

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0088
FOR
NORTH OF RIVER SANITARY DISTRICT NO. 1
AND
SILLS PROPERTIES, INC.
WASTEWATER TREATMENT FACILITY AND
WATER RECLAMATION
KERN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Central Valley Water Board), finds that:

1. Waste Discharge Requirements (WDRs) Order No. 92-016, adopted by the Central Valley Water Board on 24 January 1992, for North of River Sanitary District No. 1 (District) was to regulate its previous wastewater treatment facility (WWTF) located west of Oildale, in Kern County. The District serves the North of River Sanitary District Service Area, the City of Shafter, and certain portions of the County of Kern Service Area 71 (CSA-71).
2. WDRs Order No. 92-016 authorized a discharge of 5.5 million gallons per day (mgd) of undisinfected secondary treated wastewater from the old WWTF to four 32.5-acre unlined storage ponds with a combined capacity of 1,488 acre-ft and to 780 acres of Reclamation Area owned and operated by the District. Water Reclamation Requirements (WRRs) Order No. 92-019 regulates 1,565 acres of Reclamation Area owned and operated by Sills Properties, Inc., a California Corporation. The Reclamation Area encompasses a total of 2,345 acres of farmland.
3. In August of 1999, the District completed construction of a new WWTF near its effluent reclamation land and storage ponds and abandoned its previous WWTF. The new WWTF is in the Northwest Quarter of Section 36, Township T28S, Range R24E, MDB&M, and three and a half miles west of the City of Shafter as shown on Attachment A, which is attached hereto and made part of this Order by reference.
4. In December 2008, the District submitted a Report of Waste Discharge (RWD) for a proposed expansion of its WWTF from 5.5 mgd to 7.5 mgd. The RWD proposed to construct an additional lined storage pond and mechanical dewatering facilities.
5. WDRs Order No. 92-016 needs to be updated to ensure that the discharge is consistent with Central Valley Water Board plans and policies and prescribe requirements that reflect changes the District has made to its WWTF and water recycling operation.

6. The District is the primary entity responsible for the maintenance and operation of the WWTF. Sills Properties, Inc. is the primary entity, and the District is the secondary entity, responsible for the application of recycled wastewater and compliance with the water recycling requirements of this Order. North of River Sanitary District No. 1 and Sills Properties, Inc. are hereafter jointly referred to as Discharger.

Existing Wastewater Treatment Facility

7. The existing WWTF consists of a headworks with two mechanical bar screens, a lift station, a vortex grit removal system, addition of coagulant (Ferric Chloride) and Polymer, a primary clarifier, a plastic media tricking filter, a secondary clarifier, primary and secondary sludge digesters operating in series, and fourteen unlined sludge drying beds. The effluent is then used to irrigate alfalfa, wheat, and corn that are used as fodder, fiber, and seed crop for nonhuman consumption. When irrigation demand is low, effluent is sent to Storage Ponds 1 and 3. A schematic plan of the WWTF is shown on Attachment B, which is attached hereto and made part of this Order by reference.
8. The expansion of the WWTF proposes a discharge of 7.5 mgd of undisinfected secondary treated wastewater to four 32.5-acre unlined storage ponds with a combined capacity of 1,488 acre-ft, and to 2,380 acres of farmland, of which 1,740 acres (Assessor's Parcel Nos. 088-210-01, 088-180-02, 088-180-34, 088-180-06, 088-180-07, 088-180-10, 088-180-12, 090-240-01, 090-240-20, 090-240-18, 090-240-21, 090-240-04, 090-140-08, 090-240-08, 090-240-07, 090-240-17, and 090-270-07) are own and operated by Sill Properties, Inc. The other 640 acres (Assessor's Parcel Nos. 088-210-06, and 088-210-05) are owned by the District and operated by Sill Properties, Inc.
9. The water and nitrogen balance in the RWD was based on an assumption that the existing ponds would be retrofitted with liners and indicates that a 21 acre lined storage pond with an approximate capacity of 270 acre-ft would need to be constructed to accommodate the flow increase to 7.5 mgd. If the WWTF were to utilize all of its current unlined storage pond capacity, the release of waste constituents to soil from the impounded effluent could potentially degrade groundwater.
10. The Discharger has fourteen unlined sludge drying beds and is proposing to construct mechanical dewatering facilities. The existing sludge drying beds will be used for dried sludge staging prior to land application. The Discharger applies sludge as a soil amendment to 80 acres of its land.

11. Self-Monitoring data from January 2006 to December 2008 contained in the Discharger's Self-Monitoring Reports (SMRs) characterize the discharge as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Influent</u>	<u>Effluent</u>
Electrical Conductance (EC)	µmhos/cm	---	818
Five-day Biochemical Oxygen Demand (BOD ₅)	mg/L	208	34
Total Suspended Solids (TSS)	mg/L	315	18

Sanitary Sewer Overflows

12. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the treatment facility. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.
13. On 2 May 2006, the State Water Resources Control Board (hereafter State Water Board) adopted General Sanitary Sewer Order (State Water Board Water Quality Order No. 2006-0003-DWQ, "General Waste Discharge Requirements for Sanitary Sewer Systems"). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with this order. The Discharger's collection system is greater than one mile in length; therefore, the Discharger applied for, and is covered by, the General Order.

Water Recycling

14. The Reclamation Area currently consists of approximately 2,380 acres of available farmland, of which 1,950 acres are utilized to grow crops: 1,080 acres are used to grow alfalfa, 490 acres to grow wheat, and 380 acres to grow corn. Wheat and corn are grown in a double crop fashion. These crops are used as fodder, fiber, and seed crop for nonhuman consumption.
15. Nitrogen uptake rates for alfalfa, wheat, and corn are 480, 175, and 250 lbs/acre/year, respectively, based on the *Western Fertilizer Handbook, 9th Edition*.
16. At the permitted flow of 7.5 mgd, and an average effluent nitrogen concentration of 27 mg/L, the total nitrogen loading to the 1,950 irrigated acres of the Reclamation Area is about 316 lbs/acre/year. The nitrogen loading will not exceed the crop nitrogen uptake rates, based on the current cropping distribution.

Site-Specific Conditions

17. The WWTF and Reclamation Area are in an arid climate characterized by dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during spring and fall months, but summer months are dry. Average annual precipitation and evaporation in the discharge area are about 4 inches and 65 inches, respectively, according to information published by the California Department of Water Resources (DWR).
18. Soils in the Reclamation Area are predominately Garces Silt Loam, followed by Panoche Clay Loam, according to the Web Soil Survey published by the United States Department of Agriculture Natural Resources Conservation Services. Garces Silt Loam and Panoche Clay Loam have been assigned a land capacity classification of 3s and 2s, respectively. These soils have severe to moderate limitations that restrict the choice of plants and require moderate conservation practices. These soils also have limitations within the root zone, such as shallowness of the root zone, a high content of stones, a low available water capacity, low fertility, or excessive salinity.
19. Land uses in the vicinity of the WWTF include: pasture, field crops, and vineyard, according to the Kern County 1998 Land Use Map published by the DWR. This is not a definitive inventory of crops that are or could be grown in the area. A detailed land use study to identify specific crops grown in the area is needed.
20. The WWTF is located outside the 100-year floodplain according to Federal Emergency Management Agency maps. However, the WWTF is located within Zone X, with a 1% annual chance of inundation with water depths of one foot or less.
21. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System general industrial storm water permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.

Groundwater Considerations

22. The quality of groundwater in the area is unclear. A 1999 Water Supply Report developed by the Kern County Water Agency (KCWA) published in May 2003 was reviewed, but flow gradient and specific water quality information for the area around the WWTF could not be determined from the report. Regional maps in the report indicate that TDS is approximately 500 mg/L in the unconfined aquifer, which is equivalent to an EC of about 770 $\mu\text{mhos/cm}$ ($\text{EC} = \text{TDS}/0.65$). As discussed below, site specific data indicates groundwater is of poorer quality; however, further studies are needed.

23. The groundwater-monitoring network at the WWTF consist of two groundwater monitoring wells (MW-1 and MW-2). The depths to groundwater in MW-1 and 2, as reported in the RWD, are approximately 200 and 250 feet below ground surface (bgs), respectively. Flow gradient of first encountered groundwater cannot be determined with two monitoring wells; a minimum of three wells are needed.
24. Average concentrations for constituents of concern based on monitoring well data from January 2006 to June 2008 are presented below:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>MW-1</u>	<u>MW-2</u>
EC	µmhos/cm	2,967	1,867
Total Dissolved Solids	mg/L	2,567	1,270
Chloride	mg/L	623	310
Sodium	mg/L	243	223
NO ₃ (as N)	mg/L	52	32

25. The Discharger's groundwater-monitoring network is inadequate. Both monitoring wells have multiple screen intervals, which does not provide an adequate representation of groundwater quality. Further, multiple screen intervals can provide inaccurate readings of groundwater depth. Background quality of first-encountered groundwater beneath the WWTF and Reclamation Area is unclear. The District needs to conduct a groundwater investigation to characterize the occurrence, gradient, and quality of first-encountered groundwater, and at what depth it occurs.
26. Source water samples are collected from water wells that supply the District's Service Area. Source water EC was reported at 252 µmhos/cm in 2006; 544 µmhos/cm in 2007; 381 µmhos/cm in 2008; and 432 µmhos/cm in 2009.

Basin Plan, Beneficial Uses, and Water Quality Objectives

27. The *Water Quality Control Plan for the Tulare Lake Basin, Second Edition, revised January 2004* (hereafter Basin Plan) designates beneficial uses, establishes narrative and numerical water quality objectives, contains implementation plans and policies for protecting all waters of the Basin, and incorporates, by reference, plans and policies of the State Water Resources Control Board (State Water Board). Pursuant to Section 13263(a) of the California Water Code (CWC), these requirements implement the Basin Plan.
28. Water in the Tulare Lake Basin is in short supply, requiring importation of surface water from other parts of the State. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an

acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.

29. The WWTF is in Detailed Analysis Unit (DAU) No. 255 within the Kern Basin hydrologic unit. The Basin Plan identifies the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service supply, and wildlife habitat supply.
30. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, require waters designated as municipal and domestic supply to meet the maximum contaminant levels (MCLs) specified in Title 22 of the California Code of Regulations (CCR). The Basin Plan recognizes that the Central Valley Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.
31. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Taste and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.
32. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:
 - a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC of the discharge shall not exceed the EC of the source water plus 500 $\mu\text{mhos/cm}$. When the source water is from more than one source, the EC shall be a weighted average of all sources.
 - b. Discharges to areas that may recharge good quality groundwater shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, a chloride content of 175 mg/L, or boron content of 1.0 mg/L.These effluent limits are considered best practicable treatment or control (BPTC).
33. The Basin Plan requires municipal WWTFs that discharge to land to comply with treatment performance standards for BOD₅ and TSS. WWTFs that preclude public

access and are greater than 1 mgd must provide removal of 80 percent or reduction to 40 mg/L, whichever is more restrictive, for both BOD₅ and TSS.

Antidegradation Analysis

34. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Water of the State") (hereafter Resolution No. 68-16) prohibits degradation of groundwater unless it has been shown that:
 - a. The degradation is consistent with the maximum benefits to the people of the State;
 - b. The degradation will not unreasonable affect present and anticipated future beneficial uses;
 - c. The degradation does not result in water quality less than that prescribed in State and regional policies, including violation of one or more water quality objectives; and
 - d. The Discharger employs BPTC to minimize degradation.

35. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impacts on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, and therefore sufficient reason to accommodate growth and groundwater degradation provided terms of the Basin Plan are met.

