BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI`I

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|---|---|---|
| In the matter of the Petition | ) | DOCKET NO. A00-730 |
| | ) | |
| of | ) | FINDINGS OF FACT, |
| | ) | CONCLUSIONS OF LAW, AND |
| LANIHAU PROPERTIES, LLC | ) | DECISION AND ORDER FOR A |
| | ) | STATE LAND USE DISTRICT |
| To Amend the Land Use District Boundary | ) | BOUNDARY AMENDMENT; |
| of Certain Lands situated at Honokohau, | ) | |
| North Kona, Island of Hawai`i, State of | ) | EXHIBIT A |
| Hawai`i, consisting of approximately | ) | |
| 336.984 acres, Tax Map Key: 7-4-08: portion | ) | |
| of 013 and 30, from the Conservation District | ) | |
| to the Urban District | ) | |
| | ) | |

This is to certify that this is a true and correct copy of the document on file in the office of the State Land Use Commission, Honolulu, Hawaii.

SEP 26 2003 by _____
Date Executive Officer

**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER FOR A STATE LAND USE DISTRICT BOUNDARY AMENDMENT**

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**FINDINGS OF FACT, CONCLUSIONS OF LAW, AND DECISION AND ORDER FOR A STATE LAND USE DISTRICT BOUNDARY AMENDMENT**

LANIHAU PROPERTIES, LLC, fka LANIHAU PARTNERS, L.P. ("Petitioner" or "Lanihau") filed a Petition For Land Use District Boundary Amendment on March 24, 2000 ("Petition") pursuant to Section 205-3.1(c) and 205-4, Hawai`i Revised Statutes ("HRS"), and Chapter 15-15, Hawai'i Administrative Rules ("HAR"), to amend the State land use district boundary by reclassifying approximately 336.984 acres of land situated at Honokohau, North Kona, Island, County and State of Hawai`i, and designated by Tax Map Key No: (3rd): 7-4-8:13 (por.) and 30 ("Petition Area" or "Property"), from the Conservation Land Use District to the Urban Land Use District for the development of Phases I, II and III of the Kaloko-Honokohau Business Park ("Project").

## FINDINGS OF FACT

### PROCEDURAL MATTERS

1. Petitioner filed its Petition, Exhibits 1 through 7, and Petitioner's environmental impact statement preparation notice (EISPN) pursuant to Section 343-5 (a) (7), HRS.

2. On April 19, 2000, the TSA Corporation ("TSA") filed its Notice of Intent to Intervene.

3. On April 20, 2000, the Land Use Commission ("LUC" or "Commission") held a meeting in Honolulu, Oahu, and determined that the proposed reclassification will constitute a "significant effect" and required the Petitioner to submit an environmental impact statement pursuant to the Order Requiring Petitioner to Prepare An Environmental Impact Statement issued on May 9, 2000.

4. On May 26, 2000, LUC filed Petitioner's EISPN with the Office of Environmental Quality Control, State Department of Health ("OEQC").

5. On June 8, 2000, Petitioner's EISPN was published in the OEQC's Environmental Notice. The 30-day public comment deadline was extended to July 24, 2000.

6. On October 10, 2000, Petitioner filed its First Amendment of Petition and Exhibits 8 through 10.

7. On February 23, 2001, LUC filed Petitioner's Draft Environmental Impact Statement ("DEIS") with OEQC for publication in the Environmental Notice on March 8, 2001. The 45-day public comment deadline was April 23, 2001.

8. On March 7, 2001, Petitioner filed its Second Amendment of Petition and Exhibits 11 and 12.

9. On April 15, 2001, Petitioner filed its Motion to Amend Petition to change Petitioner from Lanihau Partners, L.P. to Lanihau Properties, LLC ("Motion").

10. On September 6, 2001, the Commission granted Petitioner's Motion pursuant to the Order Granting Motion For Petitioner's Change of Name issued on September 26, 2001.

11. On March 18, 2002, TSA filed its Withdrawal of Notice of Intent to Intervene Filed on April 19, 2000.

12. On March 21, 2002, Petitioner filed its Final Environmental Impact Statement ("FEIS") with the LUC.

13. On March 22, 2002, the LUC conducted a site visit to the Petition Area and viewed various significant archaeological sites and areas involving planned connector roads.

14. On April 5, 2002, the LUC held a meeting in Honolulu, Oahu to consider acceptance of Petitioner's FEIS pursuant to the Hawai`i Environmental Impact Statement ("EIS") Law, Chapter 343, HRS, and the EIS Rules, Chapter 11-200, HAR. At the meeting, the Planning Department, County of Hawai`i ("County"), did not register any objections to Petitioner's FEIS. The Office of Planning, Department of Business and Economic Development and Tourism ("OP"), representing the State, also indicated that the FEIS was acceptable but reserved the opportunity to raise comments and concerns during the hearing on the Petition.

15. The LUC rejected the FEIS pursuant to the Order Denying Acceptance of Petitioner's Final Environmental Impact Statement By The State Land Use Commission issued on April 25, 2002 for the following reasons: i) the LUC believed that the FEIS did not adequately satisfy the definition and requirements of an EIS pursuant to the EIS Laws and Rules; ii) the FEIS did not contain a rigorous exploration of the environmental impacts of all proposed alternative actions pursuant to Section 11-200-17 (f), HAR; and iii) the FEIS did not provide

sufficient findings regarding potable water demand and sustainability, cumulative solid waste generation, quantification of air quality assessments, and Project and regional energy demands and alternatives pursuant to Section 11-200-17 (i), HAR.

16. On April 22, 2002, Petitioner filed its Motion for Reconsideration of Action on Final EIS ("Reconsideration Motion").

17. On April 26, 2002, County filed its Statement of No Opposition to Petitioner's Reconsideration Motion.

18. On May 2, 2002, the Commission held a meeting in Hilo, Hawai`i and ruled the Reconsideration Motion out of order and deferred its action on the Reconsideration Motion to provide parties with additional time for research and consultation for a potential amendment to the motion.

19. On May 8, 2002, the Commission's rejection of Petitioner's FEIS was published in OEQC's Environmental Notice.

20. On February 10, 2003, the Petitioner submitted a written request to schedule the continued hearing on the Reconsideration Motion ("Petitioner's Request"). In its request, the Petitioner reiterated its motion, described proposed revisions to Petitioner's FEIS, and informed the Commission of agreements with the National Park Service, U.S. Department of Interior ("NPS") regarding potential conditions of approval and Petitioner's FEIS.

21. On February 20, 2003, the Commission held a meeting in Kona, Hawai`i, and rescinded the Rejection Order of the Final EIS pursuant to the Order Rescinding The Order Denying Acceptance Of Petitioner's Final Environmental Impact Statement By The State Land Use Commission Issued On April 25, 2002, issued on April 11, 2003.

22. On April 10, 2003, Petitioner filed its second FEIS ("FEIS II") pursuant to the Order Allowing the Submission of the Revised Petitioner's Final Environmental Impact

Statement Filed March 21, 2002 issued on April 11, 2003.

23. On April 25, 2003, the Commission accepted Petitioner's FEIS II, pursuant to the Order Accepting Petitioner's Final Environmental Impact Statement for a State Land Use District Boundary Amendment Filed on April 10, 2003 and issued on June 2, 2003.

24. On April 28, 2003, the Commission deemed the Petition was a proper filing as of April 25, 2003.

25. On May 2, 2003, a Notice of Hearing on the Petition was published, which scheduled the commencement of the hearings on June 26 - 27, 2003 in Hilo, Hawai`i.

26. On May 9, 2003, OP filed its Statement of Position.

27. On May 16, 2003, NPS filed the Kaloko-Honokohau National Historical Park's Application to Intervene.

28. On June 5, 2003, the Commission held a meeting in Wailea, Maui, and granted intervenor status to NPS ("Intervenor" or "NPS") pursuant to the Order Granting Intervenor Status to KAHO issued on June 23, 2003.

29. On June 6, 2003, the County filed its Statement of Position in Support of the Petition.

30. On June 12, 2003, Petitioner filed the Stipulation to the Intervention of Kaloko-Honokohau National Historical Park (hereinafter Kaloko-Honokohau National Historical Park is sometimes referred to as "KAHO").

31. On June 12, 2003, Intervenor filed the Motion for Appearance of Out of State Counsel.

32. On June 12, 2003, a pre-hearing conference was held in Honolulu, Oahu pursuant to the Prehearing Conference Order issued on June 19, 2003.

33. On June 16, 2003, Petitioner filed the Stipulated Findings of Fact, Conclusions of Law, and Decision and Order For A State Land Use District Boundary Amendment.

34. On June 24, 2003, Intervenor filed its Contingent Witness and Exhibit Lists; and KAHO's Joint Stipulated Exhibit List.

35. On June 25, 2003, OP filed its Witness and Exhibit Lists, and Exhibits 1 through 13.

36. On June 26, 2003, the Commission opened the hearing for the subject docket in Hilo, Hawai`i.

37. Petitioner filed its Exhibit List identifying Exhibits 1 through 9 (Exhibits 1 through 7 were exhibits filed previously under different exhibit numbers) and filed its Exhibits 7 through 9.

38. On June 27, 2003, the Commission closed the hearing for the subject docket in Hilo, Hawai`i.

**DESCRIPTION OF THE PETITION AREA**

39. Petitioner is the fee owner of the Petition Area. The Petition Area was acquired by H. N. Greenwell in the late 1800's.

40. Petitioner is a Hawai`i corporation incorporated in 2001, and licensed to do business within the State of Hawai`i, with its business and mailing address at 3465 Waialae Ave., Suite 260, Honolulu, HI 96816. Petitioner owns various properties in Hawai`i.

41. The Petition Area is situated at Honokohau, North Kona, County of Hawai`i, State of Hawai`i, and designated as TMK No: (3rd): 7-4-8:13 (por.) and 30.

42. The Petition Area is situated on lands within the State Land Use Conservation District.

43. The Petition Area is bounded on the *makai* side by the Queen Ka'ahumanu Highway.

44. The Petition Area is abutted on the *mauka* side by open land owned by the Petitioner.

45. The Petition Area is bounded on the southern side by the existing Honokohau Business Park and the Taylor/Isemoto/Kona Trans Industrial Development; the McClean Honokohau Properties' proposed Pau Hana residential development; and open land.

46. The Petition Area is bounded on the northern side by the Kaloko Industrial Park and open land.

47. Portions of the Petition Area have been used by various licensees for quarrying and related activities since 1967 under a Conservation District Use Permit (CDUP) covering 261.723 acres. Tenants include West Hawai`i Concrete, Grace Pacific, Hawai`i Precast and Jas W. Glover. Currently, approximately 100 acres of the Petition Area are being utilized under this CDUP, which allows for eventual expansion of quarry-related activities over the 261.723 acres, including approximately 232 acres within the Petition Area.

48. Lands immediately *mauka* of the Petition Area are intermittently used for cattle grazing.

49. The southern portion of the Petition Area is presently vacant and supports no current land use. This area consists of large, barren masses of *pahoehoe* and *a'a* lava and is overgrown with scrub vegetation consisting mostly of *koa haole* and fountain grass.

50. Located directly west of the Petition Area, *makai* of Queen Ka'ahumanu Highway is the Kaloko-Honokohau National Historical Park ("KAHO" or "Park"). The 1,160-acre park was established in 1978, pursuant to Public Law 95-625, November 10, 1978, and is

administered by the NPS. KAHO contains extensive natural and cultural resources, such as fishponds, wetlands and archaeological sites.

The defined purpose of the park was to: "…provide a center for the preservation, interpretation and perpetuation of traditional native Hawaiian activities and culture and to demonstrate historic land use patterns as well as provide needed resources for the education, enjoyment and appreciation of those activities and culture by local residents and visitors…"

The fundamental purpose of the National Park System is to conserve park resources and values, and restore and resurrect the park's cultural and natural resources.

51. The Kohanaiki Business Park, a 26-lot commercial and light industrial development, is located approximately 1 mile north of the Petition Area.

52. To the north, approximately 4 miles from the Petition Area, is the Kona International Airport at Keahole operated by the State Department of Transportation, Airports Division. Immediately west (*makai*) of the Airport is the Natural Energy Laboratory of Hawai`i ("NELH"), a publicly funded research facility. The Hawai`i Ocean and Science Technology ("HOST") Park is located adjacent to and south of the Airport. *Mauka* of the Airport and Queen Ka'ahumanu Highway is the State-developed Keahole Agricultural Park.

53. Immediately north of the Petition Area is the Kaloko Industrial Area Phases I and II which consists of approximately 85 lots.

54. Adjacent to the north of the Petition Area, is a 102-acre parcel owned by TSA Corporation, which was recently reclassified into the State Land Use Urban District for development of Phases III and IV of the Kaloko Industrial Park. Adjacent to the Petition Area is the 26-lot Honokohau Business Park and the Taylor/Isemoto/Kona Trans Industrial Development.

55. Further south of the Petition Area and *makai* of Queen Ka'ahumanu Highway is the State Department of Land and Natural Resources Division of Boating and Ocean Recreation's 450-slip Honokohau Small Boat Harbor.

56. The County's Kealakehe Wastewater Treatment Plant ("WWTP") is located approximately 2 miles to the south of the Petition Area and *makai* of the Queen Ka'ahumanu Highway.

57. The State-developed Villages of La`i`opua project, subject of LUC Docket A90-660/HFDC, is located to the southeast of the Petition Area. When fully developed, the project will include residential units, an elementary and a high school, commercial areas, parks, churches/day care, a golf course, and archaeological and botanical preserves.

58. Further south, approximately 1.1 miles from the Petition Area, the Queen Liliuokalani Trust is planning to develop approximately 546 acres near the intersection of Palani Road and Queen Ka'ahumanu Highway. The project, subject of LUC Docket No. A89-646/Liliuokalani Trust, was granted State Land Use District reclassification from the Agricultural and Conservation Districts to the Urban District in 1991.

59. Further south, approximately 4 miles from the Petition Area, is Kailua-Kona town which is the major commercial and business hub of the region.

60. East or *mauka* of the Petition Area are a number of residential developments located in the vicinity of Mamalahoa Highway. These include Kona Palisades, Kona Acres, Kona Coastview, Kona Wonder View, and Kona Highlands to the north/northeast; Kona Heavens to the east; and, Kealakehe Homesteads, Kona Chocho Estates, Kona Macadamia Acres, and Queen Liliuokalani Village to the southeast.

61. The Petition Area is in close proximity to transportation systems, utilities and services. Queen Ka'ahumanu Highway is directly adjacent to the Petition Area, while

Mamalahoa Highway is located approximately 3 miles *mauka.* The County's Pu`uanahulu Landfill is approximately 18 miles to the north. Police and fire protection services for the Petition Area are available at facilities located approximately 1.5 miles to the south and 3 miles to the southeast, respectively. The nearest schools are located within approximately 2 miles of the Petition Area and a variety of parks are available in the Project vicinity.

62. The Petition Area occupies an area of relatively uniform slope with the exception of a bulge in the central/northerly area and a dip in the southerly portion. It extends in elevation between approximately 40 feet above sea level at the highway to about 320 feet at the *mauka* border.

63. The Flood Insurance Rate Map ("FIRM") of the U.S. Federal Emergency Management Agency ("FEMA") identified the Petition Area as lying within Zone X, areas determined to be outside the 500-year flood plain, and not subject to coastal hazards such as tsunami inundation.

64. The natural drainage system of the Petition Area consists of rainfall percolating through layers of very porous lava to the groundwater table. There are no definable streams or natural drainage ways within or in the immediate vicinity of the Petition Area.

65. The Island of Hawai`i is susceptible to seismic activities. The Hawai`i County Code relating to the Uniform Building Code (1991 edition) was amended in July 1999 to upgrade the seismic zone for the Island of Hawai`i from Zone 3 to Zone 4. The rating system is based on a scale of 1 to 4, with a rating of 4 having the highest risk associated with seismic activity. The Hawai`i County Building Code requires that all new structures be designed to resist forces to seismic Zone 4 standards.

66. According to the volcanic hazard zones map for the Island of Hawai`i prepared by the United States Geological Survey ("USGS"), the Petition Area is in Zone 4. The

zones are ranked from 1 through 9 based on the probability of coverage by lava flows, with Zone 1 being the highest hazard and Zone 9 being the lowest. The lava flow hazard for Zone 4 is attributed to Hualalai, one of three volcanoes which have been active in historic times on the Island of Hawai`i. Hualalai last erupted in 1800-1801, covering land several miles north of the Petition Area. In this zone, frequency of eruptions is lower than on Kilauea and Mauna Loa and flows typically cover large areas.

67. The U.S. Department of Agriculture Natural Resources Conservation Service classifies the soil in the Petition Area as *pahoehoe* lava flows (rLW) and *a'a* lava flows (rLV). None of the land within the Petition Area has been identified as "Prime, Unique or Other Important Lands" under the *Agricultural Lands of Importance in the State of Hawai`i* ("ALISH") system. According to the *Detailed Land Classification - Island of Hawai`i* prepared by the University of Hawai`i Land Study Bureau ("LSB"), the Petition Area is classified as "E", or very poorly suited for agricultural productivity.

68. The soil capability class rating for both *a'a* and *pahoehoe* lava is VIII, indicating that the soils have severe limitations that make them unsuited for cultivation and commercial plants, and restrict their non-urban use largely to pasture, woodland, wildlife, water supply, and aesthetic purposes.

**PROPOSAL FOR RECLASSIFICATION**

69. The Petition Area is strategically located along Queen Ka'ahumanu Highway halfway between Kona International Airport at Keahole and Kailua-Kona and it is an in-fill property between the existing Kaloko Industrial Park and the existing Honokohau industrial developments.

70. The type of land use that will be enabled by reclassification would complement and enhance adjacent activities, interconnect the developing infrastructure grid in

the area, as well as "bring a historic quarry/heavy industrial operation into land use conformance."

