Staff Report to the Planning Commission

Application Number: 02-0046

Applicant: Hanson Aggregates
Owner: Hanson Aggregates
APN: 067-011-07, 067-021-21, 067-021-22

Agenda Date: June 9, 2010
Agenda Item #: 8
Time: After 9:00 a.m.

Project Description: Review of reclamation activities at the Hanson Aggregate's Felton Plant for compliance with Conditions of Approval of 02-0046.

Location: Conference Drive, Scotts Valley

Supervisoral District: 5th District (District Supervisor: Mark Stone)

Permits Required: None (Review of existing permit only)

Environmental Determination: Reclamation Plan 02-0046 evaluated under CEQA in 2004.

Staff Recommendation:

- Conduct a public hearing and review reclamation activities at the Hanson Aggregate's Felton Plant for compliance with Conditions of Approval of 02-0046.
- Accept and file this report.

Exhibits

A. Permit Review
B. Basin Management Plan
C. Vicinity Map
D. Grading and Drainage Plans
E. Assessor's Parcel Map
F. General Plan and Zoning Maps
G. Comments & Correspondence

Parcel Information

Parcel Size:	270 acres (Total of three parcels)
Existing Land Use - Parcel:	Mineral quarry
Existing Land Use - Surrounding:	Residential, Public Facility
Project Access:	Conference Drive
Planning Area:	Carbonera
Land Use Designation:	R-M (Mountain Residential), Q (Quarry)
Zone District:	SU (Special Use)
Coastal Zone:	__ Inside _X_ Outside
Appealable to Calif. Coastal Comm.	__ Yes _X_ No

Environmental Information

Geologic Hazards:	Mapped definite landslide
Soils:	Pits-Dumps Complex, Zayante Coarse Sand
Fire Hazard:	Moderate fire hazard
Slopes:	0-50% +
Env. Sen. Habitat:	Sandhills
Grading:	Reclamation grading
Tree Removal:	No trees proposed to be removed
Scenic:	Not a mapped resource
Drainage:	Existing drainage adequate
Archaeology:	Not mapped/no physical evidence on site

Services Information

Urban/Rural Services Line:	__ Inside _X_ Outside
Water Supply:	Private wells
Sewage Disposal:	Private
Fire District:	Scotts Valley Fire District
Drainage District:	N/A

Project Setting

The existing quarry is located southwest of the intersection of Mt. Hermon Road and Conference Drive and encompasses three separate parcels with a total area of 270 acres (Exhibit E). To the west of the quarry is the Mt. Hermon Conference Center, which contains single-family dwellings as well as the conference center. Southwest of the quarry is the Santa Cruz County Probation Center. Along the southeasterly and easterly boundary the quarry is adjacent to residential development within the City of Scotts Valley along Worth Lane and Twin Pines Drive.

History

Kaiser Sand & Gravel began mining sand from the site in 1959. In the late 1990's Kaiser was acquired by Hanson, a British company operating in this region as Hanson Aggregates Mid-Pacific. Mining ceased at the end of 2003 after 44 years of continuous operation. Over the next several years a local company shipped remaining stockpiles of sand while the processing plant and other buildings were dismantled or demolished and removed from the site. Other reclamation activities involving grading, revegetation, drainage and erosion control have commenced. Hanson was acquired by Heidelberg Cement Group, a German Company, in 2007. With Heidelberg's other North American company, Lehigh Cement, the combined businesses in North America are now known as Lehigh Hanson. However, within this overall corporate structure Hanson Aggregates Mid-Pacific continues to exist as the "quarry operator" and the principal on the financial assurance surety bond.

Conditions of approval to operate the quarry have been provided in the original use permit 69-U, the Certificate of Compliance (COC) 75-0590-PQ and as a result of permit reviews conducted in 1988 and 1995. In 2004 a Mining Approval Amendment was approved subject to additional conditions of approval. This amendment consisted of changes to the drainage plan, including creation of a retention pond in the south corner of the quarry and conversion of the existing settling ponds into a series of detention ponds; and construction of the buttress fill in the south corner. As part of the 2004 approval one unified set of conditions of approval was developed to simplify future County review, quarry compliance and enforcement. Every 5 years the permit is subject to review by the Planning Commission for compliance with operating conditions and for possible amendment for mitigation of environmental and community impacts.

Current Activity

Since the last review by the Planning Commission in 2004, which occurred just as mining operations ended, a number of activities have occurred as part of reclamation of the site. The processing plant and other miscellaneous structures have been removed. Fuel and oil storage tanks have been removed under the supervision of Environmental Health Services. Revegetation activities have shifted from working mainly on completed quarry slope areas to large-scale plantings on the quarry floor. Prior to planting, large portions of the quarry floor were graded to reduce slopes and provide better planting surfaces. An important goal of grading the quarry floor is to ensure proper control of drainage to reduce erosion and distribute runoff as widely as possible into multiple different ponds and drainage systems. Additional grading followed by planting will occur in other areas of the quarry floor in the future. A major repair of storm damage to Conference Drive at the quarry entrance was completed in 2006. This included installation of major drainage improvements in this area to handle runoff that had been handled by the former processing plant water recycling system.

In accordance with the Conditions of Approval, the quarry operator has retained a local engineering contractor to monitor and maintain the site, particularly the ponds, during the wet season. This has included monitoring water levels, pumping water when necessary, and grading to improve pond performance.

Retention Basin Management Plan

The southern half of the site forms a large retention basin. The retention basin has an extremely large overall capacity and water levels in the basin have remained relatively low. Even so, monitoring of water levels is important to prevent encroachment onto steeper fill slopes on the southern margins of the pond. Water level as a result of this past wet season, which included average to above average rainfall levels, has remained well below these steeper fill slopes.

The operator has submitted a Basin Management Plan (BMP) in conformance with Conditions of Approval. The primary goal of basin management, as required by the Conditions of Approval, is to maximize the capacity of the basin each year. Each year adequate data has been collected and observations made to guide ongoing basin management. Annual reports have adequately summarized pond management activities from the previous year. Based on observations of the performance of the basin in relation to various management activities, the BMP has remained a working document while a determination is made regarding proper long-term management of the basin. This process has resulted in a solution that ensures maximum capacity and minimizes maintenance requirements.

Infiltration of water in the basin is minimal based on observations of the performance of the basin, whether or not the basin is cleaned out. In addition, in areas where the cleaned out material has been placed revegetation has performed poorly in the resulting silt and clay soil. Because the revegetation palette that is appropriate for reclamation of this site is adapted to sandy soils characteristic of the surrounding sandhills habitat, spreading silt and clay from the bottom of the pond around the site is not conducive to the revegetation goals in the Reclamation Plan.

To consider eliminating annual pumping, drying and clean out of the basin, additional studies were completed to determine an appropriate water level control methodology to ensure maximum capacity each year. It was determined that a siphon system could provide the necessary control and would only be needed under the most extreme climatic conditions. Therefore, the BMP has been modified to eliminate annual pumping, drying and clean out and adding a siphon system to ensure maximum capacity each year. Consistent with the goal of reclamation, this plan further minimizes long- term maintenance requirements. All recommendations of the BMP, as modified to include the siphon system, have been approved by the Planning Department and implemented by the operator.

Revegetation

The goals of the Revegetation Plan are to recreate an assemblage of native plants characteristic of the historical vegetation of the area, erosion control, visual screening of the facility and long-term management of revegetated areas. Implementation of the Revegetation Plan will provide associated wildlife habitat characteristic of the area before disturbance by the mining operation. Wetland habitat associated with the former quarry ponds has been retained. The quarry operator has been submitting yearly reports on the progress of the revegetation program.

A revision and update of the Revegetation Plan was completed in 2002, which included changes to the planting lists based on field observation of strongly performing species and species characteristic of habitat for the federally endangered Mt. Hermon June beetle and Zayante band-winged grasshopper. In accordance with the Federal Endangered Species Act, an Incidental Take Permit was issued in 1999 authorizing incidental take of the beetle and grasshopper species in the mining area and establishing monitoring and management of two separate conservation areas.

Approximately 27 acres of area on the quarry floor remain to be revegetated. Monitoring and maintenance continues on approximately 185 acres of previously revegetated areas of the mine. Revegetation activities generally consist of on-site seed collection, hydroseeding and planting tree and shrub plants. Maintenance activities generally consist of weeding, mowing, plant shelter maintenance, supplemental irrigation, mulching and eradication of invasive non-native species. Systematic monitoring of established transects is conducted to measure the success of revegetation areas 5, 10 and 15 years after planting.

Although the revegetation program has generally been successful on the completed benches and slopes, and the quarry floor, more tree cover is needed. Efforts to increase vegetative cover include more container stock planting of trees and shrubs. The revegetation specialist will continue these efforts and will provide documentation in the Revegetation Program Annual Reports until the County is satisfied that revegetation goals and performance standards have been achieved. For revegetation of the entire quarry this program will continue until approximately 2030.

End Use

County Mining Regulations and SMARA require that mined lands are reclaimed to a usable condition which is readily adaptable for alternative land uses. The Reclamation Plan must include a description of the proposed use or potential uses of the mined lands after reclamation. In this case, the end use is designated as "open space". If uses other than open space are proposed, an amendment to the Reclamation Plan would be required, as well as other applicable permits and approvals. In addition, any future development proposal would be subject to Environmental Review according to provisions of the California Environmental Quality Act and County of Santa Cruz Environmental Review Guidelines.

Any future proposal for an alternative end use would require further evaluation of site constraints. Two significant constraints on future development are sensitive habitat and slope stability. The site is surrounded by sensitive habitat (Santa Cruz Sandhills). The revegetation plan is intended to encourage the development of similar habitat in the reclaimed areas. Sandhills habitat is recognized as extremely rare and threatened and is, therefore, the focus of ongoing conservation efforts. This site is a candidate for acquisition as part of these efforts, however, Planning Department staff is not aware of any current conservation efforts. Regarding slope stability, the access to the site off Conference Drive is located within a definite landslide deposit. Movement of a portion of this landslide has permanently closed Conference Drive between the quarry and the Mt Hermon community. Although the quarry driveway has not been

affected by landsliding during quarry operations, any proposal for development on the site relying on the existing driveway for access would require a detailed evaluation of slope stability.

Conclusion

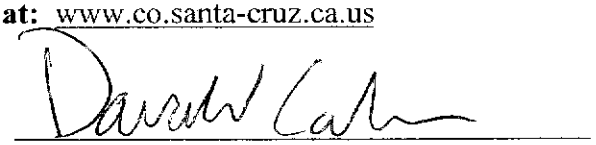
As a result of this permit review Planning Department staff has determined that the quarry is in compliance with Conditions of Approval. There are no circumstances that call for imposition of new conditions. The quarry operator has been diligently pursuing reclamation of the site. The quarry operator has not only worked cooperatively with Planning Department staff, but also has been proactive in addressing reclamation issues.

Staff Recommendation

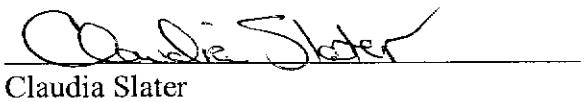
- Conduct a public hearing and review reclamation activities at the Hanson Aggregate's Felton Plant for compliance with Conditions of Approval of 02-0046.
- Accept and file this report.

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

Report Prepared By: 

David Carlson
Santa Cruz County Planning Department
701 Ocean Street, 4th Floor
Santa Cruz CA 95060
Phone Number: (831) 454-3173
E-mail: david.carlson@co.santa-cruz.ca.us

Report Reviewed By: 

Claudia Slater
Principal Planner
Environmental Planning
Santa Cruz County Planning Department

Hanson Aggregates Felton Plant
Mining and Reclamation Plan Approval 02-0046
2004 Conditions of Approval with Staff Comments

Note: Text enclosed in boxes is staff comments. All other statements are Conditions of Approval in original outline numbered format. The Conditions of Approval begin with a list of exhibits, which are not the same as the exhibits to this staff report and permit review. One addition to the list of Exhibits is underlined.

I. EXHIBITS

A. Plans titled Final Grading and Drainage Plan at Completion of Mining by Bowman & Williams Civil Engineers consisting of three sheets dated August 15, 2003. Other supporting technical reports and information sources listed in the Initial Study are on file in the Planning Department and are incorporated herein by reference.

These plans are supplemented by additional plans dated July 24th, 2006, September 6th, 2007, July 25th, 2008; additional drainage calculations dated July 24th, 2005, March 7th, 2007 and February 5th, 2010. All of these supplemental plans provide additional detail on the grading and drainage concepts shown on the 2003 plans and do not change the Reclamation Plan.

B. All Exhibits from Final Certificate of Compliance 75-0590-PQ; and all exhibits from 1988 and 1995 review of COC 75-0590-PQ.

These exhibits are on file with the Planning Department.

C. Hanson Aggregates Felton Plant Final Revegetation Plan, Revised March 2002, by Native Vegetation Network

This exhibit is added because it is a key element of the Reclamation Plan.

