

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGIONAL

ORDER NO. R5-2009-0048

WASTE DISCHARGE REQUIREMENTS

FOR  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE PROCESSING FACILITY  
SAN JOAQUIN COUNTY

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

1. George Reed Inc. (Discharger) submitted a Report of Waste Discharge (RWD) on 10 February 2006 for an existing aggregate processing facility. Supplemental information was submitted on 27 February 2007 and 15 June 2007.
2. The Discharger operates an aggregate processing facility on 197 acres of land in Section 15, T2S, R9E, MDB&M (Assessors Parcel Numbers 240-220-18 and 240-220-19) in San Joaquin County. The facility is located at 26292 East River Road in Escalon. The facility location is presented on Attachment A, which is attached hereto and made part of this Order by reference.
3. The 197 acre facility used for processing, wastewater disposal, and excavation are owned and operated by George Reed, Inc. A site plan is included as Attachment B, which is attached hereto and made part of this Order by reference.
4. Order No. 72-22, which prescribed requirements for land discharge of aggregate processing wastewater, was adopted by the Regional Water Board on 23 July 1971. The Order is no longer consistent with current plans and policies of the Board, and is therefore being revised to reflect the current operation of the facility.

**Aggregate Processing Operations**

5. The facility has operated since at least 1960. Mining has been performed both on-site and off-site. Presently, most of the industrial rock and sand material processed originates off-site. Off-site materials are transported by trucks to the processing facility. The off-site areas are subject to site-specific permitting requirements (e.g. stormwater permits) and so are not addressed in this Order.
6. Products produced at the facility are: screened and washed sand, screened and/or washed crushed rock, recycled base rock, and asphaltic concrete products. Washing the screened products generates wastewater.
7. Wastewater is discharged into an on-site settling pond system. New ponds will be constructed on-site when the existing pond becomes filled with sediment and does not have adequate storage capacity. Presently the ponds consist of the following:

<u>Pond</u>	<u>Catchment Area (acres)</u>	<u>Storage Capacity (ac•ft)</u>	<u>Siltation Rate (ft<sup>3</sup>/year)</u>
Siltation Pond	5.86	28.76	651,990
Pond No. 2	0.89	4.71	32,599
Percolation Pond	4.14	17.50	1,716

8. The settling pond system is located in an area that was previously excavated. As the ponds lose storage capacity, the Discharger will construct new containment berms and wastewater will be directed to the new pond(s). The previously used ponds will then be reclaimed as an orchard.
9. The Discharger has identified off-site aggregate deposits that will provide material to the processing facility to allow operation until approximately March 2027 and adequate on-site pond capacity exists to allow processing that long. The San Joaquin County Planning Commission has approved continued operation of the facility until two years prior to March 2027; the last two years of operation will consist of reclamation.
10. Approximately 101 acres of the 197 acres at the facility have been previously mined and have been reclaimed to almond and walnut orchards. The remaining 96 acres is comprised of 85 acres that is occupied by the processing equipment, material storage, wastewater ponds, and roads. The other 11 acres will be planted as an orchard without having been excavated. Future excavation of the area is acceptable if the Discharger's plans change.
11. The Discharger excavates raw material from various source pits using a front-end loader and/or excavator. Excavation does not occur below the water table (first saturated interval).
12. Raw material is hauled in trucks to the processing facility where it is unloaded at a drive-over chute-feeder for processing. Processing consists of screening, sorting, crushing, and washing fine-grained particles from sand and sand/gravel mixtures; heating and mixing asphalt concrete, and recycling concrete and asphalt concrete from construction sites.
13. The recycle crushing plant is a dry processing operation with minimal amount of water used for dust suppression at transfer points. The material is crushed and screened into a finished product conforming to California Department of Transportation grading specifications.

### **Asphaltic Concrete Production**

14. The asphalt plant produces a combination of pre-finished materials from the crushing plant, ancillary source stockpiles, and refined asphalt oil. Processed aggregate and fine-grained materials are fed into one of six individual receiving storage hoppers at the asphalt plant by a front-end loader. The materials are combined and conveyed to a dryer drum where it is heated to a temperature of 325 degrees Fahrenheit. The material exits

the dryer and is transported to a screening deck where it is mixed and stored in one of four storage hoppers. The segregated materials are released into a pug mill where they are combined and blended with asphaltic oil . The finished material is then loaded into a truck or conveyed into a silo where it can be stored awaiting truck loading.

15. At the asphalt plant small amounts of wastewater are generated in aggregate sorting and conveyance dust control activities before the asphalt oil is added; that wastewater is discharged to the wastewater ponds. Wastewater does not contact the asphalt oil or the asphalt product.
16. Asphalt oil is stored in two heated underground storage tanks providing a total of approximately 30,000 gallons of storage. Because the oil becomes solid at ambient temperatures, CCR Title 23, Section 2621 exempts asphalt oil tanks from the underground storage tank regulations.
17. Petroleum fuels and lubricants are also stored at two locations. Both of the locations are equipped with secondary containment. The main fuel storage area is located in the northern portion of the facility and south of the scale house; the secondary containment provides 32,700 gallons of capacity. The secondary fuel storage area is located to the south and east of the maintenance shop; the secondary containment provides 19,300 gallons of capacity. The tanks at the secondary fuel storage area are presently empty but have stored asphalt oil in the past. The fuel storage areas contain the following:

<u>Fuel Type</u>	<u>Storage Capacity</u>	<u>Storage Method</u>	<u>Location</u>
Asphalt Oil (east)	20,000-gallon	Underground	Asphalt Plant
Asphalt Oil (west)	10,000-gallon	Underground	Asphalt Plant
Diesel	8,000-gallon	Horizontal/Above Ground	Main Fuel Storage Area
Diesel	6,000-gallon	Horizontal/Above Ground	Main Fuel Storage Area
Waste Oil	6,000-gallon	Horizontal/Above Ground	Main Fuel Storage Area
Not Specified <sup>1</sup>	4,000-gallon	Horizontal/Above Ground	Main Fuel Storage Area
Asphalt Emulsion	7,000-gallon	Vertical/Above Ground	Main Fuel Storage Area
Gear Lubricant	(1) 55-gallon	Above ground	Main Fuel Storage Area
Heat Transfer Oil	(4) 55-gallon	Above Ground	Main Fuel Storage Area
Hydraulic Oil	(2) 55-gallon	Above Ground	Main Fuel Storage Area
Motor/Crankcase Oil	(2) 55-gallon	Above Ground	Main Fuel Storage Area
Asphalt Emulsion <sup>1</sup>	6,780- gallon	Horizontal/Above Ground	Secondary Fuel Storage Area
Asphalt Emulsion <sup>1</sup>	6,780-gallon	Horizontal/Above Ground	Secondary Fuel Storage Area

<sup>1</sup> Indicates the tank is not presently used and is empty.

