SDGE Completeness Review Responses 2012-01-17

Mira Sorrento Distribution Substation Project
CPUC PEA Completeness Review
SDG&E 1/17/12 Response

This document is a response to the comments provided in the CPUC Completeness Review comments, dated November 18, 2011 for the Mira Sorrento Substation PEA. Each comment from the CPUC is provided in its entirety. The SDG&E response immediately follows comment.

ADMINISTRATIVE

Question 1:

Please provide all agency and public involvement contacts and correspondence to date, including names, addresses, phone numbers, and email addresses. In addition to property owners within and adjacent to the project, please list all other stakeholders and contacts.

SDG&E Response to Q1:

Agency and Public involvement contacts:

For the Airport Authority:

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Mira Mesa Community Planning Group
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MiraMesaCommunityPlanningGroup@gmail.com

Linda Geldner (Chair at time of SDG&E meetings)
linda@geldner.com

Bari Vaz
Mira Mesa Community Planning Group (current chair)
barivaz@sbcglobal.net

Phil Lisotta
Mira Mesa Community Planning Group (Substation Subcommittee Chair)
plisotta@qualcomm.com

Members of the public were present at the Mira Mesa Community Planning Group meetings, but no addresses were provided.

Question 2:

Please provide owner mailing address and the physical address of the parcels for assessor parcel numbers (APN) 341-01-028. This APN is shown for two sites adjacent to the east and

north of the proposed project site on the parcel aerial map; however, it is not included in the 300-foot parcel Excel file.

SDG&E Response to Q2:

The address is: 21 Mira Mesa LLC, 62 1st Street, San Francisco, CA 94105

Question 3:

Please provide ArcGIS shape files and/or CAD files for the off-site underground transmission facilities within franchise positions and the 12-kilovolt (kV) electrical distribution, telecomm fiber, and telephone duct package infrastructure.

SDG&E Response to Q3:

The shape files for the information shown in Figure 3-17 have been attached for your reference. These are conceptual plans and final designs for the transmission facilities have not been prepared. Please refer to electronic folder labeled: Q3 - Transmission.

Question 4:

Please provide a list of preparers of the Proponent's Environmental Assessment (PEA) in accordance with the California Public Utilities Commission (CPUC) PEA Checklist for Transmission Line and Substation Projects.

SDG&E Response to Q4:

A list of preparers has been attached. Please refer to electronic folder labeled: Q4 - List of Preparers.

CHAPTER 1 PEA SUMMARY

Question 1.5.1a:

SECTION 1.5.1 CITY OF SAN DIEGO

Section 1.5.1 states San Diego Gas & Electric (SDG&E) has had discussions with City of San Diego (City) staff regarding the City's change to the zoning classification on the project site from an industrial zoning designation to a residential zoning designation in 2006. Please indicate whether the correction to designate the site as industrial in the zoning map has been completed by City staff. Please provide the revised zoning map and correspondence from the City indicating the zoning correction has been made as presented in the PEA.

SDG&E Response to Q1.5.1a

Further discussions with the City have clarified that the existing zoning classifications on the project site are a residential (RS-1-8) and industrial (IL-2-1). The City's official zoning map, dated September 15, 2011, shows that apart from the Caltrans right-of-way, the project site is surrounded by industrial (IL-2-1 and IL-3-1), agricultural (AR-1-1), and residential (RS-1-8) designations. The land use of the IL-2-1 and IL-3-1 designations is commercial and industrial. The land use of the AR-1-1 designation is open space and residential. The RS-1-8 designation is the Interstate 805 freeway and Caltrans freeway right-of-way.

For construction noise, the Proposed Project will not exceed the City's construction noise thresholds because construction is limited to between 7:00 a.m. and 7:00 p.m. and will not exceed 75 dBA during the 12-hour period at the property line, consistent with San Diego Municipal Code section 59.5.0404.

For operational noise, the Proposed Project will not exceed the City's noise thresholds. The City's Significance Determination Thresholds state: "If a non-residential use, such as a commercial, industrial or school use is proposed to abut an existing residential use, the decibel level at the property line should be the arithmetic mean of the decibel levels allowed for each use as set forth in Section 59.5.0401 of the Municipal Code." There are no existing residential uses abutting the proposed project.

Section 59.5.0401(c) of the Municipal Code further states that "fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of [the Noise Ordinance], measured at or beyond six feet from the

boundary of the easement upon which the equipment is located." The noise level limits at or beyond six feet from the boundary of the parcels on which the equipment associated with the Proposed Project is located are as follows: 75 dBA at any time within the industrial (IL-2-1 and IL-3-1) and agricultural zones; and 50 dBA at daytime, 45 dBA at evening, and 40 dBA at nighttime within the residential (RS-1-8) zone. The Proposed Project maximum noise impact is 49.6 dBA, which is well below the 75 dBA limit within industrial and agricultural zones, but above the 45 dBA and 40 dBA evening and nighttime limits within the residential zone. As noted above, however, the adjacent parcels that are zoned residential comprise sections of Interstate 805 freeway and Caltrans freeway right-of-way. These parcels do not contain any existing or proposed residential uses, and it is not anticipated that residential uses will ever be developed within these particular parcels, even though they are residentially zoned. Existing noise levels within these parcels already exceed the residential zone limits because of freeway noise.

In sum, SDG&E believes that the industrial noise limit of 75 dBA anytime would apply to these parcels – notwithstanding the underlying residential zoning – for the following reasons: no residential uses exist or are proposed within these parcels, these parcels include and/or abut Interstate 805, and these parcels are owned by Caltrans, and the ambient noise levels within these parcels already exceed the residential noise limits.

Question 1.5.1b:

SECTION 1.5.1 CITY OF SAN DIEGO

Section 1.5.1 states SDG&E has prepared an analysis that demonstrates the proposed project is not considered a new utility project and is consistent with the Miramar Marine Corps Air Station (MCAS) Airport Land Use Compatibility Plan (ALUCP). Please provide the consistency analysis that was completed by SDG&E.

SDG&E Response to Q1.5.1b:

On November 3, 2011, the Airport Land Use Commission of the San Diego County Regional Airport Authority (Airport Authority) approved an amendment to the Marine Corps Air Station Miramar Airport Land Use Compatibility Plan (ALUCP) that allows the siting of new electrical substations within Airspace Protection Zone II provided they do not produce electronic interference with aircraft. The Proposed Project is located within Airspace

Protection Zone II (APZ II) and would not produce electronic interference with aircraft, so the Proposed Project is fully consistent with the ALUCP compatibility requirements.

Question 1.5.2:

SECTION 1.5.2 SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY

Section 1.5.2, states the City of San Diego City Council will have the ultimate land use decision in the event of a conflict between the ALUCP for Miramar MCAS and the proposed project. Please clarify as to whether any permits will need to be obtained from the City that would result in the consistency determination being made by City of San Diego City Council.

SDG&E Response to Q1.5.2:

As explained in Section 1.5.1, there is no conflict between the ALUCP and the Proposed Project. Therefore, no permits will be needed from the City of San Diego. Even if a permit were needed, the City would deem the Proposed Project consistent with the land use regulations of the Airport Authority and the City. In April 2011, the City amended its Municipal Code to allow new electrical substations at the site of the Proposed Project, and in September 2011, the Airport Authority approved the City's Municipal Code language as consistent with the ALUCP.

Question 1.9.1:

SECTION 1.9.1 INTERAGENCY COORDINATION

Please provide an update regarding the amendment to the Airport Authority's ALUCP that is expected to be approved by the Airport Authority no later than December 2011. Please clarify whether the amendment would be specific to the Mira Sorrento Substation project.

SDG&E Response to Q1.9.1:

As discussed in Section 1.5.1, on November 3, 2011, the Airport Authority approved an amendment to the ALUCP which allows the Proposed Project as a fully consistent land use at the site. This amendment resulted from coordination between SDG&E and the Airport Authority with the specific goal that the Proposed Project would be deemed consistent with the ALUCP. In April 2011, Marine Corps Air Station Miramar (MCAS Miramar) sent the

Airport Authority correspondence that clarified that it did not object to the siting of new substations within APZ II. SDG&E consulted with the Airport Authority on this issue and also demonstrated that allowing new substations within APZ II would be consistent with MCAS Miramar's Air Installations Compatible Use Zones plan.

Question 1.9.2:

SECTION 1.9.2 COMMUNITY OUTREACH

Please provide a summary of the community's feedback that has been received during meeting presentations provided by SDG&E to the Mira Mesa Community Planning Group since 2004.

SDG&E Response to Q1.9.2:

The community's feedback has been positive regarding the presentations made by SDG&E to the Mira Mesa Community Planning Group. A sub committee was formed to review the substation and SDG&E met with them three or four times to review the project. The subcommittee wanted a welcome to Mira Mesa sign to be included in the landscape design which SDG&E accommodated. When the final presentation was made to the larger group at a public meeting there were not any questions or concerns about the project made to SDG&E.

Question 1.9.3:

SECTION 1.9.3 LETTERS OF SUPPORT

This section of the PEA states that a letter from MCAS Miramar expressing non-opposition to electrical substations is provided in Appendix A. Please provide a copy of this letter since it was not included in Appendix A.

SDG&E Response to Q1.9.3:

The letter from MCAS Miramar expressing non-opposition to electrical substations is attached dated April 7, 2011. Please refer to electronic folder labeled: Q1.9.3 - MCAS Letter.

CHAPTER 2 PURPOSE AND NEED

Question 2.a:

The PEA indicates a new Mira Sorrento Substation is planned for 2014 to meet the area's ultimate capacity requirements. Please indicate whether the existing electrical service in the Sorrento Mesa area meets North American Electric Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) reliability requirements. Please be sure to provide a detailed explanation as to why the existing electrical service configuration meets NERC and WECC reliability requirements. Please identify at what point in time and under what contingencies the current transmission and distribution system in the Sorrento Mesa area will no longer be in compliance with NERC and WECC reliability requirements. Please provide details as to limiting system elements and associated contingency (or contingencies) as well as any supporting study work.

SDG&E Response to Q2.a:

This question does not apply to this type of substation. A Distribution substation is not under NERC and WECC reliability requirements. Only a substation at above 200kV falls under the NERC/WECC reliability requirements.

Question 2.b:

The supporting data contained within the PEA are limited to a statement regarding the number of distribution substations presently serving the area and a statement that 2013 forecasted loadings at these substations are in the 89% to 98% range. Please provide the basis for the percentage loading cited and the actual substation loadings (historical or forecasted).

SDG&E Response to Q2.b:

	Actual	Forecast		
	2010 Peak	2011 Load	2012 Load	2013 Load
Mesa Rim	81%	87%	90%	92%
Genesee	78%	86%	88%	89%
Torrey Pines	77%	84%	88%	89%
North City West	94%	95%	97%	98%

Question 2.c:

The PEA indicates that five substations are at maximum transformer configuration. Please identify the configuration at the five respective substations and substantiate the statement that the average high substation loading is forecasted to be 90% in 2012.

SDG&E Response to Q2.c:

	No. of Banks	Capacity (MW)	2012 Forecast Load
East Gate	2	59.4	65%
Mesa Rim	4	118.8	90%
Genesee	4	116.8	88%
Torrey Pine	4	119.4	84%
North City West	2	60	97%

Question 2.d:

Please provide the existing substation transformer capacity (normal and emergency) and transformer loads (historical and forecast) for all five substations mentioned in the PEA.

SDG&E Response to Q2.d:

Please note: Normal and Emergency capacity is same.

	Capacity (mw)	Actual	Forecast		
		2010 Peak	2011 Load	2012 Load	2013 Load
East Gate	59.4	36.9	38.2	38.4	38.7
Mesa Rim	118.8	100.5	103.5	106.9	110.3
Genesee	116.8	90.7	100.1	102.7	103.9
Torrey Pines	119.4	91.1	100.6	104.7	106.2
North City West	60	56.3	57.0	58.2	58.8

3.0 PROJECT DESCRIPTION

3.5.1 MIRA SORRENTO SUBSTATION

Question 3.5.1a

Please clarify as to whether the substation layout and site plan exhibits and profile drawing included in the PEA include the initial arrangement or ultimate arrangement. In the event the site plan exhibits and profile drawing include the initial arrangement, please provide exhibits with the ultimate configuration.

SDG&E Response to Q3.5.1a:

The exhibits in the PEA represent the ultimate arrangement.

Question 3.5.1b:

Please clarify the height of the substation steel racks. The PEA text indicates the steel racks will be approximately 30 feet tall; however, Figure 3-11, Mira Sorrento Substation Profile Drawing, shows a maximum height of 25 feet.

SDG&E Response to Q3.5.1b:

The height of the substation steel is 30 feet. Figure 3-11 is a representative view of what the substation would look like from a view 30ft away walking on the opposite sidewalk.

Question 3.5.1c:

Section 3.5.1.1 identifies several construction practices that would be implemented by SDG&E during construction. Please clarify as to whether the identified construction practices are considered an Applicant Proposed Measure (APM). In the event the construction practices were intended to be an APM, please revise Table 3-6 accordingly. Also see item 4.2(e) below.

SDG&E Response to Q3.5.1c:

The Construction Practices identified in Section 3.5.1.1 are standard construction practices that are typically implemented by SDG&E during construction activities to reduce the potential for the generation of fugitive dust. Such measures are not intended to be APMs, and therefore, are not identified as such in Table 3-6 or in Section 4.2, Air Quality.

Question 3.5.1d:

Please label each electrical facility on Figure 3-6 that will ultimately be installed at the proposed Mira Sorrento Substation. Please be sure to provide the ArcGIS files associated with the exhibits prepared in response to this data request.

SDG&E Response to Q3.5.1d:

The figure has been revised and has been attached to this response letter for your reference. The electronic CADD drawing file has been provided as well. Please refer to electronic folder labeled: Q3.5.1d - Figure 3-6.

Question 3.5.1e:

Please indicate whether the City has reviewed the conceptual landscape plan and whether the plan meets the City requirements. Please indicate whether SDG&E will need to obtain permits from the City associated with the landscape plantings included in the landscape plan that would require City staff to review and approve the conceptual landscape plan.

SDG&E Response to Q3.5.1e:

The City has not reviewed the conceptual landscape plan; however it was prepared using City guidelines. A permit is not required from the City with respect to the landscape plans but SDG&E has agreed to meet with the Mira Mesa Community Planning Group to discuss final plans prior to construction.

SDG&E will meet and confer with the City staff regarding the landscape plan during their review of the grading plans.

Question 3.5.1f:

Please provide the location of the existing water line and associated improvements that will need to be completed to provide potable water for the proposed landscaping.

SDG&E Response to Q3.5.1f:

It is anticipated that potable water will be provided via a metered service from the City of San Diego. An existing 12-inch water main located in Mira Sorrento Place is shown on the grading plans. Please see Figure 3-9 of the PEA. The ultimate location of the water meter will be known once the final design of the substation is complete. The water line and meter will have to avoid any other trenching or utility vaults associated with the substation.

Question 3.5.1g:

Please provide an explanation and timing as to the phased build-out of the proposed substation in relation to constructing the "ultimate arrangement."

SDG&E Response to Q3.5.1g:

Since only the 10-year forecast for the future substation load is utilized, it is unknown at this time what the actual timing of the phased build out for the ultimate arrangement will be.

Question 3.5.2:

3.5.2 DISTRIBUTION

Please provide a detailed map that includes the location and associated circuits that will be routed from the proposed substation to existing distribution circuits. Please provide a map that includes the location of the manholes, overhead pole tie-ins, new overhead conductor locations, etc. Please be sure to provide the ArcGIS files associated with the exhibits prepared in response to this data request. In addition, in accordance with the CPUC PEA Checklist, Chapter 7, please update the 300-foot parcel Excel spreadsheet and map to include all parcels within 300 feet of all project components. Please include the following data: APN number, owner mailing address, and physical address of parcels.

SDG&E Response to Q3.5.2:

A map showing the conceptual locations of the distribution infrastructure is provided as a separate attachment to this letter. The final design for these improvements has not been initiated at this point in the project. As such, no GIS files are available at this time.

The map and the excel spreadsheet provided with the PEA remain accurate. No additional parcels have been are with 300 feet of the substation.

Question 3.6:

3.6 PERMANENT LAND/RIGHT-OF-WAY (ROW) REQUIREMENTS

Table 3-1 indicates that SDG&E owns 3.74 acres; however, the text in Section 3.6.1 indicates that 0.25 acre is still under City Council consideration for transfer to SDG&E. Please confirm

that SDG&E owns 3.49 acres of the substation site and provide the status of the City Council transfer of the 0.25 acre.

SDG&E Response to Q3.6:

SDG&E owns 3.624 acres and 0.223 is still under City Council consideration for transfer to SDG&E.

Question 3.7.2:

3.7.2 WORKSPACE

Please provide a map that includes the location of the existing SDG&E storage and operations yards that would be utilized during construction.

Please indicate whether there are any workspace requirements for the 12 kV circuit ties described in Section 3.5.2. If there are, please describe and add to Table 3-2, Temporary Workspace Requirements. Please be sure to provide the ArcGIS files associated with these workspace areas.

Section 3.7.2.2 identifies traffic control plans that will be developed and approved by the City. Please clarify as to whether the identified traffic control plans are considered an APM. In the event the traffic control plans are intended to be an APM, please revise Table 3-6 accordingly.

SDG&E Response to Q3.7.2:

The transmission lay down site utilized for the storage of material and construction equipment is shown in the PEA. Please refer to *Figure 3-13 Transmission Laydown Site* for an illustration of the storage and operations yard. For a description on the purpose of the storage and operations yard please refer to section *3.7.2.1 Staging Areas*.

There are no additional workspace requirements for distribution.

Preparation of a Traffic Control Plan identified in Section 3.7.2.2, Construction Work Areas, represents a standard practice implemented by SDG&E during construction activities (as appropriate) to reduce potential effects on the existing roadway system and to ensure continued safety of both the general public and construction workers. Therefore, the

requirement to prepare a Traffic Control Plan is not considered to be an APM, and is not identified as such in Table 3-6.

Question 3.7.4:

3.7.4 MIRA SORRENTO SUBSTATION

Earthwork is estimated at 65,000 cubic yards of cut and 67,000 cubic yards of fill for the proposed construction activities. Please indicate whether the proposed project will require the import of 2,000 cubic yards of fill or whether cut material will be hauled off site and additional fill material will be required beyond the 2,000 cubic yards of fill. Please provide the number of truck trips associated with the earthwork that will be required for the project site.

SDG&E Response to Q3.7.4:

The earthwork for the project has been re-evaluated and revised as follows: During the site grading phase, a total of 2.7 acres would be graded at a maximum of 0.50 acres per day. The Proposed Project would require approximately 42,000 cubic yards of onsite cut and backfilling for the grading, retaining wall backcut, and retaining wall backfill.

As a separate grading consideration and due to the physical constraints of the site (a relatively small construction area, compact grading sections, and minimal availability of construction staging areas), approximately 36,000 cubic yards will need to be exported from the site to an appropriate receiving and staging area. As the site grading proceeds, approximately 36,000 cubic yards of soil will be imported back to the site, to reach finish grades. Through the approximate six-month grading phase, the proposed project would haul approximately 590 cubic yards per day of cut material from, and then back to the site.

This equates to 27 round truck trips per day (assuming 20 cubic yards per truck), for 122 working days, traveling approximately 40 miles (round trip), which equals 1,090 Vehicle Miles Traveled per day.

Question 3.7.5:

3.7.5 TL 665 LOOP-IN

a) Please provide the dimensions of the pre-formed concrete splice vaults that will be installed for the 69 kV underground circuit along the new TL 665 loop-in trench alignment.

b) Please indicate whether the soil excavated for open cut trench operations will be hauled off site and/or used as fill within the project limits.

SDG&E Response to Q3.7.5:

a) The proposed vault dimensions are provided in the PEA. Please refer to Figure 3-12 Typical 69kV Underground Manhole.

b) Soil excavated for open cut trench operations will be hauled offsite to an approved disposal site. This is described in Section 3.7.5.1, *Trenching.*

4.0 ENVIRONMENTAL IMPACT ASSESSSMENT SUMMARY

SECTION 4.1 AESTHETICS

Question 4.1a:

Please provide the locations and illumination levels for lighting that will be included at the proposed substation. In particular, the Project Description states that lights would be left on at night during "required night time work"; please characterize the nature of this work as well as the expected occurrences and duration of the work. Also, please characterize the scenario under which lights would be installed on the end of the steel rack (as discussed on page 3-15 of the Project Description).

SDG&E Response to Q4.1a:

Attached is a layout with our preliminary light locations – SDGE standard for lighting is to install a minimum of two on each wall, on each side of the control shelter, and on the ends of

a standard rack. In addition two small lights will illuminate the light switch at each main gate. The lighting is to be installed per the following:

1. Allow for safe entry and exit from substation
2. Allow for safe driving around busses/racks, corners, and roadways.
3. Allow for a preliminary visual inspection of the substation.
4. All lights will point down.
5. Lighting designs will result in approximately 0.5 foot-candles in walkway areas.
6. Lights are not for security and are not to be left on at night

In the event of work required at night to perform required switching (maintenance or trouble) for electric operations to maintain the grid and/or substation maintenance/trouble, the lights will be turned on. Nighttime switching could occur on a weekly basis depending on the need of electric operations while substation maintenance activities are not expected to occur more than once a year. Please refer to electronic folder labeled: Q4.1a - Lighting.

Question 4.1b:

Please provide the JPEGS that were utilized to create Views 1 through 4 in the PEA.

SDG&E Response to Q4.1b:

The JPEGS used to create Views 1 through 4 (Figures 4.1-1 to 4.1-4) are attached to this response letter. Please refer to electronic folder labeled: Q4.1b - JPEGS.

Question 4.1c:

Please provide visual simulations (Views 1, 2, 3, and 4) that include the landscaping components included in the conceptual landscape plan.

SDG&E Response to Q4.1c:

Visual simulations are attached. Please refer to electronic folder labeled: Q4.1c - Visual Sims.

Question 4.1d:

Please indicate whether the selection of key observation points (KOPs)/sensitive viewing locations were based on discussions with local agencies. Please identify the methodology that was utilized for the selection of sensitive viewing locations.

SDG&E Response to Q4.1d:

The key observation points (KOP) and sensitive viewing locations were not identified based on discussions with local agencies. These locations were determined through observation of the project site and identification of surrounding land uses and roadways from which the proposed development would be visible to the greatest number of people and/or where viewers would be more sensitive to a change in the visual environment. The final representative KOPs were generally selected due to high traffic volumes (View 1 - I-805 Northbound Off-Ramp and View 3 - Northbound Vista Sorrento Parkway) and proximity to the project site (View 2 - Mira Sorrento Place; View 3 - Northbound Vista Sorrento Parkway, and, View 4 – Southbound Vista Sorrento Parkway) and were further analyzed in the PEA.

Question 4.1e:

The PEA states that private views from Sorrento Towers were considered but due to elevation differences no impacts would occur. In addition, the PEA states that impacts to the existing office complex located to the south of the project site would not be significant because the existing viewshed would not be significantly impacted. Please provide photos and/or simulations and a viewshed map from these viewer locations.

SDG&E Response to Q4.1e:

As stated in Section 4.1.3.1, private views are not protected; however, the PEA considered private views from the Sorrento Towers located to the north of the proposed project (looking south toward the site) and concluded that there would be little or no impacts, due to the elevation differences and distance between the two uses. Visual Simulation: View 3 (see Figure 4.1-3) generally shows the topography to the north of the site, where the existing slopes would obscure or minimize views looking south from locations along the top of the slopes.

Additionally, private views to the site would occur from the existing office complex located to southeast of the proposed project site, across Mira Mesa Boulevard. These views would not be significantly impacted because the proposed project would not substantially change the existing viewshed as seen from these office towers. Views of the project components from this office complex would be similar to those depicted in Figures 4.1-1 to 4.1-3 which show views looking north to the site from the southwest and northeast, although views from the office complex would occur at a greater distance, t thereby further reducing the visibility of the project components within the visual landscape. Other project design measures, such as the use of earth-toned building materials and landscaping, would also reduce the visibility of the project from this and other vantage points to the south.

A photo location map and additional photos showing views to the site from the office buildings to the northwest and southeast, as well as from the Sorrento Towers to the northeast, have been prepared and are provided as a separate attachment to these responses to comments.

From most of the surrounding commercial areas, only small portions of the proposed substation site are visible. In most areas the site is screened from view by existing topography or existing vegetation. The area with the most visibility is the office complex immediately south of the project across Mira Mesa Boulevard. The view from this area will be substantially the same as the view shown in the visual simulations provided in Figure 4.1-1 and Figure 4.1-2, which are also shown from southerly angles from the site.

Potential visual impacts on these surrounding areas are considered less than significant because the proposed project does not substantially change the character of the area. The development surrounding the project is predominantly light industrial, commercial, and freeway. The project does not change or block from view any of the prominent ridge lines in the area. The project has been designed to have a minimum impact on the sensitive wetland areas adjacent to the site, and as such, the project footprint has been minimized.

Please refer to electronic folder labeled: Q4.1e - Photo Location Map.

4.0 Environmental Impact Assessment Summary

SECTION 4.2 AIR QUALITY

Question 4.2a:

Section 3.7.4.1 of the PEA indicates that a temporary tap to an existing distribution line may be installed to provide electrical services during construction. In the event a temporary tap is not installed, up to two to three 200-kilowatt (kW) diesel generators will be utilized to provide power during construction. Please clarify whether the construction emissions modeling included a worst-case assumption that diesel generators will be utilized to provide power during construction.

SDG&E Response to Q4.2a:

The modeling has been revised to include these generators. See the modeling attachments containing the URBEMIS Assumption Sheet and Modeling outputs. Please refer to electronic folder labeled: Q4.2 - Model.

Question 4.2b:

Please substantiate the statement that the proposed project will support the delivery of additional renewable energy generation.

SDG&E Response to Q4.2b:

Since the Green House Gas emissions are below the 10,000 MTCO2E screening criteria of South Coast Air Quality Management District, the discussion regarding the delivery of additional renewable energy supported by the project should be stricken.

Question 4.2c:

Please provide the assumptions that were utilized for the air emissions modeling that determined the worker vehicle exhaust emissions.

SDG&E Response to Q4.2c:

The assumptions have been included in the modeling sheets, which are attached to this response letter. Please the modeling attachments containing the URBEMIS Assumption Sheet and Modeling outputs. Please refer to electronic folder labeled: Q4.2 - Model

Question 4.2d:

The construction schedule provided in Table 4.2-7 is inconsistent with the construction schedule provided in Table 3.3. Please clarify the anticipated construction schedule.

SDG&E Response to Q4.2d:

The construction schedule provided in Table 4.2-7 has been revised and associated modeling revised to be consistent with Table 3.3. Please refer to electronic folder labeled: Q4.2d - Prelim Construction Schedule

PRELIMINARY CONSTRUCTION SCHEDULE

Project Component	Activity	Approximate Number of Months	Anticipated Start Date
Mira Sorrento Substation	Site Development and Grading	6	August 2012
	Verdura Retaining Wall, CMU Retaining Wall, CMU Screen Wall, and Gate Construction	6	August 2012
	Below Grade Construction	6	February 2013
	Substation Equipment Construction	10	August 2013
TL665 Loop-In	Transmission Construction	2-4	March 2014
Energization	Testing and Commissioning	5	December 2013
	Energization	1	May 2014

Question 4.2e:

Section 4.2.1 of the PEA states, "With implementation of SDG&E's APMs (refer to Section 4.2.5), impacts to air quality as the result of construction, operation and maintenance, would be less than significant." APM AQ-1 is related to sulfur hexafluoride (SF6) controls, which would have no effect on criteria air pollutant emissions. Section 3.5.1.1 describes construction practices that would reduce construction emissions. Did SDG&E intend to propose these measures or other measures related to criteria air pollutants associated with operation and maintenance of the substation as APMs? If yes, please revise Table 3-6 and Section 4.2.5 accordingly. Also see item 3.5.1(c) above.

SDG&E Response to Q4.2e:

These are considered business as usual measures and therefore have been removed as APMs.

Question 4.2f:

Section 4.2.4.3 of the PEA includes the reported construction GHG emissions in Table 4.2-6 that do not match the maximum daily emissions shown in Table 9 of the Air Quality Assessment (Appendix B). For example, the CO_2 emissions in Table 4.2-6 for the first year of construction are 1,471.82 metric tons per year, while in Table 9 it is shown as 1,250.19 metric tons per year. Please reconcile this discrepancy. Please clarify the inconsistency between Table 4.2-9 in the PEA and Table 9 of the Air Quality Assessment.

SDG&E Response to Q4.2f:

The tables have been revised to be consistent between the PEA and associated technical studies. Table 4.2-6 of the PEA and Table 9 of the AQA have been replaced.

TOTAL ESTIMATED GREENHOUSE GAS EMISSIONS (CONSTRUCTION AND OPERATIONS AND MAINTENANCE)

Source	Carbon Dioxide (Metric tons/year)	Nitrogen Dioxide (Metric tons/year)	Nitrogen Dioxide (Metric Tons of Carbon Dioxide Eq/yr)[4]	Methane (Metric tons/year)	Methane (Metric Tons of Carbon Dioxide Equiv./yr)[4]	Sulfur Hexafluoride (Metric tons of Carbon Dioxide Equivalent/yr)	Total Metric Tons of Carbon Dioxide Equiv./yr[4]
Construction Emissions[1]							
2012	1,523.67	0.04	0.83	0.18	51.78	0.00	1,575.61
2013	1,839.01	0.05	1.01	0.20	63.41	0.00	1,903.43
2014	1,395.44	0.04	0.75	0.15	45.70	0.00	1,441.89
Total Construction Emissions (Metric Tons of Carbon Dioxide Equivalents/year)[6]	4,920.93						
Total Amortized Construction Emissions over 30 years (Metric Tons of Carbon Dioxide Equivalents/year)[6]	**158.60**	**0.00**	**0.09**	**0.02**	**160.89**	**0.00**	**319.58**
Operational Emissions							
Electricity[2,6]	613.50	0.03	0.67	0.01	1.67	0.00	615.84
Circuit Breakers[2,6]	0.00	0.00	0.00	0.00	0.00	38.05	38.05
Total Operational Emissions[5]	**613.5**	**0.03**	**0.67**	**0.02**	**1.67**	***7.61***	***653.89***
Total Project-Related Operational Emissions (Annualized Construction Emissions + Operational Emissions)	*973.47 $MTCO_2eq/year$[6]*						
SCAQMD Threshold[7]	*10,000 $MTCO_2eq/year$[5]*						
Is the Threshold Exceeded?	***No***						

Notes:

1. Emissions calculated using Air Resources Board's Construction Equipment Emissions Table and the URBEMIS 2007 computer model.
2. Emissions calculated using URBEMIS 2007 computer model and the SCAQMD's *CEQA Handbook* (note that SCAQMD has the most comprehensive demand factors available).
3. Emissions calculated using URBEMIS 2007 computer model and EMFAC 2007, *Highest (Most Conservative) Emission Factors for On-Road Passenger Vehicles and Delivery Trucks.*
4. CO_2 Equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*, http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed March 2010.

5. Totals may be slightly off due to rounding.
6. Refer to Appendix A, *Air Quality Analysis Data*, for detailed model input/output data.
7. In absence of established thresholds within the City of San Diego, the SCAQMD threshold for industrial facilities was utilized for this analysis. http://www.aqmd.gov/ceqa/handbook/signthres.pdf Date accessed: January 11, 2012

Question 4.2g:

Section 4.2.3.4 of the PEA states, "Eight to fifteen workers could be on-site during the balance of construction of the transmission, substation, and distribution infrastructure…." However, Table 3-4 indicates that up to 31 workers (plus 2 inspectors) may be required during the Site Development and Grading phase, and up to 24 workers would be required during the Substation Construction phase. Please verify the number of workers and trips assumed in the URBEMIS 2007 runs to ensure that the related emissions have not been understated.

SDG&E Response to Q4.2g:

The URBEMIS 2007 model was updated to be consistent with the proposed worker trips provided in the PEA and associated technical studies. Please see the modeling attachments containing the URBEMIS Assumption Sheet and Modeling outputs. Please refer to electronic folder labeled: Q4.2 - Model.

Question 4.2h:

The reported construction emissions in Table 4.2-8 of the PEA do not match the maximum daily emissions shown in Table 7 of the Air Quality Assessment or the URBEMIS 2007 output in Appendix B. For example, the unmitigated NOx emissions in Table 4.2-8 for the first year of construction (shown for year 2013) are 199.36 pounds per day, while the unmitigated NOx emissions in Table 7 are 154.45 pounds per day (shown for year 2011). Please clarify the inconsistency between the PEA and Air Quality Assessment.

SDG&E Response to Q4.2h:

The Tables in the Air Quality Assessment and PEA have been revised to be consistent with one another. Please see the modeling attachments containing the URBEMIS Assumption Sheet and GHG Modeling outputs. The Table below has replaced Table 7 of the AQA and Table 4.2-8 of the PEA. Please refer to electronic folder labeled: Q4.2 - Model.

MIRA SORRENTO CONSTRUCTION AIR EMISSIONS

Emissions Source	Pollutant (pounds/day)[1]					
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_x
2012						
Unmitigated Emissions	26.81	246.22	119.39	71.43	22.66	0.06
Mitigated Emissions[2]	26.81	246.22	119.39	45.22	17.18	0.06
SDAPCD Thresholds	75	250	550	100	55	250
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No
2013						
Unmitigated Emissions	19.60	174.03	90.20	68.01	19.50	0.07
Mitigated Emissions[2]	19.60	174.03	90.20	41.79	14.03	0.07
SDAPCD Thresholds	75	250	550	100	55	250
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No
2014						
Unmitigated Emissions	16.70	160.17	72.86	6.07	5.58	0.00
Mitigated Emissions[2]	16.70	160.17	72.86	6.07	5.58	0.00
SDAPCD Thresholds	75	250	550	100	55	250
Is Threshold Exceeded After Mitigation?	No	No	No	No	No	No

ROG = reactive organic gases; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides; PM_{10} = particulate matter; up to 10 microns

Notes:

1. Emissions were calculated using the URBEMIS 2007 Computer Model, as recommended by the SDAPCD.
2. The reduction/credits for construction emission mitigations are based on mitigation included in the URBEMIS 2007 computer model and as typically required by the SDAPCD. The mitigation includes the following: properly maintain of mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps.
3. Refer to Appendix A, Air Quality Analysis Data, for assumptions used in this analysis, including quantified emissions reduction by mitigation measures.

Question 4.2i:

Please provide a copy of SCREEN3 output and calculations of cancer risk and "chronic risk factor." A pollutant concentration is typically expressed in units of micrograms per cubic meter and not in pounds per day. Thus, it is unclear what the value of 37.69 represents. Footnote 3 to Table 4.2-9 describes an outdated calculation of cancer risk. Footnote 4 to Table 4.2-9 describes the current (per the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hotspots Program Risk Assessment Guidelines, August 2003) calculation of cancer risk and not the "chronic risk factor." Furthermore, the chronic risk factor is the incorrect term for assessing chronic non-cancer health impacts. The value in Table 4.2-9 appears to be the chronic hazard index, which is the modeled annual

concentration divided by the Reference Exposure Level of 5 g/m^3 for diesel particulate matter.

SDG&E Response to Q4.2i:

After further review, it was determined that a toxic air contaminants discussion would not be required due to the small size of this project, and the site's location being in a commercial area. As such, the discussion in the PEA should be stricken.

Question 4.2j:

Section 4.2.3.4 of the PEA states, "Greenhouse gas estimations are based on energy emissions from natural gas usage, as well as automobile emissions." However, the air quality assessment in Appendix B does not include any calculations of the emissions associated with natural gas combustion. Specifically, there are no values for natural gas in the URBEMIS 2007 output, and the emission values in the tables titled "Emissions from Natural Gas Consumed by Land Uses" are all zeros. The project description does not indicate that natural gas would be used for water or space heating at the substation. Please reconcile this inconsistency.

SDG&E Response to Q4.2j:

The discussion regarding natural gas emissions in the Air Quality Assessment and PEA should be stricken. The project does not propose uses that would result in natural gas emissions.

Question 4.2k:

Section 4.2.3.4 of the PEA states, "The electricity that would be delivered to this substation would be a non-fossil fuel-based energy source, which would have the indirect effect of displacing emissions otherwise occurring at natural gas and coal fired power plants." Chapter 3 (Project Description) does not indicate that such energy sources would be provided via the Mira Sorrento substation. Please reconcile this inconsistency.

SDG&E Response to Q4.2k:

Section 4.2.3.4 should be revised to delete the discussion regarding the delivery of non-fossil fuel-based energy source and is consistent with the project description. This section should be replaced with the following paragraph:

> The proposed project would provide a new substation to meet existing and anticipated customer-driven electrical load growth and to prevent potential long outages or disruption of service to existing customers in SDG&E's service territory in the vicinity of Sorrento Mesa. It is anticipated that the project will require 1,752,000 kilowatt-hours per year of electricity for operational activities (lighting, control room etc.) and routine maintenance.[1] Water use on the site would only be used for maintenance and landscaping activities. As such, water uses would result in a nominal increase in operational and maintenance GHG emissions and therefore were not included in the quantitative analysis.

Question 4.2l:

Please provide a citation to support the statement in Section 4.2.3.4 of the PEA that states, "The allowable manufacturer leakage rate for each canister is 1 percent per year."

SDG&E Response to Q4.2l:

The citation for the manufacturing leakage rate has been provided in the GHG modeling output. See Attachment A for modeling data and leakage source. Please refer to electronic folder labeled: Q4.2 - Model.

[1] Annual kWh derived from SDG&E figure of approximately 50 kw/hr per transformer (200 kw per hour total), operating 24 hours per day.

In addition the following text has replaced the discussion in the PEA and AQA:

In an EPA study,[2] lower and upper bound weighted-average leak rate estimates of 0.2 and 2.5 percent, respectively, represent the best and worst case scenarios for circuit breaker leakage. SDG&E has provided the annual leakage rate for SF6 to be closer to the lower bound estimate, at approximately 0.29 percent.

The project substation would be used to connect the 69 kV lines from the existing Genesee Substation and Peñasquitos Substation. This operation would typically utilize five circuit breakers, each with a canister containing 242 pounds of SF_6. The allowable manufacturer leakage limit for each canister is 0.29 percent per year. Therefore, the anticipated emission rate from the circuit breaker would be approximately 0.70 pounds of SF_6 per year per canister (7.61 metric tons CO2e) totaling approximately 3.5 pounds of SF_6 per year for all five canisters (7.61 metric tons CO2e x 5 = 38.05 metric tons CO2e/year). SF_6 has a global warming potential of 23,900, which is the highest of any GHG identified by the Intergovernmental Panel on Climate Change (IPCC). Therefore, long-term GHG emissions associated with the project's substation would be approximately 38.05 metric tons CO2e per year. A method of estimating leakage from a particular substation or transmission line are not currently known.

SDG&E would implement their existing sulfur hexafluoride (SF_6) standard business practice strategies during the operation and maintenance of SF_6-containing equipment to ensure that SF_6 emissions are minimized to the maximum extent possible. These strategies include:

Recording company-wide SF_6 purchases for use in reporting annual GHG emissions under the CCAR Power Utilities Protocol and as a member of the Environmental Protection Agency's EPA SF_6 Partnership

Implementing SDG&E's SF_6 leak detection and repair program. This program includes monthly visual inspections of each GCB, which includes checking pressure levels within the breaker and recording these readings in SDG&E's Substation Management System. During the installation or major overhaul of any GCB, the unit is tested over a 24-hour period to ensure no leaks are present. Minor overhauls of each GCB are conducted every 36 to 40 months to check overall equipment health. This process includes checking gas

[2] J. Blackman, Program Manager, U.S. Environmental Protection Agency, M. Averyt, ICF Consulting, and Z. Taylor, ICF Consulting, *SF6 Leak Rates from High Voltage Circuit Breakers - U.S. EPA Investigates Potential Greenhouse Gas Emission Source.*

pressure, moisture ingress, and SF_6 decomposition. If the GCB fails any of these checks, the unit is checked for leaks and repaired. In addition, all GCBs are equipped with a gas monitoring device and alarm that automatically alert SDG&E's Grid Operations Center. If gas pressure approaches minimum operating levels, an alarm is immediately reported to SDG&E's Substation Construction and Maintenance Department. The GCB is usually inspected for leaks within 24 hours of such an alarm. SDG&E's leak detection practice includes the following three methodologies:

- Spraying a leak-detection agent onto common leak points—including O-rings, gaskets, and fittings
- Using a field-monitoring device (sniffer) to detect the presence of SF_6 gas
- Using a laser-detection camera to detect the presence of SF_6 gas when the above two methods are unsuccessful in finding a leak
- Implementing a SF_6 recycling program
- Training employees on the safety and proper handling of SF_6
- Continuing voluntary reporting of GHG emissions with the CCAR or The Climate Registry

Question 4.2m:

Section 4.2.3.4 of the PEA states, "The changes in emissions due to the electrical consumption required to operate the Substation and the on-site SF_6-containing equipment have been calculated and are presented in Table 4.2-10…". Table 4.2-10 shows emissions from mobile sources and circuit breakers (i.e., SF_6-containing equipment). The table does not include the GHG emissions associated with electrical consumption to operate the substation. Please reconcile this inconsistency.

SDG&E Response to Q4.2m:

A discussion including the electricity consumption to operate the substation has been included. In addition the following paragraph has been added as related to mobile source emissions.

As previously mentioned, the substation will be unmanned, with minimal vehicle trips associated with operation (6 trips per year) and sporadic maintenance activities per year. As

such, mobile source emissions related to the operations of the substation were determined to be negligible.

Table 4.2-6, Table 4.2-10 of the PEA and Table 9 of the AQA have been replaced/updated with the following (Also presented under response 4.2f):

TOTAL ESTIMATED GREENHOUSE GAS EMISSIONS (CONSTRUCTION AND OPERATIONS AND MAINTENANCE)

Source	Carbon Dioxide (Metric tons/year)	Nitrogen Dioxide (Metric tons/year)	Nitrogen Dioxide (Metric Tons of Carbon Dioxide Eq/yr)[4]	Methane (Metric tons/year)	Methane (Metric Tons of Carbon Dioxide Equiv./yr)[4]	Sulfur Hexafluoride (Metric tons of Carbon Dioxide Equivalent/yr)	Total Metric Tons of Carbon Dioxide Equiv./yr[4]
Construction Emissions[1]							
2012	1,523.67	0.04	0.83	0.18	51.78	0.00	1,575.61
2013	1,839.01	0.05	1.01	0.20	63.41	0.00	1,903.43
2014	1,395.44	0.04	0.75	0.15	45.70	0.00	1,441.89
Total Construction Emissions (Metric Tons of Carbon Dioxide Equivalents/year)[6]	4,920.93						
Total Amortized Construction Emissions over 30 years (Metric Tons of Carbon Dioxide Equivalents/year)[6]	**158.60**	**0.00**	**0.09**	**0.02**	**160.89**	**0.00**	**319.58**
Operational Emissions							
Electricity[2,6]	613.50	0.03	0.67	0.01	1.67	0.00	615.84
Circuit Breakers[2,6]	0.00	0.00	0.00	0.00	0.00	38.05	38.05
Total Operational Emissions[5]	**613.5**	**0.03**	**0.67**	**0.02**	**1.67**	***7.61***	***653.89***
Total Project-Related Operational Emissions (Annualized Construction Emissions + Operational Emissions)	*973.47 $MTCO_2eq/year$[5]*						
SCAQMD Threshold[7]	*10,000 $MTCO_2eq/year$[5]*						
Is the Threshold Exceeded?	***No***						

Notes:

1. Emissions calculated using Air Resources Board's Construction Equipment Emissions Table and the URBEMIS 2007 computer model.
2. Emissions calculated using URBEMIS 2007 computer model and the SCAQMD's *CEQA Handbook* (note that SCAQMD has the most comprehensive demand factors available).
3. Emissions calculated using URBEMIS 2007 computer model and EMFAC 2007, *Highest (Most Conservative) Emission Factors for On-Road Passenger Vehicles and Delivery Trucks.*
4. CO_2 Equivalent values calculated using the U.S. Environmental Protection Agency Website, *Greenhouse Gas Equivalencies Calculator*,

http://www.epa.gov/cleanenergy/energy-resources/calculator.html, accessed March 2010.
5. Totals may be slightly off due to rounding.
6. Refer to Appendix A, *Air Quality Analysis Data*, for detailed model input/output data.
7. In absence of established thresholds within the City of San Diego, the SCAQMD threshold for industrial facilities was utilized for this analysis. http://www.aqmd.gov/ceqa/handbook/signthres.pdf Date accessed: January 11, 2012

Question 4.2n:

Section 4.2.3.4 of the PEA states, "This [GHG emissions] calculation reflects the Business as Usual approach; that is, with no reductions from project APMs taken into consideration." The calculation of SF_6 emissions with a 1% leakage rate appears to reflect the effectiveness of APM AQ-1 and not Business as Usual (i.e., a potentially higher leakage rate). Please provide further explanation as to whether the SF_6 emission calculation reflects Business as Usual, and if so, what the reduction due to APM AQ-1 would be.

SDG&E Response to Q4.2n:

The APM as stated is business as usual. As such, the details to reduce SF_6 leakage have been removed as an APM and included in the project details. In addition, the 1% leakage rate has been revised to 0.29 % to be consistent with the typical leakage associated with SDG&E circuit breakers. Please see SDG&E Response to Q4.2l above.

Question 4.2o:

Please substantiate how a 29% reduction from business as usual would be achieved "through the implementation of Renewables Portfolio Standard (RPS) and energy efficiency for nighttime lighting and other minimal electricity uses on site."

SDG&E Response to Q4.2o:

As the proposed project is well below the SCAQMD threshold of 10,000 MTCO2e , and the clarification that the project would not reducing emissions by 29% from BAU, the inclusion of the RPS reductions has been omitted from the analysis.

Question 4.2p:

The equipment listed in the URBEMIS 2007 output for all phases except the Site Development and Grading phase are identical. The URBEMIS 2007 equipment lists for these phases do not match the equipment listed in Table 3-A in Chapter 3. For the Site

Development and Grading phase, 25 dump trucks are mischaracterized as dumpers/tenders (i.e., dump trucks are on-road vehicles and have engines much larger than the 16-horsepower engines for dumpers/tenders). Furthermore, the URBEMIS runs, which were performed in 2010, anticipated construction in 2011 and 2012 rather than 2013 and 2014, as indicated in Chapter 3. Please correct the equipment lists to more closely match those in Table 3-A, correct the construction schedule dates, and provide revised construction emission calculations. Alternatively, if the URBEMIS 2007 runs were revised and the results match those present in Tables 4.2-6 and 4.2-8, please provide a copy of the revised output files.

SDG&E Response to Q4.2p:

The URBEMIS model inputs have been modified to better characterize the horsepower of construction equipment. The revised output files as included the modeling attachments containing the URBEMIS Assumption Sheet and Modeling outputs. Please refer to electronic folder labeled: Q4.2 - Model.

4.0 ENVIRONMENTAL IMPACT ASSESSSMENT SUMMARY

SECTION 4.3 BIOLOGICAL RESOURCES

Question 4.3a:

Table 4.3-4 identifies the existing jurisdictional resources within the Mira Sorrento Substation Project Survey Area. Please indicate whether SDG&E has coordinated with the City and the permitting agencies regarding impacts to the habitat and avoidance requirements of the wetlands or received any feedback from the permitting agencies at this time regarding the jurisdictional determinations.

SDG&E Response to Q4.3a:

SDG&E prepared a wetland delineation to identify jurisdictional wetlands on the site. The site plans and grading plans were developed to avoid all jurisdictional wetlands. No agency coordination was conducted.

Question 4.3b:

Please indicate whether the site plan and design has considered potential buffers that may be required from jurisdictional resources.

SDG&E Response to Q4.3b:

The wetland buffer is discussed in Section 5.6. However, a specific statement regarding the site plan's avoidance of the buffer has been added to the attached revised project description.

In terms of civil design issues, buffers from jurisdictional resources, reference is directed to Figure 3-9 of the PEA, which indicate "CDFG/ City of San Diego/RWQCB Wetlands". Limits of work provide buffers or setbacks form these areas varying from approximately three fee to 75 feet, along the easterly side of the substation project.

Question 4.3c:

The mapping provided indicates disturbed habitat for a large portion of the site; however, the species composition is more indicative of non-native grassland (includes non-native grassland species). Please provide documentation of the calculation of percentage cover and relative percentage cover for the areas mapped as disturbed habitat. The vegetation community, if >50% cover of non-native grasses, should be changed to non-native grassland, and the mitigation changed accordingly. If the percentage cover exercise is not prepared, then please change the vegetation community to non-native grassland.

SDG&E Response to Q4.3c:

The disturbed habitat designation was based on percent cover of non-native grasses, which was less than 50 percent. The determination is based upon a visual estimate by the field biologists. This mapping is also consistent with the original biological technical report prepared by Essex Environmental (2003). There are components of non-native grasslands, as noted in the species list. However, based on the evaluation from the field visit, the preponderance of the habitat type (i.e., more than 50%) is disturbed habitat.

Question 4.3d:

It does not appear that any focused surveys for special-status plant species were conducted. The site was visited in September during the time of year when sensitive annual plants cannot be detected. A description of avoidance or preconstruction surveys as well as a detailed description of the potential for special status plant species to occur should be provided. Please incorporate previous work that was conducted at the site to be able to evaluate the potential for rare plants to be present even if it is older survey information. The data can be provided with a caveat that new surveys are scheduled.

SDG&E Response to Q4.3d:

Descriptions of the potential for special status plant species to occur are provided in Attachment 3 of the biological technical report. The report concludes that potential for potential for special status species are low based on upon habitat conditions.

However, as San Diego thorn-mint, a narrow endemic species under SDG&E's NCCP, has a low potential to occur, focused rare plant surveys will be conducted during the appropriate blooming period to ensure that take of narrow endemic species is avoided.

Question 4.3e:

No focused survey of California gnatcatcher (*Polioptila californica*) was conducted. Please describe the observation of California gnatcatcher on site (2003) in greater detail and described avoidance measures. A focused survey during the breeding season should be conducted that will support whether the species appears to be using the site for breeding or not.

SDG&E Response to Q4.3e:

SDG&E's NCCP does not require focused surveys for California gnatcatcher (*Polioptila californica*) and this site is being mitigated under the NCCP. If construction occurs during the nesting season for this species, pre-construction nest surveys will be conducted so that impacts to active nests are avoided.

Question 4.3f:

Please indicate whether the willow riparian area is suitable for riparian wildlife species. If so, please indicate whether a focused survey has been completed at the appropriate time of year or whether an adequate buffer for the special-status species has been provided. Based on the current design, which does not appear to provide a buffer, the area should be surveyed for special-status riparian species including least Bell's vireo (*Vireo bellii pusillus*).

SDG&E Response to Q4.3f:

It was determined that the riparian area within the survey area does not provide suitable nesting habitat for least Bell's vireo. This is discussed in Attachment 4 of the biological technical report.

Question 4.3g:

Please evaluate the potential for vernal pools as well as the potential for fairy shrimp. Fairy shrimp do not strictly occur within high-quality vernal pools but can also occur within road ruts and other areas that pond periodically. Given the location in Mira Mesa, the presence of clay soils on site and the proximity of vernal pool soils *(Huerhuero*), please provide a discussion of the potential for fairy shrimp and conduct surveys as needed.

SDG&E Response to Q4.3g:

The potential for fairy shrimp to occur is addressed in Attachment 4 of the biological technical report. The discussion for San Diego fairy shrimp (in Attachment 4) states that the survey area does not support vernal pool habitat.

Question 4.3h:

Please clarify whether the results from the 2003 biological surveys have been incorporated into the PEA.

SDG&E Response to Q4.3h:

Yes, the results from the 2003 survey were incorporated. This is addressed in Section 3.1 of the biological technical report. Additionally, Section 4.3.3.2, Biological Setting of the PEA references the species mapping prepare by Essex Environmental in 2003.

Question 4.3i:

Please provide a map that shows the California Natural Diversity Database (CNDDB) and U.S. Fish and Wildlife Service (USFWS) points mapping. A 5-mile radius should be used and species within the 5 miles should be discussed.

SDG&E Response to Q4.3i:

A two-mile radius was used for the CNDDB and USFWS database searches discussed in Section 3.1 of the biological technical report. The associated map is attached. Sensitive species that have been recorded within this two-mile radius are addressed in Attachments 3 and 4 of the biological technical report. Due to the small size of the proposed project area and location within development, the two-mile radius is believed to be sufficient to capture potentially occurring species and is expected to represent similar habitat to that which occurs on the project site. Please refer to electronic folder labeled: Q4.3i - CNDDB.

Question 4.3j:

Analysis of the potential-to-occur species should be expanded to include those addressed by the Multiple Species Conservation Plan (MSCP) even though the City is not the lead agency for this project. The potential-to-occur species should also include those recorded in CNDDB, as well as other species that have special status that are not covered species with MSCP or the SDG&E Natural Community Conservation Plan (NCCP) but that could occur within the region based on soils, distribution, and habitat type. As an example Dudleya brevifolia is recorded within approximately 3,000 feet.

SDG&E Response to Q4.3j:

All appropriate special status species were addressed that were recorded on the two-mile CNDDB and USFWS database searches, whether or not they were covered under SDG&E's NCCP. Additional species that did not appear on the database searches were included in the assessment based on soils, distribution, or habitat types present within the project area. Dudleya brevifolia is specifically addressed in Attachment 3 of the biological technical report.

4.0 ENVIRONMENTAL IMPACT ASSESSSMENT SUMMARY

SECTION 4.4 CULTURAL RESOURCES

Question 4.4a:

Appendix E, Cultural and Paleontological Reports, indicates that the report is a preliminary report of the results of archaeological monitoring only and says that paleontological monitoring is ongoing. Please clarify whether the San Diego Natural History Museum provided additional recommendations/conclusions for the project.

SDG&E Response to Q4.4a:

As stated in the Preliminary Report of Archaeological and Paleontological Monitoring prepared by ASM Affiliates on September 21, 2009, paleontological monitoring conducted by the San Diego Natural History Museum was ongoing at the time when the Preliminary Report was prepared. Such monitoring was completed between September 14 and September

21, 2009, and a summary of the findings has been attached to this response letter. No additional recommendations or conclusions for the project were provided by the San Diego Natural History Museum based on the findings of the monitoring activities.

Question 4.4b:

Section 4.5.3, Impacts: Please provide any responses from the Native American scoping letters and any correspondence with the Native American groups. In the event responses have not been received from the Native American groups, please indicate so.

SDG&E Response to Q4.4b:

No responses from the Native American scoping letters were received. (Section 4.4.4, Impacts, discusses impacts with regard to cultural and paleontological resources).

Question 4.4c:

Please provide the Historic Resource Evaluation prepared by RECON in May 2003, and the Paleontological Survey completed by the San Diego Natural History Museum in April 2003.

SDG&E Response to Q4.4c:

The Historic Resource Evaluation prepared by RECON in May 2003, and the Paleontological Survey completed by the San Diego Natural History Museum in April 2003 have been attached to this response to comments. Please see electronic folder Q4.4C – Cultural Resources

Question 4.4d:

Please provide the confidential records search conducted by SDG&E referenced in Appendix E of the PEA.

SDG&E Response to Q4.4d:

The Confidential Records Search has been provided. Please refer to electronic folder submitted under separate cover labeled “CONFIDENTIAL Non- Public Information”

4.0 ENVIRONMENTAL IMPACT ASSESSSMENT SUMMARY

SECTION 4.6 HAZARDS AND HAZARDOUS MATERIALS

Question 4.6:

Question 4.6h states SDG&E implements its Wildland Fire Prevention and Fire Safety Electric Standard Practice during all operation and maintenance procedures. Please provide measures that are included in the SDG&E Wildland Fire Prevention and Fire Safety Electric Standard Practice that would be applicable to the proposed project.

SDG&E Response to Q4.6:

As stated, SDG&E's implements its Wildland Fire Prevention and Fire Safety Electric Standard Practice during all operation and maintenance procedures in high risk fire areas. The Mira Sorrento Substation is not in a designated high risk area. The following measures are excerpted from the Standard Practices and will be implemented with the proposed project, as deemed appropriate:

OPERATIONAL RISKS

The Control Centers, Dispatch Center, and Fire Coordinator will provide general information to SDG&E employees regarding fire season status. During these defined periods, the following SDG&E related activities present an elevated risk of fire ignition. Caution is critical during performance of any of these activities.

