

**Appendix B**  
**2013 Plan of Operations**

**PLAN OF OPERATIONS  
FOR  
JIMENEZ MINE  
VICINITY OF OCOTILLO  
IMPERIAL COUNTY, CALIFORNIA**

*Submitted to:*

**BUREAU OF LAND MANAGEMENT**  
1661 South 4th Street  
El Centro, California 92243

*Applicant:*

**GRANITE CONSTRUCTION COMPANY**  
2095 Highway 111  
El Centro, California 92243

REVISED APRIL 1996

MODIFIED APRIL 2014

## OWNER, OPERATOR AND AGENT

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El Centro, CA 92243  
Telephone: 760/353-0437, 760/775-7500
  
2. Name of Mineral Property and Mining Claims:  
  
Jimenez Mining Claims - CAMC38207 & CAMC 38209  
  
Jimenez Mine Plan of Operation: CACA-32144  
  
Jimenez right-of-way for processing facility: CACA-050523
  
3. Property Owners, or Owners of Surface Rights:
  - a. As to the Material Site:  
United States Department of the Interior Bureau of Land Management  
1661 South 4th Street  
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Granite Construction Company  
2095 Highway 111  
El Centro, California 92243
  
7. Agent of Process:  
Wade Malone, Plant Manager  
c/o Granite Construction Company

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# GRANITE CONSTRUCTION COMPANY

## PLAN OF OPERATIONS JIMENEZ CLAIMS

### 1.0 INTRODUCTION

The purpose of this November 2013 amended Plan of Operations is to update and supersede the existing Plan of Operations for Granite's Jimenez Sand and Gravel Mine. The Bureau of Land Management (BLM) approved the existing Plan of Operations in 1996 (included as Appendix A to the April 19, 1996 Environmental Assessment). The existing Plan of Operations, however, does not describe certain ongoing activities and operations at the Jimenez Mine, many of which commenced when Granite began initial operations at the Site. This amendment ensures that that Mining Plan in Section 4 accurately describes Granite's equipment, processing plants and other operations. The goals of reclamation and the processing area footprint described in the 1996 Plan of Operations remain unchanged. The non-mining activities including the Asphalt Plant, Ready-Mix Concrete Plant, and Recycled Asphalt Process within the Jimenez mine site are being permitted under an amendment to the 2009 non-energy facility Federal Land Policy and Management Act (FLPMA) right-of-way; CACA-05023 held by Granite Construction Company.

### 1.1 BACKGROUND

U.S. mining laws provide that a person has a statutory right, consistent with Department of Interior Regulations, to go upon open Federal lands for the purpose of mineral prospecting, exploration, development, extraction, and other uses reasonable incident thereto. However, "this statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary or undue degradation of Federal lands and to provide for reasonable reclamation" (43 CFR 3809.0-6). For Federal lands administered by the U.S. Bureau of Land Management (BLM), it is the BLM's responsibility to ensure that mining operations are completed in conformance with these objectives and specific requirements.

The County of Imperial (County) Development Code, in discussing the reclamation of mined lands, states that reclamation of federal, state, and private lands will permit the continued mining of minerals and will provide for protection and subsequent beneficial use of all mined and reclaimed lands. The County further finds that the extraction of valuable minerals through surface/subsurface mining and the reclamation of all mined lands is consistent with the goals and policies of the General Plan and with Public Resources Code, Division 2, Chapter 9.

This Plan of Operations (POO), including the attached Mine Reclamation Plot Plan, has been prepared in accordance with both Federal and State Requirements. This POO incorporates directly or by reference recommendations resulting from the environmental review process, as documented in the Jimenez Mine Environmental Assessment (EA) and BLM's project review and environmental analysis for the Ocotillo By-Pass Road that serves Jimenez Sand and Gravel Mine operations. These environmental analyses document the affected environment, potential environmental impacts, and mitigation measures. In addition, a Reclamation Plan in compliance

with County Code and the California Surface Mining and Reclamation Act (SMARA) has been prepared and submitted to the County of Imperial. BLM reclamation stipulations are incorporated into the County's Reclamation Plan.

## **1.2 REGULATORY REQUIREMENTS**

The POO will be administered in compliance with the Memorandum of Understanding (MOU) previously entered into between the BLM and the State Mining and Geology Board of the Department of Conservation, State of California. The MOU is for the purposes of:

- Assuring the consistent application of adequate and appropriate reclamation throughout California.
- Simplifying the administration of surface mining and reclamation practice requirements on Federal lands and on a combination of Federal and private lands.
- Achieving coordination of activity governing reclamation.
- Eliminating duplication among the aforementioned agencies and counties serving as Lead Agencies in implementing State and Federal reclamation requirements.

The 43 CFR 3809 regulations define procedures for reclamation of mining activities on Federal lands as: (1) saving soil for final application after reshaping of disturbed areas has been completed, (2) measures to control erosion, landslides, and water run-off, (3) measures to isolate, remove, or control toxic materials, and (4) reshaping of the area disturbed, application of soil, and revegetation of disturbed areas, where reasonably practicable. The 3809 regulation require that reclamation efforts be implemented at the earliest feasible time, except to the extent necessary to preserve evidence of mineralization.

The California Surface Mining and Reclamation Act of 1975 (SMARA) (California Administrative Code [CAC], Section 2733 defines reclamation as "...the combined process of land treatment that minimizes water degradation, air pollution, damage to aquatic or wildlife habitat, flooding, and erosion, and other adverse effects form surface mining operations..." According to SMARA (CAC, Section 2712 [a]-[c]), the objectives of reclamation are to assure that:

- "Adverse environmental effects are prevented or minimized and mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses."
- The production and conservation of minerals area encouraged, while giving consideration to values relating to recreation, watershed, wildlife, range and forage, and aesthetic enjoyment.
- Residual hazards to the public health and safety are eliminated."

### **1.2.1 Purpose and Use of the Plan of Operations**

The purpose of this POO is to provide information on the mining methodology and quarry design and detailed guidelines for implementing the reclamation process, in compliance of Federal, State, and County guidelines. It will be used by the regulatory agencies in the oversight roles to ensure that mining and reclamation measures have been implemented by Granite consistent with the POO.

This POO shall be used by Granite to implement mining and reclamation activities throughout the operation period of the project and subsequent to cessation of mining and processing activities. In turn, responsible agencies, including the BLM and County, will use the POO as a basis to review and evaluate the mining and reclamation program. The BLM will also use the POO in place of a plan of development (POD) for the non-energy facility FLPMA right-of-way which is within the Jimenez mine.

In view of the fact that this project may operate for an additional 20 or more years, it is possible that there would be changes to planned reclamation procedures over the life of the project. These changes may result from permitted alterations of project activities, improved revegetation methods, and/or changes in Federal/State regulation. Granite will submit proposed revisions to the BLM and County for approval. Approved changes would then be incorporated into the POO and implemented at the project site.

### **1.2.2 Goals of Project Reclamation**

The goals of the reclamation program for the Jimenez Mine are summarized as follows:

- Ensuring that materials excavated during the sand and gravel mining operations are placed in a manner that will not pose a hazard to public health and safety, and will minimize the shaping and contouring required to minimize erosion and visual effects.
- A revegetation program will be conducted in a manner to conserve surface “soils” to contribute to the revegetation of the site. The goal of the revegetation plan is to re-establish plant communities with species composition and densities similar to those existing on the property today.