36. Constituents of concern in the discharge that have the potential to degrade groundwater include salts and nutrients. This Order establishes terms and conditions of discharge to ensure that the discharge does not unreasonably affect present and anticipated uses of groundwater and includes groundwater limitations that apply water quality objectives established in the Basin Plan to protect beneficial uses. The discharge will likely not impair the beneficial uses of groundwater because:
 - a. For nitrogen, shallow groundwater already contains nitrate concentrations in excess of water quality objective as a result of previous discharges and agricultural practices in the area. This Order includes a time schedule to meet an effluent nitrogen limit of 10 mg/L and/or demonstrate management practices to preclude any further degradation for nitrate.

- b. For Salinity, the Basin Plan contains effluent limits for EC of source water plus 500 $\mu\text{mhos/cm}$ and 1,000 $\mu\text{mhos/cm}$ maximum for discharges to areas that may recharge to good quality groundwater. These limits considered the antidegradation policy when adopted. Effluent from the WWTF is approximately 820 $\mu\text{mhos/cm}$. This meets the Basin Plan limits and is less than the lowest secondary MCL. Based on the existing monitoring network, shallow groundwater is of marginal quality with EC concentrations that appears to be greater than 1,000 $\mu\text{mhos/cm}$. If this represents background, degradation will not occur. If further groundwater studies indicate natural background quality for salinity is less than the quality of the effluent (820 $\mu\text{mhos/cm}$), this Order will be reopened to consider degradation.

Treatment and Control Practices

37. The WWTF described in Finding Nos. 7 through 11, will provide treatment and control of the discharge that incorporates:
 - a. secondary treatment;
 - b. pretreatment monitoring and compliance assessment;
 - c. recycling of wastewater for crop irrigation;
 - d. appropriate biosolids handling and treatment for reuse;
 - e. an operation and maintenance (O&M) manual;
 - f. certified operators to ensure proper operation and maintenance; and
 - g. discharge and groundwater monitoring.

Water Recycling Criteria

38. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. The California Department of Public Health (DPH), which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, CCR, Section 60301 et seq., (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses. Revisions of the water recycling criteria in Title 22 became effective on 2 December 2000. The revised Title 22 expands the range of allowable uses of recycled water, establishes criteria for these uses, and clarifies some of the ambiguity contained in the previous regulations.

39. A 1988 Memorandum of Agreement (MOA) between DPH and State Water Resources Control Board (State Water Board) on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.
40. State Water Board Resolution No. 77-1, "Policy with Respect to Water Recycling in California," encourages recycling projects that replace or supplement the use of fresh water, and the Water Recycling Law (CWC Sections 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
41. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.
42. Title 22, Section 60323 requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. Central Valley Water Board files do not contain a Title 22 Engineering Report for the Discharger's water reclamation operation. A provision requiring the Discharger to submit a Title 22 engineering report is included in this Order.

Other Regulatory Considerations

43. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations (CFR), Part 503, Standards for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA.
44. As the discharge consists of treated domestic sewage and incidental discharges from treatment and storage facilities associated with a domestic wastewater treatment plant, and as these discharges are regulated by waste discharge requirements, and these discharges are consistent with applicable water quality objectives, the WWTF and its discharge is exempt from containment pursuant to Title 27, section 20090(a).

CEQA

45. North of River Sanitary District No. 1 adopted a Negative Declaration on 18 October 1989, in accordance with the California Environmental Quality Act (CEQA), for the expansion of a regional WWTF to an ultimate capacity of 12 mgd.
46. Central Valley Water Board staff reviewed the Negative Declaration and found it did not fully address potential impacts on groundwater from the project. The Central Valley Water Board, as a responsible agency under CEQA, has included in this Order effluent limits for salinity, BOD₅, TSS, and nitrogen, and groundwater limits for nitrate, EC, and other constituents with MCLs, taste and odor producing, and toxicity constituents. Compliance with these limits will mitigate any significant impacts to water quality.

General Findings

47. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.
48. The Central Valley Water Board will review this Order periodically and will revise requirements when necessary.
49. CWC Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the [Central Valley Water Board] may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the [Central Valley Water Board] requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the [Central Valley Water Board] shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."
50. The technical reports required by this Order and the attached Monitoring and Reporting Program (MRP) No. R5-2009-0088 are necessary to assure compliance with these waste discharge requirements. The Discharger operates the WWTF that discharges the waste subject to this Order.
51. The DWR set standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and

any more stringent standards adopted by the State or county pursuant to CWC Section 13801, apply to all monitoring wells.

Public Notice

52. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
53. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
54. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that Waste Discharge Requirements Order No. 92-016 and Water Reclamation Requirements Order No. 92-019 are rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, North of River Sanitary District No. 1 and Sils Properties, Inc. and their agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of waste to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, E.2 is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in Section 2521(a) of Title 23, CCR, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated', as defined in CWC Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

B. Effluent Limitations

1. The effluent discharge shall not exceed the following limitations:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>
BOD ₅ ¹	mg/L	40	80
TSS ²	mg/L	40	80
Chloride	mg/L	175	---

¹ Five-day biochemical oxygen demand

² Total suspended solids

2. The arithmetic mean of BOD₅ and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period (80 percent removal).
3. The 12-month rolling average EC of the discharge shall not exceed the 12-month rolling average EC of the source water plus 500 µmhos/cm. Compliance with this effluent limitation shall be determined monthly.
4. After the expansion of the WWTF is complete, the Total Nitrogen of the discharge shall not exceed the monthly average of 10 mg/L unless Provision H.26 is satisfied.

C. Discharge Specifications

1. The monthly average discharge flow shall not exceed 7.5 mgd.
2. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100 year return frequency.
3. Public contact with effluent (treatment works, Ponds, Reclamation Area) shall be precluded through such means as fences, signs (in accordance with Title 22, CCR Section 60310(g)), or acceptable alternatives.
4. Objectionable odors shall not be perceivable beyond the limits of the WWTF property at an intensity that creates or threatens to create nuisance conditions.
5. Effluent storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. Design seasonal precipitation shall be based on total annual

precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

6. On or about **1 October** of each year, available disposal pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification C.5.
7. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.
 - c. Dead algae, vegetation and other debris shall not accumulate on the water surface.
 - d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April to 30 June bird nesting season.
8. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of groundwater limitations.

D. Recycling Specifications

The following Specifications apply to the Reclamation Area under the ownership or control of the Discharger.

1. Use of undisinfected secondary treated recycled water shall be limited to flood irrigation of fodder, fiber, and seed crops not eaten by humans or for gazing of non-milking cattle and shall comply with the provisions of Title 22.
2. The Discharger will maintain the following setback distances from areas irrigated with recycled water:

<u>Setback Distance (feet)</u>	<u>To</u>
25	Property Line
30	Public Roads
50	Drainage Courses
100	Irrigation Wells
150	Domestic Wells

3. No physical connection shall exist between recycled water piping and any domestic water supply or domestic well, or between recycled water piping and any irrigation well that does not have an air gap or reduce pressure principle device.
4. The perimeter of the Reclamation Area shall be graded to prevent ponding along public roads or other public areas and prevent runoff onto adjacent properties not owned or controlled by the Discharger.
5. Areas irrigated with recycled water shall be managed to prevent nuisance conditions or breeding of mosquitoes. More specifically:
 - a. All applied irrigation water must infiltrate completely within a 48-hour period;
 - b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation; and
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.
6. Recycling of WWTF effluent shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management plan. The annual nutrient loading to the Reclamation Area, including the nutritive value of organic and chemical fertilizers and recycled water, shall not exceed crop demand.
7. Public contact with recycled water shall be controlled using signs and/or other appropriate means. Signs of a size no less than four inches high by eight inches wide with proper wording (shown below) shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall display an international symbol similar to that shown in Attachment C, as part of this Order, and present the following wording:

“RECYCLED WATER – DO NOT DRINK”

“AGUA DE DESPERDICIO RECLAMADA – POR FAVOR NO TOME”

E. Sludge Specifications

Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advance wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has undergone sufficient treatment and testing to quality for reuse pursuant

to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal plant operation.
2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property.
3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitation of this Order.
4. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements will satisfy this Specification.
5. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a Regional Water Board or the State Water Board or a local (e.g., county) program authorized by a Regional Water Board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ, "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Applicability for each project.
6. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

F. Pretreatment Requirements

1. The Discharger shall implement the necessary legal authorities, programs and controls to ensure that the following incompatible waste are not introduced to the treatment system, where incompatible wastes are:
 - a. Wastes that create a fire or explosion hazard in the treatment works;

- b. Wastes that will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0, unless the works is specially designed to accommodate such wastes;
 - c. Solid or viscous wastes in amounts that cause obstruction to flow in sewers, or which cause other interference with proper operations or treatment works;
 - d. Any waste, including oxygen demanding pollutants (BOD₅, etc.), released in such volume or strength as to cause inhibition or disruption in the treatment works, and subsequent treatment process upset and loss of treatment efficiency;
 - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works, or that raise influent temperatures above 40°C (104°F), unless the treatment works is designed to accommodate such heat;
 - f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
 - g. Pollutants that result in the presence of toxic gases, vapors, or fumes within the treatment works in a quantity that may cause acute worker health and safety problems; and
 - h. Any trucked or hauled pollutants, except at points predesignated by the Discharger.
2. The Discharger shall implement the controls necessary to ensure that the following incompatible wastes are not introduced to the treatment system, where incompatible wastes are:
- a. Flow through the system to the receiving water in quantities or concentrations that cause a violation of this Order, or
 - b. Inhibit or disrupt treatment processes, treatment system operations, or sludge processes, use, or disposal and either cause a violation of this Order or prevent sludge use or disposal in accordance with this Order.

G. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the discharge shall not cause or contribute to groundwater:
 - a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality whichever is greater:

- (i) Nitrate as nitrogen of 10 mg/L.
 - (ii) Total Coliform Organisms of 2.2 Most Probable Number /100 mL.
 - (iii) For constituents identified in Title 22, the MCLs quantified therein.
- b. Containing taste or odor-producing constituents, toxic substances, or any other constituents in concentrations that cause nuisance or adversely affect beneficial uses.

H. Provisions

1. The Discharger shall comply with the *Standard Provisions and Reporting Requirements for Waste Discharge Requirements*, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provision(s).
2. The Discharger shall comply with MRP No. R5- 2009-0088, which is part of this Order, and any revisions thereto as adopted by the Central Valley Water Board or approved by the Executive Officer. The submittal date shall be no later than the submittal date specified in the MRP of the Discharger self-monitoring reports.
3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.
4. The Discharger shall not allow pollutant-free wastewater to be discharged into the Facility collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.
5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of this Order.
6. All technical reports and work plans required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper

application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications and responsible registered professional(s). As required by these laws, completed technical reports and work plans must bear the signature(s) and seal(s) of the registered professionals(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Central Valley Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Central Valley Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.
9. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Central Valley Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
10. As a means of discerning compliance with Discharge Specification C.4, the dissolved oxygen (DO) content in the upper one foot of any wastewater pond shall not be less than 1.0 mg/L for three consecutive days. Should the DO be below 1.0 mg/L during a weekly sampling event, the Discharger shall take all reasonable steps to correct the problem and commence daily DO monitoring in the affected ponds until the problem

has been resolved. If unpleasant odors originating from affected ponds are noticed in developed areas, or if the Discharger received one or more odor complaints, the Discharger shall report the findings in writing within 5 days of the date and shall include a specific plan to resolve the low DO results to the Central Valley Water Board within 10 days of that date.

