CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0160

NPDES NO. CA0082767

WASTE DISCHARGE REQUIREMENTS FOR CRYSTAL CREEK AGGREGATE, INC. SHASTA COUNTY

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

1. Crystal Creek Aggregate, Inc., a California corporation, (hereafter Discharger) submitted a Report of Waste Discharge (RWD), dated 17 July 2000, and applied for a permit renewal to discharge waste under the National Pollutant Discharge Elimination System (NPDES). The Discharger is currently regulated under Waste Discharge Requirements (WDRs) Order No. 96-036 (NPDES No. CA0082767), adopted by the Regional Board on 23 February 1996.

2. The Discharger owns and operates an aggregate quarry and processing plant (Facility) in the Keswick area generally located approximately 1,000 feet west of Iron Mountain Road, and 2,700 feet northwest of the intersection of Iron Mountain Road and Middle Creek Road. The Discharger owns the property on which the Facility is located. The property is located in Sections 29 and 30, T39N, R5W, MDB&M as shown on Attachment A, which is attached hereto and made part of this Order by reference. The Assessor's Parcel Numbers for the property are 065-250-02 and 065-260-10. The approximate coordinates of the Facility are 40°36'12"N latitude and 122°27'11"W longitude. The main access to the Facility is a driveway directly off of Iron Mountain Road.

3. Surface water drainage from the Facility is south to Middle Creek and north to Rock Creek, both tributaries of the Sacramento River as shown in Attachment B, which is attached hereto and made part of this Order by reference. The discharge of settled stormwater from the Facility is to Middle Creek and occurs at the location 40°36'17"N latitude and 122°27'47"W longitude.

4. The Facility is in the Spring Creek Hydrologic Area No. 524.40, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1986. The mean annual rainfall is approximately 60 inches. The pan evaporation rate is approximately 65 inches per year, based on information obtained from DWR Bulletin 73-79 (November 1979).

5. The existing WDRs regulate the discharge of settled stormwater and wash water from the Facility to Middle Creek and Rock Creek and contain requirements for sampling and analysis of the settled stormwater and wash water, other stormwater runoff, and receiving water.

6. The Discharger's facility consists of: an active aggregate quarry area, several inactive quarry areas, aggregate wash recycle ponds, storm water settling ponds, an aggregate processing plant, material stockpiles, unpaved roadways, an office building, an equipment building, and a 20,000 gallon aboveground petroleum storage tank. Wastes generated at the facility include: domestic wastewater, aggregate wash water, dust control wastewater, and storm water runoff.

7. The Discharger discharges a variable quantity of aggregate wash water to two recycle ponds. A flocculating agent is used in the ponds to hasten the settling process prior to reuse of the water for aggregate washing. The northern recycle pond is connected to the southern recycle pond. The southern recycle pond overflows during significant storm events and has an overflow pipe which directs any overflow to a settling pond (Pond 1). This Order requires the Discharger to modify the aggregate wash recycle ponds to prevent overflows. Settled fines are removed from the recycle ponds as needed and stockpiled and dried on the northwest corner of the property. The locations of the recycle ponds are shown on Attachment B.

8. The site is underlain by a loose, finely divided, quartz-decomposed granite soil with little clay content. Erosion potential is high, and the soil settles slowly in water and can cause high turbidity, and settleable and suspended solids in the runoff.

9. The Discharger has constructed three settling ponds (Ponds 1, 2, and 3) in series to intercept surface runoff from around the Facility during periods of rainfall runoff. General stormwater runoff and overflow from the southern recycle pond drains to Pond 1. Pond 1 can discharge to Pond 2 or to a rock-lined conveyance channel depending on the position of a valve located in the outlet pipe from Pond 1. If the Pond 1 discharge is directed to the rock-lined conveyance channel, then the Pond 1 discharge bypasses Ponds 2 and 3. If the Pond 1 discharge is directed to Pond 2, then Pond 2 provides additional settling time and then discharges to Pond 3. Pond 3 receives effluent from Pond 2 and from the current quarry area in the southwest portion of the Facility. The connection to the current quarry area is via an underground drain system. The Pond 3 discharge and the rock-lined conveyance channel commingle at sampling location 001 then exit the Facility and flow to Middle Creek in an unnamed tributary stream.

10. The Discharger has constructed a 30 acre-foot stormwater storage pond (Water Rights Permit No. 20802) in a previously mined quarry pit. The pond receives offsite flow from the west. Storage in the pond is regulated by a slide gate connected to a 700 foot long 36-inch culvert that discharges to the rock-lined conveyance channel that can also receive flow from Pond 1. During the summer months, the stored water is used for dust control and, if necessary, is available for fire suppression.

