

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION**

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<http://www.waterboards.ca.gov/sandiego/>

**Amendment No. 1 to Clean Water Act Section 401
Water Quality Certification No. 09C-093**

**PROJECT: Agua Hedionda Bridge 230.6 Project
Certification Number 09C-093**

**APPLICANT: North County Transit District
810 Mission Avenue
Oceanside, California 92054**

Reg. Meas. ID: 372308
Place ID: 747582
Party ID: 31651
Person ID: 517759
WDID: 9 000002004

On May 10, 2010, Clean Water Act Section 401 Water Quality Certification No. 09C-093 (Certification) was issued to North County Transit District (Applicant) for the Agua Hedionda Bridge 230.6 Project (Project). The Certification authorized temporary impacts of 0.0009 acres and permanent impacts of 0.0015 acres to waters of the United States and/or State. Onsite mitigation to offset the temporary and permanent impacts were 0.85 acres of enhancement and 0.45 acres coastal sage scrub revegetation for a total of 1.30 acres located within the rail road right-of-way adjacent to Agua Hedionda Lagoon.

By letter dated February 9, 2017, the Applicant requested the Certification be amended to reduce the mitigation to 0.53 acres of enhancement and 0.47 acres of coastal sage scrub revegetation for a total of 1.0 acres. The reduction in acreage was necessary due to a City of Carlsbad sewer line improvement project which required clearing and grading along the east side of the railroad tracks that took out part of the original Eastern mitigation. Both the mitigation site and sewer line easement are within the rail road right-of-way and are not protected by a preservation mechanism. In addition, the Applicant requested the mitigation native cover criteria be changed from 90% native cover to 75% native cover. The Regional Water Quality Control Board, San Diego Region (San Diego Water Board) did not object to this acreage reduction because the revised mitigation ratio is approximately 416:1 area mitigated to area impacted which exceeds the San Diego Water Board's mitigation expectations for temporary and permanent impacts.

By email dated March 27, 2017, the U.S. Army Corps of Engineers (USACE) accepted the change in mitigation acreage and set the minimum percent cover criteria to 70%. The San Diego Water Board and City of Carlsbad were copied on this email and did not object to the recommended changes. The change in percent cover is appropriate when considering the surrounding habitat and location of the mitigation site.

After five years of maintenance and monitoring the Applicant requested the California San Diego Water Board approve the Project mitigation and relieve the Applicant from further required maintenance and monitoring. The San Diego Water Board denied the

request because the Western mitigation site was estimated to have 60% native cover which is below the revised criteria. The San Diego Water Board required at least one more year of maintenance and monitoring for both Western and Eastern mitigation sites.

On May 7, 2018, Dudek, working on behalf of the Applicant, submitted the *Annual Mitigation and Monitoring Report for the Carlsbad Double Track Mitigation Project, April 2018* report and both mitigation sites average percent cover exceeds the 70% cover criteria.

Based on the Applicant's request and review of the most recent annual report, the San Diego Water Board is amending the Certification to 0.53 acres of enhancement and 0.47 acres of coastal sage scrub revegetation for a total of 1.0 acres of mitigation.

Except as modified or superseded by the Certification modifications set forth below, all of the findings, provisions and other requirements of Certification No. 09C-093 remain in full force and effect. The following changes are made to Certification No. 09C-093 and are shown in underline/strikeout format to indicate added and removed language:

Page 2, Project Description is modified with the following:

Compensatory mitigation for the temporary and permanent loss, respectively, of 38.8 square feet (0.0009 acre), and 64 square feet (0.0015 acre) of waters of the United States/State caused by the construction and placement of four (4) bridge columns; and for the increase in shading of the open water habitat of Agua Hedionda Lagoon caused by the double track, and for the permanent loss of hydraulic function caused by the placement of four (4) bridge support columns within the Agua Hedionda Lagoon channel is proposed to be provided by: enhancement of 0.8553 acres and revegetation of 0.4547 acres of coastal sage scrub habitat within the project area; and (2) the permanent removal of 160 square feet (0.0037 acre) of rip-rap within the channel to improve the hydraulic function between Agua Hedionda Lagoon and the forebay (see Attachment 4).

Page 2, Standard Conditions 1, 2, and 3, are replaced with the following:

Pursuant to section 3860 of title 23 of the California Code of Regulations, the following three standard conditions apply to all water quality certification actions:

- A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.