## **2.0 ENVIRONMENTAL SETTING**

### **2.1 GEOLOGY**

The Jimenez Claims project is located in the Coyote Mountains “District” in southwestern Imperial County centered about 28 miles west of El Centro (Figure 1). The mountains trend northwest and have elevations ranging from 400 to 2,400 feet. A great variety of mineral deposits can be found in this area including beryllium, clay, limestone, marble, nickel, quartz, roof granules, sand and gravel and silica sand.

The total project is approximately 100 acres in size; all mining, processing, batching, recycling and reclamation activities will take place within that 100 acre area. It is located in the northeast quarter and east half of the southeast quarter of Section 8, T16S, R9E, San Bernardino Baseline and Meridian (SBB&M). Existing access to the site from the east (El Centro) is via Interstate 8, to the Ocotillo exit, north to Imperial Highway (S2), west for 3 miles, then north on an existing access road 2 miles to the site. This access road is paved and Granite holds a current renewable right-of-way grant (#CACA - 15526) for this road.

According to the California Division of Mines and Geology Report, Geology and Mineral Resources of Imperial County California (Morton, 1977), the Jimenez Property has the characteristics of the following geological formation: Palm Spring Formation, Imperial Formation, and Older Alluvium.

The Palm Spring Formation is defined as interbedded non marine, light gray, arkosic sandstone and reddish clay. Imperial Formation: Marine sequence of light yellow-gray clay, interbedded arkosic sandstone with oyster shell reefs, and fossiliferous calcareous sandstone. Older Alluvium: Partly dissected largely unconsolidated poorly, sorted silt, and gravel of alluvial fans, desert pavement areas, margins of larger canyons, and terraces. Includes Chemihuevis Formation.

### **2.2 AIR RESOURCES**

The Imperial County 1991 State Ozone Air Quality Attainment Plan (AQAP) was developed, adopted and implemented to bring Imperial County into compliance with the California Ambient Air Quality Standards. Ozone (O<sub>3</sub>), Nitrogen Dioxide (NO<sub>2</sub>), Carbon Monoxide (CO), Particulate Matter (PM), Fine Particulate Matter (PM<sub>2.5</sub>), Sulfur Dioxide (SO<sub>2</sub>), and Lead (Pb) are criteria air pollutants designated by EPA in accordance with the Clean Air Act. Imperial County is a non-attainment area for PM<sub>10</sub>; moderate non-attainment for the 1997 (8-hour) O<sub>3</sub> standard; marginal non-attainment for the 2008 (8-hour) O<sub>3</sub> standard and non-attainment for the 2006 PM<sub>2.5</sub> standard. Imperial County is either designated in attainment status or “unclassified” for the other criteria air pollutants.

The Jimenez operational equipment is currently permitted by Imperial County Air Pollution Control District (ICAPCD). The process equipment at Jimenez is powered with diesel generators. Best Available Control Technology (BACT) was utilized to reduce PM and NO<sub>x</sub> emission when the current Permits to Operate were obtained from ICAPCD.

Appropriate permits are and will be maintained with the Imperial County Air Pollution Control District (ICAPCD) for all processing and plant equipment utilized at the Site, including portable generators. The listed equipment and facilities are representative of typical plants that may be operated at the Jimenez facility. Actual plant equipment, manufacturers, and configurations may vary. Permits for all plant process equipment must be obtained through the ICAPCD. A Dust Control Plan will be maintained for the facility in conformance with ICAPCD requirements. The Site Operator will comply with all ICAPCD rules and regulations including control of fugitive dust for the processing equipment, plants, generators, and mobile equipment intended to be operated at the Site. Imperial County Air Pollution Control District regulations address the operations listed below.

### Aggregate Plant

The aggregate plant typically includes three screens, one jaw crusher, one impact crusher, and a cone crusher. Aggregate production equipment is sized based on the requirements of the end user. A loader feeds mined material into a hopper where it is conveyed to the vibrating screens and crushing equipment. The sized material is then conveyed to stockpiles. The stockpiled materials are then loaded into highway haul trucks or transferred to the asphalt plant or Ready Mix Concrete Plant for final processing. Jimenez utilizes diesel-fueled generators for power. Water is applied at conveyor transfer points as required to control dust.

### Wash Plant

Ready Mix and specialty aggregates are manufactured through a wash process where silts, clays, and coatings are removed. Screened materials are fed to a vibratory wet screen, scrubbing, and classifying equipment. The separated material is then stockpiled primarily for use in Ready Mix Concrete. Process fines from the wash process are allowed to dry and may be stockpiled or used in slope reclamation.

### Asphalt Plant

Properly sized aggregate will be fed into a rotary dryer, where the material will be heated to remove moisture, then mixed with liquid asphalt oil. The asphalt will be discharged to a conveyor which transports the hot asphalt to a storage silo. Trucks are loaded with asphalt from the silo, weighed, and then exit the Site. Recycled crumb rubber may be added to the hot mix asphalt to produce rubberized asphalt. The process of adding recycled crumb rubber to the asphalt is known as the “Crumb Rubber Blending System”.

### Ready Mix Concrete Plant

The typical Ready Mix Concrete Plant could have a production rate of approximately 350 cubic yards per hour with a typical annual production of 300,000 cubic yards. Aggregate material may be fed from the aggregate stockpiles or sent to the concrete plant via a front-end loader. Aggregate, cement, and water are separately weighed and blended in a mixer drum. Dust generated within the plant is drawn through a bag-house system and returned to the concrete product. The concrete mix is deposited into mixer trucks for delivery to the end-user. Cement is transferred to the Site with bulk delivery trucks. In addition to these materials, the concrete plant may also require flyash and other additives dependent on customer requirements and agency specifications. Both the flyash and cement are stored in 2 or 3 – 120-ton capacity silos. These

products are purchased from regional suppliers and may be consumed at about 70,000 tons per year.

### Recycle Plant

Government and private contracts frequently specify the need for up to 50% recycled asphalt to conserve natural resources. A recycle plant, comprised of equipment much like the aggregate crushing plant with the addition of a magnet to remove steel such as rebar may be set-up at the Site. This recycling plant would be capable of crushing asphaltic concrete, broken cement concrete, and asphalt millings (inert debris). The recycle plant will be able to process about 450 tph and would be able to produce recycled base rock and/or recycled asphalt product for reintroduction to the asphalt plant. Actual annual production at the recycling plant would depend upon the available supply of material, or inbound material, for recycling.

Recycle materials generated from local construction projects would be trucked in and stockpiled adjacent to the recycle plant. Material would be loaded into a feeder by a front-end loader. Typically, a grizzly screen would remove the fines and direct the material to the jaw or impact crusher.

The recycle material would be sent over a screen deck for sizing and separation and oversize material may be conveyed to an additional crusher for further reduction. The finished material would then be conveyed to a stockpile. Recycled finished base product would be loaded onto trucks and sent to the truck scales for weighing and ticketing. Finished recycled asphalt product would be sent to the asphalt plant for reintroduction to the asphalt plant.