71. The intended uses in the Kaloko-Honokohau Business Park include light industrial, business and commercial uses similar to those in the existing Kaloko Industrial Park and the Kailua Industrial Area, plus additional commercial uses consistent with the County's list of Mixed Use Industrial/Commercial Area (MCX) zoning uses. In the first Phase, approximately 100 acres will be designated for industrial/mixed use and 100-plus acres will be designated for general (heavy) industrial (MG) zoning use (quarry and related uses). In the second Phase, approximately 80 acres will be designated for industrial/mixed use and the final Phase, comprised of approximately 40 acres will also be designated for industrial/mixed use. Examples of uses permitted under these zoning designations include:

Industrial/Commercial Mixed Districts:

- automobile sales and rentals;
- car washing;
- automobile service station;
- financial institutions;
- home improvement centers;
- medical clinics;
- plant nurseries;
- retail establishments; and
- restaurants.

General Industrial Districts:

- utility facilities, public and private;
- lumberyards and building material yards;
- heavy equipment sales and service;
- business service;
- convenience stores;

- concrete or asphalt batching and mixing plants and yards; and
- self-storage facilities.

72. The Petitioner has agreed to prohibit certain uses within the Heavy Industrial (MG) zoned area, including heliports, bulk storage of flammable and/or explosive material (tank farms), landfills for dumping or disposal of refuse or waste matter (except for green waste/composting facilities), fertilizer manufacturing plants, junkyards, public dumps, saw mills, refining of petroleum products, slaughterhouses, commercial pesticide and/or extermination facilities, and power plants.

**DEVELOPMENT TIMETABLE**

73. Development of Phases 1 and 2 of the Project is anticipated to begin in 2004 with completion anticipated in 2012. Development of Phase 3 will commence as market conditions warrant and under the most favorable circumstances, development could commence in 2011 in conjunction with the Phase 2 development. However, a reasonable scenario would anticipate commencement of Phase 3 development in 2015.

**PETITIONER'S FINANCIAL CAPABILITY**

74. The estimated cost for the required infrastructure and improvements is approximately $9,000,000.

75. Petitioner is currently proposing to undertake the development of the Petition Area itself, including construction of roads and infrastructure systems and subdivision of the development lots.

76. The finished lots will be either leased or sold, with the acquiring entity responsible for construction of buildings and other on-site improvements. Petitioner intends to finance the proposed Project using a range of alternatives including, but not limited to, equity contributions, conventional financing, joint venture partners and/or independent developers.

Revenues obtained from sales/lease of the early development phases would also be available to finance subsequent phases of the Project.

**STATE AND COUNTY PLANS AND PROGRAMS**

**State Land Use District**

77. The Petition Area is in the State Land Use Conservation District.

78. The Property will be zoned and developed for general (heavy) industrial use, and industrial-commercial mixed use and is located in between, and is similar to, uses in the surrounding business parks.

79. The *West Hawai`i Regional Plan* ("WHRP") addresses areas of concern, which require State attention in order to most effectively meet the region's present and emerging needs. The goals of the WHRP include the need to ensure that new development does not adversely impact agricultural resource activities; aquacultural resource activities; the quality of the aquifer; the quality of the nearshore waters (including anchialine ponds); the quality of offshore and deep ocean waters; the quality of the air; and the watersheds. The Petition area is included within a larger area that was recommended for reclassification from the State Land Use Conservation District to the State Land Use Urban District during the State's Five-Year Boundary Review in 1992.

**General Plan Designation**

80. The *General Plan Land Use Pattern Allocation Guide* ("LUPAG") Map designates the Petition Area as Industrial and Urban Expansion.

81. The Project is in general conformance with the following elements of the *Hawai`i County General Plan*: economic; flood control and drainage; historic sites; natural resources and shoreline protection; land use and industrial; and for the additional elements

pursuant to the County of Hawai`i General Plan Revision Program: environmental quality and utilities.

**Keahole to Kailua Development Plan**

82. The *Keahole to Kailua Development Plan* ("K to K Plan"), adopted by the County Council by Resolution No. 296-91, is intended to carry out the *General Plan* goals and policies related to the development of the portion of North Kona between Keahole Point and Kailua-Kona between Mamalahoa Highway and the shoreline.

83. The stated goals of the K to K plan are to:

- Provide a framework for the future growth and development of the Keahole-to-Kailua area;
- Provide a framework for infrastructure plans and cost estimates for the rational and cost-effective development of the area;
- Provide a basis for coordinated public-private implementation of major infrastructure projects; and
- Provide a framework for State and County action on designating lands for urban development.

The Project is consistent with the designation of "Limited Industrial" by the Land Use Plan of the K to K Plan for the Petition Area.

**County of Hawai`i Zoning**

84. The Petition Area is located within the Open zoned district and a zone change will be requested to reclassify the Petition Area from Open District to MG, General Industrial District and MCX, Industrial-Commercial Mixed District.

**County of Hawai`i Special Management Area**

85. The Petition Area is located outside the boundaries of the County's Special Management Area ("SMA") and is therefore not subject to the SMA Use Permit.

**NEED FOR THE PROPOSED DEVELOPMENT**

86. Following an extended period of low activity in the early to mid-1990s, the West Hawai`i economy and industrial real estate sector have shown substantial recovery and growth since late 1996, with particular strength over the past 24 months. The actual number of lots absorbed in 1999 far outpaced the finished space land requirement.

87. Two projects in the nearby vicinity of the Petition Area, the Kaloko Industrial Park, Phase II (35 one-acre lots) and Kohanaiki Business Park (26 one- to five-acre lots), sold more than 80 percent of their available inventory during 1999, indicating a continuing demand for additional lots.

88. The region has successfully absorbed some 240.2 gross acres of industrial lands and 1.91 million square feet of finished floor space through 1999, averaging 8.9 acres and 73,200 square feet annually since 1979.

89. There is currently an estimated 5.5 percent vacancy rate of industrial floor space in the regional market. This is the lowest availability of space since 1991, and the lowest vacancy rate since 1990. Recently, absorption of available space quickened significantly, with the vacancy rate dropping by more than 1.5 points in the last quarter of 1999.

90. The existing in-place supply of industrial/business land in the Keahole to Kailua-Kona corridor, which includes the Petition Area, will be sufficient to meet market demands for another three or four years. After that time, additional developments will be required if the sector is to maintain an appropriate demand/supply balance. The recent offerings at the Kaloko Industrial Park Phase II, Honokohau Iki and Kohanaiki Business Park developments, while serving to fill pent-up demand occurring during the past decade, are almost fully absorbed, mostly by owner-user purchasers who plan on building and occupying the finished space within the next 5 years. While there are large acreages of industrial additions

proposed in the region, virtually all would have to be developed in a timely manner to meet demand levels.

91. The availability of "heavy" (general) industrial lands in West Hawai`i is extremely limited, with most located near Kawaihae, well-removed from the emerging Keahole to Kailua-Kona business corridor.

92. Based on historic and prevailing market trends, and the anticipated movements in the West Hawai`i industrial/business sector, it is estimated that it will take about 10 years of marketing and exposure time to successfully absorb the approximately 100 acres of industrial/mixed use lands in the first Phase and the approximately 100-plus acres of the quarry and heavy (general) industrial lands of the subject Project. The second Phase, comprising of approximately 80 acres of industrial/mixed use, would require an additional 9-10 years. The final Phase of approximately 40 acres of industrial/mixed use would be absorbed over a subsequent 4-6 years. The entire development would take 23-plus years to be fully absorbed.

**ECONOMIC IMPACTS**

93. Petitioner prepared a market study and economic analysis for the Project. The Project will be a significant source of employment for the region, during both construction and operation.

94. The economic impact analysis calculated that the Project will bring an estimated $329.62 million in direct development capital into West Hawai'i over the 34-year build-out period for the Project.

95. The analysis calculated infrastructure and building construction, and allocated them over the three phases of the Project. Based on this, the Project would infuse an anticipated $9.69 million annually into the Big Island building industry on average over the build-out period.

96. The development phase of the Kaloko-Honokohau Business Park (including subdivision, lot improvements and initial business operations) will generate some 174,683 "worker years" of direct employment on the Big Island, paying in excess of $5.2 billion in total wages over a 34-year build-out period (including infrastructure and finished buildings).

97. The Project will lower unemployment in the construction trades by 15 - 25-plus percent during the building process, and the permanent on-site employees will represent about 5 percent of the total county workforce 3 decades from now. The operating businesses will collect an estimated $839 million annually in gross revenues.

98. Industrial parks are traditionally a major source of net revenue for the government, weighing the costs of providing public services to the Project versus the tax benefits provided by it through property, income and sales taxes.

99. Historically, the Big Island's primary employment sector has been agriculturally oriented.

100. During the 1980s, construction and service sector jobs associated with the growth of the tourist industry, especially the major resort and hotel properties in West Hawai'i, began to dominate the job market.

101. Population growth and business diversification have resulted in a multi-faceted and flexible labor pool in West Hawai'i, although workers are not always fully employed.

**SOCIAL IMPACTS**

102. Population has grown rapidly in all of West Hawai`i and particularly in North Kona where the number of inhabitants increased from 22,284 in 1990 to an estimated 25,447 in 1995. By 2000, this number increased to 28,543 according to the US Census.

103. Of the nine districts on the Big Island, North Kona has sustained the second largest rate of growth (after Puna) since 1970, at 429 percent.

104. The prevalence of tourism has also increased the visitor share of the *de facto* population (those actually present on any given day) to about 1/4 the resident population. Both resident and *de facto* populations are expected to keep rising, although less sharply, into the foreseeable future.

105. The Keahole to Kailua Development Plan estimated the resident population of that portion of North Kona at 4,230 in 1988 and estimated that it would grow to 14,674 by the year 2010.

106. Direct social impacts from the proposed reclassification would be minimal because the Project will not create a substantial influx of population. Businesses expected to occupy the facility are either already operating (in the case of the quarry and related businesses) or are primarily service-type industries that depend upon, but do not necessarily induce, population growth.

107. The Project, which will be occupied over a 20-30 period, is not expected to induce any significant in-migration to Kona, but rather service primarily the needs of the growing population, which will also supply a growing source of labor.

108. No displacement of residences, businesses, community facilities, farms or other activities would occur because of the Project.

**IMPACTS UPON RESOURCES OF THE AREA**

**Agricultural Resources**

109. The Petition Area consists of lands classified as very poorly suited for agricultural productivity. The U.S. Department of Agriculture Natural Resources Conservation

Service classified the soil in the Petition Area as *pahoehoe* lava flows (rLW) and *a'a* lava flows (rLV).

110. None of the land within the Petition Area has been identified as "Important Agricultural Land" under the ALISH system. According to the *Detailed Land Classification - Island of Hawai`i* prepared by the LSB, the Petition Area is classified as "E", or very poorly suited for agricultural productivity.

**Historical Resources**

111. An archaeological inventory survey of the Petition Area and a large extent of surrounding property with limited subsurface testing was conducted by Cultural Surveys Hawai`i. The survey was approved by the State Historical Preservation Division, Department of Land and Natural Resources ("SHPD") on August 28, 2001.

112. Of the 73 recorded sites within the Petition Area, there are 9 with multiple functions categories and 64 listed under a single functional interpretation. The most common functional types were temporary habitation and mixed temporary habitation. The next most prevalent site type was agriculture, followed by other habitation site types - recurrent and permanent. Five (5) sites contained burials.

113. The primarily traditional Hawaiian sites consist of dryland agricultural complexes, simple agricultural features, temporary, recurrent and permanent habitation sites, a refuge cave, human burials, animal containment features, an *ahupua'a* wall and various boundary walls, two petroglyphs, trail segments and *ahu* (shrines or markers). Sites associated with historic-era activities - cattle ranching - were also identified within the Petition Area.

114. The archaeological site types are as follows: trails (5), walls and wall segments (6), petroglyphs (2), outcrops (7), rock shelters (2), lava tubes (14, 4 of which contain burials), pecked basin/*pahoehoe* excavation (2), complexes (which may contain numerous

elements such as terraces, enclosures, platforms, trails, etc.)(14), *ahu* (4), mounds (2), enclosures and enclosure remnants (9), platforms (2), lava blister (1), sink (1), pavement (1), and terrace (1).

115. 50 of the sites (68%) are located in several concentrations between the Queen Ka`ahumanu Highway and 175 feet above sea level. Few sites were identified between 175 and 225 feet in elevation and the remaining 23 (32%) are found between 225 feet and the *mauka* end of the Petition Area.

116. The great majority of the sites in the Petition Area date from pre-Western Contact, while some exhibit a combination of pre- and post-Contact use and some are historic-era sites associated with cattle ranching.

117. All sites were evaluated by the archaeologists as having some level of archaeological significance. They recommend that of the 73 sites, 8 sites are significant for preservation, 31 are significant for the information they contain and are recommended for data recovery, and the remaining 34 sites are recommended for no further work, as sufficient information has already been obtained from them and they are therefore deemed no longer significant.

118. The eight (8) sites in the Petition Area recommended for preservation contain examples of permanent habitation sites and lava tube complexes, burial sites, a refuge cave, petroglyphs, and partial preservation of two traditional/historic trails.

119. Portions of one *mauka-makai ahupua'a* trail (site 18099) and of the Mamalahoa Trail (02) are recommended for preservation. The *mauka-makai* trail (site 18099) has sections which are excellent examples of trails that once extended between the coastal and upland settlements of Honokohau I and II *ahupua'a*. The preservation of the Mamalahoa Trail would need to take into account continued major construction activities within Honokohau, Kealakehe and Kealuolu. Based on the major breaches within and adjacent to the Petition Area,

the poor remnant condition of the trail, and private ownership of the trail within the Petition Area, preservation of only a representative sample appears warranted.

120. All of the burial sites (five identified within sites 18088, 18116, 18117, 18134, and 18197) in the Petition Area are recommended by the study for preservation and should be protected from any potential adverse impact. The Petitioner will coordinate with the State Historic Preservation Division and the Hawai'i Island Burial Council regarding burial treatment plans for these sites as well as any other inadvertent burial finds within the Property.

121. Development of the Project will result in alterations of the landform that may compromise some of the archaeological sites. The Project has been planned in close coordination with archaeological and cultural inventory to ensure that all known burials and all sites important for preservation or data recovery will be preserved in place.

122. In order to ensure proper treatment, several formal plans will be prepared in consultation with SHPD, the Hawai'i Island Burial Council, KAHO and other organizations. These are the Preservation Plan, the Data Recovery Plan and the Burial Treatment Plan.

123. The details of the 3 aforementioned plans have not been finalized, but the following mitigation measures are expected to be incorporated:

1) All currently known burials (identified in FOF # 120) will be preserved in place as appropriate and all sites recommended therein for preservation will be preserved.

2) Buildings, road and infrastructure have been planned and will continue to be planned to avoid and incorporate buffer zones for all burial and preservation sites.

3) Interpretive programs, including signage and access for certain preservation sites, will be developed in consultation with KAHO.

4) The Petitioner, consulting archaeologist and cultural historian will continue their coordination with local historians, resource persons and community groups in gaining a full appreciation of the historical and archaeological resources of the Petition Area.

5) It is expected that permitting agencies will require successful completion of the actions specified in the Preservation Plan, Data Recovery Plan and the Burial Treatment Plan in order to proceed with development plans.

6) If any previously unidentified sites, human burials or remains are encountered, work will stop immediately and SHPD will be consulted to determine the appropriate mitigation.

**National Park Service Mandates**

124. KAHO is a natural and cultural resource of the utmost value both to the State of Hawai`i and the nation as a whole, representing some of the State's most important natural systems, habitats, and valued cultural, historical, and natural resources.

125. Congress authorized KAHO on November 10, 1978, to provide a center for the preservation, interpretation and perpetuation of traditional native Hawaiian activities and culture and to demonstrate historic land use patterns as well as provide needed resources for the education, enjoyment and appreciation of those activities and culture by local residents and visitors, and to be administered in accordance with provisions of the law generally applicable to the National Park System.

126. A substantial public investment – over 70 million dollars of public funds – was spent to purchase land within KAHO. This Commission recognizes the economic value of this coastal Park, providing natural, recreational and cultural resources.

127. The NPS' mandate and the purpose of KAHO is to restore and resurrect many of the Park's cultural and natural resources.

128. The NPS is also required to encourage compatible adjacent land uses and to pursue mitigation of potential adverse effects on park resources and values.

129. Should impacts to natural or cultural resources of the National Park, and more specifically KAHO, occur, the NPS is directed to take all necessary actions to safeguard

Park resources. Those who destroy or injure park resources are liable to the United States for response costs and damages.

**National Park Management**

130. When a development is proposed up-gradient of the National Park, and more specifically KAHO, and the contaminants threats are potentially serious, the NPS recommends an Ecological Risk Assessment be conducted consistent with their criteria. No party conducted such an assessment.

131. The 1998 guidance from the U.S. Environmental Protection Agency ("EPA") states that special measures should be taken to protect nationally important resources.

132. The philosophy of "The Precautionary Principle" was developed to address the inherent complexities of natural systems and the difficulties of predicting the effects of human activities on dynamic ecosystems.

133. The Precautionary Principle states, in effect, that in the absence of scientific agreement or exhaustive scientific evidence, precautionary measures should be taken to protect important natural and cultural resources.

134. The Precautionary Principle is gaining wider acceptance in the United States and worldwide during the past decade as the basic rule that should govern activities that affect the ocean environment and the LUC accepted this principle as applicable to this Petition.

135. The LUC supported this philosophy as applied to National Parks and determined that, for all proposed development adjacent to or near KAHO that raises threats of harm to the environment, cultural resources, or human health, precautionary measures should be taken to protect KAHO cultural and natural resources, even if some cause and effect relationships are not fully established scientifically.