11. The Discharger has constructed a fourth settling pond to collect stormwater from the northwest portion of the Facility including a fines material stockpile area. Settled stormwater from this pond is discharged to a surface drainage course at sampling location 002 that is tributary to an unnamed tributary to Rock Creek. The stockpile area has now been relocated and the area graded such that the fines area no longer drains to Pond 4. The Discharger has proposed filling in Pond 4 and directing all stormwater runoff in that area to Pond 1. When

this is completed, only stormwater from a graveled access road and an equipment storage yard would runoff to the Rock Creek tributary. Because the stormwater runoff from this portion of the property would no longer contact quarry process materials, this Order eliminates discharge sampling location 002 and the receiving water monitoring locations R-3 and R-4 from monitoring requirements. The Discharger's Stormwater Pollution Prevention Plan will be modified to include monitoring of this area at least twice each wet season.

12. Various petroleum products are stored and used to maintain and operate equipment at the Discharger's facility. The 20,000-gallon aboveground storage tank has secondary containment and has a roof constructed over it. A Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) has been prepared for the Facility and this Order requires the Discharger to review, and if necessary, revise the SPCC Plan.

13. On 22 August 1991, a Notice of Determination was filed with the Shasta County Clerk's Office for a mitigated negative declaration for the quarry project. Shasta County Use Permit No. 24-90A, and Reclamation Plan No. 1-90 apply to the Discharger's Facility.

14. The Code of Federal Regulations (CFR), 40 CFR Part 436, contains effluent limitation guidelines for the mineral mining and processing point source category that are divided into thirty-eight subcategories. Subpart B-Crushed Stone Subcategory generally includes all types of rock and stone. Subpart C-Construction Sand and Gravel is applicable to the mining and processing of sand and gravel for construction or fill uses. These regulations include a limitation for pH between 6.0 and 9.0. Overflow associated with a 10-year, 24-hour rainfall event is not subject to the pH limitation.

15. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the State Water Resources Control Board (hereafter State Board) and incorporated by reference, such as Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California. These requirements implement the Basin Plan.

16. USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality standards applicable to this discharge. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy), which contains guidance on implementation of the *National Toxics Rule* and the *California Toxics Rule.*

17. The beneficial uses of Rock Creek and Middle Creek are not individually identified in the Basin Plan; however, the Basin Plan states, "The beneficial uses of any specifically identified water body generally apply to its tributary streams". The Basin Plan does identify present and

potential beneficial uses of the Sacramento River. Rock Creek and Middle Creek are tributary to the Sacramento River. The beneficial uses of the Sacramento River are municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); hydropower generation (PWR); water contact and non-contact recreation (REC1 and REC2); warm and cold freshwater habitat (WARM and COLD); warm and cold fish migration (MGR); warm and cold fish spawning (SPWN); wildlife habitat (WILD); and navigation (NAV). Using the tributary rule, these beneficial uses apply to Rock Creek and Middle Creek.

18. The beneficial uses of groundwater are municipal and domestic water supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).

19. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.

20. On 11 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to meet the requirements of the State Implementation Policy (SIP). Federal regulations contained in 40 CFR 122.4(d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. The Discharger has sampled the effluent and receiving water to determine if the priority pollutants established in the CTR and NTR were detected. Analytical results were submitted for volatile substances, semi-volatile substances, metals, asbestos, and dioxin. Out of the 126 priority pollutants tested for, only zinc was detected at a concentration that may cause or contribute to a violation of an applicable water quality criteria, however additional testing is needed. Based on the initial sample results and facility operations, these requirements include additional monitoring for priority pollutant metals including zinc to determine if water quality-based effluent limits are necessary. Additionally, based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs the Regional Board finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective for turbidity and settleable solids. Receiving water limitations for turbidity and effluent limitations for settleable solids are included in this Order.

21. Federal Regulations for storm water discharges were promulgated by USEPA on 16 November 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities, which discharge storm water associated with industrial activity (storm water), 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 Board 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, that requires submittal

of a Notice of Intent, preparation of a Storm Water Pollution Prevention Plan, Site Map, and Monitoring Program by industries to be covered under the permit. The General Permit requires storm water samples to be analyzed for total suspended solids, pH, specific conductance, total organic carbon or oil and grease, toxic chemicals and other pollutants that are likely to be present in the discharge in significant quantities, and other analytical parameters listed in Table D. The General Permit, Table D specifies that mineral mining facilities analyze their storm water for total suspended solids. This individual permit and the provisions and monitoring it contains concerning storm water relieve the Discharger from seeking coverage under the General Permit.

23. The discharge as permitted herein is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16. The unlined basins are used to settle out sediments which are retained by the soil and do not pass to groundwater. Therefore, requirements for a groundwater monitoring program are not included herein.

24. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), in accordance with Section 13389 of the California Water Code.

25. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

26. The Regional Board has considered the information in the attached Information Sheet in developing the findings in this Order. The attached Information Sheet is part of this Order.

27. 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 an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

28. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

29. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 10 days from the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 96-036 is rescinded and Crystal Creek Aggregate, Inc., 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. Discharge of wastewater, including storm water, at locations or in a manner different from that described in Finding Nos. 7, 9, 10, and 11 is prohibited.

2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13. (See attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)").

