

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2009-0050

WASTE DISCHARGE REQUIREMENTS

FOR
SETTON PROPERTIES, INC.
PISTACHIO PROCESSING PLANT NO. 2
TULARE COUNTY

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

1. In 2006, Setton Properties, Inc. (hereafter Discharger) submitted a Report of Waste Discharge (RWD) for operation of a new pistachio processing plant. The new plant (hereafter Plant No. 2) is approximately eight miles west of the community of Terra Bella on Avenue 80 between Roads 184 and 192 in Tulare County, in Section 15, Township 23 South, Range 26 East, MDB&M, as shown on [Attachment A](#), which is attached hereto and made part of this Order by reference.
2. According to the Discharger, Plant No. 2 will act as a satellite plant to handle the overflow from its existing pistachio processing plant in Terra Bella (hereafter identified as Plant No. 1). Plant No. 2 will receive, hull, dry, and store pistachios. According to the Discharger, the final processing and packaging of pistachios will still be done at Plant No. 1. [Attachment B](#), which is attached hereto and made a part of this Order by reference, is an area map showing the relative locations of Plant No. 1 and Plant No. 2 in relation to each other.
3. Plant No. 2 will be operated seasonally during the pistachio harvest for a maximum of 25 days during a six- to eight- week period from mid-August to mid-October.
4. During harvest, pistachios will be collected and delivered directly to Plant No. 2. Upon arrival the pistachios will be unloaded into a receiving pit and pre-cleaned to remove foreign materials such as leaves, twigs, and debris. After cleaning, the pistachio hulls will be removed with the use of abrasive rollers. Water will be used to facilitate the removal. After the hulls are removed, the pistachios will be washed and dumped into a float tank to separate mature from immature pistachios. No chemicals are added in these processes that would add salt to the discharge.
5. Immature pistachios as well as screenings, hulls, and empty shells will be collected and hauled off to local dairies for use as cattle feed. Other solids such as leaves and twigs removed during the pre-cleaning process will be combined with prunings and disked into the soil of the surrounding pistachio orchards owned by the Discharger or neighboring fields.

6. Wastewater generated from hulling and washing pistachios, and from the separation float tanks will be collected and screened through parabolic filter screens to remove solids. The process wastewater will then be routed to an aboveground holding tank and discharged directly to the irrigation system where it will be applied via flood irrigation to supplement irrigation water on 225 acres of pistachio trees owned by the Discharger (hereafter Reclamation Area). The Reclamation Area comprises Assessor's Parcel Numbers 319-110-016, 319-120-016, 319-120-018, and 319-120-019.
7. At full capacity, Plant No. 2 will generate up to 2.0 million gallons per day (mgd) of process wastewater.
8. Typical pistachio wastewater exhibits high concentrations of electrical conductivity (EC), total dissolved solids (TDS), biochemical oxygen demand (BOD) and potassium. The following table depicts typical wastewater concentrations for constituents of concern based on analytical data from self-monitoring reports submitted for Plant No. 1:

<u>Constituent</u>	<u>Units</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>
pH	s.u.	5.1	5.3	5.2	5.5
EC	µmhos/cm	37,344	21,824	14,630	9,873
BOD	mg/L	7,475	4,158	4,780	6,900
NO3-N	mg/L	0.3	4.56	0.31	0.5
TKN	mg/L	460	204	95.7	57
TDS	mg/L	7,200	na	na	na
FDS	mg/L	2,175	na	na	na
Potassium	mg/L	1,617	895	458	817

9. The data shows that there has been a significant decrease in constituent concentrations at Plant No. 1 since 2004, especially nitrogen and EC. In 2007, potassium and BOD concentrations did increase, but not as much as in 2004. The Discharger reports that these decreases are the result of changes to its screening and management practices to remove excess solids and reduce the organic load of the wastewater.
10. Since Plant No. 2 will utilize similar equipment and will implement the same changes that have been made at Plant No. 1, characteristics of the discharge from Plant No. 2 are anticipated to be similar to that for the 2006 and 2007 seasons at Plant No. 1.
11. The difference between total dissolved solids (TDS) and fixed dissolved solids (FDS) provided in Finding 8 indicates that over 30% of the EC results from organic compounds. This Order requires additional monitoring for TDS and FDS to confirm this at the new plant.
12. A high percentage of the inorganic portion of the discharge of pistachio wastewater EC is from potassium. There is no Maximum Contaminant Level (MCL) or other numeric limit for potassium except overall limits for EC and total dissolved solids, to which potassium would contribute. Due to the high concentration of potassium in the wastewater the discharge will exceed agronomic rates for potassium. However,

potassium is an important nutrient for crops, especially pistachios, and if readily available, plants will take up potassium in excess of their needs. Discharge of wastewater high in potassium to the pistachio orchard (Reclamation Area) would be beneficial to the crop. Further, while potassium that is not bound to soil particles is readily soluble in water, the positively charged ion impedes transport through the soil column allowing for greater retention time within the root zone. With a vadose zone of 200 feet, potassium concentrations in groundwater are not expected to increase significantly.

13. Using the most recent data for total nitrogen from the 2006 and 2007 seasons (from Plant No. 1) and an annual discharge of 50 million gallons of wastewater for the season, the maximum nitrogen load from Plant No. 2 to the Reclamation Area would be between 106 and 178 lbs/acre/year. This is less than the annual nitrogen uptake rate for pistachio trees of 250 lbs/acre/year from the *Western Fertilizer Handbook, 9th edition*.
14. Other ions that contribute significantly to EC and TDS include chloride, sulfate, and bicarbonate. Typical concentrations of chloride and sulfate in pistachio wastewater at 170 mg/L and 98 mg/L, respectively, are below their established MCLs for drinking water of 250 mg/L. There is no established MCL for bicarbonate.
15. Groundwater monitoring of domestic and irrigation supply wells in the vicinity of the existing discharge at Plant No. 1 has shown no degradation for EC or TDS despite the elevated EC and TDS of its wastewater. It is anticipated that, due to similarities in the discharge and local conditions (i.e., climate, soil, and groundwater), the discharge from Plant No. 2 will not result in measurable groundwater degradation.
16. The low pH of the discharge can contribute to soil acidity in the Reclamation Area. Excessive acidity in soils can be toxic to crops, reducing the availability of phosphorus, and restricting the population of microorganisms that require neutral soil conditions to convert nitrogen and sulfur into acceptable forms for crop uptake. The low pH of the discharge could also contribute to the mobilization of certain metals in the soil potentially degrading groundwater. However, the relatively short processing season and effective use of lime and/or other soil amendments to control soil pH minimizes the potential for the discharge to degrade groundwater.
17. Due to the high organic content, the discharge has the potential to create nuisance conditions (i.e., ponding, insects, and/or objectionable odors) if not properly handled.
18. At plant capacity (2.0 mgd) wastewater from Plant No. 2 will be applied to a depth of about four inches on about 18 acres per day on a 12-day cycle in order allow for sufficient drying time and maintain adequate aerobic conditions. With an average BOD concentration of 5,800 mg/L (averaged from the 2006 and 2007 seasons at Plant No. 1) this would equate to instantaneous BOD loading rate of 5,400 lbs/acre and a BOD loading rate for the 12-day cycle of 450 lbs/acre/day. These estimates exceed the USEPA recommended rate of 100 lbs/acre/day according to publication No. 625/3-77-007, *Pollution Abatement in the Fruit and Vegetable Industry*. However, due to the

