DRAFT ENVIRONMENTAL ASSESSMENT AND ANTICIPATED FINDING OF NO SIGNIFICANT IMPACT

KUMAKUA AFFORDABLE HOUSING PROJECT

Pahoa Land Division, North Kohala, Island of Hawaii

October, 2007

PREPARED FOR:

HAWAII ISLAND COMMUNITY DEVELOPMENT CORPORATION

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1. INTRODUCTION

1.1 Purpose

The Hawaii Island Community Development Corporation (HICDC) proposes to develop the Kumakua Affordable Housing Project in Hawi, North Kohala, Hawaii. The HICDC will utilize funding from the United States Department of Agriculture (USDA) Rural Development (RD) Mutual Self-Help Housing Program (Sections 502 and 523), Rural Rental Housing Program (Section 515) and the United States Department of Housing and Urban Development's (HUD) Home Investment Partnerships Program (HOME). The use of federal funds triggered the requirements for an Environmental Assessment (EA) in accordance with Federal Regulations 24 CFR Part 58. The County of Hawaii determined that the project will have no significant impact on the human environment and issued a Finding of No Significant Impact on September 11, 2006.

The State of Hawaii, Department of Transportation has determined that work within the State Highway right-of-way triggers the environmental review requirements of Chapter 343, Hawaii Revised Statutes. The previously approved Federal Environmental Assessment is being amended to address the utility connections and infrastructure improvements that will occur within the State highway right-of-way.

1.2 Identification of Applicant

Mr. Keith H. Kato is the Executive Director of the Hawaii Island Community Development Corporation, a Hawaii nonprofit corporation, doing business at 100 Pauahi Street, Suite 204, Hilo, Hawaii 96720.

1.3 Identification of Approving Agency and Responsible Entity

The County of Hawaii was the responsible entity that previously issued the Finding of No Significant Impact in accordance with Federal Regulations and will serve as the approving agency to address the State 343 requirements as well.

1.4 Technical Description

The HICDC is proposing to develop an affordable housing project on approximately 15 acres of land located on the north side of the Akoni Pule Highway, approximately 0.5 mile east of the Akoni Pule Highway-Hawi Road intersection, Pahoa land division, North Kohala, Island of Hawaii and identified as Tax Map Key: (3) 5-5-8: portion of 46. The project site is on a 15 acre portion of the parcel which consists of 31.21 acres. The proposed project will consist of 48 self-help single family dwelling units and 32 senior housing rental units. A minimum of 51% of the self-help single family dwelling units will marketed to families earning less than 80% of the median family income and a portion of the units will be marketed to families earning between 80% to 140% of the median family income. (See Figure 1 – Rezone Map including Vicinity Map and Figure 2 – Tax Plat Map)

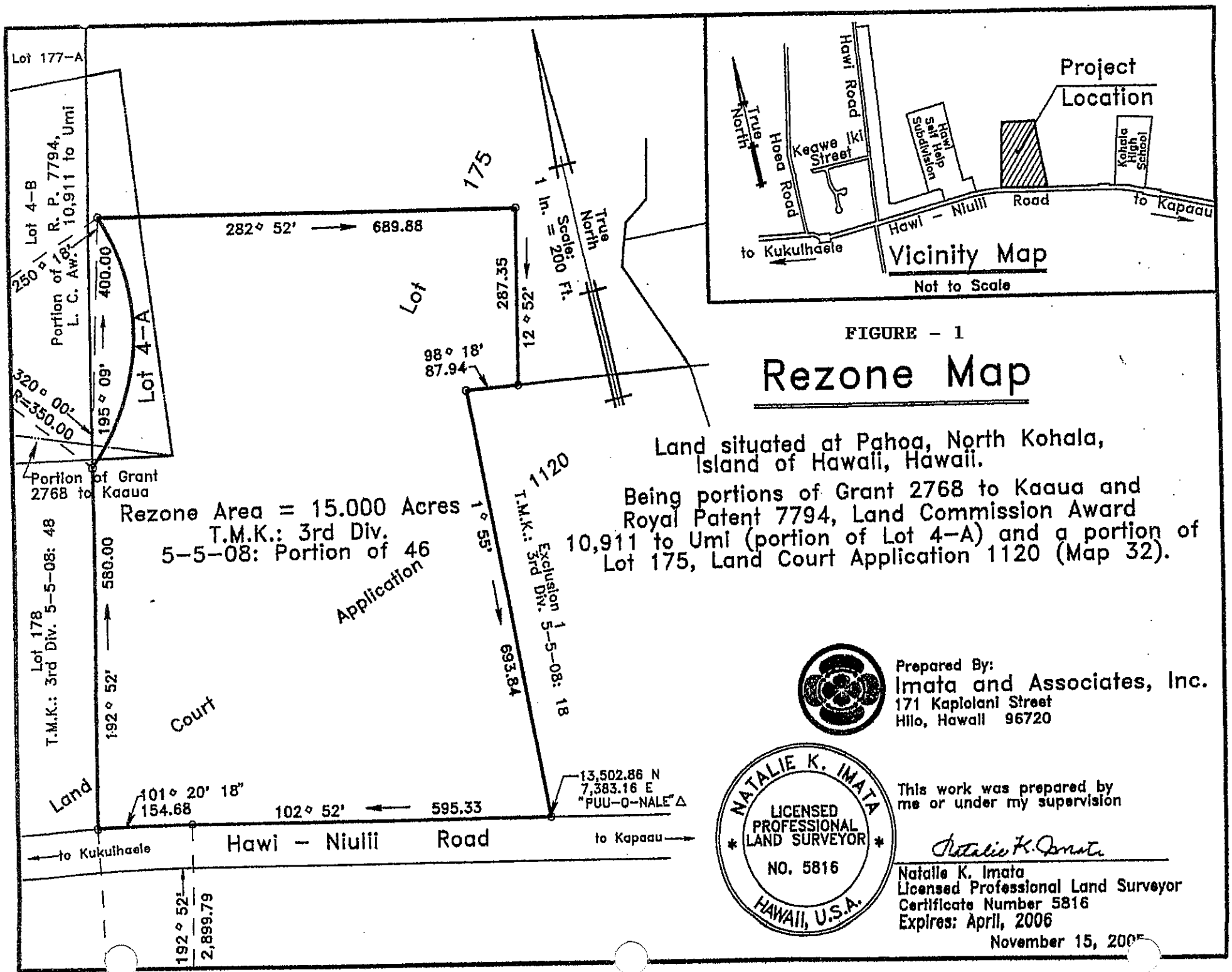

FIGURE - 1

Rezone Map

Land situated at Pahoa, North Kohala, Island of Hawaii, Hawaii.

Being portions of Grant 2768 to Kaaua and Royal Patent 7794, Land Commission Award 10,911 to Umi (portion of Lot 4-A) and a portion of Lot 175, Land Court Application 1120 (Map 32).

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This work was prepared by me or under my supervision

Natalie K. Imata

Natalie K. Imata
Licensed Professional Land Surveyor
Certificate Number 5816
Expires: April, 2006

November 15, 200

Tax Map Key: 3rd Div. 5-5-08: Portion of 46

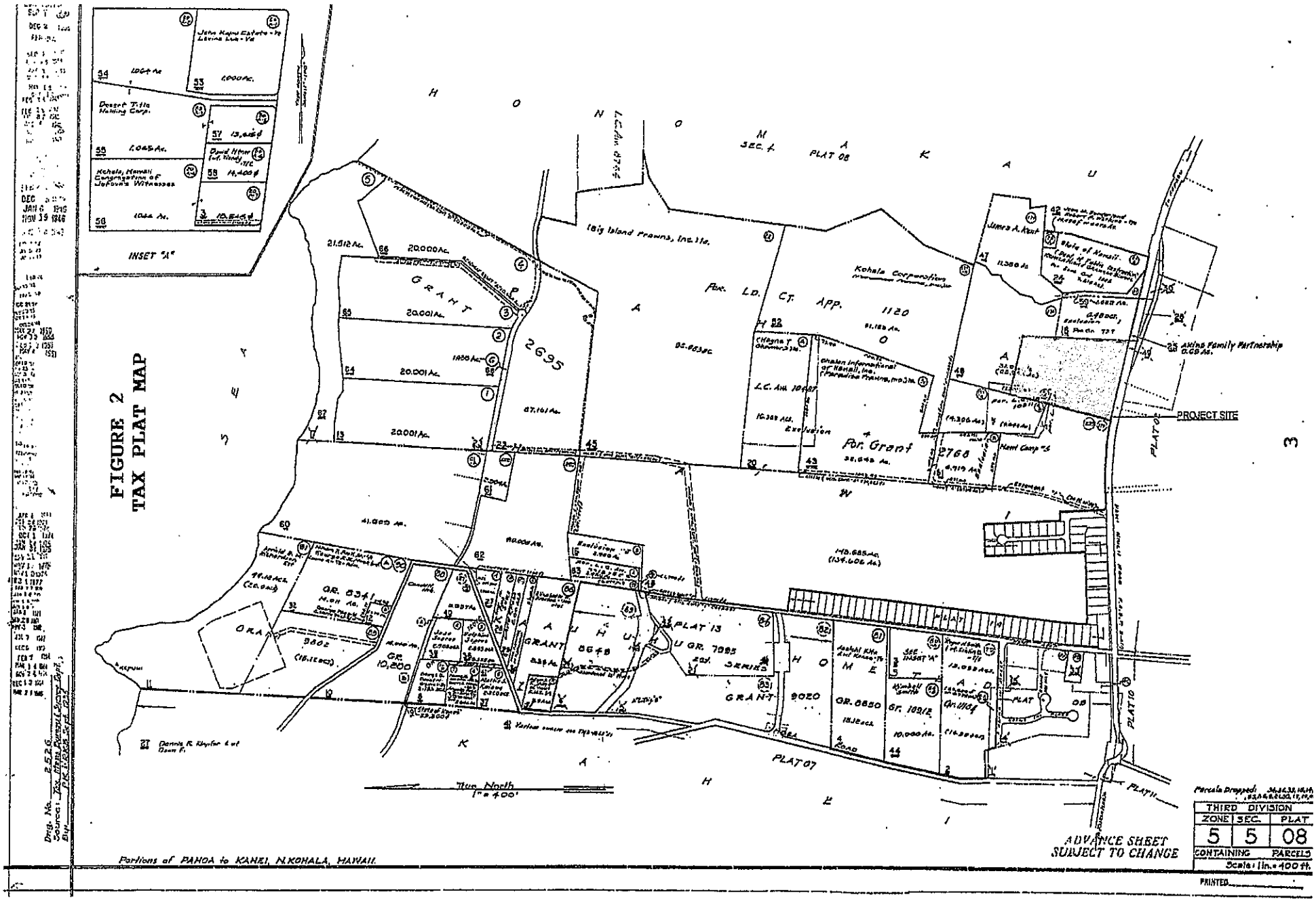
FIGURE 2
TAX PLAT MAP
PROJECT SITE
INSET "A"
Portions of PAHOA to KAHEI, N.KOHALA, HAWAII.
ADVANCE SHEET
SUBJECT TO CHANGE
THIRD DIVISION
ZONE 5 SEC. 5 PLAT 08
CONTAINING PARCELS
Scale: 1 in. = 400 ft.
PRINTED
True North
1" = 400'

Access to the project will be from an interior subdivision roadway connecting to the Akoni Pule Highway. All necessary utilities and improvements including electricity, roads and water system are available from the Akoni Pule Highway. Sewage disposal will be handled by on-site septic systems meeting with the approval of the Department of Health.

The proposed project will be built incrementally with 24 single family dwelling units each in 2007 and 2008, respectively. The 32 senior housing rental units are expected to be completed and occupied by the summer of 2008. The total cost of the proposed project is estimated at approximately $10 million.

1.5 Project Background

1.5.1 Need for the Project

HICDC intends to address the existing demand for affordable housing units in the County of Hawaii and in West Hawaii in particular. The HICDC has an existing waiting list of approximately 270 families interested in self-help housing projects in West Hawaii. An informational meeting held at the Kohala High School Cafeteria on November 2, 2005 attracted over 300 people who were interested in obtaining information on the proposed project. Those attending the informational meeting indicated a strong demand for this type of affordable housing project in the North Kohala district.

The lease up experience of three recent elderly housing projects in West Hawaii clearly indicates that there is excess demand for subsidized elderly housing projects in the region. The Hualalai Elderly housing project built in 1998, the Waimea Elderly housing project built in 1996 and the Ainakea Elderly housing project built in 1990 have maintained high, if not 100% occupancy rates with long waiting lists. The combination of providing safe, affordable and accessible units specifically designed and marketed to the elderly has proved to be quite successful. Rental managers have indicated that elderly units have limited turn over and many tenants live there the rest of their lives. As such, the existing projects remain full and prospective tenants on waiting lists wait years before having an opportunity to live in these projects.

Based on the foregoing, there appears to be strong and sufficient demand within the West Hawaii region, and the North Kohala district in particular, to support the proposed affordable housing project.

1.5.2 Land Use Designations

The 15-acre project area is situated within the State Land Use Urban District. The County General Plan Land Use Pattern Allocation Guide Map (LUPAG) designates this area as "Low Density Urban". The county zoning designation for the 15 acre

project site is Single Family Residential seven thousand five hundred square feet (RS-7.5).

The proposed project is not situated within the Special Management Area designated by the County of Hawaii. The project does not involve the placement, erection or removal of materials, nor increase the intensity of use in the Coastal Zone. The proposed project will be consistent with all State and County land use designations and regulations.

1.5.3 Listing of Permits and Approvals

The following list of permits and approvals may be required for the proposed project:

State of Hawaii

Department of Health	Underground Injection Control
Department of Transportation	Approval-Project Construction Plans

County of Hawaii

Department of Water Supply	Approval-Project Construction Plans
Department of Public Works	Approval-Project Construction Plans
Planning Department	Subdivision Approval/Plan Approval

1.6 Agency and Public Consultation

Several public meetings have been held to discuss the proposed project. An informational meeting held at the Kohala High School Cafeteria on November 2, 2005 attracted over 300 people who were interested in the project. In addition, the Hawaii County Planning Commission held a public hearing on the change of zone and boundary amendment application on February 24, 2006. Additional meetings were held by the County Council while considering change of zone and boundary amendment applications.

The following public and private organizations were consulted during the preparation of this environmental assessment:

United States Fish and Wildlife Service, Division of Ecological Services
State of Hawaii, Department of Health
State of Hawaii, Department of Land and Natural Resources Division of Forestry and Wildlife
State Historic Preservation Division
State of Hawaii, Department of Hawaiian Home Lands
State of Hawaii, Office of Hawaiian Affairs
State of Hawaii, Department of Transportation

State of Hawaii, Department of Education
State of Hawaii, Office of Planning
State of Hawaii, Department of Agriculture
County of Hawaii, Planning Department
County of Hawaii, Department of Public Works
County of Hawaii, Department of Water Supply
County of Hawaii, Police Department
County of Hawaii, Fire Department
County of Hawaii, Department of Environmental Management
County of Hawaii, Department of Parks and Recreation
Surrounding property owners within 500 feet of the subject property:
- Benjamin Harbottle
- Roberta Degrandis
- Alan Lundberg
- Nancy Lloyd
- Paul Reardon/Norah Johnson
- Cynthia Potter
- Steven Westrum/Chizuko Westrum
- Marian Reyes
- Suse Soares, Jr.
- Surety Kohala Corp.
- Hawaii Electric Light Co. Inc.

2. ENVIRONMENTAL SETTING

2.1 Physical Environment

2.1.1 Geology and Hazards

Environmental Setting

The subject property is located on the northeastern slopes of the Kohala Mountain, which consists of an oval shield volcano with two rift zones that trend northeastward and northwestward from the summit. The Kohala Mountain is the oldest volcano on the island and last erupted about 60,000 years ago.

The volcanic hazard as assessed by the United States Geological Survey is "9" on a scale of ascending risk 9 to I (Heliker 1990). Zone "9" includes all of the Kohala Mountain where the volcanic hazard is extremely low.

The entire island of Hawaii is in earthquake zone 3 of the Uniform Building Code which establishes structural design standards for earthquake resistance for certain types of buildings. This zone is prone to major damages from potential earthquake activity.

