

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
ORDER NO. R5-2007-0121
WASTE DISCHARGE REQUIREMENTS
FOR
WEST VALLEY SAND AND GRAVEL
COTTONWOOD
SHASTA COUNTY

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

1. New Empire Aggregates, Inc., dba West Valley Sand and Gravel, submitted a Report of Waste Discharge, dated 13 April 2006 and supplemental information on 22 September 2006, for the operation of a sand and gravel extraction and processing plant. The facility is located at the north end of Squiss Road, approximately 1.2 miles north of the intersection of Squiss Road and Gas Point Road within Sections 3, 4, and 33 of T30N, R5W, MDB&M as shown on Attachment A, a part of this Order. The land on which the mining and processing occurs (Assessor's Parcel Numbers 207-010-3 and 4, and 207-070-01) is owned by Flying RR LLC. New Empire Aggregates, Inc. and Flying RR, LLC are hereafter referred to as "Discharger".
2. The Discharger obtained a Use Permit (No. 02-035) from Shasta County in 2005 and started mining operations in 2006. The Discharger submitted a Report of Waste Discharge dated 6 April 2006 for the discharge of sediment laden process water to a settling pond. The Discharger submitted supplemental information on 22 September 2006 and Regional Board staff deemed the report complete on 2 October 2006.
3. The project includes the excavation, screening and crushing, and off-site transportation of sand and gravel, and reclamation of the extraction area as rangeland, ponds and riparian habitat. The proposed extraction area is approximately 190 acres on three parcels totaling approximately 1,600 acres. Approximately 418 acres will be reclaimed (includes the processing areas as well as the extraction areas). Approximately 2 million tons of sand and gravel would be removed over a 20-year period.
4. An onsite processing facility has been built to produce up to 150,000 tons of sand and gravel per year. Of this quantity, approximately half (75,000 tons) will be washed. The basic operation of the plant is as follows. Scrapers, dump trucks, and/or end dumps deposit mined material to a grizzly, which separates the larger rocks from the material that can be sent directly to the surge bin. The larger rocks from the grizzly are crushed to a smaller size and sent to the surge bin. From the surge bin, the aggregate is first washed and screened before it is sent to the crushing/screening plant. During the crushing and process, the material is sorted out and transported by conveyors to various stockpiles that surround the plant. Loaders take the material from these stockpiles and either load trucks for off site transport or to other stockpile areas for

storage and future off site delivery. A sand screw may be installed depending on the quantity and quality of the sand at the site. Attachment B outlines the process flow.

The flow of water in the washing process is as follows. Raw aggregate is fed into a feed that conveys the material to a three-deck El-Jay screen where the material is washed and screened. The quantity of water used in the washing is 1550 gallons per minute (gpm). The processing rate at the screens is 250 tons per hour. The wastewater and fines from this process are then directed to a twin (two augers) sand screw where the sand component is removed. The processing rate at the sand screw is 175 tons per hour. Wastewater from the sand screw discharged to an eight-inch PVC pipe. The eight-inch pipe gravity flows to dual settling ponds at the facility where the fines are settled out of the wash water. A pump at the terminus of the settling ponds is used to return water back to the screens. All of the wash water is kept in the ponds. There is no surface discharge from the ponds and the ponds are bermed around the perimeter to prevent stormwater runoff into the ponds.

Approximately ten percent of the processed material is fines that the operator cannot use. Most of the fines settle out in the settling ponds. Settled material will be periodically removed and stockpiled for use in land reclamation.

Initial estimates are that daily water usage will be 240,000 gallons per day ($500 \text{ gpm} * 60 \text{ min/hr} * 8 \text{ hrs}$). Ten percent of this amount will be lost in the washed material. This results in the need for 24,000 gallons of make-up water at the facility each washday. This make-up water will be supplied by a well that will be installed on the property. The wash facility will operate about 107 days per year ($150,000 \text{ tons}/175 \text{ tons per hour}/8 \text{ hrs per day}$). The washing season is mainly in the winter and spring (November 1 through April 30th of each year) since the summer season is devoted to extracting the aggregate and dry screening the material.