II. GENERAL PROVISIONS

A. This permit authorizes a Mining Approval Amendment to include changes to the mining plan, reclamation plan and financial assurance for the existing mining site, which is operating pursuant to Use Permit 69-U and Certificate of Compliance 75-0590-PQ.

The approved changes have been implemented.

B. This permit is for the extraction, processing, storage, and shipping of the sand resources obtained from the property in accordance with the descriptions in the exhibit documents and as modified by the conditions of this permit.

Extraction, processing, storage, and shipping of the sand resources ceased. The permit requires implementation of a Reclamation Plan, as well, which is well underway.

C. Minor variations to this permit requested by the applicant or staff and which do not change the general concept of use and operation, and which do not adversely affect the

Exhibit A

environment, may be approved by the Planning Director and shall be forwarded as a written correspondence item on the next Planning Commission Agenda.

A Minor Variation is not proposed.

D. The conditions of this approval shall supercede the conditions of Use Permit 69-U and Certificate of Compliance 75-0590-PQ (and Amendment), and the conditions added during the Permit Reviews of 1988 and 1995.

This is a consolidated list of conditions to streamline condition compliance monitoring.

E. Each recommended condition set forth in any statement, report, plan or other informational document submitted by the applicant as modified and/or approved by the Planning Commission, shall be incorporated as a condition of this approval.

Staff regularly checks compliance with recommendations of various technical reports and other documents that have been part of this approval.

F. Sign, date, and return to the Planning Department one copy of the approval to indicate acceptance and agreement with the conditions thereof.

Completed.

G. The property owner of the mining site, the applicant and the operator shall execute, date and return to the Planning Director two copies of a Declaration of Restrictions binding each to comply with each and every term and condition of this approval. Each such Declaration of Restrictions regarding this approval, shall be executed by each signatory in such manner and formality as shall enable its recordation with the County Recorder, binding each and any successor(s) to comply with this approval, and every term and condition thereof. Said Declaration of Restrictions shall be in the form prepared by the Planning Director and shall be filed for recordation within 90 days of the effective date of this approval. No map larger than 8-1/2 inches by 11 inches shall be recorded as part of said Declaration of Restrictions; rather, any such map may be referred to in the Declaration of Restrictions as being on file in the County Planning Department.

Completed.

H. Compliance with the permit conditions and regulations of the following regional agencies as they apply to the operations on this property shall be a condition of this permit. The applicant shall provide updated copies of the applicable permits and conditions to the Planning Department in the event of any changes.

1. Central Coast Regional Water Quality Control Board
2. Monterey Bay Unified Air Pollution Control District

Exhibit A

The site is enrolled in the General Permit program with the RWQCB, which includes preparation and compliance with a Stormwater Pollution Prevention Plan applicable to grading activities during reclamation. All aggregate processing equipment that required operating permits from the MBUAPCD has been removed from the site (mobile earth moving equipment does not require operating permits).

I. The standards and conditions set forth in section 16.54.050 of the Santa Cruz County Mining Regulations shall apply to this approval, as applicable, and to establishment, operation and maintenance of the uses approved or certified thereby.

The Santa Cruz County Mining Regulations have been certified as consistent with the State Surface Mining and Reclamation Act (SMARA).

J. Reclamation of mined lands shall be implemented in conformance with the standards in Section 16.54.055 of the Santa Cruz County Mining Regulations, as applicable.

The Santa Cruz County Mining Regulations have been certified as consistent with SMARA.

III. MINING OPERATION AND RECLAMATION REQUIREMENTS

A. NOISE

1. Within 90 days of the final County action on this Review (1995), and thereafter as part of each annual report commencing with the annual report due on July 1, 1997, a noise report shall be prepared by an independent, qualified noise/acoustical consultant employed by the Quarry and approved by the County. Any draft noise report to be submitted by the consultant to the Quarry shall be simultaneously submitted to the Planning Director. All costs of such report shall be paid by the Quarry. Each report shall determine whether or not compliance with the noise conditions as added to this Mining Approval is occurring and shall investigate and make recommendations (relative to noise mitigation) regarding any mining equipment to be used on the site, the noise protection berming (existing and proposed), and shall identify and make recommendations regarding any equipment which is becoming excessively noisy due to age or other factors. The report shall include input from and responses to any concerned area resident relative to noise, and shall investigate and make recommendations on any other significant noise resulting from quarry operations on the site. The Quarry shall implement all recommendations of the noise consultant to the extent feasible and reasonable in cost to the size and conditions of the Quarry operations, and within a reasonable timetable as determined by the Planning Director. After operation of the sand plant and load-out facilities has ceased and shipment of stockpiled sand is complete, and one additional year during reclamation grading activities, if the annual noise report indicates continued compliance with noise standards, the requirement to prepare an annual noise report shall end.

Exhibit A

One additional noise report was prepared during reclamation grading activities indicating continued compliance with noise standards, therefore the requirement to prepare an annual noise report has ended.

2. Maximum operating noise at the site boundaries (not including haul trucks or construction activities) shall not exceed the limits of Section 16.54.050(c)(1) of the Santa Cruz County Mining Regulations. Average noise levels at the site boundaries shall conform to an LDN (day/night weighted average) 60 dba.

Noise monitoring has demonstrated compliance and has ceased.

3. The applicant shall maintain an affirmative action program to inform haul operators of their obligation to comply with vehicle noise and traffic regulations.

Hauling has ceased.

B. AIR QUALITY

1. Prior to October 15, 2004 all unvegetated, disturbed areas of the current mining area shall be hydroseeded with a hydroseed mixture recommended by the revegetation specialist. Annual Revegetation Monitoring Reports shall document the effectiveness of the hydroseeding effort, as compared to the success criteria contained in the letter report of Native Vegetation Network, dated February 12, 2004. Remedial measures for areas not meeting the success criteria shall be recommended in the annual report and implemented at the first opportunity. In the interim, current dust control measures (i.e. monitoring of the site and application of water and/or lignin sulfonate) shall continue in order to minimize potential dust problems.

Hydroseeding occurs on a regular basis, using both site collected native seed for specific revegetation areas and commercial seed mixes for dust control in areas that are not ready for final revegetation. Dust control is also accomplished by using commercial products sprayed over the bare soils that bind soil particles and stabilize the surface.

2. In periods of dry weather, the Quarry shall spray all haul roads worked during that day with lignin sulfonate or other tackifier approved by the Planning Director each evening prior to the close of the workday. On Fridays, hydromulching and/or spraying with lignin sulfonate or other tackifier approved by the Planning Director shall occur on open areas to prevent fugitive dust occurrences during the weekend periods when Quarry personnel is absent.

This requirement is no longer necessary because mining operations have ceased.

3. The applicant shall maintain the entrance driveway and adjacent county roads free of dust and debris resulting from the site operations.

Exhibit A

With cessation of mining and shipping this is no longer applicable.

4. 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.

Roads are watered as necessary during reclamation activities.

5. To accomplish dust control required by the above conditions a water truck shall remain on site until the County is satisfied that interim hydroseeding and other revegetation efforts have establish adequate ground cover to control dust.

A water truck is no longer needed on site full time. The contractor performing grading for reclamation waters the roads as needed.

C. HYDROLOGY

1. All process water and storm water shall be retained on site in the settlement ponds except for a small amount of runoff that accumulates on and flows down the entrance road to the quarry until appropriate approval is obtain from Regional Water Quality Control Board (RWQCB) to discharge storm water off site.

The site drainage system has been modified to include both retention and detention of storm water runoff. Storm water runoff that collects in the southern retention pond does not flow off site. Storm water runoff that is detained in ponds in the east portion of the site would run off site only in the extremely rare event that the ponds fill to overflowing. Detained storm water runoff in ponds in the north portion of the site would run off site by filtering through perforations in the standpipes and into a storm drain system under Conference Drive.

2. All drains, facilities and devices to control storm water runoff shown on Exhibit A plans and specifications shall be constructed prior to October 15, 2005 and maintained as required in order to prevent erosion and prevent the deposit of sand, silt or other materials into any natural watercourse or onto any property not owned or controlled by any owner or operator of the mining site.

Projects have been prioritized for a variety of reasons and the storm drain system has been consistently improved, consistent with Exhibit A plans. Additional work remains to be completed. Although the deadline in the condition has passed, reclamation has progressed in an orderly and timely manner, and in general the site has been well managed and maintained.

3. The project civil engineer and geotechnical engineer shall observe the installation of all new drains, facilities and devices to control storm water runoff. All fill used for backfill and slope reconstruction required to install new culverts shall be compacted in accordance with standards set forth in the Santa Cruz County Grading Regulations. The civil engineer and geotechnical engineer shall each provide a written statement to

the Planning Director that all grading was completed in conformance with the provisions of the Exhibit A and the Santa Cruz County Grading Regulations. Following installation of all new drainage facilities and completion of reclamation grading the project civil engineer shall submit as-built grading and drainage plans for the site.

Grading and drainage improvements are constructed and complete with proper oversight from geotechnical and civil engineers in accordance with this condition .

4. To ensure that the replacement of the culvert under Conference Drive does not adversely affect riparian resources and does not allow sediment to reach Bean Creek, the applicant shall obtain a Riparian Exception and Biotic Approval from the County of Santa Cruz prior to the start of work and shall follow all the conditions thereof. The work shall only take place between April 15 and October 15.

A Riparian Exception was approved for this work and the project was completed in 2006.

5. A civil engineer shall prepare improvement plans for the replacement of the culvert under Conference Drive and the extension of the culvert via downdrain to the base of the slope and the repair of the eroded slope. The engineered improvement plans shall be prepared in conformance with the application requirements for Riparian Exception and Biotic Report Approval contained in Santa Cruz County Code Sections 16.30.030 and 16.32.080. Plans for the slope repair shall be based on the recommendations of a geotechnical report. Plans for the revegetation of the slope repair shall be based on a Biotic Report and revegetation plan prepared by the revegetation specialist for the quarry.

All of these plans and reports were prepared for the Riparian Exception.

6. A complete application for Riparian Exception and Biotic Approval, including engineered improvement plans, geotechnical report and biotic report, shall be submitted no later than October 15, 2004.

The application was submitted, a Riparian Exception was approved and the project was completed in 2006.

7. Obtain an Encroachment Permit from the Department of Public Works for all off-site work performed in the County road right-of-way.

An Encroachment Permit was obtained for work in the Conference Drive right-of-way.

8. To ensure that the drainage system continues to function as designed, following the closure of the quarry, the owner, applicant or operator shall provide for the project civil engineer to conduct an annual inspection of all drainage-related facilities and shall provide the Planning Department with a report regarding the results of this inspection. Any recommendations for remedial work shall be included in the annual

report, along with a proposed schedule for accomplishing the work. The requirement for this annual inspection and report will continue until the drainage system has functioned as designed for three consecutive years as documented by the annual reports from the project civil engineer and verified by County inspection. Each settling basin, drainageway, culvert, pump, pipeline and other drainage and erosion control features shall be maintained as necessary to assure that each is functioning properly as designed.

These inspections continue to be performed annually, as required.

9. The owner, applicant or operator shall submit a basin management plan by a qualified professional, which provides the timelines, guidelines and procedures for basin management to ensure maximum capacity each year, adequate clean out, and vegetation management. Adequate data collection and observations shall be completed in order to determine the timing of pumping, drying periods, and clean out prior to October 15th of each year. The plan shall include guidelines for the pumping program and cleanout procedures. The plans shall specify the fate of the pumped water and excavated sediment. The vegetation management component of the management plan shall be developed in collaboration with the quarry revegetation specialist and staff from the Santa Cruz County Mosquito Abatement and Vector Control District. The required quarry annual report shall include a report summarizing pond management activities from the previous year. The pond management plan shall be reviewed by the Planning Commission after a 3-year period to determine if modifications to the plan are appropriate.

The operator has submitted a Basin Management Plan (BMP), which includes all the required provisions. Each year adequate data has been collected and observations made to guide any pumping, drying periods and clean out. Annual reports have adequately summarized pond management activities from the previous year. Based on observations of the performance of the basin in relation to various management activities, the BMP has remained a working document while a determination is made regarding proper management of the basin. This process has taken longer than three years, but has resulted in a solution that ensures maximum capacity and minimizes maintenance requirements. Infiltration of water in the basin is minimal based on observations of the performance of the basin, whether or not the basin is cleaned out. In addition, in areas where the cleaned out material has been placed revegetation has performed poorly in the resulting silt and clay soil. Because the revegetation palette that is appropriate for reclamation of this site is adapted to sandy soils characteristic of the surrounding sandhills habitat, spreading silt and clay from the bottom of the pond around the site is not conducive to the revegetation goals in the Reclamation Plan. To consider eliminating annual pumping, drying and clean out of the basin, additional studies were completed to determine an appropriate water level control methodology to ensure maximum capacity each year. It was determined that a siphon system could provide the necessary control and would only be needed under the most extreme climatic conditions. Therefore, the BMP has been modified to eliminate annual pumping, drying and clean out and adding a siphon system to ensure maximum capacity each year. Consistent with the goal of reclamation, this plan further minimizes long-term maintenance requirements. Because this site was outside the Vector Control District there was a

Exhibit A

concern regarding paying for inspections and possible treatments by the District. This issue was resolved by countywide enlargement of the District.