short processing season, the annual BOD loading rate to the Reclamation Area from the process wastewater would be less than 30 lb/acre/day.

19. Domestic wastewater is discharged separately to a septic tank/leachfield system regulated by Tulare County.

Site-Specific Conditions

20. Plant No. 2 is in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. Average annual precipitation and evaporation in the vicinity of the plant and Reclamation Area are about 10.9 inches and 62.1 inches, respectively, according to information published by the California Department of Water Resources.
21. According to the USDA Natural Resources Conservation Service *Soil Survey of Tulare County, Western Part, 2001*, soils in the Reclamation Area are primarily Exeter loam, and Madera loam. These are moderately deep well drained soils with moderately slow permeability above the hardpan layer. These soils are suitable for orchards, vineyards, and cultivated crops.
22. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System general industrial storm water permit since all storm water runoff is retained onsite and does not discharge into a water of the United States.
23. According to Federal Emergency Management Agency (FEMA) maps, Plant No. 2 and the Reclamation Area lay outside of the 500-year flood zone.
24. Land use in the vicinity of Plant No. 2 and the Reclamation Area is primarily agricultural and rural residential. There are no residences within one quarter to a half mile of the plant or Reclamation Area. Primary crops grown in the area include almonds, beans, corn, grapes, peaches, pears, pistachios, plums, nectarines, oranges, grain, hay, and alfalfa, according to DWR land use data for Tulare County published in 1999. Irrigation water is supplied primarily by groundwater.

Groundwater Considerations

25. Regional groundwater in the area is encountered at about 200 feet below ground surface (bgs) and flows to the northwest according to information in *Lines of Equal Elevation of Water in Wells in Unconfined Aquifer*, published by Department of Water Resources in Spring 2006.
26. There are no groundwater monitoring wells in place at the site. The Discharger proposes to use water supply wells including domestic and irrigation wells to monitor groundwater in and around Plant No. 2 and its Reclamation Area.

27. Water for the site will be provided by an on-site well. The Discharger collected water samples from the on-site production well, and a nearby irrigation well on an adjoining parcel (Zaninovich well):

Constituent	Units	Production Well (5/26/06)	Zaninovich Well (7/13/06)
Alkalinity (CaCO ₃)	mg/L	na	80
Bicarbonate	mg/L	na	90
Boron	mg/L	na	< 0.1
EC	µmhos/cm	218	334
TDS	mg/L	130	200
Chloride	mg/L	na	20
Sulfate	mg/L	na	30
Calcium	mg/L	na	13
Sodium	mg/L	na	49
Potassium	mg/L	na	2
Nitrate (NO ₃ -N)	mg/L	< 0.1	< 0.1
Iron	mg/L	na	0.1

na = not analyzed

28. Based on limited groundwater data for the area, background water quality is generally good to excellent with an EC of 200 to 300 µmhos/cm, TDS of 130 to 200 mg/L, and nitrate as nitrogen of < 0.1 mg/L.

Basin Plan, Beneficial Uses and Regulatory Considerations

29. The Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition, (hereafter Basin Plan) designates beneficial uses, establishes **numerical and narrative** 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 Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these waste discharge requirements implement the Basin Plan.
30. Plant No. 2 is in Detailed Analysis Unit **243** within the Tule Basin hydrologic unit. The Basin Plan designates the beneficial uses of underlying groundwater as municipal and domestic supply, agricultural supply, industrial service and process supply, and wildlife habitat supply.
31. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in Title 22, California Code of Regulations. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional 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.

32. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Tastes 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.
33. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has been accelerated by man's activity. The Basin Plan recognizes that degradation is unavoidable until a valley wide drain is constructed to carry salts out of the basin. Until the drain is available, 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 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 a boron content of 1.0 mg/L.

These effluent limits are considered best practicable treatment or control (BPTC).

34. With an average effluent EC greater than 9,000 $\mu\text{mhos/cm}$, the EC of the discharge significantly exceeds the Basin Plan limit of source water + 500 $\mu\text{mhos/cm}$ or a maximum of 1,000 $\mu\text{mhos/cm}$. However, Basin Plan, Chapter 4, Implementation Plan, Industrial Wastewater, allows an exception for food processing industries that discharge to land and exhibit a disproportionate increase in the EC of the discharge due to unavoidable concentrations of organic dissolved solids from the raw food product. As stated in Finding 11 it is anticipated that over 30% of the EC is the result organic compounds.
35. The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Regional Water Board will, on a case-by-case basis, adopt numerical limitations in order to implement the narrative objective.
36. The list of crops in [Finding 24](#) is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but is representative. With good to excellent quality groundwater and moderately deep well-drained soils (e.g., Exeter loam and Madera loam) the area is suitable for most crop types including sensitive or moderately salt sensitive crops such as beans, grapes, or stone fruit. This Order sets specific groundwater limitations to implement narrative water quality objectives for plant toxicity to protect beneficial uses for agriculture.

