September 1, 2015

Mr. David Guhin, Director of Utilities
Utilities Department
City of Santa Rosa
69 Stony Circle
Santa Rosa, CA 95401

Dear Mr. Guhin:

Subject: Santa Rosa Plain Salt and Nutrient Management Plan

File: Salt and Nutrient Management Plan for the Santa Rosa Plain Groundwater Subbasin

Staff of the North Coast Regional Water Quality Control Board (Regional Water Board) thank you and your staff for the significant efforts made in gathering a diverse group of stakeholders, compiling technical information and preparing a Salt and Nutrient Management Plan (SNMP) for the Santa Rosa Plain Groundwater Basin. The City's primary recommendation in the final SNMP, dated May 2013, is the development of a monitoring and reporting program (MRP) to support the refinement of the SNMP in the future. The conceptual monitoring framework described in the SNMP proposes the collection of data from existing wells, as well as from new groundwater monitoring wells to be installed for this purpose. This letter is to inform you that we approve the proposed conceptual monitoring framework presented in the final SNMP.

Please review the attached recommendations for a basin-specific MRP designed to evaluate changes in groundwater basin water quality over time. The primary objective of the MRP is to collect sufficient data to: ensure protection of beneficial uses when making decisions regarding the use of recycled water; evaluate the effectiveness of best management practices for dairies, vineyards and wineries; evaluate the implementation of new septic system regulations; promote groundwater recharge; and to assess other discharges of waste to land throughout the Santa Rosa Plain groundwater basin. This will include establishing the baseline conditions and identifying changes and trends in groundwater quality and elevation over time. We look forward to working with you on the development of a basin-specific MRP and schedule for implementation.

Regional Water Board staff is available to discuss the MRP at your convenience. Please feel free to contact staff Environmental Scientist Jeremiah Puget at (707) 576-2835 or Jeremiah.Puget@waterboards.ca.gov with any questions or concerns.

Sincerely,

Original signed by

Matthias St. John
Executive Officer

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Attachment: Necessary Components of a Basin-Specific Monitoring and Reporting Program

Attachment 1

Necessary Components of a Basin-Specific Monitoring and Reporting Program

1. Goals and Objectives

The objective is to develop a basin-wide groundwater monitoring plan that will allow for a comprehensive assessment of water quality in relation to beneficial uses supported within the basin and applicable water quality objectives. Several localized and project-specific monitoring programs exist throughout the Santa Rosa Plain basin. These include monitoring of ground and surface waters by various agencies to comply with regulatory requirements, as well as voluntary monitoring efforts by agencies and environmental groups. In keeping with the Recycled Water Policy's (Policy) preferred approach, it is recommended that there be an inventory of all water quality monitoring and data collection within each groundwater basin as a starting point in developing a basin-wide groundwater monitoring plan. Compilation and review of existing programs and groundwater quality reports will reduce the potential for redundancy, and also assist in identifying data gaps that need to be addressed.

Regulatory agencies that are involved in statewide monitoring of groundwater quality for the purpose of assessing and protecting groundwater resources include the State Water Resources Control Board (State Water Board- Division of Water Quality, Division of Drinking Water, Office of Research and Planning), Department of Water Resources, Department of Toxic Substances Control, Department of Pesticide Regulation, and the U.S. Geological Survey (USGS). State Water Board's online groundwater information system, GeoTracker/ Groundwater Ambient Monitoring and Assessment (GAMA) provides access to groundwater quality monitoring data from these agencies as well as other Regional Water Boards and the Lawrence Livermore National Laboratory. This information is available on the GAMA program website. http://www.waterboards.ca.gov/water_issues/programs/gama/geotracker_gama.shtml

Results from these monitoring efforts may be used in conjunction with those generated by water purveyors, managers and private entities in determining the scope of the monitoring plan. Stakeholders are also encouraged to use the 2003 USGS report titled "Framework for a Ground Water Quality and Assessment Program for California" as a resource when developing the monitoring plan. This document is available at: http://www.waterboards.ca.gov/water_issues/programs/gama/docs/usgs_rpt_72903_wri034166.pdf

2. **Basin/Watershed Characterization and Baseline**
   The purpose of a baseline is to assess data over time and analyze possible trends in groundwater data. Regional Water Board staff recommends that the baseline characterization of the groundwater basin reflect the information in the USGS Scientific Investigation Report 2013-5118 (*Hydrological and Geochemical Characterization of the Santa Rosa Plain Watershed, Sonoma County, California*).

