



Staff Report to the Planning Commission

Application Number: **74-0633**

Applicant: Granite Construction Company
Owner: CGK LLC, Sinnot, Kester, etal.
APN: 062-181-12, 064-201-13, -79, -80, -81,
064-211-67, -68

Agenda Date: November 10, 2010

Agenda Item #: 10

Time: After 9:00 a.m.

Project Description: Review of Granite Construction Company Felton Quarry operating under Mining Approval 74-0633 (as amended) for compliance with conditions of approval.

Location: End of San Lorenzo Avenue, Felton, CA

Supervisory District: 3rd and 5th Districts (District Supervisors: Neal Coonerty and Mark Stone, respectively)

Permits Required: None (Review of existing permit only)

Environmental Determination: None, not a project under CEQA

Conclusion: Mining operations at Granite Construction Company's Felton Quarry are in compliance with conditions of approval of Mining Approval 74-633 (as amended).

Staff Recommendation:

- Conduct a public hearing and review of Mining Approval 74-633 (as amended) for compliance with conditions of approval
- Accept and file this report

Exhibits

- A. Permit Review
- B. Assessor's, Location, Zoning and General Plan Maps
- C. Quarry Map
- D. Comments & Correspondence

Introduction

Condition II.G of Mining Approval 74-633 (as amended) for the Felton Quarry requires that the Planning Commission periodically review this permit for compliance with conditions of approval. Section 16.54.074 of the Santa Cruz County Mining Regulations states that new conditions shall not be imposed as part of a review process unless there is a:

- a) Threat to public health and safety;
- b) Significant injurious threat to the environment;
- c) Nuisance;
- d) Violation of approval conditions;
- e) Change in the scope of operations; or,
- f) The ordinance in effect at the time of the Mining Approval, Certificate of Compliance or Reclamation Plan Approval being reviewed was originally approved, or the Approval itself, authorized imposition of new conditions by the County.”

The Mining Regulations further require this review take place every five years. The following analysis and discussion address the compliance review and includes a brief history of the permit process and issues currently affecting the quarry.

Location and Description of Operations

The Felton Quarry is located on a granite deposit approximately two miles southwest of the town of Felton in the Santa Cruz Mountains between State Highway 9 and Empire Grade Road (Exhibit B).

The Felton Quarry Operator mines and processes construction aggregate and asphalt concrete (AC) products for construction and maintenance projects throughout Santa Cruz County and regionally. The quarry also provides decorative aggregate materials (California Gold path fines, washed aggregates and accent boulders) that are used throughout northern California. The Felton Quarry operations are currently in their 31st year of mining under the current mining approval. Since this mining approval has an estimated 50-year operating life, the remaining lifespan of the Quarry, under the current permit, is estimated to be 19 years.

Quarry operations include the excavation, washing, screening, stockpiling and shipping of aggregate resources. Mining operations begin with the stripping of vegetation and removal of topsoil, which is then stockpiled for use in future reclamation activities. The next process is removing raw materials from the deposit by the benching method. The first step in this process is the ripping of the material by a large ripper-equipped bulldozer. This method is occasionally augmented by blasting when necessary. The harvested raw material is loaded onto the primary feeder and a conveyor system transfers the material to the crushing and screening plant for processing.

The process of washing and screening the aggregates to produce the desired products requires the use of large quantities of water. Initially water is stored in a reservoir and is then used for

scrubbing and rinsing of the aggregates. The process water is then directed to a clarifier that mechanically separates large amounts of fine sand, silt and clay. The next step in the dewatering process includes a belt press that squeezes out additional water. The process water is directed back to the plant for washing aggregate. The “mud” is then sold/donated as a product or used in onsite reclamation. This wash water system was improved in 1995 to recycle 100% of the water directly from the clarifier/ belt press system and to eliminate flow to the pond system.

The operation includes an asphalt plant that processes heavy oil with aggregate to produce asphaltic concrete used in road and highway construction and maintenance throughout Santa Cruz County. The asphalt plant occasionally operates at night to supply construction projects that typically occur at night on major roadways and highways to reduce traffic congestion and improve job safety.

All shipping is accomplished by trucks, which vary in size from pick-ups to double trailer big rigs over specific haul routes.

History

While mining has taken place at the Felton Quarry for a much longer period of time, a use permit was approved by the County in 1979 following passage of the State Surface Mining and Reclamation Act (SMARA). A major amendment to the use permit was approved in 1993 and another amendment was approved in 2000. In addition, the Planning Commission has conducted periodic reviews of the mining operation.

On December 8, 2004 your Commission concluded a five-year review of the operations at the Granite Construction Company Felton quarry. The motion to accept and file the five-year review included incorporating additional measures to be taken by Granite Construction to reduce dust and noise impacts into the Conditions of Approval. Granite Construction has fulfilled its commitments made at the December 8, 2004 hearing to incorporate additional measures to reduce noise and dust impacts at the Felton quarry. These measures have resulted in a significant reduction in noise levels and improved dust control.

Permit Review

Based on a comprehensive review of the mining permits, staff concludes that the quarry is in substantial compliance with the Conditions of Approval of 74-0633, as amended. Exhibit A contains a review of each Condition of Approval. Review comments are located in the boxes. Some of the more important issues evaluated in the complete permit review are discussed below.

Noise and Vibration

The Santa Cruz County General Plan Land Use Compatibility Chart for Exterior Community Noise (General Plan Figure 6-1) identifies a “normally acceptable” exterior noise exposure compatibility level of 60 dBa LDN (Day-Night Level). County Mining Regulations Section 16.54.050 sets a maximum noise level measured at property boundaries of no greater than 60 dBa

for a cumulative period of 15 minutes during any hour of operation. Annual noise monitoring at the quarry by the quarry's acoustical consultant indicates that noise levels during normal and off-hours quarry operations at the property line and at the nearest residence are in compliance with both standards listed above.

Following the last Planning Commission review the quarry operator implemented a number of measures to further reduce noise from the operation. After consulting with asphalt industry experts, an acoustical engineer, and the Bonnywood neighbors, the decision to install a New York Blower VRDS-34 silencer on the bag house exhaust fan was made and agreed upon by all parties. The acoustical consultant confirmed a significant reduction in sound levels with the silencer as a result. To reduce noise at the primary screen Granite Construction has replaced metal screens with rubberized screens and installed rubber liners in critical areas of the primary screen discharge chute. As a result County staff can confirm a dramatic reduction in noise levels at the primary screen. All mobile equipment on site that utilize back up alarms have been outfitted with strobe lights for use in place of back up alarms after sunset and before sunrise.

Standards for vibrations attributable to blasting are established by MSHA (the Mine Safety and Health Administration). Blasting at the quarry is very infrequent and relatively small scale. One blasting event occurred in 2009, for example. A blast is designed to minimize vibration with features such as multiple drill holes and time delayed explosive patterns. The blasting event in 2009 used approximately 1,200 pounds of explosives. For comparison, blasting at Bonny Doon quarry used upwards of 24,000 pounds of explosives in the same basic blasting technique without producing off site vibration levels exceeding MSHA standards.

Air Quality

In July 2005 the Monterey Bay Unified Air Pollution Control District (MBAPCD) conducted a survey of PM10 in the ambient air in and around the Felton Quarry. PM10 is particulate matter less than 10 micrometers that can be entrained in the lungs, and for which there are state and federal ambient air quality standards (AAQS). While the MBUAPCD does not regulate individual business or operations using the AAQS it is used to monitor general air quality in the district. However, measurement of PM10 levels in and around the quarry can be a useful tool to provide an indication as to whether the operations at this facility are causing excess PM10 concentrations. Four monitors were placed to take air quality measurements in the quarry, at a residence just outside the quarry, and at an off-site location to measure background PM10. The survey lasted for one week (July 11, 2005 through July 18, 2005) during normal quarry operations (no night ops). There were no days over the duration of the project where any monitor recorded an excess of the State AAQS for PM10.

The purposes of the phased mining plan and concurrent reclamation is to limit the exposed area that could generate dust. Mining has followed the phasing plan with reclamation in progress in areas where mining is complete. Most of the roads in the quarry are paved and are watered when necessary; unpaved roads are watered or treated with a surfactant when necessary. A street-sweeping service is used on the road leading to the entrance to the quarry when necessary. The area around the primary feeder in the pit, the primary jaw crusher, and transfer points on the

conveyor system and secondary plant are kept wet to minimize dust. Additionally, the moisture content of the material entering the plant is monitored and recorded for the Monterey Bay Unified Air Pollution Control District. Granite Construction has installed an automatic pump and controller for the dust-suppressing spray system on the main access road leading to the scale. Following the last Planning Commission review the quarry operator began using an odor-suppressing additive in all of the asphalt produced at the Felton quarry in December 2004.

Surface Hydrology

The aggregate and sand washing system utilized by the quarry recycles 100% of the water from the clarifier/ belt press system. This eliminates process water from flowing to the ponds. The quarry only pulls water from the ponds to make up for evaporation or product retention. All storm water runoff is detained in the ponds, which allows for settling sediment out of the water. The ponds are laid out and built in accordance with the approved engineered drainage plans. Water in the pond system is lowered before significant storm events to allow for adequate storage and detention time. The quarry maintains an 800-gallon per minute electric pump with a backup diesel generator for emergency evacuation of the ponds if necessary. The quarry submits results of monitoring of any pond discharge to the Regional Water Quality Control Board with copies included in the quarry's annual report to the County. These reports indicate that the ponds are effective in preserving water quality. In compliance with the Santa Cruz County Environmental Health Department a Hazardous Material Management Plan is maintained, and Environmental Health staff inspects the site annually. Hazardous materials storage includes secondary containment as required.

