

# Final Mitigated Negative Declaration

**SUBJECT: Otay Water District 1296-3 Reservoir**

I. ENVIRONMENTAL SETTING: See Initial Study.

II. PROJECT DESCRIPTION: See Initial Study.

III. DETERMINATION:

The Otay Water District (OWD) conducted an Initial Study for the proposed 1296-3 Reservoir project, and determined that the proposed project could have a significant environmental effect in the following areas: **Air Quality, Biological Resources, Geology/Soils, Hydrology/Water Quality, and Noise.** Future development of the 1296-3 Reservoir shall be required to implement the mitigation measures identified in Section V of this Mitigated Negative Declaration. Implementation of the prescribed mitigation would avoid or mitigate potentially significant environmental effects identified by this analysis, and the preparation of an Environmental Impact Report is not required for the construction of the 1296-3 Reservoir.

IV. DOCUMENTATION:

The attached Initial Study documents the evidence to support the above determination.

V. MITIGATION MONITORING AND REPORTING PROGRAM:

The following mitigation measures are required to reduce potentially significant impacts associated with Air Quality, Biological Resources, Geology/Soils, Hydrology/Water Quality, Noise, and Mandatory Findings of Significance to below a level of significance:

## Air Quality

A1. During clearing, grading, and earth moving, OWD shall control fugitive dust by regular watering of the site and access road. The following practices shall be implemented:

- Spread soil binders;
- Wet the area down, sufficient enough to form a crust on the surface with repeated soakings, as necessary, to maintain the crust and prevent dust pick up by the wind;
- Use water trucks and sprinkler systems to keep all areas where vehicles move wet enough to prevent dust raised when leaving the site; and,
- Wet down areas in the late morning and after work is completed for the day.

## Biological Resources

B1. The impact to 1.20 acres of Diegan Coastal sage scrub (CSS) shall be mitigated through the preservation of CSS at a 2:1 ratio for a total mitigation requirement of 2.40 acres of CSS. The 2.40 acres of CSS shall be preserved in the OWD's existing HMA.

B2. To avoid potential direct impacts to nesting birds, all vegetation clearing within the construction footprint (project site boundary) shall be conducted outside of the gnatcatcher breeding season (February 15 through September 1). A biologist shall be onsite to walk ahead of clearing/grubbing

equipment to flush any gnatcatchers toward areas of appropriate vegetation that are to be avoided. The biologist will ensure that gnatcatchers are not injured or killed by initial vegetation clearing/grubbing.

B3. To avoid indirect construction related noise impacts to gnatcatchers during the breeding season (February 15 through September 1), surveys shall be conducted to determine the exact location of nests within 315 to 790 feet from the center of construction activity.

If an occupied gnatcatcher nest is identified during a survey within 315 to 790 feet from the center of construction activity, a focused noise survey shall be conducted to determine the actual noise level at the nest. If the noise level exceeds 60 dB(A) at the nest, noise reduction techniques such as temporary noise barriers/walls shall be installed. Construction activity noise levels shall be monitored near the nesting locations. Additional noise reduction measures such as reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used are also considered appropriate.

#### Geology/Soils

Same as Mitigation Measure WQ1, below; and,

GS1. In order to mitigate the potential for differential settlement, the cut portion of the pad shall be undercut an amount equal to one-third or more of the deepest fill depth beneath the structure or three feet, whichever is greater, and replaced with compacted fill. Prior to construction of the proposed project a comprehensive geotechnical evaluation, including development-specific subsurface exploration and laboratory testing, shall be conducted. The purpose of the subsurface evaluation would be to further evaluate the subsurface conditions in the area of future structures or improvements and to provide information pertaining to the engineering characteristics of earth materials at the project site. From this data, recommendations for grading/earthwork, surface and subsurface drainage, foundations, pavement structural sections, sedimentation modifications, and other pertinent geotechnical design considerations may be required as additional mitigation measures for the proposed project.

#### Hydrology and Water Quality

WQ1. Best Management Practices (BMPs) shall be implemented at the project site during construction and long-term operation of the reservoir. The contractor specifications shall require the implementation of BMPs to control stormwater runoff during project construction. The following measures shall be implemented:

- Prior to the commencement of construction activities of the proposed project, the OWD shall comply with the Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ), the following components are required: a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and Monitoring Program and Reporting Requirements. The SWPPP shall include all required elements and BMPs that shall be used during construction include but are not limited to:
  - Silt fence, fiber rolls, or gravel bag berms;
  - Street sweeping;
  - Storm drain inlet protection;
  - Stabilized construction entrance/exit;
  - Vehicle and equipment maintenance, cleaning, and fueling; and,
  - Hydroseed, soil binders, or straw mulch.

In preparing the SWPPP, OWD shall reference the County of San Diego's Standard Urban Storm Water Mitigation Plan (SUSMP) and Stormwater Standards Manual (SSM) for a template in preparing the Storm Water Management Plan (SWMP) and guideline for selecting and implementing BMPs.

- Prepare a BMP implementation and maintenance schedule to provide proper guidance in the proper utilization of BMPs.

Noise

Same as Mitigation Measures B1 and B2 above; and,

N1. The following shall be incorporated into the design and construction of the proposed project:

- Noise construction activities shall be scheduled only during the hours and days as permitted by OWD standards, which are Monday through Saturday 7:00 AM to 5:00 PM;
- If blasting is employed during construction, the blast target shall be completely covered at least with two loader buckets full of dirt;
- All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. Impact tools shall be shielded per manufacturer's specifications; and,
- Grading and construction equipment shall be stored on the project site while in use.

VI. PUBLIC REVIEW DISTRIBUTION:

Draft copies or notice of this Draft Negative Declaration were distributed to:

Federal, State, and Local Agencies

Mr. Don Chadwick, California Department of Fish and Game

Ms. Cara McGary, U.S. Fish and Wildlife Service

Ms. Laurie Monnares, U.S. Army Corps of Engineers, Regulatory Branch

Mr. John H. Robertus, San Diego Regional Water Quality Control Board

Other Entities

San Diego County Library, Rancho San Diego Branch

East County Californian

Mr. David C. Fege, U.S. Environmental Protection Agency

Mr. Tim Cass, San Diego County Water Authority

Jamul/Dulzura Community Planning Group

Owner/Occupant

Property Owners within 500 feet of the project site, including Bear Mountain Way.

VII. RESULTS OF PUBLIC REVIEW:

- ( ) No comments were received during the public input period.
- ( ) Comments were received but did not address the Draft Negative Declaration finding or the accuracy/completeness of the Initial Study. No response is necessary. The letters are attached.
- (X ) Comments addressing the findings of the Draft Negative Declaration and/or accuracy or completeness of the Initial Study were received during the public input period. The letters and responses follow.

VIII. LIST OF PUBLIC AGENCIES THAT COMMENTED ON THE DRAFT MND

A draft version of this MND was circulated for public review from October 18, 2007 to November 19, 2007. The following is a listing of the public agencies that commented during this public review period. The letters and response to comments are attached to this document following the MND. As a result of the public comments to the Draft MND, the Final MND includes minor revisions to the Initial Study/Environmental Checklist that are marked in ~~strikeout~~/underline format. Specifically, no new significant impacts would result from the proposed project or no new mitigation measures are proposed for implementation different from those discussed in the Draft MND.

Index of Comment Letters

Comment Letter	Commenter	Letter Date
A	Native American Heritage Commission	11/13/07
B	United States Department of the Interior, Fish and Wildlife Service	11/16/07

Copies of the Draft Negative Declaration and any Initial Study material are available for review at: Otay Water District, 2554 Sweetwater Springs Boulevard, Spring Valley, CA 91978-2004, Contact: Lisa Coburn-Boyd, Environmental Compliance Specialist, (619) 670-2219; and the San Diego County Library, Rancho San Diego Branch, 11555 Via Rancho San Diego, El Cajon, CA 92019.

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Lisa Coburn-Boyd  
Environmental Compliance Specialist  
Otay Water District

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October 18, 2007  
Date of Draft Report

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Date of Final Report

Comment  
Letter A

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION

815 CAPITOL MALL, ROOM 364  
SACRAMENTO, CA 95814  
(916) 653-8261  
Fax (916) 657-8390  
Web Site [www.nahc.ca.gov](http://www.nahc.ca.gov)  
e-mail: [ca\\_nahc@pacbell.net](mailto:ca_nahc@pacbell.net)

NOV 15 2007



November 13, 2007

Ms. Lisa Coburn-Boyd  
OTAY WATER DISTRICT  
2554 Sweetwater Springs road  
Spring Valley, CA 91978-2004

Re: SCH#2007101095: CEQA Notice of Completion: Negative Declaration for the 1296-3 Reservoir Project, Otay Water District, San Diego County, California

Dear Ms. Coburn-Boyd:

The Native American Heritage Commission is the state's Trustee Agency for Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a "significant effect" requiring the preparation of an Environmental Impact Report (EIR) per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the "area of potential effect (APE)", and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

- ✓ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the information center nearest you is available from the State Office of Historic Preservation (916/653-7278): <http://www.php.parks.ca.gov/files/IC%20Roster.pdf>. The record search will determine:
  - If a part or the entire APE has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded in or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological information center.
- ✓ Contact the Native American Heritage Commission (NAHC) for:
  - A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section.
  - The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE). In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s).
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
- ✓ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.
  - CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave items.

A1

RESPONSE TO COMMENT LETTER BY DAVE SINGLETON, PROGRAM ANALYST, NATIVE AMERICAN HERITAGE COMMISSION, DATED NOVEMBER 13, 2007 (COMMENT LETTER A)

Response to Comment A1:

The letter recommends a series of actions to determine if any cultural resources may be affected by the proposed project. As discussed in Section V. Cultural Resources of Initial Study/Environmental Checklist of the Final MND, based on the result of a cultural resource survey of the project site, no historical or cultural resource were identified on or within the surrounding area of the project site. However, as discussed in Section V. Cultural Resources, if human remains are discovered, any project activity that would impact the remains shall be stopped and the County Coroner and/or Native American Heritage Commission shall be contacted immediately. No activity that would impact the remains shall be resumed until disposition of the remains satisfactory to these agencies has been implemented. Therefore, none of the actions recommended by Mr. Singleton are required.

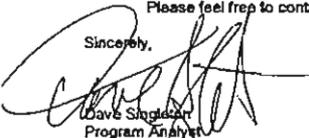
√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the CEQA Guidelines mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in § 15370 of the CEQA Guidelines, when significant cultural resources are discovered during the course of project planning and implementation.

**A1**  
(cont'd)

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,



Dave Singleton  
Program Analyst

Attachment: List of Native American Contacts

**Native American Contacts  
San Diego County  
November 13, 2007**

**Attachment to  
Comment Letter A**

wilaapaayp Tribal Office Irlan Pinto, Sr., Chairperson PO Box 2250 Alpine, CA 91903-2250 mickln@leaningrock.net (619) 445-6315 - voice (619) 445-9126 - fax	Kumeyaay	Kumeyaay Cultural Historic Committee Ron Christman 56 Viejas Grade Road Alpine, CA 92001 (619) 445-0385	Diegueno/Kumeyaay
San Juan Band of Kumeyaay Nation Roy J. Elliott, Chairperson PO Box 1302 Copley, CA 91905 (619) 766-4930 (619) 766-4957 Fax	Kumeyaay	Campo Kumeyaay Nation H. Paul Cuero, Jr., Chairperson 36190 Church Road, Suite 1 Campo, CA 91906 chairgoff@aol.com (619) 478-9046 (619) 478-5818 Fax	Kumeyaay
Sycuan Band of the Kumeyaay Nation Lanny Tucker, Chairperson 459 Sycuan Road San Marcos, CA 92021 silva@sycuan-nsn.gov (619) 445-2613 (619) 445-1927 Fax	Diegueno/Kumeyaay	Jamul Indian Village William Mesa, Chairperson P.O. Box 612 Jamul, CA 91935 jamulrez@sctdv.net (619) 669-4785 (619) 669-48178 - Fax	Diegueno/Kumeyaay
Viejas Band of Mission Indians Bobby L. Barrett, Chairperson PO Box 908 Alpine, CA 91903 laguilar@viejas-nsn.gov (619) 445-3810 (619) 445-5337 Fax	Diegueno/Kumeyaay	Kumeyaay Cultural Repatriation Committee Steve Banegas, Spokesperson 1095 Barona Road Lakeside, CA 92040 (619) 443-6612 (619) 443-0681 FAX	Diegueno/Kumeyaay

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.24 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2007101085; CEQA Notice of Completion; Negative Declaration for 1296-3 Reservoir; Otay Water District; San Diego County, California.

**Native American Contacts  
San Diego County  
November 13, 2007**

**Attachment to  
Comment Letter A  
(cont'd)**

lint Linton  
.O. Box 507  
anta Ysabel , CA 92070  
'60) 803-5694  
linton73@aol.com

Diegueno/Kumeyaay

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed CH#2007101085; CEQA Notice of Completion; Negative Declaration for 1295-3 Reservoir; Otay Water District; San Diego County, California.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, California 92011

Comment  
Letter B



Response to  
Comment Letter B

May 29, 2008

In Reply Refer To:  
FWS-SD-2008-B-0081/2008-TA-0070

NOV 16 2007

Mr. Patrick O'Neil  
BRG Consulting, Inc.  
204 Ivy Street  
San Diego, California 92101

Subject: Comments on the Draft Mitigated Negative Declaration for the Proposed Otay Water District 1296-3 Reservoir Project, Jamul, County of San Diego, California

Dear Mr. O'Neil:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced Mitigated Negative Declaration (MND) and supporting documentation, which we received on October 18, 2007. The proposed 1296-3 Reservoir (Project) would occur on 1.36 acres adjacent to two similar existing reservoirs. Project components include construction of a new reservoir, pipelines, an energy dissipater, a paved access road, potential repavement of Bear Mountain Way, fencing, lighting, new retaining walls, and relocation of cellular facilities. The project would impact 1.20 acres of Diegan coastal sage scrub (CSS). The comments provided in this letter represent our concerns regarding the proposed project's potential impacts on sensitive biological resources. We offer the following recommendations and comments to assist the Otay Water District in avoiding, minimizing, and mitigating project impacts to biological resources.

1. Coastal California gnatcatcher (*Poliptila californica californica*) presence was reported from three site visits that occurred in August and September 2006. Gnatcatcher protocol surveys require that nine surveys be conducted at least two weeks apart for surveys occurring between July 1 through March 14 on properties that are not located within a jurisdiction participating in a NCCP interim section 4(d) process. As such, the gnatcatcher surveys are not consistent with the USFWS protocol and would need to be updated before the project could proceed.
2. In the biological technical report (BTR), gnatcatcher survey results indicate that the species was present outside the breeding season within 230 feet of the western boundary of the project site in coastal sage scrub (CSS) that is contiguous with CSS that would be impacted within the project footprint. The fact that gnatcatcher maintained fidelity to this area

B1

Ms. Cara McGary  
Fish and Wildlife Service, Ecological Services  
Carlsbad Fish and Wildlife Office  
6010 Hidden Valley Road  
Carlsbad, CA 92011

SUBJECT: FWS-SD-2008-B-0081/2008-TA-0070 - OTAY WATER DISTRICT, 1296-3 RESERVOIR PROJECT - RESPONSE TO COMMENT ON THE DRAFT MITIGATED NEGATIVE DECLARATION

Dear Ms. McGary:

We are submitting this letter on behalf of the Otay Water District (District) to respond to the U.S. Fish and Wildlife Service's (Service) November 16, 2007 comment letter on the Draft Mitigated Negative Declaration (MND) for the 1296-3 Reservoir project (proposed project). OWD's responses to the Service's comments on the Draft MND are provided below.

**Response to USFWS Comment #1.** Based on telephone conversations with Jim Rocks, Rocks Biological Consulting (RBC), in the Service's December 11, 2007 email, the Service stated, "the gnatcatcher survey comment should be disregarded." No change to the MND is necessary.

**Response to USFWS Comment #2.** The proposed project is included as Capital Improvement Program (CIP) No. 143 in the *Biological Opinion (BO) on the Otay Water District Capital Improvement Program (CIP), San Diego, California (1-6-94-F-42)*, dated November 16, 1994. Based on the December 11<sup>th</sup> email from the Service and telephone conversations, it is recognized by the Service that OWD does not need to apply for an incidental take permit under section 10 (a) of the Endangered Species Act. Based on the protocol-level gnatcatcher surveys conducted by RBC from April 22 to May 7, 2008, no gnatcatchers are present on the project site or adjacent to the site. Therefore, incidental take coverage under the BO is not necessary. OWD will include the conclusions of the 2008 survey in the Final MND. RBC will submit the 45-day reports to the Service.

**Response to USFWS Comment #3.** Per Comment #3, OWD directed RBC to perform Qulno Checkerspot Butterfly (QCB) protocol-level surveys. RBC performed the surveys from March 13 to April 13, 2008. No QCB are present on the project site. The results of the survey are consistent with the habitat assessment conducted in March 2007. Based on the habitat assessment, QCB were not anticipated to occur on the site. OWD will include the conclusions of the 2008 survey in the Final MND. RBC will submit the 45-day reports to the Service.

**Diegan Coastal Sage Scrub - Mitigation Ratio.** During our telephone conversations, the service identified that the BO requires a 2:1 mitigation ratio (Terms and Conditions, Page 18, #5) for permanent impacts to coastal





outside the breeding season indicates that the project site is likely occupied by gnatcatcher. Because implementation of this project could impact gnatcatcher and possibly result in take, we recommend that the applicant coordinate with us to apply for an incidental take permit through section 10 (a) of the Endangered Species Act as amended, and develop and Habitat Conservation Plan before initiating this project. It may be possible for this project to qualify under the Low Effect HCP process.

B1  
(cont'd)

- Habitat assessment surveys for Quino checkerspot butterfly (*Euphydryas editha quino*) were conducted in March 2007. Quino are generally associated with CSS, open chaparral, grasslands, and vernal pools (USFWS, 2002). According to the BTR, protocol level surveys were deemed unnecessary because "...most of the area (site) is dense Diegan Coastal Sage Scrub with few, small openings on steep terrain" and because primary and secondary host plants were not observed. The study site is within an area recommended for survey according to the Recommended Quino checkerspot Survey Area Map (USFWS, 2002). Because the Service's protocol criteria for excluding sites or portions of sites was not used, we cannot fully evaluate the status of Quino on site and recommend protocol level surveys be conducted.

Thank you for the opportunity to comment on this MND and associated documentation. If you have any questions regarding this letter, please contact Cara McGary at (760) 431-9440.

Sincerely,

Therese O'Rourke  
Assistant Field Supervisor  
U.S. Fish and Wildlife Service

cc: Lisa Coburn-Boyd, Environmental Specialist, Otay Water District

sage scrub. The Draft MND identified a 1:1 ratio. To be consistent with the BO, in the Final MND, OWD will change the mitigation ratio for coastal sage scrub from 1:1 to 2:1.

If you have any questions please call me at 619.298.7127. We will include the above responses to comments in the Final MND. Thank you for your time and consideration of this important project.

Sincerely,  
BRG CONSULTING, INC.

Patrick W. O'Neil  
Project Manager

Cc: Lisa Coburn-Boyd, OWD, 2554 Sweetwater Springs Boulevard, Spring Valley, California 91978-2004  
Jim Rocks, Rocks Biological Consulting, 3442 Falcon Street, San Diego, CA 92103

## INITIAL STUDY/ENVIRONMENTAL CHECKLIST FORM

1. Project Title: 1296-3 Reservoir
2. Lead Agency Name and Address: Otay Water District  
2554 Sweetwater Springs Blvd.  
Spring Valley, CA 91978-2004
3. Contact Person and Phone Number: Lisa Coburn-Boyd, Environmental Compliance Specialist  
(619) 670-2219
4. Project Location: The proposed project is located within the Jamul/Dulzura Subregion of the County of San Diego. The project site is located on an approximately 5.0-acre parcel of land located within the Otay Water District's (OWD) service area, southwest of State Route 94, at the western end of Bear Mountain Way (Figures 1 and 2). The proposed project will be developed on approximately 1.36 acres of the 5.0-acre parcel and will be located south of the existing 1296-1 and 1296-2 Reservoirs (Figure 3).
5. Project's Sponsor's Name and Address: Otay Water District  
2554 Sweetwater Springs Blvd.  
Spring Valley, CA 91978-2004
6. General Plan Designation: Estate Residential (17)
7. Zoning: Limited Agriculture (A-70)
8. Description of Project:  
The proposed project includes the construction of a 2.0 million gallon (MG) reservoir located south of the existing 1296-1 and 1296-2 Reservoirs.

### Background

The OWD is a publicly owned water and sewer service agency serving the needs of approximately 186,000 people in a 125.5 square mile area in southern San Diego County. OWD's service area encompasses the communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, Eastern Chula Vista, and Otay Mesa along the international border with Mexico. OWD is a California Special District authorized under the provisions of the Municipal Water District Act of 1911, as amended, and is revenue neutral (i.e., each end user pays its fair share of District's costs of water acquisition and the operation and maintenance of its facilities). The OWD's ordinances, policies, taxes, and rates for service are set by its elected Board of Directors. All of the potable water delivered by the OWD is purchased from the San Diego County Water Authority. The OWD also owns and operates a wastewater collection and reclamation system providing sewer service to approximately 6,000 homes and businesses within the Jamacha drainage basin.

The OWD is comprised of five potable water service systems: the La Presa; Hillsdale; and, Regulatory systems in the northern portion of OWD's service area, and the Central Area and Otay Mesa systems in the southern portion of OWD's service area. The proposed project is located in the Regulatory system, which comprises approximately 27,440 acres of the northern portion of OWD's service area. The proposed project is located within the 1296 Pressure Zone of the Regulatory system. The 1296 Pressure Zone serves portions of the unincorporated community of Jamul.

In August 2002, the OWD adopted a Water Resources Master Plan (WRMP). The WRMP is a comprehensive program for the orderly and phased development of potable and reclaimed water supply, storage, transmission, and distribution in the

OWD's service area and designated area of influence. The 2002 WRMP is a revision and update to OWD's 1995 WRMP to incorporate previous OWD planning efforts and approved land-use development plans, and growth projections within the OWD service area consistent with the San Diego Association of Government's (SANDAG's) forecasts. The WRMP identifies proposed potable and recycled facilities, and expansions of existing facilities, with required capacity and phasing. The WRMP is based on dwelling unit and population projections for three increments of development: Phase I (existing – 2006); Phase II (2006 – 2016); and Phase III (2017 – ultimate build out). The WRMP only addresses potable and recycled water facilities, not wastewater facilities.

The potable water system capital improvement program (CIP) consists of pump stations, storage reservoirs, and transmission mains to meet the projected demands within the OWD service area as identified in the WRMP. These CIP facilities are the primary facilities that are planned, funded, and constructed by OWD. The secondary potable water facilities are the distribution pipelines and lateral pipelines, typically 12-inches or smaller in diameter to be planned, funded, and constructed by the development project proponents as part of each development project.

A Program Environmental Impact Report (EIR) was prepared for the WRMP by OWD, as Lead Agency pursuant to the California Environmental Quality Act (CEQA). The Final Program EIR was adopted by OWD in 2004. The Program EIR provides information regarding the environmental effects of the WRMP and provides an update to the Master EIR that was prepared for the previous WRMP prepared in 1995. As such, the Program EIR evaluates projects that were analyzed in the Master EIR as well as projects proposed in the current WRMP. The Final Program EIR for the WRMP examines issues of aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology/soils/paleontology, hazards and hazardous materials, hydrology/water quality, land use/permitting, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems. In addition, state law requirements for the coordination of land use and water supply planning, growth-inducement, cumulative impacts, and alternatives to the proposed WRMP are evaluated in the Program EIR. The Final Program EIR identifies potential impacts of existing and future projects, and provides mitigation measures that shall be applied when individual projects are approved or implemented. The Program EIR recognizes that development of mitigation measures for a specific project may require further evaluation or technical study at the time the particular project is proposed, as in this case with this particular reservoir project.

### Existing Facilities

#### *Reservoirs*

The existing level of water storage within the 1296 Pressure Zone is 3.03 million-gallon (MG) and is provided by the 1.02 MG 1296-1 Reservoir and the 2.01 MG 1296-2 Reservoir. These existing reservoirs are located in Jamul, at the west end of Bear Mountain Way. The existing reservoirs are welded steel, flat bottom reservoirs supported on ring wall foundations at an elevation of 1,265 feet. The maximum water depth in the reservoirs is approximately 31 feet.

Based on the storage requirements of the 2002 WRMP, existing water storage in the 1296 Pressure Zone is deficient; the total required operational storage was 3.5 MG for the 2002 conditions and 6.13 MG for 2006 conditions. The projected ultimate storage for the 1296 Pressure Zone is 15.17 MG. Therefore, storage in the 1296 Pressure Zone is currently deficient by 3.1 MG and will be deficient by an estimated 12.14 MG for the projected ultimate condition.

#### *Potable Water Supply*

The 1296 Pressure Zone is one of six primary pressure zones in the Regulatory system. The 1296-1 Pump Station supplies water to the 1296 Pressure Zone via the 944 Pressure Zone. This pump station has a firm capacity of 3,300 gallons per minute (gpm) and a total capacity of 5,300 gpm.

#### *Inlet/Outlet Pipelines*

Water is supplied to and withdrawn from the 1296 Reservoirs via two parallel 12-inch diameter pipelines located in Bear Mountain Way. The pipeline along the centerline of Bear Mountain Way was constructed in 1962 and consists of steel pipe. A second pipeline, consisting of asbestos cement pipe, was constructed in 1979. The steel inlet and outlet pipes for the existing reservoirs split from the 12-inch pipelines and consist of a 12-inch inlet and a 16-inch outlet for the 1296-1 Reservoir and a 20-inch inlet and a 16-inch outlet for the 1296-2 Reservoir.

#### *Drainage*

Surface drainage from the project site currently drains towards the north into a drainage north of the site. A new drainage ditch will have drainage flow south of the site.

#### *Access*

Access to the existing reservoirs is provided by Bear Mountain Way, a private road which OWD has easements and that also provides access to the neighboring properties. The road is approximately 18 to 20 feet wide with an average grade of 15 to 20 percent. The road has extensive pavement cracks.

#### Proposed Project

As discussed above, storage in the 1296 Pressure zone is currently deficient by 3.1 MG and will be deficient by 12.14 MG for the projected ultimate conditions. The purpose of the proposed project is to partially reduce the storage deficiency and add storage capacity to the Pressure Zone in compliance with the WRMP.

The proposed 1296-3 Reservoir will be constructed adjacent to and south of the existing 1296-1 and 1296-2 reservoirs (Figures 3 and 4). The reservoir will be located on an approximately 5.0-acre parcel of land owned by OWD; however, the project site is only about 1.36 acres in size (Figure 3).

The following describes the project design features:

#### *Reservoir Design*

The proposed reservoir will be consistent with the existing reservoirs in terms of foundation elevation, shell height and minimum and maximum water elevations. The proposed reservoir is anticipated to consist of a welded steel reservoir constructed above grade, similar to the existing reservoirs. Figure 4 depicts the Preliminary Site Plan for the project. Figure 5 depicts the elevations and details of the proposed reservoir.

#### *Inlet/Outlet Pipelines*

Water supplied to the proposed reservoir will be provided through a 20-inch diameter inlet pipeline. The 20-inch pipeline will connect to the existing 12-inch pipeline in Bear Mountain Way. The outlet pipeline will be approximately 16 inches in diameter and will be concrete encased below the floor and footing of the proposed reservoir. The outlet pipeline will connect to the existing 16-inch outlet pipeline from the 1296-1 and 1296-2 Reservoirs.

#### *Drainage*

Surface drainage for the proposed reservoir site would be directed south consistent with the existing drainage pattern of the site. Under existing conditions, stormwater runoff from the project site flows into a natural drainage north of the site. Stormwater runoff from the project site will be captured via surface and subsurface drainage improvements and discharged to a rip-rap energy dissipator and ultimately into the drainage south of the project site. Figure 6 depicts the design of the proposed rip-rap energy dissipator.

#### *Access*

Access to the existing 1296-1 and 1296-2 Reservoirs is provided by Bear Mountain Way, a private road over which OWD has easements and that also provides access to neighboring properties. The road is generally 18 to 20 feet wide with an average grade of 15 to 20 percent. Currently, the road has numerous pavement cracks. Truck traffic that will occur during construction of the proposed reservoir may further damage the road. Therefore, as part of this project, OWD will be repaving the road with asphalt concrete after the construction of the proposed 1296-3 Reservoir is complete.

In addition, a paved access road surrounding the proposed reservoir will be provided at a width of approximately 18 feet. This access road will be used only by OWD for reservoir operations and maintenance purposes. An access road from the proposed reservoir connecting to Bear Mountain Way will be constructed with a paved width of approximately 14 feet. The proposed new access roads will be located within the project site boundary (Figures 3 and 4).

#### *Fencing and Lighting*

An eight-foot high chain link fence surrounds the existing reservoirs. The southern portion of this fence will be removed and a new fence constructed around the new reservoir site. This fence would encompass the three reservoirs. Temporary security fencing will be installed during construction when the removal of the existing fence is required.

Lighting to facilitate OWD maintenance and operation of the reservoirs is anticipated as part of the proposed project. Lighting improvements are anticipated to consist of 150 watt lamps mounted on 10-foot high steel posts around the perimeter of the reservoirs. Three lamps per reservoir are anticipated. Lighting will be utilized during reservoir maintenance and operation activities when OWD personnel are onsite. Lighting improvements will also include motion sensor triggered lighting for security purposes. Lighting would be directed toward the reservoirs.

#### *Retaining Walls*

A reinforced concrete retaining wall approximately nine feet in height borders the existing reservoirs on the south and west sides. The southern portion of this retaining wall will be removed to facilitate construction of the proposed reservoir. Partial removal of the existing retaining wall will also facilitate future maintenance of the reservoirs. A new retaining wall, connected to the existing wall, will be constructed along the southerly portion of the project site.

#### *Cellular Facilities*

Existing cellular facilities on the 1296-1 and 1296-2 Reservoir site consist of reservoir-mounted antennae and conduit/cable trays, underground cabling, pedestals, panels, lighting and bollards. Cellular equipment panels owned by Sprint are attached to the existing retaining wall. The cellular equipment will be relocated approximately 30 feet south of the existing 1296-1 Reservoir within the project site.

#### *Project Construction*

The project site is approximately 1.36 acres in size (Figure 3). Construction is scheduled to begin in February 2008 and be completed by January 2009. Construction activities are only anticipated to occur during the hours of 7:00 am and 5:00 pm and would be completed in approximately 12 months. Construction equipment to be used during different phases of construction will include a variety of equipment such as a dozer, excavator, backhoe, loader, motor grader, paving roller, paving compactor, drilling rig, road reclaimer, asphalt paver, trucks, mobile crane, air compressor, welders, grinders, concrete vibrators, and portable power generators. All construction equipment will be stored at a designated staging area within the project site.

Grading will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. Approximately 11,500 cubic yards of surplus material will be exported off-site. Approximately 750 total truck trips are estimated to move this quantity of material off-site. Imported material will consist of approximately 1,200 cubic yards of sand bedding to be placed beneath the reservoir floor and in pipeline trenches, and aggregate base and asphalt concrete for pavements. Approximately 60 truck trips are estimated to import these materials.

#### 9. Surrounding Land Use and Setting:

The project site is generally surrounded by large lot residential dwelling units in a rural setting. The immediately surrounding land uses are designated as Estate Residential in the Jamul/Dulzura Subregional Plan, which allows residential uses on two-acre parcels. Surrounding land uses include two reservoirs, 1296-1 and 1296-2, located directly north of the proposed reservoir (Figure 3); undisturbed and vegetated areas to the south and west; and, scattered estate residential units to the east and one estate residential parcel to the west of the project site. In addition, portions of the San Diego National Wildlife Refuge Otay-Sweetwater Unit (NWR) are located to the west and south of the project. The United States Fish and Wildlife Service (USFWS) currently owns the 8,289-acre San Diego NWR. The San Diego NWR was established to: contribute to the recovery of the endangered, threatened, and rare species supported within the Refuge; support the native biodiversity of the southwestern San Diego Region by conserving large blocks of native habitat; contribute to the development of a regional preserve under the Multiple Species Conservation Program (MSCP); and, provide potential opportunities for wildlife-dependent recreation compatible with refuge purposes. Currently, the San Diego NWR supports 13 federally listed species, including several species of birds, plants, amphibians, crustaceans, and a butterfly, as well as a variety of species covered under the MSCP.

#### 10. Other agencies whose approval is required:

- U.S. Fish and Wildlife Service

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Agricultural Resources                        | <input checked="" type="checkbox"/> Air Quality   |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources                            | <input checked="" type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials   | <input checked="" type="checkbox"/> Hydrology/Water Quality            | <input type="checkbox"/> Land Use/Planning        |
| <input type="checkbox"/> Mineral Resources               | <input checked="" type="checkbox"/> Noise                              | <input type="checkbox"/> Population/Housing       |
| <input type="checkbox"/> Public Services                 | <input type="checkbox"/> Recreation                                    | <input type="checkbox"/> Transportation/Traffic   |
| <input type="checkbox"/> Utilities/Service Systems       | <input checked="" type="checkbox"/> Mandatory Findings of Significance |   |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the project, nothing further is required.

\_\_\_\_\_  
Signature

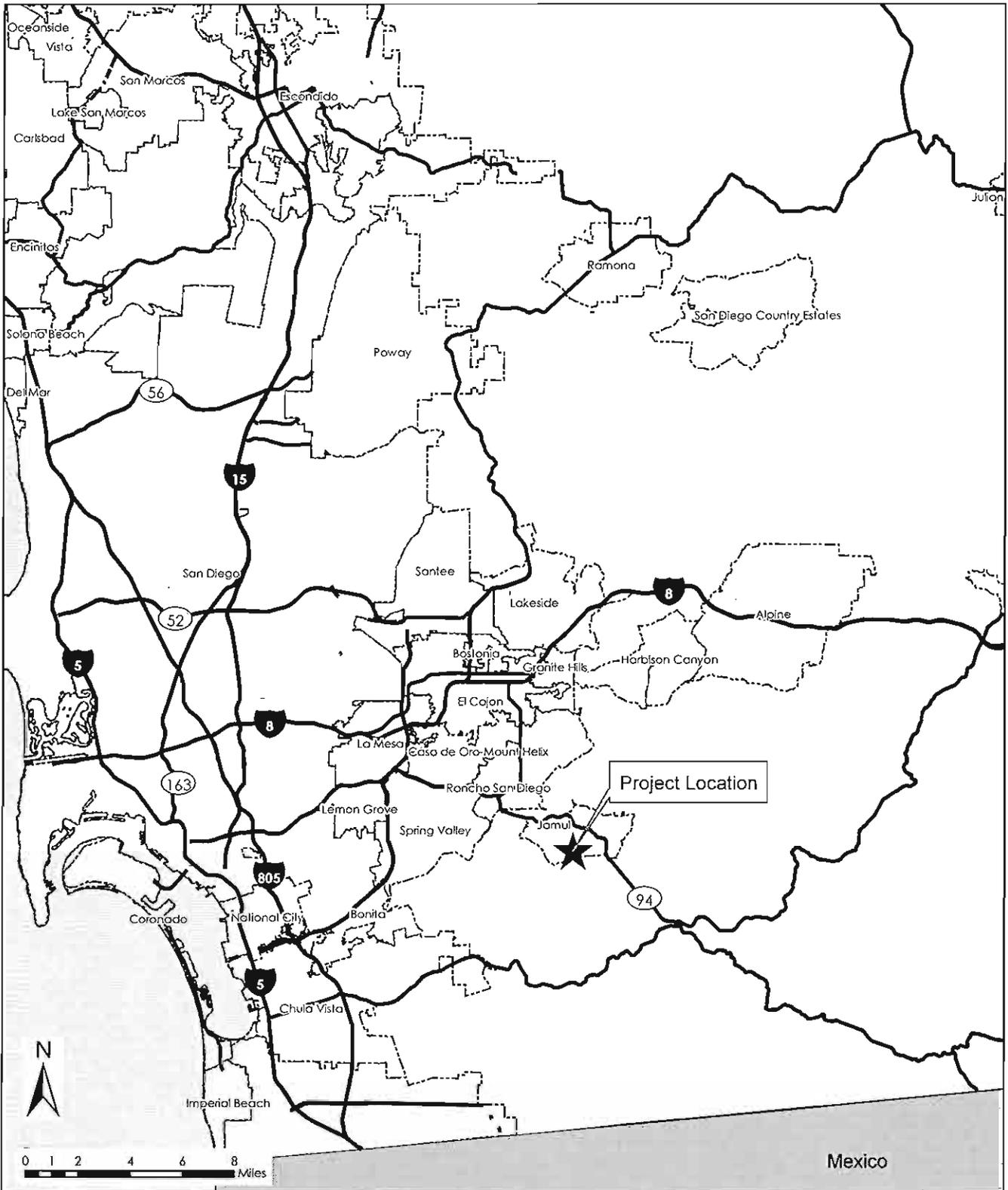
\_\_\_\_\_  
Date

\_\_\_\_\_  
Lisa Coburn-Boyd

\_\_\_\_\_  
Otay Water District

Printed Name

For



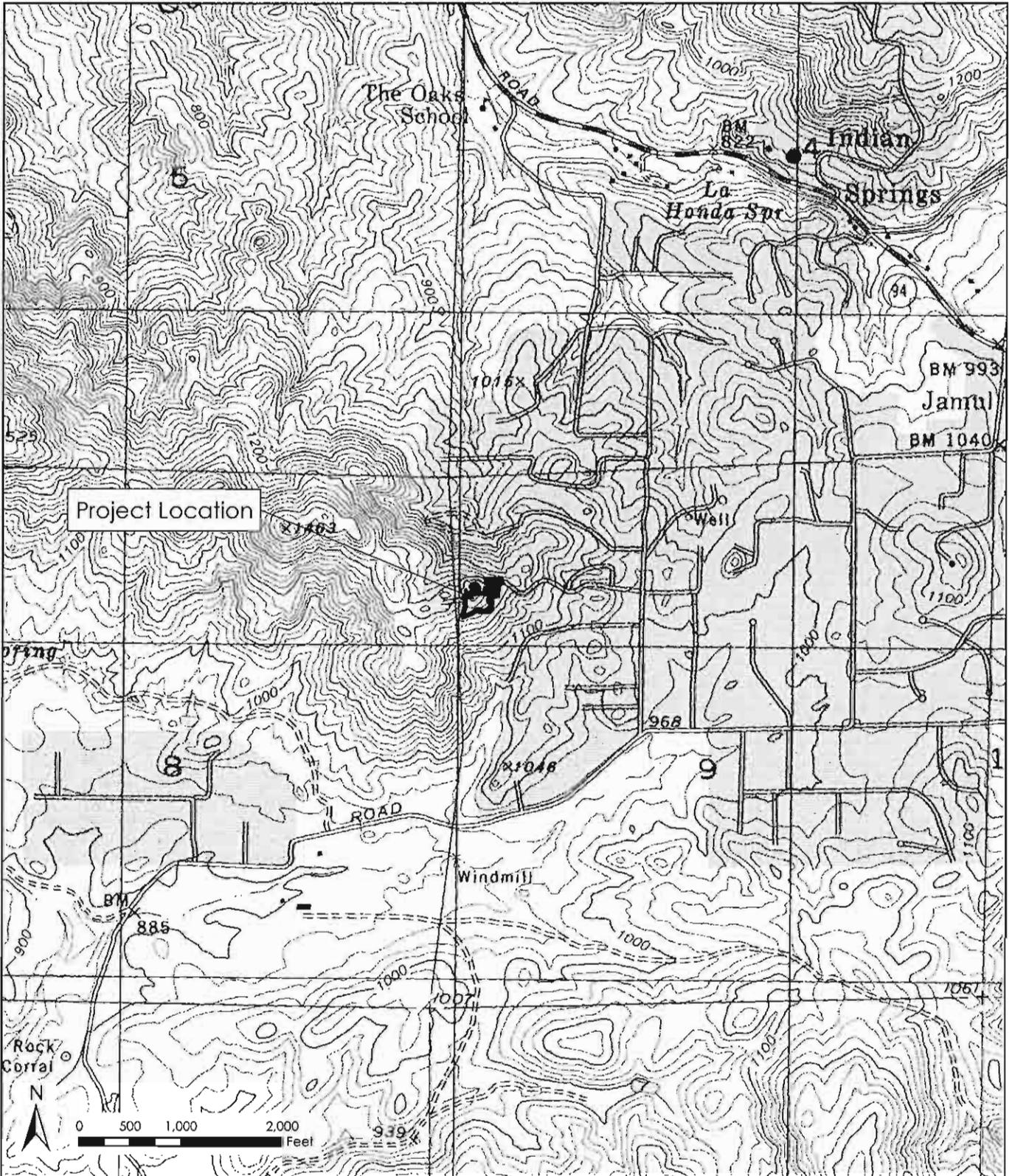
SOURCE: ESRI, 2007; BRG Consulting, Inc., 2008

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Otay Water District 1296-3 Reservoir  
 Regional Location Map

FIGURE  
 1



SOURCE: USGS, 2007; BRG Consulting, Inc., 2007

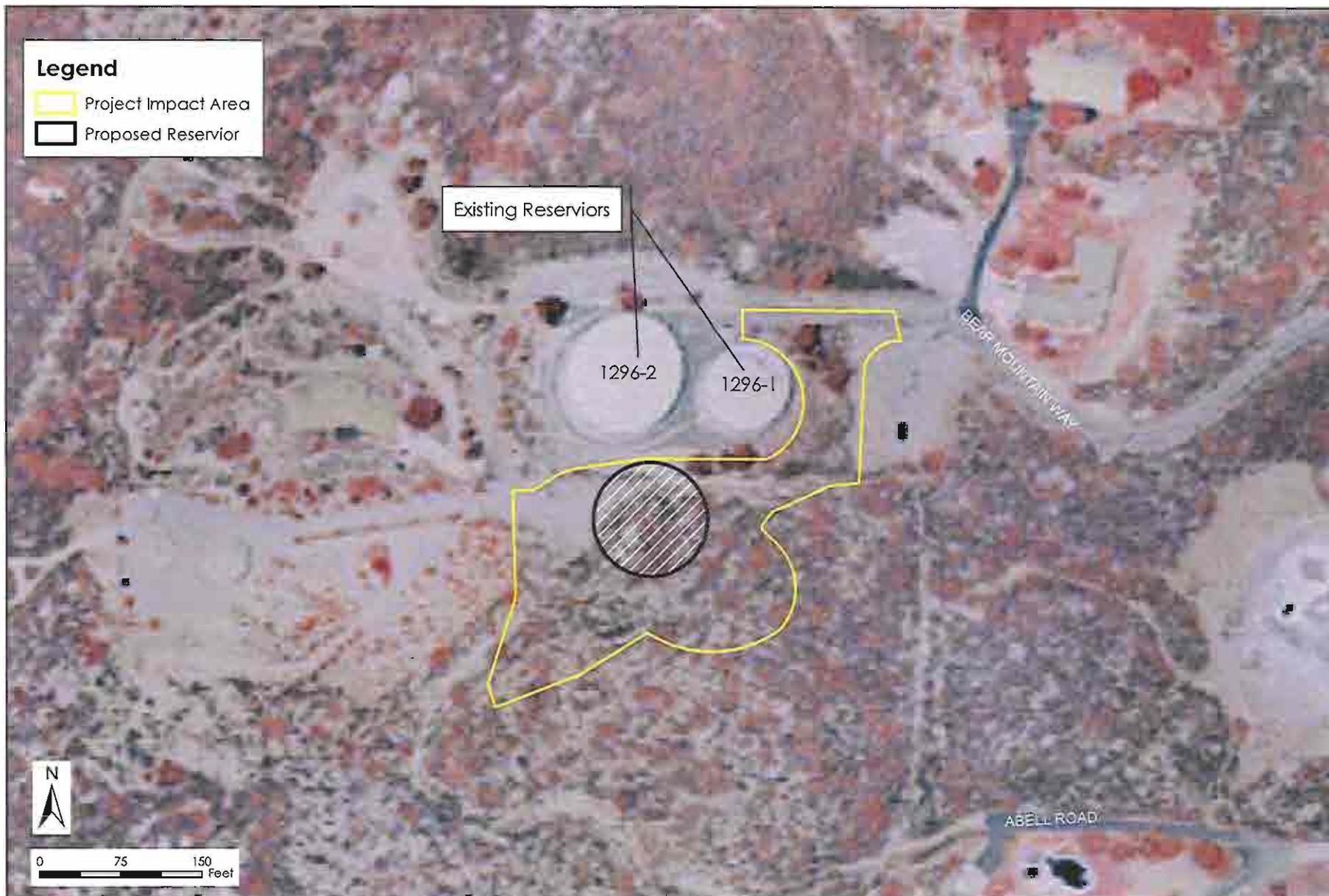
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Olay Water District-1296-3 Reservoir Project  
 Project Location Map

