



# California Regional Water Quality Control Board

## San Diego Region



Arnold  
Schwarzenegger  
Governor

Linda S. Adams  
Secretary for  
Environmental  
Protection

Over 50 Years Serving San Diego, Orange, and Riverside Counties  
Recipient of the 2004 Environmental Award for Outstanding Achievement from USEPA

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(858) 467-2952 • Fax (858) 571-6972  
<http://www.waterboards.ca.gov/sandiego>

November 14, 2008

Certified Mail Number:  
7008 1140 0004 9971 8719

In reply refer to: WPS:06C-065:JEBSEN

Ms. Ranie Hunter  
Otay Ranch Company  
610 West Ash Street, Suite 1500  
San Diego, CA 92101

WDID	9 000001829
CIWQS:	
Place	725672
Reg. Measure	351642
Party	369593
Person	369596

Dear Ms. Hunter:

**SUBJECT:** Action on Request for Clean Water Act Section 401 Water Quality Certification for the Otay Ranch Village Two Development Water Quality Certification No. 06C-065

Enclosed find Clean Water Act Section 401 Water Quality Certification with acknowledgment of enrollment under State Water Resources Control Board Order No. 2003-017 DWQ for Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that Have Received State Water Quality Certification, for the Otay Ranch Village Two Development project. A description of the project and location can be found in the project information sheet and on location and site maps compiled by the California Regional Water Quality Control Board, San Diego Region (Regional Board), which are included as Attachments 1 through 6.

Any petition for reconsideration of this Certification must be filed with the State Water Resources Control Board within 30 days of certification action (23 CCR § 3867). If no petition is received, it will be assumed that you have accepted and will comply with all the conditions of this Certification.

Failure to comply with all conditions of this Certification may subject you to enforcement actions by the Regional Board, including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to \$10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

**California Environmental Protection Agency**

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at <http://www.swrcb.ca.gov>.*

Recycled Paper



Ms. Hunter, Otay Ranch Company  
401 Certification 06C-065

- 2 -

November 14, 2008

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions regarding this notification, please contact Ms. Jody Ebsen directly at 858-636-3146 or by email via [jebsen@waterboards.ca.gov](mailto:jebsen@waterboards.ca.gov).

Respectfully,



JOHN H. ROBERTUS  
Executive Officer

Enclosure:

Clean Water Act Section 401 Water Quality Certification No. 06C-065 for Otay Ranch Village Two Development project, with 6 attachments

cc: Refer to Attachment 2 of Certification No. 06C-065 for Distribution List.



Linda S. Adams  
Acting Secretary for  
Environmental  
Protection

# California Regional Water Quality Control Board San Diego Region

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Action on Request for  
Clean Water Act Section 401 Water Quality Certification  
and Waste Discharge Requirements  
for Discharge of Dredged and/or Fill Materials

**PROJECT: Otay Ranch Village Two Development,  
Certification No. 06C-065, WDID No. 9 00001829**

**APPLICANT: Otay Ranch Company  
610 West Ash Street, Suite 1500  
San Diego, CA 92101  
Attention: Ms. Ranie Hunter**

CIWQS Reg. Mes. ID: 351642 Place ID: 725672 Party ID: 369593
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**ACTION:**

<input type="checkbox"/> Order for Low Impact Certification	<input type="checkbox"/> Order for Denial of Certification
<input checked="" type="checkbox"/> Order for Technically-conditioned Certification	<input type="checkbox"/> Waiver of Waste Discharge Requirements
<input checked="" type="checkbox"/> Enrollment in SWRCB GWDR Order No. 2003-017 DWQ	<input type="checkbox"/> Enrollment in Isolated Waters Order No. 2004-004 DWQ

**PROJECT DESCRIPTION:**

The project includes the construction of single family and multi-family residential homes, commercial sites, a school site, a community purpose facility site, a park and 28 industrial lots in Chula Vista, CA. The project also proposes to dedicate open space within Wolf Canyon to the MSCP Preserve.

**STANDARD CONDITIONS:**

The following three standard conditions apply to all Certification actions, except as noted under Condition 3 for denials (Action 3).

1. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the California Water Code and section 3867 of Title 23 of the California Code of Regulations (23 CCR).
2. This Certification action is not intended and must not be construed to apply to any discharge from any activity involving a hydroelectric facility requiring a

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Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to 23 CCR subsection 3855(b) and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

3. The validity of any non-denial Certification action (Actions 1 and 2) must be conditioned upon total payment of the full fee required under 23 CCR section 3833, unless otherwise stated in writing by the certifying agency.

**ADDITIONAL CONDITIONS:**

In addition to the three standard conditions, the Otay Ranch Company must satisfy all of the following:

**A. GENERAL CONDITIONS:**

1. Otay Ranch Company must, at all times, fully comply with the engineering plans, specifications and technical reports submitted to the California Regional Water Quality Control Board, San Diego Region (Regional Board), to support this 401 Water Quality Certification (Certification) and all subsequent submittals required as part of this Certification and as described in Attachment 1. The conditions within this Certification must supersede conflicting provisions within such plans submitted prior to the Certification action. Any modifications thereto, would require notification to the Regional Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.
2. During construction, Otay Ranch Company must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.
3. Otay Ranch Company must permit the Regional Board or its authorized representative at all times, upon presentation of credentials:
  - a. Entry onto project premises, including all areas on which wetland fill or wetland mitigation is located or in which records are kept.
  - b. Access to copy any records required to be kept under the terms and conditions of this Certification.
  - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Certification.
  - d. Sampling of any discharge or surface water covered by this Order.
4. Otay Ranch Company must notify the Regional Board within 24 hours of any unauthorized discharge, including hazardous or toxic materials, to waters of the U.S. and/or State; measures that were implemented to stop and contain

the discharge; measures implemented to clean-up the discharge; the volume and type of materials discharged and recovered; and additional best management practice (BMPs) or other measures that will be implemented to prevent future discharges.

5. Otay Ranch Company must, at all times, maintain appropriate types and sufficient quantities of materials onsite to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the U.S. and/or State.
6. This Certification is not transferable to any person except after notice to the Executive Officer of the Regional Board. Otay Ranch Company must notify the Regional Board of any change in ownership of the project area. Notification must include, but not be limited to, a statement that the property owner has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands the permit requirements and must implement them; the seller and purchaser must sign and date the notification. The notification for transfer of mitigation responsibility shall include a signed statement from the new party demonstrating acceptance and understanding of the responsibility to meet the mitigation conditions and applicable requirements of the Certification. Notification must be provided within **10 days** of the sale of the property.
7. In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation must be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
8. In response to a suspected violation of any condition of this Certification, the Regional Board may require the holder of any permit or license subject to this Certification to furnish, under penalty of perjury, any technical or monitoring reports the Regional Board deems appropriate, provided that the burden, including costs, of the reports must bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
9. In response to any violation of the conditions of this Certification, the Regional Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.
10. Otay Ranch Company and successor owners must submit annual progress reports to the Regional Board prior to **August 1** of each year following the issuance of this Certification until the project has reached completion. The

report should include update of project status, and anticipated activities and/or completion dates in the following year.