11. The pH of the discharge shall not be less than 6.5 or greater than 8.3 pH units for more than three consecutive sampling events. In the event that the pH of the discharge is outside of this range for more than three consecutive sampling events, the Discharger shall submit a technical evaluation in its monthly SMRs documenting the pH of the discharge to the reclamation area, and if necessary demonstrate that the effect of the discharge on soil pH will not exceed the buffering capacity of the soil profile.
12. The District shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and condition of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain in each pond permanent markers with calibration that indicates the water level at design capacity and enables determination of available operational freeboard.
13. The Discharger shall submit the technical reports and work plans required by this Order for Central Valley Water Board staff consideration and incorporate comments they may have in a timely manner, as appropriate. The Discharger shall proceed with all work required by the following Provisions by the due dates specified.
14. The Discharger shall comply with Statewide General Waste Discharge Requirements For Sanitary Sewer Systems, Water Quality Order No. 2006-0003-DWQ.
15. **By 1 January 2010**, and periodically thereafter (but not less than once every **five years**) the Discharger shall document its efforts to promote new or expanded wastewater recycling and reclamation opportunities.
16. **By 1 January 2010**, the District shall submit a Work Plan evaluating the existing groundwater network and its effectiveness to investigate the areas affected and potentially affected by the WWTF and its discharge(s) to land. Based on the evaluation, the Work Plan shall propose a time schedule for additional groundwater monitoring wells, as appropriate.

The Work Plan shall satisfy the information needs specified in the monitoring well installation section of Attachment D, *Standard Monitoring Well Provisions for Waste Discharge Requirements*.

17. **By 1 June 2010**, complete well installation and commence groundwater monitoring in accordance with the Work Plan submitted pursuant to Provision H.16 and Monitoring and Reporting Program No. R5-2009-0088.
18. **By 1 July 2010**, submit a monitoring well installation report that meets the requirements of Attachment D.
19. **By 1 January 2010**, the Discharger shall submit a technical report describing a sludge management plan that satisfies the information requirements of Attachment E, *Sludge Management Plan*.
20. **By 1 January 2010**, the District shall submit a Work Plan and time schedule for installation of its proposed mechanical dewatering facilities and elimination of the use of unlined sludge drying beds.
21. **By 1 June 2010**, the Discharger shall submit a technical report describing the results of a detailed land use study that identifies: crops grown around the WWTF, regional cropping patterns, detailed soil classifications, and appropriate concentrations of salinity constituents in irrigation water that will be protective of all crops grown in the vicinity.
22. The District shall comply with all pretreatment requirements contained in 40 CFR 403 and shall be subject to enforcement actions, penalties, fines, and other remedies by the U.S. EPA or other appropriate parties, as provided in the Clean Water Act, as amended. The Discharger shall implement and enforce its Publicly-Owned Treatment Works (POTW) Pretreatment Program once approved, which is hereby made an enforceable condition of these requirements. The U.S. EPA may initiate enforcement action against an industrial user for noncompliance with applicable standards and requirements as provided in the Clean Water Act.
23. The District shall enforce the requirements promulgated under Sections 307(b),(c),(d), and 402(b) of the Clean Water Act. The District shall cause industrial users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

24. **By 15 August 2011**, the District shall submit a proposed pretreatment program that includes the following. The District shall also submit semiannual progress report until the following tasks are completed.

<u>Tasks</u>	<u>Compliance Date</u>
a. Results of an industrial user survey.	15 August 2010
b. An evaluation of the legal authority necessary for the administration and enforcement of the requirements of Sections 307(b) and (c) and 402(b)(8) of the Clean Water Act.	15 August 2010
c. Technical information necessary to develop and implement the pretreatment the pretreatment ordinance or other means of enforcing pretreatment standards.	15 August 2010
d. An evaluation of the financial programs and revenue sources to implement the program, including proposed funding and staffing levels.	15 August 2010
e. A monitoring program which will implement the requirements of the pretreatment program.	15 February 2010
f. A list of monitoring equipment required to implement the pretreatment program and a description of municipal facilities necessary for monitoring and analysis of industrial wastes.	15 February 2010
g. Specific effluent limitations for prohibited pollutants (as defined by 40 CFR 403.5) which shall be incorporated into the pretreatment program.	15 August 2011
h. Complete pretreatment program package (40 CFR 403.9) with request for pretreatment program approval.	15 August 2011

25. After the Central Valley Water Board has approved the pretreatment program developed as a result of completing the tasks listed in Provision H.24 and the EPA has approved the program, the District shall perform the pretreatment functions required in 40 CFR 403, including, but not limited to:

- a. Implementing the necessary legal authorities as provided in 40 CFR 403.8(f)(1);
- b. Enforcing the pretreatment requirements under 40 CFR 403.5 and 403.6;
- c. Implementing the programmatic functions as provided in 40 CFR 403.8(f)(2);
- d. Providing the requisite funding and personnel to implement the pretreatment program as provided in 40 CFR 403(f)(3); and
- e. Publishing a list of significant violators as required by 40 CFR 403.8(f)(2)(vii).

26. **By 1 June 2010**, the Discharger shall comply with the Effluent Nitrogen Limitation (Effluent Limitation B.4), or alternatively, the Discharger shall submit a design report and performance demonstration for the effluent storage ponds. If this alternative is pursued, the performance demonstration shall establish that the pond design, in combination with the contents of a Nutrient Management Plan of Attachment F, will be protective of groundwater quality and that seepage from the ponds will not contribute to nitrogen in groundwater exceeding groundwater limitations. This Provision will be considered satisfied, following written acceptance from the Executive Officer. The Nutrient Management Plan shall include at a minimum:

- a. Identification of land application area;
- b. A description of the types of crops to be grown and their water and nutrient uptake rates;
- c. Supporting data and calculations for monthly and annual water and nutrient balances;
- d. Management practices that will ensure wastewater, manure, irrigation water, and commercial fertilizers are applied at agronomic rates;
- e. A system of record keeping.

The Discharger shall submit reports **quarterly** that describe the status of the performance demonstration.

27. **By 1 January 2010**, the Discharger shall submit an updated Title 22 Engineering Report pursuant to Title 22 of the California Code of Regulations. A copy of this report shall be provided to DPH. This Provision shall be considered satisfied upon submittal by the Discharger of a letter from DPH determining the report is complete.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 13 August 2009.



PAMELA C. CREEDON, Executive Officer

Order Attachments:

- A Site Location Map
- B Flow Schematic
- C Recycled Water Signage
- D Monitoring Well Installation Work Plan Requirements
- E Sludge Management Plan Requirements
- F Nutrient Management Plan Requirements

Monitoring and Reporting Program No. R5-2009-0088
Information Sheet
Standard Provisions (1 March 2009)

DMS/DKP: 6/09/2009

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0088
FOR
NORTH OF RIVER SANITARY DISTRICT NO.1
AND
SILLS PROPERTIES, INC.
WASTEWATER TREATMENT FACILITY AND
WATER RECLAMATION
KERN COUNTY

This monitoring and Reporting Program (MRP) is required pursuant to California Water Code (CWC) Section 13267.

The Discharger shall not implement any changes to this MRP unless and until the Central Valley Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample locations shall be established with concurrence of Central Valley Water Board staff, and a description of the revised stations shall be submitted for approval by the Executive Officer.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. All analyses shall be performed in accordance with **Standard Provisions and Reporting Requirements for Waste Discharge Requirements**, dated 1 March 1991 (Standard Provisions).

Field test instruments (such as pH) may be used provided that the operator is trained in the proper use of the instrument and each instrument is serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions.

Analytical procedures shall comply with the methods and holding times specified in the following: *Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater* (EPA); *Test Methods for Evaluating Solid Waste* (EPA); *Methods for Chemical Analysis of Water and Wastes* (EPA); *Methods for Determination of Inorganic Substances in Environmental Samples* (EPA); *Standard Methods for the Examination of Water and Wastewater* (APHA/AWWA/WEF); and *Soil, Plant and Water Reference Methods for the Western Region* (WREP 125). Approved editions shall be those that are approved for use by the United States Environmental Protection Agency or the California Department of Public Health's Environmental Laboratory Accreditation Program). The Discharger may propose alternative methods for approval by the Executive Officer.

If monitoring consistently shows no significant variation in magnitude of a constituent concentration or parameter after at least 12 months of monitoring, the Discharger may request the MRP be revised to reduce monitoring frequency. The proposal must include adequate technical justification for reduction in monitoring frequency.

A glossary of terms used within this MRP is included on page 10 and a list of the constituents required for the monitoring of Priority Pollutants is included in Table 1, which is on page 11.

INFLUENT MONITORING

Influent samples shall be collected at the inlet of the headworks of the WWTF. Time of collection of the sample shall be recorded. Influent monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Continuous	Flow	mgd	Meter
Weekly	pH	pH Units	Grab
Weekly	EC	µmhos/cm	Grab
Weekly	BOD ₅	mg/L	24-hour composite
Weekly	TSS	mg/L	24-hour composite
Monthly	Monthly Average Discharge	mgd	Computed

EFFLUENT MONITORING

Effluent samples shall be collected at a point in the system following treatment and before discharge to the effluent storage ponds or reclamation area. Time of collection of the sample shall be recorded. Effluent monitoring shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	pH	pH Units	Grab
Weekly	EC	µmhos/cm	Grab
Weekly	BOD ₅	mg/L	24-hour composite
Weekly	TSS	mg/L	24-hour composite
Monthly	Nitrate as N	mg/L	24-hour composite
Monthly	TKN	mg/L	24-hour composite
Monthly	Ammonia	mg/L	24-hour composite
Monthly	Total Nitrogen	mg/L	Computed
Monthly	Total Dissolved Solids	mg/L	24-hour composite
Monthly	Sodium	mg/L	24-hour composite
Monthly	Chloride	mg/L	24-hour composite
Annually	General Minerals	mg/L	24-hour composite
Annually	Priority Pollutants (see Table 1)	Varies ¹	Varies

¹ mg/L or µg/L, as appropriate.

POND MONITORING

Permanent markers (e.g., staff gages) shall be placed in all ponds. The markers shall have calibrations indicating water level at the design capacity and available operational freeboard. Effluent storage and disposal pond monitoring shall include at least the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Weekly	DO	mg/L	Grab
Weekly	pH	pH Units	Grab
Weekly	Freeboard	Feet ¹	Grab

¹ To nearest tenth of a foot

The Discharger shall inspect the condition of the disposal and/or effluent storage ponds weekly and record visual observations in a bound logbook. Notations shall include observations of whether weeds are developing in the water or along the bank, and their location; whether grease, dead algae, vegetation, scum, or debris are accumulating on the pond surface and their location; whether burrowing animals or insects are present; and the color of the reservoirs (e.g., dark sparkling green, dull green, yellow, gray, tan, brown, etc.). A summary of the entries made in the log shall be included in the subsequent monitoring report.

GROUNDWATER MONITORING

After measuring water levels and prior to collecting samples, each monitoring well shall be adequately purged to remove water that has been standing within the well screen and casing that may not be chemically representative of formation water. Depending on the hydraulic conductivity of the geologic setting, the volume removed during purging is typically from 3 to 5 volumes of standing water within the well casing and screen, or additionally the filter pack pore volume.

The Discharger shall monitor all wells in its Groundwater Monitoring Network, and any additional wells installed pursuant to this MRP, for the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	Depth to groundwater	Feet ¹	Measured
Quarterly	Groundwater Elevation	Feet ²	Computed
Quarterly	pH	pH Units	Grab
Quarterly	EC	µmhos/cm	Grab
Quarterly	Nitrate as N	mg/L	Grab
Quarterly	Total Nitrogen	mg/L	Grab
Quarterly	Total Organic Carbon	mg/L	Grab
Quarterly	Total Dissolved Solids	mg/L	Grab
Quarterly	Chloride	mg/L	Grab

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Quarterly	Sodium	mg/L	Grab
Quarterly	Arsenic	µg/L	Grab
Quarterly	Iron	µg/L	Grab
Quarterly	Manganese	µg/L	Grab
Annually	General Minerals	mg/L	Grab

¹ To nearest tenth of a foot

² To nearest tenth of a foot above Mean Sea Level

SOURCE WATER MONITORING

For each source (either well of surface water supply), the Discharger shall calculate the flow-weighted average concentrations for the specified constituents utilizing monthly flow data and the most recent chemical analysis conducted in accordance with Title 22 drinking water requirements. Alternatively, the Discharger may establish representative sampling stations within the distribution system serving the same area as is served by the WWTF.