3. The by-pass of sediment-laden storm water around the sedimentation basins except for offsite water passing through the Facility in the rock-lined conveyance channel is prohibited.

4. The discharge of recycled wash water from the recycle ponds except during storms greater than the 25-year, 24-hour storm event, is prohibited.

5. The discharge of hazardous or toxic substances, including solvents or petroleum products (e.g., oil, grease, gasoline, and diesel) to surface waters or groundwater is prohibited.

6. Discharge of waste classified as "hazardous" as defined in Section 2521(a) of Title 23, California Code of Regulations (CCR), Section 2510, et seq., (hereafter Chapter 15) or "designated", as defined in Section 13173 of the California Water Code, is prohibited.

B. Effluent Limitations (Discharge 001)

1. The discharge of storm water in excess of the following limit is prohibited:

Constituent	Unit	30-Day Average	Daily Maximum
Settleable Solids	mL/L	0.1	0.2

2. The discharge shall not have a pH less than 6.0 or greater than 9.0.

3. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay----------70%
Median for any three or more consecutive bioassays---90%

C. Discharge Specifications

1. Neither the treatment nor the discharge shall cause a pollution or nuisance as defined by the California Water Code, Section 13050.

2. The discharge shall not cause degradation of any water supply.

3. A 1.0-foot freeboard shall be maintained in all ponds at all times.

4. Storm water discharges to any surface water or groundwater shall not adversely impact human health or the environment.

5. Storm water discharges shall not cause or contribute to a violation of any applicable water quality standards contained in the Basin Plan.

D. Sludge, Topsoil, and Overburden Management

1. Collected screenings, sludge and other solids removed from liquid waste, including pond sediments, shall be disposed of in a manner approved by the Executive Officer and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste,* as set forth in Title 27, California Code of Regulations (CCR), Division 2, Subdivision 1, Section 20005, et seq.

2. The storage of topsoil and overburden from the aggregate quarry shall be done in a manner to prevent nuisance, pollution or impairment of beneficial uses.

3. Any proposed change in sludge disposal or topsoil and overburden storage practices shall be reported to the Executive Officer at least **90 days** in advance of the change.

E. Receiving Water Limitations

Receiving water limitations are based upon water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in Middle Creek or Rock Creek:

1. The turbidity of receiving waters to increase over background levels by more than:

   a. 1 NTU when background turbidity is between 0 and 5 NTUs;

   b. 20 percent when background turbidity is between 5 and 50 NTUs;

   c. 10 NTUs when background turbidity is between 50 and 100 NTUs; and

   d. 10 percent when background turbidity is greater than 100 NTUs.

   In determining compliance with the above limits, appropriate averaging periods may be applied upon approval by the Executive Officer.

2. Suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

3. Deposition of material that causes nuisance or adversely affects beneficial uses.

4. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units. In determining compliance with these limits, appropriate averaging periods may be applied upon approval by the Executive Officer.

5. Increase the normal ambient temperature of waters by more than $5^{o}F$ ($3^{o}C$). In determining compliance with these limits, appropriate averaging periods may be applied upon approval by the Executive Officer.

6. Oils, greases, waxes, floating material (liquids, solids, foams, and scum), suspended materials, or other materials to form a visible film or coating on the water surface or on the stream bottom or otherwise create a nuisance or adversely affect beneficial uses.

7. Aesthetically undesirable discoloration.

8. Fungi, slimes, or other objectionable growths.

9. Concentration of dissolved oxygen to fall below 7.0 mg/L.

10. Taste or odor-producing substances to impact undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to cause nuisance or adversely affect beneficial uses.

11. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.

12. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that product detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.

13. Violations of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted thereunder.

F. Groundwater Limitation

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

G. Provisions

1. The Discharger shall comply with all items of the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)," dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as "Standard Provision(s)."

2. The Discharger shall comply with the attached Monitoring and Reporting Program No. R5-2002-0160, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.

3. The Discharger shall conduct monitoring as specified in Monitoring and Reporting Program No. R5-2002-0160, to determine if the discharge from Discharge 001 contains priority pollutants in concentrations that may affect water quality. If after a review of the monitoring results it is determined that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above water quality objectives, this Order will be reopened and a limitation based on that objective included.

4. The Discharger shall conduct chronic toxicity testing as specified in Monitoring and Reporting Program No. R5-2002-0160. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a work plan to conduct a toxicity reduction evaluation (TRE), and upon approval conduct the TRE. This Order will be reopened to include a chronic toxicity limitation and/or a limitation for the specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by the State Board, this Order may be reopened and a limitation based on that objective included.

5. Prior to **15 October** of each year, the Discharger shall implement necessary erosion control measures and any necessary construction, maintenance, or repairs of drainage and erosion control facilities.