10. The basin management plan report shall be submitted to the Planning Department for review and approval within six months of the effective date of this approval. The report shall be revised, if necessary, based the results of this review.

The BMP was submitted for review on time and has been revised annually, as described above, based on the results of ongoing review of basin performance and various basin modifications.

11. Each recommendation set forth in the final basin management plan report as modified and/or approved by the Planning Department, shall be incorporated as a condition of this approval.

All recommendations of the BMP, as modified to include the siphon system, have been approved by the Planning Department and implemented by the operator.

12. The Quarry shall install totalizing flow meters on the discharge lines of all its groundwater extraction wells. Annual meter readings and usage will be included in the annual Quarry Report.

Groundwater is no longer extracted for mining, therefore, well monitoring has been discontinued.

13. The applicant shall maintain a monthly log of well levels on the property and submit a summary report to the county Watershed Manager every year.

Groundwater is no longer extracted for mining, therefore, well monitoring has been discontinued.

14. If requested, all well information shall be disclosed to public agencies or other interested parties.

Well information is available upon request.

15. All catchment basins, drainage ways, culverts, pumps, pipelines, etc. shall be maintained on a regular basis to insure proper functioning free of breakage, siltation deposit or malfunction.

A licensed contractor conducts drainage facility maintenance on a regular basis.

16. 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.

Exhibit A

Petroleum products have been successfully removed under the supervision of Environmental Health Services.

17. Final benched slopes shall be provided with adequate drainage systems to prevent erosion of the finished landform.

Drainage systems have been installed on the benches. Annual inspections by the Quarry's civil engineer identify any maintenance needs to ensure the drainage system functions as designed to prevent erosion.

18. In the event that operations impair or contaminate the water supply of other property owners, the operator will furnish to such property owners unpolluted water equal in the amount to that which its operations have impaired or contaminated.

This condition has not been needed because such an event has not been documented.

D. DAY AND HOURS OF OPERATION

1. All mining and processing activities at the site shall be confined to 6:OO a.m. and 8:00 p.m., Monday through Saturday.

Mining and processing has ceased.

2. All shipping activities shall be confined to between the hours of 5:00 a.m. and 8:00 p.m., Monday through Friday.

Shipping has ceased.

3. Maintenance operations may occur at any time with the restriction that maintenance operations involving operation of heavy equipment, metal pounding or other major noise sources shall be shielded after 8:00 p.m. and prohibited after 10:00 p.m.

Any maintenance at this point involves reclamation, which does not occur after hours.

E. INSURANCE

1. Verification of insurance coverage in compliance with the requirements of the County Quarry Regulations shall be provided at the start of each calendar year.

Quarry regulations no longer require verification of insurance coverage.

F. REVEGETATION, EROSION CONTROL

1. Erosion and sedimentation shall be controlled during construction, operation, reclamation, and closure of the mining operation to minimize siltation of lakes and

Exhibit A

watercourses, and to ensure that land and water resources are protected from erosion, gullying, sedimentation and contamination, as required by the Regional Water Quality Control Board or the State Water Resources Control Board.

The site is in compliance with this condition.

2. To ensure that the mining site does not significantly contribute to erosion, the following requirements shall be met: 1) All recommendations of the revised revegetation plan (prepared by Native Vegetation Network, dated 2002 and addenda) shall be implemented; 2) Geoweb (a cellular confinement system) or geofabric shall be installed at the base of the buttress fill between the maximum and minimum expected pond water elevations; 3) the civil engineer and revegetation specialist shall inspect the slopes during the wet season a minimum of one time to check the performance of the area where damage of the 2002/03 wet season was repaired and to preventatively repair any drainage system problems, sources of concentrated water and/or small erosion rills before they worsen. Such maintenance visits shall occur more often if there are signs of erosion that require correction more frequently.

The operator performs all these tasks, and addresses other issues identified during quarry inspections, and maintains compliance with this condition.

3. Reclamation shall be completed within the time schedule set forth in the Revegetation Plan by Native Vegetation Network dated March 2002 and addenda. All recontouring, revegetation and reclaiming efforts shall be phased to commence immediately upon completion of mining operation in any given area.

Reclamation has proceeded on the time schedules specified. Recontouring of the quarry floor occurs in phases in coordination with the revegetation specialist's ability to perform on site collection of an adequate amount of the necessary seed stock.

G. EXCAVATION AND GRADING

1. No excavation shall take place below any water tables found to exist on the property other than those which can be shown to only be due to locally perched water.

Excavation is complete and is above the water table.

2. Final slopes shall not exceed an average slope of 1.5 horizontal to 1 vertical, and shall be benched at a maximum of 25-foot vertical intervals with a minimum of 12.5-foot benches. Individual side slopes shall not exceed 1 to 1 slopes. No requirement is hereby set for interim working faces.

Final slopes range from older slopes with a gradient of 1:1 to new slopes with gradients ranging from 1.5:1 to 3:1. All benches are a minimum of 12.5. feet in width.

Exhibit A

3. In the south corner of the quarry the buttress fill above 570 ft amsl shall consist of 2:1 fill slopes separated by 17-foot wide benches at 25-foot vertical intervals. Below 570 ft amsl the buttress shall consist of 3:1 fill slopes separated by a 15-foot wide bench.

The buttress fill has been constructed in accordance with this requirement.

4. Mining of the east quarry slopes in the south end of the quarry shall consist of 2:1 cut slopes separated by 15-foot wide benches every 25 vertical feet based on the Agreement dated May 3, 2002 between Hanson and the Planning Director.

The east quarry slope has been constructed in accordance with this requirement.

5. In a limited area along the eastern slope referred to as the "Transition Area" Mining consist of cut slopes steeper than 2:1 but no steeper than 1.5:1 based on amendments to the May Agreement dated December 20, 2002 and September 26, 2003.

The transition area has been constructed in accordance with this requirement.

6. 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 Community Resources Agency Director shall be immediately notified. Operations may be resumed in three working days following notification of the Community Resources Agency 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.

Such an event has not occurred during reclamation of the site.

7. All final site contours shall be left with a minimum of 5 feet of sand covering the underlying shale subsoil. Overburden stripping shall be distributed over the final ground level to provide a soil medium for revegetation plantings.

The site has been excavated in compliance with this condition.

H. REMOVAL OF BUILDINGS, STRUCTURES AND EQUIPMENT

1. All buildings, structures and equipment shall be dismantled and removed within one year of termination of the mining operation, including shipping of stockpiles, except those buildings, structures and equipment necessary to implement the reclamation plan.

Removal of buildings, structures and equipment has been completed, except for some minor items to be removed.

Exhibit A

2. Prior to demolition of any structure on the mining site the owner, applicant or operator shall obtain a Demolition Permit from the Santa Cruz County Building Official.

Removal of buildings, structures and equipment was verified by the Planning Department in 2006.

3. Comply with all requirements of the Santa Cruz County Environmental Health Department regarding storage, use and disposal of hazardous materials, and operation, maintenance and abandonment of the sewage disposal system.

The operator has submitted documentation to Environmental Health Services regarding proper removal and disposal of hazardous materials from the site.

I. GEOLOGIC MONITORING

1. The Quarry shall have the final slopes inspected annually by a Certified Engineering Geologist (CEG). The Quarry shall continue CEG inspections until two years after final slopes are achieved. These inspections shall be documented on a topographic map and include observations concerning geologic structure, and the structure's influence on stability, and erosion control. Observations shall be summarized in an annual report and included in with the Quarry annual report to the County. The first of these reports shall be completed by July 1996. Any recommendations concerning remediation of slope failure shall be submitted to the County Planning Director for review and approval prior to correction. The geologic monitoring of slopes shall continue beyond two years after final slopes are achieved if, as a result of inspection, the County determines that geologic monitoring is necessary for an additional period of time.

This required monitoring period has ended and the monitoring has ceased. According to the County Geologist additional monitoring is not required.

J. COMPLAINT CALL-IN LINE

1. The Quarry shall maintain a telephone complaint-line line until the success criteria for the interim hydroseeding have been met. Each compliant shall be acknowledged by the Quarry by postcard to the complainant mailed within 10 working days after receipt of the compliant. A log of complaints, which identify the complainant's name and address, date, time, and nature of complaint, shall be kept by the Quarry and submitted with the annual report. Notice of this process shall be mailed by the Quarry to persons entitled to notice of the public hearing on the 1995 five-year review no later than December 31, 1995.

The complaint call in line has been transferred to Hanson's central number. Calls are still handled the same. One complaint was received last year regarding maintenance of vegetation adjacent to Worth Lane. The issue was resolved.

Exhibit A

K. CONFERENCE DRIVE

1. Kaiser Sand and Gravel to reimburse the County of Santa Cruz for all costs associated with the repair of Conference Drive.

The Quarry has maintained compliance with this condition.

2. Sand from quarrying activity and/or other truck traffic shall not be placed on Conference Drive or other public roads.

This is no longer an issue since mining has ceased.

3. The operator shall work with the truck drivers and the Scotts Valley Police Department to control truck parking so that no trucks shall be allowed to enter Conference Drive prior to 5:00 a.m. and then only the number that the plant yard can hold and thereafter as one leaves, one more truck can enter; and provide other areas for temporary truck parking rather than Conference Drive.

This is no longer an issue since mining has ceased.

L. FENCING

1. A control fence shall be provided at the periphery of the property in those areas where steep working faces are located or where benched final slopes are created.

Perimeter fencing provided.

M. FINANCIAL ASSURANCE

1. Within 120 days of the Approval of this application the owner shall submit a revised financial assurance based on new estimates for reclamation related work, which shall be provided by the project civil engineer and revegetation specialist. The Planning Director shall present a review of the amount and type of financial assurance to the Planning Commission in a public hearing to ensure that the financial assurance is adequate to ensure reclamation and substantially meets the applicable requirements of Public Resources Code Sections 2772, 2773 and 2773.1 and Santa Cruz County Mining Regulations. Prior to County approval of the revised financial assurance the Planning Director shall submit the financial assurance, including the existing financial assurance, to the Director, Department of Conservation for a forty-five (45) day review.

The financial assurance is updated annually.

IV. INSPECTIONS, REPORTING AND REVIEW

Exhibit A

A. The quarrying operations established under this permit shall be subject to a quarterly inspection by the County to insure compliance with the exhibits and conditions set forth in this permit and with the applicable requirements of the Surface Mining and Reclamation Act. A fee established by the County for these regular inspections shall be due and payable as of their date of billing.

The quarry is inspected quarterly and more frequently during certain reclamation projects.

B. In conjunction with one of the quarterly inspections, the quarry shall be subject to an annual inspection by the County. The purpose of the annual inspection is to determine whether the mining operation is in conformance with conditions of all approvals, the Santa Cruz County Mining Regulations and the Surface Mining and Reclamation Act and to complete the required annual report to the Director, Department of Conservation on the results of the inspection.

The quarry is inspected annually.

C. This permit shall be subject to review by the Planning Commission 5 years from its date of issuance and every 5 years thereafter for compliance with operating conditions and for possible amendment for mitigation of environmental and community impacts.

The last review by the Planning Commission occurred in 2004.

D. The applicant shall submit an annual report on operations as required by the County Quarry Regulations by July 1 of each calendar year. The report shall include a landscape rehabilitation monitoring report prepared by a qualified biologist. The applicant shall cooperate with the County staff to mitigate or eliminate any problem which may arise from the operations conducted on this site and to make adjustments to the landscape rehabilitation plans as recommended by the biologist's monitoring report.

These reports are submitted annually.

V. NON-COMPLIANCE AND ENFORCEMENT

A. This permit shall be subject to enforcement pursuant to Section V, Sections 16.54.090 through 16.54.098 of the Santa Cruz County Mining Regulations.

Enforcement actions have not been necessary.

B. Following withdrawal of Hanson personnel from the site after approximately March 2004 Hanson shall designate an on-site contact person, who will be a subcontractor, for County staff to contact should a problem arise requiring immediate attention.

Exhibit A

The operator has maintained compliance with this requirement. County staff has not encountered any problems contacting this person when necessary.

C. Hanson shall structure their contracts for the remaining work (shipping, demolition, reclamation grading, drainage and revegetation) such that the on-site subcontractor designated as the on-site contact person will assume responsibility for maintaining the site conditions in compliance with conditions of approval.

The operator has maintained compliance with this condition. The site has been adequately monitored and maintain, especially during the winter months.

Exhibit A

BOWMAN & WILLIAMS
CONSULTING CIVIL ENGINEERS
A CALIFORNIA CORPORATION
1011 CEDAR • PO BOX 1621 • SANTA CRUZ, CA 95061-1621
PHONE (831) 426-3560 FAX (831) 426-9182 www.bowmanandwilliams.