- B. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to California Code of Regulations title 23, section 3855 subdivision (b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- C. This Certification action is conditioned upon total payment of any fee required under title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the applicant.

Page 5, Project Conditions, Condition 2 is modified as follows:

2. The North County Transit District 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 (Water Quality Order No. 2003-0017-DWQ)*. This provision shall apply irrespective of whether a) the federal permit for which the Certification was obtained is subsequently retracted or is expired, or b) the Certification is expired. These General Waste Discharge Requirements are accessible at:

http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/g_o_wdr401regulated_projects.pdf.

Page 5, Project Conditions, Condition 3 is modified as follows:

~~3. The North County Transit District must comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, and Order No. 2009-009-DWQ, as applicable, the NPDES General Permit for Storm Water Discharges Associated with Construction Activity.~~
Prior to start of Project construction, the Applicant must, as applicable, obtain coverage under, and comply with, the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity, (General Construction Storm Water Permit) and any reissuance. If Project construction activities do not require coverage under the General Construction Storm Water Permit, the Applicant must develop and implement a runoff management plan (or equivalent construction BMP plan) to prevent the discharge of sediment and other pollutants during construction activities.

Page 6, Compensatory Mitigation for Loss of Waters of the U.S./State Condition 1 is modified as follows:

1. Mitigation for permanent impacts to 0.0015 acre of Waters of the United States (U.S.)/State and temporary impacts to 0.0009 acre of Waters of the U.S./State must be achieved by the removal of 2 feet of rock rip-rap along a 40-foot swath on both sides of the lagoon channel where the bridge will be constructed, for a total of 160 square feet (0.0037 acre) of rock rip-rap removal from the channel bottom (see Attachment 4). In addition, the 0.4547 acre revegetation area (see Attachment 4) located on the slope along the west wall of the basin located north of the bridge will be revegetated with native species. Also the 0.8553 acre enhancement area located on the slope along the east wall of the basin, and the coastal sage scrub habitat located along the western side of the existing track north of the bridge will be enhanced by removing exotic plants and seeding with native plant species (see Attachment 4).

Page 11, Section F. Reporting is modified as follows:

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.~~ **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of this Certification, is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13385.

7. ~~The North County Transit District must submit reports and information required under this certification, or other information required by the Regional Board, to:~~ **Electronic Document Submittal.** The Applicant must submit all reports and information required under this Certification in electronic format via e-mail to SanDiego@waterboards.ca.gov. Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to:

California Regional Water Quality Control Board
San Diego Region
Attn: 401 Certification; Project No. 09C-093: Agua Hedionda Bridge 230.6
Project. 09C-093:747582:amonji
9174 Sky Park Court, Suite 100 2375 Northside Dr., Suite 100
San Diego, California 92123 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF) and converted to text searchable format using Optical Character Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board

must include the following identification numbers in the header or subject:
Certification No. 09C-093:747582:amonji.

Page 13, San Diego Water Board Contact Person is modified as follows:

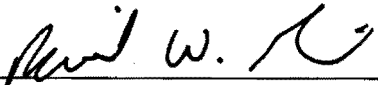
~~Linda Parady~~Alan Monji
~~California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340
858-637-7140 Telephone: 619-521-3968
LParady@waterboards.ca.gov~~Alan.Monji@waterboards.ca.gov

Page 19, Attachment 1, Compensatory Mitigation, is modified as follows:

Compensatory mitigation for temporary and permanent impacts to waters of the U.S./State will consist of: (1) enhancement of 0.8553 acre and revegetation of 0.4547 acre of coastal sage scrub habitat within the project area; and (2) the permanent removal of 160 square feet (0.0037 acre) of rip-rap within the channel between Agua Hedionda Lagoon and the forebay (see attachment 4).

Notification: Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Certification Amendment. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Amendment No. 1 to Certification No. 09C-093 issued on August 15, 2018.