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Annually	EC	µmhos/cm	Computed average
Annually	General Minerals	mg/L	Computed average

SLUDGE MONITORING

Sludge shall be sampled for the following constituents:

Arsenic	Copper	Nickel
Cadmium	Lead	Selenium
Molybdenum	Mercury	Zinc

Monitoring shall be conducted: using the methods is "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), as required in Title 40 of the Code of Federal Regulations (40 CFR), Part 503.8(b)(4). The constituents listed above shall be monitored at the following frequency, depending on volume generated:

<u>Volume Generated (dry metric tons/year)</u>	<u>Frequency</u>
0 to 290	Annually
290 to 1,500	Quarterly
1,500 to 15,000	Bimonthly (six samples per year)
Greater than 15,000	Monthly

The Discharger shall demonstrate that treated sludge (i.e., biosolids) meets Class A or Class B pathogens reduction levels by one of the methods listed in 40 CFR, Part 503.32. The Discharger shall track and keep records of the operational parameters used to achieve Vector Attraction Reduction requirements in 40 CFR, Part 503.33(b).

RECLAMATION AREA MONITORING

The Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area within the Reclamation Area. Data shall be collected and presented in tabular format and shall include the following:

<u>Frequency</u>	<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sample Type</u>
Monthly	Application Area	Acres	n/a
Monthly	Wastewater flow	Gallons	Estimated
Monthly	Applied Nitrogen from Wastewater	lb/acre	Calculated
Monthly	Applied Nitrogen from Fertilizer	lb/acre	Estimated

In addition, the Discharger shall inspect the Reclamation Area on a weekly basis. Evidence of erosion, field saturation, runoff, of the presence of nuisance conditions (i.e., flies, ponding, etc.) shall be noted in field logs and included as part of the quarterly monitoring reports.

REPORTING

All monitoring results shall be reported in **Quarterly Monitoring Reports** which are due by the first day of the second month after the calendar quarter. Therefore, monitoring reports are due as follows:

- First Quarter Monitoring Report: **1 May**
- Second Quarter Monitoring Report: **1 August**
- Third Quarter Monitoring Report: **1 November**
- Fourth Quarter Monitoring Report: **1 February**

A transmittal letter shall accompany each monitoring report. The transmittal letter shall discuss any violations that occurred during the reporting period and all actions taken or planned for correcting violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions or a time schedule for implementing the corrective actions, reference to the previous correspondence is satisfactory.

The following information is to be included on all monitoring and annual reports, as well as report transmittal letters, submitted to the Central Valley Water Board:

Discharger Name
Facility Name
MRP Number
Contact Information (telephone number and email)

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner that illustrates clearly, whether the Discharger complies with waste discharge requirements.

In addition to the details specified in Standard Provision C.3, monitoring information shall include the method detection limit (MDL) and the reporting limit (RL) or practical quantitation limit (PQL). If the regulatory limit for a given constituent is less than the RL (or PQL), then any analytical results for that constituent that are below the RL (or PQL) but above the MDL shall be reported and flagged as estimated.

Laboratory analysis reports do not need to be included in the monitoring reports; however, the laboratory reports must be retained for a minimum of three years in accordance with Standard Provision C.3.

All monitoring reports shall comply with the signatory requirements in Standard Provision B.3. Monitoring data or discussions submitted concerning WWTF performance must also be signed and certified by the chief plant operator. If the chief plant operator is not in direct line of supervision of the laboratory function for a Discharger conducting any of its own analyses, reports must also be signed and certified by the chief of the laboratory.

All monitoring reports that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code Sections 6735, 7835, and 7835.1.

A. All Quarterly Monitoring Reports shall include the following:

Wastewater reporting

1. The results of influent, effluent, and pond monitoring specified on pages 2 and 3.
2. For each month of the quarter, calculation of the maximum daily flow and the monthly average flow.
3. For each month of the quarter, calculation of the 12-month rolling average EC of the discharge using the EC value for that month averaged with the EC values for the previous 11 months.

4. For each month of the quarter, calculation of the monthly average effluent BOD and TSS concentrations, and calculation of the percent removal of BOD and TSS compared to the influent.
5. A summary of the notations made in the pond monitoring log during each quarter. Copies of log pages covering the quarterly reporting period shall not be submitted unless requested by Central Valley Water Board staff.

Groundwater reporting

1. The results of groundwater monitoring specified on pages 3 and 4.
2. For each monitoring well, a table showing groundwater depth, elevation, and constituent concentrations for at least five previous years, up through the current quarter.
3. A groundwater contour map based on groundwater elevations for that quarter. The map shall show the gradient and direction of groundwater flow under/around the facility and/or effluent disposal area(s). The map shall also include the locations of monitoring wells and wastewater storage and discharge areas.

Reclamation Area reporting

1. The results of the routine monitoring and loading calculations specified on page 5.
2. For each month of the quarter, calculation of the monthly hydraulic load for wastewater and supplemental irrigation water in million of gallons to each discrete irrigation area.
3. A summary of the notations made in the Reclamation Area monitoring log during each quarter. The entire contents of the log do not need to be submitted.

B. Fourth Quarter Monitoring Reports, in addition to the above, shall include the following:

Wastewater treatment facility information

1. The names, certificate grades, and general responsibilities of all persons in charge of wastewater treatment and disposal.
2. The names and telephone numbers of persons to contact regarding the WWTF for emergency and routine situations.
3. A statement certifying when the flow meter and other monitoring instruments and devices were last calibrated, including identification of who performed the calibrations (Standard Provision C.4).

4. A statement whether the current operation and maintenance manual, sampling plan, and contingency plan, reflect the WWTF as currently constructed and operated, and the dates when these documents were last reviewed for adequacy.
5. The results of an annual evaluation conducted pursuant to Standard Provision E.4 and a figure depicting monthly average discharge flow for the previous five calendar years.

Source Water reporting, including the results of **EC** monitoring specified on page 4, and supporting calculations.

Solids/Sludge monitoring

1. Annual production totals in dry tons or cubic yards.
2. A description of disposal methods, including the following information related to the disposal methods used. If more than one method is used, include the percentage disposed of by each method.
 - a. For landfill disposal, include: the name and location of the landfill, and the Order number of WDRs that regulate it.
 - b. For land application, include: the location of the site, and the Order number of any WDRs that regulate it.
 - c. For incineration, include: the name and location of the site where incineration occurs, the Order number of WDRs that regulate the site, the disposal method of ash, and the name and location of the facility receiving ash (if applicable).
 - d. For composting, include: the location of the site, and the Order number of any WDRs that regulate it.

Reclamation Area

1. The type of crop(s) grown in the Reclamation Area, planting and harvest dates, and the quantified nitrogen and fixed dissolved solids uptakes (as estimated by technical references or, preferably, determined by representative plant tissue analysis).
2. The monthly and annual discharge volumes during the reporting year expressed as million gallons and inches.
3. A monthly balance for the reporting year that includes:
 - a. Monthly average ET_o (observed evapotranspiration) – Information sources include California Irrigation Management Information System (CIMIS)
<http://www.cimis.water.ca.gov/>
 - b. Monthly crop uptake

- i. Crop water utilization rates are available from a variety of publications available from the local University of California Davis extension office.
 - ii. Irrigation efficiency – Frequently, engineers include a factor for irrigation efficiency such that the application rate is slightly greater than the crop utilization rate. A conservative design does not include this value.
- c. Monthly average precipitation – this data is available at <http://www.cimis.water.ca.gov/> or at <http://www.ncdc.noaa.gov/oa/climate/online/ccd/nrmlprcp.html>.
 - d. Monthly average and annual average discharge flow rate.
 - e. Monthly estimates of the amount of wastewater percolating below the root zone (i.e., amount of wastewater applied in excess of crop requirements)

The Discharger shall implement the above monitoring program on the first day of the month following adoption of this Order.

Ordered by: Pamela C. Creedon
PAMELA C. CREEDON, Executive Officer
August 13, 2009
(Date)

DMS/DKP: 6/09/2009

GLOSSARY

BOD ₅	Five-day biochemical oxygen demand	
CBOD	Carbonaceous BOD	
DO	Dissolved oxygen	
EC	Electrical conductivity at 25° C	
FDS	Fixed dissolved solids	
NTU	Nephelometric turbidity unit	
TKN	Total Kjeldahl nitrogen	
TDS	Total dissolved solids	
TSS	Total suspended solids	
Continuous	The specified parameter shall be measured by a meter continuously.	
24-Hour Composite	Samples shall be a flow-proportioned composite consisting of at least eight aliquots.	
Daily	Samples shall be collected at least every day.	
Twice Weekly	Samples shall be collected at least twice per week on non-consecutive days.	
Weekly	Samples shall be collected at least once per week.	
Twice Monthly	Samples shall be collected at least twice per month during non-consecutive weeks.	
Monthly	Samples shall be collected at least once per month.	
Bimonthly	Samples shall be collected at least once every two months (i.e., six times per year) during non-consecutive months.	
Quarterly	Samples shall be collected at least once per calendar quarter. Unless otherwise specified or approved, samples shall be collected in January, April, July, and October.	
Semiannually	Samples shall be collected at least once every six months (i.e., two times per year). Unless otherwise specified or approved, samples shall be collected in April and October.	
Annually	Samples shall be collected at least once per year. Unless otherwise specified or approved, samples shall be collected in October.	
mg/L	Milligrams per liter	
mL/L	milliliters [of solids] per liter	
µg/L	Micrograms per liter	
µmhos/cm	Micromhos per centimeter	
mgd	Million gallons per day	
MPN/100 mL	Most probable number [of organisms] per 100 milliliters	
General Minerals	Analysis for General Minerals shall include at least the following:	
Alkalinity	Chloride	Sodium
Bicarbonate	Hardness	Sulfate
Calcium	Magnesium	TDS
Carbonate	Potassium	