**B. PROJECT CONDITIONS:**

1. Prior to the start of the project, and annually thereafter, Otay Ranch Company must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and BMP implementation and maintenance.
2. Otay Ranch Company must comply with the requirements of State Water Resources Control Board Water Quality Order No. 2003-0017-DWQ, Statewide General Waste Discharge Requirements for discharges of dredged or fill material that have received State Water Quality Certification. These General Waste Discharge Requirement are accessible at:  
[http://www.waterboards.ca.gov/cwa401/docs/generalorders/go\\_wdr401regulated\\_projects.pdf](http://www.waterboards.ca.gov/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf).
3. Otay Ranch Company must notify the Regional Board in writing at least **5 days** prior to the actual commencement of dredge, fill, and discharge activities.
4. Otay Ranch Company must comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.
5. *The treatment, storage, and disposal of wastewater during the life of the project must be done in accordance with waste discharge requirements established by the Regional Board pursuant to CWC § 13260.*
6. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat. If it is found that any flows from the project site are causing downstream erosion or damage to properties or habitat, the Otay Ranch Company must notify the Regional Board immediately and implement measures to eliminate the erosive flows.
7. Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or State or placed in locations that may be subjected to storm flows. Pollutants discharged to areas within a stream diversion area must be removed at the end of each work day or sooner if rain is predicted.
8. All surface waters, including ponded waters, must be diverted away from areas undergoing grading, construction, excavation, vegetation removal,

and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any temporary dam or other artificial obstruction constructed must only be built from materials such as clean gravel which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location.

9. All areas that will be left in a rough graded state must be revegetated with native species no later than one week after completion of grading. The revegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be found online at <http://www.cal-ipc.org/ip/inventory/weedlist.php>.
10. Substances hazardous to aquatic life including, but not limited to, petroleum products, raw cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each project activity involving hazardous materials.

**C. POST CONSTRUCTION STORM WATER MANAGEMENT:**

1. All storm drain inlet structures within the project boundaries must be stamped and/or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.
2. Otay Ranch Company must acquire a performance bond to ensure implementation of structural Best Management Practices (BMPs) as proposed in *Water Quality Technical Report for Otay Ranch Villages 2, 3 and 4 (Hunsaker & Associates, October 28, 2005)*. Evidence of the acquisition of a performance bond must be submitted to the Regional Board before construction of project commences.
3. In addition to the BMPs described in the *Water Quality Technical Report for Otay Ranch Villages 2, 3 and 4, Hunsaker & Associates, October 28, 2005*, and referenced in Appendix I in support of the application, the structural BMPs must be sized to comply with the following numeric sizing criteria:

a. Volume

Volume-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:

- i. The volume of runoff produced from a 24-hour 85<sup>th</sup> percentile storm event, as determined from the local historical rainfall record (0.6 inch approximate average for the San Diego County area); or

- ii. The volume of runoff produced by the 85<sup>th</sup> percentile 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or
- iii. The volume of annual runoff based on unit basin storage volume, to achieve 90% or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/Commercial, (1993); or
- iv. The volume of runoff, as determined from the local historical rainfall record, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile 24-hour runoff event; or

b. Flow

Flow-based BMPs must be designed to mitigate (infiltrate, filter, or treat) either:

- i. The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour; or
  - ii. The maximum flow rate of runoff produced by the 85<sup>th</sup> percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
  - iii. The maximum flow rate of runoff, as determined from the local historical rainfall record that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85<sup>th</sup> percentile hourly rainfall intensity multiplied by a factor of two.
4. Post-construction BMPs must be installed and functional prior to occupancy and/or planned use of development areas.
  5. Post-construction BMPs for the Otay Ranch Village Two Development as described in *Water Quality Technical Report for Otay Ranch Villages 2, 3 and 4 (Hunsaker & Associates, October 28, 2005)* and *Otay Ranch Village 2 Development, File No. SWU:06C-065 (Dudek, April 16, 2008)* include, but are not limited to:

Site Design BMPs:

- a. Minimizing impervious areas
- b. Minimizing directly connected impervious areas
- c. Conserving natural areas
- d. Slope & Channel Protection / Hillside Landscaping
- e. Hydrologically functional landscape design

Source Control BMPs:

- f. Efficient irrigation design



## g. Storm drain signs with prohibitive language

## Treatment BMPs:

- h. Vortech treatment units (8)
  - i. StormFilter treatment units (8)
  - j. Detention basins
6. The Otay Ranch Company or their designated party must inspect and maintain all post-construction **structural BMPs** per the manufacturers specifications and the *Water Quality Technical Report for Otay Ranch Villages 2, 3 and 4 (Hunsaker & Associates, October 28, 2005)*.
  7. Prior to project construction, Otay Ranch Company must submit to the Regional Board a letter accepting full responsibility for the inspection and maintenance of all BMPs installed on all roads that are required to be constructed and/or improved as part of the project. Alternatively, Otay Ranch Company may submit a letter documenting that the City of Chula Vista accepts full responsibility for the inspection and maintenance of all BMPs installed on all roads that are required to be constructed and/or improved as part of the project.
  8. All rough graded desilting basins must be designed, constructed and maintained, until all development on the project site is completed, according to the most recent California Stormwater Quality Association guidance for sediment basins.
  9. The extended detention basins must be designed and constructed in accordance with the most recent California Stormwater Quality Association guidance for extended detention basins. The basin outlets must be placed to maximize the flowpath through the facility. The ratio of flowpath length to width from the inlet to the outlet must be at least 1.5:1. The flowpath length is defined as the mean width of the basin.
  10. Otay Ranch Company must maintain the extended detention basins in perpetuity according to the most recent California Stormwater Quality Association guidance for extended detention basins. Typical activities include, but are not limited to:
    - a. Semiannual inspection for the beginning and end of the wet season for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows;
    - b. Removal of accumulated trash and debris in the basin as needed to ensure proper functioning of the basin; and
    - c. Yearly inspection of accumulated sediment volume. Accumulated sediment should be removed and the basin re-graded when the

accumulated sediment volume exceeds 10 percent of the basin volume.

11. Otay Ranch Company must install and maintain in perpetuity storm drain inlet media filters on all storm drain inlets on the project site and on all roads that are required to be improved as part of the project.
12. The Regional Board may be requested to review plans that are clearly demonstrated to meet or exceed the performance standards herein. Such requests must be made **30 days** prior to the planned BMP implementation.
13. The treatment BMPs will be inspected **monthly and after every storm event exceeding 0.5 inches of precipitation**.
14. Preventive and corrective maintenance procedures will be performed as outlined in the *Water Quality Technical Report for Otay Ranch Villages 2, 3 and 4 (Hunsaker & Associates, October 28, 2005)*.
15. Records must be kept regarding inspections and maintenance in order to assess the performance of the systems and determine whether adaptations are necessary to protect receiving waters.
16. Otay Ranch Company assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity.
17. If the inspection and maintenance responsibility for post-construction BMPs is legally transferred, Otay Ranch Company must submit to the Regional Board a copy of such documentation within 30 days of transfer.
18. At the time maintenance responsibility for post-construction BMPs is legally transferred, Otay Ranch Company must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer specifications.