5. There are two processing plant locations at the site. Two plant locales are planned so as to reduce the haul distance from the extraction areas to the processing locations. The extraction area is very linear and a single processing area would result in long haul distances. The maximum haul distance to a plant site is 5,800 feet. The processing plants will cease operation once there is no more gravel to process from the operation.
6. The Discharger has provided a water balance demonstrating that the settling ponds are adequately sized to handle process water flows and 200-year precipitation. This Order requires a minimum of two feet of freeboard in each settling pond. The ponds are to have a minimum two-foot berm around the perimeter to divert any surface water from entering the ponds. Because of the variability of the source material and because this is a start-up operation, the sizes of the ponds may need to be adjusted to perform properly. There is adequate space at each of the plant sites for pond size adjustments.

7. The Discharger has not proposed to use a flocculating agent in the process. However, because of the potential variability of the composition of the source material at the site, the Discharger may propose to use a flocculating agent if needed.
8. The West Valley Aggregate site is in a former gold mining region where sluice boxes and mercury were used to extract gold from mined material. Significant amounts of mercury were often lost during this process, suggesting that residual mercury may exist at the site. This Order requires that the settling ponds be tested for mercury on a regular basis. If mercury is detected at concentrations exceeding those stipulated in this Order, the Discharger will be required to collect additional water and sediment samples from the settling ponds, have them tested for mercury and provide a report of results. Based on the report findings, additional action may or may not be necessary.
9. The Aboveground Petroleum Storage Act applies when a site has a single tank with a fuel capacity greater than 660 gallons or several tanks with a cumulative storage capacity of greater than 1,320 gallons of petroleum. The Discharger reports that a single 500-gallon aboveground storage tank will be located at the site so the Aboveground Petroleum Storage Act does not apply. Electrical power at the site is provided by on-site diesel generators.
10. There is no discharge of domestic wastes at the site. Workers are provided with portable toilets.
11. The discharge is within the Lower Cottonwood Hydrologic Area (No. 508.20) as depicted on interagency hydrologic maps prepared by the Department of Water Resources (DWR) in August 1986. Surface water drainage is to Dry Creek which is tributary to Cottonwood Creek.
12. The average annual precipitation at the site is between 28 to 35 inches. The six-hour 25-year storm event is 2.2 inches. Between 75 and 90% of the annual precipitation is received between November 1 and April 30 of each year.
13. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento River Basin and the San Joaquin River Basin* (hereafter Basin Plan), which designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for protecting waters of the basin, including plans and policies adopted by the SWRCB and incorporated by reference into the Basin Plan. These requirements implement the Basin Plan.
14. The Basin Plan does not specifically designate beneficial uses of the Dry Creek. Based on the "tributary rule," the beneficial uses cited in this Order are for Cottonwood Creek.
15. The beneficial uses of Dry Creek by tributary rule from Cottonwood Creek are municipal and domestic supply, agricultural supply; industrial supply, water contact recreation; non-contact water recreation; warm and cold freshwater habitat; migration of aquatic

organisms; spawning, reproduction, and/or early development of fish; and wildlife habitat.

