit

The only applicable federal requirements are those issued by the U.S. Army Corps of Engineers for construction within navigable waters of the United States (Rivers and Harbors Act).

1. Item designation or number

2. Title or name

3. Target and goal briefly described

4. Implementation details (refer to permit where mitigation measures required to address specific impact issues are identified and described in detail as to how they will be implemented

5. CEC mitigation requirements considered satisfied; identify by COC number (this is a cross reference)

6. Brief description of verification

7. Brief description of mitigation effectiveness criteria

8. Performance timing

Table 1. ESPR PTA Mitigation Implementation Matrix

Requirements:	Mitigation / Minimization	Implementation	Other Agency	Verification	Effectiveness Criteria	Timing
Item # 1 Dune Vegetation	Make all reasonable efforts to avoid disturbance to plants during construction; Prepare a Vegetation Restoration Plan as part of the ACOE Section 404 Permit Restoration Plan	Pre-construction vegetation survey; Post-construction vegetation survey: Vegetation Restoration Plan will propose to restore any native vegetation adversely affected by beach construction activities; Dune habitat will be restored to pre-construction conditions.	Army Corps of Engineers	Revegetation monitoring surveys to verify success of replanting native species	Successful revegetation of dunes based on plant survival and areal extent of cover as described in the Vegetation Restoration Plan.	Survey within 60 days of initial construction. Restoration timing as described in the Vegetation Restoration Plan.

C. State Requirements Under Specific Permit

There are no other applicable state permits to the ESPR PTA.

D. Local Requirements Under Specific Permit

There are no other applicable local permits to the ESPR PTA.

5.2 CONTACT CEC PROJECT MANAGER FOR SAMPLE MITIGATION MATRIX TABLE

5.3 MITIGATION MATRIX MAINTENANCE

A. Process for updating matrix

B. Distribution of updates

6.0 MITIGATION IMPLEMENTATION TIMELINE

The following schedule is based on initiation of construction activities in late-February 2009.

6.1 GANTT CHART

Day	Activity
-60	One-time pre-construction dune vegetation survey
-45	One-time pre-construction *Caulerpa* survey
-30	Weekly pre-construction snowy plover surveys commence
0	Beach construction begins
0-180	California grunion spawning surveys as needed
180	Beach construction ends
210	Post-construction dune vegetation survey

6.2 TIMELINE UPDATE

7.0 CLOSURE

7.1 TEMPORARY CLOSURE

A. Timing of Closure Plan Submittal

B. Steps to Submit Detailed Closure Plan

C. General Measures

1. Actions to Protect Wildlife and Habitat

a. Prevent entry to ground-level sumps and vaults

b. Stabilize potential erosion sources

c. Other site-specific mitigation measures

2. Monitoring

a. Monitoring Methods

b. Reporting Results

1. Report frequency

2. Report distribution

7.2 PERMANENT CLOSURE

A. General Measures

B. Steps to Submit Detailed Closure Plan

C. Implementation Timeline

8.0 BRMIMP MODIFICATION PROCEDURES

8.1 IDENTIFY CHANGES CONSIDERED NECESSARY

A. Describe Proposed Change

B. Describe Reasons for Requested Change

C. Describe How Change Will Be Implemented

8.2 DETERMINE IF CEC CONDITION OF CERTIFICATION AMENDMENT IS REQUIRED

A. Contact CEC CPM

B. Notify Other Agencies and Interested Parties

Appendix 1. Worker Environmental Awareness Program (WEAP)

1.1 Purpose of the WEAP

A. Identify Pertinent Biological Resource Protective Laws and Ordinances

B. Provide Guidance for Workers On Site through an Ongoing Mitigation Planning and Implementation Process

1.2 Site Specific Factors to be Covered in Training

A. Project Description

B. Biological Resources Associated with the Project Site and Vicinity

1. Sensitive Resources and Approximate Locations

2. Noteworthy Life History Factors of Sensitive Species and Potential Impacts

3. Important Habitat and Associated Species if Present

C. Guidelines for Workers <u>During Construction</u> Activities

1. Driving and Parking Vehicles

2. Litter Control (Biological Implications)

3. Exclusion Areas and Demarcation Methods

a. Flagging (Colors and Meaning)

b. Disturbance Avoidance Features

D. Worker Encounters with Sensitive Species

1. What to Do

a. Do Not Approach

b. Do Not Feed

2. Who and When to Contact

E. Reporting of Conditions Potentially Harmful to Biota

1. Petroleum or Chemical Spills

a. What to Do

b. Who and When to Contact

2. Observed Erosion or Barrier Failures

a. What to Do

b. Who and When to Contact

F. Items Not Allowed On Site and Reason(s) as They Relate to Biological Resources

1. Firearms

2. Pets

G. Information Provided to Workers During Construction Activities

1. Required Biological Resource Monitoring

2. Location and Function of Remote Sensing Stations (if deployed)

a. Individual Responsibilities

1. What to Do

2. Who Will Supervise

b. Reporting of Equipment Malfunctions or Failures

1. What to Do

2. Who and When to Contact

1.3 PENALTIES FOR VIOLATIONS OF BIOLOGICAL RESOURCE LAWS, ORDINANCES, REGULATIONS, AND STANDARDS

A. Penalties Potentially Levied Against ESP II LLC

B. Penaltics Potentially Levied Against an Individual

1.4 VISUAL AIDS

A. Describe and Include Training Video in VHS or DVD Format

B. Include Samples of Worker Hand-Outs

C. Posters and/or Signage

D. Handouts

APPENDIX F
CULT RESPONSE # 1

PHASE I CULTURAL ASSESSMENT OF
10.11 ACRE PARCEL AT 777 W. 190TH STREET

PERSONNEL RÉSUMÉS

RESPONSES TO CEC DATA REQUESTS, SET 1

EL SEGUNDO POWER REDEVELOPMENT
00-AFC-14C
PETITION TO AMEND

A PHASE I CULTURAL RESOURCES ASSESSMENT OF A 10.11 ACRE PARCEL LOCATED AT 777 W. 190th STREET, CITY OF LOS ANGELES, COUNTY OF LOS ANGELES

by

Laura S. White, M.A.
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June 25, 2007

Study Area USGS 7.5' Topographic Quadrangle:

Torrance

KEYWORDS: Survey, W. 190th Street, Dominguez Channel, City of Los Angeles, Los Angeles Co.

The undersigned certifies that the attached report is a true and accurate description of the results of a PHASE I CULTURAL RESOURCES ASSESSMENT described herein.

Laura S. White, M.A.
Principal Investigator

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MANAGEMENT SUMMARY

At the request of Shaw Environmental & Infrastructure, Inc., John Minch & Associates, Inc. has undertaken a cultural resources assessment of a 10.11-acre parcel located at 777 West 190th Street in the City of Los Angeles, Los Angeles County. The property, identified as APN 6121-021-006, is currently paved with asphalt and utilized as a truck storage yard. The purpose of the study was to identify all potentially significant cultural resources situated within the project area. Current plans call for using the parcel as a Laydown site for the El Segundo Power Redevelopment Project (ESPR).

The results of the records search conducted at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton indicated that no prehistoric or historic resources have been recorded within the property. The results of the field study for prehistoric resources were also negative. However, the sole building on the property (yard office) is of sufficient age to be considered historic.

Use of the property for parking, staging and material storage will have no adverse affects on prehistoric resources. Therefore, no further work in conjunction with prehistoric resources is recommended. However, in the event that the asphalt paving is removed in conjunction with the proposed Laydown use, then a professional archaeologist should be present to monitor the pavement removal and any associated earth disturbing activities.

As planned, use of the property for parking, staging and material storage will have no adverse affects on the yard office building or historic resources in general. In the event that the yard office is to be demolished or altered in conjunction with the proposed Laydown use, then it should be evaluated for significance pursuant to CEQA criteria.

I. INTRODUCTION

The following report was written for Shaw Environmental & Infrastructure, Inc., by John Minch & Associates, Inc. It describes the results of a cultural resources assessment of 10.11-acres of partially developed land identified as APN 6121-021-006. The study area is located at 777 W. 190th Street in the City of Los Angeles, Los Angeles County. Presently, the property is being considered as a Laydown (parking, staging and equipment storage) site for the El Segundo Power Redevelopment Project (ESPR).

The purpose of this study was to identify all potentially significant cultural resources situated within the boundaries of the study area. This information is needed since adoption of the plan could result in adverse effects upon locations of archaeological or historical importance. Our assessment consisted of: (1) a records search conducted to determine whether any previously recorded historic or prehistoric material is present on the parcel, (2) archival research, and (3) a field reconnaissance intended to identify any previously unrecorded cultural resources. The study described herein was conducted in accordance with the California Environmental Quality Act (CEQA) as it pertains to the management of cultural resources.

II. STUDY AREA LOCATION AND ENVIRONMENT

Regionally, the study area lies immediately northwest of the interchange of the Harbor Freeway (110) and the San Diego Freeway (405) just inside the western limits of the City of Los Angeles, Los Angeles County (fig. 1). More specifically, it lies immediately north of W. 190th Street between S. Vermont Avenue and the southern off-ramp of the Harbor Freeway. Legally, the subject property is situated in an unsectioned portion of Township 3 South, Range 13 West, San Bernardino Base Meridian as shown on a portion of the USGS *Torrance* Topographic Quadrangle (fig.2).

The project area is irregular in shape with the northern boundary delineated by a portion of the Dominguez Channel and an automobile wrecking yard. The whole of the southern boundary adjoins W. 190th Street while the eastern boundary lies adjacent to the southbound Harbor Freeway off-ramp for W. 190th Street. The western boundary abuts commercial development.

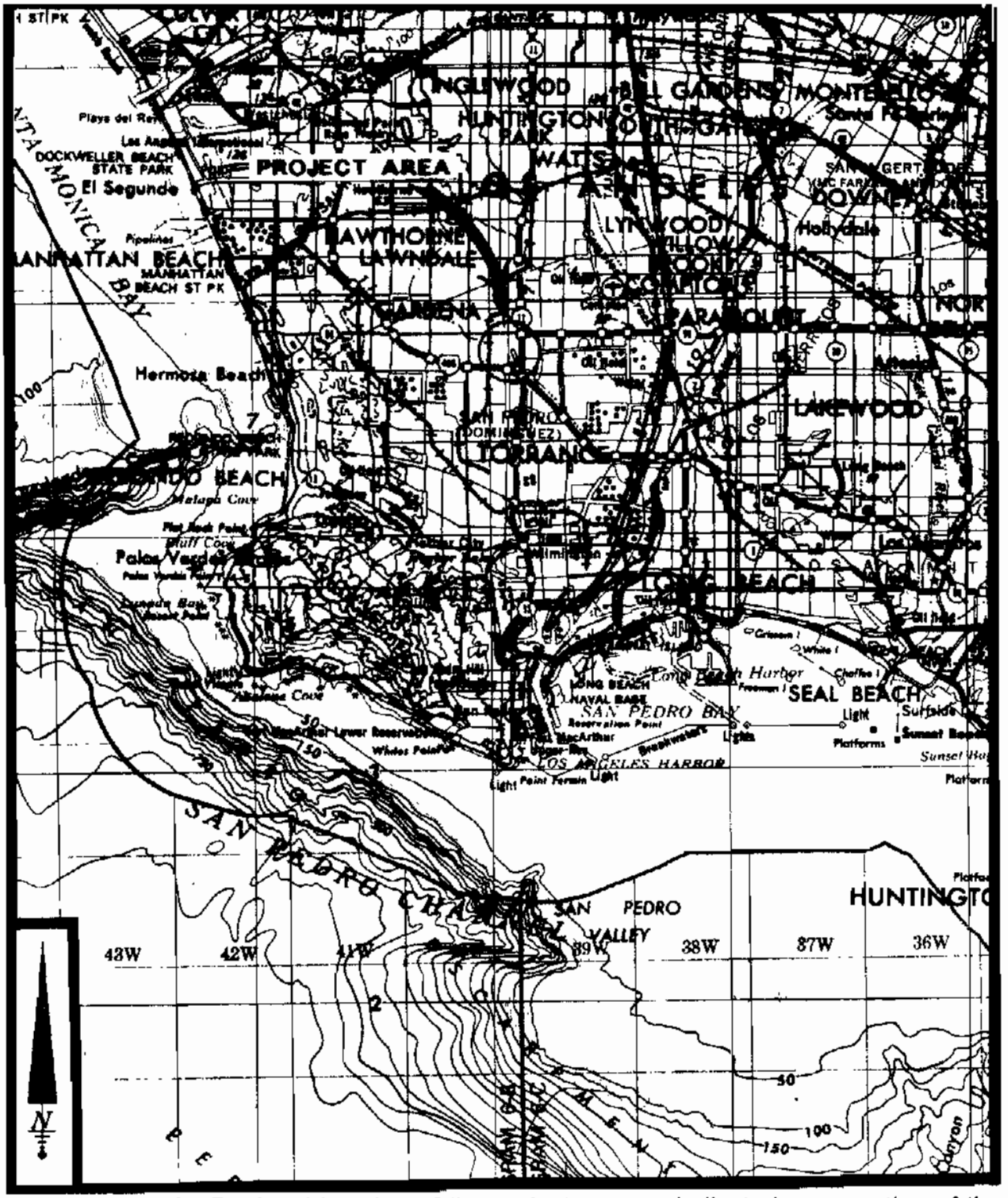

Figure 1. Regional location of the project area as indicated on a portion of the USGS *Long Beach* 1:250,000 scale Topographic Map Sheet (1967, revised 1978).

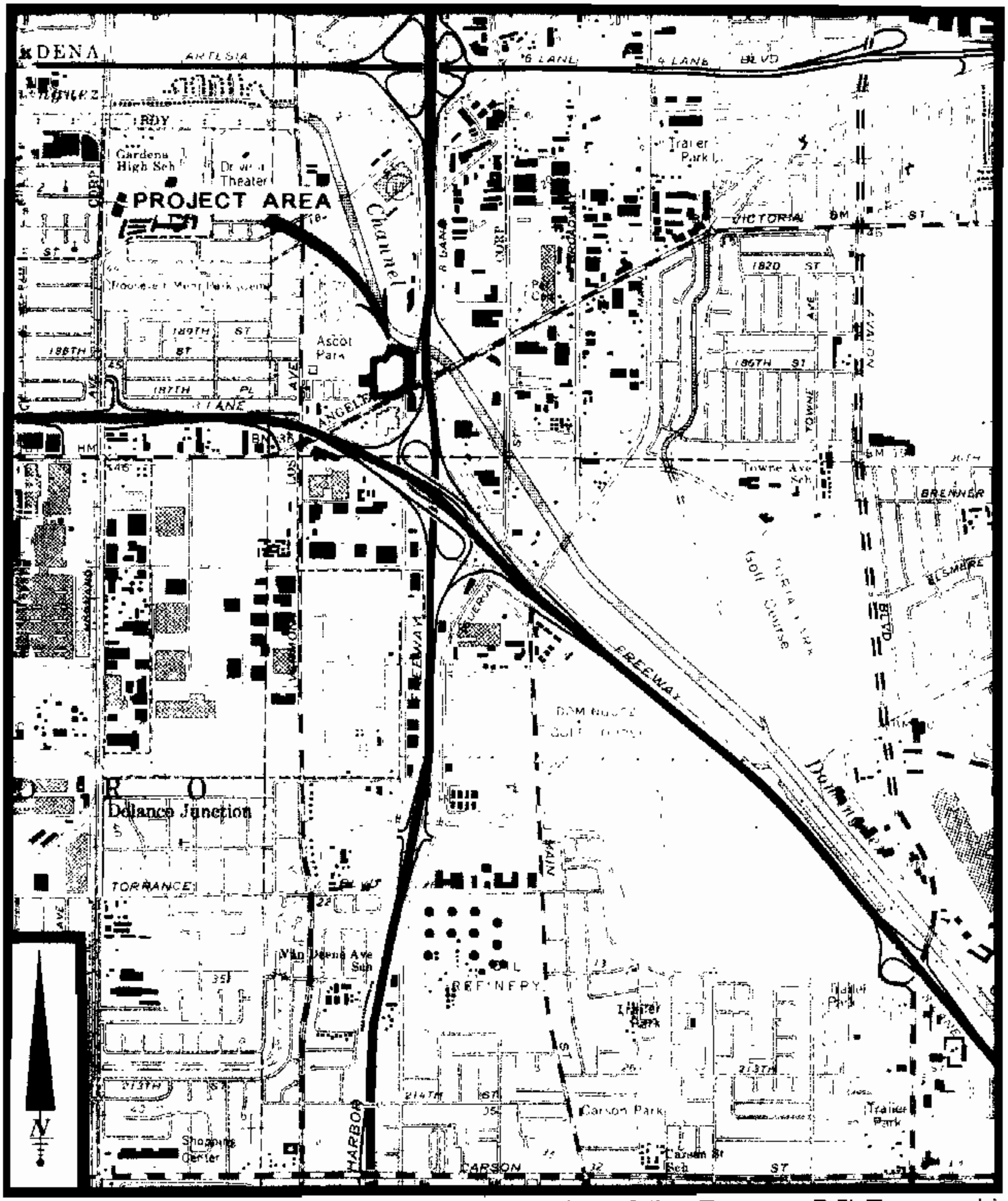

Figure 2. Study area plotted on a portion of the *Torrance* 7.5' Topographic Quadrangle (1964, photorevised 1972).