37. In the absence of numerical water quality limits, the Basin Plan methodology is to consider any relevant published criteria. General salt tolerance guidelines, such as *Water Quality for Agriculture* by Ayers and Westcot and similar references indicate that yield reductions in nearly all crops are not evident when irrigating with water having an EC less than 700 $\mu\text{mhos/cm}$. There is, however, an eight- to ten fold range in salt tolerance for agricultural crops. It is possible to achieve full yield potential with waters having EC up to 3,000 $\mu\text{mhos/cm}$ if the proper leaching fraction is provided to maintain soil salinity within the tolerance of the crop. With respect to specific-ion toxicity, significant reductions in crop yields can be expected if boron content exceeds 0.5 mg/L for boron-sensitive crops (e.g., stone fruit). Similarly, reductions in yields of sodium- and chloride-sensitive crops are evident when sprinkler irrigated with water containing sodium and chloride concentrations greater than 3 milliequivalents per liter (i.e., 69 mg/L sodium and 106 mg/L chloride). Guidance documents set no specific-ion toxicity limits for potassium.
38. Based on the above, this Order sets numerical objectives for EC, sodium, and chloride of 700 $\mu\text{mhos/cm}$, 69 mg/L, and 106 mg/L, respectively, as appropriate numerical limits to implement the narrative toxicity objectives and be protective of all beneficial uses, including irrigation of salt sensitive crops.

Antidegradation Analysis

39. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:
- a. The degradation is consistent with the maximum benefit to the people of the State;
 - b. The degradation will not unreasonably 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.
40. Constituents of concern include, in part, pH, nutrients, and salts. However, the discharge will likely not cause measurable groundwater degradation, because:
- a. For pH, the limited processing season, required soil sampling, and effective use of lime and/or other soil amendments should preclude the low pH of the discharge from increasing soil acidity or resulting in groundwater degradation.
 - b. For nitrogen, the limited processing season and direct application of the wastewater to the Reclamation Area at agronomic rates should preclude groundwater degradation by nitrates.

- c. For salinity, the limited processing season and the fact that a high percentage of the inorganic portion of the discharge EC is from potassium, should preclude groundwater degradation for EC. As discussed in [Finding 12](#), potassium is an important nutrient for plants, especially pistachios, and more readily retained in the soil column, so potassium concentrations in groundwater are not expected to increase significantly.

41. This Order establishes groundwater limitations that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order includes a monitoring and reporting program that contains groundwater monitoring to assure that the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

Water Recycling Criteria

42. 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 (California Water Code Section 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.
43. The Basin Plan, Chapter 4, Implementation Plan, Wastewater Reclamation, 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.

Designated Waste and Title 27

44. CWC Section 13173 defines designated waste as either:
 - a. Hazardous waste that has been granted a variance from hazardous waste management requirements pursuant to Section 25143 of the Health and Safety Code.
 - b. Nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions as a waste management unit, could be released in concentrations exceeding applicable water quality objectives or could reasonably be expected to affect beneficial uses of the waters of the state contained in the appropriate state water quality control plan.
45. Release of designated waste is subject to full containment pursuant to the requirements of Title 27, CCR, Section 20005 et seq. (hereafter "Title 27"). Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards provided the following conditions are met:

- a. The applicable regional water board has issued waste discharge requirements, or waived such issuance;
- b. The discharge is in compliance with the applicable basin plan; and
- c. The waste is not hazardous waste and need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

The discharge of effluent and the operation of treatment or storage facilities associated with a food processing facility can be allowed without requiring compliance with Title 27, provided any resulting degradation of groundwater is in accordance with the Basin Plan. With containment in an aboveground holding tank and application of wastewater to 225 acres of pistachio trees for a short period of time (i.e., approximately 25 days annually), the discharge is not anticipated to result in measurable groundwater degradation. Therefore, the discharge authorized by this Order is exempt from Title 27.

CEQA

46. On 28 February 2006, the Tulare County Resource Management Agency, in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the State CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended) adopted a Negative Declaration for the construction and operation of an agricultural facility to hull, dry, and store pistachios. The Negative Declaration determined that the project would have a less than significant impact on water quality due to the minimal use of the facility and reclamation of wastewater on the adjoining pistachio orchard, provided the discharge met the requirements established by the Regional Water Board.
47. The Regional Water Board, as a responsible agency pursuant to CEQA, reviewed and concurs with the general findings in the Negative Declaration and that there will not be a significant impact to water quality provided the conditions of this Order are met.
48. This Order contains specific conditions that will mitigate or avoid environmental effects on water quality, specifically:
 - a. Sets limits for flow, pH, boron, and chloride;
 - b. Requires application at agronomic rates for hydraulic and nitrogen loading;
 - c. Establishes groundwater limits;
 - d. Establishes a monitoring and reporting program; and
 - e. Requires the Discharger to prepare a Wastewater and Nutrient Management Plan and Salinity Control Plan.

General Findings

49. 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.
50. CWC Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the regional 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 regional 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 regional 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."
51. The technical reports required by this Order and the attached Monitoring and Reporting Program No. [R5-2009-0050](#) are necessary to assure compliance with these waste discharge requirements. The Discharger operates the facility that discharges the waste subject to this Order.
52. The California Department of Water Resources 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.
53. 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.

Public Notice

54. 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.
55. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that, pursuant to Sections 13263 and 13267 of the California Water Code, Setton Properties, Inc., and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Prohibitions:

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.
2. Bypass or overflow of untreated wastes, except as allowed by Provision E.2 of Standard Provisions and Reporting Requirements, is prohibited.
3. Discharge of waste classified as 'hazardous', as defined in Section 2521(a) of Title 23, California Code of Regulations, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated', as defined in California Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.
4. Application of treated wastewater in a manner or location other than that described herein is prohibited.

B. Effluent Limitations:

1. The median pH of the discharge shall not be less than 4.5 or greater than 9.0 pH units for the length of each season.
2. The boron and chloride concentrations of the discharge shall not exceed 1.0 mg/L and 175 mg/L, respectively.

C. Discharge Specifications:

1. The discharge shall not exceed 50 million gallons per year or a maximum daily flow rate of 2.0 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. Objectionable odors shall not be perceivable beyond the limits of the plant or the Reclamation Area at an intensity that creates or threatens to create nuisance conditions.
4. 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. Reclamation Area Specifications:

1. 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.
2. No physical connection shall exist between wastewater piping and any domestic water supply or domestic well, or between wastewater piping and any irrigation well that does not have an air gap or reduced pressure principle device.
3. Hydraulic loading of wastewater and irrigation water shall be at reasonable agronomic rates designed to minimize percolation below the root zone (i.e., deep percolation).
4. Application of waste constituents to the Reclamation Area shall be at reasonable rates to preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system. The annual nitrogen load to the Reclamation Area, including the nutritive value of organic and chemical fertilizers and wastewater, shall not exceed the annual crop demand.
5. The Reclamation Area shall be managed to prevent 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.

