
North Coast Regional Water Quality Control Board

April 29, 2016

Mr. Keenan Foster
Sonoma County Water Agency
P.O. Box 11628
Santa Rosa, CA 95406-1628

Dear Mr. Foster:

Subject: Amendment to Monitoring and Reporting Program No. R1-2009-0049

File: Sonoma County Water Agency Stream Maintenance Program
WDID No. 1B09026WNSO, ECM PIN CW-735104

On July 23, 2009, the Regional Water Quality Control Board for the North Coast Region (Regional Water Board) issued Order No. R1-2009-0049, Waste Discharge Requirements and 401 Water Quality Certification for Sonoma County Water Agency Stream Maintenance Program (Order), and No. R1-2009-0049 Monitoring and Reporting Program, Sonoma County Water Agency Stream Maintenance Program, WDID No. 1B09026WNSO (MRP).

The MRP contains the following language in the Modification section: "Any part of this Monitoring and Reporting Program may be revised with the written approval of the Executive Officer." The Order also allows for updates and revision of the MRP to incorporate changes in adaptive management, by written approval of the Executive Officer.

The Sonoma County Water Agency requested, and the Executive Officer approved, an amendment to the Sediment Monitoring portion of the MRP on July 29, 2010.

The Sonoma County Water Agency requested a second amendment to the Sediment Monitoring portion of the MRP, contained in a Memorandum submitted on February 22, 2016 by their consultant, Horizon Water and Environment. The Memorandum details sediment sampling results collected since the Order was issued in 2009 and provides rationale for the proposed revisions to the MRP. These revisions include:

1. add clarification that all excavated material will be disposed upland at permitted disposal facilities or upland beneficial reuse sites;
2. revise the list of analytes (Table 3) to focus sampling on analytes found to be present within past samples;
3. refine the laboratory analytical methods and reporting limits to more efficiently detect presence of the target analytes; and
4. modify the Sampling Frequency and Locations section to allow for reduced sampling where a history of testing has occurred without exceedances of applicable thresholds.

These changes will be implemented during the 2016 operational season.

This Amendment authorizes the following:

Amended Monitoring and Reporting Program No. R1-2009-0049

California Regional Water Quality Control Board
North Coast Region

Monitoring and Reporting Program No. R1-2009-0049
With amendments approved on July 29, 2010 and on April 29, 2016
SONOMA COUNTY WATER AGENCY
STREAM MAINTENANCE PROGRAM
WDID No. 1B09026WNSO

Sonoma County

GENERAL

For monitoring, applicant shall follow requirements contained in this Order, and additional requirements listed in the *Sediment Sampling and Analysis Guidelines* section of the *SMP Manual*.

WATER DIVERSION MONITORING

For all activities involving diversion of stream:

The Applicant shall establish two surface water monitoring stations, one representative of typical undisturbed conditions 100 feet upstream of the active work area, and one representative of surface water affected by diversion 100 feet downstream of the water diversion outlet. Baseline measurements shall be taken before installation of diversion structures at both stations. If for whatever reason work within that reach is interrupted for over one day, new baseline measurements shall be taken. Water diversion activity monitoring shall be in accordance with Table 1 below:

TABLE 1
WATER DIVERSION SAMPLING AND ANALYSIS

Parameter	Units	Sample Type	Minimum Analysis Frequency*
Dissolved Oxygen	mg/L	Grab	Once Daily at each monitoring station
pH	pH units	Grab	Once Daily at each monitoring station
Temperature	°F	Grab	Once Daily at each monitoring station
Turbidity	NTU	Grab	Once Daily at each monitoring station

* Field analysis allowed.

The daily sampling set shall be taken during work hours, and shall be collected no earlier than one hour after work commencement each day. Samples shall be taken with accurately calibrated field measurement instrument(s) such as a DataSonde®, or equivalent, and the results shall be saved and logged. A QA/QC program equivalent to requirements of the SWAMP program shall be followed. Samples are not required to be sent to a fixed laboratory. Use of a field measurement instrument(s) is authorized as the majority of SMP activities take three days or less and use of a fixed laboratory for analysis would be time prohibitive. Additionally, the Applicant shall observe surface water conditions upstream and downstream of the active project area to visually detect impacts of water diversion. Observations shall be conducted during sampling events at sampling locations for presence of bottom deposits, color, film or coating (from oil, grease, wax, etc.), floating material (including solids, liquids, foams, and scum), and odor. If any visual events occur, additional samples as detailed in Table 1 shall be taken, with results being saved and logged. Applicant will have equipment and supplies on-site (or readily available nearby) that could be quickly deployed to provide additional filtration if turbidity is observed. These supplies may include: bladders for settling, filter bags and pumps, silt filter dams, or a silt barrier as appropriate depending on site conditions. Surface water observations detecting exceedances of Effluent and Receiving Water Limitations are subject to "Reporting" requirements at the end of this document.