6. The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices to reduce pollutants in the storm water discharges. The Discharger shall amend the SWPPP whenever there are changes that may affect the discharge of significant quantities of pollutants to surface water, if there are violations of this permit, or if the general objective of controlling pollutants in the storm water discharges has not been achieved. The amended SWPPP shall be submitted prior to **15 October** in the year in which it is prepared. Additionally, the Discharger shall review, and if necessary, revise the SWPPP within **six months** of adoption of this Order.

7. By **1 July** of each year, the Discharger shall submit a Storm Water Annual Comprehensive Site Compliance Evaluation Report containing, but not limited to: a review of all visual observation records, inspection records, and sampling and analysis results from the previous wet season to determine if parameter benchmark values are being achieved; a visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage systems; and a review and evaluation of all best management practices (BMPs) to determine whether they are adequate, properly implemented and maintained, or whether additional BMPs are needed. The report shall identify: the personnel performing the evaluation, the evaluation date, necessary SWPPP revisions, schedule for implementing SWPPP revisions, any incidents of non-compliance with Parameter Benchmark Values and corrective actions taken. The report shall be signed in accordance with Standard Provision D.6 and may be submitted using the General Industrial Storm Water Annual Report Form, provided by the State Board, or in a format that contains equivalent information.

8. The Discharger shall make modifications to the wash water recycle ponds to eliminate discharges except for storms greater than the 25-year, 24-hour storm event. Additional modifications to stormwater controls as discussed in the Discharger's March 2002 updated SWPPP shall also be made. These modifications shall be completed by **15 October 2002**.

9. The Discharger shall immediately report to the Regional Board any spill that potentially impacts surface waters.

10. The Discharger shall notify the Regional Board of any change in the type or frequency of use of water treatment chemicals. Notification shall include information from the manufacturer regarding toxicity and hazardous classifications.

11. 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.

12. The Discharger shall comply with the standards contained in the Health and Safety Code, Chapter 6.67, *Aboveground Storage of Petroleum*, and any amendments thereto. The Discharger has prepared a spill prevention control and countermeasure plan (SPCC Plan). The Discharger shall review and, if necessary, revise the SPCC Plan within **six months** of adoption of this Order.

13. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge.

14. The Discharger shall use the best practicable cost-effective control techniques(s) currently available to comply with discharge limits specified in this order.

15. 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.

16. This Order expires on **1 September 2007** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than **180 days** in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.

17. In the event of any change in control or ownership of land or waste discharge 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 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, address, and the 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 D.6 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. Transfer shall be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Acting 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 6 September 2002.

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THOMAS R. PINKOS, Acting Executive Officer

BJS:

INFORMATION SHEET

ORDER NO. R5-2002-0160
CRYSTAL CREEK AGGREGATE, INC.,
SHASTA COUNTY

FACILITY INFORMATION

Crystal Creek Aggregate, Inc., a California corporation, (hereafter Discharger) owns and operates an aggregate quarry and processing plant (Facility) in the Keswick area generally located approximately 1,000 feet west of Iron Mountain Road, and 2,700 feet northwest of the intersection of Iron Mountain Road and Middle Creek Road. The Discharger owns the property on which the Facility is located. The property is located in Sections 29 and 30, T39N, R5W, MDB&M. The Assessor's Parcel Numbers for the property are 065-250-02 and 065-260-10. The approximate coordinates of the Facility are 40°36'12"N latitude and 122°27'11"W longitude. The main access to the Facility is a driveway directly off of Iron Mountain Road. Land use in the vicinity of the property includes rural residential, industrial, and open space. The existing Waste Discharge Requirements (WDRs) Order No. 96-036 regulate the discharge of settled stormwater and wash water from the Facility to Middle Creek and Rock Creek and contain requirements for sampling and analysis of the settled stormwater and wash water, other stormwater runoff, and receiving water.

Surface water drainage from the Facility is south to Middle Creek and north to Rock Creek, both tributaries of the Sacramento River. The discharge of settled stormwater from the Facility is to Middle Creek and occurs at the location 40°36'17"N latitude and 122°27'47"W longitude. The Facility is in the Spring Creek Hydrologic Area No. 524.40, as depicted on interagency hydrologic maps prepared by the Department of Water Resources in August 1996. The mean annual rainfall is approximately 65 inches. The pan evaporation rate is approximately 65 inches per year, based on information obtained from DWR Bulletin 73-79 (November 1979).

The Discharger's facility consists of: an active aggregate quarry area, several inactive quarry areas, aggregate wash recycle ponds, storm water settling ponds, an aggregate processing plant, material stockpiles, unpaved roadways, an office building, an equipment building, and a 20,000 gallon aboveground petroleum storage tank. Wastes generated at the facility include: domestic wastewater, aggregate wash water, dust control wastewater, and storm water runoff. The site is underlain by a loose, finely divided, quartz-decomposed granite soil with little clay content. Erosion potential is high, and the soil settles slowly in water and can cause high turbidity, and settleable and suspended solids in the runoff.

