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April 21, 2008
2004.33.8000 / 08P-148

STATE OF HAWAII
LAND USE COMMISSION

Mr. Henry Eng, Director
Department of Planning and Permitting
City and County of Honolulu
550 South King Street, 7th Floor
Honolulu, Hawaii 96813

DEPT OF PLANNING
AND PERMITTING
CITY & COUNTY OF HONOLULU

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Dear Mr. Eng:

**Letter of April 3, 2008 Regarding
Application to Amend Special Use Permit File No. 72/SUP-1,
Makakilo Quarry - Request for More Information and Hearing Extension**

On behalf of Grace Pacific, we are writing in response to your comments of April 3, 2008 concerning our SUP application. Based upon the analysis discussed below and presented in the attached exhibits, we have concluded that:

- Staging the excavation of the quarry expansion area in five-year increments does not allow for the recovery of costs for the proposed relocation of the lower quarry operations. The costs associated with developing and implementing separate closure plans for each five-year increment are prohibitive.
- The excavation plan as submitted in the application and as updated with the revised grading plans presented at our March 5th meeting provides sufficient time and volume of material to recover the costs of the relocation. Approval of the excavation for a period of 25 years will allow for the amortization of the costs of relocating or removal of all activities of an industrial nature from Parcel 4 within 36 months from approval of the SUP.
- The Angle of Repose for excavated material at Makakilo is 1.4 horizontal to 1 vertical or 72%. Slopes of 75% appear reasonable as a design guideline for successful revegetation. Variation from 75% should be allowed to enhance the appearance of the finished slopes.
- The removal of the eastern berm upon completion of excavation, with its soils reserved for reclamation and revegetation, is not necessary. Material generated from operations will be incorporated into the final landforms as quarrying progresses mauka.

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Shenzhen
Singapore

Following is a detailed discussion of the issues that are summarized above.

- 1) You have asked that Grace Pacific consider the feasibility of phasing the excavation of the quarry pit in five-year increments, ending in the years 2012, 2017, 2022, 2027, and 2032. You have asked that Grace Pacific consider finish grades that do not exceed 50%, or 75% if documentation supports long-term soil retention.

Our response is as follows:

- a) The phasing depicted in Figure 6 of the application represents a "typical" excavation and assumes access to the full 34 acres and 25 years.
- b) The ridge grading and berm construction, proposed to be performed up front and as highlighted in the first phase of Figure 6, assumed that the full 34 acres would be excavated.
- c) The renaturalization plan, given the limited availability of irrigation water, was predicated on a 25-year excavation period.
- d) Active quarry faces are vertical and benches horizontal primarily for safety as well as for workability purposes. To create a series of final slopes that would also be subsequently excavated would be unsafe and cost prohibitive.
- e) Authoritative sources on sustainable slopes look to the local geology in recommending final grades. Examples of local final grades are attached. The H-3 cuts in the vicinity of the Mokapu Underpass (unweathered basalt) are .5 to 1 or 200%. The H-1 cuts in the vicinity of the Makakilo Quarry (a mix of weathered and unweathered basalt) are 1 to 1 or 100%. The angle of repose for loose excavated material from the Makakilo Quarry is 1.4 to 1 or 72%. The slope of the Kalaniana'ole Junction Landslide Mitigation project (highly weathered basalt) is 2 to 1 or 50%. The angle of repose for the Makakilo material of approximately 75% is the best indicator of the ability of the material as a slope fill to sustain revegetation.
- f) The grading plan submitted at your meeting with Mr. Creps of March 5th envisioned a slope of 100% for the first 100 feet from the quarry floor, then a slope of 50% for the next 100 feet, transitioning into the surrounding topography. We will update the grading plan to reflect a slope of 75% for the full 200 feet.