- Operation of generators, pumps, augers, two-cycle motors, or other equipment capable of producing sparks or ample exhaust heat to cause ignition.
- Other tree removal equipment including but not limited to grinders, chippers, skidders, excavators, etc.
- Grinding and welding
- Working on energized electrical equipment facilities.
- Smoking

RED FLAG WARNINGS

The Red Flag Warning System, a joint effort between State, Federal, and local fire agencies, was brought about after a very catastrophic 1970 Southern California fire season. The

original intent was to pass along critical fire weather information to users and occupants in the wildland areas to bring about more prudent actions in all their wildland related activities. Currently SDG&E Grid Operations is operating under the direction of TMC1320, Hazardous Fire Conditions-Red Flag Warning, Transmission Monitoring and Control, 12/01/2003. Distribution Operations is operating under the direction of Electric Standard Practice No. 109, Hazardous Fire Conditions, June 01, 2000. When a Red Flag Warning is declared notifications take place as described in both directives and the following actions take place: (The affected area in both directives is identified on a map in an appendix, as the CDF protection area or SRA, State Responsibility Area).

- Transmission lines and/or distribution circuits, which have tripped to lockout, will not be tested manually or remotely (see exception below) until the line or line segment has been patrolled or the cause of the interruption has been identified and isolated, or repaired. A line patrol is also required prior to replacing sectionalizing or transformer station fuses that have blown. *Exception: A transmission line may be tested, one time only, if the loss of another transmission facility could lead to system instability or cascading outages.*
- Customer outage time should be held to a minimum by sectionalizing, patrolling, and energizing segments of the circuit.
- A fireguard *(fire patrol)* will be assigned to any operation that has the potential to cause a fire.
- No open burning will be permitted.
- All fires will be extinguished.
- All non-critical line clearance tree pruning and removal activities will cease. Permission may be obtained to continue tree related work by contacting the Area Forester, Contract Administrator, System Forester, Vegetation Program Manager, or the Fire Coordinator. Approval will be granted on a case by case basis, depending on the situation.
- All Blasting will be discontinued.
- All grinding and welding will discontinue, except in enclosed buildings or within areas cleared of all flammable material for a radius of 15 feet.

- Vehicular travel will be restricted to cleared roads except in case of an emergency. In no case will vehicles with hot exhaust systems be driven over or parked in grassy areas.
- Smoking will not be permitted.

RECOMMENDED FIRE RELATED TRAINING

It is recommended that all field employees have some basic fire safety training on an annual basis. This could be accomplished in one hour at a monthly safety meeting just prior to fire season.

SECTION 4.7 HYDROLOGY AND WATER QUALITY

Question 4.7a:

The PEA states that the Proposed Project would involve a limited increase in the amount of impervious surfaces at the site but does not provide details. Please disclose the acreage of impervious area that will be added by the Project. Please provide the existing coefficient of runoff for the site and proposed project coefficient of runoff.

SDG&E Response to Q4.7a:

The project site layout has been modified to comply with recent water quality and hydromodification criteria implemented by the Regional Water Quality Control Board. These modifications will utilize pervious pavement on access roads within the substation site; and water quality basin expansion on the south side, as shown on MTO-S-901A. Impervious surfaces will comprise approximately 8,600 square feet (0.20 acres) of area, consisting of ditches, containment basin, Control House roof areas, and other on site electrical facilities having impervious surfaces.

The site is presently ungraded**.** Existing coefficient of runoff per City of San Diego drainage design criteria is 0.35, assuming Type "D" soils**.** The resultant runoff coefficient after site development will be approximately 0.40.

Question 4.7b:

Page 4.7-12 states the proposed project is anticipated to provide a wetland buffer to protect adequately the functions and values of the existing wetlands within the survey area. Please provide the dimensions and location of the wetland buffer.

SDG&E Response to Q4.7b:

The proposed wetland buffer will be located adjacent to the onsite wetlands, which are located to the east of the project footprint and as shown in Figure 4.3-5 *Avoidance of Jurisdictional Wetlands*. As stated in Section 4.3, *Biological Resources*, the area at the base of the slope that is adjacent to the drainage will be re-vegetated with native plant species. On the upper wall terrace areas, no invasive species and non-native plant species will be included in the plant palette.

The proposed buffer varies in width along the length of wetland; ranging from a small section with 3 feet to an ever increasing buffer extending to 75 feet.

Question 4.7c:

Please provide the dimensions and location of the local oil containment basin, consisting of concrete slabs and walls that will be configured to contain the total volume of oil in the proposed transformers.

SDG&E Response to Q4.7c:

Oil containment basin is located along the southwesterly substation screen wall, paralleling Vista Sorrento Parkway. Approximate dimensions: 7.5 ft. x 135 ft. x 1.5 ft.

Question 4.7d:

Please indicate the improvements or design measures that will be included as part of the project design as a result of the drainage plan that will be prepared to address storm water flows across the site and runoff from within the proposed substation limits. Please indicate whether flows will be directed to existing storm drains and if post-development flows will exceed existing flows. In the event runoff will be directed to nearby storm drains, provide the improvements that will need to be completed to meet City standards.

SDG&E Response to Q4.7d:

The onsite drainage pattern within the substation will generally be north to south, over predominantly pervious surfaces.

The western portion of the onsite runoff will be conveyed to a water quality basin on the west side of the substation exterior, via an onsite grated catch basin and 20 feet (+/-) of storm drain to the basin; thence conveyed to the existing City of San Diego storm drain system in Mira Sorrento Place.

The easterly portion of the onsite runoff will be conveyed to a water quality basin adjacent to the exterior of the substation screen wall on the south side; thence conveyed into an existing concrete brow ditch that presently drains a watershed of similar size.

Post development discharges to the existing storm drain or ditch are expected to be nearly the same as the existing flows. On site grading and drainage areas have been configured to significantly match the existing drainage patterns.

Storm drain improvements will be designed in accordance with the City of San Diego standards and the City of San Diego drainage design manual.

Section 4.9 Noise

Question 4.9a:

Section 4.9.3.2 identifies both the Courtyard Hotel and the Marriott Courtyard, which appear to be the same hotel. Distances of 528 and 800 feet are provided for this hotel. Please clarify the hotel name/distance.

SDG&E Response to Q4.9a:

Text throughout the document should be updated to reflect the true distance of 800 feet and correct name *Courtyard Sorrento Mesa Hotel*. Tables referencing the hotel should also be updated with the correct distance and hotel name. Please see below:

SENSITIVE RECEPTORS

Type	Name	Distance From Project Site (miles)	Direction from Project Site
Proposed Mira Sorrento Substation (City of San Diego)			
Residential	Water Ridge Condominium Complex	0.3	North
Hotels	Courtyard Sorrento Mesa Hotel	0.16	North
	Country Inn and Suites	0.7	East
	Woodfin Hotel	0.9	East
	Homestead San Diego	1.0	East
	Holiday Inn Express	0.7	East
Schools	San Diego College of Ayurveda	0.3	West
	Children's World Living Center	1.0	Northeast
	San Diego Chinese Institute	0.7	East
	Star Specialties	0.6	Northeast
Hospitals	Sharp Medical Offices	0.3	West
Places of Worship	Bread of Life Christian Church	0.6	Northwest
	The Celebration Center for Spiritual Living	0.6	East
Parks	San Diego Wildlife Refuge	1.0	South

1. Sensitive receptor populations utilized in this analysis are those within a one-mile radius of the proposed Mira Sorrento Substation site.
Source: http://maps.google.com

NOISE MEASUREMENTS

Site No.	Location	Leq		Time	Time/Comments
1	Back parking lot off of Director's Place	73.6		11:52 am – 12:02 pm	Sunny, mild winds
2	Sorrento Valley Road – Scripps Clinic	57.6		12:42 pm – 12:52 pm	Sunny, mild winds
3	Mira Mesa Boulevard– Canon Building	67.8		1:41 pm – 1:51 pm	Sunny, mild winds
4	Scranton Road– Courtyard Sorrento Mesa Hotel	56.4		2:05 pm –2:15 pm	Sunny, mild winds
Source: Noise Monitoring Survey conducted by RBF Consulting, July 2009.					

Question 4.9b:

The City's 65 CNEL noise standard is not applicable to construction noise. Please evaluate the construction noise in terms of the City's Equivalent Continuous Noise Level (Leq) 12-hour average noise standard, and provide the calculated Leq noise level at the noise-sensitive receptors.

SDG&E Response to Q4.9b:

The 12-hour average has been clarified in the text provided below:

"The projected noise level of 65.6 dBA Leq at this location would not exceed the City's noise standard limiting construction activity at or beyond the property lines of any property zoned residential of a 12-hour average sound level greater than 75 decibel from 7:00 AM to 7:00 PM."

Question 4.9c:

Please provide noise levels included on Pages 4.9-16 and 4.9-17 in terms of the City's Leq 12-hour average noise standard.

SDG&E Response to Q4.9c:

The following text and table were revised:

"The projected noise level of 65.6 dBA Leq at this location would not exceed the City's noise standard limiting construction activity at or beyond the property lines of any

property zoned residential of a 12-hour average sound level greater than 75 decibel from 7:00 AM to 7:00 PM." Please refer to electronic folder labeled: Q4.9 – Noise Model.

PROJECTED CONSTRUCTION EQUIPMENT NOISE

Approximate Sensitive Receptor Distance to Project Site	Direction from Proposed Project Site	Project Noise Level (dBA, Leq)
800 feet	North	65.6
5,280 feet	South	49.2
3,168 feet	East	53.7
1,584	West	59.7

Notes: * - Number equipment operating concurrently for worst-case scenario – Site preparation and grading phase. ** -
The nearest sensitive uses to the project site are: to the north of the project site is residential; to the south is the San Diego Wildlife Refuge; to the east are hotels, schools, and churches; to the west are a hospital and school. Distance is from the nearest receptor to the construction activity area of the project site, in feet.
Derived from the Federal Highway Administration, *Roadway Construction Noise Model (FHWA-HEP-05-054),* January 2005; refer to Appendix A, Noise Data.
Construction noise in San Diego is governed by the Municipal Code. Construction is normally limited to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. The Municipal Code identifies the maximum noise level for construction noise at 75 dBA Leq at residential property line.

Question 4.9d:

Please provide the nighttime construction activities and associated construction nighttime noise levels. Be sure to identify the noise significance of the nighttime construction activities, and provide noise abatement measures, if necessary.

SDG&E Response to Q4.9d:

Nighttime activities may consist of oil filling the transformers which would consist of using a 300 kW Whisper Watt generator which keeps the total (BOR + Generator) noise level down below 60 dB at the site. If we assume one 60 dB source located at the transformer site, the noise level will be significantly less than that shown in Fig 4.9-2 (which depicts four 61 dB sources) and would be negligible outside the property lines. Other activities that may occur at night would be cutovers of transmission tie lines and distribution circuits, but this will be dependent upon outage requirements. The noise level associated with this activity would be from the start engineers and relay techs working in the control house, and from the operation of the 69 kV circuit breakers.

Question 4.9e:

According to the project's Technical Noise Evaluation, the project site is zoned RS-1-8. Therefore, the applicable noise limits are 50 decibels (dB) Leq daytime, 45 dB Leq evening, and 40 dB Leq nighttime. Please evaluate based on the noise level standards for the applicable land use zone.

SDG&E Response to Q4.9e:

Please see SDG&E response to Q1.5.1.a.

SECTION 4.11 PUBLIC SERVICES

Question 4.11a:

Please provide response times for fire and police protection services to the project site. For Fire Protection Services, provide response times to the project site from Fire Station #41 (at 4914 Carroll Canyon Road) and Fire Station #35 (at 4285 Eastgate Mall). For Police Protection Services, provide response time to the project site from the Mira Mesa/Scripps Ranch Storefront Station (at 8450#A Mira Mesa Boulevard). In addition, are there any ambulatory services in operation in the project area that could potentially serve the project?

SDG&E Response to Q4.11a:

The project site is located approximately 0.30 miles to the northwest of Fire Station #41, located at 4914 Carroll Canyon Road. Additionally, the project site is located approximately 1.15 miles to the northeast of Fire Station #35, which is located at 4285 Eastgate Mall. SDG&E has contacted the City of San Diego Fire Department Fire Prevention Division and requested service response times from these two fire stations to the project site. SDG&E will provide this information to the CPUC when it becomes available.[3] As fire service is currently provided by the City of San Diego Fire Department to surrounding uses in the area, and due to the unoccupied nature of the proposed use, it is anticipated that the project can be

[3] Phone conversation with Larry Trame, Assistant Fire Chief, of the City of San Diego Fire Department. January 10, 2012.

adequately served by existing fire service facilities and personnel without the need for expansion or additional staff.

The Mira Mesa/Scripps Ranch Storefront Police Station, located at 8450 #A, Mira Mesa Boulevard, is the closest police station to the project site. The City Police Department does not provide response times specific to a particular site; however, for the northwestern quadrant of the City, in which the project site is located, the following were average response times for Emergency and Priority 1-4 events in the year 2011:[4]

- Emergency - 8 minutes
- Priority 1 - 13 minutes
- Priority 2 - 22 minutes
- Priority 3 - 50.9 minutes
- Priority 4 - 56.4 minutes

Emergency medical services within the project area would be provided by Scripps Mercy Hospital, located at 9888 Genesee Avenue, approximately 1.1 miles to the southwest of the project site. Additionally, Thorton Hospital at the University of San Diego, located at 9300 Campus Point Drive approximately 1.5 miles to the southwest of the project site, would also provide emergency medical services. Pacific Ambulance, Inc. is located at 5550 Oberlin Drive - Suite A, approximately 0.4 miles to the east of the project site and provides ambulatory services within the project area.

Question 4.11b:

Please characterize the volume(s) of water anticipated to be used during construction and operation. If exact volume(s) are unknown, provide a range (in gallons).

SDG&E Response to Q4.11b:

The site grading operation will encompass a net cut to fill of 67,000 cubic yards of earthwork. Water for processing earthwork operations may consume approximately 20 gallons per cubic yard for soil treatment, compaction, and dust control. Therefore grading operations will consume

[4] Phone conversation with Sargeant Steve Behrendt of the San Diego Police Research and Planning (RAP) Division. January 13, 2012.

approximately 1,340,000 gallons. The value results from the following assumptions and calculations:

SECTION 4.12 TRANSPORTATION AND TRAFFIC

Question 4.12a:

Table 4.12-1 provides the roadway segment level of service (LOS) and traffic volume at nearby roadways. Please provide the intersection traffic volumes and LOS for nearby intersections that would be affected by proposed construction and operational activities.

SDG&E Response to Q4.12a:

The Project would generate a minimal number of vehicle trips (due to the nature of the proposed use) that are anticipated to affect only a limited number of local streets, with the majority of trips occurring during the construction phase. Therefore, the intersections identified in the table below are anticipated to support traffic generated by the Project, either during construction or operation. Based on the City's thresholds criteria for intersections, the following LOS was determined for these intersections, as given below.

EXISTING INTERSECTION OPERATIONS

Intersection	AM/PM Peak Hour	Existing Delay[1]	LOS
Mira Mesa Blvd/Vista Sorrento Pkwy/I-805 NB Off-Ramp	**AM**	**>1002**	**F**
	PM	34.5	C
Mira Mesa Blvd/Scranton Rd	**AM**	**>100**	**F**
	PM	**>100**	**F**
Mira Sorrento Pl/Scranton Rd	AM	12.8	B
	PM	19.5	B
Vista Sorrento Pkwy/I-805 NB Ramps	**AM**	**56.1**	**E**
	PM	39.7	D
Morehouse Dr/Scranton Rd	AM	27.9	C
	PM	40.7	D

1 - Delay measured in seconds. 2 – Bold text indicates deficient intersection operations.
Source: AM/PM Peak Hour Delay data excerpted from I-805 HOV/Carroll Canyon Road Extension Project IS/MND & EA/FONSI. Prepared by CALTRANS. April 2009.

The 2000 Highway Capacity Manual (HCM) methodology for *Signalized Intersections* was used to determine the operating Levels of Service (LOS) of the study intersections. The HCM methodology describes the operation of an intersection using a range of LOS from LOS A (free-

flow conditions) to LOS F (severely congested conditions), based on corresponding average stopped delay per vehicle shown in the table below.

INTERSECTION LOS AND DELAY RANGES

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 to ≤ 20.0	> 10.0 to ≤ 15.0
C	> 20.0 to ≤ 35.0	> 15.0 to ≤ 25.0
D	> 35.0 to ≤ 55.0	> 25.0 to ≤ 35.0
E	> 55.0 to ≤ 80.0	> 35.0 to ≤ 50.0
F	> 80.0	> 50.0

Source: 2000 Highway Capacity Manual.

The City's goal for acceptable operating conditions is LOS D or better for intersections. The City's Traffic Impact Study Manual identifies thresholds of significance, as summarized in the table below.

CITY OF SAN DIEGO LEVEL OF SIGNIFICANCE THRESHOLDS

LOS	Allowable Change due to Project Impact	
	Intersections Delay (sec.)	Ramp Metering Delay (sec.)
E (or ramp meter delays above 15 minutes)	2.0	2.0
F (or ramp meter delays above 15 minutes)	2.0	1.0
Source: City of San Diego Traffic Impact Study Manual.		

Question 4.12b:

Question 4.12c indicates that, at this time, helicopter use is not anticipated for the proposed project. Please identify, in the event a helicopter is determined to be required, the type of activities that will need to be performed by a helicopter both during construction and operation.

SDG&E Response to Q4.12b:

The use of helicopters is not required for any of the transmission and substation work associated with this project and will not be used.

Question 4.13:

SECTION 4.13 CUMULATIVE ANALYSIS

Please identify the research methods that were utilized to complete the Planned and Proposed Projects within One Mile of the Proposed Project Site. Please provide any documentation that was obtained from agencies and the date the documents were obtained to support the project list provided in Table 4.13-1.

SDG&E Response to Q4.13:

Please refer to Section 4.13.5, *Methodology*, in which the cumulative projects were identified through discussion with City staff, review of the relevant documents that were available, and through a search of affected agency websites and correspondence with their staff. A list of those agencies or organizations considered with regard to current or anticipated development projects in the Proposed Project area was compiled subsequent to this process and is provided in Table 4.13-1.

Development plans for the Mira Sorrento Light Industrial/Office Park were obtained from the City of San Diego Development Services Department in June 2011. Information pertaining to the Interstate 805 HOV/Carroll Canyon Road Extension was obtained from Caltrans in April 2011 (Caltrans Fact Sheet, March 2011, Interstate 805 Project). Please refer to Electronic folder Q4.13 - Cumulative.

5.0 DETAILED DISCUSSION OF SIGNIFICANT IMPACTS

Question 5.2:

SECTION 5.2 DESCRIPTION OF PROJECT ALTERNATIVES AND IMPACT ANALYSIS

Please provide a map that includes the substation site alternative locations identified in Table 5-1.

SDG&E Response to Q5.2:

Please refer to the map of substation alternatives, provided as Figure 5-1, Alternative Substation Sites, that is included in the PEA.

Q1.9.3 MCAS Letter

UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION MIRAMAR
P.O. BOX 452001
SAN DIEGO, CA 92145-2001

CP&L
11000/ELEC SUBSTATION
April 7, 2011

SAN DIEGO COUNTY REGIONAL AIRPORT AUTHORITY
AIRPORT LAND USE COMMISSION
ATTN MR ROBERT H. GLEASON, CHAIR
P.O. BOX 82776
SAN DIEGO, CALIFORNIA 92138-2776

Re: MCAS MIRAMAR; AICUZ POLICY ON ELECTRICAL SUBSTATIONS

Dear Chairman Gleason,

We have been asked to provide clarification on the proposed siting of electrical substations within Marine Corps Air Station (MCAS) Accident Potential Zones. As a member of this community, we share your concerns on all quality of life issues and support the development of public infrastructure consistent with MCAS operations and federal policy.

The MCAS Miramar Accident Potential Zones have been identified to protect the public health and safety and are located within the primary Departure and Arrival Corridors for transiting fixed and rotary-wing airframes. It is our understanding "Electricity Regulating Substations" are compatible within these critical safety impact areas for MCAS Miramar operations.

Amendments to relevant rules and regulations affecting MCAS Miramar regarding these "Electricity Regulating Substations" would not be objectionable under the circumstances.

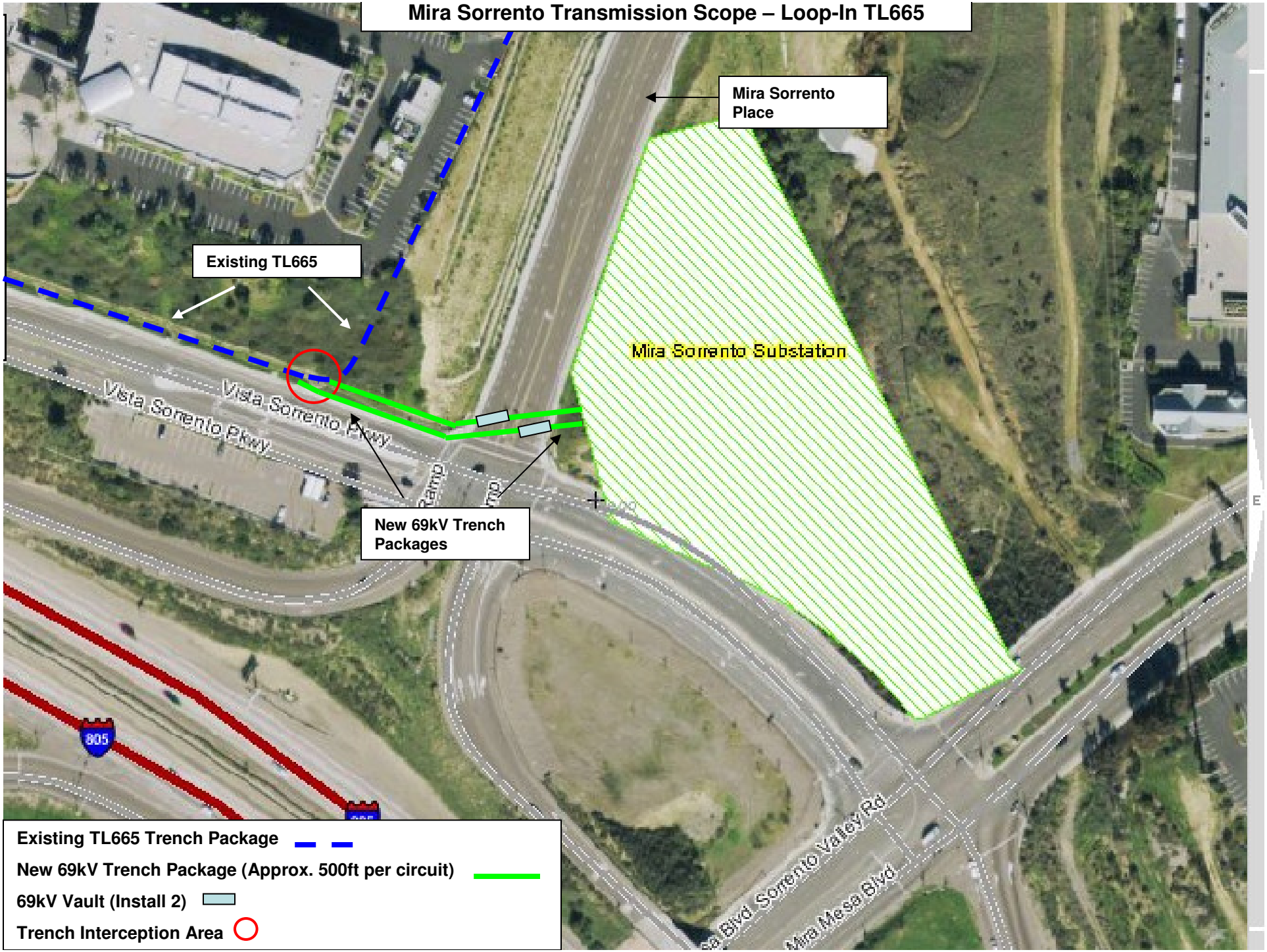
If we may be of any further assistance please do not hesitate to contact our office at (858)577-6603 at any time.

Sincerely,

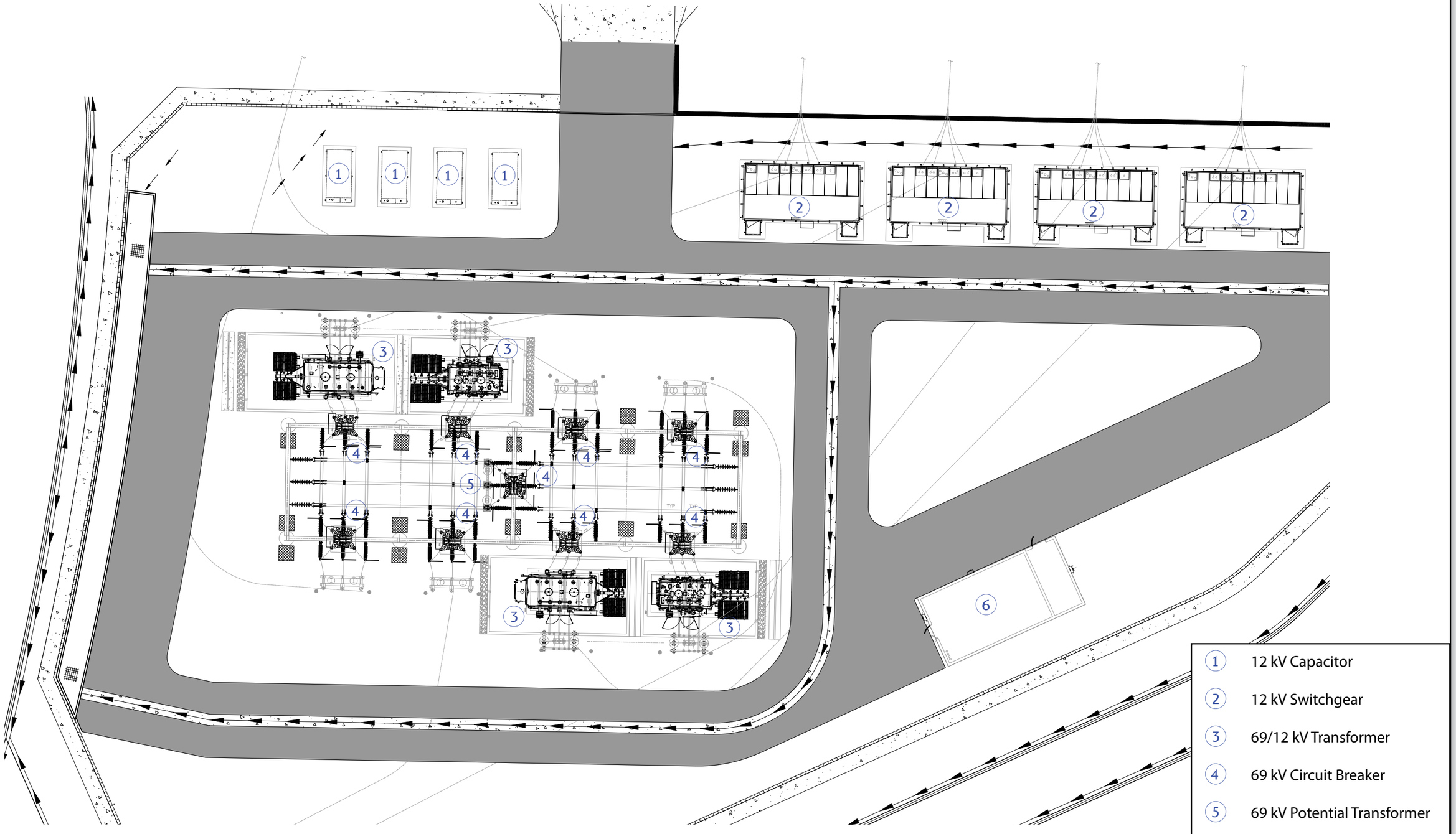
C. L. THORNTON
Community Plans and Liaison Officer
By direction of the Commanding Officer

Copy to:
UCPG
Councilmember District One, Attn Mr. Jesse Mays

Q3 Transmission


Mira Sorrento Transmission Scope – Loop-In TL665
Mira Sorrento Place
Existing TL665
Mira Sorrento Substation
Vista Sorrento Pkwy
Vista Sorrento Pkwy
New 69kV Trench Packages
805
Mira Mesa Blvd
Existing TL665 Trench Package
New 69kV Trench Package (Approx. 500ft per circuit)
69kV Vault (Install 2)
Trench Interception Area