DAVID W. GIBSON
Executive Officer
San Diego Water Board

15 August 2018
Date



California Regional Water Quality Control Board San Diego Region



Linda S. Adams
Secretary for
Environmental
Protection

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<http://www.waterboards.ca.gov/sandiego>

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: Agua Hedionda Bridge 230.6 Project
Certification No. 09C-093
WDID 9 00002004

In reply refer to: 747582: LPARDY

Certified Mail Number:
7009 1410 0002 2000 0132

APPLICANT: Matthew Tucker
North County Transit District
810 Mission Avenue
Oceanside, CA 92054

CIWQS Regulatory Measure ID: 372308 Place ID: 747582 Party ID: 31651 Person ID: 517759
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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 North County Transit District (NCTD) Agua Hedionda Bridge 230.6 Project proposes to construct a second (double) track and rail corridor at Mile Post 230.6 over Agua Hedionda Lagoon, and along an approximately 2.4 mile-long segment of railroad right-of-way on the inland (east) side of the existing track between Mile Post 229.4 and Mile Post 231.8. The proposed project will include related crossovers and signals, and improvements to railroad/highway at-grade intersections in the City of Carlsbad, in northern San Diego County. The purpose of the proposed project is to enhance the flow and efficiency of train movement along this segment of the rail corridor, and to ensure passenger train service can operate on a reliable schedule.

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*

Compensatory mitigation for the temporary and permanent loss, respectively, of 38.8 square feet (0.0009 acre), and 64 square feet (0.0015 acre) of waters of the United States/State caused by the construction and placement of four (4) bridge columns; and for the increase in shading of the open water habitat of Agua Hedionda Lagoon caused by the double track; and for the permanent loss of hydraulic function caused by the placement of four (4) bridge support columns within the Agua Hedionda Lagoon channel is proposed to be provided by: (1) enhancement of 0.85 acre and revegetation of 0.45 acre of coastal sage scrub habitat within the project area; and (2) the permanent removal of 160 square feet (0.0037 acre) of rip-rap within the channel to improve the hydraulic function between Agua Hedionda Lagoon and the forebay (see Attachment 4).

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 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, North County Transit District must satisfy the following:

A. GENERAL CONDITIONS:

1. Water Quality Certification No. 09C-093 (Certification) is only valid if the project begins no later than 5 (five) years from the date of issuance. If the project has not begun within 5 years from the date of issuance, then this Certification expires.

2. The North County Transit District 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 (San Diego Water Board), to support this 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 San Diego Water Board and reevaluation for individual Waste Discharge Requirements and/or Certification amendment.
3. During construction, the North County Transit District must maintain a copy of this Certification at the project site so as to be available at all times to site personnel and agencies.
4. The North County Transit District must permit the San Diego Water 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.
5. The North County Transit District must notify the San Diego Water 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.
6. The North County Transit District 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.
7. This Certification is not transferable in its entirety or in part to any person except after notice to the Executive Officer of the San Diego Water Board in accordance with the following terms.
 - a. Transfer of Property Ownership: North County Transit District must notify the San Diego Water Board of any change in ownership of the

project area. Notification of change in ownership must include, but not be limited to, a statement that the North County Transit District has provided the purchaser with a copy of the section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the Executive officer of the San Diego Water Board within **10 days** of the transfer of ownership.

- b. Transfer of Mitigation Responsibility: Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in the '*Habitat Mitigation and Monitoring Plan, Carlsbad Double Track Project, Bridge 230.6 over Agua Hedionda Lagoon*' (HMMP) dated April 22, 2010 shall include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the San Diego Water Board within **10 days** of the transfer date.
8. 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.
 9. In response to a suspected violation of any condition of this Certification, the San Diego Water 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 San Diego Water 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.
 10. In response to any violation of the conditions of this Certification, the San Diego Water Board may add to or modify the conditions of this Certification as appropriate to ensure compliance.

11. The North County Transit District and successor owners must submit annual progress reports to the San Diego Water Board prior to **December 1** of each year following the issuance of this Certification until the project has reached completion.
12. The North County Transit District must notify the San Diego Water Board in writing at least **5 days** prior to the actual commencement of construction activities.

B. PROJECT CONDITIONS:

1. Prior to the start of the project, and annually thereafter, the North County Transit District must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response, and BMP implementation and maintenance.
2. The North County Transit District 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 Requirements are accessible at:
http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/go_wdr401regulated_projects.pdf.
3. The North County Transit District must comply with the requirements of State Water Resources Control Board Water Quality Order No. 99-08-DWQ, and Order No. 2009-009-DWQ, as applicable, the *NPDES General Permit for Storm Water Discharges Associated with Construction Activity*.
4. 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 San Diego Water Board pursuant to CWC section 13260.
5. Discharges of concentrated flow during construction or after completion must not cause downstream erosion or damage to properties or stream habitat.
6. 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 the 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.