Impacts and Mitigation Measures

The proposed project will not expose the residents or the general public to any additional hazard risk that does not already exist. The volcanic hazard risk is the lowest on the island and the same as any other alternative site that could be utilized for the same purpose. All construction activity will be in compliance with current code requirements.

The proposed project will be constructed to current Building Code standards which includes measures to reduce seismic damage.

2.1.2 Soils

Environmental Setting

The soils of the project area are classified as being of the Kohala series (KhC) and (KhE) which are well-drained silty clays that formed in material from basic igneous rock influenced by volcanic ash. The KhC soils range between 3 to 12 percent slopes while the KhE soils range between 20 to 35 percent slopes. The Agricultural Capability Subclass rating for KhC soils is IIIe, irrigated and nonirrigated, which indicates "soils have severe limitations (due to erosion) that reduce the choice of plants, require special conservation practices or both." The Agricultural Capability Subclass rating for KhE soils is VIe, irrigated and

nonirrigated, which indicates "soils have severe limitations (due to erosion) that generally make them unsuited to cultivation and limit their use to pasture or range, woodland, or wildlife." (U.S. Soil Conservation Service 1973)

The Land Study Bureau's overall master productivity rating for the soils of the subject property is Class B which is described as "good". (Land Study Bureau 1965) A portion of the project site is designated as prime agricultural land by the Agricultural Lands of Importance to the State of Hawaii (ALISH) classification system. These lands have the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farming methods.

Impacts

Thousands of acres of the former Kohala Sugar Company lands were designated as prime agricultural land but have not been intensively utilized since the close of the sugar company in 1973. The subject property has only been utilized intermittently for cattle pasturage since 1973. Given the location of the project site within the area designated for urban development adjacent to Hawi town and the limited agricultural use of the site and surrounding properties, no adverse impact on agricultural soils or uses are anticipated as a result of the proposed project. In addition, the urbanization of the project area would help to alleviate the pressure to convert more productive agricultural lands in other areas of North Kohala that are better suited for agricultural uses.

2.1.3 Climate

Environmental Setting

Hawaii's climate is generally characterized as mild with uniform temperatures, moderate humidity, and two identifiable seasons. The "summer" season, between May and October is generally warmer and drier. The "winter" season, between October and April is cooler and wetter. The project area is situated in what is considered the "winward" side of North Kohala with an annual rainfall of approximately 50 inches/year. The elevation range of the project area is approximately 535 to 400 feet, sloping in a northerly direction. The project site is exposed to the northeasterly trade winds with frequencies averaging 90% in the summer and 50% in the winter. (University of Hawaii Press, 1983)

Impacts and Mitigation Measures

The strong wind of North Kohala is the primary climatic factor that needs to be addressed during the planning and design of the proposed project. The alignment of the structures, selection of appropriate building materials and special design features will be used to mitigate the impact of the wind.

2.1.4 Hydrology and Drainage

Environmental Setting

The project site is designated Zone X (Areas determined to be outside the 500-year flood plain) on the Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency (FIRM Panel Number 1551660100C, In EDR, 2005). There is an existing 24-inch culvert that crosses under the Akoni Pule Highway transporting flows from the mauka (south) side of the highway to the makai (north) side and empties within the highway right-of-way. The water from this culvert then crosses on to the subject property.

Impacts and Mitigation Measures

Development of the proposed project has the potential to increase surface runoff. A drainage study has been prepared and a drainage system, meeting with the approval of the Department of Public Works will be constructed. This drainage system will extend the existing 24-inch culvert through the highway right-of-way to carry the flow into a closed drainage system before being disposed of in a drywell on the subject property. As such, no adverse drainage impacts are anticipated as a result of the proposed project.

The proposed project is not located within one mile of a listed Wild and Scenic River and will not have an effect on the natural, free flowing or scenic qualities of a river in the National Wild and Scenic Rivers system.

2.1.5 Flora and Fauna

Environmental Setting

The entire parcel has been previously cleared and graded and utilized for sugar cane cultivation spanning the period between 1862-1973. Since the closure of the Kohala Sugar Company in 1973, the property has been utilized for the grazing of cattle. The predominant vegetation type on the project site is characterized as pastureland which is composed of a mixed grass and herb association with scattered shrubs. Guinea grass is the primary pasture grass and Spanish clover or ka'imi is the most abundant of the herbs. Scattered within the pasture are clumps of shrubs including Christmas berry, guava, pluchea, koa-haole and lantana. The vegetation of the project site is dominated by introduced or alien species with no candidate, proposed, or listed threatened or endangered species as set forth in the Endangered Species Act of 1973, as amended are known from this area.

Two endemic birds, the Short-eared Owl or Pueo and the Hawaiian Hawk or 'Io are known to the area and are commonly found in open grasslands and agricultural lands in Kohala. A variety of exotic birds can be expected to frequent the area and include the Japanese White-eye, Zebra dove, House Finch, Common Myna and

House Sparrow. With regard to mammals, the mongoose, feral cats and dogs can be commonly found in the pasturlands of Kohala.

The Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) reviewed the potential impacts from the proposed project on their management programs and endangered species in particular. In a letter dated October 17, 2005, DOFAW stated that, "We have no objections to your project and we will not need to be consulted further on your project."

The pastureland vegetation is quite common in Kohala and is not well suited as habitat for any listed or candidate endangered species.

Impacts and Mitigation Measures

No listed, candidate or proposed endangered animal or plant species are found on the subject property. Although several endangered species including the the Short-eared Owl or Pueo and the Hawaiian Hawk or 'Io are known to the area and are commonly found in open grasslands and agricultural lands in Kohala, the proposed project should not affect these species or other valuable resources. The developer will comply with State and County requirements regarding clearing and grading activities, drainage and erosion control to ensure that project related sediments are not carried into nearby wetlands or coastal waters by storm water runoff.

2.1.6 Air Quality

Environmental Setting

The air quality of the subject property is primarily affected by pollutants derived from the volcanic emissions from the ongoing Kilauea eruption. The only other source of air pollution affecting the project site is vehicle exhaust emissions from the Akoni Pule Highway (State Highway 270). In general, however, the ambient air quality of the project area meets all federal and state standards as evidenced by its designation as an "attainment" area by the State Department of Health, Clean Air Branch.

Impacts and Mitigation Measures

Short term impacts resulting from construction activity include dust and exhaust from machinery involved in the installation of the project improvements. Given the relative short construction time period, the potential impacts of these construction activities should be minimal. In addition, the contractor will be instructed to utilize best management practices to minimize dust impact.

2.1.7 Noise

Environmental Setting

Existing noise levels in the vicinity of the subject property are typical of a rural residential area. Based on general observations at the project site, the site is not subject to current or projected noise levels that exceed 65 DNL (day-night average sound level, in decibels). The project site is not situated in close proximity to any significant noise generators such as airports, industrial activity or major highways.

Impacts and Mitigation Measures

Temporary noise impacts will occur from construction activities of the project and are unavoidable. Mitigation measures can be taken, however, to minimize noise impacts including the use of mufflers and implementing construction curfew periods. State Department of Health regulations must be adhered to during construction.

2.1.8 Scenic and Open Space Resources

Environmental Setting

The predominant scenic views in the vicinity of the project area are of the Kohala Mountain and the open grassland. These views will not be adversely affected by the proposed rezoning. There are no coastal resources in the immediate vicinity of the subject property.

Impacts

The proposed project will not have a significant impact on the scenic views and open space vistas of the open grasslands or the Kohala Mountain. The sloping terrain and construction of single story structures situated on the lower elevations of the subject property and will not obstruct the views from the highway.

2.1.9 Aquifers and Wetlands

Environmental Setting

The project area is within the Hawi aquifer system, which has a sustainable yield of approximately 27 million gallons per day. The proposed project will utilize approximately 48,000 gallons of water per day.

The project area is not situated within or adjacent to a wetland identified by or delineated on maps issued by the U.S. Department of Interior, Fish and Wildlife Service. In addition, the proposed project is not located in an area designated by the U.S. Environmental Protection Agency (EPA) as being supported by a sole source aquifer.

Impacts

The proposed project will not have any adverse impact on any wetland or aquifer resource.

2.2 Social, Cultural and Economic Setting

2.2.1 Socio-Economic Characteristics

Setting

The North Kohala district is the smallest district and also the most isolated district on the island with roadway connections only with the adjacent South Kohala district. The total land area included in the North Kohala district is approximately 80,350 acres with approximately 2,434 acres of that total situated within the State Land Use Urban district. The North Kohala District is very sparsely populated with a density of approximately 1 person per 13 acres of land area. Population is concentrated in and around the communities of Hawi and Kapaau which were once the center of the sugar industry's activity within the district. The former sugar cane communities remain the focal point of social and economic activity within the district.

The population of the North Kohala District nearly doubled between 1980 and 2000 increasing from 3,249 to 6,038. This growth in population was a significant departure from the trend of declining population experienced in the two previous decades.

The primary economic activity in the North Kohala district is agriculturally related. Cattle, nursery products and macadamia nuts are the major products with some limited activity in truck crops. Another important source of income and employment for the district is the tourism industry with most of the tourism facilities located in neighboring South Kohala. One of the major landowners in the district, the Surety Kohala Corporation is working to develop a 240-unit resort and residential development within the district adjacent to the Mahukona Harbor.

Impacts

The proposed project will have a beneficial socioeconomic impact by addressing an existing affordable housing demand in the County of Hawaii and in West Hawaii in particular. The HICDC has an existing waiting list of approximately 270 families interested in self-help housing projects in West Hawaii. An informational meeting held at the Kohala High School Cafeteria on November 2, 2005 attracted over 300 people who were interested in obtaining information on the proposed project. Those attending the informational meeting indicated a strong demand for this type of affordable housing project in the North Kohala district. In addition, the lease up experience of three recent elderly housing projects in West Hawaii clearly indicates that there is excess demand for subsidized elderly housing projects in the region. The Hualalai Elderly housing project built in 1998, the Waimea Elderly housing

project built in 1996 and the Ainakea Elderly housing project built in 1990 have maintained high, if not 100% occupancy rates with long waiting lists.

2.2.2 Environmental Justice

Existing Setting

The proposed project is not located in a neighborhood that suffers from adverse human health or environmental conditions, nor will it be situated in a neighborhood that is predominantly low income or of a minority population.

Impacts

No adverse impacts on low income or minority persons are anticipated from the proposed project.

2.2.3 Adjacent Land Uses

Existing Setting

The project area is situated in a rural setting in close proximity to Hawi town. Although the majority of the surrounding area is generally utilized as pasture, there are single family dwellings on parcels in close proximity to the subject property. These include the adjacent property to the east (TMK: 5-5-8: 18) and to the south across the highway (TMK: 5-5-2: 24). In addition, the 21-unit Hawi Mutual Self-Help Housing project previously developed by HICDC in 2000 is situated approximately 1,000 west of the subject property. Parcels along both sides of the Akoni Pule Highway with RS-15 zoning are also situated approximately 1,100 feet west of the subject property.

Hawi town is situated approximately ½ mile west of the subject property and is one of the primary urban centers in the North Kohala district. Hawi has a broad spectrum of community and business facilities including retail shops, restaurants, movie theatre, post office and gas station.

The Kohala High School and Elementary School complex situated approximately 600 feet east of the subject property is within the State Land Use Urban district and zoned RS-15 by the County.

The proposed project is not situated within an FAA-designated civilian airport Runway Clear Zone (RCZ), within a military airfield Clear Zone (CZ) or Accident potential Zone (APZ). The closest airport is the Upolu airfield which is utilized as a general aviation field and is situated approximately 2.5 miles northwest of the project site.

The proposed project is not situated within one mile of a NPL ("Superfund") site, nor within 2,000 feet of a CERCLIS site, nor adjacent to any other known or suspected sites contaminated with toxic chemicals or radioactive materials. The

proposed project is situated within a rural-residential setting without any nearby explosive or flammable operations.

Impacts

The proposed project will have little or no impact on the existing land use pattern of the surrounding properties including commercial, residential or agricultural activities. The proposed project will not expose either people or buildings to hazards from aircraft, explosive or flammable operations, toxic chemicals or radioactive materials.

2.3 Public Facilities and Services

2.3.1 Roads and Traffic Circulation

Setting

Access to the subject property is provided by the Akoni Pule Highway (State Highway 270), fronting along the southern border of the subject property. This highway is the primary transportation link between the small towns of North Kohala including Hawi, Kapa'au and Niuli'i and community of Kawaihae in South Kohala. The Akoni Pule Highway is a two-lane roadway that has a 22-foot pavement with paved shoulders within an 80 foot wide right-of-way.

Impacts

A Traffic Impact Analysis Report was prepared for the proposed project by M & E Pacific, Inc. in October, 2005 and is attached as Appendix B. The report includes an analysis of existing roadway and traffic conditions for the Akoni Pule Highway which fronts the subject property and its intersection with Honomakau Street which is the closest intersection to the project site. In summarizing its findings, the report states, the following:

"The Honomakau Street southbound approach is currently at level of service D in the morning peak hour and at level of service C in the after school and afternoon peak hours. With the increase in ambient traffic, the morning and afternoon peak hours levels of service would remain unchanged while the after school level would decrease to D. This decline in level of service is not considered an adverse impact since level of service D is considered acceptable. There would be no changes in levels of service with the additional traffic from the proposed project. The left turn movements from Akoni Pule Highway would be operating at level of service A for all three forecast scenarios in all three time periods. Hence, the proposed project would not have an adverse traffic impact on the Akoni Pule Highway/Honomakau Street intersection."

"The proposed project access intersection outbound approach would be operating at level of service B in all three time periods. The eastbound left turn from Akoni Pule Highway would be operating at level of service A in all three time periods, also. This would indicate that the proposed project would not have an adverse traffic impact on the Akoni Pule Highway and the Honomakau Street intersection."

"The above analysis indicates that mitigating measures for Akoni Pule Highway would not be required for the proposed project."

2.3.2 Water

Existing Setting
Water for the proposed project can be made available from an existing 12-inch waterline, which is situated along the Akoni Pule Highway.
Impacts:

In a letter to the Mayor dated January 30, 2006, Milton D. Pavao, Manager of the Department of Water Supply stated, in part, the following:

"The Department of Water Supply will support affordable housing projects that you have determined to be worthwhile for the residents of North Kohala. Therefore, water will be made available for the 48 self-help single family housing units and 32 senior rental units to be developed by Hawaii Island Development Corporation on Tax Map Key 5-5-008: Portion of 46."

2.3.3 Wastewater

Existing Setting

The North Kohala community is not served by a municipal wastewater treatment facility. Sewage effluent generated by the proposed project will be handled with on-site septic systems approved by the State Department of Health.

Impacts and Mitigation Measures

Sewage disposal will be handled by an on-site septic systems similar to the ones previously approved by the Department of Health.

2.3.4 Electricity, Telephone

Existing Setting

Electrical and telephone services are available to the subject property from existing service lines along the Akoni Pule Highway.

Impacts

The proposed project will not have any significant adverse impact on the existing capacity of these services.

2.3.5 Solid Waste

Existing Setting

The County does not provide any municipal waste pick up services in the area. The nearest county solid waste transfer station to the subject property is within a two mile radius of the subject property. A new landfill facility at Puuanahulu services the communities of West Hawaii.

Impacts and Mitigation Measures

A Solid Waste Management Plan will be prepared in accordance with the guidelines provided by the Department of Environmental Management. All waste generated by the proposed project will be disposed in a manner and at appropriate sites designated by the Department of Environmental Management.

2.3.6 Protective and Social Services

Existing Setting

Protective services including fire, police, rescue and medical services are located in Kapaau, all of which are situated approximately two miles from the project site. These facilities and services adequately meet the needs that would be generated by the proposed project.

Impacts

The proposed project is not likely to create an additional burden on the existing service providers.

2.3.7 Recreation Facilities

Existing Setting

Recreational facilities in North Kohala include the County's Kamehameha Park in Kapaau which provides a gymnasium/community center, lighted play fields and tennis courts, and a swimming pool. Recreational facilities and playfields are available at the Kohala school complex. Parks providing ocean recreational opportunities within the district include Keokea Beach Park, Kapaa Beach Park and the Mahukona Beach Park.

Impacts

The proposed project is not likely to create a level of recreational demand that will burden the existing recreational facilities serving the North Kohala community.

2.3.8 School Facilities

Existing Setting

The project area is served by the Kohala High and Elementary School complex situated approximately 600 feet west of the project site.

Impacts

The Department of Education has indicated that construction activities may impact school activities. As such, the contractor will be advised by the developer to notify the principals of Kohala Elementary and Kohala High School regarding possible traffic detours, heavy equipment operations and other construction events that could impact school activities.

The Department of Education further stated that if school age children can reside in the senior housing, the 80 residential units will have an impact on the schools serving the area. The proposed project will not have an impact on the schools serving the area because school age children will be prohibited from living in the 32-unit senior housing project.

2.4 Archaeology, Historic and Cultural Resources

Setting

Although no archaeological survey has been conducted on the subject property, an inventory survey was conducted for parcels immediately adjacent on the north and west sides of the property. (Archaeological Inventory Survey With Subsurface Testing Report for a Property at TMK: 5-5-08: 1, 20, 43, 45, 48, 51, & 52 in the Ahupua'a of Hawi, Pahoa, and Honomakau, North Kohala District, Island of Hawaii prepared by Archaeological Consultants of Hawaii, Inc. in 1993.) These parcels share similar site characteristics to the subject property in that they are composed of relatively flat, seaward dipping slopes dissected by eroded deep gulches. These parcels were also utilized for sugar cane production for over a hundred years and utilized for cattle grazing after the sugar company closed down. The Archaeological Inventory Survey did not find any significant historic sites in the areas which had been previously cultivated in sugar cane. Significant historic sites were encountered within Kumakua Gulch and the report included recommendations for preserving the sites within the gulch.

The fifteen acre project site is situated approximately 200 feet west of Kumakua Gulch and within the relatively flat sections previously utilized for sugar cane production. Based on the findings of the Archaeological Survey on the adjacent

parcels, it would be highly unlikely to find surface or subsurface archaeological resources within the project area given the prior land disturbing activities attributable to sugar cane cultivation. Based on these conclusions, a letter dated October 12, 2005, was sent to the State Historic Preservation Division requesting a determination of "no historic properties affected" associated with the subject application. No response from the State Historic Preservation Division has been received to date.

Impacts

The proposed project is not anticipated to have any adverse effect on cultural, historical or archaeological resources as the property was previously utilized for sugar can cultivation. Although it is highly unlikely that any historical or archaeological resources remain on the property, the County will impose a condition of approval for the change of zone and boundary amendment request to protect any inadvertent discovery of historic sites during the construction of the project. Should any remains of historic sites such as rock walls, terraces, platforms, marine shell concentrations or human burials be encountered during construction, work in the immediate area must cease and the Department of Land and Natural Resources-Historic Preservation Division (DLNR-SHPD) must be immediately notified. Subsequent work shall proceed upon an archaeological clearance from DLNR-SHPD when it finds that sufficient mitigation measures have been taken.

3. SUMMARY OF POTENTIAL ADVERSE ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

3.1 Short Term Impacts

Construction Activity:

Impacts: Short term impacts will result from the proposed construction activity including increased noise levels, dust and exhaust from machinery involved in the installation of the project improvements. Given the relative short construction time period the potential impacts of these construction activities should be minimal.

Mitigation: The contractor will be instructed to utilize best management practices to minimize all impacts including the use of mufflers and implementing construction curfew periods. State Department of Health regulations will be adhered to during construction. In addition, the contractor will be instructed to notify the principals of Kohala Elementary and Kohala High School regarding possible traffic detours, heavy equipment operations and other construction events that could impact school activities.

3.2 Long Term Impacts

Geologic Hazard:

Impacts: The proposed project will be exposed to damages from potential earthquake activity.

Mitigation: The proposed affordable housing project will be constructed to current Building Code standards which includes measures to reduce seismic damage.

Climate:

Impacts: The strong winds which affect this section of the North Kohala district is a factor that needs to be addressed during the planning and design of the proposed affordable housing project.

Mitigation: The project design will address the windy conditions through alignment of the structures, selection of appropriate building materials and other special design features that will mitigate the impact of the wind.

Drainage and Erosion:

Impacts: Development of the proposed project has the potential to increase surface runoff and flooding in the area.

Mitigation: A drainage plan has been prepared and will be submitted to the Department of Public Works for their review and approval. The proposed project will adhere to County and State requirements for disposing of runoff and addressing drainage concerns including requirements to contain all development generated runoff on-site.

Wastewater:

Impacts: Sewage effluent generated by the proposed affordable housing project will have to be addressed.

Mitigation: Sewage disposal will be handled by an on-site septic systems meeting with the approval of the State Department of Health.

Solid Waste:

Impacts: Solid waste generated by the proposed affordable housing project will have to be addressed.

Mitigation: A Solid Waste Management Plan will be prepared in accordance with the guidelines provided by the Department of Environmental Management. All waste generated by the proposed project will be disposed in a manner and at appropriate sites designated by the Department of Environmental Management.

4. ALTERNATIVES

4.1 No Action

In the event that the utility connections and infrastructure improvements within the State Highway right-of-way are not allowed, the proposed development of 80 affordable housing units will not be completed. The subject property could continue to be utilized intermittently for cattle pasturage. It should be noted, however, that given the Urban designation and single family residential zoning for the project area, the property could not be utilized for its intended purpose.

4.2 Alternative Solutions

The proposed affordable housing project could be constructed on other sites within the North Kohala District. Although there may other locations with similar physical site characteristics, factors such as an affordable price and a willing seller makes this site extremely difficult to duplicate. Furthermore, it is unlikely that the impacts generated for this site will be significantly less at any other site in the region.

5. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

5.1 Significance Criteria

According to the Department of Health Rules (1 1-200-1 2), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact on the environment if it meets any one of the following thirteen criteria.

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.**

   The proposed project involves the development of approximately 15 acres of land that is currently vacant and most recently utilized for pasture use. The project site does not contain any significant natural or cultural resources.

2. **Curtails the range of beneficial uses of the environment.**

   The proposed affordable housing project will curtail the limited pasture use of approximately 15 acres of land on the project site. However, there is an abundance of similar property in the region that are available for pasture use.

3. **Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HRS; and any revisions thereof and amendments thereto, court decisions, or executive orders.**

   The proposed development is consistent with the Environmental Policies established in Chapter 344, HRS, and the National Environmental Policy Act.

4. **Substantially affects the economic or social welfare of the community or state.**

   The proposed affordable housing project will have a beneficial socioeconomic impact by addressing an existing affordable housing demand in the County of Hawaii and in West Hawaii in particular. The 32 senior rental units will be targeted to low-income families earning 60% or below the AMGI. Monthly rents will not exceed 30 percent of the household income for these tenants and will be significantly lower than market rents for 'typical' 1-bedroom units in West Hawaii. A minimum of 51% of the self-help single family dwelling units will marketed to families earning less than 80% of the median family income and a

portion of the units will be marketed to families earning between 80% to 140% of the median family income.

5. **Substantially affects public health**

   The proposed project does not substantially affect public health. Any construction related impacts of noise, dust and emissions will be mitigated by compliance with the State Department of Health Administrative Rules.

6. **Involves substantial secondary impacts, such as population changes or effects on public facilities.**

   The proposed project will not have any substantial secondary impacts. The proposed project will address an existing housing demand, evidenced by a substantial waiting lists for elderly and self-help housing projects in the region. As such, most of the new residents for the proposed project will be relocating from existing West Hawaii communities.

7. **Involves a substantial degradation of environmental quality.**

   The proposed project is situated within an area designated for low density urban uses. There is an existing mix of residential, commercial and agricultural activities on surrounding properties. The proposed project will be consistent with the existing character of the surrounding area and, as such, the proposed improvements will not involve a substantial degradation of environmental quality.

8. **Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions,**

   The proposed project will not have any substantial secondary impacts because it is not a generator of growth. The proposed project does not involve a commitment for larger actions and will not induce other actions having a cumulative effect on the environment.

9. **Substantially affects a rare, threatened or endangered species or its habitat.**

   The proposed project will not have any substantial adverse effect on any rare, threatened or endangered species or its habitat.

10. **Detrimentally affects air or water quality or ambient noise levels.**

    Short term impacts will result from the proposed construction activity including increased noise levels, dust and exhaust from machinery involved in the construction activity. The contractor will be instructed to utilize best

management practices to minimize all impacts including the use of mufflers and implementing construction curfew periods. State Department of Health regulations must be adhered to during construction. Given the relative short construction time period, the potential impacts of these construction activities should be minimal.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters.

The project site is not located in an environmentally sensitive area. The flood designation is Zone X (Areas determined to be outside the 500-year flood plain) and the volcanic hazard risk is the lowest on the island. All construction activity will be in compliance with current code requirements.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies.

The proposed project will not have a significant impact on the scenic views and open space vistas of the open grasslands or the Kohala Mountain. The sloping terrain and construction of single story structures situated on the lower elevations of the subject property and will not obstruct the views from the highway.

13. Requires substantial energy consumption.

The proposed project will not require substantial energy consumption.

5.2 Findings

Based on the foregoing information presented, it is anticipated that the proposed affordable housing project will not have a significant effect. As such, a Finding of No Significant Impact is anticipated for the proposed project.

5.3 Reasons Supporting Determination

The nature and scale of the proposed action within an area designated for low density urban uses is such that no significant environmental effects are anticipated. Potential impacts, if any, can be mitigated through sensitive design and careful construction management practices and compliance with all governmental requirements including those of the Department of Public Works and State Department of Health.

REFERENCES

Archaeological Consultants of Hawaii, Inc. 1993. Archaeological Inventory Survey With Subsurface Testing Report for a Property at TMK: 5-5-08: 1, 20, 43, 45, 48, 51, & 52 in the Ahupua'a of Hawi, Pahoa, and Honomakau, North Kohala District, Island of Hawaii

County of Hawaii. February 2005. The General Plan (Internet Version) Hawaii County. Hilo, Hawaii.

Hawaii Department of Water Supply. December, 1991. Hawaii County Water Use and Development Plan. Hilo, Hawaii

Heliker, C. 1990. Volcanic and Seismic Hazards on the Island of Hawaii. Washington: GPO

Land Study Bureau. 1965. Detailed Land Classification - Island of Hawaii. University of Hawaii. Honolulu

M&E Pacific, Inc. October 2005. Traffic Impact Analysis Report Kohala UCC Project. North Kohala, Island of Hawaii.

U.S. Soil Conservation Service. 1973. Soil Survey of the Island of Hawaii, State of Hawaii. Washington: USDA

University of Hawaii at Manoa, Dept. of Geography. 1983. Atlas of Hawaii. 2nd ed. Honolulu: University of Hawaii Press

APPENDIX A - REPRODUCTION OF COMMENTS MADE DURING THE PRE-ASSESSMENT CONSULTATION PERIOD

1. County of Hawaii, Fire Department, from Darryl Oliveira, Fire Chief, dated November 8, 2005.

2. State of Hawaii, Office of Hawaiian Affairs, from Clyde W. Nāmu'o, Administrator, dated November 4, 2005.

3. County of Hawaii, Planning Department, from Christopher J. Yuen, Planning Director, dated October 31, 2005.

4. State of Hawaii, Department of Transportation, from Rodney K. Haraga, Director, dated November 5, 2005.

5. State of Hawaii, Department of Land and Natural Resources, Division of Forestry and Wildlife, from Paul J. Conry, Administrator, dated October 17, 2005.

6. State of Hawaii, Department of Health, from Aaron Ueno, District Environmental Health Program Chief, Hawaii District, dated October 17, 2005.

7. County of Hawaii, Police Department, from Harry S. Kubojiri, Deputy Police Chief, dated October 28, 2005.

8. State of Hawaii, Department of Hawaiian Home Lands, from Micah A. Kane, Chairman, dated October 26, 2005.

9. State of Hawaii, Department of Education, from Patricia Hamamoto, Superintendent, dated October 28, 2005.

10. County of Hawaii, Department of Environmental Management, from Barbara Bell, Director, dated October 25, 2005.

11. County of Hawaii, Department of Parks and Recreation, from Patricia G. Engelhard, dated October 24, 2005.

Harry Kim
Mayor

Darryl J. Oliveira
Fire Chief

Desmond K. Wery
Deputy Fire Chief

County of Hawai'i
FIRE DEPARTMENT
25 Aupuni Street • Suite 103 • Hilo, Hawai'i 96720
(808) 961-8297 • Fax (808) 961-8296

November 8, 2005

Brian T. Nishimura
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720

SUBJECT: PRE-ENVIRONMENTAL ASSESSMENT CONSULTATION
HAWAII ISLAND COMMUNITY DEVELOPMENT CORPORATION
STATE LAND USE BOUNDARY AMENDMENT AND CHANGE OF ZONE APPLICATION
APPLICANT: HAWAII ISLAND COMMUNITY DEVELOPMENT CORPORATION
TAX MAP KEY: (3)5-508: POR. OF 46

In regards to the above-mentioned Special Permit application, the following shall be in accordance:

Water supply shall be in accordance with UFC Section 10.301(c):

> "(c) **Water Supply.** An approved water supply capable of supplying required fire flow for fire protection shall be provided to all premises upon which buildings or portions of buildings are hereafter constructed, in accordance with the respective county water requirements. There shall be provided, when required by the chief, on-site fire hydrants and mains capable of supplying the required fire flow.
>
> "Water supply may consist of reservoirs, pressure tanks, elevated tanks, water mains or other fixed systems capable of providing the required fire flow.
>
> "The location, number and type of fire hydrants connected to a water supply capable of delivering the required fire flow shall be protected as set forth by the respective county water requirements. All hydrants shall be accessible to the fire department apparatus by roadways meeting the requirements of Section 10.207.

DARRYL OLIVEIRA
Fire Chief

JCP:lpc

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

HRD05/2092

November 4, 2005

Brian T. Nishimura
Brian T. Nishimura, Planning Consultant
101 Aupuni Street, Suite 217
Hilo, HI 96720-4221

RE: Pre-Environmental Assessment Consultation for the Hawai'i Island Community Development Corporation's State Land Use Boundary Application and Change of Zoning Application , North Kohala, Hawai'i Island, TMK (3) 5-5-08: por. of 46.

Dear Mr. Nishimura,

The Office of Hawaiian Affairs (OHA) is in receipt of your October 12, 2005 request for comment on the above listed proposed project, TMK (3) 5-5-08: por. of 46. OHA offers the following comments:

OHA has no comment specific to the proposed applications at this time. Please submit the Draft Environmental Assessment when completed.

OHA further requests your assurances that if the project goes forward, should iwi or Native Hawaiian cultural or traditional deposits be found during ground disturbance, work will cease, and the appropriate agencies will be contacted pursuant to applicable law.

Thank you for the opportunity to comment. If you have further questions or concerns, please contact Jesse Yorck at (808) 594-0239 or jessey@oha.org.

'O wau iho nō,

Clyde W. Nāmu'o
Administrator

CC: Ruby McDonald
OHA Community Affairs Coordinator (Kailua-Kona)
75-5706 Hanama Pl., Suite 107
Kailua-Kona, HI 96740

Harry Kim
Mayor

Christopher J. Yuen
Director

Roy R. Takemoto
Deputy Director

County of Hawaii

PLANNING DEPARTMENT
Aupuni Center • 101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720
Phone (808) 961-8288 • Fax (808) 961-8742

October 31, 2005

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni St., Suite 217
Hilo, HI 96720-4221

Dear Mr. Nishimura:

Subject: **Pre-Environmental Assessment Consultation**
Hawaii Island Community Development Corporation
State Land Use Boundary Amendment and Change of Zone Application
Applicant: Hawaii Island Community Development Corporation
Pahoa, North Kohala District, Hawai`i
TMK: (3) 5-5-008: Por. Of 46

This is in response to your letter dated October 12, 2005 requesting our comments on the above-referenced proposed development of 48 single family dwelling units and 32 senior housing rental units on approximately 15 acres of land.