**D. COMPENSATORY MITIGATION FOR LOSS OF WATERS OF THE U.S./STATE:**

1. Mitigation for permanent discharges to 0.31 acres of unvegetated ephemeral stream and 0.002 acres disturbed vernal pools, must be achieved as follows and as described by the *Water Quality and Stream Morphology Monitoring Plan (Dudek, February 2008)*, *Otay Ranch Villages Two & Three Conceptual Vernal Pool Mitigation Plan (Dudek, February 2008)* and *Conceptual Wetlands Mitigation and Monitoring Plan for Village Two (Dudek, June 2008)*:
  - a. On-site establishment of 0.61 acres (2:1 ratio) of unvegetated ephemeral stream along the south side of Santa Victoria Road.

- b. On-site preservation of 2,808 linear feet of unvegetated ephemeral stream channel within Wolf Canyon
  - c. Off-site restoration of 0.009 acres (4.6:1 ratio) of vernal pools in the K-8 Group preservation area on the Otay Village 13 property.
2. Otay Ranch Company must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge to waters of the United States/State. Restoration must include grading of disturbed areas to pre-project contours and revegetation with native species. Otay Ranch Company must implement all necessary BMPs to control erosion and runoff from areas associated with this project.
3. Otay Ranch Company must notify the Regional Board in writing at least **5 days** prior to the actual commencement of mitigation installation, and at completion of mitigation installation.
4. Otay Ranch Company must salvage leaf litter, coarse woody debris, and upper soil horizons from impacted jurisdictional water sites that are relatively free of invasive exotic species for use in on-site mitigation areas.
5. The Otay Ranch Company must also salvage large cuttings from appropriate tree species if they exist at the impact site and use them as pole plantings at the mitigation site.
6. Within **90 days** of the issuance of this Certification, Otay Ranch Company must provide the Regional Board a draft preservation mechanism (e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and their buffers in perpetuity. Within one year of the issuance of this Certification, Otay Ranch Company must submit proof of a completed preservation mechanism that will protect all mitigation areas and their buffers in perpetuity. **Construction of the site must not be initiated until a completed preservation mechanism is received.** The conservation easement, deed restriction, or other legal limitation on the mitigation property must be adequate to demonstrate that the site will be maintained without future development or encroachment on the site which could otherwise reduce the functions and values of the site for the variety of beneficial uses of waters of the U.S. that it supports. The legal limitation must prohibit, without exception, all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the site. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development

to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.

7. Otay Ranch Company must acquire a performance bond to ensure the implementation of compensatory mitigation, monitoring and maintenance as described in the *Water Quality and Stream Morphology Monitoring Plan (Dudek, February 2008)*, *Otay Ranch Villages Two & Three Conceptual Vernal Pool Mitigation Plan (Dudek, February 2008)* and *Conceptual Wetlands Mitigation and Monitoring Plan for Village Two (Dudek, June 2008)*. Monitoring and maintenance shall continue until success criteria are achieved and confirmed by the Regional Board. Evidence of the acquisition of a performance bond by Otay Ranch Company must be submitted to the Regional Board before construction commences.
8. Otay Ranch Company must submit a report (including topography maps and planting locations) to the Regional Board within **90 days** of completion of mitigation site preparation and planting, describing as-built status of the mitigation project.
9. The construction of proposed mitigation must be concurrent with project grading and completed no later than **9 months** following the initial discharge of dredge or fill material into on-site waters. Delays in implementing mitigation must be compensated for by an increased mitigation implementation of **10% of the cumulative compensatory mitigation** for each month of delay.
10. The mitigation site shall be designed and constructed to meet the following conditions:
  - a. Most of the channel through the mitigation site is characterized by equilibrium conditions, with no evidence of severe aggradation or degradation;
  - b. As viewed along cross-sections, the channel and buffer have a variety of slopes, or elevations, that are characterized by different moisture gradients. Each sub-slope contains physical patch types or features that contribute to irregularity in height, edges, or surface and to complex topography overall; and
  - c. The mitigation site has a well-developed plant community characterized by a high degree of horizontal and vertical interspersions among plant zones and layers.
11. Throughout the mitigation monitoring program mitigation areas must be maintained free of perennial exotic plant species including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the onsite or offsite mitigation areas.

12. Regional Board acceptance of the final mitigation plan applies only to the site and plan that mitigates for the Otay Ranch Village Two Development and must not be construed as approval of the mitigation site or plan for use by other current or future projects that are planning to use the K-8 Group preservation area on Otay Village 13 property or Wolf Canyon for mitigation.
13. Any maintenance activities that do not contribute to the success of the mitigation site and enhancement of beneficial uses and ecological functions and services are prohibited. Maintenance activities are limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species and remedial measures deemed necessary for the success of the restoration program.
14. If at any time during the implementation and establishment of the mitigation area(s), and prior to verification of meeting success criteria, a catastrophic natural event (e.g., fire, flood) occurs and impacts the mitigation area, Otay Ranch Company is responsible for repair and replanting of the damaged area(s).
15. Mitigation monitoring reports must be submitted annually until mitigation has been deemed successful. Annual monitoring reports must be submitted prior to **December 1** of each year. Monitoring reports must include, but not be limited to, the following:
  - i. Names, qualifications, and affiliations of the persons contributing to the report;
  - ii. Tables presenting the raw data collected in the field as well as analyses of the physical and biological data, including at a minimum;
  - iii. Topographic complexity characteristics at each mitigation site;
  - iv. Upstream and downstream habitat and hydrologic connectivity;
  - v. Source of hydrology;
  - vi. Width of native vegetation buffer around the entire mitigation site;
  - vii. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
  - viii. Photodocumentation from established reference points;
  - ix. A Survey report documenting boundaries of mitigation area; and
  - x. Other items specified in the final *Water Quality and Stream Morphology Monitoring Plan (Dudek, February 2008)*, *Otay Ranch Villages Two & Three Conceptual Vernal Pool Mitigation Plan (Dudek, February 2008)* and *Conceptual Wetlands Mitigation and Monitoring Plan for Village Two (Dudek, June 2008)*.

16. Otay Ranch Company must provide the name and contact information of any third party accepting responsibility for implementing the mitigation requirements of this Certification. The notification must be submitted to the Regional Board within 30 days of the transfer of responsibility. The notification must include a signed statement from the new party demonstrating acceptance and understanding of the responsibility to meet the mitigation conditions and applicable requirements of the Certification.
17. For the purpose of determining mitigation credit for the removal of exotic/invasive plant species, only the actual area occupied by exotic/invasive plant species must be quantified to comply with mitigation requirements.
18. For purposes of this Certification, establishment is defined as the creation of vegetated or unvegetated waters of the U.S./State where the resource has never previously existed (e.g. conversion of nonnative grassland to a freshwater marsh). Restoration is divided into two activities, re-establishment and rehabilitation. Re-establishment is defined as the return of natural/historic functions to a site where vegetated or unvegetated waters of the U.S./State previously existed (e.g., removal of fill material to restore a drainage). Rehabilitation is defined as the improvement of the general suite of functions of degraded vegetated or unvegetated waters of the U.S./State (e.g., removal of a heavy infestation or monoculture of exotic plant species from jurisdictional areas and replacing with native species). Enhancement is defined as the improvement to one or two functions of existing vegetated or unvegetated waters of the U.S./State (e.g., removal of small patches of exotic plant species from an area containing predominantly natural plant species). Preservation is defined as the acquisition and legal protection from future impacts in perpetuity of existing vegetated or unvegetated waters of the U.S./State (e.g., conservation easement).