- 2) You have asked that in preparing the feasibility study described above, that Grace Pacific consider moving the industrial type activities to include the crushing and screening plant, the hot mix asphalt plant, and the maintenance shop, from Parcel 4, the Lower Processing Site, within 2 years of approval of the SUP. Our response is as follows:
- a) Grace Pacific has developed a timeline of actions and costs related to this proposed relocation in the attached Exhibit A.
 - b) The assumptions underlying Exhibit A are as follows:
 - i) The finish plant, while able to operate another 25 years on Parcel 4 with proper maintenance, could not be moved to Parcel 82, the existing Upper Quarry.
 - ii) The primary plant, located on Parcel 82, could also operate for another 25 years with proper maintenance. However, it would not be feasible, given its solid construction and orientation to the tunnel feed, to utilize the primary plant in any configuration with a new finish plant on Parcel 82.
 - iii) The hot mix asphalt plant is relocatable. However, Grace Pacific believes that it may be appropriate at this juncture and in consultation with the City, to consider relocating the hot mix asphalt to Campbell Industrial Park rather than the upper quarry.
 - iv) The maintenance shop presently services both quarry and construction equipment. To minimize the impact to Parcel 82, we propose constructing a new shop to serve quarry related equipment and facilities on Parcel 82, and to find space in the Campbell Industrial park for the maintenance of the construction equipment.
 - v) The water use permit for the potable well on Parcel 4 presently allows usage on Parcels 4 and 82. Upon approval of the SUP, an application would be made to relocate the well to Parcel 82 and to swap usage from Parcel 4 to Parcel 74. Board of Water Supply water is available to Parcel 4, and could be used for the restoration of this parcel. It is the belief of the applicant that BWS water from Parcel 4 could not be used on Parcels 82 or 74.

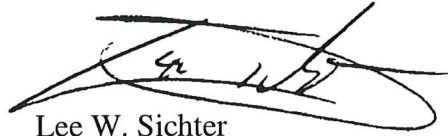
- vi) The HECO substation located on Parcel 4 would remain. The substation currently serves Parcels 4 and 82. Service to Parcel 4 would be terminated, and service to Parcel 82 would continue.
 - vii) The restoration of the Lower Site, Parcel 4, envisions the removal of all structures, footings, pavements and underground pipes; environmental testing and remediation as necessary, grading to approximate the existing topography; and grassing for soil stabilization and dust control. The costs associated with the restoration are not included in the analysis. The timeline is estimated at one year for removal and then two years for grassing.
- c) The findings from the analysis of Exhibit A are as follows:
- i) The time to transfer the operations from Parcel 4 is approximately three years,
 - ii) The time to clean up and establish groundcover on Parcel 4 is also three years.
 - iii) The cost for equipment, shipping and installation and the construction and demolition described in Exhibit A is approximately \$37 million. No inflation is assumed, nor discounting calculated for expenditures within the first five years.
- d) Grace Pacific's conclusion from the above analysis is that staging the excavation in five-year increments does not allow for the recovery of the costs of relocation. Given the recurring risk of denial for continued quarrying, a prudent quarry operator would not invest in the cost of relocation.
- e) Based upon the analysis of Exhibit A, the excavation plan as submitted with the application and as updated with revised grading plans presented at the March 5th meeting provides sufficient time and volume of material for the quarry operator to recover the costs of relocation. Thus, approval of excavation for a period of 25 years will allow for the amortization of the costs of relocating all activities of an industrial nature from Parcel 4 within 2-1/2 years from approval of the SUP.

Mr. Henry Eng
April 21, 2008
2004.33.8000 / 08P-148
Page 5

Thank you for the opportunity to respond to your comments. Should you have any questions about the information provided herein, please call me at 521-5361 or Mr. Bob Creps at 674-5201.

Very truly yours,

BELT COLLINS HAWAII LTD.