FIGURE  
 2

8



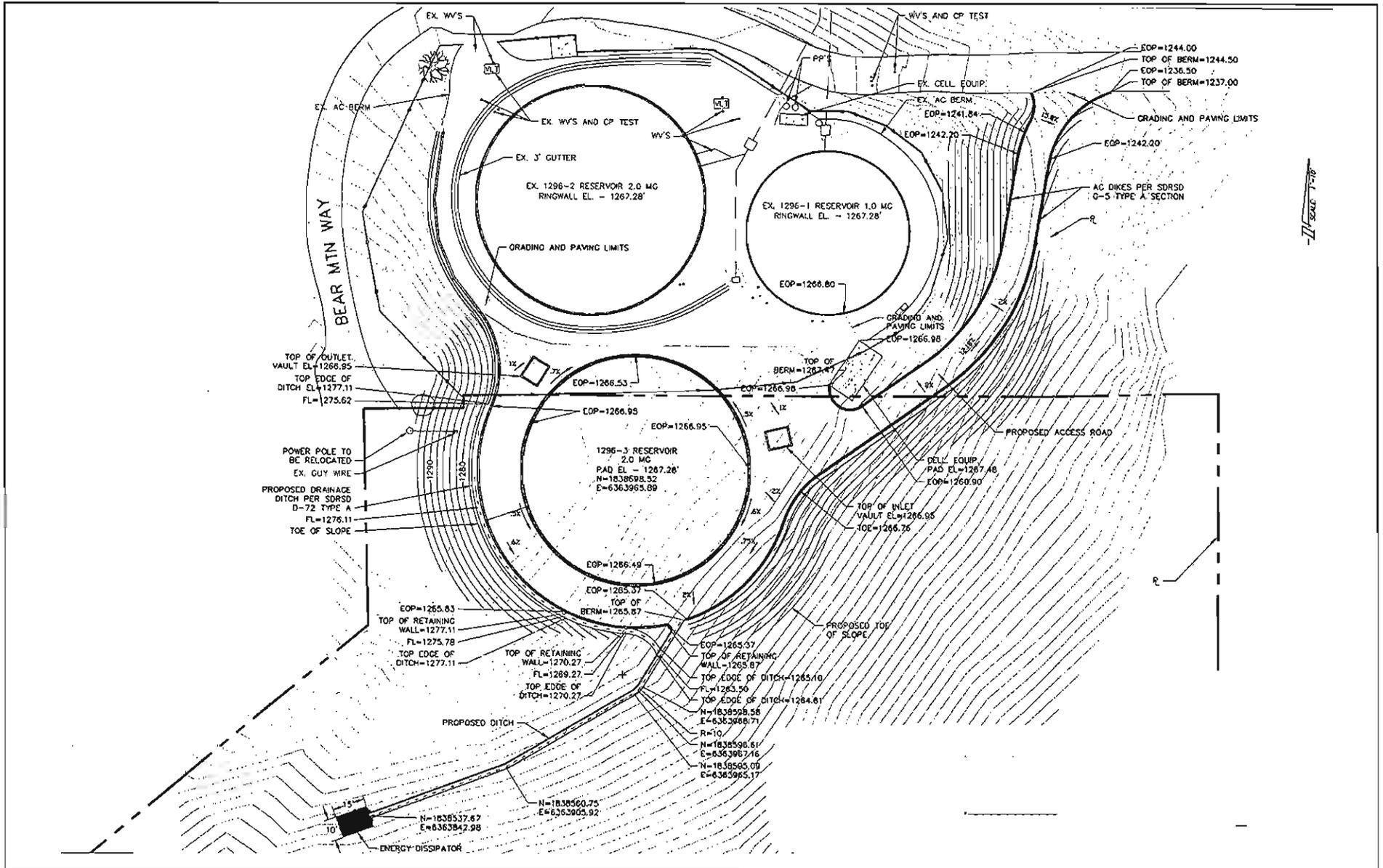
SOURCE: Rocks Biological Consulting, 2007; Oatv Water District, 2007; SanGIS, 2000; BRG Consulting Inc., 2006

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Otay Water District 1296-3 Reservoir  
 Project Site Boundary Map

FIGURE  
3



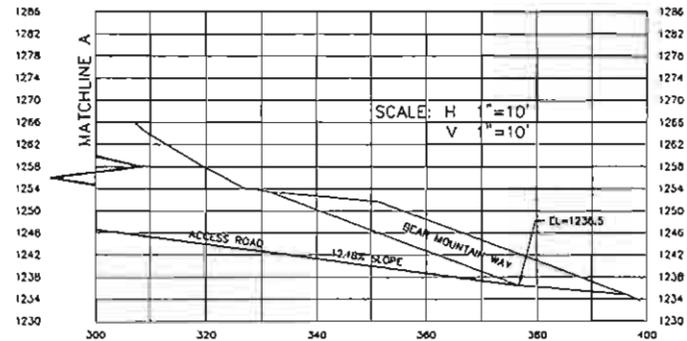
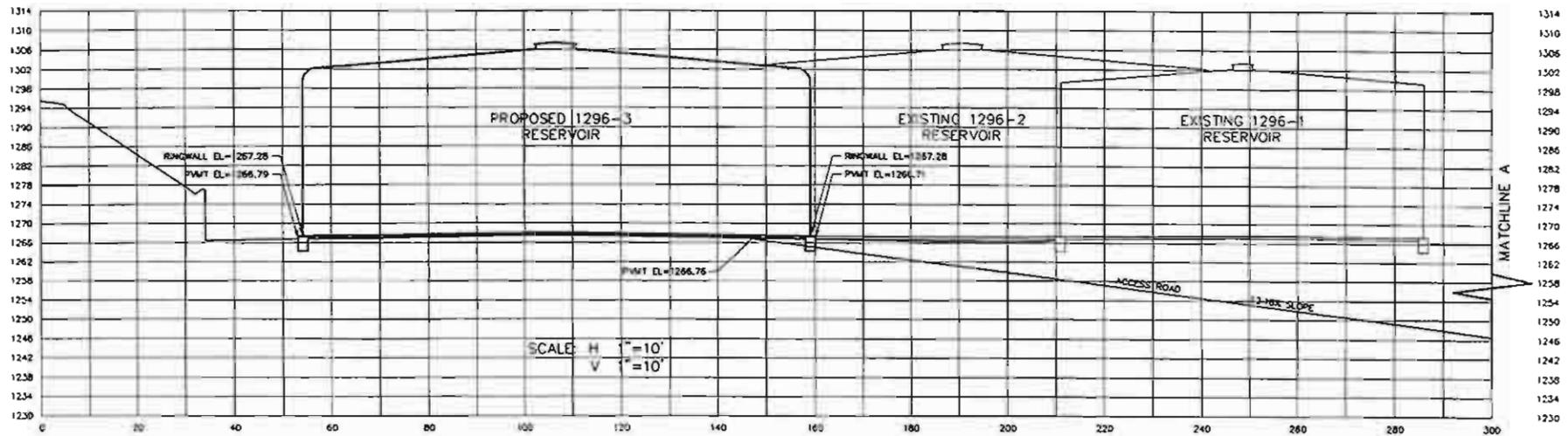
SOURCE: Otay Water District, 2007

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Otay Water District-1296-3 Reservoir  
Preliminary Site Plan

FIGURE  
4



SOURCE: Otoy Water District, 2007

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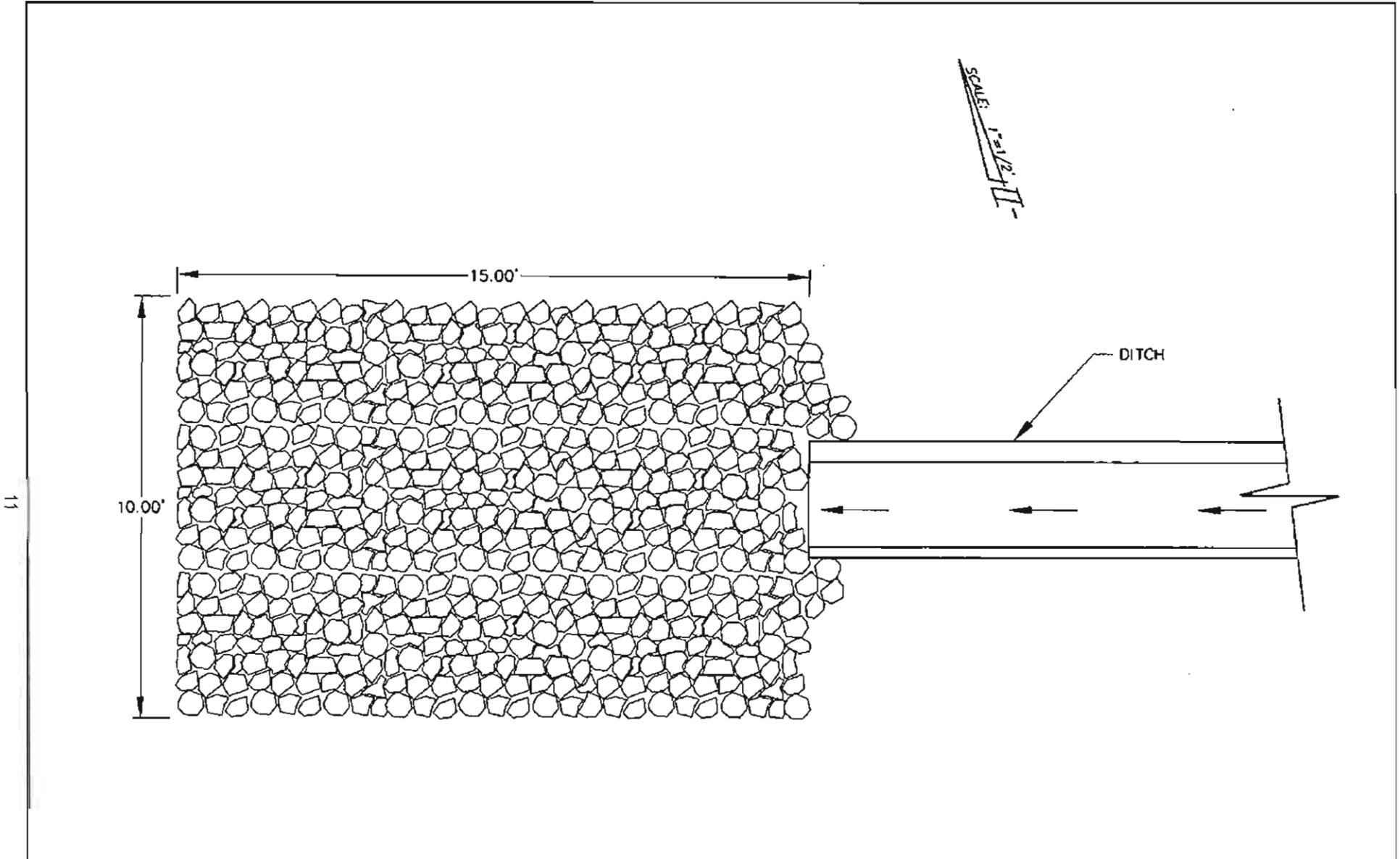
Otoy Water District-1296-3 Reservoir

1296-3 Reservoir Elevations (Cross Section and Access Road Profile)

FIGURE

5





SOURCE: Otay Water District, 2007

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Otay Water District-1296-3 Reservoir  
 Energy Dissipator - Design

FIGURE  
 6

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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I. **AESTHETICS.** Would the project:

- a) Have a substantial adverse effect on a scenic vista?

The project site is located in a rural setting and is surrounded by relatively undisturbed vacant land to the south and east. Disturbed land associated with an estate residential property is located west of the site. The existing OWD Reservoirs (1296-1 and 1296-2) are located to the north. The proposed reservoir, due to the elevation of the site will be visible at several locations in the surrounding community; however, the surrounding community currently has views of the existing two reservoirs. The proposed reservoir will have the same design, elevation, and height as the existing reservoirs. The site is not located within a designated view corridor or scenic vista, and there is limited public access in this area. Therefore, a less than significant impact is identified for this issue area.

- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No roadways that have views of the project site are designated as state scenic highways.

According to the San Diego County General Plan, Scenic Highway Element, Proctor Valley Road, located south of the project site, is identified as a Second Priority Scenic Route from Otay Lakes Road to State Route 94 (County of San Diego, 1975). The proposed reservoir may be visible from portions of Proctor Valley Road; however, as discussed in I a) above, existing views of the project area contain reservoirs. The addition of another reservoir in this area will not substantially change the existing view as the proposed reservoir will have a similar design, height, and elevation as the existing reservoirs. In addition, the proposed reservoir will be painted the same color as the existing reservoirs.

Furthermore, the proposed project will not damage any scenic resources, as no resources are located in close proximity to the project site. Therefore, a less than significant impact is identified for this issue area.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Please see I a) and b) above. The proposed project will not substantially degrade the existing visual character of the site or surrounding area. Figure 5 provides a cross-section of the project area in relation to the existing elevation of the site. The proposed reservoir will be located in immediate proximity to the existing reservoirs, and at the same elevation and height as the existing reservoirs. While the project will result in development of a new reservoir within an undeveloped site, the proposed reservoir would be consistent with the existing visual character of the area. Therefore, a less than significant impact is identified for this issue area.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The proposed reservoir will function primarily as an unmanned facility; however, night lighting is proposed onsite to facilitate maintenance and operation activities that may occur at night. Lighting improvements are anticipated to consist of 150 watt lamps mounted on 10-foot high steel posts around the perimeter of the reservoirs. Three lamps per reservoir are anticipated. In addition, lighting improvements will also include motion sensor triggered lighting for security purposes. The Reservoir will be designed to limit the introduction of new light to the area by incorporating the following measures:

- All outdoor lighting fixtures will be shielded and located to minimize the potential for spillover light into adjacent habitat and nearby residential areas; and,
- No external features of the reservoir and supporting features are proposed to be made of metallic or smooth surfaces that could generate glare.

In addition, no lighting is proposed during construction, as all construction will occur during daylight hours. The proposed project will not generate light or glare. Therefore, a less than significant impact is identified for this issue area.

**II. AGRICULTURE RESOURCES.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The project site is not designated as prime farmland, farmland of statewide importance, or unique farmland designations within the project area. However, the project site is zoned Limited Agriculture (A-70), and according to the County of San Diego Zoning Ordinance, such zones are intended for crop or animal agriculture. Based on the Geotechnical Report prepared by Ninyo & Moore (Appendix C of this Initial Study), the site is underlain with soils classified as Cieneba, which is a very rocky and coarse sandy loam. Based on the United States Department of Agriculture Soil Survey for the San Diego Area (1973), this type of soil is not considered prime agricultural land. Furthermore, the site is characterized by steep topography that slopes

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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downward to the south and east, which makes the site unlikely to be used for agricultural production. The proposed project will not convert the project site to a non-agriculture use, as the project site is not in agricultural production. In addition, as a Special District, local land use plans and policies are not applicable to OWD. Therefore, no impact to this issue area is anticipated.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Please see II a) above. The project is not in agricultural production use and the site is not under a Williamson Act contract. Therefore, no impact to this issue area is anticipated.

- c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

The proposed reservoir is located within a relatively disturbed area that is not used for agricultural operations. The project would not involve changes that would convert farmland to non-agricultural use. Therefore, no impact to this issue area is anticipated.

**III. AIR QUALITY.** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?

The proposed reservoir will not obstruct the implementation of the Regional Air Quality Strategy developed jointly by the San Diego's Association of Governments (SANDAG) and San Diego Air Pollution Control District (SDAPCD). The OWD Water Resources Master Plan is consistent with SANDAG regional growth forecasts. Therefore, no impact to this issue area is anticipated.

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

**Project Operation**

The long-term operation of the proposed reservoir will not generate significant air emissions. Occasional maintenance will be required, amounting to a few vehicular trips per year. Therefore, no impact associated with long-term/vehicular emissions is anticipated.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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**Construction Emissions**

Construction of the project will result in a short-term increase in exhaust emissions by construction equipment. The construction fleet mix will include a dozer, excavator, backhoe, loader, motor grader, paving roller, paving compactor, drilling rig, road reclaimer, asphalt paver, trucks, mobile crane, air compressor, welders, grinders, concrete vibrators, and portable power generators. Construction activities are anticipated to occur during the hours of 7:00 am and 5:00 pm, and would be completed in approximately 12 months. Construction is scheduled to begin in February 2008 and by completed by January 2009. As identified in Table 1, operation of the construction equipment and vehicles will not generate emissions that exceed the SDAPCD significance thresholds. Therefore, the proposed project would not result in a short-term impact to localized air quality as the daily significance thresholds would not be exceeded during the construction activities.

**TABLE 1  
Construction Emissions**

Construction Phases	Emissions in Pounds/Day				
	CO	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	ROG*
Grading (Year 2008)	197.36	168.58	0.01	33.57	24.49
Construction (Year 2008)	283.71	230.28	0.01	35.45	71.97
Significance Thresholds (SDAPCD)	550.00	250.00	250.00	100.00	137.00
Significant?	No	No	No	No	No

Source: BRG Consulting, Inc., URBEMIS 2002 for Windows, Version 7.5.0  
Notes: \* The application of zero emission ROG paint to the reservoir is proposed.

The proposed reservoir will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. Approximately 11,500 cubic yards of surplus material will exported off-site. Approximately 750 total truck trips are estimated to move this quantity of material off-site. Imported material will consist of approximately 1,200 yards of sand bedding to be placed beneath the reservoir floor and in pipeline trenches, and aggregate base and asphalt concrete for pavements. Approximately 60 truck trips are estimated to import these materials. Under the SDAPCD Rules and Regulations, a construction site may be considered a stationary source of air pollutant emissions. Fugitive dust emissions are subject to regulation by SDAPCD and the applicable local ordinances. The OWD will be required to comply with the applicable SDAPCD regulations regarding control of fugitive dust during grading. Mitigation Measure A1 is proposed to ensure that watering on the project site during grading operations is implemented in accordance with SDAPCD regulations. With the implementation of this mitigation measure, the air quality impact associated with fugitive dust during grading will be less than significant. Additionally, implementation of this measure will address the potential indirect, adjacency management issue related to dust on adjacent habitat (see Section IV Biological Resources).

**Mitigation Measure**

- A1. During clearing, grading, and earth moving, the OWD shall control fugitive dust by regular watering of the site and access road. The following practices shall be implemented:

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- Spread soil binders;
- Wet the area down, sufficient enough to form a crust on the surface with repeated soakings, as necessary, to maintain the crust and prevent dust pick up by the wind;
- Use water trucks and sprinkler systems to keep all areas where vehicles move wet enough to prevent dust raised when leaving the site; and,
- Wet down areas in the late morning and after work is completed for the day.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Please see III b) above. The proposed reservoir will not result in a cumulatively considerable net increase in any air constituents or violate any air quality standard. Therefore, no impact to this issue area is anticipated.

d) Expose sensitive receptors to substantial pollutant concentrations?

Operation of the proposed reservoir would not expose sensitive receptors to substantial pollutant concentrations. There are several residential properties that are considered sensitive air quality receptors located in proximity to the project site and access roads. However, dust control measures will be implemented during construction of the project in accordance with rules established by the SDAPCD (see Mitigation Measure A1). Therefore, a less than significant impact is identified for this issue area.

e) Create objectionable odors affecting a substantial number of people?

Development of the proposed reservoir has the potential to generate trace amounts of substances that are known to produce odorous conditions. However, it should be noted that the sources of odor generation due to the project (such as diesel emissions due to construction, roofing material application, application of low emission paint etc.) is not expected to be significant because any odor generation would be intermittent and would terminate upon completion of the construction phase of the project. As such, no long-term odor impact is anticipated. Therefore, a less than significant impact is identified for this issue area.

**IV. BIOLOGICAL RESOURCES.** Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
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species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

A general biological survey and report was prepared for the proposed project (Rocks Biological Consulting (RBC), 2007). The report is provided as Appendix A to this Initial Study.

**Vegetation Communities**

The project site consists of three vegetation communities. The vegetation communities identified on the project site include Diegan Coastal sage scrub (1.20 acres), disturbed habitat (0.02 acre), and developed (0.20 acre). Figure 7 depicts the vegetation communities on the project site.

Diegan Coastal sage scrub (CSS) is comprised of low, soft-woody subshrubs approximately three feet in height. The project site supports 1.20 acres of CSS on relatively steep south and east facing slopes. The CSS onsite can be considered high quality based on its species diversity and lack of disturbance. Plant species present in the CSS include California Sagebrush, California Buckwheat, White Sage, and San Diego Sunflower. The San Diego Sunflower is a California Native Plant Society (CNPS) List 4 species, which is considered sensitive because they have a limited distribution within California, but are still relatively common.

Disturbed habitat is land where vegetation has been significantly altered by agriculture, construction, or other land-clearing activities. The disturbed habitat area within the project site was previously cleared to allow for parking of vehicles. This area is largely barren, but annual weedy species such as Russian Thistle, Shot-pod Mustard, and Brome grasses are colonizing the edges of the cleared area.

Developed areas support no native vegetation and may be additionally characterized by the presence of human-made structures such as buildings or roads. The developed areas within the project site include Bear Mountain Way. The road consists of asphalt and does not support plant species.

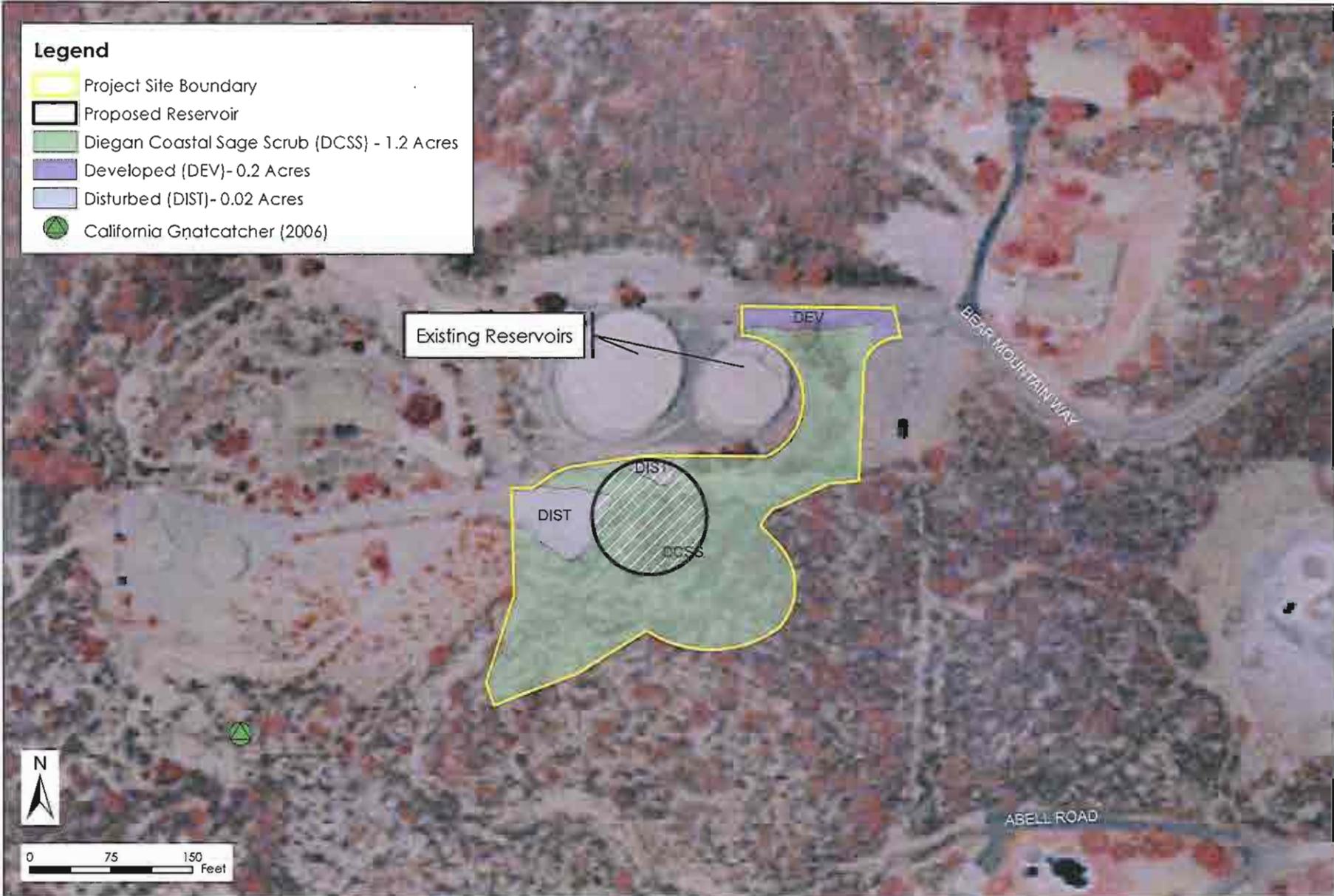
**Sensitive Plant Species**

One sensitive plant species, San Diego Sunflower (CNPS, List 4), was observed within the project site. The San Diego Sunflower occurs throughout the site as a common component of the CSS. CNPS List 4 species are considered plants of limited distribution but are typically considered relatively common.

A focused survey for the federally listed Otay Tarplant (CNPS List 1B) was conducted during the appropriate flowering time for this species. However, the Otay Tarplant was not observed within the project site and is not expected due to the lack of suitable clay soils on the site.

**Wildlife Species**

The wildlife species observed on site are typical for CSS adjacent to residential housing and the existing reservoirs. Bird species observed on site or soaring above include Red-tailed Hawk, Spotted Towhee, Anna's Hummingbird, California Thrasher, House Finch, Common Raven, and California Towhee. The



SOURCE: Rocks Biological Consulting, 2007; Otay Water District, 2007; SanGIS, 2000; BRG Consulting Inc., 2007

6/10/08

Otay Water District-1296-3 Reservoir Project

### Biological Resources Map

FIGURE

7



Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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California gnatcatcher (federally listed as threatened) and Rufous-crowned Sparrow (CDFG Species of Special Concern) were observed approximately 230 feet and at least 300 feet from the project boundary respectively.

**Sensitive Wildlife Species**

The gnatcatcher was observed outside of the project site boundary, approximately 230 feet from the western site boundary. The gnatcatcher was observed during a USFWS protocol-level survey conducted for the project in September 2006. This species nests almost exclusively in open sage scrub in coastal San Diego County. Although not observed within the project site, the quality and quantity of CSS onsite appears suitable to support nesting and foraging by the gnatcatcher. However, during a recent protocol-level survey conducted by RBC from April 22 to May 7, 2008, no gnatcatchers were found to be present on the project site or adjacent to the project site.

A USFWS protocol habitat assessment for the federally endangered Quino Checkerspot Butterfly was conducted in March 2007. This species is known to occupy openings in native scrub, chaparral, or grasslands with patches of its host plant and nectar sources and typically uses ridgelines and hilltops and areas with cryptobiotic crusts. The site does not appear to be suitable because most of the area is dense Diegan Coastal sage scrub with few, small openings on steep terrain. The flat, open, disturbed area at the highest point of the site is highly disturbed and neither the primary host plant, Dot-seed Plantain, or potential secondary host plants such as Owl's Clover, or Bird's Beak were observed. Based on the habitat assessment and overall site conditions, it is unlikely that the Quino Checkerspot Butterfly occupies or will occupy the site in the near future. The site is not within designated USFWS Critical Habitat for Quino Checkerspot Butterfly. In addition, a protocol-level survey for the Quino Checkerspot Butterfly was conducted by RBC from March 13 to April 13, 2008. Based on this survey, no Quino Checkerspot Butterfly was found to be present on the project site. Based on the habitat assessment and recent survey, the Quino Checkerspot Butterfly is not anticipated to occur on the project site.

**1994 U.S. Fish and Wildlife Service Biological Opinion**

The proposed project is included as Capital Improvement Program (CIP) No. 143 in the *Biological Opinion (BO) on the Otay Water District Capital Improvement Program (CIP), San Diego, California (1-6-94-F-42)*, dated November 16, 1994. A total of 21 CIP projects are considered in the BO as having impacts to CSS habitat and/or gnatcatchers.

The proposed project is the same as that described in the BO under CIP No. 143; however, the installation of approximately 4,000 feet of 24-inch pipeline between Proctor Valley Road and the proposed reservoir is not a part of this project, but remains a CIP project (No. 204) to be completed at a future date. The alignment of the pipeline has changed and it no longer would impact coastal sage scrub. Construction of the pipeline would occur only within existing roadways (Bear Mountain Way, Pioneer Way, Proctor Valley Road).

The BO estimated that CIP No. 143 would impact 0.98 acre of coastal sage scrub and one gnatcatcher pair would be directly or indirectly impacted.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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In the BO, the USFWS provides a list of conservation measures that should be undertaken to avoid, minimize, or mitigate direct impacts of CIP projects, including the proposed project. The following is a list of conservation measures that are relevant to this project:

- No clearing or grading shall occur within occupied California gnatcatcher habitat during the breeding or nest establishment season (1 February through 31 July);
- Construction activities shall proceed through Coastal sage scrub habitat without temporal break to restrict the duration of construction impacts;
- All construction corridors within or adjacent to Coastal sage scrub or other habitat occupied by California gnatcatchers, shall be temporarily fenced with single-strand construction fencing or chain-link fencing to prevent expansion of the disturbance footprint; and,
- Acquire and preserve offsite Coastal sage scrub habitat to mitigate direct impacts on Coastal sage scrub.

**Habitat Impacts**

Figure 7 depicts the limits of project grading (project site boundary) overlaid on the vegetation of the project site. Table 2 identifies the impacts to vegetation communities as a result of implementation of the proposed project. The proposed project will impact 1.20 acres of CSS, 0.02 acre of disturbed habitat, and 0.20 acre of developed land. The impact to 1.20 acres of CSS is considered a significant impact.

**TABLE 2**  
**Habitat Impacts (acres)**

Habitat	Acreage of Impact
Diegan Coastal sage scrub	1.20
Disturbed Habitat	0.02
Developed	0.20
<b>TOTAL</b>	<b>1.42</b>

Source: Rocks Biological Consulting, 2007.

To mitigate impacts on CSS, OWD proposes to conserve CSS on lands in their established Habitat Management Area (HMA) at a 1:42:1 ratio (Table 3). The HMA was established to function as a conservation area to mitigate impacts that occur as a result of OWD projects and activities covered in the BO (1-6-94-F-42). The mitigation ratios provided in Table 3 are consistent with those other local agency mitigation requirements such as the City of Chula Vista (pursuant to their Habitat Loss and Incidental Take Ordinance and MSCP), City of San Diego (pursuant to their Biology Guidelines and MSCP Subarea Plan), and the County of San Diego (pursuant to their Biological Mitigation Ordinance and MSCP). Implementation of Mitigation Measure B1 will reduce this impact a level less than significant.

The 1994 BO estimated that the proposed project (CIP No. 143) would impact 0.98 acre of CSS. However, the proposed project will impact 1.20 acres of CSS, which is an additional impact to 0.22-acre of CSS. The HMA has sufficient availability of CSS credits to accommodate this increase in CSS impact. It is anticipated that OWD will need to coordinate with the USFWS regarding an amendment to the BO.

Potentially Significant Impact      Less than Significant with Mitigation Incorporated      Less than significant impact      No Impact

**TABLE 3**  
**Required Mitigation Acreage for Habitat Impacts**

Habitat	Acreage of Impact	Proposed Mitigation Ratio*	Proposed Mitigation Acreage
Diegan Coastal sage scrub	1.20	4:12:1	4.202.40
Disturbed Habitat	0.02	Not Required	--
Developed	0.20	Not Required	--
<b>TOTAL</b>	<b>1.4</b>	<b>N/A</b>	<b>4.202.40</b>

Source: Rocks Biological Consulting, 2007.

Notes: \*Mitigation ratios are based on other local agency mitigation requirements (i.e., City of Chula Vista, City of San Diego, and County of San Diego).

**Mitigation Measure for Habitat Impacts**

B1. The impact to 1.20 acres of Diegan Coastal sage scrub (CSS) shall be mitigated through the preservation of CSS at a 4:12:1 ratio for a total mitigation requirement of 4.202.40 acres of CSS. The 4.202.40 acres of CSS shall be preserved in the OWD's existing HMA.

**Impacts to Sensitive Plant Species**

Focused sensitive plant surveys were conducted for the project (Rocks Biological Consulting, 2007). The sensitive plant species found on the project site is the San Diego Sunflower, a CNPS List 4 species. The San Diego Sunflower is relatively common in CSS in the southern portion of the County away from the immediate coast. This species is still regionally common and occurs as a dominant shrub in areas immediately adjacent to the project site. Conservation of CSS within OWD's HMA, as required with the implementation of Mitigation Measure B1, will offset impacts to these species. Therefore, the impact to San Diego Sunflower is considered less than significant.

**Impacts to Sensitive Wildlife Species**

As discussed above, during the 2006 protocol-level survey, no nesting gnatcatchers were identified on the project site; In addition, protocol-level gnatcatcher surveys were conducted by RBC from April 22 to May 7, 2008, and no gnatcatchers were found to be present on the project site or adjacent to the site. However, the project site does contain 1.20 acres of CSS, which is considered suitable habitat for gnatcatchers. Therefore, in order to avoid direct impacts to gnatcatchers, Mitigation Measure B2 shall be implemented prior to construction. Mitigation Measure B2 requires OWD to clear the vegetation on the project site outside the gnatcatcher breeding season (February 15 to September 1). This requirement is consistent with the terms and conditions of the BO.

However, the gnatcatcher is a sensitive species that may be indirectly impacted by construction noise during construction the breeding season. In 1991, the USFWS adopted a 60 average decibels (dB(A)) noise level as a threshold for noise effects to protect sensitive bird species such as the gnatcatcher. As discussed above, in 2006 the gnatcatcher was observed within 230 feet of the project site (Figure 7). However, in a recent protocol-level survey conducted by RBC from April 22 to May 7, 2008, no gnatcatchers were found to be present on the project site or adjacent to the site. As discussed in Section XI. Noise of this Initial Study, a noise study conducted for the proposed project concluded that noise levels would exceed 60 db(A) at a distance of 315 to 790 feet from the center of construction activity during construction of the reservoir and at

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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a distance of approximately 455 feet from the center of the activity if Bear Mountain Way is repaved. Based on Appendix I of the Noise Study (Appendix E of this Initial Study), during the months of February and March 2009 of construction the noise level will be 60 dB(A) at a distance of approximately 315 feet; in April and May 2009 it will be at distance of approximately 790 feet; and, in June through December 2009 it will be a distance closer to 315 feet. The breeding season for the gnatcatcher is February 15 through September 1. Based on the results of the noise study, construction of the proposed reservoir has the potential to result in indirect construction related noise impacts on the gnatcatcher during the breeding season. Because it is not currently possible to determine if gnatcatchers are nesting near the project site and/or the exact location of nests near the project site (each year nesting locations may change), as discussed in Mitigation Measure B3 below, OWD proposes to conduct pre-construction surveys for the gnatcatcher to determine if any gnatcatchers are nesting near the site and their location. If any gnatcatchers are nesting within the distances provided above, a focused noise survey shall be conducted in the field near the location of the nesting gnatcatchers. If the nesting gnatcatchers are within the potential noise effect area, additional mitigation measures identified in Mitigation Measure B3 shall be implemented to reduce the potential impact to this species to a level less than significant.

The 1994 BO provides incidental take coverage for the proposed project (CIP No. 143) to directly or indirectly impact one gnatcatcher pair. Based on the recent protocol-level surveys that were conducted by RBC from April 22 to May 7, 2008, no gnatcatchers were found to be present on the project site or adjacent to the site. However, if based on the pre-construction surveys, more than one pair of gnatcatchers has the potential to be impacted by the project, OWD will consult with the USFWS prior to construction. However, implementation of Mitigation Measures B2 and B3 will reduce the potential for direct or indirect impacts, respectively, to a level less than significant.

***Mitigation Measures for Sensitive Wildlife Species***

B2. To avoid potential direct impacts to nesting birds, all vegetation clearing within the construction footprint (project site boundary) shall be conducted outside of the gnatcatcher breeding season (February 15 through September 1). A biologist shall be onsite to walk ahead of clearing/grubbing equipment to flush any gnatcatchers toward areas of appropriate vegetation that are to be avoided. The biologist will ensure that gnatcatchers are not injured or killed by initial vegetation clearing/grubbing.

B3. To avoid indirect construction related noise impacts to gnatcatchers during the breeding season (February 15 through September 1), surveys shall be conducted to determine the exact location of nests within 315 to 790 feet from the center of construction activity.

If an occupied gnatcatcher nest is identified during a survey within 315 to 790 feet from the center of construction activity, a focused noise survey shall be conducted to determine the actual noise level at the nest. If the noise level exceeds 60 dB(A) at the nest, noise reduction techniques such as temporary noise barriers/walls shall be installed. Construction activity noise levels shall be monitored near the nesting locations. Additional noise reduction measures such as reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used are also considered appropriate.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

As discussed in the Biological Resources Report (Appendix A of this initial study), an assessment of the site was conducted to determine whether or not the site supports wetland and other Waters of the U.S. Based on this assessment, the project site does not support jurisdictional wetlands or other Waters of the U.S. As such, no jurisdictional wetlands or other Waters of the U.S. are located on the project site or will be impacted with the implementation of the proposed project. However, as indicated above, implementation of the proposed project will impact approximately 1.20 acres of CSS, which is considered a sensitive habitat community. See discussion under Section IV a) Habitat Impacts.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

As discussed in the Biological Resources Report (Appendix A of this initial study), an assessment of the site was conducted to determine whether or not the site supports wetland and other Waters of the U.S. Based on this assessment, the project site does not support jurisdictional wetlands or other Waters of the U.S. As such, no jurisdictional wetlands or other Waters of the U.S. are located on the project site or will be impacted with the implementation of the proposed project. Therefore, no impact to this issue area is anticipated.

- |  |                          |                                     |                          |                          |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|--|--------------------------|-------------------------------------|--------------------------|--------------------------|

The project site is located within a relatively disturbed area. The proposed project will not interfere substantially with the movement of any wildlife species or impede the use of native wildlife nursery sites. The proposed project is not located in an area identified as a wildlife corridor or for use by migratory species. However, as discussed above, the gnatcatcher has been observed adjacent to the project site. See discussions under Section IV a) Impacts to Sensitive Wildlife Species.

- |   |                          |                                     |                          |                          |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
|---|--------------------------|-------------------------------------|--------------------------|--------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The project site is located within rural setting. The project site is not located within any preservation area and will conflict with any local ordinances or policies. However, as discussed above the 1994 BO covered the proposed project but with the implementation of Mitigation Measures B1 through B3, the proposed project will comply with the conservation measures of the BO and a "take" of USFWS listed species will not be required. Therefore, with the implementation of Mitigation Measures B1 through B3, impacts associated with this issue will be reduce to a level less than significant.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project site is located within rural setting and is not located within a conservation plan. Therefore, no impact is identified for this issue area.

**V. CULTURAL RESOURCES.** Would the project:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

A cultural resources survey was conducted for the project site (ASM Affiliates, 2006). The cultural resources report is provided as Appendix B of this Initial Study. Based on the results of the cultural resources survey, no historical resources as defined in §15064.5 were identified in the project site. Therefore, the proposed project would not cause an adverse change to a historical resource and no impact to this issue area is anticipated.

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

A cultural resources survey was conducted for the project site (ASM Affiliates, 2006). Based on the results of the cultural resources survey, there are no archaeological resources located in the project site, and no impact to this issue area is anticipated.

- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The project site is located within a relatively disturbed area. The project site is located in the coastal foothill section of the Peninsular Ranges Geomorphic Province (Ninyo and Moore, 2006). This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California. The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks and Cretaceous igneous rocks of the southern California batholith. The project site is

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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generally underlain by Cretaceous-age granitic rock consisting of grandiorite with some tonalite and monogranite. As types of igneous rocks formed directly from magma (molten rock) they are devoid of paleontological resource sensitivity (Deméré, 1993). Therefore, no impact to this issue area is anticipated.

- d) Disturb any human remains, including those interred outside of formal ceremonies?

A cultural resources survey was conducted for the project site (ASM Affiliates, 2006). Based on the results of the cultural resources survey, no human remains or cultural resources are identified in the project site. It is unlikely that any human remains will be found or disturbed. Therefore, a less than significant impact is identified for this issue area.

In compliance with OWD's Master Plan Program EIR (OWD, 2004), if human remains are discovered, any project activity that would impact the remains shall be stopped and County Coroner and/or Native American Heritage Commission shall be contacted immediately. No activity that would impact the remains shall be resumed until disposition of the remains satisfactory to these agencies has been implemented.

**VI. GEOLOGY AND SOILS.** Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

A limited geotechnical reconnaissance has been conducted for the project site (Ninyo and Moore, 2006). The geotechnical investigation is provided as Appendix C of this Initial Study.

The project site is not located in a hazard zone identified by the Alquist-Priolo Earthquake Zoning Act, Special Publication 42, Revised 1994, Fault-Rupture Hazard Zones in California.