The recycle plant will be an “Inert Debris Recycling Center for Type-A Construction and Demolition Debris and Inert Debris” as defined by the California Code of Regulations Title 14, Natural Resources Division 7, California Integrated Waste Management Board (CIWMB) Chapter 3, Article 5.9. The recycling plant will be capable of crushing Inert Debris, specifically asphaltic concrete, broken cement concrete, and asphalt millings (Type A inert Debris). Inert Debris as defined in 14 CCR 17381(k) means “*solid waste and recyclable materials that are source separated or separated for reuse, don not contain hazardous waste (as defined in CCR Title 22, section 66261.3 et seq.) or soluble pollutants at concentrations in excess of applicable water quality objectives and do not contain significant quantities of decomposable waste....*” According to 14 CCR 17381(k)(1), “*Type A Inert Debris includes but is not limited to concrete (including fiberglass or steel reinforcing bar embedded in the concrete), fully cured asphalt, glass, fiberglass, asphalt or fiberglass roofing shingles, brick, slag, ceramics, plaster, clay and clay products....*”. Additionally, 14 CCR 17381.1(e)(3) states: “*Storage time limits do not apply to Type A inert debris recycling centers which are located at an inert debris engineered fill operation, an inert debris Type A disposal facility, or at a material production facility.*” The Jimenez facility is a material production facility.

### Mobile Equipment Emissions

Emissions from on-site mobile sources such as loaders, dozers, and water trucks constitute mobile emissions. The equipment utilized at Jimenez will comply with the July 2007 CARB rule that requires owners of diesel powered off-road mobile equipment (such as scrapers, loaders, and forklifts) to meet stringent emission control requirements designed to minimize PM and NO<sub>x</sub>.

Granite Construction Company's operation of mobile equipment conforms with the Company's five-minute idling policy in order to minimize air emissions.

### **2.3 LAND USE**

The Jimenez Claims site is zoned as Class L (multiple-use) by the BLM. Mining is one of the multiple-use activities allowed in Class L zones. Mining is also allowed under the County zoning regulations. No potential recreational uses of the Jimenez Claims property is known of at this time.

The nearest occupied residences are located in Ocotillo, about 4 miles to the southeast.

The alluvial fans northwest of Ocotillo have been mined since around the turn of the century, producing road base, asphalt aggregate, and rail road ballast. A 1986 BLM Mineral Report prepared by Mr. Kenneth C. Schulte of the BLM on the Jimenez Claims indicated that significant sand and gravel production has taken place in the area since the 1950s. Records compiled by Mr. Schulte show a minimum of 2.7 million tons produced and sold from the Ocotillo area from 1955 to 1985. The area continues to exhibit high levels of activity today with several mining operations (Granite, Vulcan, Cal-Grade, and Pyramid).

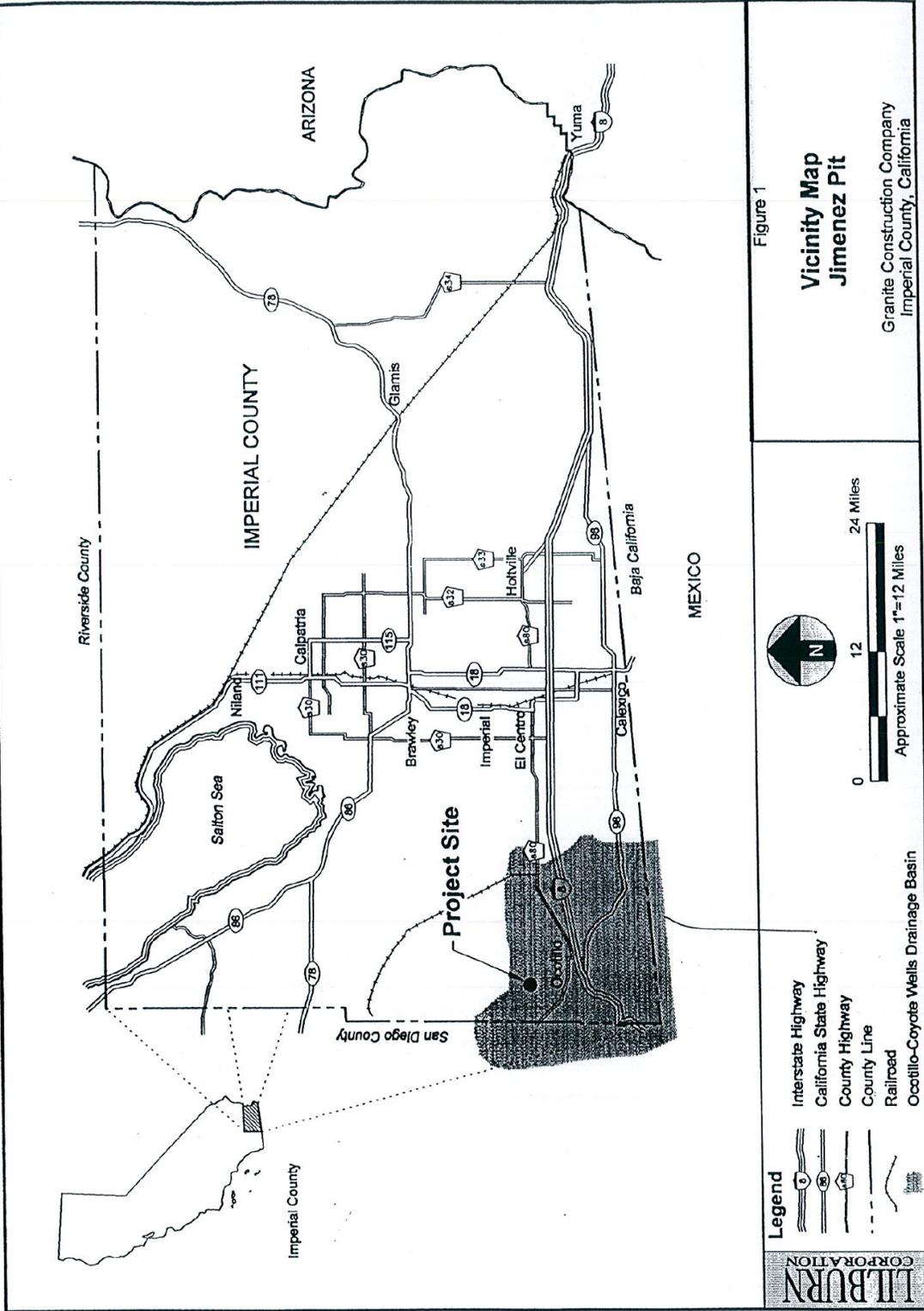


Figure 1. Vicinity Map

### **3.0 MARKETING OVERVIEW**

The principal market area for the Jimenez Claims site is the southern area of Imperial County, comprising the incorporated communities of El Centro, Imperial, Holtville, and Calexico. It is estimated that some 75 to 80 percent of the demand for construction aggregates in Imperial County is in the southern portion of the County..