E. Solids Specifications

1. Any handling and storage of solids and/or sludge at the plant or the Reclamation Area shall be temporary, 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 limitations of this Order.
2. Collected screenings, and other solids removed from the liquid 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, rendering plants, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.
3. Any proposed change in solids use or disposal practice shall be reported to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations:

1. Release of waste constituents from the plant or its Reclamation Area 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) Electrical Conductivity of 700 μ mhos/cm.
 - (iii) Boron of 0.5 mg/L.
 - (iv) Chloride of 106 mg/L.
 - (v) Sodium of 69 mg/L.
 - (vi) 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.

G. 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 Provisions*.
2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. [R5-2009-0050](#), which is part of this Order, and any revisions thereto as adopted by the Regional Water Board or approved by the Executive Officer. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger self-monitoring reports.
3. The Discharger shall keep a copy of this Order at the plant, 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 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 the Order.

5. All technical reports 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 of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
6. 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 Regional 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 Regional Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
7. 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 appropriate Regional Water Board office (currently, the Fresno office).
8. 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 Regional 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 Regional Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.
9. **Wastewater and Nutrient Management Plan.** By 1 August 2009, the Discharger shall submit a comprehensive wastewater and nutrient management plan for the Reclamation Area. At a minimum the Plan shall include procedures for daily monitoring of the plant operation and Reclamation Area during the processing season, an action plan to deal with objectionable odors and/or nuisance conditions, supporting data and calculations for monthly and annual water and nutrient

balances, and management practices that will ensure wastewater, irrigation water, and commercial fertilizers are applied at agronomic rates.

10. **Salinity Control Plan.** By 1 February 2010, the Discharger shall submit a Salinity Control Plan detailing control measures taken to reduce the salinity of the discharge. The Plan should also identify any additional methods that could be used to further reduce the salinity of the discharge to the maximum extent feasible, include an estimate on load reductions that may be attained through the methods identified, and provide a description of the tasks, cost, and time required to investigate and implement the various elements.
11. If the Regional Water Board determines that waste constituents in the discharge have reasonable potential to cause or contribute to an exceedance of any groundwater quality objective, this Order may be reopened for consideration of addition or revision of appropriate numerical effluent or groundwater limitations for the problem constituents.

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 24 April 2009.

Pamela C. Creedon, Executive Officer

Order Attachments:

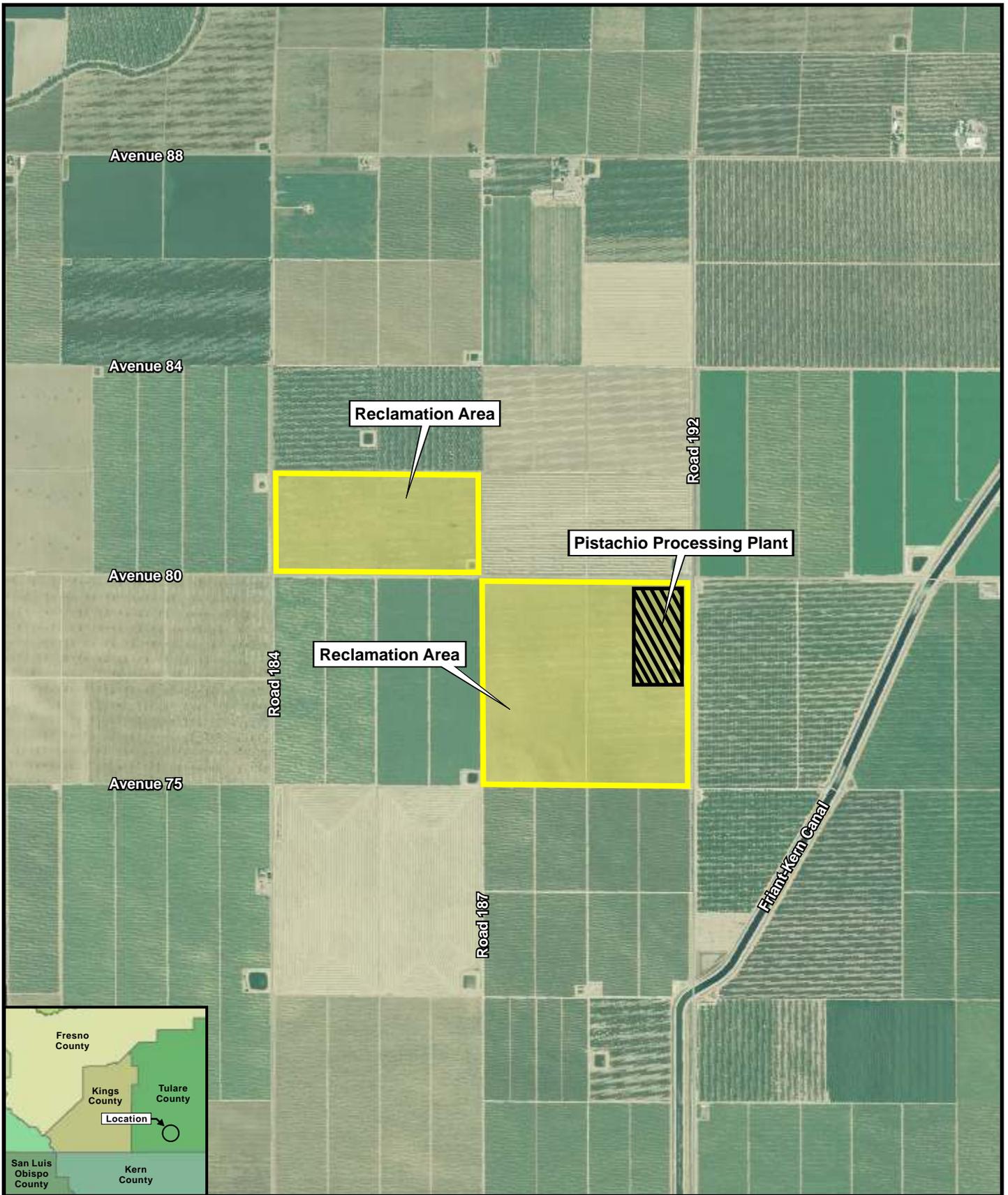
- A. Site Map
- B. Area Map

Monitoring and Reporting Program No. [R5-2009-0050](#)