7. 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.
8. 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.
9. No activities authorized under Certification No. 09C-093 will be conducted within 1,000 yards of an avian breeding colony [including, but not limited to the California least tern (*Sterna antillarum browni*)] from April 1 through September 30.
10. Removal of vegetation must occur by hand, mechanically, or using EPA approved herbicides deployed using applicable BMPs to prevent impacts to beneficial uses of waters of the State. Removal of vegetation must occur outside of the avian nesting season (February 15 - August 31).

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

1. Mitigation for permanent impacts to 0.0015 acre of Waters of the United States (U.S.)/State and temporary impacts to 0.0009 acre of Waters of the U.S./State must be achieved by the removal of 2 feet of rock rip-rap along a 40-foot swath on both sides of the lagoon channel where the bridge will be constructed, for a total of 160 square feet (0.0037 acre) of rock rip-rap removal from the channel bottom (see Attachment 4). In addition, the 0.45 acre revegetation area (see Attachment 4) located on the slope along the west wall of the basin located north of the bridge will be revegetated with native species. Also, the 0.85 acre enhancement area located on the slope along the east wall of the basin, and the coastal sage scrub habitat located along the western side of the existing track north of the bridge will be enhanced by removing exotic plants and seeding with native plant species (see Attachment 4).
2. The restoration of these habitats must occur in accordance with the HMMP dated April 22, 2010, prepared by Tom Dodson & Associates.

3. The North County Transit District must restore all areas of temporary impacts which could result in a discharge or a threatened discharge to waters of the United States/State. The North County Transit District must implement all necessary BMPs to control erosion and runoff from areas associated with this project.
4. The North County Transit District must notify the San Diego Water Board in writing at least **5 days** prior to the actual commencement of mitigation installation, and completion of mitigation installation.
5. **Prior to the start of construction**, North County Transit District must provide the San Diego Water 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 start of construction**, the North County Transit District 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.
6. The North County Transit District must submit a report (including topography maps and planting locations) to the San Diego Water Board within **90 days** of completion of mitigation site preparation and planting, describing as-built status of the mitigation project.
7. The construction of proposed mitigation must be completed within the same calendar year as impacts occur, or at least no later than 9 months following the close of the calendar year in which impacts first occur (e.g., if impacts occur in December 2010 construction of mitigation for all impacts must be completed no later than September 2011). 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.

8. In the event that the proposed mitigation does not obtain the 3rd year success criteria milestones for mitigation as presented in the HMMP dated April 22, 2010, the applicant shall provide the San Diego Water Board with a technical report detailing the actions that will be taken to bring the mitigation up to the success criteria. This report shall also provide an evaluation of alternative mitigation opportunities within the Agua Hedionda Hydrologic Subarea to be utilized for additional mitigation, if portions of the required mitigation are unsuccessful after five years.
9. In the event that the proposed mitigation does not obtain the 4th year success criteria milestones for mitigation, the applicant shall provide the San Diego Water Board with a technical report detailing the actions that will be taken to bring the mitigation up to the success criteria, and a conceptual mitigation plan for an alternative mitigation site within the Agua Hedionda Hydrologic Subarea to be utilized for additional mitigation, if portions of the required mitigation are unsuccessful after five years. The mitigation plan shall mitigate for any portion of the mitigation that does not meet final success criteria, at a ratio of 2:1.
10. In the event that the proposed mitigation does not obtain full success with the 5th year success criteria the applicant shall finalize the conceptual mitigation plan (see condition C.9, above) and submit the plan to the San Diego Water Board within 30 days of the 5th year monitoring report period. No later than 90 days following San Diego Water Board acceptance of the final mitigation plan, or 30 days after San Diego Water Board receipt of the plan, the applicant shall begin implementation of the final mitigation plan.
11. North County Transit District must conduct a pre-construction eelgrass survey in accordance with the *Southern California Eelgrass Mitigation Policy* (Policy). Results of the survey must be provided to the San Diego Water Board and appropriate agencies **prior to the start of construction**.
12. North County Transit District must conduct a *Caulerpa taxifolia* survey **prior to the start of construction**, in accordance with the latest version of the *Caulerpa* Control Protocol (viewable at <http://swr.nmfs.noaa.gov/hcd/caulerad.htm>) to ensure that the proposed project does not result in the inadvertent spread of the invasive species. If *Caulerpa* is identified, North County Transit District shall follow the *Caulerpa* Control Protocol and immediately notify the San Diego Water Board.
13. Throughout the mitigation monitoring program, mitigation areas must be maintained free of perennial exotic plant species including, but not limited to, artichoke thistle, pampas grass, giant reed, tamarisk, sweet fennel,

mustard, tocalote, prickly lettuce, white sweet clover, tree tobacco, Dallis grass, Harding grass, wild radish, castor bean, Russian thistle, cocklebur, poison hemlock, myoporum, German ivy, Scotch broom, garland chrysanthemum, eucalyptus, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the mitigation areas.