- Residential Building: During the 1980s, 1990s and early 2000s, Imperial County experienced steady growth in residential building, the majority of which was single family homes (2/3rds). The vast majority of the residential units constructed were in the southern portion of the County with the communities of El Centro, Calexico, Imperial, and Holtville accounting for an average of over 80 percent during the late 1980s and early 1990s. Residential building experienced a slow down during the 2008 – 2012 time period due to the economic recession experienced nationwide.
- Commercial (Non Residential) Building: In keeping with the strong growth rate in residential building throughout the 1980s, commercial building also enjoyed solid growth in Imperial County. Commercial (Non Residential) building experienced a slow down during the 2008 – 2012 time period due to the economic recession experienced nationwide.
- Public Works/Non Building Construction: Expenditures in Imperial County on highways, roads, bridges, waste disposal systems, and airports have continued, though at a reduced level during the economic recession experienced nationwide. Solar and wind projects, water conservation projects and highway projects require a readily available aggregate supply.
- Summary: Imperial County exhibited strong growth in all sectors of the construction industry up to the time of the nationwide economic recession. To accommodate new and existing residents, infrastructure particularly roads will need to be expanded for the safety and convenience of the community. To support the rebounding economy and the associated growth, continued operation of the Jimenez Mine site is critical.

### **3.1 ROCK AND SAND SOURCES - IMPERIAL COUNTY**

“Other sources of sand and gravel in Imperial County are largely fan deposits, and are of minor importance. These will become more important sources in the future, however, as the shoreline deposits (East Highline) are diminished in quantity and quality. The alluvial fans flank the several mountain ranges that border Imperial Valley on the east and west.” (Ocotillo) (California Division of Mines and Geology, Geology and Mineral Resources of Imperial County, 1977).

The following is a list of active sand and gravel operations in the area (as of June 2013). Producers in each area are indicated and the relative haul distances to El Centro are included. (State and County pits are not included).

**Frink - 48 miles to El Centro**

BLM  
Cal-Grade  
Granite  
Superior

**Salton Sea Beach - 56 miles to El Centro Granite**

Aggregates Products (Manhole Adjusting, Inc.)

**East Highline - 20 to 39 miles to El Centro Granite - Flowing Wells**

Superior - Robert's Pit  
All American  
Becker  
Aggregate Products

**Ocotillo - 30 miles to El Centro**

Granite - Shell Canyon and Jimenez  
Pyramid  
Cal-Grade  
Vulcan  
Robertson – Carroll Sand and Gravel Mine (permitted but not developed)

**Pilot Knob - 51 miles to El Centro**

Campo Materials

Of the production areas listed above with quality rock deposits, only the Salton Sea Beach, Frink, and Ocotillo areas contain sufficient materials. The Highline deposits tend to be shallow with only 10 to 15 percent rock content with the balance coarse and fine sands, and silts. As previously mentioned, most of the available rock on the East Highline has been mined out over the years. The rock at Pilot Knob tends to be alkali reactive (unsuitable for concrete) and too soft for many asphalt and base specification jobs.

The Ocotillo area is 26 to 28 miles closer to El Centro and Southern Imperial County than Frink and Salton Sea Beach respectively. Based on an increased haul cost of \$4.50 per ton for every 30 miles in increased haul distance (Department of Conservation 2007) and annual rock and sand demand in Southern Imperial County of up to 750,000 tons per year, the result is \$3.375 million in additional haul costs to the County of Imperial. Also, the added fuel consumption and air pollution will be substantial, if rock and sand cannot be obtained from the Ocotillo areas.

## **4.0 MINING PLAN**

### **4.1 INTRODUCTION**

The Jimenez Claims Project will continue to operate as a single-bench rock and sand surface mining operation. The material is extracted through the use of dozers and loaders, and fed to movable feeders/conveyors to the onsite processing plant for crushing and screening; followed by use in the production of asphalt and/or ready-mix concrete. No off-road haul trucks would be used onsite and no blasting is proposed. The finished materials would be trucked off the property directly to construction projects or to supply asphalt and concrete operations in the El Centro area.

Rubber tired bucket loaders will be used to maintain stockpiles and load trucks. Electric power will be supplied by a fuel powered generator.

### **4.2 MAJOR PROJECT COMPONENTS**

The following plants are utilized on site as needed to meet local market demand for products: crushing/screening/washing plant; asphalt plant, ready mix concrete plant, and a concrete and asphalt recycling facility. These and other major operational components are shown in the site map.

A number of ancillary facilities provide support to Site operations, including: portable office trailer; materials testing laboratory; scalehouse; truck scales; up to four (4) lighting plants (directed downwards and away from adjacent mountain slopes and away from the community of Ocotillo); parking areas for mobile equipment (on and off-road); aboveground diesel storage tanks equipped with secondary containment; generators; areas designated for dumpsters and waste management; and chemical toilets.

Non-potable water for process make-up and dust control is stored in a lined and fenced fresh water retention basin (lined pond). Four (4) fenced and concrete lined gravity settling basins are used to remove fines from the process water prior to recirculation and reuse of the process water. All equipment requiring Imperial County Air Pollution Control (ICAPCD) Permits or California Air Resources Board (CARB) permits will continue to be permitted prior to operation at the Site.

Each process and the associated equipment is described below.

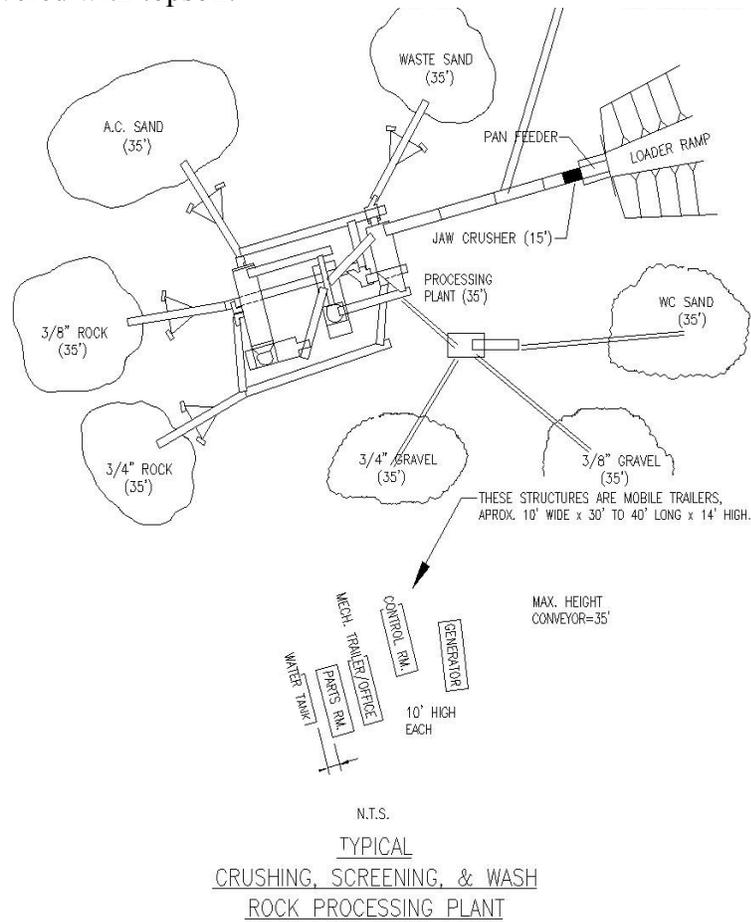
#### **4.2.1 Aggregate Plant**

Finished products include concrete stone, washed concrete sand, plaster sand, asphalt stone, asphalt sand, riprap, base stone, and fractionated stone, recycled base materials, and RAP (recycled asphalt concrete).