136. The NPS applies the Precautionary Principle to its management decisions. In the absence of scientific agreement or exhaustive scientific evidence, the NPS will err on the side of the protected resource.

137. The water in KAHO, whether water in the fishponds, the anchialine ponds or the ocean water is a critical park resource in and of itself.

138. One of the critical elements in maintaining the KAHO's cultural and natural environment is maintaining a high level of water quality because some of the Park's most important cultural and natural resources are the unique anchialine ponds and fishponds that were utilized by Hawaiian families for hundreds of years and are home to threatened and endangered species.

139. Project-related alterations to the quantity of flow and nutrient load of the groundwater, as well as contamination of groundwater with toxic substances, could adversely affect the fishponds, anchialine ponds and nearshore waters of KAHO and environs, *makai* of the Petition Area.

140. Evidence shows that without implementation of the mitigation measures described in the FEIS, the Project will increase nutrients and release contaminants into the groundwater that flows into KAHO, and that the existing industrial development already has.

141. Activities associated with projects, such as the proposed Business Park and more specifically the Project, have at least some potential to affect groundwater, nearshore waters and coastal ponds. Changes in the flow rate can affect salinity. If great enough changes occur, the basic ecosystems may undergo alteration. Additions of nutrients can induce eutrophication - which occurs when the lower levels of water become deprived of oxygen as a result of the decomposition of biomass (e.g. algae) produced by nutrient rich upper waters - in non-eutrophic pond waters, and increase the rate of eutrophication processes where they already

occur. Toxic materials such as heavy metals and synthetic organic compounds can become concentrated in the food chain of aquatic ecosystems.

142. In response to the scientific research and opinions rendered by Petitioner's water quality consultants, there has been considerable interest by Intervenor and other entities concerned with general water quality and aquatic biota in the vicinity of the Petition Area. KAHO and other entities dispute certain methods and conclusions of the Project consultants.

143. These concerns were raised during TSA's Kaloko Business Park Phases III and IV State Land Use Commission boundary amendment process that was initiated by TSA and thereafter designated as "Docket No. A-00-732." The Commission found TSA's consultants' analyses to be deficient in assessing the potential impacts of its proposed project on such resources. Inasmuch as the same consultants' studies are sources of information in this docket, such findings of the Commission and supporting portions of the record of TSA's proceeding are relevant to an assessment of potential impacts of the Project upon water resources and aquatic biota and the disputed nature of such analysis and conclusions should be disclosed.

144. No risk assessments as prescribed by NPS have been done to determine that no harm will come to the resources of KAHO, including the anchialine ponds, the coral reef, and the endangered and threatened species that rely on the health of those systems for habitat, and are considered sacred to native Hawaiians.

145. In the absence of adequate scientific evidence to show that the additional contaminants generated by the Project will not harm KAHO, precautionary measures should be taken to protect important natural and cultural resources including effective controls on pollution must be in place to contain and treat contaminants to protect the groundwater and the Park.

**Cultural and Historical Resources – Petition Area**

146. Of all the land divisions, the most significant management unit may be the *ahupua'a*. The *ahupua'a* is a pie-shaped wedge of land that extends from the ocean fisheries fronting the land unit to the mountains or some other feature of geological significance. The boundaries of the *ahupua'a* were generally defined by topography and cycles and patterns of natural resources occurring within the lands.

147. The *ahupua'a* were also divided further, into smaller manageable parcels of land in which cultivated resources could be grown and natural resources harvested. Access rights to these parcels were generally tied to residency.

148. By using a system of social hierarchies, resources were efficiently managed and the resources of an *ahupua'a* supported not only those who lived on the land, but also contributed to support of the *ali`i* of regional and/or island kingdoms.

149. As long as sufficient tribute was offered and *kapu* were observed, those who lived in a certain *ahupua'a* had access to most of the resources from the mountains to the ocean.

150. District subdividing was an integral part of Hawaiian life and was the product of careful adherence to resource management planning.

151. Traditional and historic literature, and oral historical accounts describe Honokohau as among the favored lands of *Kekaha* (descriptive of an arid coastal place). The fresh watered shores of Honokohau; the fishponds of `Aimakapa, `Ai`opio and ponds like Kahinihini`ula; salt making locations and the rich ocean and near shore fisheries; the inland agricultural field systems; and diverse forest and mountain resources attracted native residents to the area and sustained them on the land.

152. There are a number of accounts of pre-nineteenth century and later historical accounts that specifically name Honokohau, and most of the accounts describe the area in the context of the larger Kekaha region.

153. The accounts describe an area rich with legend and associations with important events in Hawaiian history, and also refer to use of the various marine resources, including working fishponds in the Honokohau-Kaloko vicinity.

154. Kamakau (1961) reported that following the death of Kamehameha I and the period of mourning and purification, Liholiho stopped at Honokohau and dedicated a *heiau* to his god and prepared for his return to Kailua. The events that unfolded at Honokohau set in motion the breaking of the *kapu* and the ancient religious system.

155. In the nineteenth and early twentieth centuries, references to Honokohau are limited - most likely a result of the great changes in the regional population that occurred in the early 1900s.

156. The ancient Hawaiians saw all things within their environment as being interrelated. That which was in the uplands shared a relationship with that which was in the lowlands, coastal region and even the sea. The *ahupua'a* as a land unit was the thread that bound all things together in Hawaiian life.

157. Petitioner prepared a cultural impact assessment in accordance with the methodology and content protocol provided in the Nov. 19, 1997 *Guidelines for Assessing Cultural Impacts* from the OEQC. This assessment included examining cultural practices and beliefs within the *ahupua`a* of Honokohau Nui and Honokohau Iki and surrounding areas, conducting research on archival-historical literature, and identifying and consulting with individuals and/or organizations with knowledge of the area's cultural resources, practices, and beliefs, or of its historical and natural resources.

158. With the exception of the Old Government Road and a cave site on the Petition Area's edge, none of the interviewees shared any knowledge of specific sites in the Petition Area.

159. All interviewees recorded that in the early twentieth century, residency and life in Honokohau focused on activities that took place on the shore or in the uplands, with little activity (except for limited cattle ranching) on the lower plain areas.

160. Those who resided in the Honokohau vicinity all recorded that except for occasional excursions into the lowland plains (generally undertaken as part of the ranch operations), little or no travel occurred via trails in Honokohau Nui for as long as the interviewees can remember.

161. Travel via *mauka-makai* trails in Honokohau Iki-Kealakehe; lateral shore line travel between Honokohau and Kailua; and *mauka-makai* travel between Honokohau to upland Kohanaiki did take place.

162. Interviewees acknowledged significant archaeological sites in the Petition Area such as *ilina* (human remains), sections of the old *mauka-makai* trail, and other sites that should be preserved and curate any artifacts discovered in the Petition Area in a collection in KAHO.

163. Although there are numerous cultural and historic resources present in KAHO that interviewees believed may be affected by the Project, the Property has not been used for traditional cultural purposes in the recent memory of any of the extensive list of interviewees consulted as a part of the oral history research. Based upon the limited range of resources in the Petition Area and the proposed mitigation measures as described in the FEIS, there will be no known affect to the exercise of native Hawaiian rights related to gathering, access or other customary activities, nor to cultural practices or beliefs within the Petition Area.

164. Although the Honokohau lands were highly utilized by native Hawaiians before Western contact, the Petition Area itself is outside those areas that were highly utilized. The Petition Area had much less intensive, often intermittent or transitional utilization, including trails, temporary habitation and agricultural uses.

165. The Petition Area contains cultural resources in the form of archaeological features, including intensive dryland agricultural complexes; temporary, recurrent and permanent habitation sites; trails and *ahu*; petroglyphs; a refuge cave; and *ahupua'a* and various other walls.

**Cultural and Historical Resources – KAHO**

166. Kaloko fishpond is one of the most significant cultural features in KAHO. Historically, the fishpond could produce up to 5,000 pounds of fish per year. A cave in the vicinity of Kaloko fishpond is the reputed burial location of Maui ruler Kahekili and King Kamehameha I.

167. Royal residences were set up along the shoreline, where today we find *heiau*, house platforms and enclosures, burial sites, petroglyphs, agricultural sites, and historic trails.

168. Interviews and oral histories of the Kaloko-Honokohau area highlighted the importance of the *mauka-makai* relationship and the management of the *ahupua'a* in Hawaiian culture. Certain interviewees believed that the Project may impact the water quality in the anchialine pools and Kaloko and Aimakapa fishponds.

169. Fishermen continue to use the traditional *opelu ko`a* as passed down for generations.

170. Water is sacred to native Hawaiians – the dynamic thread that ties the environment together.

171. Important sacred native Hawaiian resources involving waters of KAHO include Kahinahinaula (Queens Bath) and anchialine pools, the Aimakapa and Kaloko fishponds, Aiopio fishtrap and adjacent *heiau*, and near-shore waters used for *pikai* ceremonies.

172. KAHO waters are a central element in many Native Hawaiian practices and rituals performed within the Park boundaries. These traditional practices include traditional techniques such as pole, spear, and net fishing for subsistence gathering and ritual needs, and rely heavily on the quality of the water, including groundwater, in the Park. Hawaiians also gather other marine food resources from KAHO, such as *limu, wana, opihi,* and octopus.

173. The *opae`ula* in the anchialine ponds provide traditional bait and chum for offshore fishing.

174. Religious ceremonies are still carried out by local Hawaiian families within the Park.

175. In furtherance of its mandate, the NPS plans to restore many of these cultural resources, including restoring Kaloko fishpond to recreate it as a functioning fishpond for traditional Hawaiian fishing practices.

176. Degradation of water quality from *mauka* industrial development poses a threat to the traditional native Hawaiian practices in KAHO.

177. Impacts to near-shore waters might alter or reduce marine species utilized by native Hawaiians. A reduction in marine species due to development is a direct impact on native Hawaiian gathering rights.

**Threatened and Endangered Species**

178. There are no threatened or endangered species or species of concern within the Petition Area. Three plants ranging in height from 3 to 6 feet, belonging to the candidate endangered species *ko'oko'olau (Bidens micrantha subspecies ctenophylla)* were

identified near the northeast corner, just outside of the Petition Area. However, it was not clear from the survey whether these plants were still within the remainder portion of the parcel not included in the Petition Area (7-4-08: 13) or located in the adjacent property owned by TSA Corporation.

179. The survey further reported that at least four (4) listed endangered species and shrubs of the *ko'oko'olau* were identified in the undisturbed portions of the Kaloko flow above the Petition Area. The endangered plants are the *'aiea (Nothocestrum breviflorum), ma'oloa (Neraudia ovata), hala pepe (Pleomele hawaiiensis),* and Mariscus fauriei.

180. Development of the Petition Area may increase the potential for fires in this area. The Survey report recommended the establishment of a 50-foot wide area to function as a buffer area and firebreak, along the eastern (*mauka*) boundary at the northeast corner of the Petition Area. The buffer would help to protect the candidate species *ko'oko'olau* located near the northeast corner, above the Petition Area as well as the 4 listed endangered species identified *mauka* of the Petition Area. It was further recommended that the location of the Bidens located near the northeast corner of the Petition Are be more accurately mapped when the Petition Area's boundaries are surveyed.

181. KAHO is home to several endangered and threatened species as well as "species of concern" awaiting listing under the Endangered Species Act ("ESA").

182. The threatened green sea turtle (*Chelonia mydas*) is commonly found along the Kona Coast and KAHO is an important resting and feeding area for a large resident population of juvenile green turtles. The critically endangered hawksbill turtle (*Eretmochelys imbricata*) is also found within the Park.

183. Populations of the endangered humpback whale (*Megaptera novaeangliae*) winter in Hawaiian waters from December to April.

184. Individuals of the endangered Hawaiian monk seal *(Monachus schlauslandi)* are occasionally seen in the area, including KAHO.

185. KAHO is home to the endangered Hawaiian Stilt *(Himanoptus mexicanus knudseni)*, and Hawaiian Coot *(Fulica alai)*.

186. KAHO is home to a number of candidate endangered shrimp species. *Metabetaeus lohena* and *Palaemonella burnsi*, are candidate endangered species, reported to be known from two anchialine ponds located within the Park. United States Fish and Wildlife Service ("USFWS") also listed other candidate endangered shrimp species that might be present, including *Antecaridina lauensis*, *Calliasmata pholidota*, *Procaris hawaiana*, and *Vetacris chaceorum*.

187. The Orangeblack Damselfly (*Megalagrion xanthomelas*) is a candidate endangered species that inhabits the Park's anchialine pools.

188. NPS cannot fulfill its responsibility to ensure clean habitat for these protected species without the cooperation of neighboring landowners.

189. Although KAHO is home to various threatened, endangered and rare species, the Petition Area itself is not. No endangered or threatened avian species were detected. It is possible that small numbers of the endangered endemic Hawaiian subspecies of Dark-Rumped Petrel *(Pterodroma phaeopygia sandwichensis)* may overfly the Petition Area between May and October. However, the distribution of the species has lately been reduced to a limited number of breeding colonies high on Mauna Loa and possibly Hualalai. To minimize the potential for disorientation and subsequent injury or death of the Dark-Rumped Petrels that may overfly the Petition Area, that all street lighting within the Petition Area will be shielded to eliminate upward directed light.

190. Petition Area is not considered to be essential habitat for any native terrestrial vertebrate species.

191. No listed invertebrate species are known from the Petition Area or any directly adjacent areas.

**Nearshore Resources and Coastal Waters**

192. KAHO consists of 596 acres of marine environment. These Park waters support important cultural and natural resources.

193. The Hawai'i State Department of Health ("DOH") classified KAHO waters as double A (AA). The objective of this DOH classification is to preserve the natural pristine state of the water with an absolute minimum of pollution or alternation of water quality from any human-caused source or actions.

194. The Hawai`i State Department of Land and Natural Resources ("DLNR") has designated KAHO waters as a Fish Replenishment Area/ Fisheries Management Area. This is recognition of the important marine resources in the Park. The Park waters are important, accessible fishing and gathering grounds for the local community.

195. The National Coral Reef Initiative is a Federal reef protection and research program that includes KAHO's important reef system in recognition of its national significance.

196. The marine habitat near KAHO is composed of three predominant zones that run parallel to the shoreline. The shallowest zone is formed of a basaltic shoreline bench. The coral *Pocillopora meandrina* is the dominant colonizer in this area of severe wave stress.

197. Based upon data measuring nutrients at the bottom of the nearshore waters of KAHO, the Park's waters are already in violation of the State's water quality standards for nutrients, including nitrates, ammonia, and phosphate, and chlorophyll-a and turbidity.

198. Moving seaward, the flat nearshore bench terminates in a ledge with a vertical face extending to a depth of about 25 feet, beyond which is a typical West Hawai`i reef platform, with high relief. Many reef corals and other benthic fauna find this an ideal habitat.

199. Changes in groundwater chemistry composition from runoff and wastewater discharges may affect the structure of marine-life communities in nearshore areas.

200. Nutrient enrichment of coral reefs and near shore areas may affect marine-life communities and make coral reefs vulnerable to additional devastating indirect effects.

201. Added nutrients and contaminants may affect the quality of sea turtle foraging habitat.

202. Overabundance of nutrients on coral reefs can cause a shift in marine community structure -- dominance of corals to dominance of algae or other non-coral organisms by displacing new corals and overgrowing corals.

203. Nutrient enrichment of coral reefs may have devastating indirect effects, making the community structure vulnerable to additional impacts like disease, over-fishing, storms, and contaminant or petroleum spills.

204. At about 50 feet in depth, the slope becomes steeper, leading to the third zone, in which the coral is dominated by interconnected mats of finger coral (*Porites compressa*). Other important organisms in all zones are sea urchins, sea cucumbers, sponges, red calcareous algae, and various mollusks and crustaceans. The reef fish populations are typical of those throughout West Hawai`i, and include many food fish taken by subsistence and/or recreational fishermen. Surgeon fishes, parrotfish, damselfish, and wrasses are all very common.

205. Use of Park marine resources by people, including the local community and visitors, is an important aspect of KAHO, especially for the practice of traditional and customary native Hawaiian rights. Uses of the shoreline include recreational and subsistence

fishing (including invertebrates and *limu*), swimming, snorkeling, sunbathing, and wildlife viewing (birds, turtles, and marine organisms in the tidepools and reefs).

206. The near-shore coastal waters are connected to, and affected by, the groundwater flow to submarine discharge, seeps and springs in the coastal area.

**Aquatic Resources - Anchialine Pools/Kaloko Fishpond**

207. Water in Kaloko and Aimakapa Ponds is a mixture of seaward-flowing, brackish groundwater, and landward-flowing seawater.

208. Kaloko fishpond has an area of about 11 acres and is the *loko kuapa* type of pond, where a natural embayment is separated from the sea by a man made wall. The pond was constructed between 600 and 800 years ago by native Hawaiians with a dry-set stone wall. Because of its direct connection to the ocean through its *makaha* (sluice gate and porous walls), Kaloko Fishpond is not an anchialine pond and is mostly seawater.

209. Aimakapa fishpond is the largest and most important wetland along the west coast of Hawai'i and is a critically important habitat for endemic endangered waterbirds, migratory waterfowl, and shorebirds. Aimakapa pond is also a valuable cultural resource of high importance to native Hawaiians historically and today.

210. KAHO has at least 70 anchialine pools ranging from tiny depressions in the lava to larger ponds, including Aimakapa pond, representing about 10% of all anchialine resources in the State.

211. These ponds and pools are valuable environments, some with a mixture of native and non-native fish, crustacean and mollusk species, and they serve as feeding and nesting habitat for various birds, including two endangered, endemic species.

212. Any development project has potential to impact downslope water quality. In this case, the ponds, pools, and marine environments within KAHO are highly significant resources.

213. Salinity in Aimakapa Pond is approximately 13 PPT and salinity in Kaloko Pond is approximately 33 PPT (compared to seawater, which has salinity of about 35 PPT). Thus, Aimakapa can be said to be approximately 60-65 percent groundwater, while Kaloko is about 90 percent seawater.