Groundwater Hydrology

The quarry is required to supply water to the Forest Lakes Mutual Water Company (FLMWC) under a set of permit conditions established in 1979. The well system required to supply the water was completed in 1991. The required amounts of water have been made available to FLMWC. A groundwater-monitoring program was established in 1993 to monitor groundwater levels and water quality. Any negative trends attributable to the quarry would trigger more intense monitoring, and further action if necessary. No negative trends have ever been detected in quantity or quality of groundwater or surface water. The quarry's hydrologic consultant will continue to conduct the monitoring program, and prepare annual reports for submittal to the Planning Department.

Days and Hours of Operation

Normal operations of the quarry are confined within the permitted hours for mining, processing and shipping of 6:00 A.M. and 8:00 P.M., Monday through Saturday. The normal start up time at the quarry is 7 am for the aggregate plant and the asphalt plant. On heavy paving days, the asphalt plant starts at 6 am. The latest quitting time is 5:30 pm. Normal shipping hours continue to be between 7:00 a.m. and 3:30 p.m. Truck traffic is voluntarily limited to 6:45 a.m. along San Lorenzo Avenue. Any violations for early arrivals by truckers are addressed with either verbal or written violations per the Felton Quarry Trucker Policy.

Twenty exceptions for off-hour operations of the asphalt plant (nights and Saturday) are allowed without prior approval of the Planning Director. An additional 10 exceptions per year may be granted at the discretion of the Planning Director for off-hour operations Monday thru Friday, and 10 additional exceptions for Saturday (daytime) operations for a maximum of 40 exceptions per year. In recent years the number of off-hours operations has varied from two to twenty per year. All off-hour operations are for public agency projects only. Neighborhood notification is given prior to each off-hour operation. During off-hours operations the quarry monitors speed and decibel levels of trucks along the haul route through the neighborhood. The quarry conducts the required monitoring for each off-hour operation and submits the records to the County following each night-op and in the annual report. The neighborhood notice that is mailed out to neighbors along the haul route contains telephone numbers of the quarry and the Planning Department quarry planner. The quarry number is intended to enable neighbors to contact the quarry during the off-hours operation to lodge a complaint. In recent years there has been a very small number of complaints, ranging from zero to two per year.

The asphalt plant, which operates at night on the occasion of an exception, is constructed with noise reducing equipment (mufflers, silencers) on noise producing parts of the plant. As a result of the last Planning Commission review additional noise reducing equipment was installed, which further reduced noise level. All trucks loading asphalt during off-hours operations are covered. In addition, since the last Planning Commission review the operator has been using an asphalt odor suppressant added to the asphalt oil to reduce odors in general and during night operations.

Roads and Transportation

The quarry does maintain a trucker awareness program consisting of several elements. All first-time truckers receive a copy of the Felton Quarry Trucker Policy consisting of speed, noise and time restrictions along with enforcement actions for violations. The quarry operator conducts occasional radar monitoring of speed to enforce this policy. Signs are posted along the quarry road to remind truckers about speed and noise. Truckers are required to use specific haul routes either through Felton and Scotts Valley or down Empire Grade during normal operations, and down Empire Grade only during night operations. The Planning Department receives no complaints related to trucking during normal operating hours.

Revegetation

Concurrent reclamation of previously mined or disturbed areas is an ongoing project. The program is achieving success as documented in the annual revegetation reports submitted to the Planning Department. The majority of the quarry has not been mined to the final slopes; however the final slopes that have been achieved are experiencing successful re-vegetation. In addition, the quarry operator maintains an ongoing program of removal of non-native invasive plant species from the site.

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Excavation and Grading

Mining excavations are conducted in accordance with the approved mining plans. Most of the Felton Quarry's slopes have not yet been excavated to final grade. The operator is following an approved phased mining plan. This minimizes the surface area of exposed soils and rock to limit the generation of fugitive dust, and allows for geologic inspection and adjustment of excavation in light of exposed geologic conditions, as necessary. As a result of past instability on the quarry face inclinometers have been installed in drilled holes behind the face to measure very small movement in the rock. No significant movement has been detected. Annual reports from the quarry's consulting geologist addressing the inclinometer readings and quarterly geologic inspection of the quarry face are submitted with each annual report. As a result of the ongoing geologic monitoring, inspection and reporting, phasing areas have been slightly altered over the last several years to respond to geologic conditions exposed in the working face. These changes have been closely coordinated with County Planning staff.

Conclusion and Recommendation

Based on a review of the quarry operations and the permit conditions Planning Department staff concludes that the Felton Quarry is in compliance with all Conditions of Approval. No new conditions are recommended.

It is therefore RECOMMENDED, that your Commission

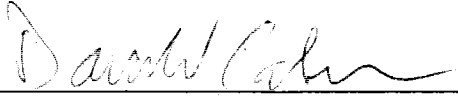
- Conduct a public hearing and review of Mining Approval 74-633 (as amended) for compliance with conditions of approval
- Accept and file this report

Supplementary reports and information referred to in this report are on file and available for viewing at the Santa Cruz County Planning Department, and are hereby made a part of the administrative record for the proposed project.

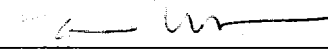
The County Code and General Plan, as well as hearing agendas and additional information are available online at: www.co.santa-cruz.ca.us

Felton Quarry
11/10/2010 Staff Report

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Felton Quarry
Review of 2004 Conditions of Approval
Mine Operator: Granite Construction Company
Mining and Reclamation Plan Approval 74-0633 as amended

Note: Conditions of Approval are listed in original outline format with staff review comments enclosed in boxes.

I. EXHIBITS

Quarry operations shall be described in the following exhibits except where modified by the conditions below. All exhibits are on file with the Planning Department.

- A. Felton Quarry, Quarry Regulations; Felton Quarry; 1974.
- B. Asphalt Plant Operation, Planned Quarry Permit Application; Granite Construction Company; 1975.
- C. Surveyor Map of the Land of Felton Quarry; Robert Baldwin; May 1974.
- D. Topographic Map of Felton Quarry (existing contours); Maurice-Helmkamp-Musser; May 10, 1974.
- E. Draft Environmental Impact Report, Felton Quarry; Environs; August 1978.
- F. Final Environmental Impact Report, Felton Quarry; Environs; November 1978.
- G. Addendum to the EIR for Proposed Operations, Felton Quarry, Environs; July 1979.
- H. Response to comments on the Hydrologic Elements of the Addendum to the EIR for the Proposed Felton Quarry expansion; Environs; October 1979.
- I. "Review of Mining Progression Plans, Phases 1 through 5, Felton Quarry Pit Slope, Santa Cruz County, California" Rogers/Pacific Professional Engineering Consultants, May 17, 1993. Plate 1 through Plate 5, Felton Quarry Mining Progression Plan.
- J. "Phase 1 Engineered Drainage Plan", Rogers/Pacific Professional Engineering Consultants, April 29, 1993.
- K. "Felton Quarry Area Hydrogeologic Evaluation Report, R.L. Stollar and Associates (now Watkins-Johnson Environmental, Inc.), June 12, 1992, Hydrologic Monitoring Program, Section 8.0, Pages 8-1 through 8-14.
- L. "Storm Drainage and Siltation Pond Study for Granite Construction Company, Felton Quarry," Ifland Engineers, Inc., December, 1991.

Exhibit A

- M. "Felton Quarry Amended Revegetation Plan," Habitat Restoration Group, April 12, 1991, 27 pages with Appendices, Sheets 1 through 3.
- N. "Riparian Revegetation Plan and Revegetation Monitoring Plan, Addendum to amended Revegetation Plan of April 12, 1991, "Greening Associates, December, 1992. 10 pages.
- O. "A Wildlife Habitat Monitoring Plan for Felton Quarry," Greening Associates, 7 pages with Appendix.
- P. Application No. 94-0144, Request for minor variation to Mining Approval 74-633 (Amended) to include the use of a polymer water clarifier to the product washing system, as conditioned. Approval: April 11, 1994.
- Q. Environmental Determination/Mitigated Negative Declaration dated July, 1999.

Quarry operations are conducted in general compliance with the above exhibits.

II. GENERAL PROVISIONS

- A. This Planned Quarry Permit shall supersede all provisions of Use Permit 1574-U, and 74-633-PQ.

Quarry operations are reviewed for compliance with the amended conditions listed herein.

- B. This permit is for the extraction, processing, storage, and shipping of the sand and aggregate resources obtained from the property, including the hot plant facilities for production of asphalt conducted in accordance with the descriptions in the exhibit documents and as modified by the conditions of this permit for a 50 year excavation project.

Quarry operations have been conducted in substantial compliance with this condition for the past 31 years. A Major amendment to the permit covered a number of changes related to, groundwater hydrology, days and hours of operation, geologic monitoring of slopes, mining progression plans, revegetation, and overburden storage areas.

- C. Minor variations to this Approval meeting the standards of County Code Section 18.10.134 and requested by the mining operator or staff which do not change the general concept of use and operation, and which do not adversely affect the environment, may be approved in writing by the Planning Director following review and recommendation by the County's Environmental Coordinator.

In 1994 a minor variation was approved allowing the use of a polymer water clarifying system, which eliminated use of the ponds to recycle plant wash water.