Aggregates are typically mined with an excavator, front-end-loader, or a combination of a front-end loader and dozer. Mined material is fed directly into the primary plant hopper and pan feeder (see **Figure 2**) and transferred via belt conveyors or to the processing area. The main

aggregate processing plant separates the material through the use of screens, and reduces the material size with secondary and tertiary crushers. Material is sorted via finishing screens, and stockpiled using stacking belt conveyors. The number and location of processed stockpiles varies according to market demand. Finished material is stockpiled in the processing area for use in production for concrete, asphalt, and other construction-grade aggregate material.

The aggregate plant generates silt and clay fines through the crushing and screening process, which are stockpiled for use in reclamation. Fines also are generated from material washing at the Wash Plant. The wash plant includes scrubbers, screens, screws and conveyors that use water to clean fines from sand and rock products. Washed water including fines is transferred by pump, gravity, or mobile equipment to a series of fenced concrete-lined settling basins. Settled fines are periodically removed from basins using an excavator or front-end loader, then stockpiled and allowed to dry prior to use in reclamation. The location of the fenced and concrete lined settling basins may be modified based on the production requirements of the aggregate plant. Should basins be relocated, the “new” basins shall be concrete lined and shall be adequately fenced to discourage larger animals such as the PBS and smaller animals such as lizards. Any relocation shall stay within the foot print of the mine site. When portions of the excavation area will no longer be mined or needed for operational purposes, stockpiled material will be spread on the floor of the area and/or slope in support of final reclamation, and subsequently covered with topsoil.



**Figure 2. Typical Processing Plant**

## **4.2.2 Asphalt Plant**

Asphalt is produced using one asphalt plant (see **Figure 3**). The plant includes a rotary dryer, baghouse, up to two 100-ton asphalt storage silos (approximately 30 feet in height), above-ground steel storage tanks and other ancillary equipment. The maximum production is currently 500 tons per hour (tph) or as specified by the Imperial Air Pollution Control District Permit(s). The maximum annual production is 675,000 tons for ICAPCD evaluation purposes as noted in the Supplemental Environmental Assessment.

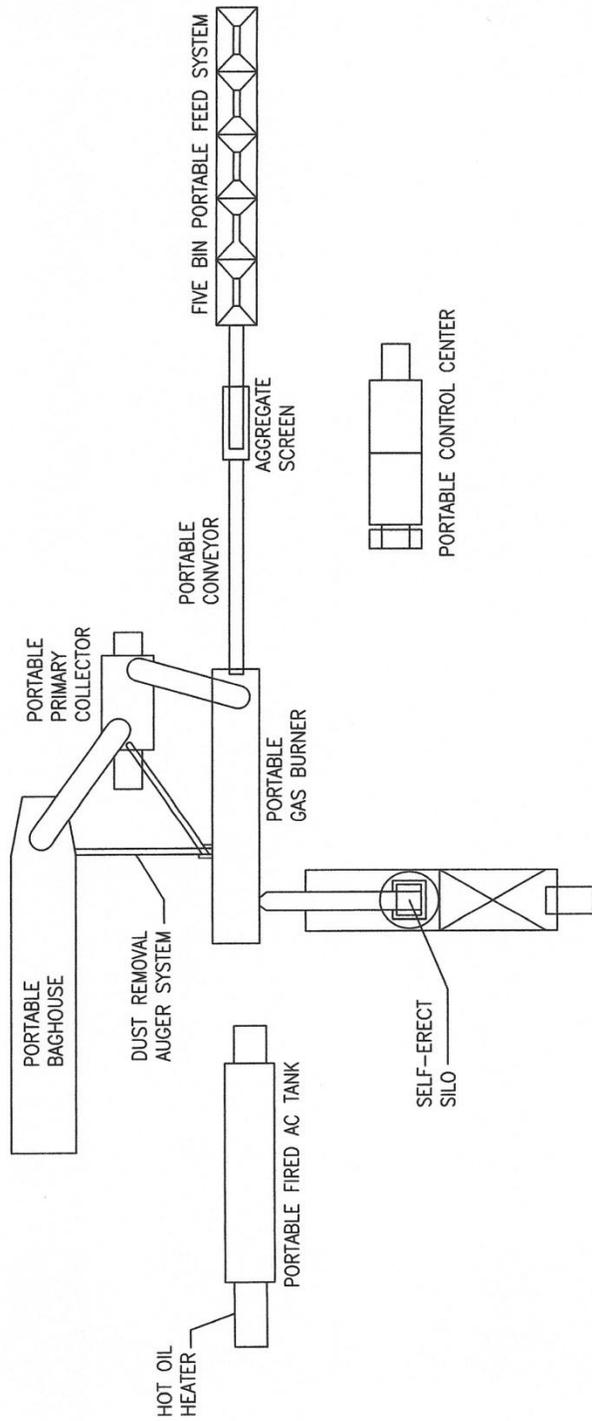
In the asphalt process, aggregate material is fed from finished aggregate stockpiles to a series of cold bin hoppers/feeders via a front-end loader. The plant also receives a percentage of recycled asphalt (described below). The plant heats and dries materials in a rotary dryer fired by propane, or liquefied natural gas where they are mixed with asphaltic oil. Finished product is transported on an enclosed conveyor to insulated and sealed load-out silos.

Trucks deliver burner fuel and asphalt oil as required when the plant is operating. All tanks are above ground, of steel construction, and provided with secondary containment in accordance with the requirements of the Spill Prevention Control and Countermeasure requirements specified in 40 CFR 112. The plant also may have an emulsion tank. The plant is also equipped with emission control devices including a bag house, which captures suspended dust and exhaust gas through sealed ductwork, and is then recycled back into the asphalt product; and a blue smoke system. The blue smoke control system captures fugitive emissions which occur as the hot asphalt is transferred from the silos to the trucks. These emissions contain primarily oil droplets which are trapped in the filter media. Residual oil collets in the bottom of the unit and can be recycled back into the process.

The asphalt plant may also incorporate the blending of crumb rubber. Blending equipment and storage equipment will be permitted through the Imperial Air Pollution Control District.

### **4.2.2.1 Crumb Rubber Plant**

The crumb rubber blending asphalt plant produces rubberized asphalt from liquid asphalt oil and recycled crumb rubber (see **Figure 4**). The plant consists of a hopper, mixing chamber and reaction tanks. No bulk rubber is processed on site; but rather, the recycled crumb rubber typically is received in 2,000 lb bulk bags (totes) and is loaded onto the weigh hopper, which then discharges to a screw conveyor for transfer to the mixing chamber. Asphalt oil at an elevated temperature is added to the mixing chamber via a feed pump. As the mixing chamber blends the rubber and hot liquid asphalt oil, the rubberized asphalt mixture is pumped to a heated reaction tank for additional blending. The reaction tank is equipped with a natural gas-fired hot oil heater and tank mixers. Once the materials are fully blended, the mixture is pumped into the hot mix asphalt plant (described in Section 3.1 above) for production of rubberized asphaltic concrete. Emissions from the Crumb Rubber Plant are emitted to the atmosphere through tube vent condensers, commonly known as blue smoke condensers. The operation of the Crumb Rubber Plant depends on use of the asphalt plant and fluctuates according to local paving needs. The Crumb Rubber Plant is permitted through ICAPCD.