14. San Diego Water Board acceptance of the final mitigation plan applies only to the site and plan that mitigates for the Agua Hedionda Bridge 230.6 Project 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 site for mitigation.
15. 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.
16. 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, the North County Transit District is responsible for repair and replanting of the damaged area(s).
17. Mitigation monitoring and maintenance reports must be submitted annually until mitigation has been deemed successful. Annual mitigation monitoring and maintenance reports must be submitted **prior to December 1** of each year. Mitigation monitoring and maintenance reports must include, but not be limited to, the following:
 - a. Names, qualifications, and affiliations of the persons contributing to the report;
 - b. Tables presenting the raw data collected in the field as well as analyses of the physical and biological data, including at a minimum;
 - c. Topographic complexity characteristics at each mitigation site;
 - d. Upstream and downstream habitat and hydrologic connectivity;
 - e. Source of hydrology;
 - f. Width of native vegetation buffer around the entire mitigation site;
 - g. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
 - h. Photodocumentation from established reference points;
 - i. A survey report documenting boundaries of mitigation area; and other items specified in the HMMP, prepared by Tom Dodson & Associates, dated April 22, 2010.

18. For the purpose of determining enhancement 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.

19. 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).

D. PHOTO DOCUMENTATION PROCEDURE

1. The North County Transit District, and its successors, must conduct photo documentation of the project site, including all areas of temporary impact, prior to and after project construction, and mitigation areas, including all areas of temporary impact, **prior to and after project construction**. Wetland 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 5, or an equivalent photo documentation procedure acceptable to the San Diego Water Board. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced. The North County Transit District must submit this information in a photo documentation report to the San Diego Water 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).

E. GEOGRAPHIC INFORMATION SYSTEM REPORTING

1. The North County Transit District must submit Geographic Information System (GIS) shape files of the impact and mitigation areas **with the first**

Mitigation and Monitoring Report (see Condition C.17) 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.

F. 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 San Diego Water Board for failure to furnish requested information pursuant to CWC section 13268.
2. All reports and information submitted to the San Diego Water 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. North County Transit District must submit a report to the San Diego Water Board within **the Final Project Annual Report (see Condition A.11)** of completion of the project. The report should include as-built drawings no bigger than 11" x 17" and photos of the completed project.
4. All applications, reports, or information submitted to the San Diego Water 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 San Diego Water Board Executive Officer.
6. All applications, reports, or information submitted to the San Diego Water 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. North County Transit District must submit reports required under this Certification, or other information required by the San Diego Water Board, to:

California Regional Water Quality Control Board
 San Diego Region
 Attn: 401 Certification; File No. 09C-093, Agua Hedionda Bridge 230.6 Project
 9174 Sky Park Court, Suite 100
 San Diego, California 92123

8. Required Reports: The following list summarizes the reports required per the conditions of this Certification to be submitted to the San Diego Water Board.

Report Topic	Certification Condition	Due Date(s)
Spill notification	A.5.	Within 24 hours of discharge
Transfer of property ownership	A.7.a.	Within 10 days of transfer of responsibility
Transfer of Mitigation Responsibility	A.7.b.	Within 10 days of the transfer of ownership
Annual Progress Report(s)	A. 11.	Annually, prior to December 1
Construction Activities Notification	A.12	At least 5 days prior to the actual commencement of construction activities
Mitigation Installation Notification	C.4.	5 days prior to the actual commencement of mitigation installation, and completion of mitigation installation
Draft/Final Preservation Mechanism	C.5.	Prior to the start of construction, and proof within one year of the start of construction
As-built Report	C.6.	Within 90 days of completion of mitigation site preparation and planting
Pre-construction Eelgrass Survey	C.11	Prior to the start of construction

Report Topic	Certification Condition	Due Date(s)
Caulerpa Survey	C.12	Prior to the start of construction
Mitigation Monitoring and Maintenance Report(s)	C. 17.	Annually, prior to December 1
Photo Documentation	D.1.	Prior to and after project construction, to be submitted with the mitigation monitoring reports
Geographic Information System Reporting	E.1.	Within the first Mitigation and Monitoring Report (see Condition C.17)
Report with as-built drawings and photos of completed project	F. 3	Within the Final Project Annual Report (see Condition A.11)

PUBLIC NOTIFICATION OF PROJECT APPLICATION:

On December 17, 2009 receipt of the project application was posted on the San Diego Water Board web site to serve as appropriate notification to the public. No comments were received.