Q3.5.1d Figure 3–6



1. 12 kV Capacitor
2. 12 kV Switchgear
3. 69/12 kV Transformer
4. 69 kV Circuit Breaker
5. 69 kV Potential Transformer
6. Control Shelter

SDGE

Not to Scale
Source: SDG&E, May 2011

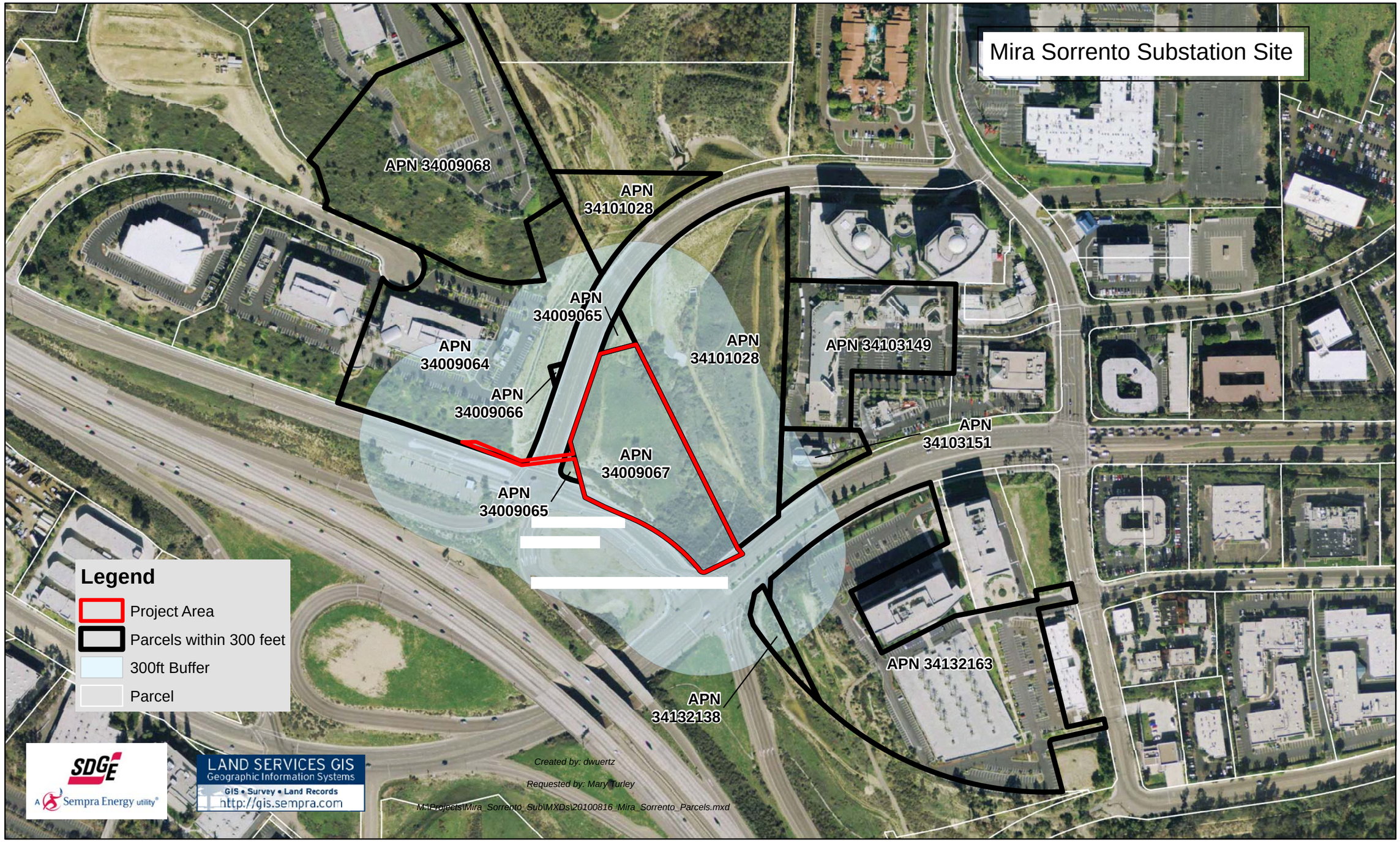
SD Mac: 25103691EIRTabloidLandscape.indd

Mira Sorrento Substation
Proponent's Environmental Assessment

MIRA SORRENTO SUBSTATION LAYOUT

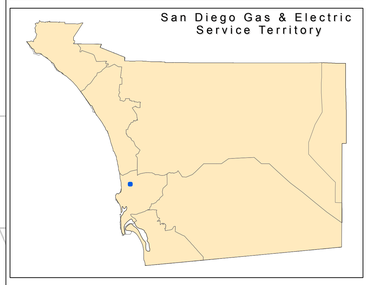
Figure 3-6

Q3.5.2 Distribution and APNs


Mira Sorrento Substation Site
APN 34009068
APN 34101028
APN 34009065
APN 34009064
APN 34009066
APN 34101028
APN 34103149
APN 34103151
APN 34009067
APN 34009065
APN 34132163
APN 34132138
Legend
Project Area
Parcels within 300 feet
300ft Buffer
Parcel
SDGE
A Sempra Energy utility
LAND SERVICES GIS
Geographic Information Systems
GIS • Survey • Land Records
http://gis.sempra.com
Created by: dwuertz
Requested by: Mary Turley
M:\Projects\Mira_Sorrento_Sub\MXDs\20100816_Mira_Sorrento_Parcels.mxd

APN_8	OWN_NAME1	OWN_ADDR1	OWN_ADDR2	OWN_ADDR3	OWN_ZIP
34103149	TRIZEC SORRENTO TOWERS LLC	EQUITY PROPERTY TAX GROUP, LLC	P O BOX A3879	CHICAGO IL	60690
34132163	TRIZEC SORRENTO TOWERS LLC	EQUITY PROPERTY TAX GROUP, LLC	P O BOX A3879	CHICAGO IL	60690
34132138	CARYON PROPERTIES L L C	P O BOX 910064		SAN DIEGO CA	92191
34101028	21 MIRA MESA L L C	C/O CALIFORNIA MORTGAGE	62 1ST ST	SAN FRANCISCO CA	94105
34009067	SAN DIEGO GAS&ELECTRIC CO	PUBLIC AGENCY			0
34009068	KILROY REALTY L P	C/O HEIDI ROTH	P O BOX 64733	LOS ANGELES CA	90064
34009064	KILROY REALTY L P	C/O DELOITTE | TOUCHE LLP	P O BOX 131152	CARLSBAD CA	92013
34103151	TRIZEC SORRENTO TOWERS LLC	EQUITY PROPERTY TAX GROUP, LLC	P O BOX A3879	CHICAGO IL	60690
34009066	GOSS DONN H&BEVERLY J	6429 CLAREMORE LN		SAN DIEGO CA	92120
34009065	CITY OF SAN DIEGO	PUBLIC AGENCY			0

Mira Sorrento Substation Site



Legend

- Interstate
- State Highway
- U S Highway
- Mira_Sorrento_Structures

Mira_Sorrento_Circuits

CIR_ID

- ATT
- 1442
- 1443
- 1444
- 1445
- 1446
- 1447

Mira_Sorrento_Equipments

Descriptio

- AT&T Manhole
- Manhole 1
- Manhole 2
- Mira Sorrento Substation
- Mira_Sorrento_Site
- San Diego County Parcel

SDGE A Sempra Energy utility®

LAND SERVICES GIS
Geographic Information Systems
GIS ▪ Survey ▪ Land Records
http://gis.sempra.com

1 inch = 67 feet

0 50 100 200 300 400 Feet

CONFIDENTIAL

Created by: Derick Rivera, January 11, 2012
Requested by: Fardin Sarraf
S:\DWP\DWPSHARE\Derick Rivera - GIS Projects\Non CPSP Related Projects\Fardin Sarraf\MXD's\MiraSorrento.mxd

Q4 List of Preparers

LIST OF PREPARERS

1.1 Proponents Environmental Assessment

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San Diego, California 92123

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Fardin Sarraf, Distribution Engineer
Sue Campbell, Substation Engineer
Richard Rodriguez, Transmission Engineer
Linda Wrazen, Regulatory Case Administrator

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Kimberly Butts	CADD Designer

Richard Hendrickson	GIS
Hilary Potter	Word Processor/Graphics

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SDG&E

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Michael Nieto

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Chad A. Willis

Jill K. Gardner, Ph.D., RPA

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Geotechnical Consultant

Kevin Crennan, GE

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5015 Shoreham Place

San Diego, California 92122-5926

Hazards/Hazardous Materials

Kasra Nikkhah, CAC

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Noise Assessment

Monica Kling, LEED AP

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1.3 Project Design

Civil Engineering

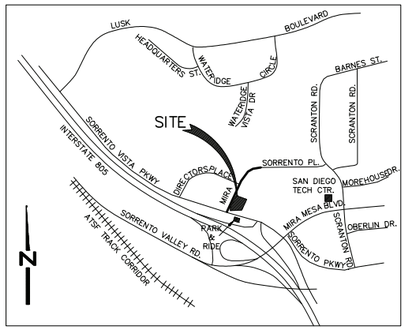
Jim Hettinger

Nolte/Vertical 5.

15090 Avenue of Science, Suite 101

San Diego, CA 92128

Q4.1a Lighting



VICINITY MAP
NO SCALE

SITE SUMMARY

APN: 340-090-65, 340-090-67
PORTION OF 304-090-64

GROSS AREA: 3.74 AC

SUBSTATION AREA: 1.43 AC
(WITHIN SCREEN WALL)

PRESENT USE: VACANT

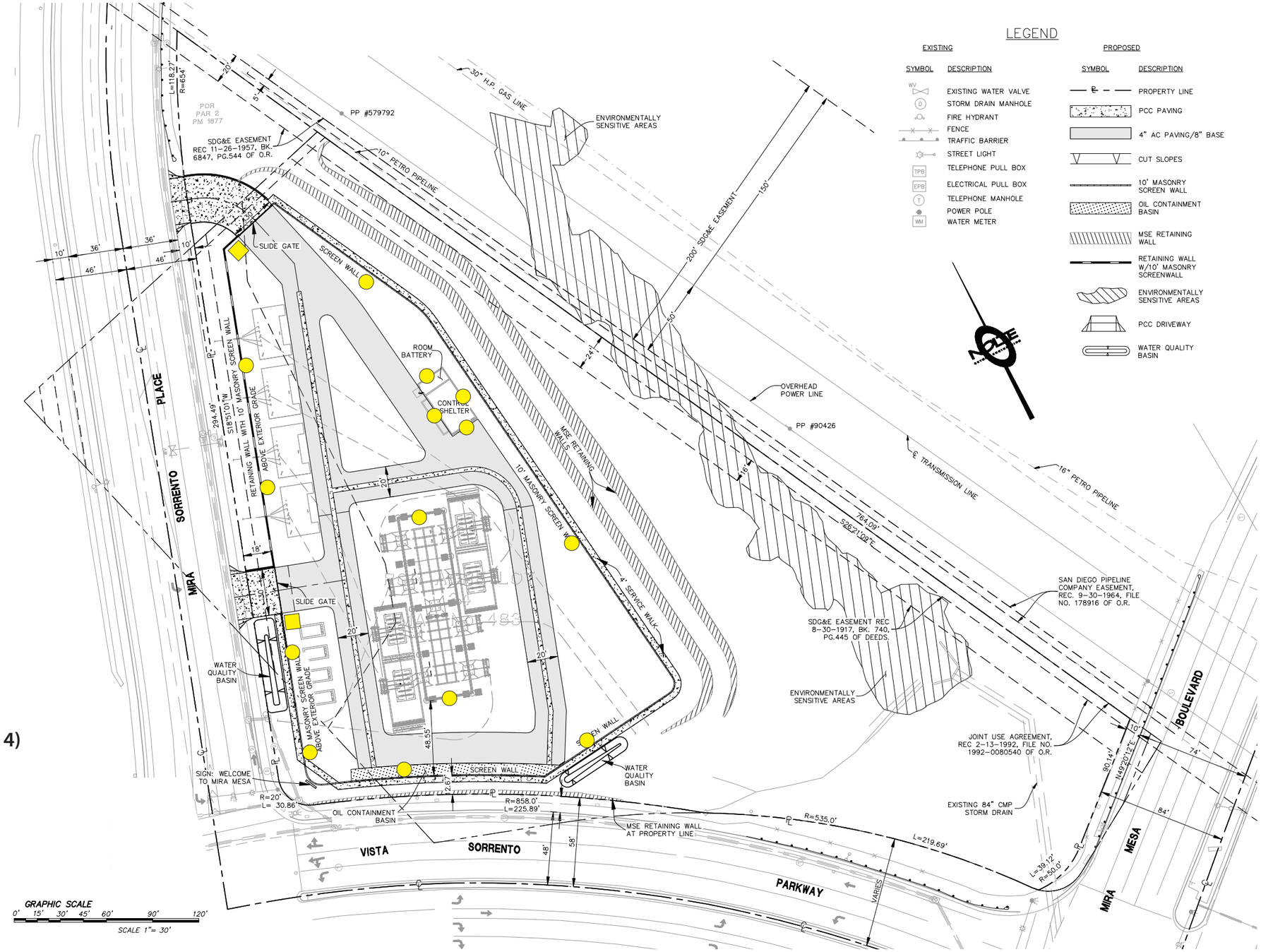
EXISTING ZONING: IP-1-1

FOR EASEMENTS AND PROPERTY LINE DATA, SEE: MTO-S-905

FOR DETAILED GRADING & DRAINAGE, SEE: MTO-S-901

NOTE: ALL PROPERTY LINE AND AREA DATA TO BE VERIFIED BY BOUNDARY SURVEY.

- Proposed Light Locations (14)
- Gate Entry Lights (2)



Source: Nolte Engineering, 2011

SD Mac: 25103691EIRTabloidLandscape.indd

Mira Sorrento Substation
Proponent's Environmental Assessment

CONCEPTUAL SUBSTATION LIGHTING EXHIBIT

Q4.1b JPEGS


QUALCOMM
CARPOOL ONLY


ONLY
ONLY
ONLY

Q4.1c Visual Sims


MTO-R-100.6 14:28 11/30/11


QUALCOMM
WELCOME TO
MIRA MESA
CARPOOL
ONLY
MTO-R-200.10 10:13 01/12/12


MTO-R-300.11 10:28 01/12/12


ONLY
ONLY
ONLY
MTO-R-400.4 10:30 01/12/12

Q4.1e Photo Location Map

Scale 1:300
Source: Google Earth 2011

SDGE

Mira Sorrento Substation
Proponent's Environmental Assessment

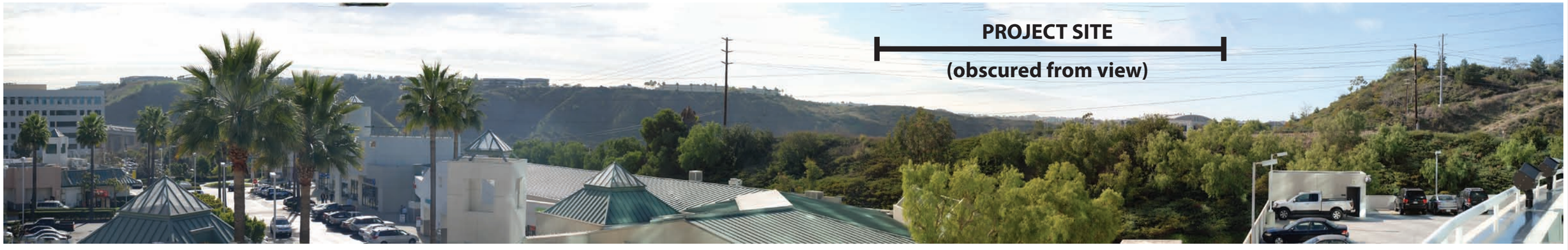
PHOTO LOCATION MAP

SD Mac: 25103691EIRLetterPortrait.indd

View 1: View looking north/northwest to Project site from northern edge of parking lot (office buildings located to the south/southeast across Mira Mesa Boulevard).

View 2: View looking north/northwest to Project site from northern edge of parking lot (office buildings located to the south/southeast across Mira Mesa Boulevard).

View 3: View looking south/southeast/east from northern edge of parking lot (office buildings located to the south/southeast across Mira Mesa Boulevard).



View 4: View looking west/southwest from patio/walkway (street level) at Sorrento Towers (West Tower).

View 5: View looking northwest/southwest from patio/walkway (street level) at Sorrento Towers (West Tower).

View 6: View looking west/southeast from southwesterly edge of hotel parking lot. Hotel is two-stories with guest rooms set back from edge of parking lot.

View 7: View looking north/southeast from westerly edge of hotel parking lot. Hotel is two-stories with hotel rooms set back from edge of parking lot.

View 8: View looking east/southeast from easterly edge of parking lot of office complex located to the northwest of Project site, across Mira Sorrento Place.

Q4.2 Model

Parenthetical URBEMIS2007 (Version 9.2.4) Assumptions
For: Mira Sorrento Substation
Date: January 4, 2012

LAND USES

Amount	Land Use Type	Unit Type	Trip Rate
3.70	Electrical Substation	Acres	4.0

CONSTRUCTION SOURCES

Year	Duration (months)	Phase
August 2012	6	Site Development and Grading; Paving
August 2012	3	Retaining Wall (Verdura and CMU) Construction
February 2013	6	Below Grade Construction
August 2013	10	Substation Equipment Construction
March 2014	2-4	Transmission Construction

Mass Site Grading – (Site Development and Grading)

Year	Daily Amount of Site Grading (acres)	Total Import (cubic yards):	Total Export (cubic yards):	Distance to Disposal Site
2012	0.5	42,000	42,000	25 Miles

Equipment (URBEMIS2007):

Quantity	Type	Hours of Daily Operation
3	Other Material Handling Equipment (2 Compactors; 1 Ditch Witch)	7
1	Water Truck	2
1	Excavator	8
10	Other General Industrial Equipment (8-Asphalt Trucks and 2 Maintenance Trucks)	0.5
1	Paver	8
2	Rollers (Drum Roller Compacter)	6
2	Rubber Tired Dozers	6
4	Scrapers	7
2	Skid Steer Loaders	4
4	Tractors/Loaders/Backhoes (2 Frontend Loaders/2 Backhoes)	6
33	Other Equipment (Cars/Pick-ups)	1.5

Paving (URBEMIS 2007 Default)

Year	Total Amount to be Paved (acres)
2012	0.50

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: H:\PDATA\Urbemis\25103691\Mira Sorrento Substation 2012-01-05.urb924

Project Name: Mira Sorrento Substation

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Equipment:

Quantity	Type	Hours of Daily Operation
4	Cement/Mortar Mixers	6

Building Construction (Verdura Retaining Wall and CMU Retaining Wall)

Equipment:

Quantity	Type	Hours of Daily Operation
2	Cement/Mortar Mixers	6
2	Forklifts	6
1	Generator Set (Mobile Generator)	4
2	Other Material Handling Equipment (3 Compactors; 1 Ditch Witch; 1 Concrete Pump; 1 Spray Pump; 1 Mortar Grader)	6
1	Water Truck	2
1	Excavator	8
8	Other General Industrial Equipment (6 Concrete Trucks; 2 Delivery Trucks)	0.5
4	Tractors/Loaders/Backhoes (3 Frontend Loaders; 1 Backhoe)	6
22	Other Equipment (Cars/Pick-ups)	1.5

Building Construction (Substation Below Grade)

Equipment:

Quantity	Type	Hours of Daily Operation
1	Water Truck	2
3	Other Material Handling Equipment (Ditch Witch; 2 Dump Trucks)	6
15	Other General Industrial Equipment (15 Concrete Trucks)	0.5
12	Other Equipment (Cars/Pick-Ups)	1.5
2	Skid Steer Loaders	4
4	Tractors/Loaders/Backhoes (2 loaders; 2 Backhoes)	6
2	Skid Steer Loaders	4

Building Construction (Substation Construction)

Equipment:

Quantity	Type	Hours of Daily Operation
1	Water Truck	2
3	Other Material Handling Equipment (1 Manlift; 2 Underground Line)	6
6	Other General Industrial Equipment (4 Bucket Trucks; 2 Boom Trucks)	6
22	Other Equipment (Cars/Pick-Ups)	1.5
3	Generator Sets	12

Building Construction (Total Transmission Construction)

Equipment:

Quantity	Type	Hours of Daily Operation
1	Bore Drill Rig	0.5
1	Crane	0.5
25	Other Equipment (Cars/Pick-Ups)	1.5
5	Other General Industrial Equipment (4 Concrete Trucks; 1 Dump Truck)	4
4	Other Material Handling Equipment (1 Ditch Witch; 2 Underground Line Trucks; 1 Cable Reel Trailer)	2
1	Skid Steer Loaders	4
1	Tractors/Loaders/Backhoes	6
3	Generator Sets	12

Architectural Coating

Low VOC coating.

Sub- Phase - Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

OPERATIONAL SOURCES

Vehicle Fleet %:

(URBEMIS2007 default all phases)

Trip Characteristics:

(URBEMIS2007 Default all phases)

Temperature Data:

40 to 90 degrees Fahrenheit

Variable Starts:

(URBEMIS2007 default all phases)

Road Dust:

Paved – 100%
Unpaved – 0%

Pass By Trips (On/Off):

Off

Double-Counting(On/Off):

Off

Operational Mitigation Measures:

Refer to URBEMIS2007 file output.

1/10/2012 7:00:36 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	26.81	246.22	119.39	0.06	60.59	10.85	71.43	12.69	9.97	22.66	32,473.25
2012 TOTALS (lbs/day mitigated)	26.81	246.22	119.39	0.06	34.37	10.85	45.22	7.21	9.97	17.18	32,473.25
2013 TOTALS (lbs/day unmitigated)	19.60	174.03	90.20	0.07	60.60	7.41	68.01	12.69	6.82	19.50	25,143.45
2013 TOTALS (lbs/day mitigated)	19.60	174.03	90.20	0.07	34.38	7.41	41.79	7.21	6.82	14.03	25,143.45
2014 TOTALS (lbs/day unmitigated)	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
2014 TOTALS (lbs/day mitigated)	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)							

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 8/1/2012-8/14/2012 Active Days: 10	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 8/15/2012-11/15/2012 Active Days: 67	26.81	246.22	119.39	0.06	60.59	10.85	71.43	12.69	9.97	22.66	32,473.25
Building 08/15/2012-11/15/2012	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Off Road Diesel	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45

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Time Slice 11/16/2012-12/31/2012 Active Days: 32	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 1/1/2013-1/11/2013 Active Days: 9	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22

Time Slice 1/14/2013-1/31/2013 Active Days: 14	19.60	174.03	90.20	**0.07**	**60.60**	7.41	68.01	**12.69**	6.82	19.50	25,143.45
Asphalt 01/14/2013-01/31/2013	0.25	1.03	1.53	0.00	0.01	0.05	0.05	0.00	0.04	0.05	272.96
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.70	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.30
Paving On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	54.34
Paving Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22
Time Slice 2/1/2013-7/31/2013 Active Days: 155	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building 02/01/2013-07/31/2013	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Off Road Diesel	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 8/1/2013-12/31/2013 Active Days: 131	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building 08/01/2013-05/30/2014	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Off Road Diesel	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Time Slice 1/1/2014-3/1/2014 Active Days: 52	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 3/3/2014-5/30/2014 Active Days: 77	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 5/31/2014-6/30/2014 Active Days: 26	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

Total Acres Disturbed: 2.7

Maximum Daily Acreage Disturbed: 0.5

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Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 469 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 1090.91

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

33 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

10 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 7 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

4 Scrapers (313 hp) operating at a 0.72 load factor for 7 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Paving 1/14/2013 - 1/31/2013 - Paving at the tailend of the Grading Phase

Acres to be Paved: 0.5

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 8/15/2012 - 11/15/2012 - Verdura Retaining Wall Construction; CMU Retaining Wall, CMU Screen Wall, and Gate Construction

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (150 hp) operating at a 0.74 load factor for 4 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

8 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

2 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 2/1/2013 - 7/31/2013 - Substation Below Grade

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

12 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

15 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 8/1/2013 - 5/30/2014 - Substation Construction

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 6 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 3/3/2014 - 6/30/2014 - Total Transmission Construction

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 0.5 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 0.5 hours per day

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

25 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

5 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 4 hours per day

4 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 2 hours per day

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1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 8/1/2012-8/14/2012 Active Days: 10	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 8/15/2012-11/15/2012 Active Days: 67	26.81	246.22	119.39	0.06	34.37	10.85	45.22	7.21	9.97	17.18	32,473.25
Building 08/15/2012-11/15/2012	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Off Road Diesel	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45

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Time Slice 11/16/2012-12/31/2012 Active Days: 32	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 1/1/2013-1/11/2013 Active Days: 9	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22

Time Slice 1/14/2013-1/31/2013 Active Days: 14	19.60	174.03	90.20	**0.07**	34.38	7.41	41.79	7.21	6.82	14.03	25,143.45
Asphalt 01/14/2013-01/31/2013	0.25	1.03	1.53	0.00	0.01	0.05	0.05	0.00	0.04	0.05	272.96
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.70	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.30
Paving On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	54.34
Paving Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22
Time Slice 2/1/2013-7/31/2013 Active Days: 155	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building 02/01/2013-07/31/2013	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Off Road Diesel	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 8/1/2013-12/31/2013 Active Days: 131	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building 08/01/2013-05/30/2014	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Off Road Diesel	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Time Slice 1/1/2014-3/1/2014 Active Days: 52	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 3/3/2014-5/30/2014 Active Days: 77	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 5/31/2014-6/30/2014 Active Days: 26	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products							
Architectural Coatings	0.00						
TOTALS (lbs/day, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
TOTALS (lbs/day, unmitigated)							

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: H:\PDATA\Urbemis\25103691\Mira Sorrento Substation 2012-01-05.urb924

Project Name: Mira Sorrento Substation

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (tons/year unmitigated)	1.33	12.18	5.97	0.00	3.30	0.53	3.84	0.69	0.49	1.18	1,610.14
2012 TOTALS (tons/year mitigated)	1.33	12.18	5.97	0.00	1.87	0.53	2.41	0.39	0.49	0.88	1,610.14
Percent Reduction	0.00	0.00	0.00	0.00	43.27	0.00	37.25	43.16	0.00	25.24	0.00
2013 TOTALS (tons/year unmitigated)	1.47	13.87	6.36	0.00	0.70	0.57	1.27	0.15	0.53	0.67	1,794.07
2013 TOTALS (tons/year mitigated)	1.47	13.87	6.36	0.00	0.40	0.57	0.97	0.08	0.53	0.61	1,794.07
Percent Reduction	0.00	0.00	0.00	0.00	43.27	0.00	23.77	43.16	0.00	9.38	0.00
2014 TOTALS (tons/year unmitigated)	0.97	9.36	4.24	0.00	0.00	0.35	0.35	0.00	0.33	0.33	1,342.02
2014 TOTALS (tons/year mitigated)	0.97	9.36	4.24	0.00	0.00	0.35	0.35	0.00	0.33	0.33	1,342.02
Percent Reduction	0.00	0.00	0.00			0.00	0.00		0.00	0.00	0.00

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)							