#### **E. STREAM PHOTO DOCUMENTATION PROCEDURE:**

1. Otay Ranch Company and its successors, must conduct photo documentation of the project site, including all areas of permanent and temporary impact, prior to and after project construction, and mitigation areas, including all areas of permanent and temporary impact, prior to and after project construction. Photo documentation must be conducted in accordance with the State Water Resources Control Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment 6. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced. Otay Ranch Company must submit this information in a photo documentation report to the Regional Board with the Mitigation Maintenance and Monitoring reports. The report must include a compact disc that contains digital files of all the photos (jpeg file type or similar).

**F. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES PHOTO DOCUMENTATION PROCEDURE:**

1. Otay Ranch Company must conduct photo documentation of implemented post-construction BMPs. Photo-documentation must be modeled after the State Water Resources Control Board Standard Operating Procedure 4.2.1.4: Stream Photo Documentation Procedure, included as Attachment 6. In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced. Otay Ranch Company must submit this information in a photo documentation report to the Regional Board with the Mitigation Maintenance and Monitoring reports. The report must include a compact disc that contains digital files of all the photos (jpeg file type or similar).

**G. GEOGRAPHIC INFORMATION SYSTEM REPORTING:**

1. Otay Ranch Company must submit Geographic Information System (GIS) shape files of the impact and mitigation areas within **30 days** of project impacts and the mitigation area within **30 days** of mitigation installation. All impact and mitigation areas shapefiles must be polygons. Two GPS readings (points) must be taken on each line of the polygon and the polygon must have a minimum of 10 points. GIS metadata must also be submitted.

**H. REPORTING:**

1. All information requested in this Certification is pursuant to California Water Code (CWC) section 13267. Civil liability may be administratively imposed by the Regional Board for failure to furnish requested information pursuant to CWC section 13268.
2. All reports and information submitted to the Regional Board must be submitted in both hardcopy and electronic format. The preferred electronic format for each report submission is one file in PDF format that is also Optical Character Recognition (OCR) capable.
3. Otay Ranch Company must submit a report to the Regional Board within 30 days of completion of the project. The report should include as-built drawings no bigger than 11" x 17" and photos of the completed project including post-construction BMPs.
4. All applications, reports, or information submitted to the Regional Board must be signed and certified as follows:
  - a. For a corporation, by a responsible corporate officer of at least the level of vice president.

- b. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
  - c. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
- 5. A duly authorized representative of a person designated in Items 4.a. through 4.c. above may sign documents if:
  - a. The authorization is made in writing by a person described in Items 4.a. through 4.c. above.
  - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
  - c. The written authorization is submitted to the Regional Board Executive Officer.
- 6. All applications, reports, or information submitted to the Regional Board must be signed and certified as follows:

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

- 7. Otay Ranch Company must submit reports required under this Certification, or other information required by the Regional Board, to:

Executive Officer  
 California Regional Water Quality Control Board  
 San Diego Region  
 Attn: 401 Certification; Project No. 06C-065  
 9174 Sky Park Court, Suite 100  
 San Diego, California 92123

- 6. Required Reports: The following list summarizes the reports, excluding spill notifications and emergency situations, required per the conditions of this Certification to be submitted to the Regional Board:



Report Topic	Certification Condition	Due Date(s)
Transfer of ownership/responsibility notification (if needed)	A.6	Within 10 days of the sale/transfer
Annual Progress Report	A.10	August 1 each year following issuance of Certification until project completion
Pre-discharge notification	B.3	At least 5 days prior to commencement
Notification of downstream erosion (if needed)	B.6	Immediately
Evidence of performance bond for BMP implementation	C.2	Prior to commencement of project construction
Letter of responsibility for BMP inspection and maintenance	C.7	Prior to commencement of project construction
Transfer of BMP maintenance responsibility (if needed)	C.17	Within 30 days of transfer
Commencement and completion of mitigation installation	D.3	5 days prior to commencement and completion of mitigation
Draft mitigation area preservation mechanism	D.6	Within 90 days of issuance of this Certification
Final mitigation area preservation mechanism	D.6	Within 1 year of issuance of this Certification and prior to initiation of construction
Evidence of performance bond for compensatory mitigation	D.7	Prior to commencement of project construction mitigation
Mitigation site report	D.8	Within 90 days of completion of mitigation
Annual mitigation monitoring reports	D.15	Prior to <b>December 1</b> of each year

Transfer of mitigation responsibility (if needed)	D.16	Within 30 days of transfer
Stream photo documentation	E.1	With mitigation monitoring reports
Post-construction photo documentation	F.1	With mitigation monitoring reports
GIS	G.1	Within 30 days of project impacts and within 30 days of mitigation installation

**PUBLIC NOTIFICATION OF PROJECT APPLICATION:**

On June 21, 2006, receipt of the project application was posted on the Regional Board web site to serve as appropriate notification to the public.

**REGIONAL WATER QUALITY CONTROL BOARD CONTACT PERSON:**


Ms. Jody Ebsen, P.G.  
 California Regional Water Quality Control Board, San Diego Region  
 9174 Sky Park Court, Suite 100  
 San Diego, CA 92123  
 (858) 636-3146  
 jebsen@waterboards.ca.gov

**WATER QUALITY CERTIFICATION:**

I hereby certify that the proposed discharge from the Otay Ranch Village Two Development (Project No. 06C-065 ) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017 DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the Regional Board may issue waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited and all proposed mitigation being completed in strict compliance with the applicants' project

description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the Regional Board's Water Quality Control Plan (Basin Plan).

  
\_\_\_\_\_  
JOHN H. ROBERTUS  
Executive Officer  
Regional Water Quality Control Board

11/14/2008  
Date

- Attachments:
1. Project Information
  2. Distribution List
  3. Location Map
  4. Site Map
  5. Mitigation Map
  6. Stream Photodocumentation Procedure

**ATTACHMENT 1  
PROJECT INFORMATION**

Applicant: ✓ Otay Ranch Company  
610 West Ash Street, Suite 1500  
San Diego, CA 92101  
Attention: Ms Ranie Hunter  
Telephone: 619-234-4050  
Facsimile: 619234-4088

Applicant Representatives: ✓ Dudek & Associates, Inc Attention:  
605 Third Street  
Encinitas, CA 92024  
Attention: Ms. Tricia Wotipka  
Telephone: 760-479-4295  
Facsimile: 760-632-8710  
Email: twotipka@dudek.com

Project Name: ✓ Otay Ranch Village Two Development

Project Location: End of La Media Road, Chula Vista, CA

Type of Project: Housing, commercial and industrial development.

Need for Project: ✓ Provide housing, a school, commercial and industrial development

Project Description: ✓ The project includes the construction of single family and multi-family residential homes, commercial sites, a school site, a community purpose facility site, a park and 28 industrial lots in Chula Vista, CA. The project also proposes to dedicate open space within Wolf Canyon to the MSCP Preserve.