SAN DIEGO WATER BOARD CONTACT PERSON:

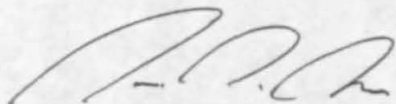
Linda Pardy
 California Regional Water Quality Control Board, San Diego Region
 9174 Sky Park Court, Suite 100
 San Diego, CA 92123
 858 627-3932
LPardy@waterboards.ca.gov

WATER QUALITY CERTIFICATION:

I hereby certify that the proposed discharge from the Agua Hedionda Bridge 230.6 Project (Project No. 09C-093) 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 San Diego Water 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 applicant's project description and/or on the attached Project Information Sheet, and (b) on compliance with all applicable requirements of the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan).



James G. Smith, AEO
for DAVID W. GIBSON
Executive Officer
San Diego Water Board

10 May 10
Date

- Attachments:
1. Project Information
 2. Distribution List
 3. Project Location Map
 4. Site Map
 5. Photo Documentation Procedure

**ATTACHMENT 1
PROJECT INFORMATION**

Applicant: Mr. Matthew Tucker, Executive Director
North County Transit District
810 Mission Avenue
Oceanside, CA 92054
Telephone: 760 967-2867
Email: MTucker@nctd.org

Applicant Representative: Ms. Lisa Tollstrup
Tom Dodson & Associates
2150 N. Arrowhead Avenue
San Bernardino, CA 92405
Telephone: 909 838-1333
Facsimile: 909 882-7015
Email: Lisa@tdaenv.com

Project Name: Agua Hedionda Bridge 230.6 Project

Project Location: This project is located at the railroad bridge over Agua Hedionda Lagoon at Mile Post 230.6 on the North County Transit District right-of-way, within the City of Carlsbad, in northern San Diego county. USGS San Luis Rey quadrangle, 7.5 minute series topographic map, section 7, township 11 South, range 4 West, San Bernardino base and meridan. The center reading is Latitude 33° 08' 37.55" N, Longitude -117° 20' 13.22" W.

Type of Project: Construction of a railroad bridge and double track

Need for Project: The construction of the double track bridge at Mile Post 230.6 over the Agua Hedionda Lagoon, through Carlsbad, San Diego County, California will enhance efficiency of train movement along the rail corridor and will ensure passenger train service can operate on a reliable schedule.

Project Description: This project proposes to construct a second (double) track and rail corridor at Mile Post 230.6 over Agua Hedionda Lagoon, and along an approximately 2.4 mile-long segment of railroad right-of-way on the inland (east) side of the existing track between Mile Post 229.4 and Mile Post 231.8. The proposed project will include related crossovers and signals, and

improvements to railroad/highway at-grade intersections on the San Diego Subdivision of the San Diego Northern Railway on the North County Transit District right-of-way and existing City of Carlsbad right-of-way. The purpose of the proposed project is to enhance the flow and efficiency of train movement on the Los Angeles to San Diego (LOSSAN) rail corridor, and to ensure passenger train service can operate on a reliable schedule.

- Federal Agency/Permit: U.S. Army Corps of Engineers, Section 404 Permit Nationwide Permit (NWP) #3 –Maintenance
 – Shanti Santulli, Telephone: 760 602-4834,
 Email: Shanti.A.Santulli@usace.army.mil
- U.S. Coast Guard, No individual bridge permit will be required (COMDTINST M16590.5C) per David Sulouff, U.S. Coast Guard letter to Mr. Matthew Tucker, North County Transit District, dated January 11, 2010
 - David Sulouff, Telephone: 510 437-3461
- Other Required Regulatory Approvals: U.S. Fish and Wildlife Service, section 7 consultation
 – Janet Stuckrath, Telephone: 760 431-9440 (ext. 270),
 Email: Janet_Stuckrath@fws.gov
- California Coastal Commission, Coastal Zone Management Act/California Coastal Act – Federal Coastal Consistency Certification No. CC-075-09 on 3/12/2010 – Larry Simon, Telephone: 415 904-5288,
 Email: LSimon@coastal.ca.gov
- California Environmental Quality Act (CEQA) Compliance: The project is statutorily exempt per section 15275 (Specified Mass Transit Projects).
- National Environmental Policy Act (NEPA) Compliance: Federal Railroad Administration Categorical Exclusion Project ID 20103221 on 2/5/2010 – John Eschenbach
- Receiving Water: The project lies within Agua Hedionda Lagoon Hydrologic Sub Area (HSA) 904.31, which is in the Agua Hedionda Hydrologic Area (904.3), Carlsbad Hydrologic Unit (904).