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2012	1.33	12.18	5.97	0.00	3.30	0.53	3.84	0.69	0.49	1.18	1,610.14
Mass Grading 08/01/2012-01/31/2013	1.11	10.20	5.12	0.00	3.30	0.44	3.75	0.69	0.41	1.10	1,355.45
Mass Grading Dust	0.00	0.00	0.00	0.00	3.29	0.00	3.29	0.69	0.00	0.69	0.00
Mass Grading Off Road Diesel	0.97	8.67	3.77	0.00	0.00	0.38	0.38	0.00	0.35	0.35	996.73
Mass Grading On Road Diesel	0.12	1.48	0.57	0.00	0.01	0.06	0.07	0.00	0.05	0.06	251.99
Mass Grading Worker Trips	0.02	0.04	0.78	0.00	0.01	0.00	0.01	0.00	0.00	0.00	106.74
Building 08/15/2012-11/15/2012	0.22	1.98	0.85	0.00	0.00	0.09	0.09	0.00	0.08	0.08	254.68
Building Off Road Diesel	0.22	1.98	0.85	0.00	0.00	0.09	0.09	0.00	0.08	0.08	254.68
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2013	1.47	13.87	6.36	0.00	0.70	0.57	1.27	0.15	0.53	0.67	1,794.07
Mass Grading 08/01/2012-01/31/2013	0.22	1.99	1.02	0.00	0.70	0.08	0.78	0.15	0.08	0.22	286.01
Mass Grading Dust	0.00	0.00	0.00	0.00	0.69	0.00	0.69	0.14	0.00	0.14	0.00
Mass Grading Off Road Diesel	0.20	1.70	0.76	0.00	0.00	0.07	0.07	0.00	0.07	0.07	210.32
Mass Grading On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.17
Mass Grading Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.52
Asphalt 01/14/2013-01/31/2013	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Building 02/01/2013-07/31/2013	0.63	5.72	2.85	0.00	0.00	0.26	0.26	0.00	0.24	0.24	713.30
Building Off Road Diesel	0.63	5.72	2.85	0.00	0.00	0.26	0.26	0.00	0.24	0.24	713.30
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	0.62	6.16	2.48	0.00	0.00	0.23	0.23	0.00	0.21	0.21	792.85
Building Off Road Diesel	0.62	6.16	2.48	0.00	0.00	0.23	0.23	0.00	0.21	0.21	792.85
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2014	0.97	9.36	4.24	0.00	0.00	0.35	0.35	0.00	0.33	0.33	1,342.02
Building 08/01/2013-05/30/2014	0.57	5.53	2.39	0.00	0.00	0.20	0.20	0.00	0.19	0.19	780.74
Building Off Road Diesel	0.57	5.53	2.39	0.00	0.00	0.20	0.20	0.00	0.19	0.19	780.74
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 03/03/2014-06/30/2014	0.40	3.84	1.84	0.00	0.00	0.15	0.15	0.00	0.14	0.14	561.27
Building Off Road Diesel	0.40	3.84	1.84	0.00	0.00	0.15	0.15	0.00	0.14	0.14	561.27
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

Total Acres Disturbed: 2.7

Maximum Daily Acreage Disturbed: 0.5

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 469 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 1090.91

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

33 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

10 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 7 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

4 Scrapers (313 hp) operating at a 0.72 load factor for 7 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Paving 1/14/2013 - 1/31/2013 - Paving at the tailend of the Grading Phase

Acres to be Paved: 0.5

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 8/15/2012 - 11/15/2012 - Verdura Retaining Wall Construction; CMU Retaining Wall, CMU Screen Wall, and Gate Construction

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (150 hp) operating at a 0.74 load factor for 4 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

8 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

2 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 2/1/2013 - 7/31/2013 - Substation Below Grade

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

12 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

15 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 8/1/2013 - 5/30/2014 - Substation Construction

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 6 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 3/3/2014 - 6/30/2014 - Total Transmission Construction

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 0.5 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 0.5 hours per day

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

25 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

5 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 4 hours per day

4 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 2 hours per day

1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2012	1.33	12.18	5.97	0.00	1.87	0.53	2.41	0.39	0.49	0.88	1,610.14
Mass Grading 08/01/2012-01/31/2013	1.11	10.20	5.12	0.00	1.87	0.44	2.32	0.39	0.41	0.80	1,355.45
Mass Grading Dust	0.00	0.00	0.00	0.00	1.86	0.00	1.86	0.39	0.00	0.39	0.00
Mass Grading Off Road Diesel	0.97	8.67	3.77	0.00	0.00	0.38	0.38	0.00	0.35	0.35	996.73
Mass Grading On Road Diesel	0.12	1.48	0.57	0.00	0.01	0.06	0.07	0.00	0.05	0.06	251.99
Mass Grading Worker Trips	0.02	0.04	0.78	0.00	0.01	0.00	0.01	0.00	0.00	0.00	106.74
Building 08/15/2012-11/15/2012	0.22	1.98	0.85	0.00	0.00	0.09	0.09	0.00	0.08	0.08	254.68
Building Off Road Diesel	0.22	1.98	0.85	0.00	0.00	0.09	0.09	0.00	0.08	0.08	254.68
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2013	1.47	13.87	6.36	0.00	0.40	0.57	0.97	0.08	0.53	0.61	1,794.07
Mass Grading 08/01/2012-01/31/2013	0.22	1.99	1.02	0.00	0.40	0.08	0.48	0.08	0.08	0.16	286.01
Mass Grading Dust	0.00	0.00	0.00	0.00	0.39	0.00	0.39	0.08	0.00	0.08	0.00
Mass Grading Off Road Diesel	0.20	1.70	0.76	0.00	0.00	0.07	0.07	0.00	0.07	0.07	210.32
Mass Grading On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	53.17
Mass Grading Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.52
Asphalt 01/14/2013-01/31/2013	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38
Paving Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.87
Building 02/01/2013-07/31/2013	0.63	5.72	2.85	0.00	0.00	0.26	0.26	0.00	0.24	0.24	713.30
Building Off Road Diesel	0.63	5.72	2.85	0.00	0.00	0.26	0.26	0.00	0.24	0.24	713.30
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	0.62	6.16	2.48	0.00	0.00	0.23	0.23	0.00	0.21	0.21	792.85
Building Off Road Diesel	0.62	6.16	2.48	0.00	0.00	0.23	0.23	0.00	0.21	0.21	792.85
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2014	0.97	9.36	4.24	0.00	0.00	0.35	0.35	0.00	0.33	0.33	1,342.02
Building 08/01/2013-05/30/2014	0.57	5.53	2.39	0.00	0.00	0.20	0.20	0.00	0.19	0.19	780.74
Building Off Road Diesel	0.57	5.53	2.39	0.00	0.00	0.20	0.20	0.00	0.19	0.19	780.74
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 03/03/2014-06/30/2014	0.40	3.84	1.84	0.00	0.00	0.15	0.15	0.00	0.14	0.14	561.27
Building Off Road Diesel	0.40	3.84	1.84	0.00	0.00	0.15	0.15	0.00	0.14	0.14	561.27
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas							
Hearth							
Landscape	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products							
Architectural Coatings	0.00						
TOTALS (tons/year, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1/10/2012 7:00:56 PM

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
TOTALS (tons/year, unmitigated)							

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: H:\PDATA\Urbemis\25103691\Mira Sorrento Substation 2012-01-05.urb924

Project Name: Mira Sorrento Substation

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

1/10/2012 7:00:50 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2012 TOTALS (lbs/day unmitigated)	26.81	246.22	119.39	0.06	60.59	10.85	71.43	12.69	9.97	22.66	32,473.25
2012 TOTALS (lbs/day mitigated)	26.81	246.22	119.39	0.06	34.37	10.85	45.22	7.21	9.97	17.18	32,473.25
2013 TOTALS (lbs/day unmitigated)	19.60	174.03	90.20	0.07	60.60	7.41	68.01	12.69	6.82	19.50	25,143.45
2013 TOTALS (lbs/day mitigated)	19.60	174.03	90.20	0.07	34.38	7.41	41.79	7.21	6.82	14.03	25,143.45
2014 TOTALS (lbs/day unmitigated)	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
2014 TOTALS (lbs/day mitigated)	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.00						

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)							

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Unmitigated Detail Report:

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CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 8/1/2012-8/14/2012 Active Days: 10	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 8/15/2012-11/15/2012 Active Days: 67	26.81	246.22	119.39	0.06	60.59	10.85	71.43	12.69	9.97	22.66	32,473.25
Building 08/15/2012-11/15/2012	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Off Road Diesel	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45

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Time Slice 11/16/2012-12/31/2012 Active Days: 32	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	60.59	8.13	68.72	12.69	7.48	20.16	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 1/1/2013-1/11/2013 Active Days: 9	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22

Time Slice 1/14/2013-1/31/2013 Active Days: 14	19.60	174.03	90.20	**0.07**	**60.60**	7.41	68.01	**12.69**	6.82	19.50	25,143.45
Asphalt 01/14/2013-01/31/2013	0.25	1.03	1.53	0.00	0.01	0.05	0.05	0.00	0.04	0.05	272.96
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.70	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.30
Paving On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	54.34
Paving Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	60.59	7.37	67.96	12.69	6.77	19.46	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	60.34	0.00	60.34	12.60	0.00	12.60	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22
Time Slice 2/1/2013-7/31/2013 Active Days: 155	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building 02/01/2013-07/31/2013	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Off Road Diesel	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 8/1/2013-12/31/2013 Active Days: 131	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building 08/01/2013-05/30/2014	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Off Road Diesel	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Time Slice 1/1/2014-3/1/2014 Active Days: 52	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 3/3/2014-5/30/2014 Active Days: 77	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 5/31/2014-6/30/2014 Active Days: 26	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Phase Assumptions

Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

Total Acres Disturbed: 2.7

Maximum Daily Acreage Disturbed: 0.5

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Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 469 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 1090.91

Off-Road Equipment:

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

33 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

10 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 7 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

4 Scrapers (313 hp) operating at a 0.72 load factor for 7 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Paving 1/14/2013 - 1/31/2013 - Paving at the tailend of the Grading Phase

Acres to be Paved: 0.5

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 8/15/2012 - 11/15/2012 - Verdura Retaining Wall Construction; CMU Retaining Wall, CMU Screen Wall, and Gate Construction

Off-Road Equipment:

2 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (150 hp) operating at a 0.74 load factor for 4 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

8 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

2 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 2/1/2013 - 7/31/2013 - Substation Below Grade

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

12 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

15 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 0.5 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

2 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

4 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 8/1/2013 - 5/30/2014 - Substation Construction

Off-Road Equipment:

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

22 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

6 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 6 hours per day

3 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 6 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 2 hours per day

Phase: Building Construction 3/3/2014 - 6/30/2014 - Total Transmission Construction

Off-Road Equipment:

1 Bore/Drill Rigs (291 hp) operating at a 0.75 load factor for 0.5 hours per day

1 Cranes (399 hp) operating at a 0.43 load factor for 0.5 hours per day

3 Generator Sets (150 hp) operating at a 0.74 load factor for 12 hours per day

25 Other Equipment (250 hp) operating at a 0.62 load factor for 1.5 hours per day

5 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 4 hours per day

4 Other Material Handling Equipment (191 hp) operating at a 0.59 load factor for 2 hours per day

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1 Skid Steer Loaders (44 hp) operating at a 0.55 load factor for 4 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 8/1/2012-8/14/2012 Active Days: 10	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 8/15/2012-11/15/2012 Active Days: 67	26.81	246.22	119.39	0.06	34.37	10.85	45.22	7.21	9.97	17.18	32,473.25
Building 08/15/2012-11/15/2012	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Off Road Diesel	6.42	59.14	25.49	0.00	0.00	2.71	2.71	0.00	2.50	2.50	7,602.53
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45

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Time Slice 11/16/2012-12/31/2012 Active Days: 32	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading 08/01/2012-01/31/2013	20.38	187.08	93.90	0.06	34.37	8.13	42.50	7.21	7.48	14.69	24,870.72
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	17.76	159.03	69.09	0.00	0.00	7.00	7.00	0.00	6.44	6.44	18,288.56
Mass Grading On Road Diesel	2.19	27.23	10.52	0.04	0.15	1.07	1.23	0.05	0.99	1.04	4,623.71
Mass Grading Worker Trips	0.43	0.82	14.29	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.45
Time Slice 1/1/2013-1/11/2013 Active Days: 9	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22

Time Slice 1/14/2013-1/31/2013 Active Days: 14	19.60	174.03	90.20	**0.07**	34.38	7.41	41.79	7.21	6.82	14.03	25,143.45
Asphalt 01/14/2013-01/31/2013	0.25	1.03	1.53	0.00	0.01	0.05	0.05	0.00	0.04	0.05	272.96
Paving Off-Gas	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.11	0.70	0.57	0.00	0.00	0.03	0.03	0.00	0.03	0.03	94.30
Paving On Road Diesel	0.02	0.28	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	54.34
Paving Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Mass Grading 08/01/2012-01/31/2013	19.35	173.00	88.67	0.06	34.37	7.37	41.74	7.21	6.77	13.98	24,870.48
Mass Grading Dust	0.00	0.00	0.00	0.00	34.12	0.00	34.12	7.13	0.00	7.13	0.00
Mass Grading Off Road Diesel	16.97	148.23	66.07	0.00	0.00	6.39	6.39	0.00	5.88	5.88	18,288.56
Mass Grading On Road Diesel	1.99	24.02	9.31	0.04	0.15	0.93	1.08	0.05	0.85	0.90	4,623.71
Mass Grading Worker Trips	0.39	0.74	13.28	0.02	0.09	0.05	0.15	0.03	0.04	0.08	1,958.22
Time Slice 2/1/2013-7/31/2013 Active Days: 155	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building 02/01/2013-07/31/2013	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Off Road Diesel	8.11	73.76	36.79	0.00	0.00	3.33	3.33	0.00	3.06	3.06	9,203.93
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 8/1/2013-12/31/2013 Active Days: 131	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building 08/01/2013-05/30/2014	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Off Road Diesel	9.46	93.99	37.84	0.00	0.00	3.49	3.49	0.00	3.21	3.21	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Time Slice 1/1/2014-3/1/2014 Active Days: 52	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 3/3/2014-5/30/2014 Active Days: 77	16.70	160.17	72.86	0.00	0.00	6.07	6.07	0.00	5.58	5.58	23,003.07
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building 08/01/2013-05/30/2014	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Off Road Diesel	8.84	85.69	37.13	0.00	0.00	3.14	3.14	0.00	2.89	2.89	12,104.56
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Time Slice 5/31/2014-6/30/2014 Active Days: 26	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building 03/03/2014-06/30/2014	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Off Road Diesel	7.86	74.48	35.74	0.00	0.00	2.92	2.92	0.00	2.69	2.69	10,898.51
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 8/1/2012 - 1/31/2013 - Site Development and Grading Consturction

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
TOTALS (lbs/day, unmitigated)							

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			

% of Trips - Commercial (by land use)

Operational Changes to Defaults

Construction Emissions

Year 2012

Grading (Site Developmentpreparation, grading/clearing)

Duration (days): 109

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Excavators	119.6	0.0134	0.0031	8	1	119.6	0.0134	0.0031	52.1456	0.0058	0.0014
Other Construction Equipment	122.8	0.0095	0.0032	1.5	33	4052.4	0.3135	0.1056	331.2837	0.0256	0.0086
Other General Industrial Equipment	152.2	0.0166	0.0040	0.5	10	1522.0	0.1660	0.0400	41.4745	0.0045	0.0011
Other Material Handling Equipment	141.2	0.0160	0.0037	7	3	423.6	0.0480	0.0111	161.6034	0.0183	0.0042
Pavers	77.9	0.0160	0.0020	8	1	77.9	0.0160	0.0020	33.9644	0.0070	0.0009
Rollers	67.1	0.0106	0.0018	6	2	134.2	0.0212	0.0036	43.8834	0.0069	0.0012
Rubber Tired Dozers	239.1	0.0305	0.0062	6	2	478.2	0.0610	0.0124	156.3714	0.0199	0.0041
Scrapers	262.5	0.0289	0.0068	7	4	1050.0	0.1156	0.0272	400.5750	0.0441	0.0104
Skid Steer Loaders	30.3	0.0062	0.0008	4	2	60.6	0.0124	0.0016	13.2108	0.0027	0.0003
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	4	267.2	0.0368	0.0068	87.3744	0.0120	0.0022
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	15.3908	0.0017	0.0004
								Total Emissions for Mass Grading	1337.2774	0.1487	0.0348

Building Construction (Verdura and CMU Retaining Wall Construction)

Duration (days): 67

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Cement and Mortar Mixers	7.2	0.0009	0.0002	6	2	14.4	0.0018	0.0004	2.8944	0.0004	0.0001
Excavators	119.6	0.0134	0.0031	8	1	119.6	0.0134	0.0031	32.0528	0.0036	0.0008
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	21.8688	0.0025	0.0006
Generator Sets	61.0	0.0087	0.0016	4	1	61.0	0.0087	0.0016	8.1740	0.0012	0.0002
Other Construction Equipment	122.8	0.0095	0.0032	1.5	22	2701.6	0.2090	0.0704	135.7554	0.0105	0.0035
Other General Industrial Equipment	152.2	0.0166	0.0040	0.5	8	1217.6	0.1328	0.0320	20.3948	0.0022	0.0005
Other Material Handling Equipment	141.2	0.0160	0.0037	6	2	282.4	0.0320	0.0074	56.7624	0.0064	0.0015
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	4	267.2	0.0368	0.0068	53.7072	0.0074	0.0014
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	9.4604	0.0011	0.0002
								Total Emissions for Building Construction	341.0702	0.0352	0.0089

Paving (laying of concrete or asphalt)

Duration (days): 14

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Cement and Mortar Mixers	7.2	0.0009	0.0002	6	4	28.8	0.0036	0.0008	1.2096	0.0002	0.0000
								Total Emissions for Paving	1.2096	0.0002	0.0000

Total Construction Emissions - Year 2012

tons/year	1679.56	0.18	0.04
metric tons/year	1,523.67	0.17	0.04
metric tons CO_2 eq/year	1,523.67	51.78	0.83

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Construction Emissions

Year 2013

Grading (Site Developmentpreparation, grading/clearing)

Duration (days): 23

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Excavators	119.6	0.0134	0.0031	8	1	119.6	0.0134	0.0031	11.0032	0.0012	0.0003
Other Construction Equipment	122.8	0.0095	0.0032	1.5	33	4052.4	0.3135	0.1056	69.9039	0.0054	0.0018
Other General Industrial Equipment	152.2	0.0166	0.0040	0.5	10	1522.0	0.1660	0.0400	8.7515	0.0010	0.0002
Other Material Handling Equipment	141.2	0.0160	0.0037	7	3	423.6	0.0480	0.0111	34.0998	0.0039	0.0009
Pavers	77.9	0.0160	0.0020	8	1	77.9	0.0160	0.0020	7.1668	0.0015	0.0002
Rollers	67.1	0.0106	0.0018	6	2	134.2	0.0212	0.0036	9.2598	0.0015	0.0002
Rubber Tired Dozers	239.1	0.0305	0.0062	6	2	478.2	0.0610	0.0124	32.9958	0.0042	0.0009
Scrapers	262.5	0.0289	0.0068	7	4	1050.0	0.1156	0.0272	84.5250	0.0093	0.0022
Skid Steer Loaders	30.3	0.0062	0.0008	4	2	60.6	0.0124	0.0016	2.7876	0.0006	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	4	267.2	0.0368	0.0068	18.4368	0.0025	0.0005
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	3.2476	0.0004	0.0001
								Total Emissions for Mass Grading	282.1778	0.0314	0.0073

Building Construction (Substation Below Grade)

Duration (days): 155

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Generator Sets	61.0	0.0087	0.0016	12	3	183.0	0.0261	0.0048	170.1900	0.0243	0.0045
Other Construction Equipment	122.8	0.0095	0.0032	1.5	12	1473.6	0.1140	0.0384	171.3060	0.0133	0.0045
Other General Industrial Equipment	152.2	0.0166	0.0040	0.5	15	2283.0	0.2490	0.0600	88.4663	0.0096	0.0023
Other Material Handling Equipment	141.2	0.0160	0.0037	6	3	423.6	0.0480	0.0111	196.9740	0.0223	0.0052
Skid Steer Loaders	30.3	0.0062	0.0008	4	2	60.6	0.0124	0.0016	18.7860	0.0038	0.0005
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	4	267.2	0.0368	0.0068	124.2480	0.0171	0.0032
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	21.8860	0.0025	0.0006
								Total Emissions for Building Construction	791.8563	0.0929	0.0206

Building Construction (Substation Equipment Construction)

Duration (days): 131

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Generator Sets	61.0	0.0087	0.0016	12	3	183.0	0.0261	0.0048	143.8380	0.0205	0.0038
Other Construction Equipment	122.8	0.0095	0.0032	1.5	22	2701.6	0.2090	0.0704	265.4322	0.0205	0.0069
Other General Industrial Equipment	152.2	0.0166	0.0040	6	6	913.2	0.0996	0.0240	358.8876	0.0391	0.0094
Other Material Handling Equipment	141.2	0.0160	0.0037	6	3	423.6	0.0480	0.0111	166.4748	0.0189	0.0044
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	18.4972	0.0021	0.0005
								Total Emissions for Building Construction	953.1298	0.1012	0.0250

Total Construction Emissions - Year 2013

tons/year	2027.16	0.23	0.05
metric tons/year	1,839.01	0.20	0.05
metric tons CO_2eq/year	1,839.01	63.41	1.01

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Construction Emissions

Year 2014

Building Construction (Substation Equipment Construction)

Duration (days): 129

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Generator Sets	61.0	0.0087	0.0016	12	3	183.0	0.0261	0.0048	141.6420	0.0202	0.0037
Other Construction Equipment	122.8	0.0095	0.0032	1.5	22	2701.6	0.2090	0.0704	261.3798	0.0202	0.0068
Other General Industrial Equipment	152.2	0.0166	0.0040	6	6	913.2	0.0996	0.0240	353.4084	0.0385	0.0093
Other Material Handling Equipment	141.2	0.0160	0.0037	6	3	423.6	0.0480	0.0111	163.9332	0.0186	0.0043
Other Material Handling Equipment	141.2	0.0160	0.0037	2	1	141.2	0.0160	0.0037	18.2148	0.0021	0.0005
					Total Emissions for Building Construction				938.5782	0.0996	0.0246

Building Construction (Transmission Construction)

Duration (days): 103

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Bore/Drill Rigs	164.9	0.0095	0.0043	0.5	1	164.9	0.0095	0.0043	4.2462	0.0002	0.0001
Cranes	128.7	0.0144	0.0033	0.5	1	128.7	0.0144	0.0033	3.3140	0.0004	0.0001
Generator Sets	61.0	0.0087	0.0016	12	3	183.0	0.0261	0.0048	113.0940	0.0161	0.0030
Other Construction Equipment	122.8	0.0095	0.0032	1.5	25	3070.0	0.2375	0.0800	237.1575	0.0183	0.0062
Other General Industrial Equipment	152.2	0.0166	0.0040	4	5	761.0	0.0830	0.0200	156.7660	0.0171	0.0041
Other Material Handling Equipment	141.2	0.0160	0.0037	2	4	564.8	0.0640	0.0032	58.1744	0.0066	0.0003
Skid Steer Loaders	30.3	0.0062	0.0008	4	1	30.3	0.0062	0.0017	6.2418	0.0013	0.0004
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	1	66.8	0.0092	0.0017	20.6412	0.0028	0.0005
					Total Emissions for Building Construction				599.6351	0.0629	0.0147

Total Construction Emissions - Year 2014

tons/year	1538.21	0.16	0.04
metric tons/year	1,395.44	0.15	0.04
metric tons CO_2 eq/year	1,395.44	45.70	0.75

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Emissions From Electricity Consumed By Land Uses

Land Use	*Amount*	kilowatt-hours per year[1]	*CO* 2.00E-04	*ROG* 1.00E-05	*NO_X* 1.15E-03	*SO_X* 1.20E-04	*PM_{10}* 4.00E-05	*CO_2* 0.772	*N_2O* 6.59E-06	*CH_4* 4.04E-05
Residential (Dwelling Units)		5626.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Food Store (SF)		53.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant (SF)		47.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospitals (SF)		21.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail (SF)		13.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
College/University (SF)		11.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School (SF)		5.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office (SF)		12.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hotel/Motel (SF)		9.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse (SF)		4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blank	1	1,752,000	0.96	0.05	5.52	0.58	0.19	3,705.60	0.03	0.19
TOTAL - pounds per day	**--**	**--**	**9.60E-04**	**4.80E-02**	**5.52E+00**	**5.76E-01**	**1.92E-01**	**3,705.60**	**0.03**	**0.19**
TOTAL - tons per year	**--**	**--**	**1.75E-04**	**8.76E-03**	**1.01E+00**	**1.05E-01**	**3.50E-02**	**676.27**	**0.01**	**0.04**
TOTAL - metric tons per year	**--**	**--**	**1.59E-04**	**7.95E-03**	**9.14E-01**	**9.54E-02**	**3.18E-02**	**613.50**	**0.01**	**0.03**

	CO_2	N_2O	CH_4
metric tons per year	613.50	0.01	0.03
metric tons CO_2eq per year	613.50	1.62	0.67

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook* , November 1993, Table A9-11.

Source for greenhouse gas emissions rates:

U.S. Energy Information Administration, *Domestic Electricity Emissions Factors 1999-2002* , October 2007. http://www.eia.doe.gov/oiaf/1605/techassist.html

GHGs from SF_6 Leakage

GHG	Emission Factor (percent leak/per year)[1, 2]	Circuit Breaker SF_6 Capacity (pounds)	SF_6 CO_2e	CO_2e (pounds/year)	CO_2e (metric tons per year)
SF_6	0.29%	242	23900	16773	7.61

Source:

1. J. Blackman, Program Manager, U.S. Environmental Protection Agency, M. Averyt, ICF Consulting, and Z. Taylor, ICF Consulting*SF_6 Leak Rates from High Voltage Circuit Breakers - U.S. EPA Investigates Potential Greenhouse Gas Emission Source*

2. Approximate annual leakage rate provided by SDG&E, Eco Substation Project PEA.

Q4.2d Prelim Construction Schedule

Misc Tables in Chapter 3.0 Project Description changed due to construction equipment and phasing updates.

Preliminary Construction Schedule

Project Component	Activity	Approximate Number of Months	Anticipated Start Date
Mira Sorrento Substation	Site Development and Grading	6	August 2012
	Verdura Retaining Wall, CMU Retaining Wall, CMU Screen Wall, and Gate Construction	6	August 2012
	Below Grade Construction	6	February 2013
	Substation Equipment Construction	10	August 2013
TL665 Loop-In	Transmission Construction	2-4	March 2014
Energization	Testing and Commissioning	5	December 2013
	Energization	1	May 2014

Table 3-A

Proposed Construction Vehicle And Equipment Usage During Construction

Site Development and Grading Construction / Paving – Above Grade (approximately 6 months):

Total estimated vehicles used	Hours Operating @ Site/day*	Daily Worst Case Vehicle Usage
4 – Scrapers	7	4
2 – Front End Loader	6	2
25 – Dump Trucks (12 cubic-yard)	7	25
2 – Dozer (D6 or D8 or D9)	6	2
1 – Excavator	8	1
1 – Water Truck	2	1
2 – Compactor (824 or 834)	7	2
2 – Skid Steer Loader	4	2
2 – Back Hoe	6	2
1 – Ditch Witch	7	1
2 – Maintenance Truck	0.5	2
1 – Paver	8	1
8 – Asphalt Trucks	0.5	8
2 – Drum Roller Compactor	6	2
33 – Cars/Pickup Trucks	0	

Building Construction (Verdura Retaining Wall [approximately 1½ months, concurrent with grading] and CMU Retaining Wall, CMU Screen Wall, and Gate Construction [approx. 1 ½ months]):
(Note: The Verdura retaining wall construction assumes a 13 man crew: 1 superintendent, 4 operators, 8 laborers and will occur simultaneously with the grading phase.)