Topographically, the study area is flat and devoid of relief as the majority of the property has been artificially filled in order to achieve its present elevation. Originally, the parcel comprised a sink or depression likely connected with the Laguna Dominguez slough system. Elevations average 40 feet above mean sea level throughout the project area with drainage generally to the south. On-site vegetation is virtually non-existent since pavement covers most of the site area. However, along the northeastern boundary a small growth of fennel, castor bean and wild tobacco was observed. Fauna encountered included doves and pigeons.

What soils could be observed consisted of sandy loam. No bedrock exposures or sources of natural surface water were encountered anywhere within the boundaries of the property. Disturbance throughout the study area is extensive but not surprising since it has apparently served as a freight/trucking terminal and more recently as a truck storage yard. As previously mentioned, the present elevation of the property is a result of the placement of imported fill and is covered with a layer of asphalt. A small portion of the northwest corner of the parcel is not paved but graded. Additionally, the concrete platform of a defunct fueling station, associated piping, and a commercial structure (yard office) can be found in the southwest quarter of the study area.

III. RECORDS SEARCH

An in-person records search of the study area was conducted by Mr. Richard Guttenberg at the South Central Coastal Information Center (SCCIC), California State University, Fullerton. The search entailed a review of all previously recorded prehistoric and historic archaeological sites situated on or within a 1/2-mile radius of the project area. Additionally, the National Register of Historic Places (NRHP), California Historical Landmarks (CHL), California Points of Historical Interest (CPHI), and the Office of Historic Preservation=s Directory of Properties were reviewed for the purpose of identifying any historic properties. A review of the City of Los Angeles Historic-Cultural Monuments lists was also consulted.

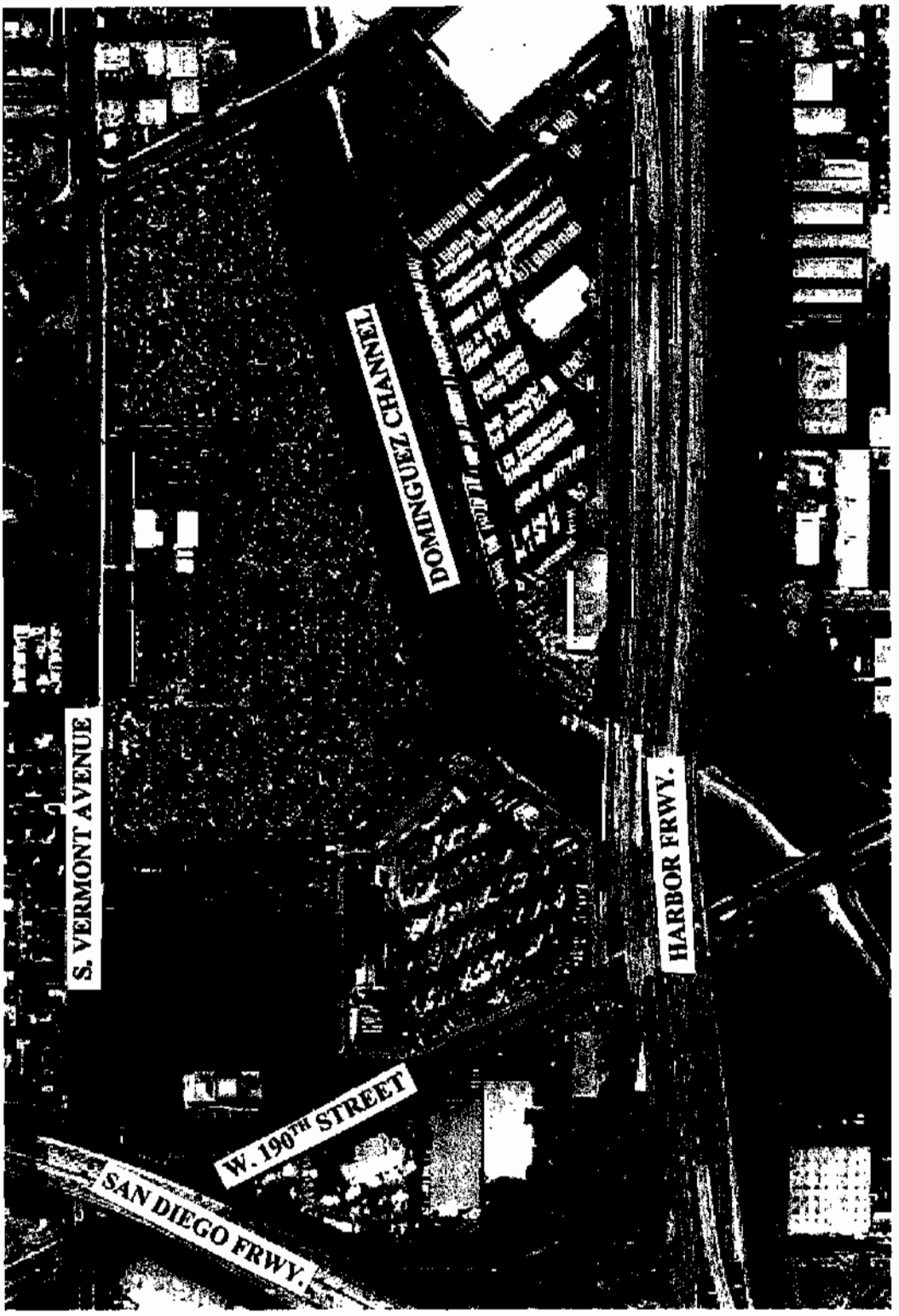

Figure 3. Aerial photograph indicating location of project area.

A. Previously Recorded Sites

The results of the search indicated that no prehistoric or historic archaeological sites have been previously recorded within the boundaries of the study area. However, one prehistoric (LAN-88) and one historic (Primary #19-187898) site have been recorded within a 1/2-mile radius of the project. Each site is described in the following paragraphs

1. LAN-88

LAN-88 is drawn as an amoeba-shaped site with no specific dimensions which is centrally mapped over the Dominguez Channel. It was vaguely recorded by F.H. Racer in 1939. Initially designated AF.H. Racer's "Miscellaneous Sites #1", the site location was described as "Misc. small sites around the borders of Laguna de los Dominguez," south of Gardena. Furthermore, he stated that "these sites are hard to locate and very few artifacts can be found. No doubt there are many other small sites that I have not yet discovered in this district." In his 1939 manuscript "Indian Camp sites in the Harbor District (n.d.), Racer noted "sea shells, broken mano stone and flint chips" in the area of LAN-88. To date, archaeologists have yet to find any archaeological evidence of the site.

2. Primary # 19-187898

Primary # 19-187898 was recorded by Angel Tomes of EDAW, Inc. in 2004. It is described as Fire Station 79 located at 18030 S. Vermont Avenue in the community of Gardena, City of Los Angeles. The fire station was constructed in 1941 and comprises a symmetrical single-story building with a detached hose tower. Several of its features (i.e. flat composition roof and curved roof line) are characteristics of the Art Moderne style. The fire station was evaluated for historical/architectural significance and determined not to be a historical resource for the purposes of CEQA (Tomes 2004). The station lies approximately 1/2-mile away to the north/northwest of the project area.