18. The reclamation plan for the facility calls for eventual reclamation of the entire area to orchards. The reclamation plan was first presented as a “rehabilitation plan” when the site was originally permitted with San Joaquin County in 1957. In 1989, the Conditional Use Permit was modified to extend the life of the permit for 20 years to allow for continuous rehabilitation of the facility after processing ends. In 1999, a Revision to Approved Actions was approved by the San Joaquin County Planning Commission to allow continued use of the processing facility for 30 years from the date of the approval along with ongoing rehabilitation of the site. The site has an approved reclamation plan

on record with the State Mining and Geology Board. The California Surface Mining and Reclamation Act mine identification number is 91-39-0019.

### **Wastewater System**

19. Wastewater is generated when washing fine-grained sediment from aggregate or in dust control activities. All wastewater is contained and discharge to the on-site wastewater ponds.
20. A process flow diagram is included as Attachment C, which is attached hereto and made part of this Order by reference.
21. No chemicals are added to the wastewater or wastewater ponds to aid settling of sediment.
22. All of the wastewater ponds are protected by a levee; as a result they are outside the 100-year flood zone. There are three ponds: the Silt Pond, the Secondary Pond, and the Percolation Pond. The ponds are connected with pipes set in the berms. The wastewater pond provides 72.4 ac•ft (23.6 million gallons) of storage with two feet of freeboard.
23. This Order allows the wastewater ponds to be constructed anywhere within the processing facility boundary identified on Attachment B as long as the Discharger is in compliance with this Order and requirements imposed by other agencies.
24. The RWD states that the daily average volume of wastewater used on a daily basis is approximately 1.06 million gallons per day (Mgpd) with peak wastewater volumes of 2.2 Mgpd, typically depending on weather conditions, the product produced, and market demand.
25. The RWD presented a water balance that showed adequate storage and disposal capacity for the average wastewater generation flow rate. The water balance was based on the 100-year return precipitation amount and included stormwater runoff from the processing area but did not include the use of any recycled water from the settling ponds. Therefore the Discharger could significantly reduce the volume of wastewater stored in the ponds by recycling wastewater pond water if needed.
26. Process water is provided by three on-site wells. The well locations are presented on Attachment B. The well construction features are summarized below:

<u>Well</u>	<u>Age</u>	<u>Depth</u>	<u>Comments</u>
Wash Plant	1 year	50 feet	No sanitary seal.
Asphalt Plant No. 1	6 years	80 feet	No sanitary seal.
Asphalt Plant No. 2	Unknown	Unknown	Unknown

### Wastewater Quality

27. The Discharger sampled the wastewater slurry on 29 September 2005 while the facility was in operation. The slurry was allowed to settle to separate solids from the slurry. Solids and liquid portions of the slurry were submitted to Sierra Foothill Laboratory for analysis. A second set of samples was collected on 2 May 2007 to provide lower detection limits for selected analytes. The analytical results are presented below and are compared with Water Quality Limits used to implement the applicable water quality objectives for protection of the beneficial uses of the underlying groundwater.

Analyte	<u>Soil Quality Data</u>		<u>Wastewater Quality Data</u>			<u>WQLs Information</u> <sup>1</sup>	
	Units	9/25/2005	Units	9/25/2005	5/2/2007	WQL	WQL Source
Antimony	mg/kg	ND (0.003)	mg/L	ND (0.005)	--	0.006	USEPA PMCL
Arsenic	mg/kg	3.8	mg/L	0.0084	0.0036	0.010	USEPA PMCL
Barium	mg/kg	179	mg/L	0.47	--	1.0	CAL/EPA PMCL
Beryllium	mg/kg	0.52	mg/L	ND (0.001)	--	0.004	USEPA PMCL
Cadmium	mg/kg	ND (0.2)	mg/L	ND (0.001)	ND (0.00002)	0.005	USEPA PMCL
Chromium VI	mg/kg	NR	mg/L	NR	--	0.10	AG WQG
Chromium (total)	mg/kg	40	mg/L	0.027	--	0.050	CAL/EPA PMCL
Cobalt	mg/kg	14.3	mg/L	ND (0.05)	--	0.050	AG WQG
Copper	mg/kg	23.5	mg/L	0.03	--	0.20	AG WQG
Lead	mg/kg	3.34	mg/L	0.0055	ND (0.00025)	0.015	USEPA PMCL
Mercury	mg/kg	ND (0.50)	mg/L	ND (0.001)	--	0.002	USEPA PMCL
Molybdenum	mg/kg	ND (1.0)	mg/L	ND (0.005)	--	0.010	AG WQG
Nickel	mg/kg	24.6	mg/L	ND (0.10)	--	0.100	CAL/EPA PMCL
Selenium	mg/kg	ND (0.50)	mg/L	ND (0.001)	--	0.020	AG WQG
Silver	mg/kg	ND (5.0)	mg/L	ND (0.020)	--	0.10	USEPA SMCL
Thallium	mg/kg	ND (10)	mg/L	ND (0.10)	0.00003	0.002	USEPA PMCL
Vanadium	mg/kg	67.7	mg/L	0.083	0.0094	0.10	AG WQG
Zinc	mg/kg	38.2	mg/L	0.06	--	2.0	AG WQG
Boron		NR	mg/L	0.14	--	0.7	AG WQG
pH		NR	std.	7.9	--	6.5-8.4	AG WQG
Oil and Grease		NR	mg/L	NR	--	NPL	
Hardness		NR	mg/L	229	--	NPL	
TDS		NR	mg/L	384	--	450	AG WQG
Iron		NR	mg/L	23	ND (0.05)	5.0	AG WQG
Manganese		NR	mg/L	1.04	ND (0.02)	0.20	AG WQG
Potassium		NR	mg/L	8.6	--	NPL	
Chloride		NR	mg/L	9.3	--	106	AG WQG
Nitrogen (Total)		NR	mg/L	11	6.1	NPL	
Nitrate as N		NR	mg/L	--	--	10	USEPA PMCL
Ammonia as N		NR	mg/L	ND (0.5)	--	1.5	Taste and Odor
Sulfate		NR	mg/L	43	--	500	USEPA PMCL
Phosphate		NR	mg/L	0.61	--	NPL	
Alkalinity (Total)		NR	mg/L	178	--	NPL	
Sodium		NR	mg/L	29	27	69	AG WQG
Aluminum		NR	mg/L	22	ND (0.050)	1.0	CAL/EPA PMCL
Calcium		NR	mg/L	51	--	NPL	
Magnesium		NR	mg/L	25	--	NPL	
Elec. Cond.		NR	ug/mhos	543	--	700 <sup>2</sup>	AG WQG