The Discharger discharges a variable quantity of aggregate wash water to two recycle ponds. A flocculating agent known as Praestol 2640TR by Stockhausen, Inc. is used in the ponds to hasten the settling process prior to reuse of the water for aggregate washing. The northern recycle pond is connected to the southern recycle pond. The southern recycle pond overflows during significant storm events and has an overflow pipe which directs any overflow to a settling pond (Pond 1). Previous sampling results indicate that discharges from the recycle ponds are a significant source of turbid water and sediment to the settling ponds. This Order requires the Discharger to modify the aggregate wash recycle ponds to eliminate overflows except for during storms greater than the 25-year, 24-hour storm event. This Order requires that these modifications and other modifications outlined by the Discharger in the March 2002 update to the Storm Water Pollution Prevention Plan

(SWPPP) be completed by 15 October 2002. Settled fines are removed from the recycle ponds as needed and stockpiled and dried on the northwest corner of the property.

The Discharger has constructed three settling ponds (Ponds 1, 2, and 3) in series to intercept surface runoff from around the Facility during periods of rainfall runoff. General stormwater runoff and (currently) overflow from the southern recycle pond drains to Pond 1. Pond 1 can discharge to Pond 2 or to a rock-lined conveyance channel depending on the position of a valve located in the outlet pipe from Pond 1. If the Pond 1 discharge is directed to the rock-lined conveyance channel, then the Pond 1 discharge bypasses Ponds 2 and 3. If the Pond 1 discharge is directed to Pond 2, then Pond 2 provides additional settling time and then discharges to Pond 3. Pond 3 receives effluent from Pond 2 and from the current quarry area in the southwest portion of the Facility. The connection to the current quarry area is via an underground drain system. The Pond 3 discharge and the rock-lined conveyance channel commingle at sampling station 001 then exit the Facility and flow to Middle Creek via an unnamed tributary stream.

The Discharger has constructed a 30 acre-foot stormwater storage pond (Water Rights Permit No. 20802) in a previously mined quarry pit. The pond receives offsite flow from the west. Storage in the pond is regulated by a slide gate connected to a 700 foot long 36-inch culvert that discharges to the rock-lined conveyance channel that can also receive flow from Pond 1. During the summer months, the stored water is used for dust control and, if necessary, is available for fire suppression.

The Discharger has constructed a fourth settling pond to collect stormwater from the northwest portion of the Facility that originally included the fines material stockpile area. Settled stormwater from this pond is discharged to a surface drainage course at sampling station 002 that is tributary to an unnamed tributary of Rock Creek. The fines stockpile area has now been relocated and the area graded such that the fines stockpile area no longer drains to Pond 4. The Discharger has proposed filling in Pond 4 and directing all stormwater runoff in that area to Pond 1. If this were done, only stormwater from a graveled access road and an equipment storage yard would runoff to the Rock Creek tributary. In any case, because the stormwater runoff from this portion of the property no longer contacts quarry process materials, this Order eliminates discharge sampling station 002 and the receiving water monitoring stations R-3 and R-4 from monitoring requirements. However, with the elimination of the permitted 002 monitoring station, the Discharger must modify the Stormwater Pollution Prevention Plan to include inspection of this area at least twice each wet season. If the Discharger makes operational changes in the future that make runoff from this area a threat to water quality, then specific effluent and receiving water monitoring requirements will be added to this Order.

Various petroleum products are stored and used to maintain and operate equipment at the Discharger's facility. The aboveground storage tank (AST) has secondary containment. The Discharger has recently constructed a roof over the AST to reduce the amount of rainwater that collects in the secondary containment area. A Spill Prevention, Control, and Countermeasures Plan (SPCC Plan) has been prepared. This Order requires that the SPCC Plan be reviewed and if necessary revised within 6 months of adoption of this Order.

On 22 August 1991, a Notice of Determination was filed with the Shasta County Clerk's Office for a mitigated negative declaration for the quarry project. Shasta County Use Permit No. 24-90A, and Reclamation Plan No. _____ apply to the Discharger's Facility.

PROPOSED EXPANSION

The Discharger has proposed an expansion of the quarry operation onto the adjacent land to the west. Based on the Discharger's informal description of the proposed expansion, it appears that the existing stormwater settling ponds system would not be significantly affected, drainage from the expanded area would be routed through the existing facilities, and no additional discharge points would be created. If the proposed expansion occurs, and the resulting configuration of the facility does not significantly affect the stormwater settling system, then it is unlikely that a revision to this Order would be required prior to the next regular renewal. The expansion would still be subject to the county's use permit and reclamation plan processes including CEQA review.

RECEIVING WATER BENEFICIAL USES

The beneficial uses of Rock Creek and Middle Creek are not individually identified in the Basin Plan; however, the Basin Plan states, "The beneficial uses of any specifically identified water body generally apply to its tributary streams". The Basin Plan does identify present and potential beneficial uses of the Sacramento River. Rock Creek and Middle Creek are tributary to the Sacramento River. The beneficial uses of the Sacramento River are municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); hydropower generation (PWR); water contact and non-contact recreation (REC1 and REC2); warm and cold freshwater habitat (WARM and COLD); warm and cold fish migration (MGR); warm and cold fish spawning (SPWN); wildlife habitat (WILD); and navigation (NAV). Using the tributary rule, these beneficial uses apply to Rock Creek and Middle Creek.