B. Heritage Properties

No listed National Register of Historic Places (NRHP), California Historical Landmarks (CHL), or California Points of Historical Interest (CPHI) properties have been recorded within the study area or within a 1/2-mile radius. Additionally, the Office of Historic Preservation's Directory of Properties failed to list any buildings in this part of the

City of Los Angeles that have been evaluated for historical significance. Furthermore, no Los Angeles Historic-Cultural Monuments have been recorded within a 1/2-mile of the project site.

C. Previous Surveys

The results of the search indicated that the entire study area was previously surveyed for cultural resources. In 1984, Dr. Brian Dillon (consulting archaeologist) conducted an investigation of the 10±acre property. No archaeological sites were found within the subject study area. However, due to the large amount of asphalt covering the property, Dillon recommended that grading monitoring by a professional archaeologist occur when the asphalt layer was to be removed (Dillon 1984:8).

Outside the study area, approximately 10% of the surrounding 1/2-mile radius has been surveyed. Seven investigations have been conducted within the project radius. They comprise large and small acreage surveys as well as linear investigations (i.e. freeway alignments).

IV. HISTORIC MAP RESEARCH

In addition to the records search, several historic USGS topographic maps were inspected in the map room of the Science Library at the University of California at Riverside. The various topographic maps examined for the project included: 1) the 1896 *Redondo* 15' USGS Quadrangle, 2) the 1930 *Compton* 6' USGS Quadrangle, 3) the 1951 *Torrance* 7.5' USGS Quadrangle, and 4) the 1964 *Torrance 7.5'* USGS Quadrangle. No Sanborn Fire Insurance Maps were available for this portion of the City of Los Angeles. Data gleaned from each map is discussed in the following paragraphs.

A. 1896 *Redondo* 15' USGS Quadrangle

The 1896 *Redondo* Quadrangle shows the property as vacant land, a portion of the Dominguez Slough system. No man-made improvements are depicted in the area.

B. 1930 *Compton* 6' USGS Quadrangle

A review of the 1930 *Compton* 6' Quadrangle depicts a number of arterial and secondary roadways including Vermont Avenue, Figueroa Avenue, and Victoria Street (190th Street). A single structure is shown within the western portion of the study area adjacent to the Dominguez Slough, a portion of which occupies the eastern section of the project area.

C. 1951 *Torrance* 7.5' USGS Quadrangle

The 1951 *Torrance* 7.5' Quadrangle shows continued growth in the surrounding region but the subject property is depicted as vacant land and the structure previously indicated on the 1930 *Compton* 6' Quadrangle is now gone. Clearly, a large portion of the property comprises low-lying terrain.

D. 1964 *Torrance* 7.5' USGS Quadrangle

A review of the 1964 *Torrance* 7.5' Quadrangle indicates that the area surrounding the study area is highly developed. The Harbor and San Diego Freeways are shown along with a host of new roads. Three buildings are shown within the study area. Judging by their size they are commercial/industrial in nature. The Dominguez Slough has been considerably reduced in size and partially channelized by the Dominguez Channel which adjoins the northeastern portion of the project area.

V. LAND PATENTS

Archival research also included a review of land patents on file with the Bureau of Land Management (BLM) in Sacramento. BLM General Land Office records show that the study area (located within an unsectioned portion of Township 3 South, Range 13 West, San Bernardino Base Meridian) was originally part of the Rancho San Pedro (Dominguez) Mexican Land Grant. The 43,131 acre land grant (document # PLC 440 and accession/serial # CACAAA 084909) was issued to Jose Aquina and several members of the Dominguez family (Andres Dominguez, Esteban Dominguez, Feliciana Dominguez,

Jose Dominguez, Madalina Dominguez, Manuel Dominguez, Maria Dominguez, Maria Jesus Dominguez, and Pedro Dominguez) on December 18, 1858.

VI. FIELD RECONNAISSANCE

A field reconnaissance of the project area was conducted on June 2, 2007. Participating personnel included Laura S. White, M.A. (Principal Investigator), Richard Guttenberg (surveyor) and Robert S. White (surveyor). Surface visibility over the vast majority of the property was nil due to the paved surface. However, the field survey was accomplished by walking parallel transects spaced at 2-3 meter intervals across the few open patches of ground in the northwest property corner and along the western boundary behind the yard office building. The northeastern edge of the property was also reconnoitered even though it was not native ground.

VII. REPORT OF FINDINGS

A. Prehistoric Resources

The results of the records search conducted at the South Central Coastal Information Center at California State University, Fullerton failed to identify any prehistoric resources within the project boundaries. The results of the field study were also negative. No prehistoric resources of any kind were identified during the course of the investigation.

B. Historic Resources

Archival research and the field study resulted in the identification of one building that is over 45 years of age. According to City records, the building was constructed in 1955 or 1956. It comprises a combination wood framed and cement block building that has undergone several additions or renovations. It presently serves as the yard office and is situated in the southwest corner of the study area. No historical/architectural evaluation was conducted for this structure. Purely utilitarian in nature, the building is in fair to poor condition.

VIII. CONCLUSIONS AND RECOMMENDATIONS

A. Prehistoric Resources

The results of the records search conducted at the South Central Coastal Information Center at California State University, Fullerton indicated that no prehistoric archaeological sites have been recorded within the boundaries of the subject property. The results of the field study were equally as negative. Use of the property for parking, staging and material storage will have no adverse affects on prehistoric resources. Therefore, no further work in conjunction with prehistoric resources is recommended. However, in the event that the asphalt paving is removed in conjunction with the proposed Laydown use, then a professional archaeologist should be present to monitor the pavement removal and any associated earth disturbing activities.

B. Historic Resources

The results of the field study identified one standing structure within the southwest corner of the study area that is of sufficient age to be considered historic. Use of the property for parking, staging and material storage will have no adverse affects on this building or historic resources in general. In the event that the yard office is to be demolished or altered in conjunction with the proposed Laydown use, then it should be evaluated for significance pursuant to CEQA criteria.