Federal Agency/Permit: : U.S. Army Corps of Engineers §404, NWP 39, Mr. Robert Smith

Other Required Regulatory Approvals: ✓ California Department of Fish and Game Streambed Alteration Agreement, Ms. Kelly Fisher

California Environmental Quality Act (CEQA) Compliance: ✓ Village 2,3 and 4 (portion) Sectional Planning Area Plan and Tentative Map , March 1, 2006, SCH# 2003091012, City of Chula Vista

Receiving Water: ✓ Otay Hydrologic Unit, Otay Valley Hydrologic Area (910.20)

Affected Waters of the United States: Permanent:  
✓ 0.31 acres of unvegetated ephemeral stream  
✓ 0.002 acres disturbed vernal pools

Dredge Volume: N/A

Compensatory Mitigation:

- On-site establishment of 0.61 acres (2:1 ratio) of unvegetated ephemeral stream along the south side of Santa Victoria Road.
- On-site preservation of 2,808 linear feet of unvegetated ephemeral stream channel within Wolf Canyon
- Off-site restoration of 0.009 acres (4.6:1 ratio) of vernal pools in the K-8 Group preservation area on the Otay Village 13 property.

*Water Quality and Stream Morphology Monitoring Plan (Dudek, February 2008), Otay Ranch Villages Two & Three Conceptual Vernal Pool Mitigation Plan (Dudek, February 2008) and Conceptual Wetlands Mitigation and Monitoring Plan for Village Two (Dudek, June 2008).*

Best Management Practices (BMPs):

Site Design BMPs:

- a. Minimizing impervious areas
- b. Minimizing directly connected impervious areas
- c. Conserving natural areas
- d. Slope & Channel Protection / Hillside Landscaping
- e. Hydrologically functional landscape design

Source Control BMPs:

- f. Efficient irrigation design
- g. Storm drain signs with prohibitive language

Treatment BMPs:

- h. Vortech treatment units (8)
- i. StormFilter treatment units (8)
- j. Detention basins

Public Notice:

June 21, 2006

Fees:

Total Due: \$24,828.60  
 Total Paid: \$ 1,175.10 (check No.23211)  
 \$23,653.50 (check No. 23873)

CIWQS:

Regulatory Measure ID: 351905  
 Place ID: 725672  
 Party ID: 369593



**ATTACHMENT 2  
DISTRIBUTION LIST**

Mr. Robert Smith  
U.S. Army Corps of Engineers, Regulatory Branch  
San Diego Field Office  
6010 Hidden Valley Road, Suite 105,  
Carlsbad CA 92011

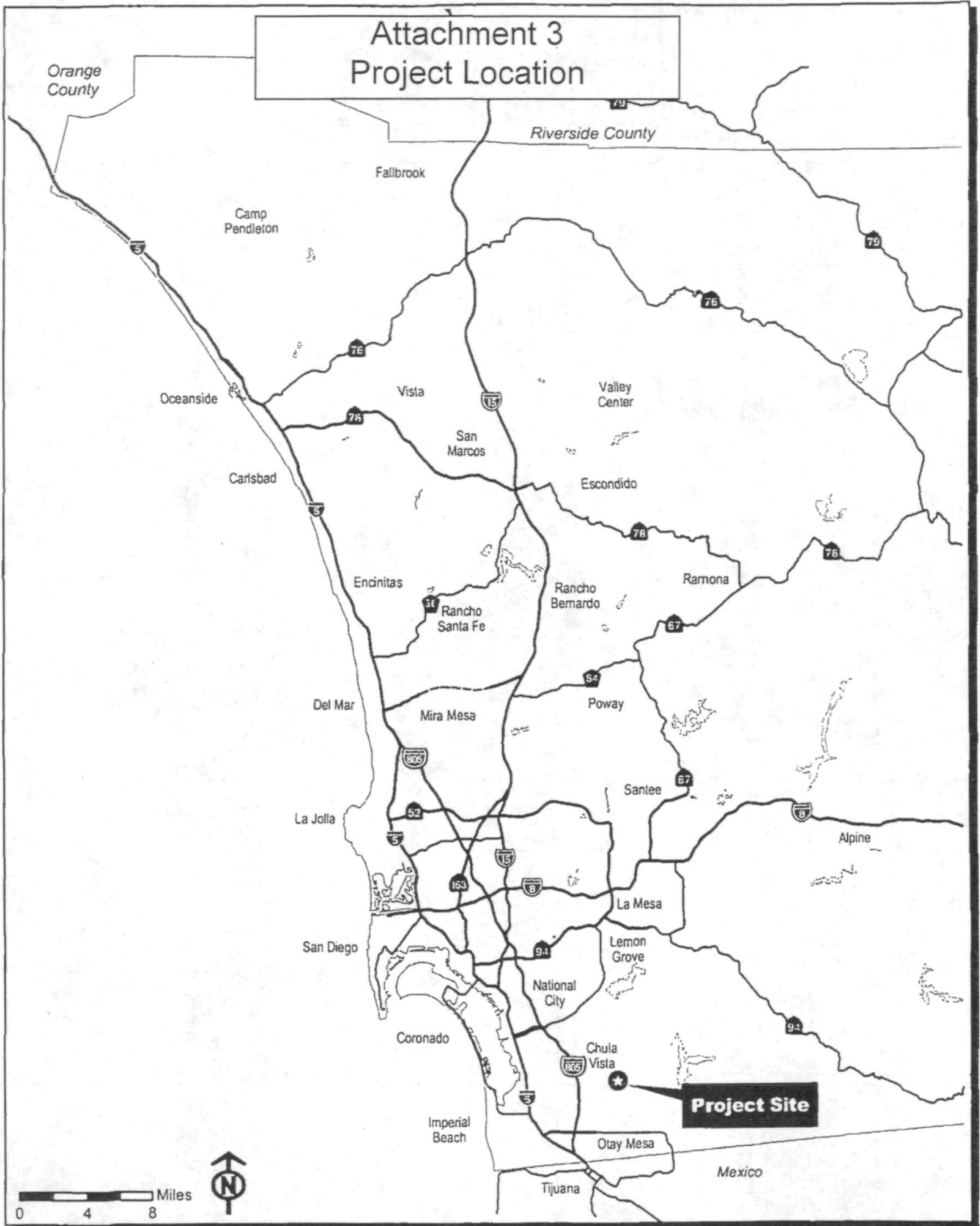
Ms. Kelly Fisher  
California Department of Fish and Game  
South Coast Region  
Habitat Conservation Planning – South  
4949 Viewridge Avenue  
San Diego, CA 92123

Mr. Bill Orme  
State Water Resources Control Board, Division of Water Quality  
401 Water Quality Certification and Wetlands Unit  
P.O. Box 100  
Sacramento, CA 95812-0100

Ms. Tricia Wotipka  
Dudek & Associates, Inc  
605 Third Street  
Encinitas, CA 92024

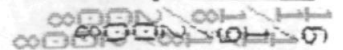
Ms. Elizabeth Goldmann (via e-mail)  
Wetlands Regulatory Office  
U.S. Environmental Protection Agency, Region 9  
75 Hawthorne Street  
San Francisco, CA 94105  
[Goldmann.Elizabeth@epamail.epa.gov](mailto:Goldmann.Elizabeth@epamail.epa.gov)