REASONABLE POTENTIAL ANALYSIS FOR PRIORITY POLLUTANTS

Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. USEPA adopted the National Toxics Rule (NTR) on 5 February 1993 and the California Toxics Rule (CTR) on 18 May 2000. The NTR and CTR contain water quality standards applicable to this discharge. The State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Plan (or SIP), which contains guidance on implementation for the NTR and CTR.

On 15 February 2001 and again on 25 April 2002, the Discharger sampled Discharge 001 to determine if the priority pollutants established in the CTR and NTR were present in the discharge. An upstream receiving water sample from Middle Creek was collected on 25 April 2002 and similarly analyzed for priority pollutants. Analytical results were submitted for volatile substances, semi-volatile substances, some pesticides, metals, asbestos, and dioxin.

The sampling results indicated that zinc may be present in the discharge at concentrations that could have reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard in the receiving water. Specifically, zinc was detected in the effluent at a concentration (total) of 61 micrograms per liter (ug/L). The hardness of the receiving water was 40 milligrams per liter (mg/L). The CTR Criteria Continuous Concentration (CCC) and Criteria Maximum Concentration (CMC) for zinc (dissolved) is 54 ug/L at a hardness of 40 mg/L. Additionally, the Basin Plan limit for zinc (dissolved) in the Sacramento River and its tributaries is 16 ug/L at 40 mg/L hardness. The EPA recommended metals translator (total to dissolved concentration) for zinc at 100 mg/L hardness is 0.978 and 0.986 for acute and chronic applications, respectively. The zinc translator numbers are close to unity and do not significantly affect the comparative results in this case. A site-specific translator study would likely indicate a significantly lower dissolved phase zinc concentration compared to the total concentration due to the presence of sediment in the discharge. The concentration of zinc in the discharge is a concern, however, insufficient information is available to determine "reasonable potential" or establish an effluent limit at this time. Therefore, this Order requires the Discharger to continue monitoring the discharge for priority pollutants, including zinc. Total and dissolved zinc concentrations and receiving water hardness will be monitored on a monthly basis. After sufficient data has been collected, this Order will be reopened and effluent limits added, if determined to be appropriate at that time.

BASIS FOR PERMIT CONDITIONS

The Code of Federal Regulations (CFR), 40 CFR Part 436, contains effluent limitation guidelines for the mineral mining and processing point source category that are divided into thirty-eight subcategories. Subpart B-Crushed Stone Subcategory generally includes all types of rock and stone. Subpart C-Construction Sand and Gravel is applicable to the mining and processing of sand and gravel for construction or fill uses. These regulations include a limitation for pH between 6.0 and 9.0. Overflow associated with a 10-year, 24-hour rainfall event is not subject to the pH limitation.

Discharge Prohibitions:

The Basin Plan states that the suspended sediment load and suspended sediment discharge rate of surface waters shall not cause nuisance or adversely affect beneficial uses. This Order prohibits the by-pass of sediment laden storm water around the sedimentation basins.

The Basin Plan states that discharge to surface water shall not cause oils, greases, or other materials in concentrations that cause nuisance or result in a visible film or coating on the surface of the water. This Order prohibits the discharge of petroleum products (including oil, grease, gasoline, and diesel) to surface waters or surface water drainage courses.

Effluent Limitations – (Discharge 001):

Settleable Solids. The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The Order continues the daily maximum settleable solids limit of 0.2 mL/L, and the 30-day average limit of 0.1 mL/L, that was in the previous Order. The settleable solids limits in this Order are based on what can reasonably be achieved in a well designed, constructed and operated sedimentation basins for the types of contaminants encountered at a quarry.

pH. This Order requires the effluent pH to remain between 6.0 and 9.0 pH units. This is a widened range from the previous 6.5 to 8.5 range but is consistent with requirements for similar facilities and, with receiving water limitations discussed below, will still provide protection for the receiving water. To comply with 40 CFR Part 436, this Order clarifies that discharges associated with a 10-year, 24-hour rainfall event are not subject to the pH limit.

Acute Toxicity. The effluent generally consists of storm water runoff; however, there may be other constituents with the potential to cause acute or chronic toxicity. This Order adds effluent limits for acute toxicity and monitoring for acute and chronic toxicity.

Discharge Specifications:

The discharge specifications are continued from the previous Order with additional specifications to provide consistency with the Basin Plan.

Sludge, Topsoil, and Overburden Management

This section is added. It includes language previously contained in the discharge specifications and clarifies management procedures.

Receiving Water Limitations:

The receiving water limitations are based on water quality objectives contained in the Basin Plan for the Sacramento River, and are continued from the previous Order.

Groundwater Limitation:

This Order adds a groundwater limitation based on water quality objectives contained in the Basin Plan.