Although no active faults are known to transect the project site, the project site is considered to be in a seismically active area, as is most of Southern California. The site is located in the Peninsular Range Geographic Province. The area is identified by rugged, northwest trending mountain ranges to the east and coastal plains to the west. Several earthquake fault zones exist in the regional vicinity of the project site increasing the potential for earthquake damage on-site. The nearest fault to the project site is the active Rose Canyon Fault, which is located approximately 16 miles west of the project site. The maximum magnitude of the fault is estimated at 6.9 at 16 miles from the project site. The level of risk is similar to most of the

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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Southern California region. The proposed reservoir will be primarily an unmanned facility and will be constructed to current seismic codes of the California Building Code (CBC) and the Uniform Building Code (UBC). Therefore, a less than significant impact is identified for this issue area.

ii) Strong seismic ground shaking?                                                                               

Please see VI a) i. above. There may be significant ground shaking at the project site from the Rose Canyon Fault Zone. According to the limited geotechnical reconnaissance conducted for the project (Ninyo and Moore, 2006) (Appendix C of this Initial Study), the calculated peak horizontal ground acceleration having a 10 percent probability in 100 years (upper-bound earthquake) for the site is 0.19g (19 percent of the acceleration gravity) and the calculated peak horizontal ground acceleration having 10 percent probability in 50 years (design-basis earthquake) for the site is 0.16g (16 percent of the acceleration of gravity). The project proposes to construct an unmanned reservoir in a relatively disturbed area, and does not otherwise involve the construction or placement of structures or development that would result in exposure of people or property to strong seismic ground shaking. In addition, the proposed reservoir would be designed and constructed in accordance with the most recent CBC and UBC standards thereby reducing instability issues related to strong seismic ground shaking. Therefore, a less than significant impact is identified for this area.

iii) Seismic-related ground failure,  
including liquefaction?                                                                               

According to the limited geotechnical reconnaissance conducted for the project (Ninyo and Moore, 2006) (Appendix C of this Initial Study), the project site is underlain with granitic-rock. As such, the potential for liquefaction within the project site is considered low. Therefore, no impact to this issue area is anticipated.

iv) Landslides?                                                                               

According to the limited geotechnical reconnaissance conducted for the project (Ninyo and Moore, 2006) (Appendix C of this Initial Study), no landslides of deep-seated landsliding were noted on the project site during a field exploration and review of available geologic literature, topographic maps, and stereoscopic aerial photographs. In addition, the proposed reservoir will be designed in accordance with CBC and UBC standards thereby reducing the potential for instability issues related to landslides. Therefore, no impact to this issue area is anticipated.

b) Result in substantial soil erosion or loss of topsoil?                                                                               

The project site has been relatively disturbed by the development of the two existing Reservoirs; however, natural vegetation has reestablished on portions of the site. This vegetation protects against soil erosion. In addition, based on the United States Department of Agriculture (USDA) Soil Survey for the San Diego Area (1973), the project site is underlain with Cieneba, very rocky, coarse sandy loam (CmrG) (Ninyo and Moore, 2007). The Cieneba soil type has a severe erosion hazard (USDA, 1973). The construction of the proposed reservoir would involve trenching into these soils, which has the potential for erosion as a result of runoff during storm events. The project will be required to implement Best Management Practices (BMPs) for short-term erosion impacts associated with construction activities and long-term water quality impacts. The

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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proposed BMPs and mitigation requirements are discussed under Mitigation Measure WQ1 in Section VIII Hydrology and Water Quality of this Initial Study. With the implementation of Mitigation Measure WQ1, the potential impact associated with soil erosion will be reduced to a level less than significant.

- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

Based upon the topography of the project site and the base elevation of the existing reservoirs, there is a potential that the proposed reservoir will be placed on a cut/fill transition. Due to the differing settlement properties of granitic rock and fill, there is a potential for differential settlement to occur across the cut/fill transition. However, with the implementation of Mitigation Measure GS1, the potential impacts associated with differential settlement will be reduced to a level less than significant.

**Mitigation Measure**

GS1. In order to mitigate the potential for differential settlement, the cut portion of the pad shall be undercut an amount equal to one-third or more of the deepest fill depth beneath the structure or three feet, whichever is greater, and replaced with compacted fill. Prior to construction of the proposed project a comprehensive geotechnical evaluation, including development-specific subsurface exploration and laboratory testing, shall be conducted. The purpose of the subsurface evaluation would be to further evaluate the subsurface conditions in the area of future structures or improvements and to provide information pertaining to the engineering characteristics of earth materials at the project site. From this data, recommendations for grading/earthwork, surface and subsurface drainage, foundations, pavement structural sections, sedimentation modifications, and other pertinent geotechnical design considerations may be required as additional mitigation measures for the proposed project.

- d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

The project site is underlain with Cieneba, which is a very rocky, coarse sandy loam. According to the USDA Soil Survey for the San Diego Area (1973), this type of soil has a slight shrink/swell behavior, which means this soil type is not considered to be expansive. The proposed project is the construction of a proposed reservoir, and would not involve the development of habitable structures. Therefore, the proposed project would not create a substantial risk to life or property. In order to protect the proposed reservoir from impacts related to expansive soils, the implementation of the appropriate measures consistent with standard engineering practices and recent CBC and UBC standards will be incorporated into project design and grading to ensure there is no potential for impact from expansive soils. Therefore, a less than significant impact is identified for this issue area.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

The proposed project does not include the use of septic tanks. Therefore, soil suitability for wastewater disposal is not an issue and no impact to this issue area is anticipated.

**VII.HAZARDS AND HAZARDOUS MATERIALS.**

Would the project:

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

The project is the construction of a reservoir. The proposed project will not require the routine transport, use, or disposal of hazardous materials. Therefore, no impact to this issue area is anticipated.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Construction and operation of the proposed reservoir will not involve the use of hazardous materials. The project will not create a significant hazard to the public or the environment through foreseeable upset and accident conditions. Therefore, no impact to this issue area is anticipated.

- |   |                          |                          |                          |                                     |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|

Please see VII a) above. The project site is not located within one-quarter mile of an existing school and would not emit hazardous emissions or require the handling of hazardous or acutely hazardous materials or substances. Therefore, no impact to this issue area is anticipated.

- |  |                          |                          |                          |                                     |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The project site is not located on a hazardous materials site list pursuant to the Government Code Section 65962.5. Therefore, no impact to this issue area is anticipated.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The project site is not located within an airport land use plan and is not within two miles of a public airport or public use airport. The project will not result in a safety hazard for people residing or working in the project area. Therefore, no impact to this issue area is anticipated.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No private airstrips are located near the site. Therefore, no impact to this issue area is anticipated.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The proposed project is the construction of a reservoir in a rural setting. The project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Therefore, no impact to this issue area is anticipated.

- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The proposed project is the construction of a reservoir in a rural setting. Therefore, the project will not expose people or structures to the potential risk of wildland fires. Therefore, no impact to this issue area is anticipated.

**VIII. HYDROLOGY AND WATER QUALITY.** Would the project:

- a) Violate any water quality standards or waste discharge requirements?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
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A limited water quality evaluation has been prepared for the proposed project (Ninyo and Moore, 2006) and is provided in Appendix D of this Initial Study. The water quality evaluation identifies that there are no existing water quality violations within the surface water bodies that drain the project site. The proposed project is the construction of a reservoir in a rural setting. The proposed project has the potential to impact water quality during construction by increasing erosion and transporting construction-related debris/chemicals into downstream surface water in the event of rainfall. The project site is located in the San Diego Regional Water Quality Control Board (RWQCB), which regulated stormwater discharges through the San Diego County Municipal Stormwater Permit, Order No. 2001-01, which expired in February 2006; however a new tentative order was issued effective March 10, 2006 (Tentative Order No. 2006-0011). In order to comply with this permit and regulate stormwater discharges, the County has developed the following:

- Jurisdictional Urban Runoff Management Plan (JURMP);
- Standard Urban Storm Water Mitigation Plan (SUSMP), which is intended to assist in the implementation of land development programs and capital improvement projects under the jurisdiction of the JURMP. In addition, the SUSMP provides a template for development a Storm Water Management Plan (SWMP) and guideline for selecting and implementing Best Management Practices (BMPs);
- County of San Diego Watershed Protection, Stormwater management, and Discharge Ordinance (WPO) (County Code sections 67.801-67.825); and,
- Stormwater Standards Manual (SSM).

As discussed in the water quality evaluation, certain types of jurisdictions, such as OWD, are not regulated by the RWQCB Order No. 2006-0011 and the above listed County of San Diego plans, but are subject to the state Porter Cologne Water Quality Control Act, as well as federal requirements of the Clean Water Act. In addition, the proposed project is subject to the State Water Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ). The water quality evaluation identifies the need to protect surface water quality by preparing a SWMP and implementing BMPs during and post construction in compliance with the Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ) in order to address potential short-term construction and long-term operation impacts. The operation of the proposed reservoir would not violate water quality standards or waste discharge requirements. Implementation of Mitigation Measure WQ1, will reduce this impact to a level less than significant. The facility will not involve waste discharge.

***Mitigation Measure***

WQ1. Best Management Practices (BMPs) shall be implemented at the project site during construction and long-term operation of the reservoir. The contractor specifications shall require the implementation of BMPs to control stormwater runoff during project construction. The following measures shall be implemented:

- Prior to the commencement of construction activities of the proposed project, the OWD shall comply with the Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ), the following components are required: a Notice of Intent

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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(NOI), Stormwater Pollution Prevention Plan (SWPPP), and Monitoring Program and Reporting Requirements. The SWPPP shall include all required elements and BMPs that shall be used during construction include but are not limited to:

- Silt fence, fiber rolls, or gravel bag berms;
- Street sweeping;
- Storm drain inlet protection;
- Stabilized construction entrance/exit;
- Vehicle and equipment maintenance, cleaning, and fueling; and,
- Hydroseed, soil binders, or straw mulch.

In preparing the SWPPP, OWD shall reference the County of San Diego's Standard Urban Storm Water Mitigation Plan (SUSMP) and Stormwater Standards Manual (SSM) for a template in preparing the Storm Water Management Plan (SWMP) and guideline for selecting and implementing BMPs.

- Prepare a BMP implementation and maintenance schedule to provide proper guidance in the proper utilization of BMPs.
- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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The proposed project will not utilize groundwater resources for operation. The proposed reservoir will store needed potable water for 1296 Pressure Zone. The project will result in the creation of impervious surfaces; however, the site is not located within an aquifer or groundwater recharge area. The project will not substantially interfere with groundwater recharge and will not result in a new deficit in the aquifer volume. Therefore, no impact to this issue area is anticipated.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river; in a manner which would result in substantial erosion or siltation on- or off-site?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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According to a limited water quality evaluation conducted for the proposed project (Ninyo and Moore, 2006) (Appendix D of this Initial Study), the project site is located in the Proctor Hydrologic Subarea (910.32) of the Dulzura Hydrologic Area of the Otay Hydrologic Unit. The project site on which the proposed reservoir would be constructed drains downhill to the south into an unnamed intermittent (seasonal) stream approximately 1/2-mile from the project site. The stream eventually drains to the Upper Otay Reservoir, approximately four miles southwest of the project site.

Implementation of the proposed project will not result in alteration of an existing stream or river. Impervious surface will be created as a result of constructing the building pad for the reservoir and associated access road. Stormwater runoff from the project site will be captured via surface and subsurface drainage improvements and discharged to a rip-rap energy dissipator and ultimately into the natural drainage south of the project site (Figures 6 and 7). The increase in impervious surface and corresponding runoff will be minimal and will not result in substantial erosion or siltation on- or off-site. Additionally, the project is proposed by the OWD, and drainage improvements will comply with OWD specifications. Therefore, a less than significant impact is identified for this issue area.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?

The implementation of the proposed project will not result in an alteration of existing drainage courses. Impervious surfaces will be created as a result of constructing the building pad for the reservoir and associated access road. The increase in corresponding runoff volumes will be minimal, and can be adequately accommodated by the existing drainage system. Therefore, a less than significant impact is identified for this issue area.

- e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Please see VIII a) and c). Implementation of the proposed project will result in a minor increase in runoff as a result of the creation of impervious surfaces. The runoff will be captured and directed to an existing natural drainage south of the site. This increase in runoff will be minor, and will not contribute water, which would exceed the capacity of the drainage system. Additionally, traffic volume on the access roads to the project site is minimal, and the creation of substantial pollutants as a result of petroleum products (e.g., oil, gasoline) is not anticipated. The project will comply with applicable BMPs as required by the SWMP prepared for the proposed project. Therefore, a less than significant impact is identified for this issue area.

- f) Otherwise substantially degrade water quality?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The proposed project will not affect groundwater sources. Surface water quality will not be substantially degraded as described above. Therefore, no impact to this issue area is anticipated.

- g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

The project site is not located within a 100-year flood hazard boundary. Furthermore, the project is the construction of a reservoir, development of housing is not proposed. Therefore, no impact to this issue area is anticipated.

- h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Please see VIII g) above. The project would not impede or redirect flood flows. Therefore, no impact to this issue area is anticipated.

- i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project site is not located within a 100-year flood hazard boundary. Furthermore, the project is the construction of a reservoir and does not involve the development of habitable structures. Therefore, no impact to this issue area is anticipated.

- j) Inundation by seiche, tsunami, or mudflow?

The project site is located several miles from the coast at an elevation between 1,210 feet above mean sea level (MSL) and 1,295 MSL and is therefore, not an area susceptible to a tsunami. There is also no risk of inundation as a result of a seiche occurrence as the project site is not located on a lake. The site is located on a slightly elevated topography, and is not in a floodplain area; therefore, the risk of mudflow is also considered low. Tsunamis, seiches, and mudflows are not considered a significant hazard at the site. Therefore, no impact to this issue area is anticipated.

**IX. LAND USE AND PLANNING.** Would the project:

- a) Physically divide an established community?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The proposed project is located within a relatively disturbed and undeveloped area south of the existing 1296-1 and 1296-2 Reservoirs. The project site is surrounded by undisturbed and vegetated areas and estate residential properties. Currently, the project site is vacant. As such, the proposed project would not physically divide an established community and no impact to this issue area is anticipated.

- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

According to the County of San Diego's General Plan, the project site is zoned for Limited Agriculture. However, as stated in the General Plan, public utilities such as the proposed project are allowed within this zone. As a Special District, local land use plans or policies are not applicable to OWD. Therefore, no impact to this issue area is anticipated.

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

The project site is located adjacent to the USFWS NWR and is covered under the 1994 Biological Opinion (BO). The proposed project will not impact the adjacent USFWS NWR area. The 1994 BO allows the project to impact 0.98 acres of CSS and impact one gnatcatcher pair. As discussed above in Section IV Biological Resources of this Initial Study, with the implementation of Mitigation Measures B2 and B3 the proposed project will be consistent with the terms and conditions of the BO and will not conflict with any applicable habitat conservation plan. Therefore, no impact to this issue area is anticipated.

**X. MINERAL RESOURCES.** Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

The project site is located within a relatively disturbed area and adjacent to two existing reservoirs. The project site is not identified as containing significant mineral resources. Based on the Geotechnical Report prepared by Ninyo and Moore (Appendix C of this Initial Study), the project site is not utilized for mineral resources mining or processing activity, nor is the site located in close proximity to such uses. Therefore, no impact to this issue area is anticipated.

- b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The project is the construction of a new Reservoir within a relatively disturbed area. There are no locally important mineral resource recovery sites delineated on any local plan, specific plan or general plan, or in the vicinity of the project area. Therefore, no impact to this issue area is anticipated.

**XI. NOISE.** Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

An environmental noise study was prepared for the proposed project (Wieland Associates, Inc., 2007). The report is provided as Appendix E to this Initial Study.

Based on the results of the noise report, the construction noise levels associated with the proposed project will fluctuate depending on the particular type, number and duration of use of various pieces of construction equipment. The exposure of persons to the periodic increase in noise levels will be short-term. Table 7-1 of the noise report (Appendix E of this Initial Study) provides typical noise levels associated with various types of construction-related machinery. Based on OWD policy, construction will occur between the hours of 7:00 AM to 5:00 PM. Construction is anticipated to start in February 2008 and will occur over approximately 12 months.

Based on the estimated construction noise levels identified in Table 7-1 of the noise report, and an analysis conducted to estimate the combined equipment noise levels that will be experienced during each month of construction, the average noise level (Leq) for the proposed project will range from 80 to 90 average decibels (dB(A)) at a distance of 50 feet from the center of construction activity. If Bear Mountain Way is repaved, the Leq will be approximately 84 dB(A) at a distance of 50 feet.

The nearest noise sensitive land use is the residential uses located north and south of the project site. The distance of the nearest residential unit to the project site is approximately 240 feet. At this distance, the average noise level produced by the construction equipment is estimated to range from 63 to 73 dB(A). This is below the County of San Diego standard of 75 dB(A) for residential uses; therefore, the proposed project will not expose persons to noise levels in excess of standards established by County of San Diego's noise ordinance.

The existing vegetated areas surrounding the project site can be considered noise sensitive due to the potential presence, or use of the sensitive avian species, such as the gnatcatcher observed near to the project site (Rocks Biological Consulting, 2007) (see Section IV Biological Resources, above). The area surrounding the project site is heavily vegetated, so it has been assumed that the construction equipment noise level will decay at a rate of 7.5 dB per doubling of distance. Using this factor, it is estimated that the construction equipment noise level will be 60 dB(A) at a distance of 315 to 790 feet from the center of the project site

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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during the construction, and at a distance of 455 feet from the center of Bear Mountain Way if this roadway is repaved. The barrier effects provided by intervening terrain may reduce these distances; however, to provide a "worst case" assessment, no barrier effects were assumed in the noise analysis.

In addition, as discussed in the noise report, the construction of the proposed reservoir will generate an average daily traffic volume (ADT) of 98 vehicles on Bear Mountain Way during the peak construction period (April/May 2009). This level of traffic is expected to generate a sound level of 60 dB(A) and a community noise equivalent level (CNEL) of about 55.5 dB at a distance of 50 feet from the near lane centerline of Bear Mountain Way. Therefore, during the gnatcatcher's breeding season (February 15 through September 1) the impact would be significant to any nesting gnatcatcher within 50 feet of the near lane centerline of Bear Mountain Way. Please refer to Section IV Biological Resources of this Initial Study. Implementation of Mitigation Measures B2 and B3 will reduce the potential indirect impact to the gnatcatcher to a level less than significant.

In addition, the CNEL (55.5 dB) is below the County's standard of 60 dB at residential properties and will not result in a significant impact to residences.

It is possible that some limited blasting may be required in the western portion of the project site in order to facilitate excavation to achieve the planned elevation of the reservoir pad and the perimeter of the access road. However, blasting will only occur between the hours of 7:00 am and 5:00 pm, and only Monday through Saturday and the blast target will be completely covered with at least two loader buckets full of dirt. In addition, notice will be given to the residents within 600 feet of the blast site no less than 24 hours before the blasting operations occur. This complies with the County of San Diego's regulations. In addition, with the implementation of Mitigation Measure N1, potential temporary noise impacts during construction to the surrounding residences will be reduced to a level less than significant.

**Mitigation Measure**

N1. The following shall be incorporated into the design and construction of the proposed project:

- Noise construction activities shall be scheduled only during the hours and days as permitted by OWD standards, which are Monday through Saturday 7:00 AM to 5:00 PM;
- If blasting is employed during construction, the blast target shall be completely covered at least with two loader buckets full of dirt;
- All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. Impact tools shall be shielded per manufacturer's specifications; and,
- Grading and construction equipment shall be stored on the project site while in use.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The primary vibratory source during construction of the proposed project will be large bulldozers. At the distance of the nearest residences to the project (about 240 feet) the estimated vibration level will be 51 logarithmic decibel (VdB). This is below the perception threshold of 75 to 80 VdB for residential properties, and well below the threshold at which building damage occurs (Wieland, 2007).

In addition, some limited blasting may be required in the western portion of the project site in order to facilitate excavation to achieve the planned elevation of the reservoir pad and the perimeter of the access road. Blasting can generate a vibration level of 100 VdB at a distance of 50 feet (Wieland, 2007). The nearest residence to the blasting area is at a distance of about 340 feet, where the expected vibration level will be about 83 VdB. This level is expected to be perceptible to the nearby residences and may be annoying; however, it is below that threshold at which building damage occurs. Furthermore, blasting will only occur between the hours of 7:00 am and 5:00 pm, and only Monday through Saturday and the blast target will be completely covered with at least two loader buckets full of dirt. Notice will be given to the residents within 600 feet of the blast site no less than 24 hours before the blasting operations occur. This complies with the County of San Diego's regulations. Furthermore, with the implementation of Mitigation Measure N1, this potential impact will be reduced to a level less than significant.

- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The proposed reservoir will be constructed in an area of low, rural ambient noise. The proposed project will not produce a substantial permanent increase in ambient noise in the project vicinity above levels without the project, as the noise associated with the proposed project will be temporary, during construction. Therefore, no impact to this issue area is anticipated.

- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Please see XI a) above. The construction phase of the proposed project will produce a temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. However, the implementation of Mitigation Measure N1, discussed above, will reduce this potential impact to a level less than significant.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project site to excessive noise levels?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The proposed project is not located within an airport land use plan, or within two miles of a public airport or public use airport. Therefore, no impact to this issue area is anticipated.

- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project site to excessive noise levels?

There are no private airstrips within the vicinity of the project area. Therefore, no impact to this issue area is anticipated.

**XII. POPULATION AND HOUSING.** Would the project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

The proposed project does not involve a use that would induce growth in the region. According to OWD's Water Resources Master Plan (WRMP) (OWD, 2002), a large percentage of undeveloped land is undergoing significant change. More than 29,000 acres of land within the OWD's planning area are being planned and developed. Growth forecasts used to develop the WRMP indicate that at ultimate buildout, the OWD will serve a population of nearly 277,000 residing in over 84,000 dwelling units. The size of the OWD's water supply system is predicted on population and demand factors related to local land use decisions. In the WRMP updating process, changes in the OWD facility sizing, phasing, and capacity will be related to the orderly, planned growth in its service area. In this sense, the OWD does not, in its WRMP, induce growth in its service area; rather the OWD has identified facilities and additional pipelines to support the growth that is dependent on land use decisions made by the County of San Diego, the City of Chula Vista, and the City of San Diego.

As discussed above in the project description, storage in the 1296 Pressure Zone is currently deficient by 3.1 MG and will be deficient by 12.14 MG for the projected ultimate conditions. The purpose of the proposed project is to partially reduce the storage deficiency and add storage capacity to the Pressure Zone in compliance with the WRMP. Therefore, the proposed project is the construction of a reservoir to store water for the 1296 Pressure Zone, which was included in the WRMP in order to plan for the ultimate buildout demands of the system. Therefore, the proposed project will not induce, directly or indirectly, substantial growth in the area. Therefore, no impact to this issue area is anticipated.

- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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The project site is vacant. The proposed project will not displace existing housing. Therefore, no impact to this issue area is anticipated.

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

The project site is vacant. The proposed project will not displace existing housing or people. Therefore, no impact to this issue area is anticipated.

**XIII. PUBLIC SERVICES.** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- |                          |                          |                          |                          |                                     |
|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| Fire protection?         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Police protection?       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Schools?                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks?                   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other public facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

The proposed project is the construction of a reservoir. There would be a positive effect on fire protection services, as the project would improve the reliability of water service and storage for the area. The project would not substantially impact existing or result in the need for the creation of new public services. Therefore, no impact to this issue area is anticipated.

**XIV. RECREATION**

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The proposed project will not result in an increase in population (which would generate a demand for recreational uses) nor is the project site located in an area planned for recreational uses. Therefore, no impact to this issue area is anticipated.

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

The proposed project does not involve recreational facilities. Additionally, the proposed project will not result in an increase in population, which would generate a demand for recreational uses. Therefore, no impact to this issue area is anticipated.

**XV. TRANSPORTATION/TRAFFIC.** Would the project:

- a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

A Traffic Impact Analysis has been for the proposed project (Linscott, Law & Greenspan (LLG), 2007). The Traffic Impact Analysis is provided as Appendix F of this Initial Study.

As discussed in the traffic impact analysis, during a two-month peak construction period, which is identified as April/May 2009, the proposed project will generate approximately 98 average daily trips (ADT) (49 inbound/49 outbound) including construction employee trips (Table 4). In addition, to account for heavy vehicle traffic, a Passenger Car Equivalency (PCE) factor of 2.0 was applied to account for passenger cars that are displaced by a single heavy vehicle of a particular type under the prevailing traffic conditions. Assuming that every truck counts as 2.0 cars, the project is calculated to generate the equivalent of 168 ADT.

**TABLE 4  
Peak Construction Period Trip Generation**

Vehicle Type	Inbound Trips	Outbound Trips	Inbound + Outbound	With PCE Factor
Truck (18 wheel hauler)	30	30	60	120
Truck (10 wheel/fuel/lube)	1	1	2	4
Truck (3/4-ton)	4	4	8	16
Employee vehicles	14	14	28	28
Totals:	49	49	98	168

Source: LLG, 2007.

As depicted in Figures 2-1a through 2-1c (Traffic Impact Analysis, Appendix F of this Initial Study), project related trucks may use any of three haul routes to transport materials to/form the project site. Figures 6-1a through 6-1c and Figures 6-2a through 6-2c (Traffic Impact Analysis, Appendix F of this Initial Study) depict

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant Impact	No Impact
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the project traffic assignment and the existing plus project traffic volumes, respectively. All of the roadway segments analyzed in the project area for the three designated truck haul routes are calculated to continue to operate at acceptable service levels (Levels of Service (LOS) D or better) with the exception of the following segments, which are calculated to continue to operate below acceptable LOS:

- State Route (SR) 94: between Steele Canyon Road and Proctor Valley Road (LOS F); and,
- Steele Canyon Road: between Willow Glen Drive and SR 94 (LOS E).

However, because these roadway segments are currently operating at unacceptable service levels and the addition of the proposed project trips will not worsen these existing conditions, a less than significant impact is identified for this issue area.

- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

Please see XV a) above. The proposed project will not worsen the existing conditions of two segments currently operating at unacceptable service levels. Therefore, a less than significant impact is identified for this issue area.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The project site is not located within an airport approach or departure path. The proposed project would not result in an increase in air traffic levels or a change in location that would result in substantial safety risks. Therefore, no impact associated with this issue area is anticipated.

- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed project does not involve the construction of any new public roadways, nor does it propose the use of dangerous equipment that would pose a hazard to the public. Currently, access to the project site is provided by Bear Mountain Way, a private road over which OWD has easements and which also provides access to neighboring properties. As part of the project, OWD will be repaving the road with asphalt concrete after the construction of the proposed project is complete. Repaving this road will improve the existing condition of the road, which has currently has numerous pavement cracks. In addition, a paved access road surrounding the proposed reservoir will be provided which will only be used by OWD for reservoir operations and maintenance purposes. Therefore, no impact associated with this issue area is anticipated.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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- e) Result in inadequate emergency access?

Adequate emergency access will be provided to the project site via Bear Mountain Way and a paved access road surrounding the project site. Therefore, no impact to this issue area is anticipated.

- f) Result in inadequate parking capacity?

The proposed project will not generate a demand for parking. Maintenance vehicles will park within the perimeter areas of the existing reservoirs. Therefore, no impact to this issue area is anticipated.

- g) Conflict with adopted policies plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

The project is the construction of a reservoir. The project will not generate vehicle trips that would conflict with an adopted policy, plan, or program supporting alternative transportation. Therefore, no impact to this issue area is anticipated.

**XVI. UTILITIES AND SERVICE SYSTEMS.** Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The project is the construction of a reservoir. The proposed project will not generate wastewater that enters the public sewer system. Therefore, no impact to this issue area is anticipated.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

The project is the construction of a reservoir. The overall concept of the project is consistent with the OWD Water Resources Master Plan (OWD, 2002), that provides for the availability of water to be provided from a number of possible sources. The project is consistent with the Master Plan and will provide potable water to accommodate the planned ultimate buildout of the 1296 Pressure Zone. The proposed project would not require the construction of new water or wastewater treatment facilities. Therefore, no impact to this issue area is anticipated.

- c) Require or result in the construction of new storm water drainage facilities or expansion of existing

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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facilities, the construction of which could cause significant environmental effects?

Please see VIII a) and c) above. Drainage for the project site is proposed to be directed south consistent with the existing drainage pattern of the site. Under existing conditions, stormwater runoff from the project site flows into a natural drainage south of the site. Stormwater runoff from the project site will be captured via surface and subsurface drainage improvements and discharged to a rip-rap energy dissipator and ultimately into the natural drainage south of the project site. Figure 3 depicts the location and Figure 6 depicts the design of the proposed rip-rap energy dissipator. As depicted in Figure 3, the proposed energy dissipator will occur entirely within the project site boundary. Environmental impacts associated with the project's drainage feature are addressed in applicable sections of this Initial Study (e.g., Hydrology and Water Quality). Therefore, no impact to this issue area is anticipated.

- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

The project is the construction of a reservoir. The overall concept of the project is consistent with the OWD Water Resources Master Plan (OWD, 2002), that provides for the availability of water to be provided from a number of possible sources. The project is consistent with the Master Plan and will provide potable water to accommodate the planned ultimate buildout of the 1296 Pressure Zone. The project will not require the addition of new or expanded entitlements for water supplies. Therefore, no impact to this issue area is anticipated.

- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The proposed project is the construction of a reservoir and no wastewater will be generated by the project. The project will not treat any water, and will not have any facilities producing wastewater. Therefore, no impact to this issue area is anticipated.

- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Construction waste will be minimal, and is anticipated to be disposed of at the Otay Landfill in South Chula Vista. According to the Draft Countywide Siting Element, the Otay Landfill has a remaining capacity of 31,336,166 tons and is anticipated to close in 2027 assuming the current disposal rates continue. The Otay Landfill has sufficient permitted capacity to accommodate the project's solid waste disposal needs during construction. Negligible waste would be generated during the operation of the proposed reservoir. Therefore,

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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no impact to this issue area is anticipated.

- g) Comply with federal, state, and local statutes and regulations related to solid waste?

The proposed project does not represent a significant generator of solid waste and the project would comply with all applicable federal, state, and local statutes and regulations related to the generation of solid waste. Therefore, no impact to this issue area is anticipated.

**XVII. MANDATORY FINDINGS OF SIGNIFICANCE**

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Please see Sections IV and V above. The proposed project will result in an impact 1.20 acres of CSS, 0.02 acre of disturbed habitat, and 0.20 acre of developed area. The project site is also located adjacent to undisturbed and vegetated areas which have been identified as habitat for the gnatcatcher. In addition, the proposed project is covered under the 1994 Biological Opinion (BO) for impacts to 0.98 acre of CSS and direct or indirect impacts to one nesting gnatcatcher pair. The proposed project will result in an additional 0.22 acre of impact to CSS. The OWD HMA has sufficient availability of CSS credits to accommodate this increase in CSS impact. It is anticipated that OWD will need to coordinate with the USFWS regarding an amendment to the BO. Implementation of mitigation measures proposed within this document will reduce the potential biological impacts to a level less than significant.

Additionally, the proposed project does not have the potential to degrade important examples of major periods of California history or prehistory.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than significant impact	No Impact
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All project impacts will be mitigated to a less than significant impact and are not considered cumulatively considerable.

- c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

As demonstrated in this Initial Study, the proposed project will not result in a potential impact to the health and well being of human beings either directly or indirectly.

**XVIII. EARLIER ANALYSIS**

In 2002, a Master Plan was prepared for the OWD that included this project in order to meet the projected ultimate buildout water demands for the OWD 1296 Pressure Zone. Pursuant to the Master Plan, a Final Program Environmental Impact Report (PEIR) was prepared in 2004. This Mitigated Negative Declaration is consistent with the information provided in the PEIR.

**XIV. REFERENCES USED IN THE COMPLETION OF THE INITIAL STUDY CHECKLIST**

California Environmental Quality Act, CEQA Guidelines, 2007.

California Division of Mines & Geology. Jamul 7 1/2 Minute Quadrangles, 1975.

County of San Diego General Plan,

County of San Diego General Plan, Scenic Highway Element, January 1975 (amended in 1986).

Department of Conservation, Divisions of Mines and Geology, Update of Mineral Land Classification: Aggregate Materials in the Western San Diego County Production-Consumption Region, 1983.

Deméré, Tom, Paleontological Resources for County of San Diego, 1993.

Otay Water District 1296-3 Reservoirs, Preliminary Design Report, June 2006.

Otay Water District Water Resources Master Plan, 2002.

Otay Water District, Water Resources Final Program Environmental Impact Report, 2004.

Regional Water Quality Control Board, Water Quality Control Plan for the San Diego Basin (9), September 8, 1994.

Special Publication 42, Fault Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zones Act, Title 14, 2000.

United States Department of Agriculture, San Diego County Soil Survey, San Diego Area, June 2003.

United States Fish and Wildlife Service, Biological Opinion on the Otay Water District Capital Improvement Program, San Diego, California, 1994.

To:  Office of Planning and Research  
 PO Box 3044, 1400 Tenth Street, Room 212  
 Sacramento, CA 95812-3044

County Clerk  
 County of \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

From: (Public Agency) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ (Address)

**Subject:**

**Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.**

**Project Title**

State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone/Extension
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**Project Location** (include county)

**Project Description:**

This is to advise that the \_\_\_\_\_ has approved the above described project on \_\_\_\_\_  
 Lead Agency     Responsible Agency  
 \_\_\_\_\_ and has made the following determinations regarding the above described project:  
 (Date)

1. The project [will will not] have a significant effect on the environment.
2.  An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.  
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [were were not] made a condition of the approval of the project.
4. A statement of Overriding Considerations [was was not] adopted for this project.
5. Findings [were were not] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval is available to the General Public at:

\_\_\_\_\_

Signature (Public Agency)	Date	Title
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Date received for filing at OPR:

January 2004

# Mitigation Monitoring and Reporting Program

## 1296-3 Reservoir

State Clearinghouse No. 2007101085

Lead Agency:  
Otay Water District  
2554 Sweetwater Springs Boulevard  
Spring Valley, CA 91978-2004

Prepared by:  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, CA 92101

June 2008

## MITIGATION MONITORING AND REPORTING PROGRAM

### **Otay Water District**

### **1296-3 Reservoir**

The Otay Water District will adopt this Mitigation Monitoring and Reporting Program (MMRP) in accordance with Public Resources Code (PRC) Section 21081.6 and Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. The purpose of the MMRP is to ensure that the 1296-3 Reservoir project, which is the subject of the Mitigated Negative Declaration (MND), complies with all applicable environmental mitigation requirements. Mitigation measures for the project will be adopted by the Otay Water District, in conjunction with the adoption of the MND. Those mitigation measures have been integrated into this MMRP. Within this document, approved mitigation measures are organized and referenced by subject category and include those for: (III) air quality; (IV) biological resources; (VI) geology/soils; (VIII) hydrology and water quality; and (XI) noise in Attachment A. Specific mitigation measures are identified, as well as the method and timing of verification and the responsible party that will ensure that each action is implemented.

Mitigation measures applicable to the project include avoiding certain impacts altogether, minimizing impacts by limiting the degree or magnitude of the action and its implementation, and/or reducing or eliminating impacts over time by maintenance operations during the life of the action.

Public Resources Code Section 21081.6 requires the Lead Agency, for each project that is subject to the California Environmental Quality Act (CEQA), to monitor performance of the mitigation measures included in any environmental document to ensure that implementation does, in fact, take place. The Otay Water District is the designated lead agency for the Mitigation Monitoring and Reporting Program. The Otay Water District is responsible for review of all monitoring reports, enforcement actions, and document disposition. The Otay Water District will rely on information provided by the monitor as accurate and up to date and will field check mitigation measure status as required.

A record of the Mitigation Monitoring and Reporting Program will be maintained at the Otay Water District, 2554 Sweetwater Springs Boulevard, Spring Valley, CA 91978. All mitigation measures contained in the Mitigated Negative Declaration shall be made conditions of the project as may be further described below.

**Attachment A  
Mitigation Monitoring and Reporting Program  
Otay Water District  
1296-3 Reservoir**

<b>Mitigation Measure</b>		<b>Implementation Time Frame</b>	<b>Implementation Responsibility</b>	<b>Verification Responsibility</b>
<b>III Air Quality</b>				
A1	<p>During clearing, grading, and earth moving, the District shall control fugitive dust by regular watering of the site and access road. The following practices shall be implemented:</p> <ul style="list-style-type: none"> <li>• Spread soil binders;</li> <li>• Wet the area down, sufficient enough to form a crust on the surface with repeated soakings, as necessary, to maintain the crust and prevent dust pick up by the wind;</li> <li>• Use water trucks or sprinkler systems to keep all areas where vehicles move wet enough to prevent dust raised when leaving the site;</li> <li>• Wet down areas in the late morning and after work is completed for the day.</li> </ul>	Ongoing during Construction	Construction Contractor	OWD
<b>IV Biological Resources</b>				
B1.	The impact to 1.20 acres of Diegan Coastal sage scrub (CSS) shall be mitigated through the preservation of CSS at a 2:1 ratio for a total mitigation requirement of 2.40 acres of CSS. The 2.40 acres of CSS shall be preserved in the OWD's existing HMA.	Prior to Construction	OWD	OWD
B2.	To avoid potential direct impacts to nesting birds, all vegetation clearing within the construction footprint (project site boundary) shall be conducted outside of the gnatcatcher breeding season (February 15 through September 1). A biologist shall be onsite to walk ahead of clearing/grubbing equipment to flush any gnatcatchers toward areas of appropriate vegetation that are to be avoided. The biologist will ensure that gnatcatchers are not injured or killed by initial vegetation clearing/grubbing.	Prior to Construction and Ongoing during Vegetation Clearing	OWD	OWD
B3.	<p>To avoid indirect construction related noise impacts to gnatcatchers during the breeding season (February 15 through September 1), surveys shall be conducted to determine the exact location of nests within 315 to 790 feet from the center of construction activity.</p> <p>If an occupied gnatcatcher nest is identified during a survey within 315 to 790 feet from the center of construction activity, a focused noise survey shall be conducted to determine the actual noise level at the nest. If the noise level exceeds 60 dB(A) at the nest, noise reduction techniques such as temporary noise barriers/walls shall be installed. Construction activity noise levels shall be monitored near the nesting locations. Additional noise reduction measures such as reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used are also considered appropriate.</p>	Prior to and Ongoing during Construction	OWD	OWD
<b>VI Geology/Soils</b>				
GS1.	<p>Same as Mitigation Measure WQ1, below; and,</p> <p>In order to mitigate the potential for differential settlement, the cut portion of the pad shall be undercut an amount equal to one-third or more of the deepest fill depth beneath the structure or three feet, whichever is greater, and replaced with compacted fill. Prior to construction of the proposed project a comprehensive geotechnical evaluation, including development-specific subsurface exploration and laboratory testing, shall be conducted. The purpose of the subsurface evaluation would be to further evaluate the subsurface conditions in the area of future structures or improvements and to provide information pertaining to the engineering characteristics of earth materials at the project site. From this data, recommendations for grading/earthwork, surface and subsurface drainage, foundations, pavement structural sections, sedimentation modifications, and other pertinent geotechnical design considerations may be required as additional mitigation measures for the proposed project.</p>	Prior to Construction and Ongoing During Construction and Operation	Construction Contractor and OWD	OWD

**Attachment A  
Mitigation Monitoring and Reporting Program  
Otay Water District  
1296-3 Reservoir**

Mitigation Measure	Implementation Time Frame	Implementation Responsibility	Verification Responsibility
<b>VIII Hydrology and Water Quality</b>			
<p>WQ1. Best Management Practices (BMPs) shall be implemented at the project site during construction and long-term operation of the reservoir. The contractor specifications shall require the implementation of BMPs to control stormwater runoff during project construction. The following measures shall be implemented:</p> <ul style="list-style-type: none"> <li>• Prior to the commencement of construction activities of the proposed project, the OWD shall comply with the Resources Control Board General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ), the following components are required: a Notice of Intent (NOI), Stormwater Pollution Prevention Plan (SWPPP), and Monitoring Program and Reporting Requirements. The SWPPP shall include all required elements and BMPs that shall be used during construction include but are not limited to: <ul style="list-style-type: none"> <li>- Silt fence, fiber rolls, or gravel bag berms;</li> <li>- Street sweeping;</li> <li>- Storm drain inlet protection;</li> <li>- Stabilized construction entrance/exit;</li> <li>- Vehicle and equipment maintenance, cleaning, and fueling; and,</li> <li>- Hydroseed, soil binders, or straw mulch.</li> </ul> </li> </ul> <p>In preparing the SWPPP, OWD shall reference the County of San Diego's Standard Urban Storm Water Mitigation Plan (SUSMP) and Stormwater Standards Manual (SSM) for a template in preparing the Storm Water Management Plan (SWMP) and guideline for selecting and implementing BMPs.</p> <ul style="list-style-type: none"> <li>• Prepare a BMP implementation and maintenance schedule to provide proper guidance in the proper utilization of BMPs.</li> </ul>	<p>Prior to and Ongoing During Construction, and During Operation</p>	<p>Construction Contractor and OWD</p>	<p>OWD</p>
<b>XI Noise</b>			
<p>N1. The following shall be incorporated into the design and construction of the proposed project:</p> <ul style="list-style-type: none"> <li>• Noise construction activities shall be scheduled only during the hours and days as permitted by OWD standards, which are Monday through Saturday 7:00 AM to 5:00 PM;</li> <li>• If blasting is employed during construction, the blast target shall be completely covered at least with two loader buckets full of dirt;</li> </ul>	<p>Ongoing During Construction</p>	<p>Construction Contractor and OWD</p>	<p>OWD</p>

**Attachment A  
Mitigation Monitoring and Reporting Program  
Otay Water District  
1296-3 Reservoir**

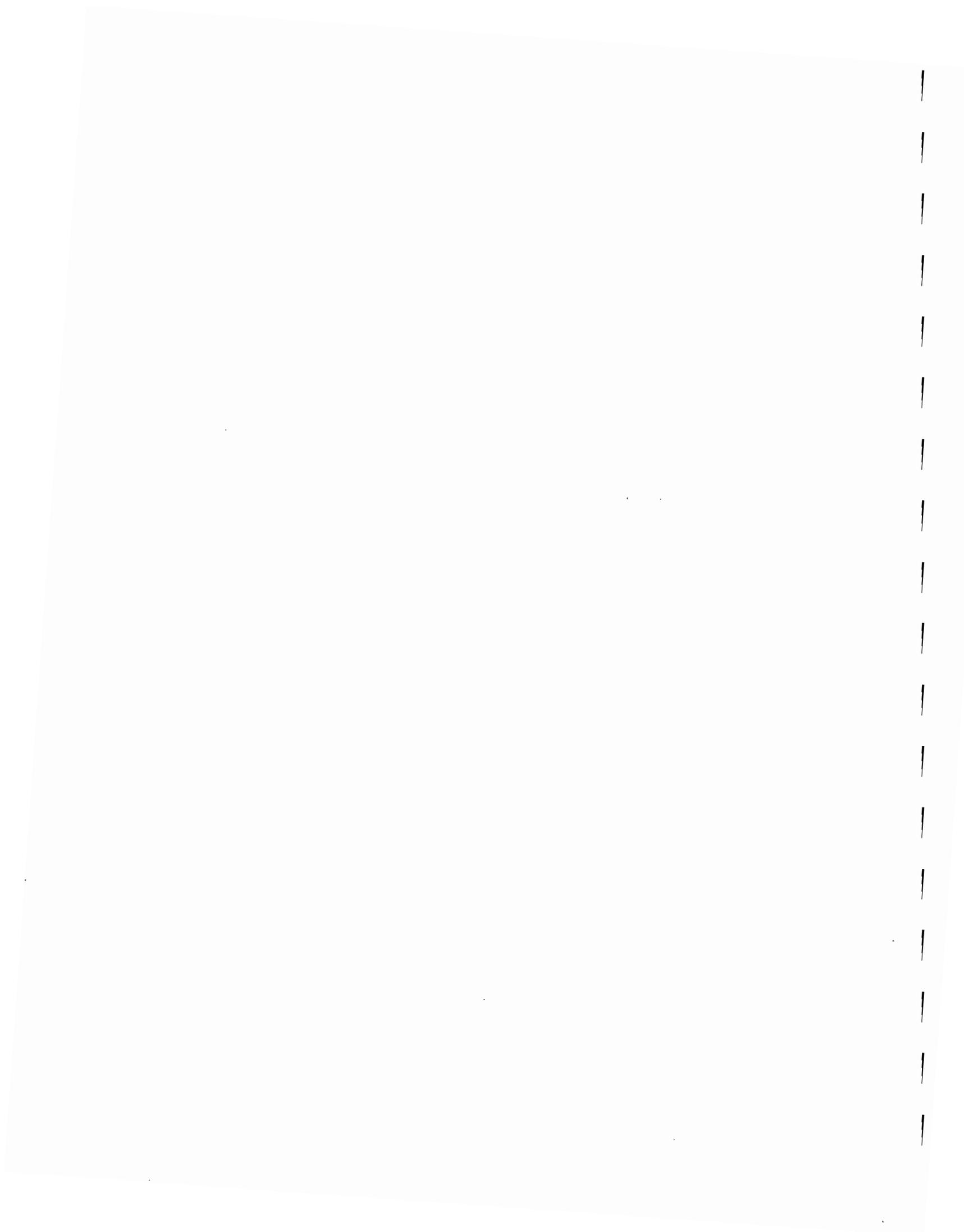
<b>Mitigation Measure</b>	<b>Implementation Time Frame</b>	<b>Implementation Responsibility</b>	<b>Verification Responsibility</b>
<ul style="list-style-type: none"> <li>• All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. Impact tools shall be shielded per manufacturer's specifications; and,</li> <li>• Grading and construction equipment shall be stored on the project site while in use.</li> </ul>			

# Appendix A

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## Biological Resources Report

*Prepared by Rocks Biological Consulting*



# ROCKS BIOLOGICAL CONSULTING

September 26, 2007

Mr. Patrick O'Neill  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, CA 92101

**Subject: Biological Resources Report for the Proposed Otay Water District  
1296-3 Reservoir Project**

Dear Patrick,

This report presents the results of the vegetation mapping, wetland assessment, general survey for biological resources, Quino Checkerspot Butterfly (*Euphydryas editha quino*) habitat assessment, US Fish and Wildlife Service (USFWS) protocol surveys for the California Gnatcatcher (*Polioptila californica*), and rare plant surveys for the approximately 1.4-acre Otay Water District 1296-3 Reservoir Project.