- D. If at any time the Planning Director determines that there is a substantial noncompliance with any of these conditions, and/or Exhibits, the Planning Director shall forward a recommendation to the Planning Commission to set a hearing to consider revocation of this Approval in accordance with the provisions of County Code Section 18.10.136.

Past changes in quarry operations related to slope stability (landsliding) and improper overburden placement have been resolved in cooperation with the quarry operator.

- E. Within 45-days from the date of issuance of this Mining Amendment Approval, the property owner and applicant shall sign, date and return two copies of the Approval to indicate acceptance and agreement with the conditions thereof. By signing this Approval, property owners agree to file a Declaration with the County's Recorder Office within 45 days from the date of acceptance, binding themselves and any future owners or lessees to the revegetation and reclamation requirements of this Approval. The Declaration shall be supplied by the Planning Director. Failure to sign the approval or record the declaration as described above shall render this Mining Approval null and void and all mining operations shall cease at the Quarry site except reclamation and revegetation work in accordance with the above listed exhibits.

The approval was signed and the declaration was recorded in a timely manner.

- F. All mining and reclamation activities shall conform with the Conditions of Approval and with the regulations of the following agencies as they apply to the mining operations. The mining operator shall provide the County with copies of any permits issued by these agencies and any permit amendments, within 30 days of receipt.
1. Central Coast Regional Water Quality Control Board
 2. Monterey Bay Unified Air Pollution Control District
 3. California Department of Fish and Game
 4. State Coastal Commission

The Quarry maintains compliance with the regulations of the listed agencies and other agency regulations related to occupational safety, explosives, truck scale accuracy, and highway construction material standards.

- G. This Approval shall be reviewed by the Planning Commission within three years from the date of issuance. In connection with such review, the Planning Commission shall take public testimony and shall otherwise investigate the

permittee's compliance with the conditions of this Mining Approval Amendment, and shall be empowered to amend the conditions of the Approval if necessary to eliminate nuisance conditions or to mitigate problems resulting from a change of circumstances.

The last review by the Planning Commission was completed in 2005. In accordance with the County Mining Regulations this subsequent review is occurring within five years.

- H. In conjunction with the annual report to the State Geologist required by SMARA, an annual report to the Planning Director shall be prepared by a professional determined by the Planning Director as qualified to prepare such report. The report shall be submitted by the mining operator to the Planning Director by April 1 of each year. If the Planning Director determines the need for an independent consultant with specialized expertise, the mining operator shall obtain such consultant. All costs of such report and its review shall be paid by the mining operator. The report shall include the following unless waived or modified in writing by the Planning Director (Mit. #1, 2, 3, 4, 5, and 6):
1. A report on compliance with all Conditions of Approval including the required monitoring programs.
 2. An analysis of any significant changes in environmental conditions or in the mining operation which have not been anticipated in this Approval.
 3. A current aerial photograph of the entire site (1"=200' scale) showing property lines, facilities, stripped areas, and revegetated and reclaimed areas, together with a report on the extent of excavation and reclamation completed in the previous year and projected for the coming year.
 4. Every fifth year, a current aerial photogrametric topographical map prepared from current aerial photographs map (1"=200' scale with a 10 foot contour interval) showing all the requirements of II.H.3. above.
 5. A revegetation report prepared by a botanist, horticulturist or plant ecologist retained by the mining operator and approved by the Planning Director. The revegetation report shall describe the degree of success in achieving the objectives of the revegetation plan, and shall identify any changes or additional measures which may facilitate achievement of the desired results.
 6. Written verification of the renewal and/or validity of the financial assurance.
 7. A report to be held as proprietary information in accordance with the County's Mining Regulations, stating the annual amounts of production and shipping of mining products, and the estimated time to complete mining in the permitted area.

8. Monitoring logs for all wells, piezometers and springs (if any) for the entire year, and analysis thereof, as described in Conditions III.D.11.
9. A noise report prepared by a qualified noise/acoustical consultant retained by the mining operator and approved by the Planning Director. Each noise report shall determine whether or not the mining operator is in compliance with noise standards contained in the County Mining Regulations, and shall investigate and make recommendations regarding (relative to noise mitigations): (i) Any Mining equipment used at the mining site; (ii) Proposed and existing noise protection; (iii) Any other significant impact resulting from mining operations. The mining operator shall implement all recommendations of the noise consultant determined to be necessary by the Planning Director for compliance with the conditions of the Mining Approval.
10. All reports submitted to the Monterey Bay Unified Air Pollution Control District.
11. A log of nighttime operations as required by Condition III.E.4.(c).
12. A copy of this required annual report with all proprietary information removed shall also be submitted for staff inclusion on the next regularly scheduled Planning Commission consent agenda for Planning Commission review.
13. The operator shall include update discussion of the activities listed in Condition III.B.3 and III.A.4 through III.A.6 in the April 1, 2005 Annual Report required under the current Conditions of Approval. Granite shall make a diligent effort to include the Bonnywood residents or other residents of concern as improvements are made to the facility.

Each year on April 1st the operator submits an annual report containing all of the required elements. A brief summary of these reports have been included on the Planning Commission consent agenda, most recently in the years 2005, 2006, and 2008. The 2004 Annual Report, submitted April 1st, 2005, included updates on the additional measures to reduce noise and dust impacts. As required, Granite Construction made diligent efforts to include the Bonnywood residents or other residents of concern about improvements made to the facility. Granite Construction fulfilled its commitments to incorporate additional measures to reduce noise and dust impacts at the Felton quarry. These measures have resulted in a significant reduction in noise levels and improved dust control.

- I. All costs for the County's inspections and review of Annual Reports and other reports submitted by the Quarry shall be paid by the Quarry, within 30 days after billing.

The quarry operator pays all costs invoiced for County inspections and reviews.

- J. All mining operations shall be in compliance with the State's Surface Mining and Reclamation Act (SMARA).

The County as lead agency verifies compliance with SMARA. In annual reports to the State Office of Mine Reclamation the County has verified the mine operation is in compliance with SMARA.

- K. In the event that future County inspections of the subject property disclose non-compliance with any conditions of this Approval or any violation of the County Code, the operator shall pay to the County the full cost of such County inspections, including any follow-up inspections and/or necessary enforcement actions, up to and including Approval revocation.

Condition noted.

III. OPERATING REQUIREMENTS

The establishment, operation, and maintenance of the quarry facility shall be in compliance with the requirements of Sections 14.06.060 and 14.06.070 of the Santa Cruz County Code except where modified below.

The referenced sections of the County Code no longer exist. This statement should be modified to refer to the Mining Regulations contained in Chapter 16.54 of the County Code, as applicable.

A. Noise and Vibration

1. Maximum operating noise at the site boundaries (not including haul trucks or construction activities) shall not exceed the limits of Section 13.04.236.25 (C) of the County Zoning Ordinance. Average noise levels at the site boundaries shall conform to an LDN (day/night weighted average) of 60 DBA.

Although Section 13.04 of the County Code was repealed in 1992, County Code Section 13.10.345.5 requires noise to meet the County's General Plan Land Use Compatibility Chart for Exterior Community Noise (General Plan Figure 6-1). This chart identifies a "normally acceptable" exterior noise exposure compatibility level of 60 dB Ldn, which is consistent with the previous Code Section 13.04.236.25 (C).

In addition, the County Mining Regulations Section 16.54.050 sets a maximum noise level measured at property boundaries of no greater than 60 dBA for a cumulative period of 15 minutes during any hour of operation. This condition should be revised to reflect the current standard in the mining regulations

Annual noise monitoring by the acoustical consultant indicates that noise levels during quarry operations at the property line and at the nearest residence are in compliance with both standards listed above.

2. Off-site vibrations shall be subject to the provisions of Section 13.04.236.25 (F) of the County Code.

Section 13.04.236.25(F) of the County Code was deleted in 1982, when the Zoning Ordinance was updated. Currently, blasting is the only vibration detectable by human senses beyond the boundaries of the quarry. Standards for vibrations attributable to blasting are established by MSHA (the Mine Safety and Health Administration). Blasting at the quarry is very infrequent. One blasting event occurred in 2009, for example.

3. Blasting procedures shall utilize time-delayed multiple charges to minimize noise and shock wave disturbances.

Non-electric cap delayed explosives in multiple drill hole patterns are used when blasting. The blasting event in 2009 used approximately 1,200 pounds of explosives. This represents a relatively small blast. For comparison, blasting at Bonny Doon quarry used upwards of 24,000 pounds of explosives without producing off site vibration levels exceeding MSHA standards.

4. The operator shall pursue an engineering evaluation of the baghouse exhaust fan to determine ways to mitigate noise from this portion of the plan. The operator along with the Bonnywood residents, or appointed representative, shall review the engineer recommendations. The operator shall determine economic and mechanical feasibility without jeopardizing the existing air permit and plant production rates. The operator shall implement all recommendations to the extent feasible and reasonable in cost relative to the size and conditions of the Quarry operations by April 1, 2005.

Granite Construction pursued an engineering evaluation of the bag house exhaust fan to determine ways to mitigate noise from this source. After consulting with asphalt industry experts, an acoustical engineer, and the Bonnywood neighbors, the decision to install a New York Blower VRDS-34 silencer was made and agreed upon by all parties. The subsequent annual report includes an analysis of the silencer by the acoustical consultant, which indicates a significant reduction in sound levels with the silencer. Following installation of the silencer, one of the neighbors most impacted by quarry noise has confirmed a significant reduction in sound levels and County staff has made a similar observation during site inspection.

5. The operator shall replace the existing metal screens at the primary screen with a rubberized screen to reduce process noise by April 1, 2005.