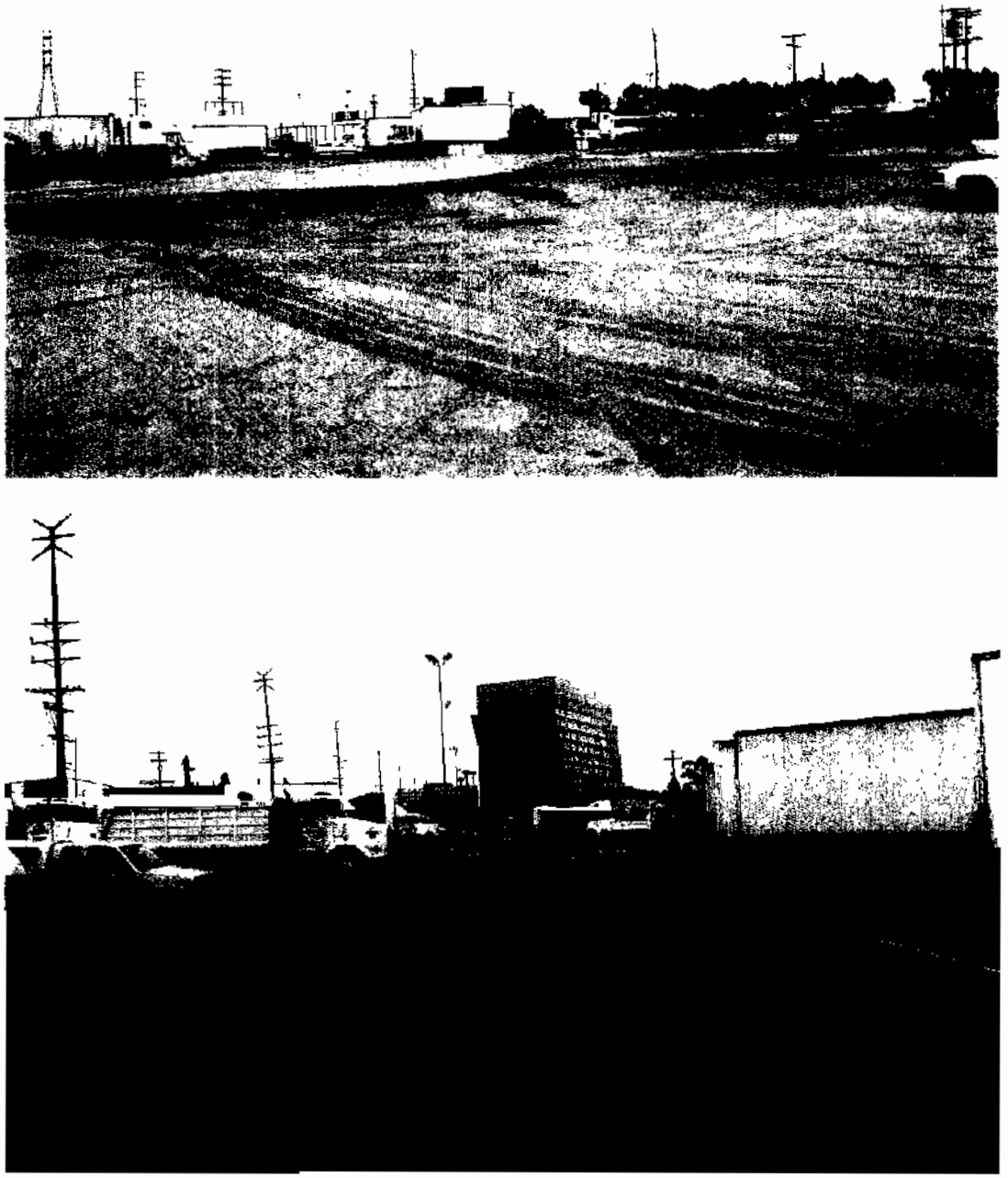

Plate I. **Top**: Looking southeast across study area from the northwest property corner. **Bottom**: Looking southwest across southern margin of property from the southeast corner.

Plate II. Top: Southerly view along western margin of property from northern boundary. **Bottom**: Southwesterly view of yard office building in the southwest property corner (777 W. 190th Street).

REFERENCES CITED

Dillon, Brian D., Ph.D.

1984 An Archaeological Survey and Impact Assessment of a 9.99 Acre Parcel at 190th Street and the Harbor Freeway, City of Los Angeles, California. Unpublished report (LA 1445) on file with the South Central Coastal Information Center at California State University, Fullerton.

Racer, F.H.

n.d. Indian Camp Sites in the (Los Angeles) Harbor District. Unpublished manuscript (1939) on file with the South Central Coastal Information Center at California State University, Fullerton.

1939 Site record form for LAN-88 on file with the South Central Coastal Information Center at California State University, Fullerton.

Tomes, Angel

2004 Historical Architectural Evaluation of Fire Station No. 79, City of Los Angeles, Los Angeles County, California. EDAW, Inc. Unpublished report (LA 7898) on file with the South Central Coastal Information Center at California State University, Fullerton.

JMA

LAURA S. WHITE

Curriculum Vitae

GENERAL

Laura S. White, M.A. is a RPA (Register of Professional Archaeologists) certified archaeologist and has held the full-time position of Field Director with Archaeological Associates since 1990. She coordinates and oversees archaeological projects with JMA. During the last sixteen years of her professional career, she has contributed to or directed all phases of archaeological investigation for hundreds of projects. Recently, she has completed a number of private and governmental assessments requiring a Section 106 consultation and/or National Register eligibility.

Ms. White has extensive experience with cultural resource compliance with regard to CEQA, NEPA, HABS, HAER and various other local criteria. Furthermore, she is certified by the Counties of Orange, Riverside, San Diego, San Bernardino. Los Angeles and Ventura to direct all phases of archaeological investigation.

Her archaeological expertise has taken her to project sites located throughout southern and central California. These undertakings have comprised both prehistoric and historic archaeological investigations situated in Riverside, San Bernardino, Los Angeles, Orange, Santa Barbara, Ventura, Kern, Fresno, Madera, Inyo, San Diego, and Imperial Counties.

EDUCATION

1989	M.A. in Anthropology with emphasis in Archaeology, San Diego State University, San Diego.
1981	B.A. in Anthropology, University of San Diego, San Diego.
1978-1979	University of San Diego Business School.
1977-1978	Pepperdine University Business School.

CERTIFICATION

1999-Present	Register of Professional Archaeologists (RPA) Certification: Archaeologist
1990-1998	Society of Professional Archaeologist (SOPA) Certification: Field Research

TRAINING COURSES

2005 SB 18 Consultation Seminar. Riverside. Offered through the Governor=s Office of Planning and Research (December, 2005).

2002 Introduction to Federal Projects and Historic Preservation Law. San Diego. GSA Interagency Training Center (June, 2002).

PROFESSIONAL ORGANIZATIONS

American Committee for the Preservation of Archaeological Collections (ACPAC)

EXHIBITS

1987 Participant in construction of exhibit for the City of Vista, California. Artifacts on display are all from archaeological sites in the Vista area.

1981 Participant in construction of exhibit on the Early Cultures of San Diego, San Diego Museum of Man. University of San Diego. San Diego.

GRANTS

1981 Recipient of an Academic Research Grant for archaeology, University of San Diego, San Diego, California.

LECTURES AND PRESENTATIONS

1991 Guest lectured for the Mojave River Archaeological Society in Barstow. Topic: The Atlatl in California.

1987 Guest lectured at Long Beach State University. Topic: Contract Archaeology.

1985 The Plight of Del Mar Man. Paper presented at the annual spring meeting of Society for California Archaeology, San Diego.

OVERSEAS EXPERIENCE

1981 Participant in on-going excavations at Hambledon Hill, Dorset, England.

PUBLICATIONS

2005 Van Horn, David, Laura S. White, and Robert S. White. The Prehistory of Gretna Green, a Site in Northern San Diego County, pp. 145-168 IN: Onward and Upward! Papers in honor of Clement W. Meighan (Keith L. Johnson, editor). Stansbury Publishing, Chico.

1990-1991 Co-editor for the Pacific Coast Archaeological Society Quarterly. The PCAS Quarterly is one of two professional archaeological journals dedicated to the archaeology of southern California.

UNPUBLISHED ARCHAEOLOGICAL REPORTS

Representative examples of unpublished archaeological reports are available upon request.

CALIFORNIA ARCHAEOLOGICAL EXPERIENCE

2005-2006 December-February. **Principal Investigator**. Phase II Significance Evaluation of Prehistoric Archaeological Site RIV-1008, TT No. 31878, City of Murrieta, Riverside County. **Responsibilities:** record keeper, researcher, excavator, screener, lab director, and co-author. Archaeological Associates.

2002-2006 Phase I (July-December 2002), Phase II (February-August, 2004), Report (January- March, 2006). **Field Director**. Archaeological Investigations at Prehistoric Site RIV-3843 located within Tract 30069, French Valley, unincorporated Riverside County. **Responsibilities**: record keeper, researcher, feature illustrator, excavator, screener, lab director, and co-author. John Minch & Associates, Inc.

2005 April-June. **Principal Investigator**. Phase II Significance Evaluation of Prehistoric Archaeological Site RIV-5783, TT No. 32786, City of Lake Elsinore, Riverside County. **Responsibilities:** record keeper, researcher, excavator, screener, lab director, and co-author. Archaeological Associates.

2004-2005 May-September. **Principal Investigator**. A Cultural Resources Assessment of the 2935 Acre Acra Energy Master Planned Community Project, Unincorporated Orange and Los Angeles Counties. **Responsibilities:** record keeper, researcher, surveyor, and co-author. John Minch & Associates, Inc.

2003-2004 November-January. **Field Director**. HABS/HAER Report Conducted in Conjunction with the Gilbert Kraemer Residence, 525 North Angelina Drive, City of Placentia, Orange County. **Responsibilities**: record keeper, researcher, supervised and participated in taking hand measurements of the building, coordinated the large and medium format photography, and co-author.. Archaeological Associates.

2002 July. **Field Director**. Archaeological Investigation of a Segment of the Mission San Juan Capistrano=s Trabuco Aqueduct, San Juan Capistrano, Orange County. **Responsibilities:** record keeper, researcher, lab director, and co-author. John Minch & Associates, Inc.

2002 February-April. **Principal Investigator**. A Cultural Resources Assessment of the Proposed City of Orange Main Library Expansion and Remodel Project, Orange County. **Responsibilities:** record keeper, researcher, surveyor, and author. Archaeological Associates.

2002 January-April. **Field Director**. HABS/HAER Study of the KEHE/KFI Radio Broadcast Studios, 141 North Vermont Avenue, City of Los Angeles, Los Angeles County. **Responsibilities:** record keeper, researcher, supervised and participated in taking hand measurements of the building, coordinated the large and medium format photography, and co-author. Archaeological Associates.

2001-2002 November-January. **Field Director**. Historic and Prehistoric Element for the City of Moreno Valley General Plan, Riverside County. **Responsibilities:** researcher, surveyor, co-author. Archaeological Associates.

2001 May-August. **Field Director**. Study for the General Plan for the City of San Jacinto, Riverside County. **Responsibilities:** researcher, surveyor, co-author. Archaeological Associates.

2000 November-December. **Principal Investigator**. Historic Property Survey Report (HPSR) for the Ramona Avenue Grade Separation Project, Montclair, San Bernardino County. **Responsibilities:** researcher, surveyor, and author. Archaeological Associates.

2000 June-August. **Principal Investigator**. 17,000-Acre Oak Hills Community Plan, Hesperia, San Bernardino County. (2000). **Responsibilities:** researcher and author. Archaeological Associates.

2000 May. **Principal Investigator**. 3400-Acre Glen Helen Specific Plan, Devore, San Bernardino County. **Responsibilities:** researcher and author. Archaeological Associates.

2000 March-April. **Field Director**. Covina Transit Center, Covina, Los Angeles County. **Responsibilities**: researcher, surveyor, and co-author. Archaeological Associates.

2000 February-March. **Field Director**. 5200-Acre Agricultural/Dairy Preserve, Chino Basin Sub Area 2, Chino, San Bernardino County. **Responsibilities:** researcher and co-author. Archaeological Associates.

1999 July-August. **Field Director**. Historic and Prehistoric Element for the City of San Juan Capistrano General Plan, County of Orange. **Responsibilities:** researcher, surveyor, co-author. Archaeological Associates.

1999 April-June. **Field Director**. Determination of Eligibility Study for the Casa Ramona School, City of San Bernardino, San Bernardino County. **Responsibilities:** record keeper, researcher, and co-author. Archaeological Associates.

1996-1999 Various months. **Field Director**. Los Angeles County Metropolitan Transit Authority (MTA) Metro Red Line Mid-City Project, Los Angeles County. **Responsibilities:** record keeper, researcher, surveyor, and co-author. Historic and architectural evaluations of approximately 600 buildings and structures that lay above and adjacent to three alternative subway routes in the Mid-City section of Los Angeles.

1998 September-October. **Field Director**. A Cultural Resources Assessment of the TXI Riverside Cement Company, Oro Grande Plant Modernization, Oro Grande, San Bernardino County. **Responsibilities:** record keeper, researcher, surveyor, and co-author. Archaeological Associates.

1997 May-August. **Principal Investigator**. Archaeological Investigations of a 50+ Acre Portion of the Cabazon Indian Reservation, Mecca, Riverside County (RIV-5863, RIV-5864, and RIV-5865. **Responsibilities:** surveyor, researcher, excavator, screener, lab director, and co-author. John Minch & Associates, Inc.

1996 July-August. **Principal Investigator**. Archaeological Overview of the Imperial Highway-Orangethorpe Avenue/Esperanza Road Grade Separation Project, City of Anaheim and unincorporated County of Orange. **Responsibilities:** researcher, surveyor, and author. Archaeological Associates.

1996 May-June. **Principal Investigator**. Archaeological Assessment of the Fairmont Boulevard Overcrossing Project, Cities of Yorba Linda and Anaheim, Orange County. **Responsibilities:** researcher, surveyor, and author. Archaeological Associates.

1996 April-May. **Principal Investigator**. Archaeological monitoring for the demolition of the Quesada House (26603 Mission St., Los Rios District), San Juan Capistrano, Orange County. **Responsibilities:** supervised demolition and author. Archaeological Associates.

1993 May-March. **Field Director**. Archaeological monitoring at LAN-61 A-C on the Leavy
1996 campus, Loyola Marymount University, Westchester, Los Angeles County. **Responsibilities:** Supervised monitoring staff, identification and curation of finds, provided the school with weekly status reports, and supervised the Native American observers.

1995 December. **Principal Investigator**. Archaeological Assessment of the Corian Cross Manufacturing and Assembly Plant Project, San Juan Capistrano, Orange County. **Responsibilities** : surveyor and author. John Minch & Associates, Inc.

1995 November-December. **Field Supervisor**. Archaeological Monitoring for the Reach No. 1 Water Transmission Main (ORA-845). City of Newport Beach, Orange County. **Responsibilities:** supervising, directing, and author. John Minch & Associates, Inc.

1995 November. **Principal Investigator**. Archaeological monitoring for the River Street Drainage Improvement Project, City of San Juan Capistrano, Orange County. **Responsibilities:** supervising, directing and author. John Minch & Associates, Inc.

1995 October-December. **Principal Investigator**. Cultural resources inventory of the 3,000 acre City of Rialto Airport Specific Plan, Rialto, San Bernardino County. **Responsibilities**: researcher, surveyor, and co-author. John Minch & Associates, Inc.

1995 August-September. **Principal Investigator**. Historical Review of the Bryant Bixby-Bryant House and Headquarters, Yorba Linda, Orange County. **Responsibilities**: researcher, surveyor, and report author. Archaeological Associates.

1995 July-August. **Field Supervisor**. Archaeological Monitoring of the AAA Automobile Club Greenville-Banning Channel Project, Costa Mesa, Los Angeles County. **Responsibilities**: supervising, directing, and author. John Minch & Associates, Inc.

1995 January-May. **Field Supervisor**. Archaeological Monitoring of the Trabuco/De la Vista Sewer Project, Orange County. **Responsibilities**: supervising and directing monitoring program as well as author. John Minch & Associates, Inc.

1994 April-September. **Field Director**. Phase II Archaeological Investigations of the Hines Property (RIV-271, RIV-1454, RIV-2991, RIV-4353, and RIV-4356), Temaja Valley, Riverside County. **Responsibilities**: record keeper, excavator, screener, lab director and co-author. Archaeological Associates.

1994 July-August. **Principal Investigator**. Archaeological Assessment of the Olinda/Olinda Alpha Landfill Alternative Access Routes, Brea, Orange County. **Responsibilities**: records

keeper, researcher, surveyor, and author. Archaeological Associates.

1993 July. **Assistant Field Director.** Test Excavations at PBC-1, A Millingstone Horizon Marine Shell Deposit Located in the Portuguese Bend Club Phase II Area of the City of Rancho Palos Verdes, Los Angeles County, California (Vesting Tentative Tract No. 49067). **Responsibilities**: research, excavator, screener, lab director, co-author. Archaeological Associates.

1993 March-April. **Field Director.** Salvage excavations at LAN-1714, Malibu, Los Angeles County. **Responsibilities**: record keeper, excavator, screener, feature illustrator, lab director, co-author. Archaeological Associates.

1993 March. **Field Director.** Salvage excavations at SDI-5130, California Brisas Project, Oceanside, San Diego County. **Responsibilities**: record keeper, researcher, excavator, screener, monitor, and co-author. John Minch & Associates, Inc.

1993 November-January. **Field Director.** A Cultural Resources Study of the Proposed Zone
1992 Change and Planned Development set forth in the Master Campus Development Plan of Claremont Graduate School, Claremont, Los Angeles County. **Responsibilities**: record keeper, researcher, and co-author. Archaeological Associates.

1992 November-December. **Principal Investigator.** Section 106 Compliance for the new Calexico Port of Entry Ingress/Egress Routes, Calexico, Imperial County. **Responsibilities**: record keeper, researcher, surveyor, and report co-author. Archaeological Associates.

1992 October-November. **Field Director.** HABS/HAER Recording of the Vega Building, East Los Angeles, Los Angeles County. **Responsibilities**: researcher, supervised and participated in taking hand measurements of the building, and coordinated the large and medium format photography. Archaeological Associates.

1992 April-July **Field Director.** An Historic Resource Report on the City of La Puente Downtown Business District Specific Plan Area, La Puente, Los Angeles County. **Responsibilities**: record keeper, researcher, co-author. Archaeological Associates.

1991 September-October. **Field Director.** Salvage excavations at Leucadia Highlands (W-2049), City of Encinitas, San Diego County. **Responsibilities**: record keeper, excavator, screener, data analyst, and lab director. Archaeological Associates.

1990 September-December. **Field Director.** Phase II Archaeological Investigations of 30 sites within the City Ranch, Palmdale, Los Angeles County. **Responsibilities**: record keeper, researcher, excavator, screener, data analyst, and co-author. Archaeological Associates.