BASIN MANAGEMENT PLAN

For

HANSON AGGREGATES FELTON QUARRY

SCOTTS VALLEY, CA

Prepared at the Request of

HANSON AGGREGATES

July 23, 2004
Revised March 21, 2005
Revised June 23, 2006
Revised June 27, 2007
Revised June 27, 2008
Revised July 8, 2009
Revised February 5, 2010

Bowman & Williams Job No. 21324-5

EXHIBIT B

Basin Management Plan
for
Hanson Aggregates Felton Quarry

July, 23, 2004
Revised March 21, 2005
Revised June 26, 2006
Revised June 27, 2007
Revised June 27, 2008
Revised July 8, 2009
Revised February 5, 2010

Background:

The County of Santa Cruz has required Hanson Aggregates to provide a Basin Management Plan. This requirement was made part of their Conditions of Approval for Application No. 02-0046 and is specifically called out for in Condition No. 9.

The Basin Management Plan is to provide timelines, guidelines and procedures for basin management to ensure adequate clean out and vegetation management.

Basin De-Watering & Maintenance

In the late Summer and Fall of 2007 the final Grading Plan Modifications outlined in our 2007 Basement Management Plan were implemented. The modifications included raising the retention pond below the buttress fill from elevation 525 to elevation 540 per the approved quarry reclamation plan. The grading resulted in a shallower pond with a much larger footprint. The pond was raised and enlarged to help minimize the embankment erosion that the smaller deeper pond had been experiencing. Having a pond with a larger surface area will also prove more beneficial in dewatering by increasing the potential for evaporation and infiltration.

The grading modifications to the retention pond and the establishment of slope vegetation have helped to minimize erosion of the toe of the Buttress Fill due to pond wash. It is not anticipated that there will be a need to clean the pond bottom of silt as the amount of silt from erosion entering the pond has been greatly reduced through the establishment of vegetation on the quarry slopes and basin.

During the 2006/2007, 2007/2008 and 2008/2009 rainy seasons no pumping took place in the quarry as a means of dewatering. Although it was desired that the pond should completely dry up by October 13 each year, this has not been the case as some water has remained in the pond each year. During a meeting onsite on January 15, 2009,

EXHIBIT B

Hanson Aggregates & County Staff discussed the possibility of revising the Basin Management Plan to eliminate the need for annual drying and cleanout of the pond.

On March 18, 2009, the County issued a letter outlining the requirements needed to make the Basin Management Plan modifications to eliminate the need for annual drying and cleaning of the pond. The main change to the plan is the requirement for a pumping/siphon system and pipeline network for basin dewatering to ensure that the pond water level will not impact the 2:1 quarry slopes at about the 565 foot bench elevation.

In the letter, the County has recommended that Hanson Aggregates perform calculations to support a revised Basin Management Plan. These calculations will determine the amount of pumping needed to maintain adequate freeboard below the 565 foot bench elevation. The County has also recommended that Hanson Aggregates design a pumping and pipe network system to be constructed in the near future.

Chang Consultants submitted calculations and a conceptual siphon system design to the County on April 27, 2009. Based on those calculations and using the County criteria it was determined that the maximum water level that the southern buttress pond would be allowed to reach before dewatering was 556.8'. This maximum elevation will leave adequate freeboard below the 565' bench in case a large storm event should occur.

A subsequent letter from the County on June 1, 2009 accepted the Chang calculations and conceptual design. On October 21, 2009 County Staff met with Chang Consultants and Hanson Representatives at the quarry to review the proposed siphon design. On October 30, 2009 the County sent out an additional letter summarizing the various items they wanted included as part of the siphon design. Chang Consultants has since added the siphon design to the Final Grading & Drainage plans for the quarry and are submitting the revised plans accompanied by this revised Basin Management Plan in February 2010. Below we have shown the various items that the County listed in their October 30, 2009 letter, below each item we've added how the new grading plan addresses that particular item.

- **Siphon facilities should be considered permanent.** Consideration should be taken for access to the pipeline inlet and valve during high water conditions. Consideration should also be taken as to whether a cat walk is necessary to allow access from "high ground" during high water conditions out to the end of the pipeline for operation of valves or the back up pump.

The final plans show the siphon pump connection facilities located on the existing access road at elevation 565'. This location provides over 7 feet of freeboard above the siphon inlet. The existing access road will continue to be maintained.

- **Provide details such as pump location, capacity, power supply (including back up power), foundation and cover.** Water levels will be controlled using a siphon system with a back-up pump. The pump may be portable, and for practical reasons, may be brought on site when needed. This is acceptable based on the requirement for ongoing wet season monitoring and maintenance by a qualified contractor, which means capable of determining the need for, and performing, back up pumping. Provide the minimum capacity and power supply for the back up pump. Provide the

EXHIBIT B

location for staging the back up pump along with operational details regarding pump inlet and outlet connections to the pipeline.

The pump connection detail on the final plans calls for a portable trailer mounted diesel pump (1000 gpm min.) to be brought on site only when needed. The backup pump will be an additional or replacement pump which would also be a portable trailer mounted diesel pump (1000 gpm min.). The contractor will connect to the 8" pipe with standard hose connections.

• **Provide a layout of pipeline(s), including sizes, materials and trenching details.** The pipe would be above grade with watertight joints. Eight-inch PVC, HDPE would be used in this application. Please indicate in the final plan details regarding anchoring the inlet and outlet of the pipeline, energy dissipation at the inlet and outlet, and slope anchoring.

The final plans show the proposed layout of the pipeline and provide details for anchoring of the pipeline and energy dissipation at the inlet and outlet locations.

• **Manual and automatic operation details.** It is proposed that the Siphon would be initiated manually with a back-up pumping capability. In the final plan please include the general explanation of the manual operation procedure from your September 28, 2009 letter. The final plan should additionally include an explanation of the back up pumping procedure.

The pump connection detail on the final plans calls for a portable trailer mounted diesel pump (1000 gpm min.) to be brought on site only when needed. The backup pump will be an additional pump or a replacement pump which would also be a portable trailer mounted diesel pump (1000 gpm min.). The contractor will connect to the 8" pipe with standard hose connections.

• **Method of water level measurement and sensors for automatic pump operation.** It is proposed that the siphon would be initiated manually with a back-up pumping capability. This would rely on visual observations by the subcontractor responsible for maintaining the site. The final plan must include a requirement that monitoring of water levels would occur during and following rain events as needed to ensure timely transfer of water out of the basin as described below.

The onsite subcontractor responsible for maintenance will monitor water levels by observing the staff gage, should the pond water level reach the 556.8' water level, the subcontractor will contact the County to decide whether to initiate siphoning.

• **Maintenance and inspection schedule to ensure function as designed.** The final plan must include a maintenance and inspection schedule. Permit conditions require the quarry operator to designate an on-site contact person who will be a subcontractor responsible for maintaining the site conditions in compliance with conditions of approval. This information should be updated in each annual report or as needed to ensure the County has the correct contact information should a problem

EXHIBIT B

arise requiring immediate attention. It appears that Granite Construction Company will continue in this role, which we agree would continue a very capable and professional level of monitoring and maintenance of site conditions to ensure compliance with permit conditions. See Conditions of Approval V.B and V.C.

Hanson will continue to have a subcontractor who will be the designated onsite contact person. This subcontractor will provide the necessary monitoring and maintenance to ensure compliance with the Conditions of Approval.

• **In the event that water levels rise to the invert of the culvert between Scotts Valley Pond and Mount Hermon Road then use of the siphon to transfer water out of the retention basin should cease.** The elevation of the inlet would be 556.8 feet msl. The outlet elevation would be 530.0 feet msl and would be located in Willow Pond. The staff gauge in the Southern Retention Pond would remain to monitor water levels. However, visual observation of water levels relative to the pipeline inlet elevation and the 565-foot bench would bracket normal siphon operation limits. Water levels would be allowed to temporarily exceed the level of the 565-foot bench only for the purpose of stopping any discharge of water from the Scotts Valley Pond.

During the siphoning the subcontractor will visually monitor the water level in the Scotts Valley Pond. Should the water level in the Scotts Valley Pond reach the level of the pond outlet culvert the siphoning will cease so that no water is discharged towards Mount Hermon Road.

• **Monitoring of water levels and slopes in the southern retention basin must continue. Drainage system and basin management monitoring and reporting requirements are outlined in the existing Conditions of Approval.** The final plan must reference the following requirements based on the permit conditions. Each settling basin, drainage way, culvert, pump, pipeline and other drainage and erosion control features shall be maintained as necessary to assure that each is functioning properly as designed. The project civil engineer shall conduct an annual inspection of all drainage-related facilities and shall provide the Planning Department with a report regarding the results of this inspection. Any recommendations for remedial work shall be included in the annual report, along with a proposed schedule for accomplishing the work. The civil engineer and revegetation specialist shall inspect the slopes throughout the site during the wet season a minimum of one time, and work with the subcontractor responsible for site maintenance to preventatively repair any drainage system problems, sources of concentrated water and/or small erosion rills before they worsen. Such maintenance visits shall occur more often if there are signs of erosion that require correction more frequently. See Conditions of Approval IV.C.8, IV.C.15 and IV.F.2. In addition, to maintain a conservative amount of freeboard below the 565-foot bench, the siphon must be operated anytime water levels in the southern Retention Basin exceed the level of the inlet at 556.8 feet by a sufficient depth to initiate the siphon and water is not discharging from the Scotts Valley Pond.

Hanson will continue to preventatively maintain the onsite drainage related facilities and provide annual inspections from the civil engineer and revegetation specialist per the Conditions of Approval.

EXHIBIT B

The onsite subcontractor responsible for maintenance will monitor water levels by observing the staff gage, should the pond water level reach the 556.8' water level, the subcontractor will contact the County to decide whether to initiate siphoning.

• **Submit a funding plan to cover the ongoing costs of basin management.** There will be a cost associated with continued maintenance of water levels in the Southern Retention Basin using the siphon system. This cost must be included in the next Financial Assurance update. The amount calculated for the financial assurance must be the estimated annual cost multiplied by the estimated number of years to complete all drainage system improvements and the required three-year monitoring period to ensure the entire drainage system functions as designed. This is the point at which the drainage system would be considered complete. Prior to completion of reclamation any successor operator or property owner is required to provide the funding required for proper basin management and is required to establish a new Financial Assurance that includes this cost. Normally, completion of reclamation would trigger the release of the financial assurance because there would be no further costs. In this case, however, it is assumed at this time that costs for basin management would continue beyond the point at which all other aspects of site reclamation are complete. To ensure adequate funding of basin management in perpetuity the proper mechanism would therefore be the establishment of an endowment similar to the endowment that has been established to ensure funding of the monitoring and maintenance responsibilities under the HCP for the site. The endowment may be established with the same entity handling the HCP endowment. The amount of the endowment at the time of completion of the drainage system needs to be sufficient to yield the required funds to cover the costs of annual maintenance in perpetuity. The endowment fund should be established upon approval of the revised basin management plan. Accrual of interest until drainage system completion would increase the total endowment to an amount sufficient to cover the costs of annual maintenance in perpetuity. Please provide some preliminary estimates of this component of the financial assurance and initial endowment amount with financial justification in the revised basin management plan.

Hanson will be providing the cost associated with the future ongoing maintenance of the siphoning system in the next Financial Assurance update. Hanson will be working with the County to establish a mechanism to ensure monitoring and maintenance in perpetuity.

The Final Grading & Drainage plans for the quarry show the installation of an inlet structure at elevation 556.8' at the northeast corner of the southern buttress pond. From that inlet structure the plans call for an 8" HDPE pipeline to be installed north to the southern corner of the Willow Pond and outlet at elevation 530.0'. The pipe will be heat fusion welded to create a water-tight seal. The plans call for two fill risers to be installed at the high point in the line whereby a water truck could connect and fill the line to create the siphon. As the line is filled with water, valves at each end of the siphon will be closed. Once the line is filled, the valves will be opened to start the siphon. The siphon would continue until the water level in the southern buttress pond reaches the inlet and the siphon is broken. The plans also show the construction of a pump connection point on the 8" line just north of the inlet at the southern buttress pond. This location is several

EXHIBIT B

feet higher than the siphon entrance to better provide for access in the event the pond has begun to fill. If needed, a portable diesel pump (1,000 gallons per minute or greater) on a trailer could connect at this location to deliver water from the southern buttress pond to the Willow Pond. All weather access shall be maintained to the pump connection point.

In the mean time a Staff gage will continue to be kept in the pond as a means to record the pond water level. Monitoring of the pond level and rainfall amounts in the quarry will continue during the 2009/2010 rainfall season.

Vegetation Management

The southern buttress fill area and the upper half of the transition area have been revegetated as of fall 2003. Hydroseeding with a mostly site-collected native seed mix and planting native trees and shrubs was implemented in the fall and winter of 2004. The mix included a native grass, California brome (*Bromus carinatus*) in the hydroseed mix. One of the attributes of many of native grass species is their deep, fibrous root system that helps to bind the soil, and therefore reduce soil erosion and silt from entering the retention pond. If remedial seeding is deemed necessary, future seeding should also include seed of California brome and other sandhills native species that are site collected at the quarry property.