To reduce noise at the primary screen Granite Construction has replaced metal screens with rubberized screens and installed rubber liners in critical areas of the primary screen discharge chute. As a result County staff can confirm a dramatic reduction in noise levels at the primary screen.

6. By April 1, 2005, the operator shall use strobes on mobile equipment that utilize back-up alarms, after sunset and before sunrise.

All mobile equipment on site that utilize back up alarms have been outfitted with strobe lights for use in place of back up alarms after sunset and before sunrise. In addition, all employees have been trained to follow the sunset to sunrise rule. No additional complaints about noise from this source have been received since installation of these strobes.

B. Air Quality

1. Stripping and mining activities shall be conducted in a manner to minimize the generation of dust.

The quarry is following their approved phased mining plan and is also following the reclamation procedures outlined in the phased mining plan. One of the purposes of the phased mining plan and reclamation is to limit the exposed area that could generate dust. Additionally, the moisture content of the material entering the plant is monitored and recorded for the Monterey Bay Unified Air Pollution Control District. The area around the primary feeder in the pit, the primary jaw crusher, and transfer points on the conveyor system and secondary plant are kept wet to minimize dust.

2. All roads on the property shall be either surfaced, treated, or sprinkled with water frequently enough to insure that windblown materials do not present a problem to adjacent properties or public roads.

Most of the roads in the quarry are paved and are watered when necessary; unpaved roads are watered or treated with a surfactant when necessary. A street sweeping service is used on the road leading to the entrance to the quarry when necessary.

3. The operator shall work with Hydro-Turf to develop an automatic control spray system for the access road by April 1, 2005.

After consulting with Hydro-Turf, an irrigation consultant, Granite Construction has installed a dedicated pump and pump controller for the dust-suppressing spray system on the main access road leading to the scale. The pump controller has a timer and works automatically and precludes the need for quarry staff to manually operate this system.

4. The operator shall pursue economically feasible measures for odor reduction from the asphalt plant, including use of odor suppressing additives, with the

effectiveness of these measures to be addressed in the annual reports beginning in April 2005.

Granite Construction began using an odor-suppressing additive in all of the asphalt produced at the Felton quarry in December 2004. Granite Construction will continue to use the product until alternative economically feasible measures become available. No odor complaints were received in 2009.

C. Surface Hydrology

1. Process water shall be isolated in a separate, closed, recycling system of ponds and conveyances.

The aggregate and sand washing system utilized by the quarry recycles 100% of the water from their clarifier/ belt press system. This eliminates process water from flowing to the ponds. The quarry only pulls water from the ponds to make up for evaporation or product retention.

2. Site drainage from all disturbed areas, including all mining, processing, or stockpile areas, shall be directed to detention and settling basins prior to release from the property. Detention facilities shall be designed to handle a 2-hour, 100-year storm event and limit storm water flows from the property to those which would occur under natural conditions. The ponds shall also be designed to provide a median detention time of at least 20 to 40 minutes for design storms up to a 2 hour, 100 year event.

All storm water runoff is detained in settling basins. The ponds are laid out and built in accordance with the approved Storm Drainage and Siltation Pond Study by Ifland Engineers for a 2-hour, 100-year storm event. Water in the system is lowered before significant storm events to allow for adequate storage and detention time.

3. The outflow from the detention ponds shall be conveyed across the access road by closed culvert and shall be released in such a manner as to minimize erosion hazards.

The storm drain system is in compliance with this condition.

4. Pond facilities shall not be relocated on the property without first submitting a revised drainage plan, calculations, and structural certification prepared by a registered civil engineer.

Pond facilities have not been relocated. Future relocation of pond facilities must comply with this condition.

5. Prior to construction of any new detention ponds which will maintain a

residual impoundment greater than 15 feet in depth, a reconnaissance study prepared by a qualified professional limnologist shall be submitted which addresses potential water quality impacts, notably the potential for adverse water quality impacts of manganese concentrations. The recommendations of the study shall be incorporated in the construction and maintenance of such ponds.

No new pond construction has taken place. Future pond construction must comply with this condition.

6. All catchment basins, drainageways, culverts, pumps, pipelines, etc. shall be maintained on a regular basis to ensure proper functioning free of breakage, siltation deposits, or malfunction.

These facilities are adequately maintained on a regular basis. No malfunction has occurred resulting in off site siltation.

7. The applicant shall maintain and dispose of any petroleum products on the property in such a manner that no contamination of ground or surface waters will occur.

In compliance with the Santa Cruz County Environmental Health Department a Hazardous Material Management Plan is maintained, and Environmental Health staff inspects the site annually. Hazardous materials storage includes secondary containment as required.

8. Drainage improvements shall be in accordance with the approved engineered drainage plans by Ifland Engineers dated December 1991 and the above referenced Rogers/Pacific "Review of Phase 1 Drainage." Amendments to the Ifland Engineers, Inc. plan shall be submitted to County Planning for review and approval prior to implementation (Mit. #2).

The ponds are laid out and built in accordance with the approved Storm Drainage and Siltation Pond Study by Ifland Engineers for a 2-hour, 100-year storm event. The quarry is currently transitioning from Phase 2 to Phase 3, so the Phase 1 drainage plan is no longer applicable.

9. Operation of the detention pond evacuation plan prepared by Ifland Engineers shall continue. The plan shall utilize an electric powered pump, with a diesel powered back-up system in case of loss of electric power. Back up system shall be in place at all times during October 15 to April 15. Results of all water sampling shall be included in the quarry's annual report (Mit. #2).

The quarry maintains an 800-gallon per minute electric pump with a backup diesel generator. Results of monitoring of any pond discharge are submitted by the quarry to the RWQCB with copies included in the quarry's annual report to the County.

10. Sediment basins shall be cleaned out annually prior to October 15th. A siltation marking device shall be installed which notes remaining pond capacity of major settling basins. Annual reporting of basin capacity by Hydrological consultant in-lieu of marker system is acceptable (Mit. #2).

Adequate clean out of sediment basins is performed annually or as needed.

11. Spoil material from annual dredging of settling basins shall not be allowed to enter streams or setting basins. Spoils shall be deposited in such a way that is safe and requires no maintenance. Seeding and mulching prior to October 15th shall be required if spoil placement requires (Mit. #2).

Spoils material from dredging is stockpiled within a confined area with controlled drainage and treated for erosion control.

D. Groundwater Hydrology

1. FELTON QUARRY (QUARRY) will establish, and submit evidence of same to FOREST LAKES MUTUAL WATER COMPANY (FLMWC) within two (2) years from the date of issuance of the 1979 Use Permit, a source of groundwater producing at least nine (9) acre feet per year of groundwater starting as of the beginning of the third year from the date of issuance of the Use Permit, and shall provide at least a total of eighteen (18) acre feet per year of ground water by the beginning of the ninth year from the date of issuance of the Use Permit.

QUARRY shall have the right to inspect, at reasonable times and upon reasonable notice, the meters and other records pertaining to the corporation yard wells.

The well system required to supply the water was completed in 1991. The required amounts of water have been made available to FLMWC. In recent years FLMWC has pulled approximately 18 acre feet of water or more.

2. The water to be provided to FLMWC by QUARRY shall be ground water which shall be comparable in quality to the ground water presently drawn from FLMWC'S corporation yard wells, within reasonable tolerances. "Presently drawn" shall mean the quality of this ground water based upon data collected from the corporation yard wells by FLMWC for a six (6) month period following issuance of the Use Permit. Duplicate samples of water taken shall be given to the QUARRY for testing, should it so desire.

Water pumped from the well is processed through a water treatment plant to reduce iron and manganese levels to meet State drinking water standards.

3. The water sources developed by QUARRY to supply FLMWC as provided above shall not interfere with the FLMWC corporation yard wells. Further, the quarry operation shall not interfere with the water quality of the corporation yard wells.

Water quality and quantity reports are submitted to the Planning Department annually. The reports indicate that there is no change in water quality or quantity of FLMWC wells attributable to the quarry.

4. QUARRY shall deliver, through water pipelines, the required water to FLMWC'S corporation yard for connection into the FLMWC water system. A meter shall be installed at the delivery point by QUARRY, with the meter accessible to FLMWC and to be maintained and replaced, if necessary, by QUARRY.

The wells, pipeline, meters and water treatment plant are monitored and maintained by FLMWC and the quarry operator.

5. FLMWC shall have the right to specify the rate of delivery of the water from QUARRY, staying within nine (9) or eighteen (18) acre feet per year, as the case may be, with a maximum monthly delivery of one-sixth (1/6) of the annual total, or one-seventh (1/7) of the same if QUARRY provides adequate storage capacity to meet this latter requirement.

FLMWC controls the rate of delivery of water to their system with no reported quantity problems.

6. The QUARRY well, or wells, as well as the transmission lines, shall be constructed, installed and maintained according to standards of the State of California, applicable to FLMWC; and the overall system shall be comparable in quality to FLMWC'S present system in the corporation yard.

The system was constructed to state standards.

7. If FLMWC establishes that the loss of water at the corporation yard well field is more than nine (9) acre feet per year at any time during the third through the eighth year, or more than eighteen (18) acre feet per year thereafter, and said loss is attributable to the quarry operations, the QUARRY must supply FLMWC sufficient additional water to replace such loss.

No water loss attributable to the quarry has been established.