During installation and removal of diversion structures the Applicant shall monitor surface monitoring stations, described above (100 feet upstream and 100 feet downstream) in accordance with Table 2 below:

**TABLE 2
 DIVERSION STRUCTURE INSTALLATION SAMPLING AND ANALYSIS**

Parameter	Units	Sample Type	Minimum Analysis Frequency*
Turbidity	NTU	Grab	Twice Daily

* Field analysis allowed

BANK STABILIZATION MONITORING

For the first year following completion of a bank stabilization project, Applicant shall inspect surface waters twice following larger storm events to determine if the project and BMPs are adequately functioning to stabilize soil and prevent excessive erosion. Photos will be taken to document site inspections during these post-storm visits during the first year following the maintenance project and once a year for a period of 5 years thereafter. The Applicant shall observe surface water upstream and downstream of the bank stabilization site for bottom deposits, color and floating material. If the site fails such that erosion or degradation to the appearance of surface waters degrades, the Regional Board will be immediately notified and actions will be taken to resolve the issue.

REVEGETATION MONITORING

The Applicant shall monitor all revegetated sites annually for five years after planting, and for at least two years after supplemental watering is discontinued, to determine if supplemental watering, weed control, rodent control, and/or protection from vandalism are required to encourage plant establishment. Applicant shall also implement requirements contained within the SMP Manual.

SEDIMENT MONITORING

All excavated sediment material will be disposed in uplands at a permitted disposal facility or an upland beneficial reuse site, such as construction fill, non-agricultural cover, or landfill daily cover. Excavated sediment material disposal at an aquatic or wetland beneficial reuse site is not covered under the SMP Waste Discharge Requirements. For projects involving sediment removal (excluding minor maintenance sediment removal):

Sampling Frequency and Locations

- For sediment removal projects involving at least 100 cubic yards at creeks that have not been approved for reduced sampling frequency (as described below), one sample will be collected and analyzed for every 500 cubic yards of sediment removed from each site and every additional 500 cubic yards. Up to three discrete grab samples may be composited into one sample to represent the bulk of sediment to be removed from the creek.
- For project sites that require more than one sample, grab sampling locations will be selected to represent overall reach conditions, and to target conditions at the upstream and downstream ends of the project. Sample sites will also specifically target conditions downstream of culvert crossings, culvert outfalls, and key stream confluences.
- There may be situations where long channel reaches are not particularly wide or deep with sediment, it will be preferable to collect grab sediment samples for every 1,000 feet of project length rather than per 500 cubic yards of sediment removal. Samples collected from such sites shall be most representative of the total amount of soil to be removed from that site. No more than three composite samples shall be collected to characterize sediment quality from long, homogeneous reaches of sediment deposits.
- In all cases, sampling locations shall be project areas with the highest potential for detecting the maximum number of contaminants at the highest concentrations, and shall be most representative of site conditions.
- Upon approval by the Executive Officer, sampling frequencies may be reduced at locations where the review of readily available, existing information, including all results of previously collected physical and chemical testing, have continually demonstrated attainment of the Environmental Screening Level (ESL) guidelines developed by the San Francisco Bay Regional Water Board¹. SCWA may propose reduced sampling frequency for

¹ San Francisco Bay Regional Water Quality Control Board. 2013. Environmental Screening Levels (ESL) Workbook. Interim Final. February 2016. Available:
http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/esl.shtml.

sites with a minimum of two years of data. Testing results must be below corresponding San Francisco Bay Regional Water Board's Tier I ESLs¹ for soil or commensurate with natural/anthropogenic background concentrations for two consecutive sampling episodes. For sites with reduced sampling frequency, Regional Water Board staff may still require sediment sampling and analysis when there is a suspected contamination source.

- Approval of reduced sediment sampling frequencies may be accomplished through the Regional Water Board staff review and concurrence of annual reports and data proposed to substantiate reduction in accordance with this MRP.
- Sites where sediment removal activities occurred on a regular basis, and where sampling has been reduced due to two sequential testing results reporting below ESLs (or commensurate with natural/anthropogenic non-urban background) need only be sampled every 10 years with the sampling regime at the discretion of the Executive Officer. A significant change in land use at the site or upstream that may require reinitiating a sampling regime for constituents of concern.
- Sediment from creeks or sub-basins that have not been evaluated in the past shall be sampled for the full suite of analytes prior to sediment removal activities.

Sediment Sampling Methodology

This guidance applies to discrete (single) samples and composite samples. All samples shall be collected by means of a hand trowel, a hand auger, or another sampling method approved by the Regional Water Board. The individual collecting the sample will have the discretion of choosing the sampling method which is the most efficient to perform. Sampling methodology is described in the *Sediment Sampling and Analysis Guidelines* section of the *SMP Manual*.