Monitoring and Reporting:

Precipitation. This monitoring was implied in the previous Order and has been continued and formalized in this Order.

Effluent (Discharge 001). Effluent monitoring for settleable solids and total suspended solids is continued to determine compliance with Effluent Limitation B.1. Effluent monitoring for pH is added to determine compliance with Effluent Limitation B.2. Effluent monitoring for flow and turbidity are also continued.

Acute and chronic toxicity monitoring are added to determine if there are other constituents in the effluent that could potentially impair beneficial uses. Effluent monitoring for hardness and priority pollutant metals is added to determine if water quality-based effluent limits are necessary. Specifically, effluent monitoring for zinc is added to determine reasonable potential for the discharge to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard in the receiving water.

Receiving Water.

Receiving water monitoring for turbidity is continued, and monitoring is added for total suspended solids, and pH to determine compliance with Receiving Water Limitations E.1, E.2, and E.4. Averaging periods are added for determining turbidity compliance. Receiving water monitoring for pH, hardness, and priority pollutant metals is added, at station R-1, to determine if water quality-based effluent limits are necessary. Visual monitoring of the receiving water is added for determining compliance with narrative receiving water limitations.

California Toxics Rule and State Implementation Plan. The Discharger has completed the requested California Toxics Rule sampling and analysis but has one additional effluent sampling required for the 17 dioxin congeners as required by the State Implementation Plan.

Aboveground Petroleum Storage. This visual monitoring is continued from the previous Order to determine compliance with the facility's Spill Prevention Control and Countermeasure Plan.

ANTIDEGRADATION

The Antidegradation Policy requires the Board in regulating the discharge of waste to maintain high quality waters of the state unless 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 Board's policies (e.g., quality that exceeds water quality objectives).

The discharge as permitted herein is consistent with the antidegradation provisions of State Water Resources Control Board Resolution No. 68-16. The unlined basins are used to settle out sediments which are retained by the soil and do not pass to groundwater. For this reason, requirements for a groundwater monitoring program is not included herein.

BJS:

6 September 2002

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NPDES NO. CA0082767

MONITORING AND REPORTING PROGRAM NO. R5-2002-0160
FOR
CRYSTAL CREEK AGGREGATE, INC.
SHASTA COUNTY

The monitoring and reporting program (MRP) incorporates requirements for monitoring: precipitation, sedimentation ponds, pond effluent (Discharge 001), receiving water (R-1, R-2), California Toxics Rule, and aboveground petroleum storage. This MRP shall not be changed unless a revised MRP is issued by the Executive Officer.

PRECIPITATION MONITORING

The daily precipitation at the Crystal Creek Aggregate facility shall be recorded on weekdays and weekends. The reading shall be taken at the same time each day, and monitoring should be conducted as soon as possible after 1 inch of rainfall has occurred. The following precipitation information shall be submitted with the monthly monitoring report:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Precipitation	Inches	Visual	Daily	Monthly

SEDIMENTATION PONDS MONITORING

The Discharger shall record the following regarding the recycle and settling ponds:

Constituent	Units	Type of Sample	Sampling Frequency	Reporting Frequency
Liquid depth	Feet	Visual	Weekly	Monthly
Freeboard	Feet	Visual	Weekly	Monthly
Discharge	Yes/No	Visual	Weekly	Monthly
Settling Agent Used	Yes/No	Visual	Weekly	Monthly

EFFLUENT MONITORING (DISCHARGE 001)

During periods of discharge at monitoring station 001, effluent samples shall be collected for the following with results reported monthly:

Constituent	Units	Type of Sample	Sampling Frequency
Estimated Flow	cfs	Visual	[1,2]
pH	pH Units	Grab	[1,2]
Settleable Solids	mL/L	Grab	[1,2]
Total Suspended Solids	mg/L	Grab	[1,2]
Turbidity	NTU	Grab	[1,2]
Zinc (Total and Dissolved)	ug/L	Grab	Monthly[3]
Hardness	mg/L	Grab	Monthly[3]
Priority Pollutant Metals[4]	ug/L	Grab	Twice per year
Acute Toxicity[5]	% Survival	Grab	Annually[6]

1 Daily during rainfall events exceeding 1 inch.

2 Biweekly during periods of continuous discharge.

3 Samples for hardness and metals analyses to be collected during the same sampling event. Monthly monitoring for zinc and hardness may be reduced after sufficient data has been collected if it can be shown that the discharge does not have a reasonable potential to cause an exceedence of water quality objectives in the receiving water.

4 Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc (ICP/MS-*EPA Method 1638),* Mercury (CVAA-*EPA Method 1631),* Arsenic (HYDRIDE-*EPA Method 206.3)* Chromium VI (FAA-*EPA Method 218.4).* Analyses shall be for total concentration except for copper which shall be for both total and dissolved.

5 96-hour Bioassay using Rainbow Trout as the test species.