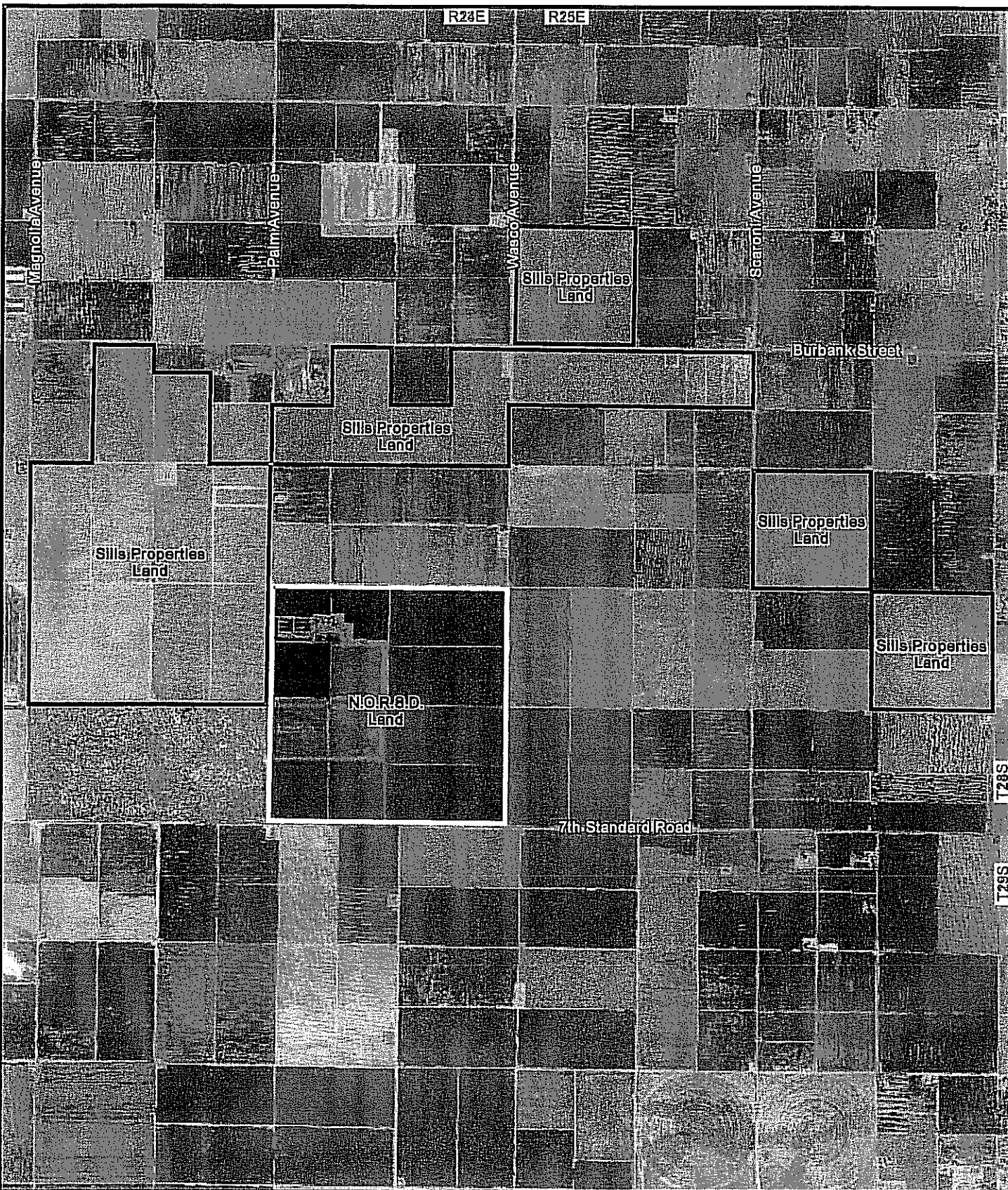
General Minerals analyses shall be accompanied by documentation of cation/anion balance.

Table 1. Priority Pollutant Scan

<u><i>Inorganics</i></u> ¹	<u><i>Organics</i></u>		
Antimony	Acrolein	3-Methyl-4-Chlorophenol	Hexachlorobenzene
Arsenic	Acrylonitrile	Pentachlorophenol	Hexachlorobutadiene
Beryllium	Benzene	Phenol	Hexachlorocyclopentadiene
Cadmium	Bromoform	2,4,6-Trichlorophenol	Hexachloroethane
Chromium (III)	Carbon tetrachloride	Acenaphthene	Indeno(1,2,3-c,d)pyrene
Chromium (VI)	Chlorobenzene	Acenaphthylene	Isophorone
Copper	Chlorodibromomethane	Anthracene	Naphthalene
Lead	Chloroethane	Benzidine	Nitrobenzene
Mercury	2-Chloroethylvinyl Ether	Benzo(a)Anthracene	N-Nitrosodimethylamine
Nickel	Chloroform	Benzo(a)pyrene	N-Nitrosodi-n-Propylamine
Selenium	Dichlorobromomethane	Benzo(b)fluoranthene	N-Nitrosodiphenylamine
Silver	1,1-Dichloroethane	Benzo(g,h,i)perylene	Phenanthrene
Thallium	1,2-Dichloroethane	Benzo(k)fluoranthene	Pyrene
Zinc	1,1-Dichloroethylene	Bis(2-chloroethoxy) methane	1,2,4-Trichlorobenzene
Cyanide	1,2-Dichloropropane	Bis(2-chloroethyl) ether	
Asbestos	1,3-Dichloropropylene	Bis(2-chloroisopropyl) ether	<u><i>Pesticides</i></u>
	Ethylbenzene	Bis(2-Ethylhexyl)phthalate	Aldrin
	Methyl Bromide	4-Bromophenyl phenyl ether	alpha-BHC
<u><i>Dioxin Congeners</i></u>	Methyl Chloride	Butylbenzyl Phthalate	beta-BHC
2,3,7,8-TCDD	Methylene Chloride	2-Chloronaphthalene	gamma-BHC (Lindane)
1,2,3,7,8-PentaCDD	Methylene Chloride	4-Chlorophenyl Phenyl Ether	delta-BHC
1,2,3,4,7,8-HexaCDD	1,1,2,2-Tetrachloroethane	Chrysene	Chlordane
1,2,3,6,7,8-HexaCDD	Tetrachloroethylene (PCE)	Dibenzo(a,h)Anthracene	4,4'-DDT
1,2,3,7,8,9-HexaCDD	Toluene	1,2-Dichlorobenzene	4,4'-DDE
1,2,3,4,6,7,8-HeptaCDD	1,2-Trans-Dichloroethylene	1,3-Dichlorobenzene	4,4'-DDD
OctaCDD	1,1,1-Trichloroethane	1,4-Dichlorobenzene	Dieldrin
2,3,7,8-TetraCDF	1,1,2-Trichloroethane	3,3'-Dichlorobenzidine	alpha-Endosulfan
1,2,3,7,8-PentaCDF	Trichloroethylene (TCE)	Diethyl phthalate	beta-Endosulfan
2,3,4,7,8-PentaCDF	Vinyl chloride	Dimethyl phthalate	Endosulfan Sulfate
1,2,3,4,7,8-HexaCDF	2-Chlorophenol	Di-n-Butyl Phthalate	Endrin
1,2,3,6,7,8-HexaCDF	2,4-Dichlorophenol	2,4-Dinitrotoluene	Endrin Aldehyde
1,2,3,7,8,9-HexaCDF	2,4-Dimethylphenol	2,6-Dinitrotoluene	Heptachlor
2,3,4,6,7,8-HexaCDF	2-Methyl-4,6-Dinitrophenol	Di-n-Octyl Phthalate	Heptachlor epoxide
1,2,3,4,6,7,8-HeptaCDF	2,4-Dinitrophenol	1,2-Diphenylhydrazine	Polychlorinated biphenyls
1,2,3,4,7,8,9-HeptaCDF	2-Nitrophenol	Fluoranthene	Toxaphene
OctaCDF	4-Nitrophenol	Fluorene	

¹ With the exception of wastewater samples, samples placed in an acid-preserved bottle for metals analysis must first be filtered. If filtering in the field is not feasible, samples shall be collected in unpreserved containers and submitted to the laboratory within 24 hours with a request (on the chain of custody form) to immediately filter then preserve the sample.

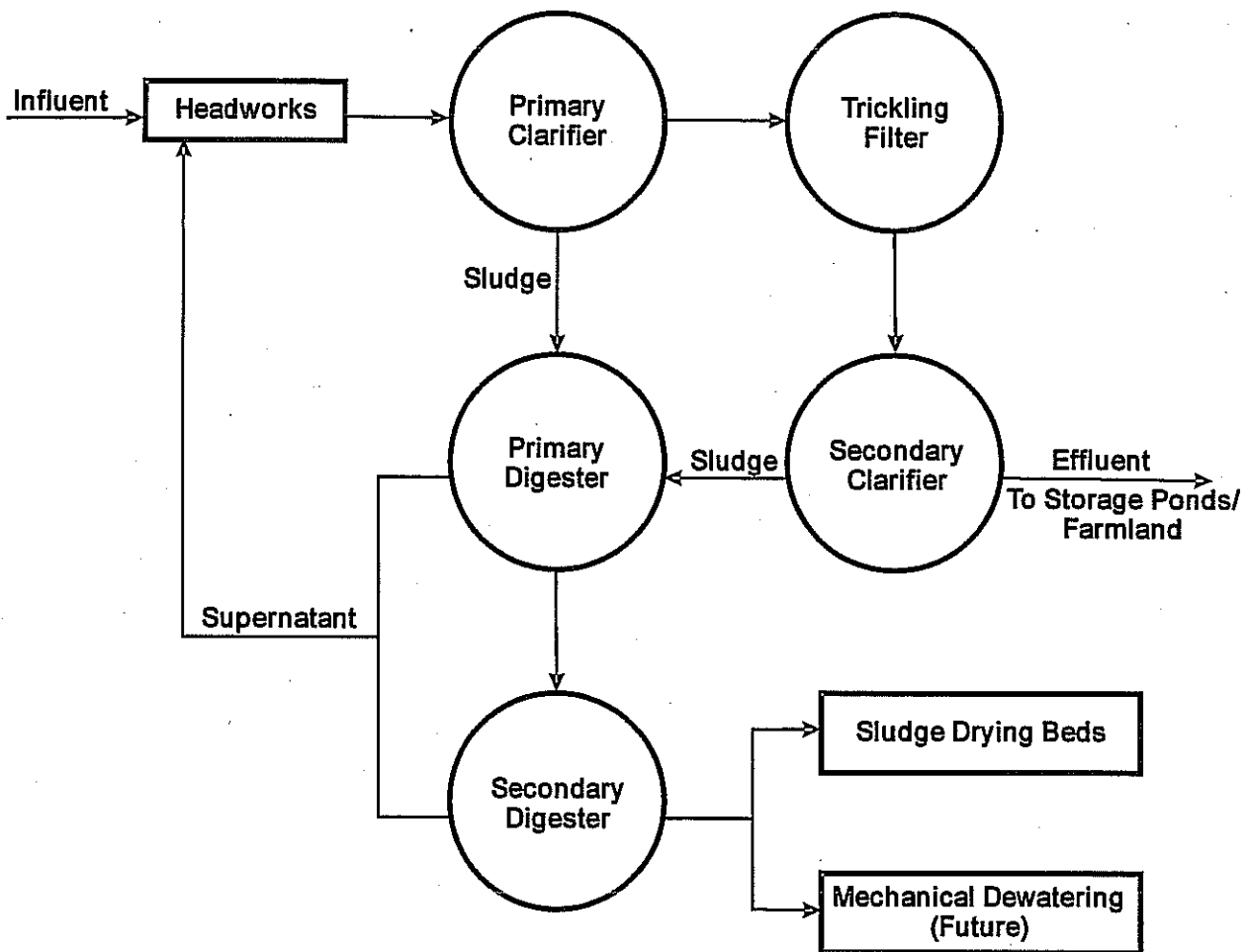
² Samples to be analyzed for volatile compounds and phthalate esters shall be grab samples; the remainder shall be 24-hour composite samples.



Map Source:
NAIP Aerial Photograph (2005)



SITE MAP
 WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0088
 FOR
 NORTH OF RIVER SANITARY DISTRICT NO. 1
 AND
 SILLS PROPERTIES, INC.
 WASTEWATER TREATMENT FACILITY AND
 WATER RECLAMATION
 KERN COUNTY



NOT TO SCALE

PROCESS FLOW DIAGRAM
 WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0088
 FOR
 NORTH OF RIVER SANITARY DISTRICT NO. 1
 AND
 SILLS PROPERTIES, INC.
 WASTEWATER TREATMENT FACILITY AND
 WATER RECLAMATION
 KERN COUNTY

ATTACHMENT B



NONPOTABLE WATER INTERNATIONAL SYMBOL
WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0088
FOR
NORTH OF RIVER SANITARY DISTRICT NO. 1
AND
SILLS PROPERTIES, INC.
WASTEWATER TREATMENT FACILITY AND
WATER RECLAMATION
KERN COUNTY

ATTACHMENT C

ORDER NO. 2009-0088
ATTACHMENT D
STANDARD REQUIREMENTS FOR
MONITORING WELL INSTALLATION WORK PLANS AND
MONITORING WELL INSTALLATION REPORTS

Prior to installation of groundwater monitoring wells, the Discharger shall submit a work plan containing, at a minimum, the information listed in Section 1, below. Wells may be installed after staff approve the work plan. Upon installation, the Discharger shall submit a well installation report that includes the information contained in Section 2, below. All work plans and reports must be prepared under the direction of, and certified by, a California registered geologist or civil engineer.