8. At the end of the fifty (50) year use Permit, and if QUARRY does not seek an

extension of the Use Permit, or subsequent to the end of the thirty-ninth year of the Use Permit, should QUARRY abandon the quarry operation, QUARRY shall transfer to FLMWC the well or wells supplying the water to FLMWC, all equipment and transmission lines pertaining to same, easements for access, maintenance and replacement of equipment and transmission lines, and the right to draw water from the well or wells. However, should QUARRY abandon the quarry operation prior to the end of the thirty-ninth year of the Use Permit, the above transfer shall take place only if FLMWC establishes that its corporation yard well field has been damaged by the quarry operation.

Should such transfer occur, QUARRY agrees that the system being transferred shall be in good working condition at the time of transfer.

This condition is not applicable at this time.

9. The QUARRY shall, within one (1) year from the issuance of the 1979 Use Permit, provide eighteen (18) acre feet of detention ponds, and a total of twenty-four (24) acre feet of same within the first ten (10) years from the issuance of the Use Permit. Thereafter, the QUARRY shall provide one-half (1/2) acre of additional detention storage for every new acre of net disturbed area. Net disturbed area shall mean the area where the overburden is removed less the area which has been revegetated by the QUARRY.

Approximately 30 acre-feet of detention pond capacity is maintained by the quarry, which is adequate in relation to net disturbed area.

10. To the extent allowed by law, and in view of the fact that Conditions III.C.1 through III.C.19, and Conditions III.G.1 through III.G.5 as amended herein are for the benefit and protection of the shareholders of the FLMWC and other residents within the area served by FLMWC, QUARRY agrees that FLMWC may seek directly through Court action to compel QUARRY to perform these Conditions, or obtain damages or injunctive relief for the failure of QUARRY to perform same, without the necessity of first requesting enforcement by the County of Santa Cruz. The prevailing party in such litigation shall be entitled to reasonable attorney's fees and actual costs incurred. In addition, FLMWC shall have the right, upon reasonable notice and at reasonable times, to inspect those operations of QUARRY which involve performing the conditions set forth in this paragraph. Reasonable notice shall include such time as is necessary to comply with all requirements of the State of California pertaining to a person or persons entering the QUARRY property.

FLMWC has access to the quarry and the wells.

11. The Hydrologic Monitoring Program prepared for this project by Watkins-Johnson Environmental, Inc., dated June 12, 1992, shall be implemented. The

frequency of water quality sampling and groundwater level measuring shall occur two times per year during August and April unless the County Hydrologist determines that an increase or decrease in the frequency of sampling is appropriate based on water quality trends reported in the annual hydrologic monitoring report. At a minimum, water quality monitoring shall occur in August of each year and groundwater level measurements shall occur two times per year during August and April. This monitoring shall include measurements of groundwater elevations and water sampling collected for general chemical analysis. Analysis shall be conducted by a certified water quality testing laboratory. The results of all monitoring and chemical analysis shall be submitted to County Planning as part of the quarry's annual report and shall include biannual comparisons in the findings of monitoring results. Any water quality changes of 15% or more shall be discussed in the report including methods to tract (sic) water quality trends, and to remediate any negative impacts if trends of deteriorating water quality continues (Mit. #3).

The quarry's hydrologic consultant performs the required water quality monitoring on an annual basis. The quarry has submitted copies of their hydrologic consultant's annual report to the Planning Department on an annual basis.

12. The following measures shall be implemented in addition to the Monitoring Program prepared by Watkins-Johnson (Mit. #3):
 - a. A "Class A Evaporation Pan" shall be installed near the quarry office rain gauge to measure the rate of evaporation and to provide a more accurate measurement of amount of infiltration occurring from the detention ponds. Results of monitoring shall be included in the annual hydrological report.
 - b. Two additional monitoring wells shall be installed, one located near the existing detention ponds and the other located proximate and northeast of the future relocated detention ponds for Phase 3. The same monitoring as specified in the Watkins-Johnson Monitoring Report for the existing wells shall be conducted (depth of wells shall be sufficient to reach year-around groundwater levels with 300 feet being the maximum necessary depth);
 - c. Water quality sampling at the headwaters of the tributary to Gold Gulch (located directly south of Limestone Brook) shall be conducted in the same fashion as other surface water quality monitoring on the site;
 - d. The quarry's hydrologic consultant shall include in the twice/year reports, hydrographs of groundwater level measurements that compare current groundwater levels with the levels shown in the previous report.

These measures have all been implemented.

7. Groundwater level and water quality monitoring, analyses and reporting shall be increased to a quarterly frequency (August, November, February, May) if documented trends of deterioration of surface water or groundwater are not successfully remediated by the quarry over a two-year period. This more frequent monitoring shall determine if a public health concern may be created through continued quarrying activities. In this case, all quarrying activities may be required to cease by the County until it can be demonstrated that the threat to public health no longer exists (Mit. #3).

No negative trends have been documented.

E. Days and Hours of Operation

1. All mining and processing activities at the site shall be confined to between the hours of 6:00 A.M. and 8:00 P.M., Monday through Saturday. Maintenance operations may be conducted at any time.

The normal start up time at the quarry is 7 am for the aggregate plant and the asphalt plant. On heavy paving days, the asphalt plant starts at 6 am. The latest quitting time is 5:30 pm.

2. All shipping activities shall normally be confined to between the hours of 6:00 A.M. and 8:00 P.M., Monday through Friday.

Normal shipping hours continue to be between 7:00 a.m. and 3:30 p.m. Truck traffic is voluntarily limited to 6:45 a.m. along San Lorenzo Avenue. Any violations for early arrivals by truckers are addressed with either verbal or written violations per the Trucker Awareness program.

3. Blasting activity shall be confined to between the hours of 7:30 A.M. and 6:00 P.M.

The minimal blasting that occurs at the quarry is confined to these hours.

4. Twenty (20) exceptions to III.E.2 for the off-hour operations of the asphalt plant are allowed without prior approval of the Planning Director. An additional 10 exceptions to Condition III.E.2 per year may be granted at the discretion of the Planning Director for off-hour operations Monday thru Friday, and 10 additional exceptions for Saturday (daytime) operations for a maximum of 40 exceptions per year. These off hour operations are authorized for the quarry providing that (Mit. #5 and Mit. #A.1):

There were eight (8) off-hours night operations in 2009; two (2) in 2008; eleven (11) in 2007; twenty (20) in 2006; three (3) in 2005; and six (6) in 2004.

- a. Off hours shall be defined as those hours that are not included in the normal hours of operation and shipping authorized by this permit. One off-hour operation shall be defined as one night or one weekend day.

Almost all of the off-hour operations occur at night.

- b. In order to obtain approval for 20 additional off hours operations at the discretion of the Planning Director (for a maximum total of 40 exceptions per year), the quarry operator shall submit a letter to the Planning Director demonstrating the need for the additional off hours work and the quarry operator's ability to adequately address any noise, odor, or other related complaints by local residents.

No additional off-hour operations were requested during the past five years.

- c. The Quarry shall keep a list of local residents who request notification of off-hours operations. These neighbors shall be notified prior to the operation as soon as practical.

A neighborhood notifications list is maintained and updated by the quarry operator. Neighborhood notification is given prior to each off-hour operation.

- d. A log of off-hour operations shall be kept and included in the annual report including days and hours of operation and the size, number and destination of haul trucks required.

Logs containing the required information are submitted with the annual report.

- e. Off-hour Asphalt operation shall be limited to public agency projects only.

All off-hour operations are for public agency projects only.

- f. This amendment of off-hour operations shall be reviewed by the Planning Commission during the three-year review of the mining operation, and within one year of this Mining Approval Amendment. The Planning Department staff shall report back to the Planning Commission regarding the success of mitigations for truck noise and asphalt odor associated with off-hour operations.

During off-hours operations the quarry monitors speed and decibel levels of trucks along the haul route through the neighborhood. The neighborhood notice that is mailed out to neighbors along the haul route contains telephone numbers of the quarry and the Planning Department quarry planner. The quarry number is intended to enable neighbors to contact the quarry during the off-hours operation to lodge a complaint. See additional conditions below regarding noise and odors.

5. To reduce noise levels of the asphalt plant and truck traffic for off-hour operations, the Quarry shall construct and/or implement the following improvements (Mit. #5 and Mit. #A.1 and Mit. #B.):
 - a. Construction and permanent maintenance of noise baffling or some other type of noise reduction barriers on the dust collector exhaust system.

Noise reducing equipment was installed on the dust collector exhaust system in compliance with this condition. As a result of the last Planning Commission review additional noise reducing equipment was installed, which further reduced noise level.

- b. Installation and permanent maintenance of a muffler device on the pneumatic system that operates the hopper flaps.

Mufflers were installed in 1993 on all of the pneumatic equipment on the plant.

- c. Install all other recommendations of acoustical engineer noise reports to reduce decibel level for surrounding neighborhood.

The operator implemented all of the recommendations of the acoustical engineer. Following the last Planning Commission review the operator installed additional noise reducing equipment on the asphalt plant.

- d. The quarry operator shall monitor and keep records of speed and noise levels of trucks from the quarry entrance at Empire Grade to the intersection of Bay Avenue and Highway 1 (Mission Street) during off-hour operations. This shall be accomplished using a vehicle equipped with a radar detector and a decibel meter. The vehicle shall set up at random locations along the entire route to ensure compliance. The records shall be made available to the County at the close of each paving project, and shall be submitted to the Planning Department as part of the quarry's annual report.

The quarry conducts the required monitoring for each off-hour operation and submits the records to the County following each night-op and in the annual report.

