



# California Regional Water Quality Control Board

## San Diego Region



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January 25, 2010

Mr. Jerry Backoff  
Planning Division Director  
City of San Marcos  
1 Civic Center Drive  
San Marcos, CA 92069-2918

In reply refer to:  
372434:CMEANS

Dear Mr. Backoff:

**RE: SAN ELIJO ROAD, COUNTY DIP SEGMENT (FILE NO. 03C-067) 401 WATER QUALITY CERTIFICATION AMENDMENT NO. 1**

This letter amends mitigation requirements contained within the Clean Water Act Section 401 Water Quality Certification for the San Elijo Road, County Dip Segment Project (Certification No. 03C-067). This action is based upon materials provided on December 14, 2009 by the City of San Marcos in response to violations of the Certification alleged in Notice of Violation No. R9-2008-0083.

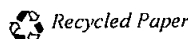
Changes/additions to the 401 certification are shown in bold strikeout/underline below.

### MITIGATION

10. Permanent impacts to 0.29 acre of herbaceous wetland and 0.01 acre of un-vegetated ~~other~~ waters of the U.S. will be mitigated through the creation ~~of 0.86 acre of wetlands at the end of Copper Creek, upstream of an existing 4-acre wetland mitigation area. This new mitigation will constitute a continuation of the San Elijo Hills mitigation area.~~ restoration of no less than 0.34 acre of ACOE jurisdictional wetland habitat within the Copper Creek drainage upstream of the San Elijo Hills Wetland Mitigation Area. Mitigation will be conducted in accordance with the Revised Wetland Mitigation Monitoring Plan San Elijo Road, County Dip Portion, dated November 18, 2009 (prepared by Mike Klinefelter), and the original Wetland Mitigation Plan – San Elijo Road, County Dip Portion dated March 2, 2004.

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California Environmental Protection Agency



11. The City of San Marcos shall ~~additionally submit a final mitigation plan to the Regional Water Quality Control Board prior to the start of any mitigation installation associated with the proposed project. The mitigation plan shall include, but not be limited to, planting specifications, irrigation regime, plant palette, success criteria, and a maintenance and monitoring program. This plan will be created in accordance with the specifications outlined in the 1999 San Elijo Hills Master Planned Community Wetland Mitigation Plan (prepared by Ogden Environmental).~~ purchase 0.6 acres of ACOE wetland creation/restoration credits from the North County Habitat Bank (NCHB).
12. The City of San Marcos shall 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. If the site grading and planting are not completed within six weeks of each other, separate reports will be submitted describing those specific as-built conditions.
13. The construction of proposed mitigation shall 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 June 2003, construction of mitigation for all impacts must be completed no later than September 2004).
14. Within 120 days of the issuance of Amendment No. 1, the City of San Marcos must provide the Regional Board a draft preservation mechanism (e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and its associated transitional buffer zone (TBZ) in perpetuity. Within one year of the issuance of Amendment No. 1, the City of San Marcos must submit proof of a completed preservation mechanism that will protect all mitigation areas and the TBZ in perpetuity. 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.

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- 15.** Mitigation monitoring reports shall be submitted annually until mitigation has been deemed successful. Monitoring reports shall be submitted no later than 30 days following the end of the monitoring period. Monitoring reports shall 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;
  - c. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
  - d. Photo-documentation from established reference points; and
  - e. Other items specified in the ~~draft and final~~ **Revised** Wetland ~~and Riparian~~—Mitigation and Monitoring Plan.

#### POST CONSTRUCTION STORMWATER MANAGEMENT

- 16.** All curb inlets shall be equipped with a Suntree Technologies catch basin insert baskets outfitted with storm boom hydrocarbon absorption devices. The inlet filters shall be installed and maintained per the manufacturer's specifications. The number and location of filters installed will be in accordance with Appendix B of the November 20, 2003, *Water Quality Technical Report, San Elijo Roadway Improvements* (prepared by Hale Engineering).
- 17.** All storm drain inlet structures within the project boundaries shall be stamped and/or stenciled with appropriate prohibitive language.
- 18.** The City of San Marcos will be responsible for the maintenance of the entire storm drain system related to this project, including the post construction structural treatment systems.
- 19.** Prior to completion of construction of the San Elijo County Dip Project, the City of San Marcos shall submit a report to the RWQCB outlining the maintenance requirements, and mechanisms that will be implemented to ensure that the post construction BMPs will be maintained throughout the life of the project. The report will outline the responsible party for the maintenance of the structural treatment BMPs, and the funding mechanism to ensure adequate maintenance.

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STREAM PHOTO DOCUMENTATION PROCEDURE

- 20. The City of San Marcos and its successors, must conduct photo documentation of the mitigation site. 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 Number 1. In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced. The City of San Marcos 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).**

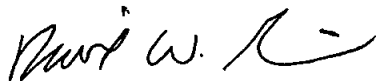
GEOGRAPHIC INFORMATION SYSTEM REPORTING

- 21. The City of San Marcos must submit Geographic Information System (GIS) shape files of the mitigation areas within 90 days of issuance of Amendment No. 1. All 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.**

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 letter, please contact Christopher Means at 858-637-5581 or [cmeans@waterboards.ca.gov](mailto:cmeans@waterboards.ca.gov).

Respectfully,



David W. Gibson  
Executive Officer

08091011

Enclosure: Attachment 1, Stream Photo Documentation Procedures

CC (by email without enclosure):

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State Water Resources Control Board, Division of Water Quality  
401 Water Quality Certification and Wetlands Unit  
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[Stateboard401@waterboards.ca.gov](mailto:Stateboard401@waterboards.ca.gov)

CIWQS Place ID	255263
Reg. Measure No.	372434
Party ID	369584

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**ATTACHMENT 1  
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



## **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: