



South Orange County Wastewater Authority



February 22, 2016

VIA EMAIL (commentletter@waterboards.ca.gov)

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor
Sacramento, CA 95814

Re: Comment Letter – General Order for Recycled Water Use

Dear Ms. Townsend,

South Orange County Wastewater Authority (“SOCWA”) and its member agencies have reviewed the January 21, 2016 draft of the General Order for Water Reclamation Requirements for Recycled Water Use (Proposed Order) and we hereby join in and incorporate by reference the letter dated February 18, 2016 from California Association of Sanitation Agencies and Water Reuse.

SOCWA is a Joint Powers Authority consisting of ten member agencies in South Orange County including Moulton Niguel Water District, South Coast Water District, Irvine Ranch Water District, Santa Margarita Water District, Trabuco Canyon Water District, El Toro Water District, Emerald Bay Service District, City of Laguna Beach, City of San Clemente, and City of San Juan Capistrano (SOCWA’s “Member Agencies”). SOCWA’s mission is to collect, treat, beneficially reuse, and dispose of wastewater in an effective and economical manner that respects the environment, protects the public’s health and meets or exceeds all local, state and federal regulations to the mutual benefit of SOCWA’s member agencies and the general public in South Orange County.

SOCWA’s Member Agencies have been producing and using recycled water for landscape irrigation for over 45 years and they collectively provide recycled water to over 7,200 Use Sites. In 2014, SOCWA agencies produced and beneficially reused 17,664 acre feet of recycled water for landscape irrigation in Region 9, which is the highest level of recycled water production to date. Approximately 60 percent of local wastewater is recycled for irrigation, and this expanded production and use of recycled water has greatly reduced South Orange County’s

reliance on costly, imported water from the region's primary supply sources, Northern California and the Colorado River.

Given the beneficial use of recycled water, SOCWA is grateful to see that the State Board has changed the characterization of the requirements governing recycled water from "waste discharge requirements" to "water reclamation requirements." This terminology is important in changing the perception of recycled water and will ultimately help expand the use of recycled water in the State.

SOCWA, however, does have some concerns about the Proposed Order. First of all, we would reiterate CASA and WaterReuse's concern that the Proposed Order would no longer allow agencies "to elect to either (i) continue or expand coverage under existing orders or; (ii) apply for coverage under this General Order" which was negotiated language in the 2014 Order. Rather, under the Proposed Order, the Regional Board would have the discretion to decide whether the agency may continue to operate under existing orders:

"Dischargers covered under other existing orders (water reclamation requirements, master reclamation permits, general or individual waste discharge requirements, or waivers of waste discharge requirements) may continue to operate under that authority until requested by the Regional Water Board to either: (i) continue or expand coverage under existing orders or; (ii) apply for coverage under this General Order." (Finding 34, Purpose and Applicability, p. 15).

We respectfully request that you restore the language included in the 2014 Order allowing the agency to decide whether to continue coverage under its existing order or to apply for coverage under the General Order.

Furthermore, SOCWA is concerned about the O&M plan provision under Specification B.3 (p. 20) which states:

"Uses of recycled water with frequent or routine application (for example: agricultural or landscape irrigation uses) shall be at agronomic rates and shall consider soil, climate, and plant demand. In addition, application of recycled water and use of fertilizers shall be at a rate that takes into consideration nutrient levels in recycled water and nutrient demand by plants. The State or Regional Water Board may require the Administrator to submit an Implementation or Operations and Management Plan specifying agronomic rates and nutrient application for the use area(s) and a set of measures to ensure compliance with this General Order. An Administrator may submit a nutrient management plan developed to comply with another Waterboards' order, such as waste discharge requirements or a waiver regulating discharges from irrigated lands, in

lieu of an Implementation or Operations and Management Plan. Other uses of recycled water that are infrequent (for example: dust control, firefighting, hydrostatic testing, etc.) must also be addressed by a set of measures within an Implementation or Operations and Management Plan.”

This provision is (1) inconsistent with the State’s Recycled Water Policy and SOCWA’s Salt and Nutrient Management Plan (“SNMP”); (2) redundant of the requirements set forth in the Recycled Water Policy and SNMPs’ required Monitoring and Assessment Plan; and (3) an unnecessary over regulation of recycled water use sites with minimal, if any, resulting benefits.

Pursuant to the State’s current Recycled Water Policy (effective April 25, 2013), the State Water Resources Control Board (“State Water Board”) established a mandate to increase the use of recycled water in California by 200,000 acre foot per year (afy) by 2020 and by an additional 300,000 afy by 2030. “These mandates shall be achieved through the cooperation and collaboration of the State Water Board, the Regional Water Boards, the environmental community, water purveyors and the operators of publicly owned treatment works.” Recycled Water Policy at 3.

The State Water Board has further declared:

“It is the intent of this Policy that salts and nutrients from all sources be managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of beneficial uses. The State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.”

Recycled Water Policy at 5-6.

Furthermore,

“Salt and nutrient plans shall be tailored to address the water quality concerns in each basin/sub-basin and may include constituents other than salt and nutrients that impact water quality in the basin/sub-basin. Such plans shall address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects.”

Recycled Water Policy at 6.

Each salt and nutrient management plan must include a monitoring plan that is

“designed to determine water quality in the basin. The plan must focus on basin water quality near water supply wells and areas proximate to large water recycling projects, particularly groundwater recharge projects. Also, monitoring locations shall, where appropriate, target groundwater and surface waters where groundwater has connectivity with adjacent surface waters.”

Recycled Water Policy at 7-8.

Indeed, SOCWA’s SNMP Monitoring and Assessment Plan specifically addresses the following water quality management questions:

“3. What is the impact to the constituent concentrations in groundwater in the lower watershed HSAs caused by recycled water reuse for irrigation and recharge?

a) What is the change in groundwater quality over time? (requires monitoring)

b) Where in the basin is recycled water applied (parcel-level analysis)? (data provided by water agencies)

c) What is the volume and quality of recycled water used for irrigation in the lower watershed HSAs? (data provided by water agencies)

d) What is the volume and quality of other water used for irrigation in the lower watershed HSAs? (monitoring provided by water agencies and subsequent calculations)

e) What is the relative impact of recycled and other waters used for irrigation in the lower watershed HSAs? (calculation based on monitoring data)

f) What is the volume and quality of recycled water recharged in the lower watershed HSAs? (requires monitoring)

SOCWA’s SNMP at 8-5 (Section 8.3 Salt and Nutrient Management Monitoring and Reporting Program of the SNMP is attached hereto as Attachment 1).

As discussed above, pursuant to the Recycled Water Policy, “the State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or subregional salt and nutrient management plans rather than through imposing requirements solely on individual recycled water projects.” While the Proposed Order recognizes that “[b]asin-specific salt and nutrient management plans . . . will provide definitive information on where assimilative capacity is available,” it nevertheless allows the State or

Regional Water Board to require O&M Plans which would gather redundant information at great difficulty and significant costs.

SOCWA and its Member Agencies lack both regulatory authority and adequate resources to track the application of fertilizers at recycled water use sites and recycled water agencies may not be able to get cooperation from recycled water users to disclose fertilizer usage rates.¹ Even if SOCWA and its Member Agencies were able to collect this information, with over 7,200 Use Sites (nearly 3,000 in Region 9), the Proposed Amendments would be extremely onerous, time consuming, and expensive for SOCWA and all its member agencies currently or planning to use recycled water. The costs of collection would far outweigh the usefulness of the information since the accuracy of the data could not be verified.

Furthermore, pursuant to the Proposed Order, recycled water agencies may be required to set, track, and report the agronomic application rates of nitrogen on each individual use site along with whatever measures the State or Regional Board deems necessary to “ensure compliance with this General Order.” These requirements will essentially require recycled water agencies to micromanage use sites, which is impracticable, and they will interfere on a larger scale with overall operations and resource management of these agencies (e.g., water budgets and tiered rate structures).

These requirements are also of questionable value given all the nutrient monitoring and reporting that are already required by SOCWA’s SNMP as described above. The purpose of SNMPS are to “address and implement provisions, as appropriate, for all sources of salt and/or nutrients to groundwater basins, including recycled water irrigation projects and groundwater recharge reuse projects” and to monitor water quality particularly where “groundwater has connectivity with adjacent surface waters.”

In addition, SOCWA’s Member Agencies already have rules and regulations in place to prevent over-application of recycled water, perform periodic inspections of Use Sites, and continually educate their Use Site supervisors on the nutrient content and application of recycled water. We have found this education to be effective in optimizing recycled water use. As such, the O&M plan provision is redundant and unnecessary.

Although the O&M plan provision allows an “Administrator [to] submit a nutrient management plan developed to comply with another Waterboards’ order, such as waste discharge requirements or a waiver regulating discharges from irrigated lands, in lieu of an Implementation or Operations and Management Plan,” it does not appear that SOCWA’s SNMP

¹ SOCWA also has no control over fertilizer application in private and commercial usage where potable water is applied. This source is a far greater contributor to surface runoff.

would qualify as such a “nutrient management plan” since (1) the SNMP is a “salt and nutrient management plan,” and (2) the SNMP was not developed to comply with “another Waterboards’ order,” but rather, it was developed pursuant to the Recycled Water Policy and Region 9’s Basin Plan.

Note that through implementation of our SNMP, SOCWA has shown that the total nitrogen in our groundwater is well below drinking water standards. *See Attachment 2.*² This demonstrates that after four decades of increasing recycled water irrigation use, there is more than adequate assimilative nutrient capacity and effective nutrient management. Yet if the Proposed Order is adopted, SOCWA would potentially still need to track application rates of nitrate on an individual use site basis. Given the State Water Board’s goal of promoting greater recycled water use, it certainly could not have intended for Regional Boards to add these layers of redundant regulation to recycled water programs. Rather than facilitate the increased production of recycled water, the Proposed Order would, in effect, serve as an impediment to achieving the State’s recycled water goals. Thus, SOCWA and its Member Agencies suggest that the O&M plan provision should not be applicable to recycled water agencies with approved SNMPs with Monitoring and Assessment Plans which already address nitrogen in recycled water or Tier D or Sub Tier D Basins where SNMPs were not deemed appropriate pursuant to Region 9 Salt and Nutrient Management Plan Guidelines.³

In summary, we believe that the outreach and training that is already being implemented by our agencies coupled with our existing Monitoring and Assessment Plan pursuant to our SNMP have been extremely effective in reducing nitrogen in groundwater and surface water. As currently written, the Proposed Amendments will add unnecessary and expensive hurdles that will almost certainly constrain overall production and use of recycled water in contradiction of the State Water Resources Control Board’s Recycled Water Policy goals. As such, we respectfully ask that you reconsider the O&M provision in the Proposed Order.

² SOCWA’s SNMP (page 6-6) shows the wells in the San Juan Basin ranged between 0.04 mg/L and 17 mg/L Nitrate-N and the median value was 0.57 mg/L. Although one well exceeded the Basin Plan objective of 10 mg/L for drinking water, this well was associated with an underground storage tank contamination site. The spatial distribution of the nitrate-N statistics at the wells suggests that the ambient concentration is much less than the current objective of 10 mg/L and far below the proposed objective of 45 mg/L.

³ Note that the General Permit for Landscape Irrigation Uses of Municipal Recycled Water (SWRCB Order No. 2009.006-DWQ) exempts applicants from its monitoring and reporting requirements where the Regional Board has adopted a SNMP:

“For basins where the Regional Water Board has adopted a Salt and Nutrient Management Plan, compliance with any monitoring and reporting requirements of the Salt and Nutrient Management Plan is to be used in lieu of the monitoring schedule below.”

Should you have any questions concerning our comments, please feel free to contact Brennon Flahive, Director of Environmental Compliance at SOCWA, at (949) 234-5419 or bflahive@socwa.com.

Sincerely,

A handwritten signature in blue ink that reads "B. Burnett". The signature is written in a cursive style with a large, stylized initial "B".

Betty Burnett
General Manager
South Orange County Wastewater Authority

South Orange County Wastewater Authority

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Attachment 1

8.0 Salt and Nutrient Management Plan Implementation

2. What is the impact to the constituent concentrations in stormwater recharged in the lower watershed HSAs caused by increasing recycled water reuse in the upper watershed HSAs?
 - a) What is the volume and quality of stormwater flowing over and recharging groundwater in the lower watershed HSAs? (requires monitoring)
3. What is the impact to the constituent concentrations in groundwater in the lower watershed HSAs caused by recycled water reuse for irrigation and recharge?
 - a) What is the change in groundwater quality over time? (requires monitoring)
 - b) Where in the basin is recycled water applied (parcel-level analysis)? (data provided by water agencies)
 - c) What is the volume and quality of recycled water used for irrigation in the lower watershed HSAs? (data provided by water agencies)
 - d) What is the volume and quality of other water used for irrigation in the lower watershed HSAs? (monitoring provided by water agencies and subsequent calculations)
 - e) What is the relative impact of recycled and other waters used for irrigation in the lower watershed HSAs? (calculation based on monitoring data)
 - f) What is the volume and quality of recycled water recharged in the lower watershed HSAs? (requires monitoring)
4. What is the impact to the constituent concentrations of groundwater in the lower watershed HSAs caused by leaching from natural aquifer materials?
 - a) What is the volume and quality of each recharge component to the basin? (new monitoring, existing monitoring provided by water agencies and subsequent calculations)
 - b) What is the change in groundwater quality over time? (requires monitoring)
5. Are the CECs identified by the California Department of Public Health's (CDPH's) Blue Ribbon Panel present in detectable concentrations in the San Juan Watershed?

8.3.2 General Monitoring Program and Data Collection Components

The complete monitoring program will be developed during the first few tasks of SNMP implementation (see Section 8.4). The following bullets describe the type of data that will be collected and the minimum frequency of monitoring during initial program implementation.

- *Recycled water use*: develop a GIS database of recycled water reuse sites, water sources, water volume served, and water quality.
- *Other water use*: develop a database of water sources, supply volumes, and water quality in the San Juan Watershed.
- *Surface water (non-storm flow)*: quarterly sampling during non-storm periods for the first two years and potentially reduced frequency sampling thereafter based on chemical constituent variability and amounts of recycled water used in the watershed tributary to the measuring point. CEC's will be sampled at least once per year.
- *Surface water (storm flow)*: two to three storm events per drainage area (Oso, Arroyo Trabuco, San Juan, Horno, Chiquita, Gobernadora, Bell Canyon, Cristianitos); target 2 to 3 drainage areas per year. Modify stormwater monitoring frequency after all drainage areas evaluated based on chemical constituent variability and amounts of recycled water used in the drainage area.

- *Groundwater*: quarterly sampling at wells for the first two years and potentially reduced frequency thereafter based on chemical constituent variability and amounts of recycled water used in the watershed tributary to the well. CEC's will be sampled at least once per year.

8.4 SALT AND NUTRIENT MANAGEMENT IMPLEMENTATION PLAN AND SCHEDULE

The SNMP implementation steps are described below and include an annotation of the stakeholder responsible for implementing the task, the estimated duration of the task, and when the task would be completed relative to notice to proceed with the implementation plan. **Figure 8-1** is a graphical representation of the proposed components of the implementation plan and schedule.

Continued compliance with Recycled Water Limitations in Order 97-52, and subsequent revisions.

Middle Trabuco Basin Plan Amendment. Provide assistance and prepare the necessary documentation to support the Regional Board in amending the Basin Plan to raise the TDS objective in the Middle Trabuco HSA. This task will be implemented by the SJBA, whose member agencies represent the majority of recycled water users in the Middle Trabuco HSA (CSJC, MNWD, and SMWD). The SJBA will work with the additional recycled water users (TCWD), as necessary, to implement this task. Duration: up-to one year from the submittal of the SNMP to the Regional Board.

Middle San Juan Analysis. Work with private entities to obtain existing groundwater data and perform a salt loading and antidegradation analysis in support of permitting recycled water use in the Middle San Juan HSA. This task will be implemented by the SMWD, whose service area encompasses the entire HSA and will serve recycled water to the private entities. Duration: the timing of this task will be coordinated with plans for recycled water use in the area.

Continue to implement individual groundwater and surface water monitoring programs. During the year it will take to develop the cooperative, watershed-wide monitoring program, each individual agency will continue to implement their individual monitoring programs. Duration: until new monitoring program is complete and being implemented (see following steps).

Monitoring Program Development

Step 1. Perform comprehensive survey of existing groundwater and surface water monitoring efforts in the entire watershed. This task will be implemented by the SJBA. Duration: three months.

Step 2. Develop a GIS database of recycled water reuse sites in the SNMP study area. This task will be implemented by the SJBA. Duration: three months.

Step 3. Identify spatial and temporal data gaps and canvass the watershed for sites that should be monitored, but that are not currently a part of an existing monitoring program. This task will be implemented by the SJBA. Duration: two months, after development steps (1) and (2) completed; cumulatively five months from notice to proceed.

Step 4. Recommend a comprehensive monitoring plan that answers the SNMP questions and that does not duplicate efforts of other agencies. This may include recommendations to add new surface water monitoring locations or construct new groundwater monitoring wells. Submit the plan to the Regional Board for approval. This task will be implemented by the SJBA. Duration: two months, after development step (3) completed; cumulatively seven months from notice to proceed.

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Attachment 2

developed herein as the spatial distribution of the point nitrate-N statistics was judged to be insufficient to scientifically characterize the spatial distribution of nitrate-N.

Compute volume-weighted ambient concentration. The 15x15 meter grids were draped over the basin and TDS concentrations were estimated for each grid cell using a topo-to-raster interpolation scheme in the Geospatial Analyst extension to ArcGIS. Figure 6-2 is map showing the interpolated TDS concentrations of groundwater across the storage area. Ambient water quality was then calculated using the following formula:

$$C_{avg} = \left(\frac{1}{V_T} \right) \cdot \sum C_i \cdot V_i$$

where,

C_{avg} = the ambient concentration of TDS in the Lower San Juan Basin

V_T = the total volume of groundwater within the Lower San Juan Basin ($\sum V_i$)

C_i = the concentration in grid cell i

V_i = the volume of water stored in grid cell i

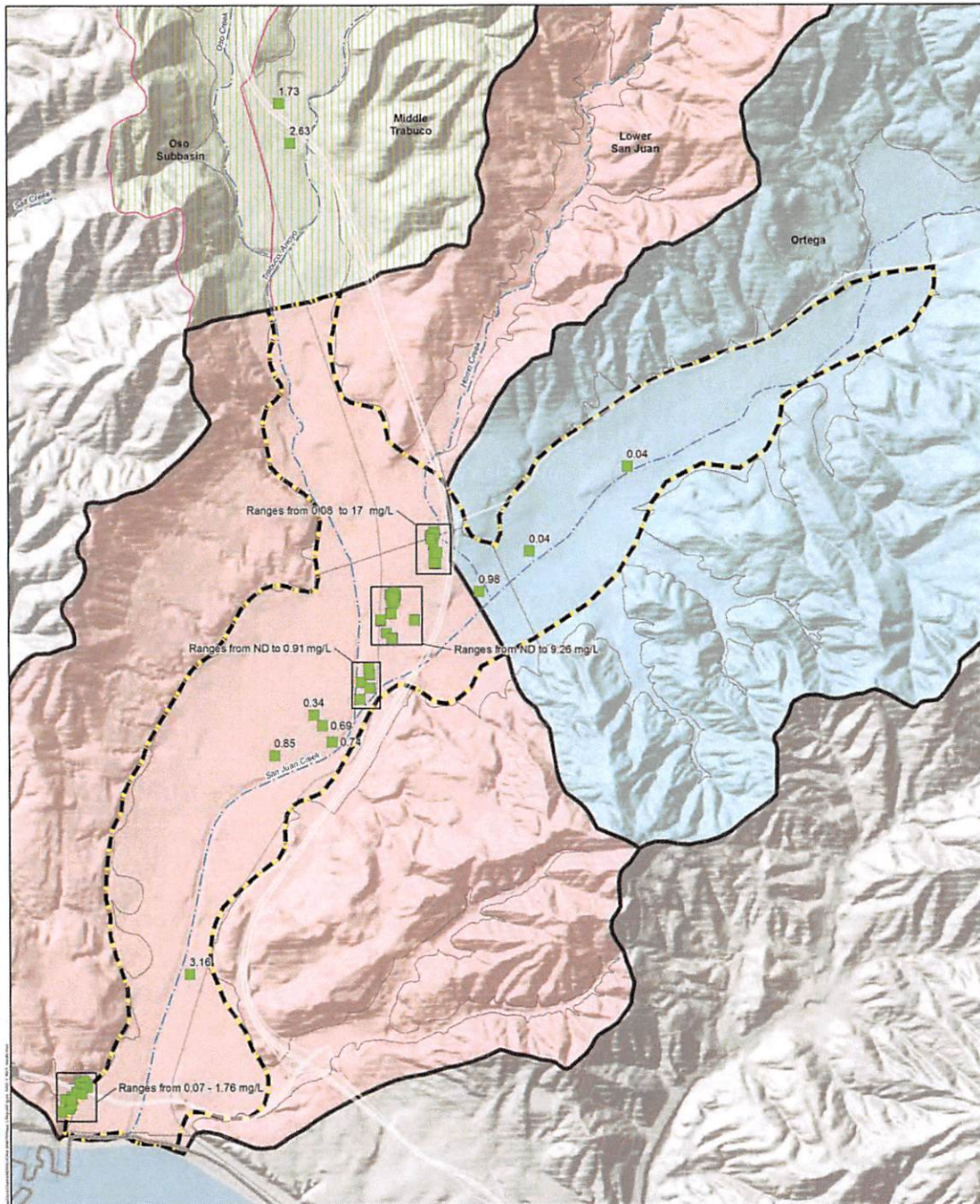
Results

Total Dissolved Solids. The 2011 ambient TDS concentration of the entire Lower San Juan Basin averages about 1,600 mg/L. The storage area was further broken down by HSA to compare the volume-weighted ambient TDS concentration with the water quality objectives of the Basin Plan (see Figure 6-2).

Lower San Juan HSA. The water quality objective of the Lower San Juan HSA is 1,200 mg/L. The ambient TDS concentration of groundwater in the Lower San Juan HSA is about 1,700 mg/L. Thus, there is no assimilative capacity for TDS.

Ortega HSA. The water quality objective of the Ortega HSA is 1,100 mg/L. The ambient TDS concentration of groundwater in the Ortega HSA is about 1,400 mg/L. Thus, there is no assimilative capacity for TDS.

Nitrate as Nitrogen. There was an insufficient distribution of wells with nitrate-n statistics to draw isoconcentration contours of nitrate-N in the Lower San Juan Basin as was done for TDS. Thus, no HSA-wide ambient nitrate-N concentration was computed. The 2011 nitrate-N statistic values at wells ranged between 0.04 mg/L and 17 mg/L and the median value is 0.57 mg/L. Only 1 well exceeded the Basin Plan objective of 10 mg/L. This well was associated with a leading underground storage tank (LUST) contamination site and may have been influenced by conditions at the LUST. The spatial distribution of the nitrate-N statistics at wells suggests that the ambient concentration is much less than the nitrate-N objective of 10 mg/L and therefore there is assimilative capacity for nitrate-N in the Lower San Juan Basin.



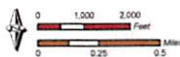
- Main Features**
- Well with NO3 Statistic
 - Level of SNMP Analytical Focus
 - ▭ Level 3
 - ▭ Level 4
 - ▭ San Juan Basin
 - ~ Streams and Creeks
 - ▭ Level 4 Groundwater Storage Area



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Author: LBB
 Date: 20130504
 File: TDS_contours.mxd



SOCWA
 South Orange County Watershed Authority
 2013 Salt and Nutrient
 Management Plan

Nitrate - Nitrogen Statistics

Figure 6-3