GENERIC ASPHALT CONCRETE PLANT



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**Figure 3. Typical Asphalt Plant**



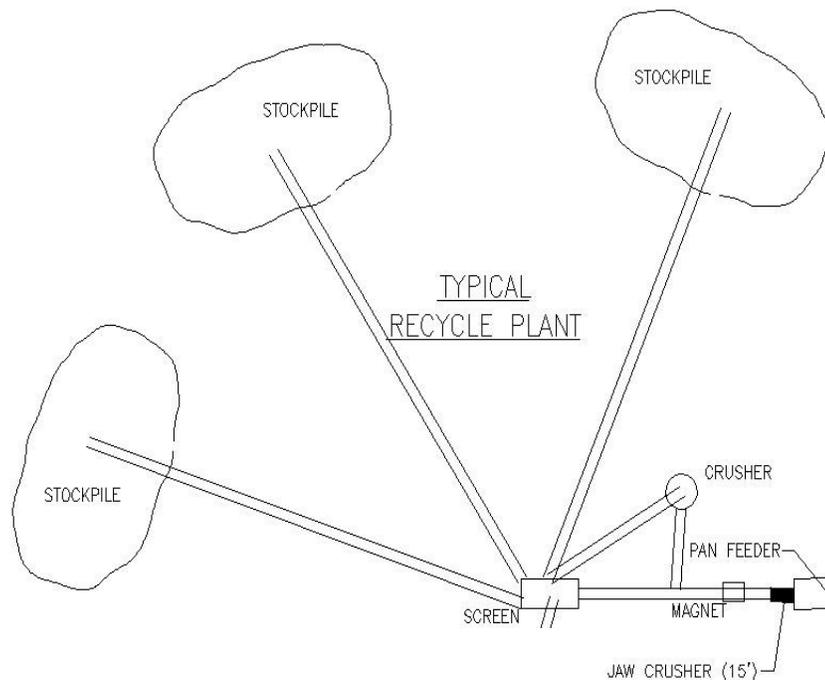
### 4.2.3 Ready Mix Concrete Plant

The Ready Mix Concrete Plant produces a maximum of 350 cubic yards per hour, and 300,000 cubic yards per year. The plant consists of cement and fly ash storage silos or bins, mixing equipment, and a bag house. Finished aggregates are fed from stockpiles to the plant via a front-end loader, and blended with cement, water and any additives (i.e., fly ash). Dust generated from bulk material handling is drawn through a bag-house system and returned to the plant. The finished product is deposited into mixer trucks for off-site transport.

### 4.2.4 Recycle Process

Government and private contracts frequently specify the need for up to 50% recycled asphalt to conserve natural resources. The recycling process (see **Figure 5**) is capable of crushing asphaltic concrete and portland cement concrete (Type A inert materials per 14 CCR Section 17381(k)(1)). Up to 450 tph of recycled material may be processed for recycling back into the asphalt plant. Annual production is market-driven, and depends upon the available supply of material (inbound material) for recycling.

Recycle materials generated from local construction projects are trucked in and stockpiled in an area designated for inert recycle materials. Material is loaded into a feeder by a front-end loader or excavator. Crushers and vibrating screens, such as those described above and used in aggregate processing, reduce and sort materials according to project specifications. Steel and rebar in broken concrete is collected by magnets within the recycle plant and delivered to an off-site metal recycle facility.



**Figure 5. Typical Recycle Process**

#### 4.2.5 Process Plant Equipment List

**Table 1** lists the major components for the plants planned to be in operation at the Site. The listed equipment and facilities are typical plants and the actual plant equipment, manufacturers, and configurations may vary. All of these plants will be permitted through the ICAPCD. All site operations shall comply with all ICAPCD rules and regulations including control of fugitive dust.

**Table 1. Typical Process Plant Equipment**

<b>Plant Equipment</b>	<b>Number</b>	<b>Purpose</b>
<b><i>Aggregate Plant Operations</i></b>		
Feeder	3	Feeds material to main aggregate plant
Crushers	4	Reduces (crushes) rock to products specification sizes
Screens (wet and dry)	4	Sizes material
Hoppers	2	Collects and distributes material
Conveyors	40	Transports material throughout plant
Stackers	12	Stacks finished products into product stockpiles
<b><i>Asphalt Plant</i></b>		
Dryer Burner/Mixer/Baghouse	1	Dries aggregate, heats asphalt oil, and mixes aggregate and oil
Feeder Bin System	1	Aggregate feeder to plant
Conveyors	4	Transports material within plant
Asphalt Oil Storage Tanks	2	Holds asphalt oil transported to Site by tanker truck
Product Silos	2	Stores mixed asphalt
Emulsion Storage Tank	1	Stores emulsion
Crumb Rubber System	1	Adds crumb rubber to asphalt mix
<b><i>Ready Mix Concrete Plant</i></b>		
Concrete plant with mixers	1	Mixes aggregate, cement, and water to produce concrete for distribution
Cement storage silos/bins with baghouse	1	Storage of cement and admixtures delivered to Site by truck
Fly ash silos	1	
<b><i>Recycle Process</i></b>		
Feeder	1	Feeds material into the recycle plant
Crushers	1	Reduces (crushes) rock to product specification size
Screen	1	Sizes material
Hopper	1	Collects and distributes material
Conveyors	6	Transports material throughout plant
Stackers	2	Stacks finished material into product stockpiles

**Table 2. Typical Quarry Equipment**

<b>Equipment</b>	<b>Typical Number</b>	<b>Purpose</b>
Dozers	1	Construction and maintenance of unpaved on-site roads
Motor Grader	1	Maintain roads on-site.
Water Trucks	1 or 2	Water haul roads, stockpiles, and general dust suppression at Site
Front-End Loaders	2 or 3	Loading of materials onto conveyors, outbound delivery trucks, and into the process equipment.

### **4.3 PRODUCTION SCHEDULE**

It is anticipated that the Jimenez Mine will see average annual production levels of approximately 250,000 tons per year with a total reserve of approximately 7.8 million tons. These annual levels could reach 400,000 tons in peak years. The two phases of the Jimenez Mine, 50 acres each, are expected to yield up to 20 years' worth of production.

Operations would be limited to between 6:00 AM-7:00 PM, Monday through Saturday, and crushing/screening operations would not be started before 7:00 AM. Typically, operations would run eight hours per day from approximately 7:00 AM-3:00 PM, five days per week, and up to 52 weeks per year. These hours of operation are considered approximate due to weather conditions and market demands. Occasionally between the dates of May 31<sup>st</sup> to October 31<sup>st</sup>, temperatures are too high to perform construction activities in late morning and afternoons, so often this work is done in the cool of the evening and even very early mornings. Thus occasionally aggregate shipping, concrete batching and shipping, and asphalt batching and shipping are done in these nighttime hours, past 7:00 PM. No mining or aggregate processing will be done outside the typical operating hours of 6:00 AM to 7:00 PM.

Any and all lighting to accommodate operations of the RMC plant after sunset and before sunrise, or any other aspect of any mining or processing including maintenance, that happen to occur in hours with diminished sunlight will be as low to the ground as practical with a maximum height of 20 feet, shielded and directed away from both the mountains and the community of Ocotillo.