16. The beneficial uses of underlying groundwater are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
17. State Water Resources Control Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California, (hereafter Resolution 68-16) requires the Regional Board, in regulating the discharge of waste, to maintain high quality waters of the State until it is demonstrated that any change in quality will be consistent with the 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 Board's policies (e.g., quality that exceeds water quality objectives). The Regional Water Board finds that the project will not adversely impact water quality. The process at the site includes washing gravel with water. Turbid wash water is discharged to a settling pond where the suspended particles settle out. The soils at the site should be sufficiently fine grained to preclude turbid water from migrating beyond the pond's boundary. In addition, the ponds will self-seal with the settled fines increasing the filtering capability of the ponds. As discussed in Finding 19 below, the project is not expected to increase salt concentrations in ground or surface water.
18. Because of the use of Best Practicable Treatment and Control at the site, no surface or groundwater water quality degradation is anticipated and groundwater-monitoring wells are not required, at this time. Waste wash water is discharged to a settling pond where the suspended soil particles settle out and the water recycled. Sufficient freeboard is required to be maintained on the ponds to prevent surface discharge from the ponds. As discussed in Finding 19 below, the project is not expected to increase salt concentrations in ground or surface water. This permit does not allow surface or groundwater degradation.
19. The project is not expected to have an appreciable impact on total dissolved minerals or increase the electrical conductivity of the ground or surface waters of the site. Soils in the region generally have low salt content. In addition, the material being mined consists of dredge tailings that have been previously washed by the dredging process. While evaporation from the washing process concentrates total dissolved solids, wash water is entrained with the processed sand and gravel taking the salt load with it. Because the project is not expected to increase total dissolved minerals or increase the electrical conductivity of the ground or surface waters at the site, a salinity evaluation and minimization plan is not required from the Discharger at this time. EC monitoring is required.
20. Section 13267(b) of the California Water Code (CWC) states, in part, 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 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 of the state 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 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 reports required by Monitoring and Reporting Program No. R5-2007-0121 are necessary to assure compliance with these waste discharge requirements. The Discharger operates facilities that discharge wastes subject to this Order.

21. Federal Regulations for storm water discharges were promulgated by USEPA on 16 November 1990 (40 CFR Parts 122, 123, and 124) which require specific categories of facilities discharging storm water associated with industrial activity to obtain NPDES permits and to implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate industrial storm water pollution.
22. The State Water Resources Control Board (SWRCB) adopted Order No. 97-03-DWQ (General Permit No. CAS000001), on 17 April 1997, specifying waste discharge requirements for discharge of storm water associated with industrial activities, excluding construction activities, and requiring submittal of a Notice of Intent (NOI) by industries to be covered by the permit. The Discharger has obtained coverage under Order No. 97-03-DWQ for this facility.
23. Shasta County is the lead agency for the project under the California Environmental Quality Act (CEQA, Public Resources Code Section 21000, et. seq.). The County adopted a Negative Declaration for this project in accordance with CEQA.
24. The discharge authorized herein is exempt from the requirements of Title 27 CCR. The exemption, pursuant to Section 20090(b), is based on the following:
 - a. The Regional Board is issuing these waste discharge requirements;
 - b. These waste discharge requirements implement the Basin Plan and allow discharge only in accordance with the Basin Plan; and
 - c. The wastewater does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.

25. The Regional Board has considered the information in the attached Information Sheet in developing the Findings of this Order. The attached Information Sheet is part of this Order.
26. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written comments and recommendations.
27. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, their 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. Discharge Prohibitions

1. The discharge of wastes and process water to surface waters or surface water drainage courses is prohibited.
2. The discharge of wastes and process water in a manner different than specified in Finding Nos. 4, 5, and 6 is prohibited.
3. The use of chemical additives without prior Regional Water Board approval in the processing plant and settling ponds is prohibited.
4. The discharge or deposit of waste other than process water, settled solids, and allowable chemical additives at this site is prohibited.
5. Discharge of water, except direct precipitation, to a settling pond having a freeboard of two feet or less is prohibited.
6. Discharge of waste classified as "hazardous" as defined in Sections 2521(a) of Title 23, CCR, Section 2510, et seq., or "designated," as defined in Section 13173 of the CWC, is prohibited.

B. Discharge Specifications

1. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the activity area.