Total estimated vehicles used	Hours Operating @ Site/day*	Daily Worst Case Vehicle Usage
3 – Front End Loader IT28	6	3
1 – Excavator	8	1
1 – Water truck	2	1
1 – Concrete Pump	6	1
1 – Spray Pump	6	1
2 – Forklift	6	2
1 – Back Hoe	6	1
2 – Delivery Truck	0.5	2
2 – Mobile Cement Mixer	6	2
6 – Concrete Trucks	0.5	6
1 – Mobile Generator	4	1
22 – Cars/Pickup Trucks	1.5	

SUBSTATION BELOW GRADE - 6 MONTHS

Total estimated vehicles used	Hours Operating @ Site/day*	Daily Worst Case Vehicle Usage
2 - Back Hoe	6	1
2 -Loader	6	2
2 - Truck (20 cubic-yard end dump)	6	2
2 – Skid Steer Loaders	4	1
1 – Water truck	2	1
15 – Concrete trucks	0.5 (2days/wk for 4months)	
1- ditch witch	6	
3 – generator sets	12	
12 – cars/pickup trucks	1.5	

***per vehicle**

SUBSTATION EQUIPMENT CONSTRUCTION - 13 MONTHS

Total estimated vehicles used	Hours Operating @ Site/day*	Daily Worst Case Vehicle Usage
5 – Substation Crew	0	4
2 –Boom truck	6	2
1- Manlift	6	1
4– Bucket trucks	6	2
2 – Underground line	6	0
1 – Cable dolly (trailer)	0	1
2 – Stringing rigs (trailer)	0	2
1 – Oil Rig (trailer w/generator)	24 (10 days for xmfr setup)	
1 – Water truck	2	1
22 – cars/pickup trucks	1.5	
3 – generator sets	12	

*per vehicle

*per vehicle/equipment

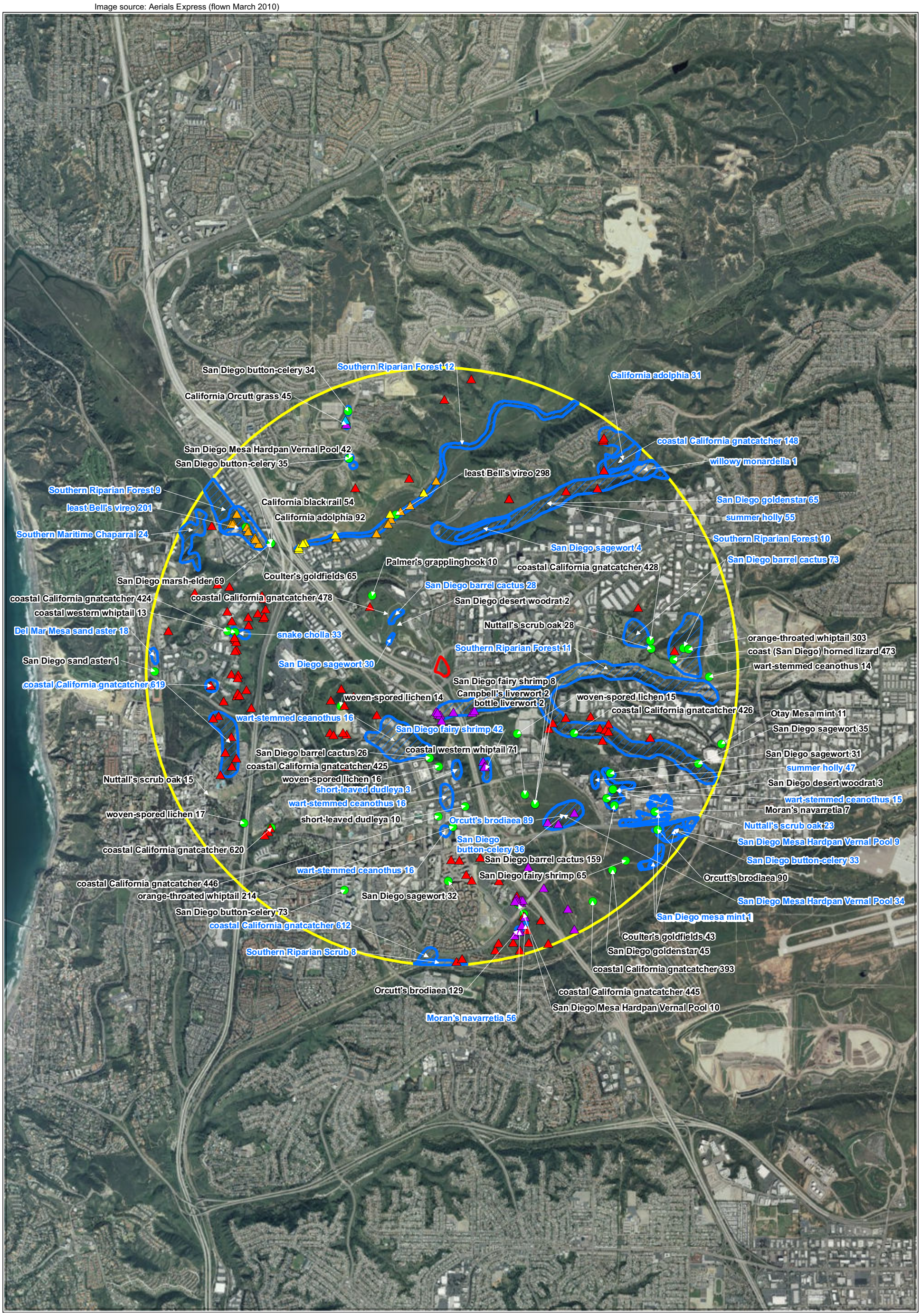
TOTAL TRANSMISSION CONSTRUCTION: 2-4 MONTHS

Total estimated vehicles used	Hours Operating @ Site/day*	Daily Worst Case Vehicle Usage
1 - Back Hoe	6	1
1 - Truck (20 cubic-yard end dump)	4	1
1 - Skid Steer Loaders	4	1
4 - Concrete trucks	4 (2days/wk for 1 month)	2
1- Ditch Witch	2	1
25 - cars/pickup trucks	1.5	3
2 - Underground Line Trucks	2	2
1 - Cable Reel Trailer	2	1
1- Crane	0.5	1
1- Drill Rig	0.5	1
3 – generator sets	12	

*per vehicle

Q4.3i CNDDB

Image source: Aerials Express (flown March 2010)



Survey Area

Two-mile Buffer of Survey Area

USFWS

- CALIFORNIA ORCUTT GRASS
- COASTAL CALIFORNIA GNATCATCHER
- LEAST BELL'S VIREO
- LIGHT-FOOTED CLAPPER RAIL
- SAN DIEGO BUTTON CELERY
- SAN DIEGO FAIRY SHRIMP

CNDDB

CNDDB Polygons

0 Feet 3,500

RECON

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Sensitive Species and Habitats Known to Occur within Two Miles of the Mira Sorrento Substation Project Survey Area

Q4.4c Cultural Resources

SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

April 15, 2003

Ms. Dayle Cheever
RECON Environmental, Inc.
1927 Fifth Avenue, Suite 200
San Diego, CA 92101-2358

Dear Ms. Cheever:

The Mira Sorrento Sub Station Candidate Site is approximately a three acre parcel located just west of State Highway 805 and north of Mira Mesa Boulevard in San Diego County, city of San Diego.

A review of the literature, geologic maps and records of the collections of the San Diego Natural History Museum indicate that the Mira Sorrento Sub Station parcel in San Diego County is located on deposits mapped as Ardath Shale-Scripps Formation (Ta-Tsc) by Kennedy (1975). These deposits consist of primarily light brown, tan to light gray sandy siltstones and sandstones of middle Eocene age. A record search of this region of San Diego County revealed the presence of 6 localities within a mile radius of the parcel. The nearest locality, SDSNH 4241 was recovered approximately 1000 feet northwest of the project boundary. A remaining 4 localities (SDSNH 4242, 4243, 4244, 4245) were collected within less than ½ mile of the project area and from rocks exposed during construction activities on a single project in 1998. One other locality approximately 2/3 of a mile southwest of the parcel on the west side of Highway 805 (SDSNH 4316) produced a significant marine invertebrate fossil assemblage and plant material from the Scripps Formation. All fossils recovered from the Scripps-Ardath formations exposed to the northwest of the Mira Sorrento Sub Station site consist of marine invertebrates including gastropods (snails) and pelecypods (clams). Marine fossils of middle Eocene age (approximately 45 million years ago) occur in the deposits of the Ardath Shale and the Scripps Formation.

Fossils occur at many locations in the Scripps Formation and consist predominantly of the remains of marine organisms including clams, snails, crabs, sea urchins, sharks, rays, and bony fish (Givens and Kennedy, 1975). Remains of fossil vertebrates including reptiles (crocodile and turtle) and terrestrial mammals such as uintathere, brontothere, and artiodactyl have been recovered from the Scripps Formation (Golz and Lillegraven, 1977; Walsh, 1991, 1996). Well-preserved fossil wood and leaves have also been recovered from the Scripps Formation (Deméré and Walsh, 1993).

SAN DIEGO NATURAL HISTORY MUSEUM
BALBOA PARK - SAN DIEGO SOCIETY OF NATURAL HISTORY - ESTABLISHED 1874

The known abundance of fossils in the Scripps Formation and the underlying-lateral equivalent Ardath Formation indicates that fossils will probably by encountered during excavation activities on this parcel. For this reason it is recommended that during earth-moving activities full-time monitoring for fossils should be undertaken on this parcel. If a micro-vertebrate fossil site is discovered a minimum of 2,000 pounds of matrix should be collected for screen-washing processing to determine what small vertebrates (sharks, fish, and mammals) may have lived in this area during the time of deposition of the rocks. If no fossils are observed after a specified time of monitoring, then monitoring can be reduced appropriately. All fossils recovered should be prepared and placed in an accredited scientific institution such as the San Bernardino County Museum, San Diego Natural History Museum, or the Museum of Paleontology, University of California Berkeley.

Yours truly,

Hugh M. Wagner, Ph.D.
Collections Manager, Department of Paleontology

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May 15, 2003

Mr. Christopher Terzich
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101 Ash Street
San Diego, CA 92101

Reference: Cultural and Paleontological Resource Information for the Mira Sorrento Substation, City of San Diego (RECON Number 3829A)

Dear Mr. Terzich:

The following information was gathered in support of plans to develop a substation in the Mira Mesa/Sorrento Valley region of the city of San Diego (Figures 1 and 2). Site record and archival searches were completed at the San Diego Museum of Man (SDMM) and the South Coastal Information Center (SCIC) (Confidential Attachment 1). A field survey for cultural resources was completed on May 14, 2003, and the Paleontological archival search was completed on April 15, 2003. No historic or prehistoric sites were found during this survey.

The site record and archival information from the SCIC indicates that there are no sites recorded on the property. The SDMM has 18 recorded sites or loci within the one-half-mile of the subject property and the SCIC has 16 recorded resources in the same area. Table 1 shows the site numbers from these institutions for equivalent resources. Records at SCIC note that several of these recorded sites have been destroyed. The prehistoric sites recorded in the vicinity of the proposed Substation are identified primarily to the west and south of the property.

There have been archaeological investigations at several sites in Sorrento Valley to the southwest and west of the project site. In addition, human remains have been found on the mesa top, about one mile to the southwest of the project. SDM-W-654 is listed on the National Register of Historic Places. It was known ethnographically as the Village of Ystagua.

SDM-W-654 and other important sites are separated from the project area by the interchange of Interstate 805 and Mira Mesa Boulevard. The construction of a substation at this location will not affect the known extent of these resources.

The closest resource to the subject property is SDM-W-3031. This is the location of two isolated artifacts, a bifacial mano, and a chopping tool. These were recorded on the side of the hill, northwest of the project site.

The project site itself has been heavily disturbed. The construction of Mira Mesa Boulevard, Interstate 805, Vista Sorrento Parkway, and commercial land uses to the east have all impacted the area. Construction of power lines, a gas pipeline, and a variety of drainage-control systems have all modified the natural conditions on the project site. Currently, there is heavy growth of vegetation obscuring much of the site. Although significant cultural resources are not anticipated at this location because of heavy vegetation and the importance of nearby resources, it is advisable that an archaeological monitor be present during construction.

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In addition to the cultural resources, an evaluation of the paleontological potential of the site was made by the San Diego Museum of Natural History (Attachment 1). This investigation noted six paleontological localities within one mile of the subject property. The project site is located on deposits mapped as Ardath Shale–Scripps Formation. Fossils occur in the formation and consist predominantly of marine organisms. Because of the potential for fossils to be encountered during excavation, it is recommended that a full-time paleontological monitor be present during ground-disturbing activities.

Thank you for the opportunity to work on this project. Please call if you have any questions.

Sincerely,

Charles S. Bull, RPA
President, Cultural Resources

CSB:kap

Attachments

Map Source: USGS 7.5 minute topographic map series, Del Mar and La Jolla quadrangles

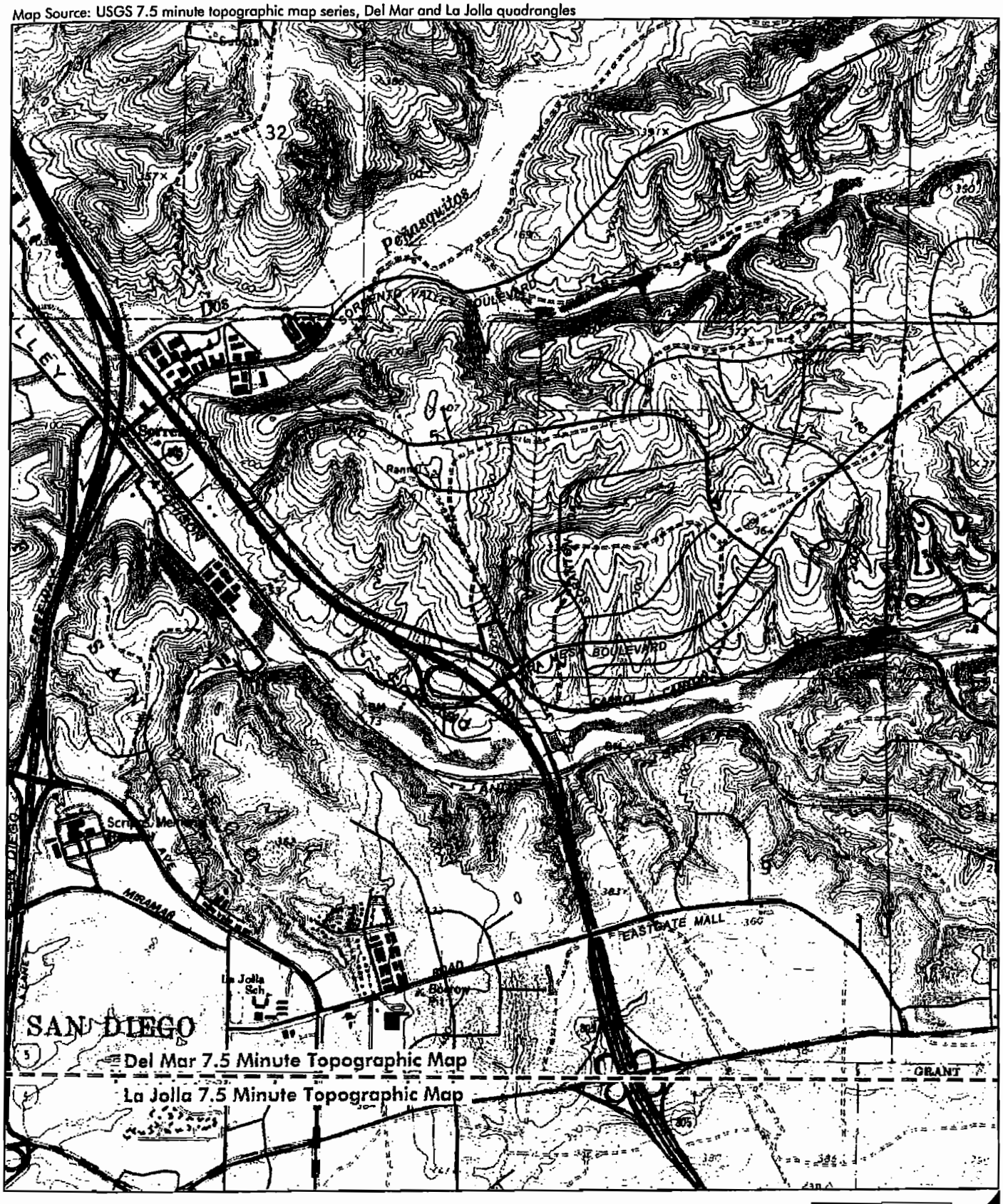


FIGURE 2
Project Location on USGS Map

TABLE 1
CULTURAL RESOURCES IN THE STUDY AREA

CA-SDI-	SDM-W-	Site Type
2723	265	Midden site, associated with Ystagua
4513	654	National Register Site, Village of Ystaqua
4609	654	National Register Site, Village of Ystaqua
5193H	1435A	Historical site
5443	1271/654	National Register Site, Village of Ystaqua
5605	1666A	Lithic scatter
5606	1666B	Lithic scatter
5607	1666C	Lithic scatter
5608	1666D	Lithic scatter
5609	1666E	Lithic scatter
5611	1666G/1436B	Isolated artifact
7440	2414	Lithic scatter
8803	2972	Lithic scatter
8804	2463	Lithic scatter
8806	2974	Isolate artifact
10251	3670	Lithic scatter
10438		
	2744	Isolated artifact
	3031	Isolated artifacts

NOTES:

The 1928 series of aerial photographs were reviewed. No historic structures were observed within the project boundary. Photograph #52E9 (#262-1713 Q22).

The 1930 USGS map (La Jolla Quadrangle 7.5-minute) has no historic structures within the project boundary.

The 1955 Historic Stagecoach Routes of San Diego, CA shows no stagecoach routes through the project area.

The 1872 Map of the Western Portion of San Diego County, CA has no historic structures within the project boundaries.

The Geo-Finder Historic Resource Database resulted in one historic resource within the project boundary. Sorrento Valley Site.

Q4.9 Noise Model

Roadway Construction Noise Model (RCNM),Version 1.1

Report date 1/12/2012
Case Descr Mira Sorrento

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
North	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	800	0
Backhoe	No	40		77.6	800	0
Backhoe	No	40		77.6	800	0
Front End Loader	No	40		79.1	800	0
Front End Loader	No	40		79.1	800	0
Paver	No	50		77.2	800	0
Roller	No	20		80	800	0
Roller	No	20		80	800	0
Dozer	No	40		81.7	800	0
Dozer	No	40		81.7	800	0
Scraper	No	40		83.6	800	0
Scraper	No	40		83.6	800	0
Scraper	No	40		83.6	800	0
Scraper	No	40		83.6	800	0
Compactor (ground)	No	20		83.2	800	0
Compactor (ground)	No	20		83.2	800	0
Compactor (ground)	No	20		83.2	800	0
Compactor (ground)	No	20		83.2	800	0
Concrete Mixer Truck	No	40		78.8	800	0
Concrete Mixer Truck	No	40		78.8	800	0

Results

Equipment	Calculated (dBA) *Lmax	Leq	Noise Limits (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Noise Limit Exceedance (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	56.6	52.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Backhoe	53.5	49.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	55	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	55	51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	53.1	50.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	55.9	48.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	55.9	48.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	57.6	53.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	59.5	55.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	59.1	52.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	59.1	52.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	59.1	52.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	59.1	52.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	54.7	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	54.7	50.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	59.5	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
South	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	5280	0
Backhoe	No	40		77.6	5280	0
Backhoe	No	40		77.6	5280	0
Front End Loader	No	40		79.1	5280	0
Front End Loader	No	40		79.1	5280	0
Paver	No	50		77.2	5280	0
Roller	No	20		80	5280	0
Roller	No	20		80	5280	0
Dozer	No	40		81.7	5280	0
Dozer	No	40		81.7	5280	0
Scraper	No	40		83.6	5280	0

Scraper	No	40	83.6	5280	0
Scraper	No	40	83.6	5280	0
Scraper	No	40	83.6	5280	0
Compactor (ground)	No	20	83.2	5280	0
Compactor (ground)	No	20	83.2	5280	0
Compactor (ground)	No	20	83.2	5280	0
Compactor (ground)	No	20	83.2	5280	0
Concrete Mixer Truck	No	40	78.8	5280	0
Concrete Mixer Truck	No	40	78.8	5280	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	40.2	36.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.1	33.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	37.1	33.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	38.6	34.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	38.6	34.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	36.7	33.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	39.5	32.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	39.5	32.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.2	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	41.2	37.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	42.8	35.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	42.8	35.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	42.8	35.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	42.8	35.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	38.3	34.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	38.3	34.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	43.1	49.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #3 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
East	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	3168	0
Backhoe	No	40		77.6	3168	0
Backhoe	No	40		77.6	3168	0
Front End Loader	No	40		79.1	3168	0
Front End Loader	No	40		79.1	3168	0
Paver	No	50		77.2	3168	0
Roller	No	20		80	3168	0
Roller	No	20		80	3168	0
Dozer	No	40		81.7	3168	0
Dozer	No	40		81.7	3168	0
Scraper	No	40		83.6	3168	0
Scraper	No	40		83.6	3168	0
Scraper	No	40		83.6	3168	0
Scraper	No	40		83.6	3168	0
Compactor (ground)	No	20		83.2	3168	0
Compactor (ground)	No	20		83.2	3168	0
Compactor (ground)	No	20		83.2	3168	0
Compactor (ground)	No	20		83.2	3168	0
Concrete Mixer Truck	No	40		78.8	3168	0
Concrete Mixer Truck	No	40		78.8	3168	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	44.7	40.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	41.5	37.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	41.5	37.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	43.1	39.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	41.2	38.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	44	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	44	37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	45.6	41.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	45.6	41.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Scraper	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	47.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	47.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	47.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	47.2	40.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	42.8	38.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	42.8	38.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	47.5	53.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #4 ----

		Baselines (dBA)		
Description	Land Use	Daytime	Evening	Night
West	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	1584	0
Backhoe	No	40		77.6	1584	0
Backhoe	No	40		77.6	1584	0
Front End Loader	No	40		79.1	1584	0
Front End Loader	No	40		79.1	1584	0
Paver	No	50		77.2	1584	0
Roller	No	20		80	1584	0
Roller	No	20		80	1584	0
Dozer	No	40		81.7	1584	0
Dozer	No	40		81.7	1584	0
Scraper	No	40		83.6	1584	0
Scraper	No	40		83.6	1584	0
Scraper	No	40		83.6	1584	0
Scraper	No	40		83.6	1584	0
Compactor (ground)	No	20		83.2	1584	0
Compactor (ground)	No	20		83.2	1584	0
Compactor (ground)	No	20		83.2	1584	0
Compactor (ground)	No	20		83.2	1584	0
Concrete Mixer Truck	No	40		78.8	1584	0
Concrete Mixer Truck	No	40		78.8	1584	0

	Results													
	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	50.7	46.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	47.5	43.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	49.1	45.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	49.1	45.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	47.2	44.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	50	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	50	43	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	51.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	51.7	47.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	53.6	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	53.6	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	53.6	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Scraper	53.6	49.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	53.2	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	53.2	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	53.2	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Compactor (ground)	53.2	46.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	48.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Concrete Mixer Truck	48.8	44.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	53.6	59.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Q4.13 Cumulative

American Recovery and Reinvestment Act

Interstate 805

CALIFORNIA DEPARTMENT OF TRANSPORTATION

INTERSTATE 805 PROJECT – HOV/CARROLL CANYON ROAD EXTENSION

FACT SHEET – MARCH 2011

The Project

Work is underway to extend Carroll Canyon Road under Interstate 805 and build a high occupancy vehicle (HOV) lane in each direction along I-805 from I-5 to Carroll Canyon Road. A northerly Direct Access Ramp (DAR) will also be added from the Carroll Canyon Road Extension to the HOV lanes. The project will complete a continuous 10-mile HOV lane in each direction from Mira Mesa Boulevard on I-805 to Manchester Avenue on I-5.

The Need

Motorists on both I-805 and Mira Mesa Boulevard experience heavy daily congestion – about 187,000 vehicles per day. The HOV lanes, DAR, and Carroll Canyon Road Extension are expected to help relieve congestion by giving carpoolers alternative access to the freeway and other motorists more options through the area.

Jobs

Construction of the Interstate 805 HOV/Carroll Canyon Road Extension Project will help promote economic recovery in the San Diego Region and California.

Partnership

The project is developed through a partnership with the California Department of Transportation (Caltrans), the Federal Highway Administration (FHWA) and the city of San Diego.

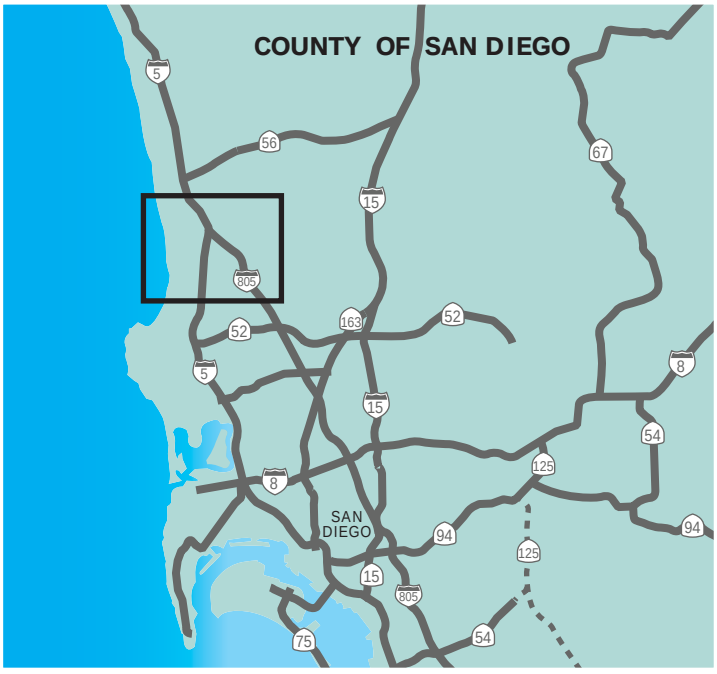
Project Costs

Total project cost (including all support, right of way, utilities, construction and plant establishment) is $90.3 million. Construction cost (including utilities, support and plant establishment) is $73.2 million.

Contributors include the American Recovery and Reinvestment Act - $51.8 million, the San Diego Association of Governments - $24.1 million and the city of San Diego - $14.4 million (including $2.7 million from Qualcomm).

Project Schedule

Start Construction: March 2011
Project Completion: Winter 2012/13



DEVELOPMENT SUMMARY

SCOPE OF WORK

PROJECT CONSISTS OF AMENDING THE ZONE AND LAND USE DESIGNATIONS AND CREATING DESIGN GUIDELINES FOR THE FUTURE INDUSTRIAL DEVELOPMENT OF THE SUBJECT PROPERTY.

APPLICATION REQUESTS INCLUDE:

- COMMUNITY PLAN AMENDMENT TO AMEND THE LAND USE DESIGNATION FROM IP/OS (INDUSTRIAL PARK/ OPEN SPACE) TO IP ONLY
- REZONE FROM AR-1-1/IP-2-1 TO IP-2-1 ONLY
- VESTING TENTATIVE MAP TO SUBDIVIDE PROPERTY INTO 2 PARCELS FOR FUTURE INDUSTRIAL DEVELOPMENT
- PLANNED DEVELOPMENT PERMIT TO ESTABLISH DESIGN GUIDELINES FOR FUTURE INDUSTRIAL DEVELOPMENT
- SITE DEVELOPMENT PLAN FOR DEVELOPMENT WITHIN ENVIRONMENTALLY SENSITIVE LANDS (STEEP HILLSIDES)
- EASEMENT VACATION OF THE FOLLOWING EASEMENTS (SHOWN ON SHEETS 8 AND 9):
  - EASEMENT #17: DRAINAGE EASEMENT IS NO LONGER NEEDED FOR PUBLIC DRAINAGE FACILITIES.
  - EASEMENT #20: SLOPE EASEMENT IS NO LONGER NEEDED; MIRA SORRENTO PLACE HAS BEEN CONSTRUCTED.
  - EASEMENT #28: SLOPE EASEMENT IS NO LONGER NEEDED; MIRA SORRENTO PLACE HAS BEEN CONSTRUCTED.

DEVIATIONS

THE FOLLOWING DEVIATIONS ARE BEING REQUESTED IN ASSOCIATION WITH THIS PROJECT:

SECTION 131.0631 DEVELOPMENT REGULATIONS TABLE FOR INDUSTRIAL ZONES – SIDE YARD SETBACK
REQUEST TO REDUCE SIDE YARD SETBACK FROM 15 FEET TO 0 FEET TO ALLOW THE CONSTRUCTION OF A DRIVE AISLE ON THE PODIUM OF LOT 2.

SECTION 143.0142(a)(2) DEVELOPMENT AREA
REQUEST TO EXCEED THE MAXIMUM DEVELOPMENT AREA ALLOWED FOR A SITE CONTAINING STEEP HILLSIDES, DUE TO DEVELOPMENT CONSTRAINTS ON THE SUBJECT PROPERTY. THE MAXIMUM DEVELOPMENT AREA ALLOWED FOR PROJECTS THAT ENCROACH INTO THE STREEP HILLSIDE AREA IS 25% OF THE TOTAL SITE AREA. THE PROJECT, AS PROPOSED, WILL HAVE A DEVELOPMENT AREA OF 6.99 AC OR 47.3%.