- e. The quarry shall post notices in the community of each upcoming off-

hour operation. Notices shall inform readers of the range of dates within which the operation may begin, the possible hours of operation, the expected duration of the operation and shall display the appropriate telephone number at the Planning Department to which to report complaints of excessive noise. The notices shall be posted on Bay Street at each of four intersections: Nobel/Iowa, Escalona, King, and Mission, 48 hours in advance of the projected start of the operation.

The notices are posted as required.

- f. Notices of off-hour operations shall be mailed to the City of Santa Cruz Public Works and Planning Departments, and the County of Santa Cruz Planning Department, 48 hours in advance of the projected start date.

The Planning Department has received the required notice for each off-hour operation.

- g. If widespread complaints are received from residents within the Bay Street area (with consideration of acoustical and vehicle speed data provided by the quarry operator) further approvals by the Planning Director for off-hour operations will not be granted. The Community Response to Noise chart (ISO R1996) will be used as guidance to determine the number and nature of complaints that represent a significant impact.

Widespread complaints have not been received. Since the last Planning Commission review complaints have varied from none, to one, or two per year.

- 6. To reduce objectionable odors during off hour operations the applicant shall use:
 - a. A silo load-out and weigh system to load trucks, which includes a fugitive fumes recovery system which shall be interlocked so as to only allow the loading of trucks while the recovery system is operating. The fugitive fumes recovery system shall be maintained in good working order (Mit. #C).

During off-hours operations the silo load out system with fugitive fumes recovery system is used. In addition, since the last Planning Commission review the operator has been using an asphalt odor suppressant added to the asphalt oil.

- b. Cover trucks loaded with asphalt

All trucks loading asphalt during off-hours operations are covered.

F. Insurance.

1. Verification of insurance coverage in compliance with the requirements of the County Quarry regulations shall be provided within three (3) months of the issuance of this permit and with each annual report.

Verification of insurance coverage is provided.

G. Roads and Transportation

1. The applicant shall maintain the entrance roads reasonably free of dust and debris resulting from the site operations and shall load trucks in such a manner as to minimize spillage on haul routes.

The entrance road is cleaned by a street sweeping service as needed. In compliance with vehicle code requirements, trucks that are loaded with material above the sideboards are tarped.

2. The applicant shall maintain an affirmative action program to inform all truck drivers of their obligation to comply with State and Federal vehicle noise regulations and State and local traffic regulations, and to encourage programs of vehicle safety and driving courtesy.

The quarry does maintain a trucker awareness program consisting of several elements. All first-time truckers receive a copy of the Felton Quarry Trucker Policy consisting of speed, noise and time restrictions along with enforcement actions for violations. The quarry operator conducts occasional radar monitoring of speed. Signs are posted along the quarry road to remind truckers about speed and noise.

3. Within one (1) year of the abandonment of Quarry Bend Road, the ends of the road shall be closed off with solid wood gates, fencing, earthen berms, and landscaping as required to discourage public access while providing adequate fire protection access in accordance with a plan to be approved by staff or approved plans on file.

This work has been completed.

4. Within one (1) year of the issuance of this permit, internal haul routes for stripping and mining materials shall be developed so that public roads shall not be required to move materials from one part of the site to another.

This work has been completed.

5. The private access roads leading to San Lorenzo Avenue and Empire Grade shall be maintained at a minimum paved width of 16 feet.

These roads are in compliance with this condition.

6. Gates approved by the State Division of Forestry and the Felton Fire Protection District shall be maintained at the property entrances from Empire Grade and San Lorenzo Avenue to prevent unauthorized public access through the site during non-working hours.

The required gates are in place and CDF, Felton Fire and County Sheriff have keys.

7. Off-road vehicles shall be prohibited on the property except those operated by company employees.

This is accomplished with appropriate fencing.

8. Nighttime and off-hour operations shall use the Empire Grade entrance to the Quarry only. No use of San Lorenzo Avenue will be allowed except during the daytime hours listed in Condition III.E.2. (amended) above.

Night operations utilize the Empire Grade gate.

- a. Truck shipment from the Quarry shall be limited to the existing routes along Empire Grade and San Lorenzo Avenue. Use of Highway 9, south to Santa Cruz, and Graham Hill Road for destination in Santa Cruz and beyond is not permitted.

Quarry shipping has remained in compliance with these haul route restrictions.

H. Revegetation, Screening, Erosion Control

1. All unvegetated disturbed areas not actively involved in the excavation or processing activities shall be seeded with grass at the start of the rainy season each year to establish a ground cover to reduce visibility and erosion potential.

The quarry operator maintains an ongoing program of both temporary and permanent seeding of disturbed areas.

2. Within one (1) year of the issuance of this permit the banks of Limestone Brook, including the side slopes extending up to the entrance road and the hot-batch plant, shall be planted in native brush and tree species to maximize the shading of the canyon and waterways and to minimize the erosion potential.

This work was completed in 1974. An ongoing program of removal of non-native invasive plant continued in 2009.

3. The entrance from Empire Grade and the ends of Quarry Bend Road shall be provided with screen plantings to minimize visibility into the property and the view of any excavation areas.

These screen plantings are well established.

4. The benches on final slopes shall be provided with a planting medium composed of topsoil and compost removed from excavation areas mixed into a minimum 1 foot thick layer of porous gravel material, and a similar planting medium shall be drifted down the face of the cut slopes. The final slopes shall be seeded with native plant species and planted with tree seedlings. Adequate fertilization and irrigation shall be provided for a minimum of 2 years to ensure proper establishment and growth of plants.

The majority of the quarry has not been mined to the final slopes. The final slopes that have been achieved are experiencing successful re-vegetation.

5. The operator shall institute a yearly control program of non-native plant species, including Acacia, Scotch Broom, Pampas Grass, and Periwinkle.

The quarry operator maintains an annual program of removal of these species.

6. All revegetation/reclamation shall be implemented in accordance with the requirements of Exhibits M, N, and O of this Amended Mining Approval.

Concurrent reclamation of previously mined or disturbed areas is an ongoing project. The program is achieving success as documented in the annual revegetation reports.

I. Signing

1. Within three (3) months of the issuance of this permit, the signing requirements of the Quarry Regulations Ordinance shall be completed. The property shall also be posted to prohibit the use of off-road vehicles and firearms.

The required signage is properly posted.

J. Bonding

1. The quarry shall maintain an adequate financial assurance to ensure reclamation in accordance with the approved Reclamation Plan and compliance with the County's Mining Regulations and SMARA.

The financial assurance cost estimate is updated annually and the financial assurance mechanism is adjusted accordingly.

K. Excavation and Grading

1. Final side-slopes shall be stepped or scarified to provide soil and vegetation retention, and the thickest feasible blanket of overburden strippings shall be replaced on the benches and drifted down the side-slopes to provide for groundwater retention and establishment of vegetation.

Most of the Felton Quarry's slopes have not yet been excavated to final grade, but the final slopes that have been excavated have been stepped and have soil on the benches for revegetation.

2. Excavations shall maintain a setback of 50 feet from the property line measured in a horizontal plane from the property boundary (excavations may thereby extend closer to the property line where the site rises up from the property boundary), except as amended herein.

The mining plan boundary is setback greater than 50 feet from the property line.

3. Prior to any relocation of the entrance road descending from Empire Grade, the applicant shall submit detailed engineering design plans for the new road placement prepared by a registered civil engineer and obtain amendment of this permit by the Planning Commission. Excavations where physically possible shall take place behind a barrier formed by the entrance road to protect the adjacent Forest Lakes development from the noise and visibility of operations. Excavations adjacent to the access road shall not be below the level of the road for the first 50 feet and then shall follow the configuration for final slopes as specified above.

The entrance road was not relocated.

4. Prior to any excavations west of Limestone Brook below an elevation of 900 feet, the operator shall submit revised drainage plans to be approved by County staff. Excavations on site shall not be below the 700-foot elevation.

This condition is not applicable at this time.

5. Prior to excavating or undermining the present utility easement on Quarry Bend Road, the operator shall relocate the easement and telephone lines to the satisfaction of the Pacific Telephone Company and Pacific Gas and Electric Company.

This work was completed in 1988.

6. Topsoil and vegetation removed during the quarrying process shall be stockpiled in a level area and to minimize sight from adjacent public roads. The stockpiles shall not exceed 60 feet in a horizontal dimension or 15 feet in height and adequate drainage protection shall be provided.

Topsoil is stockpiled in general conformance with this condition.

7. The existing fill operation at the head of Limestone Brook shall be conducted in accordance with the provisions of the permit from the California Department of Fish and Game.

This work was completed in 1974

8. All final excavations shall provide for positive surface drainage to prevent the ponding or accumulation of storm waters or natural seepage except in the planned drainage pond facilities.

The final slopes that do exist on the site are in compliance with this requirement.

9. In the event that significant paleontological or archaeological finds are made on the quarrying site, all operations shall be halted within 200 feet of the find and the Planning Department Director shall be immediately notified. Operations may be resumed in three working days following notification of the Planning Department unless specific request is made to allow additional time for proper excavation of fossils or artifacts in accordance with the provisions of the County's Native American Cultural Sites Ordinance.

None have been found.

10. The operator shall endeavor to minimize the surface area of the quarry which is disturbed at any given time to the greatest extent compatible with mining and marketing requirements.

The quarry operation is in compliance with this condition.

11. No excavation or disturbance of Assessor's Parcel Number 62-181-08 shall be allowed during the time the Open Space Easement Contract (OS-6-72) with the County is in force.