3. **Monitoring Well Installation Work Plan**
   Prior to installing new groundwater monitoring wells for the purpose of basin monitoring and assessment a well installation work plan shall be submitted to the Regional Water Board for review and concurrence. Well installation work plans should include:
   i. A scope of work;
   ii. Well location determinations and pre-field work activities;
   iii. Soil sample collection and analysis;
   iv. Monitoring well development;
   v. Field procedures;
   vi. Well location figures (general and specific); and
   vii. Proposed well construction diagrams.

4. **Sampling Design Plan**
   A basin-wide sampling design plan that is intended to gather representative data will need to include the following:
   a) Representative monitoring locations in:
      i. Each of the five major sub-basins of the Santa Rosa Plain (Wilson Grove, Cotati, Windsor, Rincon Valley, and Mayacamas Mountain Upland);
      ii. Each of the four major geologic formations underlying the Santa Rosa Plain (Glen Ellen Formation, Wilson Grove Formation, Sonoma Volcanics and Petaluma Formation);
      iii. Deep (>150' bgs) and shallow (<150' bgs) groundwater bearing units; and
      iv. Each of the major land use types identified in the SNMP;
   b) Methodologies for:
      i. Eliminating redundant data;
      ii. Data weighting to address sample representativeness and statistical significance;
   c) A well location map with depth dependent data;
   d) Given the importance of the shallow groundwater resource in the Santa Rosa Plain groundwater basin, siting criteria for any well locations should emphasize shallow groundwater assessment and data gaps in major land uses;

e) Wells should be identified based on purpose (e.g., DW for drinking water supply, E for evaluation, CD for contaminant detection, and CA for corrective action.);
f) Basin-wide water level/ water balance monitoring;
g) The *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy) was adopted by the State Water Board on June 19, 2012. The OWTS Policy includes some monitoring requirements, which should be considered in conjunction with Sonoma County as they develop a Local Agency Management Plan (LAMP) to maximize the efficiency and coordination of sampling activities in areas affected by both Recycled Water and OWTS policies.
h) Individual Waste Discharge Requirement (WDR)-related monitoring programs can and should be modified to facilitate consistent, scientifically defensible, and cost-effective regional groundwater monitoring programs while also maintaining a sufficient level of individual discharger monitoring to document compliance with applicable WDRs. Allowable modifications will generally be restricted to the following:
    i. Development of basin/sub-basin consistent compliance monitoring requirements (i.e., monitoring parameters/constituents and frequencies for water supply, influent, effluent, and receiving water including both groundwater and surface water for participating stakeholders subject to WDRs for similar types of discharges that are consistent with the regional groundwater monitoring program.

5. Primary Constituents of Concern

Consider an expansion of the primary constituents of concern to include

a) Electrical conductivity (EC)
b) pH
c) Nitrate,
d) Total Dissolved Solids (TDS),
e) Arsenic,
f) Sodium,
g) Chloride,
h) Sulfate, and
i) Boron

Additionally, to further evaluate baseline conditions consider monitoring of constituents of emerging concern per the Recycled Water Policy as amended by State Water Board Resolution No. 2013-0003. The amended Recycled Water Policy can be found at: http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/docs/rwp_revtoc.pdf

6. **Sampling Frequency**
   An appropriate sampling frequency plan commensurate with hydrogeological response times within groundwater while also sufficient enough to provide timely and ongoing compliance evaluations for applicable water quality objectives (e.g., reduction of sampling frequencies for deeper wells to annually or once every several years versus semiannual wet and dry season monitoring for shallow wells). The USGS basin characterization identified that shallow groundwater can be decades old while deeper water-bearing units can be centuries to millennia old; therefore, anthropogenic effects on water quality will be detected in shallower formations first. Additionally, any monitoring for constituents of emerging concern should be done at a reduced frequency as compared to the primary constituents of concern. Individual constituent monitoring for any compound(s) may be adjusted as data and trends become available and as funding are prioritized.

7. **Quality Assurance Project Plan**
   Quality assurance (QA) is an integrated system of management activities (i.e., planning, implementation, assessment, reporting, and quality improvement) that focuses on providing confidence in the data or product by ensuring that it is of the type and quality needed and expected by the client. Quality systems include elements such as responsibilities of management and staff as well as quality control and sample handling guidelines for both laboratory and field activities. Additional information can be found at the following State Water Board website. http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa

8. **Reporting**
   Consistent with an August 28, 2009, State Water Board Executive memorandum, Regional Water Board approval of SNMPs as implementation plans will be contingent in part on the electronic submittal of regional monitoring program data into the State Water Board's GAMA Program GeoTracker information system via Electronic Deliverable Format (EDF). EDF should be uploaded subsequent to the sampling events. This reporting arrangement is intended to streamline efforts and resources by reducing the need for submitting frequent technical reports congruent with sampling efforts. Pursuant to the Recycled Water Policy, technical reporting including trend analysis can be done triennially.

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