It is estimated that the herbaceous vegetation layer will become well established on southern buttress fill area and the upper half of the transition area approximately 3 to 5 years after the initial planting. Over time, the majority of the silt run-off from the slopes will be greatly reduced and/or impeded by the established vegetation. The range of 3 to 5 years is estimated due to the varying topsoil treatments, slope steepness, and slope aspects that occur in the revegetation areas. As of the date of this revised plan, all benches and slopes have been revegetated.

Willow trees are establishing on the lower slopes of the southern buttress. They will also help to stabilize the slopes; however, there should be periodic monitoring every 2 to 3 months to check that the willows or other vegetation is not obstructing the function of the inlets or outlets of the drainage system.

Monitoring once a month during the rainy season to survey for barren or eroded areas on the fill slopes is recommended so that slope repair and remedial seeding may implemented as soon as possible in order to reduce soil erosion and silt from entering the retention pond. Repairing rills and small gullies before they become large gullies is cost efficient compared to repairing large areas/gullies.

Monitoring silt levels in the retention pond should show a decreasing trend over an approximate 3 to 5 year period as the buttress fill area revegetation above becomes established.

Inspections and Reports

An annual Basin Management Report shall be completed and submitted to the Santa Cruz Planning Department by July 1 with the quarry Annual Report on pond management activities from the previous year, October 1 through September 30, and will include:

EXHIBIT B

1. A pumping record for the purposes of documenting the total amount of water pumped out of the basin each year. Note that no pumping occurred during the 2006/2007, 2007/2008 and 2008/2009 rainy seasons.

   (These pumping records have not been that helpful because most of the water pumped was rehandled by two different pump stations within the Quarry site. The purpose of the pumping was to regulate the pond levels to insure that no pond reached an overtopping condition. No water was pumped out of the quarry site. All storm water was percolated / evaporated onsite with no offsite discharge up thru winter 05/06.)

2. The approximate date after the wet season by which the basin was completely dewatered either by pumping or infiltration/evaporation. Note that the per the June 1, 2009 letter from County Planning, this requirement would be lifted upon construction of the permanent siphon facility.

3. Surveyed topographic maps of the basin each year before and after cleanout to 518 msl. . Note that the per the June 1, 2009 letter from County Planning, this requirement would be lifted upon construction of the permanent siphon facility.

4. An estimate of the amount of material cleaned out of the basin. . Note that the per the June 1, 2009 letter from County Planning, this requirement would be lifted upon construction of the permanent siphon facility.

5. A record of pond level and quarry rainfall amount for the wet season.

Post-Reclamation Requirements

The post-reclamation monitoring and maintenance for the southerly desiltation basin will include:

1. Install a measuring rod to allow the silt and water levels in the basin to be monitored and recorded.

2. Maintain a record of pumping and silt removal volumes (when the need arises).

3. Maintain a record of precipitation.

4. Perform a site investigation following any precipitation events exceeding 1 inch of rainfall during a 24-hour period. An investigation will also be performed at least once a year for the Basin Management Plan. The investigation will identify areas subject to uncontrolled erosion and recommendations will be provided for mitigating the erosion.

This information is to be included in the Basin Management Plan. The Plan will be reviewed by the Planning Commission three years following completion of reclamation. Additional recommendations will be provided for ongoing monitoring, if required. It is

EXHIBIT B

anticipated that the area will ultimately reach a stable condition wherein routine monitoring and maintenance is no longer required. The conditions for stability could be:

1. At least 75 percent of the basin floor is vegetated and not subject to ongoing erosion. Minor rilling not exceeding 6 inches in width will be considered natural and acceptable.

2. The runoff patterns towards the basin are contained in well-defined channels. It is anticipated that two primary channels will exist to convey storm runoff to the basin. One will direct runoff in a southerly direction and the other will direct runoff in a westerly direction.

3. Siltation of the basin is limited to moderate levels. Silt deposits of less than 1-foot per year over the basin area will be considered to be acceptable. The area will continue to approach an equilibrium condition where sediment deposition will gradually decrease over time.

4. Water ponded in the basin steadily infiltrates and evaporates during the non-rainy season. During the summer months the basin will have periods where ponded water does not exist.

Reclamation Plan Modifications

The County of Santa Cruz approved the current Reclamation Plan for the Felton Plant in late 2007. In 2008 Hanson Aggregates made modifications to the plan based on ongoing monitoring and the performance of the on-site soils and vegetation. The primary modification included the elimination of grading in areas where vegetation has established and is successfully protecting against ongoing erosion. This included areas within the northwest portion of the site and north of the southerly buttress fill. The remaining modifications included alterations to the drainage facilities and/or drainage patterns. These included replacing the westerly desiltation/detention basin at the northerly portion of the site with a larger shallower basin, revising the westerly pond grading to minimize the potential for erosive surface runoff, installing a pipe to convey flow out of the westerly pond, and redirecting surface runoff in the area east of the westerly pond along an established drainage path. These modifications have since been approved by the County of Santa Cruz.

Basin Management Plan Review

This Basin Management Plan will be reviewed by the Planning Commission after a 3 year period as well as interim modifications. Annual review will be performed by planning staff.

The Basin Management Plan may be modified as needed based on vegetation establishment, erosion control and pond infiltration performance.

EXHIBIT B

Vicinity Map

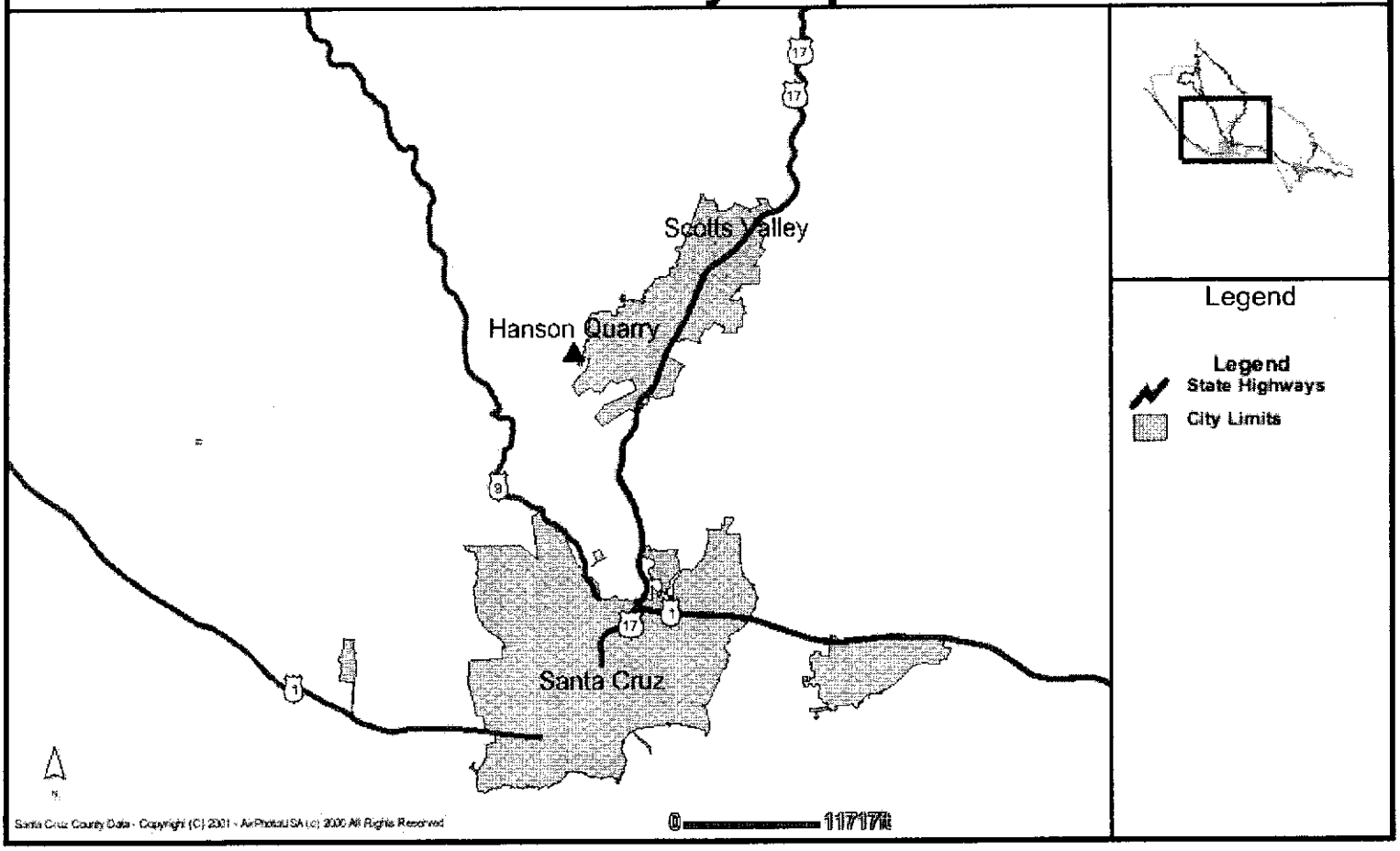
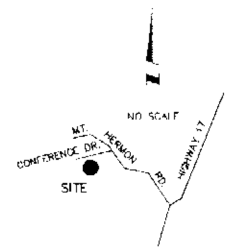


EXHIBIT C

GRADING PLAN NOTES

1. ALL GRADING AND DRAINAGE IMPROVEMENTS SHALL BE COMPLETED IN ACCORDANCE WITH THE CITY'S CURRENT GRADING ORDINANCE, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION WITH SUPPLEMENTS (A.P.W.A. SPECIFICATIONS) AND THE "COUNTY OF SANTA CRUZ DESIGN CRITERIA."
2. THE DEVELOPER SHALL BE RESPONSIBLE FOR LANDSCAPING, FOR SLOPE STABILIZATION OF ALL EMBANKMENTS OVER 3 FEET IN HEIGHT, WITHIN 45 DAYS OF COMPLETION OF PRELIMINARY GRADING.
3. ALL GRADING SHALL BE DONE UNDER THE OBSERVATION OF A QUALIFIED SOILS ENGINEER.
4. CUT AND FILL SLOPES SHALL BE TRIMMED TO THE FINISH GRADE TO PRODUCE A SMOOTH AND UNIFORM SURFACE OF CROSS-SECTION. THE SLOPES OF EXCAVATIONS OR EMBANKMENTS SHALL BE SHAPED AND TRIMMED AS DIRECTED BY THE ENGINEER OF WORK AND AS APPROVED BY THE DIRECTOR OF PUBLIC WORKS. FINISH SLOPES SHALL BE LEFT IN A NEAT AND ORDERLY CONDITION. ALL STONES, ROOTS OR OTHER WASTE MATERIAL SHALL BE PROPERLY DISPOSED OFF SITE.
5. COMPACTION TESTS SHALL BE SUPPLIED FOR TRENCHES.
6. ALL EXISTING ABANDONED PIPELINES SHALL BE REMOVED AND REPLACED WITH PROPERLY COMPACTED SOILS UNLESS SPECIFICALLY APPROVED BY THE DIRECTOR OF PUBLIC WORKS.
7. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT EXISTING UTILITIES.
8. NEITHER THE OWNER NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
9. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WORK AND PUBLIC WORKS INSPECTOR PRIOR TO PERFORMING ROCK-REMOVAL OPERATIONS.
10. APPROVAL OF THESE PLANS BY THE COUNTY OF SANTA CRUZ DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL A VALID GRADING PERMIT HAS BEEN ISSUED, AND ALL AFFECTED PROPERTY OWNER'S PERMISSION HAS BEEN OBTAINED.
11. THESE PLANS MAY BE SUBJECT TO A SIGNED AND APPROVED SET OF IMPROVEMENT PLANS.
12. AN ENCROACHMENT PERMIT FROM THE COUNTY OF SANTA CRUZ SHALL BE REQUIRED BY THE CONTRACTOR FOR ANY WORK WITHIN THE EXISTING COUNTY RIGHT OF WAY.
13. ALL ROCK SLOPE PROTECTION SHALL BE RIP RAP UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF PUBLIC WORKS.
14. ALL PADS SHALL BE DESIGNED TO DRAIN TO AN ACCEPTABLE LOCATION AT A MINIMUM GRADIENT OF 0.5%.
15. MAXIMUM SLOPE RATIO SHALL BE 2:1.
16. A COMPACTED EARTHEN BERM (90% COMPACTED) SHALL BE CONSTRUCTED ALONG THE TOP OF PROPOSED SLOPES. NO RUNOFF SHALL FLOW OVER THE TOP OF THE SLOPE.
17. ALL OPERATIONS ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE, OR RUNNING OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT, AND ANY OTHER ASSOCIATED EQUIPMENT, SHALL BE LIMITED TO THE PERIOD ALLOWED BY THE COUNTY OF SANTA CRUZ. NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON THE PREMISES ON LEGAL HOLIDAYS.
18. ALL DISTURBED AREAS MUST BE REVEGETATED, SUBSTANTIALLY GERMINATED, AND ESTABLISHED WITHIN 45 DAYS OF COMPLETION OF GRADING AND PRIOR TO REQUESTING FINAL INSPECTION.
19. IMPORT MATERIAL SHALL BE OBTAINED FROM, AND WASTE MATERIAL SHALL BE DEPOSITED AT A SITE APPROVED BY THE DIRECTOR OF PUBLIC WORKS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTES OF OR ON ADJACENT STREETS AS DIRECT RESULT OF THE OPERATION.
20. THE CONTRACTOR/DEVELOPER SHALL BE RESPONSIBLE FOR IMPLEMENTING, ADMINISTERING AND MAINTAINING A CONFINED SPACE ENTRY PROGRAM IN ACCORDANCE WITH SECTIONS 5156, 5157, AND 5157 TITLE 8, CALIFORNIA CODE OF REGULATIONS (CCR).