We have the following comments to offer:

1. The subject parcel consists of 31.210 acres.

2. The State Land Use designation is Agriculture.

3. County zoning is Agricultural – 20 acres (A-20a).

4. According to the General Plan Land Use Pattern Allocation Guide Map, this parcel is designated Low Density Urban. Low Density Urban is defined as *"residential, with ancillary community and public uses, and neighborhood and convenience-type commercial uses; overall residential density may be up to six units per acre."* The number of residential units you propose meets the County General Plan's Low Density Urban designation requirements.

5. The majority of the subject property is rated "1" by the State Department of Agriculture's Agricultural Lands of Importance to the State of Hawaii (ALISH), and a smaller portion is rated "3." A rating of number "1" means that the property contains prime agricultural lands that are best suited for the production of food, feed, forage and fiber crops. Lands with a "3" rating are considered important to agriculture in Hawai'i, but they exhibit properties, such as seasonal wetness, erodibility, limited rooting zone, slope, flooding, or droughtiness, that exclude them from the "prime" or "unique" agricultural land classifications. Any change in State Land Use classification and County zoning will need to demonstrate the appropriateness of using lands with high agricultural ratings for affordable housing.

6. The Land Study Bureau's Agricultural Productivity rating gives the subject property a "B," with "A" being the highest rating.

7. This parcel is not located within the County's Special Management Area.

8. There are no known flood zones on that parcel.

9. A copy of the Draft Environmental Assessment should be submitted for our review.

Your letter does not indicate what changes in State Land Use district classification and County zoning designation you will be seeking. Nor does it show which portion of the subject property would be utilized for affordable housing. With that additional information in the Draft Environmental Assessment, we will be able to provide further comments.

If you have questions, please contact Deborah Chang at 961-8288, extension 254.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

DLC:cd
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LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BRUCE Y. MATSUI
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

IN REPLY REFER TO:

STP 8.1938

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

November 4, 2005

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Dear Mr. Nishimura:

Subject: Hawaii Island Community Development Corporation
Pre-Environmental Assessment Consultation
Affordable Housing Project, Hawaii – Kohala
TMK: (3) 5-5-08: por. of 46

Thank you for your early notification of the proposed housing project.

We are particularly interested in any traffic impact analysis or assessment covering the project, including the interface, access roads, or driveway connections between the project and Akoni-Pule Highway. We look forward to reviewing this in your client's environmental assessment.

We request that four (4) copies of the environmental assessment be provided to us for our review.

We appreciate the opportunity to provide our comments.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

LINDA LINGLE
GOVERNOR OF HAWII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

ROBERT K. MATSUDA
DEPUTY DIRECTOR FOR LAND

DEAN NAKANO, Acting
DEPUTY DIRECTOR FOR
THE COMMISSION ON
WATER RESOURCE MANAGEMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE
1151 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND MANAGEMENT
STATE PARKS

October 17, 2005

Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Dear Mr. Nishimura:

Subject: Pre-Environmental Assessment Consultation, Hawaii Island Community Development Corporation, SLU Boundary Amendment and Change of Zone Application, Applicant: Hawaii Island Community Development Corporation, TMK: (3) 5-5-08: por. 46.

DOFAW has reviewed your information dated October 12, 2005, regarding the potential impacts your project may have on our management programs and endangered species in particular. We have no objections to your project and we will not need to be consulted further on your project. Please make the change that Michael G. Buck is no longer the Division of Forestry and Wildlife Administrator. Thank you for the opportunity to comment on your project.

Sincerely yours,

Paul J. Conry
Administrator

LINDA LINGLE
GOVERNOR

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 916
HILO, HAWAII 96721-0916

October 17, 2005

Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Subject: Pre-Environmental Assessment Consultation
Hawaii Island Community Development Corporation
State Land Use Boundary Amendment and Change of Zone Application
Applicant: Hawaii Island Community Development Corporation
Tax Map Key: (3) 5-5-08:por. of 46

The Department of Health (DOH), Clean Water Branch (CWB), acknowledges receipt of the subject document on October 14, 2005. The CWB has reviewed the limited information contained in the subject document and offers the following comments:

1. The Army Corps of Engineers should be contacted at (808) 438-9258 for this project. Pursuant to Federal Water Pollution Control Act (commonly known as the "Clean Water Act" (CWA)), Paragraph 401(a)(1), a Section 401 Water Quality Certification (WQC) is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may **result** in any discharge into the navigable waters...". The term "discharge" is defined in CWA, Subsections 502(16), 502(12), and 502(6); Title 40, Code of Federal Regulations, Section 122.2, and Hawaii Administrative Rules (HAR), Chapter 11-54.

2. In accordance with HAR, Sections 11-55-04 and 11-55-34.05, the Director of Health may require the submittal of an individual permit application or a Notice of Intent (NOI) for general permit coverage authorized under the National Pollutant Discharge Elimination System (NPDES).

a. An application for an NPDES individual permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at http://www.hawaii.gov/health/environmental/water/cleanwater/forms/indiv-index.html.

b. An NOI to be covered by an NPDES general permit is to be submitted at least 30 days before the commencement of the respective activity. A separate NOI is needed for coverage under each NPDES general permit. The NOI forms may be picked up at our office or downloaded from our website at: http://www.hawaii.gov/health/environmental/water/cleanwater/forms/genl-index.html.

   i. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi). [HAR, Chapter 11-55, Appendix B]

   ii. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.** [HAR, Chapter 11-55, Appendix C]

   iii. Discharges of treated effluent from leaking underground storage tank remedial activities. [HAR, Chapter 11-55, Appendix D]

   iv. Discharges of once through cooling water less than one (1) million gallons per day. [HAR, Chapter 11-55, Appendix E]

   v. Discharges of hydrotesting water. [HAR, Chapter 11-55, Appendix F]

   vi. Discharges of construction dewatering effluent. [HAR, Chapter 11-55, Appendix G]

vii. Discharges of treated effluent from petroleum bulk stations and terminals. [HAR, Chapter 11-55, Appendix H]

viii. Discharges of treated effluent from well drilling activities. [HAR, Chapter 11-55, Appendix I]

ix. Discharges of treated effluent from recycled water distribution systems. [HAR, Chapter 11-55, Appendix J]

x. Discharges of storm water from a small municipal separate storm sewer system. [HAR, Chapter 11-55, Appendix K]

xi. Discharges of circulation water from decorative ponds or tanks. [HAR, Chapter 11-55, Appendix L]

3. In accordance with HAR, Section 11-55-38, the applicant for an NPDES permit is required to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD), or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. If applicable, please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

4. Any discharges related to project construction or operation activities, with or without a Section 401 WQC or NPDES permit coverage, shall comply with the applicable State Water Quality Standards as specified in HAR, Chapter 11-54.

Hawaii Revised Statutes, Subsection 342D-50(a) requires that "[n]o person, including any public body, shall discharge any water pollutants into state waters, or cause or allow any water pollutant to enter state waters except in compliance with this chapter, rules adopted pursuant to this chapter, or a permit or variance issued by the director."

If you have any questions, please contact Mr. Alec Wong, Supervisor of the Engineering Section, CWB, at (808) 586-4309.

Underground Injection Systems (Ph. 586-4258) which receive wastewater or storm runoffs from the proposed development need to address the requirements of Chapter 23, Hawaii State Department of Health Administrative Rules, Title 11, "Underground Injection Control."

Dispensing site locations and food preparation areas would need to meet the requirements of Chapter 12, Food Establishment Sanitation Code. The applicant may call Ph. 933-0917 to discuss the content of this communication.

Sincerely,

Aaron A. Ueno
District Environmental Health Program Chief
Hawaii District

Harry Kim
Mayor

Lawrence K. Mahuna
Police Chief

Harry S. Kubojiri
Deputy Police Chief

County of Hawaii

POLICE DEPARTMENT
349 Kapiolani Street • Hilo, Hawaii 96720-3998
(808) 935-3311 • Fax (808) 961-2389

October 28, 2005

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Dear Mr. Nishimura:

Reference: State Land Use Boundary Amendment and Change of Zone Application
Tax Map Key: (3) 5-5-08: por. of 46

Staff has reviewed your October 12, 2005 letter requesting comments on Hawaii Island Community Development Corporation's proposed development and submits the following comments and recommendations:

1. The ingress and egress of the proposed development onto Akoni Pule Highway is near a curve in the roadway and recommend that turning and merging lanes be created on Akoni Pule Highway for safety purposes.

2. It is recommended that crosswalks be installed on the development's roadway where it intersects with Akoni Pule Highway.

3. The developer should ensure sufficient "line of sight" at the subdivision's intersection with Akoni Pule Highway.

4. There are concerns of possible flooding due to the proposed development being situated near a gulch and the ground level in some portions is lower than the property on the south (mauka) side of Akoni Pule Highway.

5. Staff recommends that the developer draft enforceable covenants for the subdivision to address issues such as parking and repair of motor vehicles and the raising of farm-type animals on subdivision property.

Should you have any further questions or comments, please contact Captain Lawrence Balberde, Commander of the North Kohala Police District, at Phone No. 889-6540.

Sincerely,

HARRY S. KUBOJIRI
DEPUTY POLICE CHIEF

LB/JED/RTN:dmv

LINDA LINGLE
GOVERNOR
STATE OF HAWAII

MICAH A. KANE
CHAIRMAN
HAWAIIAN HOMES COMMISSION

BEN HENDERSON
DEPUTY TO THE CHAIRMAN

KAULANA H. PARK
EXECUTIVE ASSISTANT

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P.O. BOX 1879
HONOLULU, HAWAII 96805

October 26, 2005

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Dear Mr. Nishimura:

Thank you for the opportunity to participate in the early consultation process in preparation of an environmental assessment report for Hawaii Island Community Development Corporation's affordable housing project in North Kohala, Hawaii. The Department of Hawaiian Home Lands has no comments to offer.

Should you have any questions, please call the Planning Office at (808) 586-3836.

Aloha and mahalo,

for Micah A. Kane, Chairman
Hawaiian Homes Commission

LINDA LINGLE
GOVERNOR

PATRICIA HAMAMOTO
SUPERINTENDENT

STATE OF HAWAI'I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI'I 96804

OFFICE OF THE SUPERINTENDENT

October 28, 2005

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Room 217
Hilo, Hawai'i 96720-4221

Dear Mr. Nishimura:

Subject: Consultation on an 80-Unit Housing Project, Pahoa, North Kohala
TMK: 5-5-08: por. 46

The Department of Education (DOE) is responding to your letter of October 12, 2005, requesting comments on a proposed housing project in North Kohala.

The DOE will need to know whether school-age children will be allowed to live in the 32 units of proposed senior housing. That would determine whether the DOE would ask for a school fair-share condition.

The DOE requests that the principals of Kohala Elementary and Kohala High be continually notified during the construction phase to be aware of possible traffic detours, heavy equipment operations, and other events that could impact school activities.

The DOE would like safe, designated pedestrian access from the proposed project to the schools which preferably avoids walking along the Akoni Pule Highway.

If you have any questions, please call Rae Loui, Assistant Superintendent of the Office of Business Services, at 586-3444 or Heidi Meeker of the Facilities Development Branch at 733-4862.

Very truly yours,

Patricia Hamamoto
Superintendent

PH:HM:ly

cc: Rae Loui, Asst. Supt., OBS
Art Souza, CAS, Honokaa/Kealakehe/Kohala/Kona Complex Area

Harry Kim
Mayor

Barbara Bell
Director

Nelson Ho
Deputy Director

County of Hawaii

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street, Room 210 • Hilo, Hawaii 96720-4252
(808) 961-8083 • Fax (808) 961-8086

October 25, 2005

Brian T. Nishimura, Planning Consultant
101 Aupuni Street, Suite 217
Hilo, HI 96720-4221

Subject: **Pre-Environmental Assessment Consultation**
Hawai'i Island Community Development Corporation
State Land Use Boundary Amendment and Change of Zone Application
Applicant: Hawai'i Island Community Development Corporation
TMK: 5-5-08:por. of 46

We offer the following comments on the subject Pre-Environmental Assessment:

TECHNICAL SERVICES COMMENTS:

- There is no existing county sewer in the area.

SOLID WASTE COMMENTS:

- Commercial operations, State and Federal agencies, religious entities and non-profit organizations may not use transfer stations for disposal.
- Aggregates and any other construction/demolition waste should be responsibly reused to its fullest extent.
- Ample room should be provided for implementation of a recycling program.
- Greenwaste may be transported to the green waste sites located at the Kailua and Hilo transfer stations, or other suitable diversion programs.
- Construction and demolition waste is prohibited at all County Transfer Stations.
- Submit Solid Waste Management Plan in accordance with attached guidelines.

Barbara Bell
DIRECTOR

cc: SWD
TSS
Planning

7593

Harry Kim
Mayor

Barbara Bell
Director

Lono Tyson
Solid Waste Division Chief

County of Hawai'i

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

25 Aupuni Street, Room 210 • Hilo, Hawai'i 96720-4252
(808) 961-8083 • Fax (808) 961-8086

October 13, 2003

SOLID WASTE MANAGEMENT PLAN
Guidelines

INTENT AND PURPOSE

This is to establish guidelines for reviewing solid waste management plans, for which special conditions are placed on developments. The solid waste management plan will be used to: (1) encourage recycling and recycling programs, (2) predict the waste generated by the proposed development to anticipate the loading on County transfer stations, landfills and recycling facilities, and (3) predict the additional traffic being generated because of waste and recycling transfers.

REPORT

The consultant's report will contain the following:

1. Description of the project and the potential waste it may be generating: i.e. analysis of anticipated waste volume and composition. This includes waste generated during the construction and operational phases. Greenwastes will be included in this report for both construction grubbing and future operational landscape maintenance.

2. Description and location of the possible sites for waste disposal or recycling. We will not allow the use of the County transfer stations for any commercial development; commercial development as defined under the policies of the Department of Environmental Management, Solid Waste Division.

3. Since the Department of Environmental Management promotes recycling, indicate onsite source separation facilities by waste stream; i.e. source separation bins of glass, metal, plastic, cardboard, aluminum, etc.

4. Identification of the proposed disposal site and transportation methods for the various components of the waste disposal and recycling system, including the number of truck traffic and the route that truck will be using to transport the waste and recycled materials.

Harry Kim
Mayor

Patricia G. Engelhard
Director

Pamela N. Mizuno
Deputy Director

County of Hawai`i

DEPARTMENT OF PARKS AND RECREATION
101 Pauahi Street, Suite 6 • Hilo, Hawai'i 96720
(808) 961-8311 • Fax (808) 961-8411

October 24, 2005

Mr. Brian T. Nishimura, Planning Consultant
101 Aupuni Street, Suite 217
Hilo, HI 96720-4221

Subject: **Pre-Environmental Assessment Consultation**
Hawaii Island Community Development Corporation
State Land Use Boundary Amendment & Change of Zone Application
Applicant: Hawaii Island Community Development Corporation
TMK: (3) 5-5-08: por. of 46

In response to the above-referenced project, the Department of Parks and Recreation has no additional comments to offer since you are aware of our need for (5) acres of park space per 1,000. This project will have a small impact overall, but each additional development weighs on existing facilities.

Please call me or Park Planner James Komata at 961-8311 if you have any questions.

Sincerely,

Pat Engelhard

Patricia G. Engelhard
Director

My Documents\Park Projects\Project Comments\HICDC Development – Change of Zone Application

APPENDIX B – TRAFFIC IMPACT ANALYSIS REPORT

Traffic Impact Analysis Report
Kohala UCC Project

North Kohala, Island of Hawaii, Hawaii

Tax Map Key Number (3)5-5-08: 044

OCTOBER 2005

Prepared for:
Brian T Nishimura, Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720

Prepared by:

M&E Pacific, Inc.