2. All settling 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.
3. All stockpiled products, wastes, and overburden materials shall be managed to prevent erosion of sediment to surface water drainage courses.
4. Dams, levees, and other earthworks intended to hold or convey water shall be designed and constructed under the direct supervision of and certified by a California Registered Civil Engineer or Engineering Geologist having expertise in the design of such earthworks.
5. All settling ponds shall be designed, constructed, operated and maintained to prevent inundation or washout due to floods with a return period of 100 years.
6. The settling pond system shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation, and ancillary inflow and infiltration to prevent inundation or washout during the winter months. 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.
7. The Discharger shall install and maintain a pond water freeboard gauge in each pond so freeboard can be readily assessed.
8. The discharge shall not cause the freeboard to be less than two feet in any segment of the pond, as measured vertically from the water surface to the lowest point of overflow.
9. On or about 1 October of each year, available pond storage capacity shall at least equal the volume necessary to comply with Discharge Specification B. 5, 6, and 8.
10. Except for recycled process water and solids removed from the settling ponds, the discharge shall remain within the settling ponds at all times.

C. Groundwater Limitations

The discharge, in combination with other sources, shall not cause underlying groundwater to contain waste constituents in concentrations statistically greater than background water quality.

D. Provisions

1. **By 1 December 2007**, the Discharger shall submit a copy of its most recent Site Reclamation/Restoration Plan if it differs from the 4 October 2005 Site Reclamation/Restoration Plan. As the reclamation plans are updated or revised, the Discharger shall immediately forward such plans to this office.
2. If, as a result of the monitoring conducted by Monitoring and Reporting Program No. R5-2007-0121, mercury is detected at concentrations equal to or greater than 50 nanograms per liter (ng/L) in a liquid sample from any settling pond, then within 90 days the Discharger shall submit a work plan to characterize mercury in the water and sediment within the settling pond. Within 120 days of approval by the Executive Officer of the work plan the Discharger shall submit a report describing the results. If such report demonstrates the presence of mercury at concentrations that may adversely affect surface or groundwater quality or may cause bioaccumulation as a result of the final reclamation of the site, then within 120 days, the Discharger shall submit a report evaluating alternatives to reduce mercury to acceptable levels. Upon request of the Executive Officer, the Discharger shall create a financial assurance account (as described in Title 27 of the CCR) to mitigate bioaccumulation effects of the available mercury. All work plans and reports shall be prepared under the immediate supervision of a California Registered Civil Engineer or Engineering Geologist and shall be certified by such individual in accordance with the Business and Professions Code.
3. The Discharger shall maintain continuous coverage under the Water Quality Order No. 97-03-DWQ (as amended), the *General Permit for Discharges of Storm Water Associated with Industrial Activities*, or, if Order No. 97-03-DWQ is renewed, the most current version.
4. The Discharger shall comply with Monitoring and Reporting Program No. R5-2007-0121, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.

5. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated February 2004, its update, or its replacement, which are incorporated herein and made part of this Order. This attachment and its individual paragraphs are commonly referenced as Standard Provision(s).
6. In the event of any change in control or ownership of land or waste discharge facilities described herein, 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 this office. 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 name and address and telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the proposed 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. Transfer shall be approved or disapproved by the Executive Officer.
7. The Discharger shall immediately notify the Regional Water Board by telephone whenever a violation of these WDRs or an adverse condition that may impair water quality occurs as a result of the extraction operations or the discharge; written confirmation shall follow within two (2) weeks.
8. The Discharger shall report promptly to the Board any material change or proposed change in the character, location, or volume of the discharge. The Discharger shall obtain confirmation from the Board that such proposed modifications are acceptable under the terms of these WDRs. Confirmation or new WRDs shall be obtained before any modifications are implemented. If the Executive Officer does not disapprove the proposed change within 60 days of receiving a written report describing the proposed change, the discharge may proceed in accordance with the proposed modifications. Possible changes under these WDRs include, but are not limited to, the need to expand the settling basins and/or the need to use a flocculating agent in the settling ponds.
9. The Discharger must 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.