Sampling parameters/analytes and locations will be reviewed by Regional Board staff annually during review of the SMP Notification Report. As is appropriate and as directed by the Regional Board, each sample location and disposal site shall include sampling for the parameters/analytes listed in Table 3. Sampling parameters/analytes listed in Table 3 may be modified after a history of sampling is obtained. This may result in not requiring monitoring for some of these contaminants under certain situations or at certain locations, or the addition of more parameters/analytes if deemed necessary by the Executive Officer. Sampling shall be in accordance with Table 3:

TABLE 3
DISCRETE SEDIMENT SAMPLING AND ANALYSIS

Table 3 was amended on July 29, 2010 and April 29, 2016

EPA Test Method ¹	Analyte	Reporting Limit for Soil ² (mg/kg)	Analyte (cont.)	Reporting Limit for Soil ² (mg/kg)
Conventional Parameters				
	Grain Size (%) (Gravel, Sand, Silt, Clay)	0.1		
9060	Total Organic Carbon (%)	0.1		
	Total Solids (%)	0.1		
6020 or 7000 series				
Total Metals				
	Arsenic	0.05	Mercury (total)	0.005
	Cadmium (total)	0.005	Nickel (total)	0.1
	Chromium (total)	0.02	Selenium (total)	0.1
	Copper (total)	0.1	Silver (total)	0.1
	Lead (total)	0.01	Zinc (total)	0.5
8081 or 8082A				
Organochlorine Pesticides				
	Aldrin	0.002	Dieldrin	0.002
	α-HCH (hexachlorocyclohexane)	0.002	Endosulfan I	0.002
	β-HCH	0.002	Endosulfan II	0.002
	γ-HCH (Lindane)	0.002	Endosulfan sulfate	0.002
	δ-HCH	0.002	Endrin	0.002
	Chlordane (tech)	0.002	Endrin aldehyde	0.002
	2,4'-DDD	0.002	Heptachlor	0.002
	4,4'-DDD	0.002	Heptachlor epoxide	0.002
	2,4'-DDE	0.002	Toxaphene	0.002
	4,4'-DDE	0.002		
	2,4'-DDT	0.002		
	4,4'-DDT	0.002		
8270C or 8270D³				
Polycyclic Aromatic Hydrocarbons (PAHs)				
	2-Methylnaphthalene	0.005	Chrysene	0.001
	Acenaphthene	0.001	Dibenz(a,h)anthracene	0.001
	Acenaphthylene	0.001	Fluoranthene	0.001
	Anthracene	0.001	Fluorene	0.001
	Benz(a)anthracene	0.001	Indeno(1,2,3-cd)pyrene	0.001
	Benzo(a)pyrene	0.001	Naphthalene	0.001
	Benzo(b)fluoranthene	0.001	Phenanthrene	0.001
	Benzo(k)fluoranthene	0.001	Pyrene	0.001

NOTES:

¹ The most recent version of EPA's SW-846 Test Methods will be used.

² All sediment results to be reported in dry weight.

³ Analysis of PAH will be performed using appropriate cleanup methods (e.g., EPA Method 3550A with alumina column) to remove naturally occurring biogenic interferences.

The Applicant shall maintain records of field sampling in a log containing at least the following information:

- ***Date and time***
- ***Site location***
- ***Sample collector***
- ***Sampling methods***
- ***Sampling location***
- ***Sampling depth***
- ***Number of sampling containers***
- Specific site conditions
- Analysis requested
- Other information describing the sampling event

Field sampling logs shall be made available to Regional Board staff upon request.

BEST MANAGEMENT PRACTICES (BMP) MONITORING

The applicant shall inspect temporary and permanent structural BMPs at active sites at least twice daily to determine if BMP maintenance, repair, or replacement is necessary. The Applicant shall maintain, repair, and/or replace BMPs as appropriate to prevent sediment discharge and reduce erosion. BMP inspections and corrective action shall be documented in a BMP inspection log. The BMP inspection log shall be kept on-site while the site is active, and shall be available to Regional Board staff upon request.

The Applicant shall document BMP effectiveness, and BMP installation, maintenance and repair, and sediment removal activities in the BMP inspection log. All changes to the Applicant's SMP Manual shall be documented, and a summary of changes shall be reported annually.

REPORTING

A. Violation Reporting

1. Upon discovery of an exceedance, the Applicant shall identify the source of the exceedance, implement corrective action, and resample or make additional observations to determine whether or not the exceedance was corrected. After four hours, an exceedance will be considered a violation.
2. The Applicant shall notify Regional Board staff by telephone at (707) 576-2220 immediately to report violations that last longer than 12-hours. The applicant shall stop all work at the site for violations lasting longer than 24-hours. The Applicant shall update Regional Board staff of site conditions and obtain verbal permission to resume work.

3. The Applicant shall notify Regional Board staff in writing within seven calendar days of all violations. Written reports shall include time and date of incident, duration, estimate of discharge or bypass volume, and documentation of sampling results/observations determining compliance status. The report shall also include detailed discussion of reasons for noncompliance, and specific steps that were or will be taken to correct the failure and prevent it from reoccurring.
- B. For each sediment removal project, the Applicant shall characterize the sediment and summarize all sediment sampling analyses, and submit a report to the Regional Board staff at least fifteen days prior to proposed sediment removal activities.
- C. All monitoring performed in compliance with this Order shall be made available to Regional Board staff upon request.
- D. The Applicant shall submit a letter with all monitoring reports to demonstrate compliance status with Order No. R1-2009-0049.
- E. Applicant shall comply with reporting dates and requirements within the SMP Manual.

MODIFICATION

Any part of this Monitoring and Reporting Program may be revised with the written approval of the Executive Officer.

Ordered By: _____

Matthias St. John
Executive Officer

April 29, 2016