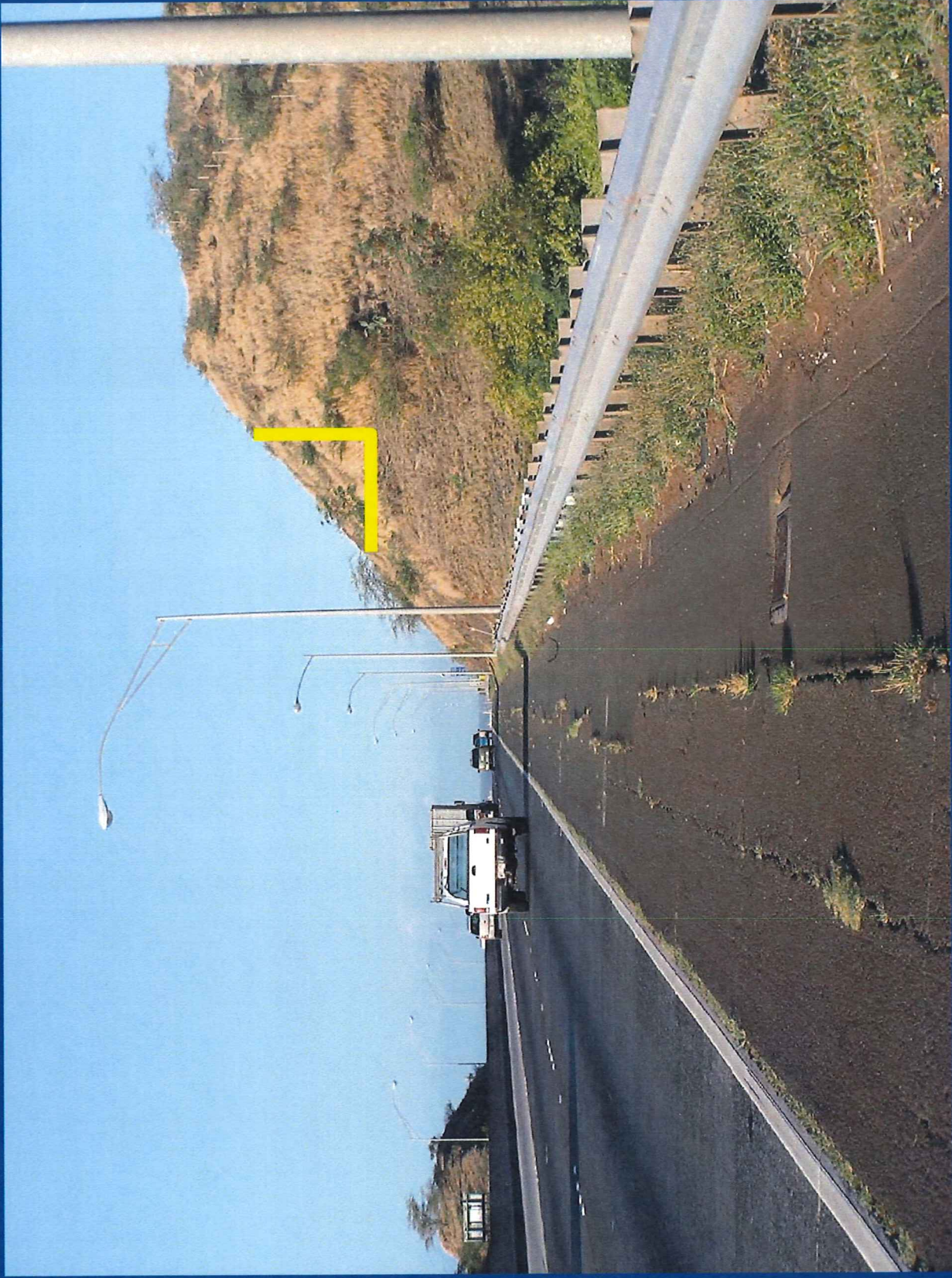
A handwritten signature in black ink, appearing to read "Lee W. Sichter", is written over a horizontal line.