## **Introduction and Project Description**

The Otay Water District (OWD) is a publicly owned water and sewer service agency serving the needs of approximately 186,000 people in a 125.5 square mile area in southern San Diego County and encompassing the communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, Eastern Chula Vista, and Otay Mesa along the international border with Mexico.

The District is comprised of five potable water service systems: the La Presa, Hillsdale and Regulatory systems in the northern portion of the OWD, and the Central Area and Otay Mesa systems in the southern portion of the OWD. The proposed project is located in the Regulatory system, which comprises 27,440 acres of the northern portion of the OWD. Additionally, the proposed project is located within the 1296 Pressure Zone of the Regulatory system. The 1296 Pressure Zone serves portions of the unincorporated community of Jamul.

The existing level of water storage within the 1296 Pressure Zone is 3.03 million gallons (MG) and is provided by the 1.02 MG 1296-1 Reservoir and the 2.01 MG 1296-2 Reservoir. These existing reservoirs are located in Jamul and at the west end of Bear Mountain Way (Figure 1). The existing reservoirs are welded steel, flat bottom reservoirs supported on ring wall foundations at an elevation of 1265 feet. The maximum water depth in the reservoirs is approximately 31 feet.

Based on the storage requirements of the 2002 Water Resources Management Plan (WRMP), existing water storage in the 1296 Pressure Zone is deficient; the total required operational storage was 3.5 MG for the 2002 conditions and 6.13 MG for 2006 conditions. The projected ultimate storage for the 1296 Pressure Zone is 15.17 MG. Therefore, storage in the 1296 Pressure Zone is currently

deficient by 3.1 MG and will be deficient by an estimated 12.14 MG for the projected ultimate condition.

OWD's 2002 WRMP recommends that the existing storage deficiency in the 1296 Pressure Zone be addressed through the construction of a new reservoir. The 1296-3 Reservoir (2.0 MG) is proposed to be constructed on an approximately 5.0-acre parcel of land owned by OWD located south of the existing 1296-1 and 1296-2 Reservoirs. The proposed 1296-3 Reservoir will not satisfy the existing deficiency in the 1296 Pressure Zone but will partially mitigate the existing storage deficiency and contribute toward meeting the projected ultimate operational storage in the 1296 Pressure Zone of 15.17 MG.

The proposed 1296-3 Reservoir will be consistent with the existing reservoirs in terms of foundation elevation, shell height and minimum and maximum water elevations. The proposed project is anticipated to consist of a welded steel reservoir constructed above grade, similar to the existing reservoirs.

Water supplied to the proposed 1296-3 Reservoir will be provided through a 20-inch diameter inlet pipeline. The 20-inch pipeline will connect to the existing 12-inch pipeline in Bear Mountain Way. The outlet pipeline will be approximately 16 inches in diameter and will be concrete encased below the floor and footing of the 1296-3 Reservoir. The outlet pipeline will connect to the existing 16-inch outlet pipeline from the 1296-1 and 1296-2 Reservoirs.

Access to the existing 1296-1 and 1296-2 Reservoirs is provided by Bear Mountain Way, a private road over which OWD has easements and which also provides access to neighboring properties. The road is generally 18 to 20 feet wide with an average grade of 15 to 20 percent. Currently, the road has numerous pavement cracks. Truck traffic that will occur during construction of the proposed project may further damage the road. Therefore, as part of this project, the OWD is evaluating repaving of the road with asphalt concrete after the construction of the 1296-3 Reservoir is complete.

In addition, a paved access road surrounding the proposed 1296-3 Reservoir will be provided at a width of approximately 18 feet. This access road will be used only by OWD for reservoir operations and maintenance purposes. An access road from the 1296-3 Reservoir connecting to Bear Mountain Way will be constructed with a paved width of approximately 14 feet. The proposed new access roads will be located within the construction limits of the proposed project.

An eight-foot chain link fence currently surrounds the existing reservoirs. The southern portion of this fence will be removed and a new fence constructed around the new reservoir site. Temporary security fencing will be installed during construction when the removal of the existing fence is required.

Lighting to facilitate OWD maintenance and operation of Reservoir 1296-3 are anticipated as part of the proposed project. At this time, lighting improvements are anticipated to consist of 150 watt lamps mounted on 10-foot high steel posts

around the perimeter of the reservoirs. Three lamps per reservoir are anticipated. Lighting will only be utilized during reservoir maintenance and operation activities when OWD personnel are onsite. Specific lighting improvements will be identified during the design phase of the project.

A reinforced concrete retaining wall approximately nine feet in height borders the existing reservoirs on the south and west sides. The southern portion of this retaining wall will be removed to facilitate construction of the 1296-3 Reservoir project site. Partial removal of the existing retaining wall will also facilitate future maintenance of the existing reservoirs and the 1296-3 Reservoir. A new retaining wall, connected to the existing wall, will be constructed in the southerly direction to accommodate the footprint area of the tank.

Construction activities are anticipated to be limited to the hours of 7:00 am to 5:00 pm Monday through Saturday and would be completed in approximately 12 months. Construction is scheduled to begin in February 2008 and be completed by January 2009. Construction equipment to be used during different phases of construction will include a variety of equipment such as a dozer, excavator, backhoe, loader, motor grader, paving roller, paving compactor, drilling rig, road reclaimer, asphalt paver, trucks, mobile crane, air compressor, welders, grinders, concrete vibrators, and portable power generators. All construction equipment will be stored at a staging area within the project site.

Grading will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. Approximately 11,500 cubic yards of surplus material will be exported off-site. Approximately 750 total truck trips are estimated to move this quantity of material off-site. Imported material will consist of approximately 1,200 cubic yards of sand bedding to be placed beneath the reservoir floor and in pipeline trenches, and aggregate base and asphalt concrete for pavements. Approximately 60 truck trips are estimated to import these materials.

### **Site Description**

The proposed project site is located at the western terminus of Bear Mountain Way in the City of Jamul, San Diego, County, California (Figure 1). OWD reservoirs 1296-1 and 1296-2 are immediately adjacent to the proposed location of reservoir 1296-3. The proposed location supports Diegan Coastal Sage Scrub, Developed areas, and Disturbed habitat (Figure 2). The access route to the reservoir location is along Bear Mountain Way which is a paved road.

The site is located near the top of a large mountain and much of the proposed project is within steep topography. Elevation on the site ranges from approximately 1200 to 1300 feet above mean sea level (msl). Land use surrounding the proposed project site includes large areas of Diegan Coastal Sage Scrub and Chamise and Southern Mixed Chaparral to the south, west, and north with scattered residential housing to the east of the proposed project site.

The proposed project site is not located within the City of Chula Vista's Multiple Species Conservation Program (MSCP) 100% Preserve Area. The site is not within US Fish and Wildlife Service (USFWS) designated Quino Checkerspot

Butterfly Critical Habitat area, but is immediately adjacent to Critical Habitat Area 3 - Otay Unit (USFWS 2002b).

**Methods**

Vegetation mapping, general biological surveys, and an assessment of the site to support jurisdictional wetlands or Other Waters of the U.S. were conducted in September 2006 and April 2007. The vegetation mapping and initial surveys were conducted in part to help determine the need for focused and/or USFWS protocol surveys for rare, threatened, and endangered plants and wildlife. Based on the presence of suitable habitat, USFWS protocol surveys for the federally threatened California Gnatcatcher were conducted. Based on the location of the proposed project site within the USFWS Recommended Quino Survey Areas (2002) and its known range, a habitat assessment for the endangered Quino Checkerspot Butterfly (QCB) was conducted. Site survey dates and conditions are shown in Table 1. Vegetation communities were mapped in the field on a 1"=100' scale aerial photograph. Sensitive species observed during the survey were mapped using a Global Positioning System (GPS) and recorded on the vegetation map. Sensitive species are defined here as those listed by the USFWS or California Department of Fish and Game (CDFG) as rare, threatened, or endangered and/or in the California Native Plant Society (CNPS) Inventory of Rare Plants (2003). Vegetation community classifications follow Holland (1986), or where appropriate Oberbauer's updated code (1996), and plant names follow Hickman, ed. (1993) and/or Simpson and Rebman (2006). U.S. Geological Survey (USGS) 7.5-minute topographical maps and aerial photographs were examined prior to the site visit. The California Gnatcatcher surveys and Quino Checkerspot Butterfly protocol surveys were conducted under Mr. Rocks' 10A(1a) Recovery Permit (TE #063320-2). The terms and conditions of the Recovery Permits, including pre-survey notification and reporting, were followed.

**Table 1. Survey Conditions During Field Surveys**

Dates	Aug 31 2006	Sept 7 2006	Sept 14 2006	Mar 21 2007	April 16 2007	June 13 2007
Time on site	0740 - 1115	0805 - 1130	0800- 1120	0900- 1100	1345 - 1645	1200- 1300
Temp (°F) Start-End	72-86	70-76	68-74	64-65	70-72	86-87
Sky Cover (%) Start-End	0-0	80-10	100-30	50-0	0-0	10-10
Wind Speed (MPH)	1-4	0-6	1-6	2-8	1-4	3-9
Personnel	JR	JR	JR	JR	JR	JR
Type of Survey	CAGN Survey	CAGN Survey; Veg Map	CAGN Survey; Veg Map	QCB Habitat Assess	Rare Plant Survey; Veg. Map	Rare Plant Survey

**Note:** CAGN = California Gnatcatcher Survey; QCB = Quino Checkerspot Butterfly; JR = Jim Rocks (TE-063230-2)

## Results

### *Botany*

The proposed project site consists primarily of the three (3) vegetation communities or land uses as described below and shown on Figure 2. One (1) sensitive plant species was observed during the rare plant surveys.

**Diegan Coastal Sage Scrub** (1.2 acres; Holland Code 32500) is comprised of low, soft-woody subshrubs approximately one meter (three feet) high, many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. The proposed project site supports 1.2 acres of Diegan Coastal Sage Scrub on relatively steep south and east facing slopes. This habitat can be considered high quality based on its species diversity and lack of disturbance. Plant species present in the Diegan Coastal Sage Scrub include California Sagebrush (*Artemisia californica*), California Buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), White Sage (*Salvia apiana*), and San Diego Sunflower (*Viguiera laciniata*). San Diego Sunflower is a CNPS List 4 species. List 4 species are considered sensitive because they have a limited distribution within California, but are still relatively common.

Impacts on Diegan Coastal Sage Scrub are considered significant and must be mitigated for the loss of this sensitive habitat.

**Disturbed Habitat** (0.02 acres; Oberbauer Code 11300) is land where the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of a native plant association (e.g. disturbed Coastal Sage Scrub). Disturbed habitat is typically found in vacant lots, roadsides, construction staging areas, or abandoned fields, and is dominated by non-native species and may have large areas that lack vegetation. The Disturbed Habitat within the proposed project site has been cleared to allow for parking of vehicles. This area is largely barren, but annual weedy species such as Russian Thistle (*Salsola tragus*), Short-pod Mustard (*Hirschfeldia incana*), and Brome grasses (*Bromus* spp.) are colonizing the edges of the cleared area.

Impacts on Disturbed Habitat are not significant and no mitigation is required for impacts on this habitat.

**Developed** (0.2 acres; Oberbauer Code 10000) areas support no native vegetation and may be additionally characterized by the presence of human-made structures such as buildings or roads. The Developed areas within the proposed project site include Bear Mountain Way. The road consists of asphalt and does not support plant species.

Impacts on Developed land are not significant and no mitigation is required for impacts on Developed land.

### *Sensitive Plant Species*

One sensitive plant species, San Diego Sunflower (*Viguiera laciniata*; CNPS List 4) was observed within the proposed project site. The San Diego Sunflower occurs throughout the proposed project site as a common component of the Diegan Coastal Sage Scrub. List 4 species are considered plants of limited distribution, but are still considered common. San Diego Sunflower is relatively common in Coastal Sage Scrub in the southern portion of the county away from the immediate coast (Reiser 1994). This species is often found on dry, clay soils. Because List 4 species are relatively common, specific mitigation for this species would not be required. Mitigation for impacts on the Diegan Coastal Sage Scrub in which San Diego Sunflower occurs would be required.

A focused survey for the federally listed endangered Otay Tarplant (*Deinandra conjugens*) was conducted during the appropriate flowering time (early summer) for this species. Otay Tarplant was not observed within the proposed project site and is not expected due to lack of suitable clay soils.

### *Wildlife*

The wildlife species observed on site are typical for Diegan Coastal Sage scrub adjacent to residential housing. Bird species observed on site or soaring above include Red-tailed Hawk (*Buteo jamaicensis*), Spotted Towhee (*Pipilo maculatus*), Anna's Hummingbird (*Calypte anna*), California Thrasher (*Toxostoma redivivum*), House Finch (*Carpodacus mexicanus*), Common Raven (*Corvus corax*), and California Towhee (*Pipilo crissalis*). The federally listed threatened California Gnatcatcher (*Polioptila californica*) and CDFG Species of Special Concern Rufous-crowned Sparrow (*Aimophila ruficeps*) were observed approximately 230 feet and at least 300 feet from the project boundary, respectively.

Mammals or their sign that were observed on site or in the adjacent Habitat Management Area include Coyote (*Canis latrans*), Mule Deer (*Odocoileus hemionus*), California Ground Squirrel (*Spermophilus beecheyi*), and Audubon's Cottontail (*Sylvilagus audubonii*). Other mammals that may be present include species of small mice such as Deer Mice (*Peromyscus* sp.) and Pocket Gophers (*Thomomys bottae*).

### *Sensitive Wildlife Species*

The federally listed threatened California Gnatcatcher (*Polioptila californica*) was observed outside of the proposed project site, but within approximately 230 feet of the western boundary in 2006. This species nests almost exclusively in open sage scrub in coastal San Diego County (Unitt 2004). Although not observed within the proposed project site, the quality and quantity of the Diegan Coastal Sage Scrub onsite appears suitable to support nesting and foraging by the California Gnatcatcher.

A USFWS protocol habitat assessment for the federally endangered Quino Checkerspot Butterfly (*Euphydryas editha quino*) was conducted in March 2007. This species is known to occupy openings in native scrub, chaparral, or grasslands with patches of its host plant and nectar sources and typically uses ridgelines and hilltops and areas with cryptobiotic crusts (USFWS 2002). The site does not appear suitable because most of the area is dense Diegan Coastal Sage

Scrub with few, small openings on steep terrain. The flat, open, disturbed area at the highest point onsite is highly disturbed and neither the primary host plant, Dot-seed Plantain (*Plantago erecta*), or potential secondary host plants such as Owl's Clover (*Castilleja* spp.) or Bird's Beak (*Cordylanthus* spp.) were observed. Based on the habitat assessment and overall site conditions, it is unlikely that the Quino Checkerspot Butterfly occupies or will occupy the site in the near future. The site is not within designated USFWS Critical Habitat for Quino Checkerspot Butterfly.

#### **Jurisdictional Wetlands and other Waters of the United States Assessment**

An assessment of the site to support wetlands and other Waters of the U.S. was conducted. The proposed project site does not support jurisdictional wetlands or Other Waters of the U.S. (OWUS). An erosion scar resulting from what appears to be an old dirt road is present onsite does not meet state or federal jurisdictional guidelines. This feature does not support naturally occurring streambed and banks, wetland vegetation, or hydric soils. No jurisdictional wetlands or OWUS were observed within the project site.

#### **Potential Noise Issues**

Although direct impacts are not anticipated, the California Gnatcatcher is a federally listed threatened species that may be negatively affected by noise during construction. In 1991, the San Diego Association of Governments (SANDAG) conducted a study on potential effects of noise on bird habitats. The study concluded that an average noise level (Leq) of 60 dB(A) could mask a bird's song and potentially interfere with communication during the breeding season. This interference may make it more difficult for a bird to defend its territory and/or result in reduced fecundity (reproductive success). In 1991, the USFWS adopted 60dB(A) average noise level as a threshold for noise effects to protect sensitive bird species such as the California Gnatcatcher. Potential noise effects on these species must be avoided through project Best Management Practices (BMPs) and/or mitigation measures.

The California Gnatcatcher was observed foraging within 230 feet of the site in 2006. A noise study conducted by Wieland Associates, Inc. for this project concluded that noise levels will be 60dB(A) at a distance of 315 to 790 feet from the center of construction activity during reservoir construction (February to December 2008) and at a distance of 455 feet from the center of activity if Bear Mountain Way is repaved. The breeding season for the California Gnatcatcher occurs approximately 1 February through 31 July. Based on the results of the noise study, there may be significant noise effects on this sensitive species. Because it is not currently possible to determine the exact location where the California Gnatcatcher will nest near the site, OWD proposes to conduct additional surveys for the California Gnatcatcher prior to the start of construction to determine their location. Focused noise measurements can then be taken in the field near the location of this species. If the California Gnatcatcher is within the potential noise effect area, additional mitigation measures will be implemented. Mitigation may include installing noise muffling apparatus on construction equipment and/or building a sound wall to reduce noise levels to below 60dB(A). If a sound wall is not effective in reducing noise

levels below the 60dB(A) threshold, additional mitigation measures should be implemented. In consultation with the USFWS it is likely that noise mitigation measures can be agreed to that will avoid "take" of this listed species.

### **1994 U.S. Fish and Wildlife Biological Opinion**

In 1994 OWD received a Biological Opinion from the USFWS that covered the proposed 1296-3 Reservoir project (Capital Improvement Project [CIP] 143). The USFWS stated that the proposed project would not "jeopardize the continued existence of the coastal California Gnatcatcher" and that the project site does not support critical habitat for the California Gnatcatcher.

In the BO, the USFWS proposed a list of conservation measures that should be undertaken to avoid, minimize, or mitigate direct impacts of CIP projects, including the 1296-3 Reservoir project. The following is a list of conservation measures that are relevant to this project:

- No clearing or grading shall occur within occupied California Gnatcatcher habitat during the breeding or nest establishment season (1 February through 31 July).
- Construction activities shall proceed through Coastal Sage Scrub habitat without temporal break to restrict the duration of construction impacts.
- All construction corridors within or adjacent to Coastal Sage Scrub, or other habitat occupied by California Gnatcatchers, shall be temporarily fenced with single-strand construction fencing or chain-link fencing to prevent expansion of the disturbance footprint.
- Acquire and preserve offsite Coastal Sage Scrub habitat to mitigate direct impacts on Coastal Sage Scrub

If these conditions are met, OWD can construct the proposed project without a "take" of USFWS listed species.

### **Conclusion and Potential Mitigation**

The proposed project site is located primarily within Diegan Coastal Sage Scrub that is suitable habitat for the threatened California Gnatcatcher. As a result, the primary biological resource issues associated with the proposed project are direct impacts on Diegan Coastal Sage Scrub (1.2 acres) and potential direct and indirect (noise) impacts on the threatened California Gnatcatcher. Impacts on Disturbed Habitat and Developed areas are not significant and do not require mitigation.

***Mitigation Measure for Habitat Impacts***

Direct impacts on Diegan Coastal Sage Scrub (1.2 acres) require mitigation. To mitigate the loss of Diegan Coastal Sage Scrub, OWD proposes to preserve Diegan Coastal Sage Scrub on lands in their Habitat Management Area (HMA) at a 1:1 ratio resulting in conservation of 1.2 acres (see Table 3).

The HMA was established to function as a conservation area to mitigate habitat impacts that occur as a result of OWD projects and activities. The mitigation ratios provided below are consistent with other local agency mitigation requirements when impacts occur outside target preservation areas and mitigation is provided inside target preservation areas. The proposed mitigation is the same as what would be required in the City of Chula Vista (pursuant to their Habitat Loss and Incidental Take Ordinance and Multiple Species Conservation Program [MSCP] Subarea Plan); the City of San Diego (pursuant to their Biology Guidelines and MSCP Subarea Plan); or the County of San Diego (pursuant to their Biological Mitigation Ordinance and MSCP).

**Table 3. Impact Acreage and Proposed Mitigation for the OWD 1296-3 Reservoir Project**

<b>Vegetation Community</b>	<b>Acreage of Impact</b>	<b>Proposed Mitigation Ratio</b>	<b>Proposed Mitigation Acreage</b>
Diegan Coastal Sage Scrub	1.2	1:1	1.2
Disturbed Habitat	0.02	Not Required	--
Developed	0.2	Not Required	--
<b>Total</b>	<b>1.4</b>	<b>N/A</b>	<b>1.2</b>

***Impacts to Sensitive Plant Species***

The only sensitive plant species found on the project site is the San Diego Sunflower, a CNPS List 4 species. The San Diego Sunflower is relatively common in Diegan Coastal Sage Scrub in the southern portion of the County away from the immediate coast. This species is a dominant shrub in areas immediately adjacent to the project site. Conservation of Diegan Coastal Sage Scrub within OWD's HMA, as required with the implementation of mitigation for habitat impacts, will offset impacts to this species. Therefore, the impact to San Diego Sunflower is considered less than significant.

***Impacts to Sensitive Wildlife Species***

As discussed above, during the 2006 protocol-level survey, no nesting California Gnatcatchers were identified on the project site; however, the project site does contain 1.2 acres of Diegan Coastal Sage Scrub, which is considered suitable habitat for California Gnatcatchers. Therefore, in order to avoid direct impacts to Gnatcatchers, OWD shall clear the vegetation on the project site outside the Gnatcatcher breeding season (February 15 to September 1). A biologist shall be onsite to walk ahead of clearing/grubbing equipment to flush any California Gnatcatchers toward areas of appropriate vegetation that are to be avoided. The biologist will ensure that California Gnatcatchers are not injured or killed by

initial vegetation clearing/grubbing. These requirements are consistent with the terms and conditions of the BO.

As discussed, the Gnatcatcher was observed within 230 feet of the project site and is a sensitive species that may be indirectly impacted by noise during construction. In 1991, the USFWS adopted a 60 average decibels (dB(A)) noise level as a threshold for noise effects to protect sensitive bird species such as the Gnatcatcher. The noise study conducted for the proposed project concluded that noise levels would exceed 60 db(A) at a distance of 315 to 790 feet from the center of construction activity during construction of the reservoir and at a distance of approximately 455 feet from the center of the activity if Bear Mountain Way is repaved. Based on Appendix I of the Noise Study (Appendix E of this Initial Study), during the months of February and March 2008 of construction the noise level will be 60 dB(A) at a distance of approximately 315 feet; in April and May 2008 it will be at distance of approximately 790 feet and in June through December 2008 it will be a distance closer to 315 feet. The breeding season for the Gnatcatcher is February 15 through September 1. Based on the results of the noise study, construction of the proposed reservoir has the potential to result in indirect construction related noise impacts on the Gnatcatcher. Because it is not currently possible to determine if Gnatcatchers are nesting near the project site and/or the exact location of nests near the project site (each year nesting locations may change), OWD proposes to conduct pre-construction surveys for the Gnatcatcher to determine if any Gnatcatchers are nesting near the site and their location. If the nesting Gnatcatchers are within the potential noise effect area, a focused noise survey shall be conducted to determine the actual noise level at the nest. If the noise level exceeds 60 dB(A) at the nest, noise reduction techniques such as temporary noise barriers/walls shall be installed. Construction activity noise levels shall be monitored near the nesting locations. Additional noise reduction measures such as reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used are also considered appropriate. These measures shall be implemented to reduce the potential impact to this species to a level less than significant.

The 1994 BO provides incidental take coverage for the proposed project (CIP No. 143) to directly or indirectly impact one California Gnatcatcher pair. If based on the pre-construction surveys, more than one pair of Gnatcatchers has the potential to be impacted by the project; OWD will consult with the USFWS prior to construction. However, implementation of the mitigation measures stated above will reduce the potential for direct or indirect impacts, respectively to a level less than significant.

Based on a habitat assessment, the site does not support suitable habitat for the endangered Quino Checkerspot Butterfly and is not likely to in the future. No wetlands or other Waters of the U.S. were observed onsite.

Please feel free to contact me at (619) 843-6640 if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, consisting of the initials 'JR' followed by a long, horizontal, wavy line.

Jim Rocks, Principal Biologist  
**Rocks Biological Consulting**

## References

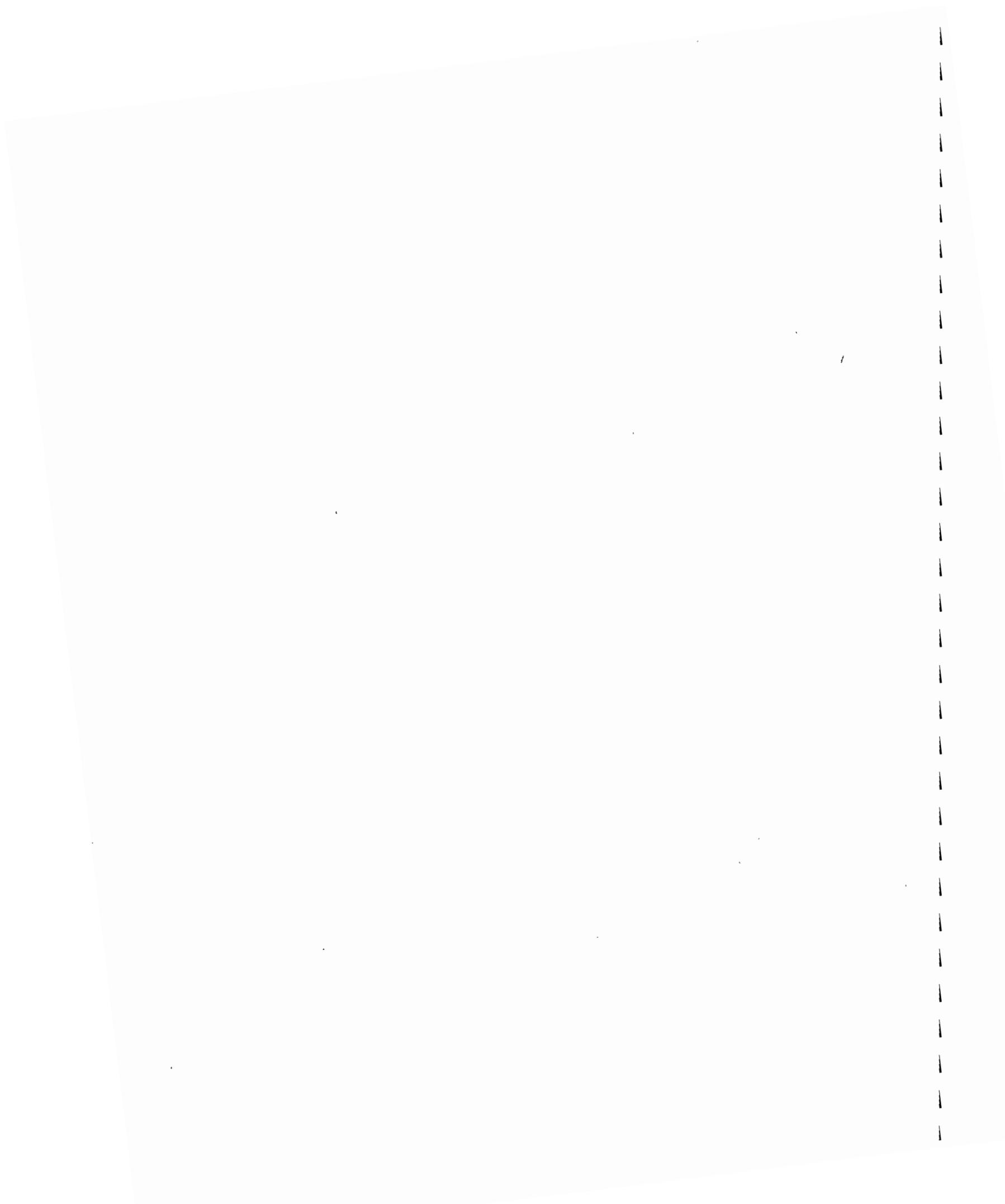
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# Appendix B

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## Cultural Resources Study

*Prepared by ASM Affiliates*





September 6, 2006

Mr. Patrick O'Neill  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, California 92101

Re: Cultural Resources Study for Otay Water District's Proposed 1296-3 Reservoir

Dear Mr. O'Neill,

This report presents the results of a cultural resources study conducted by ASM Affiliates, Inc. (ASM), for the proposed construction of the 1296-3 Reservoir, San Diego County (Figure 1). The project is located in Section 9 of Township 17 South, Range 1 East on the Jamul Mountain quadrangle (Figure 2). The study was performed to determine the presence or absence of potentially significant prehistoric and historic resources within the project boundaries. It consisted of a review of all relevant site records and reports on file with the South Coastal Information Center (SCIC) at San Diego State University and the San Diego Museum of Man, followed by an intensive pedestrian survey of the proposed project area. No cultural resources were identified within the project area as a result of the field survey or as a result of the records search. Therefore, no cultural resources will be impacted by the project and no further studies are recommended. The project description, study methods, and results are provided below.

### **Project Description**

The existing level of water storage within the 1296 Pressure Zone is 3.03 million gallons (MG) and is provided by the 1.02 MG 1296-1 Reservoir and the 2.01 MG 1296-2 Reservoir. These existing reservoirs are located in Jamul and at the west end of Bear Mountain Way. The existing reservoirs are welded steel, flat bottom reservoirs supported on ring wall foundations at an elevation of 1265 feet. The maximum water depth in the reservoirs is approximately 31 feet. Based on the storage requirements of the 2002 WRMP, existing water storage in the 1296 Pressure Zone is deficient; the total required operational storage was 3.5 MG for the 2002 conditions and 6.13 MG for 2006 conditions. The projected ultimate storage for the 1296 Pressure Zone is 15.17

MG. Therefore, storage in the 1296 Pressure Zone is currently deficient by 3.1 MG and will be deficient by an estimated 12.14 MG for the projected ultimate condition.

The proposed 1296-3 Reservoir will be consistent with the existing reservoirs in terms of foundation elevation, shell height and minimum and maximum water elevations. The proposed project is anticipated to consist of a welded steel reservoir constructed above grade, similar to the existing reservoirs. The proposed project site is approximately 1.36 acres. Construction equipment to be used during different phases of construction will include a variety of equipment such as a dozer, excavator, backhoe, loader, motor grader, paving roller, paving compactor, drilling rig, road reclaimer, asphalt paver, trucks, mobile crane, air compressor, welders, grinders, concrete vibrators, and portable power generators. All construction equipment will be stored at a staging area within the project site. Grading will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. Approximately 11,500 cubic yards of surplus material will be exported off-site. Imported material will consist of approximately 1,200 cubic yards of sand bedding to be placed beneath the reservoir floor and in pipeline trenches, and aggregate base and asphalt concrete for pavements.

### **Study Methods and Field Conditions**

Methods used to assess the presence or absence of cultural resources within the property included a search of existing records and an intensive field survey. The records searches were conducted at the South Coastal Information Center (SCIC), San Diego State University on July 9 and 10, 2006, and at the San Diego Museum of Man on July 10, 2006. The searches included areas within one mile of the study area boundaries.

The field survey was conducted on July 21, 2006, by ASM Associate Archaeologist Dave Iversen, under the direction of Principal Investigator Susan Hector, Ph.D. Field methods consisted of walking transects at 10-m intervals from one corner of the project area to another while examining the ground for artifacts or other evidence of human activity greater than 50 years old. The survey area was transected from southeast to northwest then back on adjacent transects until the entire project area was covered. The archaeologist strayed from transects to examine bedrock exposures for possible milling features.

The majority of the project area is located on a steep south-facing slope with, a smaller but steeper east trending slope in the northern end of the project property. Bedrock boulders and outcrops consisting of porous and fractured volcanic rock are present in the project area. However, none of them displayed cultural modification. Limited portions of the project area displayed modern disturbances, including previous grading and clearing in the western and southern ends, a paved road in the north end, a barbed-wire fence, and the construction of two water storage tanks adjacent to the project property. The existing tanks are surrounded by a chain-link fence. Modern debris, including glass, metal, and plastic, was scattered sparsely across the project area. Ground surface visibility varied from 10-70 percent (averaging 50 percent). Vegetation consisted of members of the Coastal Sage Scrub community including California buckwheat, black sage, California sage, and other shrubs with an understory of dense grasses. Introduced Eucalyptus trees lined portions of the existing water tank fencing.

## Study Results

The records search indicated that no previously recorded cultural resources are located within the project area, and no previous archaeological studies have been conducted for the project property. Over 31 cultural resources are located within one mile of the project area. However, all are located at lower elevations on landforms dissimilar from that of the project property.

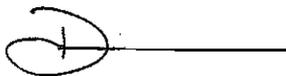
No cultural resources were found within the project parcel as a result of the intensive field survey. It is unlikely that cultural resources exist within the project area based on the steep slopes comprising the majority of the project property. The reasons for this are twofold: firstly, recorded archaeological sites and ethnographic data for the region suggest that prehistoric occupations of any duration long enough to leave archaeological evidence are typically located on relatively level landforms; and secondly, colluvial forces would likely displace any ephemeral archaeological deposits downslope, and thus outside of the project area.

## Management Considerations

A search of records on file at SCIC and the Museum of Man indicates no cultural resources are present within the project area, and no newly discovered prehistoric or historic cultural resources were identified during the field survey. As such, it is concluded that implementation of the proposed project will not result in direct or indirect impacts to any cultural resources. Therefore, no further treatment or investigations are recommended.

Should you have any questions regarding this study, please do not hesitate to call me or Dr. Susan Hector

Sincerely,

A handwritten signature in black ink, consisting of a stylized 'D' followed by a horizontal line.

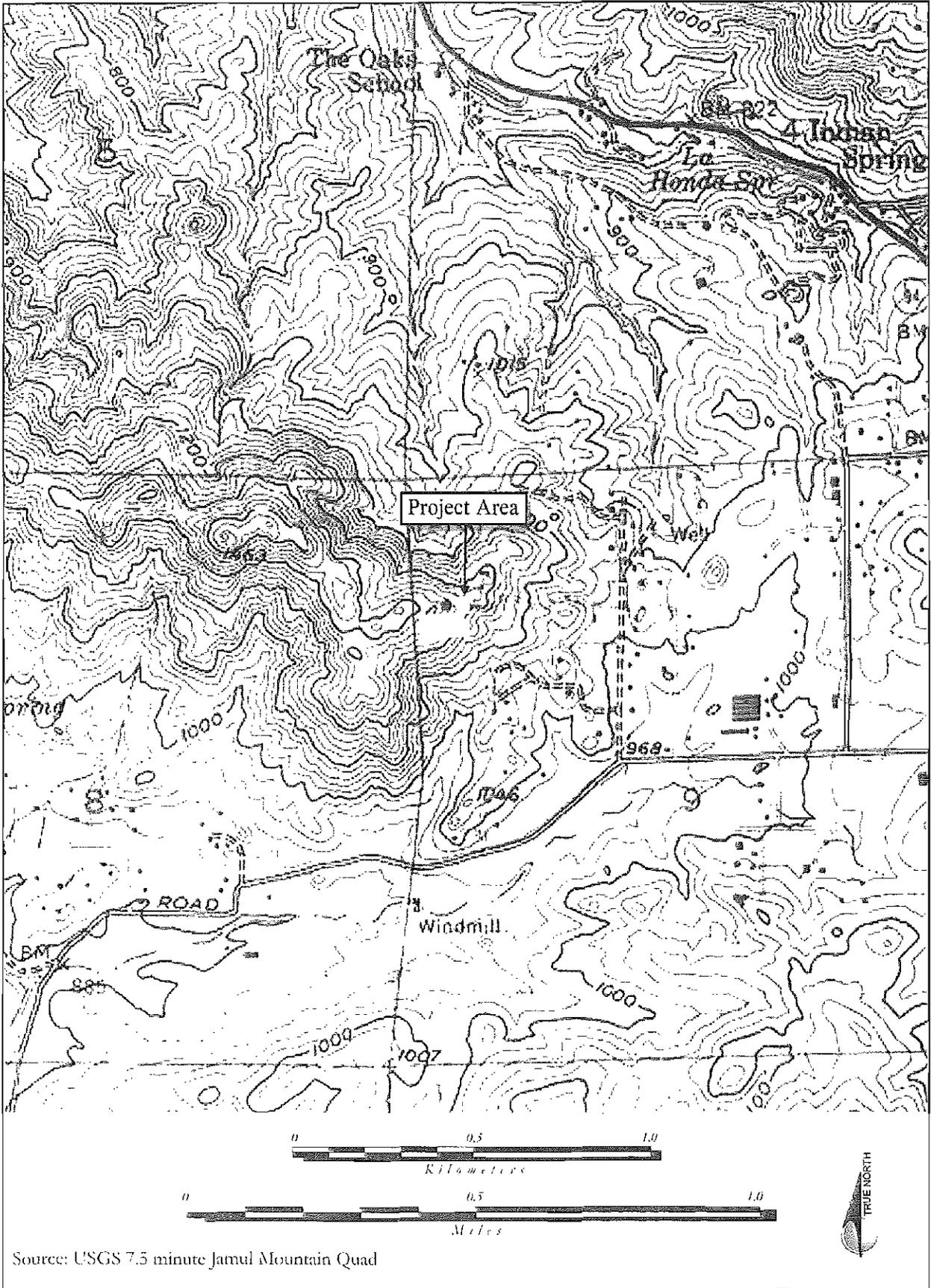
Dave Iversen  
ASM Associate Archaeologist

### Attachments:

- Figure 1 - Project vicinity map.
- Figure 2 - Project location map.



Figure 1. Project vicinity map.



Source: USGS 7.5 minute Jamul Mountain Quad

Figure 2. Project location map.

# Appendix C

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## Limited Geotechnical Reconnaissance

*Prepared by Ninyo & Moore*



**LIMITED  
GEOTECHNICAL RECONNAISSANCE  
1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA**

**PREPARED FOR:**  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, California 92101

**PREPARED BY:**  
Ninyo & Moore  
Geotechnical and Environmental Sciences Consultants  
5710 Ruffin Road  
San Diego, California 92123

August 29, 2006  
Project No. 105915002

August 29, 2006  
Project No. 105915002

Mr. Patrick O'Neill  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, California 92101

Subject: Limited Geotechnical Reconnaissance  
1296-3 Reservoir Project  
Jamul, California

Dear Mr. O'Neill:

Transmitted herein are the results of Ninyo & Moore's limited geotechnical evaluation to assist in the preparation of the 1296-3 Reservoir Project Environmental Impact Report. This study was conducted in accordance with your request and included review and analysis of available geologic and geotechnical background data, and a geologic reconnaissance of the project site area. We understand that the results of this study will be utilized in the preparation of environmental impact documents.

We appreciate the opportunity to be of service. Should you have any questions or comments regarding this report, please contact the undersigned at your convenience.

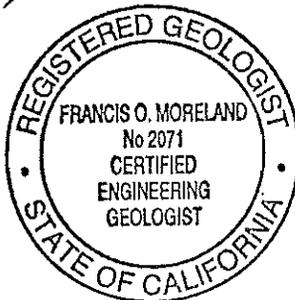
Respectfully submitted,  
**NINYO & MOORE**



Francis O. Moreland, C.E.G.  
Senior Project Geologist

FOM/RI/ag

Distribution: (4) Addressee



Randal L. Irwin, C.E.G.  
Chief Engineering Geologist

## TABLE OF CONTENTS

	<u>Page</u>
1. INTRODUCTION .....	1
2. SCOPE OF SERVICES .....	1
3. PROJECT DESCRIPTION .....	1
4. SITE DESCRIPTION .....	2
5. GEOLOGY .....	2
5.1. Regional Geologic Setting .....	2
5.2. Site Geology .....	3
5.3. Rippability .....	3
5.4. Groundwater .....	3
5.5. Faulting and Seismicity .....	4
5.5.1. Strong Ground Motion and Ground Surface Rupture .....	4
5.5.2. Liquefaction, Seismically Induced Settlement, and Lateral Spread .....	4
5.6. Landsliding .....	5
5.7. Agricultural Soils .....	5
5.8. Mineral Resources .....	5
6. CONCLUSIONS .....	5
6.1. Geologic and Geotechnical Constraints .....	6
7. LIMITATIONS .....	7
8. SELECTED REFERENCES .....	8

### Illustrations

Figure 1 – Site Location Map

Figure 2 – Geologic Map

Figure 3 – Fault Location Map

## **1. INTRODUCTION**

In accordance with your request, Ninyo & Moore has performed a geologic reconnaissance and limited geotechnical evaluation of the project site located at the western end of Bear Mountain Way in Jamul, California (Figure 1). The purpose of this study was to evaluate geologic and geotechnical conditions using available geologic and geotechnical data and to provide a geotechnical reconnaissance report, which we understand will be utilized in the preparation of environmental impact documents. This report presents our preliminary findings and conclusions pertaining to the proposed development. Subsurface exploration and laboratory testing of materials were not included in the scope of this limited evaluation which is not intended for the purpose of design or construction. This report is intended for the purpose of California Environmental Quality Act (CEQA) compliance.