METCALF & EDDY

Davies Pacific Center, 841 Bishop Street
Suite 1900, Honolulu, Hawai'i 96813

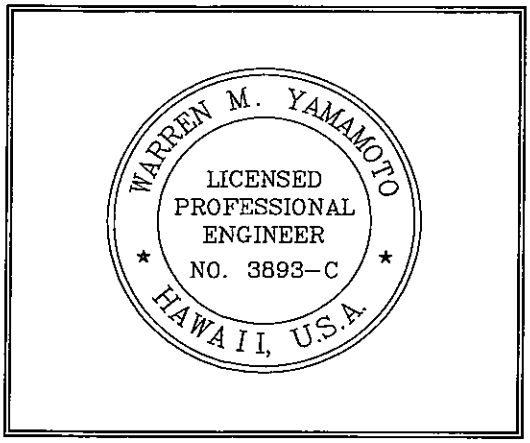
Kohala UCC Project

North Kohala, Island of Hawaii, Hawaii

Traffic Impact Analysis Report

TMK (3)5-5-08: 046

October 2005



Expiration Date:
April 30, 2006

This work was prepared by me or under my direct supervision.

Signature
M & E Pacific, Inc.
METCALF & EDDY | AECOM

5 OCT 05
Date

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TRAFFIC IMPACT ANALYSIS REPORT for the KOHALA UCC PROJECT

A residential project is being planned in Hawi, Hawaii. This report documents a study that was conducted to identify the traffic impacts of the proposed project and to recommend any mitigating measures.

PROJECT DESCRIPTION

Brian Nishimura proposes to develop the Kohala UCC Project consisting of 48 single-family dwelling units and 32 senior housing rental units in Hawi, Hawaii. The project site is on a 31 acre parcel identified as Tax Map Key (3)5-5-08: 46. The project site is an L-shaped parcel makai of Akoni Pule Highway and just west of Honomakau Street and the Kohala Schools, as shown on Figure 1. There would be one access point onto the highway.

The proposed project would be built incrementally with 24 single-family dwelling units each in 2007 and 2008, respectively. The senior housing rental units are expected to completed and occupied by the summer of 2008. Therefore, traffic forecasts were prepared for a 2008 study period.

EXISTING CONDITIONS

A survey of the existing roadway and traffic conditions was made.

Existing Roadways

Akoni Pule Highway (a.k.a. Hawi-Niuli'i Road) is a two-lane secondary arterial roadway that runs in an east-west direction through the small towns of North Kohala, including Hawi, Kapa'au, and Niuli'i. It is the only roadway providing general access to the towns east of Hawi. Akoni Pule Highway is under the jurisdiction of the State of Hawaii Department of Transportation and is designated Federal Aid Secondary highway 270. The highway continues south to its terminus at the Queen Ka'ahumanu Highway in

Kawaihae. The speed limit on Akoni Pule Highway is 35 miles per hour in the vicinity of Honomakau Street. There are no separate left turn lanes on Akoni Pule Highway at Honomakau Street.

The Honomakau Street intersection with Akoni Pule Highway is the closest intersection to the project site and is about a mile east of the Hawi Road intersection. The mauka (south) leg of the roadway serves limited development. The makai (north) leg of the roadway provides access to the Kohala Schools complex, a diner, and residential/agricultural lots further north of the schools. The two lane roadway narrows to one lane north of the school property. Both approaches of Honomakau Street to Akoni Pule Highway are stop sign controlled. Both approaches have only a single lane so that left, through and right turn movements must be made from the same lane. Honomakau Street is a County roadway. The location of the intersection is identified on Figure 1.

Traffic Volumes

Traffic turning movement counts were taken at the Akoni Pule Highway/ Honomakau Street intersection on Tuesday, September 20, 2005, to determine existing traffic conditions. Traffic counts were taken during the morning (6:30 to 8:30 a.m.), after school (2:00 to 3:15 p.m.) and afternoon (3:30 to 5:30 p.m.) peak periods. Traffic turning movement counts require traffic surveyors to station themselves by the study intersection and record each vehicle movement as through or turning movements by 15 minute intervals. Vehicles entering and exiting the south approach of Honomakau Street were not counted due to the limited development on this roadway.

The worksheet for the traffic counts is included in the Appendix. The three resultant peak hour movements at the Akoni Pule Highway/ Honomakau Street intersection are summarized graphically on Figure 2 with the traffic volumes rounded to the nearest five vehicles per hour (vph). The traffic counter noted that police directed traffic at the intersection between 7:45 and 8:05 a.m. and 2:05 to 2:40 p.m.

The through traffic volumes on Akoni Pule Highway are predominantly westbound in the morning and eastbound in the afternoon, indicating the commute to and from work. The afternoon traffic volumes are higher than the morning traffic volumes.

There are large volumes of traffic turning into and from the north leg of Honomakau Street, with higher inbound volumes during the morning but higher outbound volumes during the after school period. The higher morning volumes are thought be caused by parents dropping off their children at school in the morning on the way to work but not being able to pick them up after school. Also, parents may have arrived before the counts were taken beginning 2:00 p.m. and waited for their children. The afternoon turning volumes are lower than the after school volumes. The former volumes would be representative of traffic generated by the residents living on the street, although traffic from after school activities and the diner would also be included in these volumes.

The State Department of Transportation takes traffic counts every two years at selected roadway sections on the island of Hawaii. One of these count stations is at the Akoni Pule Highway/Hawi Road intersection, which is one mile west of the project site. Daily traffic volumes were available for the ten year period from 1994 to 2004. The data shown on Figure 3 gives the historical trend of daily traffic at this location on east leg of Akoni Pule Highway. The graph shows an overall increase of 31% in ten years, with stable periods from 1994 to 1996 and from 2000 to 2002. The average annual growth rate is 2.7% (compounded) over this ten year period.

TRAFFIC FORECAST

The proposed project is expected to be occupied in three years or sooner. Therefore, traffic forecasts were prepared for a 2008 study period. Ambient traffic on the study roadways can be expected to increase during this three year period due to regional growth in the area. The traffic that would be generated from the proposed project was then added to the ambient traffic forecast to obtain the total with project traffic forecast.

Ambient Traffic Forecast

Ambient traffic growth consists of two components: general traffic growth and traffic from other new projects in the area. There are no major projects being built in the immediate vicinity of the project; therefore, the historical growth rate of traffic was used to forecast general growth.

The observed annual traffic growth of 2.7% on Akoni Pule Highway from 1994 to 2004 was utilized as the general growth rate. To account for three years of traffic growth the current traffic volumes on Figure 2 were increased by 8.3%. Traffic volumes into and from Honomakau Street were also increased since it was assumed that school traffic would increase with general growth. The resultant ambient traffic forecast at the Akoni Pule Highway/ Honomakau Street intersection is shown on Figure 4, with volumes rounded to the nearest five vph.

The through traffic passing the project access is not shown on Figure 4 but can be implied. The eastbound through traffic volumes are the sum of the eastbound left turn and through traffic volumes at Honomakau Street. The westbound through traffic volumes are the sum of the southbound right turn and westbound through traffic volumes at Honomakau Street.

Project Generated Traffic

The traditional procedure of trip generation, distribution, and assignment was used to forecast the number of trips that would be generated by the proposed project, the distribution of these trips, and the specific intersection turning movements that would be utilized.

The trip generation step forecasts the volume of vehicle trips that would be generated by the proposed project during two analysis periods. The Institute of Transportation Engineers' Trip Generation (Seventh Edition, 2003) has trip generation equations or rates to calculate the number of AM and PM peak hour trips that would be generated by

various land uses. The handbook also provides the percentage of inbound and outbound trips in each peak hour.

The equations for single family dwelling units (land use code 210) and senior attached adult housing units (land use code 252) are:

LU 210	AM Peak Hour	T = 0.70X + 9.43,
	PM Peak Hour	Ln(T) = 0.90Ln(X) + 0.53; and
LU 252	AM Peak Hour	T = 0.08X,
	PM Peak Hour	T = 0.11X;
where,	T = hourly trips produced; and	
	X = number of dwelling units.	

The ITE report does not provide trip generation equations for either land use in the after school peak hour. Previous practice has been to assume that the number of trips produced by residential units in the off peak is half of the average of the number of trips produced in the morning and afternoon peak hours. Also, the proportion of inbound and outbound trips was assumed to be evenly split. This practice was followed for the single family residential units. Due to the small number of trips generated by the senior housing units, the average of the number of trips produced in the morning and afternoon peak hours was used.

The 48 proposed single family units are expected to generate 32 outbound and 11 inbound trips in the morning peak, 12 inbound and outbound trips in the after school peak, and 35 inbound and 20 outbound trips in the afternoon peak. The trip generation analysis is summarized on Table 1 with the proportion of inbound and outbound trips in each peak hour shown.

The proposed senior housing rental units are forecast to generate a very small number of trips. They are expected to generate 2 outbound and 1 inbound trips in the morning peak, 1 inbound and outbound trips in the after school peak, and 2 inbound and 1 outbound trips in the afternoon peak. Table 1 summarizes the trip generation forecast for each type of residence and the combined total of trips.

The trip distribution step divides the generated trips by directions of travel (east and west) to/from the project site. Based on the distribution of through and turning movements counted at the study intersection, the following distribution factors were assumed for each peak period:

	TO/FROM WEST	TO/FROM EAST
AM Peak Hour	55%	45%
After School Peak Hour	45%	55%
PM Peak Hour	55%	45%

The trip distribution percentages and resultant volumes are summarized on Table 1.

The trip assignment step assigns the distributed trips as turning movements to the study intersections. The results of the trip assignment procedure for the proposed project are graphically shown on Figure 5. The traffic volumes are not rounded. The figure shows the trips entering and exiting the project access and passing through and turning into/from the Honomakau Street intersection.

Total Forecast Volumes

The project generated volumes from Figure 5 were added to the ambient traffic forecasts from Figure 4 to obtain the total with project traffic forecasts shown on Figure 6. Traffic volumes are rounded to the nearest five vph.

LEVEL OF SERVICE ANALYSIS

The concept of level of service is used to quantify the quality of traffic flow on roadway facilities. The Transportation Research Board has developed procedures to calculate level of service value(s) by measuring traffic volumes against the capacities of different types of roadway facilities. Their Highway Capacity Manual 2000 (HCM2000) describes the various procedures developed for freeways, highways, ramps, signalized and unsignalized intersections, etc. A comparison of levels of service for the existing and

forecast scenarios can give an indication of the traffic impacts of ambient traffic growth and the proposed project.

The procedure used for analyzing unsignalized intersections calculates vehicle delays and levels of service based on the distribution of gaps in traffic on the major street and driver judgment in selecting gaps through which to execute turns. For two way stop intersections where only the minor street traffic is controlled by a stop sign, levels of service are calculated for the critical turning movements including outbound movements from the stop-controlled approach, and left turns from the main road to the minor road. The procedure calculates levels of service and delay for lane movement groups and the approach, but does not calculate an overall intersection level of service.

The Highway Capacity Manual 2000 defines the relationship between level of service and delay (in seconds/vehicle) for unsignalized intersections as shown below:

LEVEL OF SERVICE	DELAY (Seconds/Vehicle)
A	< 10.0
B	10.1 to 15.0
C	15.1 to 25.0
D	25.1 to 35.0
E	35.1 to 50.0
F	> 50.1

Levels of service A to E are considered acceptable for unsignalized intersections. Level of service F (with average delays longer than 50 seconds) is considered undesirable for unsignalized intersections and would indicate the possible need for mitigation. Level of service F conditions could be tolerated if the delays are not much higher than 50 seconds, traffic queues are short, and there are no reasonable mitigating measures available. Declining levels of service could be caused by traffic increases on the minor street, traffic increases on the major street, or a combination of both. It is possible for a

minor street with no increases in traffic to experience a decline in level of service as the traffic volumes on the major street increases.

Traffic counts of vehicles turning into and from the south leg of Honomakau Street were not taken; therefore, the level of service analysis assumed there would be five vph turning into and turning from this roadway for the existing, ambient forecast, and total with project forecast. These volumes are not shown on Figures 2, 4 and 6.

The results of the level of service analyses are summarized on Table 2. The existing, ambient forecast and total with project forecast levels of service and delays for the Akoni Pule Highway/ Honomakau Street intersection are placed side-by-side so that changes in levels of service and delay can be identified. Only the total with project forecast levels of service and delay are shown for the proposed project driveway intersection that currently does not exist.

The Honomakau Street southbound approach is currently at level of service D in the morning peak hour and at level of service C in the after school and afternoon peak hours. With the increase in ambient traffic, the morning and afternoon peak hours levels of service would remain unchanged while the after school level would decrease to D. This decline in level of service is not considered an adverse impact since level of service D is considered acceptable. There would be no changes in levels of service with the additional traffic from the proposed project. The left turn movements from Akoni Pule Highway would be operating at level of service A for all three forecast scenarios in all three time periods. Hence, the proposed project would not have an adverse traffic impact on the Akoni Pule Highway/ Honomakau Street intersection.

The proposed project access intersection outbound approach would be operating at level of service B in all three time periods. The eastbound left turn from Akoni Pule Highway would be operating at level of service A in all three time periods, also. This would indicate that the proposed project would not have an adverse traffic impact on the Akoni Pule Highway and the Honomakau Street intersection.

The above analysis indicates that mitigating measures for Akoni Pule Highway would not be required for the proposed project.

CONCLUSIONS

The proposed project would generate a relatively small number of trips that would not adversely affect traffic on Akoni Pule Highway. The levels of service with the proposed project would be considered acceptable and no mitigating actions are required.

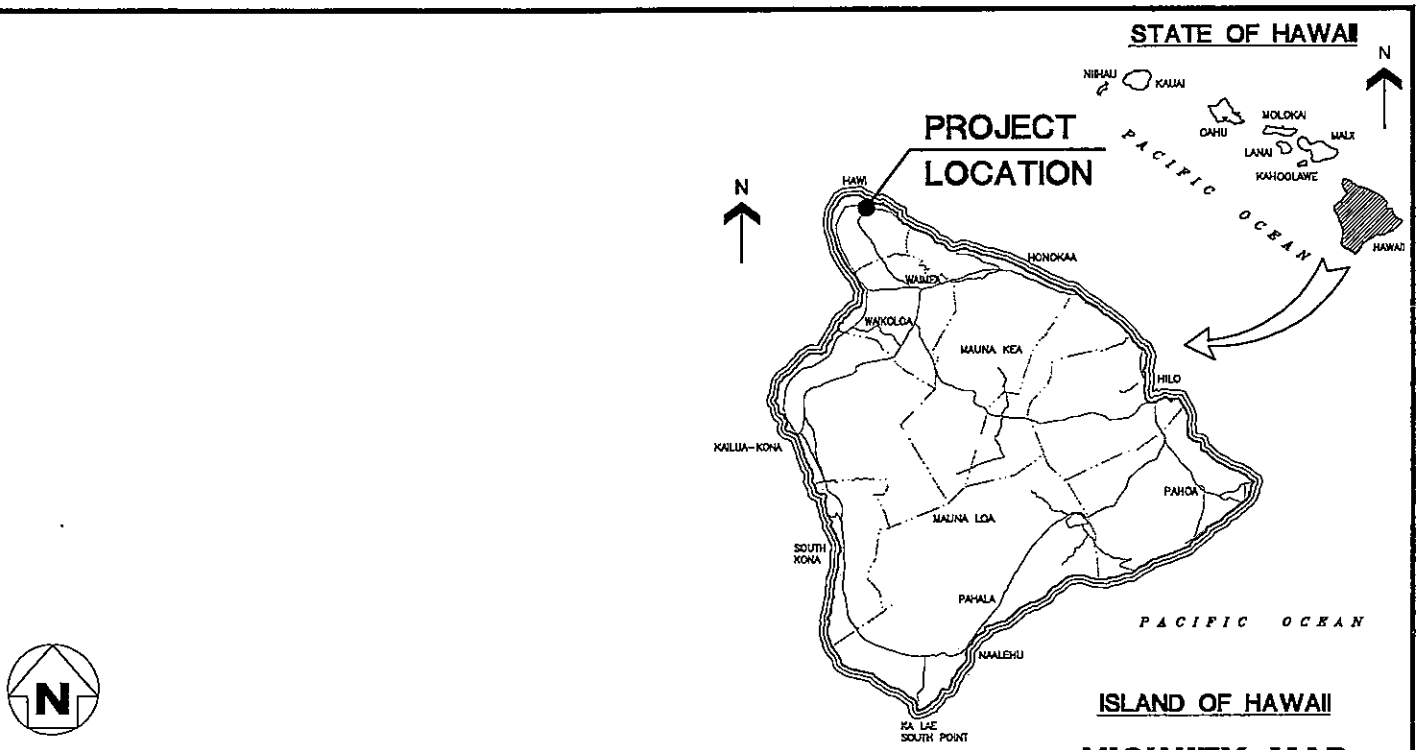
References

References

1. *Highway Capacity Manual*, Transportation Research Board, National Research Council, Washington, D.C., 2000 Edition.