Lee W. Sichter
Principal Planner

LWS:lf

Enclosures

cc: Robert Wilkinson
Robert Creps
J. Douglas Ing



H-1 Makakilo 1H to 1V Road cut



Makakilo Quarry Berming 1.4H to 1V (Angle of Repose)



Kalaniana'ole Junction Landslide Mitigation 2H:1V



H-3 Kailua Saddle Road .5H to 1V Road cut

Grace Pacific Corporation												
Analysis of Removal of Operations from Lower Site												
Assuming Use Permit Approval December 2008												
April 18, 2007												
period	0	1	2	3	4	5						
year	2008	2009	2010	2011	2012	2013						
months	jul - dec	jan - jun	jul - dec	jan - jun	jul - dec	jan - jun	jul - dec	jan - jun	jul - dec	jan - jun	jul - dec	totals
Primary Crushing & Screening Plant												
located in Upper Quarry	Operate existing Plant	Operate existing Plant; Design new Plant; see Finish Plant for costs associated with new Plant	Operate existing Plant; obtain Clean Air and Building permits	Operate existing Plant; Manufacturer to begin construction of new Plant	Operate existing Plant; Manufacturer to complete construction and ship new Plant	Operate existing Plant; Install new Plant	Operate new Plant; Retain existing Plant	Operate new plant; Remove existing Plant, \$250k	Operate new plant; Remove existing Plant, \$250k			\$500 k
Finish Crushing & Screening Plant												
located in Lower Site	Operate existing Plant	Operate existing Plant	Operate existing Plant	Operate existing Plant	Operate existing Plant	Operate existing Plant	Operate existing Plant	Retain existing Plant	Remove existing Plant, \$250 k	Remove existing Plant, \$250 k		\$500 k
located in Upper Quarry		Design new Plant, \$250 k	Obtain Clean Air and Building permits, \$250 k	Site prep \$500 k; Manufacturer to begin construction of new Plant \$6.5 mm	Manufacturer to complete new Plant construction \$6.7 mm, and ship \$2.5 mm to Honolulu	Install new Plant \$5.3 mm	Operate new Plant					\$22.0 mm
Hot-Mix Asphalt Plant												
located in Lower Site	Operate existing Plant	Move existing Plant from Lower Site										
located in Upper Quarry	Obtain permits for new Plant	Manufacturer to construct new Plant \$4.2 mm	Ship new Plant \$1.5 mm	Install new Plant \$600 k	Operate new Plant							\$6.3 mm
located at Campbell Indust Park		Relocate existing plant to CIP \$1.5 mm	Operate existing plant	Operate existing plant	Retain existing plant for night shift work							\$1.5 mm
Ready-Mix Concrete Plant												
located in Lower Site	Operate existing Plant	Move existing Plant from Lower Site \$250 k										\$250 k
Maintenance Shop												
located in Lower Site	Operate existing Shop	Operate existing Shop	Operate existing Shop	Operate existing Shop	Operate existing Shop	Operate existing Shop	Operate existing Shop	Operate existing Shop	Remove old Shop \$500 k	Remove old Shop \$500 k		\$1.0 mm
located in Upper Quarry		Design new Shop for Quarry equipment \$250k	Obtain Bldg permit for new Shop		Construct new Shop for Quarry equipment \$1 mm	Construct new Shop for Quarry equipment \$1 mm	Operate new Shop					\$2.25 mm
located at Campbell Indust Park		Design new Shop for Construction equipment \$250k	Obtain Bldg permit for new Shop		Construct new Shop for Construction equipment \$1 mm	Construct new Shop for Construction equipment \$1 mm	Operate new Shop					\$2.25 mm
.168 mgd Well												
located in Lower Site	Operate existing Well	Operate existing Well	Operate existing Well	Operate existing Well	Operate existing Well	Operate existing Well	Operate existing Well	Close existing Well				
located in Upper Quarry						Construct new Well \$250 k	Operate new Well					\$250 k
total \$ mm	36.80	-	6.70	1.75	7.60	11.20	7.55	-	1.00	1.00	-	\$36.8 mm