<u>Analyte</u>	<u>Soil Quality Data</u>		<u>Wastewater Quality Data</u>			<u>WQLs Information</u> <sup>1</sup>	
	<u>Units</u>	<u>9/25/2005</u>	<u>Units</u>	<u>9/25/2005</u>	<u>5/2/2007</u>	<u>WQL</u>	<u>WQL Source</u>
Silica		NR	mg/L	26	--	NPL	

ND denotes Not Detected, detection limit shown in parenthesis. WQL denotes Water Quality Limit. NPL denotes No Published Limit. NR denotes Not Reported. "--" denotes not analyzed.

CAL/EPA PHG denotes California Environmental Protection Agency Public Health Goal. AG WQG denotes Agricultural Water Quality Goal. USEPA PMCL denotes United States Environmental Protection Agency Primary Maximum Contaminant Level. Taste and Odor denotes Taste and Odor Threshold.

<sup>1</sup> Most stringent of the potential water quality limits to protect the beneficial uses of groundwater as set forth in the Basin Plan. Site-specific studies would be needed to determine the applicable water quality limits for this site. The most stringent potential water quality limits are listed as a screening tool to evaluate whether a water quality threat might exist.

<sup>2</sup> This parameter is indicative of the salinity of the discharge. Their presence in water can be growth limiting to certain agricultural crops and can affect the taste of water for human consumption. EC is a general indicator of salinity constituents. The secondary MCL for EC is 900 umhos/cm as a recommended level, 1,600 umhos/cm as an upper level, and 2,200 umhos/cm as a short-term maximum. Water Quality for Agriculture, Food and Agriculture Organization of the United Nations— Irrigation and Drainage Paper No. 29, Rev. 1 (R.S. Ayers and D.W. Westcot, Rome, 1985) indicates that irrigation with water with an EC of 700 umhos/cm is protective of salt sensitive crops. Most other crops can tolerate higher EC concentrations without harm. However, as the salinity of the irrigation water increases beyond 700 umhos/cm, more crops are potentially harmed by the EC, or extra measures must be taken by the farmer to minimize or eliminate any harmful impacts.

28. None of the concentrations exceeded the total threshold limit concentration (TTLC), but barium, total chromium, nickel, and vanadium exceeded the soluble threshold limit concentration. Because none of the total concentrations exceeded ten times the STLC value, none of the analytes can exceed the STLC if the waste extraction test were performed and the leachate analyzed. The solids sample analysis indicates the material should not impact groundwater quality for the inorganic persistent and bioaccumulative substances listed in Title 22.

### Groundwater Conditions

29. Groundwater levels range from 22 to 25 feet below the ground surface in the on-site production wells. The wells are relatively shallow so the groundwater elevations in the production wells may represent the water table elevation. No groundwater monitoring wells exist at the site.

30. To investigate the groundwater arsenic concentration, the three on-site production wells were sampled on 4 December 2007. In the samples, arsenic concentrations varied from 0.0020 to 0.0021 mg/L. Because the aggregate washing process does not add arsenic as part of the process, the arsenic concentration is likely naturally occurring but may be slightly increased by evapoconcentration. The wastewater should not significantly degrade groundwater quality for arsenic.

31. With the exception of the arsenic data discussed above, there is no groundwater quality data available. Because aggregate wash water is provided from wells located on-site, the analysis of the wastewater provides insight to the groundwater quality. The characteristics of the wastewater sample indicate groundwater quality at the site is generally good, with all analytes below applicable water quality limits (except arsenic as described above).

### **Site-Specific Conditions**

32. According to the National Resources Conservation Service, soil underlying the site consists of Tujunga loamy sand. The material is well to excessively drained and possesses permeability rates of 6-20 inches per hour. The material underlying the wastewater ponds has been significantly altered from the natural condition and likely possesses greatly reduced infiltration capacity due to the amount of fine grained sediments deposited into the ponds.
33. Gold recovery is performed at the facility. All recovery is performed with gravimetric methods, no chemicals are used in the process. Historic gold mining was not performed at the facility, therefore there is little reason to believe elevated concentrations of mercury exist at the site. In addition, the raw materials for the facility originate off-site in areas where orchards are being removed – not where gold mining formerly occurred.
34. The Federal Emergency Management Agency's Flood Insurance Rate Map, Panel 665 of 925, published 15 May 1980 shows that the wastewater ponds and the aggregate processing facility are located outside the 100-year floodplain.
35. The RWD states the 100-year return annual precipitation is approximately 25.16 inches; evapotranspiration for the area is 52.48 inches. Average annual precipitation is 11.64 inches. Stormwater is retained on site and is discharged to the wastewater pond.
36. The facility lies within the Manteca Hydrologic Unit Area No. 535.10, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986.
37. A concrete batch plant does not exist at the facility and the Discharger reports no plans to construct a concrete batch facility. This Order does not prohibit operation of a concrete facility but authorization to operate such a facility requires submittal of a Report of Waste Discharge prior to operation.
38. Domestic wastewater disposal at the facility consists of a 1,500-gallon septic tank/leachfield system, which is regulated by the San Joaquin County Department of Environmental Health. Portable chemical toilets are provided in the processing area.