Ms. Sally Brown (via e-mail)  
U.S. Department of the Interior  
Fish and Wildlife Service  
6010 Hidden Valley Road  
Carlsbad, CA 92011  
[Sally\\_Brown@fws.gov](mailto:Sally_Brown@fws.gov)

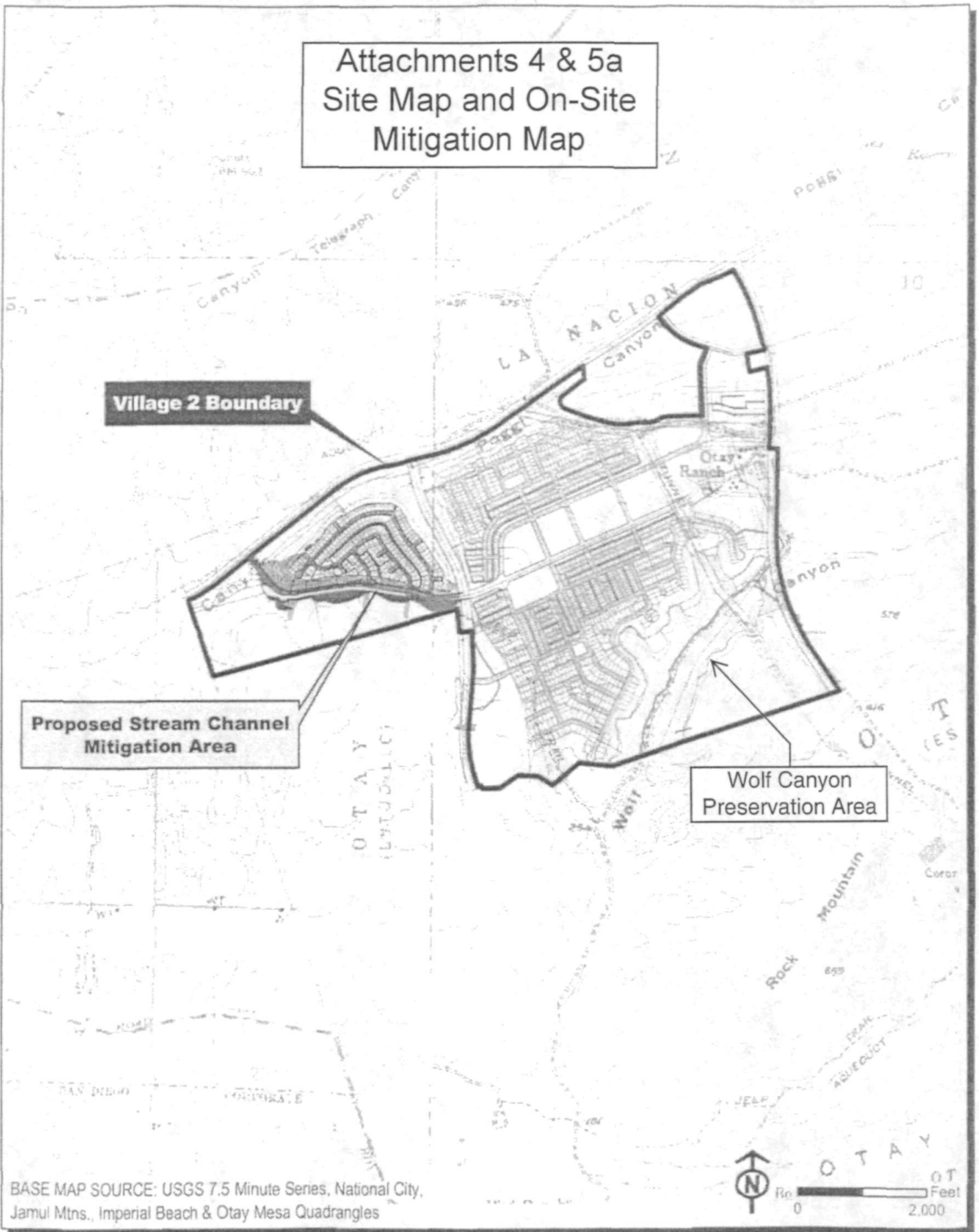


Otay Ranch, Village 2 - Conceptual Wetlands Mitigation and Monitoring Plan  
**Regional Map**

**FIGURE  
1**



Attachments 4 & 5a  
Site Map and On-Site  
Mitigation Map



BASE MAP SOURCE: USGS 7.5 Minute Series, National City,  
Jamul Mtns., Imperial Beach & Otay Mesa Quadrangles

Otay Ranch, Village 2 - Conceptual Wetlands Mitigation and Monitoring Plan  
Vicinity Map