Affected Waters of the United States and State:	Permanent impacts: 0.0015 acre (65 square feet) - Open Water Temporary impacts: 0.00009 acre (39 square feet) - Open Water
Dredge Volume:	Not Applicable
Related Projects Implemented/to be Implemented by the Applicant(s):	Related projects being done along the Los Angeles to San Diego (LOSSAN) rail corridor in San Diego County, California include the following: - Los Penasquitos Bridge Replacement Project (SANDAG) - Sorrento Valley Second Track (SANDAG); - Sorrento to Miramar Phase I and II (SANDAG), and - Santa Margarita Bridge Replacement and Second Track (SANDAG).
Compensatory Mitigation:	Compensatory mitigation for temporary and permanent impacts to waters of the U.S./State will consist of: (1) enhancement of 0.85 acre and revegetation of 0.45 acre of coastal sage scrub habitat within the project area; and (2) the permanent removal of 160 square feet (0.0037 acre) of rip-rap within the channel between Agua Hedionda Lagoon and the forebay (see attachment 4).
Mitigation Location:	On-site
Best Management Practices (BMPs):	The North County Transit District ' <i>Habitat Mitigation and Monitoring Plan, Carlsbad Double Track Project, Bridge 230.6 over Agua Hedionda Lagoon</i> ' dated April 22, 2010, prepared by HDR Engineering, Inc., and the draft Storm Water Pollution Prevention Plan (SWPPP) dated October 30, 2009, prepared by Amtrak, describes BMPs to be considered. BMP placement will include: 1) Place hay bales to restrict ditch flows at a minimum of 500 foot intervals, (2) Place sand bags around all drainage inlets, (3) Place straw wattles at the toe of all fill slopes, and (4) BMPs per 2004 CA BMPs handbooks.
Public Notice:	December 17, 2009 on the San Diego Water Board website. No comments were received.
Fees:	Total Due: \$640.00 Total Paid: \$640.00 (Check No. 4851)

CIWQS:

Regulatory Measure ID: 372308

Place ID: 747582

Party ID: 31651

Person ID: 517759

**ATTACHMENT 2
DISTRIBUTION LIST**

cc: via USPS
Gabriel Buhr
California Coastal Commission
San Diego Coast District
7575 Metropolitan Drive, Suite 103
San Diego, CA 92108
GBuhr@coastal.ca.gov

cc: via email
Lisa Tollstrup
Tom Dodson & Associates
Lisa@tdaenv.com

John Eschenbach
AMTRAK
UJED@amtrak.com

Shanti Santulli
U.S. Army Corps of Engineers, Regulatory Branch
San Diego Field Office
Shanti.A.Santulli@usace.army.mil

Janet Stuckrath
U.S. Department of the Interior
U.S. Fish and Wildlife Service
Janet.Stuckrath@fws.gov