## **2. SCOPE OF SERVICES**

Ninyo & Moore's scope of services has included review of background materials, and geologic reconnaissance of the site area. Specifically, we have performed the following tasks:

- Reviewing pertinent, available geotechnical literature including topographic maps, geologic maps, and aerial photographs. Documents pertaining to the site vicinity, as well as documents reviewed for our site evaluation are listed in the Selected References section of this report.
- Performing a geologic reconnaissance of the project study area which included written and photographic documentation of the observed site conditions. These materials are on file at the offices of Ninyo & Moore and are available for review upon request.
- Compilation and analysis of the data obtained.
- Preparation of this report to present our preliminary findings and conclusions.

## **3. PROJECT DESCRIPTION**

Based on current plans, the project consists of the construction of the proposed 1296-3 reservoir south of the existing 1296-1 and 1296-2 reservoirs (see Figure 2). Details of the proposed construction are not known, however we anticipate that the reservoir will be a steel, above grade tank.

#### **4. SITE DESCRIPTION**

The proposed reservoir will be constructed on the south side of Bear Mountain Way, in Jamul, California. Two existing reservoirs (1296-1 and 1296-2) are located north of the proposed reservoir site. The base elevation for the existing reservoirs is approximately 1,266 feet mean sea level (MSL). Elevations at the site of the proposed reservoir range from a low of approximately 1,210 feet MSL at the southeastern corner of the proposed tank site to a high of approximately 1,295 feet MSL in the northwestern corner of the site. The site slopes moderately downward to the south and east. The proposed reservoir site parcel is currently undisturbed and vegetation generally consists of a moderate growth of grass and brush.

#### **5. GEOLOGY**

The following sections present our findings relative to regional geology, site geology, groundwater, faulting and seismicity, landsliding, rippability (excavatability), agricultural soils, and mineral resources.

##### **5.1. Regional Geologic Setting**

The project area is situated in the coastal foothill section of the Peninsular Ranges Geomorphic Province. This geomorphic province encompasses an area that extends approximately 900 miles from the Transverse Ranges and the Los Angeles Basin south to the southern tip of Baja California (Norris and Webb, 1990). The province varies in width from approximately 30 to 100 miles. In general, the province consists of rugged mountains underlain by Jurassic metavolcanic and metasedimentary rocks, and Cretaceous igneous rocks of the southern California batholith. The portion of the province in San Diego County that includes the project area consists generally of Cretaceous-age granitic rock.

The Peninsular Ranges Province is traversed by a group of sub-parallel faults and fault zones trending roughly northwest. Several of these faults, which are shown on Figure 3, Fault Location Map, are considered active faults. The Whittier–Elsinore, and San Jacinto faults are active fault systems located northeast of the project area and the Rose Canyon, Agua

Blanca–Coronado Bank and San Clemente faults are active faults located west of the project area. Major tectonic activity associated with these and other faults within this regional tectonic framework consists primarily of right-lateral, strike-slip movement. Further discussion of faulting relative to the site is provided in the Faulting and Seismicity section of this report.

## **5.2. Site Geology**

Based on our literature review, including published geologic maps, and on our field reconnaissance, the project site is generally underlain by Cretaceous age granitic rock consisting of granodiorite with some tonalite and monzogranite (see Figure 2). The granitic rock observed during our field reconnaissance generally consists of reddish brown, fine- to medium-grained decomposed granitic rock at the surface and reddish to grayish brown, medium- to coarse-grained, weathered to unweathered granitic rock at depth (as observed in cut slopes for the existing reservoirs). Numerous unweathered granitic boulders were observed on the surface in the vicinity of the site. Based on our review of published geologic maps and historic aerial photographs, as well as our site reconnaissance, no landslides or active faults were observed at the project site. A discussion of faulting and seismicity is presented in the Faulting and Seismicity section of this report.

## **5.3. Rippability**

Based on our site reconnaissance, the cut-slope for the existing reservoirs shows intensely to moderately weathered granite rock. This rock is expected to be rippable with normal heavy-duty earthmoving equipment. However, unweathered granitic rock and corestones are likely to be encountered in areas of deep excavation. This rock will not be rippable; therefore, the use of blasting or rock breaking equipment should be anticipated.

## **5.4. Groundwater**

Based on the site location and our experience in the vicinity of the site, groundwater is likely to be at depths greater than 50 feet. Groundwater levels can fluctuate due to seasonal variations and other factors.

## **5.5. Faulting and Seismicity**

The project site is considered to be in a seismically active area. Based on our review of the referenced reports and geologic maps, as well as on our geologic field reconnaissance, the project site is not underlain by known active faults (i.e., faults that exhibit evidence of ground displacement during the last 11,000 years). The Rose Canyon Fault, the nearest known active fault, has been mapped approximately 16 miles west of the site.

In general, hazards associated with seismic activity in the project area include strong ground motion, ground surface rupture, liquefaction, and seismically induced settlement. These potential hazards are discussed in the following sections.

### **5.5.1. Strong Ground Motion and Ground Surface Rupture**

Based on probabilistic seismic hazard analysis software developed by Thomas F. Blake (FRISKSP 4.00), the calculated peak horizontal ground acceleration having a 10 percent probability in 100 years (upper-bound earthquake) for the site is 0.19g (19 percent of the acceleration of gravity) and the calculated peak horizontal ground acceleration having a 10 percent probability in 50 years (design-basis earthquake) for the site is 0.16g (16 percent of the acceleration of gravity). The requirements of the governing jurisdictions and applicable building codes should be considered in the project design.

### **5.5.2. Liquefaction, Seismically Induced Settlement, and Lateral Spread**

Liquefaction of cohesionless soils can be caused by strong vibratory motion due to earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are susceptible to liquefaction. Based on the dense nature of the granitic-rock underlying the site, it is our opinion that the potential for liquefaction is not a design consideration.

### **5.6. Landsliding**

No landslides or indications of deep-seated landsliding were noted on the site during our field exploration or our review of available geologic literature, topographic maps, and stereoscopic aerial photographs.

### **5.7. Agricultural Soils**

Prime agricultural soils have not been identified on the project site. Based on the United States Department of Agriculture Soil Survey for the San Diego Area (1973), the site soils are classified as Cieneba; very rocky, coarse sandy loam. This soil type is not considered prime agricultural soil. Therefore, the potential for loss of agricultural soils due to further development of the study area is considered low.

### **5.8. Mineral Resources**

Based on our review of referenced data, the site is in an area where no significant mineral deposits are present, or are considered likely to exist. Therefore the potential for loss of mineral deposits due to development in the study area is considered low.

## **6. CONCLUSIONS**

Based on our review of published geologic maps and aerial photographs, and our site reconnaissance, no active faults or landslides have been mapped, or were observed within the study area. Several major faults are present in the region northeast and southwest of the site, the nearest of which is the Rose Canyon fault, located approximately 16 miles to the west. Accordingly, the site has a moderate potential for strong ground motions due to earthquakes on nearby active faults.

Based upon site topography, proposed location of the new reservoir, and the base elevation of the existing reservoirs, we anticipate that the reservoir will be founded on a cut/fill transition. Due to the differing settlement properties of granitic rock and fill, differential settlement across the transition would likely occur. Mitigation measures for differential settlement will need to be incorporated into the reservoir design.

We recommend that a comprehensive geotechnical evaluation, including development-specific subsurface exploration and laboratory testing, be conducted prior to design and construction of the 1296-3 reservoir or associated improvements. The purpose of the subsurface evaluation would be to further evaluate the subsurface conditions in the area of future structures or improvements and to provide information pertaining to the engineering characteristics of earth materials at the project site. From these data, recommendations for grading/earthwork, surface and subsurface drainage, foundations, pavement structural sections, sedimentation modifications, and other pertinent geotechnical design considerations may be formulated.

### **6.1. Geologic and Geotechnical Constraints**

In our opinion, the following geotechnical factors should be considered in the planning and implementation of the project:

- As discussed previously, the Rose Canyon fault has been mapped approximately 16 miles to the west of the site. Accordingly, the site has a potential for moderate ground motions due to an earthquake on the active Rose Canyon fault. Therefore, the potential for moderate seismic accelerations will need to be considered in the design of the future reservoir or improvements.
- Cut slope exposures on-site indicate near surface materials to consist of intensely to moderately weathered granitic rock. This material should generally be excavatable with conventional earth moving construction equipment. Where deeper cuts are planned, unweathered granitic rock and corestones are likely to be encountered and difficult ripping, the use of rock breakers, or blasting should be anticipated.
- A large amount of oversize rock is likely to be generated from excavations in granitic rock on the site. These materials are not suitable for reuse as structural fill and will need to be crushed or disposed of in non-structural portions of the site.
- Groundwater is not expected to be a constraint during construction.
- Based upon site topography and the base elevation of the existing reservoirs, we anticipate that the reservoir will be founded on a cut/fill transition and be subject to differential settlement. In order to mitigate the potential for differential settlement, the cut portion of the pad should be undercut an amount equal to one-third or more of the deepest fill depth beneath the structure or 3 feet, whichever is greater, and replaced with compacted fill.

## 7. LIMITATIONS

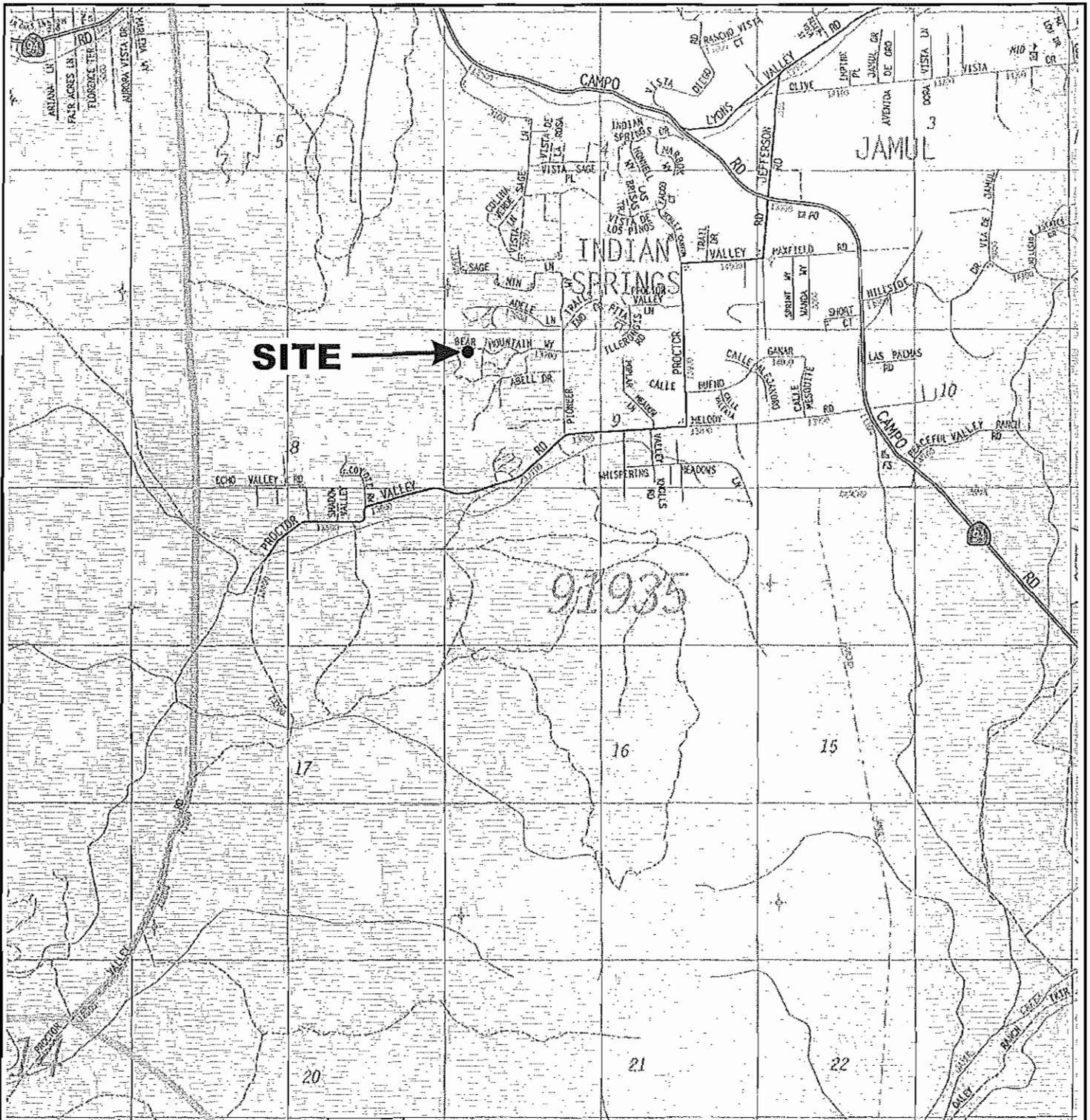
The field reconnaissance and geotechnical analysis presented in this report have been conducted in accordance with current engineering practice and the standard of care exercised by reputable geotechnical consultants performing similar tasks in this area. No warranty, implied or expressed, is made regarding the conclusions, recommendations, and professional opinions expressed in this report. Variations may exist and conditions not observed or described in this report may be encountered. Our preliminary conclusions and recommendations are based on an analysis of the observed conditions and the referenced background information.

The purpose of this study was to evaluate geologic and geotechnical conditions within the project site and to provide a geotechnical reconnaissance report to assist in the preparation of environmental analysis documents for the project. A comprehensive geotechnical evaluation, including subsurface exploration and laboratory testing, should be performed prior to design and construction of structural improvements.

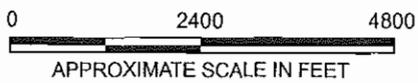
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AERIAL PHOTOGRAPHS				
Source	Date	Flight	Numbers	Scale
USDA	4-2-53	AXN-5M	163 & 164	1:20,000



REFERENCE: 2005 THOMAS GUIDE FOR SAN DIEGO COUNTY, STREET GUIDE AND DIRECTORY.



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ningo & Moore**

**SITE LOCATION MAP**

FIGURE

PROJECT NO.

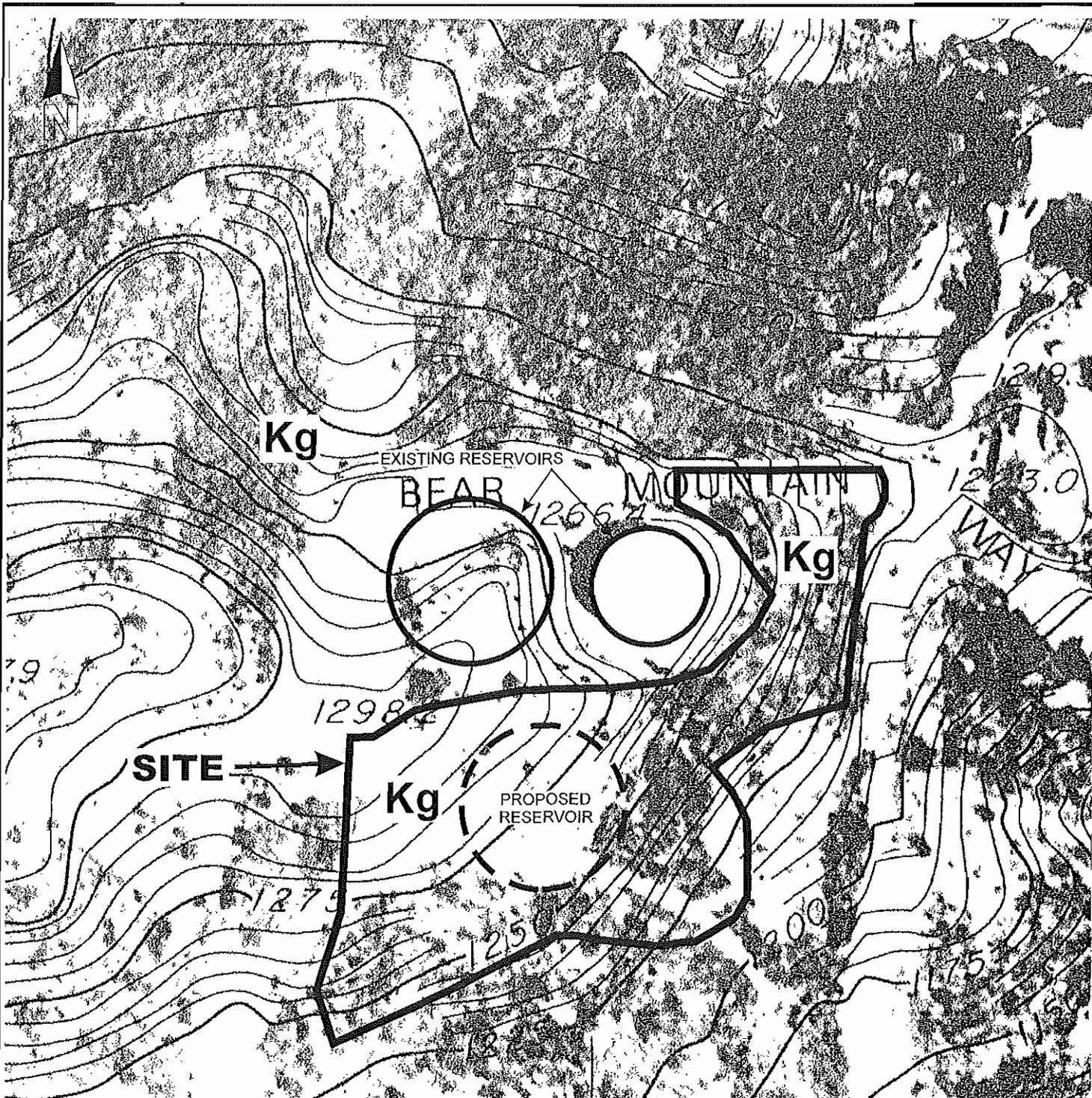
DATE

1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA

105915002

8/06

**1**



APPROXIMATE SCALE



LEGEND

**Kg** GRANITIC ROCK

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

**Ninyo & Moore**

**GEOTECHNICAL MAP**

FIGURE

PROJECT NO.

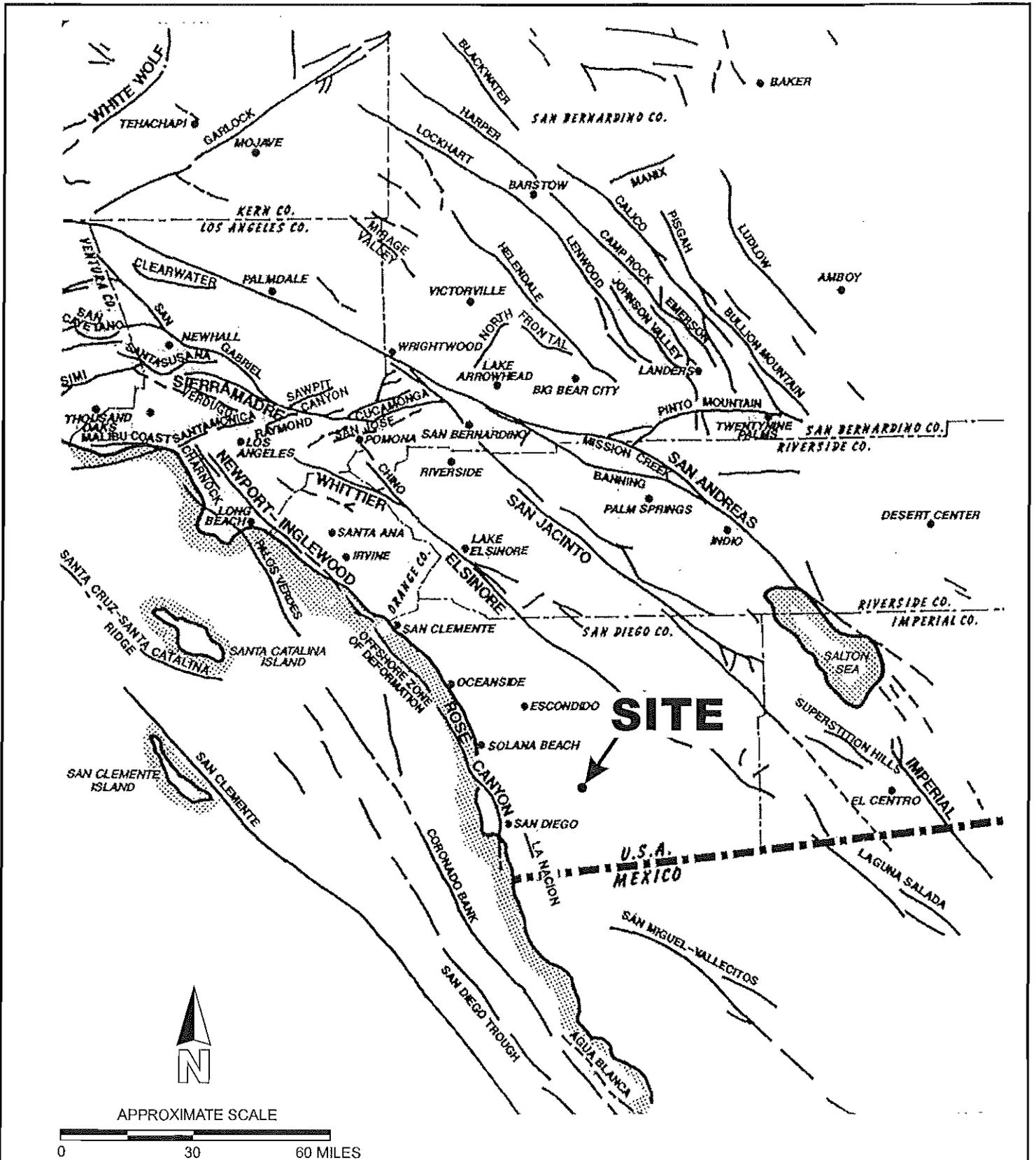
DATE

1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA

**2**

105915002

8/06



After Norris and Webb, 1990.

**Ningo & Moore**

**FAULT LOCATION MAP**

FIGURE

PROJECT NO.

DATE

1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA

105915002

8/06

**3**

105915002 fault fig 3

# Appendix D

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## Limited Water Quality Evaluation

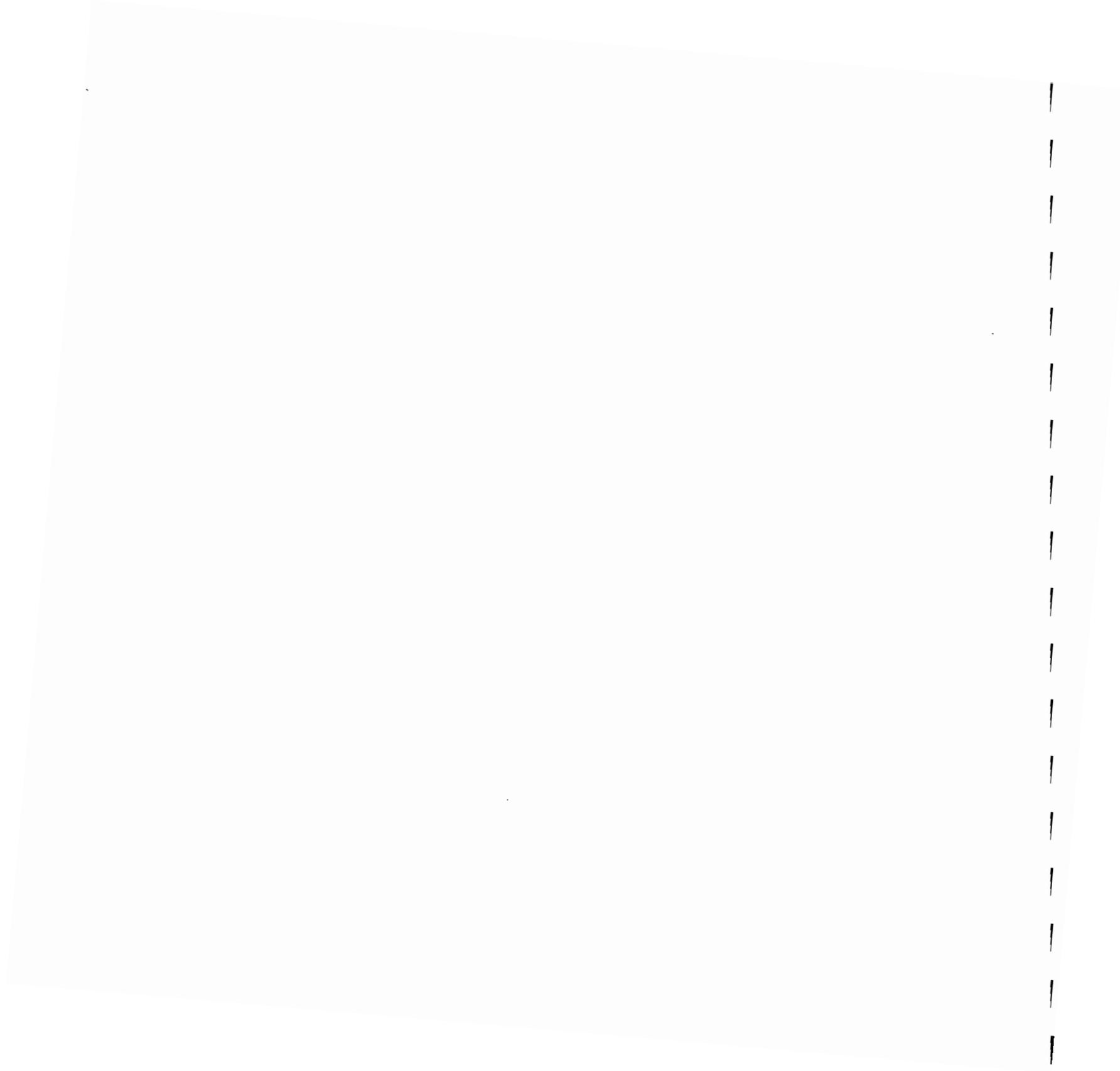
*Prepared by Ninyo & Moore*

# Appendix E

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Environmental Noise Study

*Prepared by Wieland Associates, Inc.*





**ENVIRONMENTAL NOISE STUDY  
FOR THE CONSTRUCTION  
OF THE PROPOSED 1296-3 RESERVOIR  
IN SAN DIEGO COUNTY**

**Project File 857-06  
October 12, 2006  
(Revised October 11, 2007)**

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*Table of Contents*

1 EXECUTIVE SUMMARY ..... 1

2 INTRODUCTION/PROJECT DESCRIPTION ..... 1

3 NOISE DESCRIPTORS..... 4

    3.1 DECIBELS ..... 4

    3.2 A-WEIGHTING ..... 4

    3.3 COMMUNITY NOISE EQUIVALENT LEVEL (CNEL) ..... 6

4 NOISE CRITERIA ..... 6

    4.1 COUNTY OF SAN DIEGO CODE ..... 6

    4.2 COUNTY OF SAN DIEGO GENERAL PLAN ..... 6

    4.3 WILDLIFE HABITAT PROTECTION REGULATIONS..... 7

5 THRESHOLDS OF SIGNIFICANCE ..... 7

6 EXISTING NOISE ENVIRONMENT ..... 8

7 FUTURE NOISE ENVIRONMENT - CONSTRUCTION PERIOD ..... 8

8 ASSESSMENT OF IMPACT ..... 11

9 ABATEMENT MEASURES..... 12

10 PROJECT ALTERNATIVES ..... 13

11 REFERENCES ..... 13

**List of Tables**

Table 7-1. Construction Equipment Noise Levels ..... 9

Table 7-2. Assumptions Used in the Analysis of Construction Equipment Noise Levels .... 10

**List of Figures**

Figure 2-1. Location of the Study Area ..... 2

Figure 2-2. Project Site ..... 3

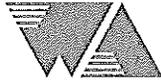
Figure 3-1. Common Noise Sources and A-Weighted Noise Levels ..... 5

Figure 3-2. Common CNEL Noise Exposure Levels at Various Locations ..... 5



## List of Appendices

Appendix I. Analysis of Construction Equipment Noise Levels



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## 1 Executive Summary

This report identifies and assesses the potential noise impacts associated with the construction of the 1296-3 Reservoir in an unincorporated section of San Diego County.

Using the criteria established in this study, it may be concluded that the project may generate a significant impact at nearby sensitive wildlife habitat areas. However, the following abatement measures have been identified to reduce noise levels:

1. Construction activities, including blasting, shall be scheduled only during the hours and on the days permitted by the Otay Water District.
2. If blasting is employed during construction, the blast target shall be completely covered with at least two loader buckets full of dirt. The surrounding community will be notified of the date and time the blasting will occur, as required by County regulations.
3. All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. Impact tools shall be shielded per manufacturer's specifications.
4. Grading and construction equipment shall be stored on the project site while in use.
5. Construction activity noise levels shall be monitored near the nesting locations of listed species. If the noise levels exceed an Leq of 60 dB(A), steps shall be taken to reduce the noise levels. These steps include, but are not limited to, reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used.

## 2 Introduction/Project Description

The purpose of this study is to identify and assess the potential noise impacts associated with the construction of the proposed 1296-3 Reservoir in an unincorporated section of San Diego County. The proposed Reservoir will be part of Otay Water District's (OWD) Regulatory system in the northern portion of the District. The new 2.0 million gallon (MG) Reservoir is to be located immediately south of the existing 1296-1 and 1296-2 Reservoirs at the western terminus of Bear Mountain Way. Refer to Figure 2-1 for the location of the study area.

The construction of the 1296-3 Reservoir and related activities will remain within a defined area – depicted as the “environmental impact area” on Figure 2-2. Construction will occur only between the hours of 7:00 am and 5:00 pm and will be completed in approximately twelve months. All construction equipment will be stored at a staging area within the defined environmental impact area identified on Figure 2-2.

Grading of the project site will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. An estimated 11,500 cubic yards of surplus material will be exported off site, requiring approximately 750 truck trips. Imported material, consisting of approximately 1,200 cubic yards of



sand bedding, will require approximately 60 truck trips. All access to the site will be provided via Bear Mountain Way. Because of the poor condition of the existing roadway, and the possible damage that may result from the construction truck traffic, OWD may repave the road with asphalt concrete after construction of the 1296-3 Reservoir is complete. It is also anticipated that blasting will be required in the western portion of the project site in order to facilitate excavation to achieve the planned elevation of the reservoir pad and the perimeter access road.

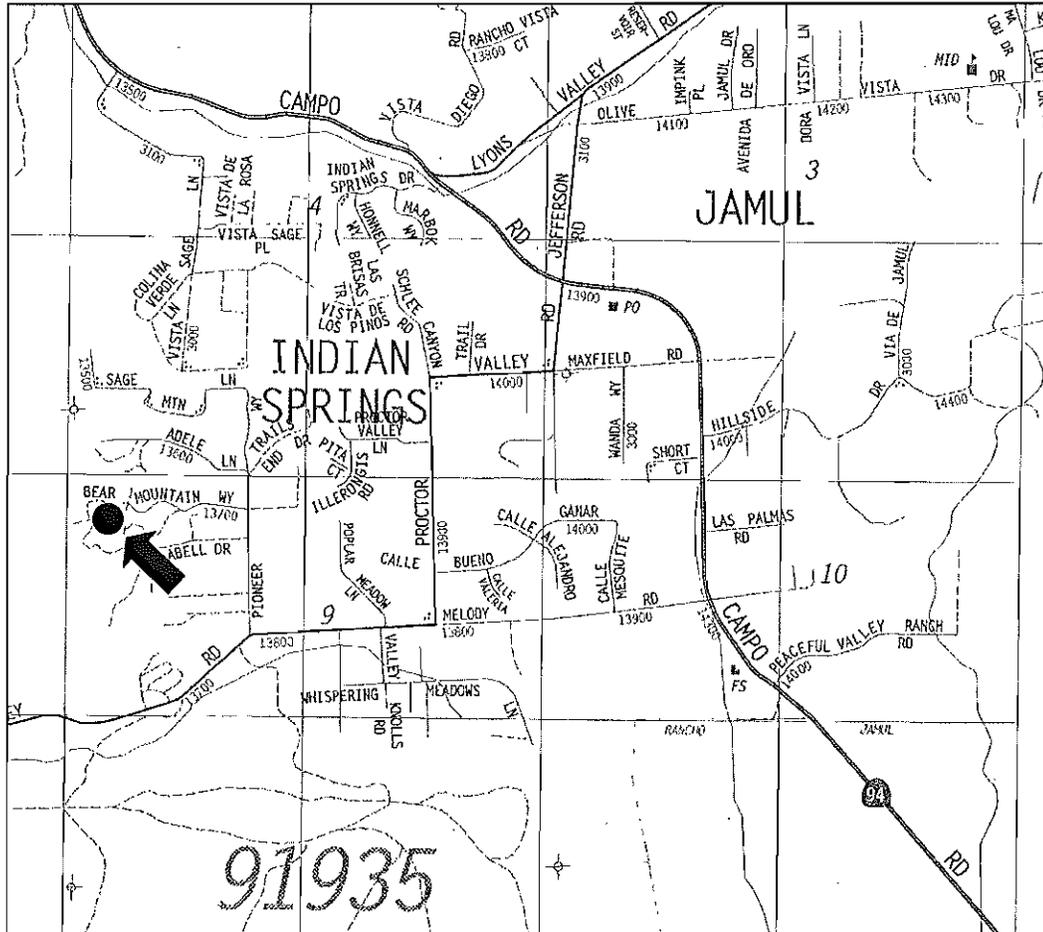


Figure 2-1. Location of the Study Area



Figure 2-2. Project Site



### 3 Noise Descriptors

The following sections briefly describe the noise descriptors that will be used throughout this study:

#### 3.1 Decibels

Sound pressures can be measured in units called microPascals ( $\mu\text{Pa}$ ). However, expressing sound levels in terms of  $\mu\text{Pa}$  would be very cumbersome since it would require a wide range of very large numbers. For this reason, sound pressure levels are described in logarithmic units of ratios of actual sound pressures to a reference pressure squared. These units are called bels. In order to provide a finer resolution, a bel is subdivided into 10 decibels, abbreviated dB.

Since decibels are logarithmic units, sound pressure levels cannot be added or subtracted by ordinary arithmetic means. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously would not produce 140 dB. In fact, they would combine to produce 73 dB. This same principle can be applied to other traffic quantities as well. In other words, doubling the traffic volume on a street or the speed of the traffic will increase the traffic noise level by 3 dB. Conversely, halving the traffic volume or speed will reduce the traffic noise level by 3 dB.

#### 3.2 A-Weighting

Sound pressure level alone is not a reliable indicator of loudness. The frequency or pitch of a sound also has a substantial effect on how humans will respond. While the intensity of the sound is a purely physical quantity, the loudness or human response depends on the characteristics of the human ear.

Human hearing is limited not only to the range of audible frequencies, but also in the way it perceives the sound pressure level in that range. In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and perceives both higher and lower frequency sounds of the same magnitude with less intensity. In order to approximate the frequency response of the human ear, a series of sound pressure level adjustments is usually applied to the sound measured by a sound level meter. The adjustments, or weighting network, are frequency dependent.

The A-scale approximates the frequency response of the average young ear when listening to most ordinary everyday sounds. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. A range of noise levels associated with common in- and outdoor activities is shown in Figure 3-1.

The A-weighted sound level of traffic and other long-term noise-producing activities within and around a community varies considerably with time. Measurements of this varying noise level are accomplished by recording values of the A-weighted level during representative periods within a specified portion of the day.

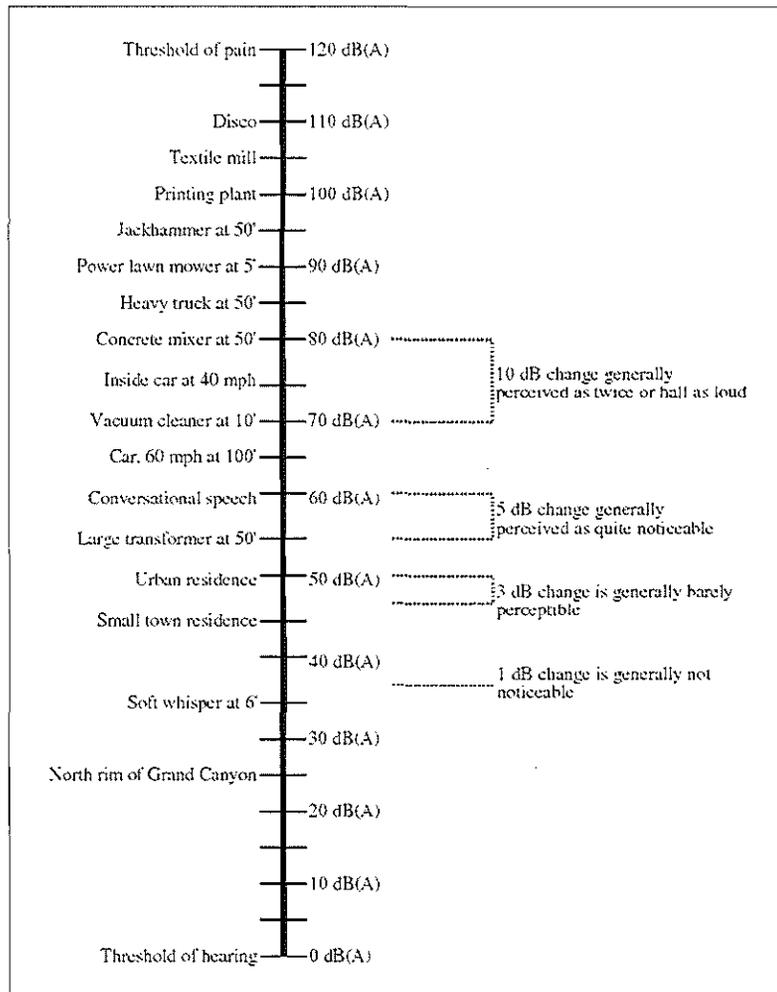


Figure 3-1. Common Noise Sources and A-Weighted Noise Levels

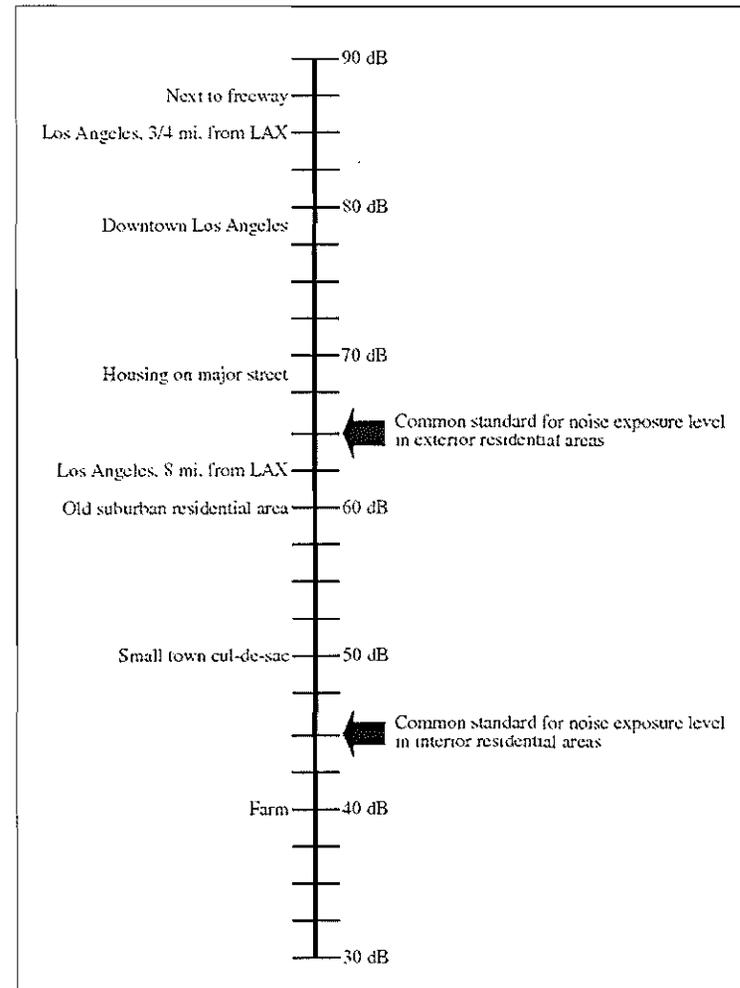


Figure 3-2. Common CNEL Noise Exposure Levels at Various Locations



### 3.3 Community Noise Equivalent Level (CNEL)

It is recognized that a given level of noise may be more or less tolerable depending on the duration of exposure experienced by an individual. There are numerous measures of noise exposure that consider not only the A-level variation of noise but also the duration of the disturbance. The State Department of Aeronautics and the California Commission on Housing and Community Development have adopted the community noise equivalent level (CNEL). This measure weights the average noise levels for the evening hours (7:00 p.m. to 10:00 p.m.), increasing them by 5 dB, and weights the late evening and morning hour noise levels (10:00 p.m. to 7:00 a.m.) by 10 dB. The daytime noise levels are combined with these weighted levels and are averaged to obtain a CNEL value. Figure 3-2 indicates the outdoor CNEL at typical locations.

## 4 Noise Criteria

The following sections discuss the various noise criteria that have been considered in this study.

### 4.1 County of San Diego Code

The San Diego County Code states that it is unlawful to operate construction equipment at any construction site on Sundays or on a public holiday. On Monday through Saturday, it is unlawful to operate construction equipment except between the hours of 7:00 a.m. and 7:00 p.m. It is also unlawful to operate any construction equipment so as to cause at or beyond the property line of any property upon which a legal dwelling unit is located an average sound level greater than 75 dB(A) between the hours of 7:00 a.m. and 7:00 p.m.

Blasting is only permitted between the hours of 7:00 a.m. and 6:00 p.m., or one-half hour before sunset, whichever occurs first, and only on Monday through Saturday. In addition, the blaster is required to give or cause to be given notice to the residences within 600 feet of a major blast site and 300 feet of a minor blast site not less than 24 hours or more than one week before the blasting operations occur. There are no quantitative noise standards for blasting activities.

### 4.2 County of San Diego General Plan

Policy 4b of the County's Noise Element of the General Plan states that:

1. Whenever possible, development should be planned so that noise-sensitive areas are not exposed to a CNEL in excess of 55 dB.
2. An acoustical study should be required when it appears that new development will subject noise-sensitive areas to a CNEL of 60 dB or greater.
3. If an acoustical study shows that the CNEL at any noise-sensitive property will exceed 60 dB, the development should not be approved unless:



- a. Modifications to the development will be made to reduce the exterior CNEL below 60 dB; or
  - b. If it is infeasible to reduce the exterior CNEL below 60 dB, then modifications to the development will be made to reduce the interior CNEL below 45 dB; and
  - c. If finding "b" above is made, a further finding is made that there are specific overriding social or economic considerations which warrant approval of the development without modifications as described in "a" above.
4. If the acoustical study shows that the CNEL will exceed 75 dB at any noise-sensitive area, the development should not be approved.

"Noise-sensitive area" is defined as the building site of any residence, hospital, school, library, or similar facility where quiet is an important attribute of the environment.

### 4.3 Wildlife Habitat Protection Regulations

Based on a study conducted by the San Diego Association of Governments (SANDAG) in 1991, it was theoretically estimated that average noise levels (Leq) in excess of 60 dB(A) in bird habitats would mask a bird's song, subsequently reducing reproductive success during the breeding season, and its ability to defend its territory. In 1991, the U.S. Fish and Wildlife Service (USFWS) also recommended that noise levels not exceed 60 dB(A) to protect various bird species.