### **Antidegradation Analysis**

39. State Water Resources Control Board (State Board) Resolution No. 68-16 (hereafter Resolution 68-16 or the "Antidegradation Policy") requires the Regional Water Board in

regulating the discharge of waste to maintain high quality waters of the state (i.e., background water quality) until it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the state, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Water Board's policies (e.g., quality that exceeds water quality objectives). Resolution 68-16 requires that any discharge that could degrade the waters of the state be regulated to assure use of best practicable treatment or control of the discharge to assure that pollution or nuisance will not occur, and the highest water quality consistent with maximum benefit to the people of the State will be maintained.

40. The Discharger has not provided an antidegradation analysis. Staff's review of the information in the findings indicates that effluent disposal has the potential to degrade the underlying groundwater with respect to salinity constituents. However, based on the wastewater quality determined by sampling, the discharge is unlikely to degrade groundwater quality to the water quality limit for beneficial use of agriculture.
41. The TDS concentration (384 mg/L) in the wastewater pond is below the water quality limit of 450 mg/L. Some evapoconcentration of wastewater is expected during the summer months. Similarly, dilution of salinity constituents is expected to occur during the winter months.
42. Based on the limited effluent monitoring data provided by the Discharger, the land disposal of aggregate wastewater as proposed should not degrade groundwater quality, and therefore groundwater monitoring wells are not required at this time. However, the Discharger is required to continue monitoring the aggregate facility effluent, and if concentrations exceed water quality objectives, then staff will reevaluate the need for groundwater monitoring. If effluent monitoring shows that the discharge has the potential to cause groundwater degradation, then the Discharger will be required to monitor groundwater quality, cease the discharge, change the method of disposal, and/or take other actions as necessary to comply with Resolution No. 68-16.
43. The Regional Board further finds that some degradation of the groundwater beneath the aggregate processing facility is consistent with the maximum benefit to the people of the state provided that:
  - a. The degradation is confined to the facility boundary.
  - b. The Discharger minimizes the degradation by fully implementing, regularly maintaining, and optimally operating Best Practicable Treatment and Control (BPTC) measures.
  - c. The degradation is limited to waste constituents typically encountered in aggregate processing wastewater as specified in the groundwater limitations in this Order.
  - d. The degradation does not result in water quality less than that prescribed in the Basin Plan.



44. This Order acknowledges that some degradation may occur as a result of the discharge of wastewater to land, but the Regional Board finds that such degradation at this facility is consistent with the maximum benefit to the people of the state. Economic prosperity of local communities and associated industry is of benefit to the people of California, and therefore sufficient reason exists to accommodate growth and some groundwater degradation, provided that the terms of the Basin Plan are met. This Order is consistent with State Water Board policy.

### **Basin Plan, Beneficial Uses, and Regulatory Considerations**

45. The *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition*, (hereafter Basin Plan) designates beneficial uses, establishes water quality objectives, contains implementation plans and policies for protecting waters of the basin, and incorporates by reference plans and policies adopted by the State Water Resources Control Board (State Board). Pursuant to Section 13263(a) of the California Water Code, waste discharge requirements must implement the Basin Plan.
46. Surface water drainage is to the Stanislaus River. The beneficial uses of the Stanislaus River, as stated in the Basin Plan, are agricultural supply; industrial process supply; industrial service supply; hydropower generation; water contact recreation; non-contact water recreation; warm freshwater habitat, cold freshwater habitat; migration of aquatic organisms; spawning, reproduction, and/or early development; and wildlife habitat.
47. The beneficial uses of underlying groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.
48. Based on the threat and complexity of the discharge, the facility is determined to be classified 2-C as defined below:
- a. Category 2 threat to water quality, defined as, "Those discharges of waste that could impair the designated beneficial uses of the receiving water, cause short term violation of water quality objectives, cause secondary drinking water standards to be violated, or cause a nuisance."
  - b. Category C complexity, defined as, "Any discharge for which waste discharge requirements have been prescribed pursuant to Section 13263 of the Water Code not included as a Category "A" or Category "B" as described above. Included would be discharges having no waste treatment systems or that must comply with best management practices, discharges having passive treatment and disposal system, or dischargers having waste storage systems with land disposal."
49. On 28 July 2005, the San Joaquin County Community Development Department approved a negative declaration for the aggregate excavation activities. No mitigation measures were included in the document. The action to update waste discharge requirements for the processing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), in accordance with Title 14, California Code of Regulations (CCR), Section 15301.

50. The Discharger has submitted a Notice of Non-Applicability for coverage under the State Board's Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS 000001, Waste Discharge Requirements (WDRs) for Discharges of Storm Water Associated with Industrial Activities.
51. Section 13267(b) of the CWC provides 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 discharging, or who proposes to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of discharging, or who proposes to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports 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."

The attached Monitoring and Reporting Program No. R5-2009-0048 is necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that discharges the waste subject to this Order.

52. This discharge is exempt from the requirements of *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste*, as set forth in Title 27, CCR, Division 2, Subdivision 1, Section 20005, et seq., (hereinafter Title 27). The exemption, pursuant to Section 20090(b), is based on the following:
  - a. The Regional Board is issuing waste discharge requirements,
  - b. The discharge complies with the Basin Plan, and
  - c. The waste material does not need to be managed according to Chapter 11, Division 4.5, Title 22, of the CCR as a designated or hazardous waste.
53. The Basin Plan establishes numerical and narrative water quality objectives for surface water and groundwater within the basin. Numerical water quality objectives are maximum limits directly applicable to the protection of designated beneficial uses of the water. The Basin Plan requires that the Regional Water Board, on a case-by-case basis, follow specified procedures to determine maximum numerical limitations that apply the narrative objectives when it adopts waste discharge requirements.
54. 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 maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449, and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of

Section 64449. 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 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.