FIGURE  
2



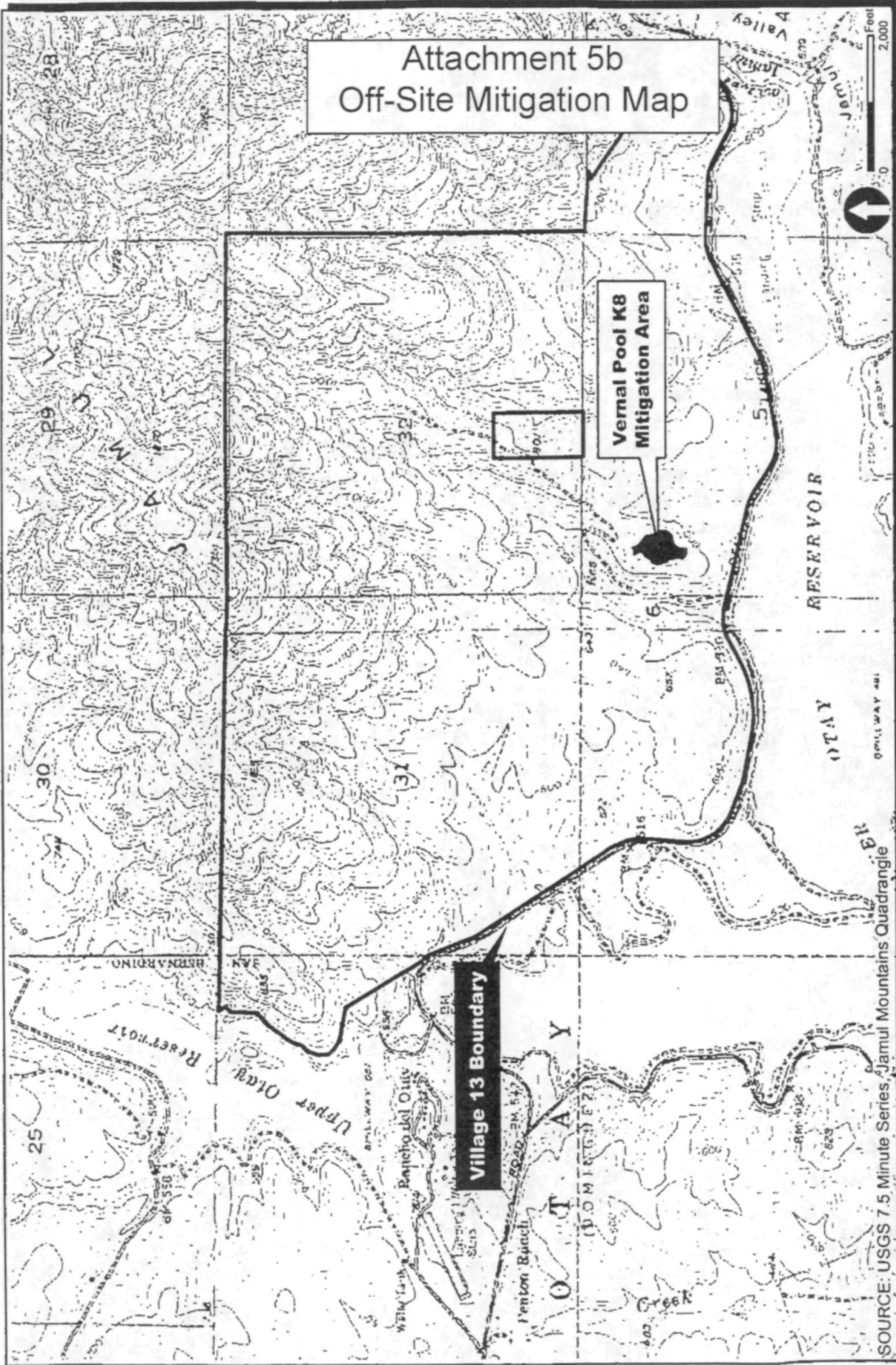


FIGURE 3

Otay Ranch Villages 2 & 3 - Conceptual Vernal Pool Mitigation Plan  
 Offsite Village 13 Mitigation Area - Vicinity Map

**ATTACHMENT 6  
STREAM PHOTO DOCUMENTATION PROCEDURES**

**Standard Operating Procedure (SOP)****Stream Photo Documentation Procedure**

(CARCD 2001, Written by TAC Visual Assessments work group)

**Introduction:**

Photographs provide a qualitative, and potentially semi-quantitative, record of conditions in a watershed or on a water body. Photographs can be used to document general conditions on a reach of a stream during a stream walk, pollution events or other impacts, assess resource conditions over time, or can be used to document temporal progress for restoration efforts or other projects designed to benefit water quality. Photographic technology is available to anyone and it does not require a large degree of training or expensive equipment. Photos can be used in reports, presentations, or uploaded onto a computer website or GIS program. This approach is useful in providing a visual portrait of water resources to those who may never have the opportunity to actually visit a monitoring site.

**Equipment:**

Use the same camera to the extent possible for each photo throughout the duration of the project. Either 35 mm color or digital color cameras are recommended, accompanied by a telephoto lens. If you must change cameras during the program, replace the original camera with a similar one comparable in terms of media (digital vs. 35 mm) and other characteristics. A complete equipment list is suggested as follows:

**Required:**

- Camera and backup camera
- Folder with copies of previous photos (do not carry original photos in the field)
- Topographic and/or road map
- Aerial photos if available
- Compass
- Timepiece
- Extra film or digital disk capacity (whichever is applicable)
- Extra batteries for camera (if applicable)
- Photo-log data sheets or, alternatively, a bound notebook dedicated to the project
- Yellow photo sign form and black marker, or, alternatively, a small black board and chalk

Optional:

- GPS unit
- Stadia rod (for scale on landscape shots)
- Ruler (for scale on close up views of streams and vegetation)
- Steel fence posts for dedicating fixed photo points in the absence of available fixed landmarks

**How to Access Aerial Photographs:**

Aerial Photos can be obtained from the following federal agencies:

USGS Earth Science Information Center  
507 National Center  
12201 Sunrise Valley Drive  
Reston, VA 22092  
800-USA-MAPS

USDA Consolidated Farm Service Agencies  
Aerial Photography Field Office  
222 West 2300 South  
P.O. Box 30010  
Salt Lake City, UT 84103-0010  
801-524-5856

Cartographic and Architectural Branch  
National Archives and Records Administration  
8601 Adelphi Road  
College park, MD 20740-6001  
301-713-7040

**Roles and Duties of Team:**

The team should be comprised of a minimum of two people, and preferably three people for restoration or other water quality improvement projects, as follows:

1. Primary Photographer
2. Subject, target for centering the photo and providing scale
3. Person responsible for determining geographic position and holding the photo sign forms or blackboard.

One of these people is also responsible for taking field notes to describe and record photos and photo points.

**Safety Concerns:**

Persons involved in photo monitoring should **ALWAYS** put safety first. For safety reasons, always have at least two 2 volunteers for the survey. Make sure that the area(s) you are surveying either are accessible to the public or that you have obtained permission from the landowner prior to the survey.

Some safety concerns that may be encountered during the survey include, but are not limited to:

- Inclement weather
- Flood conditions, fast flowing water, or very cold water
- Poisonous plants (e.g.: poison oak)
- Dangerous insects and animals (e.g.: bees, rattlesnakes, range animals such as cattle, etc.)
- Harmful or hazardous trash (e.g.: broken glass, hypodermic needles, human feces)

We recommend that the volunteer coordinator or leader discuss the potential hazards with all volunteers prior to any fieldwork.

**General Instructions:**

From the inception of any photo documentation project until it is completed, always take each photo from the same position (photo point), and at the same bearing and vertical angle at that photo point. Photo point positions should be thoroughly documented, including photographs taken of the photo point. Refer to copies of previous photos when arriving at the photo point. Try to maintain a level (horizontal) camera view unless the terrain is sloped. (If the photo can not be horizontal due to the slope, then record the angle for that photo.) When photo points are first being selected, consider the type of project (meadow or stream restoration, vegetation management for fire control, ambient or event monitoring as part of a stream walk, etc.) and refer to the guidance listed on *Suggestions for Photo Points by Type of Project*.

When taking photographs, try to include landscape features that are unlikely to change over several years (buildings, other structures, and landscape features such as peaks, rock outcrops, large trees, etc.) so that repeat photos will be easy to position. Lighting is, of course, a key ingredient so give consideration to the angle of light, cloud cover, background, shadows, and contrasts. Close view photographs taken from the north (i.e., facing south) will minimize shadows. Medium and long view photos are best shot with the sun at the photographer's back. Some artistic expression is encouraged as some photos may be used on websites and in slide shows (early morning and late evening shots may be useful for this purpose). Seasonal changes can be used to advantage as foliage, stream flow, cloud cover, and site access fluctuate. It is often important to

include a ruler, stadia rod, person, farm animal, or automobile in photos to convey the scale of the image. Of particular concern is the angle from which the photo is taken. Oftentimes an overhead or elevated shot from a bridge, cliff, peak, tree, etc. will be instrumental in conveying the full dimensions of the project. Of most importance overall, however, is being aware of the goal(s) of the project and capturing images that clearly demonstrate progress towards achieving those goal(s). Again, reference to *Suggestions for Photo Points by Type of Project* may be helpful.

If possible, try to include a black board or yellow photo sign in the view, marked at a minimum with the location, subject, time and date of the photograph. A blank photo sign form is included in this document.