## 5 Thresholds of Significance

Based on the noise criteria discussed above, and the CEQA guidelines, a significant impact will be assessed if the project will result in:

- ◆ Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. This impact will occur if: (1) construction equipment generates an average noise level in excess of 75 dB(A) at a residence; (2) construction traffic generates a CNEL in excess of 60 dB at a residence; or (3) construction activities generate an average noise level in excess of 60 dB(A) at a sensitive wildlife habitat.
- ◆ Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels.
- ◆ A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Since there are no noise sources associated with the operation of the reservoir, this issue will not be addressed in the study.
- ◆ A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. This impact will occur if: (1) construction equipment



generates an average noise level in excess of 75 dB(A) at a residence; (2) construction traffic generates a CNEL in excess of 60 dB at a residence; or (3) construction activities generate an average noise level in excess of 60 dB(A) at a sensitive wildlife habitat.

- ◆ The project would expose people residing or working in the project area to excessive noise levels as a result of activities at an airport. Since there are no airports in the vicinity of the study area, this issue will not be addressed in the study.

## 6 Existing Noise Environment

The land uses within the study area consist of existing reservoirs, vacant hillside, and single family homes. Of these, the sensitive land uses of concern in this study are the residences and wildlife habitats on the vacant hillsides. The only existing noise sources of any significance that currently affect the study area are occasional traffic on the local streets, and residential activities.

## 7 Future Noise Environment - Construction Period

Construction of the project will occur only between 7:00 a.m. and 5:00 p.m. on Monday through Saturday. There will be no construction activities on Sundays or legal holidays.

Construction noise levels in the vicinity of the project will fluctuate depending on the particular type, number and duration of use of various pieces of construction equipment. The exposure of persons to the periodic increase in noise levels will be short-term. Table 7-1 shows typical noise levels associated with various types of construction-related machinery.

Based on the estimated construction noise levels identified in Table 7-1, and the assumptions identified in Table 7-2, an analysis was conducted to estimate the combined equipment noise levels that will be experienced during each month of construction. The results of this analysis, provided in Appendix I, indicate that the average noise level (Leq) will range from about 80 to 90 dB(A) at a distance of 50 feet during the construction of the reservoir. During December 2008, if Bear Mountain Way is reconstructed, the Leq will be about 84 dB(A) at a distance of 50 feet. It should be noted that this simplified analysis assumes that all of the construction equipment is located at one point.

The area in the vicinity of the construction site is heavily vegetated, so it has been assumed that the construction equipment noise level will decay at a rate of 7.5 dB per doubling of distance. Using this factor, it is estimated that the construction equipment noise level will be 60 dB(A) at a distance of 315 to 790 feet from the center of the activity during reservoir construction, and at a distance of 455 feet from the center of the activity if Bear Mountain Way is reconstructed. The impact will be significant at any sensitive wildlife habitats within these distances. The barrier effects provided by intervening terrain may reduce these distances; however, to provide a "worst case" assessment, no barrier effects have been assumed in the analysis.

**Table 7-1. Construction Equipment Noise Levels**

Equipment Type	Typical Equipment Noise Level at 50 ft. in dB(A)
Air Compressor	80
Air Percussion Drilling Rig	85
Backhoe	80
Blasting	94
Concrete Mixer Truck	85
Concrete Pump Truck	82
Concrete Vibrator	80
Crane	85
Dozer	85
Excavator	85
Flatbed	84
Generator	82
Grader	85
Loader	80
Paver	85
Paving Compactor	80
Paving Roller	85
Road Reclaimer	90
Truck	91
Truck (3/4 ton)	55

Sources: FHWA Roadway Noise Construction Model (RCNM) and *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*; BBN; December 31, 1971.

The distance from the construction site to the nearest residence is about 240 feet. At this distance, the average noise level produced by construction equipment is estimated to range from 63 to 73 dB(A). This is below the threshold of 75 dB(A); therefore, the impact is not significant.

Based on information provided by BRG Consulting, construction of the project will generate an average daily traffic volume (ADT) of 98 vehicles on Bear Mountain Way during the peak construction period (April/May 2008). The ADT includes 60 18-wheel hauler trucks, two 10-wheel fuel/lube trucks, four ¾-ton trucks, and 28 employee vehicles. This level of traffic is expected to generate an average Leq of about 60 dB(A) and a CNEL of about 55.5 dB at a distance of 50 feet from the near lane centerline. Therefore, the impact will be significant at any sensitive wildlife habitats within this distance of the near lane centerline. The CNEL is below the County's standard of 60 dB at residential properties; therefore, the impact is not significant at these locations.

It is possible that some limited blasting may be required in the western portion of the project site in order to facilitate excavation to achieve the planned elevation of the reservoir pad and the perimeter access road. However, blasting will only occur between the hours of 7:00 a.m. and 5:00 p.m., or one-half hour before sunset, whichever occurs first, and only on Monday through Saturday. In addition,



Table 7-2. Assumptions Used in the Analysis of Construction Equipment Noise Levels

Equipment	Number of Units	Hrs/Day Per Unit	Estimated Use Days											
			Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Dozer D6	1	8	5	5										
Dozer D9	1	8			20	10								
Excavator (track)	1	8			20	5								
Backhoe (rubber tire)	1	8				10	5		15	15	15	15		
Air Percussion Drilling Rig	1	8		10	5									
Loader (mid-size)	1	8											10	
Loader (landscape)	1	8										10	5	
Motor Grader	1	8											10	
Paving Roller (steel drum)	2	8					2						10	
Paving Compactor (rubber tire)	1	8											3	
Road Reclaimer	1	8											7	
Asphalt Paver	1	8											3	
Crane (30 ton mobile)	1	8					15	20	15					
Truck (2,500 gal water)	1	8	5	5	20	10								
Truck (18 wheel hauler)	2	8		2	20	5							3	
Truck (10 wheel fuel/lube)	1	2	1	8	8	8							2	
Truck (18 wheel flatbed)	4	2				4	6	8	6	2	2			
Truck (concrete pump)	1	4					1						1	
Truck (concrete transport)	7	2					1						1	
Truck (3/4 ton)	4	4	22	22	22	22	22	22	22	22	22	22	22	
Concrete Vibrator	2	4					1							
Air Compressor (185 cfm)	1	8							22	22	22			
Portable Power Generator	2	8					22	22	22	22	22	22		

Source: BRG Consulting, Inc.



notice will be given to the residents within 600 feet of the blast site not less than 24 hours or more than one week before the blasting operations occur. This complies with the County's regulations; therefore, the impact is not significant. Noise from the blasting will clearly be audible at the nearby residences; however, the abatement measures as described in Section 9 will significantly reduce the noise levels caused by the blasting.

Groundborne vibration is measured in terms of the velocity of the vibration oscillations. As with noise, a logarithmic decibel scale (VdB) is used to quantify vibration intensity. When groundborne vibration exceeds 75 to 80 VdB, it is usually perceived as annoying to building occupants. The degree of annoyance is dependent upon type of land use, individual sensitivity to vibration, and the frequency of the vibration events. Typically, vibration levels must exceed 100 VdB before building damage occurs.

The primary vibratory source during the construction of the project will be large bulldozers. Based on published data (Reference 2), typical bulldozer activities generate an approximate vibration level of 87 VdB at a distance of 25 feet. At the distance of the nearest residences to the project site (about 240 feet) the estimated vibration level will be 51 VdB. This is below the perception threshold of 75 to 80 VdB for residential properties, and well below the threshold at which building damage occurs. Therefore, the impact will not be significant.

Based on information provided in *High-Speed Ground Transportation Noise and Vibration Impact Assessment* published by the US Department of Transportation, blasting can generate a vibration level of 100 VdB at a distance of 50 feet. The nearest residence to the blasting area is at a distance of about 340 feet, where the expected vibration level will be about 83 VdB. While it is expected that this level will be perceptible to the nearby residents and may be annoying, it is below the threshold at which building damage occurs. Therefore, the impact will not be significant.

## 8 Assessment of Impact

Using the criteria established in this study, the following may be concluded regarding the impact of the proposed project:

- ◆ The project will not result in the exposure of persons to noise levels in excess of standards established in the local noise standards. However, the project will generate average noise levels in excess of the wildlife habitat protection regulation of 60 dB(A). This potentially significant impact will occur at any sensitive wildlife habitats located within about 315 to 790 feet from the center of the activity during reservoir construction, and within about 455 feet from the center of the activity if Bear Mountain Way is reconstructed. Abatement measures 3, 4 and 7 of Section 9 address this potentially significant impact.
- ◆ The project will not generate excessive groundborne vibration or groundborne noise levels. Therefore, there will be no significant impact. However, it is expected that the vibration induced



by the blasting will be perceptible to the nearby residents and may be annoying. Abatement measures 1 and 2 of Section 9 address this issue.

- ◆ The project will not produce a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, there will be no significant impact.
- ◆ The project may produce a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Construction of the project will generate average noise levels in excess of the wildlife habitat protection regulation of 60 dB(A). This potentially significant impact will occur at any sensitive wildlife habitats located within about 315 to 790 feet from the center of the activity during reservoir construction, and within about 455 feet from the center of the activity if Bear Mountain Way is reconstructed. Abatement measures 1 through 7 of Section 9 address these issues and potentially significant impacts.
- ◆ The project will not expose people residing or working in the project area to excessive noise levels as a result of activities at an airport. Therefore, there will be no significant impact.

## 9 Abatement Measures

The following measures are recommended to reduce the construction noise impacts caused by the project:

1. Construction activities, including blasting, shall be scheduled only during the hours and on the days permitted by the Otay Water District (i.e., between 7 a.m. and 5 p.m., Monday through Saturday).
2. If blasting is employed during construction, the blast target shall be completely covered with at least two loader buckets full of dirt. The surrounding community will be notified of the date and time the blasting will occur, as required by County regulations.
3. All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices. Impact tools shall be shielded per manufacturer's specifications.
4. Grading and construction equipment shall be stored on the project site while in use.
5. Construction activity noise levels shall be monitored near the nesting locations of listed species. If the noise levels exceed an Leq of 60 dB(A), steps shall be taken to reduce the noise levels. These steps include, but are not limited to, reducing the number of equipment items being used, reducing the use of loud equipment items, and/or reducing the amount of time loud equipment items are used.



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## 10 Project Alternatives

The only alternative considered in this study is the “No Project” alternative. Under this alternative, the status quo would be maintained and the noise generated by the construction of the reservoir would not be introduced. Therefore, the future noise conditions in the study area would be the same as the existing conditions. No impacts would be assessed and no mitigation would be required.

## 11 References

1. *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances.* U.S. Environmental Protection Agency. December 31, 1971.
2. *Transit Noise and Vibration Impact Assessment.* Federal Transit Administration. April 1995.
3. *FHWA Highway Traffic Noise Prediction Model.* Federal Highway Administration Report No. FHWA-RD-77-108. December 1978.

## **APPENDIX I**

### ***Analysis of Construction Equipment Noise Levels***

Table I-1 Analysis of Estimated Overall Construction Noise Level in February 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50' dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50' dBA <sup>7</sup>
Dozer D6	1	8	5	0.4	85	0	-2	-6	-4	73
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)										
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)	1	8	5	0.4	91	0	-2	-6	-4	79
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)	1	2	1	0.4	91	0	-8	-13	-4	66
Truck (18 wheel flatbed)										
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator										
Estimated Combined Leq @ 50':										80

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and Roadway Construction Noise Model.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-2 Analysis of Estimated Overall Construction Noise Level in March 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use In Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6	1	8	5	0.4	85	0	-2	-6	-4	73
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)										
Air Percussion Drilling Rig	1	8	10	0.2	85	0	-2	-3	-7	73
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)	1	8	5	0.4	91	0	-2	-6	-4	79
Truck (18 wheel hauler)	2	8	2	0.4	91	3	-2	-10	-4	78
Truck (10 wheel fuel/lube)	1	2	8	0.4	91	0	-8	-4	-4	75
Truck (18 wheel flatbed)										
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator										
Estimated Combined Leq @ 50':										83

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-3. Analysis of Estimated Overall Construction Noise Level in April 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9	1	8	20	0.4	85	0	-2	0	-4	79
Excavator (track)	1	8	20	0.4	85	0	-2	0	-4	79
Backhoe (rubber tire)										
Air Percussion Drilling Rig	1	8	5	0.2	85	0	-2	-6	-7	70
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)	1	8	20	0.4	91	0	-2	0	-4	85
Truck (18 wheel hauler)	2	8	20	0.4	91	3	-2	0	-4	88
Truck (10 wheel fuel/lube)	1	2	8	0.4	91	0	-8	-4	-4	75
Truck (18 wheel flatbed)										
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator										
Estimated Combined Leq @ 50':										90

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-4. Analysis of Estimated Overall Construction Noise Level in May 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9	1	8	10	0.4	85	0	-2	-3	-4	76
Excavator (track)	1	8	5	0.4	85	0	-2	-6	-4	73
Backhoe (rubber tire)	1	8	10	0.4	80	0	-2	-3	-4	71
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)	1	8	10	0.4	91	0	-2	-3	-4	82
Truck (18 wheel hauler)	2	8	5	0.4	91	3	-2	-6	-4	82
Truck (10 wheel fuel/lube)	1	2	8	0.4	91	0	-8	-4	-4	75
Truck (18 wheel flatbed)	4	2	4	0.4	84	6	-8	-7	-4	71
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator										
Estimated Combined Leq @ 50':										86

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-5. Analysis of Estimated Overall Construction Noise Level in June 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)	1	8	5	0.4	80	0	-2	-6	-4	68
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)	2	8	2	0.2	85	3	-2	-10	-7	69
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)	1	8	15	0.16	85	0	-2	-2	-8	74
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)										
Truck (18 wheel flatbed)	4	2	6	0.4	84	6	-8	-6	-4	73
Truck (concrete pump)	1	4	1	0.2	82	0	-5	-13	-7	57
Truck (concrete transport)	7	2	1	0.4	85	8	-8	-13	-4	68
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator	2	4	1	0.2	80	3	-5	-13	-7	58
Air Compressor (185 cfm)										
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										82

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-6. Analysis of Estimated Overall Construction Noise Level in July 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)										
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)	1	8	20	0.16	85	0	-2	0	-8	75
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)										
Truck (18 wheel flatbed)	4	2	8	0.4	84	6	-8	-4	-4	74
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										82

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-7. Analysis of Estimated Overall Construction Noise Level in August 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)	1	8	15	0.4	80	0	-2	-2	-4	73
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)	1	8	15	0.16	85	0	-2	-2	-8	74
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)										
Truck (18 wheel flatbed)	4	2	6	0.4	84	6	-8	-6	-4	73
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)	1	8	22	0.4	80	0	-2	0	-4	74
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										83

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-8. Analysis of Estimated Overall Construction Noise Level in September 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)	1	8	15	0.4	80	0	-2	-2	-4	73
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/tube)										
Truck (18 wheel flatbed)	4	2	2	0.4	84	6	-8	-10	-4	68
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)	1	8	22	0.4	80	0	-2	0	-4	74
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										82

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-9. Analysis of Estimated Overall Construction Noise Level in October 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)	1	8	15	0.4	80	0	-2	-2	-4	73
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)										
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)										
Truck (18 wheel flatbed)	4	2	2	0.4	84	6	-8	-10	-4	68
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)	1	8	22	0.4	80	0	-2	0	-4	74
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										82

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-10. Analysis of Estimated Overall Construction Noise Level in November 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)	1	8	15	0.4	80	0	-2	-2	-4	73
Air Percussion Drilling Rig										
Loader (mid-size)										
Loader (landscape)	1	8	10	0.4	80	0	-2	-3	-4	71
Motor Grader										
Paving Roller (steel drum)										
Paving Compactor (rubber tire)										
Road Reclaimer										
Asphalt Paver										
Crane (30 ton mobile)										
Truck (2,500 gal water)										
Truck (18 wheel hauler)										
Truck (10 wheel fuel/lube)										
Truck (18 wheel flatbed)										
Truck (concrete pump)										
Truck (concrete transport)										
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator	2	8	22	0.5	82	3	-2	0	-3	80
Estimated Combined Leq @ 50':										81

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.

Table I-11. Analysis of Estimated Overall Construction Noise Level in December 2008

Equipment	Number of Units <sup>1</sup>	Hrs/Day Per Unit <sup>1</sup>	Number of Days of Use/ Month <sup>1</sup>	Usage Factor <sup>2</sup>	Typical Level @ 50', dBA <sup>2</sup>	Correction for Number of Units <sup>3</sup>	Correction for Hrs/Day <sup>4</sup>	Correction for No. of Days of Use in Month <sup>5</sup>	Correction for Usage Factor <sup>6</sup>	Estimated Leq @ 50', dBA <sup>7</sup>
Dozer D6										
Dozer D9										
Excavator (track)										
Backhoe (rubber tire)										
Air Percussion Drilling Rig										
Loader (mid-size)	1	8	10	0.4	80	0	-2	-3	-4	71
Loader (landscape)	1	8	5	0.4	80	0	-2	-6	-4	68
Motor Grader	1	8	10	0.4	85	0	-2	-3	-4	76
Paving Roller (steel drum)	2	8	10	0.2	85	3	-2	-3	-7	76
Paving Compactor (rubber tire)	1	8	3	0.2	80	0	-2	-9	-7	63
Road Reclaimer	1	8	7	0.2	90	0	-2	-5	-7	76
Asphalt Paver	1	8	3	0.5	85	0	-2	-9	-3	72
Crane (30 ton mobile)										
Truck (2,500 gal water)										
Truck (18 wheel hauler)	2	8	3	0.4	91	3	-2	-9	-4	80
Truck (10 wheel fuel/tube)	1	2	2	0.4	91	0	-8	-10	-4	69
Truck (18 wheel flatbed)										
Truck (concrete pump)	1	4	1	0.2	82	0	-5	-13	-7	57
Truck (concrete transport)	7	2	1	0.4	85	8	-8	-13	-4	68
Truck (3/4 ton)	4	4	22	0.4	55	6	-5	0	-4	52
Concrete Vibrator										
Air Compressor (185 cfm)										
Portable Power Generator										
Estimated Combined Leq @ 50':										84

Notes:

1. Obtained from BRG Consulting.
2. Percentage of time equipment is operating at noisiest mode in most used phase on site. Obtained or estimated from "Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances;" BBN; December 31, 1971, and/or RCNM.
3. Calculated as  $10 \cdot \log(\text{Column B})$ .
4. Calculated as  $10 \cdot \log(\text{Column C} / 12)$ .
5. Calculated as  $10 \cdot \log(\text{Column D} / 22)$ .
6. Calculated as  $10 \cdot \log(\text{Column E})$ .
7. Calculated as arithmetic sum of Columns F through J.



**LIMITED WATER QUALITY EVALUATION  
1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA**

**PREPARED FOR:**

BRG Consulting, Inc.  
304 Ivy Street  
San Diego, California 92101

**PREPARED BY:**

Ninyo & Moore  
Geotechnical and Environmental Sciences Consultants  
5710 Ruffin Road  
San Diego, California 92123

November 14, 2006  
Project No. 105915001

November 14, 2006  
Project No. 105915001

Mr. Patrick O'Neill  
BRG Consulting, Inc.  
304 Ivy Street  
San Diego, California 92101

Subject: Limited Water Quality Evaluation  
1296-3 Reservoir Project  
Jamul, California

Dear Mr. O'Neill:

Ninyo & Moore is pleased to submit this limited water quality evaluation to assist in the preparation of the 1296-3 Reservoir Project Environmental Impact Report. This study was conducted in accordance with your request and included review and analysis of available water quality background data, and a reconnaissance of the site.

We appreciate the opportunity to be of service.

Respectfully submitted,  
**NINYO & MOORE**



W. Scott Snyder, P.G., HG.  
Senior Hydrogeologist



Stephan A. Beck, C.E.G, HG., R.E.A. II  
Manager, Environmental Sciences Division

WSS/SB/gg/kmf

Distribution: (4) Addressee

**TABLE OF CONTENTS**

	<u>Page</u>
1. INTRODUCTION .....	1
2. SCOPE OF SERVICES .....	1
3. PROJECT DESCRIPTION .....	2
4. SITE DESCRIPTION .....	2
5. HYDROLOGY .....	2
6. WATER QUALITY .....	3
6.1. Stormwater Requirements .....	3
7. CONCLUSIONS AND RECOMMENDATIONS .....	5
8. LIMITATIONS.....	5
9. SELECTED REFERENCES .....	7

**Illustrations**

Figure 1 – Site Location Map

Figure 2 – Site Map

## 1. INTRODUCTION

Ninyo & Moore has performed a site reconnaissance and limited water quality evaluation of the 1296-3 Reservoir located on Bear Mountain Way, in southern San Diego County, California (site, Figures 1 and 2). The purpose of this study was to evaluate surface water and groundwater quality issues using available published information and to provide a water quality evaluation report, which we understand will be utilized in the preparation of environmental impact documents. This report presents our preliminary findings and conclusions pertaining to water quality issues associated with the proposed 1296-3 reservoir. Subsurface exploration and laboratory testing of soil and water were not included in the scope of this limited evaluation. This report is intended for the purpose of California Environmental Quality Act (CEQA) compliance and is not intended for the purpose of design or construction.

## 2. SCOPE OF SERVICES

Ninyo & Moore's scope of services included review of background materials and performing a site reconnaissance. Specifically, we have performed the tasks listed below.

- Review of available background data such as existing water quality reports, geologic maps and reports, historical aerial photographs, and topographic maps.
- One site visit for field reconnaissance.
- Evaluation of surface and groundwater quality issues at the site with respect to the Regional Water Quality Control Board (RWQCB) Basin Plan for Region 9 and relevant county and state stormwater regulations.
- Compilation and analysis of information obtained.
- Preparation of this technical report presenting a summary of our findings and conclusions regarding water quality issues.

### **3. PROJECT DESCRIPTION**

Based on current plans, the project consists of the construction of the proposed 1296-3 reservoir south of the existing 1296-1 and 1296-2 reservoirs (Figure 2). Details of the proposed construction are not known, however we anticipate that the reservoir will be a steel, above grade tank.

### **4. SITE DESCRIPTION**

The proposed reservoir will be constructed on the south side of Bear Mountain Way, in Jamul, California. Two existing reservoirs (1296-1 and 1296-2) are located north of the proposed reservoir site. The base elevation for the existing reservoirs is approximately 1,266 feet mean sea level (MSL). Elevations at the site of the proposed reservoir range from a low of approximately 1,210 feet MSL at the southeastern corner of the proposed tank site to a high of approximately 1,295 feet MSL in the northwestern corner of the site. The site slopes moderately downward to the south and east. The proposed reservoir site parcel is currently undisturbed and vegetation generally consists of a moderate growth of grass and brush.

### **5. HYDROLOGY**

The site is located in the Proctor Hydrologic Subarea (910.32) of the Dulzura Hydrologic Area of the Otay Hydrologic Unit. The hillside on which the reservoir will be constructed drains downhill to the south into an unnamed intermittent (seasonal) stream approximately 1/2-mile from the site. The stream eventually drains to the Upper Otay Reservoir, approximately 4 miles southwest of the site. The Upper Otay Reservoir drains into the Lower Otay Reservoir, which drains into the Otay River. The Otay River flows into San Diego Bay near the extreme southern end of the bay, in the vicinity of the salt ponds.

There are no listed existing or potential beneficial uses of groundwater in the Dulzura Hydrologic Area (of which the Proctor Hydrologic Subarea is a part). Existing beneficial uses of surface water (Upper Otay Reservoir) include municipal, agricultural, industrial supply, industrial process supply, contact and non-contact recreation, warm and cold freshwater habitat, and wildlife habitat.

## **6. WATER QUALITY**

There are no known existing water quality issues for surface water in the drainage in which the site occurs, based on published information reviewed for this report. San Diego Bay, into which the site surface water ultimately drains via the Otay River, is listed as a 303(d) impaired water body; however, the listings are for portions of San Diego Bay to which the Otay River does not directly discharge. The 303(d) list identifies surface water bodies that do not meet water quality standards even though water pollution controls are in effect.

### **6.1. Stormwater Requirements**

The San Diego RWQCB regulated stormwater discharges through the San Diego County Municipal Stormwater Permit, Order No. 2001-01, which expired in February 2006; however, a new tentative order was issued effective March 10, 2006 (Tentative Order No. 2006-0011). The County of San Diego (including unincorporated areas of the county, e.g., Jamul) is a co-permittee under RWQCB Order No. 2006-0011 for discharges of urban runoff. This requires the County of San Diego to eliminate discharges of runoff (both non-stormwater and stormwater discharges), into surface water bodies of the state, that degrade surface water quality. To comply with the permit and regulate stormwater discharges, the County has developed a Jurisdictional Urban Runoff Management Plan (JURMP). The purpose of the JURMP is to ensure that runoff from storm sewers do not contribute to a violation of water quality standards, prohibit non-stormwater discharges to the storm sewers, and reduce the discharge of pollutants from storm sewers to the maximum extent practicable. The JURMP is a program developed by the County to manage its own facilities, activities, and programs that parallels requirements of private projects.

The County developed a Standard Urban Storm Water Mitigation Plan (SUSMP), which is intended to assist in the implementation of land development programs and capital improvement projects under the jurisdiction of the JURMP. The purposes of the SUSMP are:

- to identify potential stormwater quality impacts from land development, and to develop and evaluate options to avoid, reduce, or minimize the potential for stormwater quality impacts where practical;

- to provide design guidance on effective structural and non-structural Best Management Practices (BMPs) for development sites and County capital improvement projects;
- to ensure the long-term performance of the BMPs;
- to ensure that BMPs put in place at land development projects and capital improvement projects meet or exceed applicable regulatory requirements; and
- to fulfill the state requirement that the County adopt a SUSMP for imposing specific additional regulatory requirements on “Priority Development Projects.”

The SUSMP only addresses land development projects and capital improvement projects, including both new construction and significant redevelopment projects. Within the SUSMP are templates for the development of a Storm Water Management Plan (SWMP) and a guideline for selecting and implementing BMPs.

The County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) (County Code sections 67.801-67.825) is an ordinance developed by the County for all aspects of stormwater discharges, both construction and non-construction related discharges. As part of the ordinance, a Stormwater Standards Manual (SSM) was developed to implement part of the stormwater program that must be followed by projects processed through the Department of Planning and Land Use and Department of Public Works during the construction and post-construction phases of a project.

The above reference documents are considered “Phase I” permits that regulate stormwater by the RWQCB through the copermittees (cities and County of San Diego). Certain types of jurisdictions, e.g., water suppliers, federal lands such as Camp Pendleton, are not regulated through these Phase I permits. The RWQCB and the State Water Resources Control Board are implementing Phase II permits in the near future to regulate these other jurisdictions. Until such time as they are brought into the Phase II permitting, they are not regulated by RWQCB Order No. 2006-0011. However, these jurisdictions are subject to the state Porter-Cologne Water Quality Control Act, as well as the federal requirements of the Clean Water Act. In addition, the site is subject to the State Water Resources Control Board General Per-

mit for Storm Water Discharges Associated with Construction Activity (Water Quality Order 99-08-DWQ).

## **7. CONCLUSIONS AND RECOMMENDATIONS**

Our review of public water quality information from published sources did not reveal water quality issues in surface water bodies at the site or in surface water bodies receiving runoff from the site. San Diego Bay is listed as a 303(d) impaired water body; however, the listings are for portions of San Diego Bay to which the Otay River Watershed does not directly discharge. If standard stormwater measures are followed, the impact to the existing water quality of San Diego Bay would be less than significant.

The proposed project would be subject to the SWRCB permit for stormwater discharges associated with construction activity during the construction phase of the project. We recommend that the County's SUSMP and SSM be consulted during the design phase of the project. Otay Water District should also prepare a document similar to a SWMP so that stormwater BMPs can be selected and designed to reduce the potential to degrade surface water quality during the construction and post-construction phases to the maximum extent practicable. A BMP implementation and maintenance schedule should also be developed to provide guidance in the proper utilization of BMPs. If standard stormwater measures are followed, the impacts to the water quality of the unnamed creek south of the site, Upper and Lower Otay Reservoirs, and the Otay River would be less than significant.

## **8. LIMITATIONS**

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent

activities. Please also note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on the results of a review of published documents. It should be understood that the conditions of a site and the surrounding area could change with time as a result of natural processes or the activities of man at the subject site or nearby properties. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

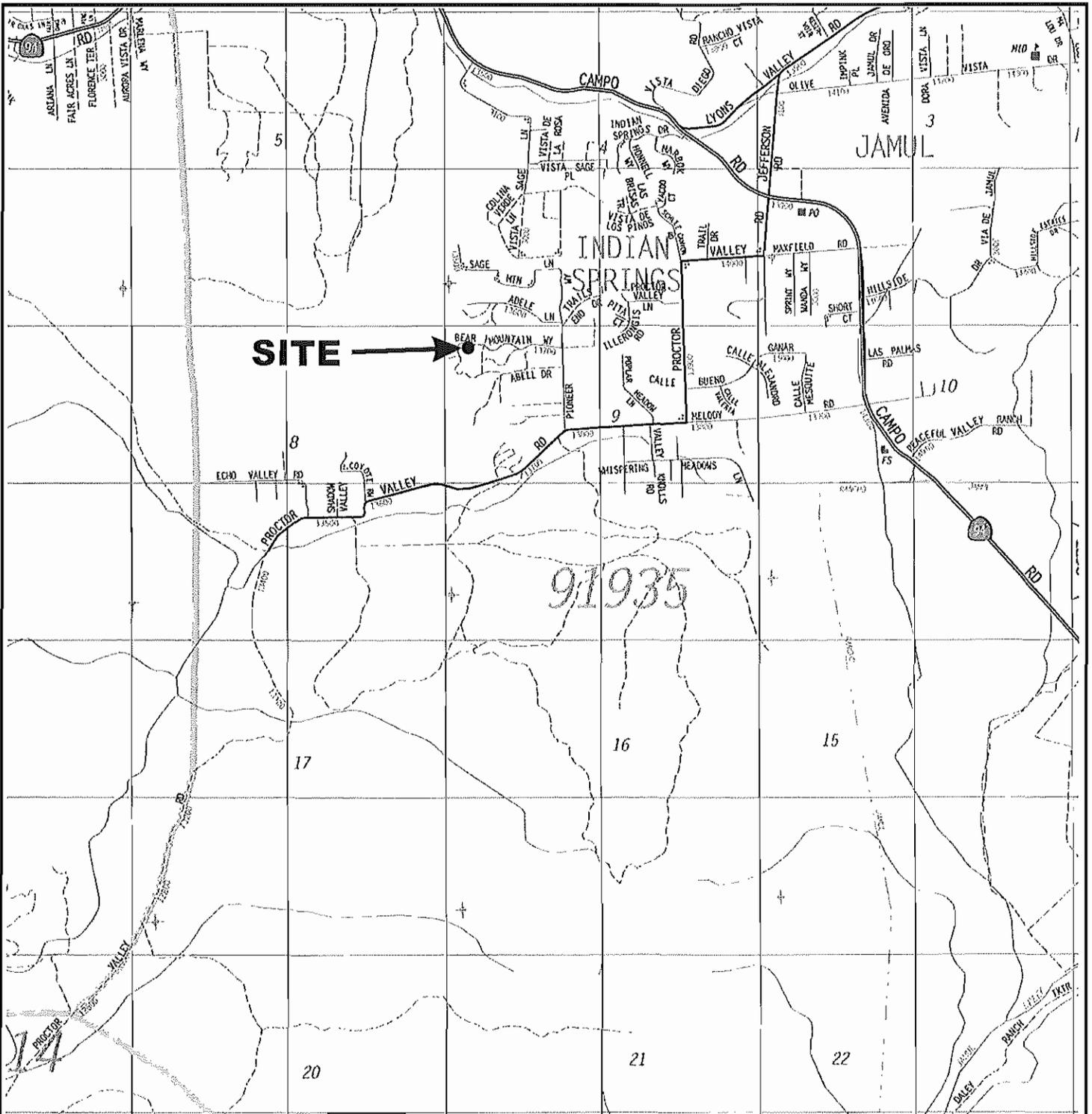
## 9. SELECTED REFERENCES

California Regional Water Quality Control Board, San Diego Region, 1994, Water Quality Control Plan for the San Diego Basin (9).

County of San Diego, 2002, Watershed Protection, Stormwater Management and Discharge Control Ordinance, CCRO 67.801-67.825: dated February 1, amended August 5, 2003.

County of San Diego, 2003, Standard Urban Storm Water Mitigation Plan for Land Development and Public Improvement Projects: dated February 10.

United States Geological Survey, 1967 (photo-revised 1975), Jamul Mountains Quadrangle, California, San Diego County, 7.5-Minute Series (Topographic): Scale 1:24,000.



REFERENCE: 2005 THOMAS GUIDE FOR SAN DIEGO COUNTY, STREET GUIDE AND DIRECTORY.



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

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**SITE LOCATION MAP**

FIGURE

**1**

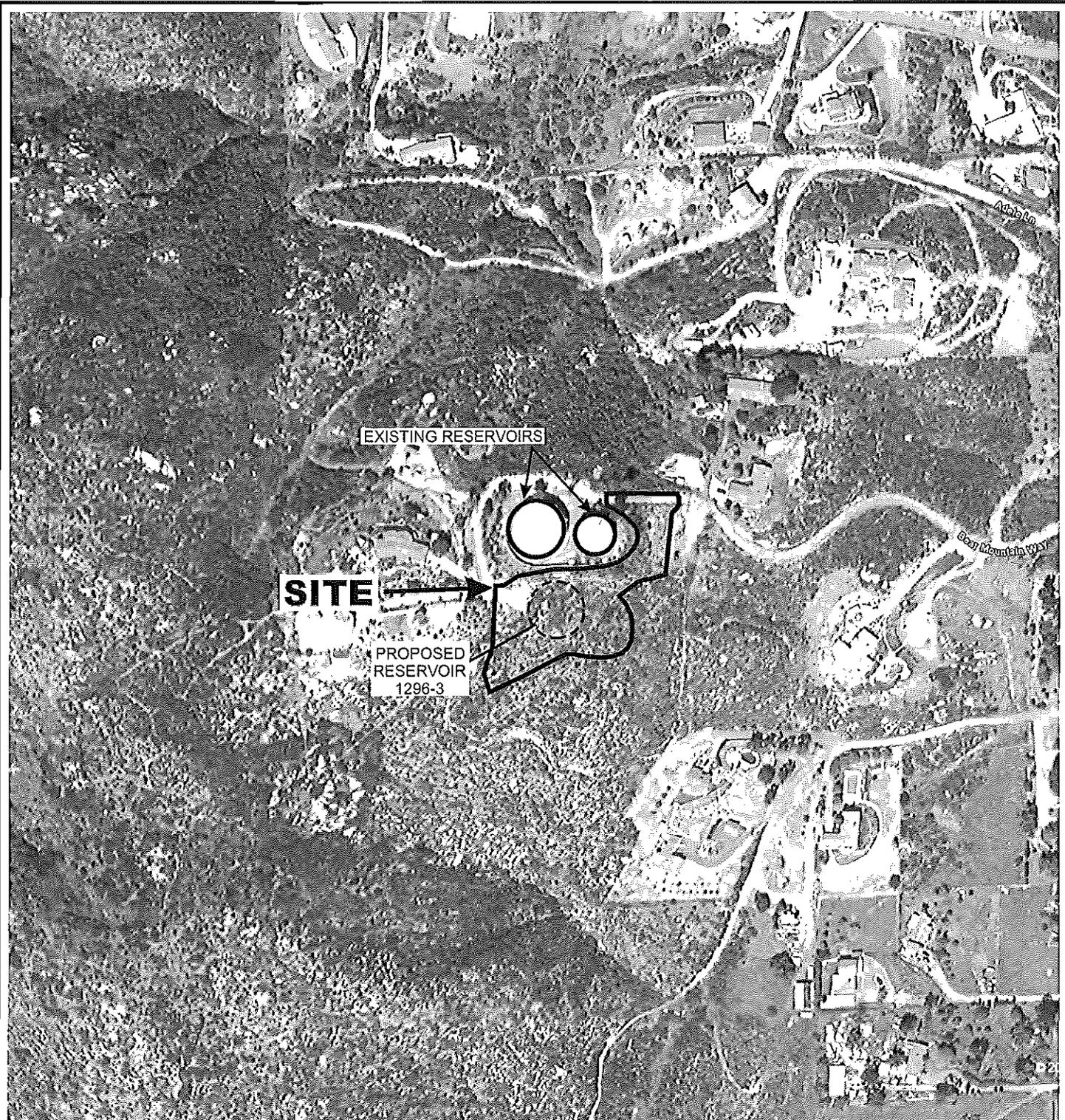
PROJECT NO.

DATE

1296-3 RESERVOIR PROJECT  
 JAMUL, CALIFORNIA

105915001

11/06



SOURCE: GOOGLE EARTH AERIAL IMAGE

LEGEND	
	SITE BOUNDARY

NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.



NOT TO SCALE

**Ninyo & Moore**

**SITE MAP**

FIGURE

PROJECT NO.

DATE

1296-3 RESERVOIR PROJECT  
JAMUL, CALIFORNIA

**2**

105915001

11/06

# Appendix F

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## Traffic Impact Analysis

*Prepared by Linscott, Law and Greenspan, Engineers*



TRAFFIC IMPACT ANALYSIS  
**1296-3 RESERVOIR PROJECT**  
County of San Diego, California  
September 19, 2007

LLG Ref. 3-06-1669

*Prepared by:*

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## TABLE OF CONTENTS

SECTION	PAGE
1.0 Introduction.....	1
2.0 Project Description .....	2
3.0 Existing Conditions.....	5
3.1 Existing Street Network.....	5
3.2 Existing Traffic Volumes.....	6
4.0 Analysis Approach and Methodology .....	7
4.1 Street Segments.....	7
5.0 Significance Criteria .....	8
6.0 Trip Generation/Distribution/Assignment .....	9
6.1 Trip Generation.....	9
6.2 Trip Distribution/Assignment .....	10
7.0 Analysis of Near-Term Operations .....	11
7.1 Existing Operations.....	11
7.2 Existing + Project.....	11
8.0 Conclusion .....	15

## APPENDICES

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### APPENDIX

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- A. Street Segment ADT Counts Sheets
- B. County of San Diego Roadway Classification and Level of Service Table
- C. Passenger Car Equivalence (PCE), Exhibit 21-8

## LIST OF FIGURES

SECTION—FIGURE #	FOLLOWING PAGE
1-1 Vicinity Map .....	1
1-2 Project Area Map .....	1
2-1a Haul Route #1 .....	4
2-1b Haul Route #2 .....	4
2-1c Haul Route #3 .....	4
3-1 Existing Conditions Diagram .....	6
3-2 Existing Traffic Volumes .....	6
6-1a Project Traffic Volumes – Haul Route #1 .....	10
6-1b Project Traffic Volumes – Haul Route #2 .....	10
6-1b Project Traffic Volumes – Haul Route #3 .....	10
6-2a Existing + Project Traffic Volumes – Haul Route #1 .....	10
6-2b Existing + Project Traffic Volumes – Haul Route #2 .....	10
6-2c Existing + Project Traffic Volumes – Haul Route #3 .....	10

## LIST OF TABLES

SECTION—TABLE #	PAGE
Table 3-1 Existing Traffic Volumes.....	6
Table 5-1 Measures of Significant Project Impacts to Congestion.....	8
Table 6-1 Peak Construction Period Trip Generation Table .....	9
Table 7-1a Street Segment Operations – Haul Route #1 .....	12
Table 7-1b Street Segment Operations – Haul Route #2.....	13
Table 7-1c Street Segment Operations – Haul Route #3 .....	14

TRAFFIC IMPACT ANALYSIS  
**1296-3 RESERVOIR PROJECT**  
County of San Diego, California

September 19, 2007

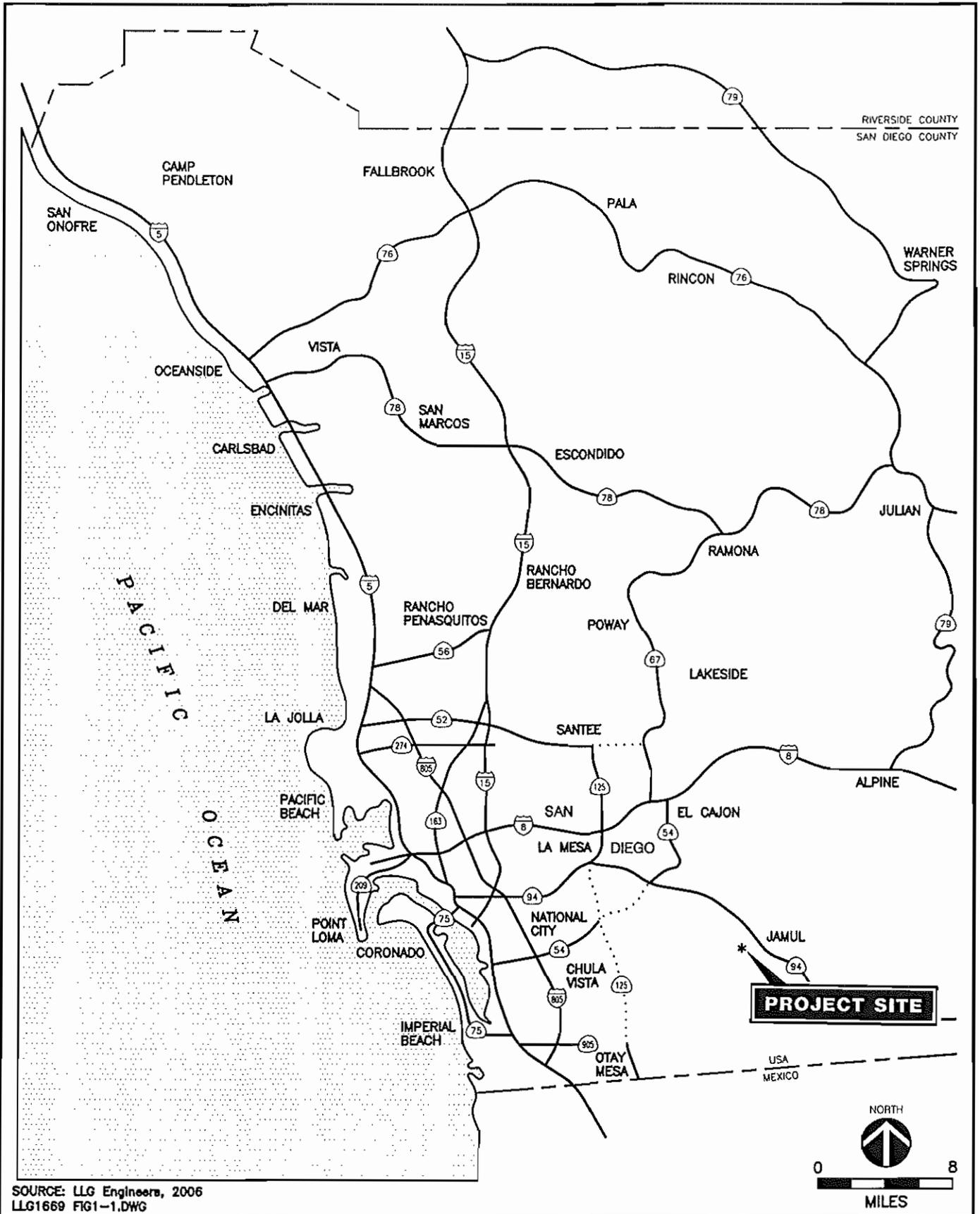
## 1.0 INTRODUCTION

This traffic impact study has been prepared to determine the potential traffic impacts on the local circulation system due to the construction of the 1296-3 Reservoir project, located in the southeastern portion of the County of San Diego. Part of the project is the removal of approximately 11,500 cubic yards of material and the importation of 1,200 cubic yards of material. The site is located west of SR 94 and north of Proctor Valley Road within the County of San Diego. *Figure 1-1* shows a vicinity map. *Figure 1-2* shows a more detailed project area map.