ZONING DESIGNATION / OVERLAY ZONE DESIGNATION

EXISTING BASE ZONE
NORTH PARCEL: AR-1-1 / IP-2-1
SOUTH PARCEL: AR-1-1

EXISTING OVERLAY ZONES
- AIRPORT ENVIRONS
- BRUSH ZONE WITH 300' BUFFER
- RESIDENTIAL TANDEM PARKING

PROPOSED BASE ZONE
IP-2-1 (ENTIRE PROJECT AREA)

PROPOSED OVERLAY ZONES (NO CHANGE)
- AIRPORT ENVIRONS
- BRUSH ZONE WITH 300' BUFFER
- RESIDENTIAL TANDEM PARKING

COMMUNITY PLAN

MIRA MESA COMMUNITY PLAN

OWNER

21 MIRA MESA, LLC
C/O CALIFORNIA MORTGAGE AND REALTY, INC.
62 FIRST STREET, 4TH FLOOR
SAN FRANCISCO, CA 94105

PROJECT TEAM

APPLICANT
CALIFORNIA MORTGAGE AND REALTY, INC. — CONTACT PERSON: RICHARD JOHNSON
62 FIRST STREET, 4TH FLOOR — (415) 974-1100 OFFICE
SAN FRANCISCO, CA 94105 — (415) 974-1143 FAX

PLANNING/CIVIL ENGINEER
LUNDSTROM ENGINEERING AND SURVEYING, INC. — CONTACT PERSON: BILL LUNDSTROM
4245 W. OVERLOOK DRIVE — (619) 814-1220 OFFICE
SAN DIEGO, CA 92115 — (619) 641-5910 FAX

ARCHITECT
WARE MALCOMB ARCHITECTS — CONTACT PERSON: ANDREW DZULYNSKY
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SAN DIEGO, CA 92122 — (858) 638-7506 FAX

LANDSCAPE ARCHITECT
RIDGE LANDSCAPE ARCHITECTS — CONTACT PERSON: RON STARK
8841 RESEARCH DRIVE, SUITE 200 — (949) 387-1323 OFFICE
IRVINE, CA 92618 — (949) 387-1303 FAX

ASSESSOR'S PARCEL NUMBER

APN 341-010-28 AND 341-352-28

LEGAL DESCRIPTION

PARCEL 1:
A PORTION OF PARCEL 5 OF PARCEL MAP 17051, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY FEBRUARY 3, 1993.

PARCEL 2:
A PORTION OF LOT 6 IN SECTION 5, TOWNSHIP 15 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

GROSS SITE AREA

608,932 SF / 13.98 AC

LOT AREA

LOT 1 (NORTH)	314,554 SF / 7.22 AC
LOT 2 (SOUTH)	292,250 SF / 6.71 AC
PUBLIC STREET DEDICATION	2,127 SF / 0.05 AC

EXISTING USE

VACANT LAND

PROPOSED USE

ACCORDING TO THE MIRA MESA COMMUNITY PLAN, SORRENTO MESA IS BEING DEVELOPED AS A SERIES OF COMPREHENSIVELY PLANNED INDUSTRIAL PARKS WITH A MIX OF INDUSTRIAL, OFFICE AND SERVICE USES. IN ORDER TO BE CONSISTENT WITH THE MIRA MESA COMMUNITY PLAN, THE PROPOSED USES FOR THE DEVELOPMENT SHALL BE DESIGNATED AS FOLLOWS:

- 50% MULTI-TENANT OFFICE
- 40% REGIONAL/CORPORATE HEADQUARTERS
- 10% SUPPORT SERVICES

NOTES:
1. SUPPORT SERVICES INCLUDE SERVICES THAT EMPLOYEES OR VISITORS WOULD NORMALLY DRIVE TO, SUCH AS RESTAURANTS OR EATING ESTABLISHMENTS, CREDIT UNIONS, COPY CENTERS, MAIL SERVICES, ATHLETIC CLUBS, ETC.
2. THE IP-2-1 ZONE WOULD ALLOW THE PROPERTY TO BE DEVELOPED WITH HIGH-QUALITY SCIENCE AND BUSINESS PARK DEVELOPMENT; BUSINESS, PROFESSIONAL AND GOVERNMENT OFFICES; RESEARCH AND DEVELOPMENT; LIGHT MANUFACTURING; AND REGIONAL AND CORPORATE HEADQUARTERS.

PROPOSED DEVELOPMENT

FUTURE INDUSTRIAL DEVELOPMENT CONSISTING OF UP TO 540,000 SF OF GROSS FLOOR AREA IN THREE OR LESS BUILDINGS. PROPOSED BUILDINGS SHALL NOT EXCEED 8 STORIES IN HEIGHT PLUS 7 LEVELS OF UNDERGROUND PARKING. SAMPLE BUILDING CONFIGURATION:

BUILDING	GROSS FLOOR AREA	NO. STORIES	NO. UNDERGROUND PARKING LEVELS
1	186,656 SF	8	3
2	176,056 SF	7	7
3	175,323 SF	7.5	7

OUTDOOR AMENITIES

URBAN PLAZAS WHICH ALSO SERVE AS OUTDOOR EATING AREAS ARE PROVIDED ON EACH LOT.

LOT 1	3,200 SF
LOT 2	4,300 SF
TOTAL	7,500 SF

REFER TO SHEETS 14 AND 15 FOR LOCATION OF THE OUTDOOR AMENITIES.

MINIMUM 2,000 SF OUTDOOR EATING AND/OR RECREATIONAL FACILITY SHALL BE PROVIDED ONSITE IN ACCORDANCE WITH SECTION 131.0665 OF THE SAN DIEGO MUNICIPAL CODE.

CONSTRUCTION TYPE

PROPOSED CONCEPTUAL DESIGN SHOWS HEREIN CONSTRUCTION TYPE I, FULLY SPRINKLED

*HOWEVER CONSTRUCTION TYPE SHALL BE DETERMINED TO COMPLY WITH ADOPTED BUILDING CODE AT TIME OF DEVELOPMENT.

OCCUPANCY CLASSIFICATION

PROPOSED CONCEPTUAL DESIGN SHOWS HEREIN 'B' OCCUPANCY.

*HOWEVER OCCUPANCY TYPE SHALL BE DETERMINED TO COMPLY WITH ADOPTED BUILDING CODE AT TIME OF DEVELOPMENT.

FIRE DEPARTMENT NOTES

1. PROVIDE BUILDING ADDRESS NUMBER, VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY PER FHPS POLICY P-00-06 (UFC 801.4.4)
2. PROVIDE FIRE ACCESS ROADWAY SIGNS OR RED CURBS IN ACCORDANCE WITH FHPS POLICY A-00-01.

LOADING AREA CALCULATION

REFER TO LOADING AREA CALCULATIONS PROVIDED ON PARKING LEVEL PLANS / PARKING CALCULATIONS SHEET 3.

PARKING CALCULATION

REFER TO PARKING CALCULATIONS PROVIDED ON PARKING LEVEL PLANS / PARKING CALCULATIONS SHEET 3.

DEVELOPMENT PARAMETERS

THE FOLLOWING DEVELOPMENT PARAMETERS ARE BASED ON THE CONCEPTUAL PROJECT DESIGN AND THE DEVELOPMENT REGULATIONS OF THE IP-2-1 ZONE AS SET FORTH BY CHAPTER 13 ARTICLE 1 DIVISION 6 OF THE SAN DIEGO MUNICIPAL CODE DATED JUNE 2007, UNLESS NOTED OTHERWISE.

SETBACKS

FRONT (MIN)	20 FT
FRONT (STD)	25 FT
SIDE	0 FT
REAR	25 FT

NOTES:
1. A DEVIATION FROM THE REQUIRED 15 FOOT YARD SETBACK TO 0 FEET TO ALLOW FOR DRIVE AISLE ON THE PODIUM. REFER TO THE DEVIATION REQUEST UNDER THE DEVELOPMENT SUMMARY.
2. UP TO 50% OF THE LENGTH OF THE BUILDING FACADE MAY OBSERVE THE MINIMUM FRONT SETBACK PROVIDED THE REMAINING PERCENTAGE OBSERVES THE STANDARD FRONT SETBACK.
3. PARKING MAY ENCROACH UP TO 5 FEET INTO THE REQUIRED STANDARD FRONT YARD, BUT MAY NOT BE COVERED OR ENCLOSED.

MAXIMUM STRUCTURE HEIGHT

LOT 1 (NORTH) 182 FT / 8 STORIES
LOT 2 (SOUTH) 251 FT / 7.5 STORIES

NO HEIGHT LIMITATION SET BY IP-2-1 ZONE EXCEPT BY RESTRICTION OF AIRPORT ENVIRONS OVERLAY ZONE, WHICH DOES NOT SPECIFY A MAXIMUM BUILDING HEIGHT .

GROSS FLOOR AREA

NOT TO EXCEED 540,000 SF

MAXIMUM FLOOR AREA RATIO

PROPOSED MAXIMUM FLOOR AREA RATIO: 0.87
LOT 1 (NORTH) 0.59
LOT 2 (SOUTH) 1.16

MAXIMUM FLOOR AREA RATIO NOT TO EXCEED 2.0 PER TABLE 131-06C WITHIN SECTION 13.0631 OF THE SAN DIEGO MUNICIPAL CODE.

MAXIMUM BUILDING COVERAGE

PROPOSED MAXIMUM BUILDINGCOVERAGE: 32%
LOT 1 (NORTH) 29%
LOT 2 (SOUTH) 35%

NO MAXIMUM COVERAGE REQUIRED PER ZONE.

EXTERIOR REFUSE AND RECYCLABLE AREA

PER SECTION 142.0830 OF THE SAN DIEGO MUNICIPAL CODE, 348 SF OF REFUSE & RECYCLING STORAGE AREA IS REQUIRED FOR THE FIRST 100,000 SF GROSS FLOOR AREA (GFA) OF INDUSTRIAL DEVELOPMENT. AN ADDITIONAL 96 SF SHALL BE REQUIRED FOR EVERY 25,000 SF OF GFA ABOVE 100,001 SF.

REQUIRED REFUSE & RECYCLING STORAGE AREA
384 SF + (96 SF X (440,000 SF / 25,000 SF))
384 SF + (96 SF X 18) = 2,066 SF

AREA PROVIDED
LOT 1 (NORTH) 987 SF
LOT 2 (SOUTH) 420 SF
TOTAL 1,407 SF

LOADING AREA

LOADING AREA REQUIREMENTS PER SECTION 142.10 OF THE MUNICIPAL CODE:

REQUIRED OFF-STREET LOADING SPACES

USE CATEGORY/SUBCATEGORY	GFA OF STRUCTURE	MIN NUMBER OF SPACES
INDUSTRIAL	OVER 50,000	0.2 SPACE / 10,000 SF OF GFA
WHOLESALE, DISTRIBUTION, AND STORAGE USES	0 – 10,000	0 SPACES
	10,000 – 50,000	1 SPACE
OFFICE	0 – 50,000	0 SPACES
	OVER 50,000	0.1 SPACE / 10,000 SF OF GFA
RETAIL SALES / EATING & DRINKING ESTABLISHMENTS	0 – 10,000	0 SPACES
	10,000 – 30,000	1 SPACE
	30,000 – 50,000	2 SPACES
	OVER 50,000	1 SPACE / 25,000 SF OF GFA

ADDITIONAL LOADING AREA REGULATIONS:
1. PARKING OF PASSENGER VEHICLES IS NOT PERMITTED IN OFF-STREET LOADING AREAS.
2. EACH REQUIRED OFF-STREET LOADING SPACE SHALL A MINIMUM LENGTH OF 35 FEET, A MINIMUM WIDTH OF 12 FEET AND A MINIMUM VERTICAL CLEARANCE OF 14 FEET INCLUDING ENTRANCES AND EXITS.
3. LOADING AREAS SHALL BE LOCATED SO THAT THEY ARE NOT PARALLEL TO ANY ADJACENT PUBLIC RIGHT OF WAY EXCEPT ALLEYS.
4. LOADING AREAS SHALL NOT BE LOCATED IN THE FRONT 25% OF THE PREMISES, MEASURED FROM THE FRONT PROPERTY LINE.
5. LOADING AREAS SHALL BE DESIGNED AND LOCATED SO THAT LOADING VEHICLES ARE NOT PARKED IN REQUIRED FRONT YARDS, DRIVEWAYS, OR REQUIRED PARKING SPACES DURING LOADING ACTIVITIES.
6. LOADING DOCKS AND OVERHEAD DOORS SHALL BE SCREENED FROM THE PUBLIC RIGHT OF WAY WITH A WING WALL THAT MEETS THE FOLLOWING CRITERIA:
   A. THE WING WALL MAY BE EITHER FREESTANDING OR ATTACHED TO THE BUILDING WALL.
   B. THE WING WALL SHALL BE AT LEAST 12 FEET HIGH FOR HALF ITS LENGTH BUT MAY TAPER TO A LESSER HEIGHT PROVIDED THAT THE WALL STILL SCREENS THE LOADING DOCK AND LOADING VEHICLES FROM THE PUBLIC RIGHT OF WAY. THE WALL SHALL NOT BE LESS THAT 4 FEET HIGH AT ANY POINT.

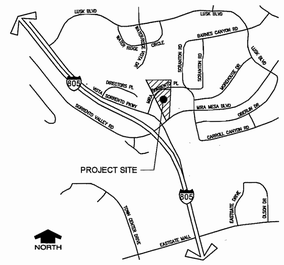
PARKING NOTES

PER SECTION 142.0560 OF THE SAN DIEGO MUNICIPAL CODE:
VEHICULAR CIRCULATION WITHIN PARKING FACILITIES
1. EACH PARKING SPACE SHALL OPEN DIRECTLY ON AN AISLE OR DRIVEWAY OF SUCH WIDTH AND DESIGN AS TO PROVIDE SAFE AND EFFICIENT MEANS OF VEHICULAR ACCESS TO THE PARKING SPACE. ALL REQUIRED PARKING FACILITIES SHALL HAVE CONVENIENT AND DIRECT ACCESS TO A PUBLIC STREET OR ALLEY.
2. VEHICULAR CIRCULATION FROM ONE AISLE TO ANOTHER ON THE SAME PREMISES SHALL NOT REQUIRE THE USE OF A PUBLIC STREET.
3. AISLES THAT DO NOT PROVIDE THROUGH CIRCULATION SHALL PROVIDE A TURNAROUND AREA AT THE END OF THE AISLE THAT IS CLEARLY MARKED TO PROHIBIT PARKING AND THAT HAS A MINIMUM AREA EQUIVALENT TO A PARKING SPACE.

BICYCLE FACILITIES
4. BICYCLE RACKS USED TO PROVIDE REQUIRED BICYCLE PARKING SPACES SHALL ALLOW THE LOCKING OF BOTH WHEELS AND THE FRAME WITHOUT THE USE OF CHAINS OR CABLES.
5. BICYCLE LOCKERS MAY BE SUBSTITUTED BY ENCLOSED, LOCKED, LIMITED-ACCESS AREAS WITH RACKS.
6. BICYCLE RACKS AND LOCKERS SHALL BE LOCATED IN CONVENIENT, VISIBLE, WELL-LIT AREAS THAT ARE NOT ACCESSIBLE BY MOTOR VEHICLES OR WITHIN A PEDESTRIAN PATH.
7. SHOWER FACILITIES SHALL INCLUDE LOCKERS AND SHALL BE FREE-OF-CHARGE TO BICYCLE COMMUTERS.

PARKING STRUCTURE DESIGN REQUIREMENTS
8. THE MAXIMUM GRADIENT IN ANY DIRECTION WITHIN A PARKING STRUCTURE IS 6%, EXCEPT THAT WHERE UNUSUAL OR SPECIAL CIRCUMSTANCES WARRANT, THE CITY MANAGER MAY APPROVE STEEPER GRADIENTS ACCORDING TO ACCEPTED ENGINEERING PRACTICES.

SHEET INDEX



VICINITY MAP
NOT TO SCALE

Lundstrom
Engineering and Surveying, Inc.
4245 W. Overlook Drive • San Diego, CA 92115
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SAN DIEGO, CA 92121

Project Name:
MIRA SORRENTO

Revision 14:
Revision 13:
Revision 12:
Revision 11:
Revision 10:
Revision 9:
Revision 8:
Revision 7:
Revision 6:
Revision 5:
Revision 4:
Revision 3:
Revision 2: 04/14/10
Revision 1: 12/12/08

Original Date: 08/04/08

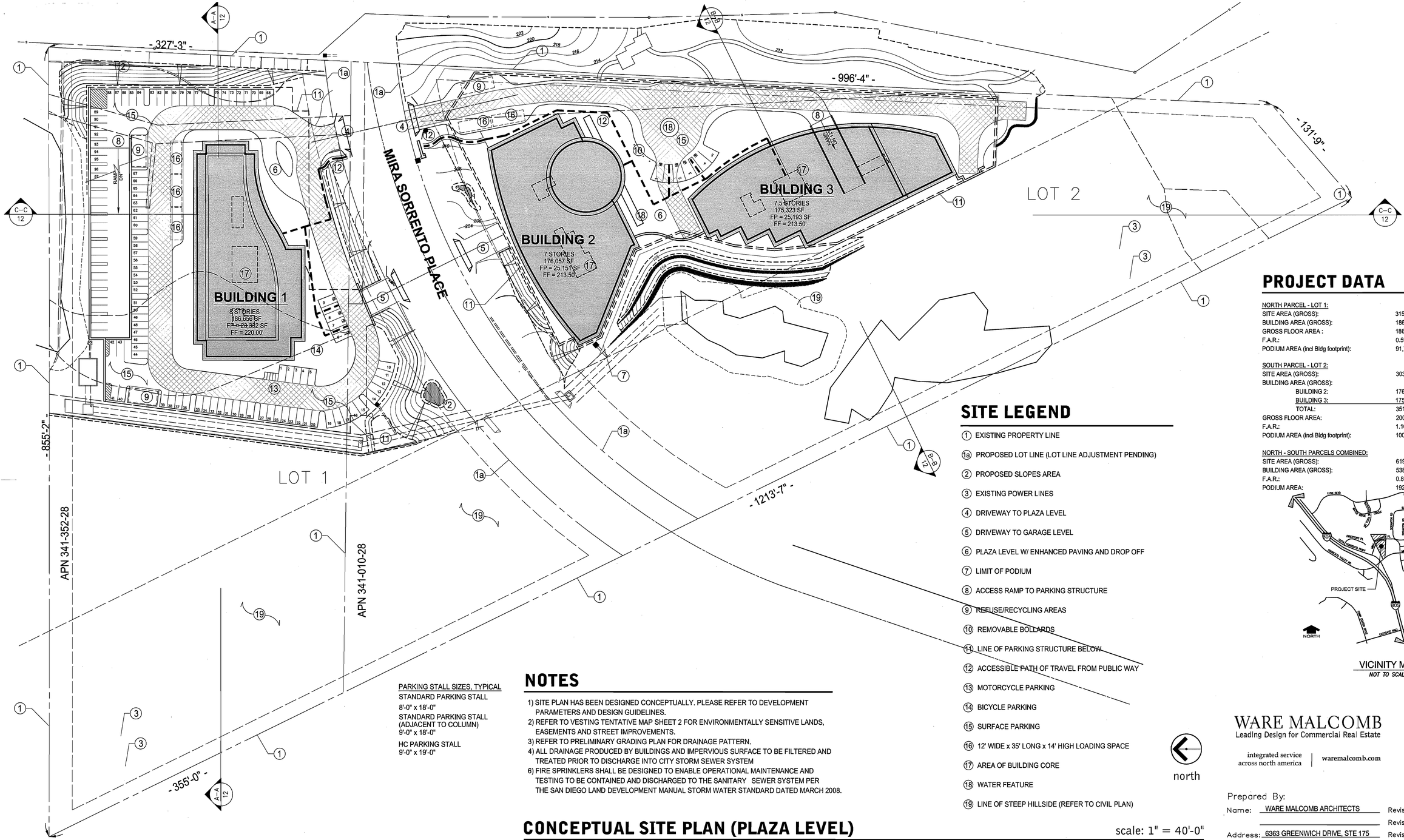
Sheet Title:
TITLE SHEET /
DEVELOPMENT SUMMARY /
DEVELOPMENT PARAMETERS

Sheet 1 of 19

PROJECT NO. 162742

MIRA SORRENTO

San Diego, California

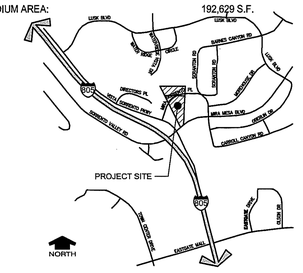


SITE LEGEND

1. EXISTING PROPERTY LINE
1a. PROPOSED LOT LINE (LOT LINE ADJUSTMENT PENDING)
2. PROPOSED SLOPES AREA
3. EXISTING POWER LINES
4. DRIVEWAY TO PLAZA LEVEL
5. DRIVEWAY TO GARAGE LEVEL
6. PLAZA LEVEL W/ ENHANCED PAVING AND DROP OFF
7. LIMIT OF PODIUM
8. ACCESS RAMP TO PARKING STRUCTURE
9. REFUSE/RECYCLING AREAS
10. REMOVABLE BOLLARDS
11. LINE OF PARKING STRUCTURE BELOW
12. ACCESSIBLE PATH OF TRAVEL FROM PUBLIC WAY
13. MOTORCYCLE PARKING
14. BICYCLE PARKING
15. SURFACE PARKING
16. 12' WIDE x 35' LONG x 14' HIGH LOADING SPACE
17. AREA OF BUILDING CORE
18. WATER FEATURE
19. LINE OF STEEP HILLSIDE (REFER TO CIVIL PLAN)

PROJECT DATA

NORTH PARCEL - LOT 1:	
SITE AREA (GROSS):	315,465 S.F. (7.24 ac)
BUILDING AREA (GROSS):	186,656 S.F.
GROSS FLOOR AREA :	186,656 S.F. (Per LDC Section 113.0234)
F.A.R.:	0.59
PODIUM AREA (incl Bldg footprint):	91,756 S.F.
SOUTH PARCEL - LOT 2:	
SITE AREA (GROSS):	303,886 S.F. (6.97 ac)
BUILDING AREA (GROSS):	
BUILDING 2:	176,056 S.F.
BUILDING 3:	175,323 S.F.
TOTAL:	351,379 S.F.
GROSS FLOOR AREA:	200,516 S.F. (Per LDC Section 113.0234)
F.A.R.:	1.16
PODIUM AREA (incl Bldg footprint):	100,873 S.F.
NORTH - SOUTH PARCELS COMBINED:	
SITE AREA (GROSS):	619,351 S.F. (14.21 ac)
BUILDING AREA (GROSS):	538,035 S.F.
F.A.R.:	0.87
PODIUM AREA:	192,629 S.F.



VICINITY MAP
NOT TO SCALE

PARKING STALL SIZES, TYPICAL

STANDARD PARKING STALL
8'-0" x 18'-0"

STANDARD PARKING STALL (ADJACENT TO COLUMN)
9'-0" x 18'-0"

HC PARKING STALL
9'-0" x 19'-0"

NOTES

1) SITE PLAN HAS BEEN DESIGNED CONCEPTUALLY. PLEASE REFER TO DEVELOPMENT PARAMETERS AND DESIGN GUIDELINES.
2) REFER TO VESTING TENTATIVE MAP SHEET 2 FOR ENVIRONMENTALLY SENSITIVE LANDS, EASEMENTS AND STREET IMPROVEMENTS.
3) REFER TO PRELIMINARY GRADING PLAN FOR DRAINAGE PATTERN.
4) ALL DRAINAGE PRODUCED BY BUILDINGS AND IMPERVIOUS SURFACE TO BE FILTERED AND TREATED PRIOR TO DISCHARGE INTO CITY STORM SEWER SYSTEM
6) FIRE SPRINKLERS SHALL BE DESIGNED TO ENABLE OPERATIONAL MAINTENANCE AND TESTING TO BE CONTAINED AND DISCHARGED TO THE SANITARY SEWER SYSTEM PER THE SAN DIEGO LAND DEVELOPMENT MANUAL STORM WATER STANDARD DATED MARCH 2008.

north

CONCEPTUAL SITE PLAN (PLAZA LEVEL)

scale: 1" = 40'-0"

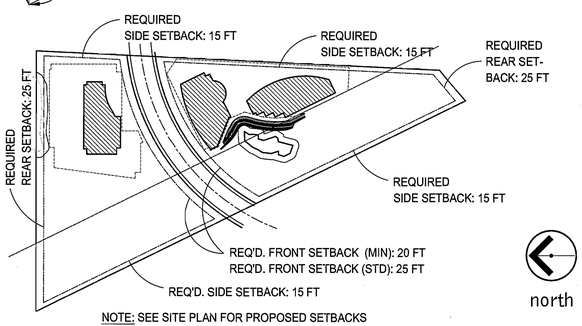
PARKING ON SURFACE

ON NORTH LOT - PARKING PROVIDED:

A) SURFACE PARKING (SEE SITE PLAN)	
STANDARD STALLS:	93
DISABLED STALLS:	4
TOTAL STALLS:	97

ON SOUTH LOT - PARKING PROVIDED:

E) SURFACE PARKING (SEE SITE PLAN)	
STANDARD STALLS:	1
DISABLED STALLS:	4
TOTAL STALLS:	5



NOTE: SEE SITE PLAN FOR PROPOSED SETBACKS

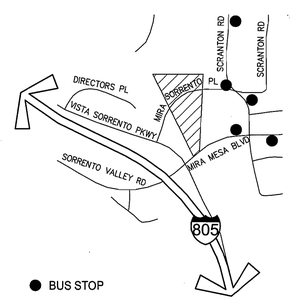
north

SETBACK PLAN

scale: 1" = 200'-0"

MIRA SORRENTO

San Diego, California



● BUS STOP

north

BUS STOP PLAN

scale: N.T.S.

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Fax #: (858) 638-7506

Project Address:
MIRA SORRENTO PLACE
SAN DIEGO, CA 92121

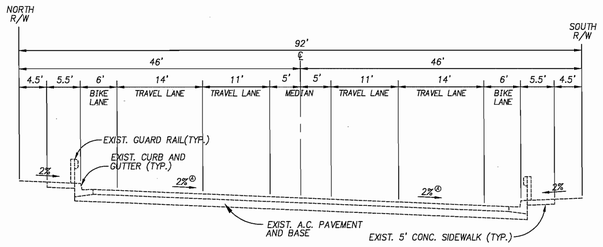
Project Name:
MIRA SORRENTO

Sheet Title:
CONCEPTUAL SITE PLAN / DISABLED ACCESSIBILITY PLAN

Revision 14:	
Revision 13:	
Revision 12:	
Revision 11:	
Revision 10:	
Revision 9:	
Revision 8:	
Revision 7:	
Revision 6:	
Revision 5:	
Revision 4:	
Revision 3:	
Revision 2:	04/14/10
Revision 1:	12/12/08
Original Date:	08/04/08

Sheet 2 of 21

PROJECT NO. 162742



① SUPERELEVATION VARIES FROM 2% MIN. TO 6% MAX. STA 10+43 TO 27+66

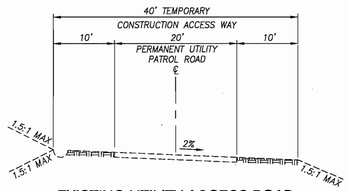
EXIST. GUARD RAIL STA 17+65 TO 18+10, 18+44 TO 22+08 LT., STA 14+90 TO 17+69, 18+14 TO 21+00 RT.

MIRA SORRENTO PLACE STREET IMPROVEMENTS SHOWN PER DRAWING 30600-D

EXIST. GUARD RAIL TO BE REMOVED FROM STA 18+44 TO 22+08 LT., STA 18+14 TO 21+00 RT.

EXISTING MIRA SORRENTO PLACE

NOT TO SCALE



EXISTING UTILITY ACCESS ROAD

NOT TO SCALE

LEGEND

TENTATIVE MAP BOUNDARY	
EXISTING TOPO CONTOUR	180
SLOPE (2: 1 MAX)	
PERCENT OF GRADE	2%
SPOT ELEVATION	210.0
SEWER MAIN (8"*)	
SEWER INVERT ELEVATION	I.E. 422.0
WATER MAIN (12")	W
EX. SEWER MAIN	
EX. WATER MAIN	W
FIRE HYDRANT	
STORM DRAIN	
RETAINING WALL	
EXIST. STREET LIGHT	
EASEMENT CALLOUT	3
EASEMENT LINE	
SETBACK LINE	
FOUND MONUMENT	
LIMIT OF STEEP SLOPES	

* UNLESS SHOWN OTHERWISE

ENGINEER

LUNDSTROM ENGINEERING AND SURVEYING, INC.
4245 W. OVERLOOK DRIVE
SAN DIEGO, CA 92115

REGISTERED PROFESSIONAL ENGINEER WILLIAM LUNDSTROM No. C61630 Expires 6/30/11 CIVIL STATE OF CALIFORNIA

04/14/2010
WILLIAM LUNDSTROM DATE
R.C.E. 61630
EXPIRES ON 06/30/11

OWNER

21 MIRA MESA, LLC
C/O CALIFORNIA MORTGAGE AND REALTY, INC.
62 FIRST STREET, 4TH FLOOR
SAN FRANCISCO, CA 94105

RICHARD A. JOHNSON DATE
VICE PRESIDENT, REAL ESTATE INVESTMENTS
CALIFORNIA MORTGAGE AND REALTY, INC.