1990 August-September. **Field Director**. Archaeological Overview of the 27,000-acre Coachella Valley Enterprise Zone, Riverside County. **Responsibilities**: record keeper, researcher, surveyor, and report co-author. Archaeological Associates.

1990 July-August. **Field Director**. An Archaeological Assessment of the 1600-acre Sun City, Palm Springs Project Site, Coachella Valley, Riverside County. **Responsibilities**: surveyor, researcher, report contributor. Archaeological Associates.

1990 March. **Field Director**. Phase II Test Excavations at JM-1, Citrus Course, TT 24890, La Quinta, Riverside County. **Responsibilities:** excavator, screener, monitor, data analyst, co-author. Archaeological Associates.

1990 February-March. **Field Director**. Cultural Resources Survey of 1100-acres, Twentynine Palms, San Bernardino County. **Responsibilities**: researcher, surveyor, report co-author. Archaeological Associates.

1990 January-February. **Field Director**. Salvage excavations at the Westrend Site (SDI-637), Vista, San Diego County. **Responsibilities**: record keeper, excavator, screener, lab director. Archaeological Associates.

1989 December. **Field Director**. Archaeological Assessment of Two Proposed Road Alignments within Village 34: Lake Forest Drive and Bake Parkway, Irvine, Orange County. **Responsibilities**: researcher, surveyor, report co-author. Scientific Resource Surveys, Inc.

1989 May-June. **Field Director**. Archaeological Investigations at the Chapin Adobe, City of Indian Wells, Riverside County. **Responsibilities**: Record keeping, researcher, excavator, data analyst, and report co-author. Archaeological Associates.

1989 February-April. **Field Director**. Cultural Resources Survey of the 2000-acre City Ranch Project, Palmdale, Los Angeles County. **Responsibilities**: surveyor, researcher, report co-author. Archaeological Associates.

1988-1989 December-February. **Field Director**. Test excavations at Twin Oaks Valley (W-3962 and W-3963), San Marcos, San Diego County. **Responsibilities**: record keeping, researcher, excavator, screener, lab director, and report co-author. Archaeological Associates.

1988 September-October. **Assistant Field Director**. Test and Salvage Excavations at the Hibiscus sites (SDI-8777 A-B), Vista, San Diego County. **Responsibilities**: record keeper, excavator, lab director. Archaeological Associates.

1988 March-May. **Field Director**. Salvage excavations at the Walker Ranch (RIV-333), Menifee/Sun City, Riverside County. **Responsibilities**: record keeper, excavator, screener,

lab technician, and data analyst. Archaeological Associates.

1988 January-March. **Field Director.** Salvage excavation at the Gretna Green site (SDI-5426), Escondido, San Diego County. **Responsibilities**: excavator, screener, lab technician, feature illustrator, data analyst, report contributor.

1987 May. **Field Director**. Test Excavations at ORA-243, San Juan Capistrano, Orange County. **Responsibilities**: excavator, screener, feature illustrator, and lab director. Archaeological Associates.

1987 February-April. **Assistant Field Director**. Test Excavations at LAN-62 and LAN-211, Playa Vista, Westchester, Los Angeles County. **Responsibilities**: record keeper, excavator, equipment operator, lab technician, and co-author. Archaeological Associates.

1986 February-February. **Lab Director.** Excavations at the Del Rey Site (LAN-63) and the
1987 Bluff Site (LAN-64), Westchester, Los Angeles County. **Responsibilities**: lab supervisor, data analyst, report contributor. Archaeological Associates.

1986 January. **Assistant Field Director**. Surface Collection and Auger Testing at the Del Rey Site (LAN-63) and the Bluff Site (LAN-64), Westchester, Los Angeles County. **Responsibilities**: record keeper, screener, lab director. Archaeological Associates.

1985 December. **Crew Chief**. Test excavation of VEN-95, Simi Valley, Ventura County. **Responsibilities**: excavator, screener, lab technician, and data analyst. Archaeological Associates.

1985 November-December. **Crew Chief**. Salvage excavations at the Shadow Hills Site (SBA-1820 and SBA-1855), Santa Barbara. **Responsibilities**: excavator, screener, lab technician. Archaeological Associates.

1985 October-November. **Crew Chief**. Test excavations of the Vista Business Park (W-899, W-2000, SDI-8091, SDI-8734, SDI-8735, and SDI-8736, Vista, San Diego County. **Responsibilities**: excavator, screener, lab technician, data analyst, and report contributor. Archaeological Associates.

1985 September. **Field Crew**. Excavations at LAN-1236, Agoura Hills, Los Angeles County. **Responsibilities**: excavator, screener, feature illustrator, data analyst, lab technician. Archaeological Associates.

1985 January-July. **Field Crew**. Salvage excavations at the Loyola Marymount Site (LAN-61A-C), Westchester, Los Angeles County. **Responsibilities**: excavator, screener, feature illustrator, lab technician, data analyst, and report contributor. Archaeological Associates.

NAME: **ROBERT S. WHITE**

TITLE: Director

EDUCATION: B.A., Liberal Studies (concentration in Anthropology (1987)

REGISTRATIONS/ AFFILIATIONS: Certified Archaeologist: County of Orange
County of Ventura
County of Riverside
BLM Desert Resource Areas

American Committee for the Preservation of Archaeological Collections (ACPAC)

BACKGROUND:

Robert S. White has over twenty years of full-time archaeological experience and has been affiliated with a number of southern California contract archaeology firms since 1983. Since 1991 he has fulfilled the position of Director and more often than not, Principal Investigator for Archaeological Associates. Mr. White has extensive experience in all aspects of cultural resource investigation and management. These skills include but are not necessarily limited to: project planning and execution, field survey and excavation, obsidian hydration studies, land surveying, cartography, archival research, and document writing/production. Robert currently holds a "blanket" Cultural Resource Permit on the supervisory level for all five of the Bureau of Land Management (BLM) desert resource areas. He is also certified by the Orange, Riverside, and Ventura County Planning Departments to conduct all phases of archaeological investigation.

RELATED EXPERIENCE:

Beginning in 1996 and continuing in to 1997, Mr. White directed every aspect of the Section 106 Consultation for the MTA Metro Red Line Mid-City subway project. This entailed budgeting for and developing a scope of work, assisting in the archival research and field studies, coordination with both MTA staff and SHPO as well as providing final editing for the compliance sections of the Section 106 and 4(f) documents.

SPECIAL ACCOMPLISHMENTS:

At the request of the Bureau of Land Management, Mr. White has taught archaeological field school instructing archaeology students in the use of the transit, transit controlled surface collection, and various excavation techniques. In concert with colleague David Van Horn and others, they have pioneered controlled, mechanical excavation techniques suitable to very large archaeological sites.

Archaeological Experience

Van Dell & Associates * Portola Parkway Extension Project - JMA performed cultural and paleontological construction mitigation monitoring services on this five mile long road alignment project. JMA also provided management and coordination; monthly and final project reports; pre-construction paleontological surveys and mitigation quarrying operations. This project involved seventeen recorded archaeological sites with test and salvage phases on eight of the archaeological sites.

Shea Homes * Baker Ranch Industrial Development, Lake Forest - JMA provided archaeological and paleontological, testing, salvage, mitigation and monitoring services for a 750 acre industrial development. Adjacent to USMC El Toro.

Ocean Trails LLC * Trump National Golf Club, Golf Course And Residential Development, Palos Verdes - JMA provided 2 years of archaeological and paleontological mitigation and monitoring services for the 360 acre Ocean Trails Resort, Golf Course, and Park Development. An evaluation of the site for eligibility to the National Register of Historic Places was done which involved the identification of relevant cultural resources (historic properties), the evaluation of the resources historic significance, and an assessment of the effects upon them.

Ocean Trails LLC * Fort Macarthur/Sea Bench Coastal Defense Facilities - JMA prepared a Section 106 Consultation and conducted a HABS/HARE assessment for National Registry on 6 Taft Era and a WWII Fort MacArthur Base End Stations at Sea Bench, Rancho Palos Verdes. This project involved the documentation and preservation of two structures and the documentation and demolition of five others used for the coastal defense of Los Angeles Harbor.