### **Recording Information:**

Use a systematic method of recording information about each project, photo point, and photo. The following information should be entered on the photo-log forms (blank form included in this document) or in a dedicated notebook:

- Project or group name, and contract number (if applicable, e.g., for funded restoration projects)
- General location (stream, beach, city, etc.), and short narrative description of project's habitat type, goals, etc.
- Photographer and other team members
- Photo number
- Date
- Time (for each photograph)
- Photo point information, including:
  - Name or other unique identifier (abbreviated name and/or ID number)
  - Narrative description of location including proximity to and direction from notable landscape features like roads, fence lines, creeks, rock outcrops, large trees, buildings, previous photo points, etc. – sufficient for future photographers who have never visited the project to locate the photo point
  - Latitude, longitude, and altitude from map or GPS unit
- Magnetic compass bearing from the photo point to the subject
- Specific information about the subject of the photo
- Optional additional information: a true compass bearing (corrected for declination) from photo point to subject, time of sunrise and sunset (check newspaper or almanac), and cloud cover.

For ambient monitoring, the stream and shore walk form should be attached or referenced in the photo-log.

When monitoring the implementation of restoration, fuel reduction, or Best Management Practices (BMP) projects, include or attach to the photo-log a narrative description of observable progress in achieving the goals of the project. Provide supplementary information along with the photo, such as noticeable changes in habitat, wildlife, and water quality and quantity.

Archive all photos, along with the associated photo-log information, in a protected environment.

### **The Photo Point: Establishing Position of Photographer:**

1. Have available a variety of methods for establishing position: maps, aerial photos, GPS, permanent markers and landmarks, etc. If the primary method fails (e.g., a GPS or lost marker post) then have an alternate method (map, aerial photo, copy of an original photograph of the photo-point, etc).
2. Select an existing structure or landmark (mailbox, telephone pole, benchmark, large rock, etc.), identify its latitude and longitude, and choose (and record for future use) the permanent position of the photographer relative to that landmark. Alternatively, choose the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the photographer.
3. For restoration, fuel reduction, and BMP projects, photograph the photo-points and carry copies of those photographs on subsequent field visits.

### **Determining the Compass Bearing:**

1. Select and record the permanent magnetic bearing of the photo center view. You can also record the true compass bearing (corrected for declination) but do not substitute this for the magnetic bearing. Include a prominent landmark in a set position within the view. If possible, have an assistant stand at a fixed distance from both the photographer and the center of the view, holding a stadia rod if available, within the view of the camera; preferably position the stadia rod on one established, consistent side of the view for each photo (right or left side).
2. Alternatively, use the procedure described in *Monitoring California's Annual Rangeland Vegetation* (UC/DANR Leaflet 21486, Dec. 1990). This procedure involves placing a permanently marked steel fence post to establish the position of the focal point (photo center).
3. When performing ambient or event photo monitoring, and when a compass is not available, then refer to a map and record the approximate bearing as north, south, east or west.

**Suggestions for Photo Points by Type of Project:****Ambient or Event Monitoring, Including Photography Associated with Narrative Visual Assessments:**

1. When first beginning an ambient monitoring program take representative long and/or medium view photos of stream reaches and segments of shoreline being monitored. Show the positions of these photos on a map, preferably on the stream/shore walk form. Subjects to be photographed include a representative view of the stream or shore condition at the beginning and ending positions of the segment being monitored, storm drain outfalls, confluence of tributaries, structures (e.g., bridges, dams, pipelines, etc.).
2. If possible, take a close view photograph of the substrate (streambed), algae, or submerged aquatic vegetation.
3. Time series: Photographs of these subjects at the same photo points should be repeated annually during the same season or month if possible.
4. Event monitoring refers to any unusual or sporadic conditions encountered during a stream or shore walk, such as trash dumps, turbidity events, oil spills, etc. Photograph and record information on your photo-log and on your Stream and Shore Walk Visual Assessment form. Report pollution events to the Regional Board. Report trash dumps to local authorities.

**All Restoration and Fuel Reduction Projects – Time Series:**

Take photos immediately before and after construction, planting, or vegetation removal. Long term monitoring should allow for at least annual photography for a minimum of three years after the project, and thereafter at 5 years and ten years.

**Meadow Restoration:**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long view showing an overlapping sequence of photos illustrating a long reach of stream and meadow (satellite photos, or hill close by, fly-over, etc.)
3. Long view up or down the longitudinal dimension of the creek showing riparian vegetation growth bounded on each side by grasses, sedges, or whatever that is lower in height
4. Long view of conversion of sage and other upland species back to meadow vegetation

5. Long view and medium view of streambed changes (straightened back to meandering, sediment back to gravel, etc.)
6. Medium and close views of structures, plantings, etc. intended to induce these changes

**Stream Restoration/stabilization:**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long-view showing all or representative sections of the project (bluff, bridge, etc.)
3. Long view up or down the stream (from stream level) showing changes in the stream bank, vegetation, etc.
4. Long view and medium view of streambed changes (thalweg, gravel, meanders, etc.)
5. Medium and close views of structures, plantings, etc. intended to induce these changes.
6. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 3 and 4 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.

**Vegetation Management for Fire Prevention ("fuel reduction"):**

1. Aerial view (satellite or airplane photography) if available.
2. In the absence of an aerial view, a landscape, long view showing all or representative sections of the project (bluff, bridge, etc.)
3. Long view (wide angle if possible) showing the project area or areas. Preferably these long views should be from an elevated vantage point.
4. Medium view photos showing examples of vegetation changes, and plantings if included in the project. It is recommended that a person (preferably holding a stadia rod) be included in the view for scale
5. To the extent possible include medium and long view photos that include adjacent stream channels.



**Stream Sediment Load or Erosion Monitoring:**

1. Long views from bridge or other elevated position.
2. Medium views of bars and banks, with a person (preferably holding a stadia rod) in view for scale.
3. Close views of streambed with ruler or other common object in the view for scale.
4. Time series: Photograph during the dry season (low flow) once per year or after a significant flood event when streambed is visible. The flood events may be episodic in the south and seasonal in the north.
5. Optional: Use a tape set perpendicular across the stream channel at fixed points and include this tape in your photos described in 1 and 2 above. For specific procedures refer to Harrelson, Cheryl C., C.L. Rawlins, and John P. Potyondy, *Stream Channel Reference Sites: An Illustrated Guide to Field Techniques*, United States Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station, General Technical Report RM-245.



PHOTO SIGN FORM: Print this form on yellow paper. Complete the following information for each photograph. Include in the photographic view so that it will be legible in the finished photo.

Location:

Subject Description:

Date:

Time:

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Ranie Hunter  
 610 West Ash Street, Suite 1500  
 San Diego, CA 92101

2. Article Number

(Transfer from service label)

PS Form 3811, February 2004

7008 1140 0004 9971 8719

Domestic Return Receipt

102595-02-M-1540

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature  Agent  
 Addressee

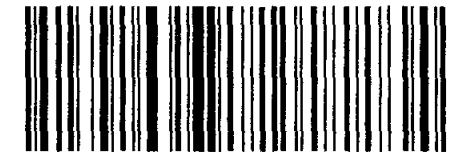
B. Received by (Printed Name) C. Date of Delivery

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)  Yes



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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.11	

Sign To  
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 or PO Box No. 610 West Ash St, Suite 1500  
 City, State, ZIP+4  
 San Diego, CA 92101

PS Form 3800, August 2006 See Reverse for Instructions

11/18/2008  
 11/18/2008