SECTION 1 - Monitoring Well Installation Work Plan and
Groundwater Sampling and Analysis Plan

The monitoring well installation work plan shall contain, at a minimum, the following information:

A. General Information:

- Purpose of the well installation project
- Brief description of local geologic and hydrogeologic conditions
- Proposed monitoring well locations and rationale for well locations
- Topographic map showing facility location, roads, and surface water bodies
- Large-scaled site map showing all existing on-site wells, proposed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and major physical and man-made features

B. Drilling Details:

- On-site supervision of drilling and well installation activities
- Description of drilling equipment and techniques
- Equipment decontamination procedures
- Cuttings disposal methods
- Soil sampling intervals (if appropriate); logging methods; number and location of soil samples and rationale; and sample collection, preservation, and analytical methods

C. Monitoring Well Design (in graphic form with rationale provided in narrative form):

- Diagram of proposed well construction details
 - Borehole diameter
 - Casing and screen material, diameter, and centralizer spacing (if needed)
 - Type of well caps (bottom cap either screw on or secured with stainless steel screws)
 - Anticipated depth of well, length of well casing, and length and position of perforated interval

- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Anticipated screen slot size and filter pack

D. Well Development (not to be performed until at least 48 hours after sanitary seal placement):

Method of development to be used (i.e., surge, bail, pump, etc.)

Parameters to be monitored during development and record keeping technique

Method of determining when development is complete

Disposal of development water

E. Well Survey (precision of vertical survey data shall be at least 0.01 foot):

Identify the Licensed Land Surveyor or Civil Engineer that will perform the survey

Datum for survey measurements

List well features to be surveyed (i.e., top of casing, horizontal and vertical coordinates, etc.)

F. Schedule for Completion of Work

G. Appendix: Groundwater Sampling and Analysis Plan (SAP)

The Groundwater SAP, a guidance document that is referred to by individuals responsible for conducting groundwater monitoring and sampling activities, shall contain, at a minimum, a detailed written description of standard operating procedures for:

- Equipment to be used during sampling
- Equipment decontamination procedures
- Water level measurement procedures
- Well purging (include a discussion of procedures to follow if three casing volumes cannot be purged)
- Monitoring and record keeping during water level measurement and well purging (include copies of record keeping logs to be used)
- Purge water disposal
- Analytical methods and required reporting limits
- Sample containers and preservatives
- Sampling
 - General sampling techniques
 - Record keeping during sampling (include copies of record keeping logs to be used)
 - QA/QC samples
- Chain of Custody
- Sample handling and transport

SECTION 2 - Monitoring Well Installation Report

The monitoring well installation report must provide the information listed below. In addition, the report must also clearly identify, describe, and justify any deviations from the approved work plan.

A. General Information:

Purpose of the well installation project

Number of monitoring wells installed and identifying label(s) for each

Brief description of geologic and hydrogeologic conditions encountered during well installation

Topographic map showing facility location, roads, surface water bodies

Large-scaled site map showing all previously existing wells, newly installed wells, surface water bodies and drainage courses, buildings, waste handling facilities, utilities, and other major physical and man-made features.

B. Drilling Details (in narrative and/or graphic form):

On-site supervision of drilling and well installation activities

Drilling contractor and driller's name

Description of drilling equipment and techniques

Equipment decontamination procedures

Well boring log (provide for each well)

- Well boring number and date drilled
- Borehole diameter and total depth
- Total depth of open hole (i.e., total depth drilled if no caving or back-grouting occurs)
- Depth to first encountered groundwater and stabilized groundwater depth
- Detailed description of soils encountered, using the Unified Soil Classification System

C. Well Construction Details (provide for each well):

Well construction diagram including:

- Monitoring well number and date constructed
- Casing and screen material, diameter, and centralizer spacing (if needed)
- Length of well casing
- Length and position of slotted casing and size of perforations
- Thickness, position and composition of surface seal, sanitary seal, and sand pack
- Type of well caps (bottom cap either screw on or secured with stainless steel screws)

- E. Well Development (provide for each well):
Date(s) and method of development
How well development completion was determined
Volume of water purged from well and method of development water disposal
- F. Well Survey (provide for each well):
Reference elevation at the top rim of the well casing with the cap removed (feet above mean sea level to within 0.01 foot)
Ground surface elevation (feet above mean sea level to within 0.01 foot)
Horizontal geodetic location, where the point of beginning shall be described by the California State Plane Coordinate System, 1983 datum, or acceptable alternative (provide rationale)
Present the well survey report data in a table
- G. Water Sampling:
- | | |
|---|-----------------------------------|
| Date(s) of sampling | Sample identification |
| How well was purged | Analytical methods used |
| How many well volumes purged | Laboratory analytical data sheets |
| Levels of temperature, EC, and pH at stabilization | Water level elevation(s) |
| Sample collection, handling, and preservation methods | Groundwater contour map |
- H. Soil Sampling (if applicable):
Date(s) of sampling
Sample collection, handling, and preservation methods
Sample identification
Analytical methods used
Laboratory analytical data sheets
Present soil sampling data in a table
- I. Well Completion Report(s) (as defined in California Water Code §13751). Blank forms are available from California Department of Water Resources' website www.water.ca.gov. Submit this section under separate cover.
- J. Appendix - include, at a minimum, copies of the following:
County-issued well construction permits
Registered engineer or licensed surveyor's report and field notes
Field notes from well development

ORDER NO. 2009-0088
ATTACHMENT E
STANDARD REQUIREMENTS FOR
SLUDGE MANAGEMENT PLAN

A. Wastewater Treatment Facility (WWTF)

1. Describe treatment processes at the wastewater treatment facility.
2. List significant industrial users (SIUs) that discharge to the wastewater treatment facility and describe how SIUs affect sludge production, sludge handling, and biosolids disposal.
3. Indicate whether the WWTF has an adopted source control ordinance or a pretreatment program, and if the latter whether the program is approved by the Board.
4. Indicate whether WWTF accepts septage and, if so, describe septage handling operation facilities.
5. Provide a WWTF site map showing:
 - a. existing sludge handling facilities (e.g., sludge drying beds and sludge storage areas)
 - b. abandoned sludge handling facilities (if applicable)
 - c. location of groundwater monitoring wells, if any, and groundwater gradient.

B. Sludge Production

1. Provide a schematic diagram showing solids flow and sludge handling operations; include, where applicable, supernatant flow and handling operations.
2. Specify the quantity of sludge expected to annually accumulate in each wastewater treatment process, how it is quantified, and the expected removal frequency.
3. For sludge handling facilities with sludge drying beds:
 - a. Describe number and size of sludge drying beds.
 - b. Describe sludge drying bed construction (e.g., liner, leachate collection system).
 - c. If sludge drying beds are not lined, thoroughly describe measures taken to ensure that area groundwater is not adversely affected by sludge drying operations.
 - d. Indicate the expected frequency with which sludge will be applied to and removed from sludge drying beds.
4. Describe how biosolids are transferred to onsite biosolids storage facility (if applicable). If biosolids are removed directly from sludge drying beds, provide a plan that indicates when during the year you expect to dispose of biosolids and explain that whoever is responsible for disposing of your biosolids will be able to remove and dispose it at this time.

ATTACHMENT E

STANDARD REQUIREMENTS FOR
SLUDGE MANAGEMENT PLAN

C. Biosolids Characterization

1. Describe proposed sampling procedures by indicating number of samples, sample locations, and sample composition. For reference consult *POTW Sludge Sampling an Analysis Guidance Document*, published by the EPA Publication No. 833-B-89-100.
2. Describe the methods proposed to meet the necessary levels of pathogen reduction (i.e., Class A or B according to 40 CFR 503.32) for the proposed method of sludge disposal.
3. Describe the methods proposed to meet vector reduction requirements, in accordance with 40 CFR Part 503.33.

D. Biosolids Storage

1. If on-site biosolids storage is used,
 - a. Describe:
 - i. Size of biosolids storage area
 - ii. How frequently it will be used (emergency basis only or routine use)
 - iii. Typical storage duration
 - iv. Leachate controls
 - v. Erosion controls
 - vi. Run-on/runoff controls
 - b. Indicate measures that will be taken to ensure that area groundwater is not adversely affected by the biosolids storage facility.
 - c. For biosolids storage facilities that contain biosolids between 1 October and 30 April, describe how facilities are designed and maintained to prevent washout or inundation from a storm or flood with a return frequency of 100 years.
 - d. Provide a map of showing setback distances from (where applicable)
 - i. Property lines
 - ii. Domestic water supply wells
 - iii. Non-Domestic water supply wells
 - iv. Public roads and occupied onsite residences
 - v. Surface waters, including wetlands, creeks, ponds, lakes, underground aqueducts, and marshes

ATTACHMENT E

STANDARD REQUIREMENTS FOR

SLUDGE MANAGEMENT PLAN

- vi. Primary agricultural drainage ways
- vii. Occupied non-agricultural buildings and off-site residences
- viii. Primary tributary to a waterway or reservoir used for domestic water supply
- ix. Domestic surface water supply intake

E. Spill Response Plan

1. Emergency contacts and notification procedures
2. Personal protective equipment requirements
3. Response instructions for
 - a. spill during biosolids transport
 - b. storage facility failure
 - c. when hazardous or other unauthorized material is found

F. Method of Disposal

1. Describe and provide the following information related to biosolids disposal method(s). If more than one method will be utilized, include the percentage of annual biosolids production expected to be disposed of by each method.
 - a. Landfill Disposal
 - i. Name(s) and location(s) of landfill(s).
 - ii. Waste discharge requirements order numbers adopted by the Regional Board that regulate the landfill(s).
 - iii. Present classification of the landfill(s).
 - iv. Name and telephone number of the contact person at the landfill(s).
 - b. Incineration
 - i. Name(s) and location(s) of incineration site(s).
 - ii. Waste discharge requirements order numbers adopted by the Regional Board that regulate the incineration site(s).
 - iii. Method of disposal of ash from the incineration site(s).
 - iv. Names and locations of facilities receiving ash from the incineration site(s), if applicable.
 - v. Name and telephone number of the contact person at the incineration site(s).

ATTACHMENT E

STANDARD REQUIREMENTS FOR
SLUDGE MANAGEMENT PLAN

c. Composting

- i. Name(s) and location(s) of composting site(s).
- ii. Waste discharge requirements order numbers adopted by the Regional Board that regulate the composting site(s).
- iii. Name and telephone number of the contact person at the composting site(s).

d. Land Application

- i. Ownership of the site(s) where biosolids are applied.
- ii. Assessor Parcel Numbers (APNs) of site(s) where biosolids are applied.
- iii. Waste discharge requirements order numbers adopted by the Regional Board that regulate the biosolids application site(s).

ORDER NO. 2009-0088
ATTACHMENT F
STANDARD REQUIREMENTS FOR
NUTRIENT MANAGEMENT PLANS
FOR
WASTEWATER TREATMENT FACILITIES

The purpose of the Nutrient Management Plan (NMP) is to budget and manage nutrients applied to land application area(s) considering all sources of nutrients, crop requirements, soil types, climate, and local conditions in order to prevent adverse impacts to surface water and groundwater quality. The NMP must take site-specific conditions into consideration in identifying steps that will minimize nutrient movement through surface runoff or leaching past the root zone.

The NMP must contain, at a minimum, all the elements listed below under Contents of a Nutrient Management Plan and must be updated in response to changing conditions, monitoring results, and other factors.