214. A potential mechanism for negative impact to nearshore marine and pond systems is increased sedimentation from surface runoff and wind as a consequence of grading and changes in land use.

215. Loss of wetland habitat is the primary cause of the decline of endangered Hawaiian waterbirds. Urbanization of areas around wetlands causes damage to water quality from urban runoff and other inputs such as nutrients and pathogens.

216. Altering the hydrology of wetland areas makes them less suitable, or even unsuitable, for native waterbirds. Alterations include withdrawals from municipal water sources, which can change the depths of wetlands, affect temperature changes, and cause saltwater intrusion into coastal groundwater supplies, which then alters salinity levels in associated wetlands.

217. Increased nutrients can cause algal blooms that deprive water bodies of oxygen.

218. A lack of dissolved oxygen can kill vertebrate and invertebrate species, giving the bacteria that produces botulism toxin the opportunity to grow.

219. Industrial contaminants (such as pesticides, metals, or other toxins) that reach a water body can also cause acute die-offs, and set the stage for avian botulism.

220. Contamination of fish in Kaloko fishpond from *mauka* development is a major concern for this important cultural and natural resource.

221. The anchialine pools and the species that they support are susceptible to impacts from changes to their unique ecosystem, including water chemistry changes from added nutrients and contaminants.

222. Aimakapa Pond is already impacted by industrial development on the Kona Coast as contaminants have been found in the pond's sediment and fish tissues.

223. Aimakapa Pond is nitrogen limited. Water bodies limited in nitrogen are at risk of eutrophication when additional nutrients, such as nitrogen and phosphorus, are added to the water body.

224. Increased eutrophication leads to changes in plant and animal communities and, in KAHO, potential impacts to federally protected species and their habitat and to native Hawaiian practices.

225. Eutrophication is a gradual accumulation of nutrients and organic biomass, accompanied by an increase in production of organisms (plants or algae) and a decrease in the average depth of water caused by sediments accumulating on the bottom. Man's activities accelerate the eutrophication process, which causes severe problems for affected bodies of water. This acceleration is brought on by human discharges of organic wastes and/or nutrients, such as nitrogen and phosphorus.

226. Based on the mitigation measures to be implemented by the Petitioner as described in the FEIS, the Project is projected to elevate the nutrient concentration (both nitrogen and phosphorus) slightly in the groundwater which will not result in significant changes to the biota of the ponds or nearshore ocean.

227. Based on the mitigation measures to be implemented by Petitioner, as described in the FEIS, the effects of alterations in flow, salinity changes, sedimentation, and nutrients are expected to cause less than significant impacts on aquatic biota in Kaloko and Aimakapa Ponds, and the nearshore and marine environments.

228. Based on the mitigation measures to be implemented by Petitioner, as described in the FEIS, there is also no reason to expect that Project related alterations of groundwater flow, salinity, sediment or nutrient levels will lead to adverse water-related impacts upon the nearshore or marine environments or any particular species.

**Groundwater Resources**

229. Groundwater underlying the Petition Area and traveling within the Park exists as a thin, brackish, relatively slow-moving basal lens in hydraulic contact with saline water at depth.

230. Further inland there is an abrupt change from the brackish basal lens to high-level groundwater of exceptionally low salinity. The existence of this high-level water may be associated with a dike complex located in the vicinity of Mamalahoa Highway.

231. The high-level groundwater has a water table that ranges from 40 to 292 feet above sea level in the wells inland of the Petition Area. Chloride levels are typically less than 10 mg/liter, which is very similar to rainwater, and the temperature is higher than basal water downgradient. Permeabilities are sufficient to accommodate high capacity pumps, and a number of potable water wells draw water from this resource.

232. Groundwater is vulnerable to impacts associated with industrial development and uses, such as the release of petroleum products, solvents, and other toxic chemicals into the groundwater, the disposal of nutrient-rich wastewater, and irrigation and

washwater into the groundwater, contaminated storm water runoff, and the removal of groundwater for drinking water supply.

233. Contamination of groundwater, increased nutrient load in the groundwater, changes in salinity of groundwater, and changes to groundwater volume alter the natural ecosystems in the Park. The myriad of potential impacts of such changes—ranging from massive bird die-offs due to avian botulism to increased population of toxic algae growth in ponds--remain inadequately assessed and lack scientific study.

234. There are four aspects of the Project that have the potential to alter the existing rate of flow, salinity and nutrient levels of the groundwater:

1) Drawing potable supply from inland wells will reduce the rate of flow from the high level aquifer into the basal lens;

2) Excess landscape irrigation and external water uses will percolate downward into the basal lens;

3) The disposal of on site wastewater during an interim period before sewer service is available will be a localized source of recharge and nutrient loading; and

4) Storm water disposed of in dry wells will enter the basal lens.

235. The Project is projected to use approximately 0.367 MGD potable water which would likely come from one or more of the four high level wells in the study area.

236. Withdrawals from any of these wells will diminish leakage of high level groundwater into the downgradient basal lens. Based on model results from the USGS, this would reduce the flow of groundwater through KAHO by 0.055 MGD, or 2.6 percent of existing flow.

237. Such a change is not considered significant, as natural variations in groundwater levels related to periodic changes in ocean levels are far greater. At the same time, there will be some increase in salinity levels at both ends of the range.

238. Most potable water that does not become wastewater would be used for landscape irrigation, dust control or other external uses. Approximately 0.029 MGD of irrigation and other water would percolate through to the groundwater system beneath the Petition Area and would then flow into the southern half of KAHO.

239. Because this amount of water is very small relative to the quantity of flow in the basal lens, it would produce almost no measurable impact.

**Wastewater**

240. There may be an interim period after partial development of Phase 1 before the Petition Area is connected to the County of Hawai`i's Kealakehe WWTP. During this interim period, wastewater will be disposed of in individual systems approved by the DOH (e.g., septic tanks and leach fields). Without enhanced treatment, there would be potential for nutrient-enhanced groundwater from the Petition Area to reach the ponds of KAHO.

241. To minimize potential impacts, enhanced Individual Wastewater Systems ("IWS") will be utilized, where the IWS and absorption field are designed to remove no less than 92 percent of the Total Nitrogen and to provide additional phosphorus removal. Petitioner will develop and participate in a Wastewater Treatment System Maintenance Agreement to assure appropriate operation and maintenance of the IWS. A maximum of 40 lots are proposed to use the enhanced IWS.

242. About 0.055 MGD of treated wastewater would be added to the groundwater flowing beneath the Petition Area and to the water flowing through the southern half of KAHO, carrying the IWS treated wastewater with a relatively small load of nutrients with it, which would significantly reduce any potential impacts.

243. The County of Hawai`i, through its Department of Environmental Management, has initiated the process to establish an improvement district to extend sewer lines

into the Petition Area and surrounding lands. Petitioner is committed to participate in the improvement district on a fair and equitable basis.

244. It is expected that County sewer lines will extend into the Petition Area by no later than 2010, and all businesses in the Petition Area will then connect to the Kealakehe WWTP. Wastewater will be conveyed to the Kealakehe WWTP, treated, and reused for irrigation. With respect to wastewater, the regional impact on groundwater of developing the Petition Area would be negligible following connection to the Kealakehe WTTP..

245. No State wastewater system regulations protect significant natural resources and DOH rules do not address the removal of nutrients, such as nitrogen and phosphorous, that may disrupt natural systems.

**Surface Water**

246. Generally, there is no surface water runoff within the Petition Area, due to its location above sea level in a dry area of highly permeable lava substrate. Over non-paved surfaces, surface runoff is rarely observed during even the most intense rainfalls. There are no wetlands located within the Petition Area.

247. Surface water is a source of polluted runoff or "nonpoint source pollution" because the water carries pollutants from impermeable surfaces such as roads, roofs and parking lots, picking up spills, trash and other contaminants. In a lava environment, this contaminated surface water can quickly leach into the lava towards the groundwater. Significant pollutant types include sediments, nutrients, toxins, floatables, and pathogens.

248. Untreated surface water from industrial development will potentially impact National Park resources by contaminating the groundwater that reaches the Park's ponds and coastal areas. Control of contaminated surface water can be achieved through the development of a Pollution Prevention Plan ("PPP") designed to address all pollutants associated

with industrial developments and to identify measures that will contain and treat such pollutants, in order to prevent any release into the environment, including the groundwater.

249. Drainage wells provide a direct conduit to groundwater, and are sometimes drilled into groundwater. Groundwater contamination from drainage wells is a serious problem because it affects drinking water, and also streams and the ocean.

250. There are no State laws or County codes currently in place to ensure that pollutants carried with surface runoff do not get into the environment through groundwater. This lack of protection puts water quality and natural resources at risk where drainage wells are used. County drainage well standards are only designed for flood control purposes and not for removing any hazardous substances.

251. The consequences of nonpoint source pollution are increased risk of disease from water recreation, algae blooms, fish kills, destroyed aquatic habitats, and turbid waters.

252. Industrial contamination, including pesticides and solvents, has been found in groundwater sources in other parts of the State of Hawai'i

253. Most polluted runoff is from people's activities on the land and water, which can and should be prevented through appropriate measures.

254. Approximately one-third to one-half of the 15-20 inches of rain that fall on the Petition Area per year enter the groundwater system. This is equivalent to 0.15 MGD. The rest is lost to the atmosphere through evapotranspiration.

255. Development of the Project will render much of the land surface impermeable to water. On the local scale, this will create surface runoff that will be collected and disposed of in dry wells and/or settling ponds, and then percolate into the basal lens.

256. The amount of storm water reaching the basal groundwater after development will be higher than pre-development percolation and therefore there may be changes to the amount of groundwater flow or salinity levels; but based upon design assumptions, mitigation measures as described in the FEIS, and Best Management Practices ("BMPs") the volume and salinity levels are not anticipated to appreciably change.

257. Storm water can, however, increase nutrient levels and add toxics to groundwater. In order to mitigate potential impacts, the Petitioner will implement measures as described in the FEIS. Described mitigation measures include that the Petitioner, to the extent possible, shall first treat all runoff entering the ground to remove all industrial waste so that no industrial pollutants will reach KAHO or enter the water table. Petitioner shall be subject to and prepare covenants, conditions and restrictions for the Petition Area to contain spills and prevent materials associated with industrial uses attributable to the operations of the Property, including petroleum products, chemicals or other pollutants from leaching or draining into the ground or subsurface storm drain collection areas.

258. Based on the mitigation measures to be implemented by Petitioner, as described in the FEIS, nitrogen and phosphorous levels percolating from storm water runoff will be significantly reduced.

259. No adverse effects on the quantity or quality of potable well water from any existing or proposed wells will occur as a result of the Project. The total reduction in groundwater flow - an estimated 2.6 percent - will occur as a result of Project potable water wells withdrawing from high level aquifers. This degree of withdrawal is not considered significant, as natural variations in groundwater level related to periodic changes in ocean levels are far greater. At the same time, there will be some increase in salinity at both ends of the range.

260. Under State and County laws, any storm water must be disposed of onsite. A system of collecting surfaces and channels will funnel drainage into storm water injection wells that will dispose of this collected runoff.

261. The State of Hawai'i, through its Coastal Zone Management ("CZM") Program is developing a "Coastal Non-Point Pollution Control Program" in accordance with EPA's Guidance Document for compliance with Section 6217 of the Coastal Zone Act. Improved Best Management Practices may result from adoption of new standards.

262. The National Pollutant Discharge Elimination System (NPDES) permit, which is also anticipated to be necessary for the Project because of the area required to be graded, is also being revised and strengthened.

**Sedimentation**

263. Increased sedimentation in the surface water bodies *makai* of the Project is highly unlikely. Surface water runoff has rarely, if ever, been observed in the area due to the highly porous nature of the underlying basalt, and thermal convection from solar heating of the land mass produces wind that predominantly blows inland. This would transport most Project-related dust away from coastal areas.

264. It is unlikely that measurable amounts of sediment would reach these surface water bodies. Any small additional inputs of sediment from construction activity are not likely to affect organisms in that area, thus no mitigation measures are necessary to reduce sedimentation.

**Toxic and Hazardous Substances**

265. A variety of chemicals that have adverse impacts on the health of plants, animals, and humans even at fairly dilute levels are classified as toxic substances. Toxic substances include petroleum-based hydrocarbons, synthetic organic compounds found in

pesticides, heavy metals, and radioactive substances. Toxic substances are often constituents of very commonly used substances such as gasoline, household cleaning fluids, weed-killers, and batteries, and they can enter sensitive waters through improper handling and disposal.

266. The most likely form of release from the Project is non-point source accumulations such as parking or maintenance areas which are washed away by rainfall and percolate into the subsurface.

267. In the absence of adequate scientific evidence to show that the additional contaminants generated by the Project will not harm KAHO, precautionary measures to protect important natural and cultural resources including effective controls on pollution must be in place to contain and treat contaminants to protect the groundwater and the Park.

268. The USGS Study shows that KAHO has already been impacted by industrial development on the Kona Coast, finding contaminants in groundwater, pond sediments, and fish within KAHO.

269. Untreated surface water from the Project will potentially impact KAHO's resources by contaminating the groundwater that reaches the Park's ponds and coastal areas.

270. Control of contaminated surface water can be achieved through the development of a PPP designed to address all pollutants associated with industrial development and to identify measures that will contain and treat such pollutants in order to prevent any release into the environment, including the groundwater.

271. In order to protect the Park *makai* of the Project, the PPP should focus on structural BMPs, particularly in roadways and gutters, to contain surface runoff. BMPs are measures, controls, and devices used to prevent pollution from being discharged into waters such as rainwater and surface water then carried into streams, ponds, and oceans.

272. The Petition Area has essentially no soil, and underlying lava formation is highly permeable making it easy for organics and petroleum products to reach groundwater and ultimately discharge into the anchialine pools and Kaloko Fishpond within KAHO.

273. The BMPs implemented by Petitioner should include storage and handling on impervious (paved) surfaces, containment of storm water runoff, and appropriate treatment (such as oil-water separators) before discharge.

274. The Project will be primarily limited to industrial-commercial activities. For portions of the Petition Area proposed for heavy industry, Petitioner will prohibit uses that pose the greatest potential to severely contaminate groundwater, including heliports, bulk storage of flammable materials, landfills, fertilizer manufacturing plants, junkyards, public dumps, refining of petroleum products and commercial pesticide and/or extermination facilities and power plants. These restrictions on land uses will limit potential sources of contaminants.

275. In light of the proposed mitigation measures to be implemented by the Petitioner, as described in the FEIS (including those above), the risk of toxic substances contaminating ponds and nearshore waters is minimal.

**Scenic Resources**

276. The Petition Area occupies a corridor of land extending *mauka* from elevations of 40 to 75 feet at Queen Ka'ahumanu Highway up to elevation of 280 to 320 feet at the top of the Property. It is surrounded to the north and south by two other developed or developing commercial/industrial areas. The Petition Area is directly *mauka* of KAHO.

277. The main concerns regarding visual impact are the potential to:

- interfere with KAHO views of the scenic slopes of Hualalai;
- insert a disharmonious element to viewers from various parts of the Park; and

- detract from the viewplane of Queen Ka'ahumanu motorists, who now have a view *mauka* through 69kV lines within the highway right-of-way towards the quarried area and some disturbed open space.

278. There are expansive views from the coastal areas of Honokohau and KAHO extending to the summit of Hualalai that look over the Petition Area to the forested areas *mauka* of Honokohau and the summit area of Hualalai.

279. Queen Ka'ahumanu Highway extends in a north/south direction along the boundary between KAHO and the Petition Area. This highway introduces a "built" landscape into this area that includes utility lines and graded and paved areas as well as 70-foot high steel utility poles constructed by Hawaii Electric Light Company ("HELCO") that intrude into the *mauka* views from the Park.

280. The quarry area along the *mauka* portions of the Petition Area is for the most part screened from view from KAHO and Queen Ka'ahumanu Highway by a topographic bench that runs parallel to the slope through the middle of the Petition Area. Land *makai* of this bench is visible from the Park and Queen Ka'ahumanu Highway.

281. The topography of the area is such that the scenic view of the summit and upper slopes of Hualalai from the coastal areas of Honokohau extending *mauka* will not be obstructed by the Project.

282. Several approaches have been employed to present an attractive, harmonious appearance for viewers from KAHO and motorists on Queen Ka'ahumanu Highway:

- Setbacks, landscaping, design elements, and height limits in the critical "first-row" of buildings will help provide an attractive and minimally intrusive gateway for the Project. Additionally, certain lots in this visually sensitive "first-row" area will be required to adhere to lower building height limits than those allowed by the Hawai'i County Zoning Code height limit for buildings in the MCX zoned district.

- The landscaping utilizes fast-growing species to provide a buffer for the early years of the Project as well as slower-growing trees that will begin to provide the mature landscaping framework as time progresses. Various native and Polynesian species will be incorporated into the landscape along with selected exotic species.
- Grading Plans will specify a gradual, step-by-step elevation of lots *mauka* from the setback line, minimizing the potential for looming lines of buildings.
- Topographic and/or landscaping buffering are planned around the *makai* edge of the quarry area.
- Consultation with the Park is ongoing and will continue through the design plans for the Project, particularly with respect to South Access Road which will provide access to both the National Park and the Project.

283. The primary public viewpoints of the Petition Area include: (1) *mauka* views from Queen Ka'ahumanu Highway; (2) *makai* views from upper Hina Lani Street in the vicinity of Mamalahoa Highway; (3) southerly views from Hina Lani Street; and (4) *mauka* views from KAHO.

284. There are no significant impacts affecting views or visual resources as architectural design criteria will include consideration of building profiles and design, exterior color and surface treatment, and exterior lighting and sign standards.