55. The Basin Plan contains 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. The Chemical Constituents objective requires that groundwater "shall not contain chemical constituents in concentrations that adversely affect beneficial uses." The Tastes and Odors objective requires that groundwater "shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses." Chapter IV, Implementation, of the Basin Plan contains the "Policy for Application of Water Quality Objectives." This Policy specifies, in part, that compliance with narrative water quality objectives may be evaluated considering numerical criteria and guidelines developed and/or published by other agencies and organizations.
56. State Board Resolution No. 68-16 does not allow degradation of groundwater quality 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 cause exceedance of one or more water quality objectives; and
  - d. The discharger employs best practicable treatment and control of the discharge to minimize degradation.
57. Although it is within the Regional Water Board's purview to allow a discharger to utilize some or all of the assimilative capacity of groundwater, it is the Regional Water Board's long-standing practice not to do so unless the discharger has first demonstrated that it would satisfy State Board Resolution No. 68-16. Notwithstanding the apparent low potential for exceedance of water quality objectives, the Discharger has not provided the required demonstration to be allowed to cause groundwater degradation. Therefore, none is authorized.
58. The Discharger will continue to implement the approved Reclamation Plan to comply with Section 272 of the Surface Mining and Reclamation Act.
59. Pursuant to California Water Code 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.

### Public Notice

60. All the above and supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.
61. 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 with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
62. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED** that Order No. 72-22 is rescinded and that, pursuant to Sections 13263 and 13267 of the California Water Code, George Reed, Inc., its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted there under, shall comply with the following:

*[Note: Other prohibitions, conditions, definitions, and methods of determining compliance are contained in the attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements" dated 1 March 1991.]*

#### **A. Discharge Prohibitions:**

1. The discharge of waste to surface waters or surface water drainage courses is prohibited.
2. The use of metallic salts (such as alum) for aggregate wash water coagulation is prohibited unless approved by the Executive Officer.
3. The discharge of domestic waste, asphaltic concrete waste, concrete waste, or concrete wash water to any process wastewater settling pond is prohibited.
4. Discharge of waste classified as hazardous, as defined in Sections 2521(a) of Title 23, CCR, Division 3, Chapter 15, Section 2510, et seq., (hereafter Chapter 15), or 'designated', as defined in Section 13173 of the California Water Code, is prohibited.
5. Use of chemical gold recovery techniques (including amalgamation, cyanide leaching, or any other chemical method) is prohibited.
6. Surfacing of wastewater from the septic tank or leaching system is prohibited.
7. The discharge of industrial waste, including any assay laboratory waste, to septic systems is prohibited.

8. The operation of a concrete batch facility is prohibited until the Discharger has obtained coverage for such discharge under a separate State or Regional Water Board adopted Order.
9. The generation of any process wastewater at the asphalt plant is prohibited with the exception of wastewater generated as described in Finding No. 15 or other wastewater that does not come into contact with asphalt products.

**B. Discharge Specifications:**

1. The monthly average flow of aggregate wastewater shall not exceed 1.20 million gallons per day.
2. Water or process wastewater, if used for dust control or onsite irrigation, shall be used in a manner that will not cause eroded soil or sedimentation in runoff to be discharged to areas not controlled by the Discharger.
3. The storage and discharge of wastewater shall remain within the property boundaries at all times as shown on Attachment B. Additional wastewater ponds may be constructed within the property boundaries.
4. Neither the treatment nor the discharge shall cause a condition of pollution or nuisance as defined by the California Water Code, Section 13050.
5. The Discharger shall operate all systems and equipment to optimize the quality of the discharge.
6. The ponds shall be managed to prevent breeding of mosquitoes. In particular:
  - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
  - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
  - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.
7. The wastewater system shall be designed, constructed, operated and maintained to prevent inundation or washout due to flood with a 100-year return frequency.
8. All stockpiled sediments, wastes and products shall be managed to prevent erosion of sediment to surface water drainage courses.
9. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal areas.
10. As a means of discerning compliance with Discharge Specification No. 9, the dissolved oxygen content in the upper zone (1 foot) of the wastewater settling ponds shall not be less than 1.0 mg/L.

11. Newly constructed or rehabilitated levees or berms that hold back water shall be designed and constructed under the direct supervision of a California Registered Civil Engineer.
12. The freeboard in each wastewater pond shall never be less than two feet as measured vertically from the water surface to the lowest point of overflow along the pond berm.
13. The wastewater ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the wet season. 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.
14. Before **1 November** of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specifications Nos. 12 and 13.
15. Storm water discharges at the site shall comply with the regulations contained in the State Water Resources Control Board (SWRCB) Water Quality Order No. 97-03-DWQ National Pollutant Discharge Elimination System (NPDES), General Permit No. CAS000001, Waste Discharge Requirements (WDRs) for Discharges to Storm Water Associated with Industrial Activities (excluding construction activities).
16. The Discharger shall comply with all applicable sections of the Aboveground Petroleum Storage Tank Regulations (Section 25270, Health and Safety Code).
17. Septage shall be discharged only to a permitted municipal wastewater treatment or equivalent facility. All transportation of septage or other wastewater shall be performed by a duly authorized service.

**C. Groundwater Limitations:**

1. The discharge shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than natural background water quality.

**D. Provisions:**

1. 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. 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.
2. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared as described in Provision D.1:

- a. At least **180 days** prior to operation of a concrete batch facility, the Discharger shall submit an RWD for coverage under a Site Specific Order or General Order, if available.
  - b. At least **120 days** prior to the use of metallic salts (such as alum) for wastewater coagulation, the Discharger shall submit a report that describes the potential effect on wastewater and groundwater quality. The analysis must include an antidegradation analysis including provisions for monitoring groundwater. Written authorization to use the flocculant from the Executive Officer must be received before initiating use.
3. The Discharger shall comply with the Monitoring and Reporting Program No. R5-2009-0048, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
4. The Discharger shall comply with the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements", dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
5. The Discharger shall submit to the Regional Board on or before each compliance report due date the specified document, or if appropriate, a written report detailing compliance or noncompliance with the specific schedule date and task. If noncompliance is reported, then the Discharger shall state the reasons for noncompliance and shall provide a schedule of work needed to come into compliance.
6. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.
7. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, then the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
8. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
9. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
10. The Regional Board will review this Order periodically and may revise requirements when necessary.

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2009-0048  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE PROCESSING FACILITY  
SAN JOAQUIN COUNTY

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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.