The hours of operation are also limited through process equipment and generator operating permits issued by the ICAPCD. Prior to commencing operations ICAPCD permits will be obtained as required by ICAPCD requirements. ICAPCD permits specific operational, recordkeeping, and reporting requirements.

Existing access to the site from the east (El Centro) is via Interstate 8, to the Ocotillo exit, north to Imperial Highway (S2), then via Evan Hewes Highway and the private Ocotillo By-Pass Road to site. Granite's proposed and current truck traffic ranges from 32 to 134 one way trips; which is entirely dependent on overall market demand of aggregates and construction materials.

## **4.4 MINING PLAN**

### **4.4.1 Growth Media**

Growth media (surface material) suitable for vegetation is salvaged in stages as new acreage is disturbed in preparation for mining activities. Staging will minimize the amount of land that will be disturbed in advance of the time at which a particular tract is needed for sand and gravel extraction. The growth media will be salvaged in both phases of the Jimenez Claims Project. Material in each phase will be stored in small, shallow stockpiles and/or used to construct the perimeter berms along the west, north and east sides of the mine in appropriate locations and used for reclamation. If wind erosion is evident, the stockpiles would be water sprayed to form a crust.

### **4.4.2 Mining**

#### **4.4.2.1 Mine Design**

The Jimenez Claims Project consists of two phases. Each phase will be developed utilizing conventional surface mining methods. The materials produced during mining operations will consist of growth media, rock and sand, and some reject sand. The sizes of Phases 1 and 2 are 50 acres each. Extraction in each of the two phases will not exceed 50 feet, and finished cut slopes will have a maximum slope angle of 2.0H:1.0V. Ground water occurs in the area at about 300 feet below the surface; therefore, no groundwater will be encountered during the mining process.

The perimeter of the mine is protected with temporary berms to inhibit trespassing and off road vehicle entry. The site access road is gated.

#### **4.4.2.2 Mining Procedures**

Rock and sand is scraped by a dozer, with the raw materials being fed to the processing plant by the loader. The rock and sand is crushed and screened for the required sizes of rock, and gradation of sand, and base material. Finished products are conveyed and stockpiled by the processing plant. The finished products are picked up by the loader and placed in haul trucks or fed to the asphalt and/or concrete plant. The haul trucks are weighed at the scalehouse as they leave the site. Water is hauled to the site for dust control and wash process water. Wash process water is recycled and re-used on-site.

No toxic materials are used in the processing (crushing, screening, washing) of mined aggregate, nor is any toxic material expected to be excavated from the mine.

### **4.4.3 Development**

Development of the project is described below in terms of phases of mining/reclamation reflecting how acreage will be disturbed over time.

#### **4.4.3.1 Phase 1**

Phase 1 consists of 50 acres located in the north half of the Jimenez Claims. Prior to mining in undisturbed areas, plant salvaging will be conducted and the top six inches of surface material (growth media) will be graded into stockpiles along the north, east and west rim of excavation for future reclamation. This stockpiled material will act as a growth media and seed bank for the revegetation effort. In addition, if the stockpiles are composed of fine materials susceptible to wind erosion, they will be sprayed to form a surface crust.

Mining activities commenced at elevation 825 feet (above MSL) in the south side of Phase 1 and will expand progressively to the north. Slopes will be excavated and recontoured to a 2:1 or flatter slope with a maximum depth of approximately 50 feet below the existing general surface. As excavation approaches the northeast corner of the 100-acre mine site, a berm will be added to redirect storm water away from the mine. The CA Department of Fish and Wildlife will be consulted prior to disturbance in the streambed or construction of the berm. Reclamation will commence after the Phase 1 mine depth has reached the nominal 50 feet below the existing general surface. Reclamation will consist of final contouring of the slopes on the eastern, western and northern sides to a maximum 2:1 slope and the placement of growth media previously salvaged over the area to be reclaimed and spread along the contour (perpendicular to the slope) to aid in holding any available moisture and collecting windblown seeds. Removed plants would be replanted.

#### **4.4.3.2 Phase 2**

Phase 2 consists of 50 acres directly south of Phase 1. Within Phase 2 all processing plants (aggregate processing, wash, asphalt, RMC, recycle, etc.) will be located. Mining elevations in this phase will range from 775 feet in the south to 800 feet (MSL) in the northern portion of the phase. Mining activities will be conducted in the same manner as in Phase 1. Soil salvaged (growth media) was stockpiled along the top of the pit forming the berm along the eastern and western perimeters of the mine. The locations of the processing operations may change over the life of the project within Phase 2 to optimize production, access aggregate reserves, and conserve energy. Reclamation will commence after the Phase 2 mine depth has reached the nominal 50 feet below the existing general surface and the processing plants have been removed. Upon completion of Phase 2 mining to the maximum 50 foot depth, reclamation will commence on the eastern and western slopes in the same manner as in the initial phase.

#### **4.4.3.3 Final Reclamation**

Final reclamation following completion of mining in both phases includes removal of stockpiles and stationary equipment (sand and gravel, and recycle processing equipment; asphalt batching equipment, ready-mixed concrete batch plant). Mobile equipment (dozers, loaders, etc.) and support equipment and supporting structures (office, trailers) will remain on-site for use during reclamation, and will be removed from the site at the conclusion of reclamation. The stationary equipment will be unanchored and relocated, as Granite performs a similar operation numerous times a year in various locations. The fresh water pond and settling basins will be drained, and stabilized.

The operations addressed by this POO may continue pursuant to the Conditional Use Permit, BLM Right-Of-Way CACA-050523, the BLM Plan of Operations, and the Environmental Assessment independent of the mining and crushing operation at the Jimenez Mine Site. However, final reclamation of the 12.9 acres covered by the BLM ROW CACA-050523 will not occur until after operations addressed by the Conditional Use Permit (asphalt plant including crumb rubber system, ready mix concrete plant, and recycle process) permanently cease. The reclamation including revegetation of the 12.9 acre processing area covered by the BLM Right-of-Way CACA-050523 is described in the Jimenez Mine Reclamation Plan and summarized below.

The equipment will be loaded on to trucks and hauled to a new location. It is anticipated that at the time of reclamation, stockpiles of product will be sold, given away, or used as part of reclamation. The basins will be drained, and stabilized. Any excess material shall be spread over the mine bottom or “mine floor” of the disturbed area and/or backfilled against the slopes by use of loaders and dozers.

As the surfaces will be revegetated using the growth media, any compacted areas of the mine floor will be first ripped; and growth media from the berms spread prior to revegetation. This process will not only loosen the soils; but will also create pockets in which seeds and moisture will be captured to enhance vegetative growth. Likewise, any roads within the reclamation area will also be ripped.

The goal of reclamation is to begin reclamation activities as soon as is practical in areas that have been mined to their maximum depth and thus will no longer subject to disturbance. It is anticipated that the final slopes in the Phase 1 area will be the first area open to reclamation, followed by the slope areas in Phase 2. It is anticipated that the last area to be reclaimed will be the mining floor, starting in the Phase 1 area and working south into Phase 2. While the mine plan is presented in Phases, the mine shape and natural geology of the site, as well as market demand for various aggregates may dictate mining in multiple phases at any one time.