A specialist who is certified in developing nutrient management plans shall develop the NMP. A certified specialist is a Professional Soil Scientist, Professional Agronomist, or Crop Advisor certified by the American Society of Agronomy or a Technical Service Provider certified in nutrient management in California by the Natural Resources Conservation Service (NRCS). The Executive Officer may approve alternative proposed specialists. Only NMPs prepared and signed by these parties will be considered certified.

The Monitoring and Reporting Program specifies minimum amounts of monitoring that must be conducted at the wastewater treatment facility (WWTF). As indicated below, this information must be used to make management decisions related to nutrient management. Likewise, the timing and amounts of wastewater applications to crops must be known to correctly calculate the amount of storage needed.

Waste and land application areas shall be managed to prevent contamination of crops grown for human consumption. The term "crops grown for human consumption" refers only to crops that will not undergo subsequent processing which adequately removes potential microbial danger to consumers.

Contents of a Nutrient Management Plan

The NMP shall identify the name, address of owner and operator and shall contain all of the following elements to demonstrate that the Discharger can control nutrient losses that may impact surface water or groundwater quality and comply with the requirements of the Order.

1. Land Application Area Information

- a. Identify each land application area (whether it is owned, rented, or leased, to which wastewater and/or solids/sludge may be applied) on a single published base map (topographic map or aerial photo) at an appropriate scale which includes:
 - 1) A field identification system (Assessor's Parcel Number; land application area by name or number; total acreage of each land application area; crops grown; owner; indication of what types of waste are applied (wastewater only, solids/sludge only, or both wastewater and solids/sludge); drainage flow direction in each field, nearby surface waters, and storm water discharge points; tailwater and storm water drainage controls; subsurface (tile) drainage systems (including discharge points and lateral extent); irrigation supply wells and groundwater monitoring wells; sampling locations for discharges of storm water and tailwater to surface water from the field; and
 - 2) Wastewater conveyance structures, discharge points and discharge mixing points with irrigation water supplies; pumping facilities; flow meter locations; drainage ditches and canals, culverts, drainage controls (berms, levees, etc.), and drainage easements.
- b. Provide the following information for each land application area identified in 1.a above:
 - 1) Field's common name (name used when keeping records of waste applications).
 - 2) Assessor's Parcel Number.
 - 3) Total acreage.
 - 4) Crops grown and crop rotation.
 - 5) Information on who owns and leases the field.
 - 6) Proposed sampling locations for discharges of storm water and tailwater to surface water.

- c. Provide copies of written agreements with third parties that receive wastewater from the Discharger's WWTF.
 - 1) The Discharger shall have a written agreement with each third party that receives process wastewater from the Discharger. Each written agreement shall be included in the Discharger's Nutrient Management Plan. The written agreement shall identify:
 - i. The Discharger and WWTF from which the wastewater originates;
 - ii. The third party that will receive wastewater;
 - iii. The Assessor's Parcel Number(s) and the acreage(s) of the cropland where the wastewater will be applied; and
 - iv. The types of crops to be irrigated with the wastewater.
 - v. The length of time the agreement will be in effect.

2. Available Nutrients

- a. All sources of nutrients (nitrogen, phosphorus, and potassium) available for each crop in each land application area shall be identified prior to land applications. Potential nutrient sources include, but are not limited to, wastewater, solids/sludge, manure, irrigation water, commercial fertilizers, soil, and previous crops.
- b. Nutrient values of soil, wastewater, solids/sludge, manure, and irrigation water shall be determined based on laboratory analysis. "Book values" may be used for planning of waste applications during the first two years during initial development of the NMP if necessary. Acceptable book values are those values recognized by American Society of Agricultural and Biological Engineers (ASABE), the NRCS, and/or the University of California that accurately estimate the nutrient content of the material. The nutrient content of commercial fertilizers shall be derived from California Department of Food and Agriculture published values.
- c. Nutrient credit from previous legume crops shall be determined by methods acceptable to the University of California Cooperative Extension, the NRCS, or a specialist certified in developing nutrient management plans.

3. Nutrient Budget

The NMP shall include a nutrient budget for each land application area. The nutrient budget shall establish planned rates of nutrient applications. The Nutrient Budget shall include the following:

a. Nutrient Application Rates

- 1) The rate of application of wastewater and solids/sludge for each crop in each land application area (also considering sources of nutrients other than wastewater or solids/sludge) to meet each crop's needs without exceeding application rates specified.
- 2) Planned rates of nutrient application shall be determined based on soil test results, crop tissue test results, nutrient credits, wastewater, solids/sludge, and manure analysis, crop requirements and growth stage, seasonal and climatic conditions, and use and timing of irrigation water.
- 3) Each crop's nutrient requirements for nitrogen, phosphorus, and potassium shall be determined based on recommendations from the University of California, the *Western Fertilizer Handbook* (9th Edition), or from historic crop nutrient removal.
- 4) Nutrient application rates shall not attempt to approach a site's maximum ability to contain one or more nutrients through soil adsorption. Excess applications or applications that cause soil imbalances are to be avoided.
- 5) Total nitrogen applications to a land application area prior to and during the growing of a crop will be based on pre-plant or pre-side dress soil analysis to establish residual nitrogen remaining in the field from the previous crop to establish early season nitrogen applications. Pre-plant or side dress nitrogen applications will not exceed the estimated total crop use as established by the nutrient management plan. Except as allowed below, application rates shall not result in total nitrogen applied to the land application areas exceeding 1.4 times the nitrogen that will be removed from the field in the harvested portion of the crop. Additional applications of nitrogen are allowable if the following conditions are met:
 - i. Plant tissue testing has been conducted and it indicates that additional nitrogen is required to obtain a crop yield typical for the soils and other local conditions;
 - ii. The amount of additional nitrogen applied is based on the plant tissue testing and is consistent with University of California Cooperative Extension written guidelines or written recommendations from a professional agronomist;
 - iii. The form, timing, and method of application facilitates timely nitrogen availability to the crop; and

- iv. Records are maintained documenting the need for additional applications.
- 6) Phosphorus and potassium may be applied in excess of crop uptake rates. If, however, monitoring indicates that levels of these elements are causing adverse impacts, corrective action must be taken. Cessation of applications may be necessary until crop uptake and harvest have reduced the concentration in the soil.
- 7) Plans for nutrient management shall specify the form, source, amount, timing, and method of application of nutrients on each land application area to minimize nitrogen and/or phosphorus movement to surface and/or ground waters to the extent necessary to meet the provisions of the Order.
- 8) Where crop material is not removed from the land application area or the land grazed, waste applications are not allowed. For example, if a pasture is not grazed or mowed (and cuttings removed from the land application area), waste shall not be applied to the pasture.
- 9) Wastewater and/or solids/sludge will be applied to the land application area for use by the first crop covered by the NMP only to the extent that soil tests indicate a need for nitrogen application.
- 10) Supplementary commercial fertilizer(s) and/or soil amendments may be added when the application of nutrients contained in wastewater and/or solids/sludge alone is not sufficient to meet the crop needs, as long as these applications do not exceed provisions of the Order.
- 11) Nutrient applications to a crop shall not be made prior to the harvest of the previous crop except where the reason for such applications is provided in the NMP.
- 12) Water applications shall not exceed the amount needed for efficient crop production.
- 13) Nutrients shall be applied in such a manner as not to degrade the soil's structure, chemical properties, or biological condition.

Nutrients are being evaluated in several Central Valley surface waters. Where these studies show that nutrients are adversely impacting beneficial uses, the Central Valley Water Board will work with parties in the watershed, including WWTF, to reduce discharges of phosphorus, nitrogen and possibly other constituents.

b. Nutrient Application Timing

- 1) Wastewater application scheduling should be based on the nutrient needs of the crop, the daily water use of the crop, the water holding capacity of the soil, and the lower limit of soil moisture for each crop and soil.
- 2) Wastewater shall not be applied when soils are saturated. During the rainy season rainfall can exceed crop water demand; however, the application of wastewater is allowable if tests show that there is an agronomic need and current conditions indicate that threat of nitrate leaching is minimal.
- 3) The timing of nutrient application must correspond as closely as possible with plant nutrient uptake characteristics, while considering cropping system limitations, weather and climatic conditions, and land application area accessibility.
- 4) Nutrient applications for spring-seeded crops shall be timed to avoid surface runoff and leaching by winter rainfall.

c. Nutrient Application Method

- 1) The Discharger shall apply nutrient materials uniformly to application areas or as prescribed by precision agricultural techniques.
- 2) Realistic yield goals for each crop in each land application area shall be established. For new crops or varieties, industry yield recommendations may be used until documented yield information is available.
- 3) If the NMP shows that the nutrients generated by the WWTF exceed the amount needed for crop production in the land application area, the Discharger must implement management practices (such as offsite removal of the excess nutrients, treatment, or storage) that will prevent impacts to surface water or groundwater quality due to excess nutrients.

4. Setbacks, Buffers, and Other Alternatives to Protect Surface Water

- a. A setback is a specified distance from surface waters or potential conduits to surface waters where wastewater and solids/sludge may not be land applied, but where crops may continue to be grown.
- b. A vegetated buffer is a narrow, permanent strip of dense perennial vegetation where no crops are grown and which is established parallel to the contours of and perpendicular to the dominant slope of the land application area for the purposes of slowing water runoff, enhancing water infiltration, trapping pollutants bound to

sediment, and minimizing the risk of any potential nutrients or pollutants from leaving the land application area and reaching surface waters.

- c. The minimum widths of setbacks and vegetated buffers must be doubled around the wellhead of a drinking water supply well constructed in a sole-source aquifer.
- d. Practices and management activities for vegetated buffers include the following:
 - 1) Removal of vegetation in vegetated buffers in accordance with site production limitations, rate of plant growth, and the physiological needs of the plants.
 - 2) Not mowing below the recommended height for the plant species.
 - 3) Maintaining adequate ground cover and plant density to maintain or improve filtering capacity of the vegetation.
 - 4) Maintaining adequate ground cover, litter, and canopy to maintain or improve infiltration and soil condition.
 - 5) Periodic rest from mechanical harvesting, which may be needed to maintain or restore the desired plant community following episodic events such as drought.
 - 6) Implementing pest management to protect the desired plant communities.
When needs are a significant problem
 - 7) Preventing channels from forming.
- e. For each land application area that is within 100 feet of a surface water or a conduit to surface water, identify the setback, vegetated buffer, or other alternative practice that will be implemented to protect surface water.

5. Record-Keeping

The Discharger shall maintain records for each land application area identified in 1.a above and as required in the Monitoring and Reporting Program No. R5-2009-0088.

6. Nutrient Management Plan Review

- a. Identify the schedule for review and revisions to the NMP.
- b. Identify the person who will conduct the NMP review and revisions.
- c. Provide the name and contact information (including address and phone number) of the person who created the NMP; the date that the NMP was drafted; the name,

title, and contact information of the person who approved the final NMP; and the date of NMP implementation.

- d. The NMP shall be updated prior to any anticipated changes that would affect the overall nutrient balance or the nutrient budget such as, but not limited to, a crop rotation change, changes in the available cropland, or the changes in the volume of wastewater generated.
- e. The Discharger shall review the NMP at least once every five years and notify the Central Valley Regional Board in the annual report of any proposed changes that would affect the NMP.