City Of Rancho Palos Verdes * Fort Macarthur/Long Point Coastal Defense Facilities - JMA prepared an existing Conditions Report and Archaeology Section of Environmental Assessment on Pre historic and historical

structures including the Fort MacArthur Base End Stations, Coastal 6-inch gun emplacement and the Nike Ajax-Hercules Base located at Long Point, Rancho Palos Verdes, California.

Archaeological Investigations Near The Colmac Energy Plant, Cabazon Indian Reservation, Mecca, Riverside County - At the request of the Cabazon Band of Mission Indians, conducted an archaeological survey of 50-acres of tribal land situated immediately northwest of the Colmac Energy Plant.

Casa Ramona School Project - Section 106 consultation intended to ascertain National Register Eligibility of the Casa Ramona School complex prior to rehabilitation/seismic retrofit.

Coachella Valley Overview - Archaeological Overview of the 27,000-Acre Coachella Valley Eneterprise Zone, Coachella Valley, Riverside County.

Escondido Middle School - Archaeological Assessment of the Escondido Middle School Project, Escondido Union School District, Escondido. Phase I Archaeological and Historical assessment of project area prior to construction.

Indian Wells General Plan - Cultural Resources Inventory for the 9,000-Acre Indian Wells General Plan, City of Indian Wells, Riverside County.

Jefferson Street Improvement Project - Archaeological Assessment of 6 mile improvement project of Jefferson Street from Avenue 54 to Indo Boulevard, City of La Quinta, Coachella Valley, Riverside County, CA

Loyola Marymount University - Leavy Campus Improvement Project, City of Los Angeles. Survey, test excavation, final excavation, grading monitoring, research designs and on-going consultation to miligate and minimize impacts to prehistoric sites. Project entailed excavation of over 1,000 cubic meters of deposit and all follow-up services including coordination of Native American consultation.

San Buenaventura Mission School - Archaeological mitigation and monitoring of grading activities during the construction of a school for the San Buenaventura Mission in Ventura County, California.

Covina Transit Center, Covina, Los Angeles County (2000). Section 106 consultation intended to ascertain National Register Eligibility and the California Register of Historical Resources of several structures prior to demolition. Foothill Transit and the City of Covina.

Ramona avenue grade separation project, montclair, san bernardino county (2000). Historic Properties Survey Report (HPSR). Section 106 compliance on 1/2-mile street widening program. City of Montclair and *Caltrans* District 8.

Murrieta Elementary School, City of Murrieta, Riverside County (2000). Determinations of eligibility for the National Register of Historic Places and the California Register of Historical Resources. City of Murrieta Planning Department.

Casa Ramona School, City of San Bernardino, San Bernardino County (1999). Determinations of eligibility for the National Register of Historic Places and the California Register of Historical Resources. County of San Bernardino Department of Planning and Building Services.

Aquatics/teen center/maintenance facility/parking project, city of el monte, los angeles county (1999). Section 106 consultation intended to ascertain National Register Eligibility of several structures prior to demolition. City of El Monte Department of Parks, Recreation and Transportation and the State Historic Preservation Officer (SHPO).

Riverside Cement Oro Grande Facility, Victorville, San Bernardino County (1998). Archaeological survey for prehistoric resources and determinations of eligibility for all historic structures within the 150-acre facility. San Bernardino County Planning Department.

Los Angeles County Metropolitan Transit Authority (MTA) Metro Red Line Mid-City Project, Los Angeles (1996-1999). Historic and architectural evaluations of approximately 600 buildings and structures that lay above and adjacent to three alternative subway routes in the Mid-City section of Los Angeles. Of the 600 buildings and structures with the project area, approximately 450 required full historic and architectural evaluations in order to make determinations of eligibility for the National Register of Historic Places. The project was conducted in consultation with the State Historic Preservation Officer (SHPO), *Caltrans* District 7, the Federal Transit Authority, the U.S. Department of Transportation (DOT) and the MTA.

A Cultural Resource Assessment of the Highland Springs Resort, City of Beaumont, Riverside County (1996). Archaeological /Historical Survey and National Register Eligibility determinations of historic resort buildings. City of Beaumont.

Foothill Boulevard (Route 66) Improvement Project, Rancho Cucamonga, San Bernardino County (1993). Historic Properties Survey Report (HPSR).

Section 106 compliance on a 1.5 mile street widening program. City of Rancho Cucamonga and *Caltrans* District 8 recordation of a three-story commercial building on the National Register of Historic Places. Los Angeles Department of Public Works.

Master Campus Development Plan of Claremont Graduate School, Claremont, Los Angeles County. Historic and architectural evaluations of approximately 30 campus buildings. Department of Community Development, City of Claremont.

Turnbull Canyon Road Improvement, City of Industry, Los Angeles County (1992). Historic Properties Survey Report (HPSR). Section 106 compliance on a 1.5 mile street widening program. Los Angeles County of Public Works/*Caltrans* District 7.

Downtown Business District Specific Plan Area, City of La Puente, Los Angeles County (1992). Historical reconstruction and architectural evaluations of six downtown city blocks. City of La Puente.

Chapin Adobe, City of Indian Wells, Riverside County (1989). Conducted both test and salvage archaeological investigations of the Chapin Adobe. This interesting structure, which belonged to one of Indian Well's first white immigrant families, existed only as "melted" foundations at the time the study commenced. Based upon the archaeological evidence and historical information and photographs acquired with the help of the Chapin family, we were able to reconstruct the entire building on paper. This study provided some surprising data on adobe building techniques employed by the early settlers of the Coachella Valley. City of Indian Wells.

A Cultural Resource Assessment of a Portion of the Upper Reservation, Fort MacArthur, San Pedro, Los Angeles County (1988). Archaeological /Historical Survey and National Register Eligibility determinations of historic WW II era structures and early 20th century coastal fortifications in conjunction with proposed high school project. Los Angeles Unified School District.

El Pueblo State Historic Park, Los Angeles County (1984). Compiled reconstructions of all structures on several blocks of the El Pueblo District, the oldest part of Los Angeles. The reconstructions, which were based upon archival research at many southern California Institutions, were arranged in eras beginning with Los Angeles' pueblo days and ending with the modern city. California Department of Parks and Recreation.

Peralta Adobe, Anaheim Hills, Orange County (1983-84). This mid-19th century adobe was a ruin at the outset of the investigation, the second floor having been burned out and many of the doors and windows altered or removed altogether. I studied the remaining architectural features intensively, often removing elements of late remodeling in order to expose evidence of the original construction. We also conducted archaeological excavations in and around the adobe which resulted in the recovery of many period artifacts. Today, the Ramon Peralta Adobe stands as a renovated structure which contains exhibits of photographs and artifacts acquired during my investigation. The entire project was conducted under the auspices of the Orange County Historical Commission and the Orange County Department of Parks and Recreation.

Richard B. Guttenberg

BIOGRAPHY

Richard Guttenberg is an archaeologist with over 7 years of environmental resource experience. He has worked on a wide variety of JMA projects throughout California and has an extensive background in both historic and pre-historic California archaeology. His keen understanding of construction engineering and practices combined with knowledge and experience with the local, State, and Federal regulatory process makes Richard a valuable member of JMA's staff. He has worked as an archaeological, paleontological, and biological monitor, field/lab director, and project manager, for JMA since 1998. Richard currently holds the position of Vice President – Cultural and Natural Resources.

EDUCATION

B.A. Anthropology California State University, Long Beach

Relevant Coursework/Training:

- Archaeological Theory/Methods
- Biological Sciences
- Geography/Biogeography
- Geology
- Pre-History of California/N. America
- Statistics/Data Analysis

PROFESSIONAL TRAINING

- Agency Coordination
- Archaeological Investigation
- California Environmental Quality Act
- Construction Monitoring
- Curation of Artifacts and Fossils
- ESA Section 401 / ESA Section 404(b)(1)
- Fossil Salvage/Preparation
- Geophysical/Remote Sensing Surveys
- HABS/HAER
- Laboratory Analysis
- National Environmental Protection Act
- Streambed Alteration Agreements

PROFESSIONAL EXPERIENCE AND ACCOMPLISHMENTS

1998-Present **Vice President-Cultural and Natural Resources**

JMA

The Vice President of Cultural and Natural Resources is responsible for training and maintaining staff, performing assessments of archaeological and paleontological resources and potential for impact, design and implementation of monitoring programs, project management, scheduling and client and agency coordination.

PROFESSIONAL AFFILIATIONS

- Member-Society for California Archaeology