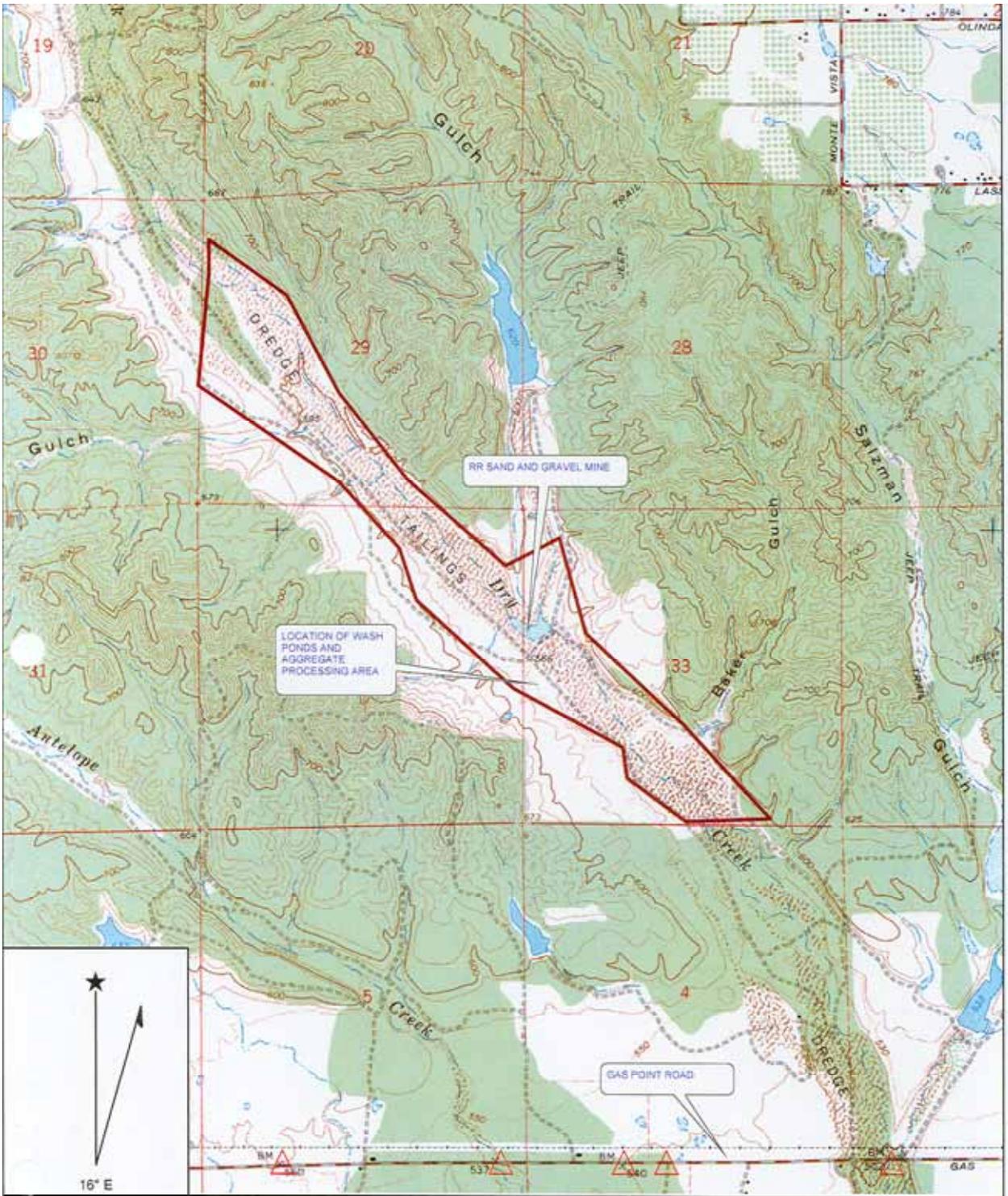
10. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
11. The Regional Board will review this Order periodically and will revise requirements when necessary.

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 14 September 2007.