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PAMELA C. CREEDON, Executive Officer

TRO: 2/27/09



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2009-0048

FOR  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE PROCESSING FACILITY  
SAN JOAQUIN COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring industrial wastewater. This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form. Field test instruments (such as those used to measure pH and dissolved oxygen) may be used provided that:

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

**EFFLUENT MONITORING**

Wastewater effluent samples shall be collected at the inlet to the first settling pond. Grab samples are considered adequately composited to represent the effluent. Monitoring for individual parameters is required based on the site activities. Sample locations shall be established as necessary to determine effluent quality at all potential source areas. At a minimum, the Discharger shall monitor the effluent wastewater as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Flow	gpd	Meter	Daily	Quarterly

**POND MONITORING**

Each storm water and process water pond shall be inspected weekly and monitored as follows:

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Freeboard	0.1 Feet	Measurement	Weekly	Quarterly
Berm Condition	Observation	Observation	Weekly	Quarterly

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>	<u>Reporting Frequency</u>
Electrical Conductivity	umhos/cm	Grab	Monthly	Quarterly
Fixed Dissolved Solids	mg/l	Grab	Quarterly	Quarterly
pH	Std. Units	Grab	Quarterly	Quarterly

## REPORTING

In reporting monitoring data, the Discharger shall arrange the data in tabular form so that the date, sample type (e.g., effluent, pond, etc.), and reported analytical result for each sample are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with waste discharge requirements and spatial or temporal trends, as applicable. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported in the next scheduled monitoring report.

### A. Quarterly Monitoring Reports

Quarterly reports shall be submitted to the Regional Board on the **1<sup>st</sup> day of the second month after the quarter** (i.e. the January-March quarter is due by 1 May) each year. At a minimum, the reports shall include:

1. Results of the effluent and pond monitoring.
2. A comparison of monitoring data to the discharge specifications and an explanation of any violation of those requirements. Data shall be presented in tabular format.
3. If requested by staff, copies of laboratory analytical report(s).
4. A discussion of all the condition of the process water ponds storage capacity and any changes made to the pond system.
5. Disposal of septage or other solid waste disposal.
6. A calibration log verifying calibration of all monitoring instruments and devices used to comply with the prescribed monitoring program.

### B. Annual Monitoring Reports

An Annual Report shall be prepared as the December monthly monitoring report. The Annual Report shall include all monitoring data required in the monthly schedule. The Annual Report shall be submitted to the Regional Board by **1 February** each year. In addition to the data normally presented, the Annual Report shall include the following:

1. Tabular summaries of all data collected during the year;
2. A forecast of the flows anticipated in the next year;

3. A discussion of compliance and the corrective actions taken, as well as any planned or proposed actions needed to bring the discharge into full compliance with the waste discharge requirements;
4. A discussion of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;
5. An evaluation of the wastewater pond storage capacity. The evaluation shall address the wastewater storage pond system capacity. If inadequate capacity exists to store and dispose of wastewater, the evaluation shall present what changes are necessary to provide adequate capacity and a schedule to implement the improvements.

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 transmittal letter shall contain a statement by the Discharger or the Discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

The Discharger shall implement the above monitoring program as of the date of this Order.

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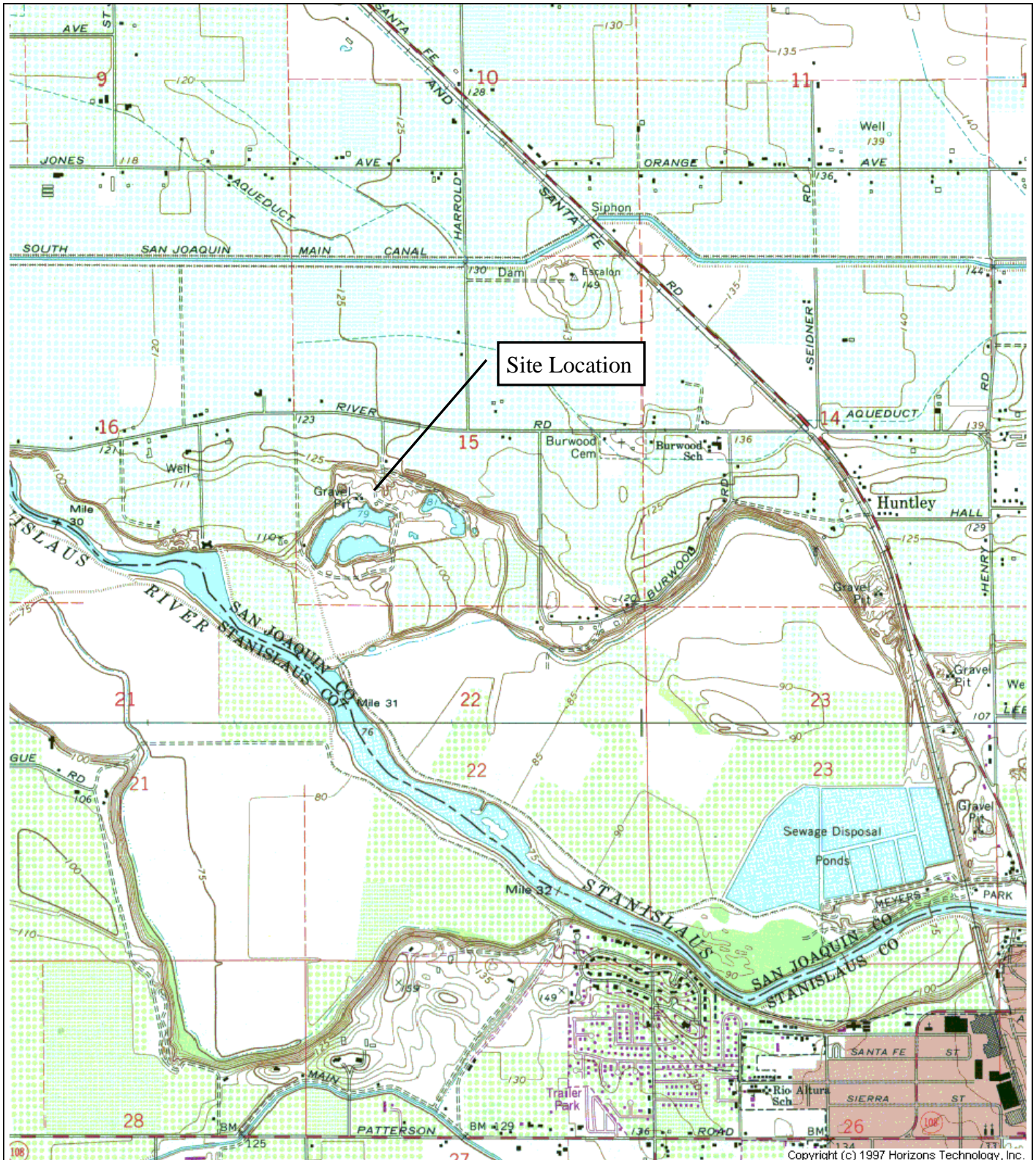
PAMELA C. CREEDON, Executive Officer