2. *Trip Generation*, Institute of Transportation Engineers, Seventh Edition, 2003.

Figures



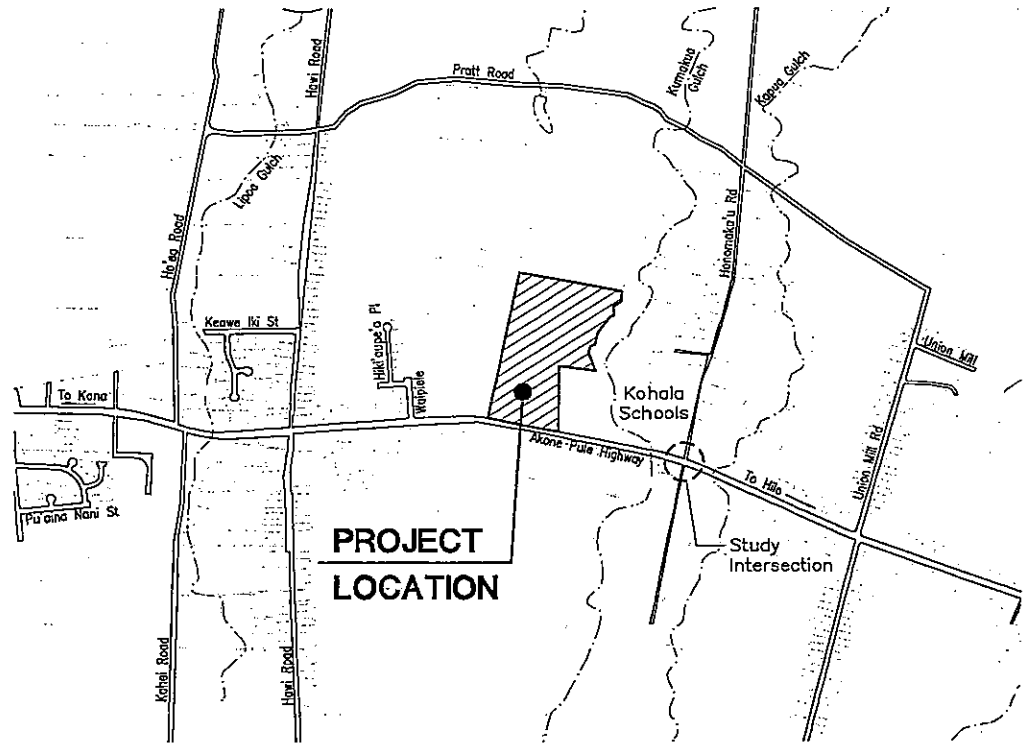


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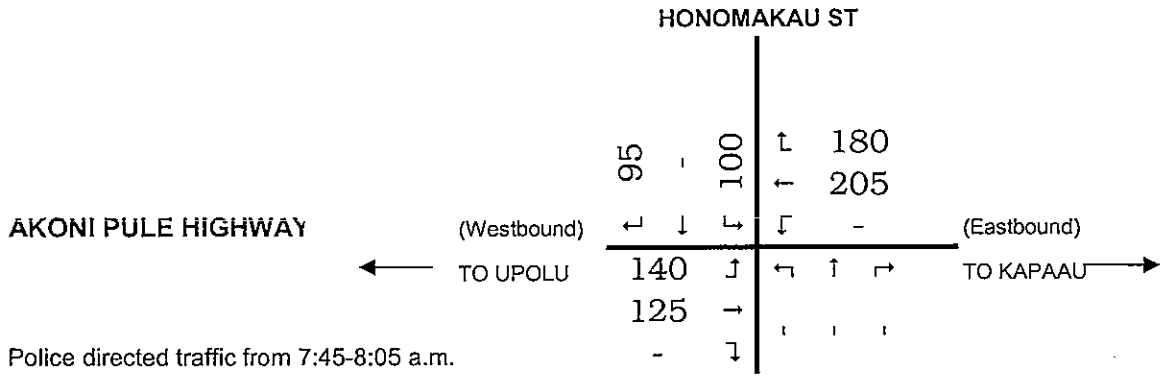
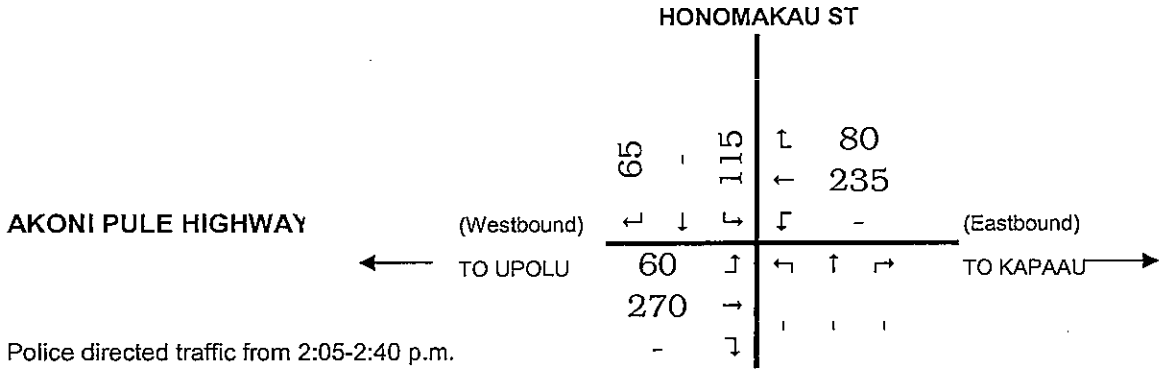
Figure 1
Location Map
Traffic Impact Analysis Report
Kohala UCC Project
October 2005

PATH/FILENAME: ta\Hawaii\60001544 - Kohala TIAR\Figure 1.dwg



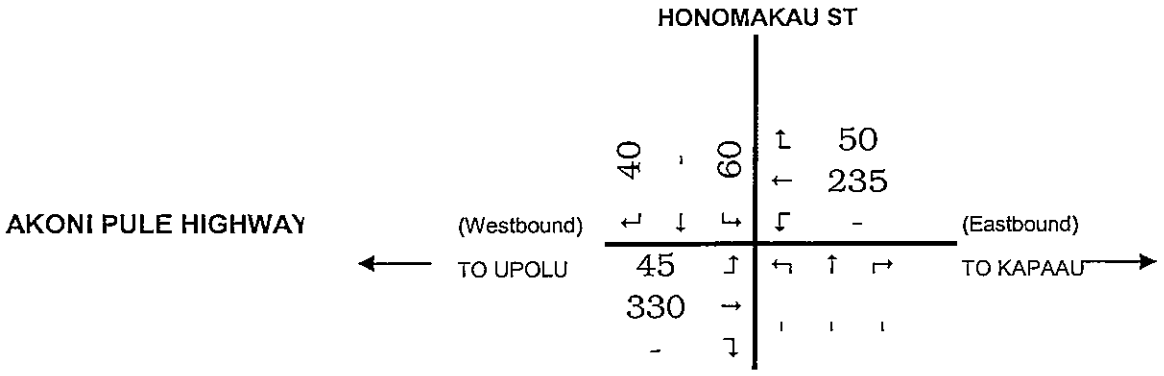
Police directed traffic from 7:45-8:05 a.m.

AM PEAK HOUR



Police directed traffic from 2:05-2:40 p.m.

AFTER SCHOOL PEAK HOUR



PM PEAK HOUR

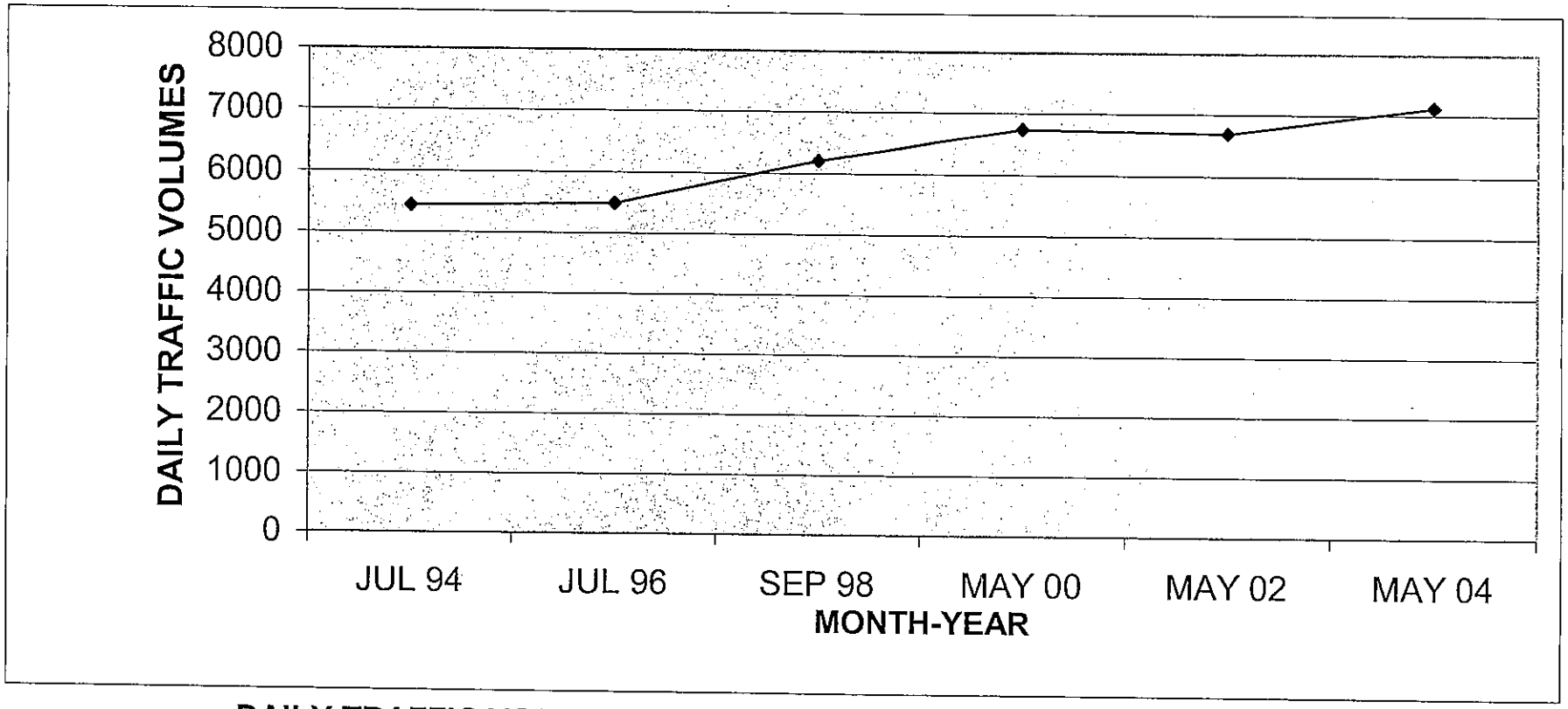
Not to scale

EXISTING 2005 TRAFFIC VOLUMES
FIGURE 2

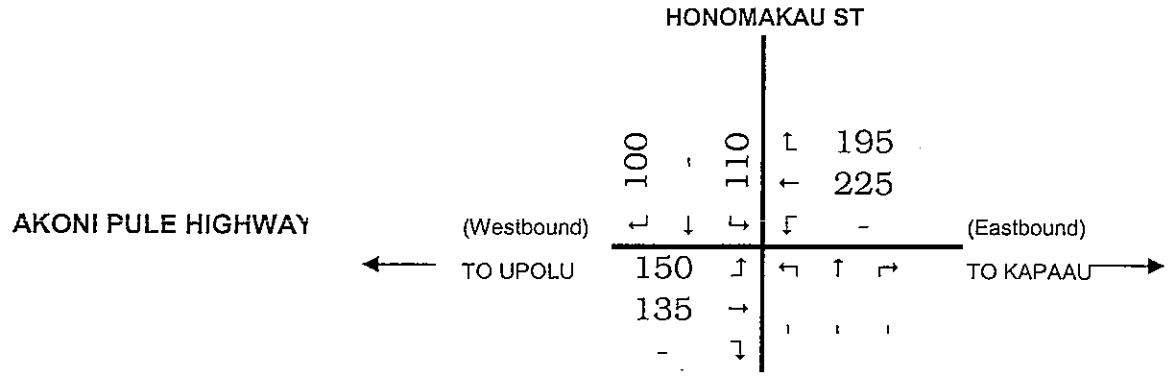
DAILY TRAFFIC VOLUMES AT STATION NO. 12, Akoni Pule Highway at Hawi Road

MONTH/ YEAR OF COUNT	DAILY TRAFFIC VOLUMES
JUL 94	5441
JUL 96	5494
SEP 98	6213
MAY 00	6740
MAY 02	6689
MAY 04	7130

Source: State of Hawaii Department of Transportation



DAILY TRAFFIC VOLUMES ON AKONI PULE HIGHWAY AT HAWI ROAD
FIGURE 3



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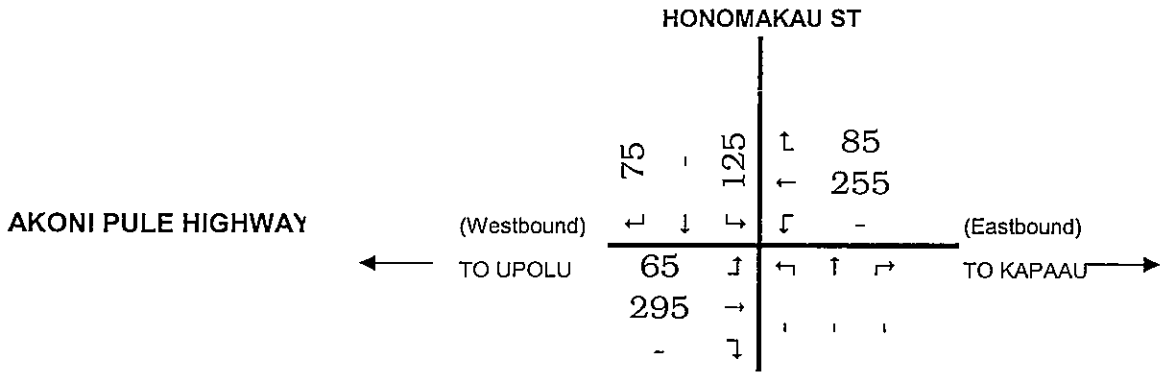