ORIGINAL SIGNED BY

PAMELA C. CREEDON, Executive Officer

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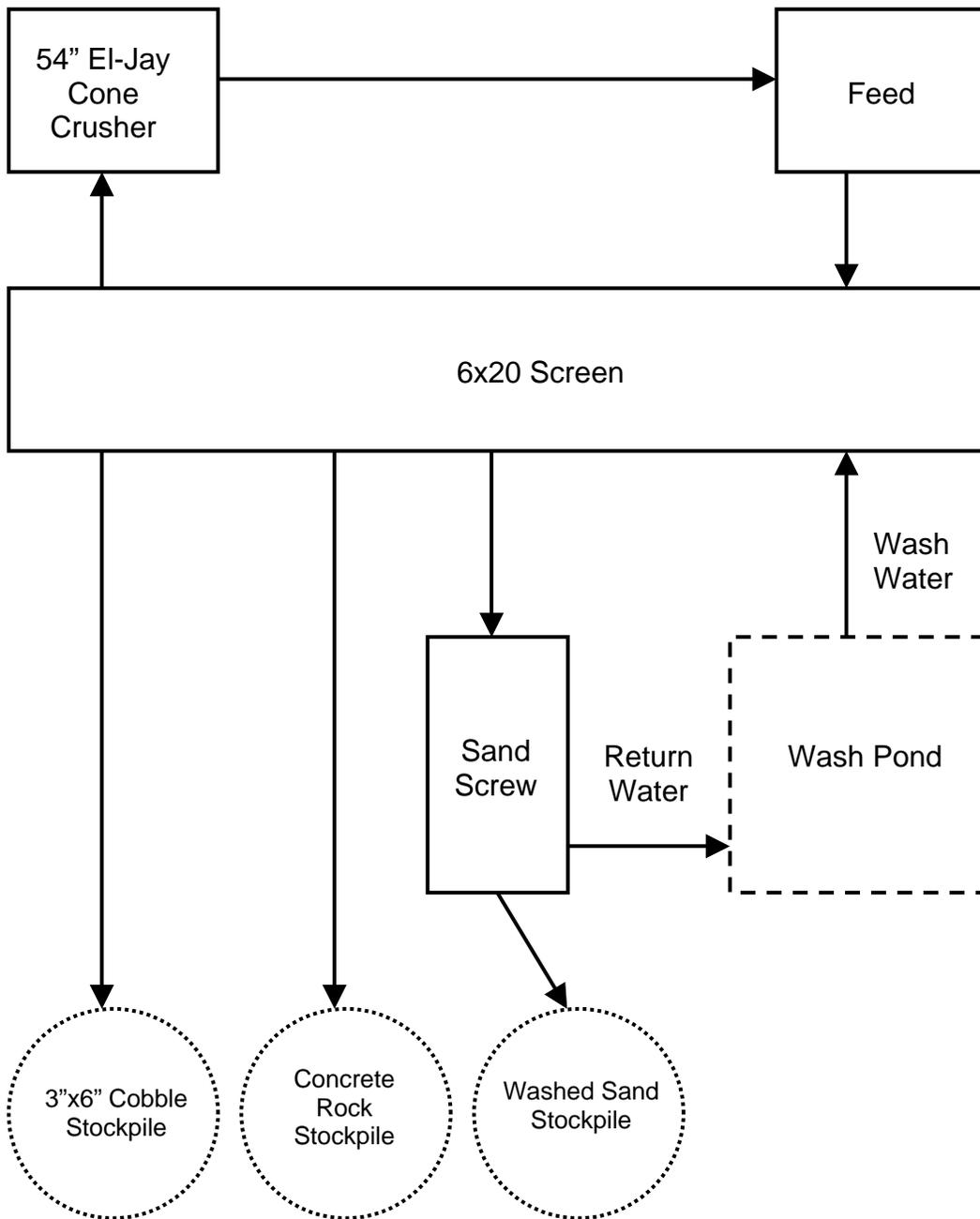


Attachment "A"

West Valley Sand and Gravel

40° 24' 49.82" North 122° 26' 42.57" West

Approximate Scale 1 inch = 1,600 feet



Attachment "B"
 West Valley Sand and Gravel
 Process Flow Diagram
 No Scale

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION
MONITORING AND REPORTING PROGRAM NO. R5-2007-0121
FOR
WEST VALLEY SAND AND GRAVEL
COTTONWOOD
SHASTA COUNTY

The Discharger shall not implement any changes to this Program unless and until the Regional Board or Executive Officer issues a revised Monitoring and Reporting Program.