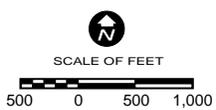
Information Sheet

Standard Provisions (1 March 1991) (separate attachment to Discharger only)

kc/dkp 3/25/09

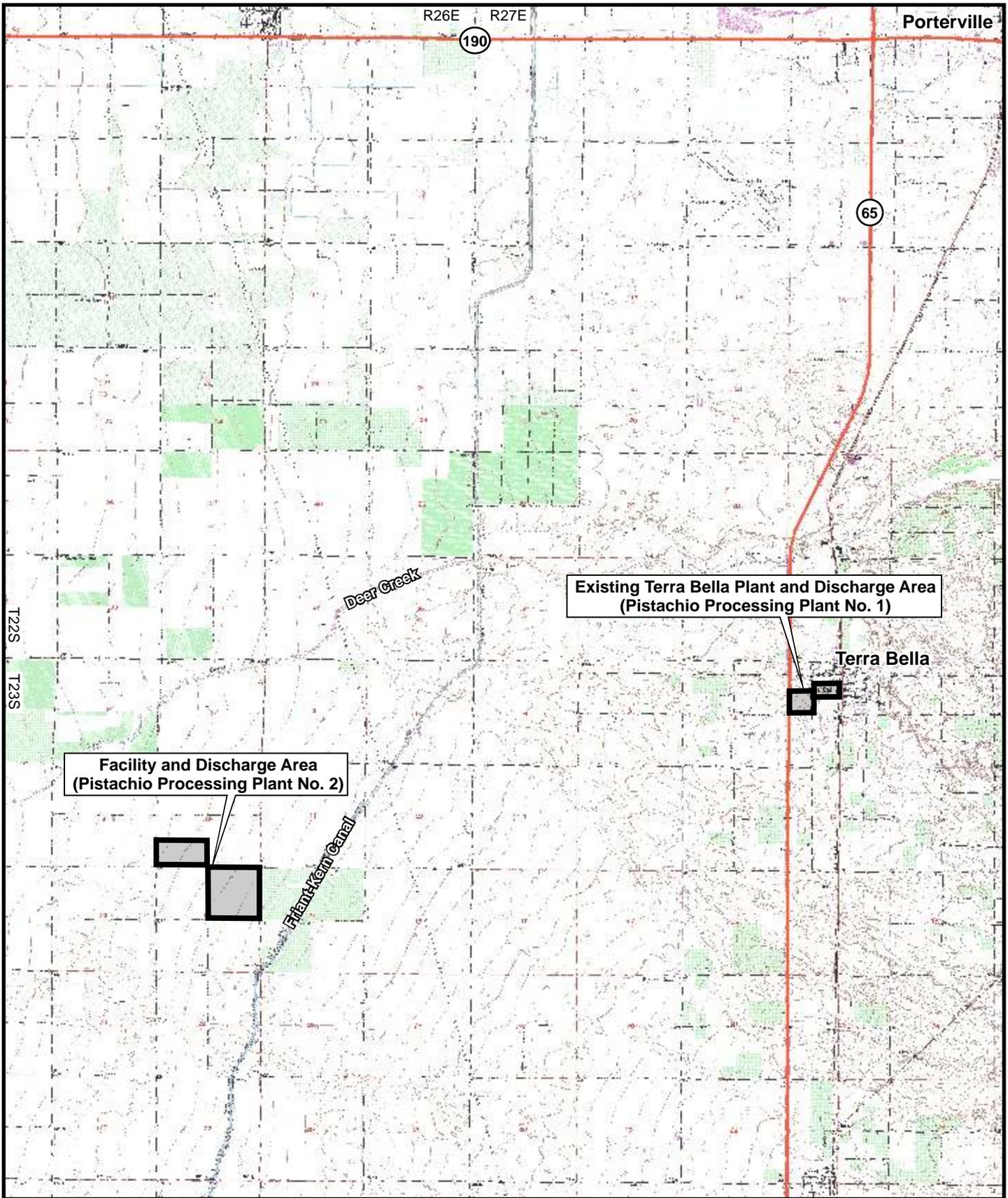


Map Source:
NAIP Aerial Photograph (2005)



SITE MAP
 ORDER NO. R5-2009-0050
 WASTE DISCHARGE REQUIREMENTS
 FOR
 SETTON PROPERTIES, INC.
 PISTACHIO PROCESSING PLANT NO. 2
 TULARE COUNTY

ATTACHMENT A



Map Source:
Topographic Map



AREA MAP
 ORDER NO. R5-2009-0050
 WASTE DISCHARGE REQUIREMENTS
 FOR
 SETTON PROPERTIES, INC.
 PISTACHIO PROCESSING PLANT NO. 2
 TULARE COUNTY

ATTACHMENT B

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0050

FOR
SETTON PROPERTIES, INC.
PISTACHIO PROCESSING PLANT NO. 2
TULARE 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 Regional Water Board adopts or the Executive Officer issues a revised MRP. Changes to sample location shall be established with concurrence of Regional 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. The time, date, and location of each sample shall be recorded on the sample chain of custody form. All analyses shall be performed in accordance with Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991 (Standard Provisions). The results of analyses performed in accordance with specified test procedures, taken more frequently than required at the locations specified in this MRP, shall be reported to the Regional Water Board and used in determining compliance.

Field test instruments (such as pH) may be used provided that:

1. The operator is trained in the proper use of the instrument;
2. The instruments are calibrated prior to each use;
3. Instruments are serviced and/or calibrated at the recommended frequency by the manufacturer or in accordance with manufacturer instructions; and
4. Field calibration reports are submitted as described in the "Reporting" section of this MRP.

In addition to details specified in Standard Provision, Provisions for Monitoring C.3, records of monitoring information shall also include the following:

1. Method detection limit (MDL);
2. Reporting limit (RL) (i.e., a practical quantitation limit or PQL); and
3. Documentation of cation/anion balance for general minerals analysis of supply water, and groundwater samples.