Eric Chavez
National Marine Fisheries Service
Eric.Chavez@noaa.gov

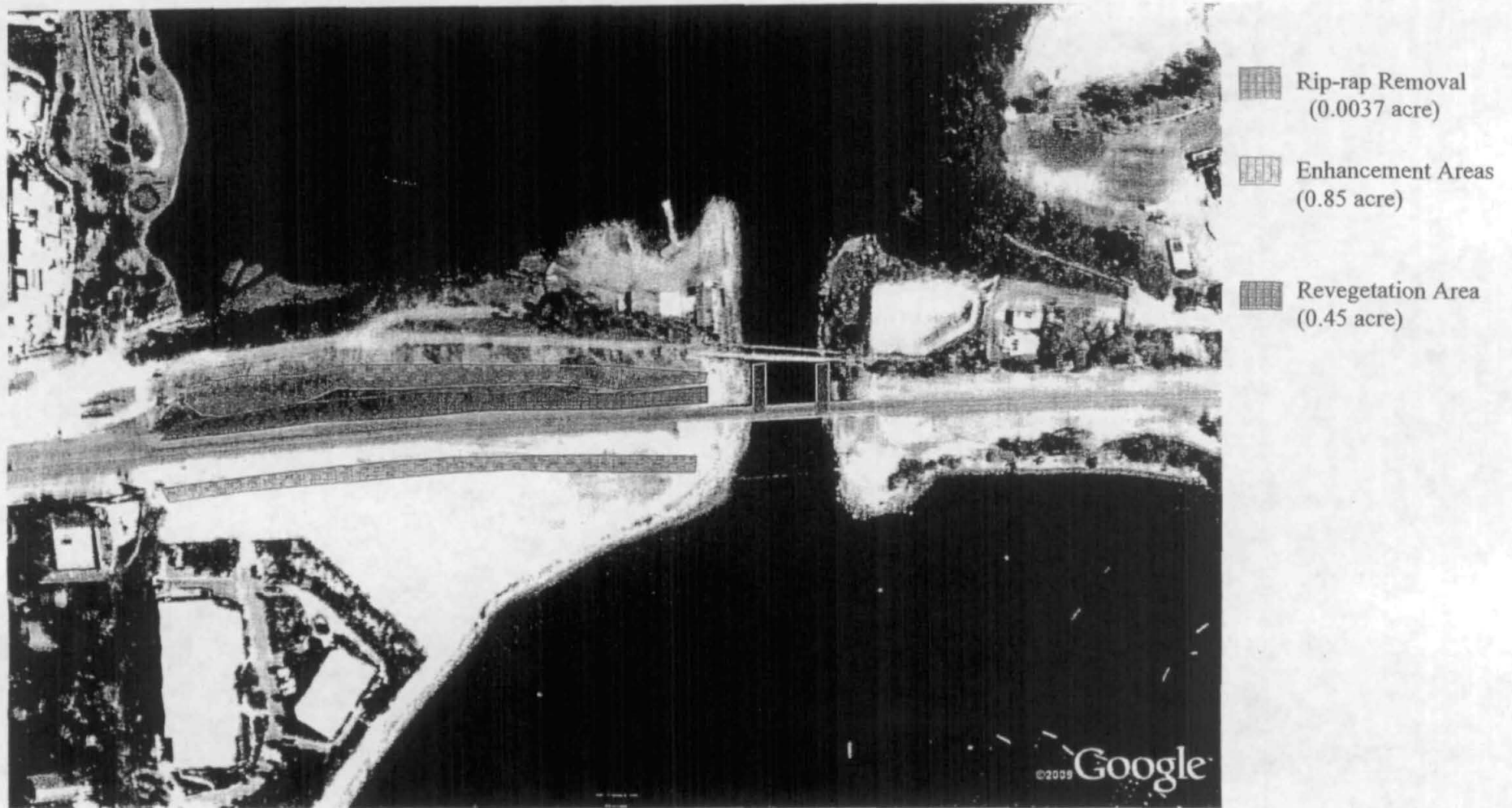
David Smith
Wetlands Regulatory Office
U.S. Environmental Protection Agency, Region 9
R9-WTR8-Mailbox@epa.gov

Bill Orme
State Water Resources Control Board,
Division of Water Quality
401 Water Quality Certification and Wetlands Unit
Stateboard401@waterboards.ca.gov

Tech Staff Info & Use	
File No.	09C-093
WDID	9000002004
Reg. Meas. ID	372308
Place ID	747582
Party ID	31651
Person ID	517759

HABITAT MITIGATION & MONITORING PLAN

Figure 5 – Creation/Revegetation/Enhancement Areas



ATTACHMENT 5 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:

Matthew Tucker
 NCTD
 810 Mission Ave.
 Oceanside, CA 92054

2. Article Number

(Transfer from service label,

7009 1410 0002 2000 0132

PS Form 3811, February 2004 5-10 Domestic Return Receipt

L. Parry

102595-02-M-154

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

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

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS. FOLD AT DOTTED LINE.

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Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees		\$6.83

Postmark Here

Sent To
 Matthew Tucker, NCTD
 Street, Apt. No., or PO Box No. 810 Mission Ave.
 City, State, ZIP+4 Oceanside CA 92054

PS Form 3800, August 2006

See Reverse for Instructions