**Flora Resources**

285. A total of 46 species were identified within the Petition Area. Of these plant species, 29 (64%) are introduced, 10 (22%) are indigenous (i.e., native to the Hawaiian Islands and elsewhere), 4 (9%) are endemic (i.e., native only to the Hawaiian Islands), 2 (4%) are originally of Polynesian introduction and 1 (2%) is questionably indigenous (meaning that the origin is not clear, but there is sufficient data to conclude that it is probably native).

286. Quarry scrub vegetation covers the *a'a* flow on the northern half of the Property. Almost all of the *a'a* flow has been bulldozed and disturbed at some time by the quarry operation. Where the flow is actively used by the quarry, there are few plants, if any.

Parts of the lava support low, dense *koa haole* shrubs and fountain grass. Some native plants are found in patches of *a'a* lava where the rough substrate has prevented heavy grazing. On the northeast corner of the Property, there are a few clumps of *`ohi`a lehua.*

287. *Koa haole* shrubland occurs on the *pahoehoe* flows on the southern half of the Property. It is composed of *koa haole* shrubs with a dense cover of fountain grass between the shrubs. Scattered through the shrubs are trees of *kiawe* and jacaranda, as well as shrubs of Christmas berry, klu, *maiapilo* and *noni*.

288. None of the plants found within the Petition Area during the survey is a rare, threatened or endangered species. All of the native plants which are found on the Property can also be found in similar dry lowland environments in West Hawai'i and on most of the main Hawaiian Islands.

**Fauna Resources**

289. An ornithological and mammalian survey of the Petition Area was conducted in December 1999 and no native, endangered or threatened avian or mammalian species were detected.

290. Only one mammal was sighted, a mongoose, but skeletons, scat, or other signs of feral goats, cattle and donkeys were also observed. It is also likely that Norway rats (and possibly the Polynesian rat), mice, dogs and cats utilize the area.

291. The endangered Hawaiian hoary bat has been recorded from the general area in past faunal surveys and thus is likely to occasionally forage above the Petition Area, however, none were detected by this survey.

292. A total of 15 avian species were detected during station counts. All of the species recorded are considered to be alien to the Hawaiian Islands. No native, endangered or threatened avian species were detected within the Petition Area during the course of this survey.

293. There is the possibility that small numbers of the endangered endemic Hawaiian subspecies of the Dark-Rumped Petrel may overfly the Property between May and October. However, the distribution of the species has lately been reduced to a limited number of breeding colonies high on Mauna Loa and possibly Hualalai.

294. The potential impact that the Project poses to the endangered Dark-rumped Petrels is the increased threat of the downing of birds disoriented by exterior lighting associated with the Project. To reduce the potential for interactions between nocturnally flying Dark-rumped petrels with external lights and man-made structures, exterior lighting within the Project will be shielded.

**Recreational Resources**

295. There are several State Parks in the Kona area. These include the Old Kona State Park, Kealakekua Bay Historic State Park, Kekaha Kai State Park, Keolonahihi State Historic Park and Napo`opo`o Beach Park.

296. County parks in the Kona region include Disappearing (White) Sands Beach Park, Ho`okena Beach Park, Kahalu`u Beach Park, Manini Point (Napo`opo`o), Miloli`i Beach Park, and Pahoehoe Beach Park. Tennis courts are available at Greenwell Park in Captain Cook, Higashihara Park in Keauhou, and at Kailua Playground. There are several private, semi-private, and resort-owned golf courses in the area, which are also open to the public.

297. Approximately 450 berthing slips are provided for recreational and commercial vessels at Honokohau Small Boat Harbor located approximately 1.1 miles southwest of the Petition Area at Honokohau Bay.

**Noise**

298. Noise levels on the Petition Area are currently influenced by on-site quarrying, as well as adjacent industrial and commercial activity, the Queen Ka'ahumanu Highway and various smaller roadways.

299. According to noise level measurements taken in June 2000 at the northern boundary and various locations inside and outside of the Petition Area, the quarry operation and related activities are the only significant current onsite sources of noise. However, the average noise level at the northern boundary of the Petition Area was 56 dBA (the DOH maximum permissible sound level for commercial uses is 60 dBA and 70 dBA for industrial uses), with traffic and wind being the dominant sources of noise.

**Construction-Generated Noise**

300. Operation of construction equipment and construction activities may generate noise exceeding 95 decibels at times, which may impact nearby areas. In cases where construction noise exceeds, or is expected to exceed, the DOH's maximum permissible levels, a permit must be obtained from DOH to allow the operation of vehicles and equipment which exceed these levels.

301. The contractor will comply with requirements pertaining to construction activities as specified in the rules and conditions issued with the permit as stated in Section 11-46-7(d)(4), HAR, as determined to be necessary during consultation with DOH. Construction equipment and onsite vehicles will be equipped with mufflers as stated in Section 11-46-6(b)(1)(A), HAR.

**Quarry-Related Noise**

302. Sample measurements taken in the vicinity of various quarry activities were used to predict the future impact of quarrying activities as they progress southward. Heavy equipment, rock crushers and large drills that periodically operate at the top of the quarry will be the dominant source of noise generated by quarry operations.

303. When the quarry reaches its southernmost location, without mitigation, the maximum permissible noise level for industrial land use of 70 dBA would be periodically exceeded in a small section of the Petition Area adjacent to the quarry that is ultimately planned for industrial uses. Similarly, the maximum permissible noise level for commercial land use of 60 dBA would be periodically exceeded in a larger section of the Petition Area adjacent to the quarry.

304. Industrial structures such as warehouses or manufacturing facilities may be built between the quarry and the more sound sensitive commercial areas, thus serving to buffer those areas from the quarry noise.

**Air Quality**

305. The State of Hawai'i operates a network of air quality monitoring stations around the State. Systematic data are not available for most criteria pollutants in Kona, except for particulates and sulfur dioxide which are of concern because of their association with vog.

306. The data are derived from the Kona station, located on the campus of Konawaena High School, 14 miles south of the Petition Area.

307. Measurements of sulfur dioxide at this location during 1999 were consistently low, with an average concentration of 6mg/$m^3$, which represents about 8 percent of the State and national standard.

308. No exceedances of the State/national 3-hour and 24-hour ambient air quality standards ("AAQS") for sulfur dioxide were recorded.

309. There were no violations of the AAQS during the 1999 monitoring period.

310. Air quality in the study area is currently mostly affected by emissions from motor vehicles, industry and natural sources.

311. There have been no reported measurements of lead, ozone, nitrogen dioxide or carbon monoxide in the Project vicinity. These are primarily motor vehicle related air pollutants.

312. Ambient air quality levels in the immediate vicinity would be most affected by vehicular emissions in the form of carbon monoxide ("CO") generated by Project-related traffic. Planned traffic and roadway improvements in the immediate Project vicinity will improve traffic flow and consequently help to reduce CO concentration levels.

313. The Project will generate air quality impacts that are relatively minor and within all national standards. State standards will be exceeded during peak hours at some intersections under worst-case meteorological conditions.

314. Though the specific residents of the mixed-use commercial/light industrial portion of the Project have not yet been identified, it is expected that they would not have the potential to emit substantial amounts of air pollution. None of the permitted uses within the mixed-use commercial/light industrial area have the potential to emit significant amounts of air pollution.

315. State of Hawai'i air pollution control rules, Chapter 11-60, HAR ("Air Pollution Control Regulations"), require that any activity that causes air pollution must obtain written approval from the Director of the DOH.

316. The Project does not have the potential to cause air quality to worsen in an appreciable manner such that it approaches federal or State standards for any criteria pollutants.

317. Fugitive dust emissions may arise from grading and dirt-moving activities associated with site clearing and preparation work. The Air Pollution Control Regulations prohibit visible emissions of fugitive dust from construction activities beyond the property line.

318. An effective dust control plan for the Project construction phase is essential.

319. Potential air quality impacts during the construction phase of the Project will be mitigated by complying with the Air Pollution Control Regulations.

**Adequacy of Public Service and Public Facilities**

320. No hookup to the local wastewater treatment plant is currently available. Without adequate mitigation measures that significantly reduce the release of nutrients into the groundwater, the use of standard individual wastewater treatment systems poses a risk to the resources of KAHO.

321. Schools servicing the Petition Area include Kealakehe Elementary, Kealakehe Intermediate and Kealakehe High Schools located approximately 1.9 miles to the southeast of the Petition Area.

322. The elementary school's capacity is 1,064 students, and the 1999/2000 school year enrollment was 898 students, putting the school at approximately 84 percent capacity. Kealakehe Intermediate School, with facilities for 1,078 students, is at 86 percent capacity with 930 students. Kealakehe High School opened in 1997, and is currently at 85 percent capacity with a student body numbering 1,119 in grades 9 through 12.

323. The Project will not generate a substantial demand for schools as the work force is anticipated to be primarily from the existing population.

324. No significant impacts on schools would result from the Project, as little direct population increase would be attributed to the Project and the considerable net benefit in terms of State taxes would help fund schools.

**Solid Waste Disposal**

325. The County of Hawai'i does not provide solid waste collection service to individual residences or businesses in the region. Solid waste at the Kealakehe transfer station is received, compacted, and transported in trailers to the West Hawai'i Landfill at *Pu'uanahulu* approximately 18 miles north of the Petition Area.

326. Solid waste generated by the Project will be collected by private refuse collection companies and transported to the County's *Pu`uanahulu* landfill for disposal.

327. The 2002 draft addendum to the *Integrated Solid Waste Management Plan* (Hawai'i County Department of Public Works 1993) states that *Pu`uanahulu* landfill contains more than 12,000,000 cubic yards of capacity, "which should be enough to accommodate the current waste stream for the first half of the 21st century".

328. The area allotted for the West Hawai'i Landfill is approximately 300 acres with 150 acres designated for landfill purposes. Cells ranging in size from 3 to 5 acres within the 150-acre footprint are opened as needed, usually at two to three year intervals. The first cell of the 150-acre landfill at *Pu'uanahulu* was opened in 1993 with a projected capacity of 3 to 5 years. The landfill is currently working within the 6th of the 22 cells.

329. The West Hawai'i Landfill currently handles approximately 270 tons of refuse per day with a projected anticipated increase of 3,000 tons per year (or 8 tons per day) for the next 5 to 6 years. At this rate of anticipated increase of refuse, there should be enough capacity for approximately 40 to 45 years. This projection does not include the anticipated

increase of refuse being trucked in from East Hawai'i to the West Hawai'i Landfill starting in 2004 with the closure of the Hilo Landfill.

330. The Hilo Landfill currently handles approximately 180 to 200 tons of refuse per day and is scheduled for closure around late-2004 when the capacity is gone. If significant diversion programs are not instituted, island wide utilization could cut the life of the West Hawai'i Landfill.

331. Using standard assumptions concerning industrial/commercial facilities of a population density of 40 persons per acre and a waste generation rate of 5-6 pounds/per capita/per day, the annual solid waste at build-out for 270 acres would be 7,100 to 8,500 tons, which could be substantially reduced through recycling and greenwaste programs.

332. The waste stream of the Project that would enter the landfill would be between 4,473 and 5,355 tons per year at full build-out - a maximum of about 0.27 percent of the remaining capacity of the Pu`uanahulu Landfill taking into consideration that the Hilo Landfill and/or alternatives are utilized. Assuming that full-build out progresses at an even pace and is complete approximately 30 years in the future, the total waste stream over the next 50 years would be about 187,000 tons, or about 9.4 percent of the landfill's capacity.

**Water System**

333. Potable water is provided by the County's Department of Water Supply from its North Kona Water System. The Petition Area will be serviced by an existing 12 inch waterline within the Queen Ka'ahumanu Highway.

334. Additional water improvements would be required to serve the Petition Area at full build-out. These improvements will include source, transmission and storage facilities.

335. The Petition Area water system improvements will be coordinated with the Department of Water Supply and developed in accordance with their standards and requirements.

336. The Project's average daily water demand was estimated to be 1,120,000 GPD. However, based on very similar land use elsewhere in Kona, along with information from the existing quarry and related operations, it is estimated that upon full development of the Petition Area, a more realistic average daily water demand would be 367,000 GPD.

337. The Project has been considered by State and County agencies during planning for sustainable use of the Hualalai aquifer and implementation of the Project will not result in withdrawals in excess of sustainable yields nor preclude other planned uses.

338. Prior to any final subdivision approval or development of any industrial uses, the Petitioner will be required to obtain approval from the Department of Water Supply that adequate water source, distribution and transmission facilities are available to serve the Project.

**Highway and Roadway Service**

339. The Petition Area borders Queen Ka'ahumanu Hughway, a two-lane arterial highway with right-of-way capacity for expansion to a six-lane highway with additional frontage roads. It is the primary highway along the South Kohala and North Kona coasts.

340. Other major roadways that provide access to the vicinity of the Petition Area include Mamalahoa Highway and Hina Lani Street.

341. Mamalahoa Highway provides the primary route between Waimea and Kailua-Kona. Hina Lani Street provides *mauka-makai* access between Queen Ka'ahumanu Highway and Mamalahoa Highway.

342. Access to the Petition Area itself is currently via an existing road to the quarry. This road ("North Access Road") has exclusive left- and right-turn acceleration lanes at its intersection with Queen Ka'ahumanu Highway.

343. Two intersections off the Queen Ka'ahumanu Highway will provide access to the Petition Area; the existing quarry road and another that will be built opposite the access to the KAHO entry ("South Access Road").

344. Lateral access will be provided through the proposed extension of the existing Kamanu Street between Hina Lani Street and Kealakehe Parkway.

345. As a part of the design for the Queen Ka'ahumanu Highway widening improvements, Petitioner has agreed to relocate the main access for the Project on the Queen Ka'ahumanu Highway approximately 700 feet to the south and opposite the South Access Road. The Hawai`i State Department of Transportation ("DOT") is proposing to be responsible for fully improving this intersection with traffic signals and turning lanes as part of this agreement.

346. The Petitioner's traffic impact assessment analyzed traffic conditions at various intersections in the vicinity of the Petition Area during the weekday morning (6:30-9:30AM) and afternoon (2:00-5:30PM) peak traffic hours in October 1999 and identified potential traffic impacts resulting from the Project. Intersections surveyed included:

1. Queen Ka'ahumanu Highway and Hina Lani Street;
2. Hina Lani Street and Kanalani Street;
3. Hina Lani Street and Kamanu Street; and
4. Mamalahoa Highway and Hina Lani Street.

The analysis is based upon the concept of Level of Service ("LOS") developed by the Transportation Research Board.

347. Levels of Service are defined by LOS "A" through "F", with LOS "A" representing ideal or free flowing conditions and LOS "F" representing unacceptable conditions.

348. Most intersections within the study area operated at satisfactory LOS (i.e., "C" or better) during the 7:15 AM - 8:15 AM peak hour of traffic, while Queen Ka'ahumanu and Mamalahoa Highways themselves operated at an overall LOS "D" and "E" respectively during this period.

349. During the 4:00 PM - 5:00 PM peak hour, the Hina Lani - Kanalani Street intersection operated at a LOS "F", and the left-turn movement from Hina Lani Street onto Queen Ka'ahumanu Highway operated at a LOS "F". All other intersections within the study area operated at satisfactory LOS ("C" or better) during this time. Queen Ka'ahumanu and Mamalahoa Highways operated at an overall LOS "E" during this period.

**Year 2010 Traffic Analysis**

350. The traffic analysis considered the combined traffic from the general "background" increase between now and 2010. The *Hawai'i Long-Term Land Transportation Plan* (HLRLTP) estimated about a 3.4 percent annual increase using 1999 as a base year. In order to be conservative, the traffic analysis then added traffic generated from the Project and the Kaloko Industrial Park Phases III and IV, and traffic generated from other developments operating on the expected road network for various key intersections.

351. Without the Project, the key intersection in the Petition Area - Queen Ka'ahumanu Highway and Hina Lani Street - is expected to operate at an overall LOS "B" during the AM peak traffic hour, and LOS "C" during the PM peak traffic hour.

352. Without the Project, Queen Ka'ahumanu Highways's intersections with the North and South Access Roads will generally have good LOS except for a LOS "D" in the PM peak at the North Access Road.

353. Without the Project, the Hina Lani Street intersections with the sidestreets entering the Kaloko Industrial Park will have fairly poor LOS at the peak hours, and the Mamalahoa Highway intersection with Hina Lani Street will have LOS "F" at both peaks.

354. The peak hour increase in vehicles generated by the year 2010 by the Project is expected to impact traffic on existing roadways in the area. In order to mitigate the traffic impacts resulting from the Project, various project-related improvements, in addition to those associated with other projects, are proposed to be completed as part of the Phase 1 development activities.

355. In order to mitigate the effects of the Project, Petitioner will contribute its fair and reasonable pro-rata funding and/or construction of regional transportation improvements and programs. The following "project-related improvements" are proposed to be completed as part of the Phase 1 development activities:

- Westbound South Access Road will be provided with three lanes at its intersection with Queen Ka`ahumanu Highway.
- The right-turn deceleration and acceleration lanes on northbound Queen Ka`ahumanu Highway at the North Access Road will be lengthened.
- Kanalani Street will be extended from the northern boundary of the Petition Area to intersect with the North and South Access Roads.
- Kamanu Street will be extended from the northern boundary of the Petition Area to intersect with the North and South Access Roads.

356. Comparing with and without-Project scenarios, the key intersection of Queen Ka'ahumanu Highway and Hina Lani Street is expected to have the same satisfactory levels during the AM and PM peaks as without the Project.

357. Peak hour AM and PM LOS at the intersections off Hina Lani Street will stay at roughly the same unsatisfactory levels as without the Project.

358. The Hina Lani Street - Mamalahoa Highway intersection would improve from unsatisfactory to satisfactory levels.

359. The peak hour increase in vehicles generated by the year 2010 by the Project is expected to impact traffic on existing roadways in the area. The traffic improvements recommended in the FEIS, in addition to those associated with other projects, are expected to mitigate the traffic impacts resulting from the Project.