INFORMATION SHEET

INFORMATION SHEET – ORDER NO. R5-2009-0088
NORTH OF RIVER SANITARY DISTRICT NO.1 AND
SILLS PROPERTIES, INC.
WASTEWATER TREATMENT PLANT AND
WATER RECLAMATION
KERN COUNTY

Background

North of River Sanitary District No. 1 owned and operated a Wastewater Treatment Facility (WWTF) near Oildale. The WWTF was regulated by Waste Discharge Requirements (WDRs) Order No. 92-016 that authorized the discharge of 5.5 million gallons per day (mgd) of undisinfected secondary treated wastewater to four unlined storage ponds and to 780 acres of Reclamation Area. Water Reclamation Requirements (WRRs) Order No. 92-019 regulated the discharge to 1,565 acres of Reclamation Area owned and operated by Sill Properties Inc. In 1999, the District completed the construction of its new WWTF about three and a half miles west of the City of Shafter, near its effluent storage ponds, and abandoned its previous WWTF. The Discharger is currently operating the new WWTF under the WDRs issued to the old WWTF.

The new WWTF consist of headworks with two mechanical bar screens, a lift station, a vortex grit removal system, addition of coagulant (Ferric Chloride) and Polymer, a primary clarifier, a plastic media trickling filter, a secondary clarifier, primary and secondary sludge digesters operating in series, and fourteen unlined sludge drying beds. The effluent is used to irrigate alfalfa, wheat, and corn that are used as fodder, fiber, and seed crops for nonhuman consumption. When irrigation demand is low, effluent is sent to four storage ponds with a total storage capacity of approximately 1,488 acre-feet.

The Discharger submitted a Report of Waste Discharge dated December 2008 where it proposed an interim expansion from 5.5 mgd to 7.5 mgd. The Discharger intends to have an ultimate capacity of 12 mgd in the near future.

For the interim expansion the District purchased 320 acres of Reclamation Area (Assessor's Parcel No. 088-210-05) located in Section 36 of Township T28S, Range R24E, MDB&M. The Discharger proposes to recycle wastewater on approximately 2,380 acres of farmland, of which 1,740 acres are owned by Sill Properties Inc. The other 640 acres are owned by the Sanitary District. Approximately 1,950 acres of land will be farmed, 1,080 acres will be used to grow alfalfa, 490 acres to grow wheat, and 380 acres to grow corn.

Both WDRs Order No. 92-016 and WRRs Order No. 92-019 are being consolidated and updated by this Order. The Order assigns the Sanitary District as the primary entity responsible for the WWTF. Sill Properties Inc. is the primary entity, and the Sanitary District the secondary entity, responsible for the application of recycled wastewater and compliance the water recycling requirements of this Order.

Solids and Biosolids Disposal

Sludge is dried in twelve unlined sludge drying beds. Once the sludge is dry, it is applied as a soil amendment of 80 acres owned by the Discharger. Approximately 570 tons of dry sludge is applied to the 80 acres annually, with loading rates of 7.11 tons per acre per year.

Because the unlined sludge drying beds are a potential source of groundwater degradation, the Discharger is proposing to install mechanical dewatering facilities.

Groundwater Conditions

The groundwater monitoring network consists of two wells (MW-1 and MW-2). Groundwater Monitoring Well # 1 is located on the Southeast corner of the WWTF along Seventh Standard Road. Well # 2 is located on the Northwest corner of the WWTF on the intersection of Magnolia Avenue and Burbank Street. Both wells have a depth of 400 feet bgs and have screened intervals of 20 ft, 80 ft, and 100 ft at three different zones.

Having multiple screened intervals within a monitoring well does not provide an adequate representation of groundwater quality. However, based on the two monitoring wells groundwater appears to be of marginal quality. The flow gradient and quality of first-encountered groundwater near the WWTF cannot be determined with two monitoring wells, a minimum of three wells are needed. The Discharger needs to install an adequate groundwater monitoring network and conduct a groundwater investigation to determine the quality of first-encountered groundwater, and at what depth it occurs.

Compliance History

The most recent Notice of Violation (NOV) was issued to the Sanitary District on 25 August 2008 for violating Standard Provisions C.5 and B.2, the Sanitary District did not have a written sampling program and did not have a spill prevention and control plan, respectively.

In response to the NOV, the Sanitary District submitted a Wastewater Treatment Plant Sampling Manual, and a Wastewater Treatment Plan Spill Prevention Response Plan in October 2008.

In 2006, the average effluent EC was approximately 794 $\mu\text{mhos/cm}$: this exceeded the Basin Plan limit of source water + 500 $\mu\text{mhos/cm}$ ($252 \mu\text{mhos/cm} + 500 \mu\text{mhos/cm} = 752 \mu\text{mhos/cm}$). These exceedances resulted in several violations documented in CIWQS. In 2007, source water EC was reported at 544 $\mu\text{mhos/cm}$, which increased the effluent EC limit to 1,044 $\mu\text{mhos/cm}$. The average effluent EC for 2007 was approximately 855 $\mu\text{mhos/cm}$; therefore, there were no exceedances that year. In 2008 source water EC was reported as approximately 381 $\mu\text{mhos/cm}$, this would correspond to an effluent EC limit of 881 $\mu\text{mhos/cm}$. The average effluent EC for 2008 had a concentration of 818 $\mu\text{mhos/cm}$; therefore, in 2008 the effluent EC did not exceed the effluent EC limit established by the Basin Plan.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Basin Plan indicates the greatest long-term water quality problem facing the entire Tulare Lake Basin is increasing salinity in groundwater, a process accelerated by man's activities and particularly affected by intensive irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. The Central Valley Water Board encourages proactive management of waste stream by dischargers to control addition of salt through use, and has established an incremental EC

limitation of 500 $\mu\text{mhos/cm}$ or a 1,000 $\mu\text{mhos/cm}$, as the measure of the maximum permissible addition of salt constituents through use.

The Basin Plan states that discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 $\mu\text{mhos/cm}$, a chlorine content of 175 mg/L, or boron content of 1.0 mg/L.

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality Water In California," or "Antidegradation Policy" require that waters of the State that are better in quality than established water quality objectives be maintained "consistent with the maximum benefit to the people of the State." Water can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with directives are set forth in the Basin Plan. Degradation of groundwater by some of the typical waste constituents released with discharge from a municipal wastewater utility after effective source control, treatment, and control is consistent with maximum benefit to the people of the State. The technology, energy, water recycling, and waste management advantages of municipal utility service far exceed any benefits derived from a community otherwise reliant on numerous concentrated individual wastewater systems, and the impact on water quality will be substantially less. Economic prosperity of valley communities and associated industry is of maximum benefit to the people of the State, provided terms of the Basin Plan are met.

Constituents of concern in the discharge that have the potential to degrade groundwater include salts and nutrients. However, the discharge will likely not impair the beneficial uses of groundwater because:

- a. For nitrogen, shallow groundwater already contains nitrate concentrations in excess of water quality objectives as a result of previous discharges and agricultural practices in the area. This Order includes a time schedule to meet an effluent nitrogen limit of 10 mg/L and/or demonstrate management practices to preclude any further degradation for nitrates.
- b. For Salinity, the Basin Plan contains effluent limits for EC of source water plus 500 $\mu\text{mhos/cm}$ and 1,000 $\mu\text{mhos/cm}$ maximum for discharges to areas that may recharge to good quality groundwater. These limits considered the antidegradation policy when adopted. Effluent from the WWTF is approximately 820 $\mu\text{mhos/cm}$ and meets the Basin Plan limits. Ambient shallow groundwater is of marginal quality with EC concentrations that appears to be greater than 1,000 $\mu\text{mhos/cm}$; therefore, degradation would not occur. If further groundwater studies indicate natural background quality for salinity is less than 820 $\mu\text{mhos/cm}$, this Order will be reopened to consider degradation.

Treatment Technology and Control

The expansion project will provide treatment and control of the discharge that incorporates:

- a. Secondary treatment of the wastewater;
- b. Pretreatment monitoring and compliance assessment;
- c. Recycling of wastewater for crop irrigation;
- d. Appropriate biosolids handling and treatment for reuse;
- e. An operation and maintenance (O&M) manual;
- f. Certified operators to insure proper operation and maintenance; and
- g. Discharge and groundwater monitoring.

Title 27

Title 27, CCR, section 20005 et seq. (Title 27) contains regulations to address certain discharges to land. Title 27 establishes a waste classification system, specifies siting and construction standards for full containment of classified waste, requires extensive monitoring of groundwater and the unsaturated zone for any indication of failure of containment, and specifies closure and post-closure maintenance requirements. Generally, no degradation of groundwater quality by any waste constituent in a classified waste is acceptable under Title 27 regulations.

Discharges of domestic sewage and treated effluent can be treated and controlled to a degree that will not result in unreasonable degradation of groundwater. For this reason, they have been conditionally exempted from Title 27. Treatment and storage facilities for sludge that are part of the WWTF are considered exempt from Title 27 under section 20090(a), provided that the facilities not result in a violation of any water quality objective. However, residual sludge (for the purposes of the proposed Order, sludge that will not be subjected to further treatment by the WWTF) is not exempt from Title 27. Solid waste (e.g., grit and screenings) that results from treatment of domestic sewage and industrial waste also is not exempt from Title 27. This residual sludge and solid waste are subject to the provisions of Title 27.

Accordingly, the municipal discharge of effluent and the operation of treatment or storage facilities associated with a municipal wastewater treatment plant can be allowed without requiring compliance with Title 27 because the resulting degradation of groundwater will be in accordance with the Basin Plan.

CEQA

North of River Sanitary District No. 1 adopted a Negative Declaration (SCH # 1989091801) on 18 October 1989 for the expansion of a regional WWTF to an ultimate capacity of 12 mgd. The CEQA document did not address impact on groundwater from the project. However, this Order includes effluent limits for salinity, BOD, TSS, and nitrogen, and groundwater limitations for nitrate, EC, and other constituents with MCLs, taste and odor producing, and toxicity constituents. Compliance with these limits will mitigate any significant impacts to water quality.

Proposed Order Terms and Conditions

Discharge Prohibitions, Specifications and Provisions

The proposed Order prohibits discharge to surface waters and water drainage courses and cross connection between potable water and well water piping with recycled water piping.

The proposed Order would set a monthly average daily flow limit of 7.5 mgd, with effluent limits for BOD₅ and TSS of 40 mg/L monthly average and 80 mg/L daily maximum. These limitations are based on Basin Plan minimum performance standards for municipal facilities.

The provisions regarding pond dissolved oxygen, pH, and freeboard are consistent with Central Valley Water Board policy for the prevention of nuisance conditions, and are applied to all such facilities.

The proposed Order would prescribe groundwater limitations that implement water quality objectives for groundwater from the Basin Plan. The limitations require that the discharge not cause or contribute to exceedances of these objectives or natural background water quality, whichever is greater.

The proposed Order includes Provisions that would require the Discharger to evaluate the existing groundwater monitoring network and propose the installation of an adequate groundwater monitoring network. The Order would also provide a time schedule for the Discharger to submit an updated Title 22 Engineering Report, a Sludge Management Plan, an Industrial Pretreatment Program, an installation report for the mechanical dewatering facilities, a Nutrient Management Plan, and a detailed land use study report.

Monitoring Requirements

The proposed Order includes influent and effluent monitoring requirements, pond monitoring, groundwater monitoring, source water monitoring, sludge monitoring, and Reclamation Area monitoring. This monitoring is necessary to characterize the discharge, evaluate compliance with effluent limitations prescribed by the Order, and evaluate groundwater quality and the extent of the degradation caused by the discharge.

The Discharger must monitor groundwater for waste constituents expected to be present in the discharge, and capable of reaching groundwater and violating groundwater limitations if its treatment, control, and environmental attenuation, proves inadequate. For each constituent of concern, the Discharger must, as part of each monitoring event, compare concentrations of constituents found in each monitoring well (or similar type of groundwater monitoring device) to the background concentration or to prescribed numerical limitations to determine compliance.

Reopener

The conditions of discharge in the proposed Order were developed based on currently available technical information and applicable water quality laws, regulations, policies, and plans, and are intended to assure conformance with them. It may be appropriate to reopen the Order if applicable laws and regulations change.

DMS/DKP: 6/09/2009