The quarry operation is in compliance with this condition.

12. All mining of the Active Mining Area of the south pit workforce shall be limited to a maximum interim gradient of 3/4:1 (horizontal:vertical). In some

cases, slopes of 1/2:1 will be acceptable if first approved by both the quarry's geologic consultant and County Planning Staff (Mit. #1).

The quarry operation is in compliance with this condition.

13. Inclinometers with surface reading capability shall be installed behind the cut for Phase 1 mining (approximately 200 feet northwest of the slide area) to detect any slope movement. Monitoring and recording of inclinometer readings shall be done once each quarter (every three months) by the quarry's geologic consultant. The quarry's geologic consultant shall submit the results of each reading to County Planning Staff on an annual basis with the Quarry's annual report unless a significant movement occurs. The frequency of these readings shall be increased if deemed warranted by evolving site conditions as determined by the County Planning Geologist (Mit. #1). Should a significant slope movement occur, or should the monitoring indicate a significant change in the inclinometer readings, the geologic consultant must contact the County both verbally and in writing of the change(s) within 48 hours and shall make recommendations to address the observed changes.

The required instrumentation, monitoring and reporting is completed as required. No significant movement has been detected.

14. The quarry's consulting geologist shall observe the quarry operation on a minimum basis of once/quarter (every three months) and report on the quarry program on an annual basis. The report shall be submitted to County Planning within 20 days of the quarry's annual report and shall (Mit. #1):
 - a. Document the geologic structure exposed by the quarry as shown on the geologic map of the March 17, 1993, Rogers/Pacific report;
 - b. Discuss the success of the quarry's activities regarding stability and make recommendations about continuing operations;
 - c. Discuss the results of the inclinometer readings conducted over the year, including the consultant's supervision of quarry personnel's monitoring of the inclinometers. The quarry shall immediately notify the County Planning Department if and (sic) adverse geologic conditions become exposed during the monitoring or inspections of quarry activities and coordinate with County Planning on the remedial action to be taken.

Annual reports from the quarry's consulting geologist addressing the requirements of this permit condition are submitted with each annual report.

15. All mining excavations shall be conducted in accordance with the recommendations of the "Review of Mining Progression Plans, Phases 1 through 5" by Rogers/Pacific, dated April 29, 1993 (Mit. #1).

Mining excavations are conducted in accordance with the approved mining plans.

16. Prior to commencing a new mining phase, the quarry's geologic consultant shall conduct a "Phase Closure Inspection" and submit in report form the results of the inspection to County Planning. The report shall discuss the same issues as required by the annual report for geologic issues (Mit. #1).

As a result of the ongoing geologic monitoring, inspection and reporting, phasing areas have been slightly altered over the last several years to respond to geologic conditions exposed in the working face. These changes have been closely coordinated with County Planning staff.