**Year 2020 Traffic Analysis**

360. The traffic analysis considered the combined traffic for the general "background" increase between now and 2020, traffic generated from the Project and the Kaloko Industrial Park Phases III and IV, and traffic generated from all other developments operating on the expected road network for various key intersections.

361. Without the Project, the LOS at the Queen Ka'ahumanu Highway and Hina Lani Street intersection would have deteriorated somewhat by 2020 to overall LOS "C" during the peak AM traffic hour and LOS "D" during the peak PM traffic hour.

362. Without the Project, the Queen Ka'ahumanu Highway's intersections with the North Access Road would have a LOS "D" at the AM peak and a LOS "F" at the PM peak, while the South Access Road would have a LOS "B" at both peaks.

363. Without the Project, similar to 2010, the Hina Lani Street intersections with the sidestreets entering the Kaloko Industrial Park would have fairly poor LOS at the peak hours and the Mamalahoa Highway intersection would have LOS "C" at both peaks.

364. The peak hour increase in vehicles generated by the year 2020 by the Project is expected to impact traffic on existing roadways in the area. In order to mitigate the traffic impacts resulting from the Project, various project-related improvements, in addition to

those associated with other projects, are proposed to be completed as part of the Phase 2 and 3 development activities.

365. In order to mitigate the effects of the Project, Petitioner will contribute its fair and reasonable pro-rata funding and/or construction of regional transportation improvements and programs. The following "project-related improvements" are proposed to be completed as part of the Phase 2 and 3 development activities:

- Northbound Queen Ka`ahumanu Highway will be widened at the South Access Road in the vicinity of the intersection to provide an additional through-traffic lane.
- Southbound Queen Ka`ahumanu Highway will be widened at the South Access Road in the vicinity of the intersection to provide an additional through-traffic lane.
- A median storage lane will be built on *mauka*-bound Kealakehe Parkway at Kamanu Street.
- A channelized right-turn lane will be built on *makai*-bound Kealakehe Parkway at Kamanu Street.

366. Comparing the with and without-Project scenarios, the Queen Ka`ahumanu Highway and Hina Lani Street intersection would improve as a result of the diversification of entry points to the general area that would be provided by the improvements in the Petition Area.

367. Because of the Project, LOS would improve at this key intersection to LOS "B" at both the AM and PM peak. LOS at the North Access Road would also improve relative to the without-project scenario. LOS at the South Access Road, however, would decline, although to levels that are still somewhat acceptable.

368. Peak hour LOS would also improve at the main intersection on Kealakehe Parkway - that of Queen Ka`ahumanu Highway - relative to the without-Project scenario. LOS

at Kealakehe Parkway's lesser intersection with Kamanu Street, however, would decline somewhat.

369. Peak hour AM and PM LOS at the intersections off Hina Lani Street would stay at roughly the same unsatisfactory levels as without the Project.

370. The Hina Lani Street - Mamalahoa Highway intersection would decline slightly to barely acceptable LOS.

371. The peak hour increase in vehicles generated by the year 2020 by the Project is expected to impact traffic on existing roadways in the area. The traffic improvements by Petitioner's traffic analysis, in addition to those associated with other projects, would mitigate these impacts and result in an overall improvement from the without-Project scenario.

372. Although not all intersections would improve in LOS, and some would decline, the major intersections of Queen Ka`ahumanu Highway with Hina Lani Street and Kealakehe Parkway would be less congested with the Project than without it if all of the mitigation measures are implemented.

**Public Utilities**

373. Electrical power is provided by HELCO, a privately owned utility company regulated by the State Public Utilities Commission.

374. HELCO's Keahole generating plant, along with generating facilites in East Hawai'i, provides electrical capacity to West Hawai'i.

375. The peak electrical demand of the Project when fully developed is expected to reach 6,500 kilowatts ("kW"). Assuming average demand is approximately one half the peak demand, the annual electrical demand of the project will reach approximately 28 million kilowatt-hours ("kWh").

376. The Project's estimated buildout annual electrical demand of 28 million kWh represents 2.8 percent of the total current energy being delivered by the HELCO system, which totaled 1,013,610,116 kWh in 1999 and 1,047,609,750 kWh in 2000. As the Project develops, its actual proportional use of HELCO's output will be smaller, as HELCO's capacity grows and the Project slowly expands electrical demand.

377. HELCO has stated that based on coordination with the Project's electrical engineers, the utility will have the capacity to supply the Project with its electricity requirements.

378. HELCO's current strategy for meeting energy needs of the next 20 years involves 141 megawatts ("MW"), which will be met through a combination of conventional power plants (oil and coal fired) and with an unknown portion of renewable energy (solar, wind, hydroelectric, geothermal, and ocean thermal energy conversion). Increased utilization of renewable energy alternatives will depend upon new policies and incentives that may be established.

379. The Petition Area, along with most of West Hawai'i, receives between 200 and 250 watts per $cm^2$ in insolation (solar radiation) *(UH-Hilo 1998:50)* and daytime temperatures are frequently higher than 85 degrees Fahrenheit. This has favorable implications for both passive and active use of sunlight and also indicates a high need for air conditioning and/or alternative cooling strategies. This has several implications in terms of energy:

- Solar water heating is highly practical at the present.
- Buildings that provide for passive cooling, daylighting and similar measures will yield substantial energy use reductions.
- Photovoltaic power is a distinct possibility.

380. Because of its location in a highly insolated area of the Big Island, the Project should also prepare for the eventuality that photovoltaic electricity production will be cost effective. The "break-even" point for homes and businesses in Hawai`i that are currently

connected to the grid is considered by energy experts to be on the horizon. This will occur through interaction of key factors including technology improvements, fossil fuel energy price increases, tax credits, renewable energy profile credits, load profiles, and electrical distribution changes such as net metering, which allows small scale generators to sell their excess energy back to the utility at retail rates. The break-even point may come soon for businesses with peak loads during the daytime hours, when direct use of energy avoids the extra costs associated with storage.

381. In addition, there is great potential for daylighting and use of passive cooling design (window tinting, natural ventilation, etc.), and similar measures that can provide for substantial energy use reductions and better working environments. Energy efficiency design may also provide economic benefits. HELCO currently offers "Commercial and Industrial Energy Efficiency Programs" that give participants direct cash incentives for energy conservation measures beyond current standard practice for both retrofit and new construction projects. These include space cooling, motors, lighting, and customized incentives.

382. Currently, telephone service to the area is provided by Verizon Hawai`i Tel from the switching facilities in Kailua-Kona, with trunk cables supported on HELCO's 69 kV poles *mauka* of Queen Ka'ahumanu Highway.

383. Sun Cablevision provides cable service to West Hawai`i. There is presently no cable television service in the vicinity of the Petition Area, with the nearest service at the Villages of La`i`opua, several miles to the southeast.

384. Businesses in the Petition Area are somewhat likely to use solar water heaters, particularly if existing tax credits remain in place to encourage such use.

385. The potential for photovoltaic electricity generation is currently low because of the relatively high initial investment costs, the requirement to maintain systems and

the overall higher cost per kWh compared to conventional electrical power acquired from the utility. Various studies by the U.S. Department of Energy, state energy offices, energy institutes and private businesses have estimated that photovoltaic costs well exceed the costs of production by fossil fuels.

**Police and Fire Protection**

386. The Kealakehe Police Station is located on Queen Ka'ahumanu Highway 1.5 miles south of the Petition Area. Eight patrol units with over 50 officers are assigned in three watches, providing 24-hour service to North and South Kona.

387. The Kailua-Kona Fire Station is located approximately 3 miles away from the Petition Area at the intersection of Palani Road and Queen Ka'ahumanu Highway. The station provides service for all of North Kona and assists with fire emergencies in adjacent districts.

388. Although it is likely that the Project would require the occasional police and fire protection services, it would likely represent a minimal amount relative to the overall regional demand.

**Health Care Services**

389. The Petition Area is within the service area of the 75-bed Kona Community Hospital located in Kealakekua, approximately 10 miles to the south. Although the hospital provides for most surgical needs, specialty cases are transferred to Honolulu hospitals.

390. Another medical facility in the region is the North Hawai`i Community Hospital in Waimea. The Hospital has 50 beds and provides a full spectrum of acute care services, including a 24-hour emergency room, medical/surgical care, obstetrical/gynecological care, cardiac care, and long-term care.

**Commitment of State Funds and Resources**

391. Petitioner intends to finance the Project using a range of alternatives, including, but not necessarily limited to, equity contributions, conventional financing, joint venture partners and/or independent developers. Revenues obtained from sales/lease of the early development phases would also be available to finance subsequent phases of the Project and will not require direct expenditures by either the State of Hawai`i or the County of Hawai`i.

**Conformance to Applicable District Standards**

392. The Property will be zoned and developed for general "heavy" industrial use, and industrial-commercial mixed use and is located close to other industrial uses.

393. The Petition Area is contiguous to land in the urban district to the north (Kaloko Industrial Park Phases I and II), the south (Honokohau-Iki Industrial uses) and to the west (KAHO and Honokohau Boat Harbor). The petition for district boundary amendment for Phases III and IV of the Kaloko Industrial Park was granted by the LUC on February 14, 2002.

394. The Petition Area was included within a larger area that was recommended for reclassification from the State Land Use Conservation District to the State Land Use Urban district during the State's Five-Year Boundary Review in 1992.

395. Pursuant to Section 15-15-18, HAR, in determining the boundaries for the urban district, the Commission is directed to use the following standards:

(1) *It shall include lands characterized by "city-like" concentrations of people, structures, streets, urban level of services and other related land uses.*

The Petition Area is approximately 3 miles from the major commercial and urban center of West Hawai'i, Kailua-Kona, and approximately 3.5 miles south of the Kona International Airport at Keahole. It is contiguous to an existing concentration of urban uses, including streets and other urban levels of infrastructure.

(2) *It shall take into consideration the following specific factors:*

- *Proximity to centers of trading and employment except where the development would generate new centers of trading and employment*.

- *Availability of basic services such as schools, parks, wastewater systems, solid waste disposal, drainage, water, transportation systems, public utilities and police and fire protection.*

- *Sufficient reserve areas for foreseeable urban growth.*

The Petition Area is adjacent to the Kaloko Industrial Park to the north and the Honokohau industrial developments to the south. Approximately 232 acres within the Petition Area are already in or approved for urban quarry and quarry-related uses. All basic public services are available to the Petition Area.

(3) *It shall include lands with satisfactory topography, drainage and reasonably free from the danger of any flood, tsunami, unstable soil condition and other adverse environmental effects.*

The topography and drainage of the Petition Area are satisfactory and the area is reasonably free from flooding, tsunami hazards, unstable soil conditions and other adverse environmental factors.

(4) *Land contiguous with existing urban areas shall be given more consideration that non-contiguous lands and particularly when indicated for future urban use on state or county general plans.*

The Petition Area is contiguous to existing urban areas and is indicated for future urban use in the *Hawai'i County General Plan*, the *West Hawai'i Regional Plan* of the Office of Planning, and the County of Hawai'i's *Keahole-to-Kailua Development Plan*.

(5) *It shall include lands in appropriate locations for new urban concentrations and shall give consideration to areas of urban growth as shown on the state and county general plans.*

The reclassification of the Petition Area is consistent with State and County land use plans, including the *Hawai'i County General Plan*.

(6) *It may include lands which do not conform to the standards in paragraphs (1) to (5): When surrounded by or adjacent to existing urban development, and only when those lands represent a minor portion of the district.*

The reclassification of the Petition Area conforms to the standards in paragraphs (1) through (5).

(7) *It shall not include lands, the urbanization of which will contribute toward scattered spot urban development, necessitating unreasonable investment in public infrastructure or support services.*

The Petition Area is contiguous to existing urban districts and reclassification will not result in scattered spot urban development, nor necessitate unreasonable investment in public infrastructure or support services.

(8) *It may include lands with a general slope of twenty percent or more in the commission finds that those lands are desirable and suitable for urban purposes and that the design and construction controls, as adopted by any federal, state or county agency, are adequate to protect the public health, welfare and safety, and the public's interests in the aesthetic quality of the landscape.*

The Petition Area extends *mauka* from Queen Ka'ahumanu Highway in a moderate slope, between 5 to 8 percent, with elevation rising from approximately 40 to

approximately 320 feet above sea level.

**Hawai`i State Plan**

396. The aspects of the plan most pertinent to the proposed classification are the following:

§226-10 *Objective and policies for the economy - potential growth activities.* (a) Planning for the State's economy with regard to potential growth activities shall be directed towards achievement of the objective of development and expansion of potential growth activities that serve to increase and diversify Hawai`i's economic base. To achieve the potential growth activity objective, it shall be the policy of this State to (among other actions):

(1) Facilitate investment and employment in economic activities that have the potential for growth such as diversified agriculture, aquaculture, apparel and textile manufacturing, film and television production, and energy and marine-related industries.

(2) Expand Hawai`i's capacity to attract and service international programs and activities that generate employment for Hawai`i's people.

(5) Promote Hawai`i's geographic, environmental, social, and technological advantages to attract new economic activities into the State.

(6) Provide public incentives and encourage private initiative to attract new industries that best support Hawai`i's social, economic, physical, and environmental objectives.

(11) Increase research and development of businesses and services in the telecommunications and information industries.

In regard to the above, Project development is anticipated to have the following results:

- The development phase of the Kaloko-Honokohau Business Park is expected to generate nearly 174,683 "worker years" of direct employment

resulting in an estimated $5.2 billion in total wages; with indirect impacts of more than twice this amount with revenue flow through West Hawai`i;

- The operating businesses of the Project will generate 6,915 permanent jobs on-site and an additional 3,357 off-site with total annual wages of $298.75 million;
- The proposed classification is consistent with the goals objectives and policies of the *Hawai`i State Plan* calling for continued expansion and diversification of economic activities and opportunities; and
- The proposed industrial and commercial activities would support the stability of existing economic sectors and also provide a good location and setting for support businesses for the burgeoning sectors such as telecommunications and ocean-related technology.

§226-11 *Objectives and policies for the physical environment - land-based, shoreline, and marine resources.* Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of prudent use of Hawai`i's land-based, shoreline, and marine resources and effective protection of Hawai`i's unique and fragile environmental resources. To achieve the land-based, shoreline, and marine resource objectives, it shall be the policy of the State to:

(1) Exercise an overall conservation ethic in the use of Hawai`i's natural resources.

(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(3) Take into account the physical attributes of areas when planning and designing activities and facilities.

(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(5) Consider multiple uses in watershed areas, provided such uses do not detrimentally affect water quality and recharge functions.

(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawai`i.

(7) Provide public incentives that encourage private actions to protect significant natural resources from degradation or unnecessary depletion.

(8) Pursue compatible relationships among activities, facilities, and natural resources.

(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

In regard to the above, Project development is anticipated to have the following results:

- Mitigation of impacts to the quality of groundwater and marine waters affecting the natural and cultural resources of KAHO through conditions of approval imposed herein;
- The provision of an open-space buffer established by KAHO between the highway and the sea; and
- No loss of pristine landscape because the area has a long history of quarrying and related industrial activities.

§226-12 *Objectives and policies for the physical environment - scenic, natural beauty, and historic resources.* Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawai`i's scenic assets, natural beauty, and multi-cultural/historic resources. To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of the State to:

(1) Promote the preservation and restoration of significant natural and historic resources.

(2) Provide incentives to maintain and enhance historic, cultural, and scenic amenities.

(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.

(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

In regard to the above, Project development is anticipated to have the following results:

- Architectural design criteria for the Project will minimize adverse visual impacts and address aspects of building design including profiles, materials, color, surface treatment, reflectivity, lighting, sign standards and landscaping;
- Proposed landscaping will provide a buffer that mitigates the "industrial" look and does not conflict with views from KAHO of the scenic summit and upper slopes of Hualalai; and
- All burials and all historic sites that have been determined to be significant for preservation will be preserved.

§ 226-13 *Objectives and policies for the physical environment - land, air and water quality.* Planning for the State's physical environment with respect to land, air, and water quality shall be directed towards maintenance and pursuit of improved quality in Hawai'i's land, air, and water resources, and greater public awareness and appreciation of Hawai'i's

environmental resources. To achieve the land, air, and water quality objectives, it shall be the policy of this State to:

(1) Promote the proper management of Hawai'i's land and water resources.
(2) Promote effective measures to achieve desired quality in Hawai'i's surface, ground, and coastal waters.
(3) Encourage actions to maintain or improve aural and air quality levels to enhance the health and well-being of Hawai'i's people.
(4) Reduce the threat to life and property from erosion, flooding, tsunami, hurricanes, earthquakes, volcanic eruptions, and other natural or man-induced hazards and disasters.
(5) Encourage design and construction practices that enhance the physical qualities of Hawai'i's communities.
(6) Encourage urban developments in close proximity to existing services and facilities.
(7) Foster recognition of the importance of and value of the land, air, and water resources to Hawai'i's people, their cultures and visitors.

In regard to the above, Project development is anticipated to have the following results:

- Water quality effects that will be limited to levels that do not cause any substantial adverse impacts through implementation of Best Management Practices and eventual connection to the Kealakehe WWTP or other facilities that provide advanced wastewater treatment.

**Hawai`i CZM Program**

397. Hawai`i's CZM Program, established pursuant to Chapter 205A, HRS, as amended, provides for the beneficial use, protection and development of the State's coastal zone. The objectives and policies of the CZM Program encompass broad concerns such as impact on recreational resources, historic and archaeological resources, coastal scenic resources and open space, coastal ecosystems, coastal hazards, and the management of development. The Project, taking into consideration the conditions of approval imposed herein is consistent with the

following applicable CZM objectives and policies:

- Historic Resources: Historic resources of significance will be protected and preserved under a plan approved by the SHPD.

- Scenic and Open Space Resources: Although coastal open space is not in any way impacted by the Project, any development in the area has the potential to impact views of and from the coastline. The Project includes design elements that ensure minimal interference with such views.

- Coastal Ecosystems: Coastal ecosystems in the area are dependent upon the preservation of water quality in groundwater, anchialine ponds and marine waters. Hydrological modeling indicates that water quality alterations would not adversely impact the biota if mitigation measures are properly implemented and enforced.

- Coastal Economic Uses: Coastal economic uses would not be affected by the Project.

- Coastal Hazards: Coastal hazards would not be affected by the Project.

- Managing Development: Managing development is accomplished through the review procedures that accompany a Petition to Amend a Land Use District Boundary. Given the substantial commitment to mitigation measures, the proposed reclassification would not substantially impact these coastal zone resources and appears to be consistent with the objectives of the CZM Program.

**Hawai`i County General Plan**

398. The proposed reclassification is consistent with the goals, objectives and policies of the *Hawai`i County General Plan*. The Petition Area is served by existing infrastructure and located along a major thoroughfare. The improved economic opportunities

would be compatible with the County's natural and social environment and would help diversify the County's economy by strengthening existing industries and attracting new endeavors.

399. In terms of the goals, objectives and policies related to protecting the environment, pollution prevention, and scenic and historical resources, new developments have been occurring in environmentally sensitive areas due to the limited supply of land suitable for development.

400. Water quality effects can be limited to levels that do not cause adverse impacts to KAHO through implementation of BMPs and eventual connection to the Kealakehe WTTP. Given this, direct and indirect effects to biological resources would be negligible.

401. Historic resources will be protected through following the recommendation of the archaeological inventory survey, and ensuring that known burials and all historic sites that have been determined to be significant for preservation are preserved. Given this context, the proposed reclassification is consistent with the *Hawai`i County General Plan's* goals of preserving and protecting these resources.

402. The area is *mauka* of Queen Ka'ahumanu Highway, with KAHO providing an open-space buffer between the highway and the sea. The area is between two other commercial-industrial areas and does not represent an intrusion of a developed area into pristine landscape, because the area has a long history of quarrying and related industrial activity. It takes advantage of existing and proposed road, water and sewage facilities. Proposed design and landscaping would provide an attractive roadway frontage with a landscaped buffer that mitigates the "industrial" look and does not conflict with views from the National Park of the scenic summit and upper slopes of Hualalai.

**Hawai`i County General Plan Land Use Pattern Allocation Guide ("LUPAG")**

403. The LUPAG map component of the *General Plan* is a graphic representation of the Plan's goals, policies and standards as well as of the physical relationship between land uses.

404. The Petition Area has been designated as *Industrial* and *Urban Expansion* by the LUPAG map. These designations are described by the *General Plan* as follows:

- Industrial Area - These areas include uses such as manufacturing and processing, wholesaling, large storage and transportation facilities and light industrial uses.
- Urban Expansion – Allows for a mix of high density, medium density, low density, industrial and/or open designations in areas where new settlement patterns may be desirable, but where the specific settlement pattern and mix of uses have not been determined.

The Project is consistent with these land use designations.

**Project Phasing**

405. The Project is proposed to be developed in three phases. All phases are anticipated to be commenced, and completion of certain phases is expected to occur within ten (10) years of the issuance of this order. Phases 1 and 2 are expected to be completed by 2012, and Phase 3 is expected to commence in 2011.

## CONCLUSIONS OF LAW

1. The Commission finds upon the clear preponderance of the evidence that the reclassification of the Property, consisting of approximately 336.984 acres situated at Honokohau, North Kona, Island and State of Hawai`i, identified as Tax Map Key No: 7-4-8:13 (por.) and 30, from the Conservation District to the Urban District, upon the

conditions set forth in this Decision and Order, is reasonable, conforms to the standards for establishing the Urban District boundaries, is not violative of section 205-2, HRS, is consistent with the Hawai`i State Plan as set forth in Chapter 226, HRS, the Coastal Zone Management Program, as set forth in Chapter 205A, HRS, and the policies and criteria established pursuant to section 205-17, HRS, and conforms to Chapter 15-15, HAR.

2. Article XII, Section 7 of the Hawai`i Constitution requires the Commission to protect native Hawaiian traditional and customary rights: The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by *ahupua'a* tenants who are descendants of native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

3. The State's power to regulate the exercise of customarily and traditionally exercised native Hawaiian rights allows the State to permit development that interferes with such rights if the preservation and protection of such rights would result in actual harm to the recognized interests of others. Nevertheless, the State is obligated to protect the reasonable exercise of customarily and traditionally exercised rights of native Hawaiians to the extent feasible. Public Access Shoreline Hawai`i v. Hawai`i County Planning Commission, 79 Hawai`i 425, 450, n. 43, 903 P.2d 1246 (1995).

4. Native Hawaiian rights protected by the Hawai`i Constitution that are practiced within KAHO include pole, spear and net fishing; gathering of *limu, wana, opihi,* and octopus; gathering the *opae`ula* in anchialine pools for bait and chum for offshore fishing; religious ceremonies, including *pikai* ceremonies using nearshore waters.

5. The ancient fishponds and anchialine pools within the National Park are valued and important natural and cultural resources.

6. The endangered, endemic birds and the threatened and endangered sea turtles within the Park are valued and important natural resources.

7. The aforesaid native Hawaiian rights and natural and cultural resources would be damaged or destroyed by the pollution of groundwater that reaches the Park from surrounding areas, including Petitioner's Project on the Petition Area. Appropriate mitigation measures are, therefore, required under the Hawai`i Constitution and the Commission's decision-making criteria in order to approve reclassification of the Petition Area.

## DECISION AND ORDER

IT IS HEREBY ORDERED that the Property being the subject of Docket No. A00-730, filed by Petitioner, Lanihau Properties, LLC, consisting of approximately 336.984 acres of land in the State Land Use Conservation District at Honokohau, North Kona, Island of Hawai'i, County of Hawai'i, State of Hawai'i, identified as Tax Map Key No. 7-4-8: 13 (por.) and 30, is hereby reclassified into the State Land Use Urban District, and the State land use district boundaries are amended accordingly, subject to the conditions of approval set forth herein.

This Commission is acutely aware that continuous development is planned for this coastline. Although each developer might claim that only a "small amount" of pollution will result from their development and that the area's ecosystem will show "little" effects, these developments and their impacts are cumulative and, absent strong mitigation measures, have the potential to devastate the fragile resources of the coastal and marine aquatic environments of the entire Kona coastal region.

Absent adequate, effective and enforceable conditions of approval, including removal of wastewater nutrients and surface runoff contaminants, Petitioner's Project has the

potential to cause unacceptable adverse impacts to coastal resources, particularly the natural and cultural resources of the adjacent Park and the traditional and customary native Hawaiian practices that depend on the sensitive nature of such resources.

Based upon the findings of fact and conclusions of law stated herein, it is hereby determined that the customary and traditional native Hawaiian practices, the cultural resources, and the important natural systems and habitats of the Park that have been identified herein shall be adequately protected by the conditions of this decision and order.

To protect the exercise of customary and traditional native practices; to protect the historical and cultural resources of the coastal area including KAHO; to ensure the health and preservation of the natural systems and habitats of KAHO, including the endangered, threatened , and endemic species and their habitat, the reclassification of the Property shall be subject to the following conditions:

**Wastewater**

1a**.** The Petition Area shall be developed with dry sewer lines for eventual connection to the Kealakehe WWTP.

1b. The Petition Area shall be required to connect to the WWTP, when such connection is available. The Petitioner, its successors, and assigns, shall collaborate with the County of Hawai'i to include the Petition Area within an improvement district, if one is developed, to fund the connection to the WWTP. The Petitioner or individual lot owners within the Petition Area shall pay for their fair share of the cost to fund such connection to the WWTP, whether or not an improvement district is established.

1c. Except for the existing quarry operations and the construction of the roads and utilities as provided for below, the Petitioner and/or any future owners(s) of the Petition Area shall refrain from constructing upon or occupying any portion of the Petition Area until such

time as the portion (e.g., lot) to be constructed upon or occupied is connected to the WWTP, unless in the interim, the portion to be constructed upon or occupied has installed a septic tank system or other Individual Wastewater System (IWS) designed to remove no less than 60% Total Nitrogen from the treatment system (e.g., septic tank with FAST, Biofilter, Recirculation Filters, Sequential Batch Reactor, or comparable technology) and an absorption field of import material which is constructed in a manner to achieve no less than 80% reduction of nitrogen and 90% reduction in phosphorous; featuring adequate percolation rate. The existing quarry operation shall have in place an IWS as described above within one year of the date of issuance of boundary reclassification. Installation is subject to conditions of approval imposed by the Director of the Hawai'i State Department of Health and Hawai'i Administrative Rules (HAR) Title 11 Chapter 62. When connection to the WWTP becomes available, all portions of the Petition Area, including all individual lots therein, shall connect to the WWTP, whether or not an interim wastewater treatment system has been installed.

1d. Utilization of the IWS described above in Condition lc shall be limited to no more than 40 lots to be developed in the Petition Area.

1e. The owner of the IWS shall certify with the Hawai'i State Department of Health that the IWS shall be operated and maintained in accordance with all of the provisions of the operation and maintenance manual developed pursuant to HAR 11-62. The certification shall include that upon the sale or transfer of ownership of the IWS, the sale or transfer will include the appropriate transfer documents and provisions binding the new owner to the operation and maintenance manual.

1f. Petitioner and/or each individual lot owner(s) shall develop and participate in a Wastewater Treatment System Maintenance Agreement, before constructing upon or occupying any portion of the Petition Area, that shall provide for safe and effective operation and

maintenance of the treatment unit(s), whether shared or individual, and/or the temporary sewage line. The Maintenance Agreement shall require a contract with a wastewater professional to regularly inspect, maintain and certify that the IWS unit(s) installed in the Petition Area are operating correctly. Necessary repairs shall be performed promptly and record of repairs shall be kept. This requirement shall be included in the conditions of sale of any lot and/or parcel in the Petition Area.

1g. Should the NPS elect to pursue installation of a temporary sewage line to the WWTP for the KAHO Visitor Center construction project, the Petitioner may elect, subject to prior authorization by the NPS, to dispose of wastewater from not more than 20 lots in the Petition Area, via such temporary line to the WWTP. In no event shall the temporary sewage connection be in place and utilized for longer than five (5) years from the date of completion of construction of such temporary line except at the sole discretion of the NPS. The Petitioner shall pay its fair share cost to fund such temporary connection to the WWTP, as determined by the NPS, the Petitioner and the County of Hawai'i. When connection to the WWTP becomes available through permanent sewer lines, all portions of the Petition Area, including all individual lots that may have been connected to the above described temporary sewage line, shall connect to the WWTP through permanent lines, whether or not one or more lots were connected via the temporary sewage line. Connection of not more than twenty (20) lots to the WWTP via such temporary sewage line does not release any other individual lots within the Petition Area from compliance with any other condition(s) of this decision and order.

**Storm water and Surface Water Run-off**

2a. To the extent possible, all storm and surface water runoff shall be captured on the premises. To the extent possible, all runoff entering the ground shall be first treated to remove all industrial waste so that no industrial pollutants will reach KAHO or enter the water

table. Petitioner shall be subject to and prepare covenants, conditions, and restrictions for the Petition Area and each lot into which the Petition Area may be subdivided, to contain spills and prevent materials associated with industrial uses attributable to the operations of the Property, including petroleum products, chemicals, or other pollutants from leaching or draining into the ground or subsurface storm drain collection areas. Said covenants shall be subject to the approval of the DOH, upon consultation with the NPS, and the County of Hawai'i. The Petitioner and/or tenant shall obtain all required permits and construct required improvements for storm water discharge on and from the Property. These conditions shall include the following:

2b. Prior to the occupancy of any part of the Petition Area, the Petitioner shall engineer, construct (or require to be constructed) and maintain surface water/storm water containment systems that ensure no Federal, State, or County water quality standards will be violated. The foregoing is not applicable to uses permissible under the existing quarry permit.

2c. No injection well shall be constructed as an element of a surface water/storm water containment system in the Petition Area unless, prior to the start of any construction, appropriate requirements of HAR Chapter 11-23 are satisfied and the Hawai'i State Department of Health issues an UIC (Underground Injection Control) permit. Contaminants shall be monitored and removed with best efforts prior to entering injection wells. Monitoring protocols for injection wells shall be established in the Pollution Prevention Plan, pursuant to Condition 3b. All monitoring records shall be maintained and made available to the DOH, the County and the NPS, upon request.

2d. If a large void, such as a lava tube or solution cavity, is encountered during drilling, where the drill rod drops more than three feet, measures shall be taken to prevent migration of the injected fluids to KAHO to the satisfaction of the Hawai'i State Department of Health as described in HAR §11-23-09(f).

2e. All injection wells established in the Petition Area shall be operated in such a manner that they do not violate any of the DOH's administrative rules under title 11 HAR, regulating various aspects of water quality and pollution, and chapters 342-B, 342-D, 342-F, 342-H, 342-J, 342-L, and 342-N, HRS. Relevant HAR include but, are not limited to: i. Chapter 11-20, "Rules Relating to Potable Water Systems"; ii. Chapter 11-62, "Wastewater Systems"; and iii. Chapter 11-55, "Water Pollution Control".

2f. The operator of any injection well or wells in the Petition Area shall keep detailed records of the operation of the well or wells, including, but not limited to, the type and quantity of injected fluids, and the method and rate of injection for each well. Such records will be available for inspection or review by the Hawai'i State Department of Health as specified under appropriate sections of HAR Chapter 11-28.

2g. Any person who violates any of these conditions shall be subject to penalties as prescribed in appropriate chapters of HRS and HAR as they relate to (but are not limited to): Potable Water Systems; Wastewater Systems; Water Pollution Control; Safe Drinking Water; and Underground Injection Control.

2h. The Petitioner, successors and/or individual lot owners in the Petition Area shall ensure that all drainage injection wells or subsurface drainage structures are designed with an appropriate size debris catch basin to allow the detention and periodic removal of rubbish and sediments deposited by runoff. Storm water runoff shall first enter the debris catch basin before flowing into the drainage well. The debris catch basin shall be periodically inspected and cleaned accordingly. Oil/water separators shall be utilized where petroleum products are used.

2i. The Petitioner shall establish an owners' association with the power to oversee and report violations as a second line of defense against pollution violations.

**Pollution Prevention**

3a. Petitioner currently operates a quarry in a portion of the Petition Area. Any further public or private industrial development within the Petition Area which could be considered a new source of pollution or an increased source of pollution shall, in its initial project design and subsequent construction, provide the highest and best degree of waste treatment practicable under existing technology.

3b. Except for the existing quarry operation and the construction of roads and utilities, before constructing upon or occupying any portion of the Petition Area, a Pollution Prevention Plan (PPP), after consultation with the NPS, shall be developed that addresses each of the types of uses permissible in the Petition Area, by specifically designating Best Management Practices (BMPs) tailored to each specific use. Emphasis shall be given to structural BMPs to prevent any and all pollutants that may be associated with such industries from being released into the environment, including reaching the groundwater. Structural BMPs shall include, but shall not be limited to, oil/water separators, detention ponds, lined containment pits, and storm water filtration units designed to contain and remove industrial contamination. The PPP shall include but not be limited to: i. All cleaning, repairs and maintenance of equipment involving the use of industrial liquids, such as gasoline, diesel, solvent, motor oil, hydraulic oil, gear oil, brake fluid, acidic or caustic liquids, antifreeze, detergents, degreasers, etc. shall be conducted on a concrete floor, whether roofed or unroofed. The concrete floor shall be constructed to contain any drip or spills and to provide for the recovery of any spilled liquid. Water drainage from these concrete floors if necessary, shall pass through a separator sump before being discharged. The PPP may identify exceptions to this rule under specific circumstances, provided that

adequate alternative BMPs (structural or otherwise) are identified and utilized for containment. ii. Any containers used for storage of used oil or other industrial liquids shall be kept on a concrete surface. The surface shall be bermed to prevent the loss of liquid in the event of spills or leaks. The containers shall be sealed and kept under shelter from the rain. (The Department of Labor and Industrial Relations' Occupational Safety and Health regulations, sections titled, "Housekeeping Standards" and "Storage of Flammable or Combustible Liquids," shall be followed along with the local fire code.) iii. All employees shall be informed to immediately collect and contain any industrial liquid spills on the concrete floor and should be informed against discharging or spilling any industrial liquids. Employees shall be aware to prevent any industrial spill onto the bare ground. In the event that the Petitioner and the NPS cannot agree upon a mutually acceptable final PPP within 12 months of the date of issuance of the boundary reclassification, the Commission shall review the draft PPP, along with written comments from Petitioner, the NPS and the other parties, and shall issue a final PPP. In no event shall the Petitioner and/or individual lot owner(s) construct upon or occupy any portion of the Petition Area until such time as the final PPP is complete. The final PPP shall be recorded and shall run with the land within the Petition Area in the same manner as all conditions of approval imposed by the Commission. In the event that a specific use is proposed for the Petition Area that is not specifically addressed in the final PPP, the Petitioner and/or the individual lot owner(s) proposing such use shall consult with the NPS to establish a set of BMPs appropriate for such proposed use and consistent with the goal of preventing any and all pollutants from being released into the environment.

3c. The Petitioner, its successors or individual lot owners shall provide signage for all drainage/injection wells in the Petition Area with warnings such as the following: DUMP NO WASTES. GOES TO GROUNDWATER AND OCEAN. HELP PROTECT

HAWAI`I'S ENVIRONMENT. Signage shall be either stand-up (legible from at least 30 feet, permanently posted at an effective and safe height) or painted on the ground next to the drainage well's inlet.

3d. For parking areas, BMPs will be established as covenants running with the land, which emphasize pollution prevention rather than treatment. All large vehicles such as buses, trucks or construction equipment shall utilize drip pans to avoid release of petroleum onto paved or graveled surfaces or, in the alternative, all parking areas for large vehicles shall include grassed or vegetative swales to capture drainage from such parking areas. Areas used primarily for automobile parking shall be periodically checked and cleaned to avoid build up of oil or other automotive fluids. Protocol for cleaning parking areas shall be established in the Pollution Prevention Plan, pursuant to Condition 3b. Maintenance work other than emergency work on vehicles will be banned in parking areas.

3e. Where site geometry permits, the Petitioner, its successors or individual lot owners shall design and construct (or require to be constructed) landscaped areas, including grassed or vegetative swales to capture storm water drainage from all perimeter lots, facilities, and parking areas of the Petition Area. For all vegetative swales, Petitioner and/or individual lot owners may apply only the minimum required nutrients (fertilizer) to maintain the vegetation without causing significant nutrient runoff, and the water used for irrigation purposes shall not exceed the amount necessary to maintain the vegetation.

3f. Owner or operator covenants developed for the Petition Area shall expressly disclose to all future individual lot owner(s) the existence of the National Park System Resource Protection Act, 16 U.S.C. Sections 19jj-19jj-4, and the consequences of violation of such act. In particular, future land owners shall be made aware that any person who destroys, causes the loss of, or injures any park system resource is liable to the United States for response

costs and damages resulting from such destruction, loss or injury.

3g. In performing the requirements of this Condition 3, the Petitioner shall consider and, to the extent practical, incorporate the information and ideas brought forth in the regional (Kaloko-Honokohau) pollution prevention forum convened by the Commission on November 4, 2002. The information and ideas at the forum included: pollution prevention planning; best available control technologies (BACT); structural and operation BMPs addressed to the type of uses permissible in an industrial park, and formulas for determining fair share and reasonable pro-rata share costs relating to any groundwater monitoring program.

**Groundwater Quality Monitoring**

4. The Petitioner shall contribute its fair and reasonable pro-rata share of costs relating to a groundwater monitoring program of USGS Wells 4161-01, 4161-02 and 4061-01, Aimakapa Pond, Kaloko Pond and two (2) other anchialine ponds of KAHO as identified by the NPS. Monitoring would continue once every six months for 10 years from initial occupancy, or until such time as sewer lines and hookup to the WWTP is implemented provided further that if conditions of approval in Docket Nos. A89-643 and A00-732 are amended to require a longer monitoring period or the Petitioners in those dockets otherwise agree to a longer monitoring period, the Petitioner shall be required to participate in the monitoring program for the extended period. Constituents to be monitored shall be of a full suite of nutrients (including nitrogen and phosphate), contaminants (including metals, phenolic compounds, pesticides and pesticide breakdown products, chlorinated solvents, BTEX compounds, selected pharmaceutical endocrine disruptive compounds, such as ethinyl estradiol, and nonylphenol), and standard water quality parameters (including pH, temperature, dissolved oxygenates, and salinity). The fair and reasonable pro-rata share of costs will be determined by the Commission and in conjunction with the findings generated at the regional pollution prevention forum discussed above.

**Prohibited Uses**

5. The Petitioner, its successors and assigns are prohibited from engaging in or allowing the following uses in the Petition Area: heliports, bulk storage of flammable and/or explosive materials (tank farms), landfills for dumping or disposal of refuse or waste matter (except for green waste/composting facilities), fertilizer manufacturing plants, junkyards, public dumps, saw mills, refining of petroleum products, slaughterhouses, commercial pesticide and/or extermination facilities, and power plants.

**Transportation**

6a. With respect to the Petition Area, the Petitioner shall contribute its fair share and reasonable pro-rata funding and construction of regional transportation improvements and programs to the satisfaction of the State Department of Transportation.

6b. The Petitioner shall participate and collaborate with the County of Hawai'i Department of Public Works and other affected agencies in the development of county feeder streets within the Petition Area.

6c. Petitioner shall participate in the fair and reasonable pro-rata funding and construction of any such roadways from its northern boundary to the southern boundary in accordance with the roadway requirements of the County of Hawai'i.

6d. The Petitioner shall participate and collaborate in a regional transportation planning committee to be established by the County of Hawai'i. Participants in this regional transportation planning committee shall include, but not be limited to, representatives from the State Department of Transportation, County of Hawai'i Planning Department and individuals or entities with a property or development interest within the region.

**Financial Contribution Plan**

7. The Petitioner shall coordinate with affected State or County agencies the development of a financial plan for satisfying any financial contributions or requirements associated with this Project. All such plans may provide for an annual fair share incremental payment to the affected agency by the Petitioner out of the development revenues or otherwise. The affected State or County agency may establish a dedicated escrow account for the deposit and utilization of the financial contribution from Petitioner to facilitate this plan.

**Affordable Housing**

8. The Petitioner shall submit a housing needs assessment and implementation plan to the Commission and appropriate County housing agency for their review and approval within six months of the issuance of this decision and order and comply with the County of Hawai'i affordable housing policy. The housing needs assessment shall be based on an analysis of the jobs generated by the Project, the projected number of qualified households which may be entitled to housing assistance as specified by the County of Hawai'i, the number and availability of affordable housing units and rentals in the West Hawai'i area (both planned and built), the projected number of employees from the development who might be expected to commute from East Hawai'i, the number of owner occupants (within the Petition Area) who reside in the West Hawai'i area and the number of employees who might already reside in the West Hawai'i area.

**Archaeological/Historical Sites**

9a. The Petitioner shall prepare a mitigation and preservation plan for review and approval by the Department of Land and Natural Resources State Historic Preservation Division, prior to any land alteration activity in the vicinity of the sites. The preservation plan shall include the following eight (8) sites recommended for preservation in the Archaeological

Inventory Survey: 02; 18081; 18088; 18099; 18116; 18117; 18134; and 18197.

9b. The Petitioner shall coordinate with the State Historic Preservation Division regarding burial treatment plans for all of the burial sites (5 identified within sites 18088, 18116, 18117, 18134, and 18197). Petitioner shall also comply with all applicable statutory provisions and administrative rules regarding inadvertent burial finds within the Property.

9c. The Petitioner shall incorporate, where possible, portions of one *mauka-makai ahupua'a* trail (site 18099) and portions of the Mamalahoa Trail (02) into the site/project plans for the Project. Additionally, the petroglyph concentrations (site 180181) located immediately east of the Mamalahoa Trail (site 02) will also be preserved.9d. Should any previously unidentified burial, archaeological or historical sites such as artifacts, marine shell concentrations, charcoal deposits, stone platforms, pavings or walls be found, the Petitioner, developer(s) and/or landowners of the affected properties shall stop work in the immediate vicinity and the State Historic Preservation Division of the Department of Land and Natural Resources (SHPD) shall be notified immediately. The significance of these finds shall then be determined and approved by the SHPD. Subsequent work shall proceed upon an archaeological clearance from the SHPD when it finds that mitigative measures have been implemented to its satisfaction.

**Landscaping**

10a. In consultation with the NPS, Petitioner shall develop a landscaping plan for the Petition Area that must be followed by each subsequent lot owner/tenant. Fisherman knowledgeable of traditional reference points used in locating fishing grounds, and the NPS shall be consulted on the development of building and landscape design guidelines prior to construction to maintain these reference points. In particular, landscaping and other visual

design elements at the South Access Road intersection will be designed to render a harmonious connection between the Petition Area and the Park.

10b. Petitioner, where feasible, shall use indigenous and water conserving plants and incorporate the same into common area landscape planting.

10c. The Amy B.H. Greenwell Botanical Garden, KAHO and other interested parties and educational institutions shall be afforded the opportunity to gather seeds and cuttings of native plants on the Property that cannot be rescued or incorporated into the project's landscaping plan.

10d. The Petitioner shall provide buffer fences/buffer strips, with a minimum width of 30 feet, to protect the existing Bidens Micrantha population in or adjacent to the northeast corner of the Petition Area as identified in the Char & Associates survey dated April 2000.

10e. To reduce the potential for interactions between nocturnally flying Dark-rumped petrels with external lights and man-made structures, exterior lighting within the Petition Area will be shielded.

10f. Landscaping and architectural design criteria shall be developed and implemented to reduce visual impacts of the Project, preserve a feeling of open-space and avoid the look of an industrial corridor. Architectural design criteria shall include limitations and restrictions on building profiles, height and design, exterior color and surface treatment, and exterior lighting and sign standards.

10g. A minimum fifty (50) foot landscaping buffer shall be established along Queen Ka`ahumanu Highway.

10h. The Petitioner shall map the location of the existing Bidens Micrantha located near the northeast corner of the Petition Area when the Petition Area's boundaries are surveyed. A copy of the map shall be provided to DLNR prior to commencement of construction of the Project but, in any event, within one year after the effective date of the issuance of this order.

**Soil Erosion and Dust Control**

11. Petitioner shall implement efficient soil erosion and dust control measures during and after the development process to the satisfaction of the Hawai'i State Department of Health.

**Civil Defense**

12. Petitioner, developers and/or landowners of the Property shall add a solar powered siren with 115 Dbc omni directional speaker array, and insure that the siren be installed in a central location funded and constructed according to adequate civil defense measures as determined by the County of Hawai'i and State Civil Defense agencies.

**Solid Waste**

13. The Petitioner shall produce a Solid Waste Management Plan, coordinated and approved by the County of Hawai'i, Department of Environmental Management Solid Waste Division, to divert construction waste and operational waste for alternative uses rather than sending all refuse products to the County's landfills. The plan shall address and encourage an awareness of the need to divert the maximum amount of waste material caused by developments away from the County's landfills.

**Standard Conditions**

14. Petitioner shall develop the Petition Area in full compliance with all material representations made by the Petitioner to the Commission. Failure to do so for any reason including but not limited to economic feasibility, may result in the imposition of fines as provided by law for each and every separate violation, reversion of the Petition Area to its former condition by Petitioner at Petitioner's own expense, reversion of the Petition Area to its former classification or a change to a more appropriate classification and/or any legal remedies, including but not limited to suit for actual and punitive damages under Federal or State law or suit for injunctive relief that requires the Petitioner to restore the Petition Area to its former condition.

15. Petitioner shall give notice to the Commission of any intent to sell, lease, assign, place in trust, or otherwise voluntarily alter the ownership interests in the Petition Area, prior to or during development of the Petition Area.

16. Petitioner shall timely provide without any prior notice, annual reports to the Commission, the Office of Planning, and the County of Hawai'i Planning Department in connection with the status of the subject project and Petitioner's progress in complying with the conditions imposed herein. The annual report shall be submitted in a form prescribed by the Executive Officer of the Commission.

17. The Commission may fully or partially release the conditions provided herein as to all or any portion of the Petition Area upon timely motion and upon the provision of adequate assurance of satisfaction of these conditions by the Petitioner.

18. Within 7 days of the issuance of the Commission's Decision and Order for the subject reclassification, Petitioner shall (a) record with the Bureau of Conveyances a

statement that the Petition Area is subject to conditions imposed by the Land Use Commission in the reclassification of the Petition Area, and (b) shall file such copy of such recorded statement with the Commission. Petitioner shall record the conditions imposed by the Commission with the Bureau of Conveyances pursuant to Section 15-15-92 Hawai'i Administrative rules. All such conditions shall run with the land.

ADOPTION OF ORDER

The undersigned Commissioners, being familiar with the record and proceedings, hereby adopt and approve the foregoing ORDER this 18 day of September, 2003. This ORDER and its ADOPTION shall take effect upon the date this ORDER is certified and filed by this Commission.

Done at Honolulu, Hawaii, this 26 day of September, 2003, per motion on September 18, 2003.

LAND USE COMMISSION
STATE OF HAWAII

By _____
LAWRENCE N.C. ING
Chairperson and Commissioner

By _____
P. ROY CATALANI
Vice-Chairperson and Commissioner

By _____
BRUCE A. COPPA
Commissioner

By _____
PRAVIN DESAI
Commissioner

By ABSENT
ISAAC FIESTA, JR.
Commissioner

By _____
STEVEN LEE MONTGOMERY
Commissioner

By _____
RANDALL F. SAKUMOTO
Commissioner

By _____
PETER YUKIMURA
Commissioner

APPROVED AS TO FORM

_____
Deputy Attorney General

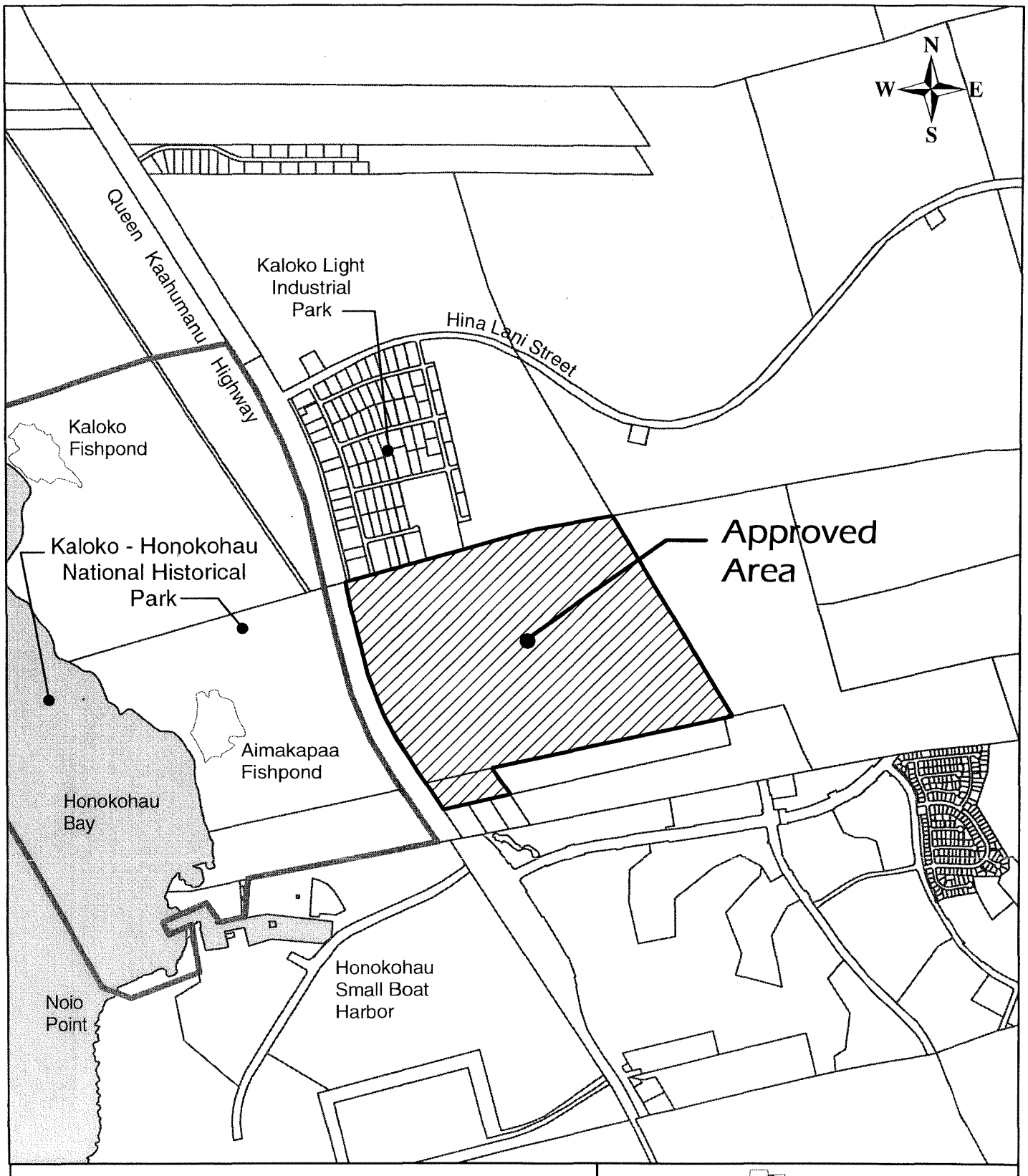
Filed and effective on

September 26, 2003

Certified by:

_____
Executive Officer

J:/USERS/FREDT/HEARGMAPS/HAWAII/A00730DANDO.MXD

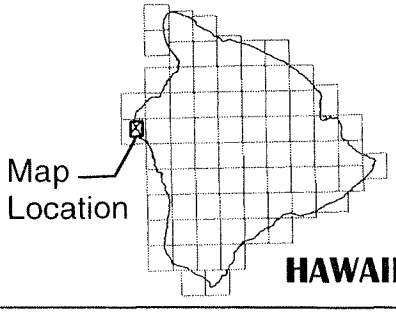



# A00-730 LANIHAU PROPERTIES, LLC

LOCATION MAP

Tax Map Key: 7-4-08: por. 13 & 30
Honokohau 1st & 2nd, North Kona, Hawaii
Scale: 1" = 2, 000 ft.

**EXHIBIT "A"**



BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI`I

| | | |
|---|---|---|
| In the matter of the Petition | ) | DOCKET NO. A00-730 |
| | ) | |
| of | ) | CERTIFICATE OF SERVICE |
| | ) | |
| LANIHAU PROPERTIES, LLC | ) | |
| | ) | |
| To Amend the Land Use District Boundary of Certain Lands situated at Honokohau, North Kona, Island of Hawai`i, State of Hawai`i, consisting of approximately 336.984 acres, Tax Map Key: 7-4-08: portion of 013 and 30, from the Conservation District to the Urban District | ) | |

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## CERTIFICATE OF SERVICE

I hereby certify that a copy of the Findings of Fact, Conclusions of Law, and Decision and Order for a State Land Use District Boundary Amendment was served upon the following by either hand delivery or depositing the same in the U. S. Postal Service by certified mail:

DEL.
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DATED: Honolulu, Hawaii, this 26th day of September, 2003.

ANTHONY J. H. CHING
Executive Officer