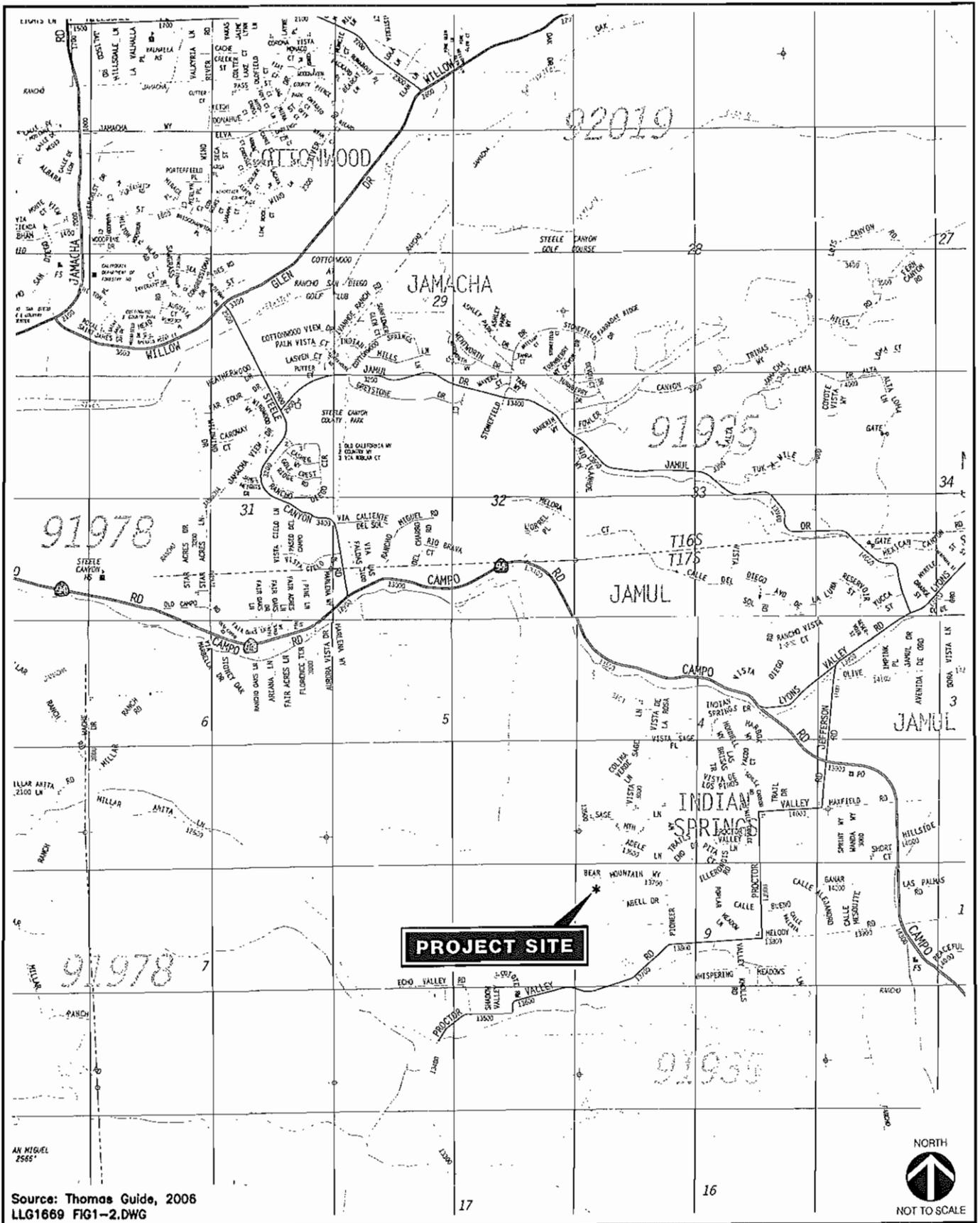
The purpose of this traffic study is to analyze the potential traffic impacts during project construction. The destination of exported material is unknown. Therefore, three potential haul routes were evaluated. Construction duration is anticipated to be 12 months.

Included in this traffic assessment is the following:

- Project description
- Existing conditions assessment
- Analysis approach and methodology
- Project traffic generation/distribution/assignment
- Near-term cumulative projects discussion
- Significance Criteria
- Near-term intersection/street segment capacity analysis
- Significance of Impacts and Mitigation Measures



**Figure 1-1**  
**Vicinity Map**



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**Figure 1-2  
Project Area Map**

## 2.0 PROJECT DESCRIPTION

The Otay Water District (OWD) is a publicly owned water and sewer service agency serving the needs of approximately 186,000 people in a 125.5 square mile area in southern San Diego County and encompassing the communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, Eastern Chula Vista, and Otay Mesa along the international border with Mexico. OWD is a California special district authorized under the provisions of the Municipal Water District Act of 1911, as amended, and is revenue neutral (i.e., each end user pays its fair share of District's costs of water acquisition and the operation and maintenance of its facilities). The District's ordinances, policies, taxes, and rates for service are set by its elected Board of Directors. All of the potable water delivered by the District is purchased from the San Diego County Water Authority. The District also owns and operates a wastewater collection and reclamation system providing sewer service to approximately 6,000 homes and businesses within the Jamacha drainage basin.

The District is comprised of five potable water service systems: the La Presa, Hillsdale and Regulatory systems in the northern portion of the OWD, and the Central Area and Otay Mesa systems in the southern portion of the OWD. The proposed project is located in the Regulatory system, which comprises 27,440 acres of the northern portion of the OWD. Additionally, the proposed project is located within the 1296 Pressure Zone of the Regulatory system. The 1296 Pressure Zone serves portions of the unincorporated community of Jamul.

In August 2002, the OWD adopted a Water Resources Master Plan (WRMP). The WRMP is a comprehensive program for the orderly and phased development of potable and reclaimed water supply, storage, transmission, and distribution in the OWD's service area and designated area of influence. The WRMP is a revision and update to OWD's 1995 WRMP to incorporate previous OWD planning efforts and approved land-use development plans, and growth projections within the OWD service area consistent with the San Diego Association of Government's (SANDAG's) forecasts. The WRMP identifies proposed potable and recycled facilities, and expansions of existing facilities, with required capacity and phasing. The WRMP is based on dwelling unit and population projections for three increments of development; Phase I (existing – 2006); Phase II (2006 – 2016); and Phase III (2017 – ultimate build out). The WRMP only addresses potable and recycled water facilities, not wastewater facilities.

The potable water system capital improvement program (CIP) facilities consist of pump stations, storage reservoirs, and transmission mains to meet the projected demands within the OWD service area as identified in the WRMP. These CIP facilities are the primary facilities that are planned, funded, and constructed by OWD. The secondary potable water facilities are the distribution pipelines and lateral pipelines, typically 12-inches or smaller in diameter to be planned, funded, and constructed by the development project proponents as part of each development project.

A Program Environmental Impact Report (EIR) was prepared for the WRMP by OWD, as Lead Agency pursuant to the California Environmental Quality Act (CEQA). The Final Program EIR was adopted by OWD in 2004. The Program EIR provides information regarding the environmental effects of the WRMP and provides an update to the Master EIR that was prepared for the previous WRMP prepared in 1995. As such, the Program EIR evaluates projects that

were analyzed in the Master EIR as well as projects proposed in the current WRMP. The Final Program EIR for the WRMP examines issues of aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology/soils/paleontology, hazards and hazardous materials, hydrology/water quality, land use/permitting, noise, population/housing, public services, recreation, transportation/traffic, and utilities/service systems. In addition, state law requirements for the coordination of land use and water supply planning, growth-inducement, cumulative impacts, and alternatives to the proposed WRMP are evaluated in the Program EIR. The Final Program EIR identifies potential impacts of existing and future projects, and provides mitigation measures that shall be applied when individual projects are approved or implemented. The Program EIR recognizes that development of mitigation measures for a specific project may require further evaluation or technical study at the time the particular project is proposed.

### **Proposed Project**

The 2002 WRMP recommends that the existing storage deficiency in the 1296 Pressure Zone be addressed through the construction of a new reservoir. The 1296-3 Reservoir (2.0 MG) is proposed to be constructed on an approximately 5.0-acre parcel of land owned by OWD located south of the existing 1296-1 and 1296-2 Reservoirs. The proposed 1296-3 Reservoir will not satisfy the existing deficiency in the 1296 Pressure Zone but will partially mitigate the existing storage deficiency and contribute toward meeting the projected ultimate operational storage in the 1296 Pressure Zone of 15.17 MG.

### **Access**

Access to the existing 1296-1 and 1296-2 Reservoirs is provided by Bear Mountain Way, a private road over which OWD has easements and which also provides access to neighboring properties. Access to the 1296-3 Reservoir will also be provided via Bear Mountain Way. The road is generally 18 to 20 feet wide with an average grade of 15 to 20 percent. Currently, the road has numerous pavement cracks. Truck traffic that will occur during construction of the proposed project may further damage the road. Therefore, as part of this project, the OWD is evaluating repaving of the road with asphalt concrete after the construction of the 1296-3 Reservoir is complete.

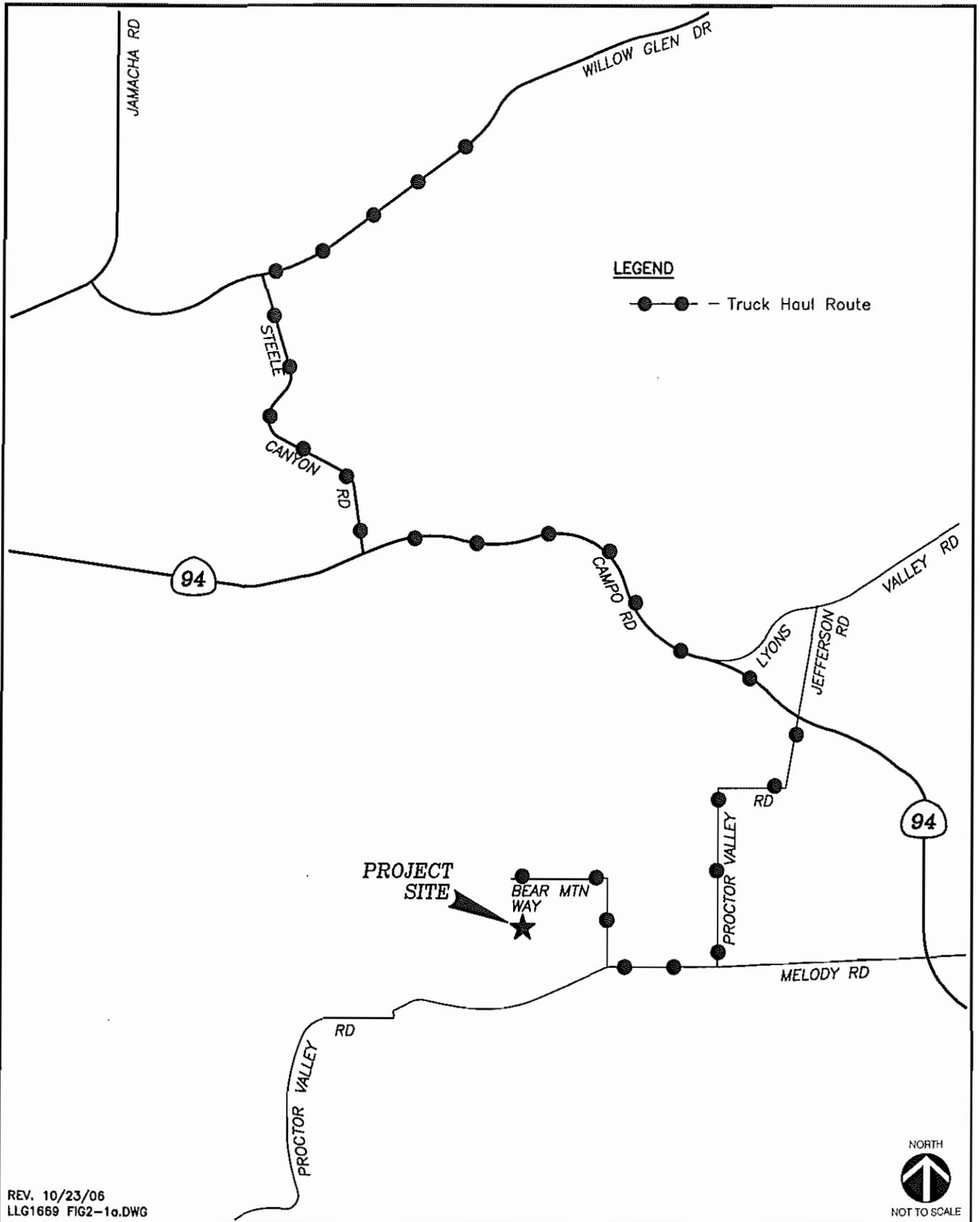
In addition, a paved access road surrounding the proposed 1296-3 Reservoir will be provided at a width of approximately 18 feet. This access road will be used only by OWD for reservoir operations and maintenance purposes. An access road from the 1296-3 Reservoir connecting to Bear Mountain Way will be constructed with a paved width of approximately 14 feet. The proposed new access roads will be located within the construction limits of the proposed project. Construction traffic would utilize SR 94 to Proctor Valley Road from the north or SR 94 to Melody Road from the south to reach the site.

### **Project Construction**

The proposed project site is approximately 1.36 acres. Construction activities are only anticipated to occur during the hours of 7:00 am and 5:00 pm and would be completed in approximately 12 months. Construction is scheduled to begin in February 2008 and be completed by January 2009. Construction equipment to be used during different phases of construction will include a variety of equipment such as a dozer, excavator, backhoe, loader, motor grader, paving roller, paving compactor, drilling rig, road reclaimer, asphalt paver, trucks,

mobile crane, air compressor, welders, grinders, concrete vibrators, and portable power generators. All construction equipment will be stored at a staging area within the project site.

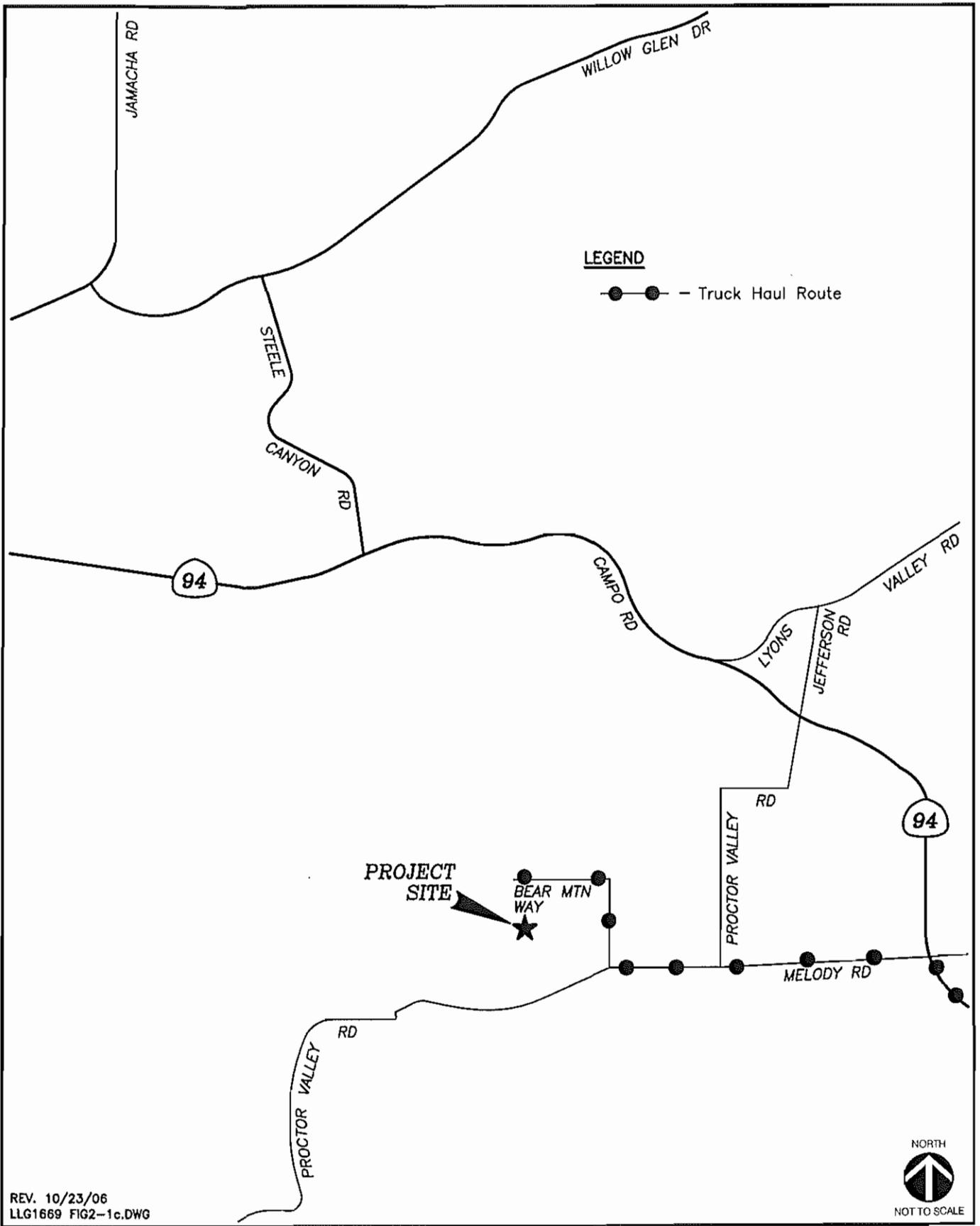
Grading will require an estimated 13,500 cubic yards of cut and 2,000 cubic yards of fill. Approximately 11,500 cubic yards of surplus material will be exported off-site. Approximately 750 total truck trips are estimated to move this quantity of material off-site. Imported material will consist of approximately 1,200 cubic yards of sand bedding to be placed beneath the reservoir floor and in pipeline trenches, and aggregate base and asphalt concrete for pavements. Approximately 60 truck trips are estimated to import these materials. *Figures 2-1a-c* details the potential construction haul routes to be utilized during the import and export activities.



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**Figure 2-1a**  
**Truck Haul Route #1**





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**Figure 2-1c**  
**Truck Haul Route #3**

### 3.0 EXISTING CONDITIONS

According to the County of San Diego Public Road Guidelines, **Prime Arterials** should be 102 feet wide in 122 feet of Right-of-Way (R/W), providing six thru lanes, a raised median and curbside parking. **Major Roads** should be 78 feet wide in 98 feet of R/W, providing four thru lanes, a raised median and curbside parking. **Collectors** should be 64 feet wide in 84 feet of R/W providing four thru lanes with curbside parking or four thru lanes with a left-turn lane. **Light Collectors** should be 40 feet wide in 60 feet of R/W, providing two thru lanes with a left-turn lane. Bike lanes add 10 feet to both the road width and the R/W. **Rural Light Collectors** should be 40 feet wide in 60 feet of R/W, providing two thru lanes.

Following is a brief description of the street segments within the study area. The study area is defined in Section 4.0 of this report. *Figure 3-1* illustrates the existing roadway conditions.

#### 3.1 Existing Street Network

**State Route (SR) 94** is classified as a Prime Arterial north of Melody Road and a Major Road south of Melody Road on the County of San Diego Circulation Element. SR 94 is currently constructed as a two-lane undivided roadway providing one lane of travel per direction with a posted speed limit of 50 mph. Bike Lanes are currently not provided and curbside parking is prohibited along both sides of the roadway. Bus stops are provided intermittently along the roadway. SR 94 is part of the County of San Diego Bicycle Network System. SR 94 is approximately 26 feet wide with shoulders generally varying from 2 to 4 feet in the project area.

**Steele Canyon Road** is classified as a Collector Road on the County of San Diego Circulation Element. Steele Canyon Road is currently constructed as a two lane undivided roadway, providing one travel lane in the north direction and one travel lane in the south direction. Steele Canyon Road is signalized at SR 94 and Willow Glen Drive. Steele Canyon Road has a roadway width of 45 feet with no shoulders provided. The posted speed limit on Steele Canyon Road is 45 mph.

**Proctor Valley Road** is classified as a Collector Road on the County of San Diego Circulation Element within the project area. Proctor Valley Road is currently constructed as a two-lane undivided roadway, providing one travel lane per direction. Proctor Valley Road is signalized at SR 94.

**Melody Road** is an unclassified roadway within the County of San Diego. Melody Road is currently constructed as a two-lane undivided roadway providing one lane of travel per direction. No bike lanes or bus stops are provided and curbside parking is prohibited. No speed limit is posted. Currently, Melody Road has a roadway width of 40 feet with no shoulders provided.

**Willow Glen Drive** is classified as a Major Road on the County of San Diego Circulation Element. Willow Glen Drive is currently constructed as a two-lane undivided roadway, providing one travel lane per direction. Willow Glen Drive is signalized at Steele Canyon Road and has a posted speed limit of 45 mph.

### 3.2 Existing Traffic Volumes

The existing average daily traffic (ADT) segment volumes were obtained from the County of San Diego and Caltrans traffic count records. Where applicable, older counts were updated using a 2% per year growth factor to bring counts up to year 2005. *Table 3-1* tabulates existing ADT volumes. *Figure 3-2* depicts the existing ADTs. **Appendix A** contains copies of the segment count sheets.

**TABLE 3-1  
EXISTING TRAFFIC VOLUMES**

Street Segment	ADT <sup>a</sup>	Date <sup>b</sup>	Source <sup>c</sup>
<b>Jamacha Road (SR 54)</b>			
North of Willow Glen Drive	26,000	2005	Caltrans
<b>Willow Glen Drive</b>			
Jamacha Road to Steele Canyon Road	20,300	2005	County of San Diego
Steele Canyon Road to Hillsdale Road	8,800	2005	County of San Diego
<b>SR 94</b>			
Steele Canyon Road to Proctor Valley Road	19,800	2005	Caltrans
Proctor Valley Road to Melody Road	13,100	2005	Caltrans
South of Melody Road	8,300	2005	Caltrans
<b>Steele Canyon Road</b>			
SR 94 to Willow Glen Drive	15,700	2005	County of San Diego
<b>Proctor Valley Road</b>			
SR 94 to Melody Road	2,200	2005	County of San Diego
<b>Melody Road</b>			
Proctor Valley Road to SR 94	300	2005	County of San Diego

**Footnotes:**

- a. Average Daily Traffic Volumes.
- b. Counts were updated to Year 2005 per a 2% per year growth factor with the exception of SR 94 and SR 54 when 2005 counts were available.

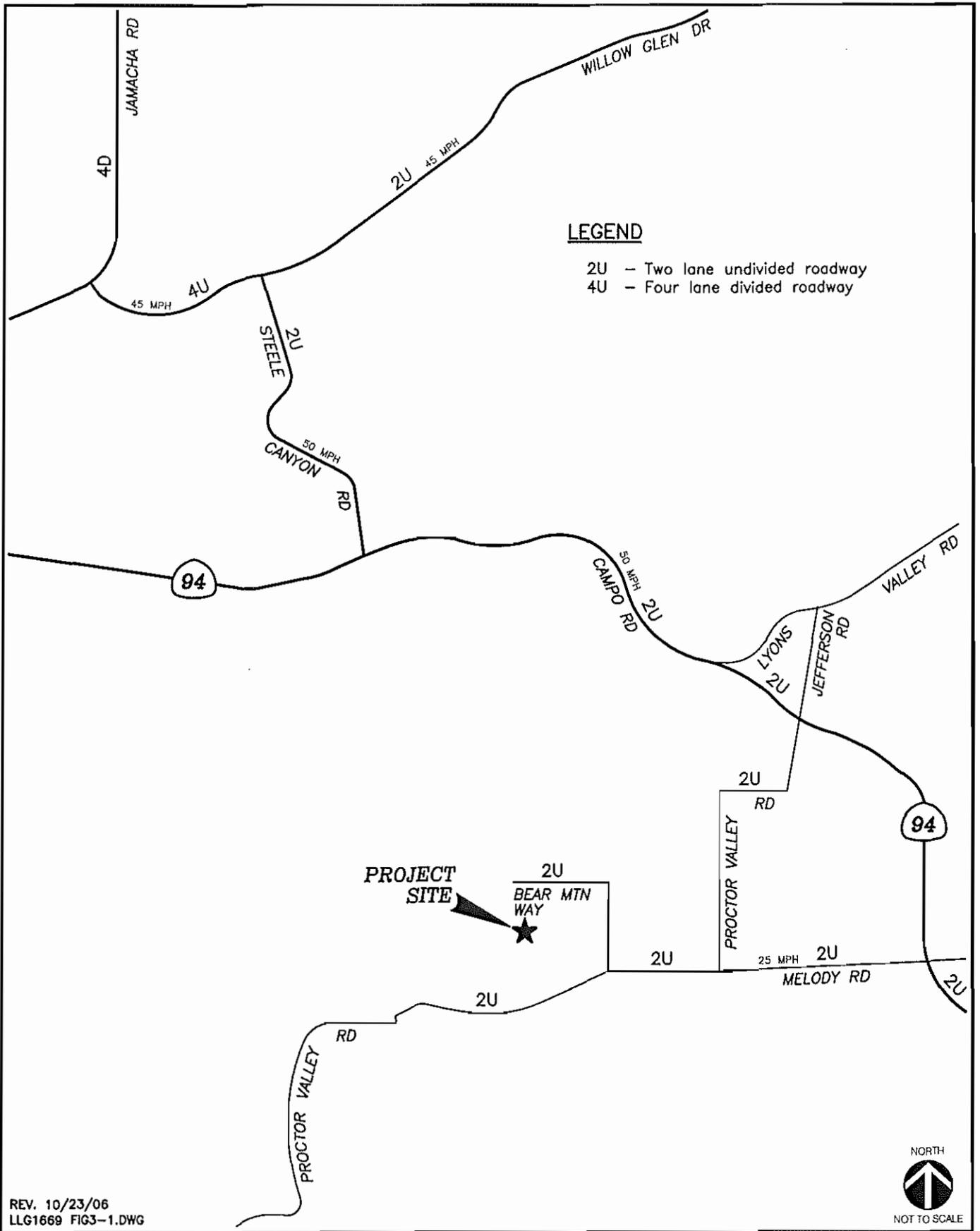


Figure 3-1

Existing Conditions Diagram

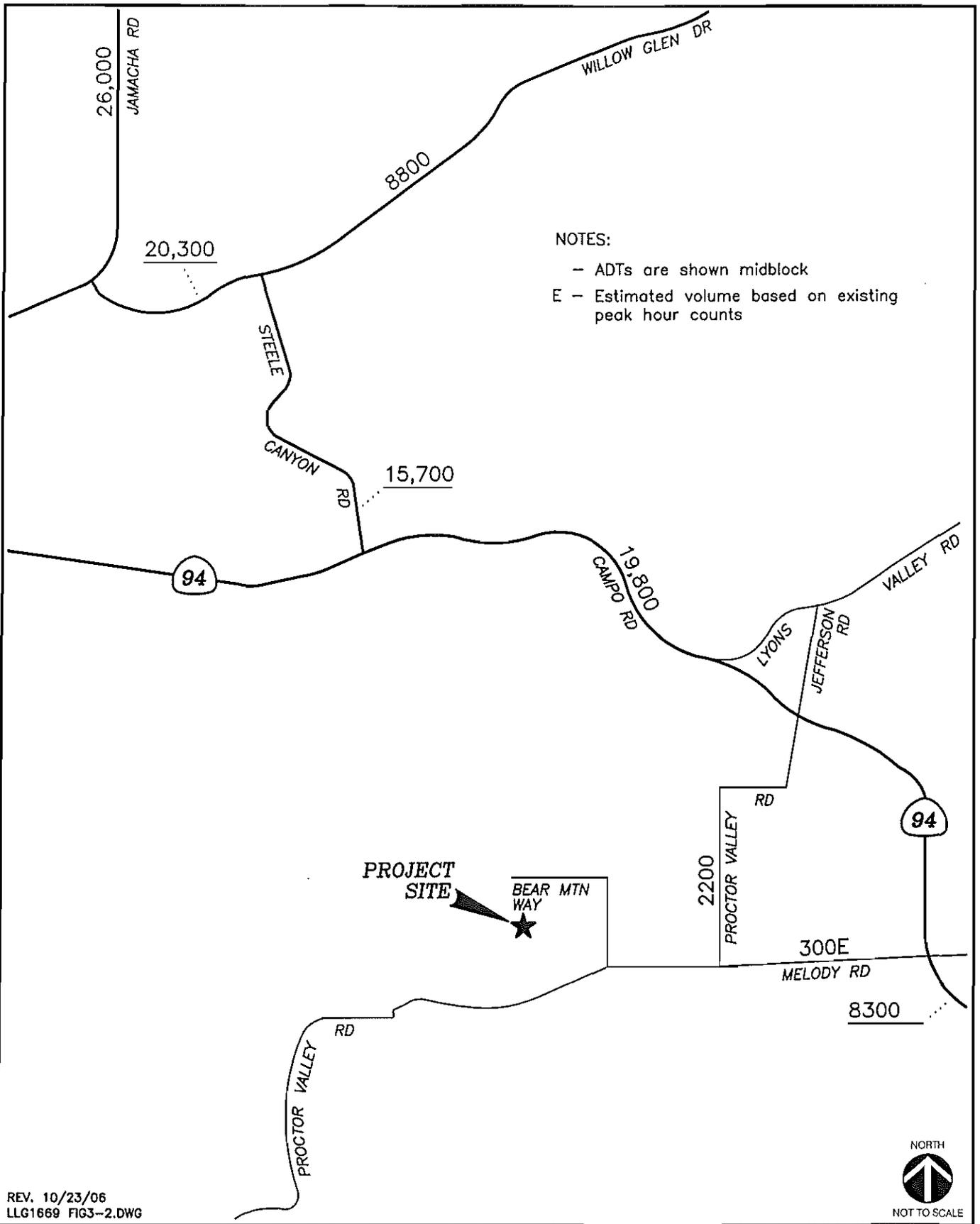


Figure 3-2  
Existing Traffic Volumes  
ADTs

## 4.0 ANALYSIS APPROACH AND METHODOLOGY

Level of service (LOS) is the term used to denote the different operating conditions which occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. Level of service provides an index to the operational qualities of a roadway segment. Level of service designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. Level of service designation is reported for roadway segments. Since the project is a short-term construction project, a peak hour intersection analysis is not warranted.

### 4.1 Street Segments

The street segments along the designated haul routes were analyzed on a daily basis by comparing the Average Daily Traffic (ADT) volume to the County of San Diego Capacity Standards. This table is included in *Appendix B* and provides Level of Service estimates based on traffic volumes and roadway characteristics.

The study area segments were analyzed for the following scenarios to determine the impacts to the road network:

- Existing
- Existing + Project

It should be noted that since the truck hauling is proposed to be completed within 1 year, no cumulative projects were included in the analysis.

## 5.0 SIGNIFICANCE CRITERIA

The County of San Diego criteria to determine significant traffic impacts is shown in *Table 5-1*. Since SR 94 is a Two-Lane Highway with signalized intersection spacing over one mile, these County thresholds were utilized. In general, if project only traffic causes the thresholds in the table to be exceeded, the impacts are determined to be a direct significant impact and if the project together with other cumulative projects causes the thresholds to be exceeded, the impact is determined to be a cumulative significant impact. However, it should be noted that in Section 4.1, a cumulative analysis was not conducted since the proposed truck hauling would be completed within a year.

The County's 1993 Public Facilities Element contains language which states that new development that "would significantly impact congestion on roads at LOS "E" or "F", either currently or as a result of the project, will be denied unless improvements are scheduled to improve the LOS to D."

The amounts in the table are considered to be noticeable to the average driver.

**TABLE 5-1  
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION  
ALLOWABLE INCREASES ON TWO-LANE HIGHWAYS  
WITH SIGNALIZED INTERSECTION SPACING OVER ONE MILE**

Level of Service	LOS Criteria	Impact Significance Level
LOS E	> 16,200 ADT	> 325 ADT
LOS F	> 22,900 ADT	> 225 ADT

Note:

Where detailed data is available, the Director of Public Works may also accept a detailed level of service analysis based upon the two-lane highway analysis procedures provided in Chapter 20 of the Highway Capacity Manual.

## 6.0 TRIP GENERATION/DISTRIBUTION/ASSIGNMENT

### 6.1 Trip Generation

Table 6-1 shows a summary of the amount of traffic to be generated by the proposed project. Based on the Equipment Schedule Matrix provided by OWD, LLG derived the worse case scenario in terms of the number of construction truck trips. During this two-month peak construction period, the project was calculated to generate approximately 98 (49 inbound / 49 outbound) daily trips including construction employee trips. In addition, to account for the heavy vehicle traffic, a Passenger Car Equivalency (PCE) factor was applied and is detailed below.

PCE is defined as the number of passenger cars that are displaced by a single heavy vehicle of a particular type under the prevailing traffic conditions. Heavy vehicles have a greater traffic impact than passenger cars since: (1) they are larger than passenger cars, and therefore, occupy more roadway space; and (2) their performance characteristics are generally inferior to passenger cars, leading to the formation of downstream gaps in the traffic stream (especially on upgrades) which cannot always be effectively filled by normal passing maneuvers. All of the project-generated traffic consists of heavy vehicles (trucks). Therefore, a PCE factor was applied to the generated truck trips. Exhibit 21-8, within the 2000 Highway Capacity Manual (Passenger Car Equivalents on Extended General Highway Segments) depicts Passenger Car Equivalence for various types of vehicles. LLG adopted a PCE factor of 2.0 for this project, based on Exhibit 21-8 (shown in **Appendix C**).

Assuming that every truck counts as 2.0 cars, *Table 6-1* shows that the project is calculated to generate the equivalent of 168 ADT (84 in/84 out).

**TABLE 6-1**  
**PEAK CONSTRUCTION PERIOD TRIP GENERATION TABLE**

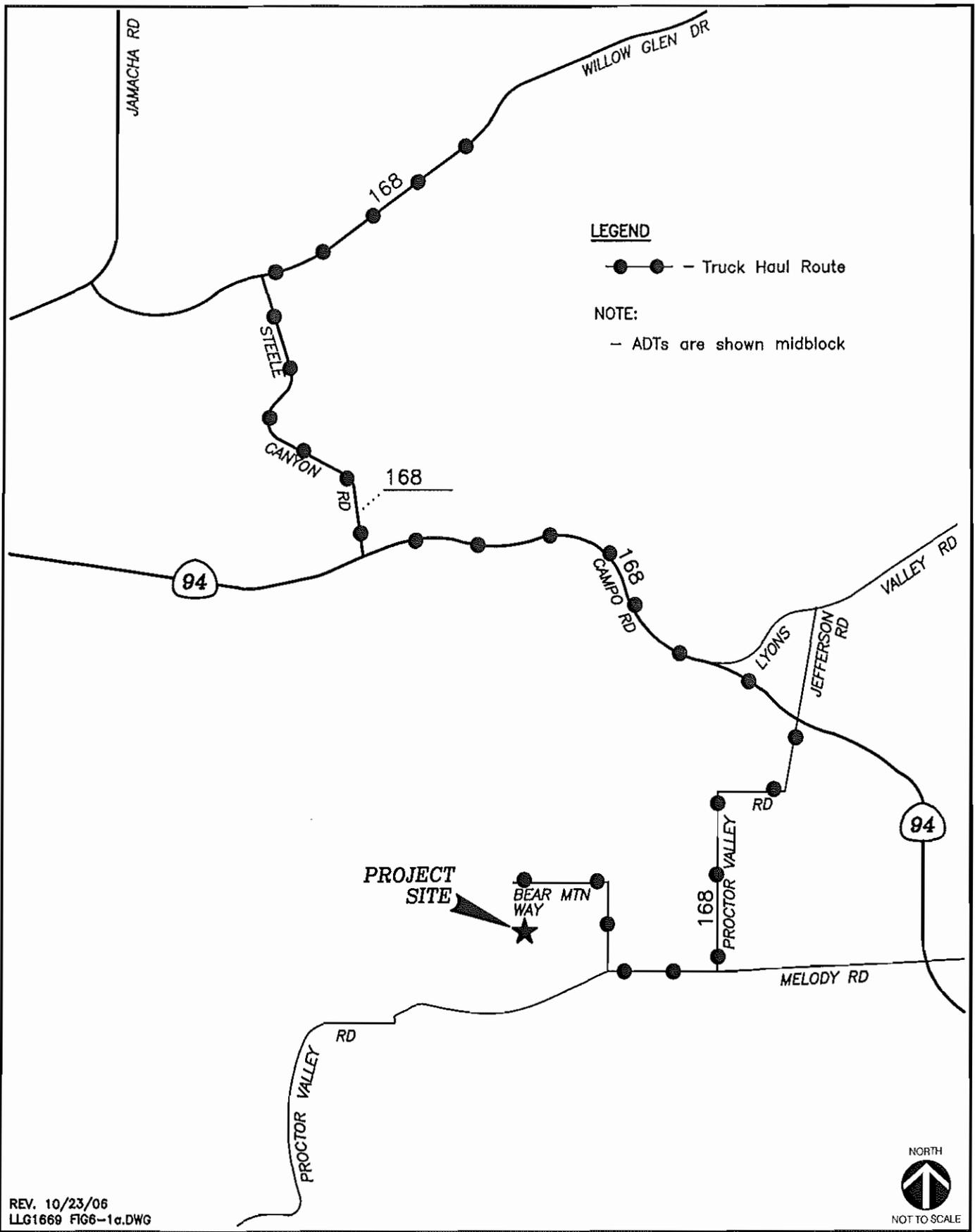
Vehicle Type	Inbound TRIPS	Outbound Trips	Inbound + Outbound	With PCE Factor
Truck (18 wheel hauler)	30	30	60	120
Truck (10 wheel/fuel/lube)	1	1	2	4
Truck (3/4-ton)	4	4	8	16
Employee vehicles	14	14	28	28
<b>Totals:</b>	49	49	98	<b>168</b>

Footnotes:

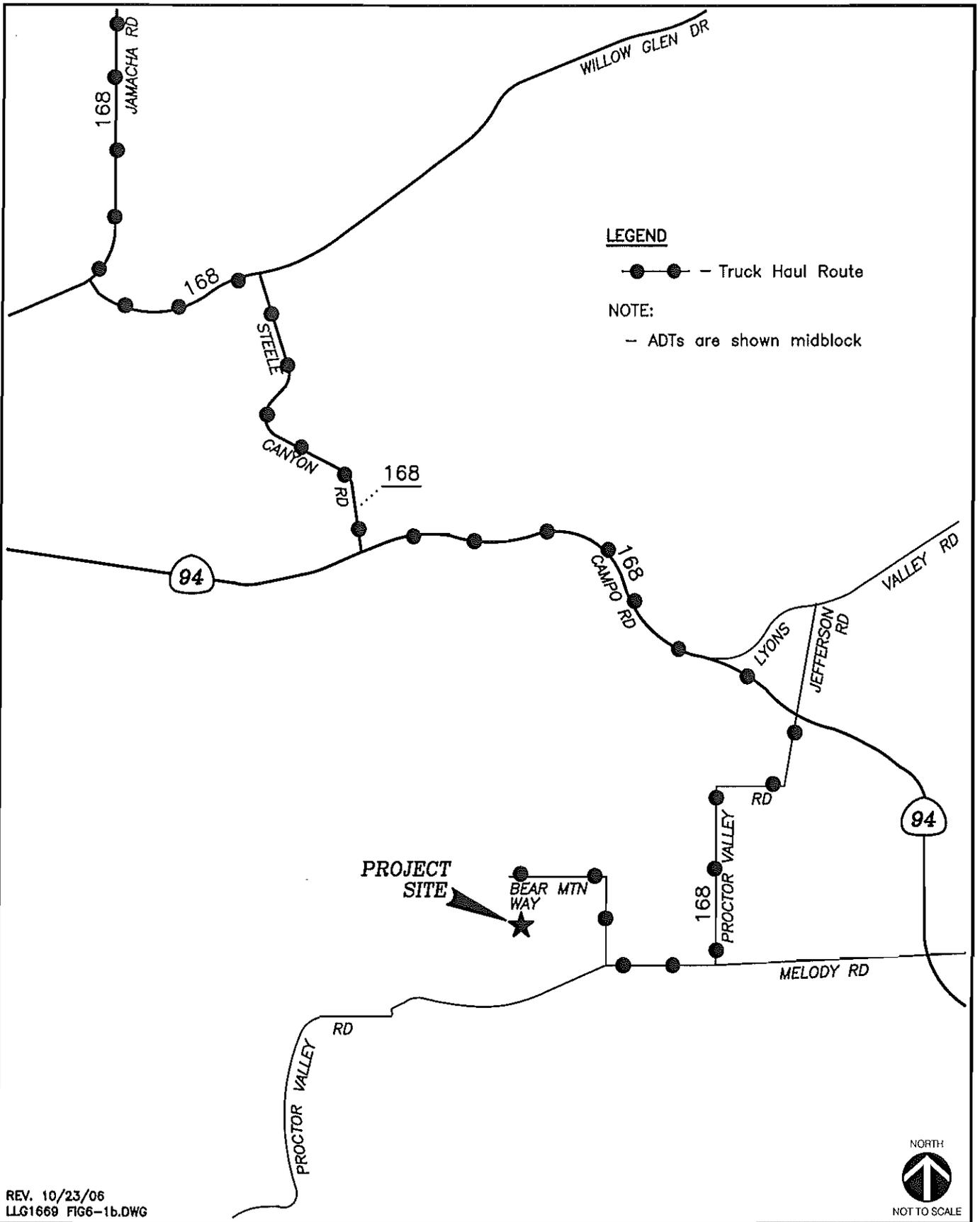
\*PCE -- Passenger Car Equivalent per the Highway Capacity Manual, 2000.

## 6.2 Trip Distribution/Assignment

As previously discussed, trucks may use any of three haul routes (see Figures 2-1a-c) to transport materials to/from the project site depending on the destination of the export material. *Figures 6-1a-c* shows the project traffic assignment. *Figures 6-2a-c* shows the existing + project traffic volumes.