If the regulatory limitation for a given constituent is less than the RL, then any laboratory analytical results for that constituent that are below the RL but above the MDL shall be reported and flagged as estimated.

Analytical procedures shall comply with the methods and holding times specified in: Methods for Chemical Analysis of Water and Wastes (EPA-600/4-79-020, 1983); Methods for Determination of Inorganic Substances in Environmental Samples (EPA/600/R-93/100, 1993); Standard Methods for the Examination of Water and Wastewater, 20th Edition (WEF, APHA, AWWA); and Soil, Plant and Water Reference Methods for the Western Region, 2003, 2nd Edition (hereafter Western Region Methods).

If monitoring consistently shows no significant variation in magnitude of a constituent concentration 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.

EFFLUENT MONITORING

Effluent samples shall be collected just prior to discharge to the Reclamation Area. The Discharger shall monitor the discharge for the constituents and frequencies specified below throughout the processing season and while there is a discharge:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
Daily Flow ¹	gal/day	Estimated	Daily
pH	pH units	Grab	Daily
Electrical Conductivity	µmhos/cm	Grab	Daily
Total Suspended Solids (TSS)	mg/L	24 hr – Composite ²	Weekly
BOD ₅ ³	mg/L	24 hr – Composite	Weekly
Nitrate(as NO ₃ -N)	mg/L	24 hr – Composite	Weekly
Total Kjeldahl Nitrogen (TKN)	mg/L	24 hr – Composite	Weekly
Total Nitrogen	mg/L	24 hr – Composite	Weekly
TDS ⁴	mg/L	24 hr – Composite	Weekly
InorganicTDS ⁵	mg/L	24 hr – Composite	Weekly
Potassium	mg/L	24 hr – Composite	Weekly
General Minerals ⁶	mg/L	24 hr – Composite	Annually ⁷
Boron	mg/L	24 hr – Composite	Annually ⁷

¹ Flow shall be estimated from the influent flow to the plant as measured using a magnetic or ultrasonic flow meter.

² Unless otherwise approved, 24-hour composite samples shall be collected using a composite wastewater sampler. While being composited, samples shall be refrigerated at 4 °C (39.2 °F).

³ Five-day, 20°C biochemical oxygen demand (BOD₅).

⁴ TDS shall be determined using Standard Method 2540C.

⁵ Inorganic TDS shall be determined using EPA Method No. 160.4.

⁶ General Minerals, as used in this MRP, shall include the constituents in the General Minerals Analyte List below.

⁷ During the middle of the processing season.

General Minerals Analyte List ¹

Alkalinity (as CaCO ₃)	Chloride	Sodium
Bicarbonate (as CaCO ₃)	Hardness (as CaCO ₃)	Sulfate
Calcium	Magnesium	TDS
Carbonate (as CaCO ₃)	Potassium	

¹ General Minerals Analyte lists may vary depending on the laboratory, but shall include at least the above analytes.

RECLAMATION AREA MONITORING

The Discharger shall monitor the Reclamation Area on a daily basis throughout the processing season and while there is a discharge. Monitoring shall describe the type of crops grown and shall include notations based on observations whether nuisance conditions such as ponding, insects, and/or objectionable odors are present. The monitoring data shall be submitted as part of the annual monitoring report.

In addition, the Discharger shall perform the following routine monitoring and loading calculations for each discrete irrigation area.

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type</u>	<u>Frequency</u>
Wastewater application area	acres	N/A	Daily ¹
Wastewater flow	mgd	Estimated ²	Daily ¹
Hydraulic loading	inches/acre ³	Calculated	Annually ¹
BOD ₅ loading ⁴			
on day of application ⁵	lbs/acre	Calculated	Daily ¹
averaged over application cycle ⁶	lbs/acre/day	Calculated	Daily ¹
Annual nitrogen loading ⁷			
from wastewater	lbs/acre	Calculated	Annually ¹
from fertilizers	lbs/acre	Calculated	Annually ¹
Inorganic TDS loading ⁷	lbs/acre	Calculated	Annually ¹
Potassium loading ⁷	lbs/acre	Calculated	Annually ¹

¹ When discharging.

² Flow estimate based on influent flow to the Plant.

³ Report to the nearest 0.5 inch.

⁴ BOD₅ loading rates shall be calculated using the applied volume of wastewater, actual application area, and the average wastewater BOD₅.

⁵ Application day, as referred to in this MRP, shall be defined as a 24-hour period.

⁶ Application cycle, as referred to in this MRP, shall be defined as the period (in days) of wastewater application followed by resting interval until next wastewater application.

⁷ Wastewater nitrogen, inorganic TDS, and potassium loading shall be calculated using the applied volume of wastewater, actual application area, and the average concentration of total nitrogen, inorganic TDS, and potassium for the season.

SOIL MONITORING

The Discharger shall establish with concurrence of Regional Water Board staff, at least four soil profile monitoring locations within the Reclamation Area and at least one permanent representative background location(s) (i.e., that historically have not received process wastewater). The samples shall be collected and analyzed for the constituents and frequencies specified below:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Cation Exchange Capacity	meq/100 grams	6 feet ¹	Semi-annually ²
Soil EC	dS/m	6 feet ¹	Semi-annually ²
Soil pH	pH units	6 feet ¹	Semi-annually ²
Buffer pH	mg/kg as CaCO ₃	6 feet ¹	Semi-annually ²
Total Kjeldahl Nitrogen	mg/kg	6 feet ¹	Semi-annually ²
Nitrate (as NO ₃ -N)	mg/kg	6 feet ¹	Semi-annually ²
Potassium	mg/kg	6 feet ¹	Semi-annually ²

¹ Samples to be analyzed shall be collected at 2, and 6 feet.

² In June and November.

GROUNDWATER MONITORING

The Discharger shall use existing irrigation and water supply wells to set up an appropriate groundwater monitoring network, with concurrence of Regional Water Board staff to monitor groundwater up-gradient and down-gradient of the Reclamation Area.

Prior to collecting samples each 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. The Discharger shall monitor groundwater for the constituents and frequencies specified below.