6 If settling agents are used in settling ponds. Samples shall be collected at times when settling agents would most likely be present in the discharge.

THREE SPECIES CHRONIC TOXICITY

Chronic toxicity monitoring shall be conducted once during the 5-year permit renewal period to determine whether the effluent (Discharge 001) is contributing toxicity to Middle Creek. Samples shall be collected at times when settling agents would most likely be present in the discharge, if settling agents are used. Chronic toxicity testing is to be performed even if settling agents are not used. The testing shall be conducted on undiluted effluent, as specified in EPA 600/4-91-002 or latest edition. If undiluted effluent exhibits toxicity, the Discharger shall sample during the next discharge event and conduct the test using the dilution series specified below. Chronic toxicity samples shall be collected at Discharge 001. Twenty-four hour composite or individual grab samples shall be representative of the volume and quality of the discharge. Date and time of sample collection shall be recorded. The results shall be submitted with the monitoring report and include the following:

Species: Pimephales promelas, Ceriodaphnia dubia, and Selenastrum capricornutum

Frequency: Once during the 5-year permit renewal period.

	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Lab Water
% Discharge 001 Effluent	100	75	50	25	12.5	0	0
% Dilution Water[1]	0	25	50	75	87.5	100	0
% Lab Water	0	0	0	0	0	0	100

[1] Dilution water shall be receiving water from Middle Creek taken upstream of the discharge at monitoring station R-1. If the receiving water exhibits toxicity the Discharger may be required to use lab water as dilution water. The dilution series may be modified after the initial test, upon approval of the Executive Officer.

RECEIVING WATER MONITORING

Receiving water samples shall be taken from the following stations:

Station	Description
R-1	Middle Creek, as close as possible, but greater than 50 feet upstream of the unnamed tributary carrying Facility effluent. Exact location to be approved by Regional Board staff.
R-2	Middle Creek, as close as possible, but greater than 50 feet downstream of the unnamed tributary carrying Facility effluent. Exact location to be approved by Regional Board staff.

The receiving water grab samples shall be collected at approximately the same time as the samples at discharge monitoring station 001. The results shall be submitted with the monthly monitoring report and include the following:

Constituent	Units	Station	Sampling Frequency
pH	Units	R-1, R-2	1,2
Total Suspended Solids	mg/L	R-1, R-2	1,2
Turbidity	NTU	R-1, R-2	1,2
Hardness	mg/L	R-1, R-2	Monthly[3]
Zinc (Total and dissolved)	ug/L	R-1, R-2	Monthly[3]
Priority Pollutant Metals	ug/L	R-1, R-2	Twice per year[3]

[1] Daily during rainfall events exceeding 1 inch.
[2] Biweekly during periods of continuous discharge.
[3] To be collected during the same sampling events as 001 effluent sampling, and analyzed in the same way, including copper for both total and dissolved concentrations. Monthly monitoring for zinc and hardness may be reduced after sufficient data has been collected if it can be shown that the discharge does not have a reasonable potential to cause an exceedence of water quality objectives in the receiving water.

Turbidity (NTU) shall be determined by (1) individual samples or (2) by samples taken over an appropriate averaging period.

(1) Individual Sampling – As specified above.

(2) Averaging Periods – a minimum of four samples per day from each upstream, downstream, and 001 effluent station for a period of 2 to 4 days during discharge. Samples collected for averaging must be spaced at least 3 hours apart.

In conducting the receiving water sampling, a log shall be kept of the receiving water conditions at stations R-1 and R-2. Attention shall be given to the presence of or absence of:

a. Upstream flow
b. Floating or suspended matter
c. Oil sheen or slick
d. Discoloration
e. Scum or foam
f. Bottom deposits
g. Aquatic life

DIOXIN CONGENER MONITORING REQUIRED BY THE STATE IMPLEMENTATION PLAN (SIP)

The Discharger shall conduct monitoring to determine if the discharge from Discharge 001 contains dioxin toxic equivalents. One sample shall be collected from Discharge 001 during the **2002-2003 wet season** and analyzed for the 17 dioxin cogeners, described in the State Implementation Policy, using High Resolution Mass Spectrometry (Method 1613). The results shall be submitted by no later than **1 March 2003**.

ABOVEGROUND PETROLEUM STORAGE MONITORING

The Discharger shall visually inspect all aboveground petroleum storage tanks daily and as required by the facility's Spill Prevention Control and Countermeasure Plan. A report of the inspection shall be submitted. In the event of a petroleum release, a report shall be submitted describing the corrective action that was taken to remediate and dispose of the contaminated area. The results shall be submitted with the monthly monitoring report.

REPORTING

Monitoring results shall be submitted to the Regional Board by the **1st day of the second month** following sample collection. (i.e., the January report is due by 1 March).

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 whether the discharge 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 in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

The Discharger may also be requested to submit an annual report to the Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provisions D.6.

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

Ordered by:_____
THOMAS R. PINKOS, Acting Executive Officer

6 September 2002
(Date)

BJS: