California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

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Linda S. Adams
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Governor

July 29, 2010

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
Sonoma County, California

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 has requested an amendment to the Sediment Monitoring portion of the MRP, contained in a Memorandum submitted on June 3, 2010, and prepared for the Sonoma County Water Agency by their consultant, Horizon Water and Environment. The Memorandum details sediment sampling results and provides rationale for the proposed revisions to the MRP. These revisions include:

1. Revise the list of analytes (Table 3) to focus sampling on analytes found to be present within past samples;
2. refine the laboratory analytical methods used in order to more efficiently detect the target analytes;

3. modify the Sampling Frequency and Locations section to allow for composite sampling in long homogeneous reaches;
4. reducing the analyte sampling suite, depending on location within each watershed and the proximity to urbanized or industrial areas; and
5. reducing the sampling frequency for sediment removal within the same reach within five years.

These changes will be implemented during the 2010-2011 operational season.

This Amendment authorizes the following:

Amended Sediment Monitoring Section:

SEDIMENT MONITORING
For projects involving sediment removal (excluding minor maintenance sediment removal):

Sampling Frequency and Locations

- For sediment removal projects and bank stabilization projects that involve the removal and disposal of less than 250 cubic yards of sediment, one sample will be collected and analyzed. Details on the methodology used to collect and composite samples are described below.
- For sediment removal and bank stabilization projects that require the removal and disposal of more than 250 cubic yards of sediment, one sample will be collected for every increment of 500 cubic yards of sediment to be removed. Details on the methodology used to collect and composite samples are described below.
- For project sites that require more than one sample, sampling locations will be selected to represent overall characteristics of the sediment to be removed, 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, and it will be preferable to take sediment samples for every 1000 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. A reduction of the analyte sampling suite is being developed for future sampling efforts to

obtain the most appropriate information for the purposes of this program. The analyte suite will be specific to the each location within the watershed and the proximity to urbanized or industrial areas. It is proposed that the full suite of analytes listed in Table 3 below will be conducted for project sites in lower watershed areas. A subset of analytes will be tested for project sites in middle or upper watershed areas. However, where contamination is suspect, such as near a heavily urbanized area that discharges to the stream, the full suite of analytes will be conducted. This geographic and anthropogenic approach for the analyte suites to be evaluated will be fully developed and reviewed before being given written approval by the Executive Officer.

- Sites where sediment removal activities occur on a regular annual basis, and where sampling has been conducted previously, need only be sampled once every five (5) years.
- Sediment from creeks or subbasins 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: Amended MRP Analyte List, Amended July 29, 2010

Analyte and EPA Method[1]	**Reporting Limit for Soil[2]** (mg/kg)	**Analyte and EPA Method[1]** (cont.)	**Reporting Limit for Soil[2]** (mg/kg)
Total Metals – Method 6020A			
Cadmium	0.12	Mercury (Method 245.5 or 7470/7471 cold vapor)	0.05
Chromium	0.66	Nickel	1.1

Table 3: Amended MRP Analyte List, Amended July 29, 2010

Analyte and EPA Method[1]	Reporting Limit for Soil[2] (mg/kg)	Analyte and EPA Method[1] (cont.)	Reporting Limit for Soil[2] (mg/kg)
Copper	0.26	Selenium	0.074
Lead	1.1	Zinc	2.4
Polycyclic Aromatic Hydrocarbons (PAHs) – Method 8270C modified or Method 8270D			
Naphthalene	0.005	C1-Fluoranthenes/Pyrenes	0.005
C1-Naphthalenes	0.005	C2-Fluoranthenes/Pyrenes	0.005
C2-Naphthalenes	0.005	C3-Fluoranthenes/Pyrenes	0.005
C3-Naphthalenes	0.005	C4-Fluoranthenes/Pyrenes	0.005
C4-Naphthalenes	0.005	Benz[a]anthracene	0.005
Biphenyl	0.005	Chrysene	0.005
Acenaphthylene	0.005	C1-Chrysenes	0.005
Acenaphthene	0.005	C2-Chrysenes	0.005
Fluorene	0.005	C3-Chrysenes	0.005
C1-Fluorenes	0.005	C4-Chrysenes	0.005
C2-Fluorenes	0.005	Benzo[b]fluoranthene	0.005
C3-Fluorenes	0.005	Benzo[k]fluoranthene	0.005
Anthracene	0.005	Benzo[e]pyrene	0.005
Phenanthrene	0.005	Benzo[a]pyrene	0.005
C1-Phenanthrenes/Anthracenes	0.005	Perylene	0.005
C2-Phenanthrenes/Anthracenes	0.005	Indeno[1,2,3-cd]pyrene	0.005
C3-Phenanthrenes/Anthracenes	0.005	Dibenz[a,h]anthracene	0.005
C4-Phenanthrenes/Anthracenes	0.005	Benzo[g,h,i]perylene	0.005
Fluoranthene	0.005	Benz[a]anthracene	0.005
Pyrene	0.005		
Polychlorinated biphenyls (PCBs) – Method 1668 HRGC/HRMS			
8 - 2,4'-Dichlorobiphenyl	0.02	126 - 3,3',4,4',5-Pentachlorobiphenyl	0.02
18 - 2,2',5-Trichlorobiphenyl	0.02	128 - 2,2',3,3',4,4'-Hexachlorobiphenyl	0.02
28 - 2,4,4'-Trichlorobiphenyl	0.02	138 - 2,2',3,4,4',5'-Hexachlorobiphenyl	0.02
44 - 2,2',3,5'-Tetrachlorobiphenyl	0.02	153 - 2,2',4,4',5,5'-Hexachlorobiphenyl	0.02
52 - 2,2',5,5'-Tetrachlorobiphenyl	0.02	170 - 2,2',3,3',4,4',5-Heptachlorobiphenyl	0.02
66 - 2,3',4,4'-Tetrachlorobiphenyl	0.02	180 - 2,2',3,4,4',5,5'-Heptachlorobiphenyl	0.02
77 - 3,3',4,4'-Tetrachlorobiphenyl	0.002	187 - 2,2',3,4',5,5',6-Heptachlorobiphenyl	0.02
101 - 2,2',4,5,5'-Pentachlorobiphenyl	0.02	195 - 2,2',3,3',4,4',5,6-Octachlorobiphenyl	0.02
105 - 2,3,3',4,4'-Pentachlorobiphenyl	0.02	206 - 2,2',3,3',4,4',5,5',6-Nonachlorobiphenyl	0.02
118 - 2,3',4,4',5-Pentachlorobiphenyl	0.02	209 - 2,2',3,3',4,4',5,5',6,6'-Decachlorobiphenyl	0.02
Organochlorine Pesticides and PCB congeners – Method 1668 HRGC/HRMS			
Aldrin	0.0050	Endosulfan I	0.0050
α-HCH (hexachlorocyclohexane)	0.0050	Endosulfan II	0.0050
β-HCH	0.0050	Endosulfan sulfate	0.0050
γ-HCH (Lindane)	0.0050	Endrin	0.0050
δ-HCH	0.0050	Endrin aldehyde	0.0050
Chlordane (tech)	0.20	Heptachlor	0.0050
4,4'-DDD	0.0050	Heptachlor epoxide	0.0050
4,4'-DDE	0.0050	Methoxychlor	0.0050
4,4'-DDT	0.0050	Mirex	0.10
Dieldrin	0.0050	Toxaphene	0.20

Table 3: Amended MRP Analyte List, Amended July 29, 2010

Analyte and EPA Method[1]	**Reporting Limit for Soil[2]** (mg/kg)	**Analyte and EPA Method[1]** (cont.)	**Reporting Limit for Soil[2]** (mg/kg)
Aliphatics (SHC) (aka TPH) – Method 3550A and 8015-Modified (µg/g dry weight)			
Individual *n*-alkanes from nC_9-nC_{40}	0.05		
Pristane	0.05		
Phytane	0.05		
Total organic carbon (TOC) – Method 9060 (%)			0.1
TPH as Diesel	1.0	Motor Oil	2.0
Gasoline (1,4-Bromoflurobenzene)	1.0		

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.

I hereby issue an amendment to Order No. R1-2009-0049, Waste Discharge Requirements and 401 Water Quality Certification for Sonoma County Water Agency Stream Maintenance Program; and Order No. R1-2009-0049, Monitoring and Reporting Program, Sonoma County Water Agency Stream Maintenance Program, (WDID No. 1B09026WNSO), certifying that the remainder of the Order and MRP is still valid. If you have any questions or comments, please contact Stephen Bargsten of my staff at (707) 576-2653

Sincerely,

Catherine Kuhlman
Executive Officer

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