Location Map



Exhibit B

Assessor's Parcel Map

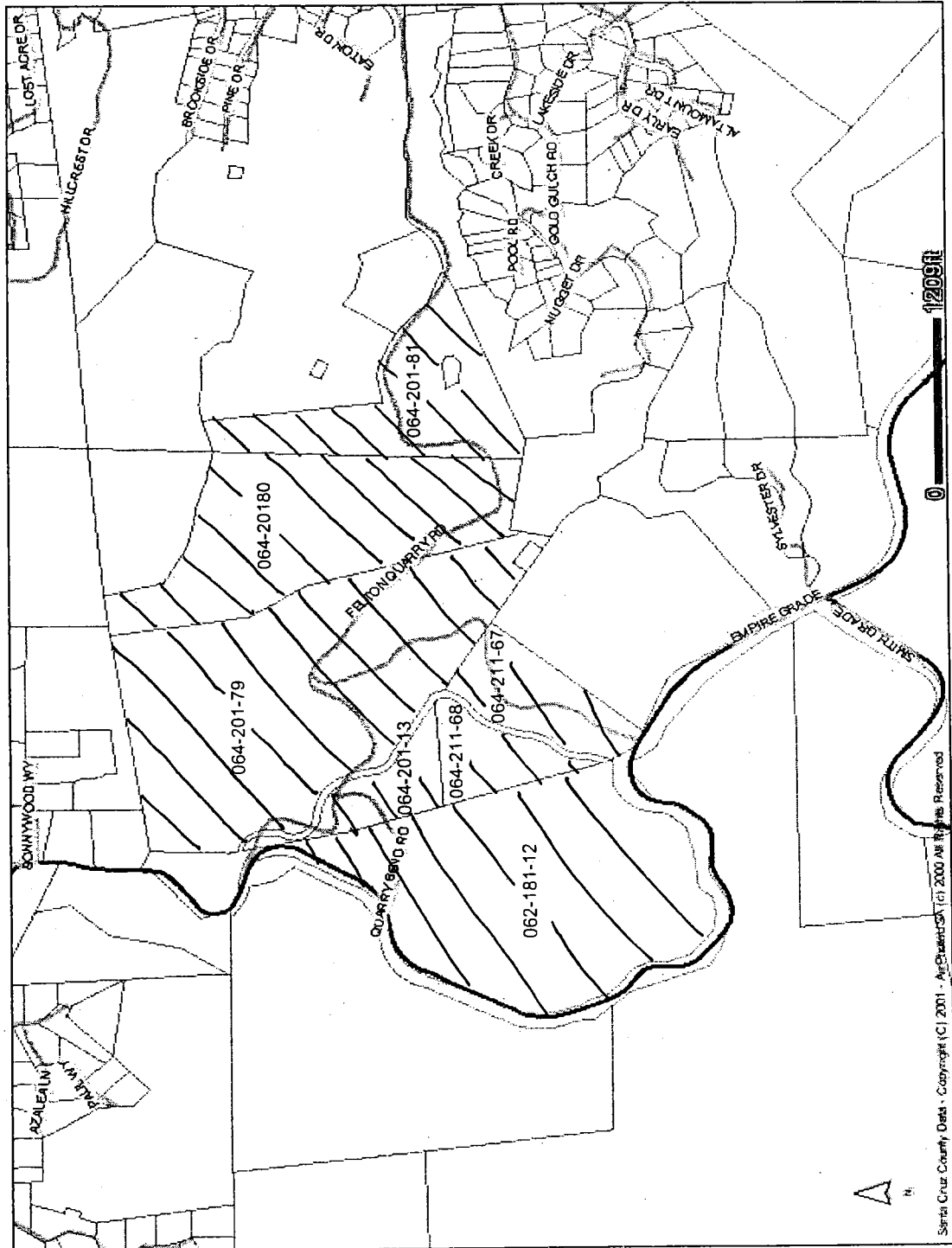


Exhibit B

Mineral Resource Designation

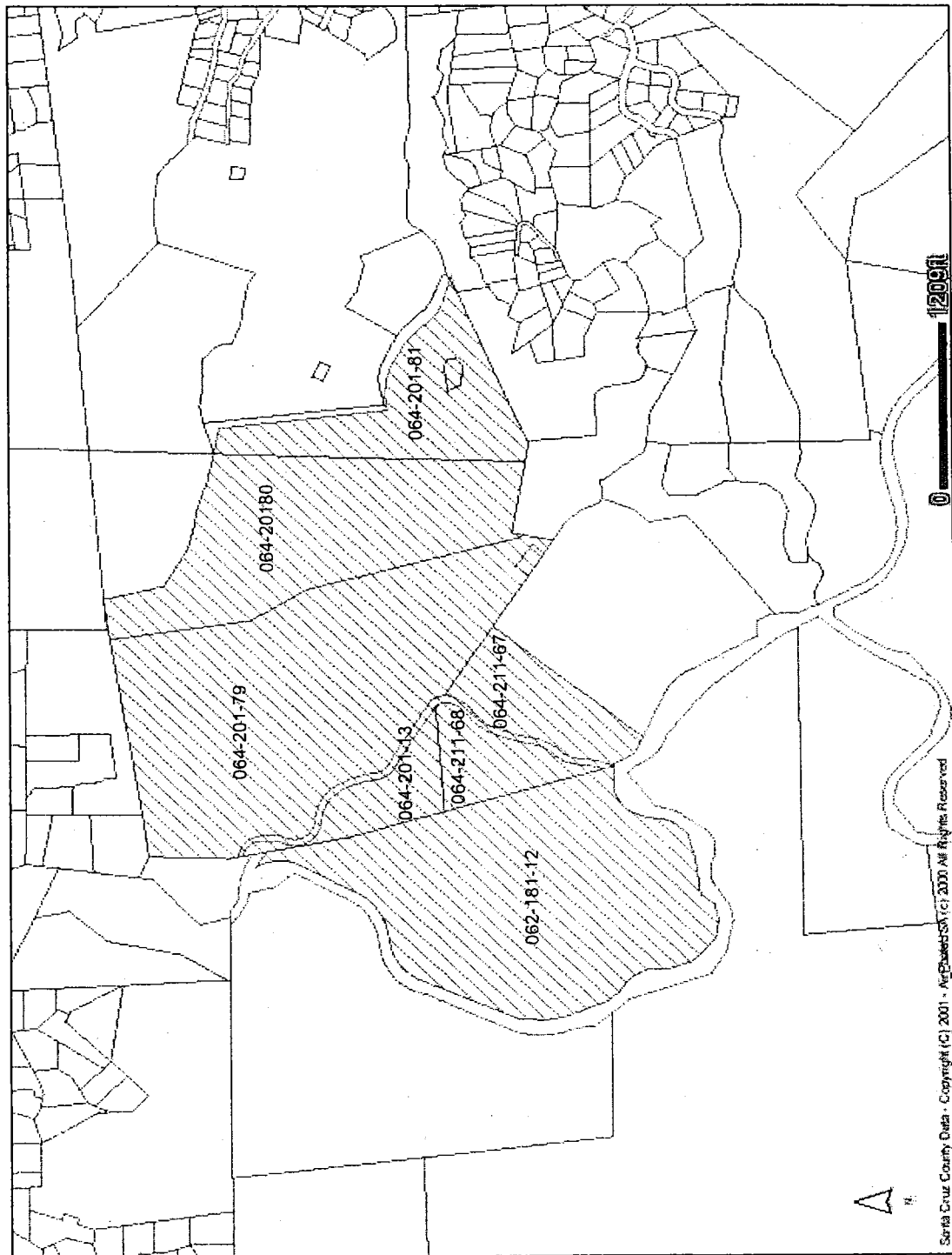


Exhibit B

General Plan Industrial

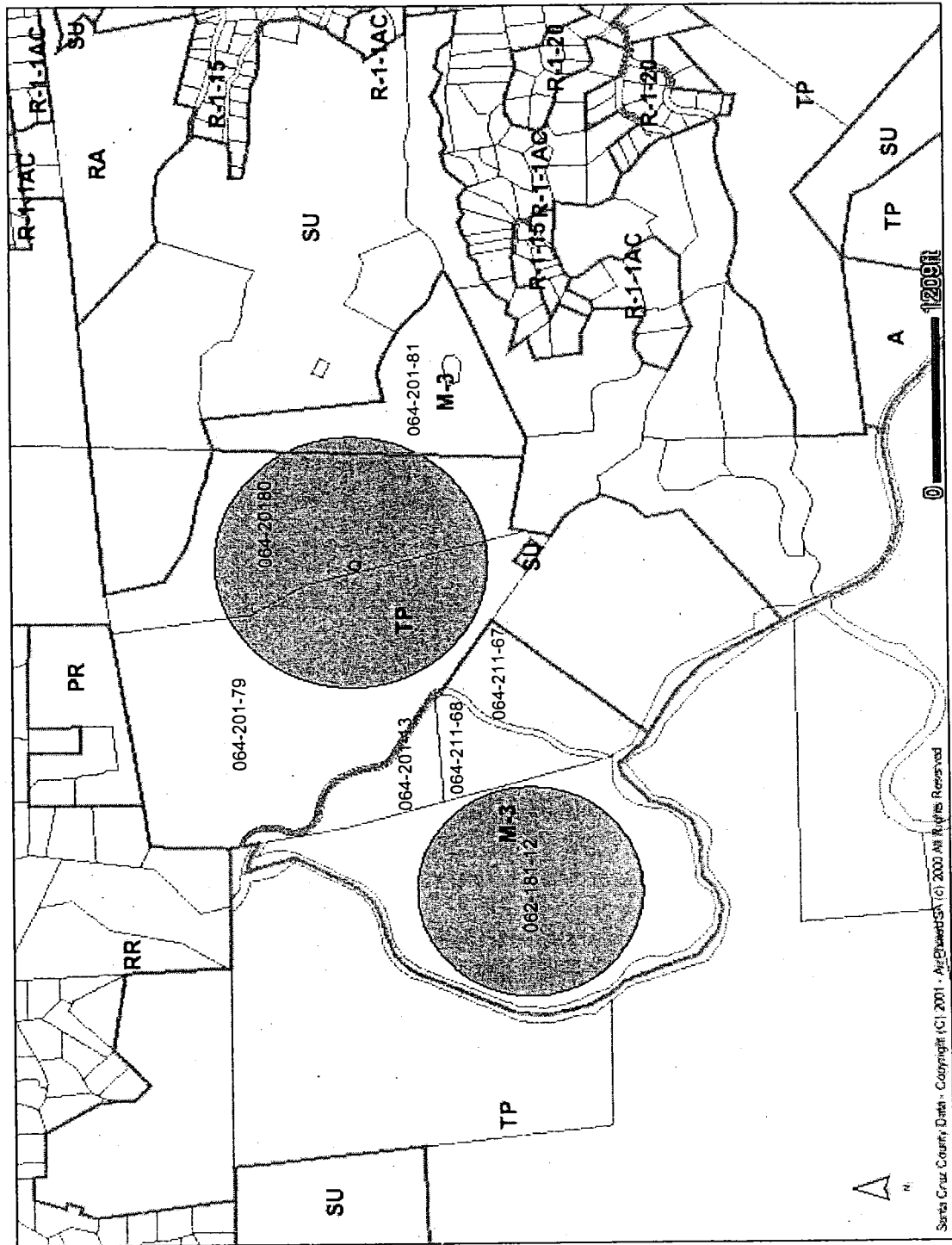


Exhibit B

General Plan Map



Exhibit B

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LIMIT OF FINAL CUT SLOPES
 LIMIT OF CUT SHELVES
 REVEGETATED FINAL CUT SLOPES
 REVEGETATED FINAL SHELVES
 FINAL SHELF ELEVATION
 SECTION SHOWN ON PLATE 11

 700
 (C)

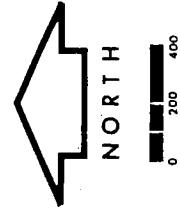
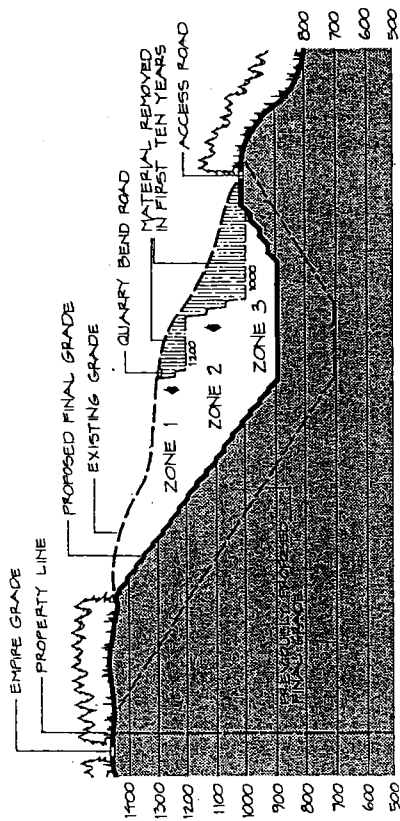


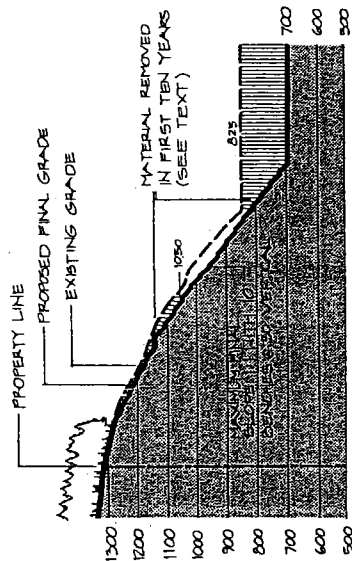
Exhibit C

MINING/RECLAMATION PLAN AT END OF 50 YEARS



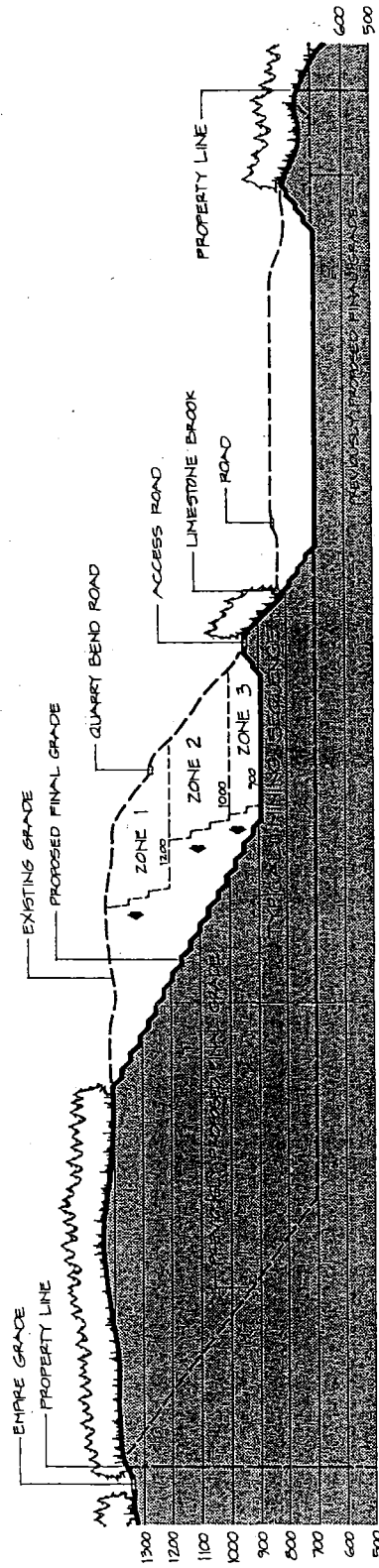
SECTION C-C

CUT ELEVATIONS ARE DIAGNOMATIC



SECTION D-D

CUT ELEVATIONS ARE DIAGNOMATIC



SECTION E-E

CUT ELEVATIONS ARE DIAGNOMATIC

LOCATION OF SECTIONS SHOWN ON PLATE 10

Exhibit C

MINING/RECLAMATION SECTIONS AT END OF 50 YEARS