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24 April 2009  
(Date)

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TRO: 2/27/09

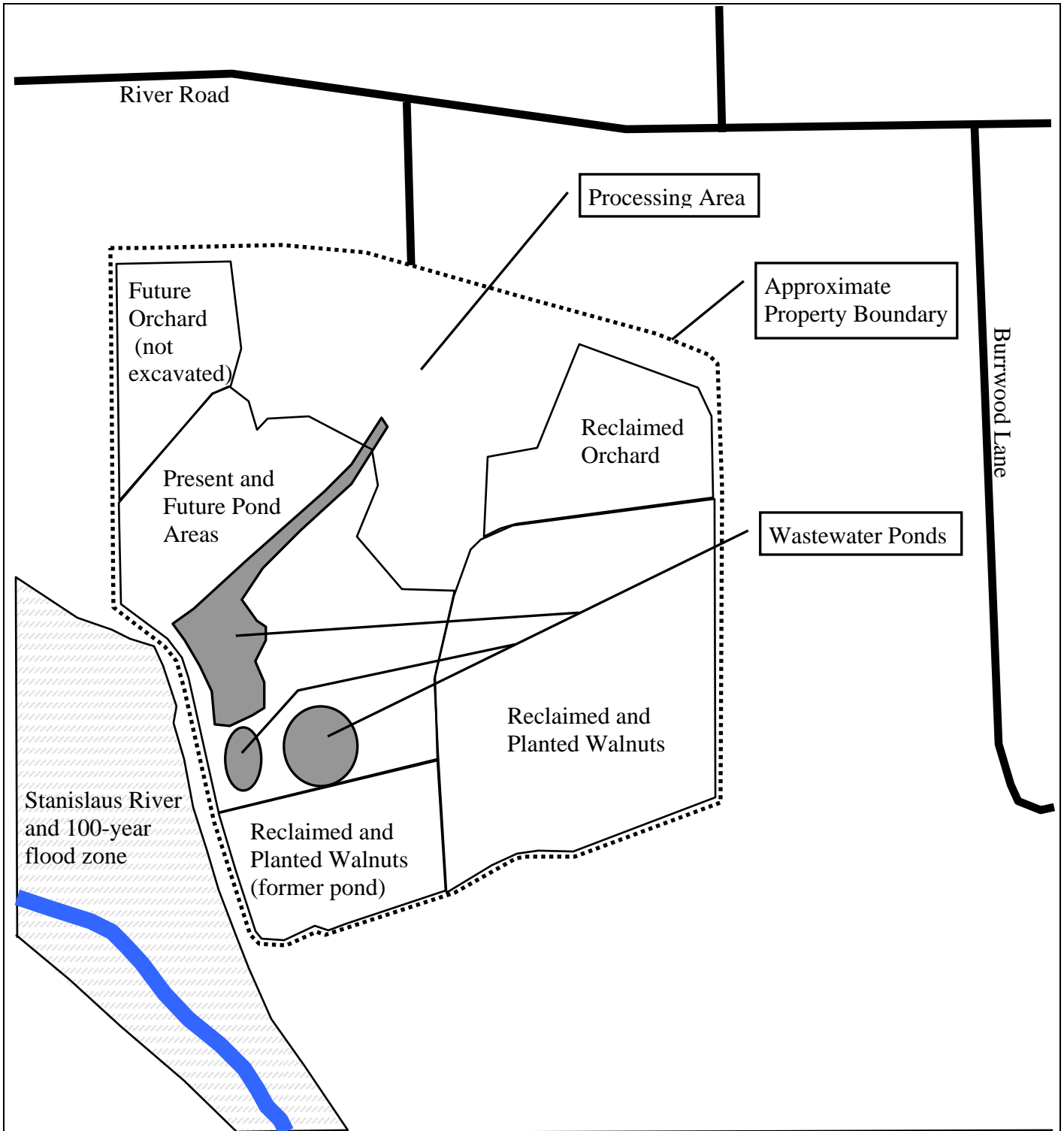


Drawing Reference:  
U.S.G.S  
Riverbank, Calif.  
Topographic Map  
7.5 Minute Quad

**SITE LOCATION MAP**  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE FACILITY  
26292 EAST RIVER ROAD, ESCALON  
SAN JOAQUIN COUNTY

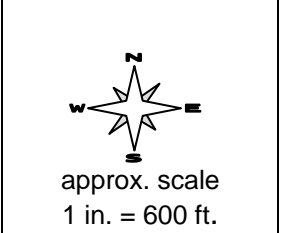
A north arrow pointing upwards, with 'N' at the top, 'S' at the bottom, 'E' on the right, and 'W' on the left. Below the arrow, the text reads "approx. scale 1 in. = 2,150 ft."