SETTLING PONDS MONITORING

Discharger's closed-loop process water treatment and recycling system includes two connected ponds. Freeboard shall be measured in each pond. Pond water samples shall be collected according to the schedule below from the pond receiving process water directly from the discharge pipe (as opposed to receiving process water as the result of overflow from another pond). The samples shall be collected near the process water discharge point into the pond at a depth approximately midway between the pond surface and pond bottom. The sample shall be collected when the Discharger is actively discharging to the settling ponds.

<u>Constituent/Parameter</u>	<u>Units</u>	<u>Sampling Frequency</u>
Freeboard	Feet, 0.1 Feet	Weekly
Total Mercury	ng/L ¹	April and December
Electrical Conductivity	umhos/cm	April and December

¹ng/L, nanograms per liter, detection limit < 1.0 ng/L, using *Ultra-Clean Aqueous Sample collection and Preservation Techniques (FGS-008 and EPA Method 1669)*.

REPORTING

In reporting the 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 to illustrate clearly the compliance with waste discharge requirements.

Monthly monitoring reports shall be submitted to the Regional Board by the **first day of the second month** following data collection.

The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Regional Board.

Upon written request of the Regional Board, the Discharger shall submit a report to the Regional Board by 30 January of each year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the Discharger shall discuss the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with the waste discharge requirements. The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by:

ORIGINAL SIGNED BY

PAMELA C. CREEDON, Executive Officer

14 September 2007

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INFORMATION SHEET

ORDER NO. R5-2007-0121
NEW EMPIRE AGGREGATES, INC. dba WEST VALLEY SAND AND GRAVEL
AND FLYING RR, LLC
WEST VALLEY SAND AND GRAVEL
SHASTA COUNTY

New Empire Aggregates, Inc., dba West Valley Sand and Gravel operates a sand and gravel extraction facility in former gold mine tailings near Dry Creek in Shasta County. Extracted raw aggregate is conveyed to an area where the material is washed and screened. Some of the larger material may be crushed on site to increase saleable product. Excess wash water is recycled through two settling ponds located on the West Valley Sand and Gravel site. The mine and processing facility are on land owned by Flying RR, LLC. Process water discharged to the ponds is high in suspended solids (e.g., silts). Once the solids have settled, the clarified process water is conveyed from the settling ponds to the processing plant for reuse. The operator has not proposed using flocculants to enhance the settling process. Settled material will periodically be removed from the ponds and stockpiled for use in land reclamation. As the source material may vary in quality and there is little operational history, these Waste Discharge Requirements allow for the expansion of the settling ponds and for the Discharger to propose the use of a flocculating agent to be approved by Regional Board staff. Food grade flocculating agents have been approved at similar sites.

The site is in a former gold mining region where sluice boxes and mercury were used to extract gold from mined material. Significant amounts of mercury were often lost during this process, suggesting that residual mercury may exist at the site. This Order requires that the settling ponds be tested for mercury on a regular basis. If mercury is detected at concentrations exceeding those stipulated in this Order, the Discharger will be required to collect water and sediment samples from the settling ponds, have them tested for mercury and provide a report of results. Based on the report findings, additional action may or may not be necessary. Because the ponds are assumed to be well mixed, only one sampling location in the pond receiving the process water is specified for monitoring. In addition, sampling of the pond water should be representative of the leachability of any mercury in the fines collected in the settling ponds and the suitability of the fines to be used for reclamation.

West Valley Sand and Gravel began processing mined material in the summer of 2006 but no washing occurred until the spring of 2007. No water quality impacts or threatened impacts were identified as a result of the discharge.

Surface water drainage is to Dry Creek, a tributary to Cottonwood Creek.

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