## **4.5 UTILITIES AND SUPPLIES**

### **4.5.1 Water Requirements and Supply**

Water is required for dust control, aggregate washing and mixing concrete. Water use is estimated to average between 10,000 and 30,000 gallons per day. Wash process water is recycled and reused. Trucks deliver water from the West Side Main Canal, City of Imperial or other permitted source outside the sole source aquifer underlying the Site with pre-approval from ICPDS. The West Side Main Canal is located 1.5 miles east of Dunaway Road some 18 miles east of the project site. Drinking water will be hauled in from a commercial drinking water supplier.

The one (1) fresh water basin and four (4) settling basins are surrounded by fencing. While the facility is not located within PBS critical habitat, the 2012 U.S. Fish and Wildlife Service guidance for Ponds in PBS habitat was utilized to ensure the fence was protective of PBS. Lizard barrier fencing will be likewise constructed according to agency specifications. The fencing and avian deterrents will remain in place throughout the life of the basins and may be removed upon the closure of the basins. Basin closure means water features which could attract PBS, lizards, and/or migratory birds have been removed. The fencing will be maintained during the life of the basins. Fence maintenance includes but it not limited to repair of the fence, filling in of gaps under or in the fence, and removal of accumulated plant debris or sand on the exterior of the fence.

#### Peninsular Bighorn Sheep Exclusion Fencing

An eight (8) foot tall, chain-link PBS exclusion fencing is installed around the fresh water basin and settling basins. Barbed wire is not placed on top of the PBS exclusion fence to avoid sheep entanglement.

#### Lizard Barrier Fencing

Lizard barrier fencing was installed immediately adjacent to the PBS exclusion fence. The lizard barrier fence is constructed of 0.25-inch mesh hardware cloth and is 36-inches in height. It is buried six-inches into the ground and extends 30-inches above grade. Metal clips or wire is used to secure the mesh hardware cloth to the fence posts or t-posts. T-posts or fence posts are located at junctions between rolls of hardware cloth to discourage the formation of gaps.

#### Avian Deterrents

Basins are maintained to deter migratory birds through the use of netting, armor bird balls, worlly gigs, moving flags or other appropriate means of avian deterrent. Migratory bird deterrents will be monitored and maintained to avoid wind damage.

### **4.5.2 Other Utilities and Supplies**

Portable toilets with hand wash stations are utilized on site, and will be provided and serviced regularly by a licensed supplier.

Electricity is provided by one or more portable generators. Generator(s) utilized on-site will be permitted with Imperial County APCD. Generators and mobile equipment use diesel fuel, which may be stored onsite in aboveground storage tanks with secondary containment. The asphalt plant will be operated using liquefied natural gas (LNG) . Management of hazardous materials such as diesel fuel, LNG, and oils/lubricants are required to comply with existing federal, state and local environmental and safety regulations aimed at the protection of public health and the environment. Fueling or maintenance conducted off impervious surfaces in the plant area will utilize a portable fueling pad for spill protection. A Hazardous Materials Business Plan is required by the County which includes a hazardous materials inventory, emergency procedures, employee training program and other safety and fire procedures.

### **4.5.3 Waste Containment, Treatment, and Disposal**

All refuse generated by the operation is removed on a regular basis and disposed or recycled in accordance with applicable federal, state and local regulatory requirements. Appropriately licensed transporters are used to transport waste materials from the site to the recycle or disposal facility. Refuse is stored in covered containers, so as not to be an attraction to animals. Asphalt and concrete for recycle (Type A inert materials per 14 CCR Section 17381(k)(1)) is accepted. No waste is accepted for disposal at the Site.

#### **4.6 CLOSURE AND POST CLOSURE PLAN**

A detailed Reclamation Plan has been prepared for the County under separate title.

The ultimate land form will be an open excavation with stable slopes, graded bottom and rounded tops. In view of the nature of the material being mined and the processing methods utilized, there should be little or no waste materials at the site. The proposed use for the property after reclamation will be open space and wildlife habitat, similar to existing properties in the area. The site is protected from flooding by a berm while the site is being mined. The berm would be removed after mining is completed.

The goal of reclamation is to return the site to a condition that (1) does not pose a hazard to public safety; (2) minimizes erosion potential and visual impacts, and (3) supports naturally reproducing native vegetation and wildlife species.

Prior to initiation of mining in previously undisturbed areas, specified plants would be salvaged and the top six inches of surface material (and seed bank) will be graded and stockpiled into areas as shown on the Reclamation Plan. If wind erosion is evident on the stockpiles, they will be water sprayed as necessary to produce a surface crust.

Due to the extremely dry, hot weather extremes and erratic precipitation that occurs in this region, typical revegetation methods would not be highly successful. The site will be reclaimed using 2:1 or flatter slopes and a shallow depth of 50 feet. Upon completion of mining within specified areas, the slope of the excavation area will be ripped as described above to break up compacted areas. The floor of the site will be the final area to be reclaimed. The stored surface material will be spread over the areas to be reclaimed and the area tilled to a depth of approximately one foot along the contour. This will create ridges and furrows to aid in holding moisture and windblown seeds. Removed and salvaged plants would be planted at densities similar to existing vegetation based on plant transects data obtained from the revegetation test plot located on-site.

The BLM may require seeding and other additional revegetation efforts in their stipulations. If so, any additional measures will be incorporated by reference into the POO.

No irrigation or fertilization will be conducted as the native seeds are tolerant to existing temperatures, precipitation and soil conditions. Irrigation and fertilization also tend to encourage non-native invasive species.

A monitoring program to report on the compliance, progress, and success of the Reclamation Plan shall be initiated as part of the reclamation program. The monitoring program shall monitor the implementation of mitigation measures and the Reclamation Plan. A report of the current status of reclamation activities shall be provided to both the County and the BLM by July 1st of each year of operation until reclamation is deemed complete.

Within one year of the conclusion of mining operations final reclamation shall commence. Final reclamation includes removal of stockpiles and some stationary equipment. Mobile equipment (dozers, loaders, etc.) and support equipment and structures (office, trailers) will remain on-site for use during reclamation, and will be removed from the site at the conclusion of reclamations. The stationary equipment will be unanchored and relocated, as Granite performs similar operations numerous times a year in various locations. The equipment will be loaded on to trucks and hauled to a new location. It is anticipated that at the time of reclamation, stockpiles of product will be sold, given away, or used as part of reclamation. The basins will be drained, and stabilized. The compacted plant site and any roads the BLM requests to be reclaimed will be ripped to a depth of two feet and covered with stockpiled surface material/growth material or seeded with a BLM approved seed mixture. Operations within the ROW will continue after mining operations have ceased. This includes asphalt batching, crumb rubber blending, ready mix concrete batching, and recycling inert materials. Reclamation of the 12.9 acre ROW area will occur at a later time.

There will be no backfilling of the mining excavation, except for the replacement of stockpiles and topsoil's saved along the excavation boundaries, as it will be designed as a shallow basin with gradual slopes of a maximum of 2:1. There are no waste dumps or tailings associated with this project.

The BLM and the County will jointly hold a bond for the reclamation of the Jimenez claims project. Reclamation bond amounts will be updated annually. The amount of the bond will be based on the disturbed acreage multiplied by the appropriate cost factors. The 2013 Financial Assurance is estimated to be \$323,637.