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
pH	pH units	Grab	Annually ¹
Electrical Conductivity	µmhos/cm	Grab	Annually ¹
Nitrate (as NO ₃ -N)	mg/L	Grab	Annually ¹
Boron	mg/L	Grab	Annually ¹
Iron	mg/L	Grab	Annually ^{1,2}
Manganese	mg/L	Grab	Annually ^{1,2}

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Frequency</u>
Total Organic Carbon	mg/L	Grab	Annually ¹
General Minerals ³	mg/L	Grab	Annually ¹

¹ In November.

² Samples must be filtered prior to preservation.

³ General Minerals shall include at least the constituents listed in the General Minerals Analyte List included herein in the Effluent Monitoring section. An anion/cation balance demonstrating that analyses are complete shall accompany the results.

SOURCE WATER MONITORING

The Discharger's facility supply water shall be monitored for the following:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Measurement</u>	<u>Frequency</u>
Electrical Conductivity	µmhos/cm	Grab	Annually ¹

¹ During the processing season.

REPORTING

The Discharger shall report monitoring data and information as required in this MRP and as required in the Standard Provisions.

All reports submitted in response to this Order shall comply with the signatory requirements in Standard Provision B.3.

An Annual Report shall be submitted to the Regional Water Board **by 1 February of the year following the year the samples were collected.** 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. If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included. The Annual Report shall include the following:

1. The names and telephone numbers of persons to contact regarding emergency and routine situations;
2. 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);
3. The most recent water supply report including laboratory data;

4. A summary of solids monitoring, including:
 - a. Annual solids production in dry tons and percent solids; and
 - b. A description of disposal methods. If more than one method is used, include the percentage disposed of by each method.
5. A summary and discussion of the compliance record for the reporting period. If violations have occurred, the report shall also discuss corrective actions taken and planned to bring the discharge into full compliance with this Order.

All technical reports required herein must be overseen and certified by a California registered civil engineer, certified engineering geologist, or certified hydrogeologist in accordance with California Business and Professions Code, sections 6735, 7835, and 7835.1.

Monitoring data and/or discussions submitted concerning the wastewater treatment and disposal system performance must also be signed and certified by the Facility manager. When reports contain laboratory analyses performed by the Discharger and the Facility manager is not in the direct line of supervision of the laboratory, reports must also be signed and certified by the chief of the laboratory.

A transmittal letter shall accompany each self-monitoring report. The letter shall discuss any violations 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 and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory.

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, Executive Officer

24 April 2009

kc/dkp: 3/25/09

INFORMATION SHEET

R5-2009-0050
SETTON PROPERTIES, INC.
PISTACHIO PROCESSING PLANT NO. 2
TULARE COUNTY

Background

Setton Properties (Discharger) has operated a pistachio processing plant in Terra Bella since 1995. In August 2006, the Discharger submitted a Report of Waste Discharge (RWD) for operation of a new satellite plant (Plant No. 2) on Avenue 80 between Roads 184 and 192, approximately eight miles from its existing pistachio processing plant in Terra Bella (identified as Plant No. 1). According to the RWD, Plant No. 2 will receive, hull, dry, and store pistachios. The final processing and packaging will still be done at Plant No. 1.

Plant No. 2 will generate wastewater during a 25-day processing season within a six- to eight-week period between mid-August and mid-October. Wastewater from the hulling and washing process and from the separation float tanks will pass through parabolic filter screens to an aboveground holding tank and discharged to the irrigation system to irrigate 225 acres of pistachio trees owned by the Discharger (Reclamation Area).

Estimated flows for Plant No. 2 will be about 2.0 million gallons per day (mgd).

Solids Disposal

Immature pistachios as well as screenings, hulls, and empty shells will be collected and hauled to local dairies for use as cattle feed. Other solids such as leaves and twigs removed during the pre-cleaning process will be combined with prunings and disked into the soil of the surrounding pistachio orchards owned by the Discharger or neighboring fields.

Groundwater Conditions

Regional groundwater in the area is encountered at about 200 feet below ground surface (bgs) and flows to the northwest according to information in Lines of Equal Elevation of Water in Wells in Unconfined Aquifer, published by Department of Water Resources in Spring 2006.

Based on limited groundwater data from water supply wells in the area, background water quality is generally good to excellent, with an EC of 200 to 300 umhos/cm, TDS of 130 to 200 mg/L, and nitrate as nitrogen of < 0.1 mg/L. The Discharger will use water supply wells including domestic and irrigation wells to monitor groundwater in and around Plant No. 2 and its Reclamation Area.

Basin Plan, Beneficial Uses, and Regulatory Considerations

The Water Quality Control Plan for the Tulare Lake Basin (Basin Plan) designates beneficial uses, establishes numerical and narrative 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 Board.

The Basin Plan indicates the greatest long-term 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 Regional Water Board encourages proactive management of waste streams by dischargers to control addition of salt through use, and has established an incremental EC limitation of 500 $\mu\text{mhos/cm}$ over source water or a maximum of 1,000 $\mu\text{mhos/cm}$, as the measure of the permissible addition of salt constituents through use. 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 a boron content of 1.0 mg/L.

With an average effluent EC greater than 9,000 $\mu\text{mhos/cm}$, the EC of the discharge significantly exceeds the Basin Plan Limit of source water + 500 $\mu\text{mhos/cm}$ or a maximum of 1,000 $\mu\text{mhos/cm}$. However, Basin Plan, Chapter 4, Implementation Plan, Industrial Wastewater, allows an exception for food processing industries that discharge to land and exhibit a disproportionate increase in the EC of the discharge due to unavoidable concentrations of organic dissolved solids from the raw food product. It is anticipated that over 30% of the discharge EC is from organic compounds.

The Basin Plan states that when compliance with a narrative objective is required to protect specific beneficial uses, the Regional Water Board will, on a case-by-case basis, consider relevant published criteria to establish numerical limitations in order to implement the narrative objective. With good to excellent quality groundwater and moderately deep well-drained soils (e.g., Exeter loam and Madera loam) the area is suitable for most crop types including sensitive or moderately salt sensitive crops such as beans, grapes, or stone fruit. This Order sets numerical objectives for EC, sodium, and chloride of 700 $\mu\text{mhos/cm}$, 69 mg/L, and 106 mg/L, respectively, as appropriate numerical limits to implement the narrative toxicity objectives and be protective of all beneficial uses, including irrigation of salt sensitive crops.

Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16, "Statement of Policy With Respect to Maintaining High Quality Waters 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." Waters can be of high quality for some constituents or beneficial uses and not others. Policy and procedures for complying with this directive are set forth in the Basin Plan.

Constituents of concern include, in part, pH, nutrients, and salts. However, the discharge will likely not cause measurable groundwater degradation, because:

- a. For pH, the limited processing season, required soil sampling, and effective use of lime and/or other soil amendments should preclude the low pH of the discharge from increasing soil acidity or resulting in groundwater degradation.

- b. For nitrogen, the limited processing season and direct application of the wastewater to the Reclamation Area at agronomic rates should preclude groundwater degradation by nitrates.
- c. For salinity, the limited processing season and the fact that a high percentage of the inorganic portion of the discharge EC is from potassium should preclude groundwater degradation for EC.

While potassium loading will exceed agronomic rates, potassium is an important nutrient for crops, especially pistachios, and if readily available, plants will take up potassium in excess of their needs. So the discharge of wastewater high in potassium to the pistachio orchard (Reclamation Area) would be beneficial to the crop. Further, while potassium not bound to soil particles is readily soluble in water, the positively charged ion impedes transport through the soil column allowing for greater retention time within the root zone. With a vadose zone of 200 feet, potassium concentrations in groundwater are not expected to increase.

Groundwater monitoring in the vicinity of the discharge from Plant No. 1 has shown no degradation for EC or TDS despite the elevated EC and TDS of its wastewater.

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.

Title 27 Section 20090(b) exempts discharges of designated waste to land from Title 27 containment standards provided the Regional Water Board has issued waste discharge requirements or waived such issuance; the discharge is in compliance with the Basin Plan; and the waste need not be managed according to Title 22, CCR, Division 4.5, Chapter 11, as a hazardous waste.

Accordingly, the discharge of effluent and the operation of treatment or storage facilities associated with a food processing facility can be allowed without requiring compliance with Title 27, provided the resulting degradation of groundwater is in accordance with the Basin Plan. With containment in an aboveground holding tank and application of wastewater to 225 acres of pistachio trees for a short period of time (i.e., approximately 25 days annually) the discharge is not anticipated to result in measurable groundwater degradation. Therefore, the discharge authorized by this Order is exempt from Title 27.

CEQA

On 28 February 2006, the Tulare County Resource Management Agency adopted a Negative Declaration (PSP 05-115) for the construction and operation of an agricultural facility to hull, dry, and store pistachios.

The Negative Declaration determined that the project would have a less than significant impact on water quality due to the minimal use of the facility and reclamation of wastewater on the adjoining pistachio orchard, provided the discharge met the requirements established by the Regional Water Board. The Negative Declaration did not include any specific mitigation measures. Regional Water Board staff reviewed and concurs with the general findings in the Negative Declaration and that there would not be a significant impact to water quality.

This Order contains the following specific measures to mitigate any adverse impacts to water quality:

- a) Sets limits for flow, pH, boron, and chloride;
- b) Requires application at agronomic rates for hydraulic and nitrogen loading;
- c) Establishes groundwater limits;
- d) Establishes a monitoring and reporting program; and
- e) Requires preparation of a Wastewater and Nutrient Management Plan and a Salinity Control Plan.

Proposed Order Terms and Conditions

Discharge Prohibitions, Effluent Limitations, Discharge Specifications, and Provisions

The proposed Order prohibits discharge to surface waters and water drainage courses.

The proposed Order would set an annual flow limit of 50 million gallons and maximum daily flow limit of 2.0 mgd.

The proposed Order would set a performance based limit for pH such that the median pH of the discharge shall not be less than 4.5 or greater than 9.0 over the course of the processing season. The pH limit is intended to take into account the variability in discharge strength from day to day. The lower pH limit is not expected to contribute to soil acidity in the Reclamation Area due to the limited seasonal discharge. Required soil sampling and effective use of lime and/or other soil amendments as required should mitigate any adverse affects on crops and would be preferable to chemically adjusting the pH of the effluent on a continuous basis.

The proposed Order would prescribe that the application of waste constituents to the Reclamation Area shall be at reasonable agronomic rates for nitrogen and hydraulic loading

and preclude creation of a nuisance or degradation of groundwater, considering the crop, soil, climate, and irrigation management system.

The proposed Order would prescribe groundwater limitations based on numeric interpretations of the Basin Plan's water quality objectives for agriculture and set specific limits for EC, boron, chloride, nitrates, and sodium, which would be protective of all beneficial uses, including irrigation of salt sensitive crops. There is no MCL or other numeric limit for potassium other than overall limits for EC and total dissolved solids, to which potassium would contribute. The limitations require that the discharge not cause or contribute to exceedances of these objectives or natural background water quality, whichever is greatest. Groundwater data from the discharge at Plant No. 1 (approximately eight miles away) indicates EC concentrations ranging from 300 to 600 $\mu\text{mhos/cm}$ and that, despite the high EC of the discharge, the Discharger can comply with the groundwater limits.

The proposed Order includes provisions requiring the Discharger to submit a comprehensive Wastewater and Nutrient Management Plan and Salinity Control Plan. The Wastewater and Nutrient Management plan would include set procedures for daily monitoring of the Facility operation and the Reclamation Area during the processing season and an action plan to deal with objectionable odors and/or nuisance conditions. The Salinity Control Plan control would detail measures taken to reduce the salinity of the discharge and identify any additional methods that could be used to further reduce the salinity.

Monitoring Requirements

Section 13267 of the CWC authorizes the Regional Water Board to require monitoring and technical reports as necessary to investigate the impact of a waste discharge on waters of the state. In recent years there has been increased emphasis on obtaining all necessary information, assuring the information is timely as well as representative and accurate, and thereby improving accountability of any discharger for meeting the conditions of discharge. Section 13268 of the CWC authorizes assessment civil administrative liability where appropriate.

The proposed Order includes effluent monitoring requirements, supply water monitoring, and Recycling monitoring requirements including soil sampling and groundwater monitoring in the Reclamation Area. In order to adequately characterize wastewater, the Discharger is required to monitor for pH, EC, biochemical oxygen demand, total dissolved solids, inorganic dissolved solids, total nitrogen, potassium, and other constituents.

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 listed in [Section F, Groundwater Limitations](#), of the WDR, 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.

kc/dkp: 3/25/09