VICINITY MAP

EROSION CONTROL NOTES

1. THE EROSION CONTROL SYSTEMS REQUIRE CERTIFICATION BY THE ENGINEER OF RECORD. SUCH CERTIFIED SYSTEMS SHALL BE COMPLETED, INSPECTED, AND IN PLACE NO LATER THAN OCTOBER 15. ALL EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE AT ALL TIMES FOR ALL AREAS IN WHICH CONSTRUCTION IS NOT SCHEDULED TO COMMENCE WITHIN THE NEXT SEVEN (7) DAYS. ALL EROSION CONTROL SYSTEMS SHALL REMAIN IN PLACE UNTIL APRIL 15.
2. THE CONTRACTOR, PERMITTEE OR OWNER SHALL BE RESPONSIBLE FOR THE INSPECTION, MODIFICATION AND PROPER MAINTENANCE OF THE EROSION CONTROL DEVICES AS NECESSARY. IN THE EVENT OF FAILURE OR REFUSAL TO PROPERLY MAINTAIN SAID DEVICES, THE DIRECTOR OF PUBLIC WORKS MAY CAUSE EMERGENCY MAINTENANCE WORK TO BE DONE TO PROTECT ADJACENT PRIVATE AND PUBLIC PROPERTY, THE COST (INCLUDING AN INITIAL MOBILIZATION AMOUNT) OF WHICH SHALL BE CHARGED TO THE OWNER.
3. ALL EROSION CONTROL MEASURES REQUIRED TO RETAIN SEDIMENT ON-SITE AND TO SAFELY DISCHARGE ANY ACCELERATED RUNOFF GENERATED BY THE PROJECT SHALL BE INSTALLED DURING THE INITIAL CONSTRUCTION PHASE OF THE PROJECT.
4. THE CONSTRUCTION AND MAINTENANCE OF ALL EROSION CONTROL SYSTEMS SHALL BE IN SUBSTANTIAL CONFORMANCE WITH THE APPROVED EROSION CONTROL PLAN.
5. TEMPORARY EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN WHICH INTERFERE WITH THE WORK SHALL BE RELOCATED OR MODIFIED AS THE WORK PROGRESSES AS RECOMMENDED BY THE ENGINEER OF WORK AND AS APPROVED BY THE CITY ENGINEER.
6. ALL REMOVABLE PROTECTION DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5 DAY RAIN PROBABILITY FORECAST EXCEEDS 40-PERCENT.
7. EROSION CONTROL SYSTEMS SHALL BE SERVICED AND MAINTAINED TO PROVIDE CONTINUOUS CAPACITY AND ADEQUACY TO FUNCTION AS DESIGNED. AFTER PRECIPITATION EXCEEDING ONE-QUARTER (1/4) INCH IN ANY 12-HOUR PERIOD, OR UPON DIRECTION OF THE CITY ENGINEER, SILT AND DEBRIS SHALL BE REMOVED FROM CHECK DAMS AND DESILTING BASINS AND THE BASINS PUMPED DRY AND OTHERWISE RESTORED TO THE ORIGINAL DESIGN CONDITION.
8. DESILTING BASINS CONSTRUCTED OF COMPACTED EARTH SHALL BE COMPACTED TO A RELATIVE COMPACTION OF 90 PERCENT OF MAXIMUM DENSITY. A SOIL ENGINEERING REPORT INCLUDING THE TYPE OF FIELD TESTING PERFORMED, LOCATION, AND RESULTS OF TESTING SHALL BE SUBMITTED TO THE CITY ENGINEER FOR APPROVAL UPON COMPLETING THE DESILTING BASIN.
9. EROSION CONTROL PROVISIONS SHALL INCLUDE AND COMPLEMENT DRAINAGE PATTERNS DURING THE CURRENT AND FUTURE PHASES OF GRADING THROUGHOUT THE RAINY SEASON.
10. THE CONTRACTOR, PERMITTEE, OR PROJECT OWNER SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION. NECESSARY PRECAUTIONS MAY INCLUDE, BUT NOT BE LIMITED TO, APPROPRIATE PERIMETER FENCING OR A 24-HOUR GUARD PREVENTING UNAUTHORIZED PERSONS FROM ENTERING THE BASINS.
11. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPES AT THE CONCLUSION OF EACH WORKING DAY.
12. PAVED STREETS, SIDEWALKS, AND OTHER IMPROVEMENTS SHALL BE MAINTAINED IN A NEAT AND CLEAN CONDITION, FREE OF LOOSE SOIL, CONSTRUCTION DEBRIS, AND TRASH. STREET SWEEPING OR OTHER EQUALLY EFFECTIVE MEANS SHALL BE USED ON A REGULAR BASIS TO CONTROL EROSION. WATERING SHALL NOT BE USED TO CLEAN STREETS EXCEPT FOR THE REMOVAL OF FINE MATERIAL NOT OTHERWISE REMOVED BY SWEEPING OR OTHER MECHANICAL MEANS.
13. STAND-BY CREWS SHALL BE ALERTED BY THE CONTRACTOR, PERMITTEE OR OWNER FOR EMERGENCY WORK DURING RAINSTORMS.
14. GRAVEL BAGS AND NECESSARY MATERIALS IN ACCORDANCE WITH THE APPROVED PLANS, SHALL BE AVAILABLE ON SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES OR TO REPAIR ANY DAMAGED EROSION CONTROL MEASURES WHEN RAIN IS IMMINENT. A STAND-BY CREW SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON.
15. ALL UTILITY TRENCHES SHALL BE BACKFILLED WITHIN 24 HOURS AND MUST BE BACKFILLED BEFORE THE END OF THE WORK DAY IF A 40-PERCENT CHANCE OF RAIN IS PREDICTED.
16. A GRAVEL BAG SILT BASIN OR TRAP SHALL BE PROVIDED AT EVERY STORM DRAIN INLET TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM.
17. A 12-INCH HIGH BY 4-FOOT WIDE BERM SHALL BE MAINTAINED ALONG THE TOP OF THE SLOPE OF THOSE FILLS ON WHICH GRADING IS NOT IN PROGRESS. CONCENTRATED WATER SHALL BE CARRIED NOT CLOSER THAN 10-FEET FROM THE TOP OF SLOPES.
18. ALL EROSION CONTROL PLANS MUST PROVIDE A 24 HOUR TELEPHONE NUMBER AND THE NAME(S) OF THE PERSON(S) RESPONSIBLE FOR EMERGENCY WORK. A TELEPHONE ANSWERING MACHINE OR ANSWERING SERVICE IS UNACCEPTABLE.

DECLARATION OF ENGINEER OF WORK

I HEREBY DECLARE THAT THE DESIGN OF THE GRADING AND IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF THE DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. I UNDERSTAND AND ACKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE COUNTY OF SANTA CRUZ IS A REVIEW FOR THIS LIMITED PURPOSE OF ENSURING THE PLANS COMPLY WITH COUNTY PROCEDURES AND OTHER APPLICABLE POLICIES AND ORDINANCES. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT, THEREFORE, RELIEVE ME OF MY RESPONSIBILITY FOR THE DESIGN OF THESE IMPROVEMENTS.

REGISTERED PROFESSIONAL ENGINEER · WAYNE W. CHANG · No. 46548 · Exp. 6/30/11 · CIVIL · STATE OF CALIFORNIA

WAYNE W. CHANG R.C.E. 46548 — FEBRUARY 5, 2010 — DATE

CIVIL ENGINEER CERTIFICATION

I HEREBY CERTIFY THAT AS THE ENGINEER IN RESPONSIBLE CHARGE OF WORK FOR THIS PROJECT, I HAVE OBSERVED THE CONSTRUCTION OF THE ENGINEERING WORK AS SHOWN ON THESE PLANS INCLUDING THE PERIODIC OBSERVATION OF MATERIALS AND COMPLETED WORK TO DETERMINE GENERAL COMPLIANCE WITH PLANS AND SPECIFICATIONS, AND THAT THE COMPLETED CONSTRUCTION IS IN CONFORMANCE WITH THESE PLANS.

I ALSO CERTIFY THAT ALL CHANGES AND/OR ADDITIONS MADE DURING CONSTRUCTION, ALL INFORMATIONS AS REQUIRED BY THE COUNTY OF SANTA CRUZ GRADING ORDINANCE, AND ALL RECOMMENDATIONS FROM THE SOILS ENGINEERING AND ENGINEERING GEOLOGY REPORTS PREPARED FOR THIS PROJECT HAVE BEEN INCORPORATED IN THESE PLANS.

CIVIL ENGINEER OF RECORD: ____________ WAYNE W. CHANG — SEAL

WORK TO BE DONE

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE IN ACCORDANCE WITH THESE PLANS, THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND THE CALTRANS' STANDARD PLANS.

LEGEND

ITEM	STD. DWG.	SYMBOL
EXISTING CONTOUR		
PROPOSED CONTOUR		580
PROPERTY LINE		
EXISTING SPOT ELEVATION		
PROPOSED FINISH GRADE ELEVATION		FG 86.0
PROPOSED INVERT ELEVATION		IE 86.00
PROPOSED RIM ELEVATION		RIM 86.0
DIRECTION OF DRAINAGE		
PROPOSED RIPRAP		
PROPOSED STORM DRAIN	SD-11	
PROPOSED HEADWALL	CALTRANS D-89	
PROPOSED STORM DRAIN MANHOLE	SD-14	
PROPOSED 8" SDR17 HDPE PIPE (HEAT FUSION WELDED)		
PROPOSED 8" GATE VALVE		

REFERENCE INFORMATION

1. BASE TOPOGRAPHIC MAPPING FLOWN ON FEBRUARY 4, 2008 BY TOWILL, 444 NATOMA STREET, SAN FRANCISCO, CA 94103-2909. (415) [illegible]

EARTHWORK QUANTITIES

	CUT	FILL	IMPORT/EXPORT
TOTAL	168,900 CY	168,900 CY	0 CY

NOTE: CHANG CONSULTANTS MAKES NO REPRESENTATION CONCERNING THE ESTIMATED QUANTITIES ON THESE PLANS OTHER THAN ALL SUCH FIGURES, INCLUDING ALL EARTHWORK NUMBERS, ARE PRELIMINARY ESTIMATES ONLY. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY MINOR DEVIATIONS BETWEEN ESTIMATED QUANTITIES AND THE ACTUAL CONSTRUCTION QUANTITIES. THE EARTHWORK QUANTITIES SHOWN DO NOT ACCOUNT FOR THE IMPACTS OF FINAL EARTH MOVING QUANTITIES OF THE FOLLOWING.

1) SHRINK OR SWELL OF THE NATIVE OR IMPORTED MATERIAL.
2) SPOIL MATERIAL CREATED FROM PIPE TRENCHING.
3) PLACEMENT OF LANDSCAPING TOPSOILS.

THE CONTRACTOR SHALL PREPARE SEPARATE EARTHWORK QUANTITY CALCULATIONS PRIOR TO BIDDING AND SHALL BASE HIS/HER BASE BID EXCLUSIVELY ON HIS/HER OWN COMPUTATION.