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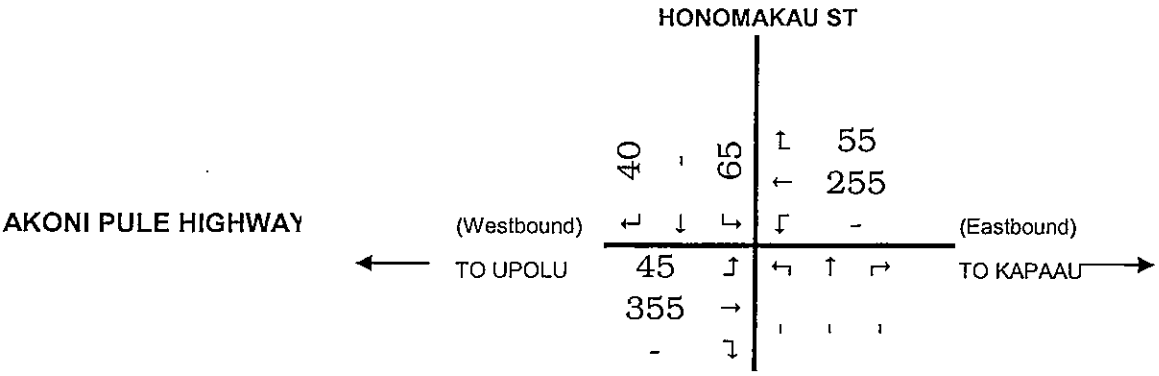
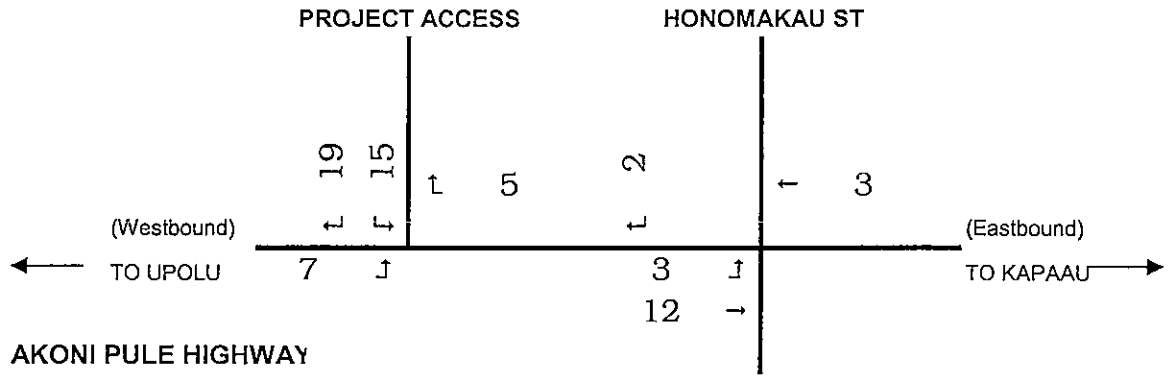


PM PEAK HOUR

Not to scale

2008 AMBIENT TRAFFIC FORECAST
FIGURE 4



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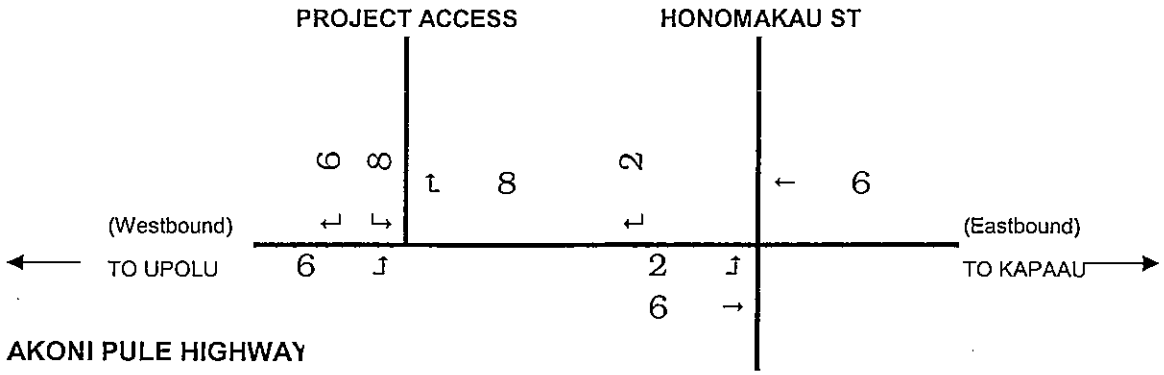
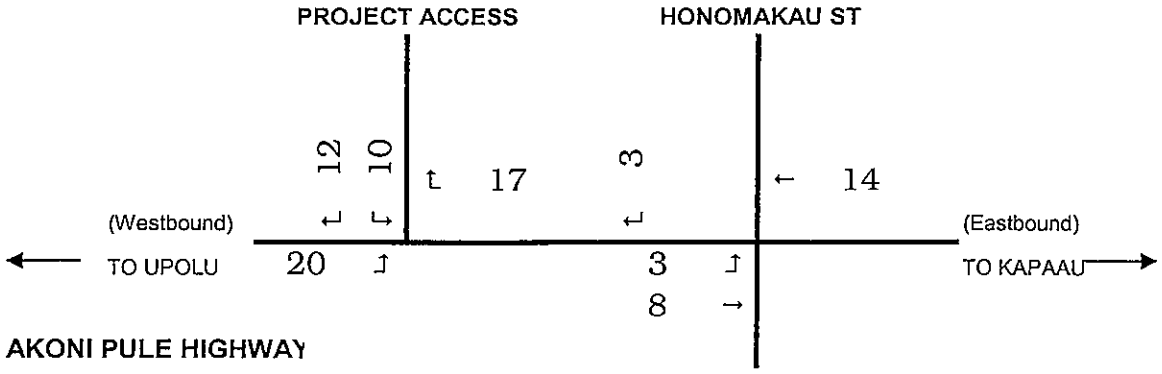


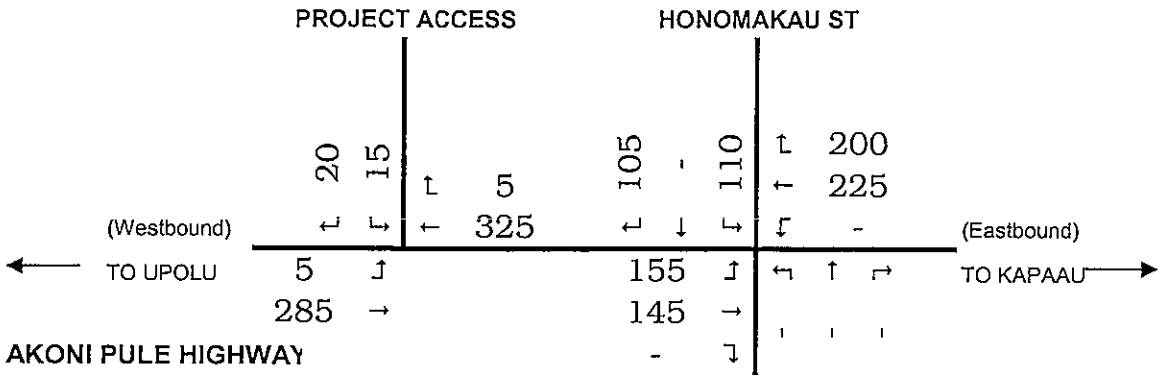
AFTER SCHOOL
PEAK HOUR



PM PEAK HOUR

Not to scale

PROJECT GENERATED TRAFFIC
FIGURE 5



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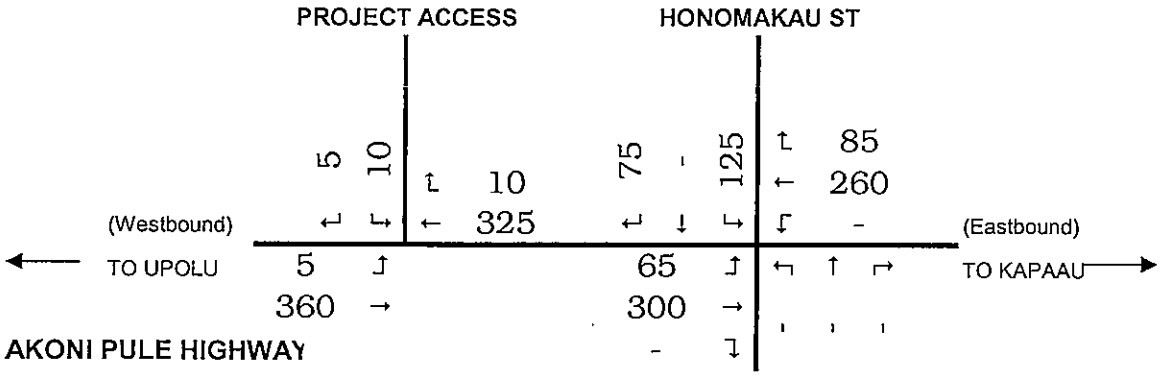

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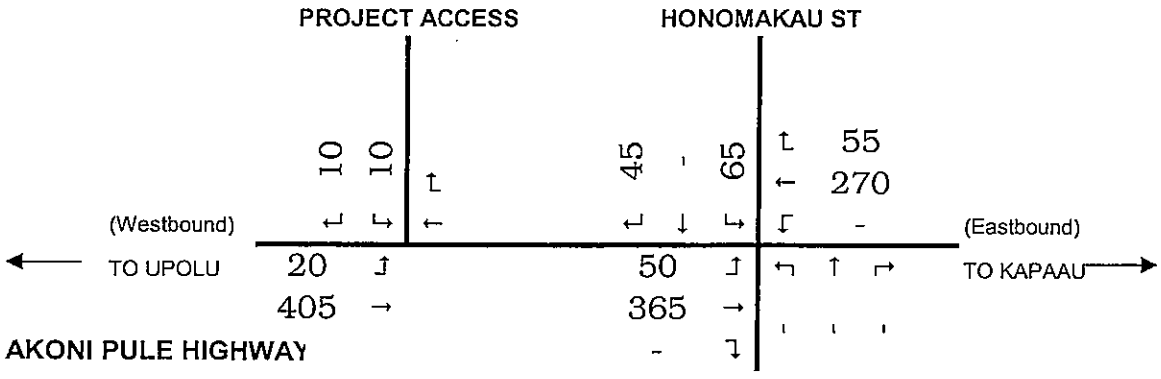


PM PEAK HOUR

Not to scale

2008 TOTAL WITH PROJECT FORECAST
FIGURE 6

Tables

TABLE 1
TRIP GENERATION AND DISTRIBUTION ANALYSIS

48 single family units
32 senior housing rentals
80 total housing units

AM TRIP GENERATION

48 Single Family Units (LU 210, SF DU)

T = 0.70(X) + 9.43
T =

Trips	Entering	Exiting
	25%	75%
43	11	32

32 senior housing rental units (LU 252, senior adult housing-attached)

T = 0.08(X)
T =

Trips	Entering	Exiting
	45%	55%
3	1	2

	Trips	Entering	Exiting
Total Trips	46	12	34

AM TRIP DISTRIBUTION

Direction	Trips	West	East
		55%	45%
Entering	11	6	5
Exiting	32	18	15

Direction	Trips	West	East
Entering	1	1	1
Exiting	2	1	1
Entering	12	7	5
Exiting	34	19	15

AFTERSCHOOL TRIP GENERATION

48 single family units (LU 210, SF DU)

Assume 1/2 average of AM and PM
T =

Trips	Entering	Exiting
	50%	50%
24	12	12

32 senior housing rental units (LU 252, senior adult housing-attached)

Assume average of AM and PM
T =

Trips	Entering	Exiting
	50%	50%
4	2	2

	Trips	Entering	Exiting
Total Trips	28	14	14

AFTERSCHOOL TRIP DISTRIBUTION

Direction	Trips	West	East
		45%	55%
Entering	12	5	7
Exiting	12	5	7

Direction	Trips	West	East
Entering	2	1	1
Exiting	2	1	1
Entering	14	6	8
Exiting	14	6	8

PM TRIP GENERATION

48 single family units (LU 210, SF DU)

Ln(T) = 0.90Ln(X) + 0.53
Ln(T) = 4.01408091
T =

Trips	Entering	Exiting
	63%	37%
	35	20
55		

32 senior housing rental units (LU 252, senior adult housing-attached)

T = 0.11(X)
T =

Trips	Entering	Exiting
	61%	39%
4	2	1

	Trips	Entering	Exiting
Total Trips	59	37	22

PM TRIP DISTRIBUTION

Direction	Trips	West	East
		55%	45%
Entering	35	19	16
Exiting	20	11	9

Direction	Trips	West	East
Entering	2	1	1
exiting	1	1	1
Entering	37	20	17
exiting	22	12	10

TABLE 2
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE ANALYSIS

INTERSECTION Period/Approach	2005 Existing		2008 Ambient		2008 Total	
	LOS	Delay	LOS	Delay	LOS	Delay
AKONI PULE HIGHWAY/HONOMAKAU STREET						
AM PEAK HOUR						
Honomakau NB	C	15.8	C	17.3	C	18.0
Honomakau SB	D	25.8	D	33.8	D	34.6
Akoni Pule Hwy EB LT	A	8.7	A	8.9	A	8.9
Akoni Pule Hwy WB LT	A	7.5	A	7.5	A	7.6
AFTER SCHOOL PEAK HOUR						
Honomakau NB	B	14.6	C	15.7	C	16.0
Honomakau SB	C	24.1	D	30.6	D	32.3
Akoni Pule Hwy EB LT	A	8.2	A	8.3	A	8.3
Akoni Pule Hwy WB LT	A	7.9	A	8.0	A	8.0
PM PEAK HOUR						
Honomakau NB	B	14.4	C	15.3	C	15.8
Honomakau SB	C	17.5	C	19.6	C	20.5
Akoni Pule Hwy EB LT	A	8.0	A	8.1	A	8.2
Akoni Pule Hwy WB LT	A	8.1	A	8.1	A	8.2
AKONI PULE HIGHWAY/PROJECT ACCESS						
AM PEAK HOUR						
Project Access SB					B	12.5
Akoni Pule Hwy EB LT					A	8.1
AFTER SCHOOL PEAK HOUR						
Project Access SB					B	13.2
Akoni Pule Hwy EB LT					A	8.1
PM PEAK HOUR						
Project Access SB					B	13.2
Akoni Pule Hwy EB LT					A	8.0

LEGEND:

NB northbound
SB southbound
EB eastbound
WB westbound

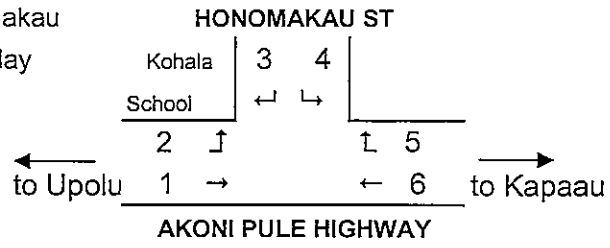
LOS Level of Service
Delay Average delay in seconds/vehicle
LT left turn

Appendix A

Traffic Turning Movement Counts

TRAFFIC TURNING MOVEMENT COUNT
NORTH KOHALA RESIDENTIAL LOTS

LOCATION: Akoni Pule Highway/Honomakau
DATE: September 20, 2005, Tuesday
TIME: 6:30a-8:30a / 2:00p-5:30p
WEATHER: Clear
RECORDER: Carol Darby



TIME PERIOD	MOVEMENT NUMBER 1	2	3	4	5	6	TOTAL
6:30-6:45a	24	6	2	2	4	34	72
6:45-7:00a	34	5	10	3	10	37	99
7:00-7:15a	23	26	17	15	20	55	156
7:15-7:30a	31	36	19	16	41	44	187
7:30-7:45a	38	39	25	31	63	60	256
7:45-8:00a	32	38	32	38	58	48	246
8:00-8:15a	38	10	16	25	9	33	131
8:15-8:30a	47	6	6	7	6	56	128
6:30-8:30a	267	166	127	137	211	367	1275
7:00-8:00a	124	139	93	100	182	207	845
PHF	0.85				0.79		
2:00-2:15p	53	13	6	3	19	49	143
2:15-2:30p	52	28	28	33	42	42	225
2:30-2:45p	64	5	24	55	15	62	225
2:45-3:00p	90	18	7	10	15	75	215
3:00-3:15p	66	7	8	18	7	57	163
3:15-3:30p	Traffic Counter's 15 Minute Break						
3:30-3:45p	62	17	8	25	10	51	173
3:45-4:00p	86	9	8	18	13	74	208
4:00-4:15p	74	9	5	15	11	53	167
4:15-4:30p	80	11	9	10	16	57	183
4:30-4:45p	89	14	17	16	9	51	196
4:45-5:00p	80	10	8	13	8	60	179
5:00-5:15p	59	9	15	11	11	70	175
5:15-5:30p	70	7	9	11	10	68	175
2:00-5:30p	925	157	152	238	186	769	2427
2:15-3:15p	272	58	67	116	79	236	828
3:45-4:45p	329	43	39	59	49	235	754
PHF	0.90				0.97		