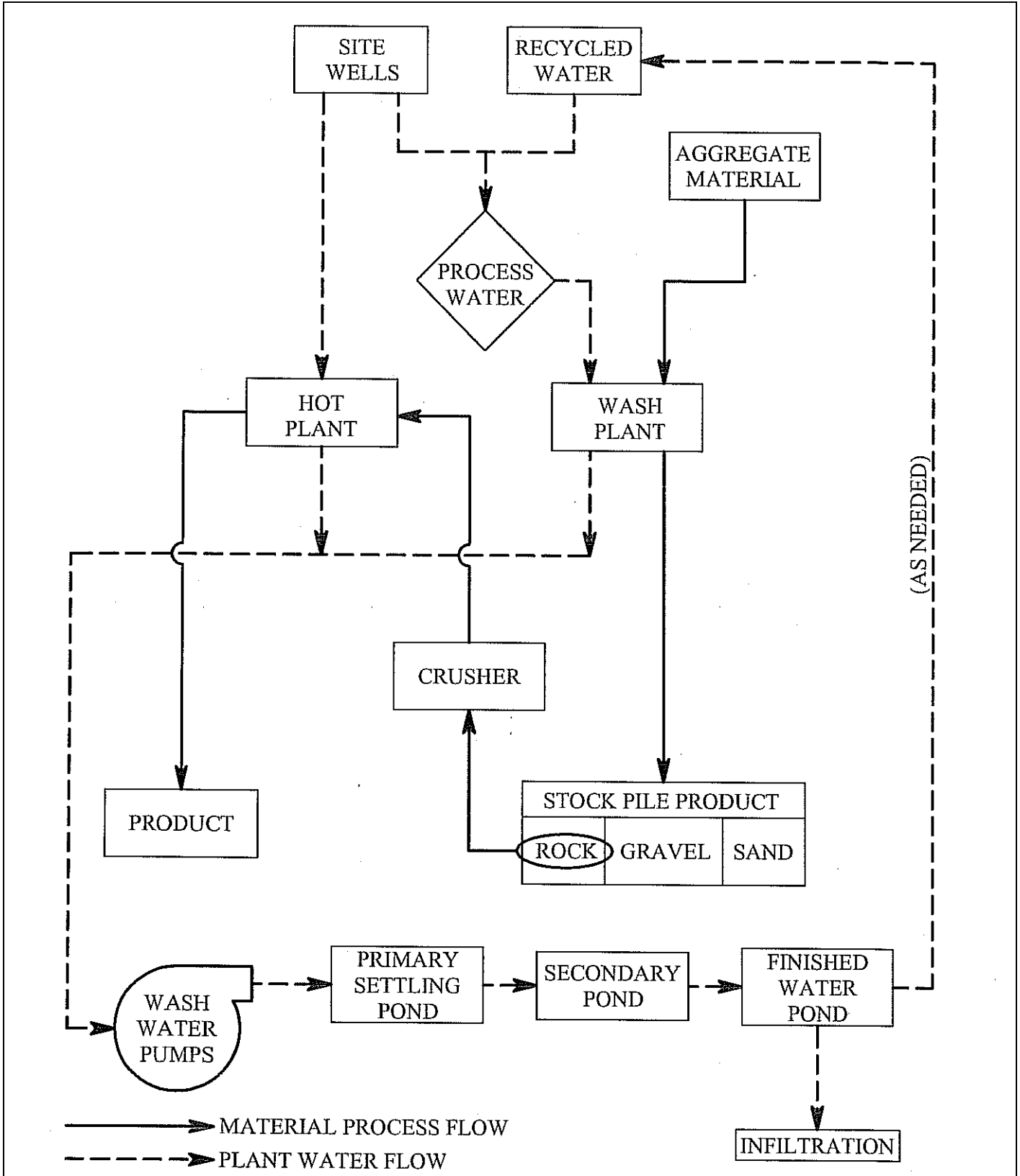




Drawing Reference:  
Adapted from:  
31 January 2008  
RWD, Att. E  
Munn & Perkins

**SITE PLAN**  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE FACILITY  
26292 EAST RIVER ROAD, ESCALON  
SAN JOAQUIN COUNTY





<p>Drawing Reference:                  Sheet 1 of 1                  Northstar Engineering                  RWD, January 2006</p>	<p><b>PROCESS FLOW DIAGRAM</b>                  GEORGE REED, INC.                  MUNN &amp; PERKINS AGGREGATE FACILITY                  26292 EAST RIVER ROAD, ESCALON                  SAN JOAQUIN COUNTY</p>	
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## INFORMATION SHEET

ORDER NO. R5-2009-0048  
GEORGE REED, INC.  
MUNN & PERKINS AGGREGATE PROCESSING FACILITY  
SAN JOAQUIN COUNTY

George Reed Inc. owns and operates an aggregate mine and processing facility at 26292 East River Road in Escalon. The facility is located along the Stanislaus River and is separated from the river by a levee, which provides protection from 100-year floodwaters. The Discharger mines sand and gravel from nearby pits that are owned by others, as well as a small amount of material located at the processing facility.

Mining is performed above the water table. Excavated material is trucked to the processing facility. The aggregate is screened to separate coarse and fine aggregates. Cobbles are either stockpiled for sale or crushed and combined with the screened material for further processing. After the material is further classified according to grain size, the various products may be washed again.

Wastewater generated in the processing activities as well as stormwater that falls on the facility, is discharged to a series of settling ponds. On average, approximately 1.06 million gallons per day (Mgpd) are discharged, with peak wastewater discharge of 2.2 Mgpd. Flocculant is not used in wastewater to improve settling, if the Discharger plans to use a metallic flocculant, authorization from the Executive Officer is required.

As mining progresses across the site, any former pit may be used as a settling pond. As wastewater is discharged to the pond, the pit fills with fine-grained material. Wastewater may be recycled for use as wash water; however, most processing water comes from groundwater extraction wells.

The Discharger submitted a water balance for the facility that demonstrated adequate capacity for proposed wastewater discharge. Minimum freeboard requirements on the settling pond system should be sufficient to protect water quality.

Based on information collected from on-site supply wells, groundwater exists approximately 22-25 feet below the ground surface. The groundwater flow direction is unknown but is likely dependant on the river stage, percolation from the wastewater ponds, and the amount of groundwater extracted for aggregate washing.

This Order requires the wastewater pond water quality be monitored monthly and quarterly. If the wastewater quality changes in the future, staff can request additional information, such as installation of groundwater monitoring wells and a formal evaluation of groundwater quality. If the evaluation is needed, potential beneficial use impacts and/or additional best practicable treatment and control measures can be required as appropriate to ensure compliance with State Board Resolution No. 68-16.