OWNER

HANSON AGGREGATES
3000 BUSCH ROAD
PLEASANTON, CA 94566
(925) 785-0056
ATTN: BILL BUTLER

SOILS ENGINEER

CLEARY CONSULTANTS, INC.
900 N. SAN ANTONIO ROAD
LOS ALTOS, CA 94022
(650) 948-0574

ASSESSOR'S PARCEL NUMBER

067-021-21-000

APN 67-021-21

REVISED

FELTON PLANT
FINAL GRADING AND
DRAINAGE PLAN

HANSON AGGREGATES
MID-PACIFIC REGION
3000 BUSCH RD., P.O. BOX 880
PLEASANTON, CA 94566

Chang Consultants

REGISTERED CIVIL ENGINEER NO. 46548

SCALE 1"=100'	DRAWN WWC	JOB NO.	SHEET 1
DATE FEBRUARY 5, 2010	CHECKED WWC	INDEX	
DESIGN WWC	DWG NAME	FILE NO.	OF 1

EXHIBIT C

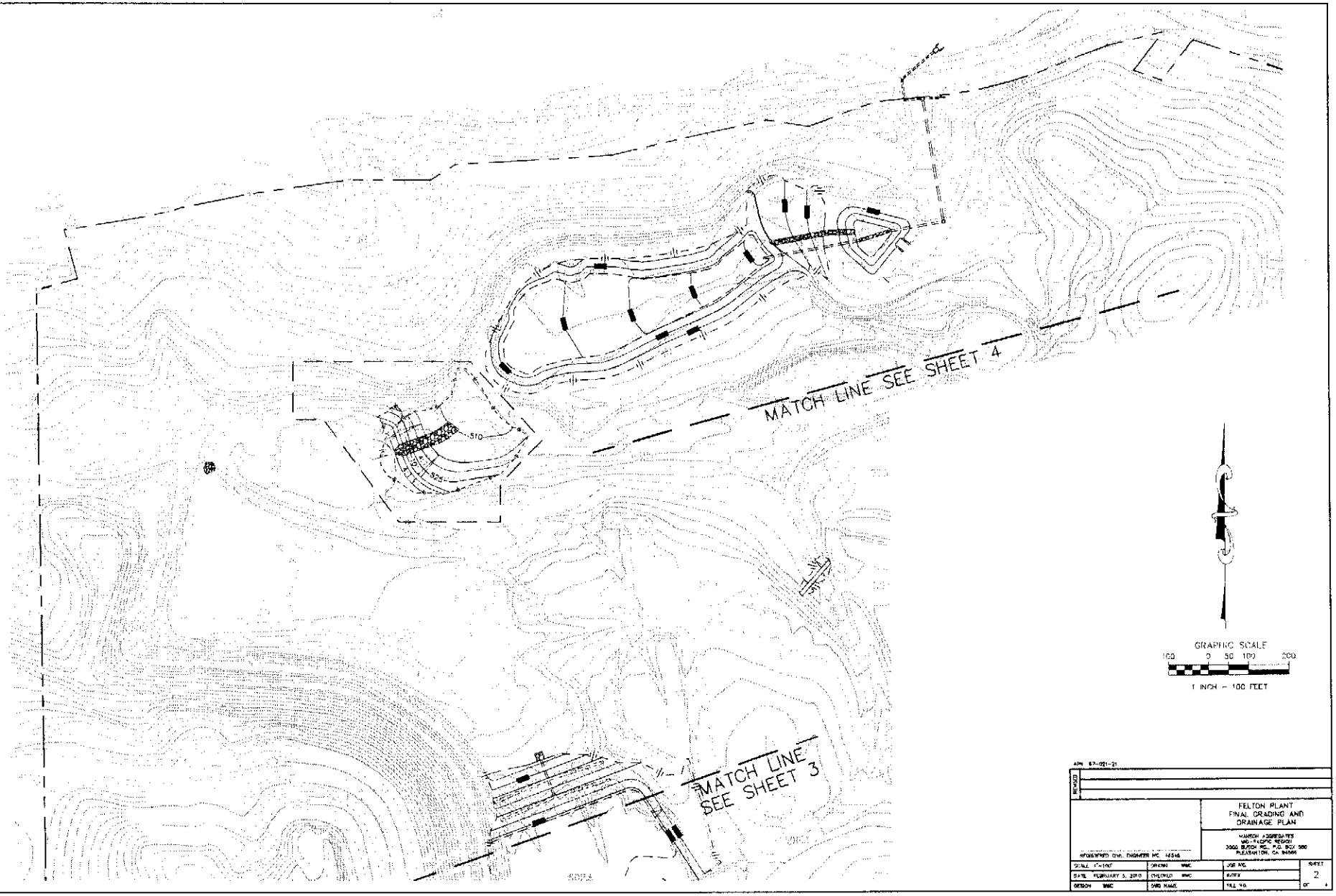

MATCH LINE SEE SHEET 4
MATCH LINE SEE SHEET 3
510
520
GRAPHIC SCALE
100 0 50 100 200
1 INCH = 100 FEET
APN 67-021-21
REVISED
FELTON PLANT
FINAL GRADING AND
DRAINAGE PLAN
HANSON AGGREGATES
WEST PACIFIC REGION
3000 BUSCH RD., P.O. BOX 500
PLEASANTON, CA 94566
SCALE 1"=100'
DRAWN WMC
JOB NO.
DATE FEBRUARY 3, 2010
CHECKED WMC
APPR.
DESIGN WMC
DWG NAME
FILE NO.
SHEET
2
OF 4

EXHIBIT D

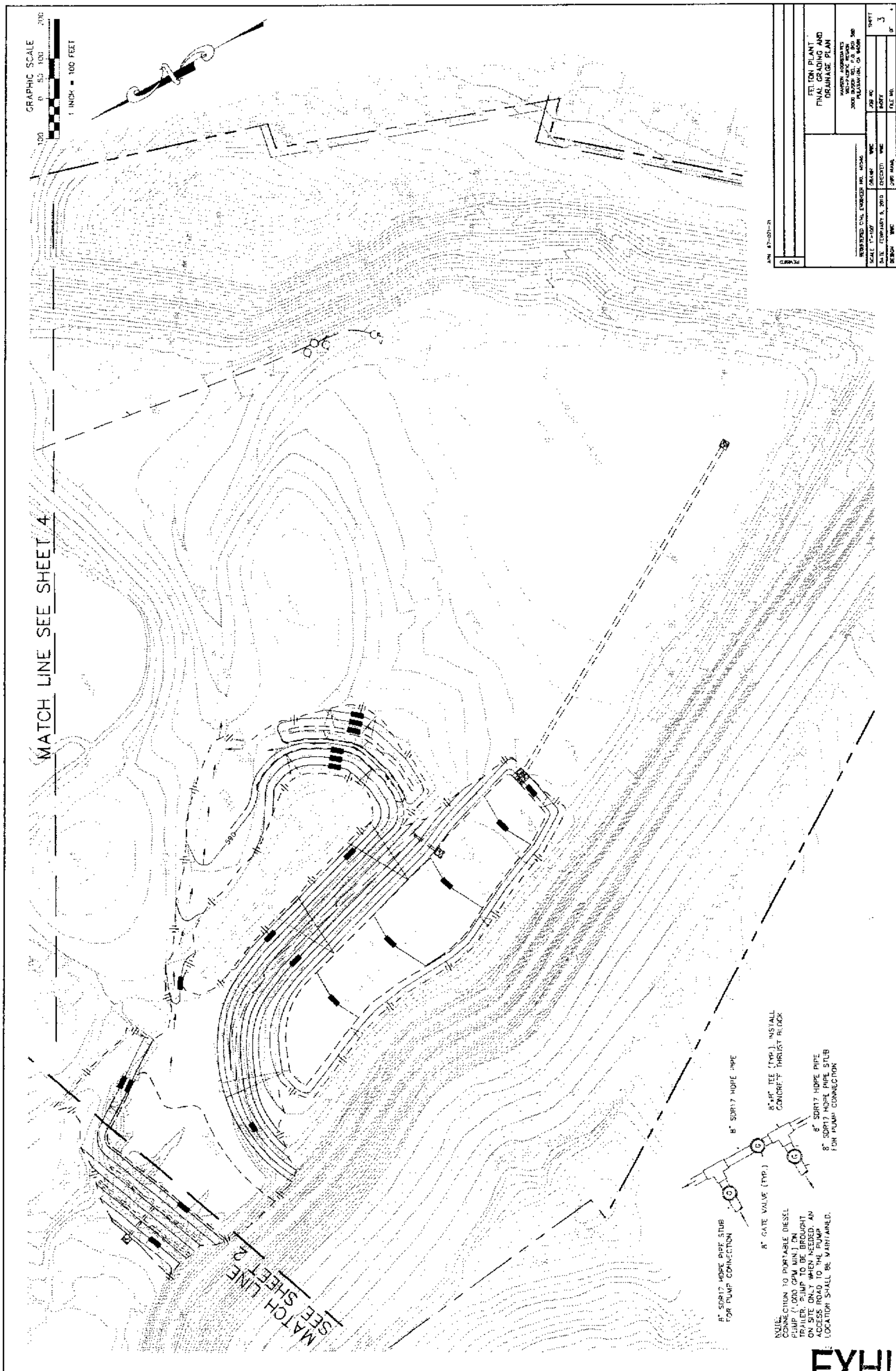

GRAPHIC SCALE
100 0 50 100 200
1 INCH = 100 FEET
MATCH LINE SEE SHEET 4
MATCH LINE SEE SHEET 2
590
8" SDR17 HDPE PIPE STUB FOR PUMP CONNECTION
8" GATE VALVE (TYP.)
8" SDR17 HDPE PIPE
8"x8" TEE (TYP.), INSTALL CONCRETE THRUST BLOCK
8" SDR17 HDPE PIPE
8" SDR17 HDPE PIPE STUB FOR PUMP CONNECTION
NOTE:
CONNECTION TO PORTABLE DIESEL PUMP (1,000 GPM MIN.) ON TRAILER. PUMP TO BE BROUGHT ON SITE ONLY WHEN NEEDED. AN ACCESS ROAD TO THE PUMP LOCATION SHALL BE MAINTAINED.
APN 67-031-21
REVISED
FELTON PLANT
FINAL GRADING AND DRAINAGE PLAN
HANSON AGGREGATES
MID-PACIFIC REGION
3000 BUSCH RD., P.O. BOX 580
PLEASANTON, CA 94566
REGISTERED CIVIL ENGINEER NO. 41546
SCALE 1"=100'
DATE FEBRUARY 5, 2010
DESIGN WMC
DRAWN WMC
CHECKED WMC
CHD MANL
JOB NO.
INDEX
FILE NO.
SHEET 3 OF 4

EXHIBIT D

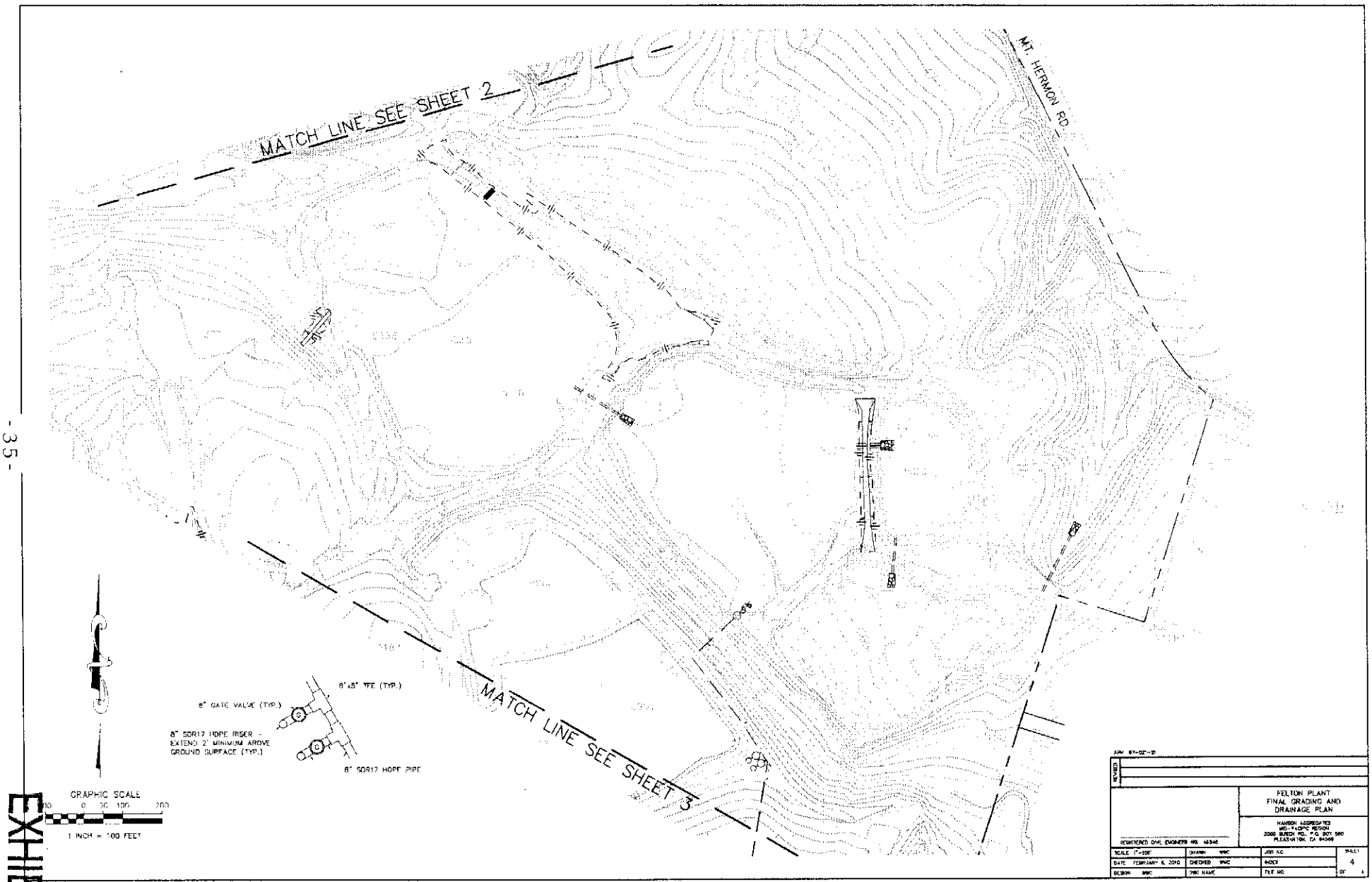

MATCH LINE SEE SHEET 2
MT. HERMON RD.
MATCH LINE SEE SHEET 3
8" GATE VALVE (TYP.)
8"x8" TEE (TYP.)
8" SDR17 HDPE RISER - EXTEND 2' MINIMUM ABOVE GROUND SURFACE (TYP.)
8" SDR17 HDPE PIPE
GRAPHIC SCALE
100 0 50 100 200
1 INCH = 100 FEET
REVISED
FELTON PLANT
FINAL GRADING AND DRAINAGE PLAN
HANSON AGGREGATES MID-PACIFIC REGION
3200 BUSH RD. P.O. BOX 580
PLEASANTON, CA 94566
REGISTERED CIVIL ENGINEER NO. 46346
SCALE 1"=100'
DRAWN WMC
JOB NO.
DATE FEBRUARY 8, 2010
CHECKED WMC
INDEX
4
DESIGN WMC
DWG NAME
FILE NO.
SHEET
OF 4