LEGAL DESCRIPTION

PARCEL 1:

A PORTION OF PARCEL 5 OF PARCEL MAP 17051, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY FEBRUARY 3, 1993.

PARCEL 2:

A PORTION OF LOT 6 IN SECTION 5, TOWNSHIP 15 SOUTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE CITY OF SAN DIEGO, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF.

COORDINATE INDEX

NAD 27: 265-1707
NAD 83: 1905-6268

DATUM

CITY OF SAN DIEGO BENCHMARK BEING A BRASS PLUG IN THE TOP OF NORTH INLET ON MIRA MESA BLVD. 0.3 MILES WEST OF LUSK BLVD. ELEV=225.983

EASEMENT NOTES

PER PRELIMINARY REPORT FROM FIRST AMERICAN TITLE INSURANCE COMPANY DATED NOVEMBER 25, 2008 ORDER NO: NCS-311402-SA1

(5) ITEM 5 - AN EASEMENT FOR PUBLIC UTILITIES, INGRESS AND EGRESS AND INCIDENTIAL PURPOSES. RECORDED OCTOBER 20, 1948 AS BOOK 2988, PAGE 371 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO GAS & ELECTRIC COMPANY
FUTURE DISPOSITION: EASEMENT TO BE QUITCLAIMED

(6) ITEM 6 - AN EASEMENT FOR PUBLIC UTILITIES, INGRESS AND EGRESS AND INCIDENTIAL PURPOSES, RECORDED RECORDED NOVEMBER 26,1957 AS INSTRUMENT NO. 179867, BOOK 6847, PAGE 544 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO GAS & ELECTRIC COMPANY
FUTURE DISPOSITION: EASEMENT TO REMAIN

(7) ITEM 7 - AN EASEMENT FOR PUBLIC UTILITIES, INGRESS AND EGRESS AND INCIDENTIAL PURPOSES, RECORDED SEPTEMBER 11, 1958 AS INSTRUMENT NO. 149742, BOOK 7251, PAGE 267 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO GAS & ELECTRIC COMPANY
FUTURE DISPOSITION: EASEMENT TO REMAIN

(9) ITEM 9 - AN EASEMENT FOR CONSTRUCT, MAINTAIN, USE AND OPERATE ON 10" WELDED STEEL PIPELINE WITH NECESSARY APPURTENANCES FOR THE TRANSPORTATION OF LIQUID PETROLEUM PRODUCTS AND INCIDENTIAL PURPOSES, RECORDED SEPTEMBER 30, 1964 AS INSRUMENT NO. 178916 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO PIPELINE COMPANY, A CORPORATION
UNABLE TO PLOT EASEMENT
FUTURE DISPOSITION: EASEMENT TO REMAIN

(10) ITEM 10 - COVENANTS, CONDITIONS, RESRICTIONS, EASEMENTS, ASSESSMENTS, LIENS, CHARGES, TERMS AND PROVISIONS IN THE DOCUMENT RECORDED OCTOBER 25, 1983 AS INSTRUMENT NO. 83-385293 OF OFFICIAL RECORDS. MODIFICATIONS THEREOF RECORDED JANUARY 3, 1990 AS INSTRUMENT NO. 90-003822, AUGUST 18, 1992 AS INSTRUMENT NO. 1992-0520363, APRIL 2, 1993 AS INSTRUMENT NO. 1993-0204365, JANUARY 17, 1997 AS INSTRUMENT NO. 1997-0023696 ALL OF OFFICIAL RECORDS.

(11) ITEM 11 - AN EASEMENT FOR PUBLIC UTILITIES, INGRESS AND EGRESS AND INCIDENTIAL PURPOSES, RECORDED FEBRUARY 14, 1984 AS INSTRUMENT NO. 84-055450 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO GAS & ELECTRIC COMPANY
FUTURE DISPOSITION: EASEMENT TO BE QUITCLAIMED

(13) ITEM 13 - AN EASEMENT FOR PIPELINE, TOGETHER WITH THE RIGHT TO USE SUCH LANDS OF THE GRANTOR IMMEDIATELY ADJACENT TO EITHER SIDE OF THE RIGHT OF WAY AS MAY NECESSARILY BE REQUIRED AND INCIDENTIAL PURPOSES, RECORDED OCTOBER 16, 1985 AS INSTRUMENT NO. 85-384060 OF OFFICIAL RECORDS.
IN FAVOR OF: SAN DIEGO PIPELINE COMPANY
FUTURE DISPOSITION: EASEMENT TO REMAIN

(15) ITEM 15 - AN EASEMENT FOR SLOPE AND INCIDENTAL PUPOSES, RECORDED MAY 19, 1986 AS INSTRUMENT NO. 86-197221 AND JUNE 23, 1986 AS INSTRUMENT NO. 86-252176, BOTH OF OFFICIAL RECORDS.
IN FAVOR OF: THE CITY OF SAN DIEGO, A MUNICIPAL CORPORATION
FUTURE DISPOSITION: EASEMENT TO REMAIN

(16) ITEM 16 - ABUTTERS'S RIGHTS OF INGRESS AND EGRESS TO OR FROM ADJACENT AND CONTIGUOS IN AND TO INTERSTATE 805 HAVE BEEN RELINQUISHED IN THE DOCUMENT RECORDED MAY 19, 1986 AS INSTRUMENT NO. 86-197221 AND JUNE 23, 1986 AS INSTRUMENT NO. 86-252176, BOTH OF OFFICIAL RECORDS.

(17) ITEM 17 - AN EASEMENT FOR DRAINAGE FACILITIES AND INCIDENTIAL PURPOSES, RECORDED FEBRUARY 02, 1989 AS INSTRUMENT NO. 89-058579 OF OFFICIAL RECORDS.
IN FAVOR OF: THE CITY OF SAN DIEGO, A MUNICIPAL CORPORATION
FUTURE DISPOSITION: EASEMENT TO BE VACATED

(20) ITEM 20 - AND EASEMENT SHOWN OF DEDICATED ON THE MAP FILED OR RECORDED FEBRUARY 3, 1993 AS INSTRUMENT NO. 93-68704 OF PARCEL MAP NO. 17051 FOR SLOPE AND INCIDENTIAL PURPOSES.
FUTURE DISPOSITION: EASEMENT TO VACATED

(21) ITEM 21 - AN EASEMENT SHOWN OR DEDICATED ON THE MAP FILED OR RECORDED FEBRUARY 3, 1993 AS INSTRUMENT NO. 93-68704 OF PARCEL MAP NO. 17051 FOR FUTURE STREET AND INCIDENTIAL PURPOSES.
IN FAVOR OF:
FUTURE DISPOSITION: EASEMENT TO REMAIN

(22) ITEM 22 - AN EASEMENT FOR SLOPES AND INCIDENTIAL PURPOSES, RECORDED NOVEMBER 16, 1993 AS INSTRUMENT NO. 1993-768380 OF OFFICIAL RECORDS.
IN FAVOR OF: THE CITY OF SAN DIEGO
FUTURE DISPOSITION: EASEMENT TO REMAIN

(23) ITEM 23 - ABUTTER'S RIGHT OF INGRESS AND EGRESS TO OR FROM MIRA MESA BOULEVARD HAVE BEEN RELINQUISHED IN THE DOCUMENT RECORDED NOVEMBER 16, 1993 AS INSTRUMENT NO. 1993-768380 OF OFFICIAL RECORDS.

(24) ITEM 24 - THE TERMS, PROVISIONS AND EASEMENTS CONTAINED IN THE DOCUMENT ENTITLED "RECIPROCAL EASEMENT AND COST SHARING AGREEMENT" RECORDED JANUARY 17, 1997 AS INSTRUMENT NO. 1997-0023698 OF OFFICIAL RECORDS.
FUTURE DISPOSITION: TO BE DETERMINED

(26) ITEM 26 - AN EASEMENT FOR PEDESTRIAN PATH, SILTATION BASIN AND DRAINAGE SYSTEM AND TEMPORARY LICENSE TO MAINTAIN MITIGATION LANDSCAPING AND INCIDENTAL PURPOSES, RECORDED JANUARY 17, 1997 AS INSTRUMENT NO. 1997-0023700 OF OFFICIAL RECORDS.
IN FAVOR OF: WATERIDGE OWNERS ASSOCIATION
FUTURE DISPOSITION: EASEMENT TO BE QUITCLAIMED

(28) ITEM 28 - A TEMPORARY EASEMENT FOR THE CONSTRUCTION OF MIRA SORRENTO PLACE EXPANSION AND WIDENING CAPITAL AND AN EASEMENT FOR SLOPES, EXCAVATION, FILL, DRAINAGE AND DRAINAGE STRUCTURES AND INCIDENTIAL PURPOSES, RECORDED MARCH 27, 2006 AS INSTRUMENT NO. 2006-210167 OF OFFICIAL RECORDS.
IN FAVOR OF: THE CITY OF SAN DIEGO
FUTURE DISPOSITION: EASEMENTS TO BE VACATED

MIRA SORRENTO

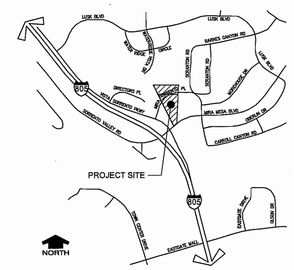
San Diego, California

GENERAL NOTES

1. GROSS SITE AREA: 608.933 SF / 13.98 AC
2. EXISTING ZONING: AR-1-1 / IP-2-1 / AIRPORT ENVIRONS / BRUSH ZONES / RESIDENTIAL TANDEM PARKING
   PROPOSED ZONING: IP-2-1 / AIRPORT ENVIRONS / BRUSH ZONES / RESIDENTIAL TANDEM PARKING
3. EXISTING LAND USE: VACANT LAND
   PROPOSED LAND USE: FUTURE INDUSTRIAL DEVELOPMENT
4. EXISTING STRUCTURES/BUILDINGS: N/A
   PROPOSED STRUCTURES/BUILDINGS: SEE DEVELOPMENT SUMMARY & PARAMETERS ON SHEET 1 AND CONCEPTUAL SITE PLAN ON SHEET 2.
5. TOTAL NUMBER OF LOTS: 2
6. ASSESSOR PARCEL NUMBER: 341-010-28 AND 341-352-28
7. SOURCE OF TOPOGRAPHY: PHOTO GEODETIC CORPORATION DATE: JULY 14, 2008
8. GEOTECHNICAL REPORT: URS CORPORATION DATE: FEBRUARY 14, 2002
9. GRADING MAY BE DONE PRIOR TO FINAL MAP RECORDATION.
10. ANY REQUIRED OFF SITE PERMISSION TO GRADE AND CONSTRUCT WILL BE OBTAINED DURING FINAL ENGINEERING.
11. PROPOSED INDUSTRIAL BUILDINGS SHALL NOT EXCEED THE HEIGHT, NUMBER OF STORIES, OR GROSS FLOOR AREA SET FORTH ON THE DEVELOPMENT SUMMARY & PARAMETERS ON SHEET 1.
12. SEE DEVELOPMENT SUMMARY & PARAMETERS ON SHEET 1 FOR ARCHITECTURAL / PARKING SUMMARY.
13. BUS STOPS: THERE ARE NO BUS STOPS ADJACENT TO THE PROJECT SITE. FOR BUS STOP LOCATIONS WITHIN THE VICINITY OF THE PROJECT SITE, REFER TO THE CONCEPTUAL SITE PLAN ON SHEET 2.
14. TRASH: REFER TO THE CONCEPTUAL SITE PLAN ON SHEET 2 FOR THE PROPOSED TRASH LOCATIONS.
15. ALL UTILITIES SHALL BE UNDERGROUND AND EASEMENTS PROVIDED AS NECESSARY.
16. UTILITY LAYOUTS SHOWN ARE PRELIMINARY AND MAY BE MODIFIED DURING FINAL DESIGN.
17. THE ON-SITE DRAINAGE SYSTEM FOR THIS PROJECT IS BOTH PUBLIC AND PRIVATE AND IS SUBJECT TO APPROVAL BY THE CITY ENGINEER. PRIVATE DRAINAGE SYSTEM IS CALLED OUT ON VESTING TENTATIVE MAP AND SHALL BE MAINTAINED BY A PRIVATE PROPERTY MANAGEMENT COMPANY. ALL OTHER DRAINAGE SYSTEMS SHOWN SHALL BE PUBLIC AND WILL BE INSTALLED PER CITY STANDARDS TO THE SATISFACTION OF THE CITY ENGINEER. PUBLIC DRAINAGE FACILITIES SHALL BE MAINTAINED BY THE CITY. IN ADDITION, A PRIVATE DRAINAGE SYSTEM WILL BE INSTALLED FOR THE SURFACE DECK DRAINAGE AT THE BOTTOM OF THE PARKING STRUCTURE RAMPS AND OTHER MISCELLANEOUS SURFACE DRAINAGE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
18. ON-SITE SEWER IS PRIVATE AND INSTALLED IN ACCORDANCE WITH THE CITY ENGINEER. ON-SITE PRIVATE SEWER SYSTEM SHALL BE MAINTAINED BY A PRIVATE PROPERTY MANAGEMENT COMPANY.
19. ALL ON-SITE WATER SHALL BE PRIVATE AND INSTALLED IN ACCORDANCE WITH CITY OF SAN DIEGO WATER UTILITIES DEPARTMENT. ON-SITE PRIVATE WATER SYSTEM SHALL BE MAINTAINED BY A PRIVATE PROPERTY MANAGEMENT COMPANY.
20. NO FLOOD HAZARD AREAS EXIST ON-SITE.
21. EXISTING STREET LIGHTS WITHIN MIRA SORRENTO PLACE ARE 180W LOW PRESSURE SODIUM CALTRANS TYPE 15 STEEL POLE.
22. PROPOSED RETAINING WALLS OVER 6 FEET SHALL PROVIDE 80% SCREENING OF THE WALL WITHIN TWO YEARS.
23. MAPPING AND MONUMENTATION NOTE: ALL PROPERTY CORNERS WILL BE SET AND A TWO LOT PARCEL MAP WILL BE FILED UPON APPROVAL OF THE TENTATIVE MAP. A DETAILED PROCEDURE OF SURVEY WILL BE SHOWN ON THE MAP.

GRADING NOTES

1. TOTAL AMOUNT OF SITE TO BE GRADED: 6.08 AC
2. PERCENT OF TOTAL SITE GRADED: 43%
3. AMOUNT OF SITE WITH 25 PERCENT SLOPES OR GREATER: 8.83 AC
4. PERCENT OF TOTAL SITE WITH 25% SLOPES OR GREATER: 63%
5. AMOUNT OF CUT: 321,475 CY
   MAXIMUM DEPTH OF CUT: 93 FT
6. AMOUNT OF FILL: 20,305 CY
   MAXIMUM DEPTH OF FILL: 34 FT
7. MAXIMUM HEIGHT OF CUT SLOPE(S): 22 FT 2:1 SLOPE RATIO
8. MAXIMUM HEIGHT OF FILL SLOPE(S): 16 FT 2:1 SLOPE RATIO
9. AMOUNT OF IMPORT SOIL: 301,170 CY
10. RETAINING/CRIB WALLS:
    HOW MANY: 8
    MAXIMUM LENGTH: 400 FT
    MAXIMUM HEIGHT: 20 FT



VICINITY MAP

NOT TO SCALE

Lundstrom
Engineering and Surveying, Inc.
4245 W. Overlook Drive • San Diego, CA 92115
Phone (619) 814-1220 • Fax (619) 641-5910

Prepared By:
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Fax #: (619) 641-5910

Project Address:
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SAN DIEGO, CA 92121

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Sheet Title:
VESTING TENTATIVE MAP 582086
PRELIMINARY GRADING PLAN
SHEET 1

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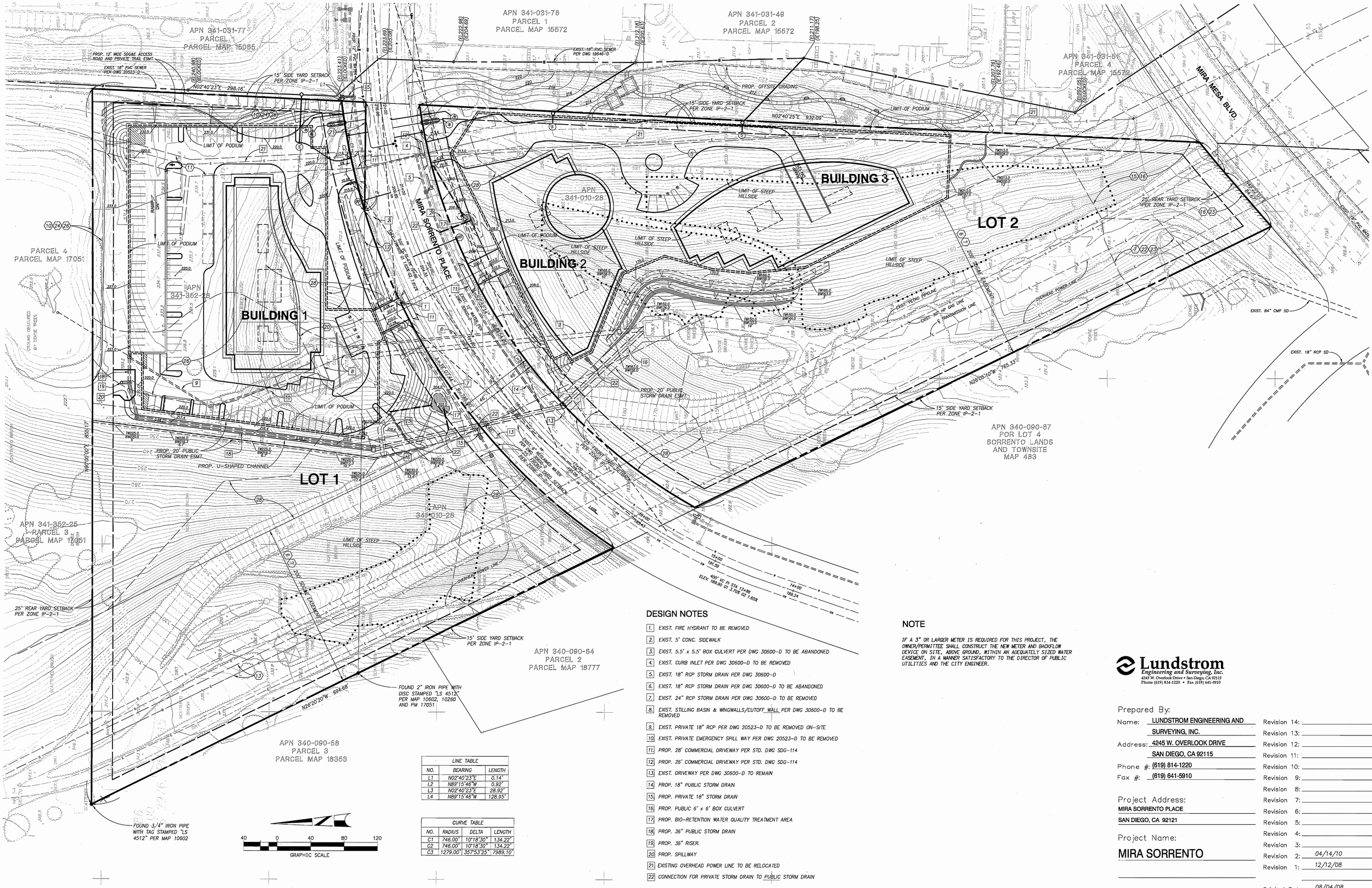
PROJECT NO. 162742



LINE TABLE		
NO.	BEARING	LENGTH
L1	N02°40'23"E	0.14'
L2	N89°15'46"W	0.92'
L3	N02°40'23"E	28.92'
L4	N89°15'46"W	128.95'

CURVE TABLE			
NO.	RADIUS	DELTA	LENGTH
C1	746.00'	10°18'30"	134.22'
C2	746.00'	10°18'30"	134.22'
C3	1279.00'	357°53'25"	7989.10'

DESIGN NOTES

1. EXIST. FIRE HYDRANT TO BE REMOVED
2. EXIST. 5' CONC. SIDEWALK
3. EXIST. 5.5' x 5.5' BOX CULVERT PER DWG 30600-D TO BE ABANDONED
4. EXIST. CURB INLET PER DWG 30600-D TO BE REMOVED
5. EXIST. 18" RCP STORM DRAIN PER DWG 30600-D
6. EXIST. 18" RCP STORM DRAIN PER DWG 30600-D TO BE ABANDONED
7. EXIST. 24" RCP STORM DRAIN PER DWG 30600-D TO BE REMOVED
8. EXIST. STILLING BASIN & WINGWALLS/CUTOFF WALL PER DWG 30600-D TO BE REMOVED
9. EXIST. PRIVATE 18" RCP PER DWG 20523-D TO BE REMOVED ON-SITE
10. EXIST. PRIVATE EMERGENCY SPILL WAY PER DWG 20523-D TO BE REMOVED
11. PROP. 28' COMMERCIAL DRIVEWAY PER STD. DWG SDG-114
12. PROP. 26' COMMERCIAL DRIVEWAY PER STD. DWG SDG-114
13. EXIST. DRIVEWAY PER DWG 30600-D TO REMAIN
14. PROP. 18" PUBLIC STORM DRAIN
15. PROP. PRIVATE 18" STORM DRAIN
16. PROP. PUBLIC 6' x 6' BOX CULVERT
17. PROP. BIO-RETENTION WATER QUALITY TREATMENT AREA
18. PROP. 36" PUBLIC STORM DRAIN
19. PROP. 36" RISER.
20. PROP. SPILLWAY
21. EXISTING OVERHEAD POWER LINE TO BE RELOCATED
22. CONNECTION FOR PRIVATE STORM DRAIN TO PUBLIC STORM DRAIN

NOTE

IF A 3" OR LARGER METER IS REQUIRED FOR THIS PROJECT, THE OWNER/PERMITTEE SHALL CONSTRUCT THE NEW METER AND BACKFLOW DEVICE ON SITE, ABOVE GROUND, WITHIN AN ADEQUATELY SIZED WATER EASEMENT, IN A MANNER SATISFACTORY TO THE DIRECTOR OF PUBLIC UTILITIES AND THE CITY ENGINEER.

MIRA SORRENTO

San Diego, California

Lundstrom
Engineering and Surveying, Inc.
4245 W. Overlook Drive • San Diego, CA 92115
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Sheet Title:
VESTING TENTATIVE MAP 582086/
PRELIMINARY GRADING PLAN
SHEET 2

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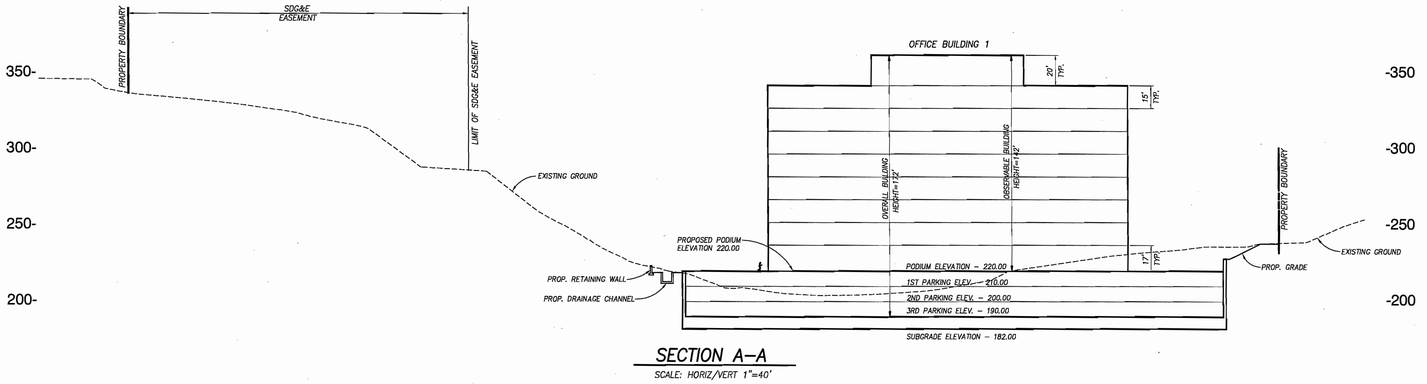
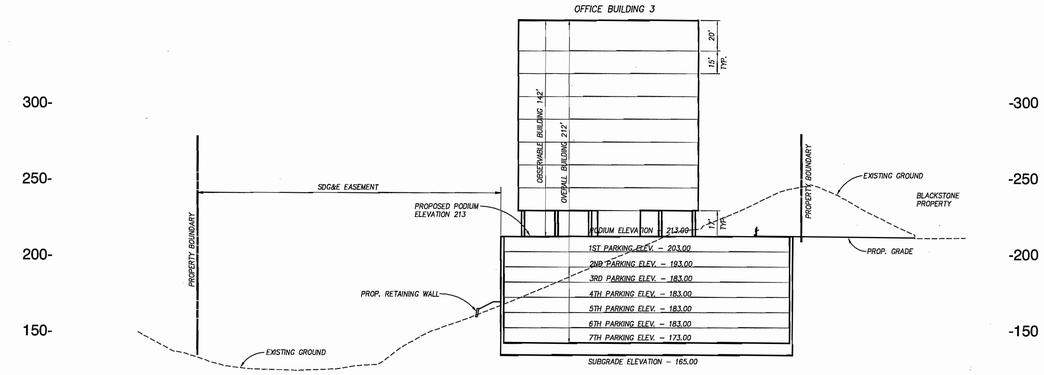
PROJECT NO. 162742

J.N. 800-09 X:\proj\800-09\dwg\TM\Sheet 09 - TM 2.dwg



SECTION A–A

SCALE: HORIZ/VERT 1"=40'

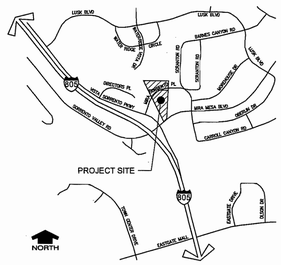


SECTION B–B

SCALE: HORIZ/VERT 1"=40'

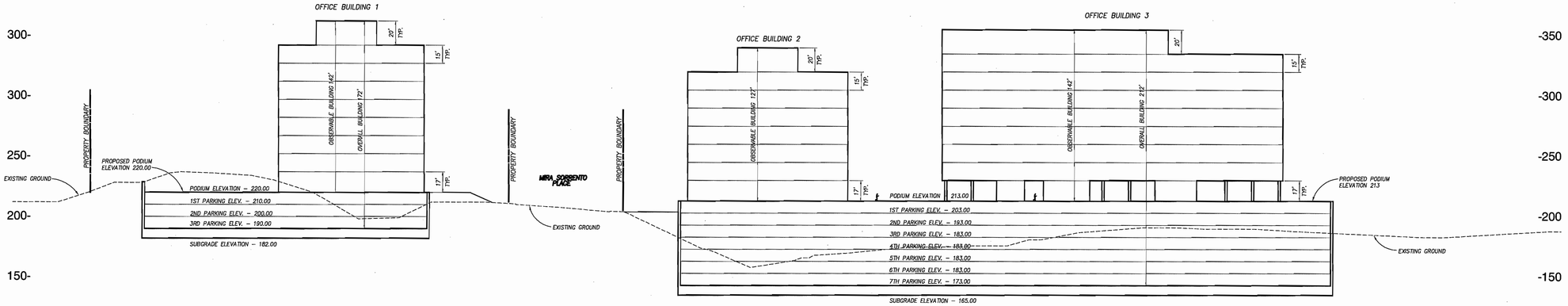
KEY MAP

N.T.S.



VICINITY MAP

NOT TO SCALE



SECTION C–C

SCALE: HORIZ/VERT 1"=40'

MIRA SORRENTO

San Diego, California

Lundstrom
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4245 W. Overlook Drive • San Diego, CA 92115
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Prepared By:

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SITE CROSS SECTIONS

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