Appendix B

Level of Service (LOS) Calculations

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AM EXISTING 2005	Minor Street	HONOMAKAU ST
Comment	2005 EXISTING AM PEAK HR		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	139	124	5	5	207	182	5		5	100		93
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	154	138	6	6	230	202	6	0	6	111	0	103
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	344	.035	<1	15.8	C	15.8
	2								C
	3								
SB	1	LTR	214	381	.561	3	25.8	D	25.8
	2								D
	3								
		①	154	1122	.138	<1	8.7	A	
		④	6	1433	.004	<1	7.5	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AM AMBIENT 2008	Minor Street	HONOMAKAU ST
Comment	2008 AMBIENT AM		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	150	134	5	5	224	197	5		5	108		101
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	167	149	6	6	249	219	6	0	6	120	0	112
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	306	.039	<1	17.3	C	17.3
	2								C
	3								
SB	1	LTR	232	348	.667	5	33.8	D	33.8
	2								D
	3								
		①	167	1089	.153	1	8.9	A	
		④	6	1420	.004	<1	7.5	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AM TOTAL 2008	Minor Street	HONOMAKAU ST
Comment	2008 TOTAL W/PROJECT AM		

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	153	146	5	5	227	200	5		5	103		108
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	170	162	6	6	252	222	6		6	114		120
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	289	.042	<1	18	C	18
	2								
	3								C
SB	1	LTR	234	346	.676	5	34.6	D	34.6
	2								
	3								D
		①	170	1082	.157	1	8.9	A	
		④	6	1404	.004	<1	7.6	A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AS EXISTING 2005	Minor Street	HONOMAKAU ST
Comment	2005 EXISTING AFTER SCHOOL PEAK HR		

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	58	272	5	5	236	79	5		5	116		67
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	64	302	6	6	262	88	6		6	129		74
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	385	.031	<1	14.6	B	14.6
	2								
	3								B
SB	1	LTR	203	387	.524	3	24.1	C	24.1
	2								
	3								C
		①	64	1203	.054	<1	8.2	A	
		④	6	1247	.004	<1	7.9	A	

CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AS AMBIENT 2008	Minor Street	HONOMAKAU ST
Comment	2008 AMBIENT AFTERSCHL PK HR		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	63	295	5	5	255	86	5		5	126		73
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	70	328	6	6	283	96	6	0	6	140	0	81
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	349	.034	<1	15.7	C	15.7
	2								
	3								C
SB	1	LTR	221	355	.623	4	30.6	D	30.6
	2								
	3								D
		①	70	1174	.06	<1	8.3	A	
		④	6	1220	.005	<1	8	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	AS TOTAL 2008	Minor Street	HONOMAKAU ST
Comment	2008 TOTAL W/PROJECT AFTRSCHL PK HR		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	65	301	5	5	261	86	5		5	126		75
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	72	334	6	6	290	96	6		6	140		83
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	339	.035	<1	16	C	16
	2								
	3								C
SB	1	LTR	223	347	.643	4	32.3	D	32.3
	2								
	3								D
		①	72	1167	.062	<1	8.3	A	
		④	6	1214	.005	<1	8	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	PM EXISTING 2005	Minor Street	HONOMAKAU ST
Comment	2005 PM EXISTING PK HR		

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	43	329	5	5	235	49	5		5	59		39
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	48	366	6	6	261	54	6	0	6	66	0	43
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	395	.03	<1	14.4	B	14.4 B
	2								
	3								
SB	1	LTR	109	396	.275	1	17.5	C	17.5 C
	2								
	3								
		①	48	1239	.039	<1	8	A	
		④	6	1182	.005	<1	8.1	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	PM AMBIENT 2008	Minor Street	HONOMAKAU ST
Comment	2008 PM AMBIENT PK HR		

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LTR			LTR			LTR			LTR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	47	356	5	5	255	53	5		5	64		42
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	52	396	6	6	283	59	6	0	6	71	0	47
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	360	.033	<1	15.3	C	15.3 C
	2								
	3								
SB	1	LTR	118	363	.325	1	19.6	C	19.6 C
	2								
	3								
		①	52	1211	.043	<1	8.1	A	
		④	6	1152	.005	<1	8.1	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/25/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	PM TOTAL 2008	Minor Street	HONOMAKAU ST
Comment	2008 PM TOTAL W/PROJECT PK HR		

Input Data

Lane Configuration	EB	WB	NB	SB
Lane 1 (curb)	LTR	LTR	LTR	LTR
Lane 2				
Lane 3				

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	49	364	5	5	269	53	5		5	64		45
PHF	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9
Proportion of heavy vehicles, HV	3	3	3	3	3	3	3	3	3	3	3	3
Flow rate	54	404	6	6	299	59	6		6	71		50
Flare storage (# of vehs)									0			0
Median storage (# of vehs)							0			0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1	LTR	12	345	.035	<1	15.8	C	15.8
	2								
	3								C
SB	1	LTR	121	352	.343	1	20.5	C	20.5
	2								
	3								C
		①	54	1195	.046	<1	8.2	A	
		④	6	1143	.005	<1	8.2	A	

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/27/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	TOT AM 2008	Minor Street	PROJECT ACCESS RDWY
Comment	2008 TOTAL W/PROJECT AM		

Input Data

Lane Configuration	EB	WB	NB	SB
Lane 1 (curb)	LT	TR		LR
Lane 2				
Lane 3				

	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	7	284			325	5				15		19
PHF	.9	.9			.9	.9				.9		.9
Proportion of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	8	316			361	6				17		21
Flare storage (# of vehs)												0
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1								
	2								
	3								
SB	1	LR	38	520	.073	<1	12.5	B	12.5
	2								
	3								B
		①	8	1186	.007	<1	8.1	A	
		④							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/27/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	TOT AS 2008	Minor Street	PROJECT ACCESS RDWY
Comment	2008 TOTAL W/PROJECT AFTER SCHOOL		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LT			TR						LR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	6	358			328	8				8		6
PHF	.9	.9			.9	.9				.9		.9
Proportion of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	7	398			364	9				9		7
Flare storage (# of vehs)												0
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1								
	2								
	3								
SB	1	LR	16	453	.035	<1	13.2	B	13.2
	2								
	3								B
		①	7	1180	.006	<1	8.1	A	
		④							

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CHAPTER 17 - TWSC - UNSIGNALIZED INTERSECTIONS WORKSHEET

Analysis Summary

General Information

Analyst	WY	Jurisdiction/Date	9/27/05
Agency or Company	M&E PAC	Major Street	AKONI PULE HWY
Analysis Period/Year	TOT PM 2008	Minor Street	PROJECT ACCESS RDWY
Comment	2008 TOTAL W/PROJECT PM		

Site Information

Input Data

Lane Configuration	EB			WB			NB			SB		
Lane 1 (curb)	LT			TR						LR		
Lane 2												
Lane 3												
	EB			WB			NB			SB		
Movement	1 (LT)	2 (TH)	3 (RT)	4 (LT)	5 (TH)	6 (RT)	7 (LT)	8 (TH)	9 (RT)	10 (LT)	11 (TH)	12 (RT)
Volume (veh/h)	20	403			297	17				10		12
PHF	.9	.9			.9	.9				.9		.9
Proportion of heavy vehicles, HV	3	3			3	3				3		3
Flow rate	22	448			330	19				11		13
Flare storage (# of vehs)												0
Median storage (# of vehs)										0		

Signal upstream of Movement 2 _____ ft Movement 5 _____ ft

Length of study period (h) .25

Output Data

	Lane	Movement	Flow Rate (veh/h)	Capacity (veh/h)	v/c	Queue Length (veh)	Control Delay (s)	LOS	Approach Delay and LOS
NB	1								
	2								
	3								
SB	1	LR	24	464	.052	<1	13.2	B	13.2
	2								
	3								B
		①	22	1204	.018	<1	8	A	
		④							

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APPENDIX C - REPRODUCTION OF COMMENTS MADE ON THE DRAFT FEDERAL ENVIRONMENTAL ASSESSMENT AND RESPONSES TO THE COMMENTS

1. State of Hawaii, Department of Transportation, from Rodney K. Haraga, Director, dated May 11, 2006.
   RESPONSE: Brian T. Nishimura to Rodney K. Haraga dated July 21, 2006.

2. County of Hawaii, Planning Department, from Christopher J. Yuen, Planning Director, dated May 16, 2006.
   RESPONSE: Brian T. Nishimura to Christopher J. Yuen dated July 20, 2006.

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.2151

May 11, 2006

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221

Dear Mr. Nishimura:

Subject: Draft Environmental Assessment
Kumakua Affordable Housing Project
Hawaii Island Community Development Corporation

Thank you for your transmittal requesting our review on the subject project.

Our prior comments in our letter STP 8.2140, dated May 1, 2006 (copy attached) to the Hawaii County Council for the State Land Use District Boundary Amendment and Change of Zone are still applicable.

We appreciate the opportunity to provide our comments.

Very truly yours,

Rodney Haraga

RODNEY K. HARAGA
Director of Transportation

Attach.

c: Mr. Christopher Yuen, Hawaii County Planning Department

LINDA LINGLE
GOVERNOR

RODNEY K. HARAGA
DIRECTOR

Deputy Directors
BARRY FUKUNAGA
BRENNON T. MORIOKA
BRIAN H. SEKIGUCHI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.2140

May 1, 2006

The Honorable Stacy K. Higa
Chair
Hawaii County Council
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Councilmember Higa:

Subject: Hawaii Island Community Development Corporation
Kamakua – Affordable Housing
State Land Use District Boundary Amendment (SLU 05-000007) and
Change of Zone (REZ 05-000028) Applications
TMK: 5-5-8: 46 (portion)

We apologize for our late submittal of comments on the subject project.

We support Condition D (Access to Akoni Pule Highway, also known as Hawi-Niulii Road-including the provision of adequate sight distances shall meet with the approval of the State Department of Transportation) and Condition E (Install streetlights, signs and markings meeting with the approval of the State Department of Transportation) contained in the Planning Commission's recommendation report to the developer. We also want to offer the following additional comments:

1. The project site is on a 15 acre portion of a 31 acre parcel. We request that a master plan for the entire parcel be provided for our review that includes the interior roadway system. Any further development of the remaining portion of the parcel will require the Traffic Impact Analysis Report (TIAR) to be updated or revised to reflect the cumulative impact of development. The updated TIAR should be submitted for our review and approval.

2. The applicant should establish a 10-foot planting screen easement abutting Akoni Pule Highway along the makai side of the subject project.

3. No additional storm water runoff from the project will be allowed onto the State's right-of-way (ROW).

4. Any work or other related construction by the applicant or its contractors that will be within or adjoining the highway ROW will be at no cost to the State. Any permits needed to perform work upon the State highway may be obtained from our Highways Hawaii District Office. Plans for all such work shall be in accordance with State highway standards and be submitted to the Highways Hawaii District Office.

We appreciate the opportunity to provide our comments at this time.

Very truly yours,

RODNEY K. HARAGA
Director of Transportation

c: Christopher Yuen, Hawaii Planning Department

BRIAN T. NISHIMURA, PLANNING CONSULTANT
101 Aupuni Street, Suite 217
Hilo, Hawaii 96720-4221
Phone: (808) 935-7692 Fax: (808) 935-6126 E-mail: btnishi@hawaiiantel.net

July 21, 2006

Rodney K. Haraga, Director of Transportation
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Subject: Draft Environmental Assessment
Applicant: Hawaii Island Community Development Corporation (HICDC)
Project: Kumakua Affordable Housing Project
TMK: (3) 5-5-8: por. of 46

Dear Mr. Haraga:

This is to acknowledge receipt of your letter dated May 11, 2006 providing comments regarding the subject Draft Environmental Assessment. Your letter transmitted prior comments submitted to the County Council dated May 1, 2006 which were determined to be still applicable. In response to your comments of May 1, 2006, we offer the following:

1. Support for Condition D and E contained in the Planning Commission's recommendation. Please be advised that Ordinance No. 06 68, adopted by the County Council and signed by the Mayor on May 22, 2006, included both conditions as described. The applicant will comply.

2. Request for a Master Plan for the entire parcel and updated Traffic Impact Analysis Report (TIAR). Plans to develop the balance of the property are still up in the air. Whether the remaining land will be sought for further development depends on the success of the present proposal. If and when a decision is made to develop the balance of the property, a revised master plan and TIAR will be submitted to the Department of Transportation for review.

3. Request for a 10-foot planting screen easement abutting Akoni Pule Highway. The applicant will take your recommendation under advisement and give it due consideration during the development of the master plan for the project.

4. No additional storm runoff will be allowed onto the State's right-of-way. Condition F of the above-described change of zone ordinance includes condition F which requires that all development generated runoff be disposed on site and shall not be directed toward any adjacent properties. The applicant will comply.

5. Work within or adjoining the highway ROW. These improvements will be constructed at no cost to the State and all required permits will be obtained after review and approval by all appropriate agencies.

Thank you for your assistance in providing your comments. Should you have any questions regarding this transmittal, please do not hesitate to contact me.

Sincerely,

Brian T. Nishimura, Planning Consultant

Harry Kim
Mayor

Christopher J. Yuen
Director

Brad Kurokawa, ASLA
LEED® AP
Deputy Director

County of Hawaii
PLANNING DEPARTMENT
101 Pauahi Street, Suite 3 • Hilo, Hawaii 96720-3043
(808) 961-8288 • FAX (808) 961-8742

May 16, 2006

Mr. Brian T. Nishimura
Planning Consultant
101 Aupuni Street, Suite 217
Hilo, Hawai`i 96720-4221

Dear Mr. Nishimura:

Subject: Draft Environmental Assessment (DEA) for Kumakua Affordable Housing Project
Applicant: Hawaii Island Community Development Corporation
Pahoa, North Kohala District, Hawai`i
TMK: (3) 5-5-008:portion of 046

Thank you for providing our office with a copy of the DEA for the above-referenced project. Our comments and recommendations are as follows:

The majority of the 15 acres proposed for affordable housing use is designated "prime" by the Agricultural Lands of Importance to the State of Hawaii, and the entire acreage is rated "B" by the Land Study Bureau. There are no lands rated "A" on Hawai`i Island. The subject property's agricultural potential has been underutilized since 1973, having been used intermittently for cattle pasturage. The loss of these lands to more productive agricultural use should be addressed in the "Summary of Potential Adverse Environmental Impacts and Proposed Mitigation Measures" (Part 3, beginning on page 19). Are there mitigation measures possible, such as dedicating a community garden in the housing development? This could be an appropriate amenity for the future tenants and their families who come from a district with a long history and tradition of agriculturally-based, rural lifestyles. It is not uncommon for rural families to supplement the family budget with food grown in the family's garden.

Thank you for the opportunity to comment on the DEA. Should you have questions, please contact Deborah Chang of my staff at 961-8288, Ext. 254.

Sincerely,

CHRISTOPHER J. YUEN
Planning Director

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BRIAN T. NISHIMURA, PLANNING CONSULTANT
101 Aupuni Street, Suite 217
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July 20, 2006

Mr. Christopher J. Yuen, Director
County of Hawaii
Planning Department
101 Pauahi Street, Suite 3
Hilo, Hawaii 96720-3043

Subject: Draft Environmental Assessment-Kumakua Affordable Housing Project
Applicant: Hawaii Island Community Development Corporation (HICDC)
TMK: (3) 5-5-8: portion of 46

Dear Mr. Yuen:

This is to acknowledge receipt of your letter dated May 16, 2006 providing comments on the subject Draft Environmental Assessment. We believe that the issue of losing "prime" agricultural land to urban uses in this particular location has been addressed and justified in the County's recent approval of the change of zone application for the subject property. The recommendation for approval noted that, "The rezoning of this 15-acre area from an A-20a to a RS-7.5 zoning designation will not be detrimental to the reduction of the agricultural land inventory in the County of Hawaii as the property has not been intensively used for agricultural purposes for a long period of time and is designated for urban growth. From a land use perspective, it is a more feasible alternative to infill urban development within this particular area of North Kohala. In doing so, it would tend to alleviate the conversion of more productive agricultural lands in more appropriate locations within the North Kohala area for urban types of uses."
Based on the foregoing, we do not believe that mitigation measures are necessary. Nevertheless, community gardens have been provided within the elderly housing projects previously developed by the HICDC and will likely be provided in the elderly housing project developed on the subject property.

Thank you for your comments on the Draft Environmental Assessment. Should you have any questions regarding this matter, please do not hesitate to contact me.

Sincerely,

Brian T. Nishimura, Planning Consultant