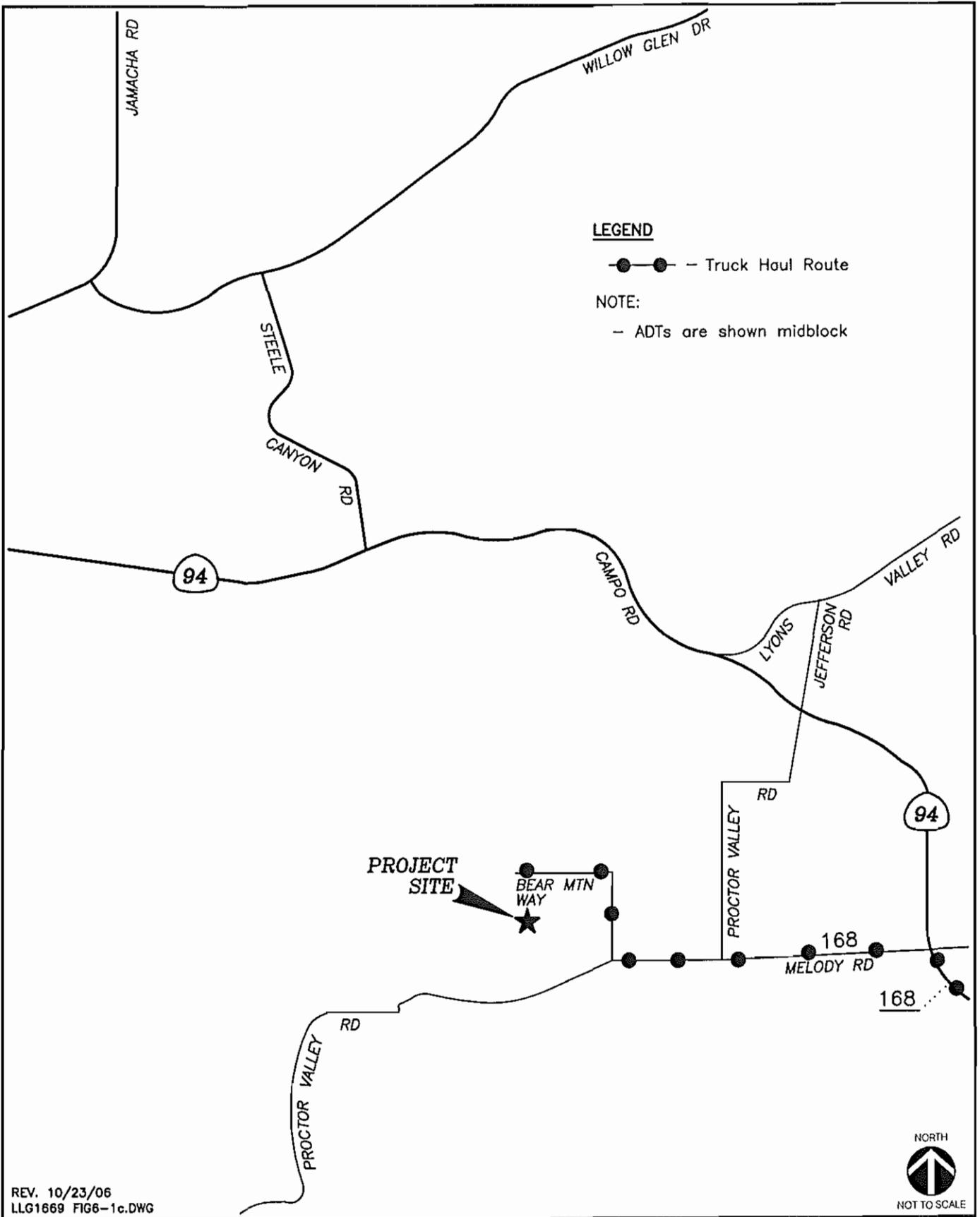


**Figure 6-1a**  
**Project Traffic Volumes - Haul Route #1**  
**ADTs**

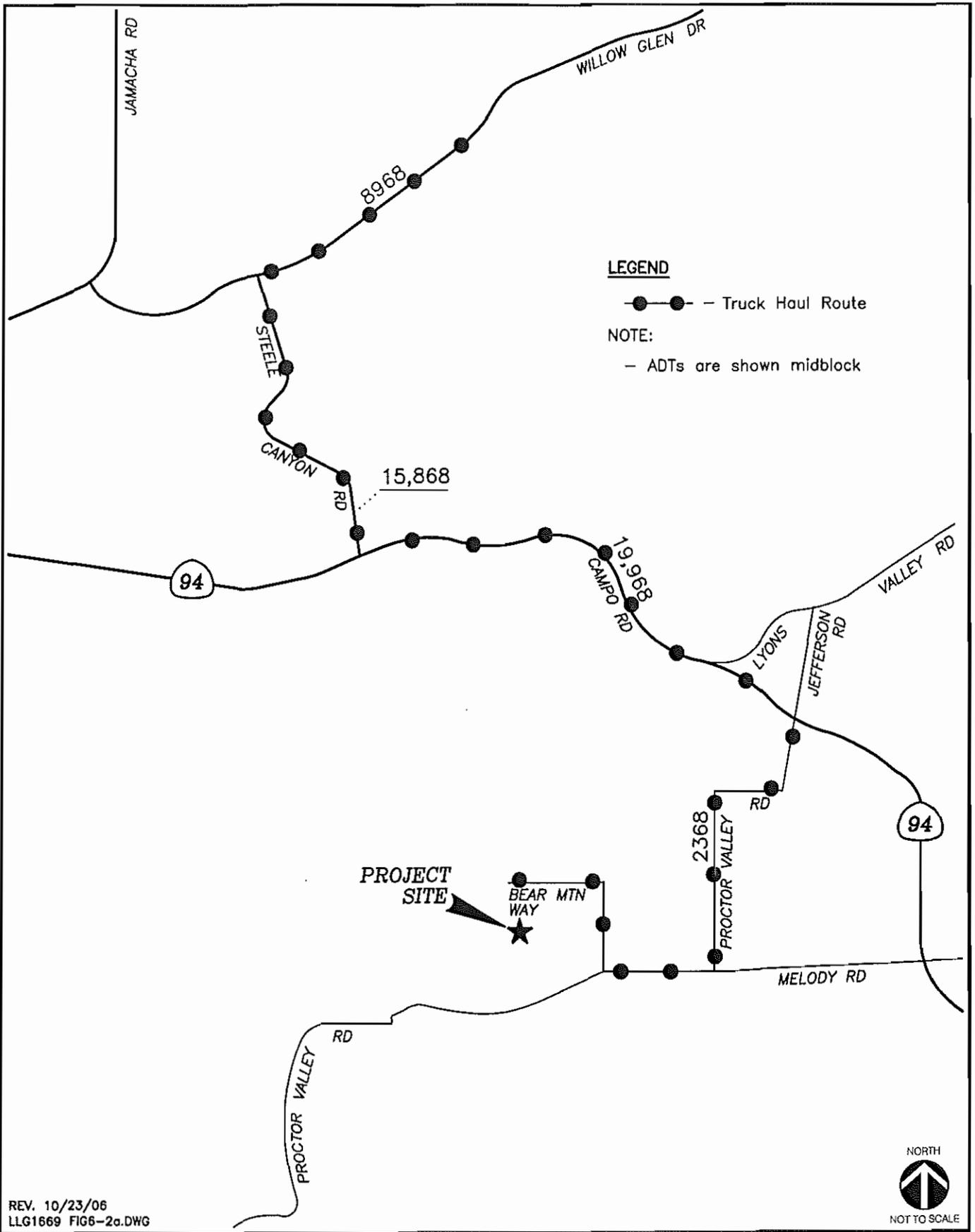


**LINSCOTT  
 LAW &  
 GREENSPAN**  
 engineers

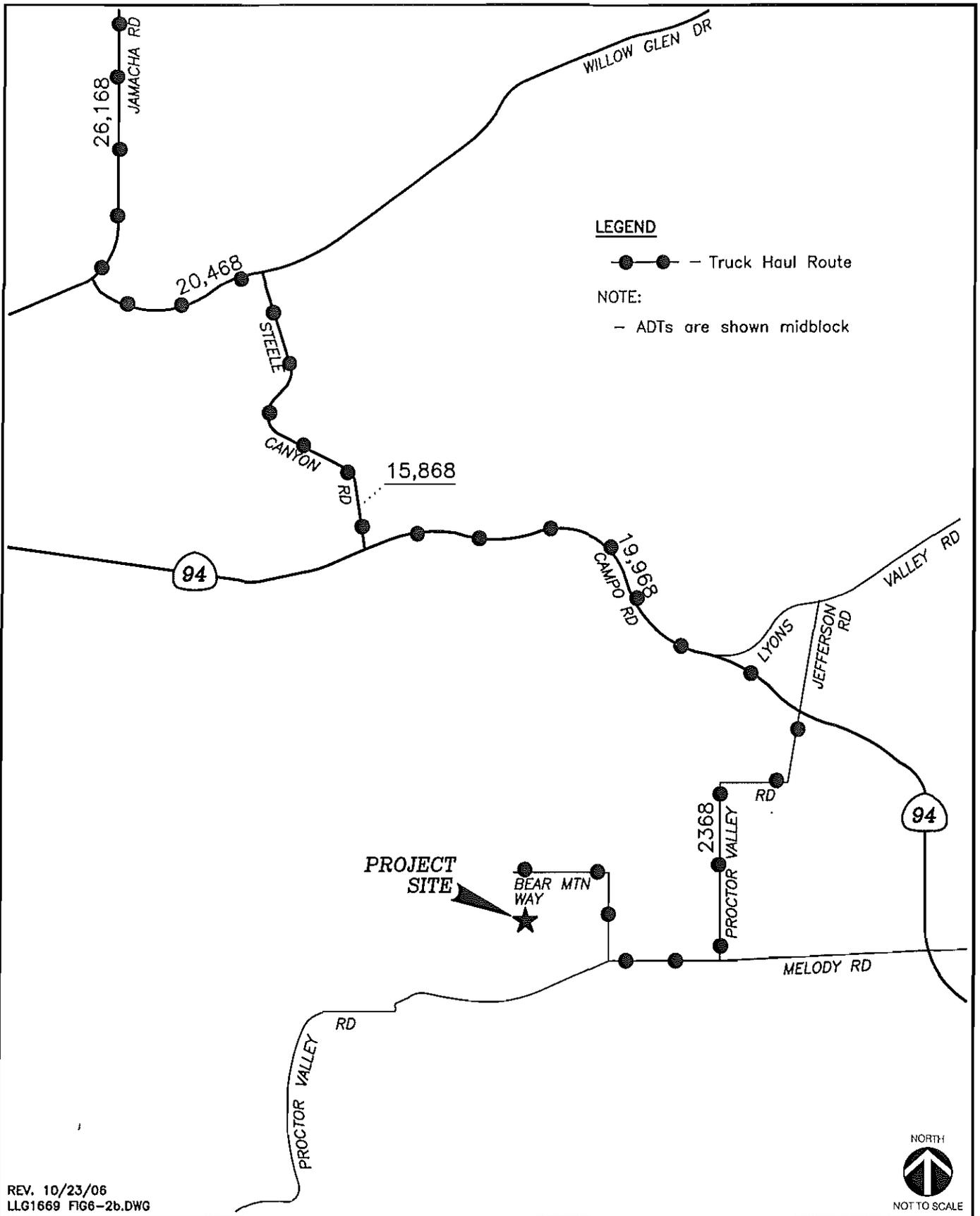
**Figure 6-1b**  
**Project Traffic Volumes - Haul Route #2**  
**ADTs**



**Figure 6-1c**  
**Project Traffic Volumes - Haul Route #3**  
**ADTs**



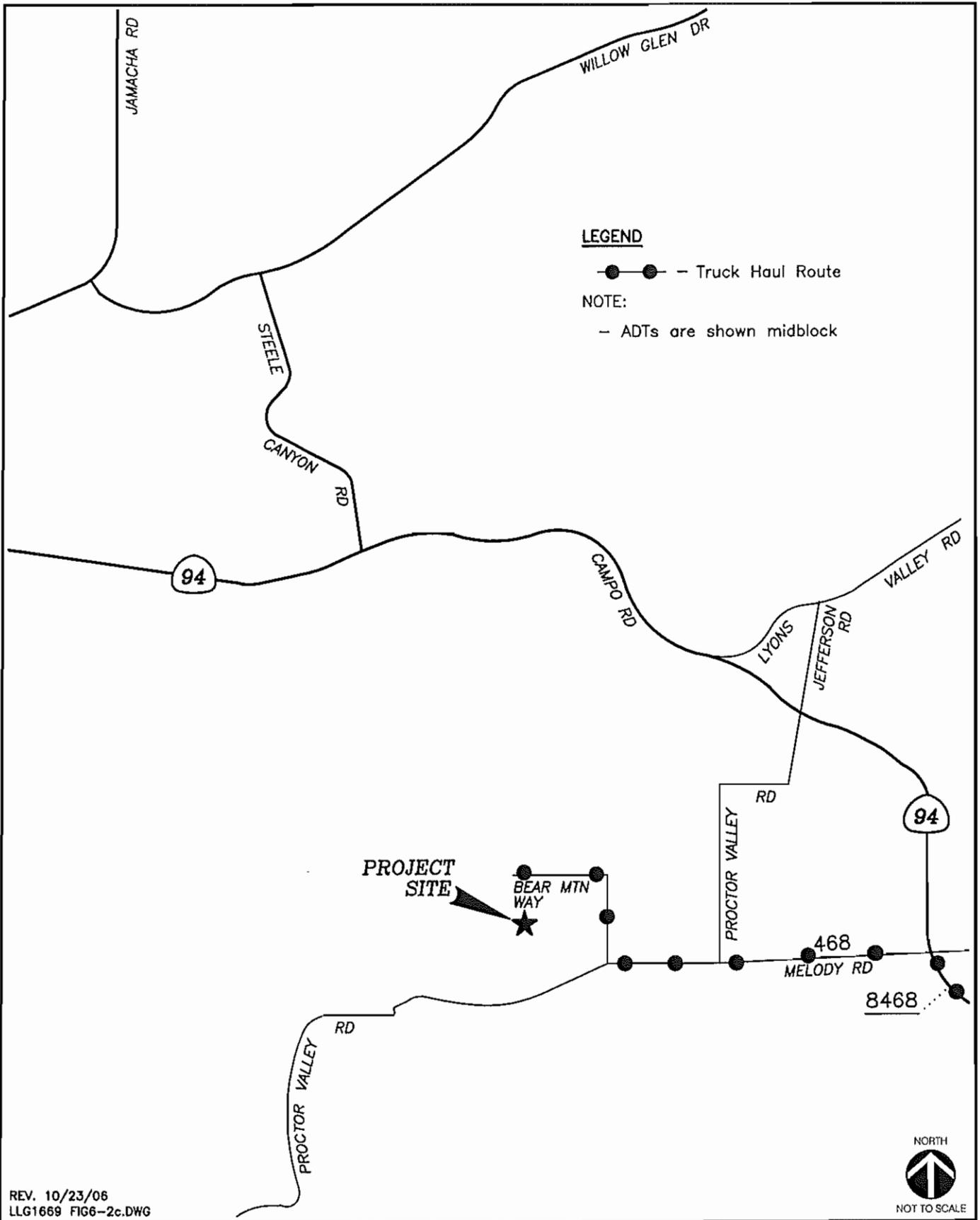
**Figure 6-2a**  
**Existing + Project Traffic Volumes - Haul Route #1**  
**ADTs**



REV. 10/23/06  
 LLG1669 FIG6-2b.DWG



**Figure 6-2b**  
**Existing + Project Traffic Volumes - Haul Route #2**  
**ADTs**



**Figure 6-2c**  
Existing + Project Traffic Volumes - Haul Route #3  
ADTs

## 7.0 ANALYSIS OF NEAR-TERM OPERATIONS

*Tables 7-1a, 7-1b, and 7-1c* identify potential impacts for use of haul routes #1, #2, and #3, respectively.

### 7.1 Existing Operations

Tables 7-1a, 7-1b, and 7-1-c show that under existing conditions, the majority of the street segments are calculated to currently operate at acceptable LOS with the following exceptions:

- SR 94: between Steele Canyon Road and Proctor Valley Road (LOS F)
- Steele Canyon Road: between Willow Glen Drive and SR 94 (LOS E)

### 7.2 Existing + Project

Tables 7-1a, 7-1b, and 7-1c show that with the addition of project traffic for the three designated truck haul routes, the following segments are calculated to continue to operate below acceptable LOS.

- SR 94: between Steele Canyon Road and Proctor Valley Road (LOS F)
- Steele Canyon Road: between Willow Glen Drive and SR 94 (LOS E)

It should be noted that the roadway along haul route #3 operates at adequate levels of service.

**TABLE 7-1A  
STREET SEGMENT OPERATIONS – HAUL ROUTE #1**

Roadway Segments	Existing Capacity (LOS E)	Existing			Existing + Project			Sig <sup>f</sup>
		ADT <sup>a</sup>	V/C <sup>b</sup>	LOS <sup>c</sup>	ADT	V/C	LOS	
<b>Jamacha Road</b>								
North of Willow Glen Drive	34,200	N/A	N/A	N/A	N/A	N/A	N/A	None
<b>Willow Glen Drive</b>								
Hillsdale Road to Steele Canyon Road	16,200	8,800	0.54	D	8,968	0.55	D	None
Steele Canyon Road to Jamacha Road	34,200	N/A	N/A	N/A	N/A	N/A	N/A	None
<b>SR 94</b>								
Steele Canyon Road to Proctor Valley Road	16,200	19,800	1.22	F	19,968	1.23	F	None
South of Melody Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	None
<b>Steele Canyon Road</b>								
SR 94 to Willow Glen Drive	16,200	15,700	0.97	E	15,868	0.98	E	None
<b>Proctor Valley Road</b>								
SR 94 to Melody Road	16,200	2,200	0.14	B	2,368	0.15	B	None
<b>Melody Road</b>								
Proctor Valley Road to SR 94	16,200	N/A	N/A	N/A	N/A	N/A	N/A	None

**Footnotes:**

Capacity based on County of San Diego roadway capacities, (Appendix B).

- a. Average Daily Traffic.
- b. Volume to Capacity ratio.
- c. Level of Service

N/A = Roadway segment not impacted by haul route #1.

**TABLE 7-1B  
STREET SEGMENT OPERATIONS – HAUL ROUTE #2**

Roadway Segments	Existing Capacity (LOS E)	Existing			Existing With Project			Sig <sup>f</sup>
		ADT <sup>a</sup>	V/C <sup>b</sup>	LOS <sup>c</sup>	ADT	V/C	LOS	
<b>Jamacha Road</b>								
North of Willow Glen Drive	34,200	26,000	0.76	C	26,168	0.77	C	None
<b>Willow Glen Drive</b>								
Hillsdale Road to Steele Canyon Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Steele Canyon Road to Jamacha Road	34,200	20,300	0.59	B	20,468	0.60	B	None
<b>SR 94</b>								
Steele Canyon Road to Proctor Valley Road	16,200	19,800	1.22	F	19,968	1.23	F	None
South of Melody Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Steele Canyon Road</b>								
SR 94 to Willow Glen Drive	16,200	15,700	0.97	E	15,868	0.98	E	None
<b>Proctor Valley Road</b>								
SR 94 to Melody Road	16,200	2,200	0.14	B	2,368	0.15	B	None
<b>Melody Road</b>								
Proctor Valley Road to SR 94	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Footnotes:**

Capacity based on County of San Diego roadway capacities, (Appendix B).

- a. Average Daily Traffic.
- b. Volume to Capacity ratio.
- c. Level of Service

N/A = Roadway segment not impacted by haul route #2.

**TABLE 7-1C  
STREET SEGMENT OPERATIONS – HAUL ROUTE #3**

Roadway Segments	Existing Capacity (LOS E)	Existing			Existing With Project			Sig <sup>f</sup>
		ADT <sup>a</sup>	V/C <sup>b</sup>	LOS <sup>c</sup>	ADT	V/C	LOS	
<b>Jamacha Road</b>								
North of Willow Glen Drive	34,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Willow Glen Drive</b>								
Hillsdale Road to Steele Canyon Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Steele Canyon Road to Jamacha Road	34,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>SR 94</b>								
Steele Canyon Road to Proctor Valley Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South of Melody Road	16,200	8,300	0.51	D	8,468	0.52	D	None
<b>Steele Canyon Road</b>								
SR 94 to Willow Glen Drive	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Proctor Valley Road</b>								
SR 94 to Melody Road	16,200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Melody Road</b>								
Proctor Valley Road to SR 94	16,200	300	0.19	A	468	0.29	A	None

**Footnotes:**

Capacity based on County of San Diego roadway capacities, (Appendix B).

a. Average Daily Traffic.

b. Volume to Capacity ratio.

c. Level of Service

N/A = Roadway segment not impacted by haul route #3.

## 8.0 CONCLUSION

Based on Table 6-1, the project is calculated to generate 168 total trips. Based on the application of this significance criteria, no significant impacts are calculated. This amount is less than the significance threshold stated in Table 5-1, which is 225 ADT. Therefore, mitigation measures are not necessary.

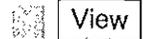


**APPENDIX A**  
**STREET SEGMENT ADT COUNT SHEETS**

# Traffic and Vehicle Data Systems Unit

2005 All Traffic Volumes on CSHS

Route 1



View

## [Files]

The files containing traffic volumes (also known as counts) on California state highways are available for downloading. These files can be imported into spreadsheets or data bases for viewing and analysis.

## [Route Number]

All California state highways are listed in this booklet in order of Legislative Route number.

## [Annual Average Daily Traffic (Annual ADT)]

Annual average daily traffic is the total volume for the year divided by 365 days. The traffic count year is from October 1st through September 30th. Very few locations in California are actually counted continuously. Traffic Counting is generally performed by electronic counting instruments moved from location throughout the State in a program of continuous traffic count sampling. The resulting counts are adjusted to an estimate of annual average daily traffic by compensating for seasonal influence, weekly variation and other variables which may be present. Annual ADT is necessary for presenting a statewide picture of traffic flow, evaluating traffic trends, computing accident rates, planning and designing highways and other purposes.

## [Peak Hour]

Included is an estimate of the "peak hour" traffic at all points on the state highway system. This value is useful to traffic engineers in estimating the amount of congestion experienced, and shows how near to capacity the highway is operating. Unless otherwise indicated, peak hour values indicate the volume in both directions.

A few hours each year are higher than the "peak hour", but not many. In urban and suburban areas, the peak hour normally occurs every weekday, and 200 or more hours will all be about the same. On roads with large seasonal fluctuations in traffic, the peak hour is the four near the maximum for the year but excluding a few (30 to 50 hours) that are exceedingly high and are not typical of the frequency of the high hours occurring during the season.

## [Traffic Profile]

These files list 2004 traffic volumes for all count locations on the California state highway system. Peak hours, peak month ADTs and annual ADTs are shown at each count location. Significant volume changes (breakpoints) in the traffic profile along each route are counted and identified by name and milepost value. In addition to the profile breakpoints, these files list county lines and well-known landmarks to aid in orientation. All traffic volume figures listed include traffic in both directions unless otherwise indicated.

## [Milepost]

Each profile breakpoint is identified by the milepost value corresponding to that point on the highway. The milepost values increase from the beginning of a route within a county to the next county line. The milepost values start over again at each county line. Milepost values usually increase from south to north or west to east depending upon the general direction the route follows within the state.

The milepost at a given location will remain the same year after year. When a section of road is relocated, new milepost (usually noted by an alphabetical prefix such as "R" or "M") are established for it. If relocation results in a change in length, "milepost equations" are introduced at the end of each relocated portion so that mileposts on the remainder of the route within the county will remain unchanged.

## [Peak Month ADT]

The peak month ADT is the average daily traffic for the month of heaviest traffic flow. This data is obtained because on many routes, high traffic volumes which occur during a certain season of the year are more representative of traffic conditions than the annual ADT.

## [Back and Ahead]

Back AADT, Peak Month, and Peak Hour usually represents traffic South or West of the count location. Ahead AADT, Peak Month, and Peak Hour usually represents traffic North or East of the count location. A listing of routes with their designated direction of travel is listed here.

District	Route	Rte Suf	County	PM Prefix	Postmile	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead
11	54		SD	T	13.71	CHASE AVENUE	2300	27000	26000	2300	27000	26000
11	54		SD	T	14.18	GROVE ROAD	2300	27000	26000			

District	Route	Rte Suf	County	PM Prefix	Postmille	Description	Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
11	94		SD		14.86	JCT. RTE. 54 NORTH	5500	66000	65000	1900	23000	22700
11	94		SD		17.35	STEELE CANYON ROAD	1900	23000	22700	1650	20000	19800
11	94		SD		19.4	LYONS VALLEY ROAD	1650	20000	19800	1100	13300	13100
11	94		SD		24.55	HONEY SPRINGS ROAD	760	8800	8500	740	8600	8300



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 COUNTY OF SAN DIEGO, CALIFORNIA  
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01/01/71 TO 10/11/2006

ROAD NAME	LOCATION OF COUNTER	COUNTER LOCATION	HPS PG-CRD	BEGIN DATE	BGN DAY	WEA PRD	ADT	24 HR VOL	VEH DIR	AM PEAK TIME	BEGIN AT COUNT	PM PEAK TIME	BEGIN AT COUNT	DAY		
WILLOW GLEN DR	S DEHESA RD/DEHESA RD	29690-90298-S	6Z1-Q07	2	05/20/93	TH	CLR	I	4648	S	7:15	295	FR	16:45	378	TH
				2	05/20/93	TH	CLR	1	2607	N	10:00	213	FR	17:45	274	TH
				4	06/15/93	TU	CLR	1	3771	S	7:15	255	WE	22:45	289	TU
WILLOW GLEN DR	S WEST VILLAGE DR	90298-06182-S	6Z1-Q10	4	05/14/84	MO	CLY	1	3210	X	7:30	240	MO	17:00	400	MO
				4	05/29/86	TH	CLR	1	2630	X	7:00	190	TH	17:30	260	TH
				4	03/25/87	WE	CLR	1	1600	N	8:15	120	WE	17:45	190	WE
				2	05/09/88	MO	CLR	1	3680	X	7:00	280	MO	17:15	310	MO
				4	08/30/88	TU	CLR	1	4063	X	8:15	400	WE	16:45	340	TH
				2	05/30/89	MO	CLR	1	4040	X	11:00	310	MO	17:15	340	MO
				2	06/08/90	FR	CLR	1	5003	X	8:15	353	FR	17:00	398	FR
				2	05/28/91	TU	CLR	1	2668	S	7:15	203	WE	12:45	217	TU
				2	05/28/91	TU	CLR	1	2446	N	9:45	232	WE	17:15	240	TU
				2	05/20/92	WE	CLR	1	2779	S	7:15	178	TH	21:45	232	WE
2	05/20/92	WE	CLR	1	2744	N	9:30	192	TH	17:30	295	WE				
4	04/24/02	WE	CLR	1	4234	N	8:15	273	WE	16:45	365	WE				
4	04/24/02	WE	CLR	1	4076	S	8:00	218	WE	16:15	300	WE				
WILLOW GLEN DR	S WILLOW BEND DR	05996-90633-S	6Z1-R11	4	09/29/00	FR	CLR	1	10298	X	3:45	784	FR	17:00	611	FR
WILLOW GLEN DR	N CAMINO DE LAS PIEDRAS	05996-90633-N	6Z1-R11	4	03/08/88	TU	CLR	1	1780	N	8:15	150	TU	17:15	200	TU
WILLOW GLEN DR	S CAMINO DE LAS PIEDRAS	90633-06180-S	6 -A06	4	02/25/88	TH	CLR	1	1750	S	7:15	150	TH	22:30	170	TH
WILLOW GLEN DR	S HILLSDALE RD	27868-06181-S	7E6-R11	2	05/19/92	TU	CLR	1	6886	X	7:00	602	WE	14:00	548	TU
				2	05/20/93	TH	CLR	1	8555	X	7:30	694	FR	14:45	695	TH
WILLOW GLEN DR	N MEDINAH DR/STEELE CANY	06181-26523-N	7F6-N01	4	05/14/84	MO	CLY	1	3540	X	7:30	380	MO	17:15	300	MO
				4	05/29/86	TH	CLR	1	3780	X	6:30	340	TH	17:30	300	TH
				4	08/30/88	TU	CLR	1	5300	X	8:15	440	TU	12:00	400	TU
				4	05/22/89	MO	CLR	1	3080	S	6:45	270	MO	14:15	280	MO
4	10/25/90	TH	CLR	1	3411	S	7:00	282	TH	14:00	284	TH				
WILLOW GLEN DR	S MEDINAH DR/STEELE CANY	26523-06002-S	7F6-M02	2	05/09/88	MO	CLR	1	9070	X	7:00	720	MO	17:00	700	MO
				4	05/22/89	MO	CLR	1	5600	N	6:30	400	MO	17:15	600	MO
				2	06/08/90	FR	CLR	1	14699	X	8:30	929	FR	16:45	1190	FR
				4	10/25/90	TH	CLR	1	7227	N	10:45	418	TH	17:15	758	TH
				2	05/28/91	TU	CLR	1	14519	X	7:00	919	WE	15:30	1191	TU
2	05/19/92	TU	CLR	1	15389	X	8:15	1071	WE	15:30	1178	TU				



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 COUNTY OF SAN DIEGO, CALIFORNIA  
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01/01/71 TO 10/11/2006

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WILLOW GLEN DR			7F6-M02	4	04/09/98	TH	CLR	1		17355	X	10:30	1029	TH	16:45	1281	TH
WILLOW GLEN DR	N HILTON SERVICE RD	06002-90738-N	7F6-L02	4	08/27/80	WE	CLR	1		680	W	10:45	80	WE	14:00	80	WE



COUNTY OF SAN DIEGO  
DEPARTMENT OF PUBLIC WORKS  
MASTER TRAFFIC CENSUS REPORT



DEPARTMENT OF PUBLIC WORKS  
 COUNTY OF SAN DIEGO, CALIFORNIA  
 COUNTY - MASTER CENSUS LISTING

01/01/71 TO 10/11/2006

ROAD NAME	LOCATION OF COUNTER	COUNTER LOCATION	HPS PG-CRD	TYPE	BEGIN DATE	BGN DAY	WEA	PRD	ADT	24 HR VOL	VEH DIR	AM PEAK TIME	BEGIN AT COUNT	PM PEAK TIME	BEGIN AT COUNT	DAY	
STEELE CANYON RD	S WILLOW GLEN DR/MEDINAH	26523-06635-S	7F6-M02	2	05/01/78	MO	CLY	1		3050	X	6:45	260	MO	15:30	260	MO
					05/07/79	MO	CLY	1	3140	X	6:30	270	MO	14:45	270	MO	
					05/04/81	MO	CLY	1	3010	X	7:15	270	MO	15:30	270	MO	
					05/16/83	MO	CLR	1	3420	X	7:15	390	MO	16:30	290	MO	
					04/30/84	MO	CLR	1	3880	X	7:30	390	MO	16:45	340	MO	
					04/24/85	WE	CLR	1	4140	X	7:15	430	WE	16:30	370	WE	
					04/23/86	WE	CLR	1	8450	X	7:15	810	WE	16:45	700	WE	
					06/15/87	MO	CLR	1	6100	X	8:15	480	MO	15:30	570	MO	
					05/03/89	WE	CLR	1	6985	X	7:00	650	WE	15:30	640	WE	
					05/22/89	MO	CLR	1	3500	W	6:45	400	MO	14:45	350	MO	
					10/25/90	TH	CLR	1	4622	N	7:15	517	TH	15:30	399	TH	
					11/26/90	MO	CLR	1	8102	X	7:00	744	TU	16:45	761	MO	
					08/08/95	TU	CLR	1	9851	X	8:00	575	WE	17:00	823	TU	
					04/16/02	TU	CLR	1	7391	S	7:45	664	TU	14:30	682	TU	
04/16/02	TU	CLR	1	7417	N	6:45	896	TU	14:45	638	TU						
STEELE CANYON RD	S HEATHERWOOD DR	06635-06636-S	7F6-N3	2	06/06/90	WE	CLR	1		11855	X	7:00	997	WE	15:15	965	WE
					05/28/91	TU	CLR	1	12965	X	7:00	926	WE	14:45	1164	TU	
					06/18/92	TH	CLR	1	10322	X	10:30	579	FR	16:00	916	TH	
STEELE CANYON RD	JRMUL DR	27726-06918-	7F6-N03	4	12/10/97	WE	CLR	1	6258	S	7:15	578	TH	14:45	621	WE	
STEELE CANYON RD	N VISTA CIBLO DR	07037-02714-N	7F6-N04	4	05/03/89	WE	CLR	1		2525	X	7:00	230	WE	14:30	220	WE
					11/26/90	MO	CLR	1	2925	X	6:45	276	TU	16:45	288	MO	
					05/19/92	TU	CLR	1	4320	X	7:00	293	WE	16:45	354	TU	
					05/18/93	TU	CLR	1	3909	X	7:15	315	WE	14:45	358	TU	
STEELE CANYON RD	N SR 94 "CAMPO RD"	02714-01564-N	7F6-P05	4	08/08/95	TU	CLR	1		3820	X	8:45	246	WE	17:00	332	TU
					02/24/98	TU	CLR	1	1967	S	7:30	121	TU	15:45	215	TU	



COUNTY OF SAN DIEGO  
DEPARTMENT OF PUBLIC WORKS  
MASTER TRAFFIC CENSUS REPORT



DEPARTMENT OF PUBLIC WORKS  
 COUNTY OF SAN DIEGO, CALIFORNIA  
 COUNTY - MASTER CENSUS LISTING

01/01/71 TO 10/11/2006

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PROCTOR VALLEY RD	SAN MIGUEL RD	26753-30257-E	7G5-J06	4	05/21/03	WE	7	993	S	6:00	197	WE	5:00	107	WE
				4	05/21/03	WE	7	993	S	10:00	53	SA	4:00	54	SA
				4	05/21/03	WE	7	1093	N	7:00	102	WE	3:00	219	WE
				4	05/21/03	WE	7	1093	N	11:00	51	SA	12:00	61	SA
PROCTOR VALLEY RD	E	26753-30257-E	7G5-J06	4	06/21/79	TH CLR	1	255	X	6:30	30	TH	14:00	30	TH
				4	08/26/82	TH CLR	5	726	X	6:30	80	SA	13:45	80	SU
				2	08/01/95	TU CLR	1	1094	X	8:45	78	TU	13:15	106	TU
				4	07/25/00	TU CLR	1	1906	X	6:15	128	TU	15:15	222	TU
PROCTOR VALLEY RD	CALLE BUENO GANAR	06860-27165-E	6F1-F11	4	11/17/04	WE	1	1386	N	7:00	153	TH	3:00	105	WE
				4	11/17/04	WE	1	1363	S	7:00	70	TH	5:00	167	WE
PROCTOR VALLEY RD	W JEFFERSON RD	01467-27192-W	6Z1-G10	4	08/10/92	MO CLR	1	2153	X	8:15	149	TU	16:45	191	MO
				4	01/02/96	TU CLR	1	2325	X	7:00	166	WE	15:00	233	TU
				4	11/04/97	TU CLR	1	1353	E	6:45	152	WE	16:45	124	TU
				4	12/10/97	WE CLR	1	2049	X	8:00	178	TH	15:00	232	WE
PROCTOR VALLEY RD	E MAXFIELD RD	01467-27192-E	6Z1-G10	4	12/13/82	MO CLY	1	680	E	7:30	90	MO	12:00	50	MO
				2	06/20/90	WE CLR	1	2046	X	8:45	138	TH	17:00	177	WE
				4	02/05/02	TU CLR	1	1661	W	9:00	87	TU	16:00	170	TU
PROCTOR VALLEY RD	W MAXFIELD RD	27192-06860-W	6F1-F09	4	01/02/96	TU CLR	1	947	E	6:45	126	WE	15:00	71	TU
				4	03/29/01	TH CLY	1	1073	W	9:00	61	FR	17:00	121	TH
				4	04/03/01	TU CLR	1	931	E	7:00	111	TU	15:00	69	TU
				4	02/05/02	TU CLR	1	1296	E	7:00	133	TU	15:00	93	TU
PROCTOR VALLEY RD	E CALLE BUENO GANAR	27192-06860-E	6F1-F09	4	12/10/97	WE CLR	1	1519	X	7:45	119	TH	16:00	182	WE
PROCTOR VALLEY RD	E MELODY RD	06860-27165-E	6F1-F11	4	12/13/82	MO CLY	1	670	S	11:00	50	MO	16:30	80	MO
				4	08/16/94	TU CLR	1	2359	S	7:45	162	WE	17:30	212	TU
PROCTOR VALLEY RD	W MELODY RD	27165-56001-W	6F1-E11	2	05/16/83	MO CLR	1	1020	X	6:45	90	MO	16:00	100	MO
				3	04/24/85	WE CLR	1	1160	X	6:30	80	WE	15:30	110	WE
				2	04/30/86	WE CLR	1	1330	X	7:15	120	WE	16:15	130	WE
				2	06/15/87	MO CLR	1	1460	X	7:15	160	MO	17:30	130	MO
				2	05/09/88	MO CLR	1	1480	X	7:15	110	MO	16:00	130	MO
				2	06/19/89	MO CLR	1	1523	X	7:00	350	TU	15:45	160	WE
				2	07/03/90	TU CLR	1	1472	X	8:15	98	TH	16:45	128	TU
				2	06/27/91	TH CLR	5	1850	X	10:30	158	SA	16:45	181	FR
				2	05/28/92	TH CLR	5	2006	X	8:30	125	FR	16:45	209	TH
				2	05/18/93	TU CLR	1	1927	X	7:00	137	WE	16:15	196	WE



DEPARTMENT OF PUBLIC WORKS  
 COUNTY OF SAN DIEGO, CALIFORNIA  
 COUNTY - MASTER CENSUS LISTING

01/01/71 TO 10/11/2006

ROAD NAME	LOCATION OF COUNTER	COUNTER LOCATION	HPS PG-CRD	TYPE	BEGIN DATE	BGN DAY	WEA	PRD	ADT	24 HR VOL	VEH DIR	AM PEAK TIME	BEGIN AT COUNT	DAY	PM PEAK TIME	BEGIN AT COUNT	DAY
PROCTOR VALLEY RD			6F1-E11	4	01/02/96	TU	CLR	1		1315	X	7:00	112	WE	16:00	134	TU
PROCTOR VALLEY RD		27165-56001-W	6F1-E11	4	01/28/03	TU		1		771	E	6:00	127	TH	5:00	81	WE
				4	01/28/03	TU		1		824	W	7:00	74	TU	3:00	163	TH



COUNTY OF SAN DIEGO  
DEPARTMENT OF PUBLIC WORKS  
MASTER TRAFFIC CENSUS REPORT



DEPARTMENT OF PUBLIC WORKS  
 COUNTY OF SAN DIEGO, CALIFORNIA  
 COUNTY - MASTER CENSUS LISTING

01/01/71 TO 10/11/2006

ROAD NAME	LOCATION OF COUNTER	COUNTER LOCATION	HPS PG-CRD	BGN TYPE	BEGIN DATE	BGN DAY	WEA	PRD	ADT	24 HR VOL	VEH DIR	AM PEAK TIME	BEGIN AT COUNT	DAY	PM PEAK TIME	BEGIN AT COUNT	DAY
MELODY RD	E PROCTOR VALLEY RD	27165-06863-E	6P1-E11	2	07/24/89	MO	CLR	1		240	X	11:45	30	MO	12:15	30	MO
				2	07/24/90	TU	CLR	1		359	X	6:30	28	WE	13:15	40	TU
				2	06/27/91	TH	CLR	5		327	X	11:00	36	SA	12:00	36	SA
				2	06/09/92	TU	CLR	1		396	X	7:45	32	WE	16:30	46	TU
				2	05/19/93	WE	CLR	1		435	X	7:30	32	TH	15:45	48	WE

## **APPENDIX B**

### **COUNTY OF SAN DIEGO ROADWAY CLASSIFICATION AND LEVEL OF SERVICE TABLE**

# County of San Diego

## DRAFT

August 11, 1998

TABLE 1

### AVERAGE DAILY VEHICLE TRIPS

CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Expressway	126/146	<36,000	<54,000	<70,000	<86,000	<108,000
Prime Arterial	102/122	<22,200	<37,000	<44,600	<50,000	<57,000
Major Road	78/98	<14,800	<24,700	<29,600	<33,400	<37,000
Collector	64/84	<13,700	<22,800	<27,400	<30,800	<34,200
<u>Town Collector</u>	<u>54/74</u>	<u>&lt;3,000</u>	<u>&lt;6,000</u>	<u>&lt;9,500</u>	<u>&lt;13,500</u>	<u>&lt;19,000</u>
Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Collector	40/84	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Light Collector	40/60	<1,900	<4,100	<7,100	<10,900	<16,200
Recreational Parkway	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
Rural Mountain	40/100	<1,900	<4,100	<7,100	<10,900	<16,200
NON-CIRCULATION ELEMENT ROADS		LEVEL OF SERVICE				
CLASS	X-SECTION	A	B	C	D	E
Residential Collector	40/60	*	*	<4,500	*	*
Residential Road	36/56	*	*	<1,500	*	*
Residential Cul-de-sac or Loop Road	32/52	*	*	< 200	*	*
* Levels of service are not applicable to residential streets since their primary purpose is to serve abutting lots, not carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.						

## APPENDIX C

### PASSENGER CAR EQUIVALENCE (PCE), EXHIBIT 21-8

Adjustment for heavy vehicles in the traffic stream applies to three types of vehicles: trucks, RVs, and buses. No evidence indicates any distinct differences in the performance characteristics of trucks and buses on multilane highways; therefore, buses are considered trucks in this method. Finding the heavy-vehicle adjustment factor requires two steps. First, find an equivalent truck factor ( $E_T$ ) and RV factor ( $E_R$ ) for prevailing operating conditions. Second, using  $E_T$  and  $E_R$ , compute an adjustment factor for all heavy vehicles in the traffic stream.

*Extended General Highway Segments*

Passenger-car equivalents can be selected for two conditions: extended general highway segments and specific grades. Values of passenger-car equivalents are selected from Exhibits 21-8 through 21-11. For long segments of highway in which no single grade has a significant impact on operations, Exhibit 21-8 is used to select passenger-car equivalents for trucks and buses ( $E_T$ ) and for RVs ( $E_R$ ).

EXHIBIT 21-8. PASSENGER-CAR EQUIVALENTS ON EXTENDED GENERAL HIGHWAY SEGMENTS

Factor	Type of Terrain		
	Level	Rolling	Mountainous
$E_T$ (trucks and buses)	1.5	2.5	4.5
$E_R$ (RVs)	1.2	2.0	4.0

A long multilane highway segment can be classified as an extended general highway segment if no grade exceeding 3 percent is longer than 0.5 mi and if grades of 3 percent or less do not exceed 1 mi.

*Specific Grade*

Any grade of 3 percent or less that is longer than 1 mi or a grade greater than 3 percent that is longer than 0.5 mi should be treated as an isolated, specific grade. In addition, the upgrade and downgrade must be treated separately, because the impact of heavy vehicles differs substantially in each.

**Equivalents for Extended General Highway Segments**

For an extended general segment analysis, the terrain of the highway must be classified as level, rolling, or mountainous. These three classifications are discussed below.

*Level Terrain*

Level terrain is any combination of horizontal and vertical alignment that permits heavy vehicles to maintain approximately the same speed as passenger cars. This type of terrain generally includes short grades of no more than 1 to 2 percent.

*Rolling Terrain*

Rolling terrain is any combination of horizontal and vertical alignment that causes heavy vehicles to reduce their speeds substantially below those of passenger cars. However, the terrain does not cause heavy vehicles to operate at crawl speeds for any significant length of time or at frequent intervals.

*Mountainous Terrain*

Mountainous terrain is any combination of horizontal and vertical alignment that causes heavy vehicles to operate at crawl speeds for significant distances or at frequent intervals. For these general highway segments, values of  $E_T$  and  $E_R$  are selected from Exhibit 21-8.