EXHIBIT D

Assessor's Parcel Map

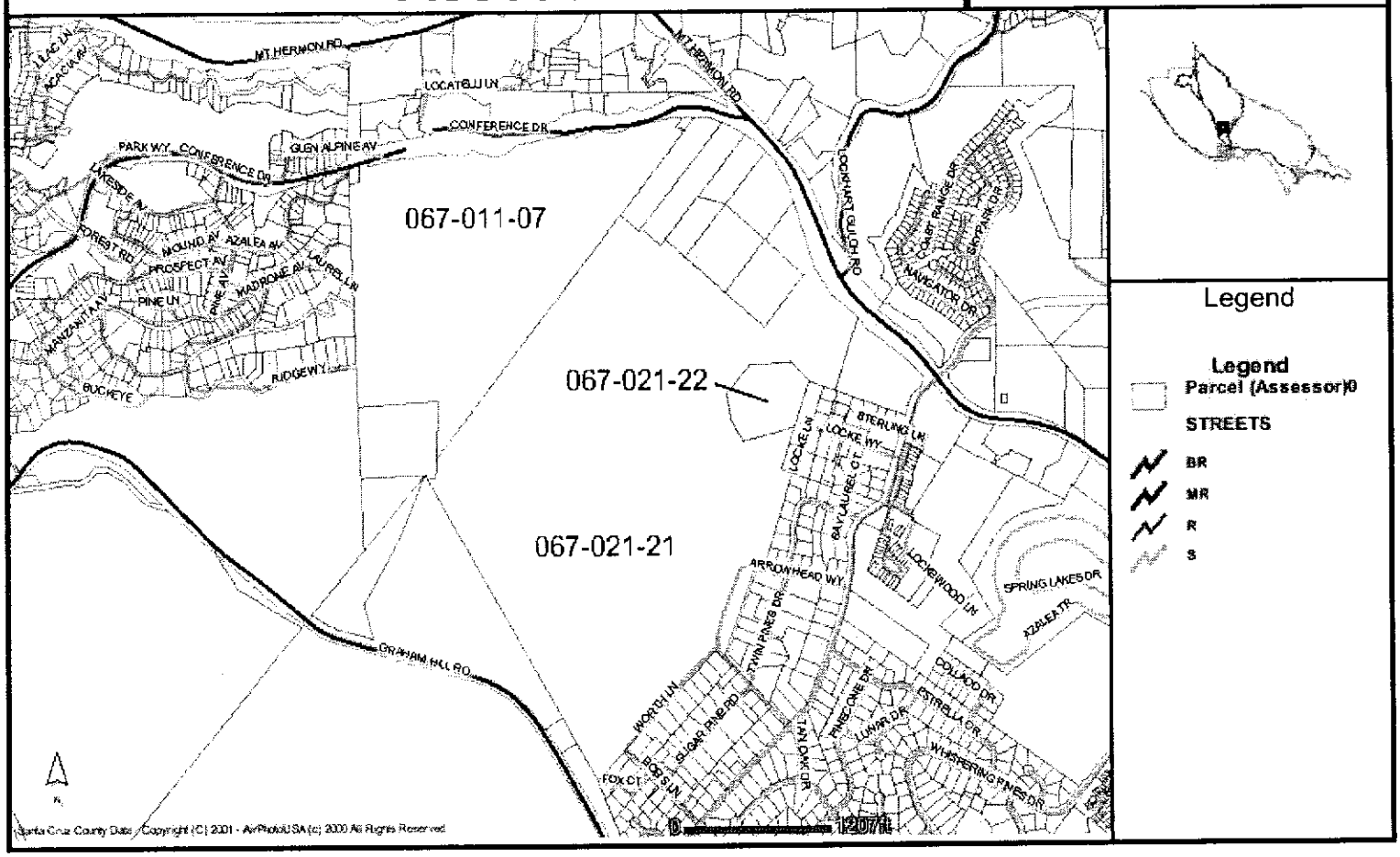


EXHIBIT E

General Plan Map

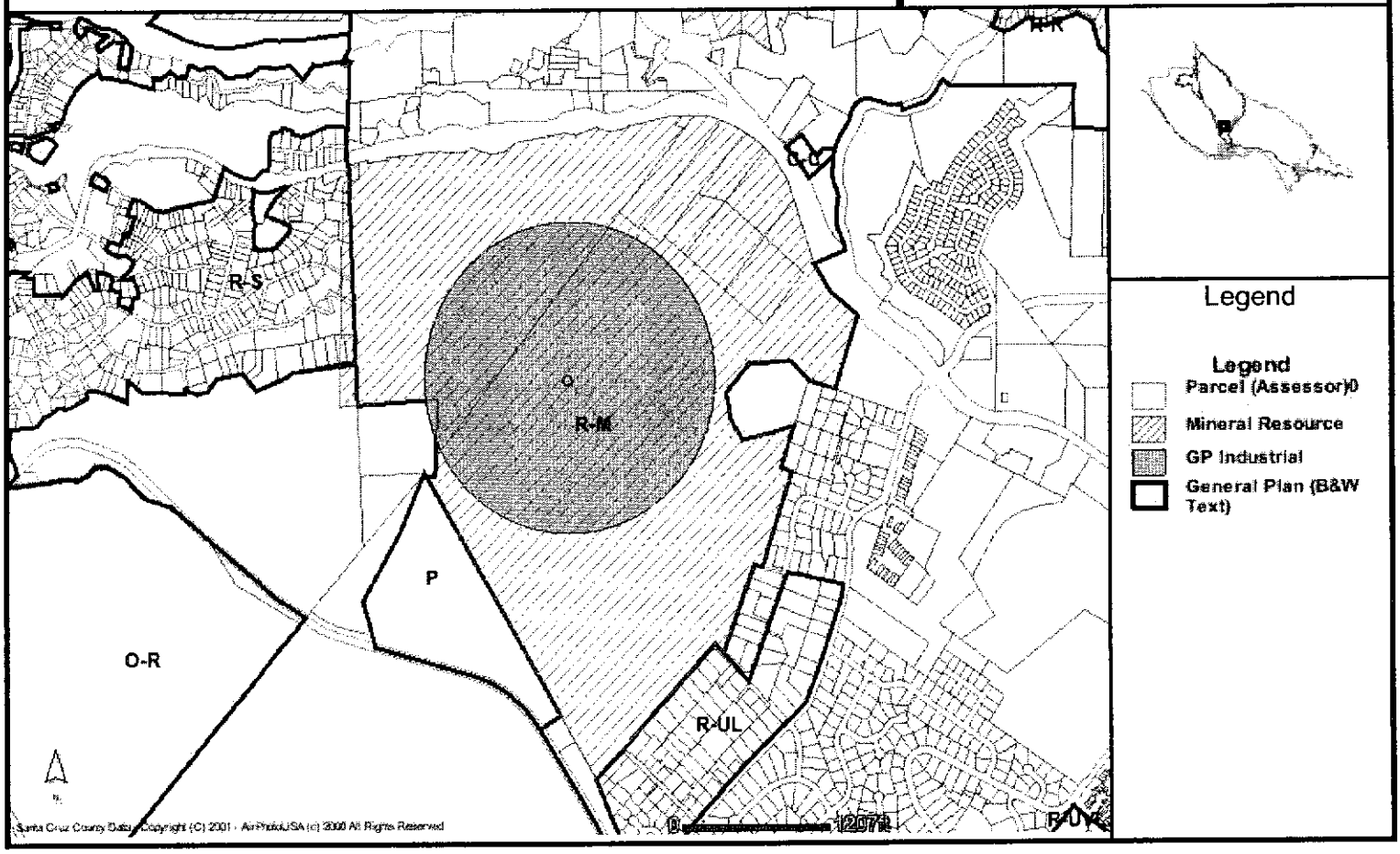


EXHIBIT F

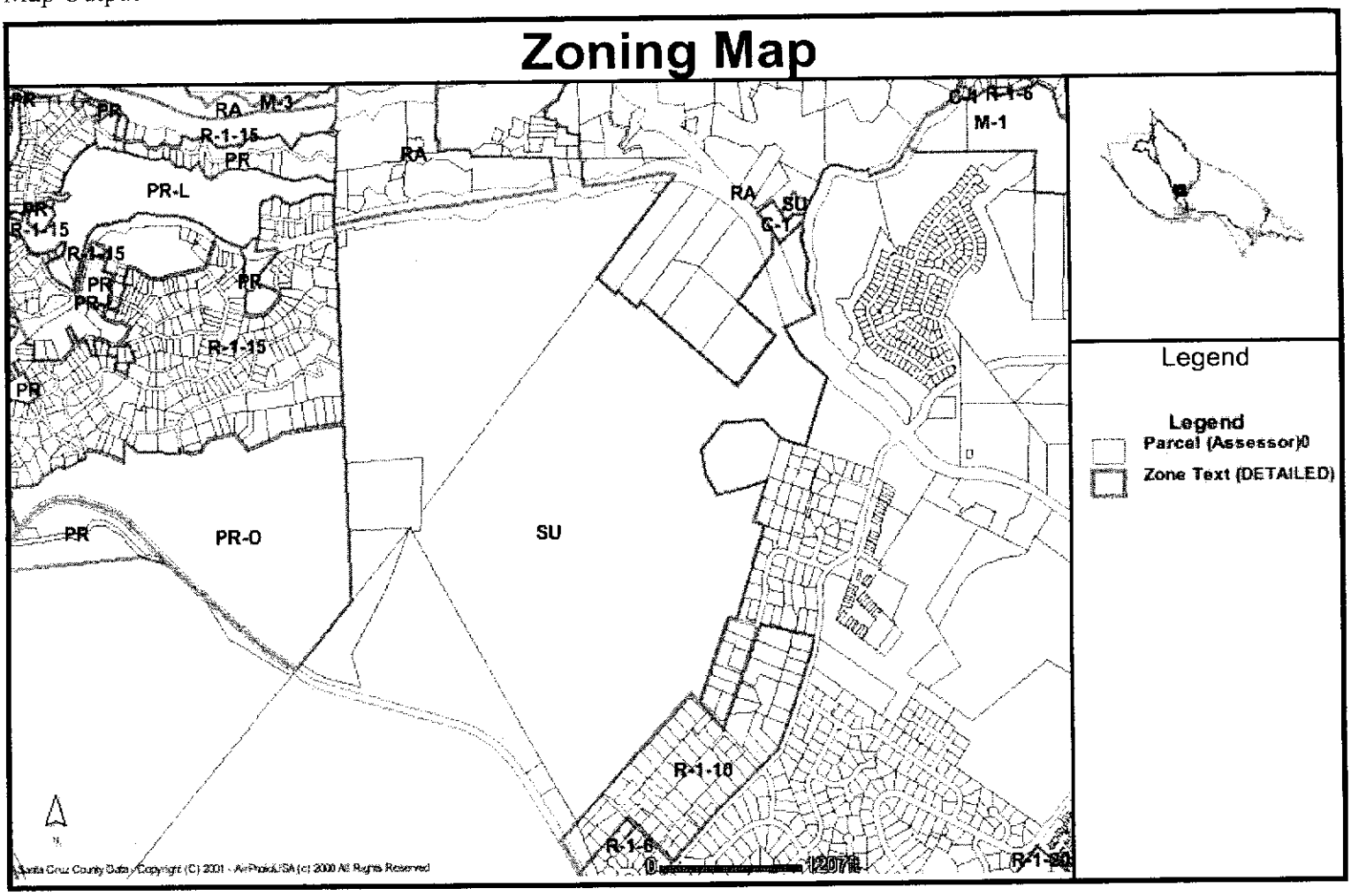

Zoning Map
PR
RA
M-3
R-1-15
PR-L
R-1-15
R-1-15
PR-L
R-1-15
PR
PR-O
SU
RA
SU
C-1
C-4
R-1-6
M-1
R-1-10
R-1-6
R-1-20
Legend
Legend
Parcel (Assessor)0
Zone Text (DETAILED)

EXHIBIT F